

INFO | Eduard

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Editorial and Graphics - Marketing department, Eduard - Model Accessories, Ltd.

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EDITORIAL

Good day, fellow modelers!

Welcome to the tenth issue of our newsletter for this year. It is of course dedicated to October's new releases, which, like every month, are many and need to be reported on in detail. In addition, you will also learn something about November's new items, specifically about the Avia S-199 in 1:48th scale, the first kit of the new Eduard Brassin HYBRiD line. This kit, along with the entire new series, had its world premiere last weekend at E-Day in Litoměřice. We have been introducing this project on various occasions since the beginning of August, so it is unlikely that you would not have heard anything about it by now. Nevertheless, I will take the liberty of saying a few words about what you can expect from this new concept for kits.

These are composite kits manufactured using two technologies, the tried and true injection molding using metal molds along with 3D printing. Large and medium-sized parts are made of plastic, primarily the fuselage, wings, tail surfaces, propellers, as well as canopies and all other transparencies. Complete cockpit and landing gear strut assemblies will be manufactured using 3D printing, as well as some small parts, such as exhausts, antennas, or especially onboard weapons. Wheels will also be manufactured using 3D printing. The landing gear legs of the S-199 are made of a special material, used for the production of prostheses and implants within the dental industry. This material is characterized by high resistance to deformation, low flexibility and dimensional stability. It is therefore suitable for the production of parts that require load resistance and long-term strength overall.

The HYBRiD series kits use the good properties of both types of material. The plastic parts are precise with high quality surface details and feature perfect fit. The printed parts also have great precision and, compared to their predecessors, resin castings, also have perfect fit, but compared to plastic small parts, they have a much, much greater fidelity of detail. The printed parts and specifically the printing process provides advantages that allow parts to be produced as one without needing to make multiple parts that might be necessary because of things like undercutting. The result is a reduction in the number of small parts that the modeler has to glue together as with classic injection molded parts. The wheel wells in the first HYBRiD kit, the S-199 in 1:48 scale, consists of a single part that is simply glued into the wing, where it naturally fits perfectly. The same is



true of the cockpit, where the floor with pedals and seat, including the rear wall of the cockpit, is printed as one part. Other parts of the cockpit include the side panels, again each printed from a single piece, the rear cockpit wall, the control stick, the instrument panel, and the trim control wheels.

This concept allows for the reduction of the number of parts in the kit while raising the bar for the quality of the details. For comparison, in the 1:48 S-199, the number of plastic parts was reduced from 126 parts in the previously conceptualized all-injection molded kit to 56 in the HYBRiD series kit. In addition to plastic and 3D printed parts, the HYBRiD series kits will be equipped with a cockpit painting mask, a decal sheet for six color versions and instructions as standard. Photo-etched parts are not included in these kits. An important detail is that plastic and printed parts can be glued together with classic solvent adhesives, it is not necessary to use instant adhesives. But that is of course also possible, the results of both gluing techniques will be equivalent.

In terms of price, the first HYBRiD 1/48 kits will be in a similar price range to the 1:48 Profipack kits. The first EDUARD BRASSIN HYBRiD kit, No. 948011, the 1:48 scale S-199 Erla will cost 925 CZK (about 45 American Greenbacks). It is new for November 2025, but was sold for the first time last weekend at E-Day and during the associated Afterparty, and then will be again in November. In January, the second version of the S-199 with the sliding canopy will follow, and for 2026 we are also preparing HYBRiD 1:32 scale kits, which will be priced in line with classic kits of this scale available on the market today.

The concept of the new series is brought to you clearly and concisely by Jakub Nademlejnsky in his article about the new Avia S-199 kit. As a thank you for participating in the

exhibition, modelers exhibiting at E-Day will receive another HYBRiD series kit, an Enstrom 480 helicopter in 1:72 scale. We have prepared this kit as a technological demonstrator that will give its owners a good opportunity to try out exactly what the new series brings in terms of construction and utility properties.

Other November new releases will also be on sale at E-Day, but only in kit form. They are the MiG-21F-13 in 1:48 and the P-40N in the same scale, with both kits being members of the Profipack line.

This year's E-day, which took place last weekend in Litoměřice, was successful but cold. The influx of Arctic air and hurricanes across the Atlantic did their job. Fortunately, it didn't rain until Saturday afternoon, but even so, it was probably the coldest of all 22 E-Days to date. However, we had the most models and modelers on display, a total of 1,459 models, compared to 1,123 models last year, and we are very happy about that! There were always lots of people around them. The discussions with the MiG-21F pilots and even with one of them, Colonel Spinka, who flew the S-199, were amazing, and the modelers enjoyed other discussions and lectures as well. And we sold all the S-199s in the new Eduard Brassin HYBRiD series by 2 p.m. So, all in all, it was a good event, and if you weren't there this year, come next year!

Happy Modeling!
Vladimir Sulc

Lt. Col. George E. Hardy

1925–2025

Lt. Col. George E. Hardy, the last surviving member of the Tuskegee Airmen who flew combat missions during WWII in Europe, has died. He was 100 years old.



Lt. Col. George E. Hardy, the last surviving member of the Tuskegee Airmen who flew combat missions during WWII in Europe, has died. He was 100 years old.

Hardy died on Thursday, September 25, a spokesperson for Tuskegee Airmen, Inc., told NPR on Saturday. The organization remembered his legacy as one of "courage, resilience, tremendous skill and dogged perseverance against racism, prejudice and other evils."

Leon Butler Jr., national president of Tuskegee Airmen, Inc., said *"Colonel Hardy was an amazing man. He was a patriot. He loved his family. He loved his community. He loved our organization. He worked very hard. He worked tirelessly to preserve the legacy, not for himself,*

but for those that he served with, and he cared about the families of other original Tuskegee Airmen."

Born on June 8, 1925 in Philadelphia, he joined the USAAF at age 18 in July 1943 and started pilot training at the Tuskegee Army Air Field in December, graduating from pilot training in September 1944, age 19, and was commissioned a 2nd Lieutenant. He served with the 99th Fighter Squadron of the 332nd Fighter Group at Ramitelli Air Base, Italy, where he completed 21 missions across Europe, and was the youngest Red Tail fighter pilot.

He returned from Italy as a 1st Lieutenant when the war in Europe ended and returned to the Tuskegee Army Air Field base where he

was a supervising pilot until 1946 when it closed. He then went back home to Philadelphia before attending New York University and getting married in 1947.

Hardy was assigned to the 19th Bomb Group, where he was the only Black American officer, and sent to Guam in 1949. The following year, the Korean War began and he was transferred to Okinawa. During the Korean War, he flew 45 combat missions, including Black Thursday in October 1951, and flew 70 combat missions in the Vietnam War.

The world is a different place without these guys.

Thomas McKelvey Cleaver



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S-199 HYBRiD 1/48 Highlights

#948011

Jakub Nademlejnský

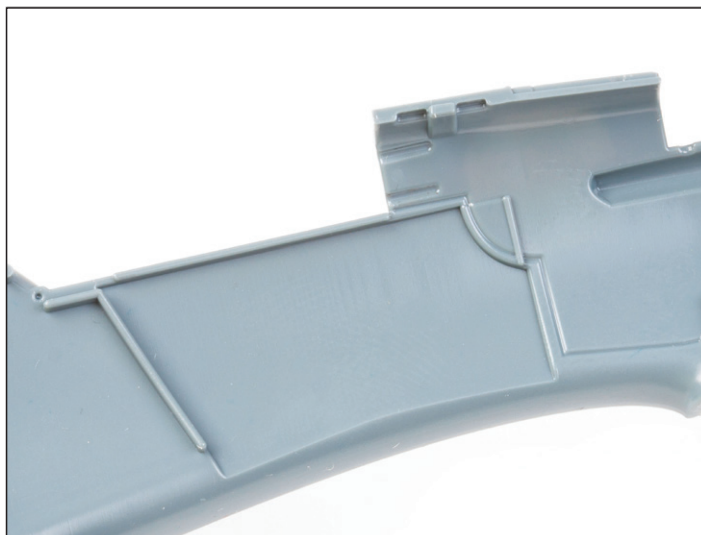


EDUARD BRASSIN
HYBRiD

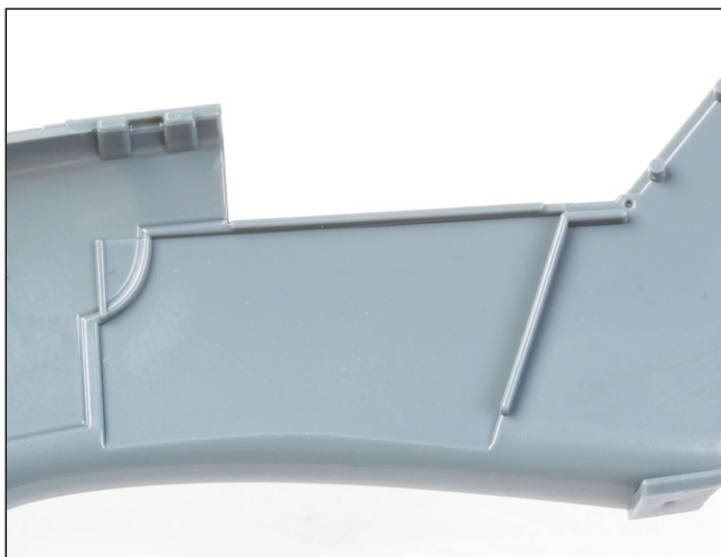
Dear readers, It is with great pleasure that I present a new line of Eduard kits called **HYBRiD**. Yes, the name is slightly controversial and may evoke negative feelings due to its use in the automotive industry. However, I sincerely hope that it will not provoke contradictory reactions in the modelling industry, but rather become a series that modellers will love. Why does it deserve your favour? HYBRiD is a kit consisting of two products manufactured using two different technologies. The large parts, such as the wings, fuselage, control surfaces and propellers, are mainly manufactured by moulding. The cockpit, shafts, landing gear legs, barrels, exhausts, antennas and other small parts included in this kit are 3D-printed. The model also includes cast wheels, cover masks and decals. It does not include photo-etched parts as we cannot see a place for them in this series. The main idea behind this series is user-friendly simplicity combined with maximum detail for modellers. All parts are designed to be easy to assemble while ensuring maximum detail and accuracy. The 3D-printed parts have been selected for maximum detail, while the plastic parts have been chosen for the perfectly finished surface that we have developed for our kits in recent years. You can read a more detailed description of this series and its philosophy in Mr. Šulc's editorial on the previous pages, so I won't beat around the bush and will introduce the kit directly in the photos. Let's take a look at them, starting with the plastic parts.



We have developed a new locking system for the fuselage parts, designed specifically for this kit line. Its purpose is to provide a stronger connection.



The fuselages have large adjustment elements on the sides of the cockpit. This differs from the Bf 109 family kits in the same scale, where the cockpit sides were designed and moulded directly onto the fuselage parts.

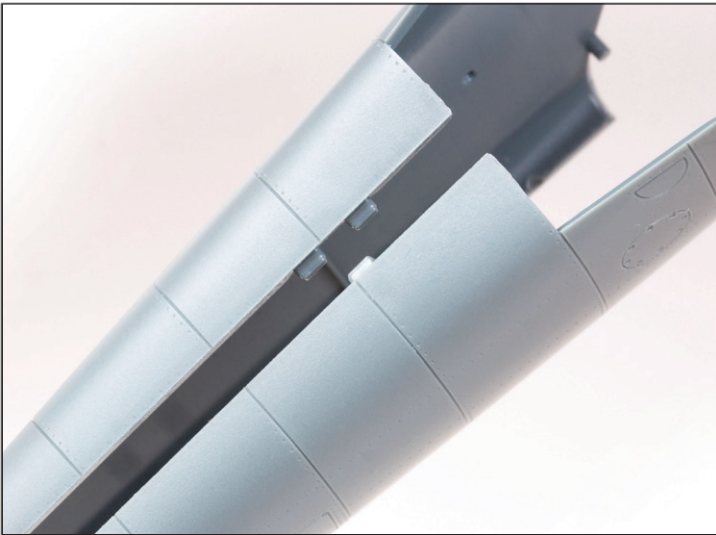


Compared to the Eduard Bf 109 family, the propeller is glued in a newly designed place. No parts need to be glued, as the lock is already part of the fuselage halves.



Thanks to the new locks, once the fuselage halves are snapped together, they cannot practically be moved and hold their position firmly.

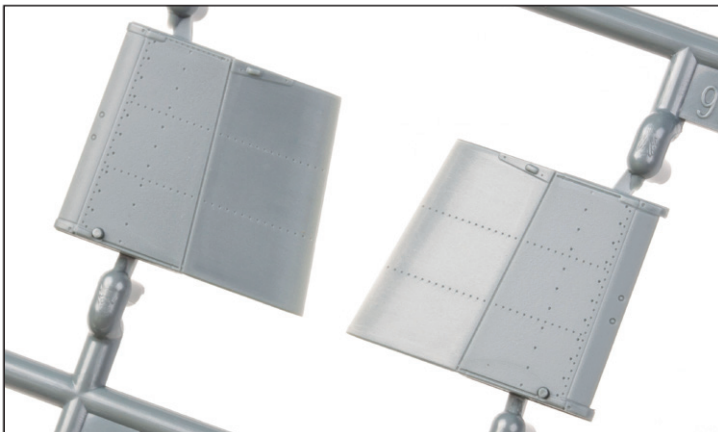




This is also thanks to the same locks on the tail.



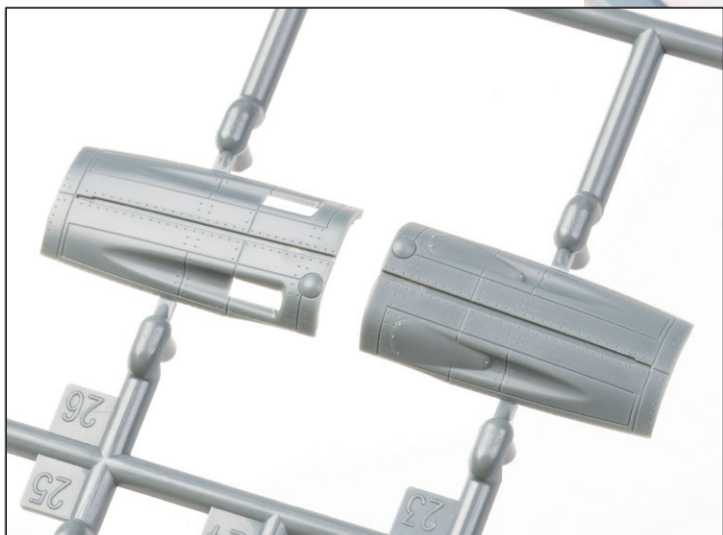
The clear parts represent both canopy variants: the Erla and the 'bubble'.



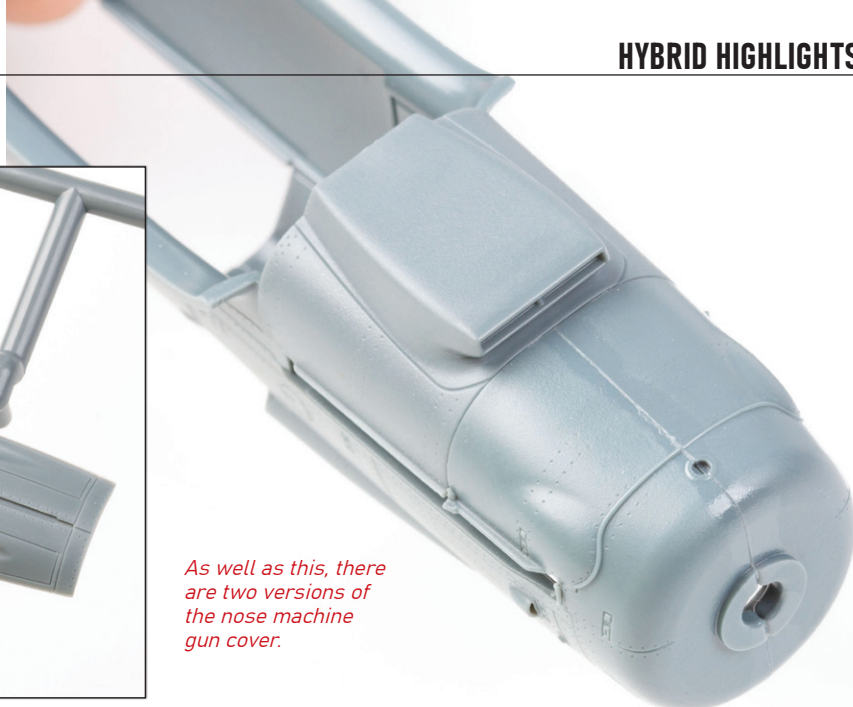
*The radiator flaps and covers are moulded as one piece.
To set them to the open position, simply bend them along the groove.*



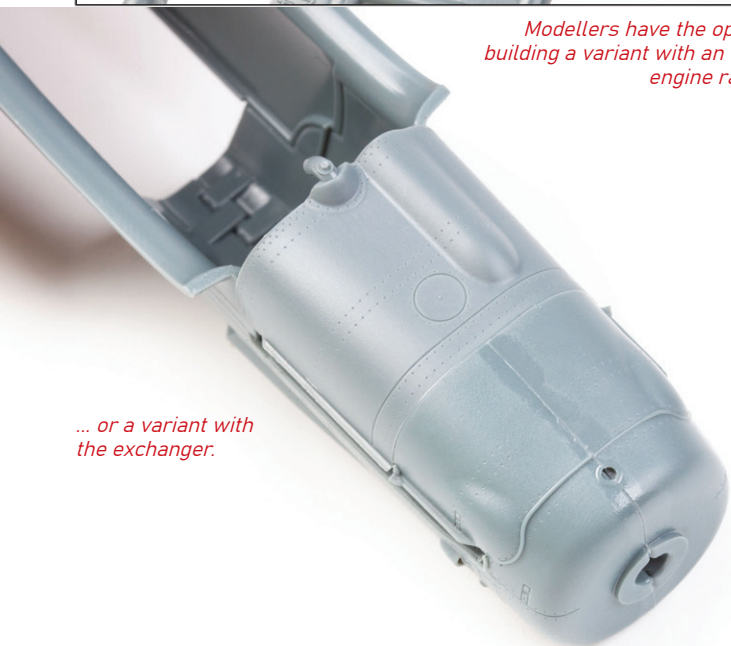
The kit includes two versions of the engine cover bulges.



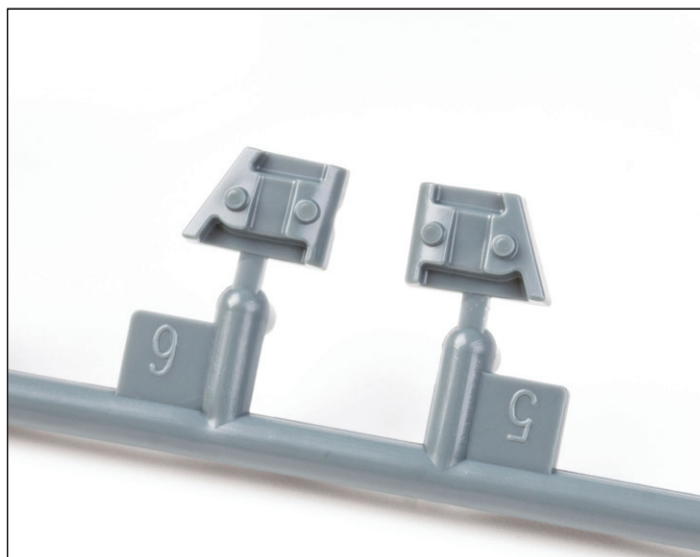
As well as this, there are two versions of the nose machine gun cover.



Modellers have the option of building a variant with an under-engine radiator

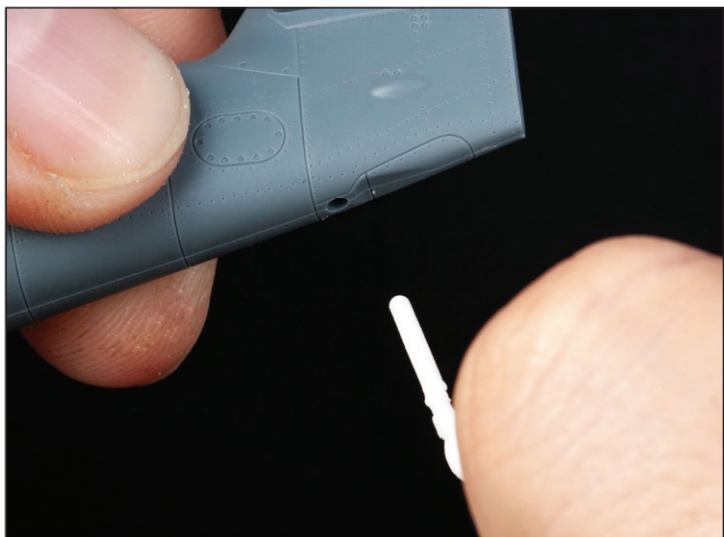


... or a variant with the exchanger.



The tail wheel leg positioning has also been redesigned; a box is glued into the fuselage halves. This guides the tail wheel leg into place after the fuselage halves have been glued together



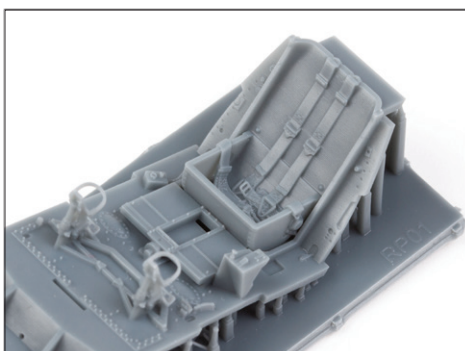


There are two types of tail wheel leg: short and long.

3D print parts.



Thanks to 3D printing, the instrument panel, including the levers, is made from a single piece. These levers could not be moulded from plastic; in a conventional model, they would only be represented by a tiny etched part. Using them is problematic for many modellers anyway.



The cockpit floor, seat (including seat belts), pedals and control panel are all made as a single piece. The seat belts only need to be painted. We will show you how to do this in an upcoming workshop article.



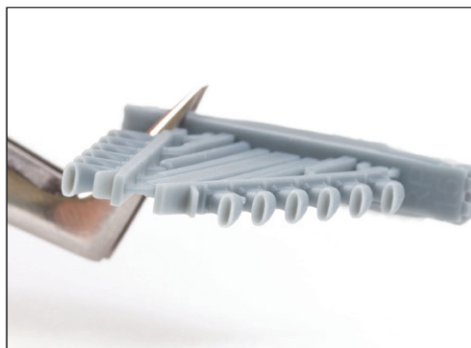
The main weapon parts have holes and the weight balance of the ailerons is also detailed.



The antenna plate contains several finely crafted parts.



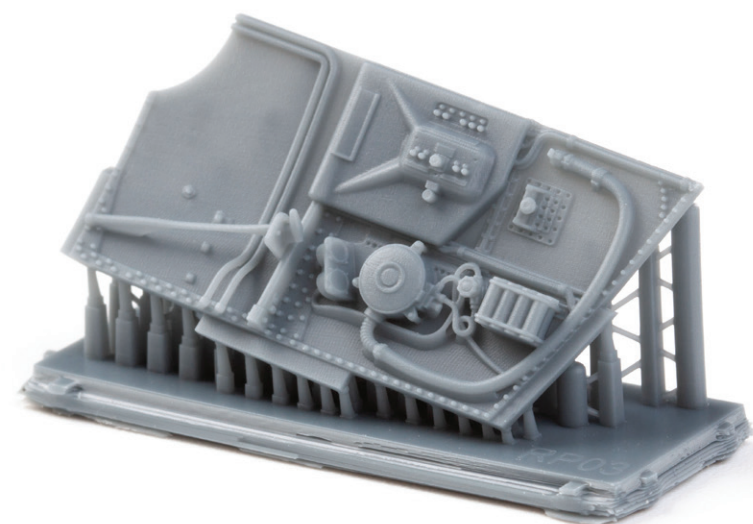
The circular antenna is much thinner than plastic.



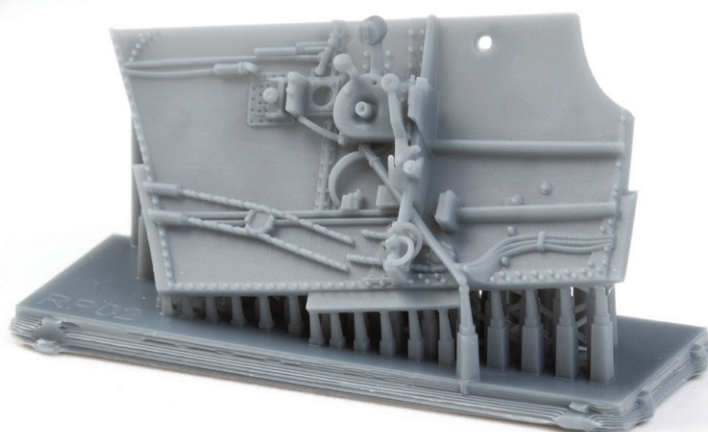
The exhausts have marked holes.

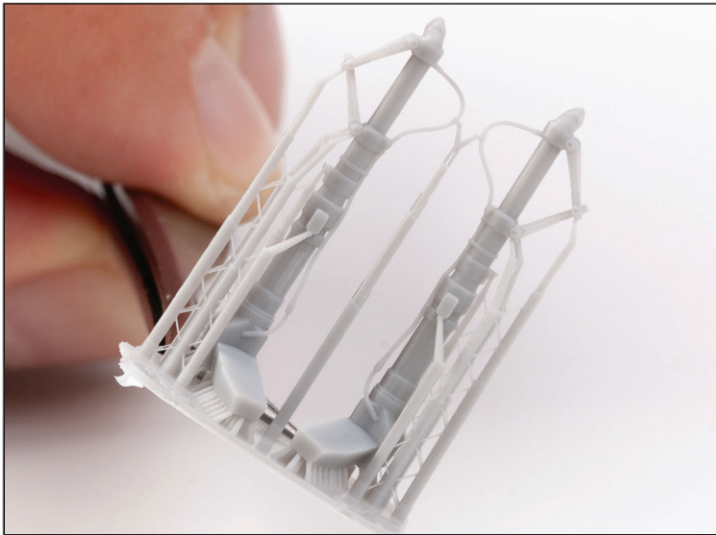


Installation is problem-free.

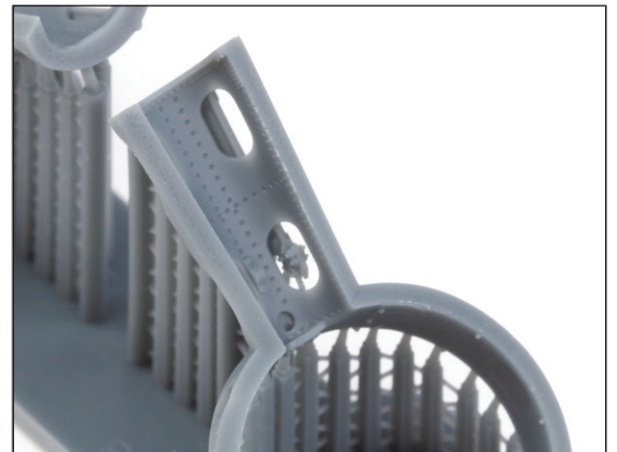
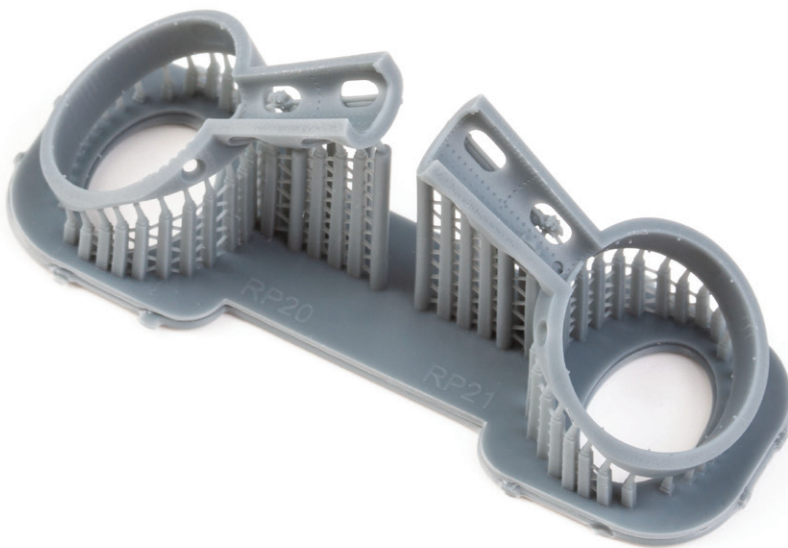


The cockpit sidewall panels embody the set's philosophy of maximum detail while being designed as a single piece.

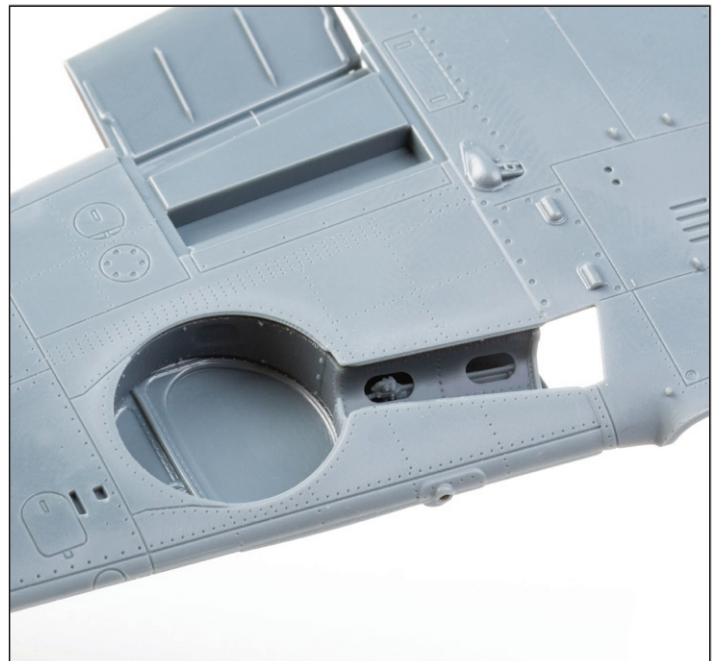




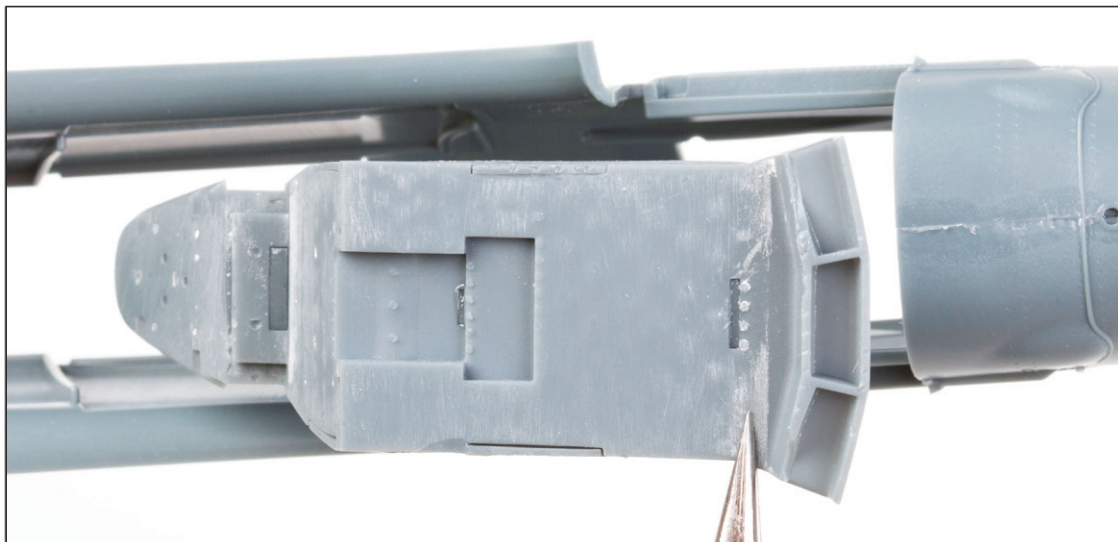
The same goes for the landing gear legs. They are made from a special strong material that ensures maximum stability. These legs include brake hoses.



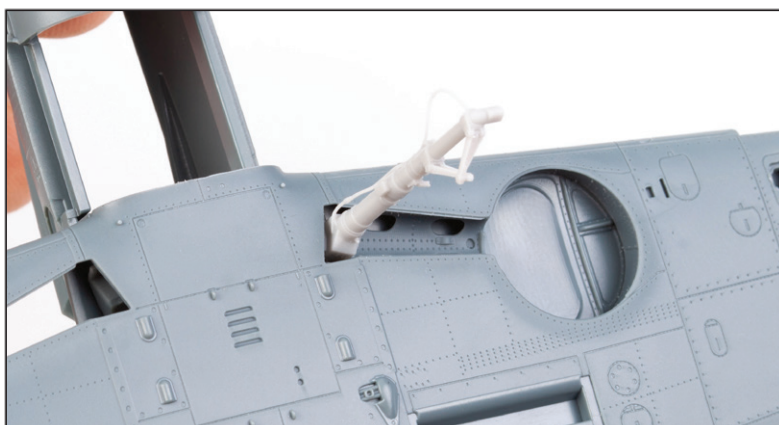
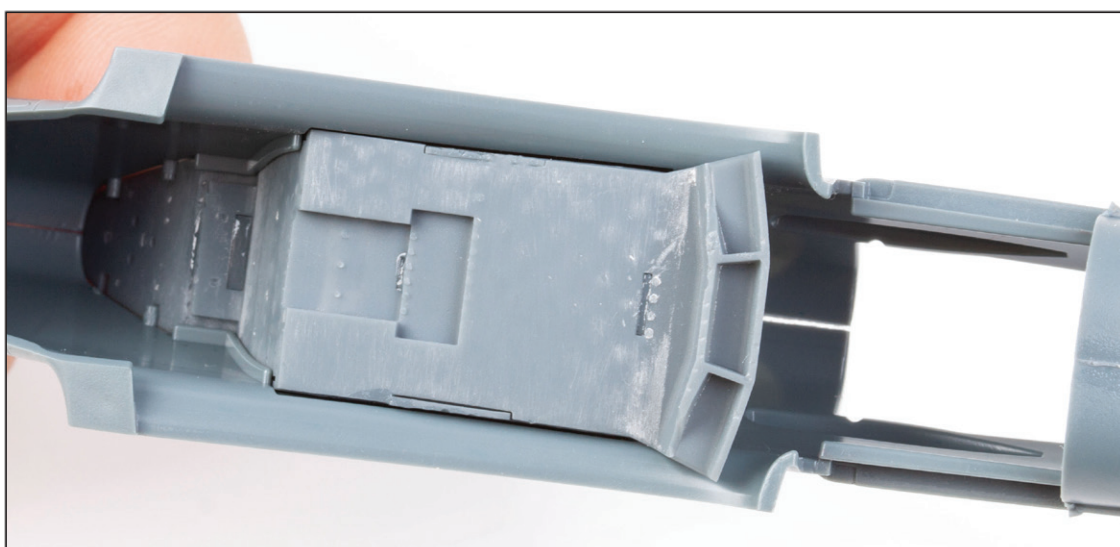
The landing gear bays are also made as a single piece



Their installation is completely modeller-friendly.



The entire cockpit assembly can be inserted into the glued fuselage from below.



The wheels are cast for maximum detail. Simply cut them off the sprue and glue them in place.

The landing gear leg lock is designed to make installation as easy as possible.



The GSh-23L cannon in action while firing from a UPK-23-250 container on a Mi-24V helicopter.

GSh-23 Aircraft Cannon

Tomáš Dederá

Certainly, the Soviet (Russian) GSh-23 aerial cannon rates near the top of the world's widely used automatic aircraft weapons. The name of the weapon is again derived from the initials of its designers, V.P. Grjazev and A.G. Shipunov, while the number 23 indicates the weapon's calibre in millimeters.



A GSh-23 unit attached to an Aero L-39ZA Albatros with 150 round capacity.

Some types of aircraft and helicopters are equipped with a modified version of the weapon, additionally equipped with a muzzle brake, which also acts as a flame damper, with the exhaust gases venting outside the aircraft structure. It is designated GSh-23L, where the letter 'L' indicates the version 'Lokalizator' - muzzle brake.



GSh-23L aircraft cannon mounted in a UPK-23-250 universal cannon container on a Mil Mi-24V attack helicopter. The front aerodynamic cowling is dismantled for pre-flight inspection and is carried out in association with charging the unit for live fire operation.

The prototype of the twin barreled cannon was produced in 1958, under the designation AO-9, and officially entered service in 1959 under the designation GSh-23, index 9-A-472. The principle of operation of this type of weapon was described by German engineer Karl Gast during the First World War.

It became the main integrated gun armament of the second generation of MiG aircraft, the MiG-21MF, SMT, bis and later the MiG-23BN, MF, ML, as well as in the gun positions of Il-76 strategic airlifters and Tu-22M bombers, among others. Additionally, special containers housing this weapon were produced as the UPK-23-250 to be hung under aircraft or as removable items in gun positions as the SPPU-22-01. They are interesting in their ability to change their deflections in the vertical plane when firing into the front hemisphere by 30°, and when mounting the container for firing into the rear hemisphere by 23°.



GSh-23L aircraft cannon in a UPK-23-250 pod. With pre-flight preparation completed, the cannon is ready to fulfill its training role at the aircraft shooting range.



SPPU - 22 - 01 containers were originally developed for Su-17M3/M4 fighter-bombers (export variant Su-22M3/M4), and were later extended to MiG-27K/M/D series aircraft and Su-25 attack aircraft. The photo shows an SPPU - 22 - 01 on a Su-22M4 aircraft.

Due to its successful and reliable design, it can be found in a number of other aircraft, such as in the Czechoslovak Aero L-39ZA Albatros (one piece) under the cockpit, as well as the L-39MS Super Albatros and its export variant the L-59, in the Serbian G-4 Super Galeb trainer (one piece), combat and combat trainers J-22 Orao and NJ-22 Orao (two pieces), the Indian multirole HAL Tejas, and in the Chinese JH-7A and FC-1 aircraft. The cannon gradually found its place in helicopters as well, first in UPK-23-250 containers on the Mi-24V and Mi-17, and later the weapon was integrated directly into the Mi-24VP and Mi-35M.



The GSh-23 aircraft cannon in action, firing from an Aero L-39ZA Albatros aircraft, coded 3903 from the 222nd Training Squadron, the 22nd Air Force base in Náměšť nad Oslavou. The cartridges, which are ejected from the aircraft after firing and fall freely to the ground, as well as the luminous tracer rounds, are worth noting.



Serbian G-4 Super Galeb trainer aircraft with a GSh-23L cannon under the fuselage, in line with the rear cockpit.



Serbian training and light attack NJ-22 Orao aircraft with two GSh-23L cannons.



Serbian NJ-22 Orao training and light attack aircraft in front view. The weapons are installed in the lower part of the fuselage, indicated by the arrows.



Detail of the GSh-23L cannon on the left, lower side of the NJ-22 Orao fuselage, in line with the engine intake.

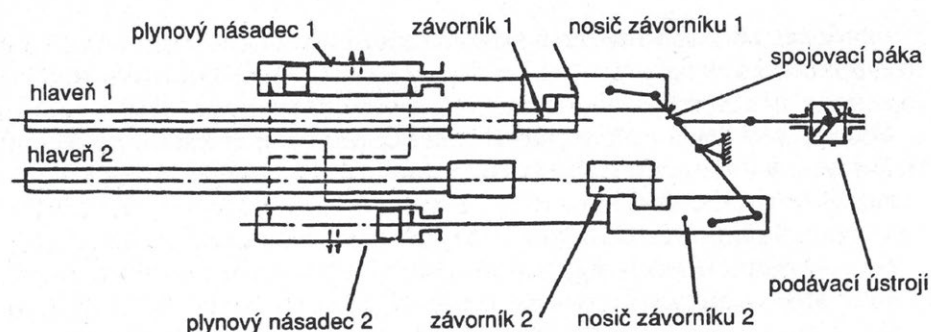


A GSh-23L cannon installed in the NPPU-23 articulated firing position on an Mi-35M helicopter.

GSh-23 Operation

The weapon's automation is based on the use of the energy of the extracted powder gases produced during firing, with the mutual functional connection of the mechanisms of both guns.

General arrangement drawing of a weapon with combined barrels and breech blocks.



Both barrels with breech blocks are housed in one gun casing. The exhaust gases are discharged from the firing barrel into the gas clutch and act through the piston rod on the bolt carrier and the bolt, which moves backwards, thereby extracting the empty cartridge from the chamber and, thanks to the kinematic connection with the bolt carrier of the second (combined) barrel, they move forward and the cartridge is inserted into the second chamber. The movements of both bolts are therefore shifted relative to each other by half the firing cycle. The functional connection of both bolt mechanisms is ensured by a twin lever, the ends of which are articulated with the carriers of both bolts. Each barrel has its

own bolt, which is connected to the carrier by a connecting rod and an accelerator. The high rate of fire of the weapon is made possible by accelerating the bolt using an accelerator that moves in a shaped groove. This solution also enables smoother start-up and deceleration, thus reducing shocks in extreme positions. The front and rear sliders ensure that the cartridge is pushed out of the cartridge case and inserted in front of the cartridge chamber. The front sliders also flip the firing pin. The firing pin is held by the main trigger tooth of the electro-magnetic trigger before it hits the pin. If the bolt is not locked, the firing pin is held by the auxiliary trigger tooth. The gun is supplied with one, disintegrating

cartridge belt with cartridges, which are moved by the feeder star. This always rotates in one direction. When one bolt is pushed back and forth, the feeder star rotates 180°. The cartridge belt links move in a straight line in the cartridge link guide. The weapon is cocked in flight by electro-pyrotechnics (using PPL pyro cartridges, 3 pieces per), the trigger (firing of rounds) is electromagnetic, the actual firing of the primer is mechanical. An electric sensor is also integrated into the electromagnetic trigger, which is designed to signal the readiness of the weapon to fire, as well as an electric pulse sensor for the cartridge counter and for recording the rate of fire.

GSh-23 Specifications:

Round Calibre and Length	23 x 115 mm
Number of Grooves in the Barrel	10
Initial Muzzle Velocity	715±15 m/s
Weight of the Weapon	50.5 kg
Rate of Fire	3000 – 3400 rpm
Recoil	3500 kp
Thermal Stability (Maximum number of expended rounds per burst)	250 rounds
Round Weight	174 g
Technical Lifespan (Rounds)	4000

Main Components and their Function

The cannon consists of four main parts: the recoil supressor (C) and the feeder (D). the main assembly (A), the electric trigger (B),

Overall view of the GSh-23L from the side with the main components identified.





Top view of the GSh-23L.

Main Assembly (A) – This consists of the two barrels, right and left gas piston rod, firing pin, ejector, right and left spacer, pyro cartridge

with PPL type pyro cartridges, electric trigger latch, pyrotechnic tension piston, fixator, right and left front plug, plate, plate piston, plate

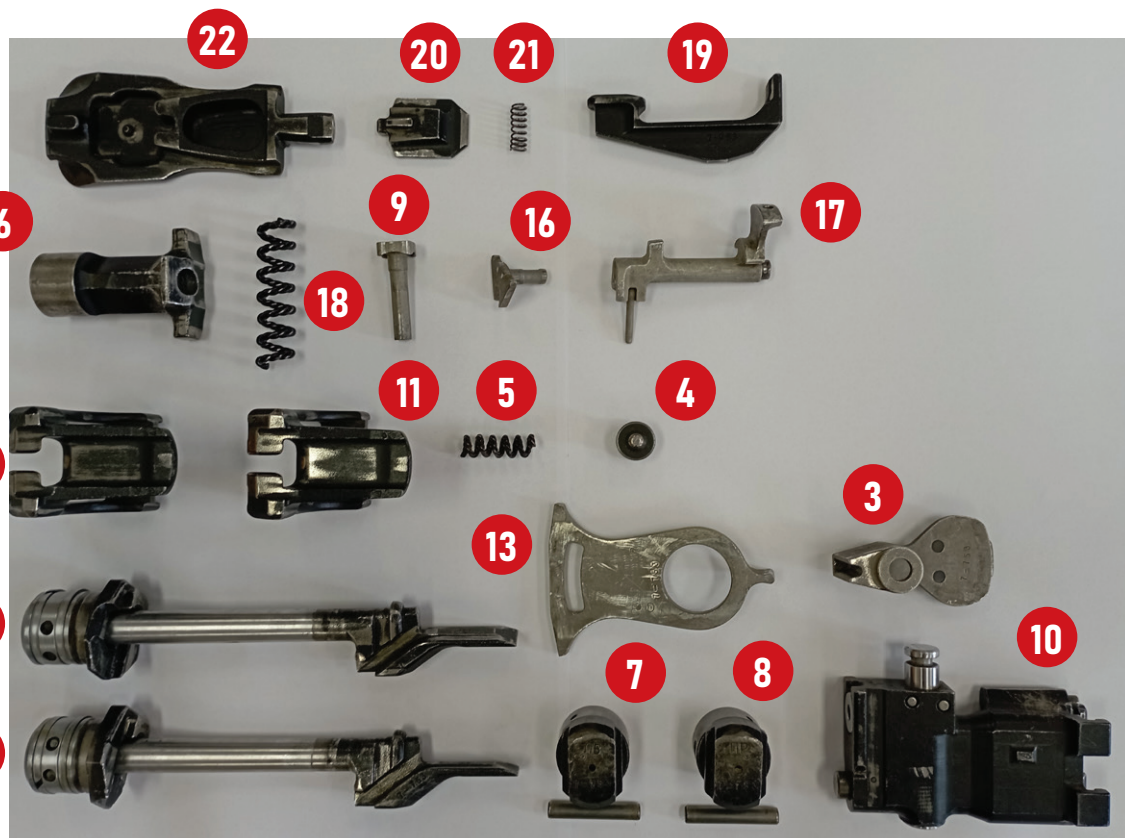
spring, switch, firing pin piston, mainspring, firing pin bezel, and the right and left front slide.



Main assembly from the side.



Main assembly from above.

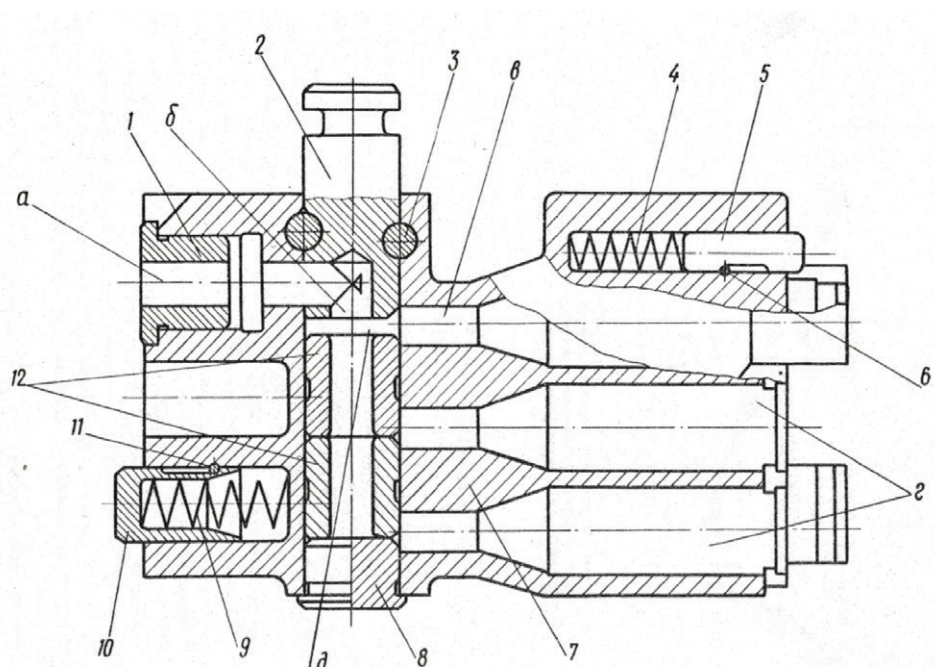


Main assembly disassembled.

