

INFO EDUARD

Vol. 13, April 2014

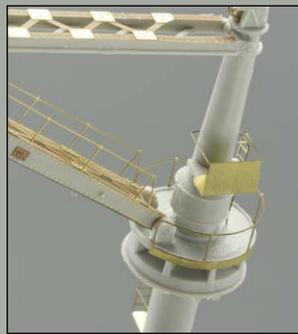
ISSUE 46



price US \$ 0.00

PE-SETS

1/200 USS Arizona Trumpeter



HISTORY

FLAMING BASEBALLS

WGR.21 ROCKETS IN THE DEFENSE OF THE REICH



BUILT

Bf 109E-3 1/48

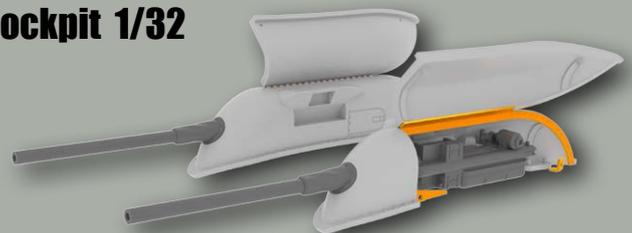
Bf 109G-6 cockpit 1/32

BRASSIN

B-17 supercharges 1/32

F-4U-1 1/32

Bf 109G cannon pods 1/32



eduard

INFO EDUARD

ISSUE 46

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

April 2014

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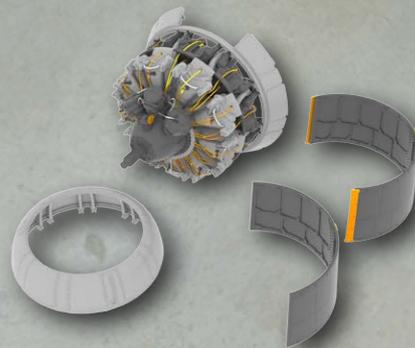
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The competition is part of the Three royal cities Cup

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May 2014



EDITORIAL

Our first show this year, which took place in Prosek, saw us hard at work from morning to late afternoon, when we were the last to leave. Compared to previous years, this year's affair was fast paced with a lot of interest in new items. Although we are always happy to see interest in our work, a lack of space dictated that we were not able to show off our future Bf 109G-6. We will remedy that situation in this newsletter. None of the four new kit releases this month are purebred, and contain no new moldings, and in the case of the Airacobra, are getting old, although they are still competitive. The new Profipack kit has a new selection of markings, and these will, no doubt, prove interesting in their content and execution. The Hellcats Mk.I and Mk.II in the same scale, are straight re-releases, and in this specific case, the third one, making this kit the most successful of this decal version of the Hellcat. The 1/72 scale Limited Edition Bf 110C-6 is, in its execution, similar to its bigger brother. The quartet of new kits is then rounded out by the Weekend Edition of the Spitfire Mk.IXc Early Version. In April, we will begin the introduction of this year's likely hit, the Bf109G-6, and if you expect the introduction of this kit to follow in the style of last year's Spitfire, then you're right. If April's new kit release list seems a little lax, then bear in mind that you still have the S-199 Mule to look forward to.

April's selection of accessories is by no means as boring. Worth noting is the Brassin Corsair engine in 1/32nd scale, which is among a new list of resin accessories that are sure to please. The new sets include new turbo superchargers for the B-17G and underwing cannon pods for the Bf 109G. This sets compliment accessory sets already released for all three types. These are rounded out by the release of a thirty gallon underfuselage fuel tank for the 48th scale Spitfire, and 72nd scale WWII British bombs. The final Brassin set to be released is the BIG SIN for the MiG-21 PFM and it includes the interior, exhaust, wheel wells, wheels, R3S missiles (AA-2 Atolls) and a photoetched ladder.

The B-17 superchargers is associated with a historical account in this newsletter, and another covers the W.Gr.21, which was released in 1/32 scale last month, and will be released in 1/48 in May for our Bf 109G-6.

The most interesting offerings for this month come in the photoetched line. For Czech modelers, this will no doubt come in the form of two new etched sets and one mask set for the new L-29 from AMK in 1/48. Others, and especially American modelers, will gravitate towards the collection of four sets for the A3D-2 Skywarrior from Trumpeter. In 1/32, you'll

find the first of two new sets for the Revell F-104 from Italeri wherein the seatbelts are offered in a new material offered for the first time last month in set no. 48068. Forthcoming sets in this material will be called 'SUPER FABRIC', and will also be used for the production of new 'Remove Before Flight' tabs. There is also new color set being offered for the N1K2-J Shiden from Hasegawa. In 72nd scale, you will find two new sets covering the F-35 from Italeri and for the Harrier GR.Mk.1 from Airfix. In 1/35th scale, and also theoretically interesting to Czech modelers, there are two sets available for the Dingo II ATF. Ship modelers are being offered the first of three of six sets for the Arizona in 1/200. We are expanding the scribing templates and similar items line under the 'tool' category with three new sets, two of which are steel templates and the third is a glue applicator. This is intended for those of us who are no longer satisfied with the good old tooth pick. I was asked the question as to why we decided to manufacture scribing templates out of steel. Aside from the fact that we are now able to do such a thing, the steel is a lot stronger than the previous brass, giving the template a longer useful life. Photoetched items that are new this month include BiG EDs for the B-29 and MiG-23 in 1/48 and, on the other end of the price scale, new zooms and mask sets. The latter only includes one, for the aforementioned L-29. The other mentioned mask has been available for about a year, but thanks to the boom in F-35 kits, it deserves mention here.

Besides the release of new items, April sees us participating in several events and processes. First and foremost, the second weekend of the month brings to the Mosonmagyaróvár show, which is traditionally very popular. As was the case last year, we will be operating in two separate classrooms, each with its own supply of products. This does represent a certain complication, but for now, is the best solution possible. At Moson, we will be introducing the completely new Bf 109G-6. As you can probably tell from the body of this intro to the newsletter, the work on the kit is not quite complete yet. I expect the kit to be available for viewing and complete inspection at Moson, although it will not actually be available for purchase until May 1st. I myself am looking forward to this kit, you have no idea how much. As I write this introduction, the last two



sprues are being tested by the kit designers, and the temptation to finish this off and head down there is difficult to ignore. After, it is spring, and skirts and pants are getting shorter, so why not newsletters? We are just about there. The advertising campaign has begun for the G-6 today. Each day, there will be two postings that will introduce some part of the model and some details associated with it, and this will continue on until the end of April. I would like to inform critics of our advertising activities that this campaign will be largely passive, will be on our webpage and Facebook page, so your participation will require your initiative. If you are not interested in our media massage, then simply do not log on. I understand that this may be easier said than done. But it is possible. A component of this campaign will be a live chat in its third week. I will be answering any of your questions concerning the Bf 109F/G series myself.

In April, we will be officially exchanging the moldings of Kit 2113 Czechoslovak Fifteens. We will be exchanging them piece by piece, and the main means by which to do this will be through the postal system. The process will be a tad more complicated than might be anticipated, because we do want to offer a little more extra, if you are, of course, interested. This will be in the form of a discount coupon for purchases on our webstore that are made in association with the replacement MiG parts. Those that do not want to use the coupon, no problem. It will not be mandatory. We will send the replacement parts on their own, and the postage will be free of charge. We will also be offering the replacement parts in Moson and Nymburk, and they will be made available to retailers on request. But there will be a time limit. A complete description of the process will be outlined and described in detail at www.eduard.cz.

Another event will concern the admissions kit into the BFC in 1/72 scale. The MiG-15 Bunny Racer will be available from tomorrow, April 2nd, 2014. This should avoid any confusions surrounding April Fools Day. The price and other entry conditions are the same as they were for the 48th scale Bunny Fighter.

April is the last month when the distributorship of our operation takes place in its entirety in Obrnice. In May, the entire department responsible for distributorship and mailing will be moved to a new hall in Most. It may be assumed that some orders will be delayed through the course of May, although we will certainly endeavor to minimize this, and the move will be into a fully functioning facility. The only thing needed will be to move stock and personnel into the building. But you know just how smooth moves tend to go.

And so that's it for now. It's spring, a time of shortenings. If you find yourself with some questions, hold on to them some three weeks, or until Moson, when I will gladly answer any and all questions.

Happy Modelling!
Vladimir Sulc



MOSON 2014
Don't forget your BFC T-shirt!

discount 15%
discount for BFC members 20%



Pictures from the history of Eduard part 2 in the Czech Republic, the European Union and elsewhere

Vladimír Šulc

The decision to start up a firm and produce photoetched components was an easy one, but to actually physically manufacture and sell them was much easier said than done. We had no idea what was ahead of us. Late summer of 1989 smacked of change and everything seemed easy, but the reality of the situation was different. During our initial attempts over the course of two years, production of individual photoetched parts peaked at a maximum of about a few dozen pieces. Then came an order from Směr for their 48th MiG-17 that was then being developed to the tune of 3,000 to 5,000 pieces, with an anticipated delivery date in the fall of 1990. That was akin to a trip to the moon as far as we were concerned. That was what our production capacity was like when that order materialized. To top it off, our facility was qualitatively unbalanced. Under socialism, at the end of the eighties, it was virtually impossible to source a lot of things. Lack of television sets, hunter's sausage and toilet paper presented no great obstacle to our plans, but the inaccessibility to industrial equipment and materials that was worse. Our first metal was copper, 0.1mm thick, used in the chemical industry to support and precisely balance siphoning equipment bases. We had access to scraps of this material, and that was good for trials and small runs, but for a full production order, no chance. The photo resist, used in the process of photoetching and with which we worked in our lab, was reportedly ten to twelve years old, but I suspect that the stuff was actually war booty left over from 1945 after the Germans. Sometimes it worked, other times, under the same conditions, it didn't. Immediately prior to getting started, we acquired a litre of new photo resist through connections, but it worked under a different set of environmental requirements, and we were not even sure we would be able to have a regular supply. It was sourced from the west and distributed to national companies according to state plans. There was no right within the private sector to have access to the material. To make matters worse, we were only familiar with single layer etches, and had no idea of how to produce etches with relief detail. It became clear that our laboratory experience was of little use to us from that point on. It was time to tap into the resources of people who had the know-how we lacked. Citrad Kuřák had the required knowledge,

experience and connections. One of his industrial contacts worked in the electronics sector, and arranged for us to visit several companies in the cleaning industry. The Czechoslovak electronics industry, despite the socialist mess that was, was well equipped, and what we learned didn't make us too happy. We found that what we wanted to do was well beyond our means, and likely always would be. But, like good Czechs, we concluded that what we could not buy, we would make ourselves. Citrad adapted to the situation, and came up with a plan of making the necessary pieces of equipment that would be within our means to make ourselves. Concurrently, he rejected all of the old and liquid resist and the copper as a health hazard, expensive and of a poor supply. We decided to work with brass and the liquid resist we replaced with a laminated foil type, and the etching agent was ferric chloride. So we had a plan, but that was about it.

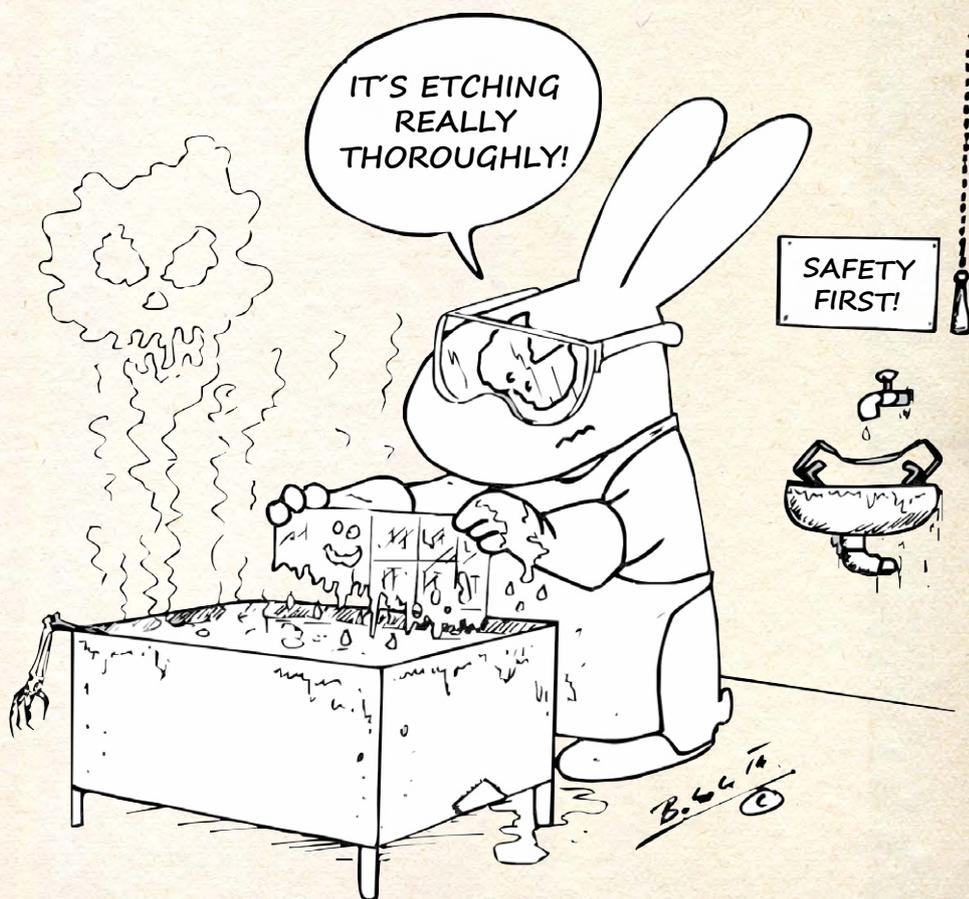
We put together some money, not much, mind you, but it was enough to buy material and hire some talent to put together the type of equipment we needed. While these items were being put together, we went around the neighborhood, so to speak, and learned what we could from operations that utilized the same technology. There were three such outfits, in Most, Bystrany and Novy Bor. All of these companies carried for us a significance. In Most, they used a liquid photo resist, and its use came across as less labor intensive than the foil type, because the tubs and apparatus needed to apply the liquid resist came across as a lot simpler to build than a laminator for the foil type. Nevertheless, Citrad feverishly supported the use of the foil laminated resist and the Most company lost its significance for our needs. But their method of cleaning the brass we later adapted. Over our subsequent visits, we came to know Helena Pitáková, and after a few months, she became our first paid employee after the Most plant shut down, and she is still with us. She was the one responsible for opening the door to a two sided etch with relief detail. This did have the disadvantage of complicating the development of the foil films. This problem was solved at the plant at Novy Bor, where contact cleaners were made and the then wife of Karel Padar worked as well as, as it turned out, so did an old school-

mate of Citrad's. The plant at Novy Bor had, among other technical miracles, exposure units and other pieces of equipment for hardening resist on photoetching plates, and they were willing and able to produce these films for us. As far as their production facilities were concerned, they were too large for our needs. A more realistically sized production setup was located at Bystrany, which was basically just around the corner, so we were there pretty much all of the time, and to top it off, they had an American laminator that served as a model for ours. They were also always happy to see us, and welcomed us with open arms. We always had a blast there. The guardhouse always announced our arrival in some humorous form and we knew we were among friends.

The production of the machinery went slowly. Very slowly. But at the time, this just didn't seem to be a big deal. It seemed like we weren't going to miss anything. But that changed at the end of the year. The Velvet Revolution broke out in November. We disposed of the communists, and after the New Year, we continued on with the building of our new workshop. Along with the events, new doors began to open up. Slávek Motl found us some basement floor space that we could rent in an apartment building where Citrad lived with his family. This was a former Laundromat that completely served our needs. By the time the summer rolled around, our equipment was ready. The crowning glory of our new equipment was our laminator. It was a bit temperamental, but in the end it outlasted all of our first-generation machinery. The equipment was built by Citrad Kurak, and I designed our first photoetched sets. Karel Padar, who invested heavily in the company with his own money gained through his work representing the crystal company Crystalex Novy Bor, also used his travels as opportunities to develop sales contacts for our company. He developed a contact with Mr. Chládek of OEZ Letohrad, the father of the 48th scale OEZ kits, and helped us to secure an order for 3,000 photoetched sets each for the MiG-21MF, Su-7 and the Su-25. We had already developed sets for these kits as our very first products, the first, 48001, being designed for the Su-25K by OEZ. This was an order for a total of 9,000 sets amounting to some 60,000 CZK which for a bunch of beginners a good piece of business.

