

AFV

139

NOV/DEC 2024 • £7.95 UK \$16.99

www.afvmodeller.com

modeller



SÜDWIND Sturmhaubitze

TIBOR VARGA'S SNOWY SCENE

Airbrushes.com

Your UK HUB for everything to do with AIRBRUSHING!

iwata

Professional Airbrushes, Compressors, Spares and Accessories

SCAN ME



We also run Airbrush Courses for Modellers!

Top brands in stock:

GodHand

LIFECOLOR[®]
ACRYLIC HOBBY COLORS

SPARMAX

MODEL
CRAFT

BADGER

www.Airbrushes.com

01903 767800

sales@airbrushes.com

The Airbrush Company Ltd. 79 Marlborough Road, Lancing Business Park, BN15 8UF

CONTENTS

2	Südwind Sturmhaubitze Tibor Varga studies some local history.
16	Imperial Measures Karel Sutt brings up the big guns with his WWI 9.2" Howitzer from Resicast.
26	Glory To The Heros! Part One Chris Meddings gives respect to the defenders of Ukraine with his diorama.
40	Broken Fairytale Elco Elings' late WWII 1:35 diorama.
48	Tochka U Zack Sex models a modern missile launcher with the 1:35 Hobbyboss kit.
58	Alan Ranger Archives - French Armour Rare archive photos from the collection of Alan Ranger.



AFV Modeller is published Bimonthly by
AFV Modeller Ltd
Old Stables
East Moor
Stannington
Northumberland
NE61 6ES
Tel: 01670 823648

Editor and Designer: David Parker
email: david@afvmodeller.com
Deputy Editor and Designer: Mark Neville
email: mark@afvmodeller.com
Sales Director: Keith Smith
email: keith@afvmodeller.com

ISSN 2059-4305



'Like' us to follow what's new and
follow our build projects.

AFV Modeller welcomes contributions from interested parties, but cannot accept any responsibility for unsolicited material. The contents of this publication including all articles, drawings and photographs originated by AFV Modeller Ltd become the publishers copyright under copyright law. Reproduction in any form requires the written consent of the publisher. Whilst every care is taken to avoid mistakes AFV Modeller Ltd. cannot be liable in any way for errors or omissions.

1:35



TIBOR VARGA

researches the actions of Kampfgruppe Hupe close to his home in Hungary in the final stages of WWII

"Kampfgruppe Hupe"
Unternehmen Südwind
Ebed, Februar 1945



96. Infanterie



SÜDWIND

Sturmhaubitze

The Wind blows from the South

In the evening of 17 February men of the German 96 Infanterie division were nervously waiting on the south bank of the Danube. Their objective: Ebed a small village on the northern bank, a risky amphibious mission into the Soviet rear. This was not their first time conducting an operation of this nature. The memories of a difficult crossing made the previous month were fresh. Not far from their current spot, they already crossed the murky waters of the Danube, from the northern bank to the South, supporting Operation Konrad. The bloody battles erupting afterward took their toll on the men and equipment of the division, but this time, luck and careful planning were on their side. The small but more important battle group built from the division became a part of a well-crafted plan to unhinge the Soviet defences of the Gran bridgehead. The battle raged on all day, and as the SS Panzer corps reached their objective at the Paris canal, which triggered a Soviet counterattack, involving the 93rd Guards Rifle Division, previously dug in around the village of Ebed - they finally received the order to progress the landing.

Around midnight the assault teams cross the dark and icy waters and secure a small perimeter, without any resistance, so their assigned support, assault guns from a Stug Brigade can be ferried in. The attack on the village commences.



They carefully navigate the terrain around the settlement, the ground is soft, the river and the gradually melting snow flood the fields, and any mistake could result in a lost vehicle. With swift and determined action, the village is taken, and the surroundings are secured, the Soviet rearguard is mopped up. Northeast, on the castle hill of the city of Gran, underneath the monumental basilica the remaining assault guns of the brigade move into position, shelling the soviet defenders nearby, but they are too far to help the landing party directly, they are on their own. The Soviets, realizing the mistake, and the sudden appearance of a bigger German force in their rear, immediately launched a counterattack. A battle erupts and the Kampfgruppe loses 2 StuH assault howitzers, the commander of the 2. Batterie together with his crew and to make matters worse Oberstleutnant Joachim-Friedrich Hupe with 8 officers is also KIA in the village after a successful Soviet air raid on their provisional HQ. Casualties are painful but the German defences hold their line. In the distance, the sounds of battle are intensifying, the Panzer Corps make their way through the bridgehead, the link up, and a German victory is imminent. Welcome to the Eastern Front, this is the story of Operation Südwind and Kampfgruppe Hupe during one of the last successful offensives of the Reich.

A project with a long history

The roots of this project date back to 2017 when renowned modeller and historian Mirko Bayerl sent me some photos from his favourite battlefield, Hungary 1944/45. After the numerous visits of the passionate Swede, there were still some unanswered questions and unsolved puzzles in the form of pictures. As I live near the former battlefield I have taken several trips to investigate the exact location of the photos of the operation. During my regular trips - armed with contemporary pictures, maps, books, and an all-wheel drive vehicle - I discovered an interesting village where a rather unusual operation happened during the final battles of the Second World War. This was a well-planned and executed river crossing of a reinforced regimental battle group, Kampfgruppe Hupe. We, modelers, tend to portray the "famous", well-documented elite units, so it seemed more interesting to me to choose a rather obscure and unknown subject for my vignette project.

Gran, a river, a city, and a bridgehead

The city of Esztergom (Hungarian: Esztergom, German: Gran) lies 46 km (29 miles) northwest of the Hungarian capital Budapest, built on the right bank of the Danube River.

The ancient city, during the medieval period also the capital of Hungary, is dominated by its cathedral, the monumental Esztergom Basilica, built on the castle complex overlooking the river and the surrounding battlefield.

The Gran River (German: Gran; Slovak: Hron, Hungarian: Garam) is a tributary of the Danube. (German: Donau; Slovak: Dunaj, Hungarian: Duna) The area is located in the border region of Hungary and Slovakia, populated by Hungarian, Slovak, German, and other nationalities, thus the multiple exonyms used.

Origins of the Gran Bridgehead

Encirclement of Budapest - December 1944

In late 1944, the capture of the Hungarian capital, Budapest became the primary objective for the Soviet high command. After the quick frontal attack failed, Stavka directed the 2 Ukrainian fronts to encircle the city and prepare for a methodical siege. The terrain between the city of Gran and Budapest is a fairly mountainous one, unsuited for mechanized warfare. Still, the second Ukrainian front successfully managed to seal the northern part of the ring around the capital and crushed the badly organized defense of the key town of Ipolyság, located further north. Due to the ever-increasing infantry shortages, one of the most notorious units of the Reich, the Dirlewanger Brigade was committed to the battle. The engagement disintegrated the rag-tag unit and was a quick disaster for the defenders. It ultimately allowed the Soviets to take the city of Gran and finally reach the Danubian Plain, a perfectly suitable terrain for their mechanized corps.

"The trust of the 2nd Ukrainian Front, in the process the 6th Guards Tank Army is completely depleted and withdrawn, The 96 Infanterie crosses the Danube before the Soviet attack"

The German relief effort - Konrad I, January 1945

After the ring around Budapest closed in late December 44, the German high command immediately devised a plan to exploit the shallow encirclement and restore contact with the defending garrison.

This was Operation Konrad I, taking place just south of the Danube and the city of Gran itself, which was eventually re-captured by the Germans during the unsuccessful operation to reach the capital. As the relief operation was in full swing just South of the Danube, the Soviets quickly realized the opportunity and used their mechanized formations, located north of the Danube, east of the Gran River, to attack westwards, to threaten the German rear area. The hastily organized German and Hungarian defenders stopped the Soviet steamroller near Komárom (German: Komorn). To completely stop the Soviets and push back the frontline east a division-sized battle-hardened unit was necessary. The veteran 20th Panzer division was made quickly available for the task and deployed in the area. The penetration was not eliminated before it was necessary to redeploy the division and a 17km bridgehead remained west of the Gran River.

Operation Südwind - eliminating the bridgehead in preparation for Operation Spring Awakening - 17-24 February 1945

In preparation for the upcoming "Plattensee Offensive", the last major German offensive near Lake Balaton, it was necessary to eliminate the remaining small, but threatening Gran bridgehead north of the Danube, as it could be utilized as a jump-off position for larger Soviet mechanized formations and threaten the German rear, even by forcing the Danube in the southwestern direction. To swiftly accomplish this task, the OKH decided to secretly deploy I. SS Panzerkorps with their 2 heavy-hitting divisions, 1st SS Panzer Division LSSAH and 12th SS Panzer Division Hitlerjugend. Initially, the OKH expected Soviet armour concentration directly deployed inside the bridgehead, but it later turned out these forces remained further East. LSSAH and also the deployed Panzerkorps "Feldherrnhalle" both included a Heavy Panzer Battalion equipped with Tiger B, to deal with potential Soviet defenders. During the research of the operation, an interesting detail caught my attention, the deployment of Kampfgruppe Hupe.