- 1 – left gas piston rod,
- 2 – right gas piston rod,
- 3 – plate,
- 4 – plate piston,
- 5 – plate spring,
- 6 – pyrotechnic tension piston,
- 7 – left front plug with pin,
- 8 – right front plug with pin,
- 9 – firing pin piston,
- 10 – pyro cartridge,
- 11 – right front slide,
- 12 – left front slide,
- 13 – switch,
- 14 – left limiter,
- 15 – right limiter,
- 16 – firing pin bezel,
- 17 – firing pin,
- 18 – mainspring,
- 19 – fixer,
- 20 – latch,
- 21 – latch spring,
- 22 – ejector,
- 23 – barrel assembly



The main assembly connects parts and sub assemblies that ensure discharging rounds, ejection of the cartridge from the ammunition belt, locking of the cartridge chamber, firing of the cartridge primer, ejection of the expended cartridge case, as well as parts that protect the cartridges from deformation and damage when ejecting from the cartridge belt and inserting them into the cartridge chamber. In addition, the main assembly contains the automation motor (cannon gas assembly) and separate parts of the pyrotechnic cocking system.



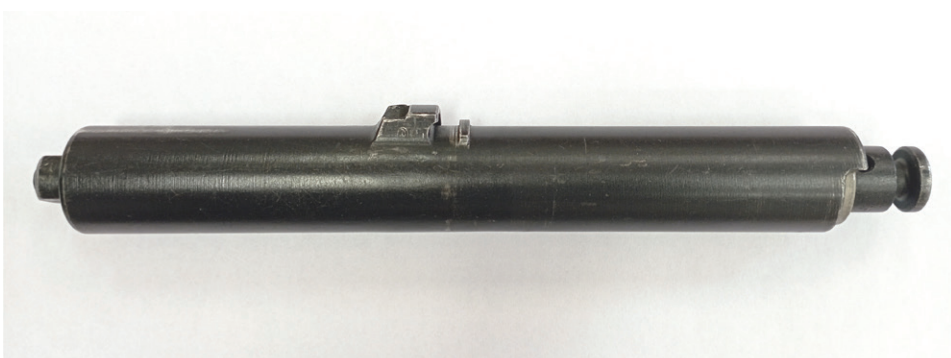
Longitudinal section of the pyro cartridge (10), in the section to the right, there are slots for inserting three PPL type pyro cartridges.

Electric trigger (B) - This item serves for remote control, fire control and pyrotechnic cocking of the weapon. It includes an electromagnet with a main trigger tooth, an electric pulse transmitter, a locking lever, an auxiliary trigger tooth and an armored cable for connecting the cannon to the aircraft's on-board systems.

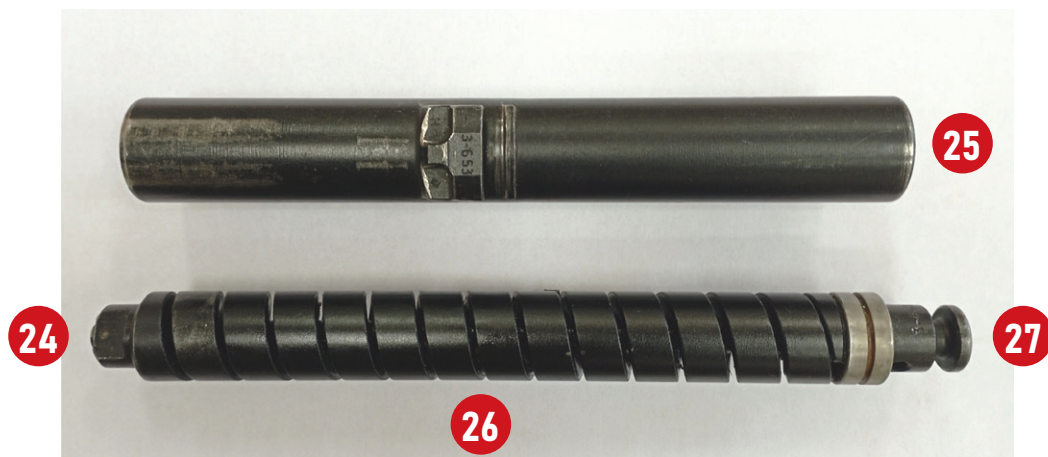


Overall view of the electric trigger.

Recoil Suppressor (C) - This unit's task is to reduce the effects of cannon recoil on the aircraft structure when firing. It consists of a suppressor body, a suppressor guide rod with an adjusting nut, and a suppressor spring.



Overall view of the recoil suppressor.

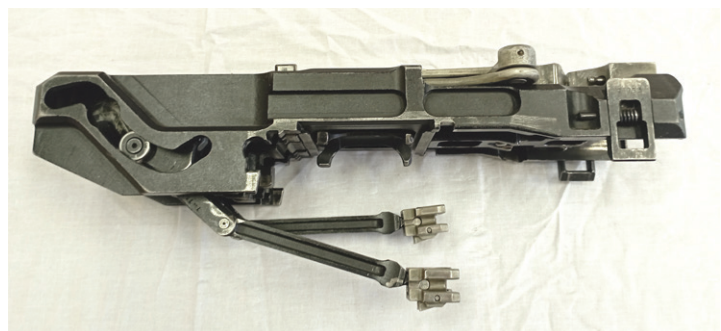


Recoil suppressor assembly (nut (24), suppressor body (25), suppressor spring (26) and suppressor rod (27)).

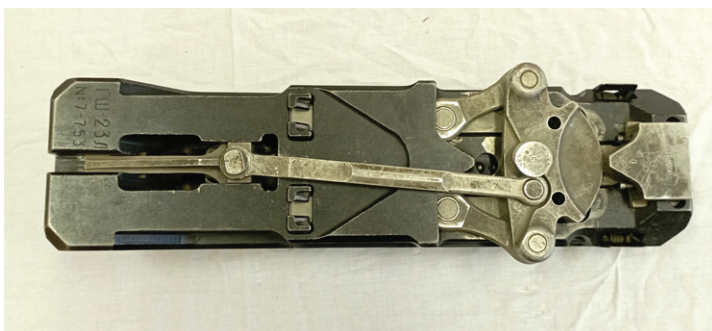
Feeder (D) - This includes the basic mechanisms and parts that account for the cannon's automatic operations. It includes two slide rails (right and left) with accelerators,

connected by connecting rods to the breech blocks, the feed mechanism also includes a feed star, splined shaft, feed cylinder, feed controller and connecting lever. There is also

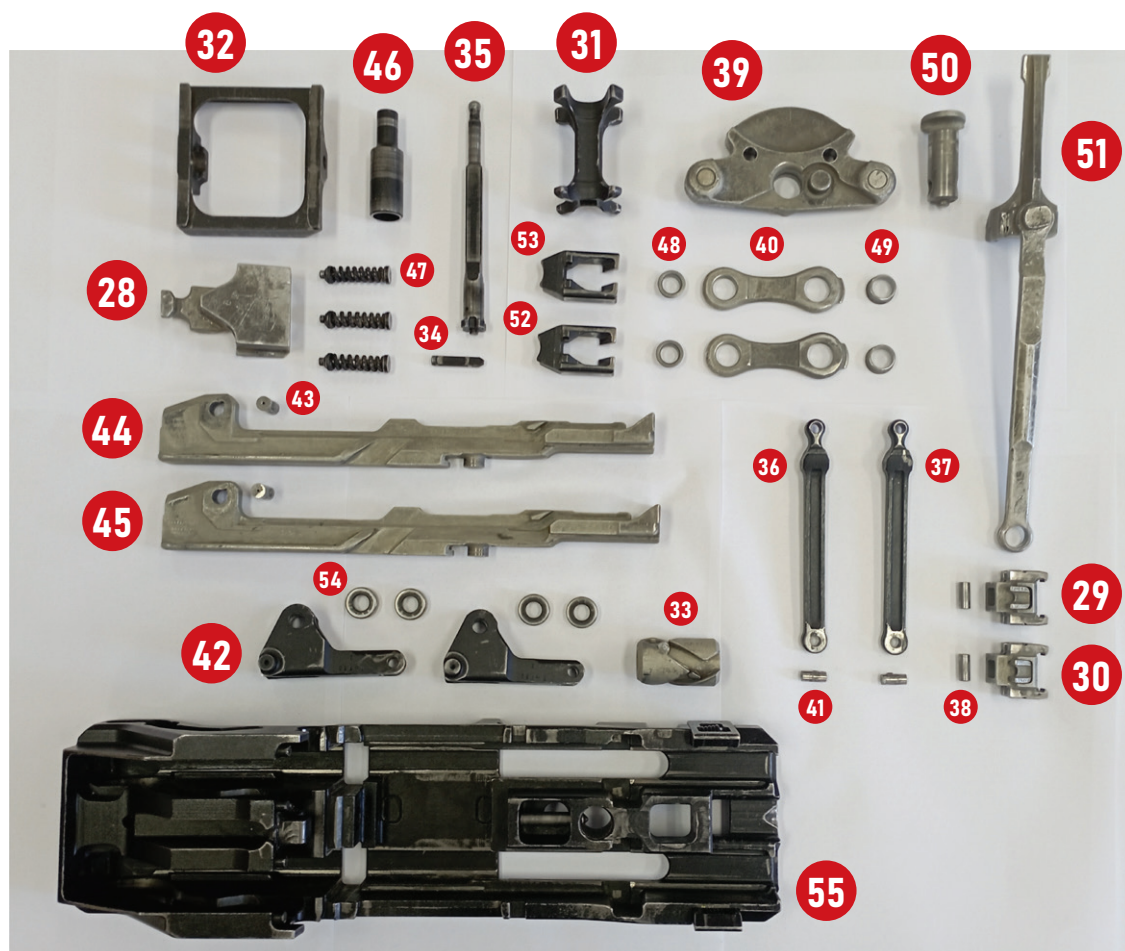
a recoil safety, a cartridge belt guide, spacer, and right and left slides.



Overall view of the feeder mechanism.



Overall view of the feeder mechanism from above



Disassembled feeder unit.

- 28 - recoil safety,
- 29 - left slide,
- 30 - right slide,
- 31 - feeder star,
- 32 - cartridge belt guide,
- 33 - feeder cylinder,
- 34 - insert pin,
- 35 - splined shaft,
- 36 - left connecting rod,
- 37 - right connecting rod,
- 38 - slide axes (2 pcs),
- 39 - connecting lever,
- 40 - yoke (2 pcs),
- 41 - connecting rod axis (2 pcs),
- 42 - accelerator (2 pcs),
- 43 - accelerator axis (2 pcs),
- 44 - left slide,
- 45 - right slide,
- 46 - spacer insert,
- 47 - recoil safety spring guide (3 pcs),
- 48 - slide insert (2 pcs),
- 49 - connecting lever insert (2 pcs),
- 50 - connecting lever axis,
- 51 - feed controller,
- 52 - left rear feeder,
- 53 - right rear feeder,
- 54 - accelerator roller (4 pcs),
- 55 - feeder base.

Accelerators (42) in cooperation with specially shaped grooves of the feeder unit (55) provide the necessary acceleration of the breech blocks (29,30) during pre-slide and recoil. The breech blocks (29,30) alternately lock the chamber during firing, insert the cartridge into the chamber and extract the empty cartridge. The breech block igniter, as a result of the impact of the firing pin on the transfer lever, pricks the mechanical primer of the cartridge. The splined shaft (35) transmits the

rotational movement from the feeder cylinder (33) to the feeder star (31). The feeder cylinder (33) changes the linear movement of the feed control (51) into the rotational movement of the feeder star (31), which moves the cartridge belt in the gun. The connecting lever (39) ensures the kinematic connection between the basic parts of the gun's automated systems. Using the yokes (40), it connects the slides (44,45) to each other, activates the feed mechanism and the recoil safety (28). The slides (44,45) are

the main links of the gun's automatics. Using the guide grooves in the cartridge belt guide (32), the cartridge belt is correctly and safely fed into the gun. The rear retractors (52,53) simultaneously with the front retractors (11,12) push the cartridge from the cartridge belt to the level of the barrel axis. The recoil safety (28) prevents the inertial movement of the moving parts of the gun in the front, extreme position and prevents them from bouncing when firing.

Cocking of the Weapon

There are two possible ways of cocking the weapon. This can be done manually, using a special cocking lever, via a connecting lever (for safety reasons, this is not done with live ammunition) or electronically by pressing a button in the cockpit, an electrical impulse is supplied to the electric fuse of the PPL pyrocartridge. After its initiation, the gas pressure moves the pyrotechnic cocking piston backwards and the piston moves the

slide, which is in the front position, backwards. The slide, which is now in the rear position, returns to the front position and at the same time returns the pyrotechnic cocking piston to its original position. Aircraft that have the GSh-23 (GSh-23L) as part of their integral armament have the option of re-cocking twice in the event of a malfunction (delay) and thus remove the failed cartridge from the weapon's automatic process and insert

a new cartridge into the cartridge chamber. The UPK-23-250 suspended container does not have this capability, because it has only one PPL pyro cartridge connected to the firing circuit out of a total of three pieces (the remaining two only act as ballast and seal the pyro cartridge space).

PPL Charges

These serve as gas pressure sources (up to 255MPa), which are created by a burning powder charge for cocking the breech of the weapon, or for removing a failed cartridge.

Three pieces are stored in a special cassette, which is placed on the gas coupling. It consists of its own brass cartridge, a powder charge of nitrocellulose seven-hole powder, an EKV

electric primer, pressed into the primer bed in the bottom of the cartridge and a sealing plug. The sealing plug in the blind part of the cartridge is dark purple.



PPL charges.



Gun Function During Firing

After pressing the trigger on the pilot's control column, an electrical impulse is supplied from the aircraft's onboard network to the trigger electromagnet and the armature is pulled in. This movement is transferred to the main trigger bar, which subsequently releases the firing pin. The firing pin, by means of a spring, strikes the primer of the cartridge, and a round is expended. As soon as the round passes the gas discharge holes in the barrel, the gases pass through them and the gas coupling and simultaneously into the gas cylinder space in front of the piston, which is located with the

slide in the far forward position, and into the space of the second cylinder behind the piston, located with the slide in the far rear position. This sets the automatically moving parts of the weapon in motion. Parts from the forward position create recoil and parts from the rear position perform pre-slide functions. The slide, which moves with the gas piston towards the rear, performs the following actions: the front slide with the bolt is moved down, thus unlocking the cartridge chamber, the front slide cocks the firing pin, which is caught by the auxiliary trigger tooth. After unlocking,

the bolt the cartridge is extracted. Halfway through the bolt stroke, the cartridge is ejected from the bolt via the ejector. After the cartridge is ejected, the bolt moves the ejector to the other side. When the slide is retracted, the front and rear slide eject the cartridge from the ammunition belt and insert it into the bolt jaws. At the same time, as one slide is retracted, the other slide is simultaneously advanced. Then, when the slide is advanced, the front slide is raised, the auxiliary trigger tooth is engaged, and the round is inserted into the chamber and is locked in place. At the

end of the slide movement, the gas piston rod rotates the plate via the switch to the other side. The recoil safety is turned off. The feeder star rotates in the feeder, thus ensuring the feed of the ammunition belt. The belt moves

one step per slide stroke. After the second slide reaches the front position, the firing pin is released from the auxiliary trigger bar by the action of the front retraction mechanism of the first slide and ensures the cartridge primer

is inserted. This way, a round is fired from the second barrel, after which the automatic function cycle is repeated, and the barrels will alternate during firing and continue firing until the main trigger bar is turned off.

GSh-23 23 x 115mm Munitions

The munitions are based on the previously developed AM-23 cannon. The designation 23 indicates the caliber of the ammunition in millimeters, while the 115 is the length of the round, also in millimeters. Over the years, many types of rounds have been developed and produced. Licensed production of this ammunition was gradually granted, especially for some member states of the former Warsaw Pact, Bulgaria, Poland, East Germany and outside the the Soviet Union in Yugoslavia and its successor states. The ammunition belt consists of rounds and steel links of the KRAB type, which are connected to each other by a series of eyes and hooks. The cartridge belt must always have an even number of cartrid-

ges (with an odd number, the last cartridge would remain in the cannon).

The main types of rounds are:

HE, HEI High-explosive, high-explosive incendiary with a B-23A, later AG-23 head fuse.

The projectile is intended for the destruction of personnel and soft targets. The effecti-

ve charge of the projectile is an A-IX-2 type explosive (phlegmatized hexogen with an admixture of aluminum powder), which is pressed into the body of the projectile. Initiation of the explosive is ensured in older types of ammunition by direct impact, detonating the B-23A fuse.



HE round with B-23A fuse.



HE round with an AG-23 fuse



HE round with AG-23 fuse and copper remover



HE round with AG-23 fuse with copper remover (different manufacturer; gray bullet body and a yellow copper remover marking strip located in the upper part of the round).

AP, API – Armor-piercing – incendiary, for destroying armored targets, the all-core body of the projectile is made of alloy steel and the ballistic tip made of steel sheet is pressed into the body of the projectile in the upper part. Inside the tip is a worked-out incendiary composition that reliably ignites the fuel in armored tanks. The penetration effect is approximately 25 mm at a distance of 400 m at right angle to the armor. Color marking – black



AP round.

projectile and ballistic cap, red and white stripe on the latter.

APIL – Armor-piercing, incendiary, luminous is similar to the standard AP round, with the addition of a recess in the bottom for the tracer component. Its task is to trace the actual impact point of the round as a visual aid to the pilot (it burns intensely for approximately 5 seconds with a red flame) and at the same time supports the incendiary effect of the round. Color marking – painted bullet in the color of



APIL round.

metal (gray or black), the tip of the ballistic hood is colored yellow.

AR – Anti-radar with dipole reflectors, is intended for passive jamming of radio communication signals of aircraft and radio-guided guided missiles and for creating false targets on radar screens. Inside the missile body, three cases with DOS-15 dipole reflectors are fabricated. These are three bundles with 56 to 80,000 pieces of tinned glass fibers with a length of 15 mm and a thickness of 35 microns per fiber. A VU-23 type time delayed fuse is used to sweep them out of the missile

body, which sweeps the bundles within 6 to 8 seconds after firing. Due to the rotation of the round and the air pressure, effective jamming surfaces of 3 to 4 m² are created.

Color marking – painted bullet in metal color, its body has white stenciling D – 15 – U, the fuse is silver.



An AR round.

Other types of specialized rounds were developed and manufactured for other purposes.

Bursting incendiary – with a highly sensitive igniter BSh-23N for use against reconnaissance and other types of balloons. Color marking: painted bullet in metal color, silver igniter with red-colored tip.



Bursting Incendiary round.

OFZ-PRAKT – with a spare (inert or non-explosive) round and igniter used for training and testing of weapon systems. Color marking: painted bullet in the color of metal with a white stripe in the upper part of the bullet body and a green igniter.



OFZ-PRAKT round

ME – multi-element – rounds are anti-personnel rounds. Their effective charge consists of 24 pistol bullets, which are evenly placed inside the body around the VM-23 igniter device. The weight of one pistol bullet is 2g. Their ejection occurs between 1.4 and 1.8 seconds after firing, under the action of gas pressure, from the propellant composition (not shown).



Ammunition belt section consisting of four rounds of 23 OFZ and fragmentation rounds. For comparison, in the upper left corner is a PPL pyro cartridge, used to cock the weapon before firing.



Ammunition box with a belt of 23 HE and 23 APIL ammunition in a MiG-21MFN, on the lid of the cover there is a diagram of the storage of the ammunition belt in the fuselage of the aircraft which contained a maximum of 200 rounds.



A pair of armaments specialists reload the full capacity of 200 rounds of ammunition into a MiG-21MF aircraft under the watchful eye of their armor crew chief.



Preparing the GSh-23 cannon of a MiG-21MF deployed on a quick reaction standby. It is worth noting the special shape of the cocking lever in the armor's hand on the left and the uncovered cannon compartment for easier maintenance and handling.

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Aerial War in Ukraine

The Battle for Fuel

Miro Barič

August was exceptionally hot, but we don't mean global warming. Between August 1st and August 31st, Ukraine launched its largest campaign so far against Russian oil infrastructure. The targets were refineries, but also fuel depots, oil pipelines, and fuel trains. Ukraine aims to choke not only the amount of fuel received by Russian frontline units but also Russian exports, which help finance the war. It resembles the "battle for fuel" fought by the American (and British) air force in 1944/45, which significantly helped in defeating Nazi Germany.

The most important political event of the observed period was the meeting between Presidents Trump and Putin in Alaska. It can now be stated with certainty that it led nowhere. The Russian side used it to the maximum for propaganda purposes and presented demands that are impossible to fulfill. Ukraine is supposed to give up parts of the Donetsk and Luhansk regions that have not yet been conquered, and in exchange, it would "gain" that Russia would not attack the parts of the Kherson and Zaporizhzhia regions that have also not yet been conquered.

Donald Trump tried to push Putin into meeting personally with Ukrainian President Volodymyr Zelensky and to start direct peace negotiations, but the Kremlin deflected the topic with various excuses. Putin has no interest in immediately ending the war, and he proves that practically on a daily basis. After meeting with Putin, a meeting between Trump and Zelensky and European leaders took place in Washington. And while during the summit in Alaska the Russians restrained themselves in their attacks, on Tuesday, August 19th, during negotiations in Washington, they sent a "signal" in the form of a large-scale attack of 207 drones,

5 ballistic missiles, and 5 cruise missiles. The target was oil and gas infrastructure near the cities of Kremenchuk and Lubny. These are the same types of targets Ukraine strikes on Russian territory. However, near Kremenchuk, the Russians used cluster munitions, which dispersed large quantities of submunitions, and the local government had to issue a special warning to residents.

During the night of Wednesday, August 20th, the Russians launched 574 drones and 40 other missiles, mostly targeting the western regions of Ukraine. Several cruise missiles struck the Mukachevo factory of the American-Singaporean company Flex, which produces consumer electronics. In the city of Sumy, the local university was repeatedly struck. Earlier, its dormitories were destroyed; this time the library burned down.

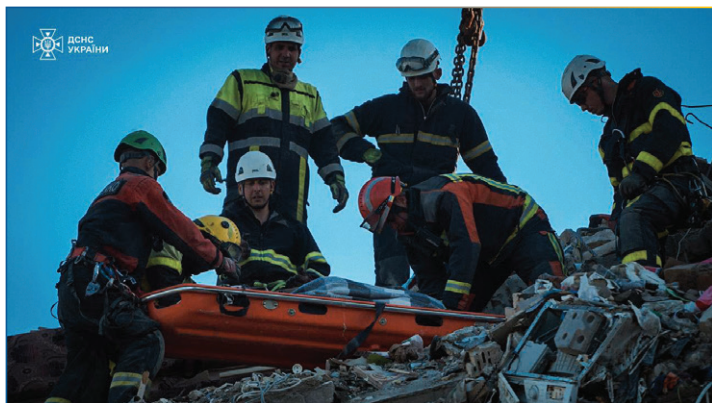
The worst attack came during the night of Wednesday, August 27th. The target of 598 drones and 31 ballistic or cruise missiles was mainly the capital, Kyiv. One apartment building in the Darnytskyi district was struck in quick succession by two Iskander-K missiles. It was not a random hit from debris of downed drones; both missiles hit the exact same spot.

The attack claimed at least 25 lives, some victims were found by rescuers in the ruins of the building only after several days. Images of a large stuffed teddy bear, also pulled from the rubble, went around the world. Little Angelina received it for her second birthday. She died in the Russian airstrike along with her mother, Nadia. She did not live to see her third birthday.

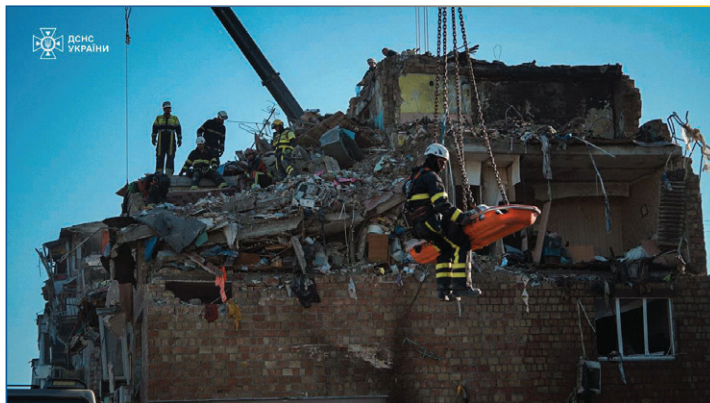
On the ground front, Ukrainian armed forces continued pushing the occupiers out of the Sumy region. The Russian offensive in this area completely failed. On the other hand, the Russians managed to advance near Pokrovsk, though at the cost of heavy losses. A serious breakthrough appeared to occur in the first half of the observed period near the city of Dobropillia. There, the Russians managed to penetrate behind Ukrainian lines unnoticed. However, it was only infantry without heavy equipment and without supplies. The Russian plan was for them to be resupplied by drone drops, but that failed. The Russians created a 16 km long but very narrow salient, which the Ukrainians immediately cut off in several places through counterattacks, creating three pockets where the Russian soldiers were encircled and gradually eliminated.

UH-60A Black Hawk helicopter named Čestmír purchase by Czech fundraisers.





Victims were searched for in the rubble of the apartment building for several days.



Rescuers found a large stuffed bear in the ruins of the house in Kyiv.



Apartment building in Kyiv after it was hit by two Iskander-K missiles.

The bear belonged to two-year-old Angelina, who died along with her mother Nadia.

Russian Refineries Under Fire

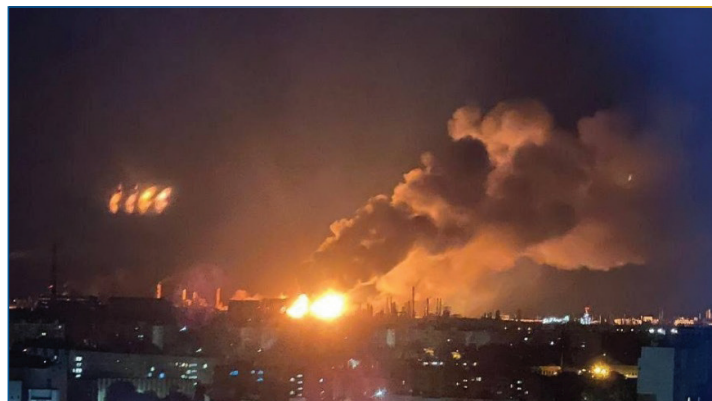
Ukraine has repeatedly attacked Russian refineries, fuel depots, and similar facilities in the past. During the observed period, however, it launched an unprecedented campaign against Russian oil infrastructure. It thereby imposed its own "sanctions" on the sector that provides Putin's regime with money for war. The results began to show through reduced exports of refined fuel, rising fuel prices at gas stations in

Russia, and eventually a total shortage in more and more Russian regions. Where there was still some gasoline available at gas stations, long lines of waiting cars formed. We can reveal that this scenario continued into the following month. We'll talk about that in the following article. During August, Ukrainian drones struck at least 10 refineries, most of them repeatedly. These attacks disabled 21 percent of the total capacity of Russian refineries.

During the night of Saturday, August 2nd, the refineries in Ryazan and Kuybyshev near Samara were hit. The following night, Sunday, August 3rd, a fuel depot in Adler near Sochi was struck. On Thursday, August 7th, it was the Afipsky refinery near Krasnodar, and on Saturday, August 9th, the refinery in Slavyanska-Kubani. Both had already been hit before and now suffered further damage. On Sunday, August 10th, the target was the refinery near



Russian refineries burning.



In August, Ukraine struck at least 10 Russian refineries.



Saratov and also in Komi, in the far north of Russia. A fuel depot was damaged there.

During the night to Thursday, August 14th, the Lukoil refinery near Volgograd was hit again and had to completely shut down the operations. On Friday, August 15th, Ukrainian kamikaze drones caused a fire at the Syzran refinery, which had also been targeted before. On Sunday, August 17th, another explosion occurred at the Lukoil refinery near Volgograd, and drones hit it a third time on Tuesday, August 19th. On Sunday, August 24th, the Syzran refinery was again struck, along with a terminal at the Ust-Luga port, which is key for Russian gas exports by sea. On Thursday, August 28th, the Afipsky refinery near Krasnodar and the Kuybyshev refinery near Samara were again targeted by drones. Fires broke out at both, and the latter had to completely shut down the operations. On Saturday, August 30th, the refineries near Samara and in Syzran were hit again.

During the observed period, the worst affected was the refinery in Novoshakhtinsk. It burned for almost a week and was only

extinguished on Tuesday, August 26th. 400 firefighters and 150 pieces of equipment were deployed. In surrounding villages, due to the firefighting efforts, 35,000 people were left without water supply for several days.

Druzhba Oil Pipeline

Not only refineries were systematically targeted. During the observed period, the Druzhba oil pipeline, which carries Russian oil to Hungary and Slovakia, was repeatedly hit. Even in the fourth year of the war, these two countries continue to take Russian raw materials, even though the rest of Europe has tried to cut them off.

Attacks on the Druzhba pipeline occurred on Thursday, August 14th, in the Bryansk region, on Monday, August 18th, and on Friday, August 22nd, when the Unecha pumping station near Bryansk was hit. Both Hungary and Slovakia officially protested the Ukrainian attacks. Kyiv responded by saying they should address Russia, because if not for the war started by Moscow, no one would be attacking Druzhba. Both states also

complained to the European Commission, which responded that Ukrainian attacks in no way threaten European energy security. Hungary, in response to the attacks on Druzhba, imposed sanctions on Thursday, August 28th, against the commander of Ukraine's drone forces, Robert Brovdi, who is, ironically, an ethnic Hungarian. Budapest tried to ban him from entering the Schengen area of the European Union, but Poland declared it would welcome him at any



Attack by Ukrainian FPV drones on a Russian fuel train.

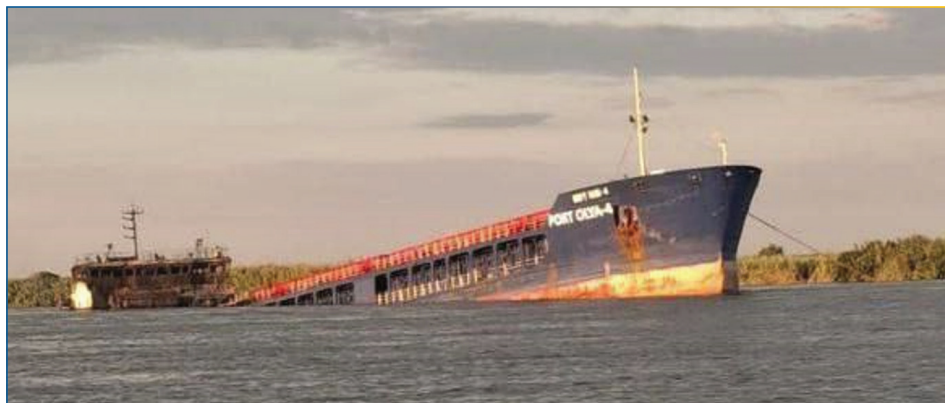
time. And Brovdi's response? On Friday, August 29th, his drones attacked the Transneft-Druzhba pumping station near Bryansk...

On Tuesday, August 19th, Ukrainian drones also repeatedly hit a Russian fuel train near occupied Tokmak. Several tank cars burned. On Thursday, August 21st, Ukrainians hit a second Russian supply train, this time near the Dzhankoi base in Crimea.

Strikes on Ships on Both Sides

After a longer pause, there were also attacks on ships at sea. Ukrainian forces achieved a spectacular feat when they hit a Russian ship in the Caspian Sea for the very first time. The cargo vessel Port Olja-4 was destroyed by Ukrainian special forces in an airstrike using drones. The ship was used to transport ammunition and drone components from Iran. On August 1st, it was anchored near Iranian shores; on August 12th, it set sail for Russia, and on Thursday, August 14th, it was hit near the port of Olja in the Astrakhan region. The captain's bridge at the rear of the vessel burned, and it partially sank in shallow water. The wreck now blocks other ships entering or leaving the port. Unofficial Russian channels later reported that Ukrainian drones also hit and seriously damaged port infrastructure.

On Thursday, August 28th, a Ukrainian drone airstrike also hit and damaged a Russian Buyan-M class missile corvette in the Sea of Azov, near the Crimean coast. The relatively small drones could not sink the ship, but their operators focused on causing the corvette as much damage as possible. They hit, for example, the radar and other sensors on the mast and the captain's bridge.



Port Olja-4 ship sunk in the Caspian Sea.

On the same day, the Russians also managed to hit a Ukrainian ship. They used a naval drone that collided with the reconnaissance vessel Simferopol in the Danube Delta. According to the Russians, the 55-meter-long, 3,500-ton ship was sunk. The Ukrainian side only stated that two sailors died and several others were injured. The question is what kind of naval drone the Russians used. According to some sources, it could have been an originally Ukrainian drone that the Russians had captured.

While trying to seize another Ukrainian naval drone that had been disabled by jamming systems, an incident occurred which was reported by Ukrainian military intelligence on Friday, August 22nd. According to them, during an attack on the port of Novorossiysk, one Ukrainian drone was suppressed by electronic warfare. The Russians sent five elite Marines divers to retrieve it. However, while trying to manipulate the drone, it exploded and killed

all the divers. Another drone-related incident on the Russian side falls into the category of funny stories. In Tatarstan, after a series of Ukrainian attacks, alert citizens reported on Wednesday, August 13th, a group of uniformed men launching drones from a car in a field. The local police responded promptly and detained the group. Some propaganda channels immediately reported the arrest of Ukrainian saboteurs. However, it turned out to be Russian cadets who were learning to operate Russian Orlan reconnaissance drones...

New Weapons

Ukraine is attacking Russian refineries with drones, constantly developing new types. These are inexpensive devices that don't need top-tier specifications. Refineries are highly flammable targets, and a small amount of explosives is enough to trigger a massive fire. Russia's vast size is working against it this time.



Russians arrested a group of "Ukrainian saboteurs." They turned out to be Russian cadets training with Russian drones.



Ukrainian Flamingo missile.

It simply cannot cover its entire territory with air defense, and Ukrainians plan drone routes to exploit gaps in that defense. When they send a large number of drones at a refinery, some of them get through — and as already mentioned, a small explosion in a flammable target is enough.

However, Ukraine is also working on weapons with far more destructive power. During the observed period, it introduced its own cruise missile, the FP-5 Flamingo. It is powered by an Ivchenko AI-25TL jet engine, also installed in L-39 Albatros airplane. The missile weighs 6 tons, of which 1.1 tons is the warhead. It is thus intended for more resistant targets. The Flamingo is ground-launched, has a top speed of 950 km/h, and a range of up to 3,000 km. The issue may be quantity: Ukraine is currently able to produce only one missile per day, though production is expected to ramp up to seven units daily. The Ukrainian armed forces have released several videos showing the launch of these missiles at Russian targets, although so far, these have only been isolated strikes.

Another new weapon entering Ukraine's arsenal is the American ERAM (Extended Range Attack Munitions) cruise missile. These began rushed development in 2024 based on experience from the Ukrainian battlefield. They are meant to be affordable and simple but effective missiles. Ukrainians can launch them from F-16s and MiG-29s. The missile carries

a 227 kg warhead, flies at 700 km/h, and has a range of 240 to 460 km depending on launch altitude. At the end of August, U.S. President Trump approved the sale of up to 3,350 ERAM missiles to Ukraine. The first ten are expected to be delivered for testing in early October this year.

Ukraine also received a new reinforcement during the observed period from the Czech Republic. Volunteers from the "Gift for Putin" initiative delivered a UH-60A Black Hawk helicopter to Ukraine, funded by donations from citizens of the Czech Republic, Slovakia, and other countries. More than 20,000 donors contributed to the total sum of 72 million Czech crowns (2.9 million euros). The fundraiser began in November 2023 and concluded in March 2025. Ukraine then paid for the helicopter's transport and preparation for service. The helicopter, now named Čestmír, is already in Ukraine. It was taken over by the military intelligence service GUR, which already operates two other Black Hawk helicopters. All three are older UH-60A models that have undergone complete overhauls. GUR has used these helicopters for deploying special forces behind enemy lines.

Combat Losses

During the observed period, the Ukrainian Air Force lost one aircraft — tragically, along with the pilot. During the wee hours of Saturday, August 23rd, Major Serhiy Bondar took off in a

MiG-29 fighter jet from the Pryluky base in the Chernihiv region. After completing a combat mission, the plane crashed at 2:54 AM during landing at the Cherkasy base. The aircraft went down near the runway.

Major Bondar was the deputy commander of the 40th Tactical Aviation Brigade, which bears the honorary name "Ghost of Kyiv." He was one of the most experienced pilots of this unit. He graduated from the Kharkiv Air Force Institute in 2000. After some time, he left military aviation and lectured at the National Aviation University. However, after the Russian invasion began in 2022, he did not hesitate and returned to military aviation. He regained his flying skills on the L-39 Albatros and later flew MiG-29 fighters with the 40th brigade. He participated in air defense and ground attack missions. He died in a MiG-29MU1 with tail number "white 20."

The Russian side also lost one fighter jet in the air. This occurred on Thursday, August 14th, when a Sukhoi Su-30SM of the Russian Naval Aviation crashed into the Black Sea southeast of Snake Island. The cause of the crash is unknown, and the crew of two did not survive.

On the ground, Russia lost at least two Mi-8 helicopters, which were hit by drones on Saturday, August 30th, at the Simferopol base in occupied Crimea. Their destruction was confirmed by a video from FPV drones of Ukrainian military intelligence, by a video of a large fire shot by local residents, and later by satellite images. The Ukrainian side also claimed the destruction of one Mi-24 helicopter, but this has not been confirmed.



Ukrainian Air Force Major Serhiy Bondar died on August 23rd in a MiG-29 fighter.





Series of photos of a Ukrainian MiG-29 fighter jet published by the 114th Tactical Aviation Brigade.



A shot of a Ukrainian MiG-29 nicely shows the digital camouflage.



A two-seater MiG-29UBS (original bort number 1303) delivered from Slovakia is still flying in Ukrainian service.



In spring 2025, the first Mirage 2000-5F aircraft from France were delivered. Now the first clear full shot in Ukrainian service has appeared.



A new image of Ukrainian F-16s also appeared during the observed period.



Russian Mi-8 helicopters destroyed by Ukrainian drones on August 30th at the Simferopol base in Crimea.



Ex-Czech Mi-24s are very effective against drones.



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Off the Coast of Guam

Text: Jan Bobek

Illustration: Piotr Forkasiewicz



The Battle of the Philippine Sea, which took place on June 19-20, 1944, during the landings on Saipan in the Marianas, was the largest carrier battle in history. On the Japanese side, nine aircraft carriers participated, while the Americans fielded fifteen.

The IJN carrier air groups underwent a major reorganization, being divided into three Kōkūtai. Bombers, fighters, and reconnaissance planes aboard Taihō, Shōkaku, and Zuikaku fell under Kōkūtai 601. From the decks of Jun'yō, Hiyō, and Ryūjō operated Kōkūtai 652, and the aviators of Kōkūtai 653 were assigned to the carriers Chiyoda, Chitose, and Zuihō. Among the new aircraft of these carrier units were fighter-bombers, whose mission was to attack escorting vessels, damage or sink them, and draw part of the defensive fire. For this purpose, seven of the above-mentioned ships had dedicated squadrons of A6M2 Type 21 fighter-bombers.

Several newly organized naval fighter units were also based on islands in this region. Some were supposed to be equipped with the new "George" and "Jack" fighters, but in the end, all operated A6M Zero, primarily Type 52 and 21s. Before the battle for the Marianas, the following units were deployed in the area: Kōkūtai 261 on Saipan and Meleyon, Kōkūtai 263 and 265 on Guam, Kōkūtai 343 on Tinian, Kōkūtai 202 on Moen and Truk, and Kōkūtai 253 on Eten.

In this battle, however, the Japanese lost more than 600 aircraft and three carriers. The lack of experience among newly trained pilots was fully revealed. Contributing to the defeat was also the fact that compared to engagements in 1942,

many of the Japanese ship commanders were a decade younger, in term of service, than their predecessors, and a large portion of them had no experience in aviation at all.

Although the strikes by American carrier aircraft inflicted less damage on enemy warships than in earlier battles, U.S. submarines made up for it by sinking two (Taihō and Shōkaku) of the three Japanese fleet carriers, leaving Zuikaku as the only operational large carrier of the Imperial Navy.

On the American side, Japan's defeat was largely due to the radar and air operations control system, fighter cover, and effective anti-aircraft fire. The Japanese had anticipated some of these defensive measures and, in at least one instance, a Japanese crew successfully employed aluminum foil to confuse American radar operators.

During the two-day battle, the Americans lost 130 aircraft and 76 pilots or crew members. In many cases, downed airmen were rescued near enemy bases or ships - support that the Japanese did not have available for their crews.

Piotr Forkasiewicz's box art depicts one such rescue operation. On June 19, a SOC biplane from the light cruiser USS Montpelier recovered two aviators just a few miles off Guam's western coast.

The aircraft, overloaded, was taxiing on the water when it was spotted by night fighter Lt. Russell L. Reisener of VF(N)-76 from USS Hornet. A daytime mission was unusual for him, and he observed not only the American biplane but also Japanese aircraft preparing to land at

a nearby airfield. Protection of the floatplane was taken over by two pairs of night fighter pilots from USS Enterprise. One pair consisted of Corsairs, while the other was a mixed team: LtCdr. Richard E. Harmer in a Corsair and Lt. Henry C. Clem of VF-10 in a Hellcat. This mixed pair located the SOC at 16:00, just as its crew was desperately calling for help, being attacked by a Zero.

Clem immediately attacked the Zero and began climbing, but as he slowed during the climb, the Japanese pilot got on his tail and fatally hit him. The Hellcat crashed into the sea, and Harmer pursued the Japanese pilot. He failed to catch up but attempted a long-range shot. Smoke streamed from the Japanese plane, but it did not slow down. Disappointed, Harmer broke off the pursuit and did not claim a victory.

The experienced Japanese pilot was Lt. Shinya Ozaki, commander of the Kōkūtai 343 fighter unit. Harmer's fire not only hit his aircraft but mortally wounded him as well. Ozaki died shortly after making a forced landing. You can learn more about this pilot in the kit's text section.

Following this defeat, the Japanese command sought urgently for ways to overcome the well-developed defenses of American task forces, which, thanks to radar integration, fighter cover, and heavy anti-aircraft protection, were extremely difficult to attack. Thus was born the tactic of the Kamikaze pilots.

The American capture of Saipan also created the conditions for establishing a base for B-29 strategic bombers, bringing Japan within range of this new airfield.

Battle over Horn Island

Text: Jan Bobek

Illustration: Gareth Hector



When the 49th Pursuit Group, with 1,100 personnel and their aircraft, arrived in Australia aboard ships on February 1, 1942, it became the first unit of the U.S. Army Air Corps to reach a combat zone after Japan's declaration of war.

At the beginning of March 1942, Maj. Wurthsmith, commander of the 49th Pursuit Group, asked the commander of the 7th Pursuit Squadron, Lt. Morrissey, if he had enough experienced pilots to form a detachment that could be sent to Horn Island, located in the Torres Strait, Queensland, northern Australia, between the Australian mainland and Papua New Guinea. Morrissey assembled a group of twelve airmen who immediately set out for the island, and nine of them arrived at their destination without any ground crew or logistical support.

It was this base that, on March 14, 1942, came under attack by eight G4M Betty bombers accompanied by twelve A6M2 Zero Model 21 fighters. All the aircraft belonged to the 4th Kōkūtai. The bombers, commanded by Lt. Shigeo Yamagata, took off from Rabaul, while their fighter escort, under the command of Lt. Shirō Kawai, departed from the recently captured base at Lae in New Guinea.

Lt. Morrissey received timely warning of the approaching attackers and managed to get his men airborne. Morrissey led "A" Flight, which comprised four aircraft, and "B" Flight was led by 2/Lt. Bill Reddington with five planes. They took off at fifteen-second intervals. At 10,000 feet south of Horn Island, they readied their guns, but Morrissey discovered that his gun switch was dead. He handed command to Reddington and made

a quick landing, where RAAF ground staff cleared and recharged his guns. Thirty minutes later, he was airborne again and rejoined his flight after another fifteen minutes. Reddington then reported that his guns had also failed. He was ordered back to the airfield, and command of "B" Flight was given to Lt. Johnson. By that time, bombs began falling on the western end of the airfield, and several Zeros started strafing ground targets.

The Betty bomber crews, still undisturbed, dropped their loads accurately from an altitude of seven kilometers. Ten minutes later, they were attacked by a single "Hurricane," which the gunners claimed as shot down. The pilot of the American aircraft was likely 2/Lt Harold J. Martin, who was officially credited with the destruction of a bomber after the battle.

Hal Martin had become separated from the others and flew alone before Morrissey's return in order to intercept the Japanese attackers. At maximum range, he opened fire on three Japanese aircraft on the left side of the formation. Finally, when he closed to optimal firing distance, he targeted a large brown and green bomber at the far left and expended all his ammunition on it. He then rolled left as the Japanese returned fire and immediately headed back to Horn Island.

The raid destroyed one twin-engine Hudson, damaged another, and inflicted damage on buildings, tents, a water tank, and several vehicles. On their return flight, the Betty crews strafed an Allied vessel and landed back at their base without any loss on their side.

The Japanese fighter escort engaged most of the Americans and claimed eight victories. Among

the Japanese pilots was the future top-scoring naval ace, Hiroyoshi Nishizawa. Four American aircraft were damaged by gunfire of Zero pilots.

However, the only total American loss was an aircraft whose pilot became disoriented and bailed out, later being rescued by two young Aboriginal men. During the engagement, the Americans claimed four Zeros shot down. One of the Japanese pilots killed was Ensign Nobuhiro Iwasaki, whose aircraft was later found, allowing Allied intelligence to recover valuable information, especially from the component identification plates. His likely opponent was Lt. Morrissey, who hit his target from a distance of 200 yards. One of Iwasaki's wingmen was Nishizawa himself.

The second Japanese pilot shot down was Petty Officer 1st Class Genkichi Ōishi, and in his case, his opponent is beyond doubt. Lt. A. T. House, who attacked a Zero that was trying to get behind Morrissey. When House attempted to fire, his guns failed to produce a single shot. He therefore decided to ram the Zero with his right wingtip, striking the fuselage and killing Ōishi in the cockpit. The P-40 then went into uncontrollable and violent maneuvers. House managed to regain control of his aircraft at 4,000 feet and landed back at the base at high speed without using flaps. For this action, he deservedly received the Distinguished Service Cross. Shortly after this battle, the 7th PS was withdrawn from Horn Island, and House soon ended up in the hospital: While on leave in Sydney, a taxi driver ran over his foot. Well, as the saying goes, "He who is fated to hang will never drown."