Besides the aforementioned laminator, we also built other pieces of equipment, and each one had something unique about it. The centerpiece of these was an exposure unit, which we intensively studied at Bystrany. Our version remained true to the principle of the machine, but it was also customized to some degree. And it worked. A unique feature of this item was the method developed to pull the lamps along the brass sheet that was being exposed. This was encapsulated in a vacuum frame between two photographic films, and was operated by the compressed air bottle from a MiG-21. You know the one, it's the connection of three blue bottles in the wheel well. The actual photoetching process was an amazing contraption itself, reminiscent of an old windmill. In a box measuring 440x40x20cm filled with ferric chloride and heated by an aquarium heater, a wheel turned reminiscent of a hamster wheel, only bigger, about the size of a fox wheel, if there were such a thing. Around this circuit, there was room for the attachment of six brass sheets measuring 24x30cm. The rotation of the wheel with the plates was ensured by the cleansing process of the plate surfaces and helped to achieve an ideal etch. Unfortunately, the reality of the situation was that using such equipment, the whole process was very picky and not easily regulated. Laboring with time, rotation speed and temperatures led to unsatisfactory results, and we continued, literally, to flush expensive photo resist down the drain. After long days of unsuccessful attempts to iron out the bugs once and for all, and staring at the oncoming train that was our deadline, we happened on an idea that all developers and technicians strive for at some point with no regard for economics. Despite furious protests from Ctirad, who maintained that the next turn of the wheel will yield perfect product, Slavek and I, on the verge of desperation, quite quickly developed another etching apparatus, consisting of dishes used for developing photographs with four screws in a circuit covered in epoxy to protect them from the ferric chloride. Using an office hole punch, we punched two holes on each side of the plates, and inserted four hooks into them, and then hung the plates in the development dishes in such a way as to have them submerged in the ferric chloride but did not lay on the bottom of the dish. This ensured etching from both sides of the plate. To help ensure even chemical action over the plate surface, they were regularly turned over. The idea was rather suspect, and it really shouldn't have worked, but a perfect etch was the first result. We purchased all the 30x40cm we could. We set them in a circuit, and the twelve dishes gave us a production capacity of some forty plates a day, or 1,000 photoetched sets per day. Using our last bit of money, we purchased one more box of photo resist. Over the following days we slaved over

the operation sixteen hours a day. Not only was the brass that came in tablets measuring 200x60cm cut by hand on a surface measuring just 24x30cm using scissors graciously lent to us, but we also hand cleaned the plates with brushes as well. The etched pieces were also hand cut. The turning of the brass plates was a process that demanded constant attention. Packaging into individual cellophane envelopes was a job for which we enlisted the help of family members. The finished etches were packed the night before delivery in Ctirad's living room, during which we often fell asleep, and woke up to find the etches strewn about our laps and the floor. We finished what was left in the morning, and got into Slavek's Skoda car and by afternoon we delivered our first order to Letohrad with a great sense of accomplishment. We included our bill, which the company, going through major transformation and privatization, paid three quarters of year late. Fortunately, we were not expecting that, and in a heightened state, on the way back we stopped off at the acclaimed Prague store owned by a Mr. Pecka and proudly showed him our product. We left with an order for some 18,000 CZK. It was November, 1990, and our anticipation knew no bounds. We were optimistic that there really was nothing that we could not accomplish by this point.





REEDITION

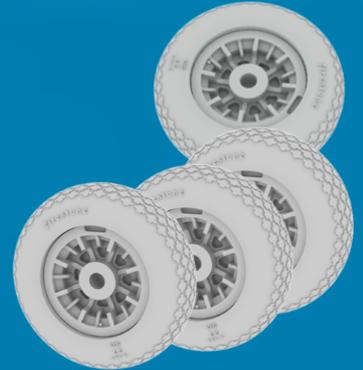
Hellcat Mk.I/II

ProfiPACK
edition

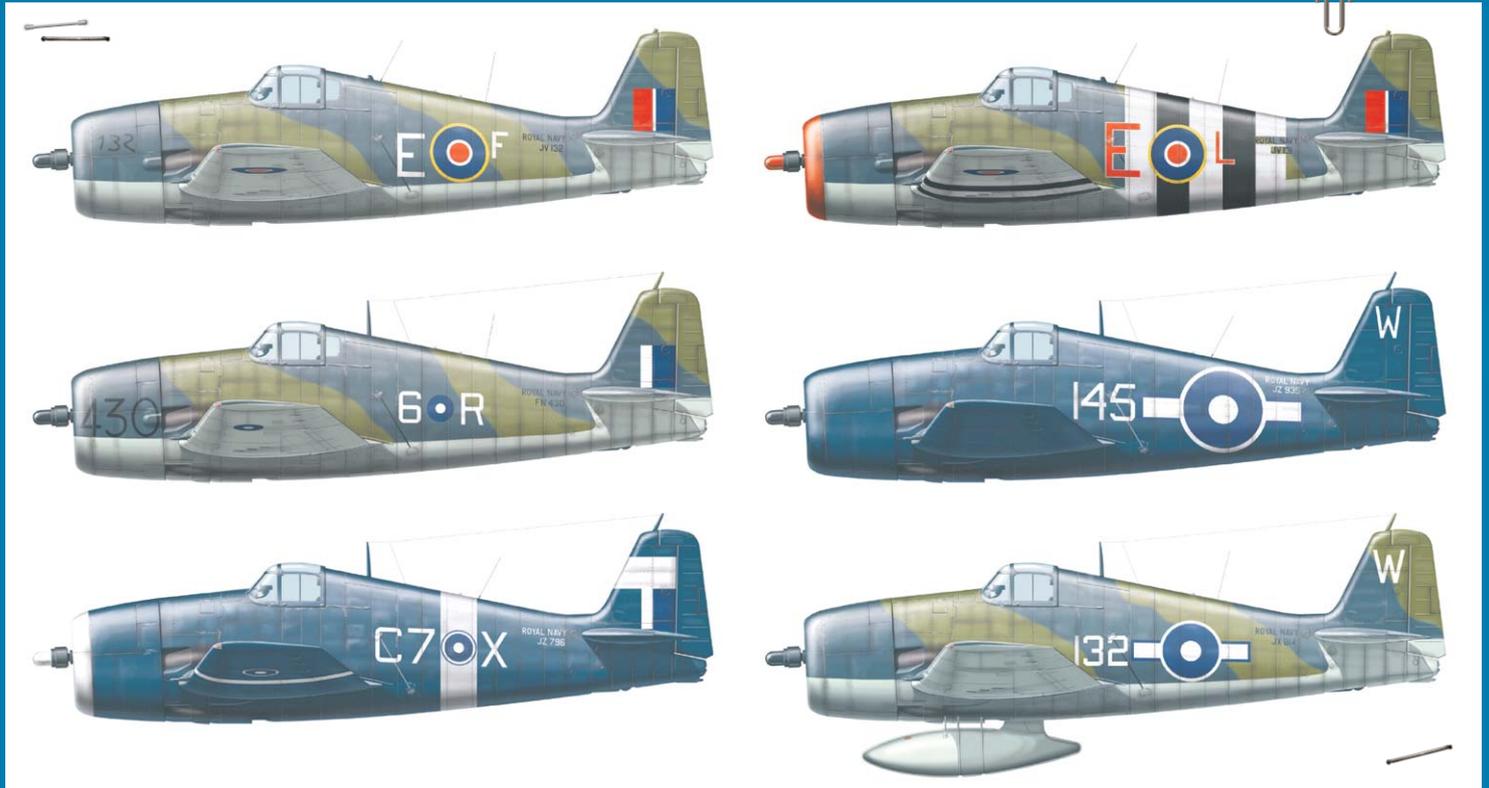
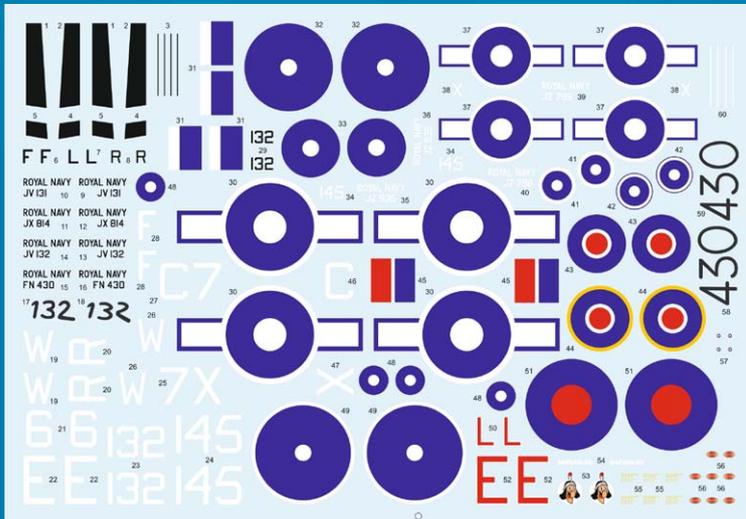
1/48, Cat. No. 8223

- Dual combo - 2 complete kits
- Cartograf decals
- color photo-etched set
- painting mask
- Brassin: main wheels

eduard
BRASSIN



BUY Hellcat Mk.I/II 1/48



P-39L/N

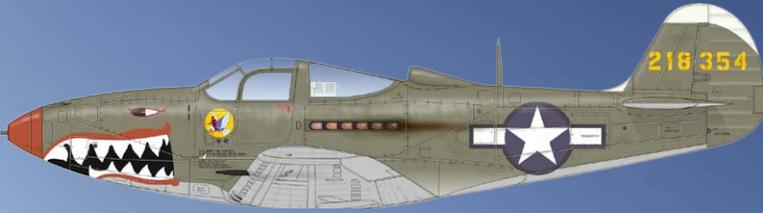
ProfiPACK
edition

1/48, Cat. No. 8066

- Eduard plastic parts
- 5 markings (USAAF and Soviet)
- Cartograf decals
- color photo-etched set
- painting mask



P-39 E N, Flown by Nikolai G. Sobolev, 21st GIAP, April 1943



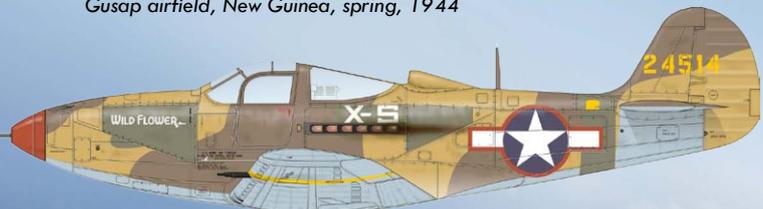
P-39N, s/n 4218354, Flown by 345th F A S, North Africa / Alghero Airfield, Sardinia, late 1943



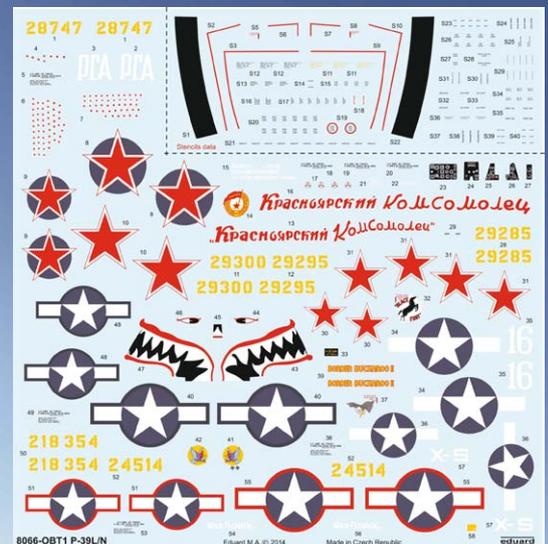
P-39N, D Flown by Grigori A. Rechkalov, 16th GIAP, spring 1945



P-39N, Flown by Lt. DeVore, 110th T C RS/71st TRG, Gusap airfield, New Guinea, spring, 1944



P-39L, s/n 42-4514, 91st FS / B 81st FG, Sidi Ahmed Air Base, Tunisia, September, 1943



BUY P-39L/N 1/48

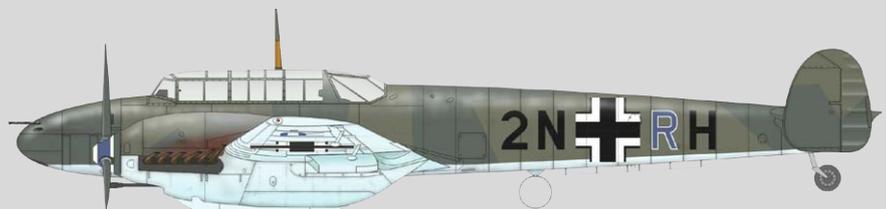
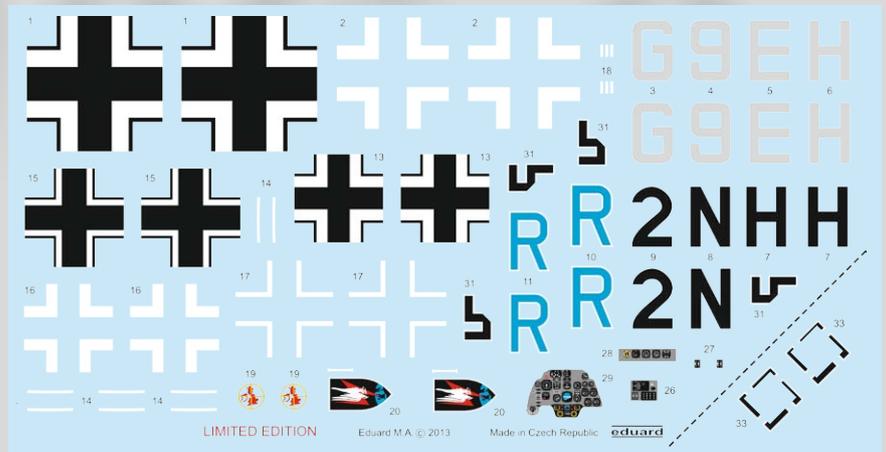
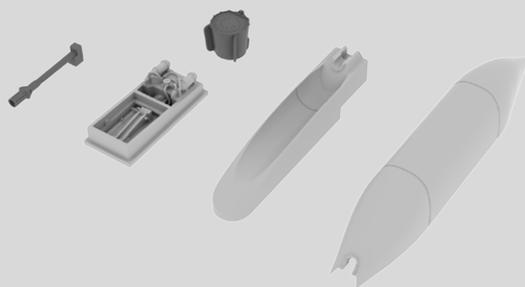


Bf 110C-6

LIMITED EDITION

Cat. No. 2115

- 2 markings
- Eduard decals
- color photo-etched set
- painting mask
- Brassin: cannon and underbelly cannon gondola.



1./Erpr.Gr.210, flown by E. Beudel / H. Diemer, Calais-Marck airbase, France, summer, 1940



1./NJG1, Venlo airbase, the Netherlands, February, 1942

BUY Bf 110C-6 1/72 

WEEKEND
e d i t i o n

Spitfire Mk.IXc early version

1/48, Cat. No. 84137

No Photo-etched set and painting mask.



BUY Spitfire Mk.IXc 1/48

recommended:

Brassin accessories

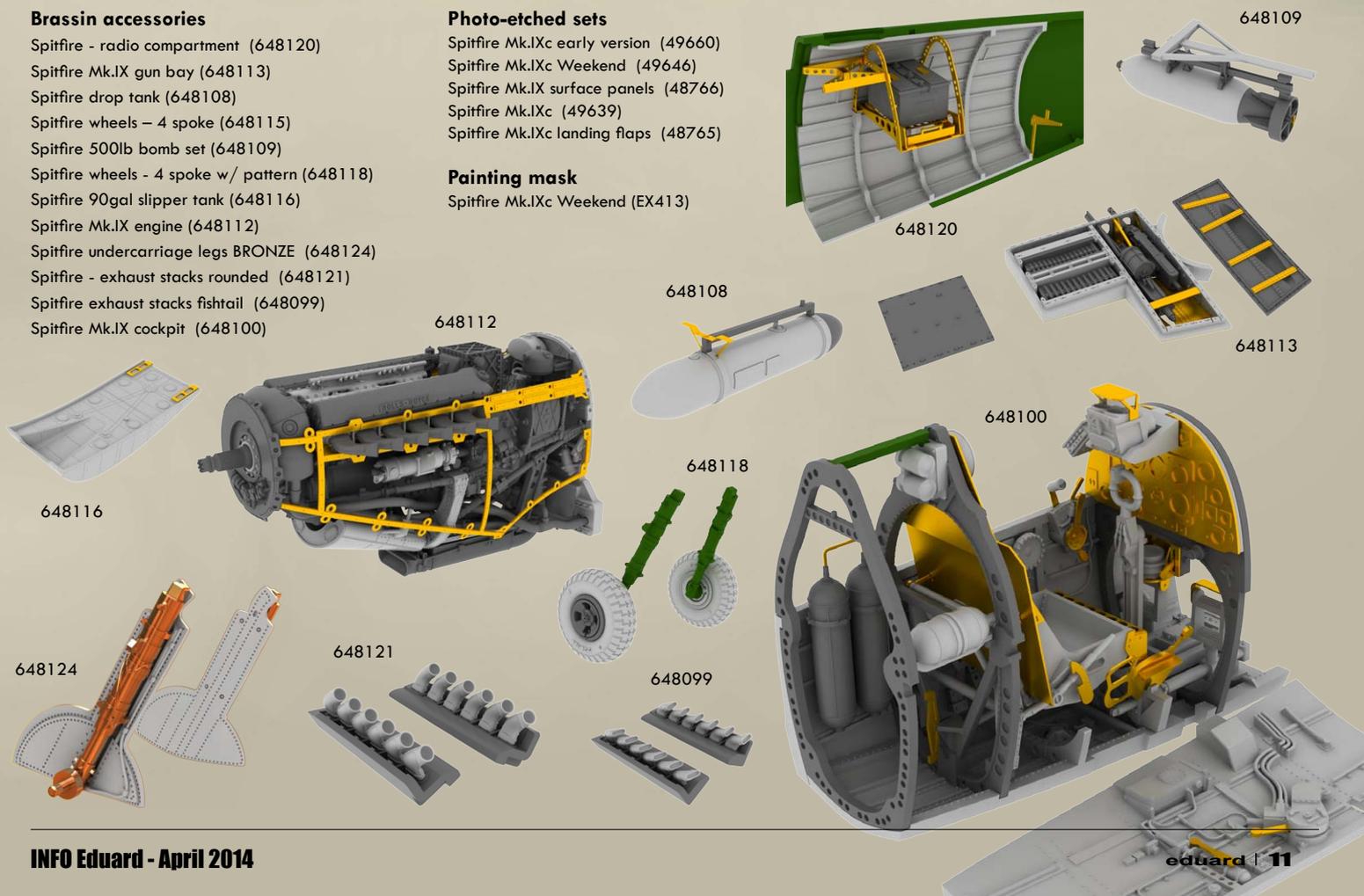
- Spitfire - radio compartment (648120)
- Spitfire Mk.IX gun bay (648113)
- Spitfire drop tank (648108)
- Spitfire wheels - 4 spoke (648115)
- Spitfire 500lb bomb set (648109)
- Spitfire wheels - 4 spoke w/ pattern (648118)
- Spitfire 90gal slipper tank (648116)
- Spitfire Mk.IX engine (648112)
- Spitfire undercarriage legs BRONZE (648124)
- Spitfire - exhaust stacks rounded (648121)
- Spitfire exhaust stacks fishtail (648099)
- Spitfire Mk.IX cockpit (648100)

Photo-etched sets

- Spitfire Mk.IXc early version (49660)
- Spitfire Mk.IXc Weekend (49646)
- Spitfire Mk.IX surface panels (48766)
- Spitfire Mk.IXc (49639)
- Spitfire Mk.IXc landing flaps (48765)

Painting mask

- Spitfire Mk.IXc Weekend (EX413)





E-Bunny finally brings a pleasure to the

1/72
scale fans!