"Operation Südwind and the river crossing of Kampfgruppe Hupe"

96. Infanterie- crossing the Danube in winter time, twice! Kampfgruppe Hupe was a composite task force assembled from the Grenadier-Regiment 284, II. Battalion/Grenadier Regiment 287 of the 96. Infanterie-Division with fire support coming from the 2. and 3. Batterie of Heeres-Sturmartillerie-Brigade 239. 20 StuG and StuH assault guns were committed to the river crossing. The rest of the Stug brigade was providing fire support from the castle hill near the Gran Basilica. The direct anti-tank assets of the infantry unit were strengthened in the late war fashion of the time, with a mobile platoon of Marder tank destroyers, and a platoon of StuG IV assault guns, but these were hardly sufficient and available for the deployment North of the river, so the vehicles of the Stug brigade were incorporated to provide support. 96. Infanterie was a veteran of the Eastern front, spent most of the time under Leningrad and a considerable percent of its manpower was surprisingly Polish. Heeres-Sturmartillerie-Brigade 239 also an Eastern Front veteran unit, featured a rather interesting structure. 1944 was quite eventful and disastrous for the brigade. After the outbreak from Cherkassy-Korsun pocket in early 1944, the brigade was rebuilt and renamed. As with many other formations, the German Army was constantly seeking ways to improve their performance and adapt to the new realities of the front. For a few selected Stug units, this meant an attachment of organic infantry, the Begleit-Grenadier-Batterie, and for the 239 it also meant the attachment of light panzers, the 5. Panzer-Begleit-Batterie, fielding approximately 13 pieces of the aging Panzer II with their 2cm auto-cannon. These changes enabled the brigade to conduct operations more independently and reduce the reliance on infantry support from other units.



Ebed today - one wing of and interesting "Y" shaped crossroad coming from the Danube direction

In August 1944, after the disastrous retreat from Romania, the brigade was reorganized once more. 17 Stuh and 17+2 Stug assault guns were shipped to the brigade in October-December 1944 as reinforcements. These numbers reflect the late war practice of replenishing the losses of Stugs with the assault howitzer, this somehow reduced the anti-tank capabilities of the units but made them even more powerful in the infantry support role. The 10.5cm howitzer was inadequate against enemy armour, but a special HEAT shell was developed for the gun to remedy the shortcomings.

Understanding Alkett's assault howitzer

The brigade was shipped a new StuH in October 1944, so I tried to reconstruct the visual appearance of such a vehicle using the Stug books from Peter Müller, Wolfgang Zimmermann.

In late 44 the StuH began to resemble its final form, however, a lot of the planned new modifications could not be implemented and thus were only preparations made to accommodate them, thus I backdated the model.

September 1944 - an important date for the German industry and your scale modelling as well

The implementation of the new regulations in the summer of 44 fundamentally altered the visual appearance of German armour production in general. Zimmerit, the anti-magnetic paste was dropped and the practice of factory applied 3 tone standardized camouflage began. The factories implemented these new regulations differently, resulting in different patterns. After a brief appearance of the Ambush camouflage at some factories (Hinterhalt-Tarnung) most manufacturers developed their own 3-tone pattern, with the green being the predominant colour. This was also the case with the 2 Stug suppliers, MIAG and Alkett, Alkett being the sole manufacturer of the howitzer version of the vehicle. Factory use of the ambush pattern on Stug is not proven at the moment, although this pattern appears on a small number of assault guns, most likely applied or altered by field workshops. The Panzerwrecks and KV publishing series photo books with Felipe Rodna's colour illustrations offer a great starting point to reconstruct the possible factory camouflage finishes of the assault howitzer.

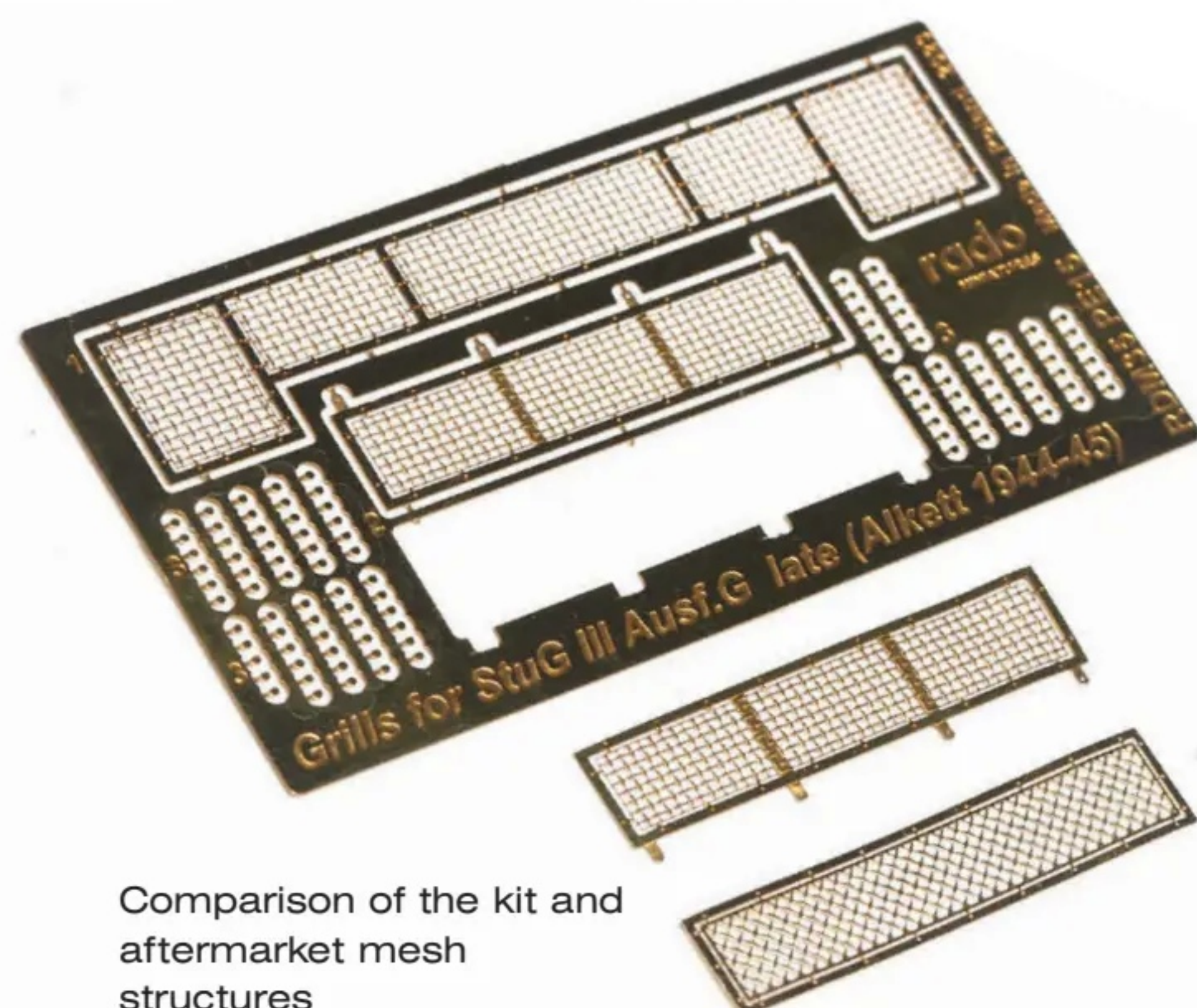


Building the Takom late Stug

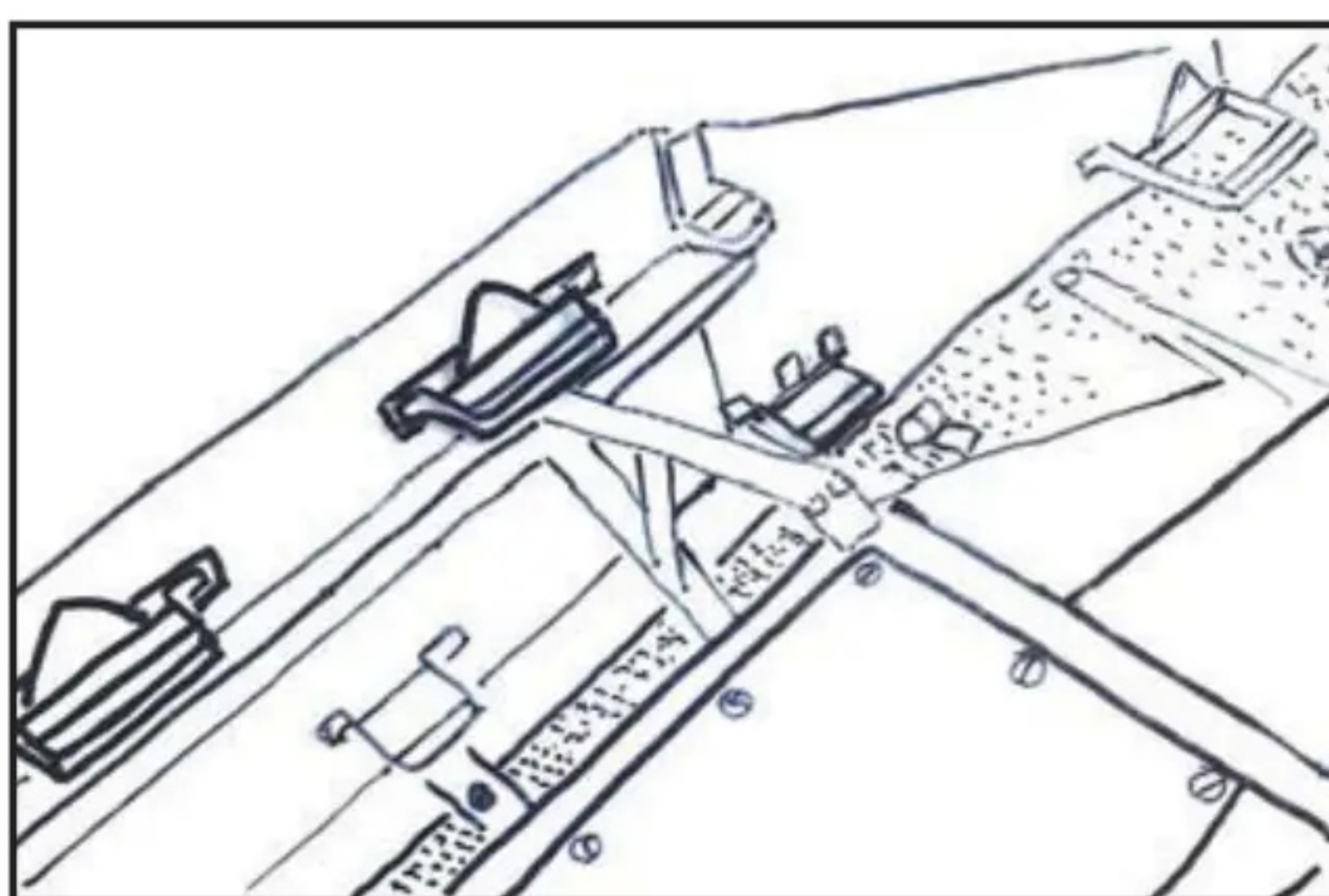
After their very successful Panther series - which certainly raised the bar - in 2019 Takom announced the Blitz series of kits. These promised an accurate representation of the subject with reduced part count and various smart solutions for the ease of assembly. The first releases were mostly focused on the Panzer 3 chassis vehicles. After comparing with other kits and drawings most of the new releases come with various small inaccuracies. For the late StuH the most critical are the problems with the suspension, noticeably manifesting themselves with the idler being too close to the rear road wheel. After observing the struggle of other modelers, I decided to ignore this issue, as a satisfactory fix was rather unlikely and a side skirt covering that part on a vignette seemed sufficient. The other very visible part is the lack of the solid 80mm front armor piece.