With the Head of a Rooster

Text: Jan Bobek

Illustration: Martin Novotný



The painting related to this kit is one of those I have a personal connection with, and for several reasons. First and foremost, its author was my late friend and excellent painter, Martin Novotný. I had the opportunity to work with him many times on aircraft profiles for the aviation magazine REVI. Martin had a great sense for technical detail and an understanding of how combat aircraft operated, which allowed him to bring even a simple profile view to life, something few illustrators can achieve. Sometime in the late 1990s, or just after 2000, I prepared research materials for a Martin's box art tied to the upcoming 1/48 scale Bf 109 F-4 kit. The subject was Hans "Assi" Hahn's Bf 109 from the autumn of 1941.

You can judge for yourself how well he managed to capture it. Personally, I like it very much, it beautifully conveys the dynamics of aerial combat, where at high speeds, life and death are decided in fractions of a second.

In 2002, the now late American researcher Jerry Crandall published the book *Major Hans "Assi" Hahn, The Man and His Machines*. It was illustrated by Thomas A. Tullis, and I can warmly recommend it to anyone interested in Luftwaffe fighters and pilots. I also contributed a small part to the book myself. The lion's share of the support, however, was done by Jerry's wife Judy and especially Mrs. Gisela Hahn, the widow of Hans Hahn, who passed away in 1982 at the age of 68.

I met Mrs. Gisela Hahn somewhat unexpectedly, when my friends and I visited former night fighter pilot Wolfgang Falck in Tyrol. Mr. Falck had been kind enough to help me many times

in correspondence, sharing memories about former Luftwaffe pilots and wartime events that concerned them. When I arrived on the agreed date, Mr. Falck was unfortunately in the hospital. However, I had the opportunity to meet Mrs. Gisela Hahn in person and to reflect on the fate that had befallen both her and Mr. Falck. They had each lost their life partners, and through this shared loss, they eventually set out together on a new journey in life.

The painting created by Martin Novotný was stored in Eduard's archive, and as sometimes happens, the kit project was delayed. When the kit was finally ready, it was already 2016. Martin was no longer with us, and Eduard's team had to make adjustments to the painting. In Jerry's book, previously unknown photos of Hahn's Bf 109 F-4 rudder had surfaced, showing the victory markings clearly. In Martin's original artwork, the rudder was painted only in yellow, as I did not have those photos available when preparing the references.

Someone from Eduard's team, I unfortunately can't recall who, added the victory markings to Martin's painting, and it's in this version that you've been seeing it on the box since 2016. I think that even though it was created some twelve years earlier, it still looks captivating.

The kit's decal sheet features 50 aerial victories, corresponding to "Assi" Hahn's score from October 1941. Period photos show the aircraft with 45 or 46 victory symbols on the rudder, so those seeking greater authenticity can adjust decal accordingly with a scalpel.

Hptm. Hahn assumed command of III./JG "Richthofen" at the end of October 1940 and led the unit for two years. The emblem of his unit became the head of a rooster, a nod to his surname (Hahn, German for rooster). His score in air combat over Western Europe stopped at 66 victories. He then took command of II./JG 54 "Grünherz" on the Eastern Front, where his combat career eventually ended in Soviet captivity.

Hahn's III./JG 2 began re-equipping with Bf 109 F fighters in the spring of 1941, simultaneously relocating to Rocquancourt airfield near Caen. The older Bf 109 E versions were gradually phased out by June.

During 1941, Hahn's unit achieved 165 victories, 27 of which were credited to "Assi" Hahn. The vast majority of aircraft shot down were, of course, Spitfires, with a smaller number of Hurricanes, and occasionally the unit encountered Blenheims, Lysanders, and Whirlwinds. In the same period, III./JG 2 lost 31 pilots who were killed, went missing, were captured, or seriously wounded. The unit wrote off 33 aircraft that were completely destroyed or severely damaged, and another 25 were lightly or moderately damaged but repairable.

Most of these victories and losses occurred over continental Europe during RAF Circus operations. The German pilots, often outnumbered, used their defensive advantage, usually attacking under favorable conditions and often avoiding combat if the tactical situation did not favor them. Considering these losses, RAF fighter pilots proved to be more than capable opponents.

Curtiss SB2C Helldiver

The Curtiss SB2C Helldiver was one of those aircraft that was either loved or hated- there was no middle ground. Forged in a hurry for the forthcoming war the Helldiver was designed in a hurry, built by mostly by under skilled personnel while being bombarded by the customer with their extra changes and demands. Even under this pressure Curtiss managed to produce a prototype that flew, even though it would soon reveal strength and build problems. This is what prototypes are for, however, the first production model, the Dash-1, was beset by many problems that saw one carrier captain demanding that the Helldivers be removed and the off loaded Douglas Dauntless dive bombers be reinstated. From the SB2C-3 onwards, after undergoing a full modification programme, a competent combat aircraft would emerge. Used throughout 1944/45 the Helldiver squadrons, now operating from the fast carriers, took the war to the Japanese all the way to Tokyo. Post 1945 the Helldiver would stay on active service until replaced by the Douglas AD-1 Skyraider. Overseas usage would see later build models being operated by France, Greece, Italy, Portugal and Thailand. The Royal Navy also formed a single squadron that would never deploy on active service. Undergoing flight testing in Britain, Eric 'Winkle' Brown would declare that the Helldiver was the worst aircraft he had ever flown. Written by Kev Darling with artwork and scale drawings by Sam Pearson.


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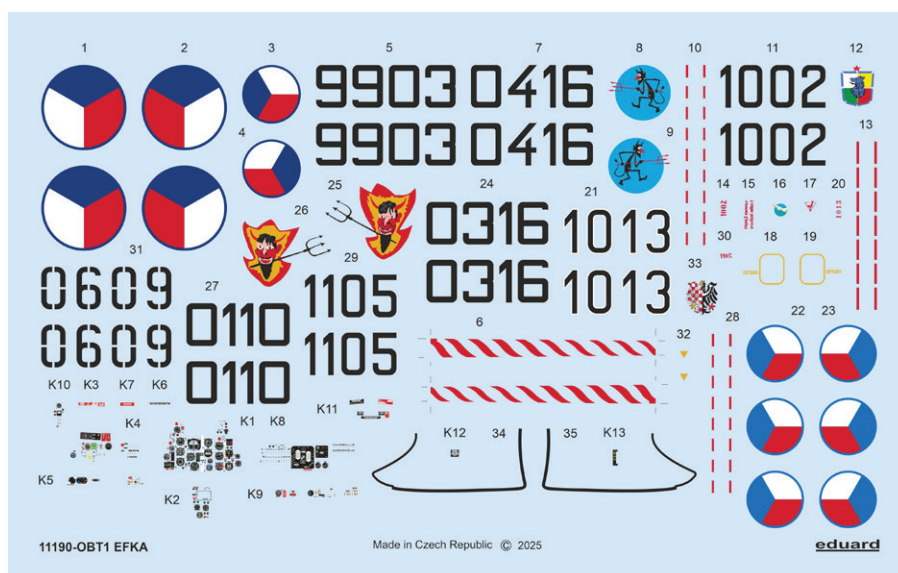
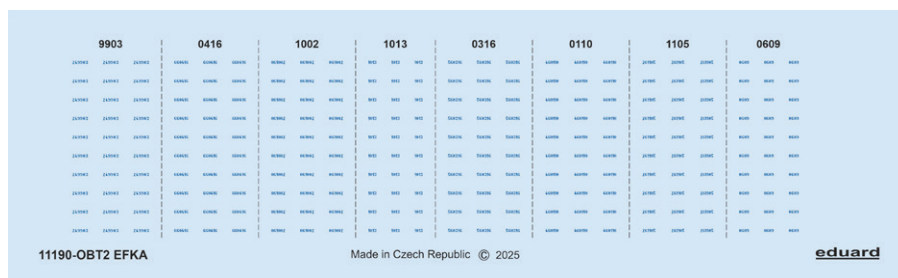
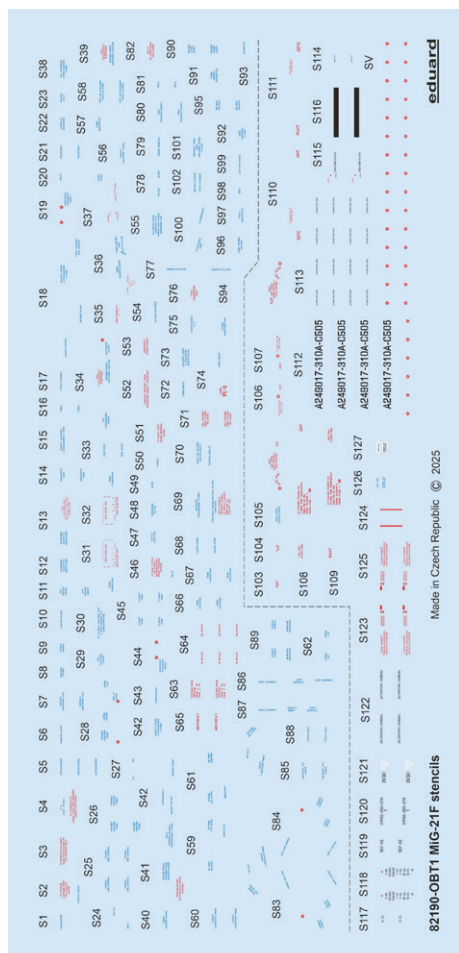
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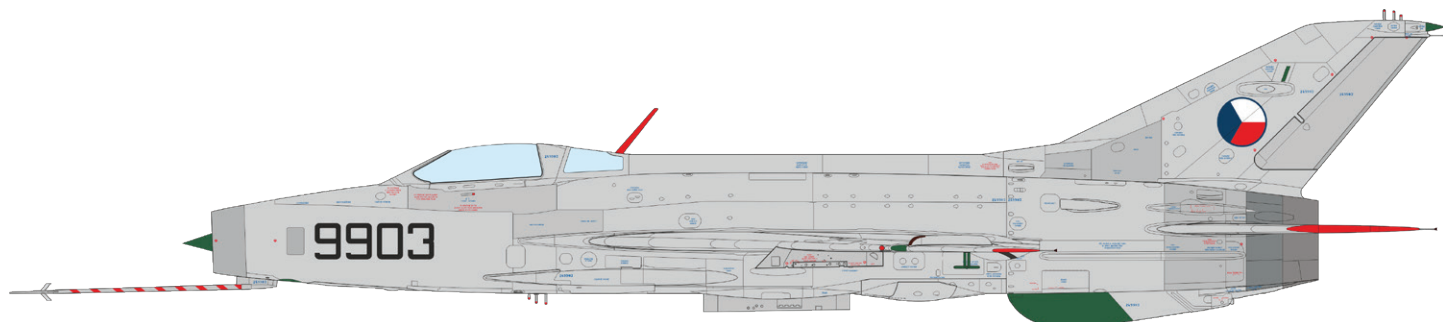
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■ MiG-21F-13, c/n 269903, Air Force Training Center, Milovice-Mladá AB, Czechoslovakia, 1962-1966

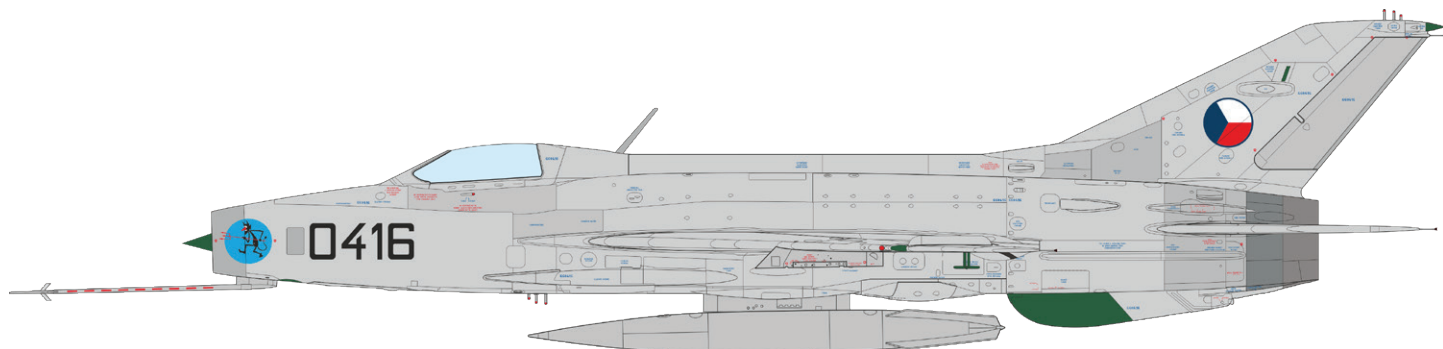


Four MiG-21Fs arrived at the Vodochody factory in a so-called "scattered" state, i.e., in various stages of completion, for the purpose of mastering production at Czech manufacturing plant. This series differed from later production aircraft in the canopy part behind the cockpit. After the start of serial production, this aircraft,

together with others from the "scattered" series, was handed over to the Air Force Training Center at Milovice-Mladá Airport. Later, it served with the 9 Air Force Regiment in Bechyně. It ended its service in Czechoslovak air force on October 13, 1973, when it was donated to Syria. The atypical rounded font of the fuselage numbers is only

documented on aircraft with fuselage numbers up to 0109. This font was probably created during repairs at the Air Repair Workshop Kbely. The aircraft which underwent later repairs featured square divided numbers with rounded corners.

■ MiG-21F-13, c/n 660416, 1 Fighter Air Regiment, České Budějovice AB, Czechoslovakia, 1968-1970

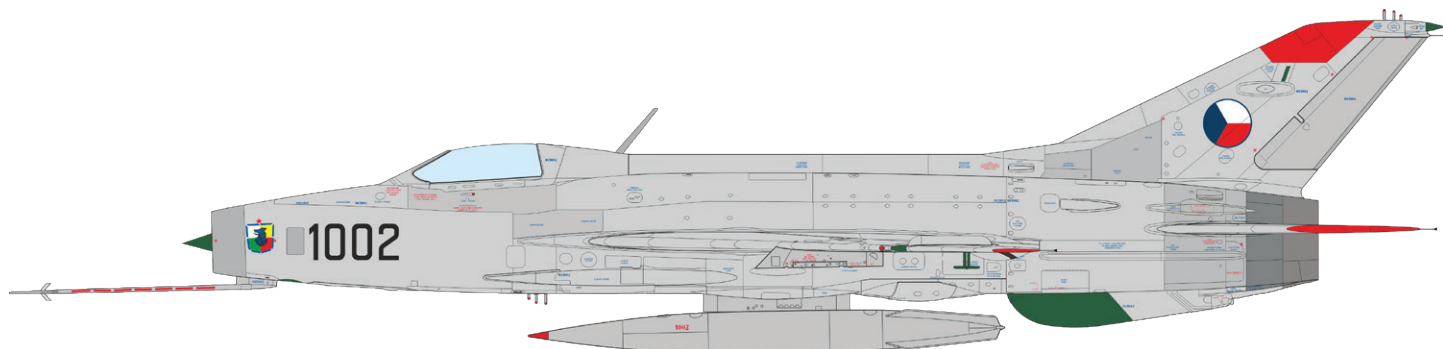


Czechoslovak political changes in the spring of 1968 were also reflected in the coloring of some of MiG-21Fs. Members of the 1 Air Force Regiment in České Budějovice took the initiative to design their own squadron insignia. While the insignia for the MiG-21PF and PFM all-weather and night interception squadrons featured nocturnal creatures, specifically a bat and an owl, the symbol chosen for the first training

squadron was a devil with a pitchfork against a clear blue sky. The author of the design was Miloslav Martenek, later known for his cartoons and illustrations. The inspiration for the drawing was the strict squadron commander, Major Jan Jansa. It was said that serving under him was hell. His red nose was also an inspiration for the devil drawing. All designs were approved on May 17, 1968, and subsequently spray-painted onto

the aircraft. The same symbol also appeared in a smaller form as a decal on the pilots' helmets. The devil drawing was used until August 20, 1970, when an order was issued to remove all such symbols. The aircraft served until 1983 with the 1. Air Regiment in České Budějovice, then between 1983 and 1991 with the 5 Air Regiment in Plzeň-Líně, and in 1991 it ended its service with the 1 Air Training Regiment in Přerov.

■ MiG-21FR, c/n 061002, 3 Flight, 5 Fighter Air Regiment, Plzeň-Líně AB, Czechoslovakia, 1972-1987

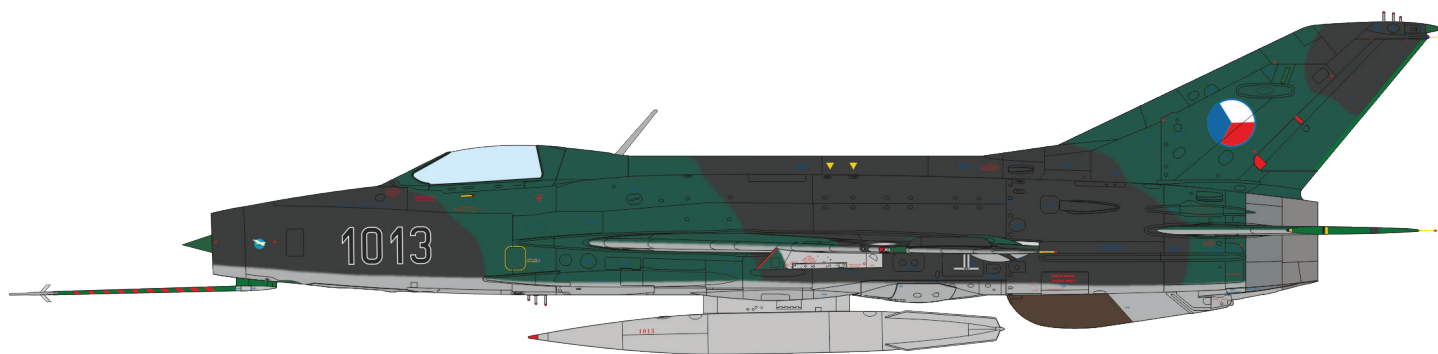


The 5. Air Force Unit emblem consisted of four colored fields inspired by the emblem of the city of Pilsen with a dog's head in the center. The whole emblem was complemented by a red star. In this form, it survived the "normalization" tightening of conditions, and therefore this emblem was also drawn on the newly introduced

MiG-21F. The same emblem was later applied to the new MiG-21MFs and is also documented on the MiG-21F 0711 after a major overhaul in 1974. The aircraft with the fuselage number 1002 was one of two that Major Jaroslav Krýda managed to land despite malfunctioning engine. The red-painted tip of vertical stabilizer and red elevator

tips reveal its affiliation with the 3 Squadron of the 5 Air Regiment. The aircraft's service in the Czechoslovak Air Force ended on November 25, 1987, with 1,205 hours and five minutes of flight time. Throughout its service life, 1002 was operated in Líně by the 5 Air Regiment.

■ MiG-21FR, c/n 061013, 5 Fighter Air Regiment, Plzeň-Líně AB, Czechoslovakia, 1979-1989

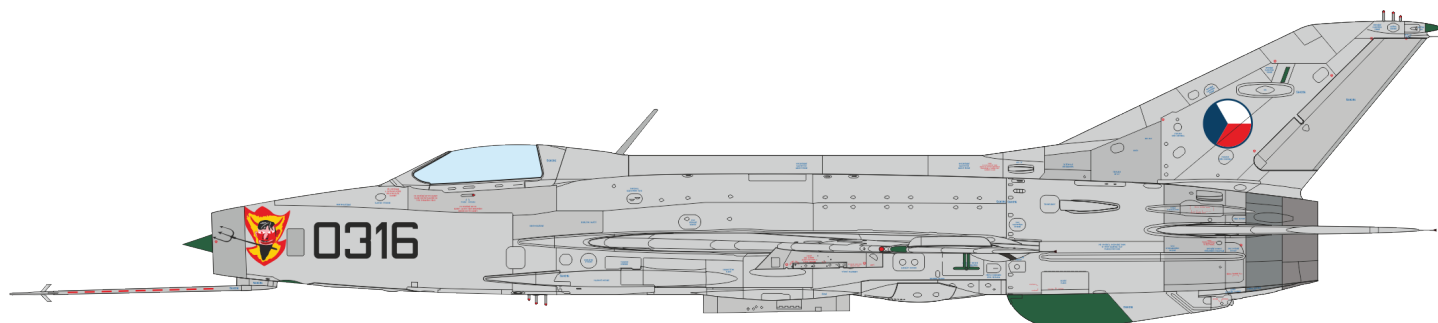


The MiG-21FR with fuselage number 1013 was one of ten aircraft that received experimental LERAN camouflage at the end of a mid-life overhaul in 1979. The aim was to reduce visibility to the enemy in combat conditions. The aircraft bore a small emblem on the nose with the

silhouette of a MiG-21 and branches. Originally, it was supplemented with the inscription "In socialist care." The aircraft's service in the Czechoslovak Air Force ended on April 19, 1989, with a flight to the Military Aviation Museum in Prague-Kbely. Due to its unsuitable location

in the outdoor exhibition, its camouflage was irreparably damaged. The aircraft's total flight time in the Czechoslovak Air Force was 1,086 hours and 15 minutes.

■ MiG-21F-13, c/n 560316, 2 Flight, 9 Fighter Air Regiment, Bechyně AB, Czechoslovakia, 1970

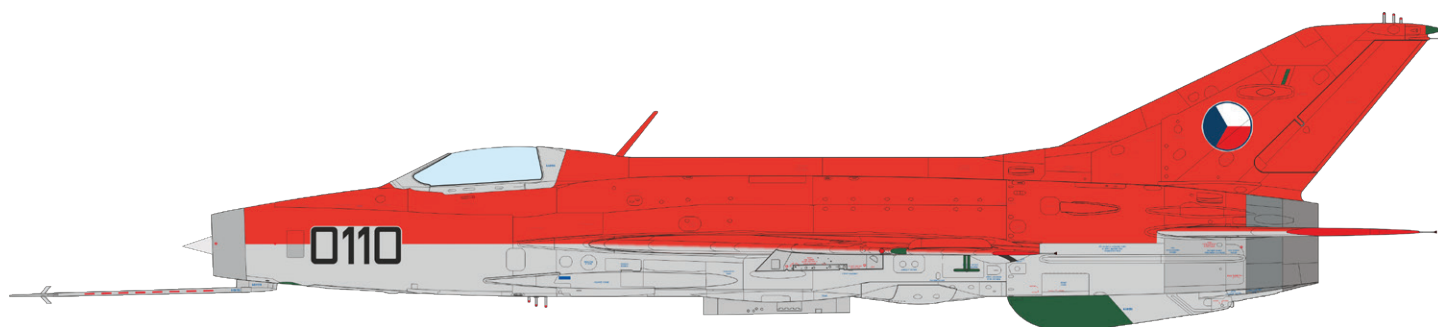


The devil drawings on both sides of the nose of MiG-21F 0316 was created as pure folk art, not as a unit insignia. The aircraft returned from overhaul at the division repair shop in Líně AB in 1970 with these drawings on both sides of the

nose. It was probably a prank by someone at the repair shop. The brush-painted drawings did not last long, but the members of the Bechyně squadron were happy to carry out several flight operations with the aircraft decorated in this

way. The MiG-21F itself served in Bechyně from 1965 to 1985, after which it was transferred to Pardubice. The aircraft's service in the Czechoslovak Air Force ended on April 12, 1990, with a total flight time of 1,657 hours.

■ MiG-21F-13, c/n 460110, Air Force Training Center, Milovice-Mladá AB, Czechoslovakia, 1964-1965

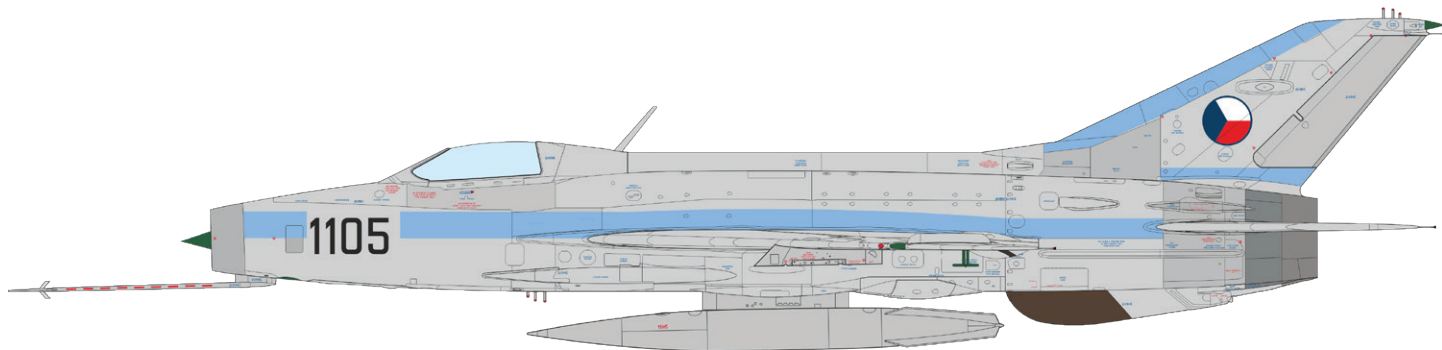


Some sources state that in this form, supplemented with red washable paint, Lt. Col. Rostislav Luska performed a solo aerobatic display at an air show in Sliač on August 29, 1964, on the occasion of the 20th anniversary of the Slovak National Uprising. However, film footage shows that at that time, 0110 was still

without red paint. It was apparently applied in 1965, when Lt. Col. Luska performed with the red 0110 in April at Sliač and in June during the Spartakiad. MiG-21F 0110 first flew at the Air Force Training Center and was then used to rearm the second squadron in Bechyně. The 0110 aircraft itself was not the luckiest one.

After a first fire on the ground on October 4, 1970, it was repaired at Air Repairs Kbely on June 4, 1971. However, it did not escape fire in the end, as it burned down on the tarmac in July 1977, and this fire also damaged the adjacent 0613.

■ MiG-21FR, c/n 161105, 3 Flight, 4 Fighter Air Regiment, Pardubice AB, Czechoslovakia, May 1975

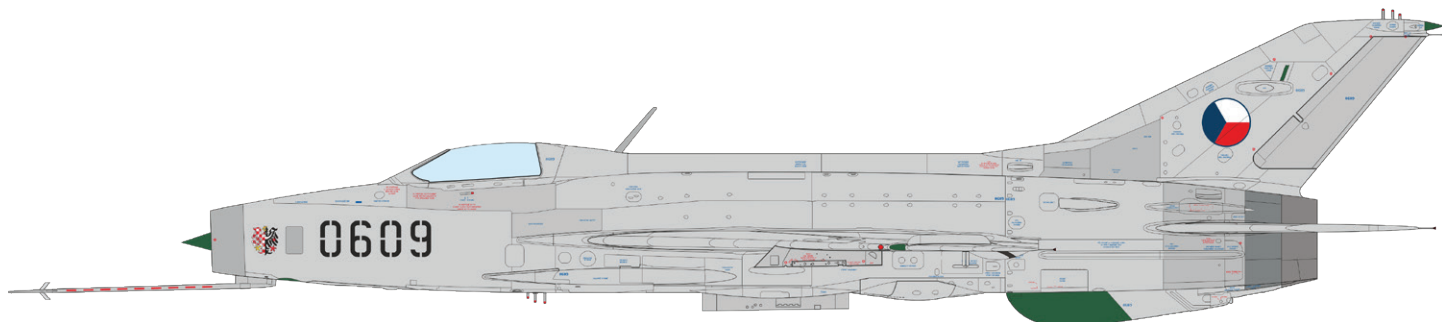


The aerial part of the parade on May 9, 1975, was led by the command Tu-134A 1407, accompanied on each side by a pair of Pardubice MiG-21Fs from the 3 Squadron of the 4 Air Force Regiment. The formation took off from Pardubice Airport, and a color documentary film entitled "Conduct

a Flyover" was made about the entire event. The Pardubice unit received the honorary title of Slovak National Uprising Unit for organizing the air show. Probably for color harmonization with the Tu-134A transport aircraft, the MiG-21s were equipped with pale blue marking details

with washable paints. The aircraft was modified to a reconnaissance version and its operation in the Czechoslovak Air Force was terminated on December 22, 1987, with 1,234 flight hours.

■ MiG-21F-13, c/n 760609, 1. Fighter School Regiment, Přebor AB, Czechoslovakia, 1989-1991



The aircraft, originally intended for export to Egypt, ultimately remained in Czechoslovakia. For the first two years, it served in Bechyně with the 9 Air Regiment, but most of the time it served in Líně with the 5 Air Regiment. After a general overhaul in 1988, it flew in Přebor with

the 1 Air Force Regiment. The emblem combining the Moravian and Silesian eagles was created in September and October 1989, when the regiment was supposed to train Algerian pilots with the 3 Squadron in Mošnov and was intended to stylize the connection between Přebor and Mošnov.

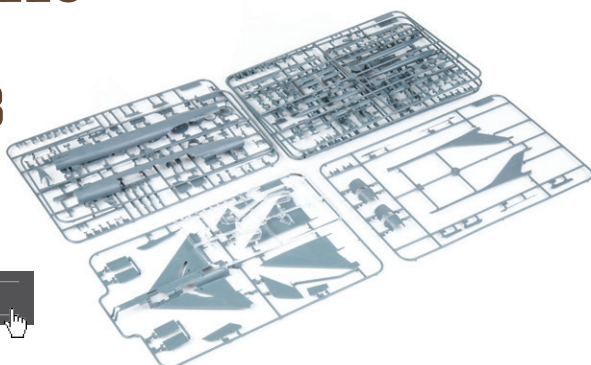
The training of Algerian pilots ultimately took place in Přebor, and the emblem was not spread to other aircraft. The aircraft's service in the Czechoslovak Air Force ended on March 21, 1991, with 1,733 flight hours.

For MiG-21F-13 1/48 RECOMMENDED

481175	MiG-21F-13 upgrade set (PE-Set)
FE1556	MiG-21F-13 seatbelts STEEL (PE-Set)
3DL48249	MiG-21F-13 black SPACE (3D Decal Set)
3DL48250	MiG-21F-13 turquoise SPACE (3D Decal Set)
3DL48251	MiG-21F-13 seatbelts SPACE (3D Decal Set)
EX1142	MiG-21F-13 TFace (Mask)

OVERTREES

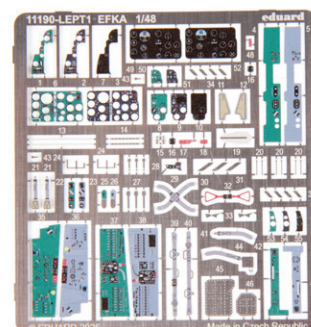
#82191X
MiG-21F-13
1/48



[Product page](#)

OVERLEPT

#11190-LEPT1
EFKA
1/48



[Product page](#)

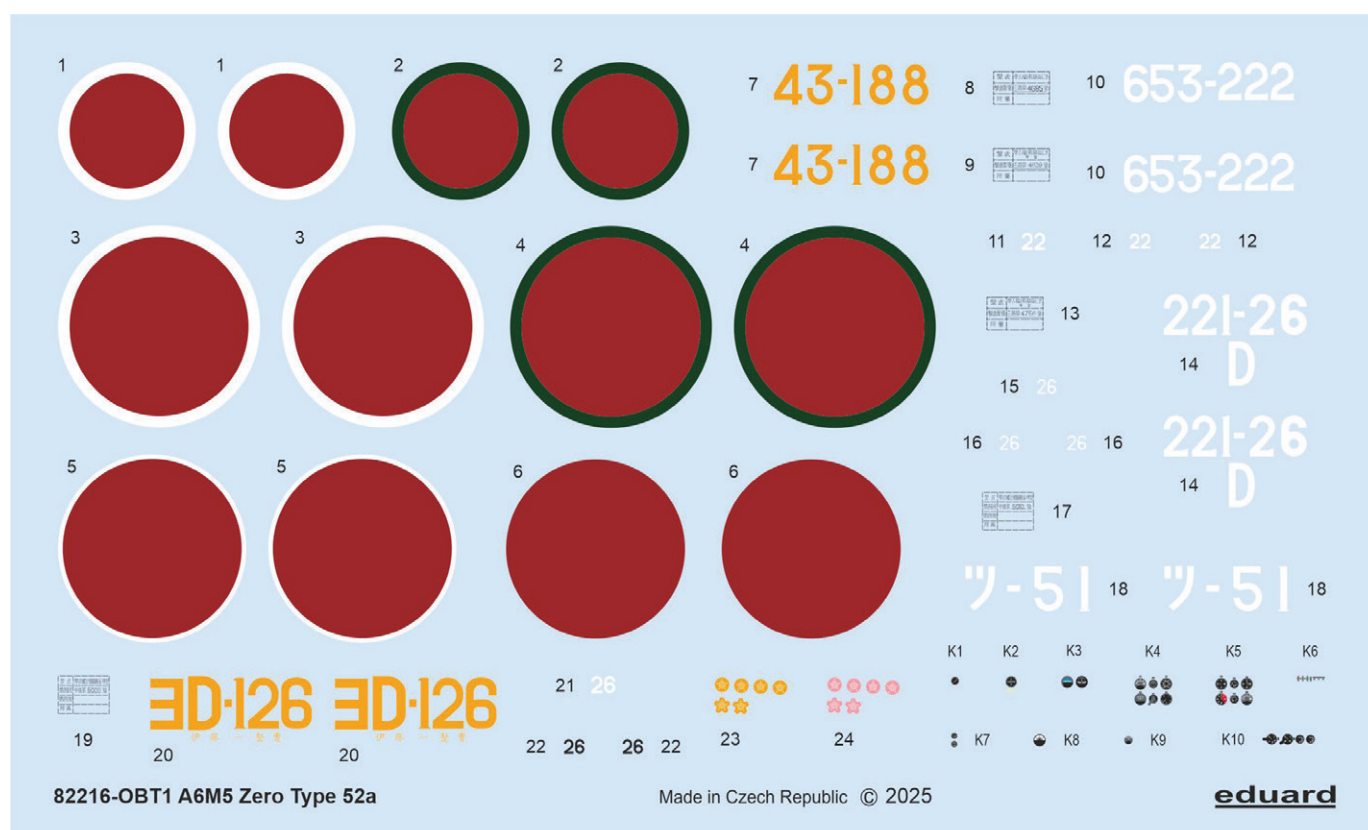
A6M5 Zero Type 52a

1/48

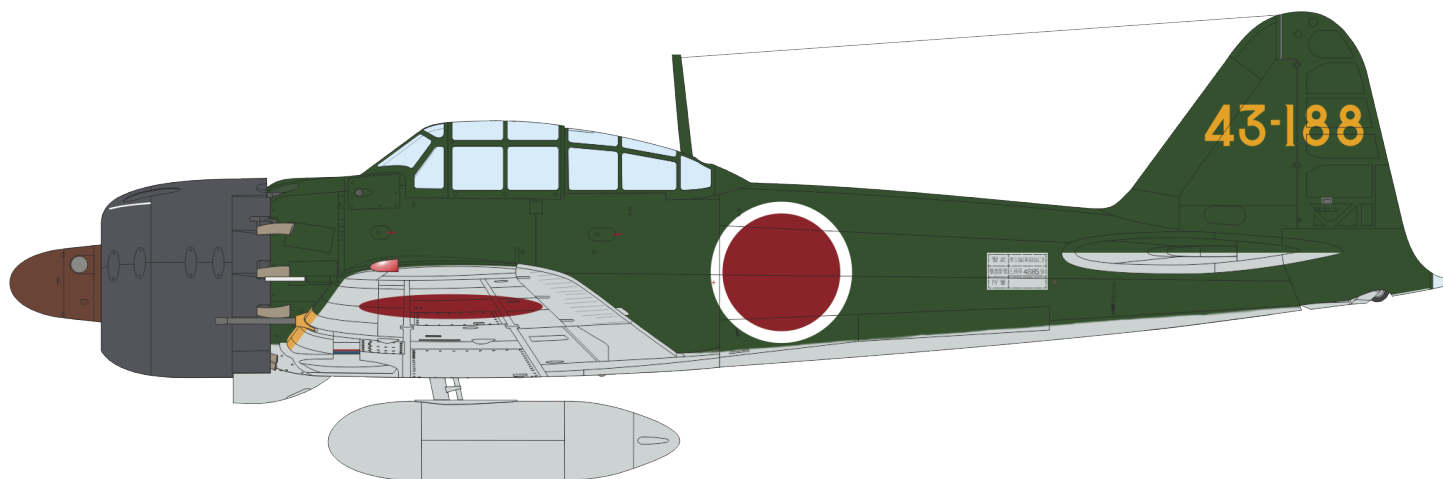
#82216

The ProfiPACK edition kit of Japanese WWII naval fighter aircraft A6M5 Zero Type 52a in 1/48 scale.

- plastic parts: Eduard
- marking options: 5
- decals: Eduard
- PE parts: yes, pre-painted
- painting mask: yes
- resin parts: no

[Product page](#)


c/n 4685, Lt. Shinya Ozaki, Kōkūtai 343, Agana airfield, Guam Island, June 1944

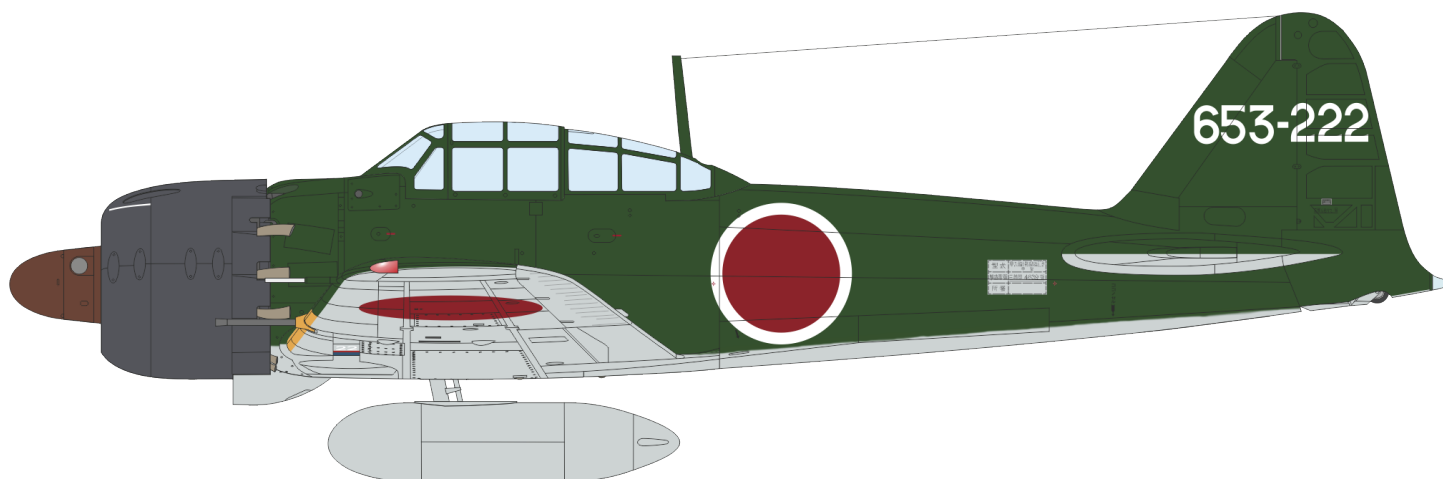


This Mitsubishi built aircraft was discovered in March 1962 in a swamp on the island of Guam and is on display at Hamamatsu Air Base in Japan today. Its pilot was Lt. Ozaki of Kōkūtai 343, who took part in the Battle of the Philippine Sea in the Marianas on June 19, 1944, with this aircraft. Together with his wingman, Ozaki attacked an

SOC seaplane from USS Montpelier, whose crew had rescued two downed pilots off the coast of Guam. Overloaded, the seaplane could not take off and was taxiing on the water's surface. It was protected by Lt. Henry C. Clem in a Hellcat from VF-10 and LtCdr. Harmer in a Corsair from VF(N)-101. In the ensuing dogfight with Ozaki,

Clem's plane stalled; Ozaki hit him, and Clem was killed while he crashed into the sea. Harmer attempted to pursue Ozaki and fired at him from long range, managing to inflict mortal wounds. The Japanese pilot crash-landed in the swamp and died.

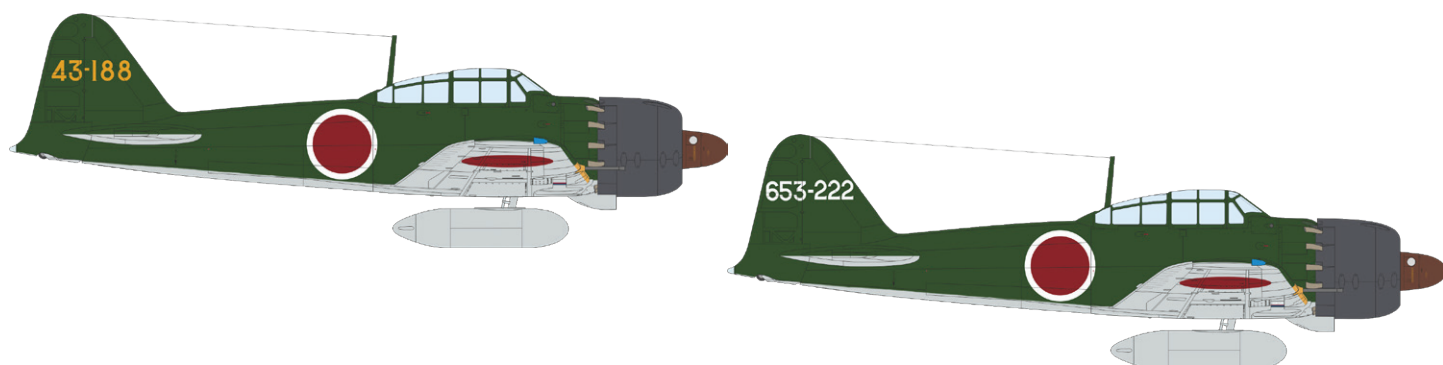
Kōkūtai 653, Hikōtai 166, Ōita base, Japan, September 1944



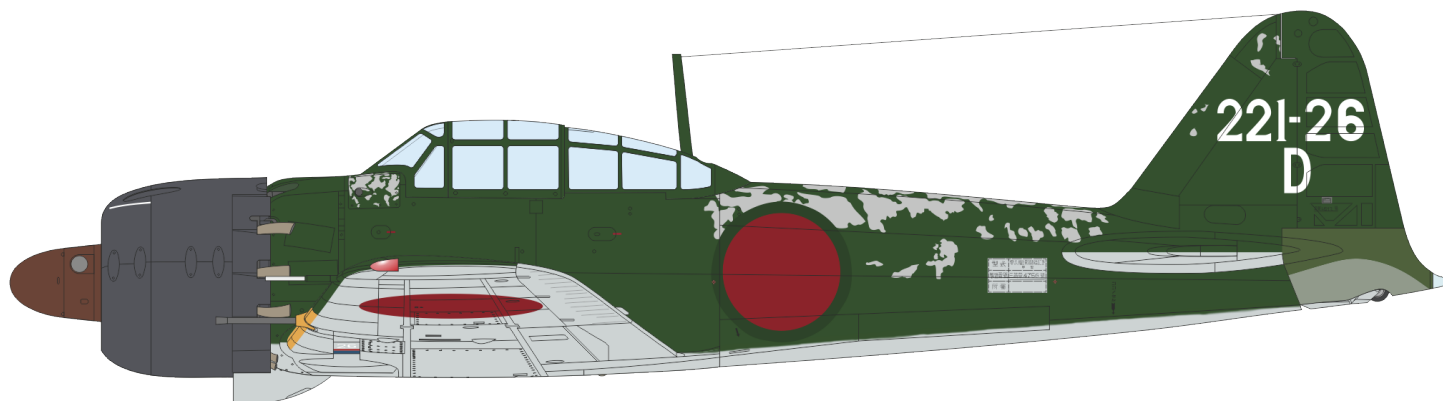
This Mitsubishi manufactured aircraft was assigned to Kōkūtai 653, which was established in February 1944. The layout of camouflage color fields was characteristic of aircraft produced by Mitsubishi. Kōkūtai 653 participated in the Battle of the Philippine Sea in June 1944 aboard the carriers Chitose, Chiyoda, and Zuihō, most of its armament consisted of A6M2 Type 21 fighter-

bombers. Out of the nine carrier squadron commanders, only one survived. After the battle, Kōkūtai 653 was reorganized into four Hikōtai. Lt. Kenji Nakagawa led Hikōtai 164 and 165 with 48 A6M5 fighters each. Lt. Tetsuo Endō led 48 A6M fighter-bombers of Hikōtai 166 while bombers were assigned to Hikōtai 263. In the fall of 1944, Kōkūtai 653 suffered 50% losses in the

defense of Taiwan. Part of Hikōtai 166 aircraft was deployed from aircraft carriers in October 1944 during the Battle off Cape Engaño in the defense of the Philippines. The Kōkūtai was disbanded on November 15, 1944.



■ Kōkūtai 221, Hikōtai 407, Philippines, February 1945

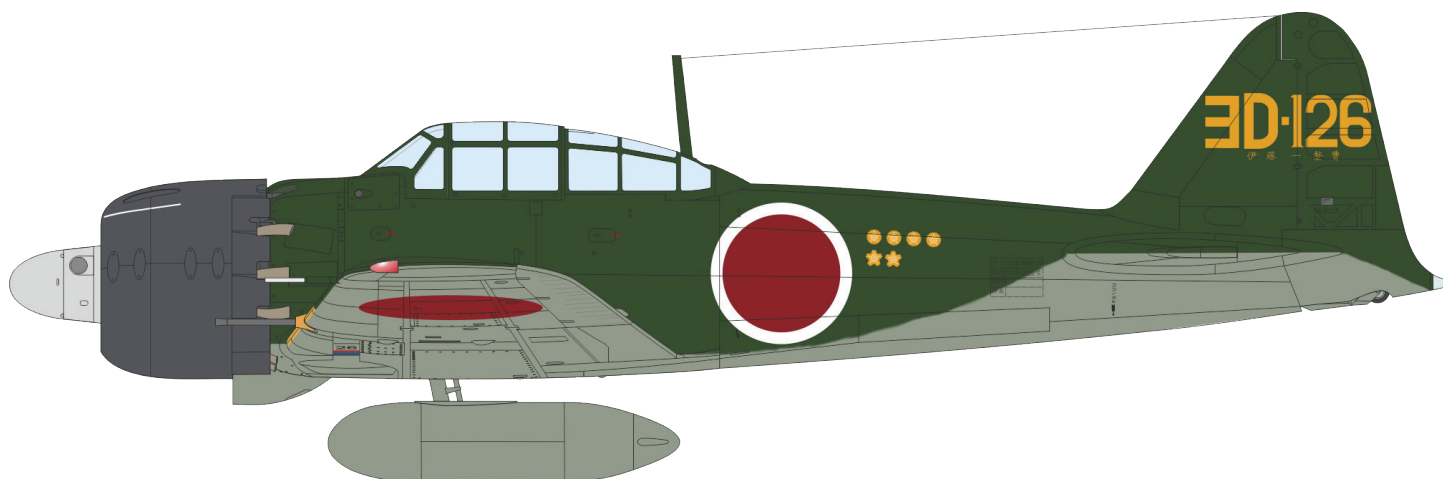


This aircraft, manufactured by Mitsubishi company, was captured during the fighting in the Philippines. It belonged to Hikōtai 407 which at that time was part of Kōkūtai 221. The aircraft showed signs of operational wear, and the tailwheel cover was replaced with one from a Nakajima-built aircraft. The letter D on the

tail surfaces identifies it as part of Hikōtai 407. In January 1944, Kōkūtai 221 was established at the Kasanbara base in Kagoshima Prefecture. It was given the battle name Arashi ("Storm"). In July it was reorganized into an air group with four fighter Hikōtai. One of these was the newly formed Hikōtai 407 at Kagoshima base,

led by Lt. Yoshihige Hayashi. He had 48 fighter aircraft at his disposal and under his command Hikōtai 407 was deployed in the defense of the Philippines from late October to December 1944. After returning to Japan, Hikōtai 407 was incorporated into the elite Kōkūtai 343 (II) with Shiden-kai fighters.