MiG-15bis

BUNNY RACER

New BFC Activation kit.

CONTENTS:

- Dual Combo - plastic and photo-etched parts for two complete models
- decal sheet for three markings
- Brassin cockpit
- Brassin air brakes
- Brassin wheels (4 pcs)
- photoetched landing flaps
- photo-etched exterior set
- SUPERFABRIC seatbelts
- SUPERFABRIC bra - aerial combat dummy target for the Soviet female pilot (Korean marking)
- BFC Member Edition T-shirt included

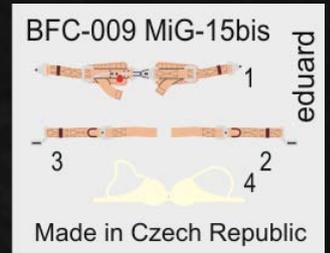
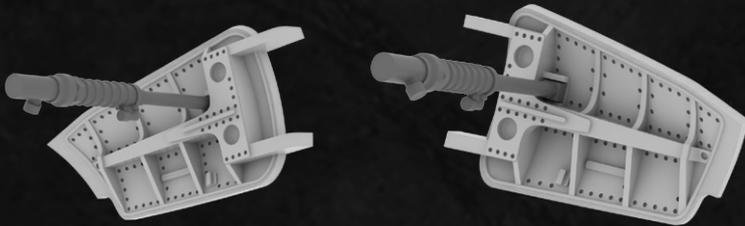
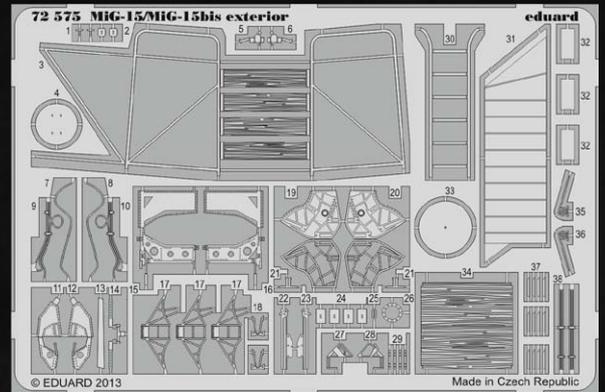
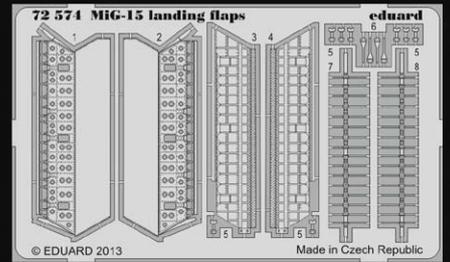
BUY Bunny Racer 1/72 



Cat. No. BFC009



eduard
BRASSIN



markings:



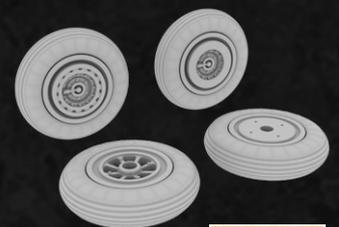
MiG-15bis, Maj. Eduard Kleinkönig, White 5, World Air Race Tour, early 80's



MiG-15bis, No. 3901, Capt. Jaromir Palecny, 11. slp, Žatec AB, 1960



MiG-15bis, Lt. Nadezda Ivanovna Zayatsovskaya, Soviet instructor, 2nd FTR, Antung AB, Korea, early 50's



(See MiG-15bis promo video on our Youtube channel)

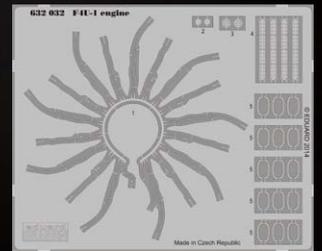
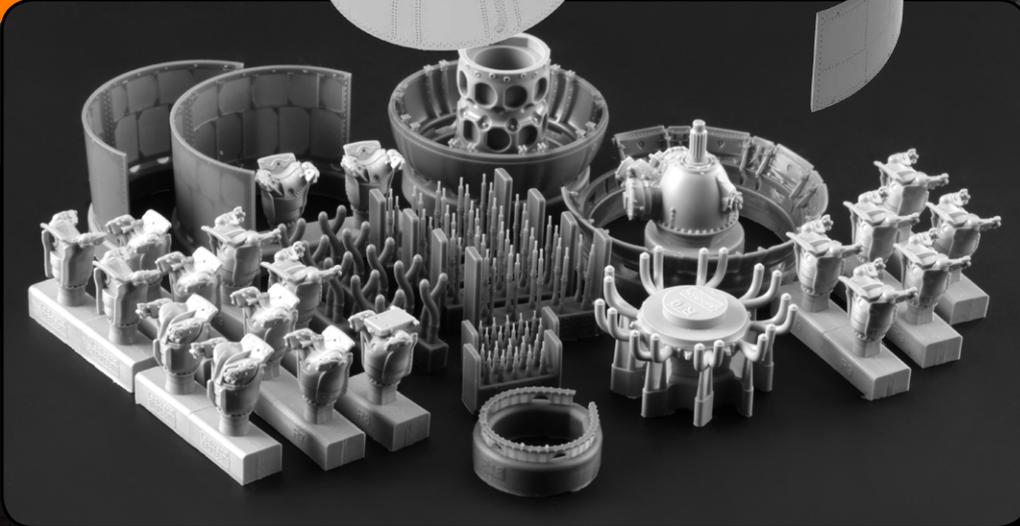




632032
F4U-1 engine
1/32 Tamiya

Detailed engine for F4U-1 in 1/32 with complete cowling and cooling flaps. Photo-etched details included.

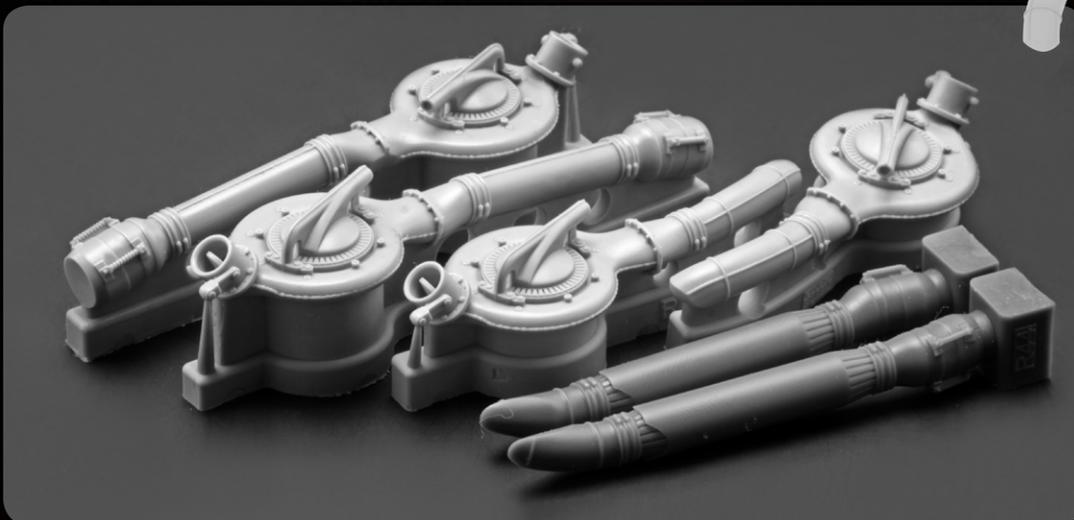
BUY F4U-1 engine 1/32

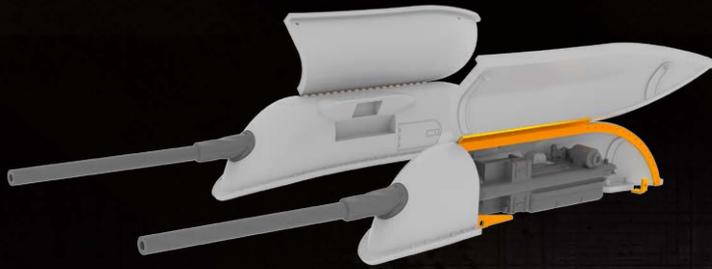


632033
B-17 superchargers
1/32 HK Models

Superchargers for B-17G in 1/32 (4 pieces).

BUY B-17 superchargers 1/32

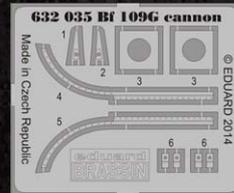




6432035
Bf 109G cannon pods
 1/32 Revell

Bf 109G underwing cannon pods (2 pieces – left & right). Allows to be build in open or closed position. MG 15/20 cannons and photo-etched details included.

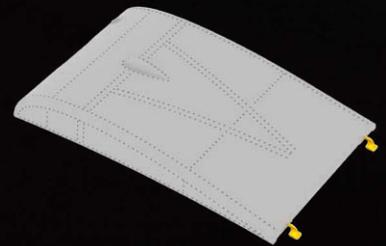
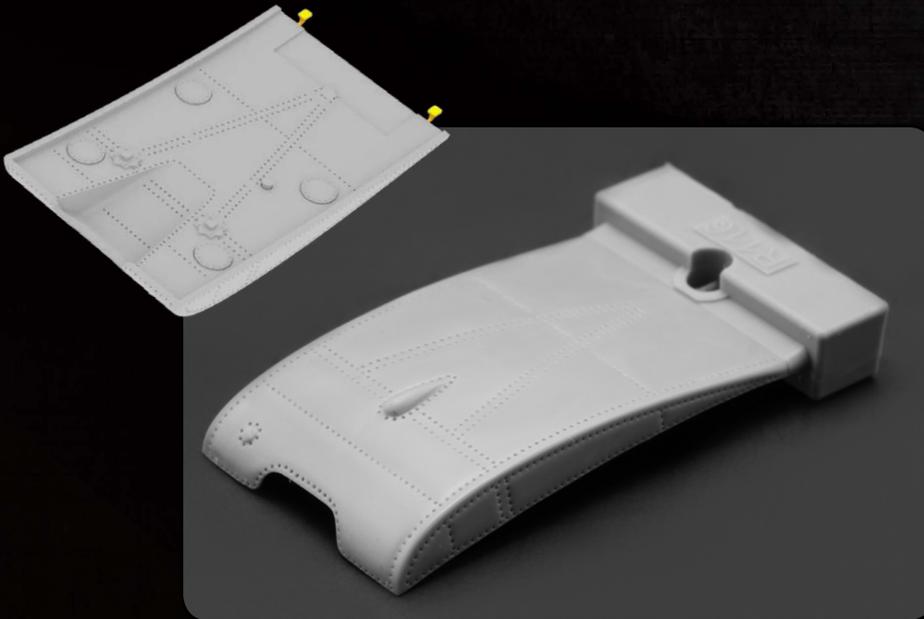
BUY Bf 109G cannon pods 1/32



648133
Spitfire 30gal slipper tank
 1/48 Eduard

Brassin set - detailed Spitfire under-belly slipper external fuel tank of 30 gallons capacity, used by late Spitfire variant. Photo-etched details included.

BUY Spitfire 30gal slipper tank 1/48



672033
British WW2 bombs
 1/72

6 pieces of British bombs used by the RAF in two variants (4+2). Photo-etched details and decals included.

BUY British WW2 bombs 1/72

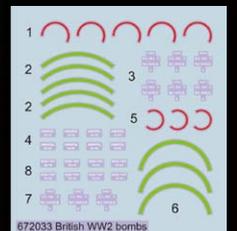
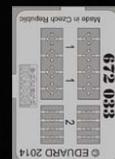
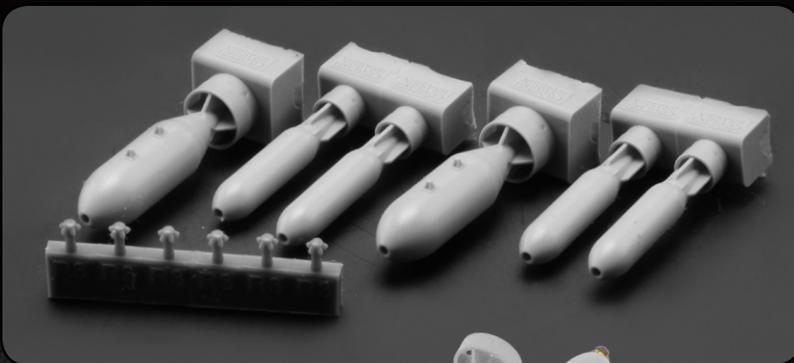
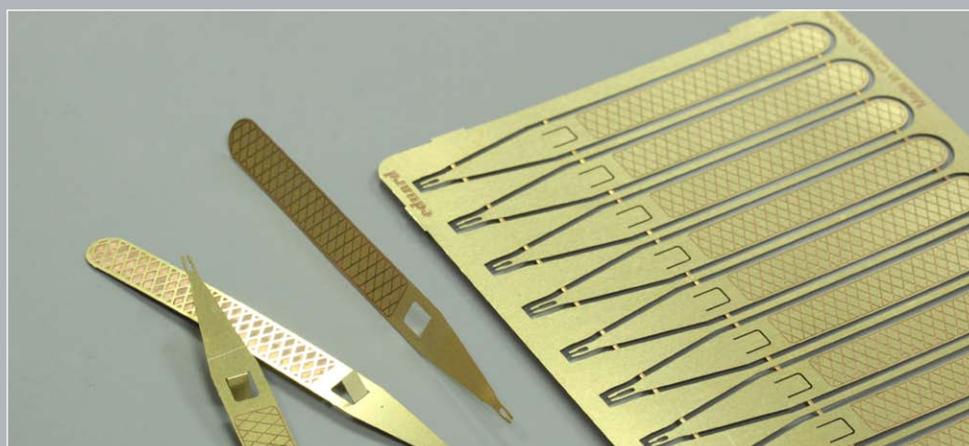
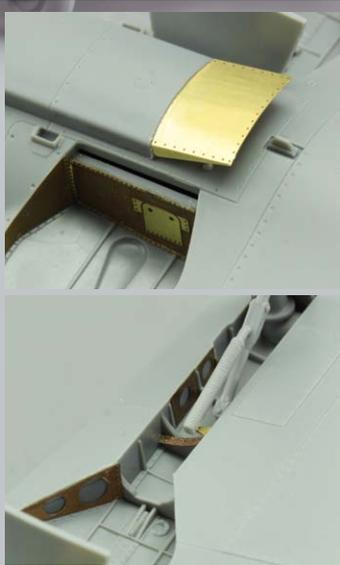