The kit representation is more like the equivalent of a real 50mm piece so I decided to bury this part under tracks used as additional armour.

The influx of wartime pictures allows us to study to a certain degree the air intake screen pattern of the late production Alkett vehicles. The observations of these pictures reveal a possible shift in the intake grill pattern from a diamond to a square solution in 1944. Interestingly the defunct Griffon model already offered this solution on their old PE set, but now you can choose between the RADO, the ROCHM set, and soon the Elefant set. The square pattern mesh for the air outlet, underneath the superstructure, had a much earlier appearance, being present even on the Initial StuG III G - a thing to consider on your builds.



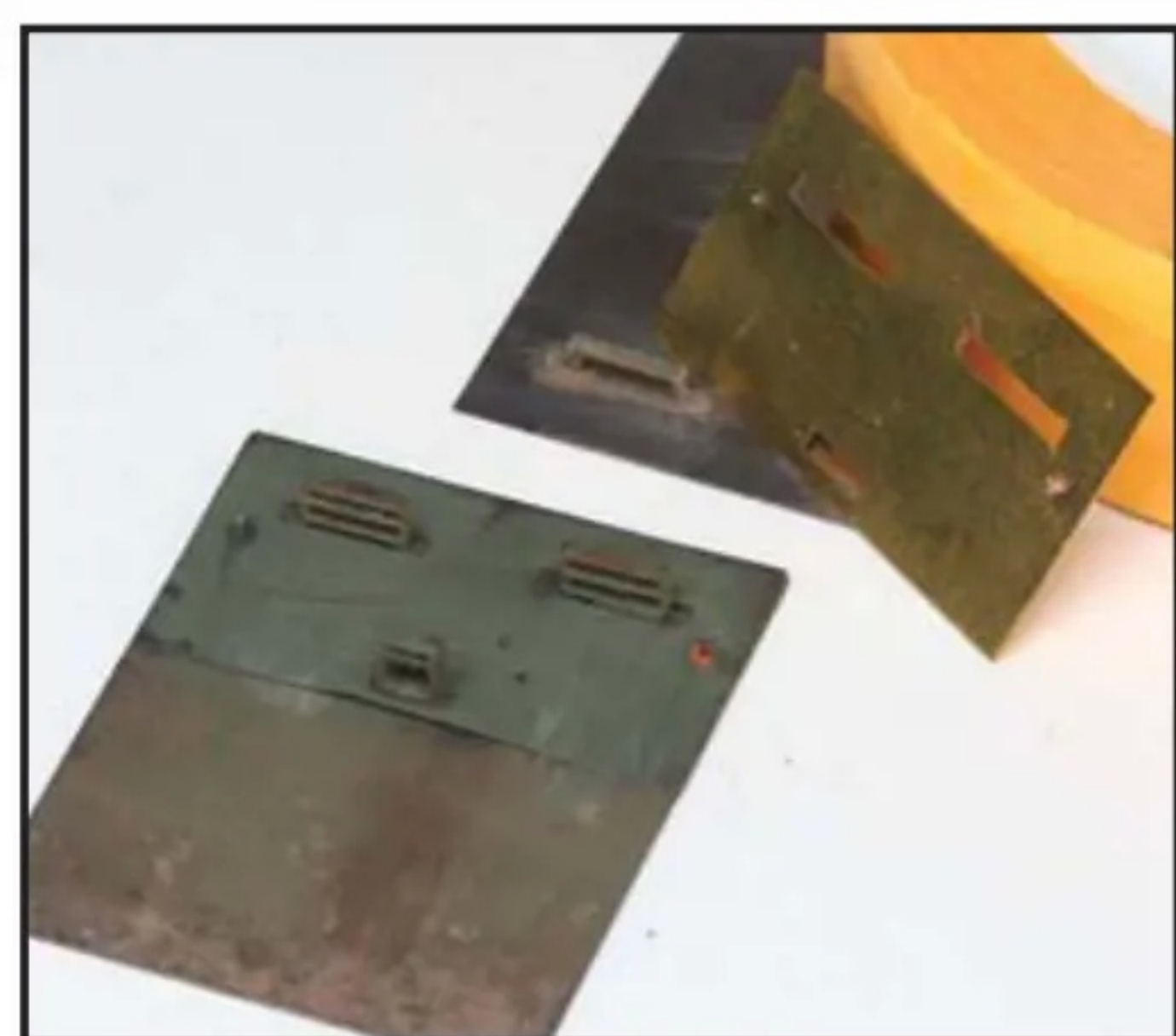
Comparison of the kit and aftermarket mesh structures



My drawing according to the picture published in the Nachrichtenblatt



Original sample from the Nachrichtenblatt



The modified kit part with the additional armour template from the Border StuG



A still from film footage where the structure is clearly visible

What does underneath a skirt look like? Let's take another look...

Interestingly the internal structure of the side skirts remains a mystery for most of the modeling community, the manufacturers, and aftermarket suppliers alike. Most likely there is no surviving original side skirt, and the usual solution is a single hanger similar to the one used on the panzer IV. However, the Stug serie II side skirts used a slightly modified pattern. Luckily it was already published in Nachrichtenblatt der Panzertruppen, the German army bulletin dated 8.1944 clearly illustrates these hidden parts. If we carefully study the available wartime pictures, we can observe and confirm the ribbed structure of the upper consoles as well. The other interesting part is the reinforcement plate, located on the inner part of the 2 central plates. I used the plate supplied with the Border late StuG kit as a template to make a styrene insert on my model.

The build itself was quite straightforward, the only hiccups were caused by the constant cross-checking and alternation of small details to fit the timeframe. I used a workable track from RFM, some extra PE parts from the RADO set, and 3D-printed components from Elefant. These were mainly the tool holders and the jack holder, which is usually a weak part of any kit given the technology limitations and the complex nature of that part. The stowage was mostly assembled from various Miniart and Plus model boxes, these were carefully painted and marked with a spraying stencil to give them a vehicle-specific look.