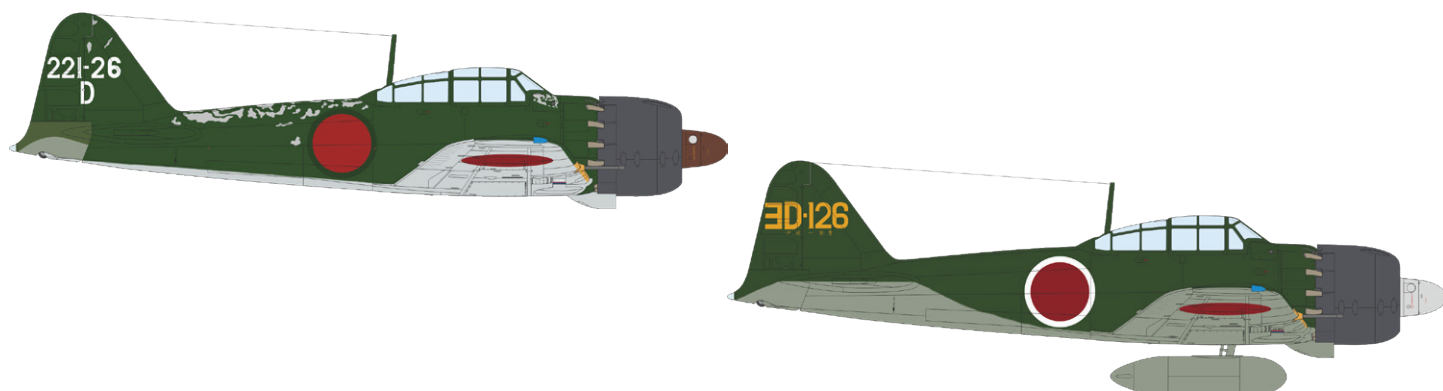
■ ENS Sada-aki Akamatsu, Kōkūtai 302, Atsugi, Japan, February 1945



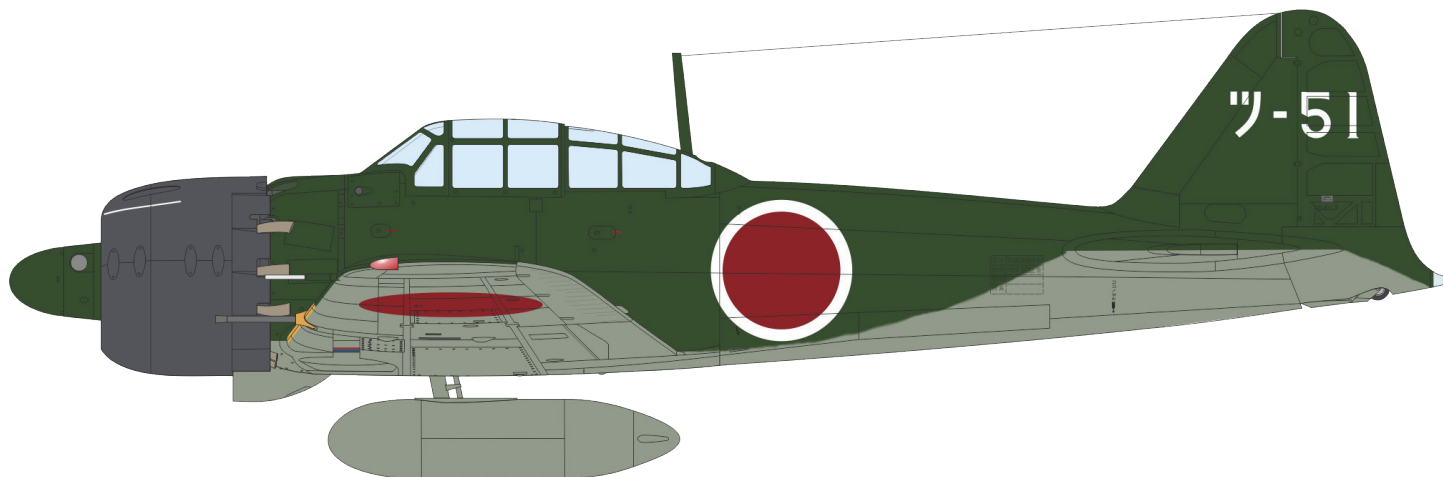
Sada-aki Akamatsu was one of the most famous Japanese fighter pilots. Born in 1910, he voluntarily entered the Imperial Navy in 1928 and completed pilot training in March 1932. He successively served aboard the aircraft carriers Akagi, Ryūjō, and Kaga, and also with the Yokosuka and Ōmura Kōkūtai. In December 1937, Akamatsu was assigned to the Kōkūtai 13 in China, where he achieved 11 victories.

In April 1941, he was transferred to the Kōkūtai 3 and from December 1941 he took part in the battles for the Philippines and the Netherlands East Indies. In July 1943 he was assigned to Kōkūtai 331 and in December he participated in the raid on Calcutta. In 1945, as part of the Hikōtai 1 of the Kōkūtai 302, he successfully contributed to the defense of the Japanese home islands. Flying the aircraft shown here, built by

Nakajima, he scored four confirmed and two unconfirmed kills against Hellcats in clashes with US Navy pilots on February 16 and 17. These successes were marked on the fuselage of his aircraft with cherry blossom symbols. Akamatsu was known for his courage but also for displays of disobedience and disrespect toward his superiors. He logged over 6,000 flight hours and achieved approximately 27 victories.



■ CPO Takanobu Obata, Tsukuba Kōkūtai, Japan, February 1945



In November 1944, Tsukuba Kōkūtai training unit assigned experienced instructors to form a fighter squadron equipped with Zero and Shiden aircraft. This squadron engaged in combat with B-29 bombers and US carrier-based aircraft as early as January and February 1945. Tsukuba Kōkūtai pilots clashed with US Navy aircraft during raids on the Kantō region on February

16 and 17. Despite losing 14 aircraft, Japanese pilots claimed 11 American planes shot down during the two days. In a similar engagement on February 25, Tsukuba Kōkūtai lost eight aircraft but claimed five victories. After the battle, only nine operational fighters remained. The aircraft marked Tsu-51 was flown by a member of the fighter unit, the experienced veteran CPO Obata.

On February 16, 1945, he carried out two of the four combat sorties against US Navy aircraft in this plane. During his last combat sortie with this aircraft, he shot down three Hellcats. At the end of March, Tsukuba Kōkūtai received orders to form its own Kamikaze units, which were deployed during Operation Kikusui in the defense of Okinawa.

For A6M5 Zero Type 52a 1/48

RECOMMENDED:

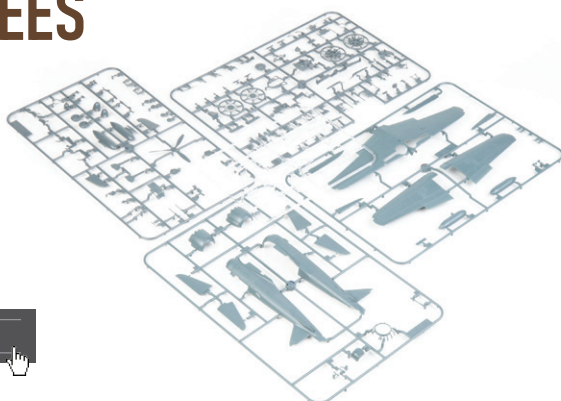
481163	A6M5 landing flaps (PE-Set)
491520	A6M5 (Nakajima) upgrade set (PE-Set)
491521	A6M5 (Mitsubishi) upgrade set (PE-Set)
FE1525	A6M5 seatbelts STEEL (PE-Set)
644302	A6M5 LööK (Brassin)
648695	A6M undercarriage legs BRONZE (Brassin)
648808	A6M wheels w/smooth tire (Brassin)
6481093	A6M5/7 500kg bomb PRINT (Brassin)
6481094	A6M5 seat PRINT (Brassin)
6481118	A6M5 exhausts PRINT (Brassin)
3DL48220	A6M5 Zero (Nakajima) SPACE (3D Decal Set)
3DL48222	A6M5 Zero (Mitsubishi) SPACE (3D Decal Set)
EX1113	A6M5 Zero TFace (Mask)



OVERTREES

#82216X
A6M5 Zero
Type 52a
1/48

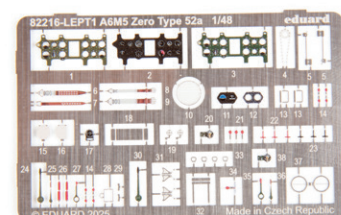
Product page



OVERLEPT

#82216-LEPT1
A6M5 Zero
Type 52a
1/48

Product page



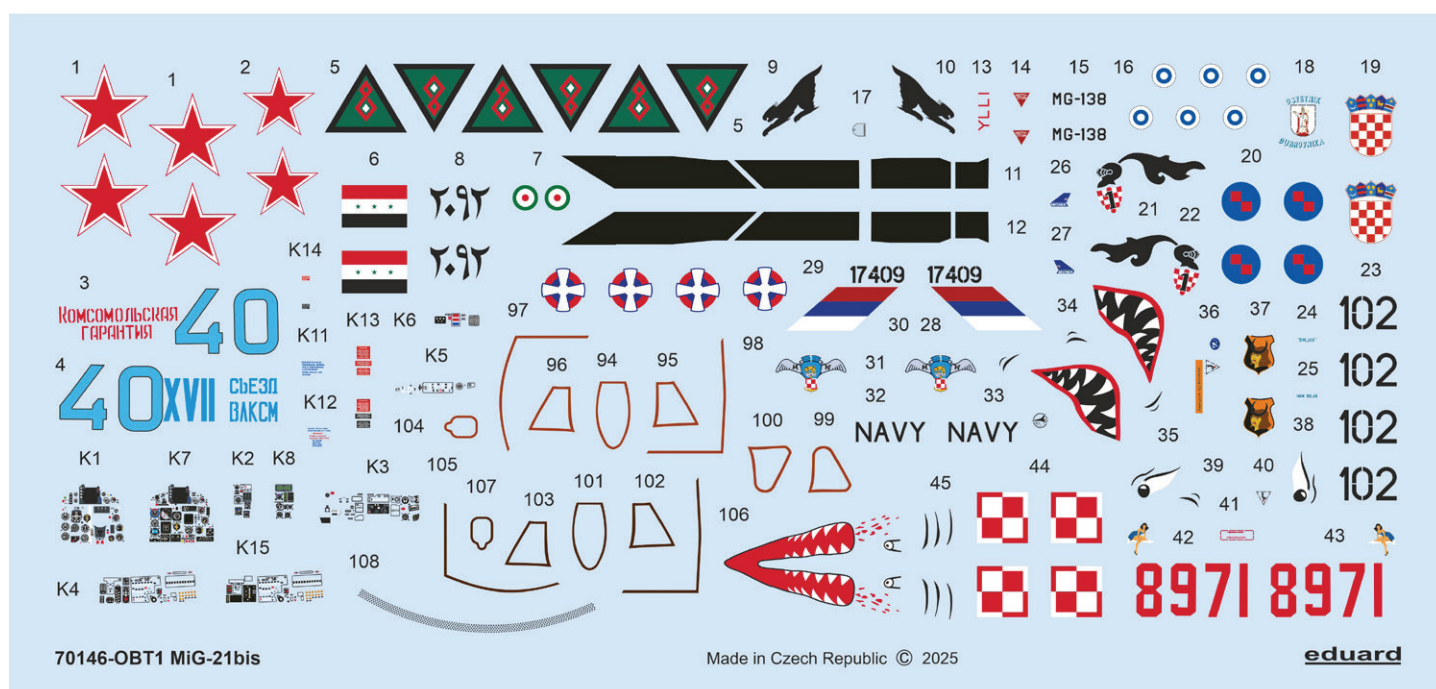
MiG-21bis

1/72

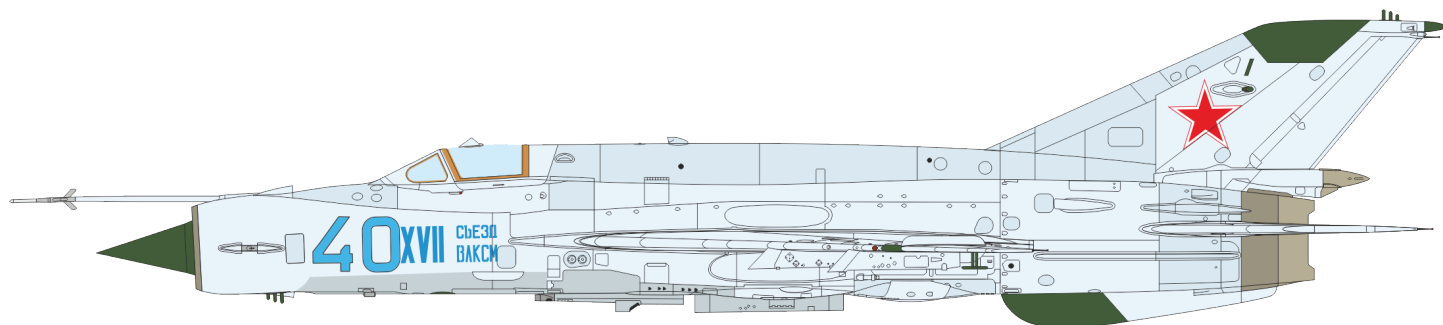
#70146

The ProfiPACK edition kit of Soviet jet plane MiG-21bis in 1/72 scale. The kit offers markings for 6 aircraft used in different countries around the world.

- plastic parts: Eduard
- marking options: 6
- decals: Eduard
- PE parts: yes, pre-painted
- painting mask: yes
- resin parts: no

[Product page](#)


■ MiG-21bis, 234 IAP, Soviet VVS, Kubinka Air Base, Soviet Union, 1974

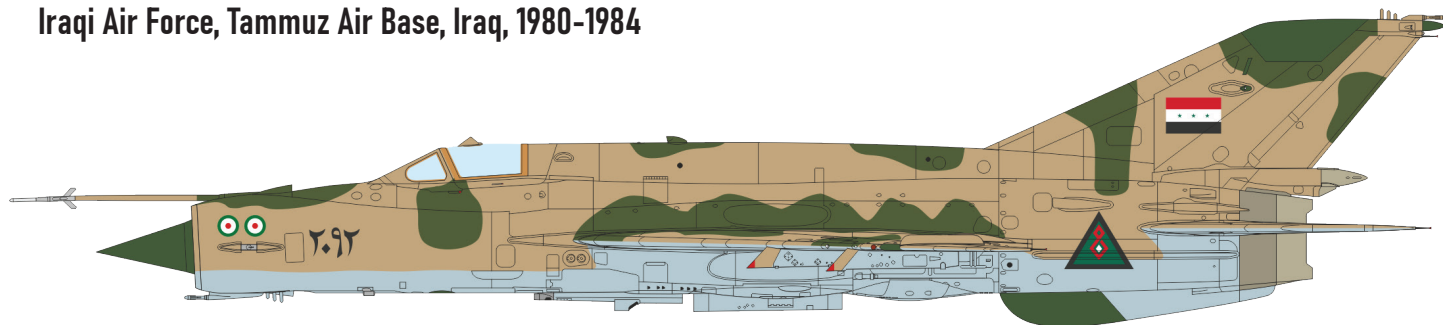


This aircraft rolled off the production line at Plant 21 in Gorky in 1974 as the first production Bis and was handed over to the 234 IAP on the 56th anniversary of the founding of the Komsomol organization. At the unit, it received the fuselage number blue 40 with distinctive inscriptions on the left side – XVII Komsomol Congress and on the right side Komsomol Guarantee, which means

that Komsomol members guarantee the equality of the number of takeoffs and landings of this aircraft, as well as the trouble-free operation of the on-board systems. Color photographs of this aircraft were taken in August 1974 at Rissala Airport near the city of Kuopio during a visit by a Soviet Air Force delegation to Finland. Major E. M. Avedikov, commander of the 234 Guards

Regiment, performed aerobatics on the blue 40 aircraft on this occasion. It was during this visit that Western observers first learned of the new modification of MiG-21 fighter in the Soviet Air Force's arsenal. The aircraft was given the code name Fishbed-L.

■ MiG-21bis, 2nd Lieutenant Adnan Saeed al-Fadhli, No. 11 Squadron, Iraqi Air Force, Tammuz Air Base, Iraq, 1980-1984

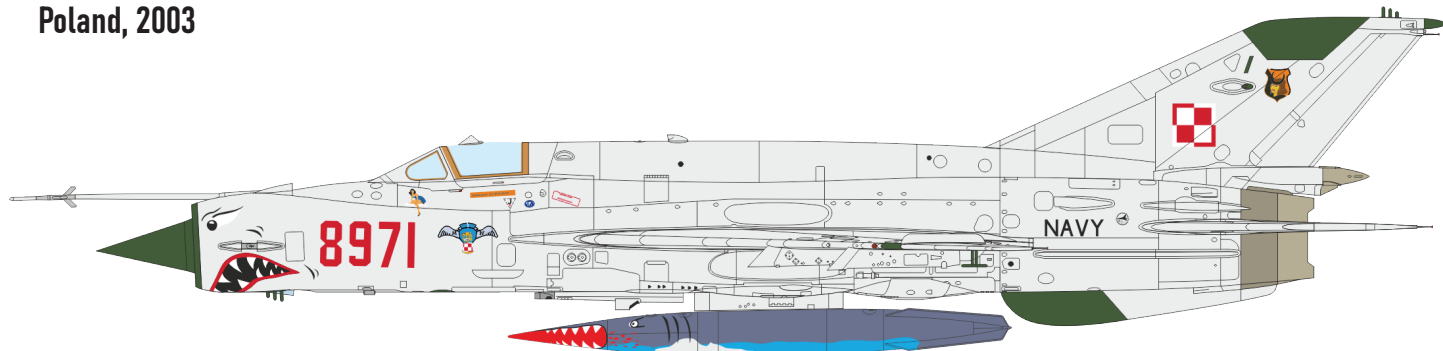


The aircraft with serial number 2092 was most likely delivered in 1979 or 1980 to No. 11 Squadron IAF, with which Lieutenant Adnān participated in combat operations mainly in the Baghdad area in September and October 1980, where his unit achieved a significant number of kills of Iranian F-4 and F-5 aircraft. It is assumed that the two kill marks on 2092 fuselage represent

downed F-5Es. Lieutenant Adnān was sent to the USSR in early 1984 for retraining on MiG-25 aircraft, then was transferred to No. 87 Squadron and in 1986 to No. 96 Squadron, where he served as deputy commander and then commander of No. 96 Squadron in the following years. On January 17, 1987, Adnān participated in an operation that led to the destruction of an

Iranian F-14A Tomcat. After 2004, he returned to active duty and served as deputy commander of the Iraqi 6 Infantry Division (for air coordination). He died in 2020. The Iraqi Air Force's MiG-21bis aircraft were equipped with standard MiG-21 camouflage intended for export to African and Middle Eastern countries.

■ MiG-21bis, 1 Pucki DLMW, Lotnictwo Marynarki Wojennej, Gdynia-Babie Doły, Poland, 2003

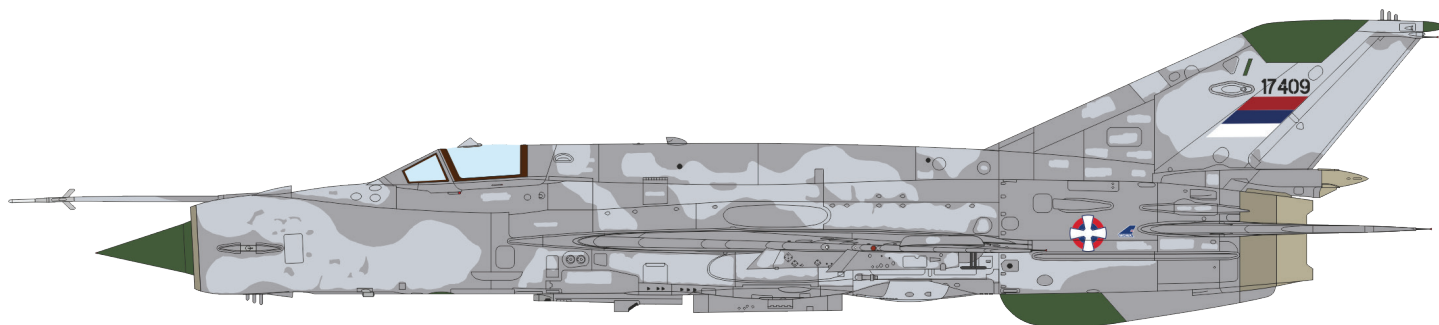


This aircraft, serial number 75088971, arrived in Poland on March 26, 1980. It was operated by the 1 Pucki Dywizjon Lotniczy of the Polish Navy.

The emblem on the vertical tail fin shows it belongs to the 2nd Squadron. The appearance of this aircraft changed over time; in 2003 it

flew with a shark mouth. Between 1980 and 1981, Poland received 72 MiG-21bis aircraft.

■ MiG-21bis, 204 vb, 101.lae, Serbian Air Force, Batajnica Air Base, Serbia, 2015

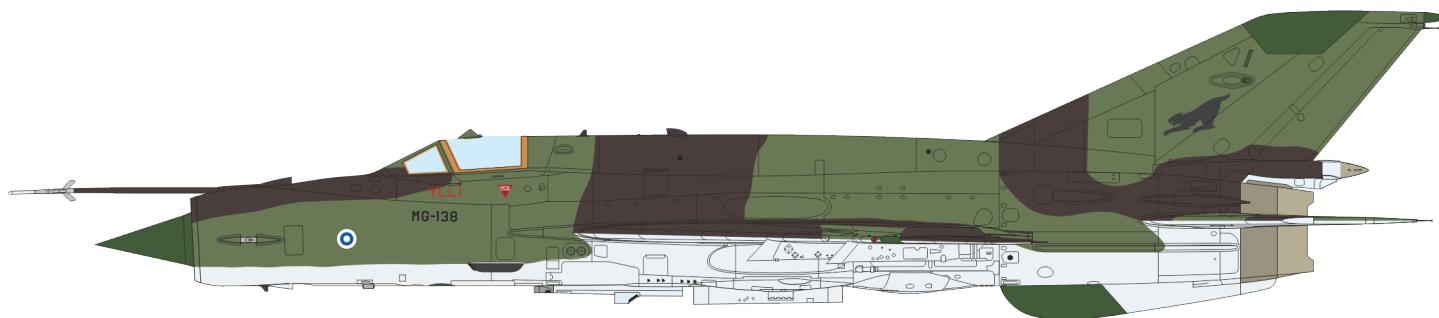


Following the Balkan conflicts of the 1990s, the Federation of Serbia and Montenegro was formed in February 2003 from the remnants of the Republic of Yugoslavia. Based on a referendum held on May 21, 2006, Montenegro declared its independence on June 3 of the same year. The armed forces agreed to split their assets according to territorial claims. The air force units in Serbia became part of the Serbian army and had 82 aircraft and 89 helicopters at

their disposal. Meanwhile, in Montenegro, the 172 Air Base at Golubovci Air Base near Podgorica, with a mixed fleet of 41 aircraft and helicopters, became part of the Montenegrin Army. The air force and air defense were reorganized and retrained according to NATO standards by 2010. In March 2005, the first NATO-style wing was formed in Podgorica, Montenegro, as the 172 abr. On November 15, 2006, 204 av was officially created in Batajnica, replacing the 204 lap.

It currently has three squadrons: 101 lae, 138 lae, and 252 lae (101 lae adopted the insignia of 127 lae). 101 lae operates MiG-29, MiG-21bis, and a pair of MiG-21UM training aircraft. The MiG-21bis with fuselage number 17409 was one of the last MiG-21s to fly with the Serbian Air Force. Its two-tone gray camouflage is the result of repairs and fading of the original all-gray paint.

■ MiG-21BIS, c/n 75084608, HävLLv 31, Kuopio airbase, Finland, 1998

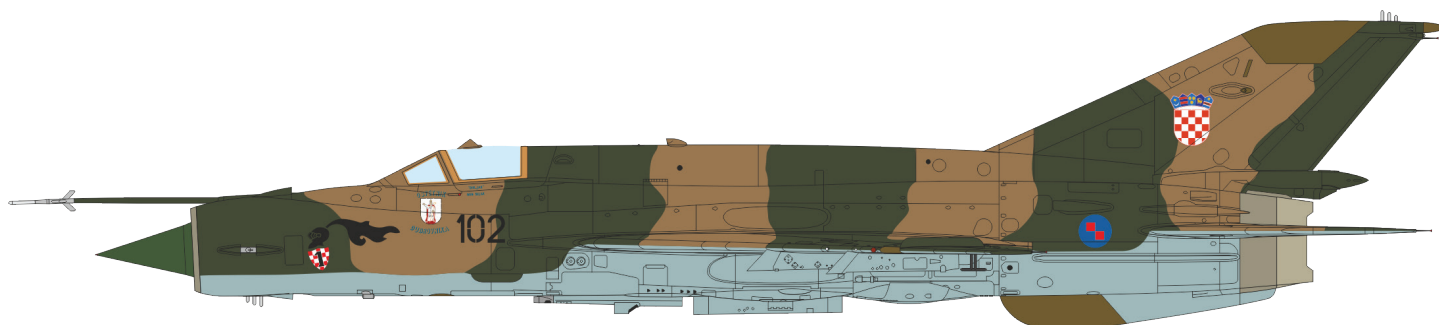


The Finnish Air Force acquired a total of 26 MiG-21bis aircraft between 1978 and 1986. These aircraft served in fighter and reconnaissance role between 1978 and 1998. The last flight of

a MiG-21 in the service of the Finnish Air Force was made by Yrjö "Ylli" Rantamäki on March 7, 1998. He flew aircraft coded MG-138. Just for this flight the word YLLI was created from orange

reflective tape below the canopy. The aircraft is now part of the exhibition at the Finnish Aviation Museum in Tikkakoski.

■ MiG-21bisD, 21 ELZ, HRZ, Zagreb-Pleso, Croatia, December 2016



The supersonic MiG-21bis fighter jet, number 17235/235, was manufactured in the early 1980s and became part of the Yugoslav Air Force. During the Croatian War of Independence, on May 15, 1992, Captain Ivan Selak of the 124 Fighter Air Regiment of the Yugoslav Air Force

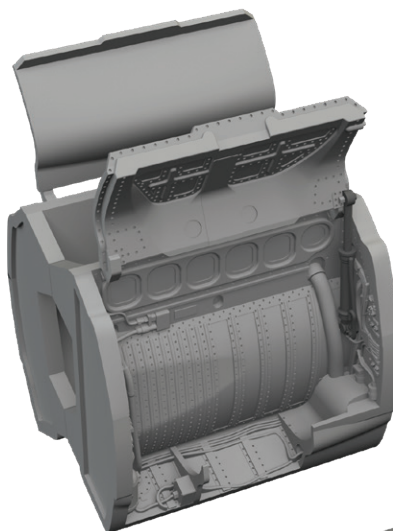
flew this aircraft into an area controlled by Croatian separatists. The aircraft numbered 102 was incorporated into the Croatian Air Force with an improvised designation. In January 1993, it was named Osvetnik Dubrovnika in memory of the Croatian city that was heavily damaged

by the fighting. After Operation Flash and before the military-police operation Storm, the aircraft was given a camouflage paint job and received the standard designation of the Croatian Air Force

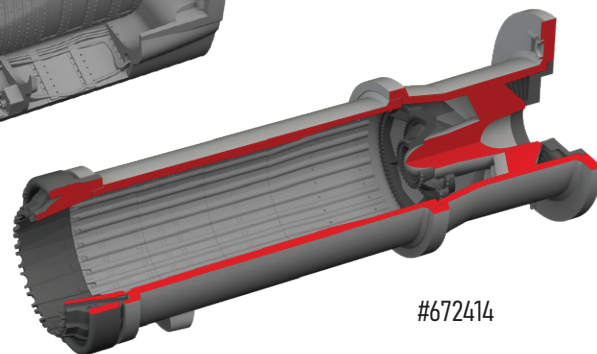
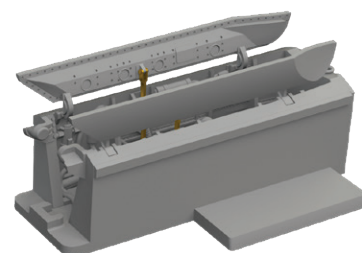
For MiG-21bis 1/72

RECOMMENDED:

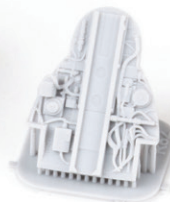
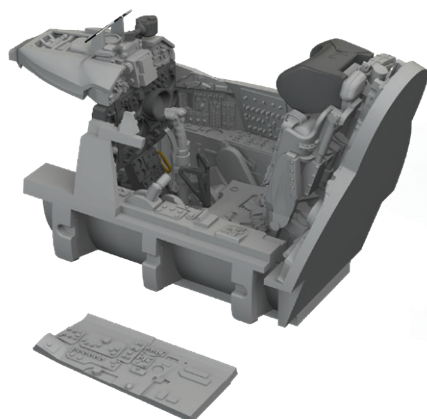
- 72744 MiG-21bis upgrade set (PE-Set)
- 672104 R-3S / AA-2 Atoll-A (Brassin)
- 672149 R-60 / AA-8 Aphid (Brassin)
- 672187 R-13M missiles for MiG-21 (Brassin)
- 672218 MiG-21 F.O.D. (Brassin)
- 672237 R-3R missiles for MiG-21 (Brassin)
- 672240 R-3R missiles w/ pylons for MiG-21 (Brassin)
- 672381 MiG-21 wheel bays PRINT (Brassin)
- 672414 MiG-21bis exhaust nozzle PRINT (Brassin)
- 672415 MiG-21bis cockpit PRINT (Brassin)
- 672417 MiG-21 seat PRINT (Brassin)
- 672418 MiG-21 seat w/ integral belts PRINT (Brassin)
- 3DL72064 MiG-21bis SPACE (3D Decal Set)
- D72055 MiG-21bis stencils (Decal Set)



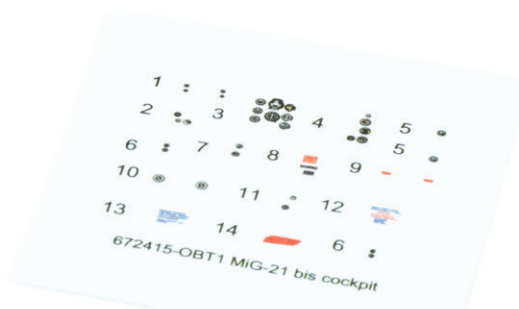
#672381



#672414

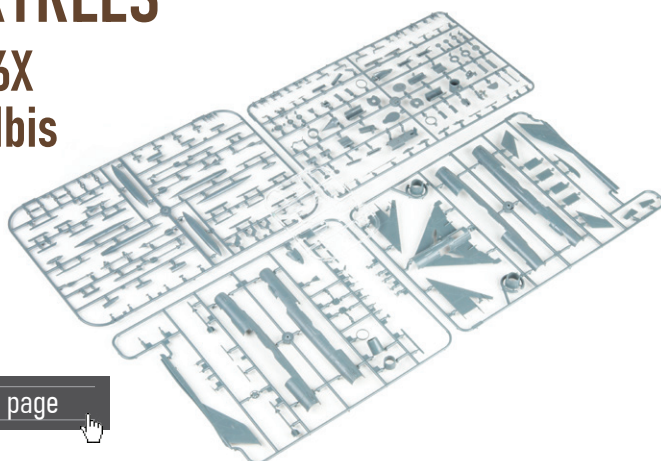


#672415



OVERTREES

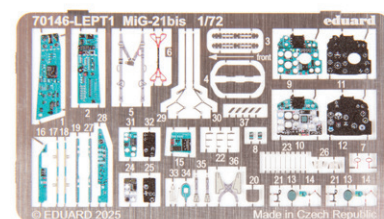
#70146X
MiG-21bis
1/72



Product page

OVERLEPT

#70146-LEPT1
MiG-21bis
1/72



Product page

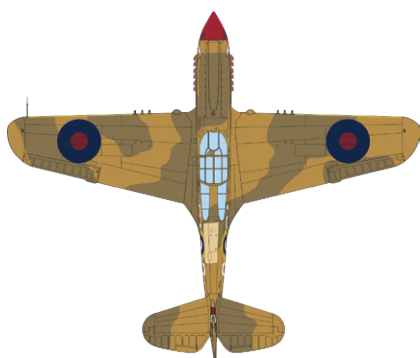
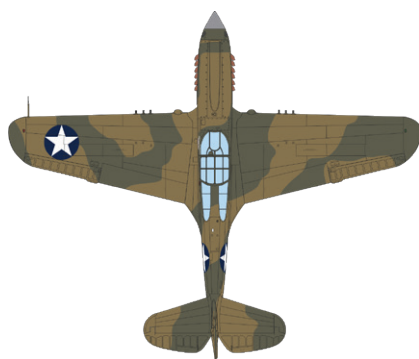
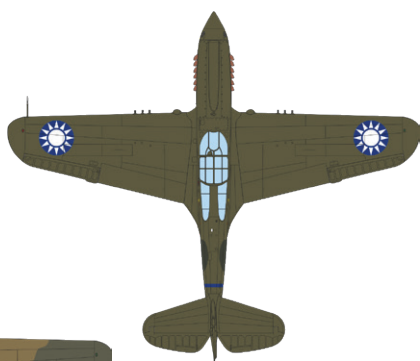
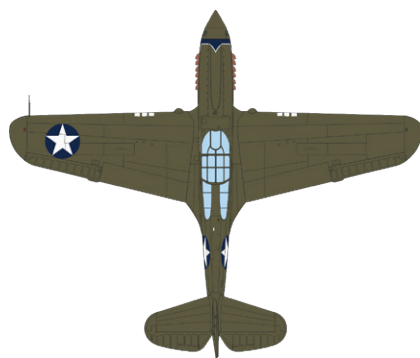
P-40E Warhawk

1/48

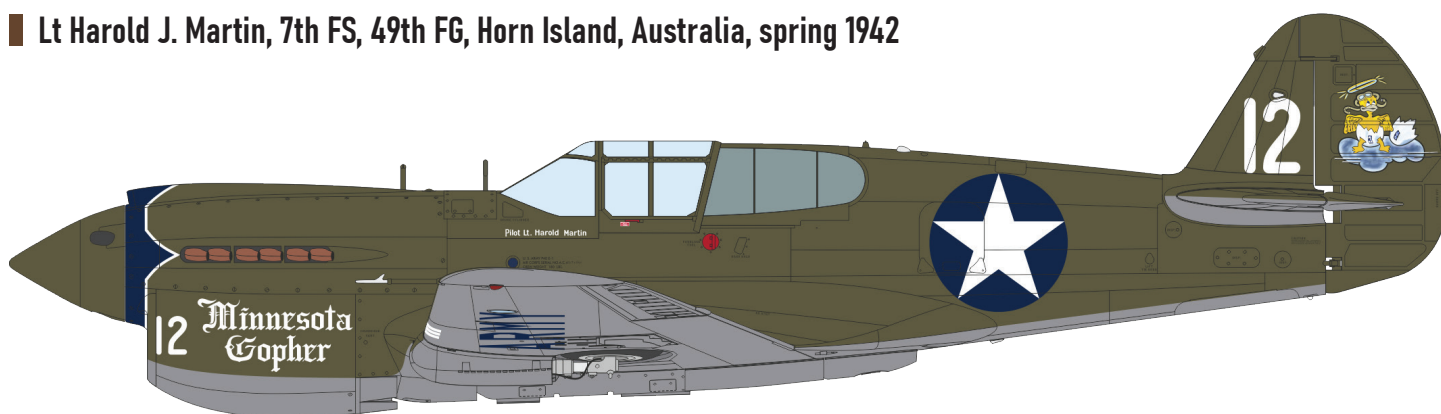
#84207

Weekend edition kit of US WWII fighter aircraft
P-40E Warhawk in 1/48 scale.

- plastic parts: Eduard
- marking options: 4
- decals: Eduard
- PE parts: no
- painting mask: no
- resin parts: no

[Product page](#)


■ Lt Harold J. Martin, 7th FS, 49th FG, Horn Island, Australia, spring 1942

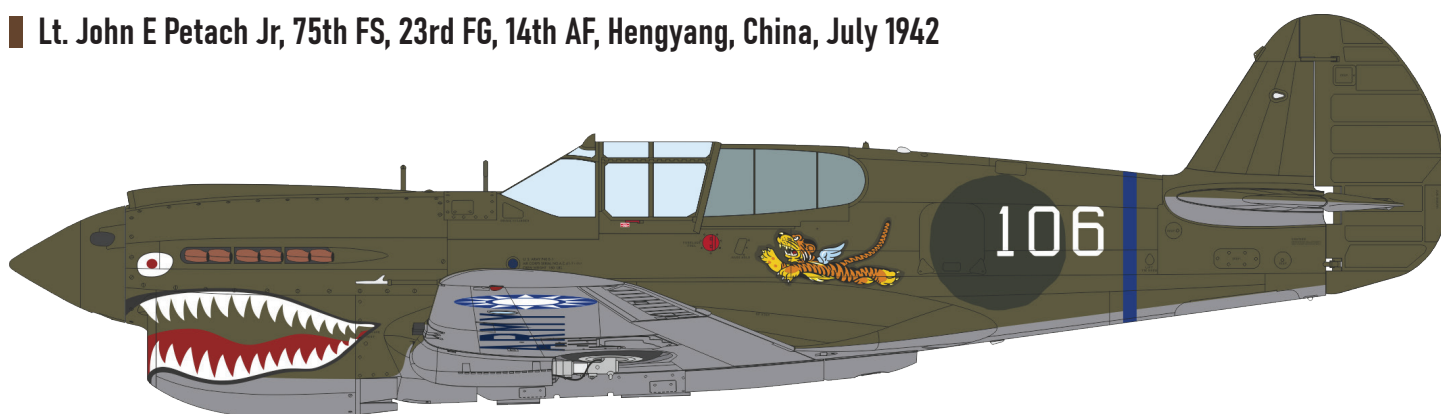


On March 14, 1942, Lt. Martin achieved his only aerial victory with this aircraft. It happened when, with other members of the 7th FS, he attacked a formation of eight Betty bombers from the 4 Kōkūtai. Martin flew as a member of B Flight, led by 2Lt Bill Reddington. When the American fighters launched their attack on the Japanese bombers, he separated from his flight, approached the three bombers on the left side of the formation and, according to reports, first fired at the entire section and then focused on

the Betty flying on the far left. He emptied all his ammunition into it, broke away to the left, and with empty magazines, decided to return to base on Horn Island, which was being strafed by accompanying Zeros after the Japanese Betty's bombs hit the base. Martin managed to avoid combat with them and landed safely at the damaged airfield. Here, during his debriefing, he was severely reprimanded by the squadron commander for leaving formation and engaging in combat on his own. Despite the claims of

American pilots, according to Japanese reports, none of the attacking bombers were shot down but some were damaged. The Warhawk named Minnesota Gopher had a picture of a chicken in a flight helmet painted on its tail, which was probably the emblem of one of the 7th FS flights. The aircraft served with the squadron until June 13, 1942, when it crashed on landing and had to be sent to a service unit for a general overhaul, after which it was transferred to the RAAF.

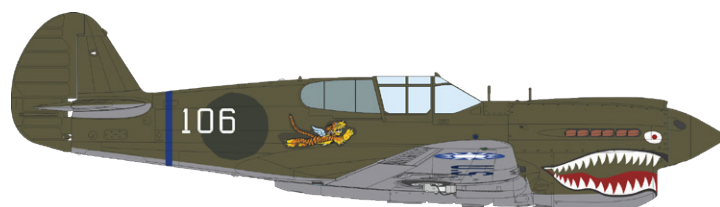
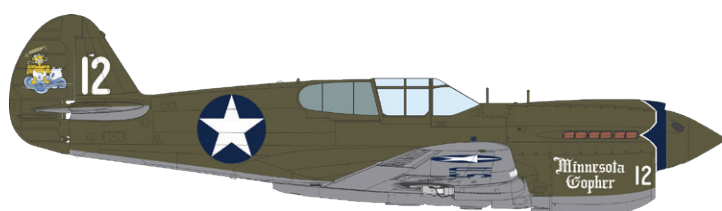
■ Lt. John E Petach Jr, 75th FS, 23rd FG, 14th AF, Hengyang, China, July 1942



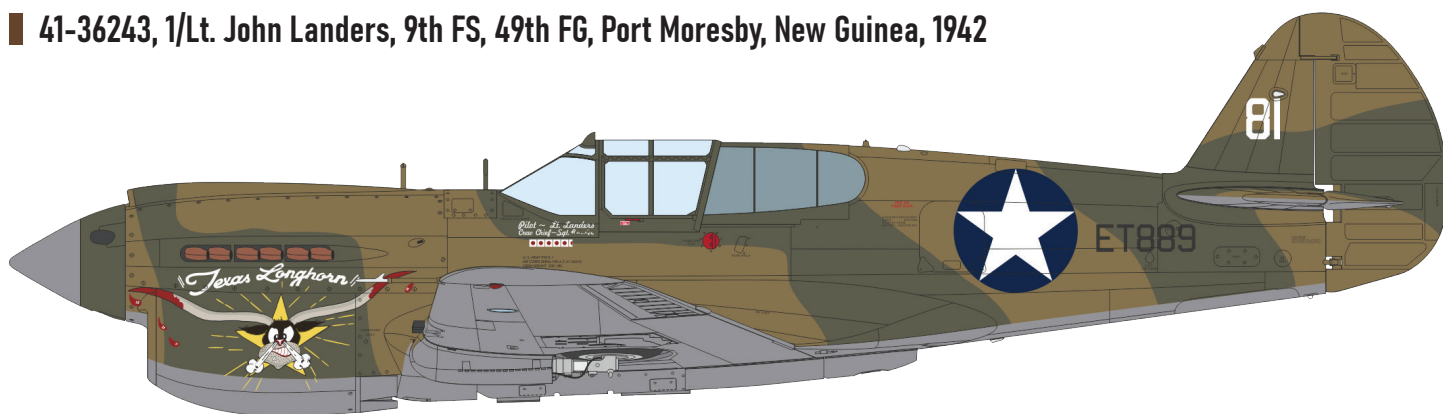
This son of Slovak parents was born on July 15, 1918, in Pennsylvania. After studying chemistry at New York University, he joined the US Navy in 1939, where he completed pilot training in Pensacola. He began his service on the USS Ranger (CV-4) with VS 42 where he flew SB2U Vindicator aircraft. He joined the 1st American Volunteer Group, fighting against the Japanese in China, on August 10, 1941, and was assigned to the second squadron, "Panda Bears," as flight

commander. Initially, he flew most often with the P-40B P-8127 with tactical number 47, later he used the P-40E with the number 106. As part of his deployment with the AVG, he participated in seven victories over Japanese aircraft, which, when combined with his shares, meant a total score of 3.93 confirmed kills. In February 1942, he married nurse E. J. Foster, who worked for the AVG. In July 1942, the AVG was disbanded and reorganized into the regular 23rd Fighter Group

of 14th Air Force, USAAF. Most of the original AVG members returned to the United States, but John Petach remained with the 23rd Fighter Group as an instructor. Nevertheless, on July 6, he took part in the 23rd FG's first air battle, shooting down one enemy fighter for sure and another probably. On July 10, 1942, he took off on a combat mission to attack a target near Nanchang. During a dive attack, he was hit by anti-aircraft fire and killed.



■ 41-36243, 1/Lt. John Landers, 9th FS, 49th FG, Port Moresby, New Guinea, 1942

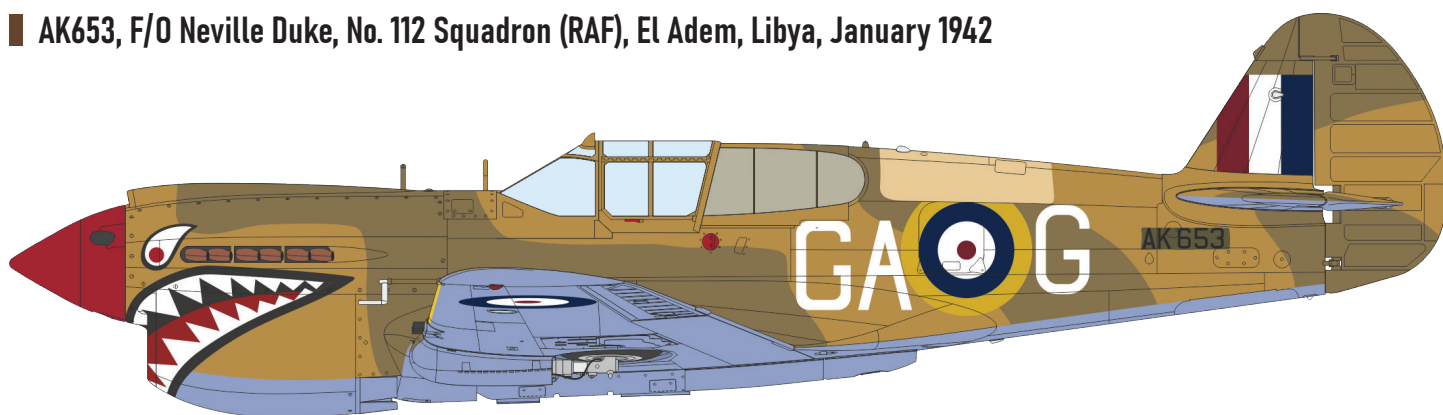


A set of photographs from the deployment in New Guinea is available for the Warhawk named Texas Longhorn. However, not a single photograph shows the tactical number on the tail or the British registration number. According to the author of the publication about the 49th FG named Protect and Avenge, this aircraft was never used for combat missions. In January 1943, the Longhorn was transferred from the 9th FS to the 8th FS, where it served until March 2,

1943, when Lt. Cyrus Lynd took off from Port Moresby and crashed fatally northeast of Kokoda. The wreckage of the aircraft was found after the war, and in addition to parts of the nose bearing the name of the aircraft, the tail surfaces also preserved the number 81 and the serial number ET889. These clues support the assumption that during his service with the 9th FS in the second half of 1942, John Landers used Longhorn as his personal aircraft. He posed for a photographer

in front of the decorated nose of the fighter, although according to one opinion, this was only for promotional purposes. Before moving to New Guinea, Landers was assigned Warhawk No. 81, nicknamed Skeeter, which he flew until September 1942. He later fought successfully in Europe and named his P-51 Mustangs Big Beautiful Doll. According to some sources, Texas Longhorn bore the number 82 at one time.