PHOTO-ETCHED SETS

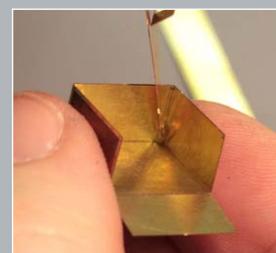
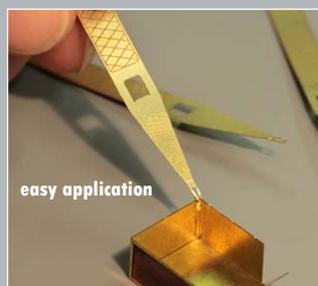
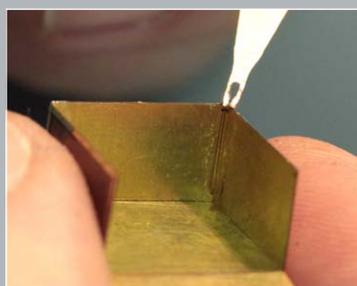
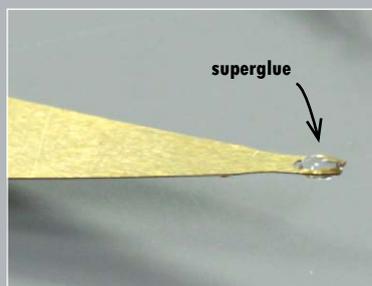
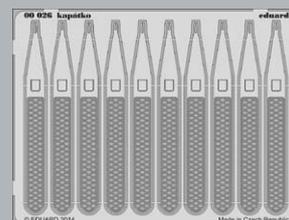
SELECTED

N1K2-J Shiden Kai S.A.
1/32 Hasegawa (32806)



KAPÁTKO

DROPPER **NEW!**

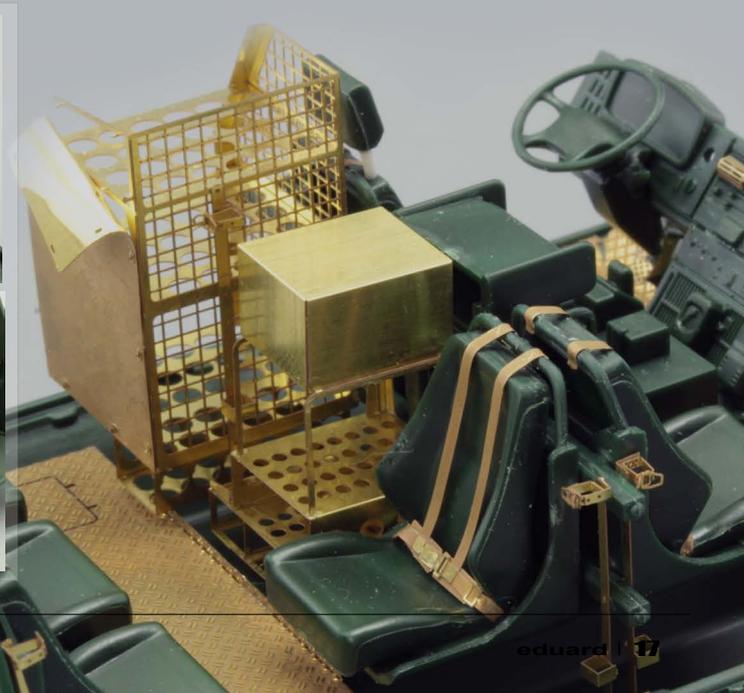


00026 Kapátko

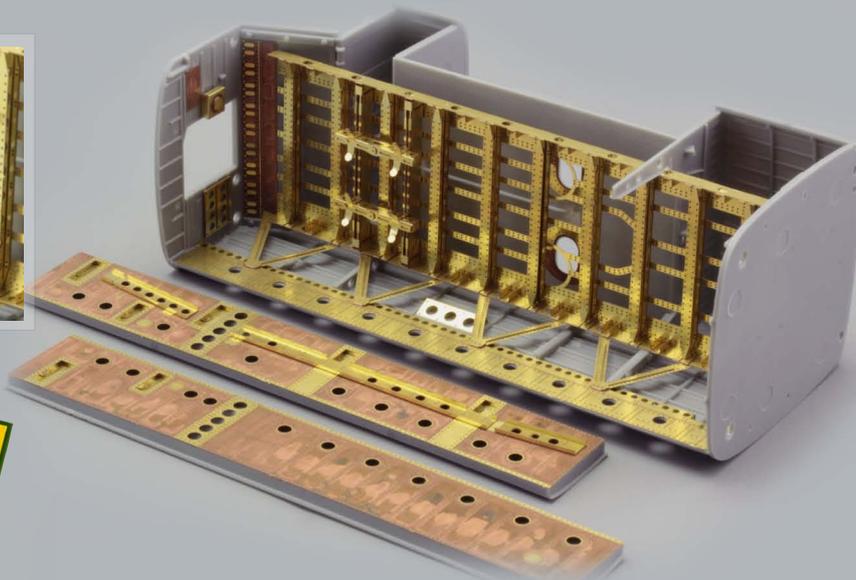
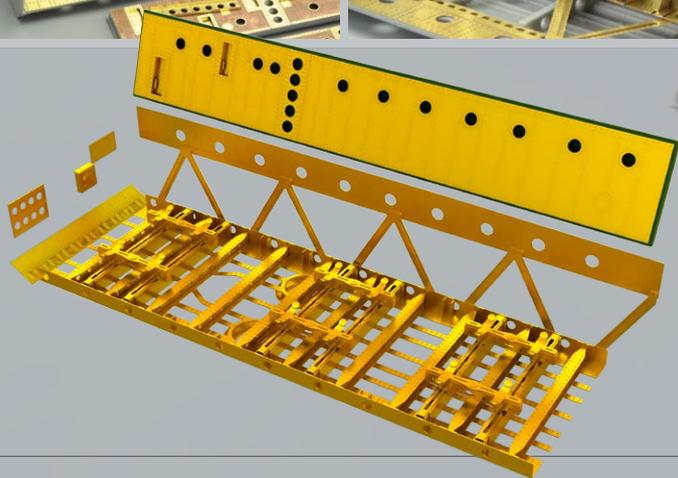
ATF Dingo 2 GE A PatSi interior
1/35 Revell (36264)



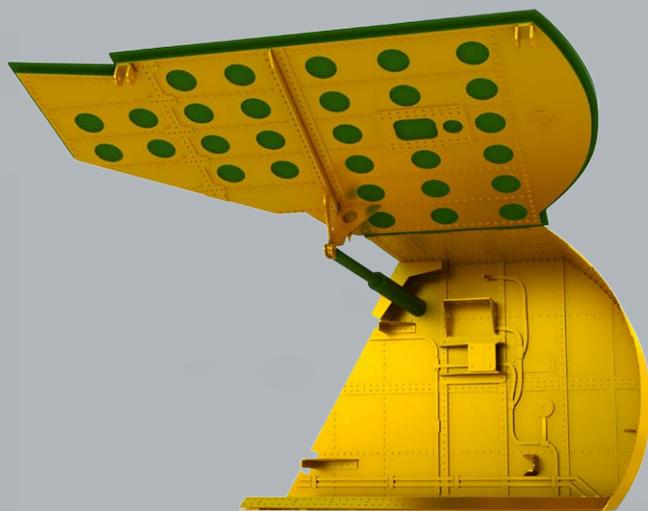
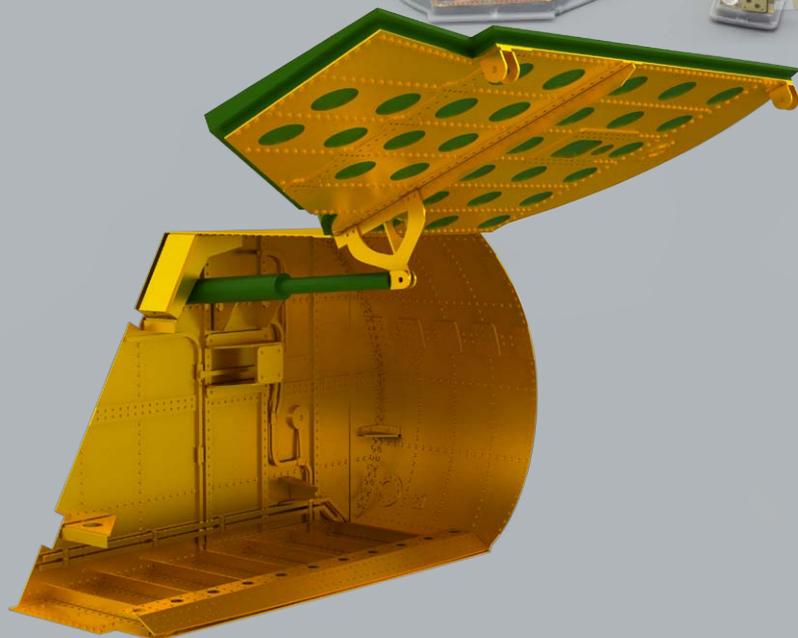
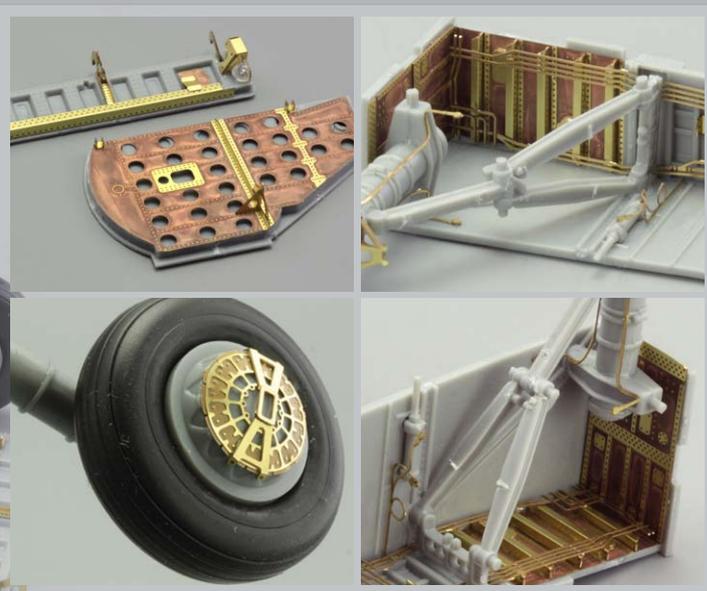
ATF Dingo 2 GE A PatSi exterior 1/35 Revell (36263)



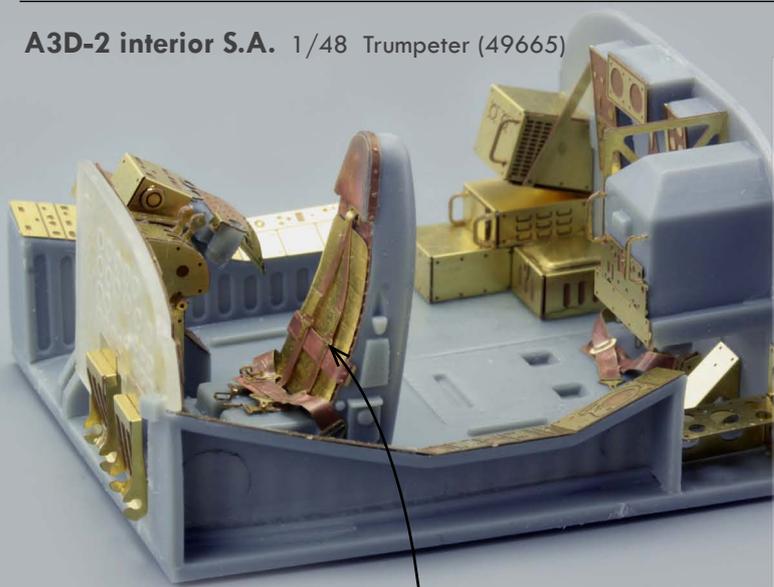
A3D-2 bomb bay 1/48 Trumpeter (48764)



A3D-2 undercarriage 1/48 Trumpeter (48791)

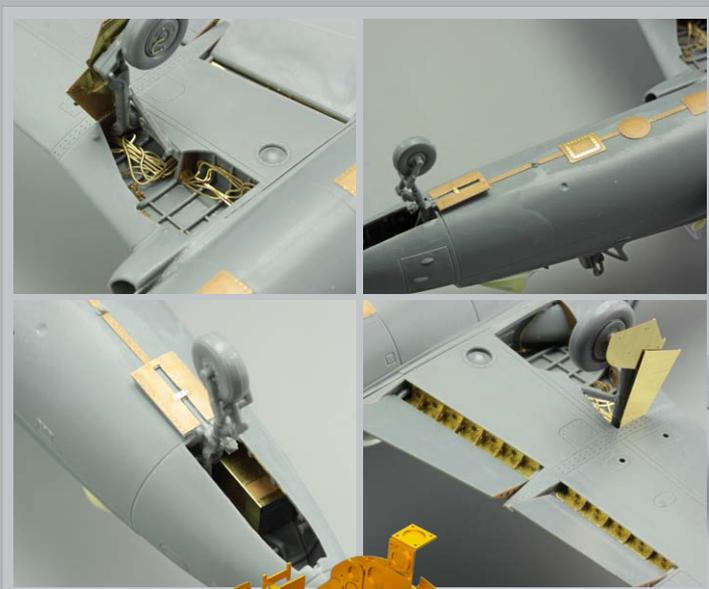


A3D-2 interior S.A. 1/48 Trumpeter (49665)

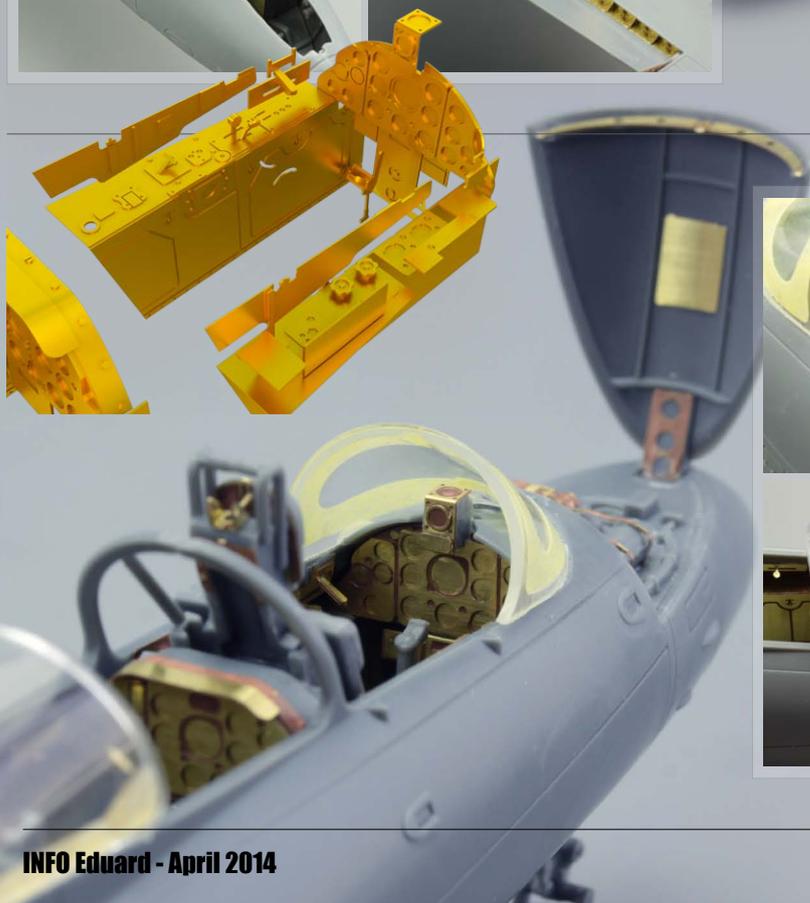


A3D-2 seatbelts 1/48 Trumpeter (49667)

L-29 Delfin exterior 1/48 AMK (48801)



L-29 Delfin interior S.A. 1/48 AMK (49676)





USS Arizona part 1- cranes 1/200 Trumpeter (53099)



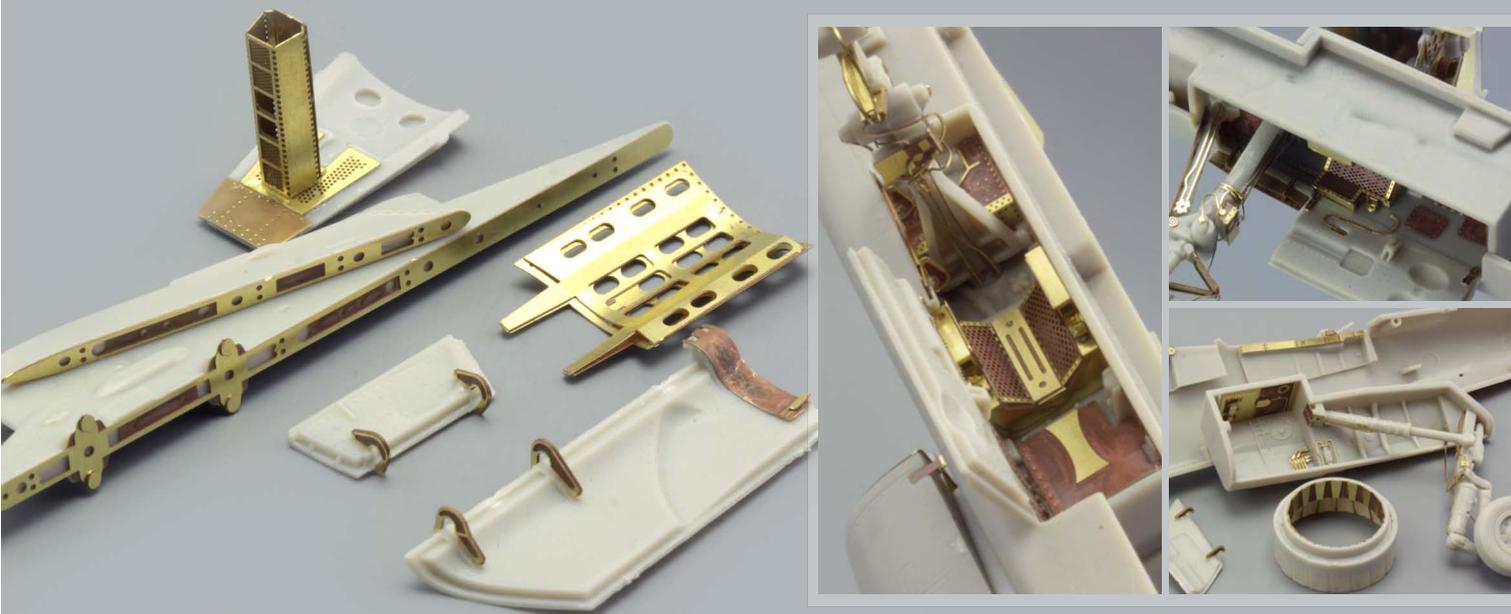
USS Arizona part 2-catapults 1/200 Trumpeter (53100)