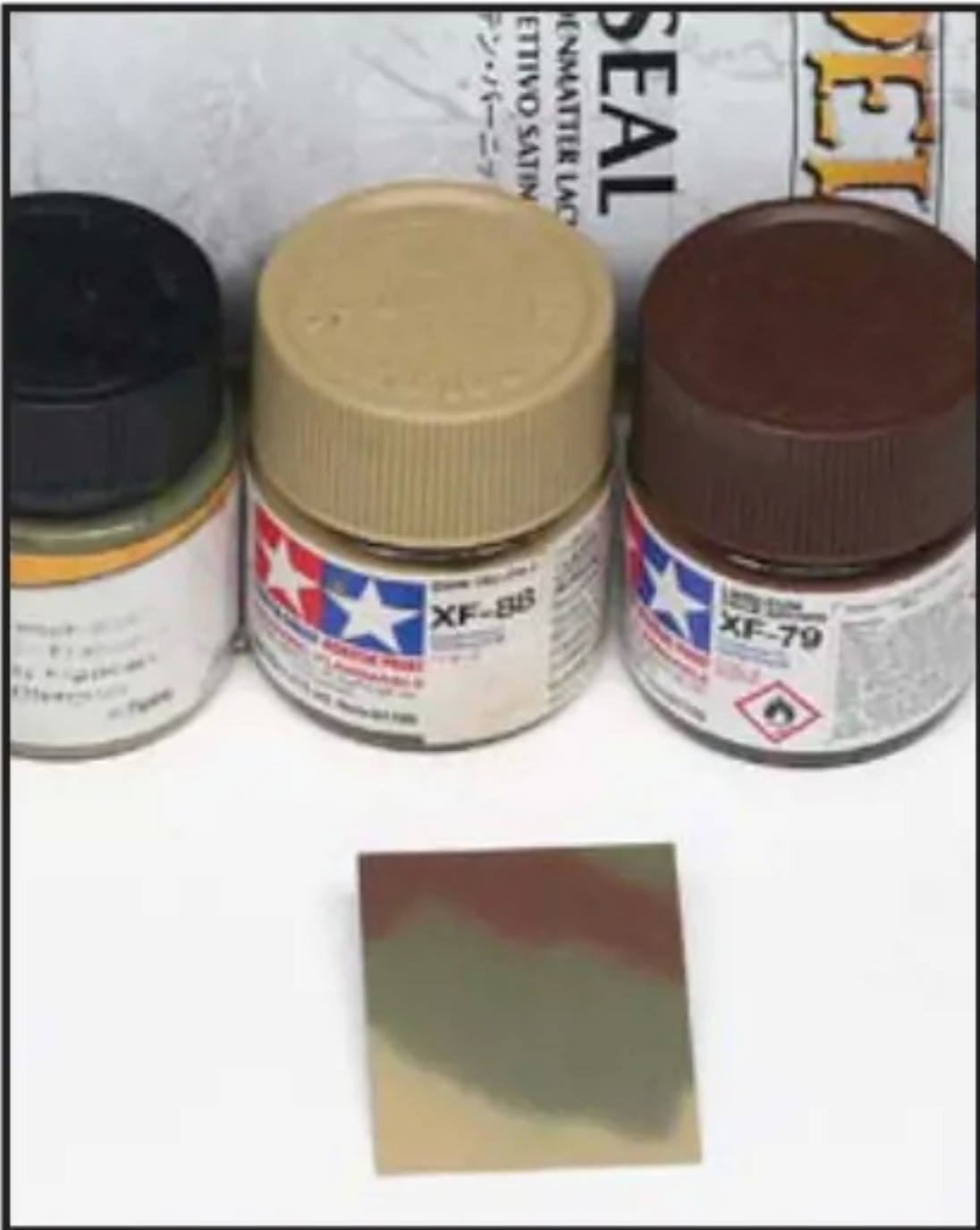
Painting the StuH

To achieve an aesthetically pleasing whitewash over a 3-tone camouflage can be quite challenging for numerous reasons. The 3 different colours of the base camouflage can be too disruptive if they are exposed to wide areas and an extreme contrast is created with the white camouflage colour. Furthermore, any correction or repaint of the 3 tones underneath is an overly complicated job. I aimed to show some barely visible parts of the camouflage, but not allow them to become a predominant part of the paint job - they should work more like little details, but the main contrast will be created in the recesses and on the edges between the white and dark tones. I chose the most suitable, good-looking colours to be applied directly as a base coat: Lifecolor French Khaki, Tamiya XF-88 and XF-79. I also added decals and the Sunwheel insignia of the unit was airbrushed with a modified Wiking stencil. To prepare this surface for the upcoming "abuse" I covered the vehicle with Purity Seal, which created a sturdy base for the hairspray and Tamiya white layer. Tamiya

usually creates island-like chipping with sharply defined borders and generally strong contrast. I also used later for some additional elements Mission Models Insignia White, which behaves a bit differently, and can be used without hairspray. The superb pigmentation of the colour creates a more diffuse effect with gradual contrast, something between oils and acrylics. At this stage, everything seemed rough, unnatural, and unfinished, so I moved on to refine the whitewash. I would not describe this process as a streamlined, methodical application of certain products on the surface, rather it was a back-and-forth paint and re-paint with 3 completely different colours. Lifecolor for strong patchy contrast, Mission for smoother transitions, and Rembrandt white for extreme highlights. It is a tedious process, you need to be in the mood to return again and again to a certain surface, and detail, and always check how the local contrasts alternate the global look of the vehicle. For the shadows, I used mainly oil colours, as various local washes and filters.



For metal parts special primers are essential, the smaller can be brushed with the Gunze product, for skirts sprays are good as well.



It is sufficient just to loosely follow the pattern and a slight overspray is not a problem as this will be covered.



I used a hair spray and a Tamiya off white mix for white. Avoid too much paint and full coverage.



Tamiya stir stick and an old small rough brush was mainly used to remove the whitewash.



tools of the trade, to let the oil paints rest a bit on cardboard critical, this way you can avoid unwanted glossiness.



RLM83 was added to the base French Green to get a stronger contrast for the green chips.



Sponge technique was used on the edges to get some basic patterns set, these need to be further refined.



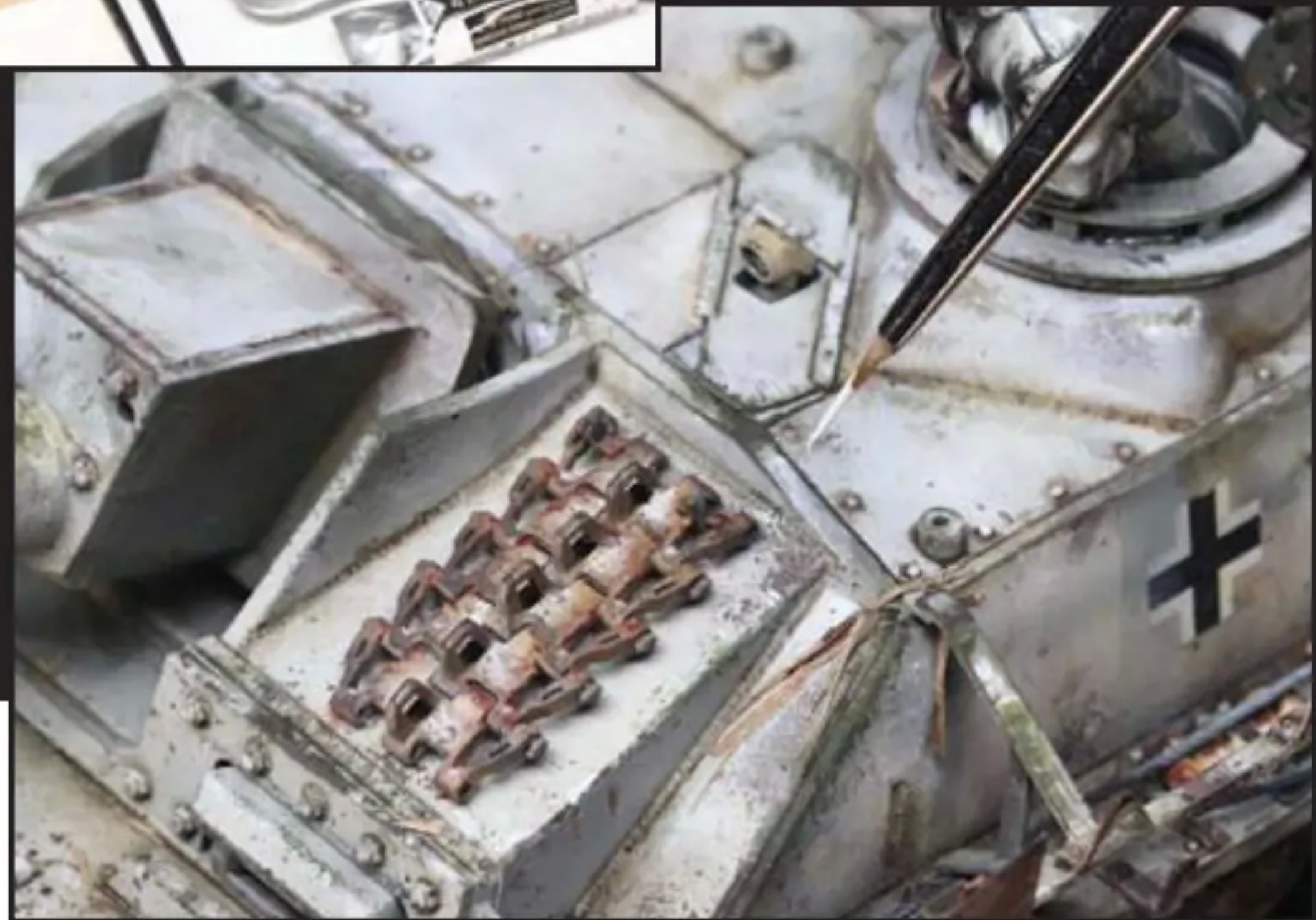
a dark brown mixture is used for dry brushing the edges, thus creating a nice contrast with the dominant white surfaces.



A precise application with limiting the surfaces is key to get a realistic random look.



Colours used to re-touch the white. Drying times should be respected and for acrylics I use water as a thinner. I opted for a very busy looking a white washed surface of a veteran vehicle in the last months of the winter.





The grass used to make the corn leaves, there are most likely many suitable plants out there, just check the leaf tips.



The harvested leaf tips were cut to size, damaged and bent.



Assembly of the plant with white glue, some plants were directly assembled on the Stug to get a realistic fit.

Making corn from natural materials

Perhaps Mirko Bayerl is also the biggest advocate of using corn on vehicles from the Hungarian battlefields. Ever since he popularized this type of makeshift camouflage, modellers tried to achieve the look of this plant. After some experimentation with coloured paper, I found a surprisingly suitable natural material, a tall grass right in my garden. After harvesting some leaf tips, are already dry even during summer, I cut them with scissors and achieved various bent and damaged leaves with tweezers. Real corn varies in size and colour, and it can become quite fragile when dry but also

quickly collects humidity in wet weather. I fixed the leaves on dry stems collected in nature with white glue. You can further add details like the roots. Complete cobs are rarely present. White glue was also used to attach the plant to the vehicle. I used matt varnish to cover the area around the plant and the plant itself to avoid any glossiness. The final colour and the blending with the vehicle were achieved with oil paint washes. Corn was an important part of the vehicle, connecting and blending it to the environment, which is always critical for any diorama project.