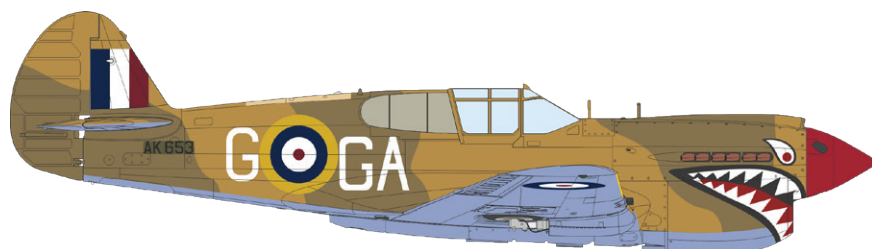
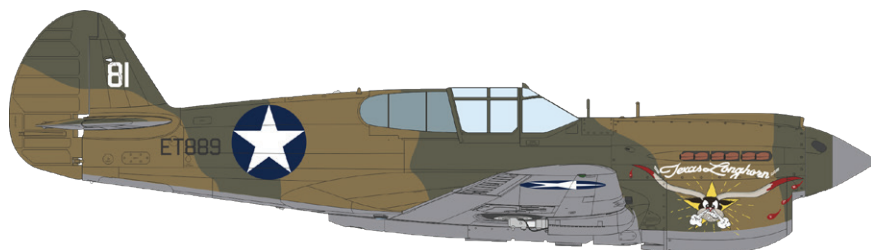
■ AK653, F/O Neville Duke, No. 112 Squadron (RAF), El Adem, Libya, January 1942



The later famous test pilot Neville Frederick Duke flew with No. 112 Squadron during 1942 with eleven different Kittyhawk Mk. I and Mk.IA aircraft. He used this one in January 1942, but it was not his personal mount. The aircraft was severely damaged on February 15, 1942, during a dogfight near Gazala. Sgt. Donald Neil McQueen was in the cockpit at the time and,

despite being injured, escaped a clash with Ofw. Otto Schulz. Before that, Schulz had managed to shoot down four other Kittyhawks from No. 94 Squadron, including its CO Ernest Mason, bringing his tally to 44 kills. The aircraft was repaired and continued to see combat. Duke no longer used it (at that time he was flying AK707, GA-Y and AK900, GA-A), but it was flown

by Sgt. Simonsen and Sgt. Drew, who shot down two Macchi MC 200s while flying it on April 12 and 14, 1942. The photo shows a repair to the fuselage behind the cockpit, done in a lighter color than Middle Stone. The repair covered the upper part of the fuselage cockade on the port side.

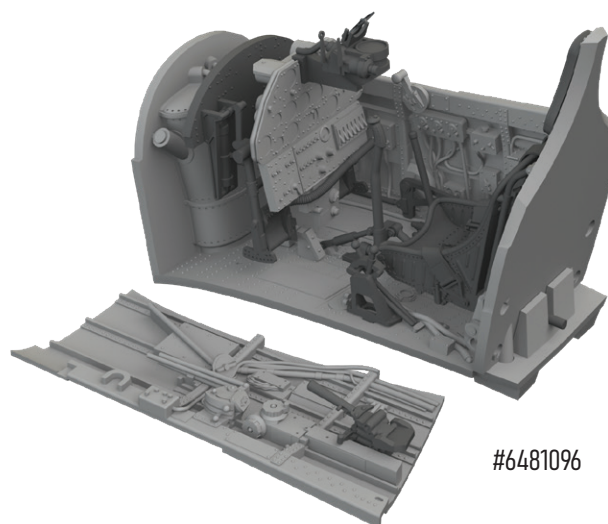


#644298

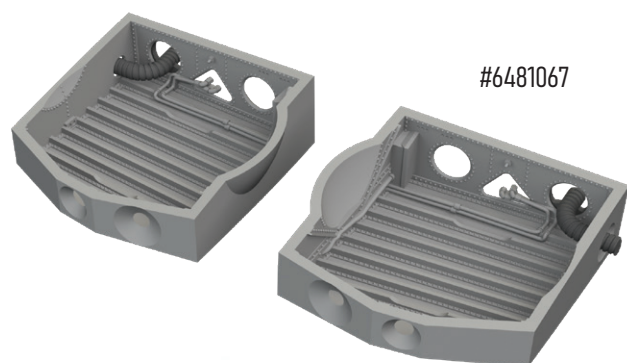
For P-40E Warhawk 1/48

RECOMMENDED:

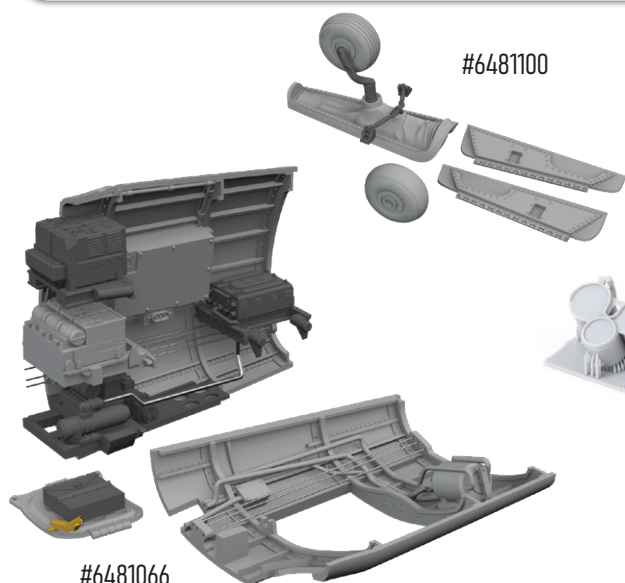
481155	P-40E landing flaps (PE-Set)
FE1498	P-40E seatbelts STEEL (PE-Set)
FE1557	P-40E Weekend (PE-Set)
644295	P-40E LööK (Brassin)
644298	P-40E w/ rounded exhaust stacks LööKplus (Brassin)
644300	P-40E w/ fishtail exhaust stacks LööKplus (Brassin)
6481057	P-40E wheels diamond tread (Brassin)
6481058	P-40E wheels cross tread (Brassin)
6481059	P-40E wheels block tread (Brassin)
6481060	P-40 exhaust stacks rounded PRINT (Brassin)
6481061	P-40 exhaust stacks fishtail PRINT (Brassin)
6481064	P-40 seat w/ integral belts Type 1 PRINT (Brassin)
6481065	P-40 seat w/ integral belts Type 2 PRINT (Brassin)
6481066	P-40E radio compartment PRINT (Brassin)
6481067	P-40 wheel bays PRINT (Brassin)
6481068	P-40 wheel bays with canvas PRINT (Brassin)
6481069	P-40E engine PRINT (Brassin)
6481070	P-40 seat Type 1 PRINT (Brassin)
6481071	P-40 seat Type 2 PRINT (Brassin)
6481074	P-40E undercarriage legs PRINT (Brassin)
6481076	P-40 1000lb US bomb (Brassin)
6481077	P-40 250lb Mk.2 British bomb PRINT (Brassin)
6481078	P-40 30lb frag bombs PRINT (Brassin)
6481079	P-40 500lb M64 US bombs (Brassin)
6481080	P-40 500lb GP British bomb PRINT (Brassin)
6481081	P-40 250lb Mk.1 British bomb PRINT (Brassin)
6481082	P-40 250lb MC British bombs PRINT (Brassin)
6481083	P-40 100lb M30 US bombs PRINT (Brassin)
6481084	P-40 75gal drop tank PRINT (Brassin)
6481085	P-40 52gal drop tank PRINT (Brassin)
6481075	P-40E gun bays PRINT (Brassin)
6481096	P-40E cockpit PRINT (Brassin)
6481097	P-40E radiators upgrade set PRINT (Brassin)
6481098	P-40 cold weather exhaust stacks fishtail PRINT (Brassin)
6481099	P-40 cold weather exhaust stacks rounded PRINT (Brassin)
6481100	P-40E tail wheel bay PRINT (Brassin)
6481124	P-40E cockpit w/ late seat PRINT (Brassin)
3DL48208	P-40E SPACE (3D Decal Set)
D48119	P-40E stencils (Decal Set)
EX1088	P-40E (Mask)
EX1089	P-40E TFace (Mask)
EX1120	P-40E US national insignia circular (Mask)
EX1124	P-40E US national insignia w/ red center (Mask)



#6481096



#6481067



#6481066

#6481100



#6481069

Bf 109F-4

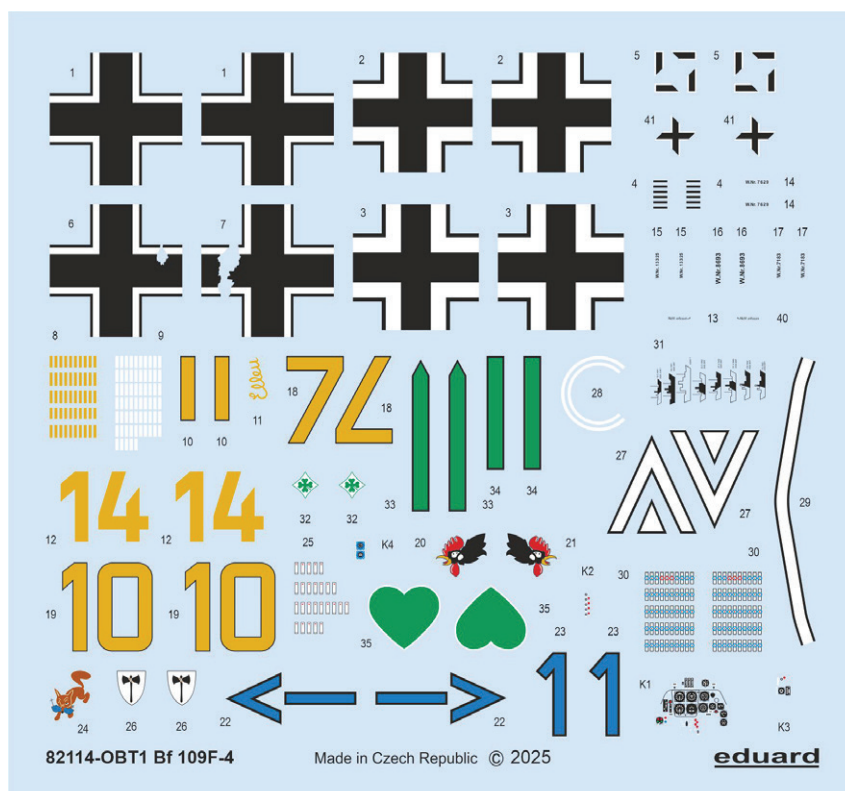
1/48

#82114

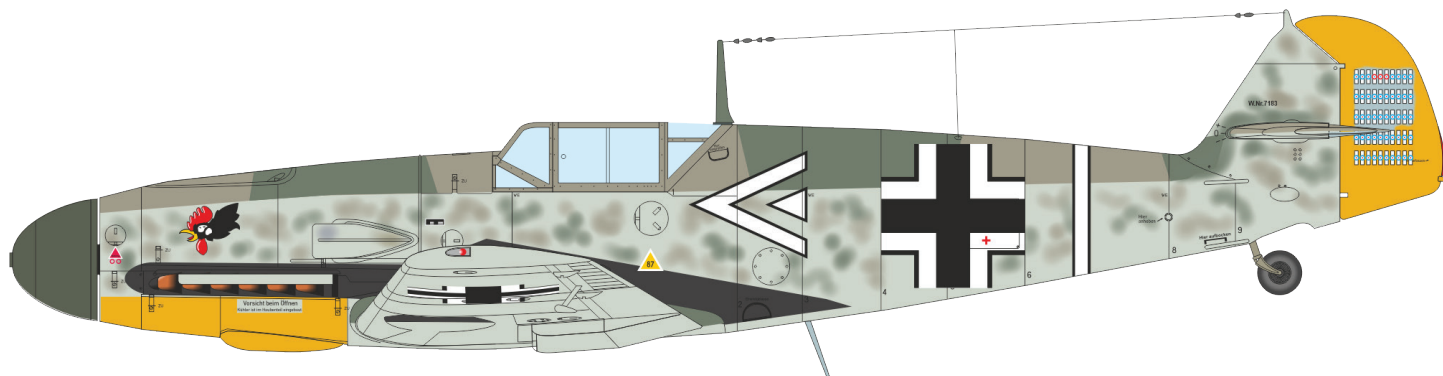
The ProfiPACK edition kit of German WWII fighter plane Bf 109F-4 in 1/48 scale.

Re-Release

- plastic parts: Eduard
- marking options: 6
- decals: Eduard
- PE parts: yes, pre-painted
- painting mask: yes
- resin parts: no

[Product page](#)


■ Bf 109F-4, W.Nr. 7183, Hptm. Hans Hahn, CO of III./JG 2, St. Pol, France, October 1941

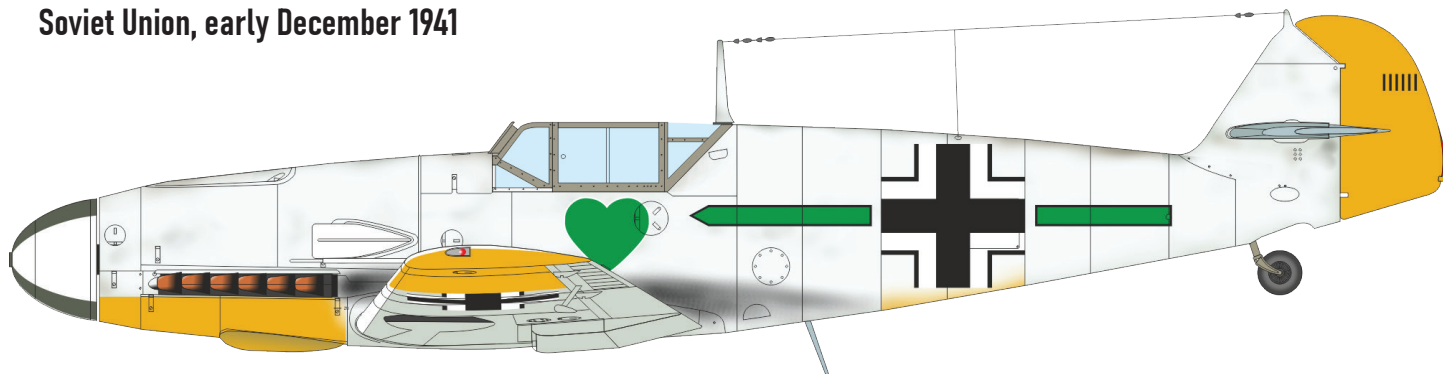


Hans "Assi" Hahn, a fighter ace and recipient of the Knight's Cross with Oak Leaves was in command of 4./JG 2 from December 1939, then starting from October 1940, he overtook the lead of III./JG 2. The fifty kill marks on the rudder of this aircraft are related to his service on the Western Front. Hahn added the fiftieth kill

to his tally on October 13, 1941, shooting down a Spitfire near Boulogne-sur-Mer. Altogether he destroyed 66 enemy aircraft in the West. In late 1942 "Assi" Hahn moved to the East and commanded II./JG 54 from November 1, 1942. On February 21, 1943, he was downed and captured. He spent seven years in captivity,

returning back to Germany in 1950. He wrote a book about his life in prison Prisoner of War in Russia (Ich spreche die Wahrheit – I Speak the Truth). Hahn's total score stands at 108 kills. The rooster head was the crest of III./JG 2, based on Hahn's family name (der Hahn means the rooster in English).

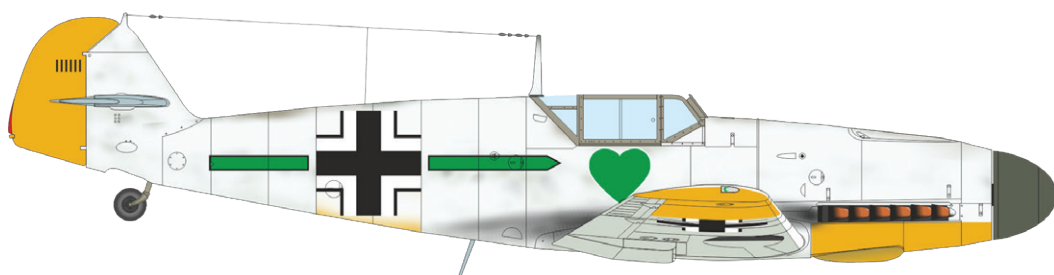
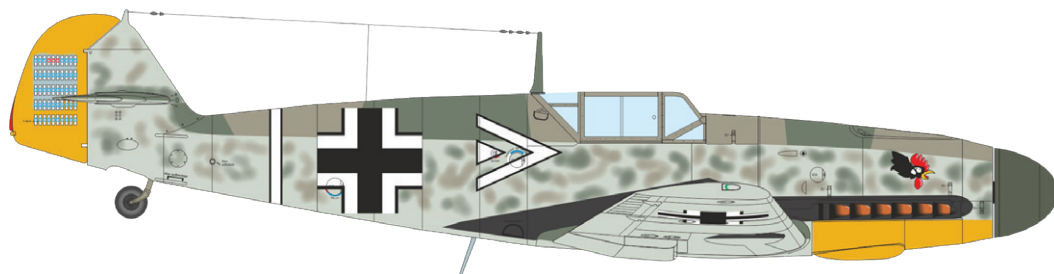
■ Bf 109F-4, W.Nr. 7243, Oblt. Otto Kath, Stab/JG 54, Staraya Russa, Soviet Union, early December 1941



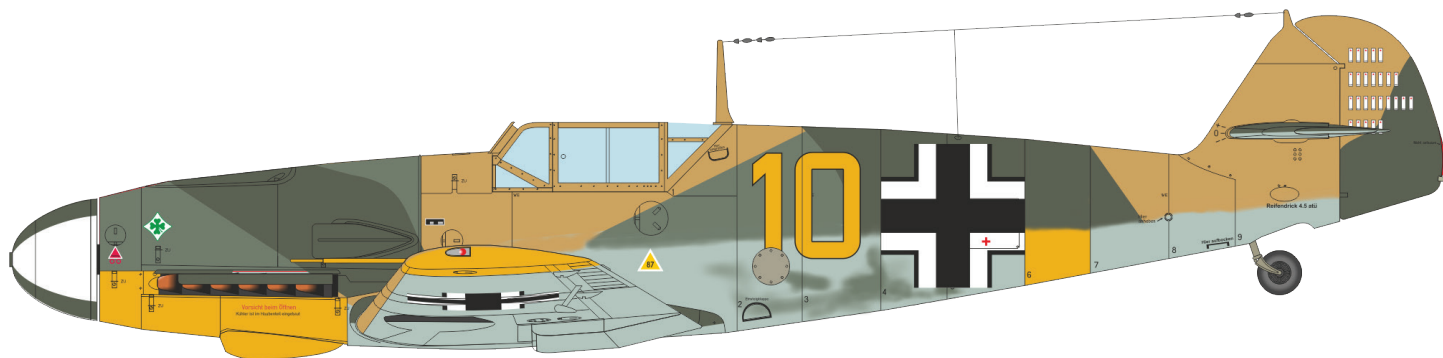
Otto Kath served as Geschwaderadjutant for Hannes Trautloft, the famous fighter ace and CO of JG 54 from March 1941 till September 1943. Trautloft retained Kath when moving from I./JG 20 to JG 54. Kath is credited with 6 kills. The standard camouflage of RLM 74/75/76 was

oversprayed with washable white paint on the upper sides as the temporary winter camouflage. The only exception was the framing of the canopy. The non-standard Geschwader Stab marking is green, which was the color reserved for aircraft of the HQ members. The green heart

was the symbol of the JG 54 Grünherz. Note the yellow Eastern Front markings on the wings, rudder, and fuselage.



■ Bf 109F-4, Uffz. Hans Döbrich, 6./JG 5, Petsamo, Finland, September 1942

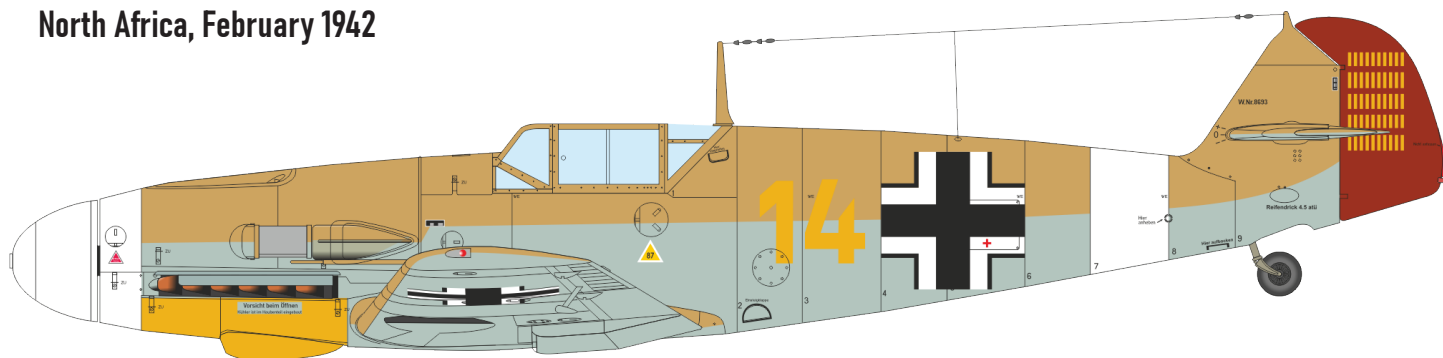


This aircraft was flown by Hans Döbrich, a fighter ace credited with 65 victories. He was downed three times and seriously wounded during the last incident. He never flew a combat sortie again. During the second half of 1942,

II./JG 5 was equipped with Friedrichs manufactured for service in a tropical environment. The desert camouflage colors consisting of RLM 79 and RLM 78 were applied at the factory. Feldflugpark (Repair Field Unit)

in Pori added segments of RLM 74/70 (some sources state RLM 75/71) which helped the camouflage effect over the northern territory. The green shamrock on the cowl was a crest of 6./JG 5.

■ Bf 109F-4/trop, W.Nr. 8693, Lt. Hans-Joachim Marseille, 3./JG 27, North Africa, February 1942



This aircraft was flown by Lt. Hans-Joachim Marseille, a fighter ace with 158 kills to his credit. Marseille was awarded the Knight's Cross with Swords, Oak Leaves and Diamonds as the recognition of his remarkable success. He was shooting down enemy aircraft at rapid rate with many multiple one-day victories. The German propaganda made use of it to make

Marseille a star. The tale ended with Marseille's death. He died in an accident while bailing out on September 30, 1942.

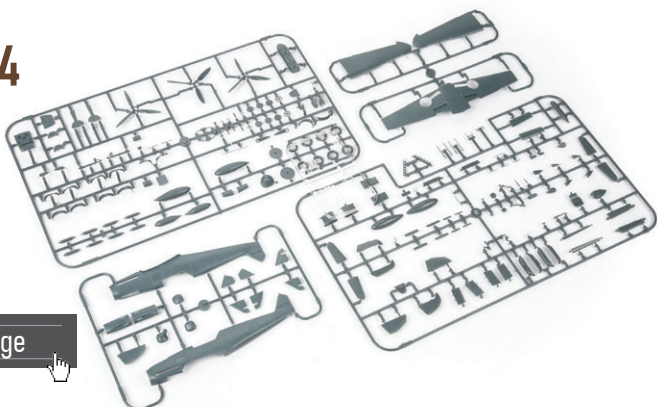
The camouflage of his aircraft consisted of RLM 79 Sandgelb on the upper surfaces and RLM 78 Himmelblau on the lower ones. The rudder was adorned with fifty kill marks (Abschussmarken) and appears to be oversprayed with a red-

brown primer. Marseille achieved his 49th and 50th kills on February 21, 1942. His victims were two Kittyhawks.

The white-painted wingtips and fuselage band were Luftwaffe markings used on the aircraft flown in the Mediterranean theatre.

OVERTREES

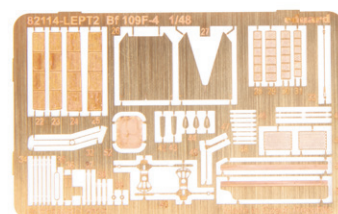
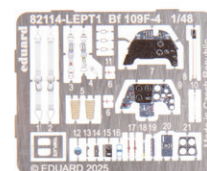
#82114X
Bf 109F-4
1/48



Product page

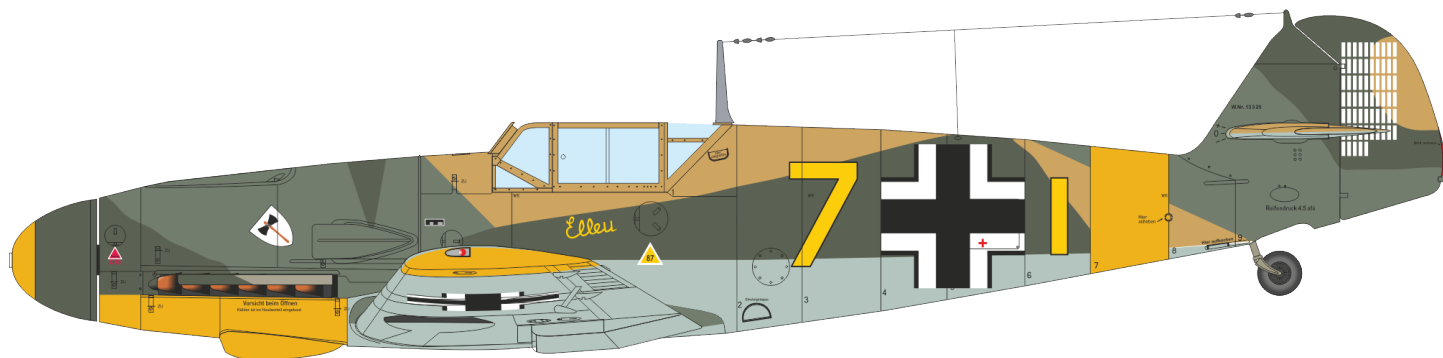
OVERLEPT

#82114-LEPT1
Bf 109F-4
1/48



Product page

■ Bf 109F-4, W.Nr. 13325, Oblt. Viktor Bauer, 9./JG 3, Shchigry, Soviet Union, June 1942

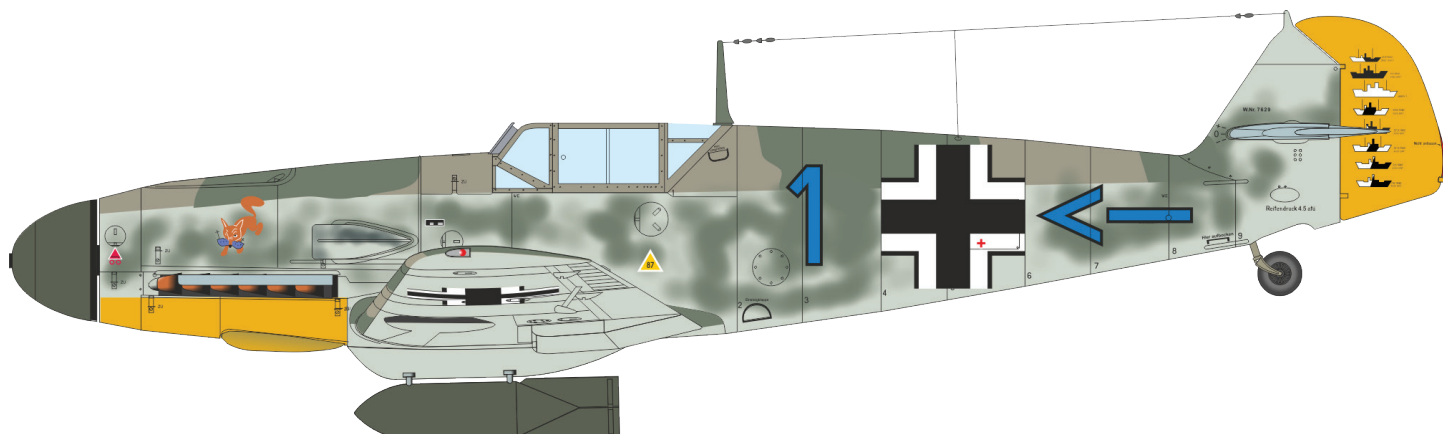


This aircraft was flown by Viktor Bauer, a recipient of the Knight's Cross with an Oak Leaves and ace with 106 kills. He achieved most of them in combats with Soviet pilots. Bauer flew this particular aircraft in the summer of 1942, when German Group of Armies A advanced on Stalingrad. The unit received Messerschmitts originally intended for service in North

Africa, thus camouflaged in RLM 78/79 colors. The segments of RLM 74/70 (some sources state RLM 75/71) were added to the desert camouflage scheme to better the camouflage effect in the Eastern Front environment. The yellow wingtips, fuselage band and lower cowling were typical for airplanes flown in the east. Note the III./JG 3 badge on the nose. The name Ellen referred to

Bauer's wife. Bauer achieved his 106th and last kill on August 9, 1942, northwest of Stalingrad. The very next day he was hit by enemy fire, wounded, and had to belly land his crippled plane. After rescue, Bauer served in various posts of Ergänzungs (replacement) units.

■ Bf 109F-4/B, W.Nr. 7629, Oblt. Frank Liesendahl, CO of 10. (Jabo)/JG 2, France, June 1942



During late 1941, the Luftwaffe considered renewing bombing of Great Britain and coastal shipping. Each fighter unit fighting against the Great Britain was ordered to single out one Staffel for this purpose. The 10. (Jabo) Staffel played this role within JG 2. Under command of Oblt. Frank Liesendahl this Staffel sank

20 vessels (total tonnage 630.000 BRT) over a four-month period. Liesendahl was killed when attacking cargo vessels near Brixham on July 17, 1942. Posthumously he was promoted to Hauptmann rank and was awarded the Knight's Cross as well. Liesendahl's personal mount wore a standard day fighter camouflage consisting of

RLM 74/75/76. The ship-munching fox was the 10. (Jabo) Staffel badge. Note the symbols of vessels damaged or sunk by Liesendahl on the rudder.

For Bf 109F-4 1/48 RECOMMENDED:

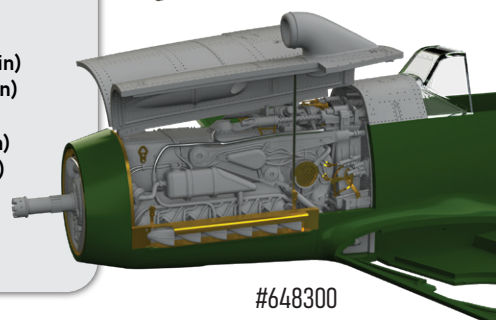
#648876



- | | |
|----------|---|
| 644010 | Bf 109F LööK (Brassin) |
| 644297 | Bf 109F LööKplus (Brassin) |
| 648282 | Bf 109F wheels (Brassin) |
| 648289 | Bf 109F propeller EARLY (Brassin) |
| 648291 | Bf 109F landing flaps (Brassin) |
| 648300 | Bf 109F engine & fuselage guns (Brassin) |
| 648308 | Bf 109F undercarriage legs BRONZE (Brassin) |
| 648875 | Bf 109F cockpit w/ early seat PRINT (Brassin) |
| 648876 | Bf 109F cockpit PRINT (Brassin) |
| 648880 | Bf 109F wheel bays rounded PRINT (Brassin) |
| 648881 | Bf 109F wheel bays angular PRINT (Brassin) |
| 3DL48028 | Bf 109F-4 SPACE (3D Decal Set) |
| D48026 | Bf 109F stencils (Decal Set) |
| EX588 | Bf 109F TFace (Mask) |



#648308



#648300

644323

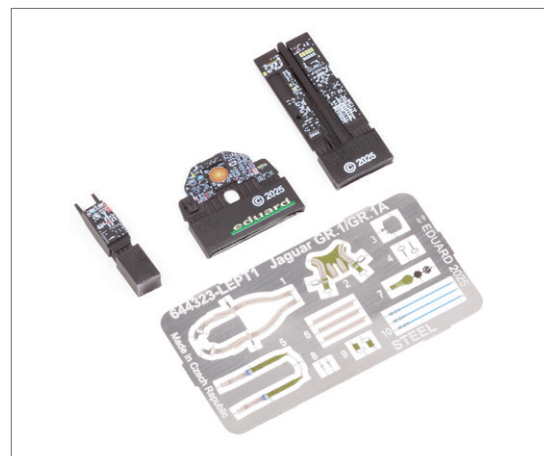
Jaguar GR.1 / GR.1A LööK

1/48 Airfix

LööK set - Brassin pre-painted dashboard and STEEL seat belts for Jaguar GR.1 / GR.1A in 1/48 scale. Easy to assemble, replaces plastic parts. Recommended kit: Airfix

Set contains:

- resin: 4 parts
- 3D print: 2 part
- decals: no
- photo-etched details: yes, pre-painted
- painting mask: no

[Product page](#)


LööK

644326

Ju 88A-4 LööK

1/48 Eduard/ICM

LööK set - Brassin pre-painted dashboard and STEEL seat belts for Ju 88A-4 in 1/48 scale. Easy to assemble, replaces plastic parts. Recommended kit: Eduard / ICM

Set contains:

- resin: 1 parts
- 3D print: 1 part
- decals: no
- photo-etched details: yes, pre-painted
- painting mask: no

[Product page](#)


LööK

674044

P-51B/C LööK

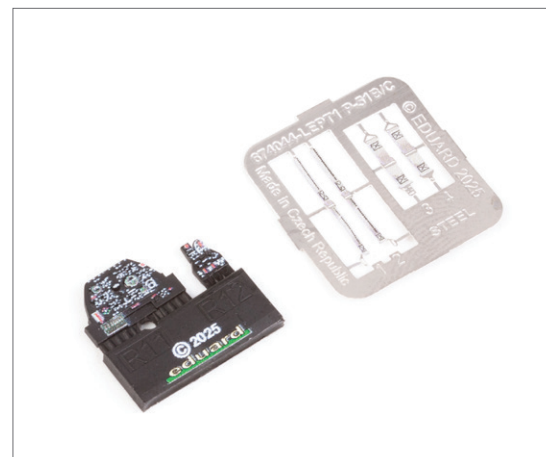
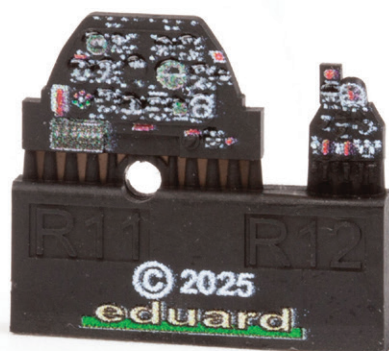
1/72 Arma Hobby

LööK set - Brassin pre-painted dashboard and STEEL seat belts for P-51B/C in 1/72 scale.
Easy to assemble, replaces plastic parts.
Recommended kit: Arma Hobby

Set contains:

- resin: 2 parts
- decals: no
- photo-etched details: yes, pre-painted
- painting mask: no

Product page



LööK

644324

P-40N-25+ LööKplus

1/48 Eduard

Collection of 4 sets for P-40N in 1/48 scale.
Recommended kit: Eduard

- LööK set (pre-painted Brassin dashboard & Steelbelts)
- undercarriage wheels
- exhaust stacks
- painting mask

Product page



LööK+

644325

Fi 156C LööKplus

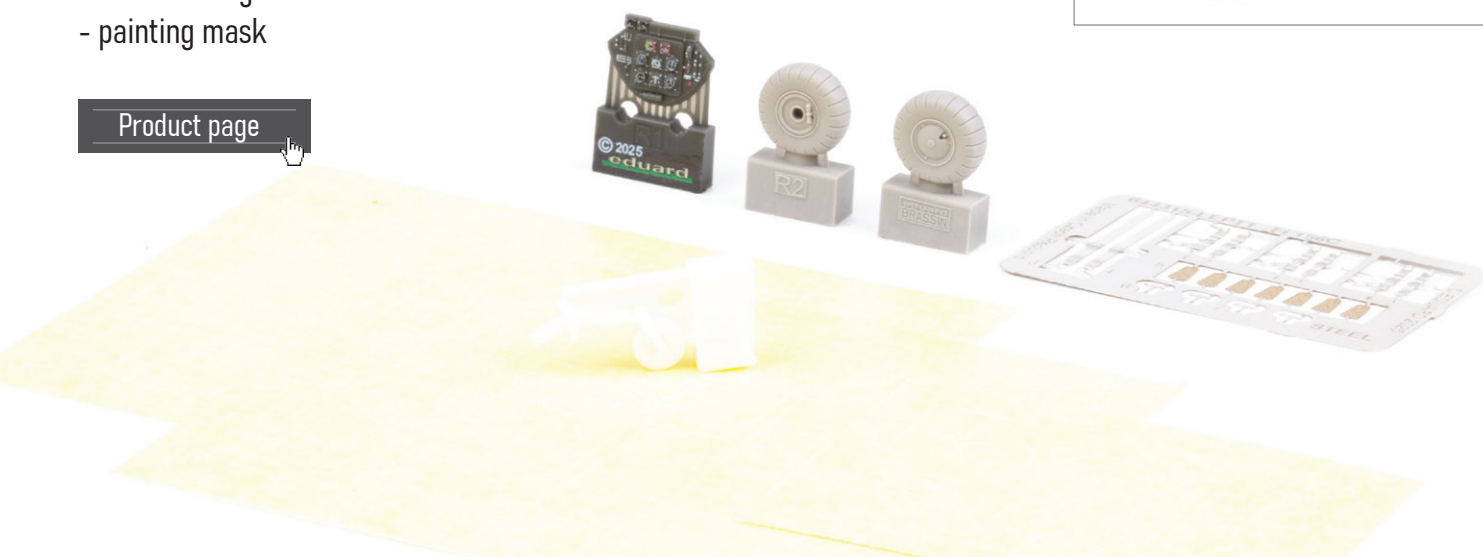
1/48 Tamiya

Collection of 3 sets for Fi 156C in 1/48 scale.

Recommended kit: Tamiya

- LööK set (pre-painted Brassin dashboard & Steelbelts)
- undercarriage wheels
- painting mask

[Product page](#)



674048

A-10C LööKplus

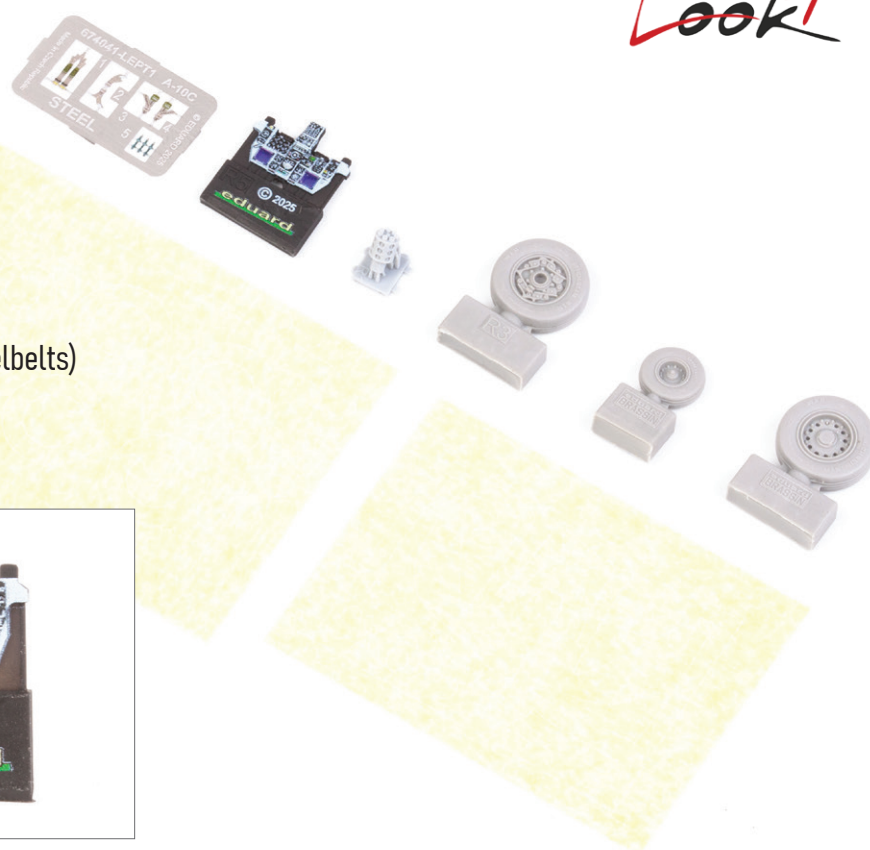
1/72 Great Wall Hobby

Collection of 4 sets for A-10C in 1/72 scale.

Recommended kit: Great Wall Hobby

- LööK set (pre-painted Brassin dashboard & Steelbelts)
- undercarriage wheels
- rotary gun flash suppressor
- painting mask

[Product page](#)



6481107

AGM-130

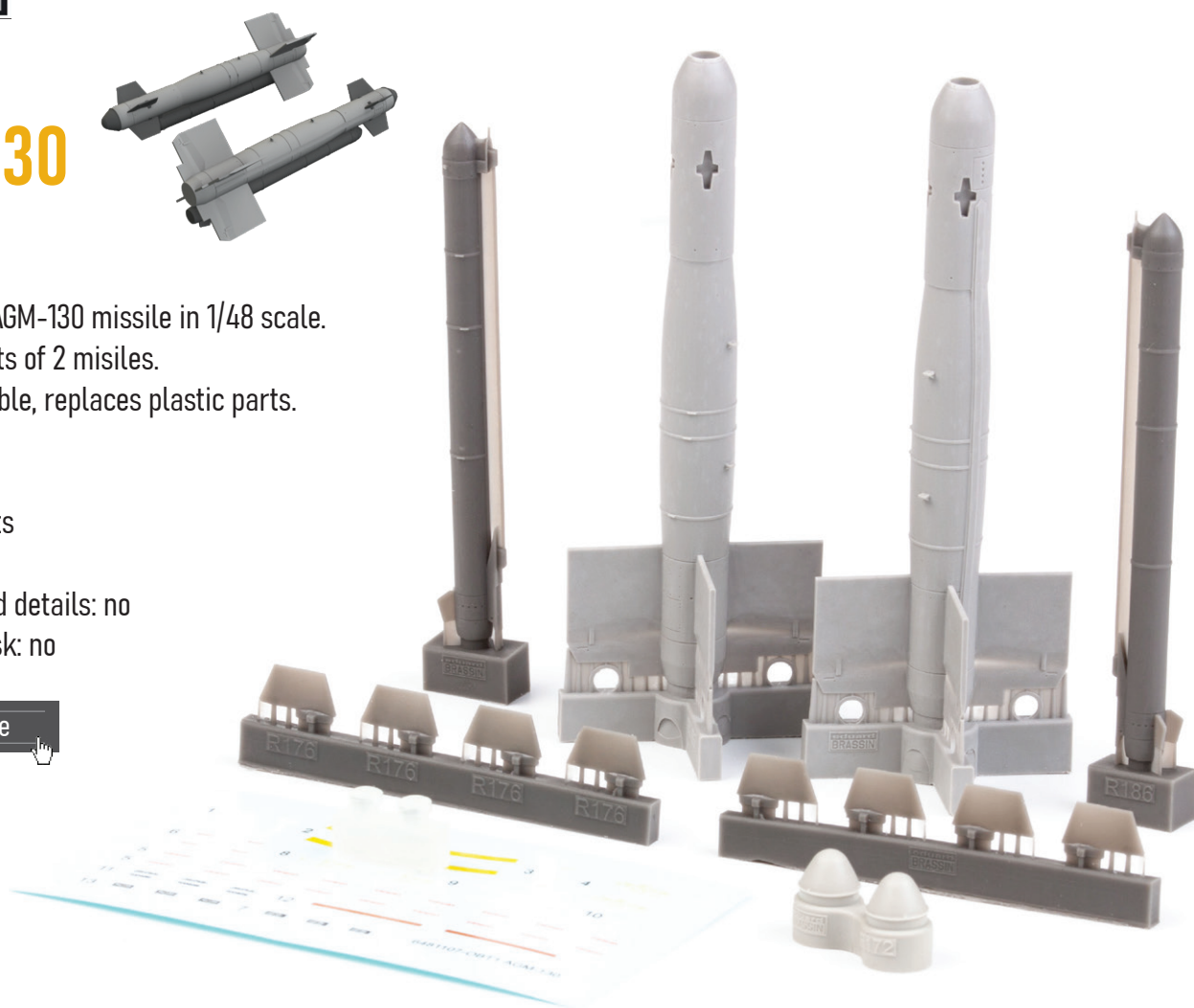
1/48

Brassin set - AGM-130 missile in 1/48 scale.
 The set consists of 2 missiles.
 Easy to assemble, replaces plastic parts.