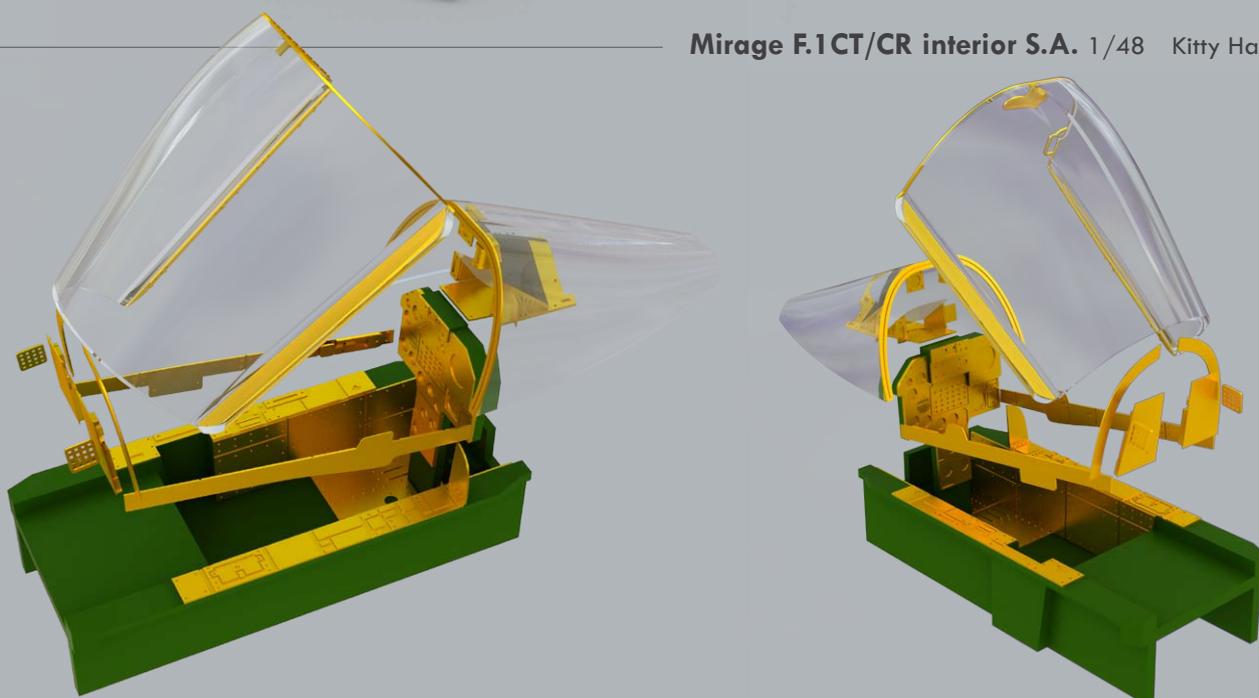
USS Arizona part 3-life boats 1/200 Trumpeter (53104)



Mirage F.1CT/CR exterior 1/48 Kitty Hawk (48804)



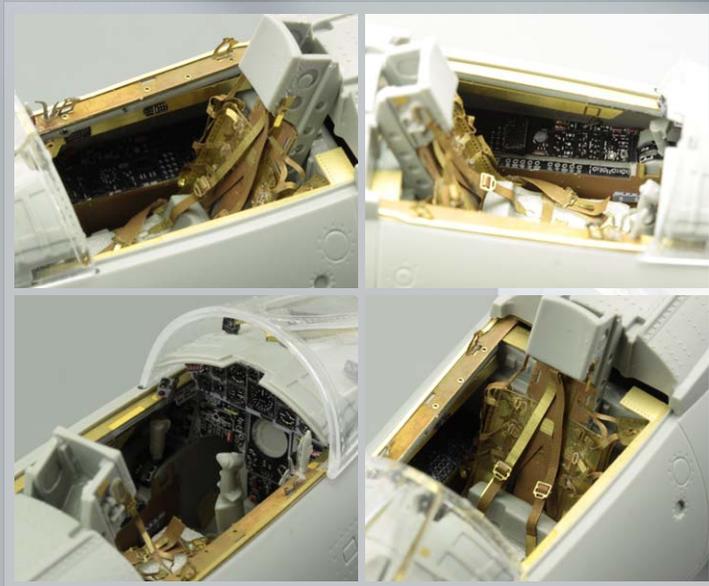
Mirage F.1CT/CR interior S.A. 1/48 Kitty Hawk (49675)



Exterior and FABRIC seatbelts will be available on May 2014.

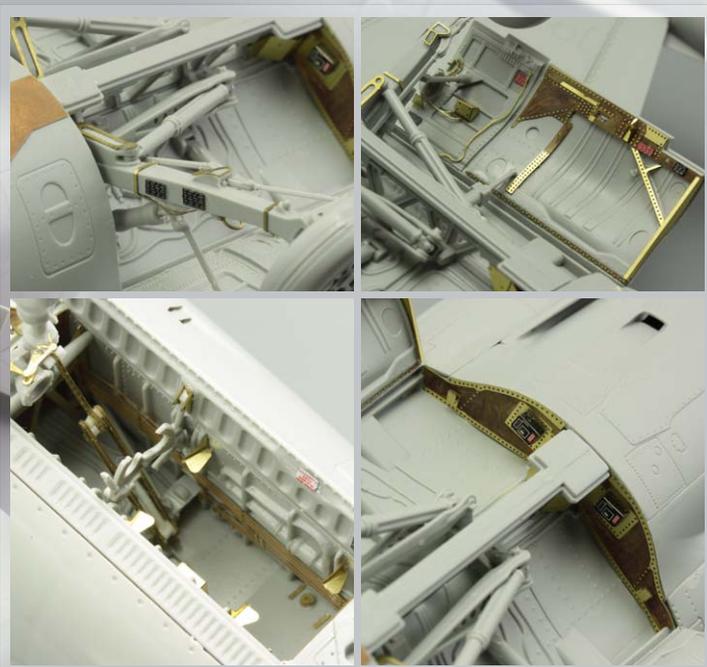


F-104G interior S.A. 1/32 Italeri (30803)



F-104 C2 seatbelts 1/32 Italeri (30808)

F-104 undercarriage 1/32 Italeri (32811)

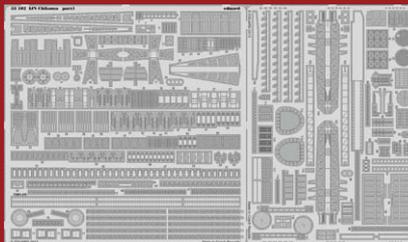


All sets included in this BIG ED are available separately, but with every BIG ED set you save up to 30%.

BIG ED

BIG5320 IJN Chikuma 1/350 TAMIYA

53102 IJN Chikuma



53103 IJN Chikuma railings



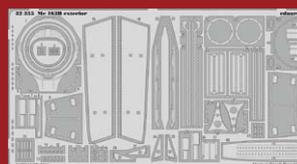
17518 IJN Figures S.A.



53102 IJN Chikuma (BIG5320)

BIG3338 Me 163B 1/32 MENG

32355 Me 163B exterior



32802 Me 163B S.A.



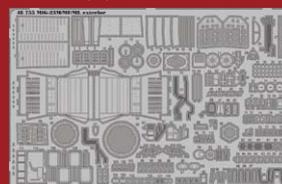
JX161 Me 163B



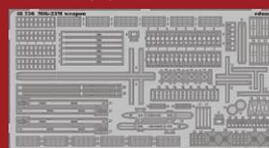
32802 Me 163B S.A. (BIG3338)

BIG4999 MiG-23MF 1/48 TRUMPETER

48755 MiG-23M/ML/MF exterior



48756 MiG-23M/ML/MF weapon



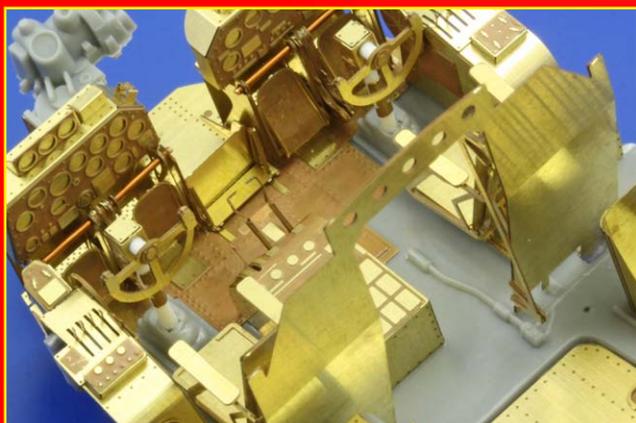
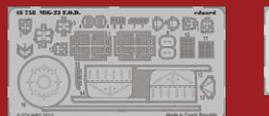
EX409 MiG-23MF



48758 MiG-23 F.O.D.



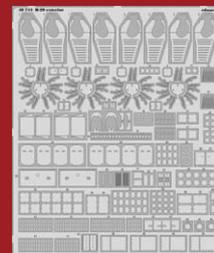
49663 MiG-23MF interior S.A.



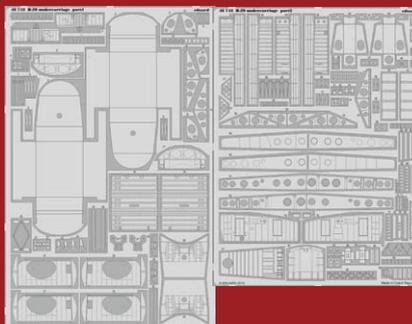
49616 B-29 interior S.A. (BIG49616)

BIG4998 B-29 1/48 MON/REV

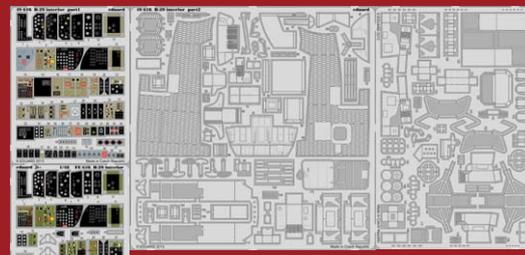
48744 B-29 exterior



48743 B-29 undercarriage



49616 B-29 interior S.A.



49617 B-29 seatbelts



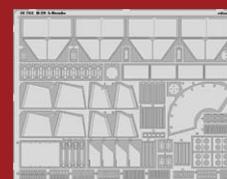
EX367 B-29



49634 B-29 rear interior



48763 B-29 A-Bombs



48746 B-29 bomb tails



BIG5320 IJN Chikuma 1/350 TAMIYA

BIG3338 Me 163B 1/32 MENG

BIG4999 MiG-23MF 1/48 TRUMPETER

BIG4998 B-29 1/48 MON/REV

KITS

2115	Bf 110C-6	1/72	Limited Edition
84137	Spitfire Mk.IXc early version	1/48	Weekend
8066	P-39L/N	1/48	ProfiPACK
8223	Hellcat Mk.I/II (REEDITION)	1/48	ProfiPACK

PHOTO-ETCHED SETS

00026	Kapátko		
00028	Template oblongs & square STEEL		
00029	Template oblongs STEEL		
17527	Figures Regia Marina WWII	1/700	
32808	F-104 C2 seatbelts	1/32	Italeri
32803	F-104G interior S.A.	1/32	Italeri
32806	N1K2-J Shiden Kai S.A.	1/32	Hasegawa
32807	Remove Before Flight FABRIC	1/32	
32811	F-104 undercarriage	1/32	Italeri
36263	ATF Dingo 2 GE A PatSi interior	1/35	Revell
36264	ATF Dingo 2 GE A PatSi exterior	1/35	Revell
48764	A3D-2 bomb bay	1/48	Trumpeter
48791	A3D-2 undercarriage	1/48	Trumpeter
48801	L-29 Delfin exterior	1/48	AMK
48804	Mirage F.1CT/CR exterior	1/48	Kitty Hawk
49665	A3D-2 interior S.A.	1/48	Trumpeter
49675	Mirage F.1CT/CR interior S.A.	1/48	Kitty Hawk
49676	L-29 Delfin interior S.A.	1/48	AMK
49677	A3D-2 seatbelts	1/48	Trumpeter
53099	USS Arizona part 1-cranes	1/200	Trumpeter
53100	USS Arizona part 2-catapults	1/200	Trumpeter
53104	USS Arizona part 3-life boats	1/200	Trumpeter

73496	Harrier GR.1 S.A.	1/72	Airfix
73497	F-35A S.A.	1/72	Italeri

ZOOMS

33131	F-104G interior S.A.	1/32	Italeri
33132	N1K2-J Shiden Kai interior S.A.	1/32	Hasegawa
FE665	A3D-2 interior S.A.	1/48	Trumpeter
FE675	Mirage F.1CT/CR interior S.A.	1/48	Kitty Hawk
FE676	L-29 Delfin interior S.A.	1/48	AMK
SS496	Harrier GR.interior 1 S.A.	1/72	Airfix
SS497	F-35A interior S.A.	1/72	Italeri

MASKS

CX347	F-35B	1/72	Fujimi
EX415	L-29 Delfin	1/48	AMK

BIG ED

BIG5320	IJN Chikuma	1/350	Tamiya
BIG3338	Me 163B	1/32	Meng
BIG4998	B-29 1/48	1/48	Revell
BIG4999	MiG-23MF	1/48	Trumpeter

BRASSIN

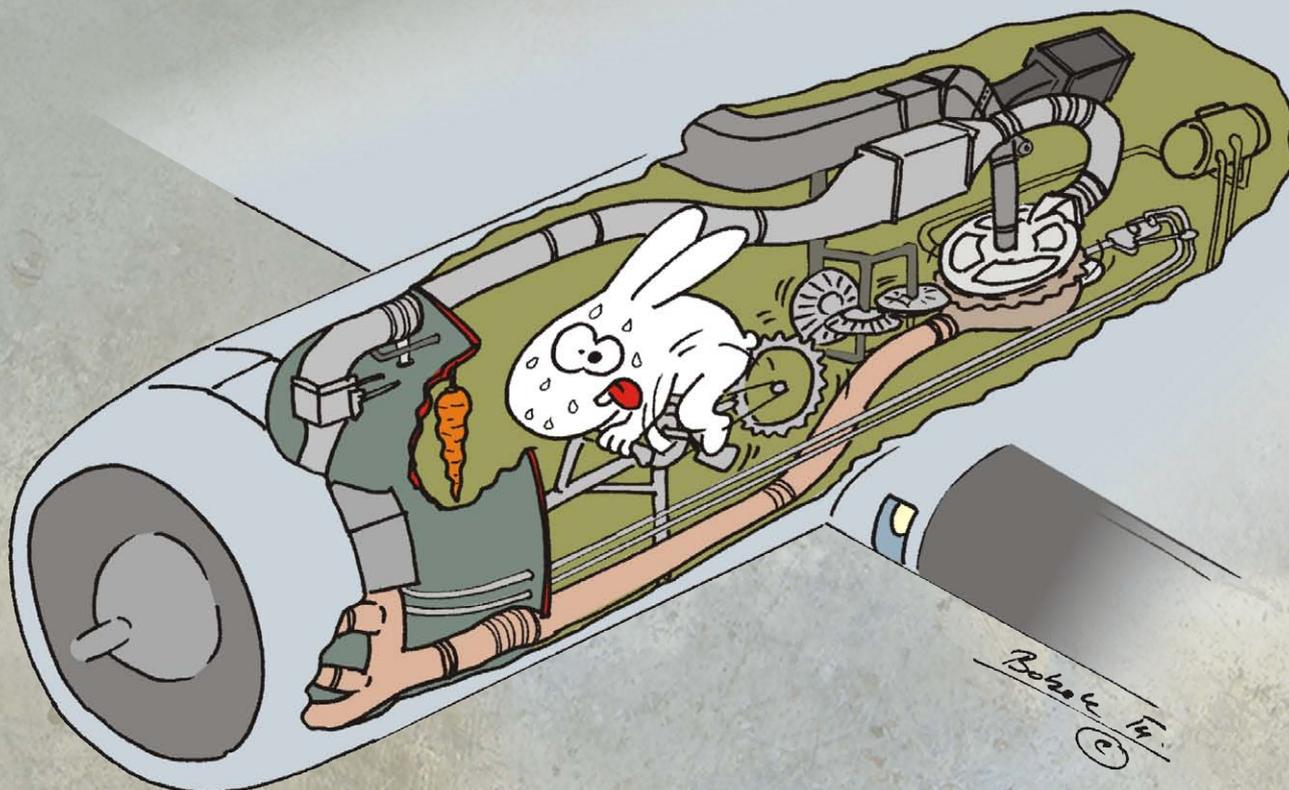
632032	F4U-1 engine	1/32	Tamiya
632033	B-17 superchargers	1/32	HK Models
632035	Bf 109G cannon pods	1/32	Revell
648133	Spitfire 30gal slipper tank	1/48	Eduard
672033	British WW2 bombs	1/72	

BFC

BFC009	MiG-15 Bunny Racer	1/72	Eduard
BFC010	Aero L-29 Delfin	1/48	

BUY / e-shop Eduard

B-17 superchargers





FLAMING BASEBALLS

WGR.21 ROCKETS IN THE DEFENSE OF THE REICH

Jan Zdiarský

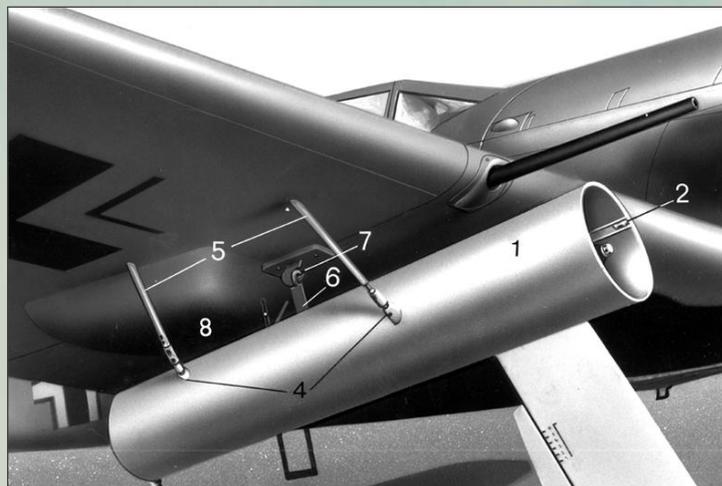
Among the annals of desperate, and practically never fully realized, attempts by the German Defense of the Reich to come up with an effective weapon with which to combat the growing onslaught of Allied four engined heavy bomber is the unguided 210mm WGr.21 rocket. This represents a chapter on this theme that is not possible to ignore. The rockets were fired from launch tubes from beneath fighter aircraft.