Designing a simple scene:

During my trips an interesting crossroad caught my attention, located in the sleepy part of the small village of Ebed, near the Danube. Extreme elevation was present, buildings were placed above the road, and the walls were reinforced with various materials. This part of the village is slowly eroding today but is an ideal setting to be made in scale. I set the scene after the village has been captured and perhaps the second wave of the assault guns navigates throughout the muddy roads to their forward positions.

After I tested some base sizes, I settled on the composition and built an elevated wall around the terrain to accommodate the features. The basic idea was to incorporate some rather suspicious house folk, observing the returning Wehrmacht. I tried to place the vehicle on a slope and display a smaller auxiliary building near the scene. The scene should be calm, but with a certain tension, perhaps distrust between the involved parties should be felt.

The general layout and the house were built using styrofoam. The roof structure was created from Evergreen profiles and a suitable set of roof tiles from HD Models. The rocky structure was constructed using plaster with a Woodland Scenics mold, various little stones, and cork. I also wanted to include the intricate trees present on the street, rooted in the sides of the walls. For this I used greenstuff on a wire frame united with tree material (Teloxis Aristata) and some leaves. The ever-present ivy was created by replicating a PE fret from FIMO Liquid Deco Gel. After a certain point, it became critical to find a balance between the dark muddy areas of the groundwork and the stark white contrast created by the StuH, to harmonize the scene I began to add layers of snow and simultaneously layers of darker mud on the vehicle.



I like to mix a specific colour for the base, the inks and pigments are mixed to have an evenly dark paste. I usually mask two strips for the tracks open, the permanent placement of the vehicle is one of the last steps.



Making Ivy and other plants with Fimo Deco Gel

This method was developed and popularized by Calvin Tan, and it is really useful for numerous reasons: You can create infinite number of leaves.

The rigid nature of the PE parts and problems with the paint adherence can be avoided altogether.



The essentials: a PE fret you wish to come, Fimo Deco Gel, colour and a heat gun.



A mixture of colour and the deco gel is carefully brushed on the textured side of the fret.



Slowly heat and cook the gel, if bubbles are formed on the surface, you overheated.



The removal is a quite laborious process



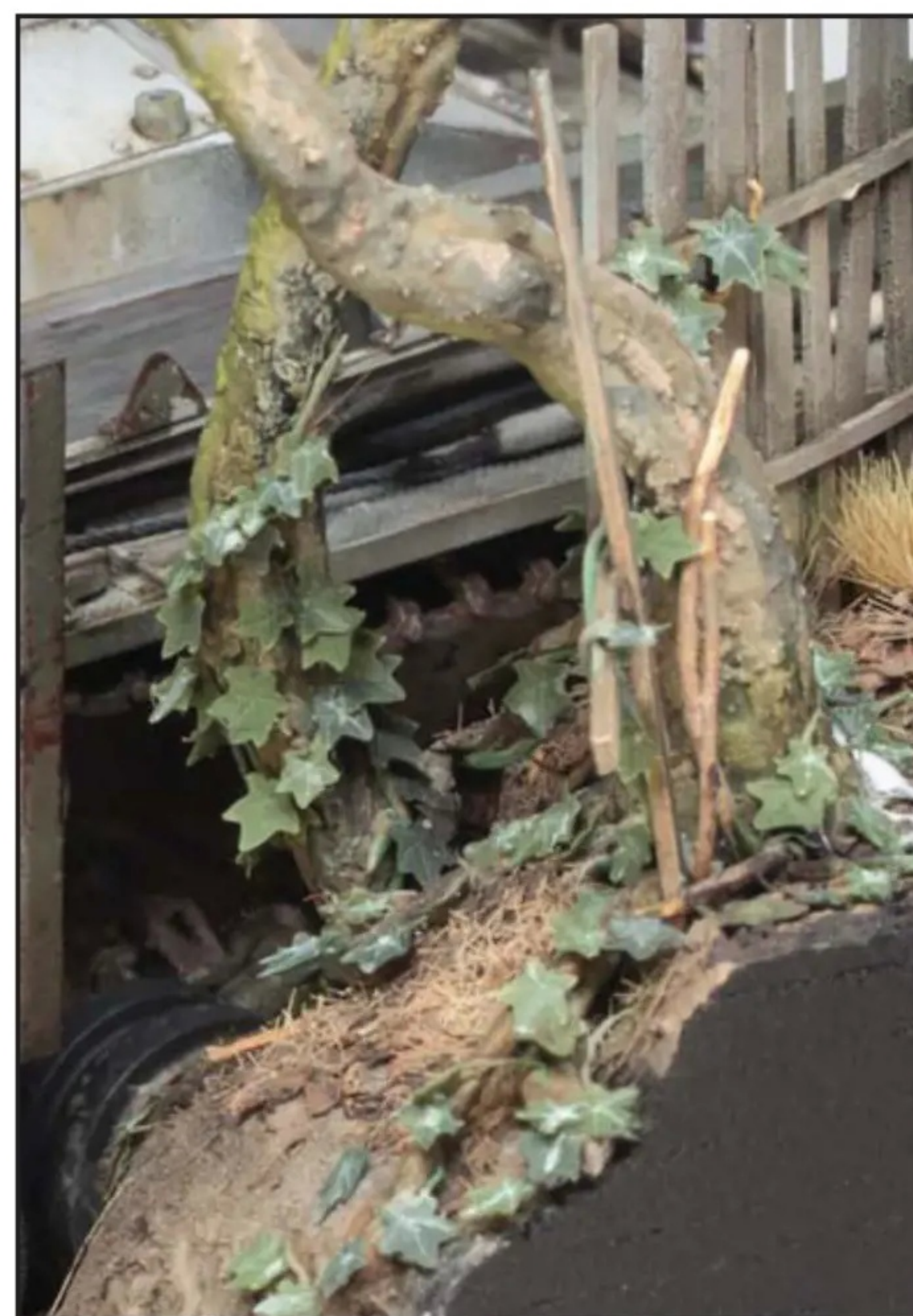
You can further enhance the detail with a careful wash, texture is just on one side however.



For the snow I used a mixture of different product.



Structure of the mixture is important, but placement is key, I wanted to display a late winter environment with remnants of the snow cover.





Figures

To represent local civilians I used modified characters from the 1/35 Soviet Villagers set from Miniart. I chose a rather dark colour for the clothing as the plan was to get a nice contrast with the lighter wall, acting as a background for this part of the scene. The Stug commander is an Alpine figure, I also converted another one to act as the loader. The grenadiers come from an old Tristar set, with slightly modified poses, changed and alternated arms and equipment. I also used a Life miniatures headset to improve their facial expression. To paint figures I generally use Jo Sonja colours,

here basically you have to mix every colour on a wet palette, but after some routine is developed, the usual military colours are not difficult to achieve. My field grey is achieved by mixing French blue with Olive green, for shadows, black is added, and for highlighting the skin tones are used. I obtain these from Cashmere, Pyrrole Red, Burnt Sienna, Raw umber, French blue, Cadmium yellow light, and white. By varying the proportion of a certain colour in the mix, a different skin tone can be obtained. For female faces, a more pinkish tone is suitable with reduced shadows and smoother transitions.



I tried to mimic the original layout of the crossing found in the village, the basic shapes are established.



The direction of the vehicle is refined, a little scene with interaction developed



Tests with the triangular figure composition on the vehicle, on this one the commander seemed too dynamic.



Calmer pose, but dropped the idea of the commander looking in a completely different direction.



I settled with a more harmonious layout, finally adding one more figure later on.



Conclusion

After about a year of actual work on the model with a lot of background work involved I concluded this long and demanding project. I aimed to build a project with Mirko's philosophy of modelling in mind, uniting and using the aspects of his triangle. During the process, I discovered interesting stories and histories, learned the intricate details and consequences of operations, familiarized myself with the less-known features of the vehicle, and generally improved my skills to finish vignette projects.

Would like to express my thanks for my family, friends, and all the people involved in the project for their observations and critical feedback.

SÜDWIND Sturmhaubitze





Sd.Kfz. 251 HALFTRACK UPDATE PARTS

1:16



Sd.Kfz. 251 Late Hub Front Wheels

This set of two 3D printed weighted front wheels provides the late style hubs with the four cut outs with the same super detailed tires as our other set of Sd.Kfz. 251 front wheels. Suitable for both Das Werk and Trumpeter Kits.