Set contains:

- resin: 16 parts
- decals: yes
- photo-etched details: no
- painting mask: no

Product page


6481139

Jaguar GR.1 seat PRINT

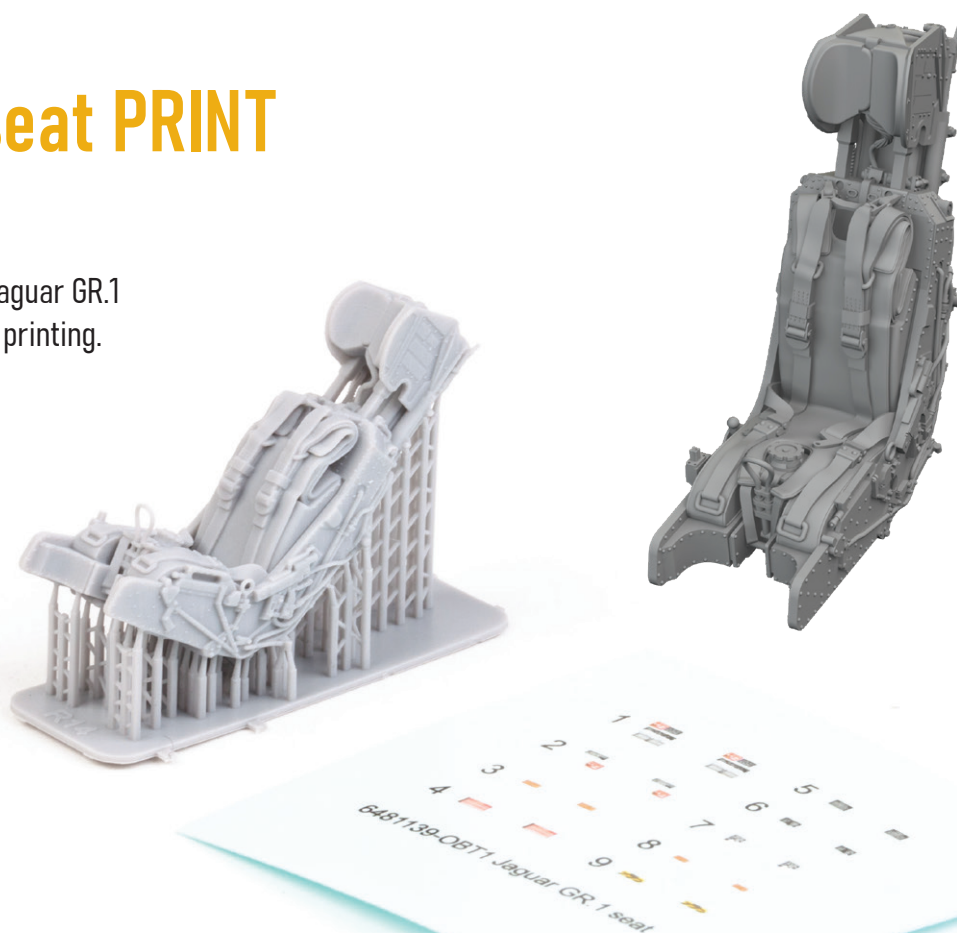
1/48 Airfix

Brassin set - ejection seat for Jaguar GR.1
 in 1/48 scale. Made by direct 3D printing.
 Recommended kit: Airfix

Set contains:

- 3D print: 1 part
- decals: yes
- photo-etched details: no
- painting mask: no

Product page



6481040

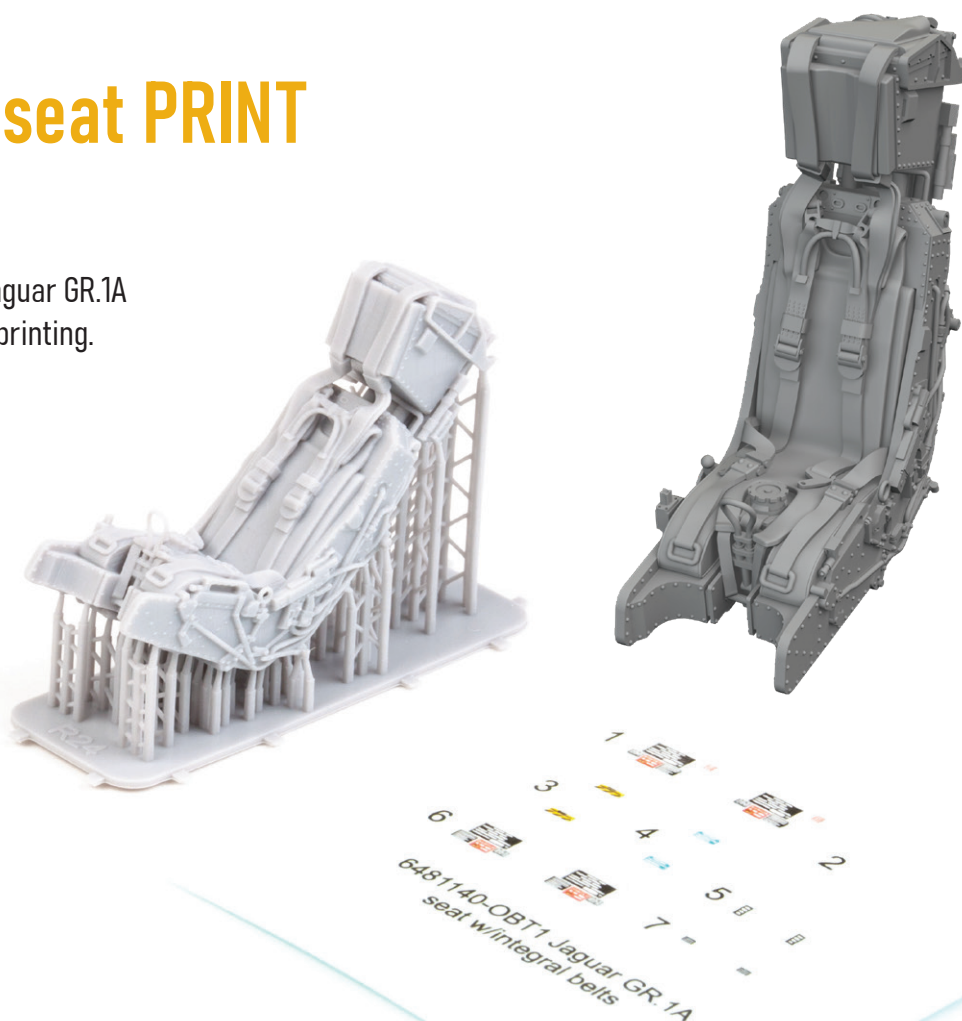
Jaguar GR.1A seat PRINT

1/48 Airfix

Brassin set - ejection seat for Jaguar GR.1A
in 1/48 scale. Made by direct 3D printing.
Recommended kit: Airfix

Set contains:

- 3D print: 1 part
- decals: yes
- photo-etched details: no
- painting mask: no

[Product page](#)


6481142

P-40N undercarriage legs PRINT

1/48 Eduard

Brassin set - undercarriage legs for P-40N
in 1/48 scale. Set consists of main undercarriage
legs and the covers. Made by direct 3D printing.
Recommended kit: Eduard

Set contains:

- 3D print: 6 parts
- decals: no
- photo-etched details: yes
- painting mask: no

[Product page](#)


6481143

P-40N tail wheel bay PRINT

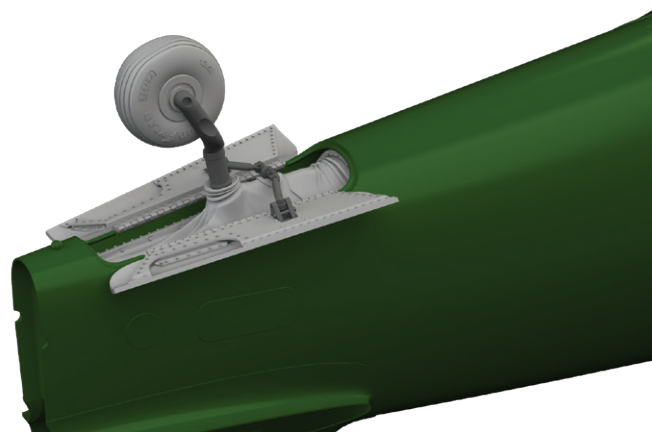
1/48 Eduard

Brassin set - tail wheel bay for P-40N
in 1/48 scale. Made by direct 3D printing.
Easy to assemble, replaces plastic parts.
Recommended kit: Eduard

Set contains:

- 3D print: 5 parts
- resin: 2 parts
- decals: no
- photo-etched details: yes
- painting mask: yes

[Product page](#)



6481144

P-40N radiators upgrade set PRINT

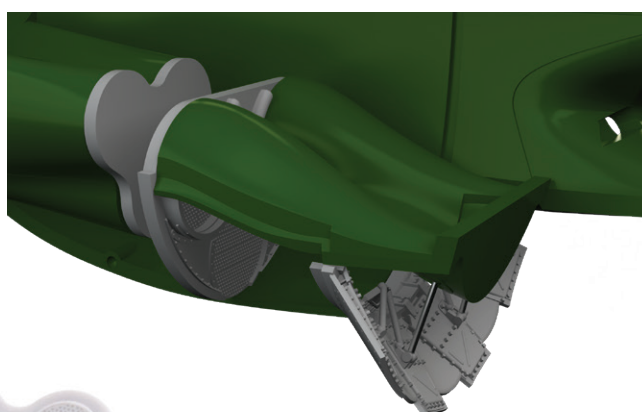
1/48 Eduard

Brassin set - engine oil and cooling fluid
radiators and radiator flaps for P-40N
in 1/48 scale. Made by direct 3D printing.
Recommended kit: Eduard

Set contains:

- 3D print: 3 parts
- decals: no
- photo-etched details: no
- painting mask: no

[Product page](#)



6481145

Jaguar GR.1 cockpit PRINT

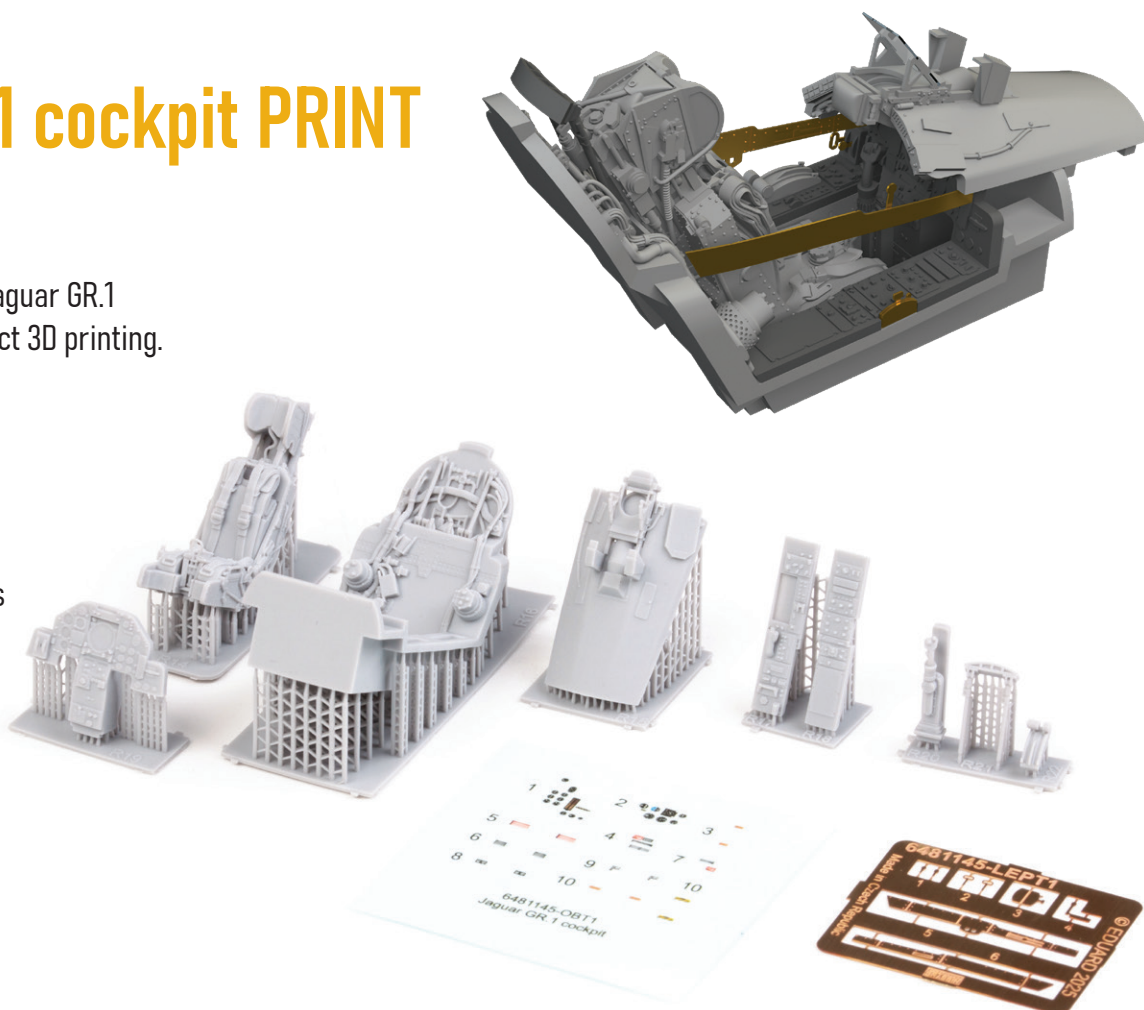
1/48 Airfix

Brassin set - cockpit for Jaguar GR.1
in 1/48 scale. Made by direct 3D printing.
Recommended kit: Airfix

Set contains:

- 3D print: 9 parts
- decals: yes
- photo-etched details: yes
- painting mask: no

[Product page](#)



6481146

Jaguar GR.1A cockpit PRINT

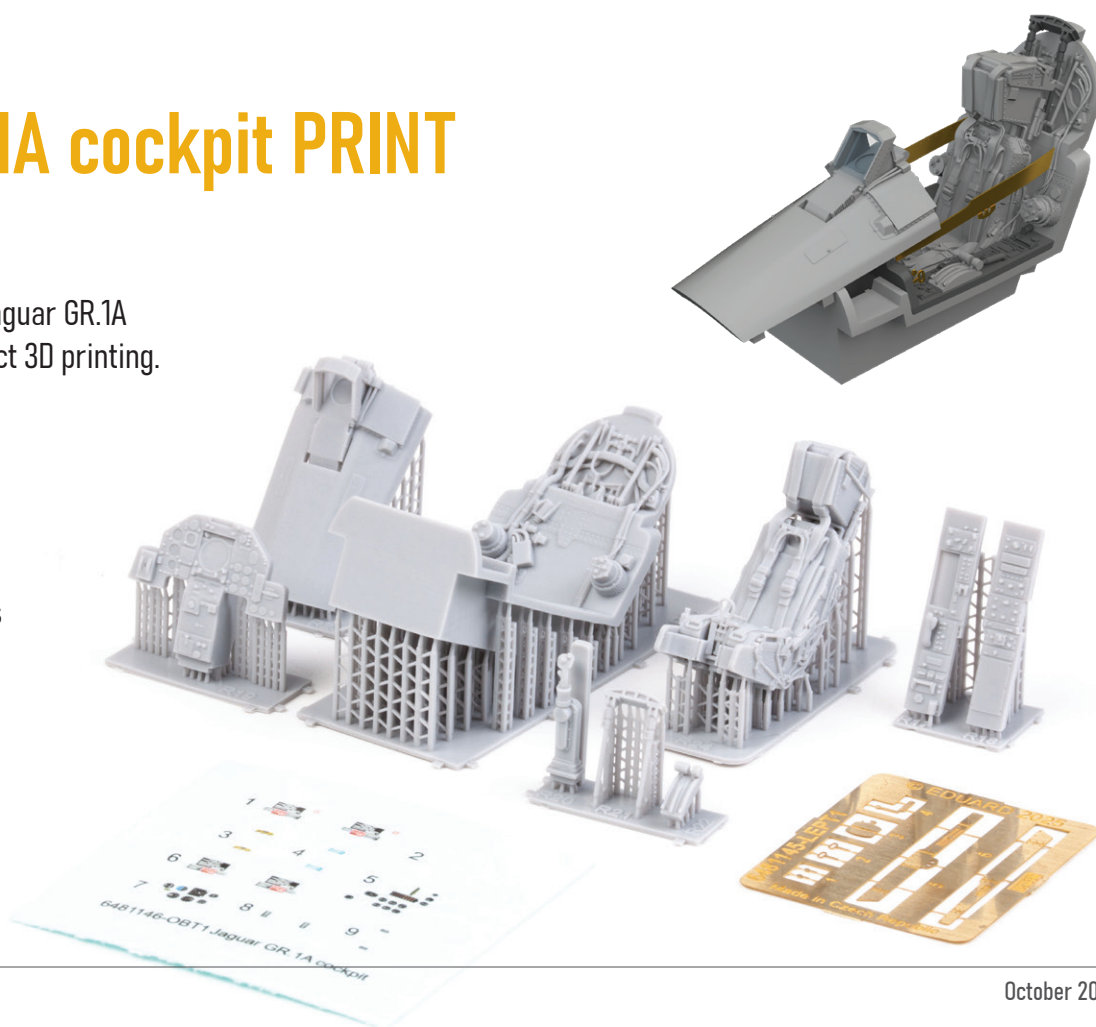
1/48 Airfix

Brassin set - cockpit for Jaguar GR.1A
in 1/48 scale. Made by direct 3D printing.
Recommended kit: Airfix

Set contains:

- 3D print: 9 parts
- decals: yes
- photo-etched details: yes
- painting mask: no

[Product page](#)



6481147

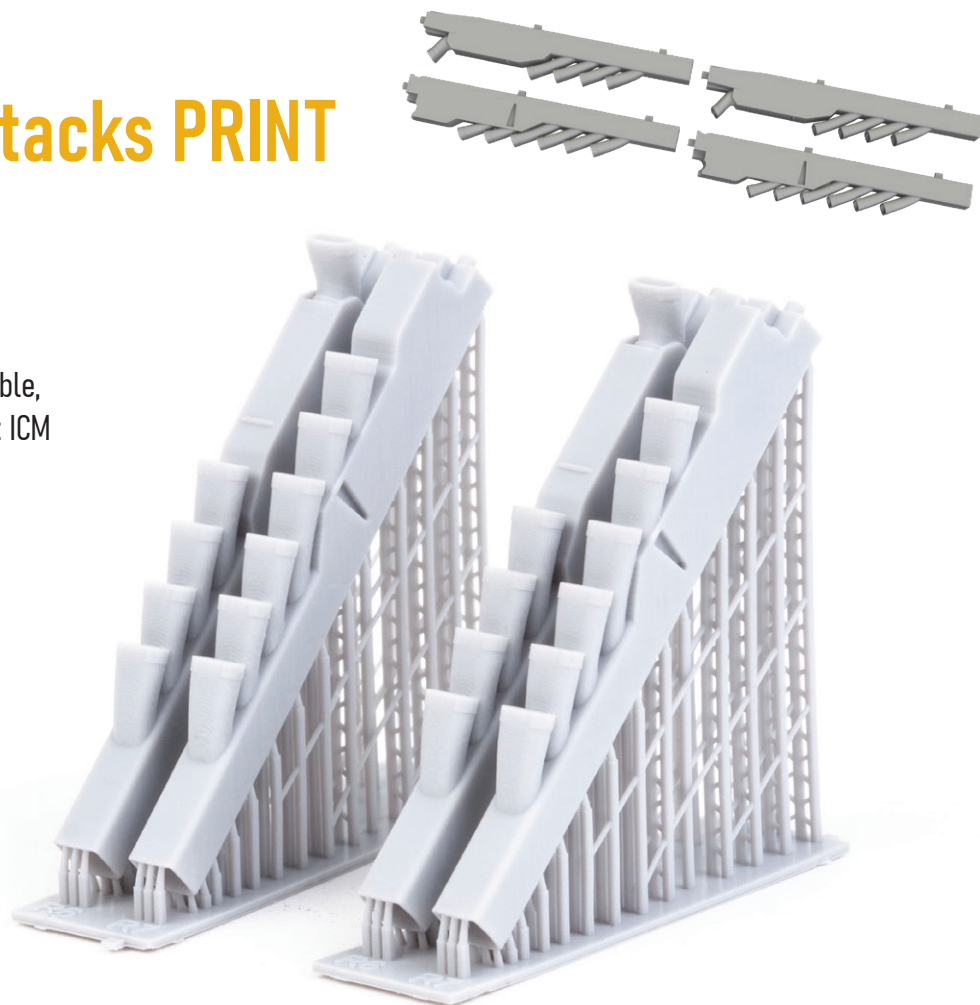
Ju 88A exhaust stacks PRINT

1/48 Eduard/ICM

Brassin set - exhaust stacks for Ju 88A in 1/48 scale. Made by direct 3D printing. Made by direct 3D printing Easy to assemble, replaces plastic parts. Recommended kit: ICM

Set contains:

- 3D print: 4 parts
- decals: no
- photo-etched details: no
- painting mask: no

[Product page](#)

6481148

Ju 88A-4 radio section

1/48 Eduard/ICM

Brassin set - pre-painted radioequipment for Ju 88A in 1/48 scale. Easy to assemble, replaces plastic parts. Recommended kit: ICM

Set contains:

- resin: 1 part, pre-painted
- decals: no
- photo-etched details: no
- painting mask: no

[Product page](#)


SIN648142

A6M3 Zero ESSENTIAL

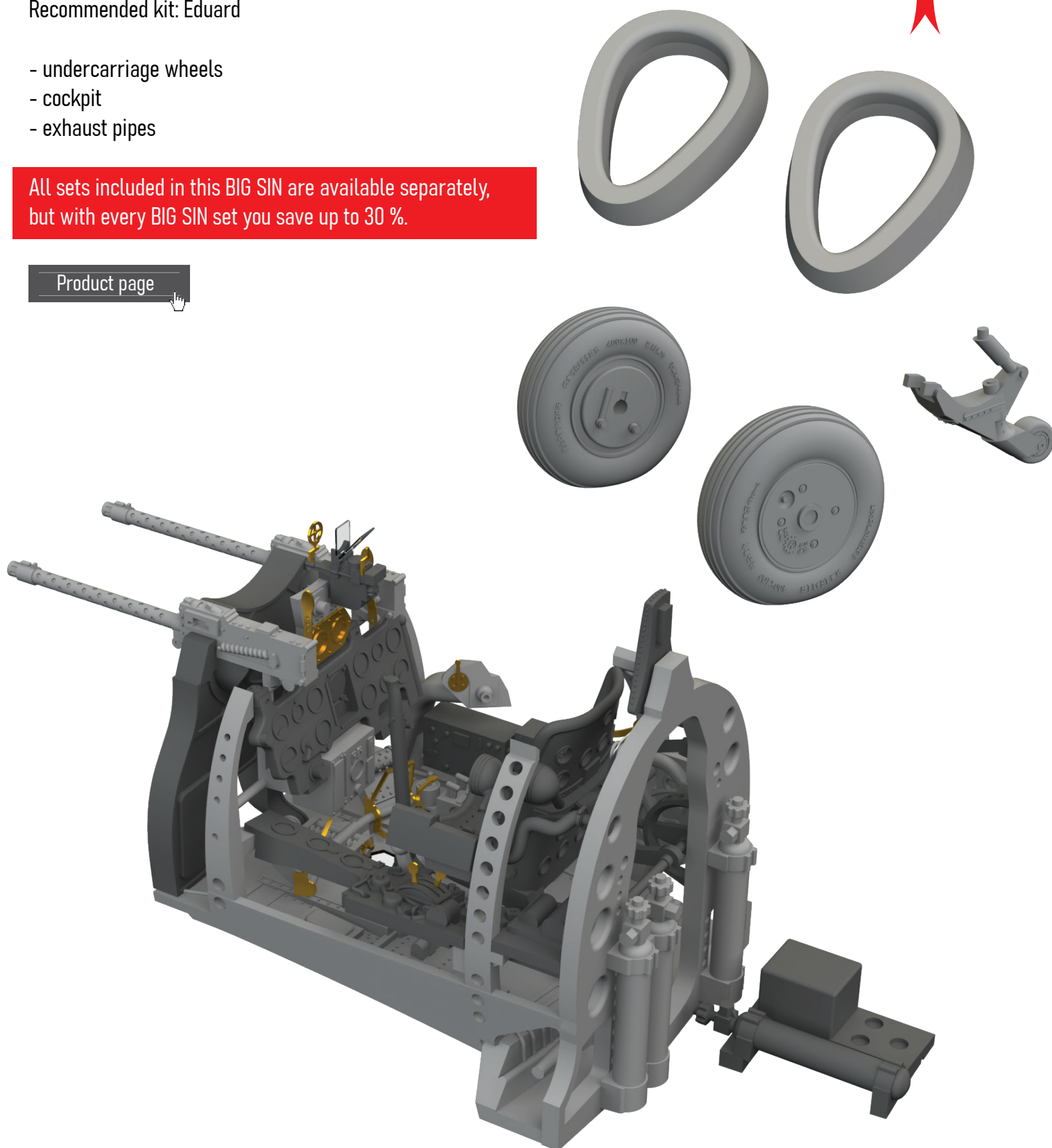
1/48 Eduard

Collection of 3 sets for A6M3 Zero in 1/48 scale.

Recommended kit: Eduard

- undercarriage wheels
- cockpit
- exhaust pipes

All sets included in this BIG SIN are available separately, but with every BIG SIN set you save up to 30 %.

[Product page](#)



eduard



ON AIR

Katka
Borecká

YOUTUBE PODCAST CHANNEL

eduard
ON AIR

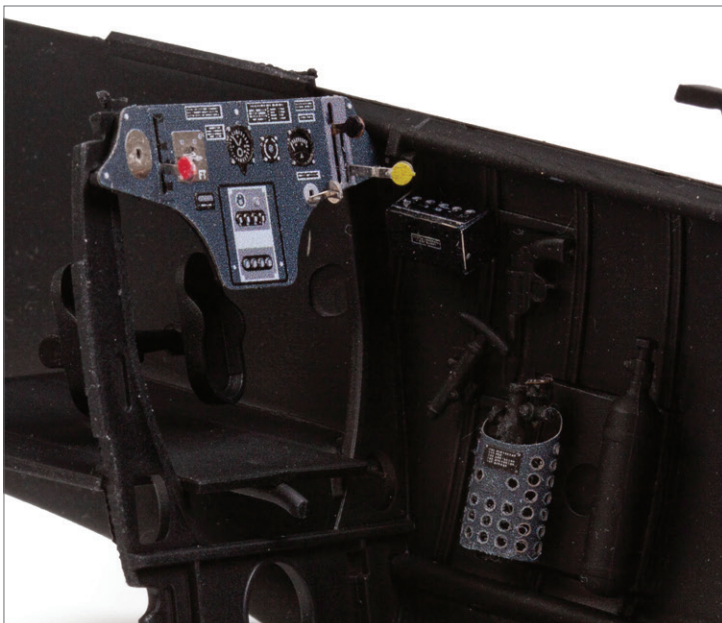


www.youtube.com/@EduardOnAirPodcast

Hs 123A

1/32 ICM

#321026
#33382



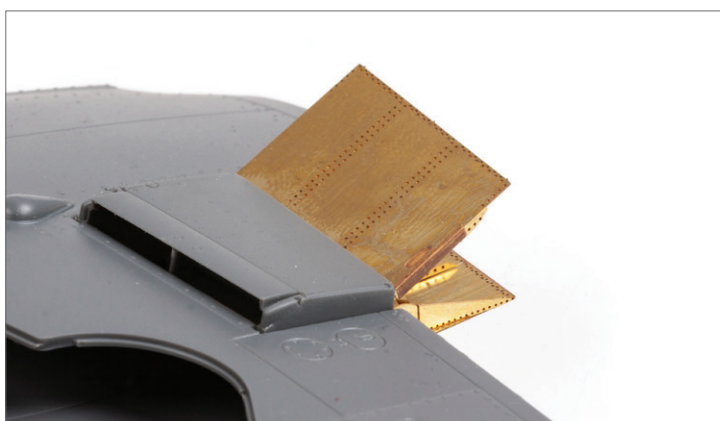
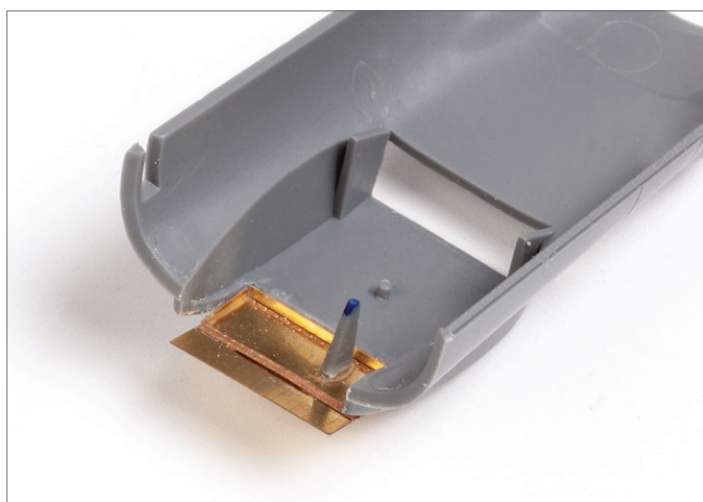
Bf 109K-4

1/32 Kotare

#321027

#33383

#33384



F-35C

1/72 Tamiya

#73855

#SS855



eduard

**LIMITED
EDITION**

**SEPTEMBER
2025**



11194

SCHNELLBOMBER Ju 88A-4 1/48

The kit of German medium bomber Ju 88A-4 in markings of six Luftwaffe units conducting their tasks on the Eastern Front and within Mediterranean area of operations, namely Greece and Sicily.



1./KG 1, Kharkov-Voichenko, Soviet Union, January 1943



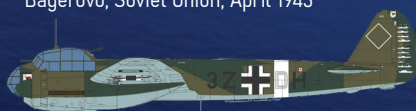
Hptm. Klaus Häberlen, CO of Stab I./KG 51, Bagerovo, Soviet Union, April 1943



4./KG 54, Catania, Sicily, spring 1943



W.Nr. 140206, Hptm. Heinrich Paepcke, CO of Stab II./KG 77, Gerbini, Italy, October 1942



W.Nr. 1016, Lt. Johannes Geismann, CO of 1./KG 77, Catania, Sicily, September 1942



Lt. Gerhard Brenner, CO of 1./LG 1, Eleusis, Greece, March 1942



Bf 108 1/32

3405

The kit of German WWII liaison aircraft Bf 108.



Ki-115 Tsurugi 1/48

11192

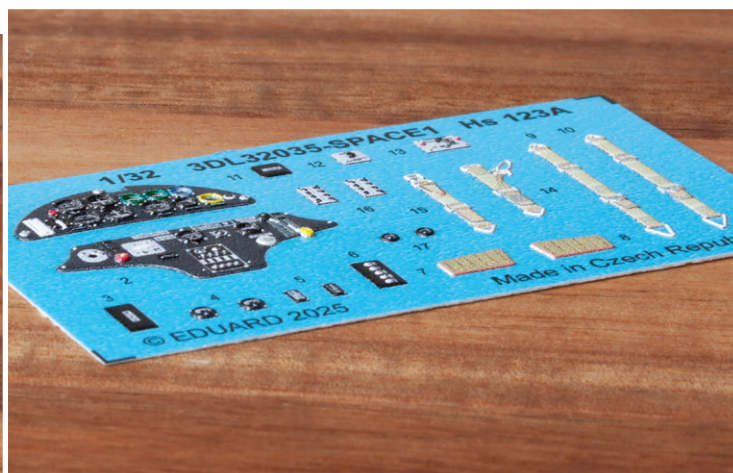
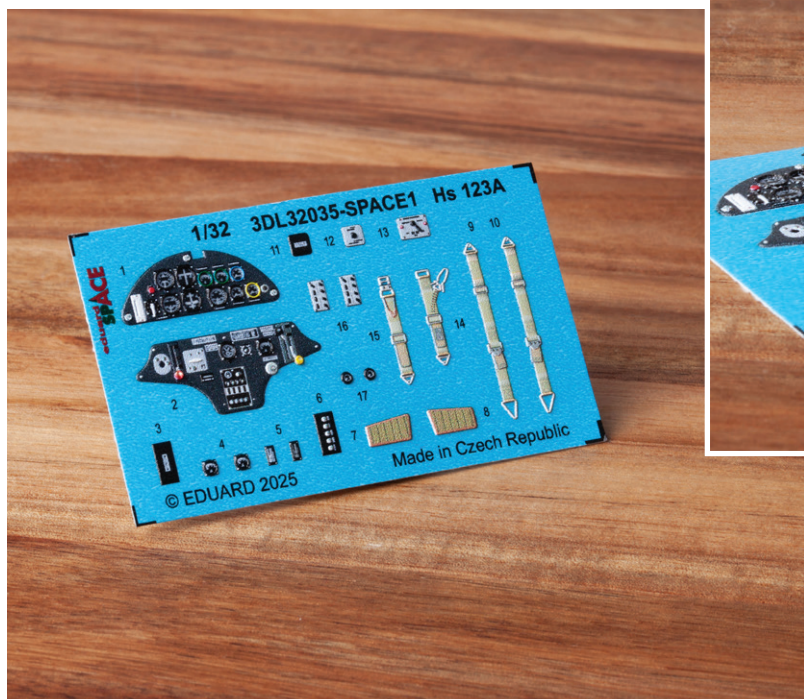
The kit of Japanese WWII suicide plane Ki-115 Tsurugi.

www.eduard.com

3DL32035 **Hs 123A SPACE** 1/32 ICM

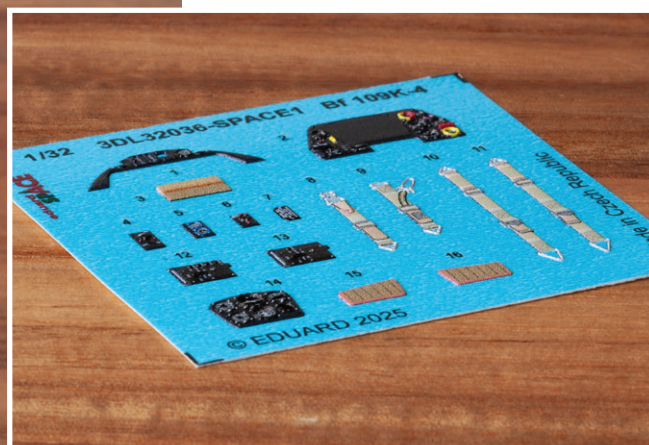
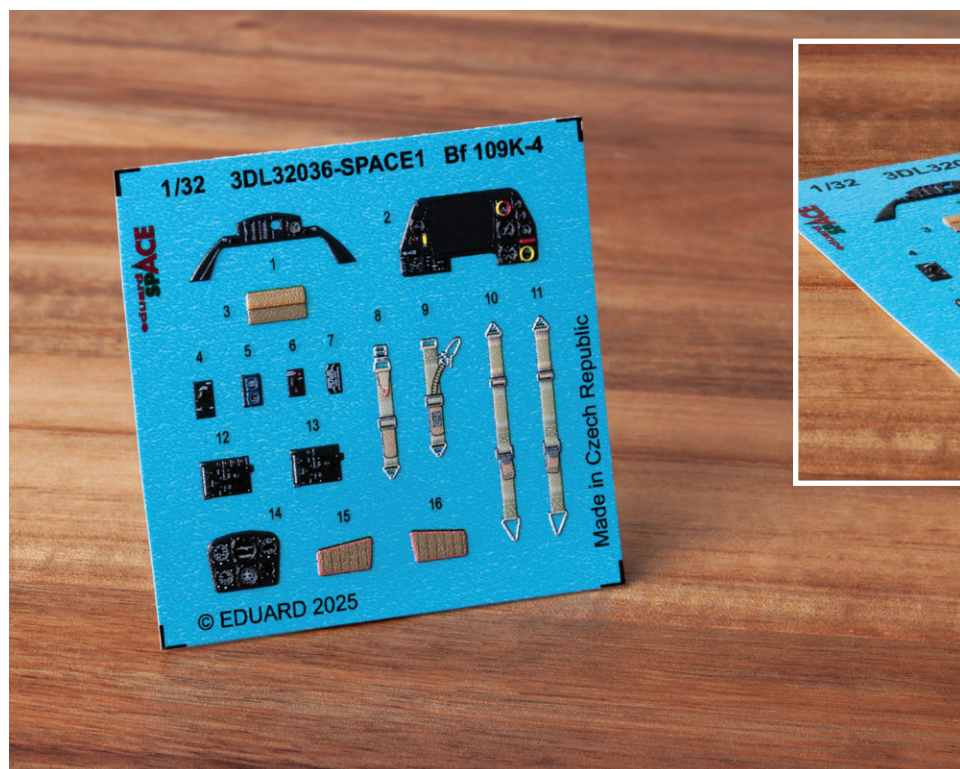
*EASY
APPLICATION*

Product page

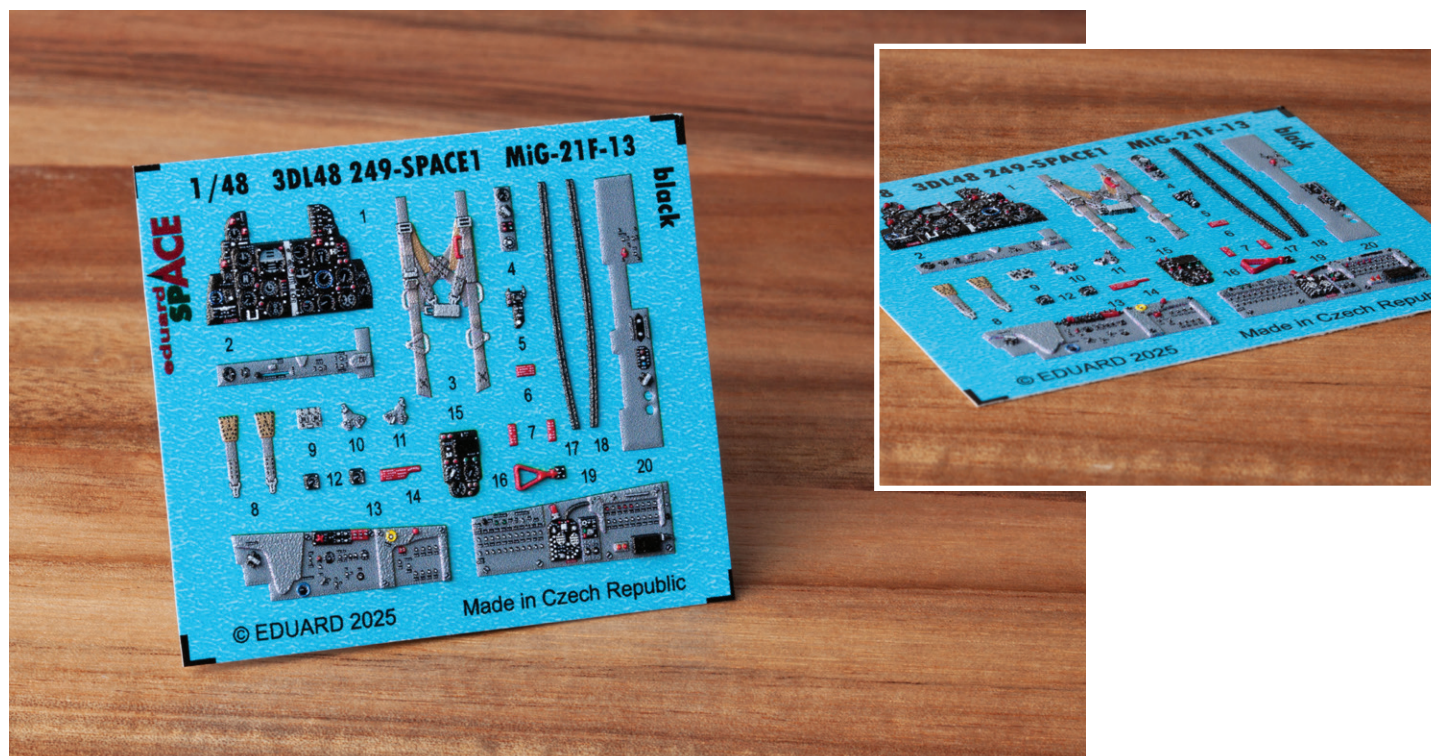


3DL32036 **Bf 109K-4 SPACE** 1/32 Kotare

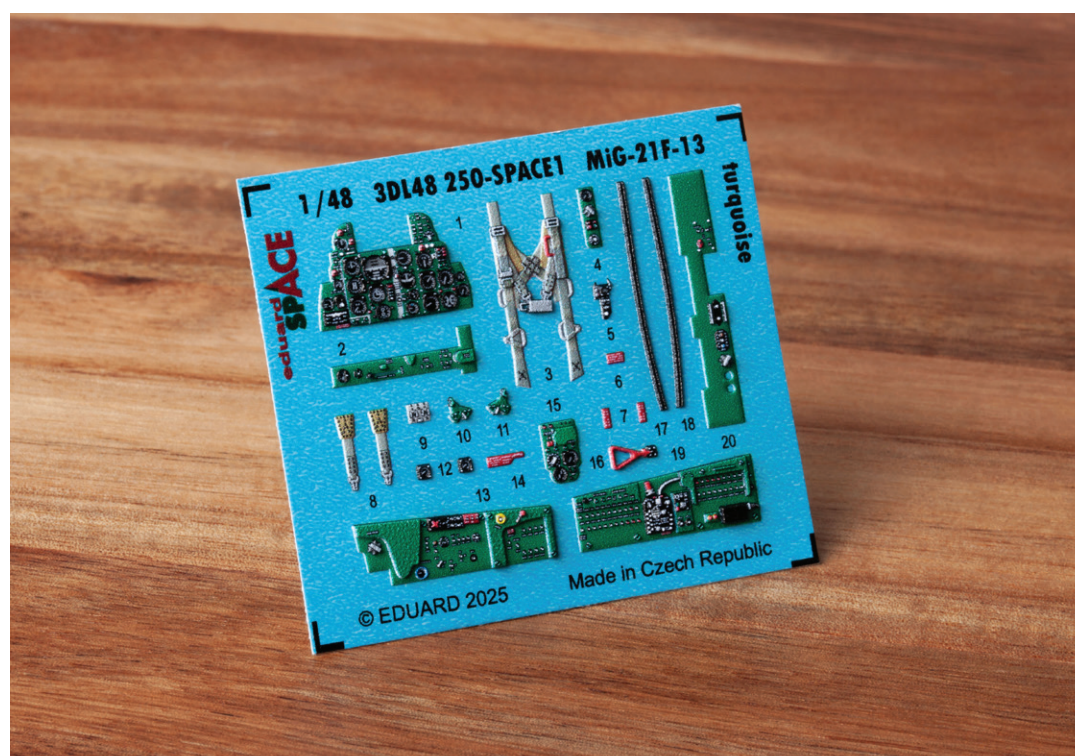
Product page



3DL48249 MiG-21F-13 black SPACE 1/48 Eduard

[Product page](#)

3DL48250 MiG-21F-13 turquoise SPACE 1/48 Eduard

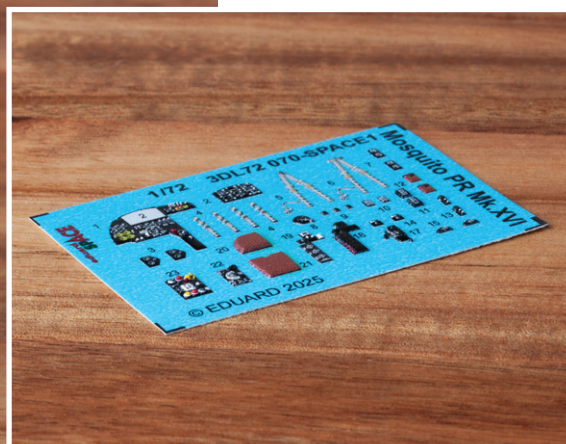
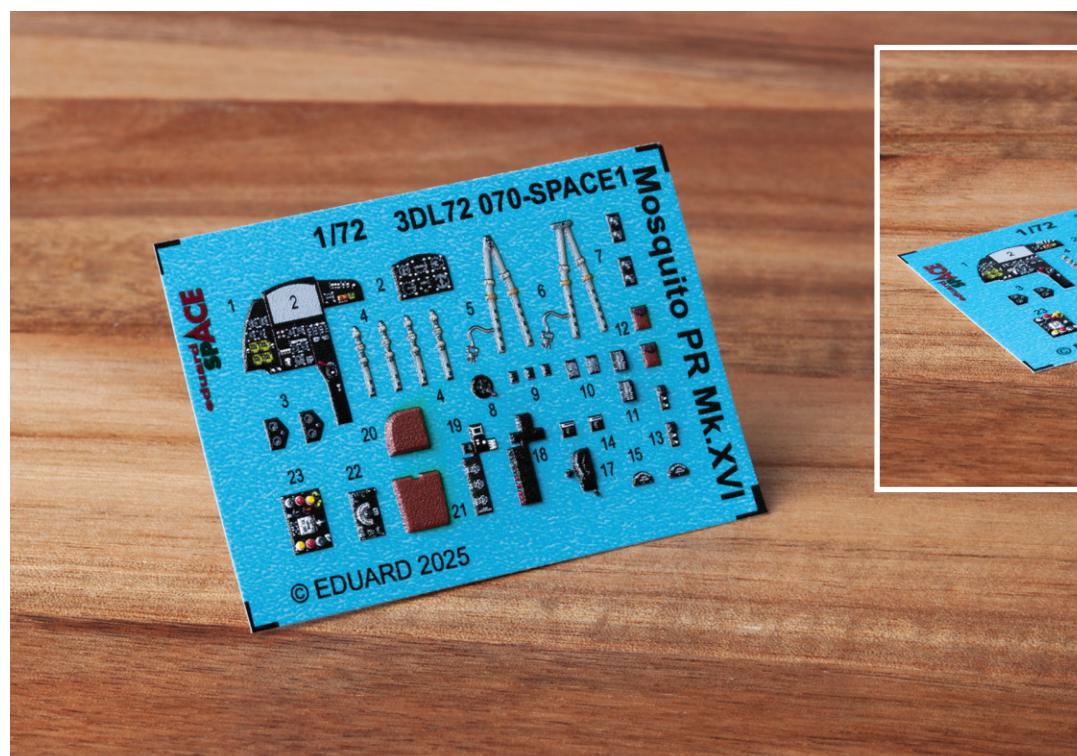
[Product page](#)

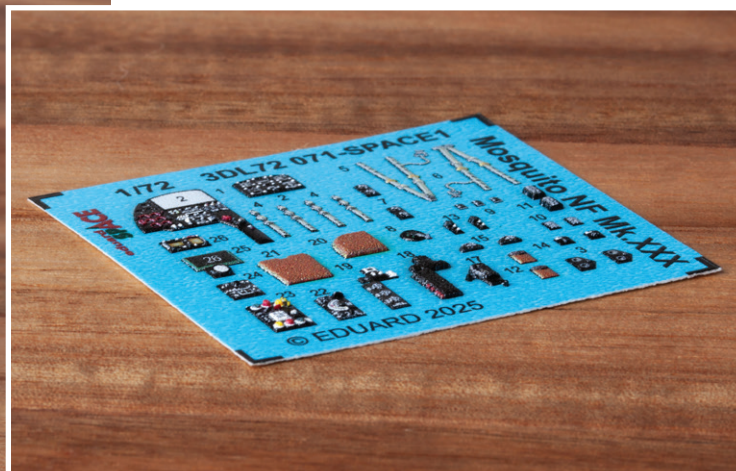
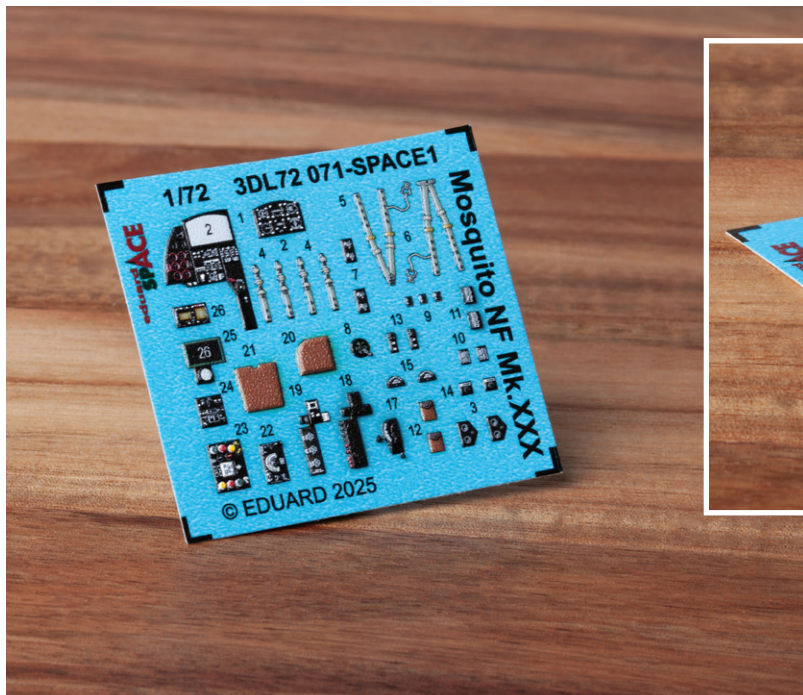
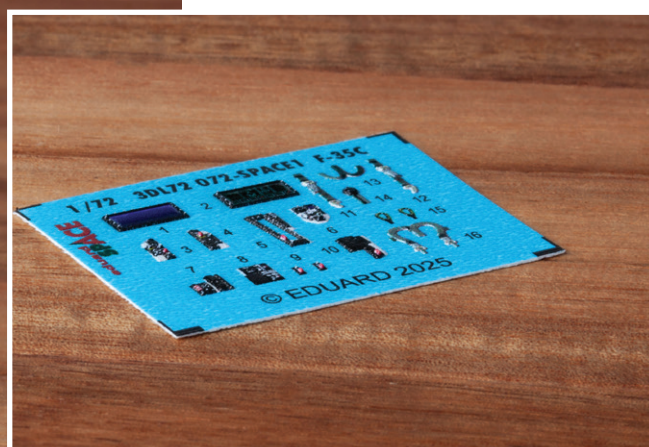
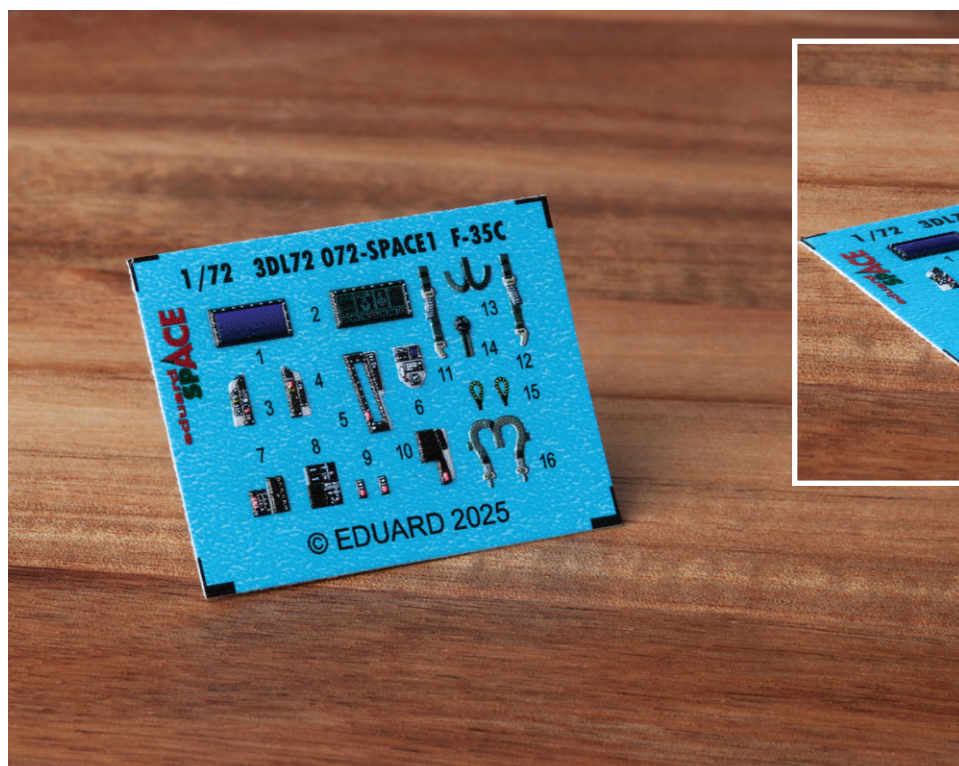
3DL48251 **MiG-21F-13 seatbelts SPACE** 1/48 Eduard[Product page](#)3DL48252 **F4F seatbelts SPACE** 1/48 Eduard[Product page](#)