Bf 110G-2 from Zerstörer-geschwader 1 in a typical position before direct attack on a formation of B-24s of the 15th USAAF after launching their WGr. 21 from a greater distance. Artwork by Martin Novotný used as boxart for Eduard kit Cat. No. 8205.

As is often the case, the WGr.21 (Werfer-Granate 21) began life as a ground weapon. The five round NbW 42 (Nebelwerfer 42) was used by special chemical units of the Wehrmacht, the Nebeltruppen. This is where the name Nebel-Werfer originates, and is often mistakenly attributed to Dipl.-Ing. Rudolf Nebel. He, however, did not figure in the development of the weapon, despite being a rocket scientist, since he was deemed to be politically unreliable. The weapon was developed by Donauwörth and was used from 1942 to 1945 on the Eastern Front and in the gradual retreats from France, Africa, northern Italy and eventually Germany. This almost bizarre combination of five launch tubes of 21cm calibre were mounted on the chassis



Five barrels rocket launcher Nebelwerfer 42 used in defence of France during summer of 1944.



Installation of 21 cm rockets into their launchers under wings of a Fw 190A. (Bundesarchiv, archiv Eduard, www.deutschlufwaffe.de)

of the PaK 36 cannon. The muzzle velocity of the weapon was 320m/s and its range was 8,000m.

When it came time, in the spring of 1943, to adapt the rocket for use in aerial combat, the pioneering units in its use were those that bore the brunt of defense duties against the incoming waves of heavy bombers, JG 1 and JG 11. In the summer of 1943, ZG 26 and ZG 76 also became active participants. The firing parameters were dictated by fundamentally different rules than those used by the surface to surface rockets. A significant role in these parameters was played by the rocket trajectory and distance the rockets were fired. The goal was not to directly contact the target bomber, but to have the shell explode in the midst of a formation of aircraft, where effective damage could be done in a 30 to 50m radius. The explosion was timed to detonate at a distance of 600 to 1200m. The attacking fighter then needed to estimate launch distances quite accurately.

The construction of the weapon consisted of the launch tube the rockets with their associated powerplants. These burned solid fuel and weighed 18.4kg. The high explosive warhead with its timing mechanism weighed 40.8kg. The assembly was 117cm long and weighed 112kg.

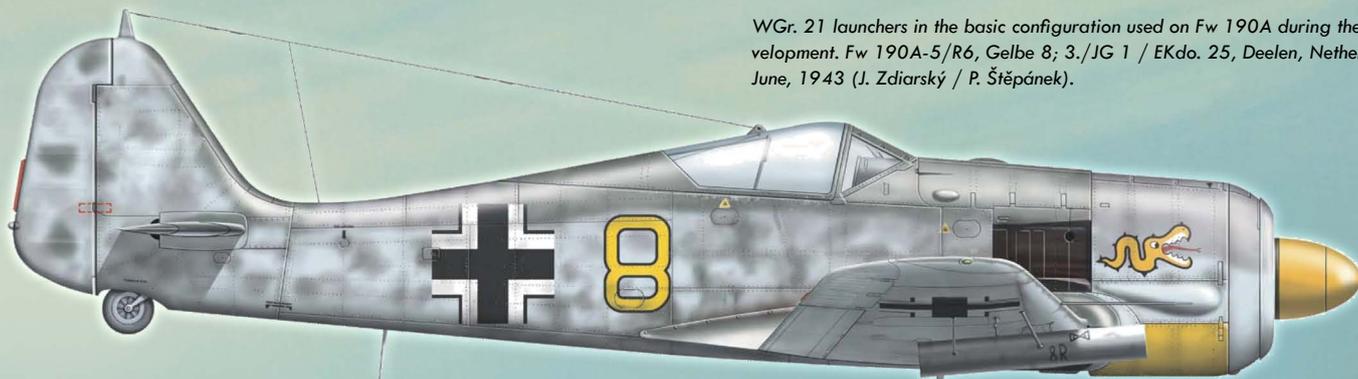
The most successful use of the WGr.21 was realized during the 8th USAAF raids on Schweinfurt - Regensburg on August 17th, 1943. Among the aircraft that defended the Allied targets were Bf 109G-6 from 5.Staffel JG 11, the unit that pioneered the use of this weapon. Significant successes were also experienced by Bf 110Gs that were similarly armed. These typically carried the pods under the wings in pairs.

Allied losses during this mission were huge. A total of 60 out of 376 bombers failed to return. Several dozen bore varying degrees of damage (various sources vary in numbers 55-95). Personnel expressed, this was a tremendous loss of more than 600 men (about half of them died, the others were captured or interned in Switzerland, five crews were rescued after landing on the sea). 381st and 100th

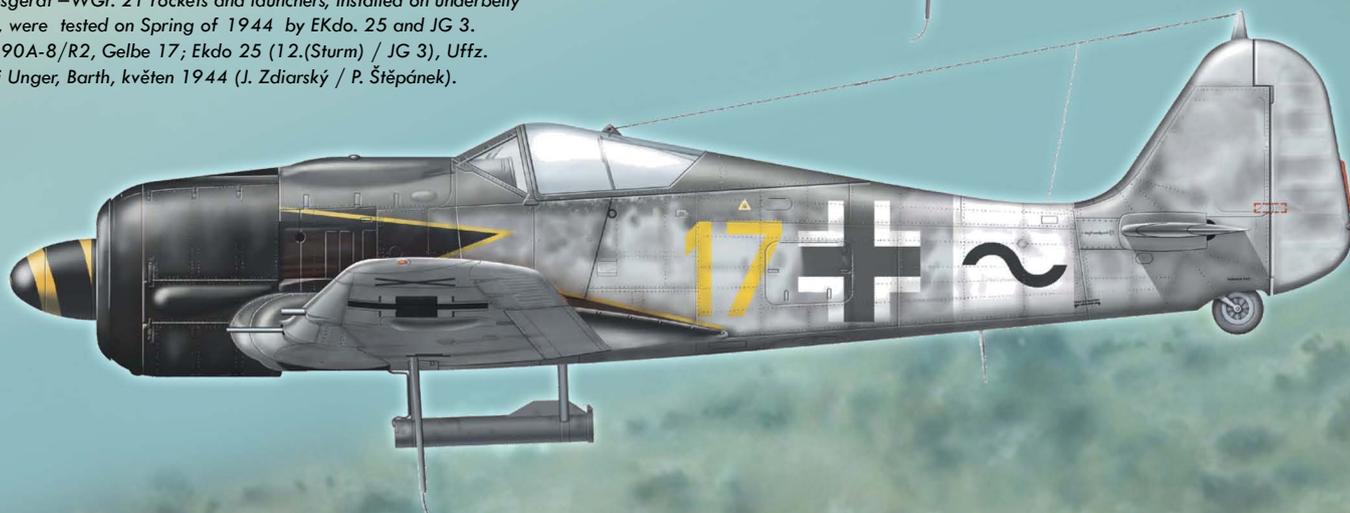


A formation of B-17F (8th USAAF) over Schweinfurt on 17th August 1943. It was the first time when Americans got surprised by the Luftwaffe attack by air-air rockets, cal. 21 cm. (NARA)

WGr. 21 launchers in the basic configuration used on Fw 190A during their development. Fw 190A-5/R6, Gelbe 8; 3./JG 1 / EKdo. 25, Deelen, Netherlands, June, 1943 (J. Zdiarský / P. Štěpánek).



Krebsgerät –WGr. 21 rockets and launchers, installed on underbelly rack, were tested on Spring of 1944 by EKdo. 25 and JG 3. Fw 190A-8/R2, Gelbe 17; Ekdo 25 (12.(Sturm) / JG 3), Uffz. Willi Unger, Barth, květen 1944 (J. Zdiarský / P. Štěpánek).



Launching tests of WGr. 21 installed on Fw 190A (www.deutschlufwaffe.de)

Bomb Groups suffered with the heaviest losses, they both lost nine B - 17F from the number of twenty or twenty-one which were sent on a mission. The determination to set at least qualified estimate of how many bombers were actually shot down, or separated from the formation because of a damage caused by missiles WGr.21, would be a matter of detailed and quite difficult research. In fact, the Luftwaffe fighters claimed 101 four-engine bombers to be shot down, although the actual losses counted 60 machines. There were several attacks on bombers and because of refueling and munition adding of German fighters these could take place in several waves, both on the way of Americans to the target and on



WGr.21 installed on Bf 109G-6.



WGr.21 installed on Bf 109G-6.

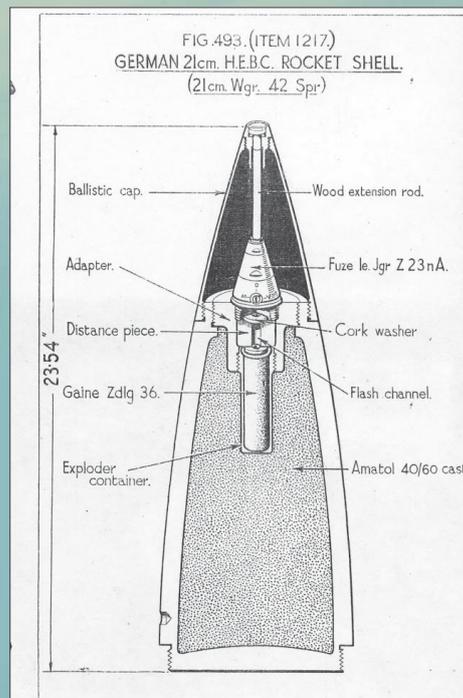
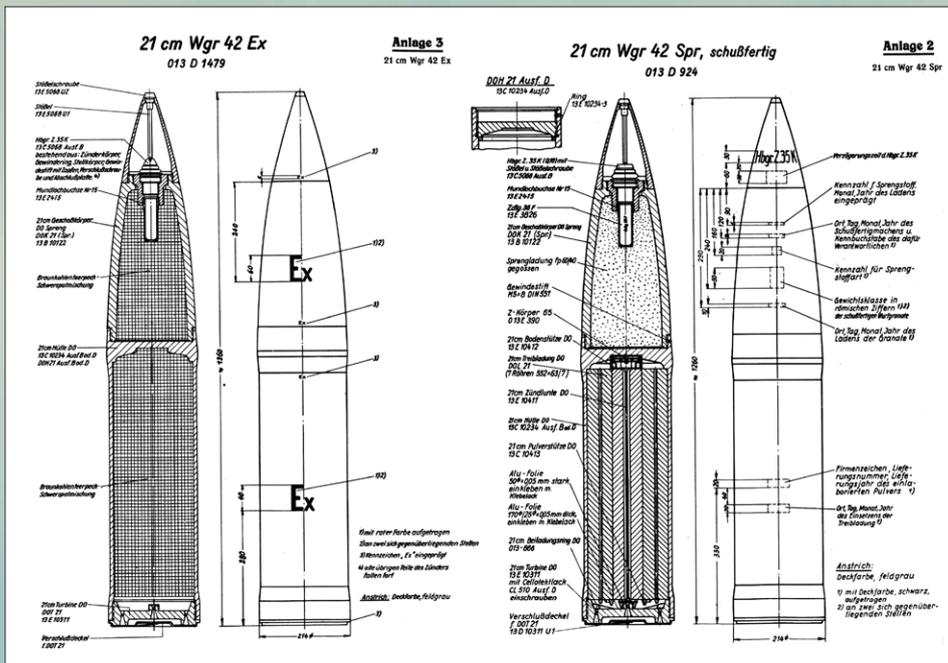
their return. Kills in time between 11:30 and 17:58 were claimed by the fighters of JG 3, JG 11, JG 26, JG 104, JG 106, NJG 1, NJG 6, JG 2, NJG 101, JG.Süd and also Industrie Staffel Regensburg. So it was a very diverse Luftwaffe force with a total strength of more than 300 machines, represented by the first line fighter units as well as the school units, night fighters, or protective Staffel plants in Regensburg. Luftwaffe losses are most often presented as 27 machines, although the Allies are claiming the destruction of 320 enemy aircraft (of which only 288 claim the bombers aerial gunners).

Although subsequent successes were not as impressive (the success rate being in the 15% range), Allied air crews maintained a healthy respect for these weapons up to the final missions of the war. The American nickname for these weapons was 'Flying Baseballs'. For Luftwaffe pilots, these rockets represented a very useful but difficult to operate weapon. Furthermore, there were significant aerodynamic penalties associated with the use of the rockets that impacted the manoeuvre capability of the parent aircraft. This became very significant when the P-51 was introduced as an escort aircraft. There was not a lot of fondness for these weapons among Luftwaffe pilots.

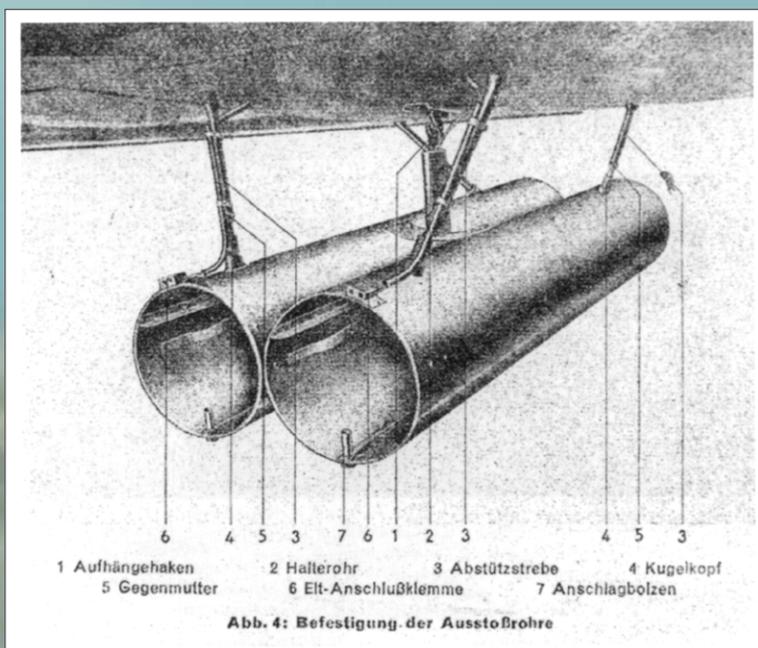
The WGr.21 (often referred to as the BR 21 in initial manuals) were used on the Fw 190A-7 and A-8 (as field mod R6), the Bf 109G (most notably the G-6 as field mod R2), the Bf 110, 210/410 and Me 262. Tests were also conducted on the He 177 when Schrage Muzik trials were also carried out.