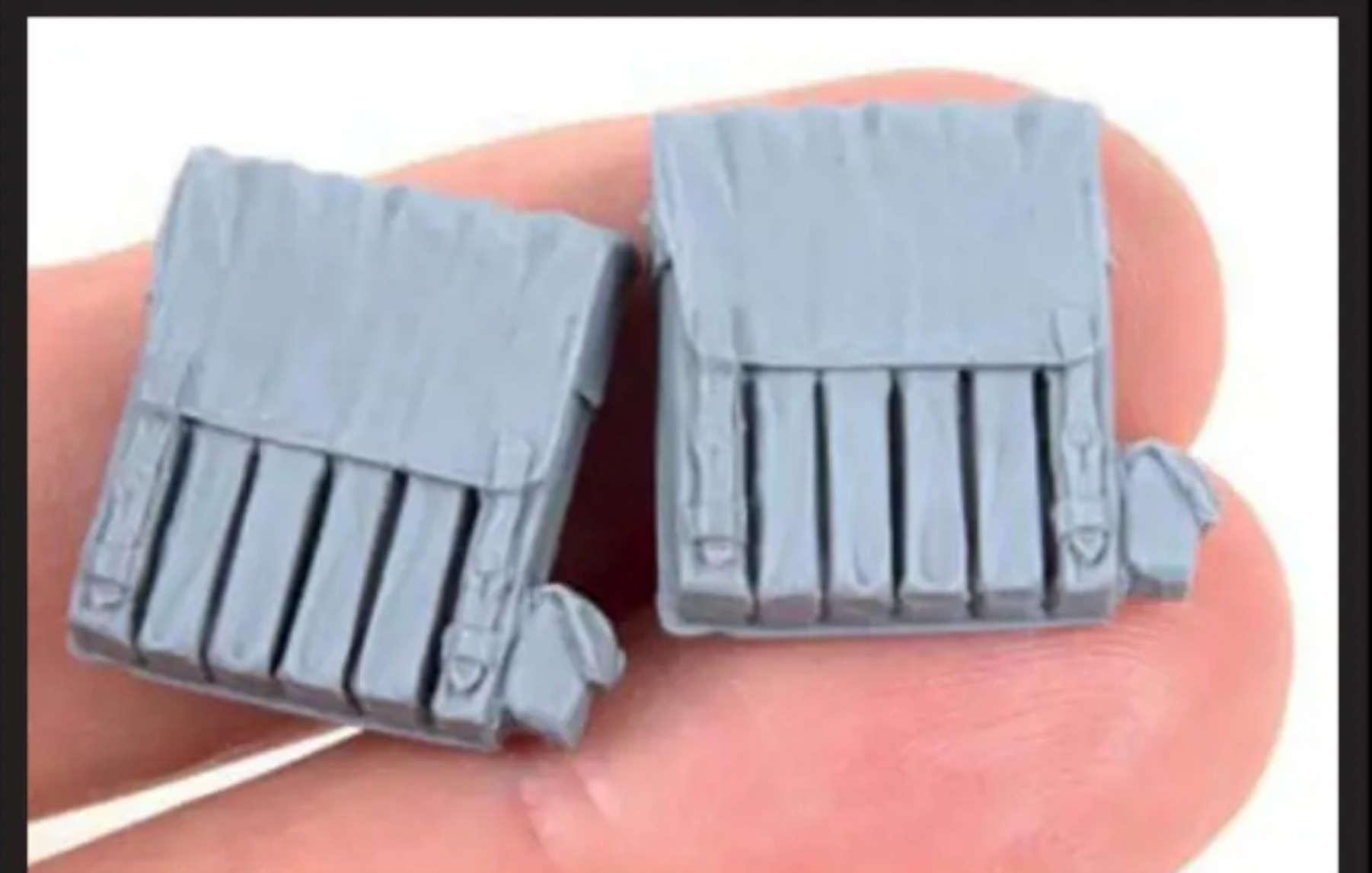
Sd.Kfz. 251 'Mid' Tracks with sprockets

Although we have labelled these as 'Mid' tracks by way of modeller's shorthand, this type of track is seen on both Ausf.C and Ausf.D. Once you start looking you find this track used on numerous vehicles. The set provides 120 individual handed track links with separate pins to assemble them and one of our upgraded drive sprockets.



Sd.Kfz. 251 'Late' Steel Tracks with sprockets

Introduced to save rubber by replacing the track pads with steel 'shoes' these tracks tend to be seen on later 251 types which is why we have labelled them as Late. The set provides 120 individual handed track links with separate pins to assemble them and one of our upgraded drive sprockets.



MP40 Magazine Pouch

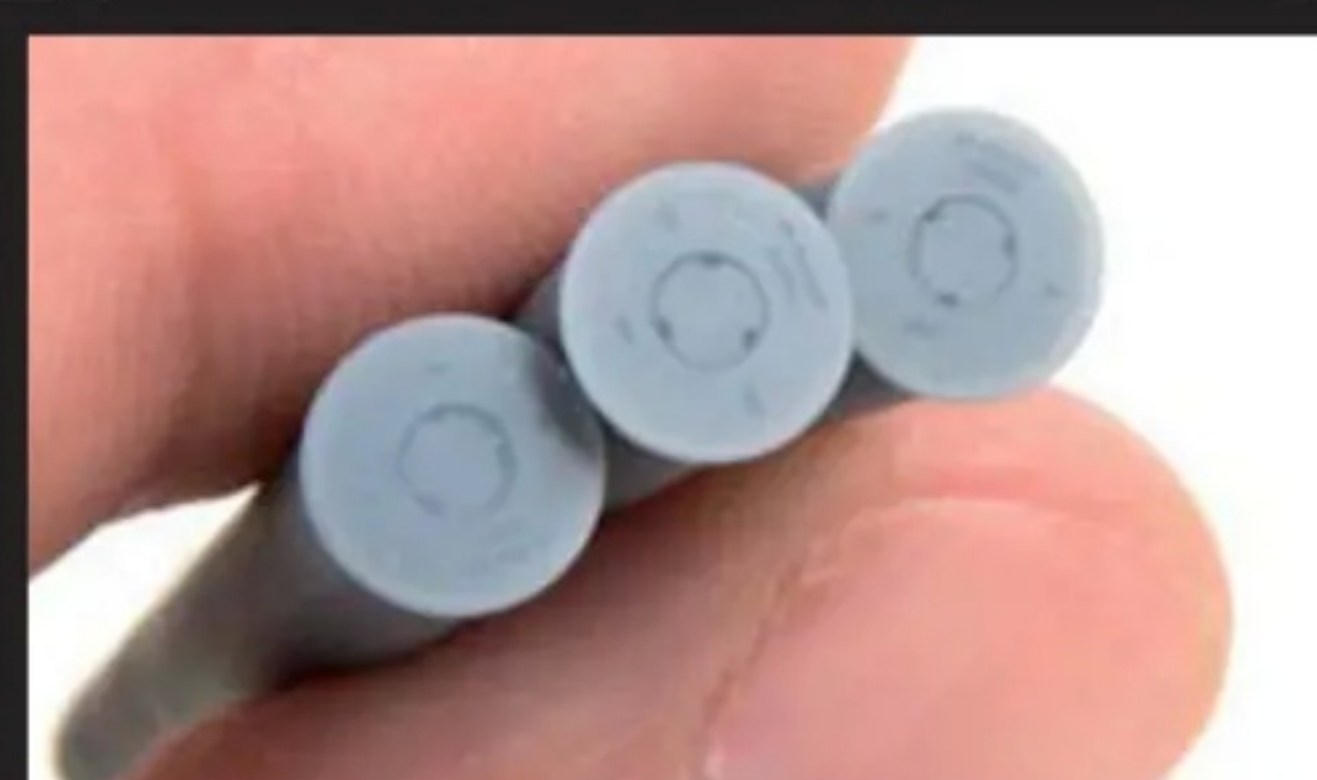
A common piece of stowage across many German armoured vehicles these are especially visible in the Sd.Kfz. 251 so we have packaged them as a set of two.



Sd.Kfz. 251/22

Pak40 Ammunition Containers

Set of five 3D printed ammunition containers for the Pak40 75mm ammunition. Designed with separate caps to avoid any visible print support contact points on the completed tubes.



Pak40 Ammunition

Set of six Pak40 75mm shells, (three AP and three HE shells) Designed and 3D printed in two parts to avoid any visible print support contact points on the completed shells.

1:16

AFV modeller

UNIVERSAL CARRIER FOR THE GECKO KIT



Bren Gun

Our super detailed Mk.II Bren Gun is designed to enhance the Gecko Universal Carrier and is available with the dedicated pintle mount as well as two other versions, with the bipod folded and with the bipod deployed.

M113 APC



M2 Browning .50 Cal.

Designed to enhance the new AHHQ 1:16 M113 Armoured Personnel Carrier our detailed 3D printed rendition of the iconic heavy Machine Gun features the distinctive flash suppressor, delicate barrel change handle and the correct M23 Cradle.



PANTHER / JAGDPANTHER

Panther / Jagdpanther Stowed 20 Ton Jack

Ready to enhance your 1:16 Panther or Jagdpanther and printed in two parts this Jack comes with its stowage clamps in place for simple installation.

British 9.2 INCH HOWITZER

When thinking about the artillery that served at the front line of the Great War I always imagine the mighty and potent howitzers. As the counterpart of heavy German artillery guns the breech-loading BL 9.2-inch (233-millimetre) howitzer was one of the most efficient and the pillar of British artillery weapons in the First World War.

Modelled by
Karel Sutt



The first impulse for development was lack of sufficient counterparts able to face German heavy artillery. Tests on the Skoda 9.45-inch howitzer, that had been purchased from Austria in 1900, had poor results in South Africa against Boers. In spite of that some of the Skoda features such as transport on three wheeled trailers were took up for development of a completely new gun made by Vickers Ltd. All in all over six hundred units were produced. Basic Mk.I versions and later a more powerful Mk.II with longer barrel were two versions intended for British Army.

In the fighting in France and Belgium the British gunners armed with breech-loading (BL) 9,2-inch siege guns were employed in every main area against Central Powers. We shouldn't forget gunners of the Royal Australian Artillery and Canadians bravely operated side by side with the British comrades.