3DL48253 P-51D seatbelts SPACE 1/48 Eduard

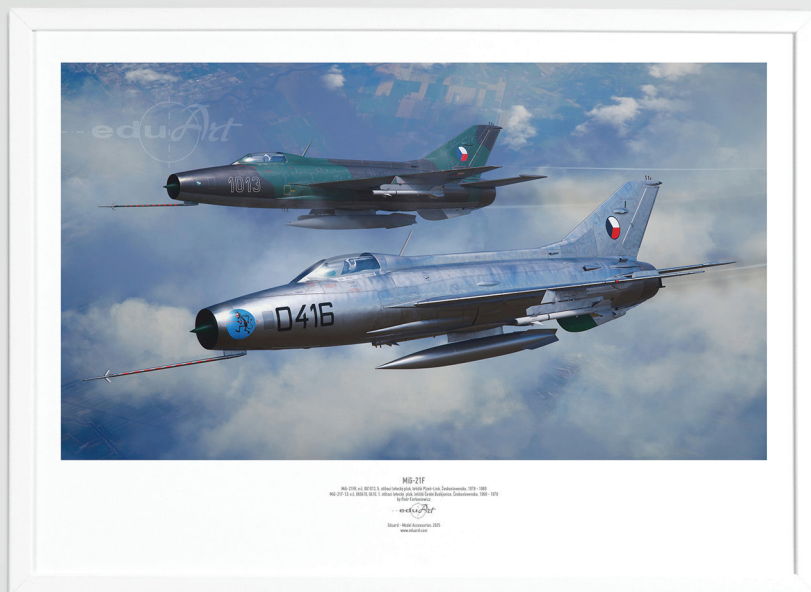
[Product page](#)


3DL72070 Mosquito PR Mk.XVI SPACE 1/72 Special Hobby

[Product page](#)


3DL72071 **Mosquito NF Mk.XXX SPACE** 1/72 Special Hobby[Product page](#)3DL72072 **F-35C SPACE** 1/72 Tamiya[Product page](#)

ARTWORK PRINTS



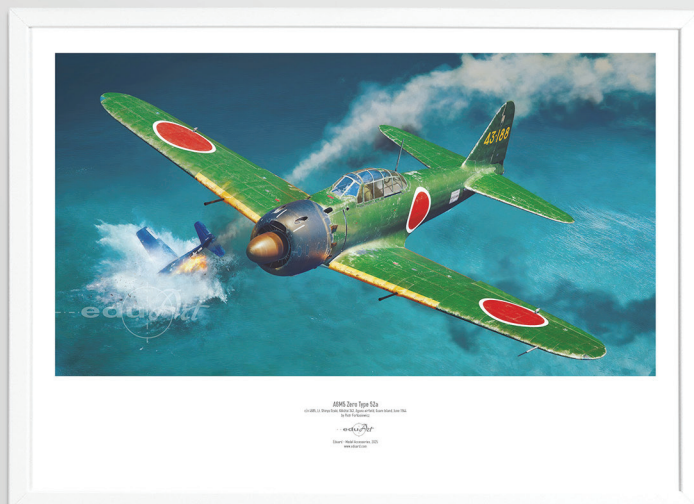
MiG-21F

3005-ART



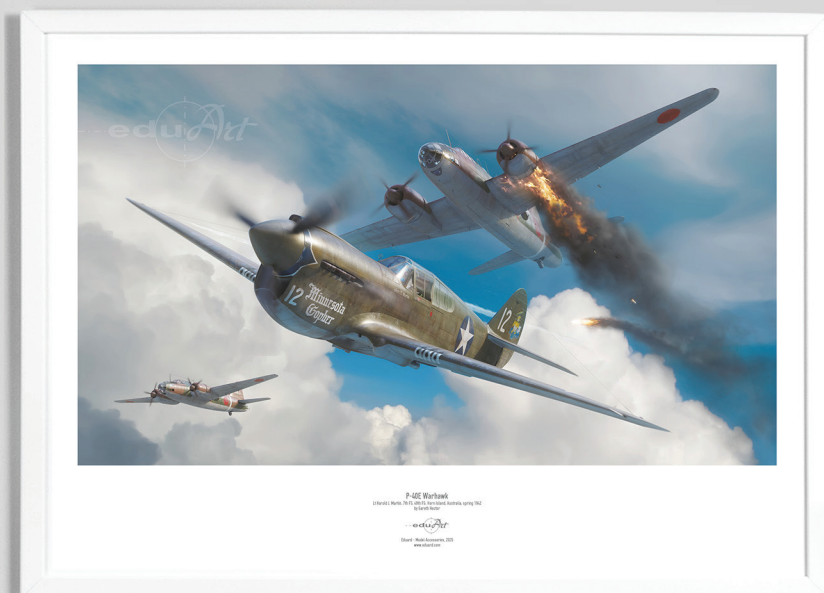
70146-ART

MiG-21bis



82216-ART

A6M5 Zero Type 52a



84207-ART

P-40E Warhawk

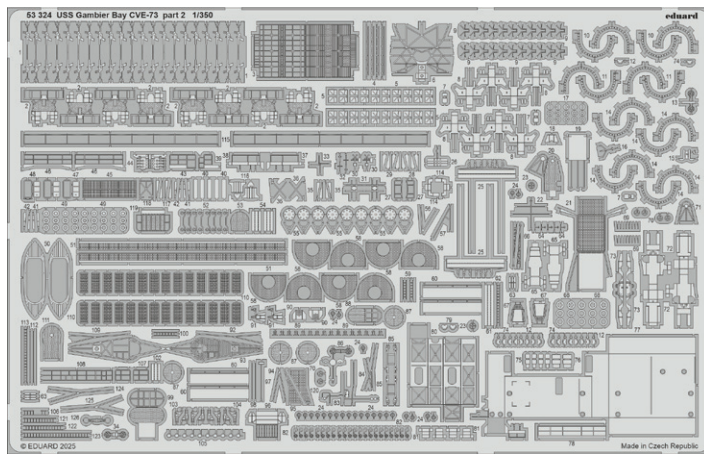
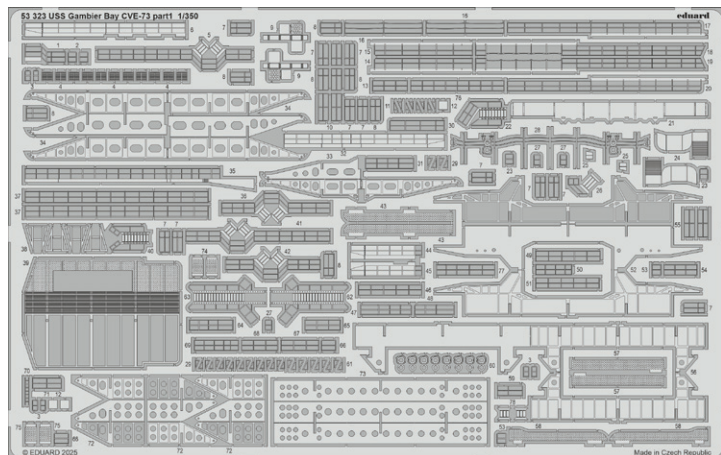
A2 (594 x 420 mm)
 Roll Up Vinyl, 160g/m²

www.eduard.com only

BIG5378 USS Gambier Bay CVE-73 1/350 Hasegawa

[Product page](#)

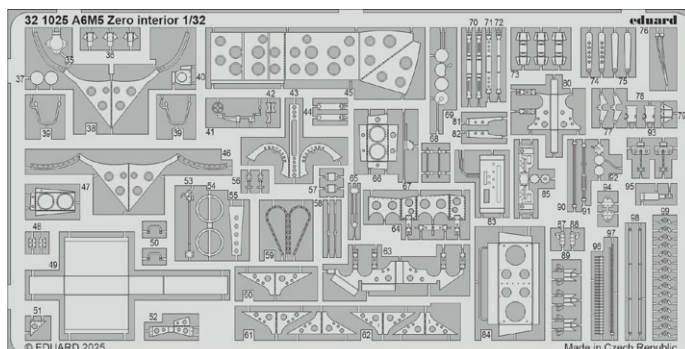
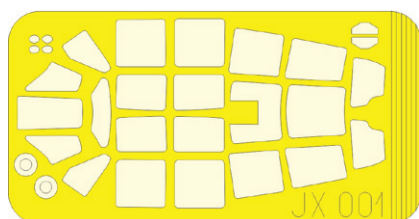
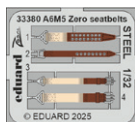
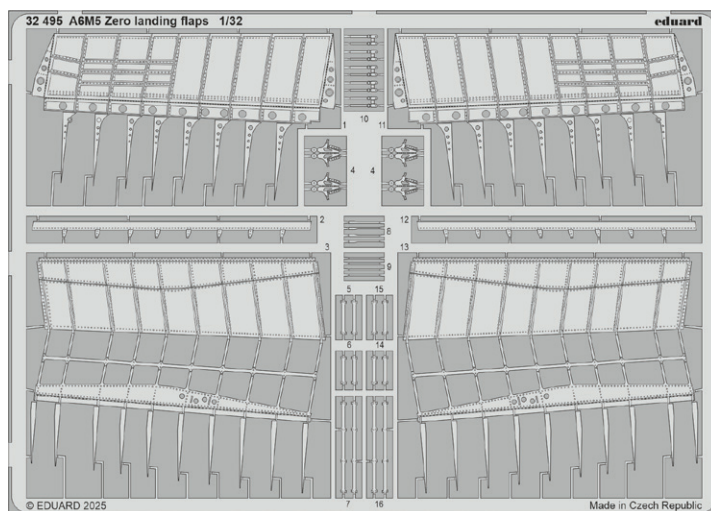
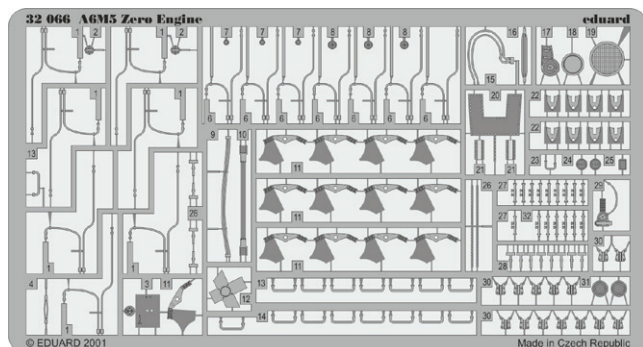
- 53323 USS Gambier Bay CVE-73 part 1 1/350
 53324 USS Gambier Bay CVE-73 part 2 1/350
 3DL53014 US Navy WW2 ensign flag for CVL, CVE, CL & DD SPACE 1/350



BIG33168 A6M5 Zero 1/32 Tamiya

[Product page](#)

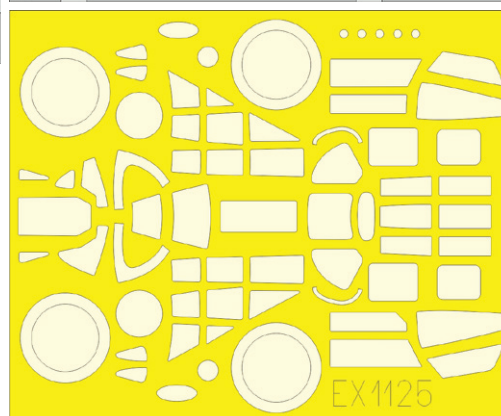
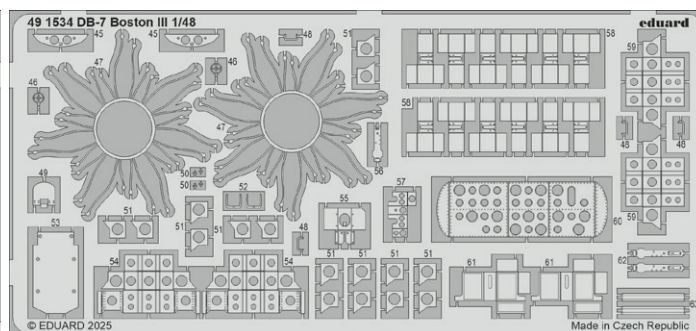
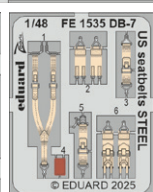
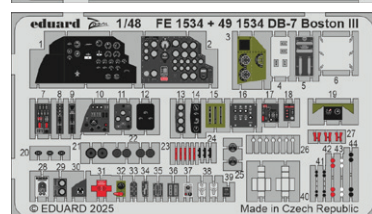
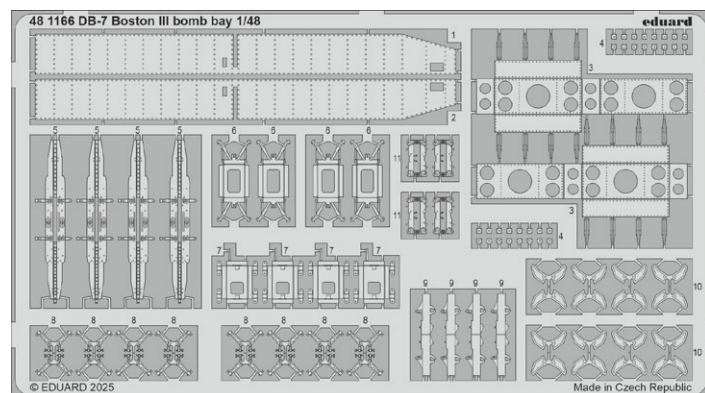
- 32066 A6M5 Zero engine
 321025 A6M5 Zero interior 1/32
 32495 A6M5 Zero landing flaps 1/32
 33380 A6M5 Zero seatbelts STEEL 1/32
 JX001 A6M5 Zero 1/32



BIG49459 DB-7 Boston III US version 1/48 HKM

[Product page](#)

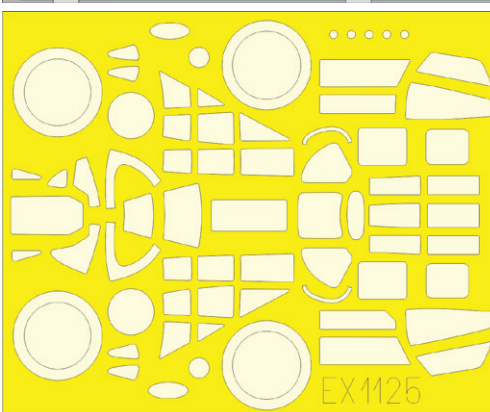
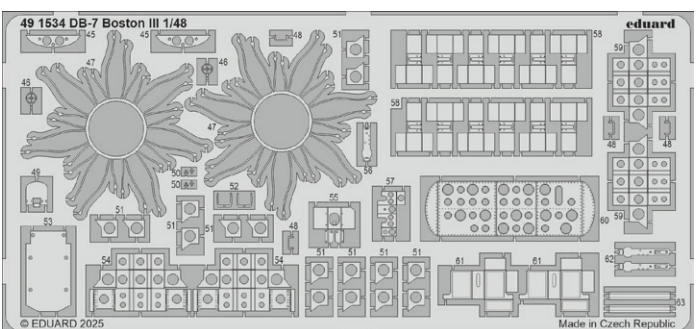
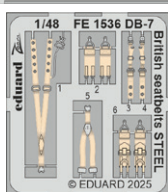
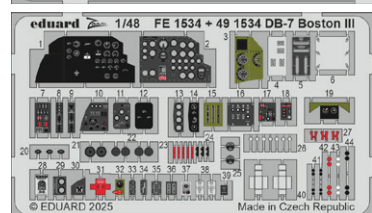
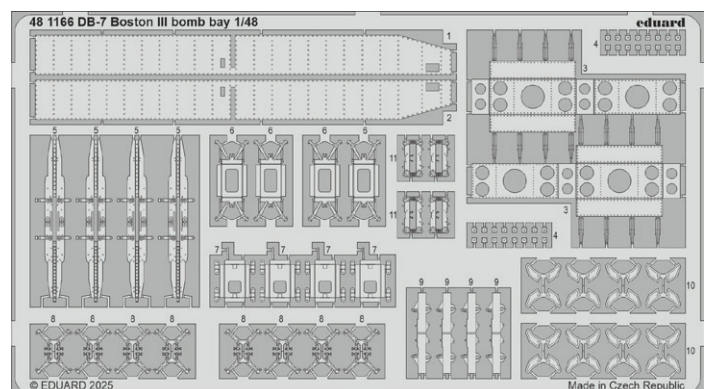
- 481166 DB-7 Boston III bomb bay 1/48
- 491534 DB-7 Boston III 1/48
- FE1535 DB-7 Boston III US seatbelts STEEL 1/48
- EX1125 DB-7 Boston III 1/48



BIG49460 DB-7 Boston III British version 1/48 HKM

[Product page](#)

- 481166 DB-7 Boston III bomb bay 1/48
- 491534 DB-7 Boston III 1/48
- FE1536 DB-7 Boston III British seatbelts STEEL 1/48
- EX1125 DB-7 Boston III 1/48



JX338 Hs 123A

1/32 ICM

JX339 Bf 109K-4

1/32 Kotare

JX340 Bf 109K-4 TFace

1/32 Kotare

EX1142 MiG-21F-13 TFace

1/48 Eduard

EX1143 P-47D Razorback

1/48 MiniArt

EX1144 P-47D Razorback TFace

1/48 MiniArt

CX697 F-35C

1/72 Tamiya

CX698 F-35C RAM coating

1/72 Tamiya

CX699 Bf 109F Weekend

1/72 Eduard



JX338 Hs 123A



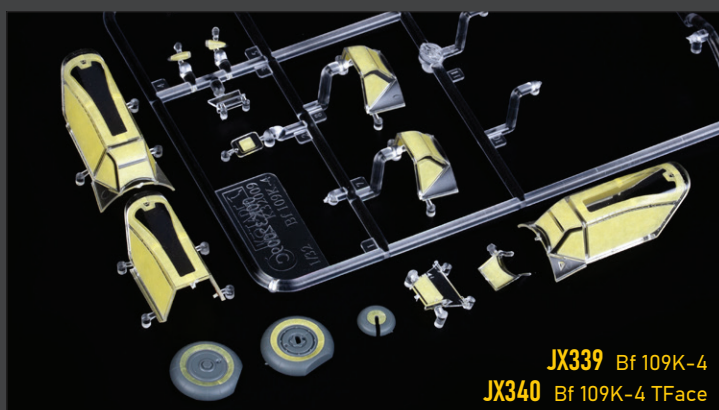
JX338 Hs 123A



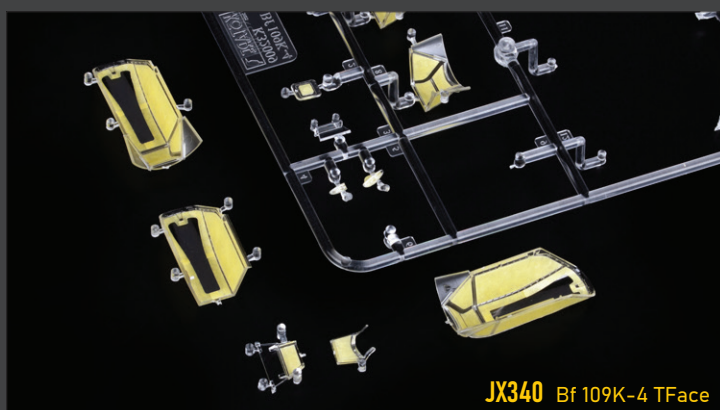
JX338 Hs 123A



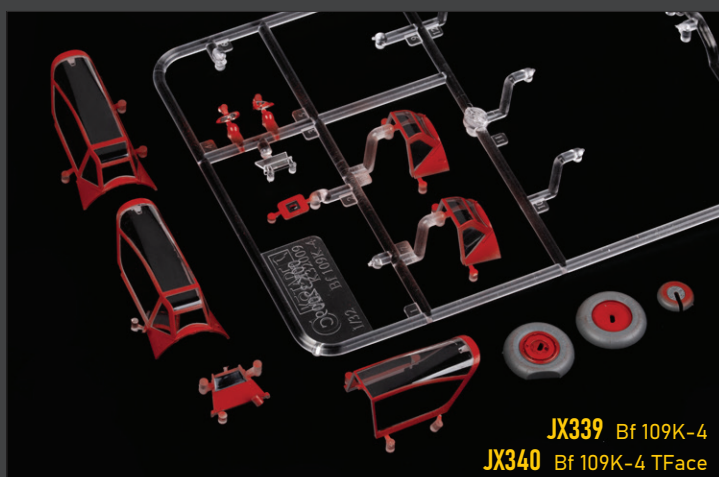
JX338 Hs 123A



JX339 Bf 109K-4
JX340 Bf 109K-4 TFace



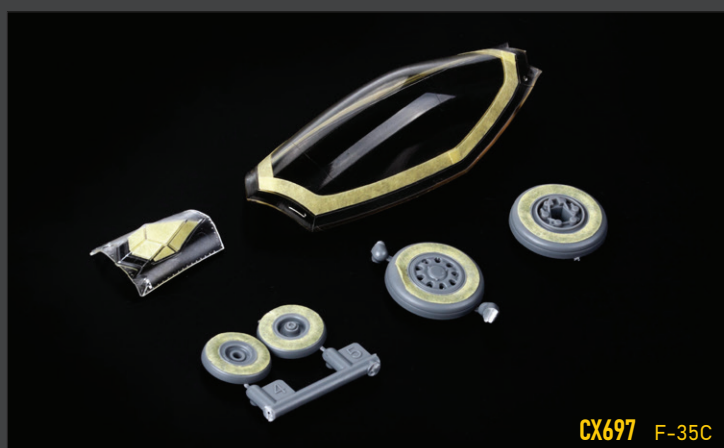
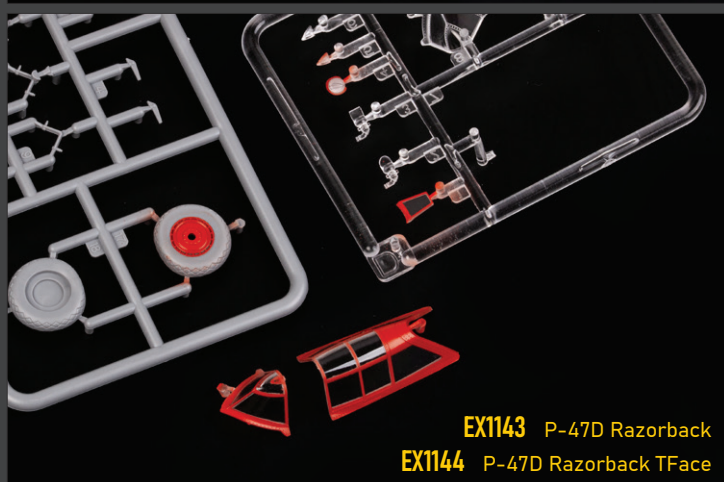
JX340 Bf 109K-4 TFace



JX339 Bf 109K-4
JX340 Bf 109K-4 TFace



JX340 Bf 109K-4 TFace



KITS

11190	EFA	1/48	Limited
82216	A6M5 Zero Type 52a	1/48	ProfiPACK
70146	MiG-21bis	1/72	ProfiPACK
84207	P-40E Warhawk	1/48	Weekend
82114	Bf 109F-4	1/48	ProfiPACK

PE-SETS

321026	Hs 123A	1/32	ICM
321027	Bf 109K-4	1/32	Kotare
481175	MiG-21F-13 upgrade set	1/48	Eduard
73855	F-35C	1/72	Tamiya
73856	Mosquito PR Mk.XVI	1/72	Special Hobby
73857	Mosquito NF Mk.XXX	1/72	Special Hobby

ZOOMS

33382	Hs 123A seatbelts STEEL	1/32	ICM
33383	Bf 109K-4	1/32	Kotare
33384	Bf 109K-4 seatbelts STEEL	1/32	Kotare
FE1556	MiG-21F-13 seatbelts STEEL	1/48	Eduard
FE1557	P-40E Weekend	1/48	Eduard
SS855	F-35C	1/72	Tamiya
SS856	Mosquito PR Mk.XVI	1/72	Special Hobby
SS857	Mosquito NF Mk.XXX	1/72	Special Hobby

MASKS

JX338	Hs 123A	1/32	ICM
JX339	Bf 109K-4	1/32	Kotare
JX340	Bf 109K-4 TFace	1/32	Kotare
EX1142	MiG-21F-13 TFace	1/48	Eduard
EX1143	P-47D Razorback	1/48	MiniArt
EX1144	P-47D Razorback TFace	1/48	MiniArt
CX697	F-35C	1/72	Tamiya
CX698	F-35C RAM coating	1/72	Tamiya
CX699	Bf 109F Weekend	1/72	Eduard

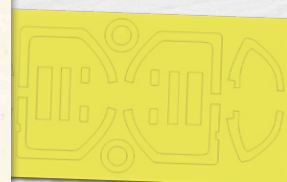
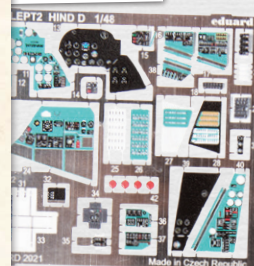
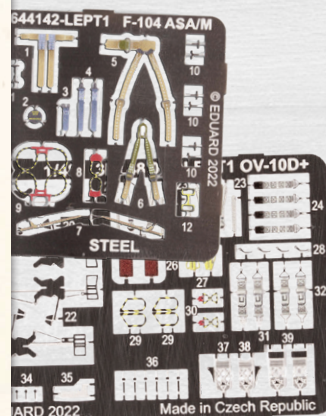
BIG ED

BIG5378	USS Gambier Bay CVE-73	1/350	Hasegawa
BIG33168	A6M5 Zero	1/32	Tamiya
BIG49459	DB-7 Boston III US version	1/48	HKM
BIG49460	DB-7 Boston III British version	1/48	HKM

LIMITED EDITION

ProfiPACK edition

WEEKEND edition



BIG-ED

BRASSIN

644323	Jaguar GR.1 / GR.1A LööK	1/48	Airfix
644326	Ju 88A-4 LööK	1/48	Eduard/ICM
674044	P-51B/C LööK	1/72	Arma Hobby
6481107	AGM-130	1/48	
6481139	Jaguar GR.1 seat PRINT	1/48	Airfix
6481140	Jaguar GR.1A seat PRINT	1/48	Airfix
6481142	P-40N undercarriage legs PRINT	1/48	Eduard
6481143	P-40N tail wheel bay PRINT	1/48	Eduard
6481144	P-40N radiators upgrade set PRINT	1/48	Eduard
6481145	Jaguar GR.1 cockpit PRINT	1/48	Airfix
6481146	Jaguar GR.1A cockpit PRINT	1/48	Airfix
6481147	Ju 88A exhaust stacks PRINT	1/48	Eduard/ICM
6481148	Ju 88A-4 radio section	1/48	Eduard/ICM

LööKPLUS

644324	P-40N-25+ LööKplus	1/48	Eduard
644325	Fi 156C LööKplus	1/48	Tamiya
674048	A-10C LööKplus	1/72	Great Wall Hobby

BIGSIN

SIN648142	A6M3 Zero ESSENTIAL	1/48	Eduard
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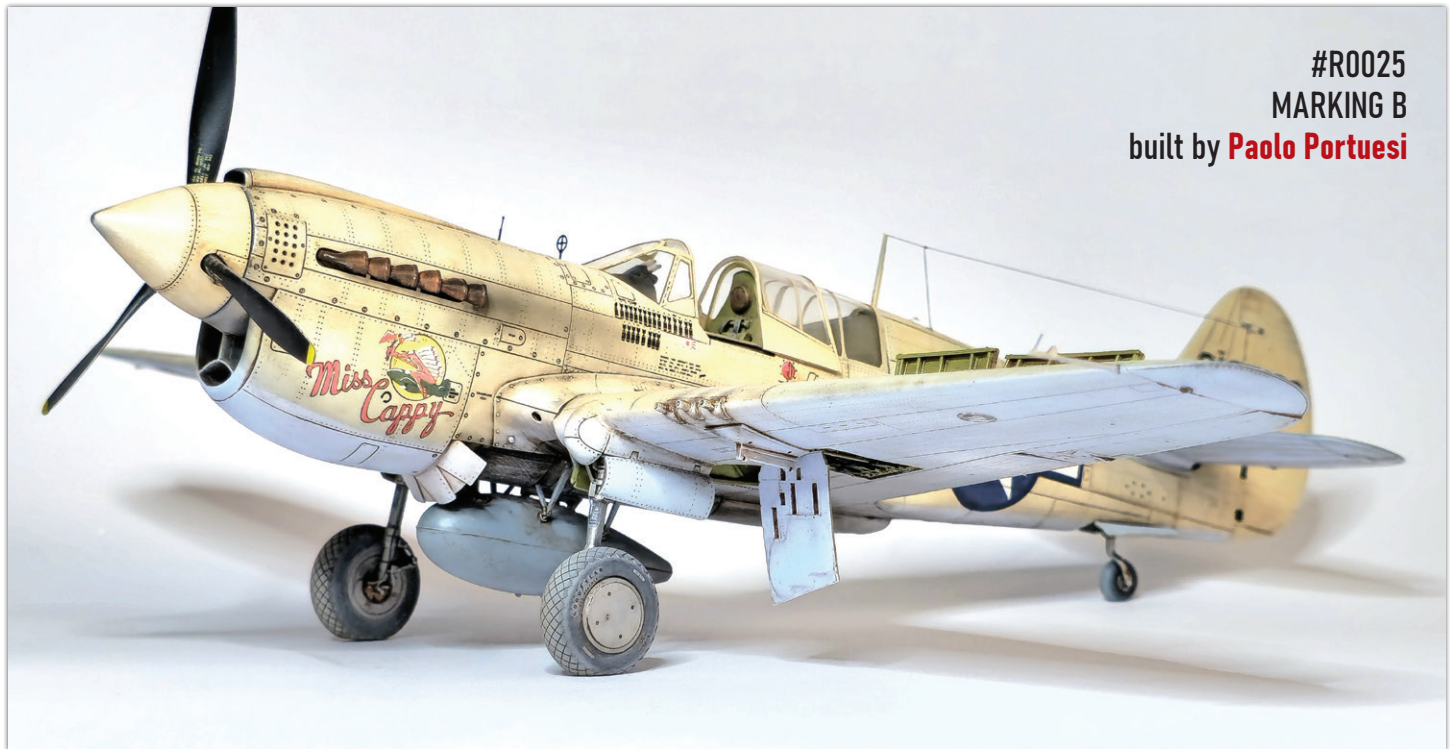
SPACE

3DL32035	Hs 123A SPACE	1/32	ICM
3DL32036	Bf 109K-4 SPACE	1/32	Kotare
3DL48249	MiG-21F-13 black SPACE	1/48	Eduard
3DL48250	MiG-21F-13 turquoise SPACE	1/48	Eduard
3DL48251	MiG-21F-13 seatbelts SPACE	1/48	Eduard
3DL48252	F4F seatbelts SPACE	1/48	Eduard
3DL48253	P-51D seatbelts SPACE	1/48	Eduard
3DL72070	Mosquito PR Mk.XVI SPACE	1/72	Special Hobby
3DL72071	Mosquito NF Mk.XXX SPACE	1/72	Special Hobby
3DL72072	F-35C SPACE	1/72	Tamiya

eduard
BRASSINeduard
BRASSIN
*Print**LööK**LööK+*eduard
SPACE

P-40N WARHAWK

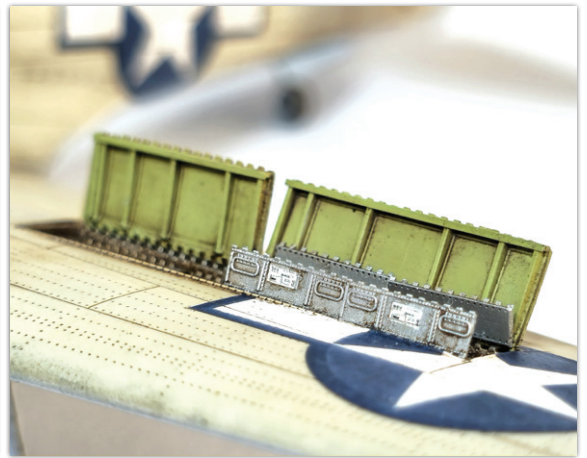
1/48



#R0025

MARKING B

built by **Paolo Portuesi**

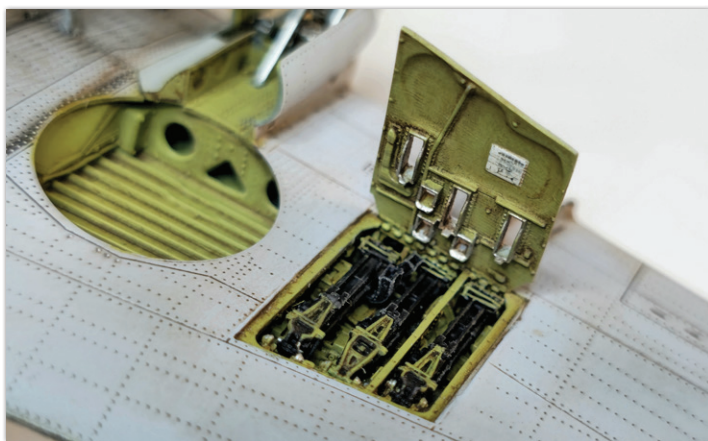
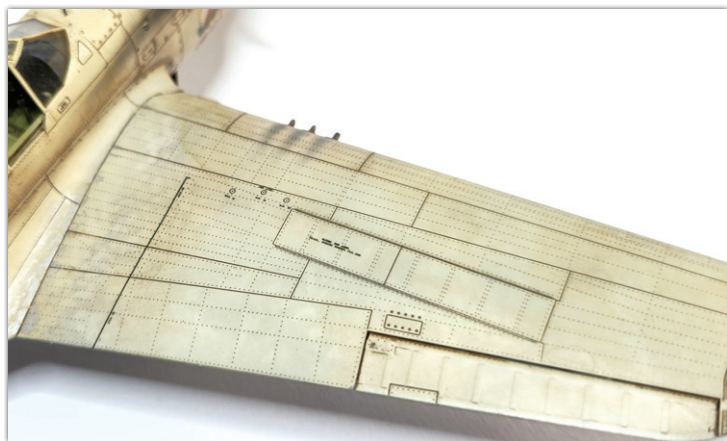


1/Lt. Arthur A Bridge, 45th FS, 15th FG, Makin Atoll, Gilbert Islands, December 1943

The traditional home of the 15th FG was the Hawaiian Islands, where it was activated on December 1, 1940, and served as part of the Hawaiian Islands defense system. During the war, however, it sent its individual squadrons to various locations in the central and southern Pacific. The Warhawks of the 45th FS took off for combat missions from Makin Atoll, which the unit reached via a detour. The squadron was first sent to Baker Island, where it operated until October 1943, then moved to Abemama Island. At the repeated request of the commander, first a detachment and then

the entire unit was transferred to Makin Atoll, where the 46th and 72nd FS Airacobras had been operating for several weeks already. Because the standard paint scheme was not effective on the coral atolls, technical personnel on Canton Atoll mixed a sand color that was suitable for the local conditions. In black-and-white photos, the paint sometimes appears as if the undersides were also painted sand color, but upon closer inspection, the color border is visible on the aircraft, and the undersides were most likely repainted with a light blue color mixed by ground personnel

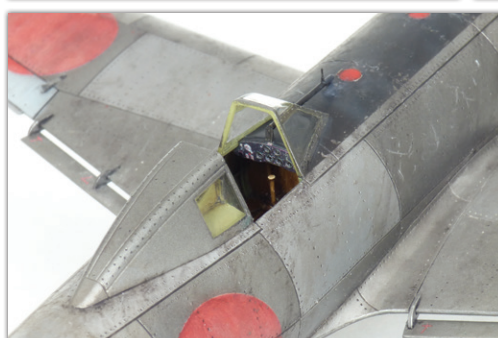
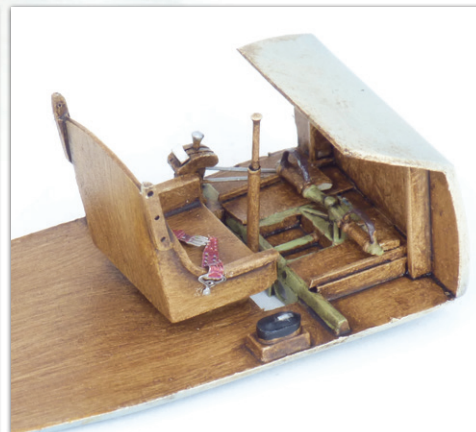
from insignia blue and white. The stencils on the upper surfaces were masked during repainting and therefore have an Olive Drab background. The Warhawk named Miss Cappy was assigned to Art Bridge, but it was used by several pilots for combat flights, and the number of bombs painted under the fuselage represents all the missions in which Miss Cappy participated. Lt. Art Bridge flew 20 combat missions during his deployment to Makin Atoll, the most of any pilot. In the spring of 1945, he participated in several VLR missions from Iwo Jima in the cockpit of a Mustang.



Ki-115 Tsurugi

1/48

#11192
MARKING A
built by **Josef Choren**



The first phase of camouflage application

The Americans discovered a number of completed Ki-115s in a hangar of the Ota factory. The individual aircraft showed the process of

camouflage painting. Firstly, the Japanese national insignia and a black anti-glare strip were sprayed onto the finished aircraft in

natural metal color. Light gray paint was then applied to the wooden vertical tail surfaces, elevator, and canvas-covered ailerons.



[Product page](#)



Bf 109G-6 Swiss Air Force

1/48



#BFC044
MARKING A
built by **Robert Szwarc**



J-705, W. Nr. 163248, flown by Oblt. Hofer, Fl St 7, Sion, Switzerland, November 1945

Oblt. Hofer crash landed in J-705 on November 22nd, 1945. The cause was attributed to a fault in the fuel system and Hofer put the plane down with the landing gear retracted. The aircraft was evidently repaired, since it was not removed from the inventory of the Schweizer Luftwaffe until September 8th, 1947.

Messerschmitt Bf 109G-6s were delivered to Switzerland on May 20th and 23rd, 1944. They carried the German camouflage scheme, and in Switzerland they received their national markings and were immediately assigned to their intended units. The Swiss national markings, consisting of white crosses on

red backgrounds, were supplemented in September 1944 by red and white bands on the wings and fuselage, a white nose and horizontal tail surface tips. The rudder of J-705 was a replacement unit and that explains why it carried no Swiss national marking.



BIG ED (November)

BIG49461	Do 217K 1/48 ICM
BIG49462	Buffalo US version 1/48 Tamiya
BIG49463	Buffalo British version 1/48 Tamiya

BRASSIN (November)

644327	Ki-115 Tsurugi LööK 1/48 Eduard
644329	MiG-21F grey LööK 1/48 Eduard
674045	P-36A LööK 1/72 Arma Hobby
674049	Fw 190D LööK 1/72 IBG
674052	Spitfire Mk.I LööK 1/72 IBG
674053	Spitfire Mk.II LööK 1/72 IBG
632206	Bf 109K-4 wheels 1/32 Kotare
632207	Bf 109K-4 exhaust stacks PRINT 1/32 Kotare
648116	Ki-115 wheels 1/48 Eduard
6481149	MiG-21F exhaust nozzle PRINT 1/48 Eduard
6481151	MiG-21F wheels 1/48 Eduard
6481152	S-199 4xETC 50 rack w/ bombs PRINT 1/48 Eduard
6481154	MiG-21F PTB-490 fuel tank PRINT 1/48 Eduard
672423	Spitfire Mk.I/II/V three-stacks exhaust rounded PRINT 1/72 IBG
672424	Spitfire Mk.I/II/V wheels 1/72 IBG
672425	AGM-130 1/72
672426	Spitfire Mk.I/II/V bakelite seat w/ integral belts PRINT 1/72 IBG
672427	Spitfire Mk.I/II/V metal seat w/ integral belts PRINT 1/72 IBG

LööKPlus (November)

644328	Ju 88A-4 LööKplus 1/48 Eduard / ICM
674050	P-51B/C LööKplus 1/72 Arma Hobby
674051	P-51B/C exhausts w/ fairings LööKplus 1/72 Arma Hobby

BIGSIN (November)

SIN648143	A6M3 Zero Type 32 ADVANCED 1/48 Eduard
SIN648144	A6M3 Zero Type 22 ADVANCED 1/48 Eduard

644327

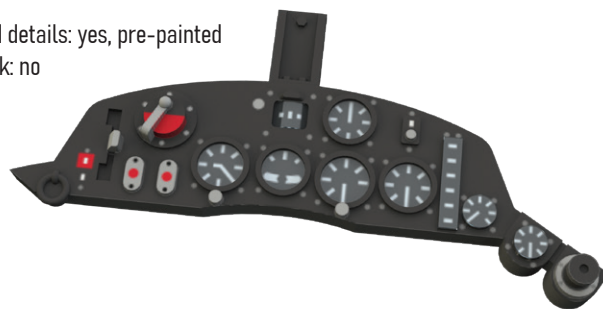
Ki-115 Tsurugi LööK*LööK*

1/48 Eduard

LööK set - Brassin pre-painted dashboard and STEEL seat belts for Ki-115 in 1/48 scale. Easy to assemble, replaces plastic parts. Recommended kit: Eduard

Set contains:

- resin: 1 part
- decals: no
- photo-etched details: yes, pre-painted
- painting mask: no



644329

MiG-21F LööK*LööK*

1/48 Eduard

LööK set - Brassin pre-painted dashboard and STEEL seat belts for MiG-21F in 1/48 scale. Easy to assemble, replaces plastic parts. Recommended kit: Eduard

Set contains:

- resin: 2 parts
- 3D print: 1 part
- decals: no
- photo-etched details: yes, pre-painted
- painting mask: no



674045

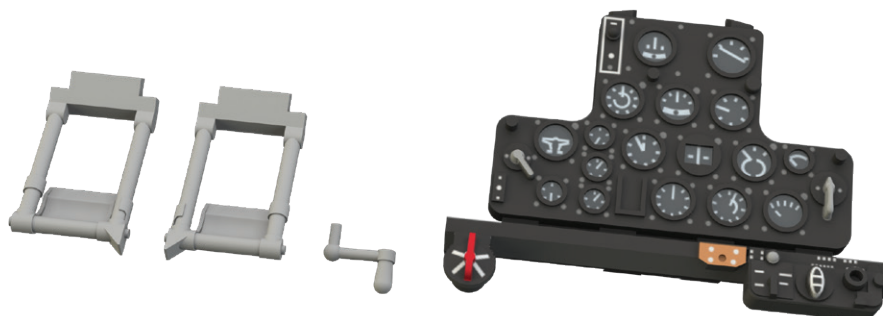
P-36A LööK

1/72 Arma Hobby

LööK set - Brassin pre-painted dashboard and STEEL seat belts for P-36A in 1/72 scale. Easy to assemble, replaces plastic parts. Recommended kit: Arma Hobby

Set contains:

- resin: 1 part
- 3D print: 3 parts
- decals: no
- photo-etched details: yes, pre-painted
- painting mask: no

*LööK*

674049

Fw 190D LööK

1/72 IBG

LööK set - Brassin pre-painted dashboard and STEEL seat belts for Fw 190D in 1/72 scale.
Easy to assemble, replaces plastic parts.
Recommended kit: IBG models

Set contains:

- resin: 1 part
- decals: no
- photo-etched details: yes, pre-painted
- painting mask: no



LööK

674052

Spitfire Mk.I LööK

1/72 IBG

LööK set - Brassin pre-painted dashboard and STEEL seat belts for Spitfire Mk.I in 1/72 scale.
Easy to assemble, replaces plastic parts.
Recommended kit: IBG models

Set contains:

- resin: 1 part
- 3D print: 1 part
- decals: no
- photo-etched details: yes, pre-painted
- painting mask: no



LööK

674053

Spitfire Mk.II LööK

1/72 IBG

LööK set - Brassin pre-painted dashboard and STEEL seat belts for Spitfire Mk.II in 1/72 scale.
Easy to assemble, replaces plastic parts.
Recommended kit: IBG models

Set contains:

- resin: 1 part
- 3D print: 1 part
- decals: no
- photo-etched details: yes, pre-painted
- painting mask: no



LööK

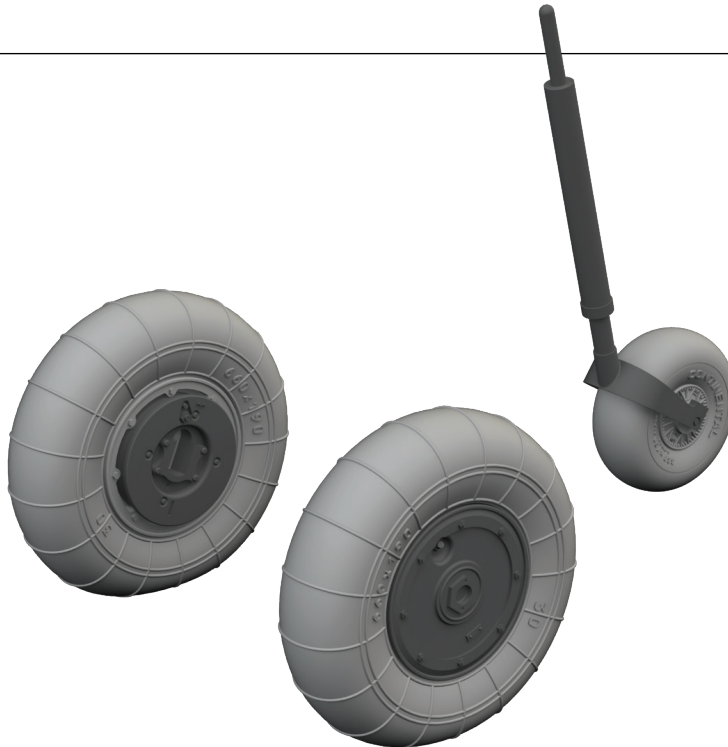
632206

Bf 109K-4 wheels**1/32 Kotare**

Brassin set - undercarriage wheels for Bf 109K-4 in 1/32 scale. Easy to assemble, replaces plastic parts. Recommended kit: Kotare

Set contains:

- resin: 3 parts
- 3D print: 5 parts
- decals: no
- photo-etched details: no
- painting mask: yes



632207

Bf 109K-4 exhaust stacks PRINT**1/32 Kotare**

Brassin set - exhaust stacks for Bf 109K-4 in 1/32 scale. Made by direct 3D printing. Made by direct 3D printing Easy to assemble, replaces plastic parts. Recommended kit: Kotare

Set contains:

- 3D print: 6 parts
- decals: no
- photo-etched details: no
- painting mask: no



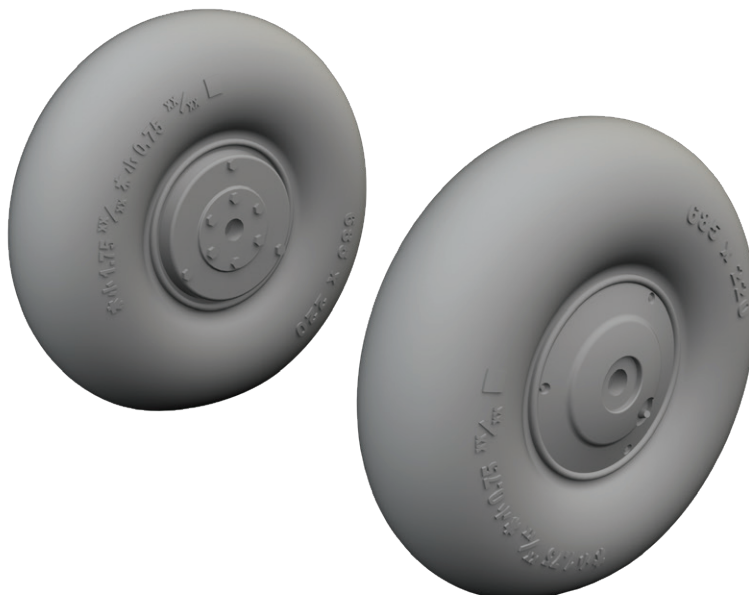
6481116

Ki-115 wheels**1/48 Eduard**

Brassin set - the undercarriage wheels for Ki-115 in 1/48 scale. The set consists of the main wheels. Easy to assemble, replaces plastic parts. Recommended kit: Eduard

Set contains:

- resin: 2 parts
- decals: no
- photo-etched details: no
- painting mask: yes



6481149

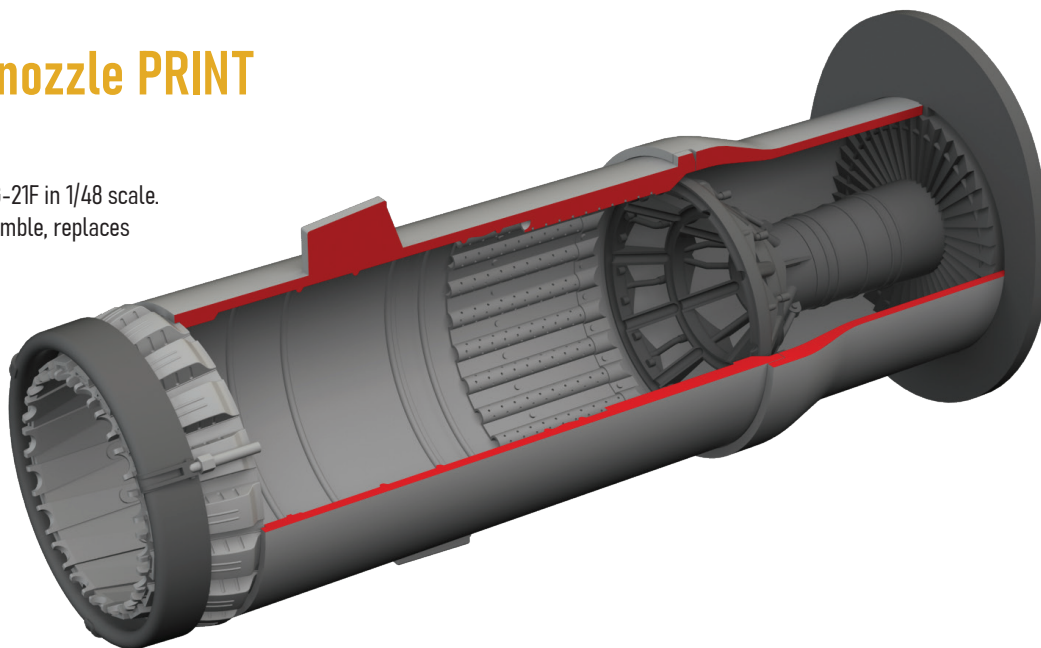
MiG-21F exhaust nozzle PRINT**1/48 Eduard**

Brass set - the exhaust nozzle for MiG-21F in 1/48 scale.