REFERENCES:

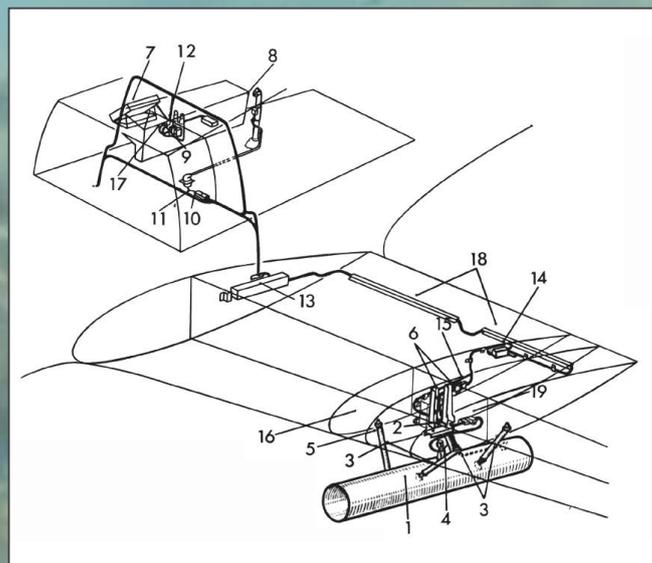
- Handbuch – Die Munition des 21 cm Nebelwerfers 42 (D 444/2132), 1943
- Gerät 21 Fw 190, Focke Wulf Flugzeugbau GmbH., Bremen, 1943
- Fw 190 D-9 Flugzeug-Handbuch; D.(Luft) T.2190D-9, Teil 8C Sonderwaffenanlage, 1945
- http://www.militaryfactory.com/armor/detail.asp?armor_id=351
- <http://www.lonesentry.com/ordnance/21-cm-wgr-42-spr-mit-hbgr-z35k-21-cm-rocket-projectile.html>
- <http://www.deutschlufwaffe.de>
- wikipedia.org
- Bundesarchiv
- US National Archives and Record Administration
- Archiv Eduard
- R. Le Strange - Century Bombers
- 100th Bomb Group Foundation Archives



Rocket scheme with detonator, fuse and the explosive load.

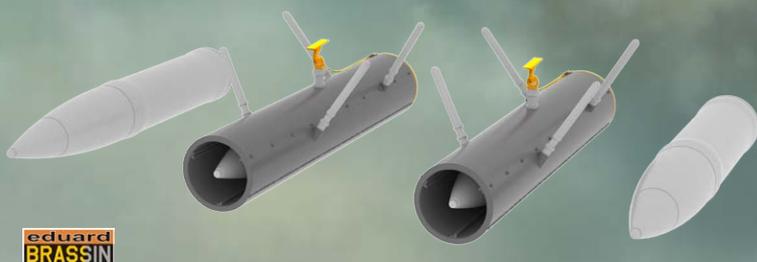


Twin launchers assembly as used on Bf 110G-2, Me 210 and Me 410.



WGr.21 installed on Fw 190D-9.

RECOMMENDED:



632034 WGr.21 pro Bf 109G 1/32

- 2 pieces of German WWII air-to-air unguided rockets.
- Photo-etched details included.

Bf 110G-2 ProfIPACK 8205 Bf 110G-2 1/48



7085 Bf 110G-2 1/72





text and photo: Jan Zdiarský

B-17 superchargers

“Each engine on the B-17 has a turbo-supercharger which boosts manifold pressure for take-off and provides sea-level air pressure at high altitudes.

To operate the turbo-superchargers, engine exhaust gas passes through the collector ring and tailstack to the nozzle box, expands to atmosphere through the turbine nozzle, and drives the bucket wheel at high speed.

A ramming air inlet duct from the leading edge of the wing supplies air to the impeller, which increases pressure and temperature. However to avoid detonation at the carburetor, the air supplied to the carburetor passes through the intercooler, where the temperature is reduced. The internal engine impeller, driven by the engine crankshaft, again increases the air pressure as it enters the intake manifold. Higher intake ma-

nifold pressure results in greater power output. ... At sea level, the turbo turns only about 10,000 rpm, while at 30,000 feet it turns at 21,300 rpm, which is the recommended maximum speed for continuous operation.”

(B-17 Pilot Training Manual, Office of Flying Safety, HQ AAF, 1944)

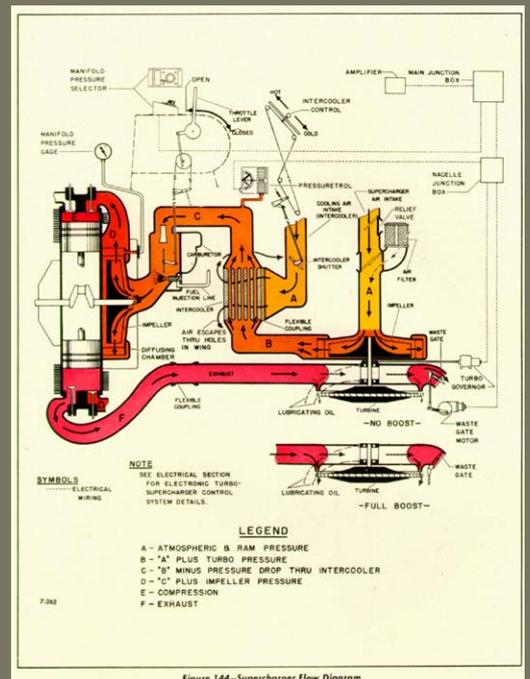
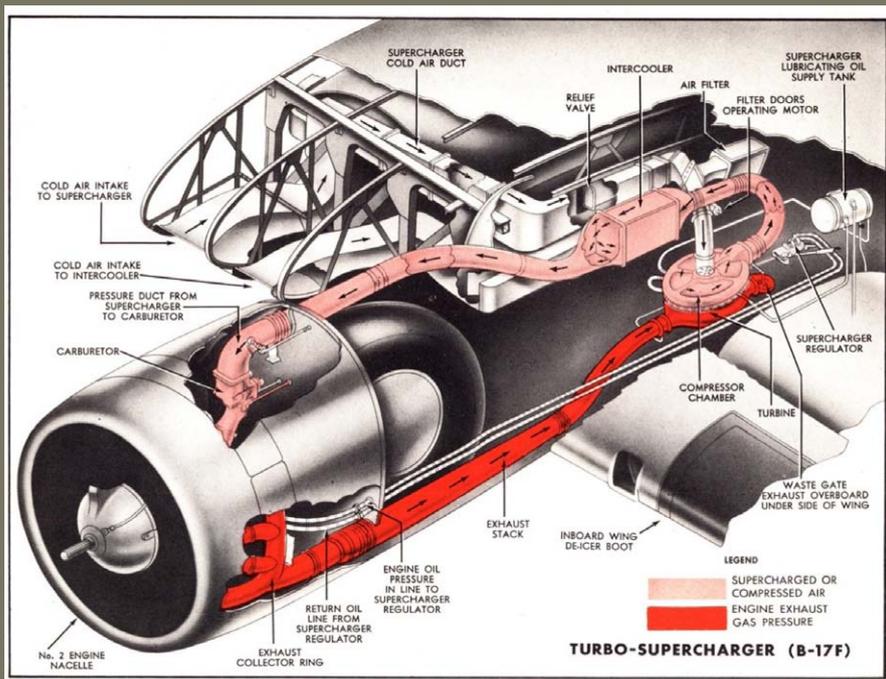
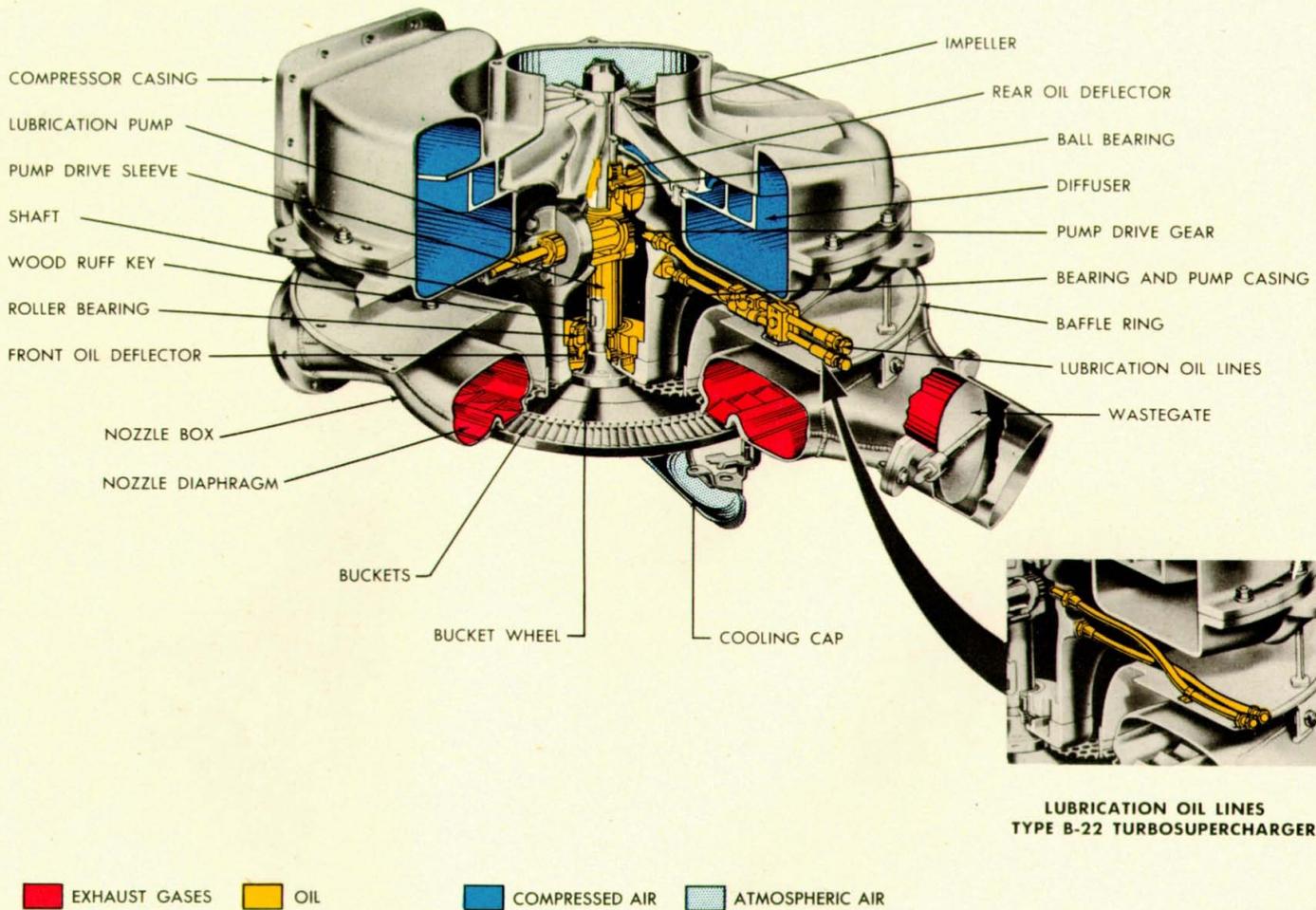


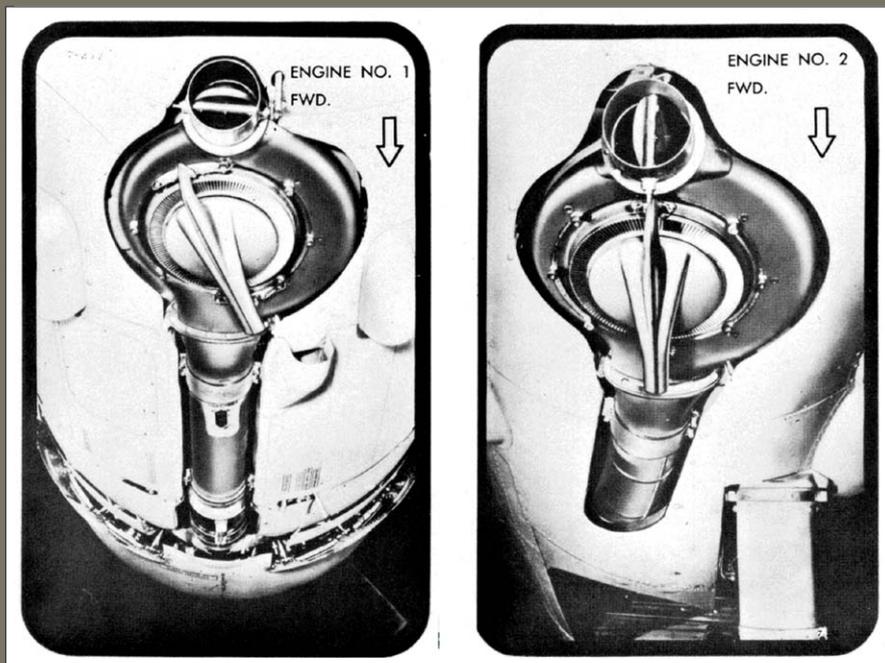
Figure 144-Supercharger Flow Diagram

Supercharger Flow Diagram



Cutaway view of the B-17 Type B-2 Supercharger.





Different way of the exhaust gas for superchargers of outer and inner engines was resulted by position of the main landing gear (in engines No. 2 and 3 nacelles)



Complete supercharger including compressor chamber as displayed at The National Museum of the Mighty Eight Air Force, Savannah, GA.





Engine No.4 Supercharger on the B-17G „City of Savannah“, restored in The National Museum of the Mighty Eight Air Force.

engine No. 4



engine No. 1

Superchargers of David Tallichet's of still flyable B-17G(F) (N3703G) are a perfect example of color and weathering as an inspiration for finishing of Eduard Brassin accessories.

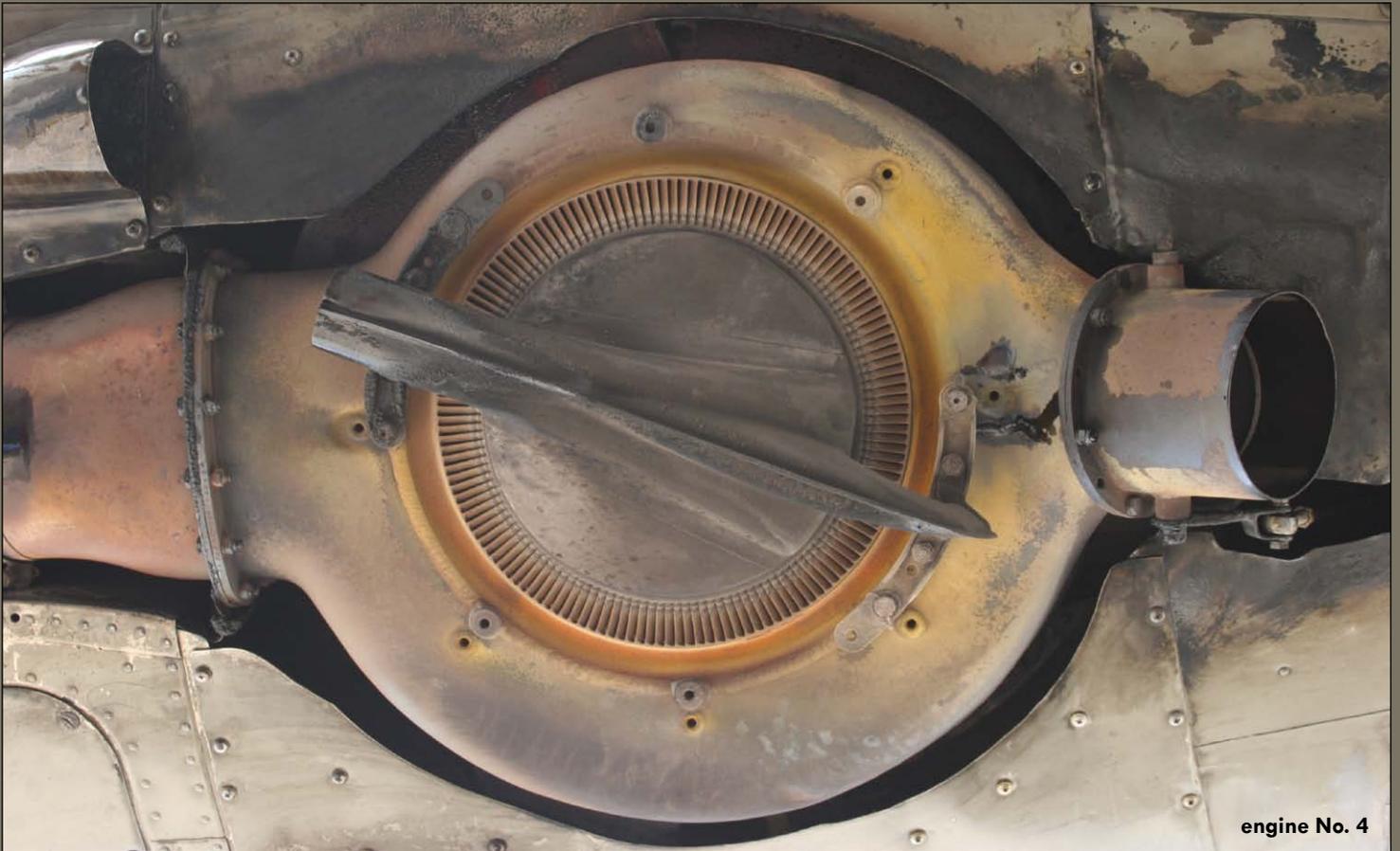




engine No. 2



engine No. 4



engine No. 4



engine No. 4

motor č. 4



engine No. 4

engine No. 4



632033
B-17 superchargers
1/32 HK Models



BUY B-17 superchargers 1/32



Bf 109E-3

1/48



Bf 109 E-3, W.Nr. 2486, flown by Lt. Ioan Di Cesare, Escadrila 57, Grupul 7 Vanatoare, Karpovka airfield – Stalingrad, Soviet Union, November, 1942

The Romanian air force, apart of their own local aircraft, used aircraft purchased abroad. The Bf 109 of various subtypes were among them. The E-3 illustrated was delivered from Germany in the typical export camouflage of RLM 71 and 65 colors. The Donald Duck artwork was the unit badge of Grupul 7 (Group). Five white stripes on the left side of the fuselage symbolize Di Cesare's ground victories during Operation Barbarossa, two kill marks on the fin denote his aerial victories. Apart of the pilot 'DIC' initials, the „Hai Fetito!“ (Go ahead Fetita) inscription was also painted on both sides of the engine cowling. This references to the pilot's favourite racehorse philly 'Fetita'. Ioan Di Cesare is a Rumanian aces with 16 confirmed victories.