In World War II some of the BLs were still in use in France against the German Wehrmacht. The Mark I type of howitzer was 13 calibers long, while the Mark II type 17.3 calibers. With 130kg shells and maximum firing range 9200m for Mk.I (12742m for MK.II) was BL 9,2 more than equal opponent to German artillery and dangerously effective against all obstacles of trench warfare. Both types were provided with an earth box which was secured on firing beams; the additional weight gave greater stability when firing. Interestingly four 9,2-inch howitzers ended up in the service of Russian Army.

Those awe-inspiring facts motivated my wallet to release 100 Euros for Resicast's BL9.2-inch howitzer (35.1244). Two other Resicast items a British officer (35.5664) and 9.2-inch ammo set (35.2374) I let to add into the parcel and the project could start.



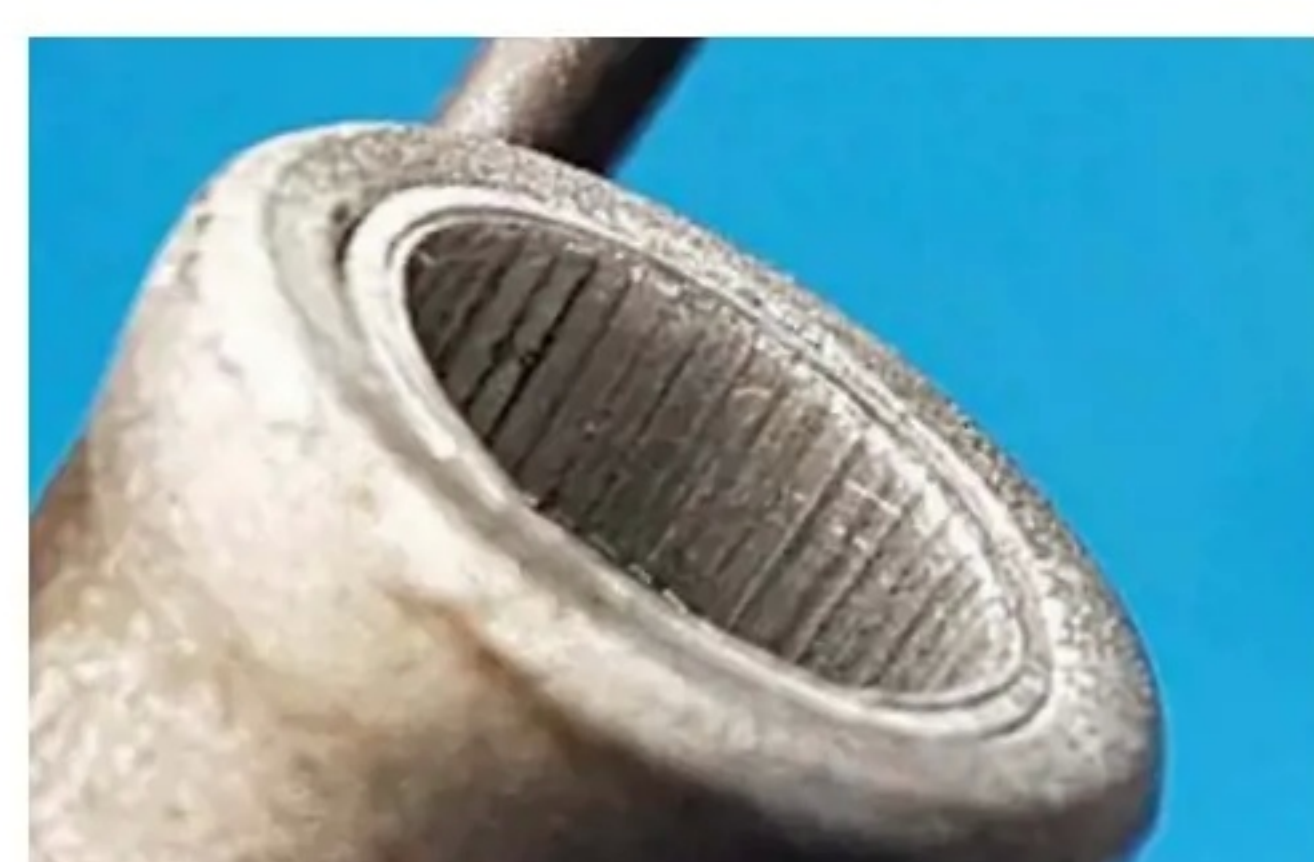
IMPERIAL MEASURES



As with most resin kits the first task is big or brittle resin pouring sprue removal. Take care doing this with your tools of choice, try and keep the resin dust to a minimum and wear a mask or sand 'wet'. A task only suitable in my outdoor workshop away from my wife's kingdom of the house.

There is no doubt that the most tedious and time consuming modelling job is riveting. The model needs to visually have as many rivets as shows a reference photos. I am not a 'rivet counter' but their presence adds a great deal to the visual detailed impression.

At this point one has to consider what kind of time to invest. If you are out to make an accurate model at all costs then attention to these tiny details will be all important. So for the first time ever I made hundreds of 0.5 and 0.7mm rivet heads and then as carefully as possible glued them on the carriage frame and both platforms. I made the rivets by pushing a drill bit's reverse end through lead sheet laid on hard rubber.

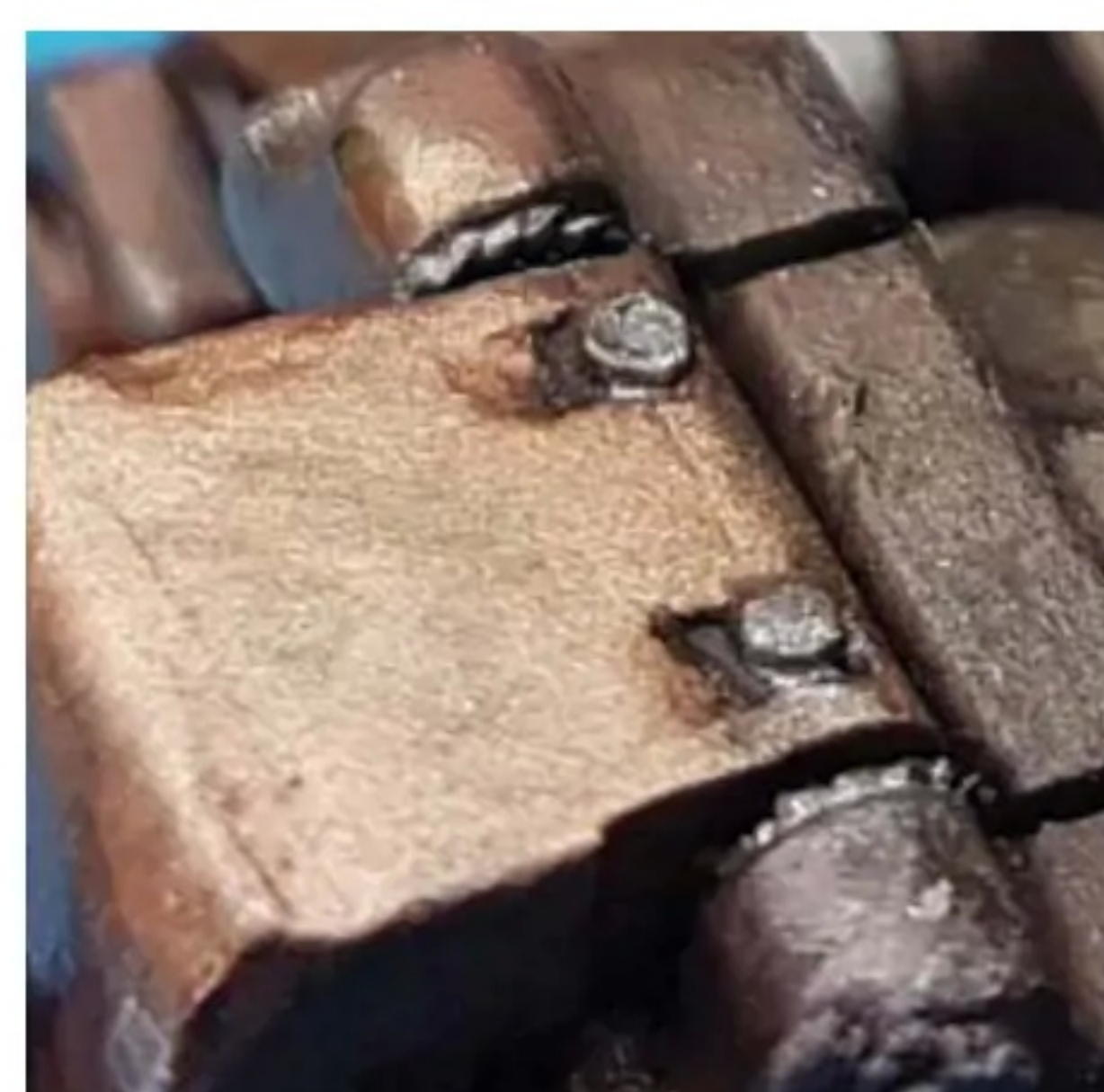
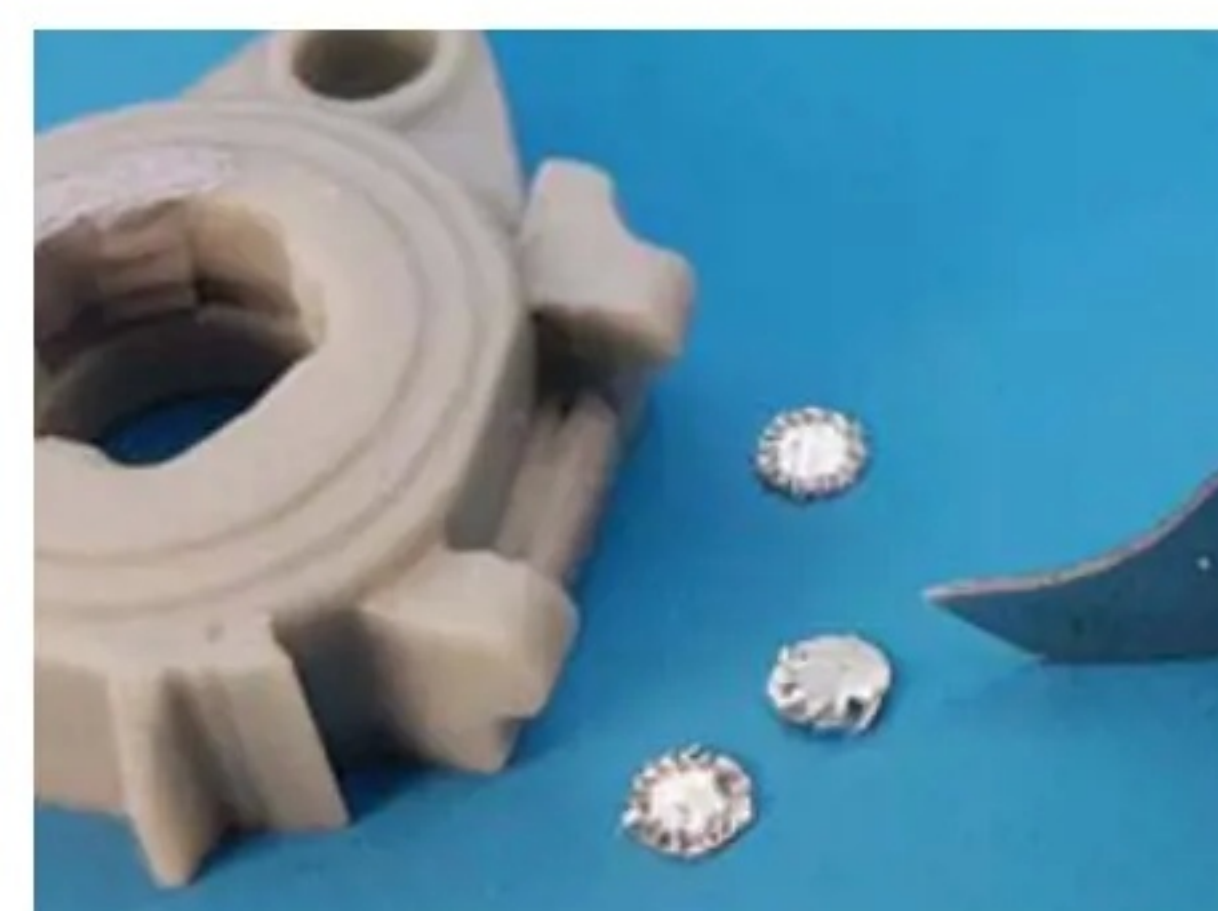