Made by direct 3D printing. Easy to assemble, replaces plastic parts. Recommended kit: Eduard

Set contains:

- 3D print: 6 parts
- decals: no
- photo-etched details: no
- painting mask: no



6481151

MiG-21F wheels**1/48 Eduard**

Brass set - the undercarriage wheels for MiG-21F

in 1/48 scale. The set consists of the main wheels and a nose wheel. Easy to assemble, replaces plastic parts. Recommended kit: Eduard

Set contains:

- resin: 3 parts
- decals: no
- photo-etched details: no
- painting mask: yes



6481152

S-199 4xETC 50 rack w/ bombs PRINT**1/48 Eduard**

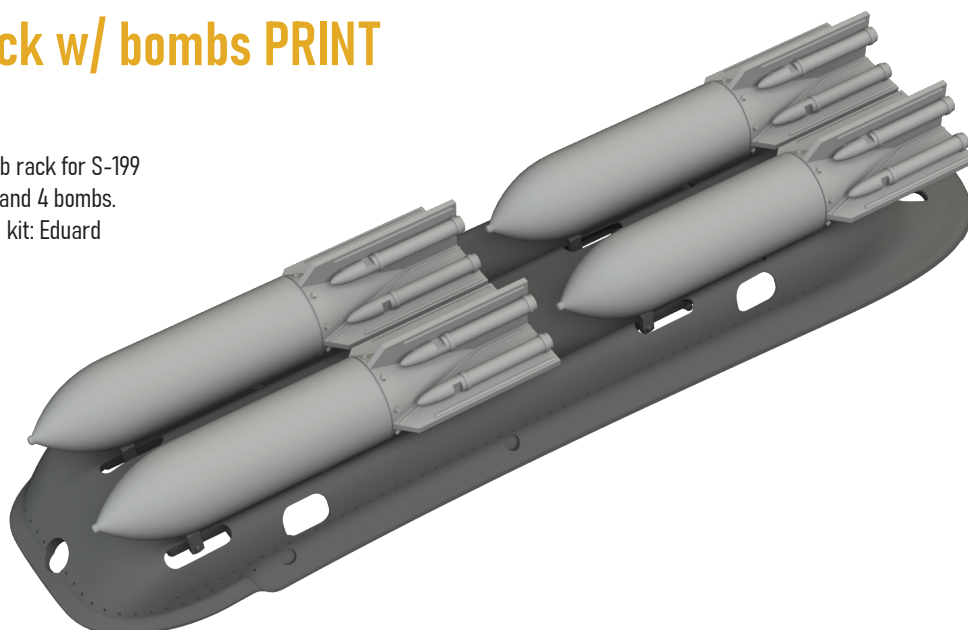
Brass set - the underbelly multiple bomb rack for S-199

in 1/48 scale. The set consists of the rack and 4 bombs.

Made by direct 3D printing. Recommended kit: Eduard

Set contains:

- 3D print: 5 parts
- decals: no
- photo-etched details: no
- painting mask: no



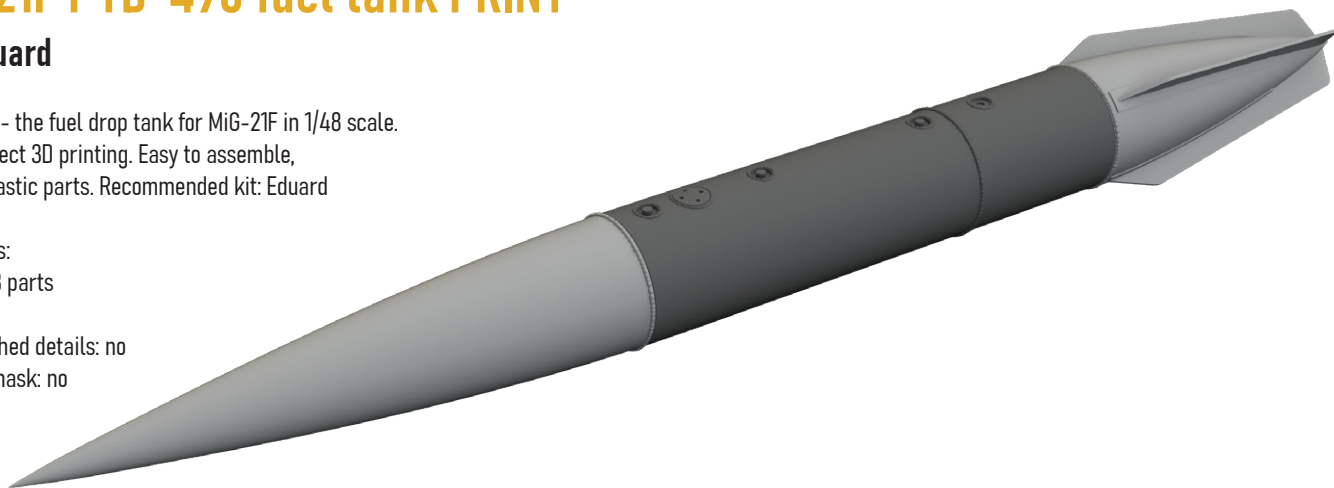
6481154

MiG-21F PTB-490 fuel tank PRINT**1/48 Eduard**

Brassin set - the fuel drop tank for MiG-21F in 1/48 scale.
Made by direct 3D printing. Easy to assemble,
replaces plastic parts. Recommended kit: Eduard

Set contains:

- 3D print: 3 parts
- decals: no
- photo-etched details: no
- painting mask: no



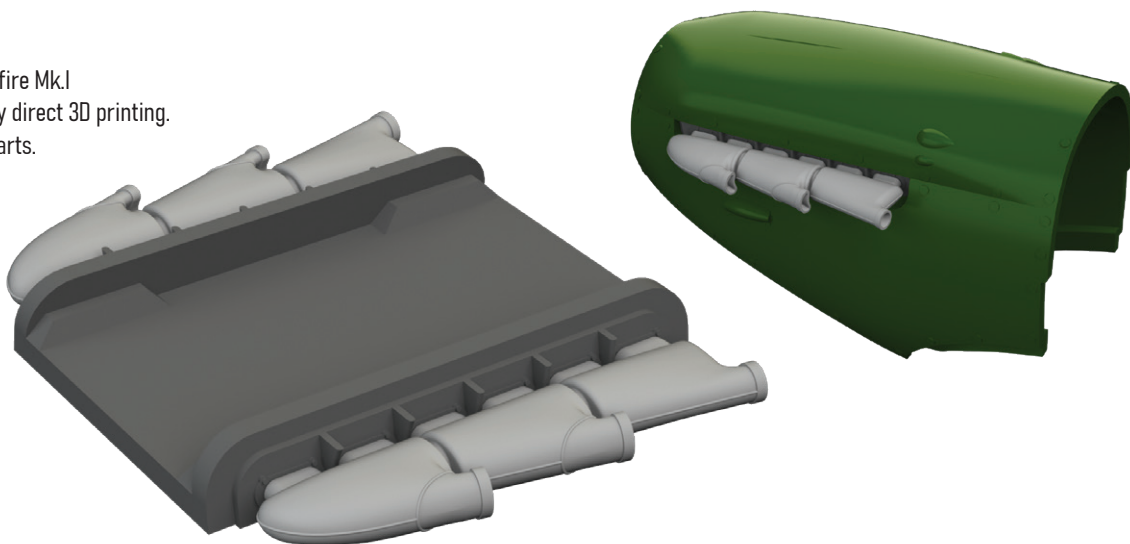
672423

Spitfire Mk.I/II/V three-stacks exhaust rounded PRINT**1/72 IBG**

Brassin set - exhaust stacks for Spitfire Mk.I
or Mk.II or Mk.V in 1/72 scale. Made by direct 3D printing.
Easy to assemble, replaces plastic parts.
Recommended kit: IBG models

Set contains:

- 3D print: 3 parts
- decals: no
- photo-etched details: no
- painting mask: no



672424

Spitfire Mk.I/II/V wheels**1/72 IBG**

Brassin set - undercarriage wheels for Spitfire Mk.I
or Mk.II or Mk.V in 1/72 scale. Easy to assemble,
replaces plastic parts. Recommended kit: IBG models

Set contains:

- resin: 3 parts
- decals: no
- photo-etched details: no
- painting mask: yes



672425

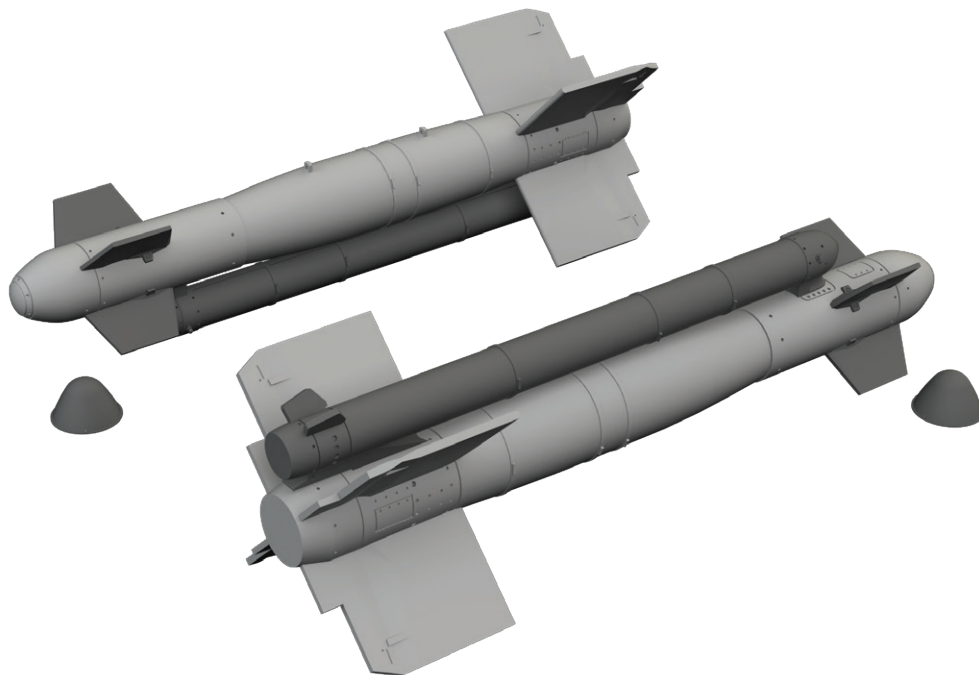
AGM-130

1/72

Brassin set - US air-to-ground guided missile
AGM-130 in 1/72 scale. Set consists of 2 missiles.

Set contains:

- 3D print: 14 parts
- decals: yes
- photo-etched details: no
- painting mask: no



672426

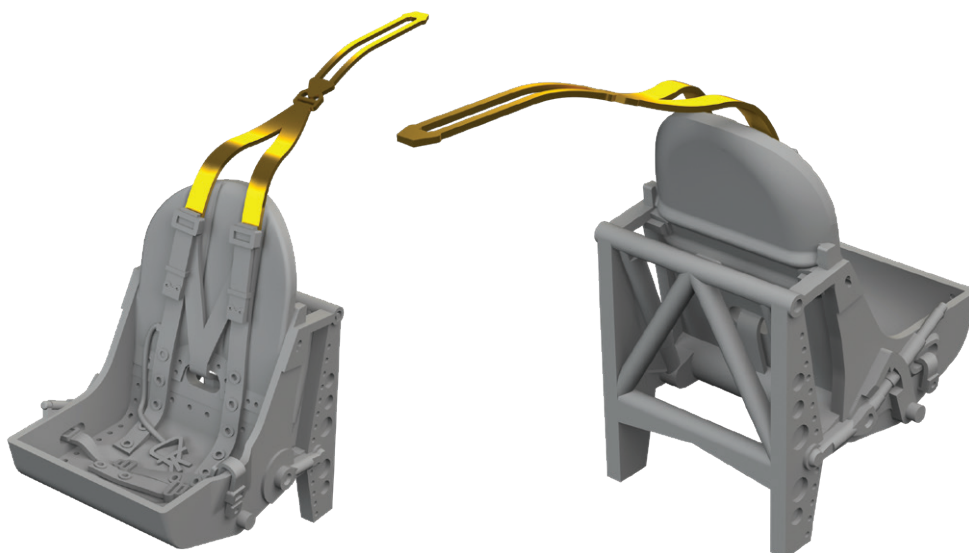
Spitfire Mk.I/II/V bakelite seat w/ integral belts PRINT

1/72 IBG

Brassin set - pilot's seat for Spitfire Mk.I or Mk.II
or Mk.V in 1/72 scale. Made by direct 3D printing.
Easy to assemble, replaces plastic parts.
Recommended kit: IBG models

Set contains:

- 3D print: 1 part
- decals: no
- photo-etched details: yes
- painting mask: no



672427

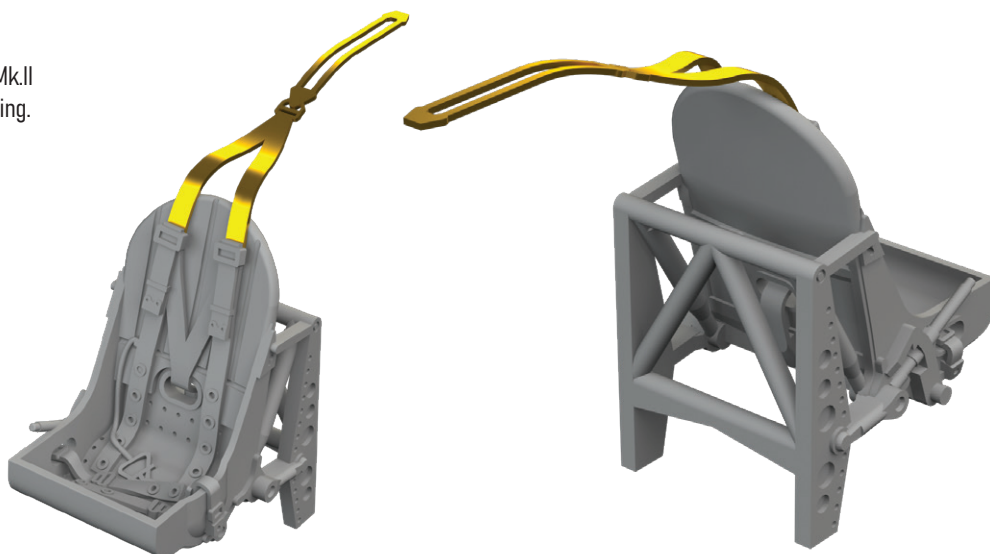
Spitfire Mk.I/II/V metal seat w/ integral belts PRINT

1/72 IBG

Brassin set - pilot's seat for Spitfire Mk.I or Mk.II
or Mk.V in 1/72 scale. Made by direct 3D printing.
Easy to assemble, replaces plastic parts.
Recommended kit: IBG models

Set contains:

- 3D print: 1 part
- decals: no
- photo-etched details: yes
- painting mask: no



SIN648143

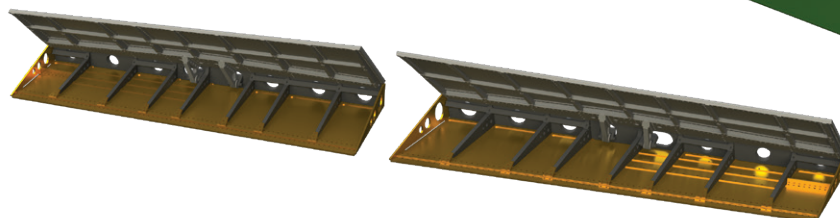
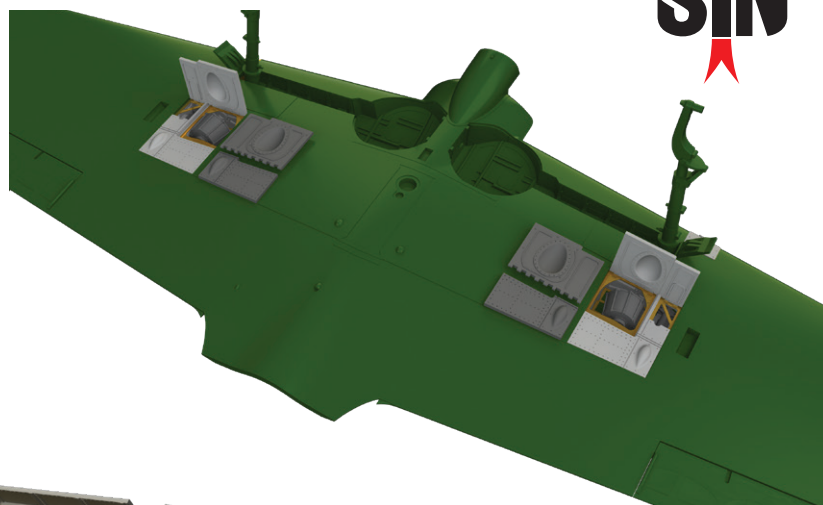
A6M3 Zero Type 32 ADVANCED

1/48 Eduard

Collection of 3 sets for A6M3 Zero Type 32 in 1/48 scale.
Recommended kit: Eduard

- tail wheel
- landing flaps
- wings gun bays

All sets included in this BIG SIN are available separately,
but with every BIG SIN set you save up to 30 %.



SIN648144

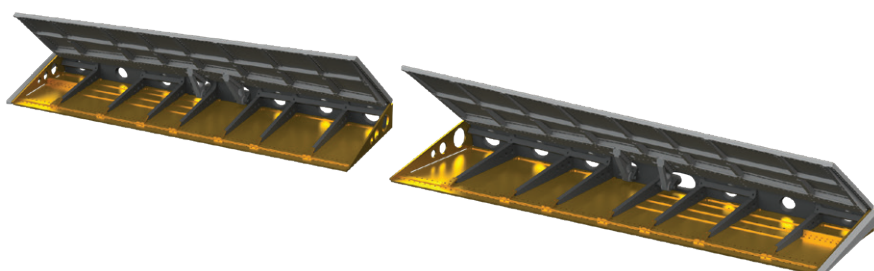
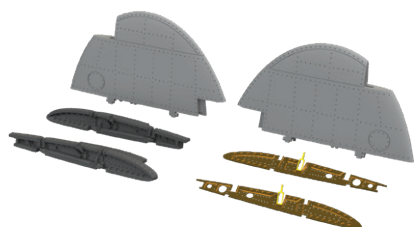
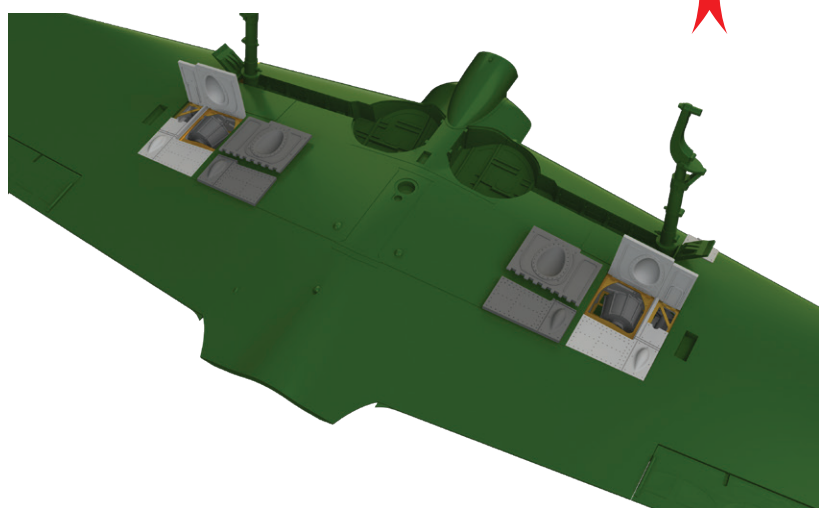
A6M3 Zero Type 22 ADVANCED

1/48 Eduard

Collection of 4 sets for A6M3 Zero Type 22 in 1/48 scale.
Recommended kit: Eduard

- tail wheel
- folding wingtips
- landing flaps
- wings gun bays

All sets included in this BIG SIN are available separately,
but with every BIG SIN set you save up to 30 %.



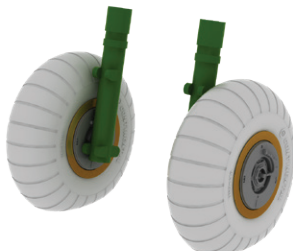
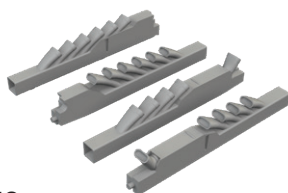
644338

Ju 88A-4 LööKplus

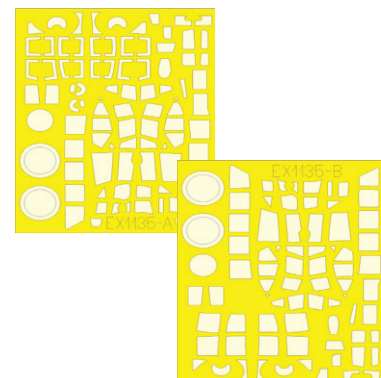
1/48 Eduard/ICM

Collection of 5 sets for Ju 88A-4 in 1/48 scale.
Recommended kit: Eduard / ICM

- LööK set (pre-painted Brassin dashboard & Steelbelts)
- pre-painted radio equipment
- undercarriage wheels
- exhaust stacks
- painting mask



Löökt



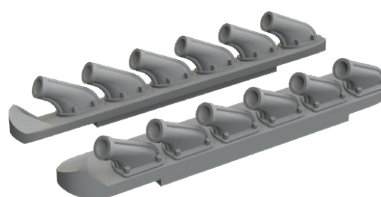
674050

P-51B/C LööKplus

1/72 Arma Hobby

Collection of 3 sets for P-51B/C in 1/72 scale.
Recommended kit: Arma Hobby

- LööK set (pre-painted Brassin dashboard & Steelbelts)
- undercarriage wheels
- exhaust stacks



Löökt

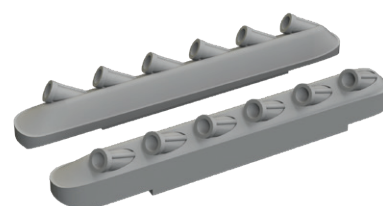
674051

P-51B/C exhausts w/ fairings LööKplus

1/72 Arma Hobby

Collection of 3 sets for P-51B/C in 1/72 scale.
Recommended kit: Arma Hobby

- LööK set (pre-painted Brassin dashboard & Steelbelts)
- undercarriage wheels
- exhaust stacks



Löökt

PE-SETS

32496	Sea Hurricane Mk.IIc landing flaps	1/32	Revell
321028	Sea Hurricane Mk.IIc	1/32	Revell
36537	M 36	1/35	Tamiya
491558	P-47D Razorback	1/48	MiniArt
72751	B-24D undercarriage	1/72	Airfix
72752	B-24D bomb bay	1/72	Airfix
73858	Spitfire Mk.I	1/72	IBG
73859	Spitfire Mk.II	1/72	IBG
73860	B-24D cockpit & engines	1/72	Airfix
73861	B-24D nose & radio compartment	1/72	Airfix
73862	P-36A	1/72	Arma Hobby

ZOOMS

33385	Sea Hurricane Mk.IIc	1/32	Revell
33386	Sea Hurricane Mk.IIc seatbelts STEEL	1/32	Revell
FE1558	P-47D Razorback	1/48	MiniArt
FE1559	P-47D Razorback seatbelts STEEL	1/48	MiniArt
SS858	Spitfire Mk.I	1/72	IBG
SS859	Spitfire Mk.II	1/72	IBG
SS860	B-24D	1/72	Airfix

MASKS

JX341	Sea Hurricane Mk.IIc	1/32	Revell
JX342	Sea Hurricane Mk.IIc TFace	1/32	Revell
JX343	Sea Hurricane Mk.IIc national insignia	1/32	Revell
EX1145	S-199 TFace	1/48	Eduard
CX700	B-24D	1/72	Airfix
CX701	B-24D US national insignia	1/72	Airfix

SPACE

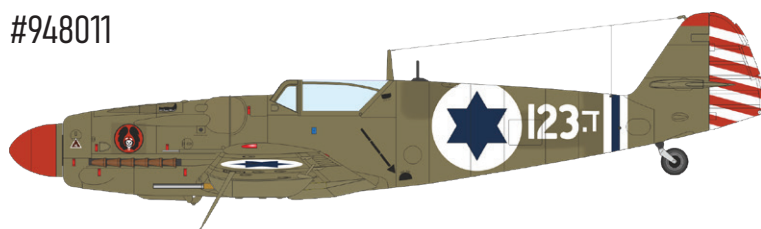
3DL32037	Sea Hurricane Mk.IIc SPACE	1/32	Revell
3DL48254	P-47D Razorback SPACE	1/48	MiniArt
3DL72073	Spitfire Mk.I SPACE	1/72	IBG
3DL72074	Spitfire Mk.II SPACE	1/72	IBG
3DL72075	B-24D SPACE	1/72	Airfix
3DL72076	P-36A SPACE	1/72	Arma Hobby

Avia S-199 ERLA canopy

1/48



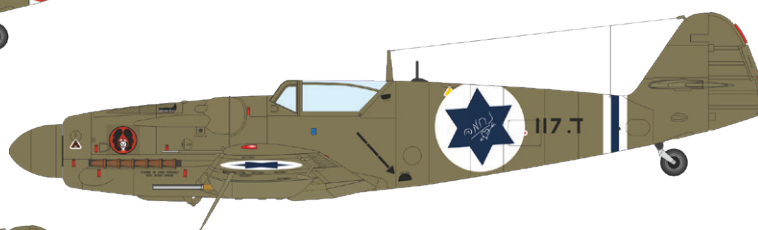
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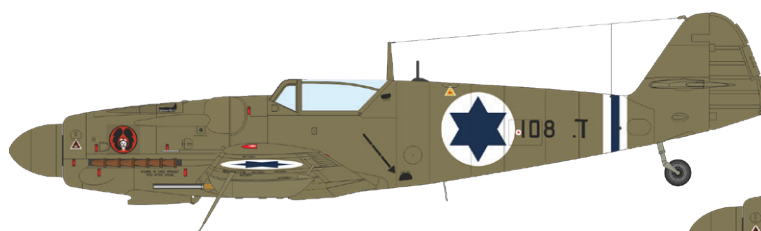
101 Tayeset, Cheyl Ha'avir, Hatzor, Israel, October 1948

[Product Page](#)

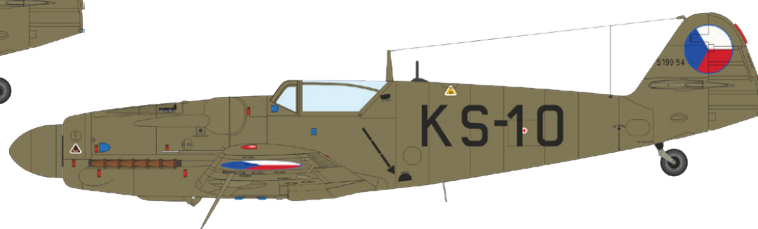
EDUARD BRASSIN
HYBRID



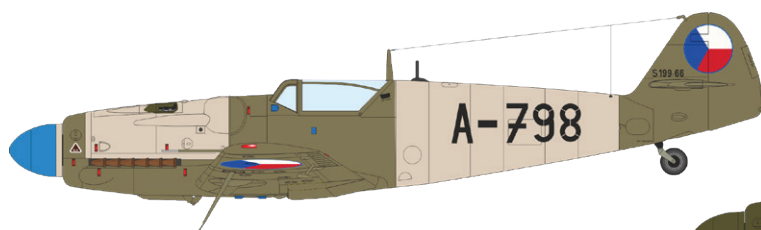
101 Tayeset, Cheyl Ha'avir, Herzliya, Israel, July-August 1948



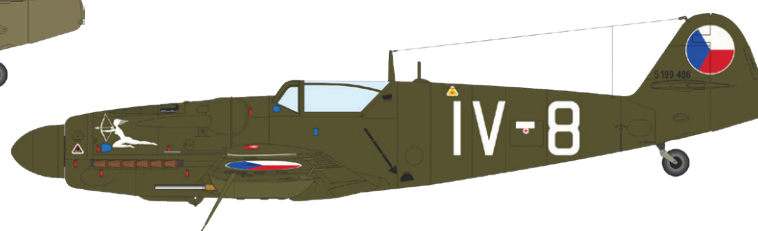
101 Tayeset, Cheyl Ha'avir, Herzliya, Israel, July 1948



S-199.54, Sgt. František Novák, Fighter Training Center, No. 2 Squadron, Aviation Regiment 4, Planá u Českých Budějovic, Czechoslovakia, May 1948



S-199.66, ak. Ladislav Strnad, Air Military Academy, Hradec Králové, Czechoslovakia, June 1950



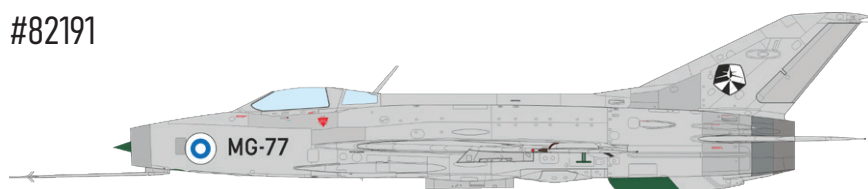
S-199.486, Lt. František Fořt, No. 1 Squadron, Aviation Regiment 7, Brno-Černovice, Czechoslovakia, 1950

MiG-21F-13

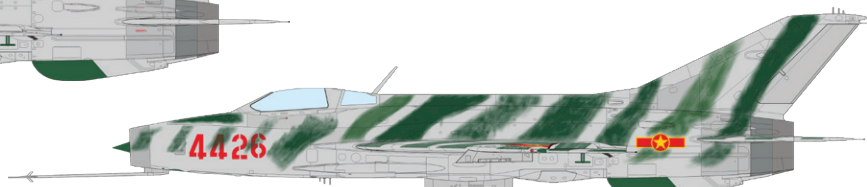
1/48



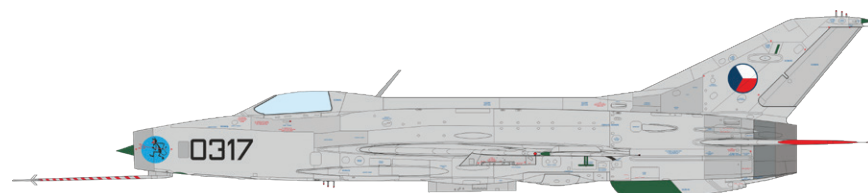
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ProfiPACK
edition

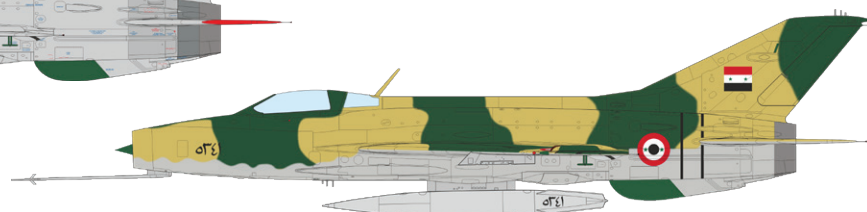
s/n 741204, HävLLv 31, Kuopio-Rissala AB,
Finnish AF, Finland, August 1985



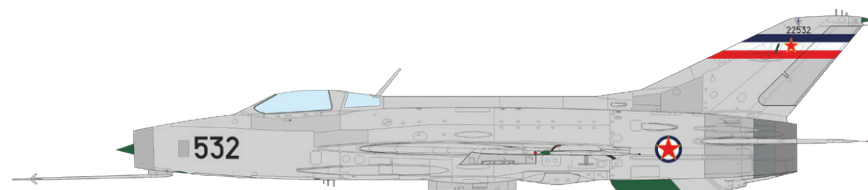
s/n 74211503, Nguyen Nhat Chieu, 921st FR,
Sao Do, Democratic Republic of Vietnam,
October 1967



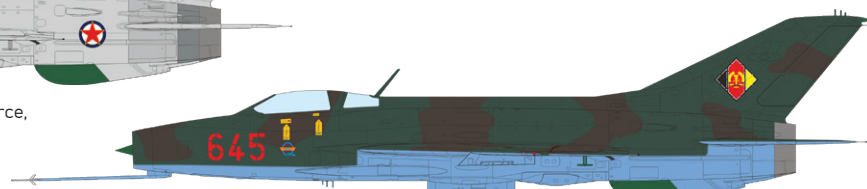
s/n 660416, 1. slp, České Budějovice AB,
Czechoslovakia, 1968-1970



Cairo-West AB, United Arab Republic, 1967



s/n 22504, 204. LAP, Batajnica AB, Yugoslav Air Force,
Yugoslavia, 1962



s/n 741924, AFS-31, East Germany Air Force, Preschen AB,
German Democratic Republic, 1978-1980

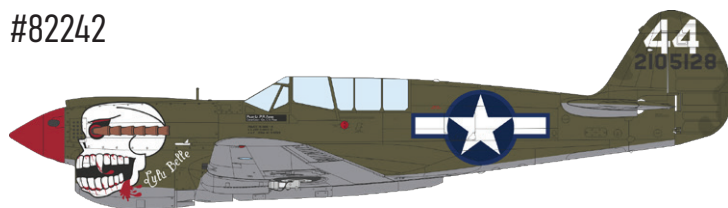
Product Page

P-40N Warhawk

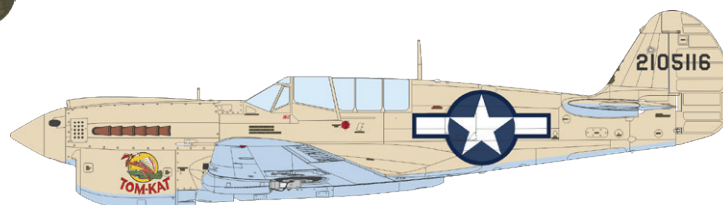
1/48



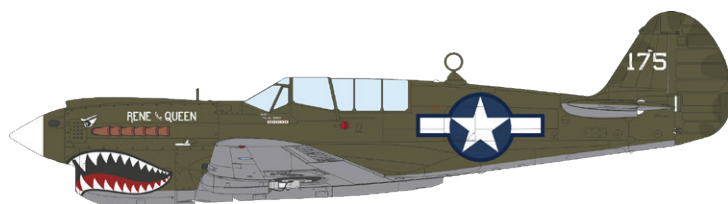
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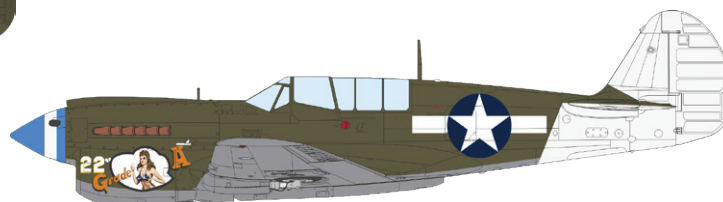
42-105128, P-40N-5, 2Lt. Philip R. Adair, 89th FS,
80th FG, Nagaghuli, India, early 1944

ProfiPACK
 edition


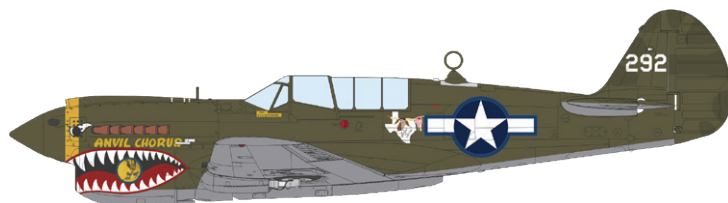
42-105116, P-40N-5, Capt. Gilmer L. Snipes,
45th FS, 15th FG, Nanumea, December 1943



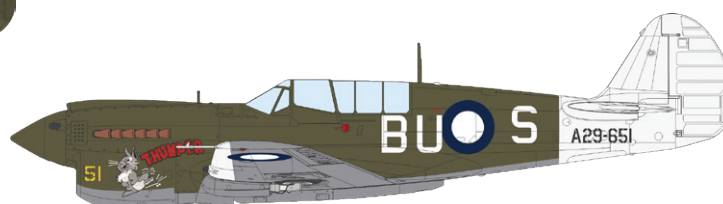
P-40N-20, 43-23400, Maj. Donald L. Quigley, CO of 75th FS,
23rd FG, Kweilin, China, August 1944



P-40N-5, 7th FS, 49th FG, Finschhafen, New Guinea,
September 1944



P-40N-5, 1/Lt. Benjamin H. Ashmore, 26th FS,
51st FG, Kunming, China, 1944



A29-651, F/O John Noel Olivier, No. 80 Squadron,
Noemfoor Island, 1944

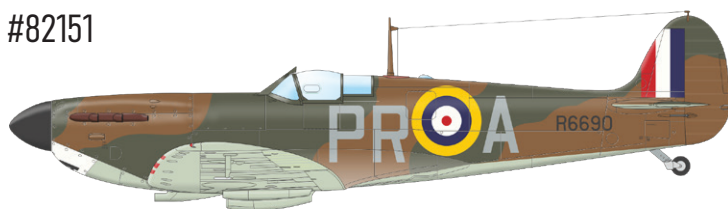
[Product Page](#)

Spitfire Mk.Ia

1/48



#82151

ProfiPACK
 edition


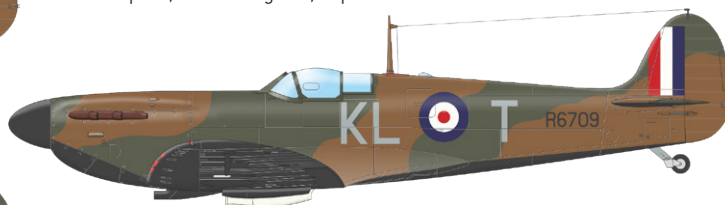
R6690, P/O John C. Dundas, No. 609 Squadron, RAF Middle Wallop/RAF Warmwell, United Kingdom, August 1940



X4828, F/Lt Wojciech Kolaczowski, No. 303 Squadron, RAF Speke, United Kingdom, September 1941



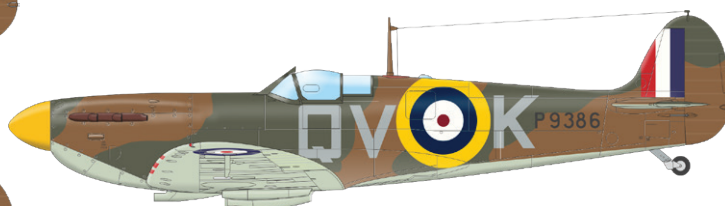
R6835, F/O Brian J. Carbury, No. 603 Squadron, RAF Hornchurch, United Kingdom, late August 1940



R6709, P/O Colin F. Gray, RNZAF, No. 54 Squadron, RAF Hornchurch, United Kingdom, March 1940



N3250, P/O Allan R. Wright, No. 92 Squadron, RAF Croydon, United Kingdom, late May/early June 1940

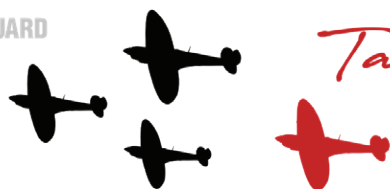


P9386, S/Ldr Brian J. Lane, CO of No. 19 Squadron, RAF Fowlmere, United Kingdom, September 1940



X4253, P/O Wilfrid G. Duncan Smith, No. 611 Squadron, RAF Hornchurch, United Kingdom, February 1941

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A LITTLE PROVERB

Text: Jan Zdiarský

That's what we say here: *'Too many dogs kill the hare.'* I'm not sure how to translate this proverb into English in a way that is understandable to our non-Czech and non-Slovak readers. However, it's quite possible that English has a similar proverb, and we can't rule out the possibility that we borrowed this proverb from someone else a long time ago.

Today, I am not here to reflect on linguistics and the origin of sayings, but to explain why this issue of Info magazine is reaching you two days late. The first reason, the one-day delay, is purely pragmatic; the second is purely about me. I admit that the following lines are not intended as self-flagellation, but rather as a glimpse behind the scenes of how Info is created for you.

Finalising the programme and refining the details of the E-Day 'modelling celebration' in Litoměřice this weekend (the previous one for readers of the English edition, of course) meant that we had to postpone the release of the E-Day special issue until Tuesday, 30 September. Since the regular October issue of Info magazine was due to be published the following day, we have decided to delay its release until Thursday, 2 October. Finalising the magazine and converting it into the Triobo system, through which you read the issue, is demanding and time-consuming in terms of both human resources and technology.

I am writing this column at 'five past twelve', or more accurately, 'after the five', on Thursday 2 October, which suggests that the plan did not work out.

My head is filled with thoughts about what we mustn't forget in the run-up to the E-Day event, both in general, based on event preparation meetings and the duties of our main E-Day staff, and personally. This mainly concerns my own responsibilities, such as preparing prizes for the winners of the individual categories and organising modelling club shows. Notably, the number of modelling clubs and SIG registrations for this year's E-Day has increased by a third compared to last year.

Many of you will understand that this is where the dogs I wrote about at the beginning come in: the ones that ultimately kill the hare. As I was leaving Eduard's headquarters in Obrnice today, satisfied that I had finalised the last of the preparations for the upcoming event, my phone rang. It was Kateřina Borecká, the head of the marketing department, who asked me how the finalisation of the Info magazine was going. She and her colleague, the graphic designer Petr, were waiting for the missing items. When I asked what was missing, she replied, 'Tail End Charlie...' A string of thoughts ran through my head, reminding me that just yesterday I had been thinking about the article I had to write, contemplating the best topic:

whether to write about the perhaps finally arriving Indian summer or the Fw 190, which is being restored in Turkey. But these thoughts simply evaporated from my head, and it was only Kateřina who brought me back to reality. Of course, there was nothing left to do but tell Kateřina that we would have to publish the info magazine on Friday and that I would rectify the situation in the meantime. I seem to be doing that, and I'll be finished soon. But before I finish, I'll try to find something positive about this time shift – something that might even surpass the efforts of my alibi-seeking hounds. Thanks to the fact that the magazine will be published just one day before E-Day, when Friday's programme will be in full swing, we will be able to keep secret until the last moment what the gift kit for exhibiting modellers will be: a brand new 1/72 scale Eduard Enstrom helicopter, which we needed to give adequate space to in the magazine. I'm sure you've read a lot about it.

So perhaps I can use another proverb: *'Every cloud has a silver lining'*, although many of you would probably apply a different proverb to me today: *'Those who are not blessed will not buy it at the pharmacy!'*