**built by Tomáš Hřabačka,
KPM Pilsen member.**





Cat. No. 84165 Bf 109E-3 1/48 Weekend



Cat. No. 8262 Bf 109E-3 1/48 ProfiPack



Bf 109G-6

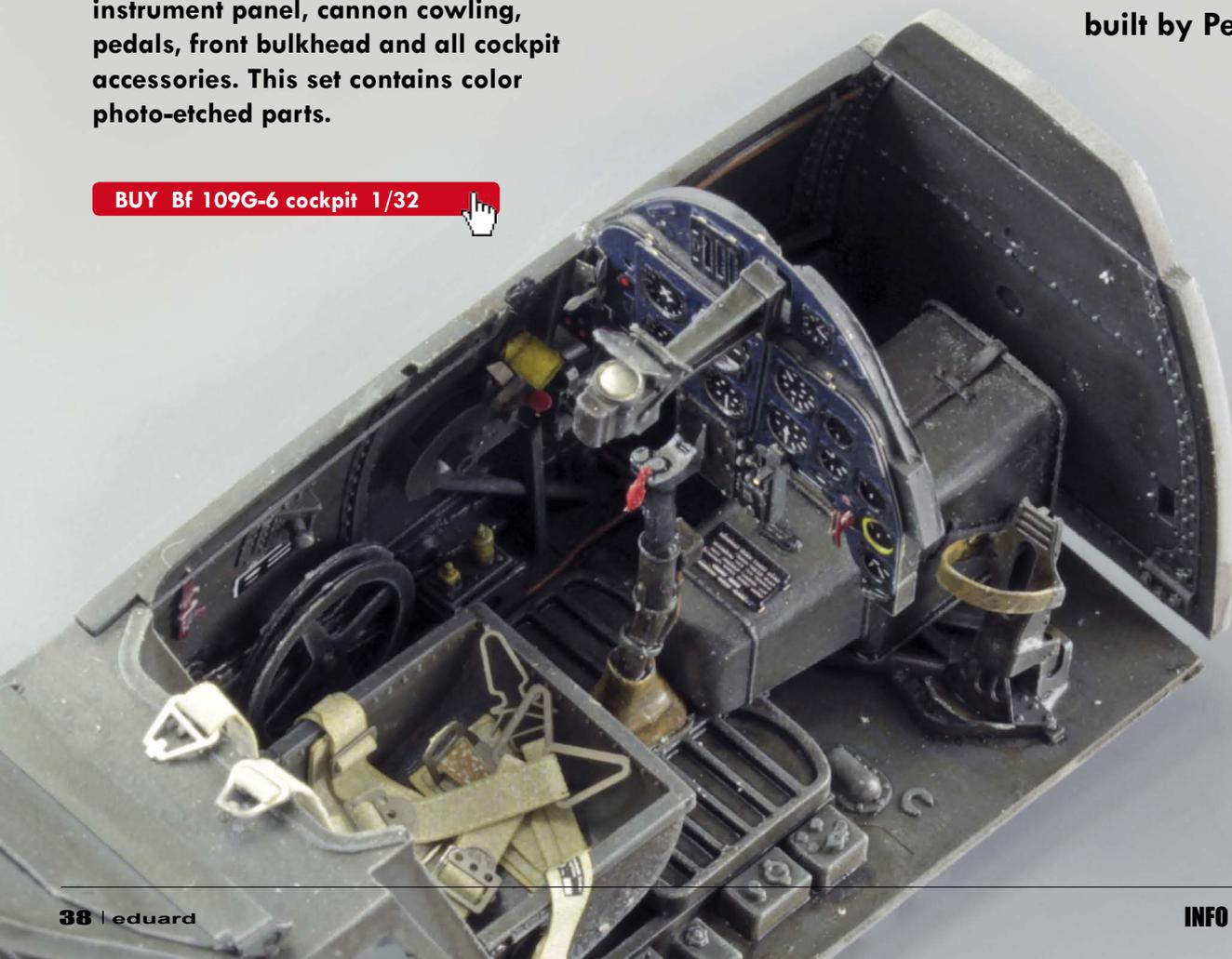
kokpit 1/32



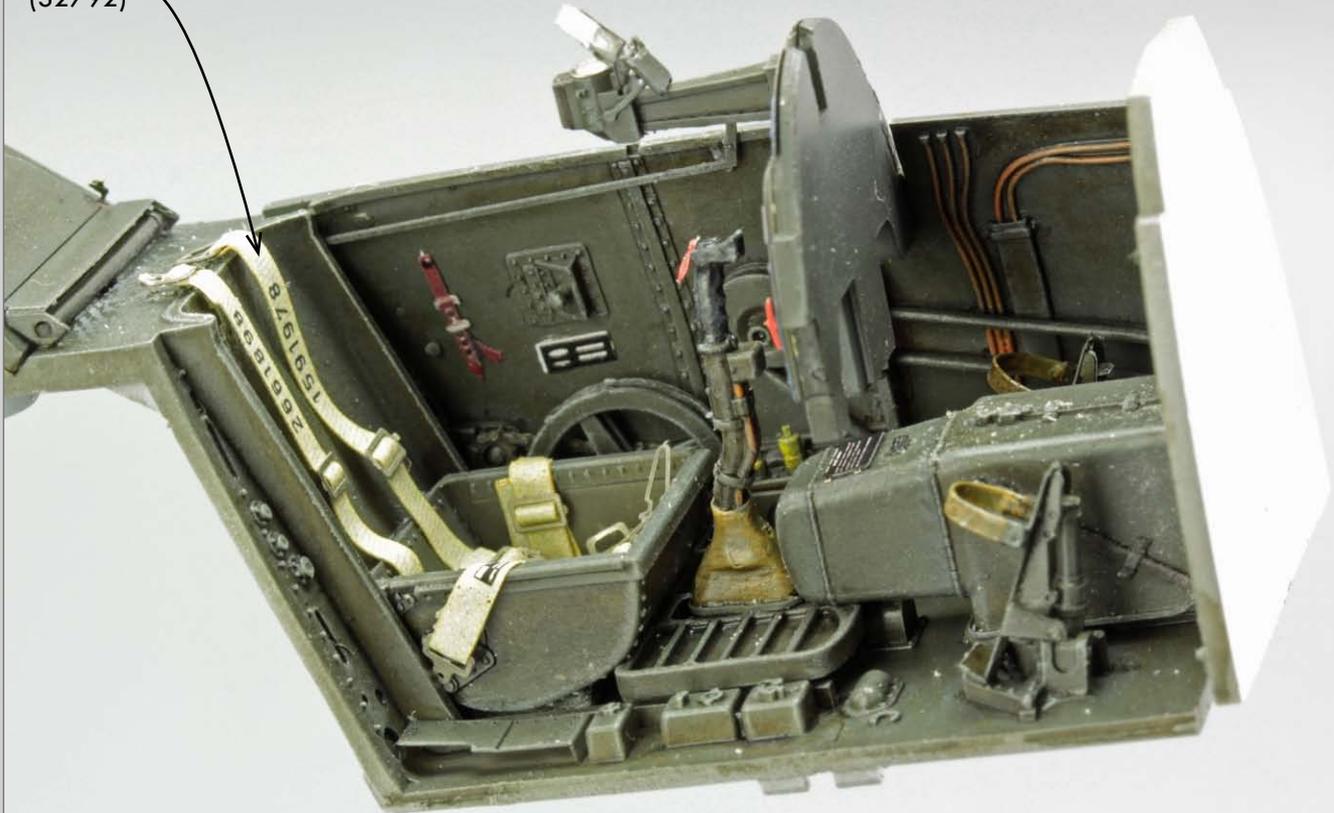
Complete resin cockpit for the Revell Bf 109G-6 in 1/32. The set includes floor, sidewalls, seat, back armoring, instrument panel, cannon cowling, pedals, front bulkhead and all cockpit accessories. This set contains color photo-etched parts.

built by Petr Zatřepálek

BUY Bf 109G-6 cockpit 1/32



Bf 109G FABRIC seatbelts 1/32
(32792)



eduard fashion

LIMITED EDITION

FULLCOLOR ARTWORK COTTON T-SHIRT (BY REZAVA VRTULE)

(SIZE: M, L, XL, XXL, XXXL)

BUY 

SAMOSTATNĚ NEPRODEJNÉ!



With kit Cat. No. 1186
Good Morning Da Nang!

sizes:

M (1186X-M)

L (1186X-L)

XL (1186X-XL)

XXL (1186X-XXL)

XXXL (1186X-3XL)

**GOOD
MORNING
DA NANG!**

ON EDUARD STORE ONLY!



BFC010
L-29 Delfin
1/48 Eduard

Bunny Fighter Club Exclusive product.

BUY L-29 Delfin 1/48 

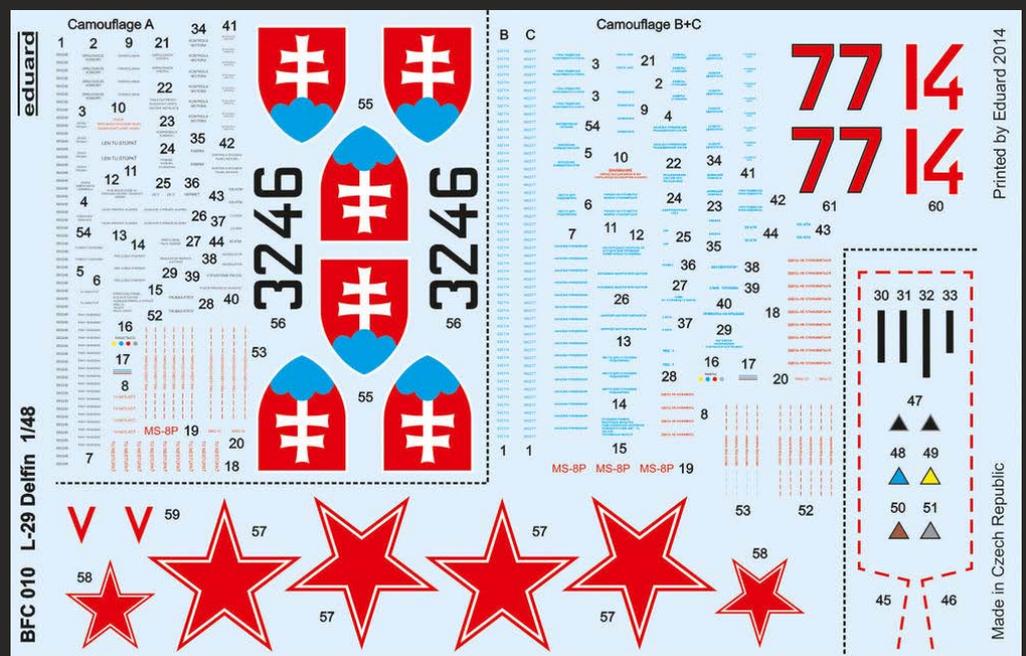


photo: Jiri Hadrava

KAMIKAZE CUP

The competition is part of the Three royal cities Cup

Kamikaze Cup, the 13th annual competition, in which one of the models from Eduard production is being built directly at the kit show, won Zdeněk Birch from KPM Sturmovik Písek. This year's kit was MiG-15, which means that it has passed its first mass public test. Participants praised it and all 11 competitors, including one child, Vopalecky Vaclav jr., finished the model in the time limit, including dying, applying decals and some of them even did patina coating.

The competition is part of the Three royal cities Cup (Slaný, Louny, Žatec). It takes place in one of these cities each year. Žatec is on turn next year.

U2321



Spitfire Mk.IXe 1/48, Eduard

F-4B Phantom 1/48,
Academy (Eduard)







The winner of František Toman award is Jiří Macháček from SPL Liberec with RE 8 model from Wing Nuts in 1/32 scale.



The winner of Kamikaze Cup.



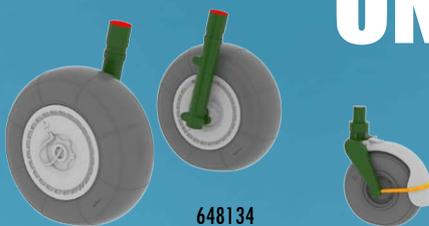
The winning MiG-15.



ON APPROACH

BIG ED (May)

- BIG5321 U-BOAT IXC 1/72 Revell
- BIG49100 F-4C 1/48 Academy
- BIG49101 Me 410A-1 1/48 Meng
- BIG49102 L-29 DELFIN 1/48 AMK



648134

BRASSIN



(May)

648134
Ju 88 wheels late
1/48 Dragon

648148
Bf 109G cannon pods
1/48 Eduard

648135
MG 81Z gun
1/48

648149
Bf 109G-6 wheels
1/48 Eduard

648140
Bf 109G cockpit
1/48 Eduard

648149

648141
Bf 109G-6 engine and guns
1/48 Eduard

648147
WGr.21 for Bf 109G
1/48 Eduard



648141

648148



648147

KITS

(May)



84126
MiG-21MF
1/48 Weekend



8268
Bf 109G-6
1/48 ProfiPACK

Bf 109G-6
eduard

CHECK OUR CAMPAIGN ON
www.facebook.com/EduardCompany a www.eduard.com.

PHOTO-ETCHED SETS (May)

PE-SETS

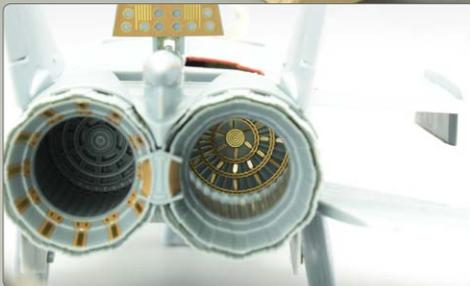
00031	Template ovals & oblong STEEL		
00032	Template ovals STEEL		
00033	Mesh 6x6 square STEEL		
00034	Mesh 4x4 square STEEL		
32348	F-104G exterior	1/32	Italeri
32817	F-104 C2 seatbelts SUPER FABRIC	1/32	
36265	D9R Doobi exterior	1/35	Meng
36268	D9R Doobi interior	1/35	Meng
36270	D9R Doobi cooling slats	1/35	Meng
48789	Jaguar GR.1 exterior	1/48	Kitty Hawk
48793	A3D-2 exterior	1/48	Trumpeter
48797	MiG-25PD/PDS Foxbat exterior	1/48	Kitty Hawk
48805	Su-2 exterior	1/48	Zvezda
48806	Su-2 landing flaps	1/48	Zvezda

48808	MiG-25 Foxbat air intakes & F.O.D.	1/48	Kitty Hawk
49066	Bf 109F/G seatbelts FABRIC	1/48	Eduard
49643	Jaguar GR.1 interior S.A.	1/48	Kitty Hawk
49669	MiG-25PD/PDS Foxbat interior S.A.	1/48	Kitty Hawk
49678	Su-2 interior S.A.	1/48	Zvezda
49680	MiG-25 Foxbat R-40 missiles detail set	1/48	Kitty Hawk
53109	USN sailors WWII 1/200 S.A.	1/200	
53110	USS Arizona part 4 - main top	1/200	Trumpeter
53111	USS Arizona part 5 - railings	1/200	Trumpeter
53112	USS Arizona part 6 - superstructure	1/200	Trumpeter
73505	Fw 190F-8 S.A.	1/72	Airfix
73506	Vampire FB.5 S.A.	1/72	MPM/Azur

ZOOMS

SS506	Vampire FB.5 S.A.	1/72	MPM/Azur
FE643	Jaguar GR.1 interior S.A.	1/48	Kitty Hawk
FE669	MiG-25PD/PDS Foxbat interior S.A.	1/48	Kitty Hawk
FE678	Su-2 interior S.A.	1/48	Zvezda

36265
D9R Doobi exterior
1/35 Meng



48797 MiG-25PD/PDS Foxbat exterior
1/48 Kitty Hawk



48805 Su-2 exterior
1/48 Zvezda



48806 Su-2 landing flaps
1/48 Zvezda



49669 MiG-25PD/PDS Foxbat interior S.A.
1/48 Kitty Hawk



53110 USS Arizona part 4 - main top
1/200 Trumpeter



53111 USS Arizona part 5 - railings
1/200 Trumpeter