Next stage was the barrel. The quality of the casting and the level of detail is great but the only snag is the fact that the muzzle is partly hollow. I had to adjust the bore diameter with a 6.7mm drill bit and add a liner with rifling grooves. First a piece of aluminium pipe was used like a liner. Then I cut a piece of 9x21mm aluminium foil. Shallow kerfs with equal distance between each one were engraved, not too deep to avoid rupture when the foil is curved around the $\varnothing$ 6.5mm drill bit. Finally I bonded the rifled foil into the liner.

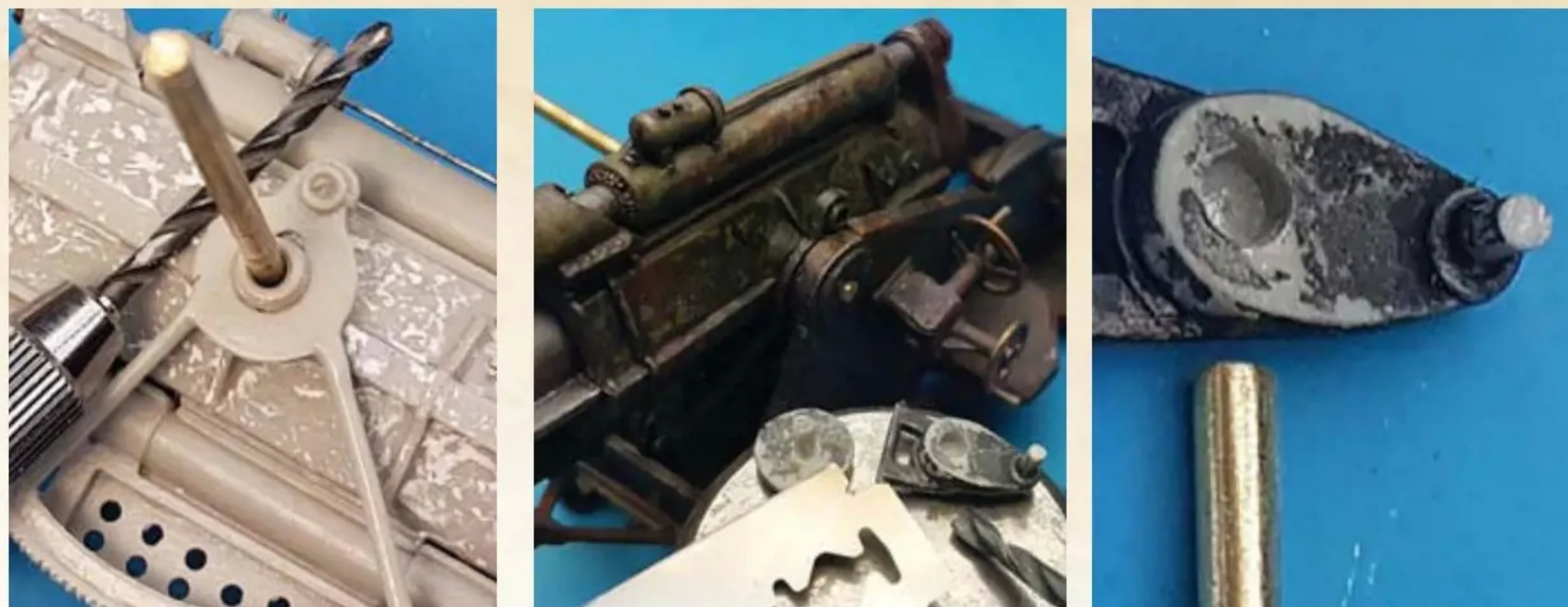
The air pump was tweaked by adding couple of details such as piping.

The head of the recoil cylinder was enhanced by replacing the kit detail with a real hex-head nut. The counter-recoil cylinder and a gravity oil tank need more details so something like a crown nut was depicted by a tooth washer where the piston rod is sticking out of the buffer. More details such as piping and fittings were added to the gravity tank. My attention turned to the breechblock. Breech carrier is storage is between the lower and upper hinge lugs and as I noticed in the gap is something looks like a fan

washer. I did two with a hollow punch, the final shape was adjusted with a sharp scribe. One of two locking levers handles is too simple (flat shape) as compared with reality so a little use of Tamiya putty corrected that shortcoming. Uneven cast surface on the cradle was represented with Mr. Dissolved Putty applied onto this area. Shortly after whilst still not completely dry, the putty was stippled with a stiff paint brush.



The cradle setting in the carriage bearings I remade as per my usual method to ensure rotating movement of the direct sight (S2 part) and scale pointer (P3). I drilled the hole through the cradle and for a trunnion substitute I used Ø 2.4mm brass rod. Then I cut off round tenons from A50 and A19 parts and drilled mortices instead. The rod tip was then lightly forced into the cap/cover's mortice and glued (both sides). One downside: care needs to be taken during the glue-up, both covers mustn't be attached at the carriage frame at once.



Front parts of the carriage (parts A5, A6 and A9) didn't fit perfectly together so two spacer plates filled the gap and couple of other details such as two lock pins, hexagonal nut and rivets also were added. I had to fill and drill again mounting holes in part A58. They were nonconcentric with A56 part's plugs. Bent wire, drilled metal

discs and little Tamiya Putty were used to make two locking pins. The twelve photoetched parts P4 (brackets) were modified to be identical with those on my reference photos by some slight trimming as shown in the image above.

Resicast's instruction doesn't show where to place PE part P6; the quick release pedal but Internet was communicative on this matter so I easily found a picture where that part with all related components is clearly shown. I scratchbuilt the whole mechanism. The flattened rod ends were drilled through and twisted against each other 90°. A piece of metal rod created the connection bar and flattened and folded metal created the brackets. The pedal at the point of crew contact was polished for a realistic touch.



Another enhancement is easily done on PE part 2. The scale on the graduated arc is divided very roughly and shows only tens of degrees. I engraved extra marking with a sharp point. Forging, bending and filing were three crafts used to create new lifting hooks from soft metal. I decided to add these additional elements that I noticed surfing the reference photos. To improve the detail of the earth-box I decided partly remove the resin cast stone detail from the inner space. I hammered authentic marl stones into small pieces pouring them in the counterweight box then fixed with a PVA white glue. One of the side panels I cut off and replaced with a new zinc-lead sheet part secured with a latch system.

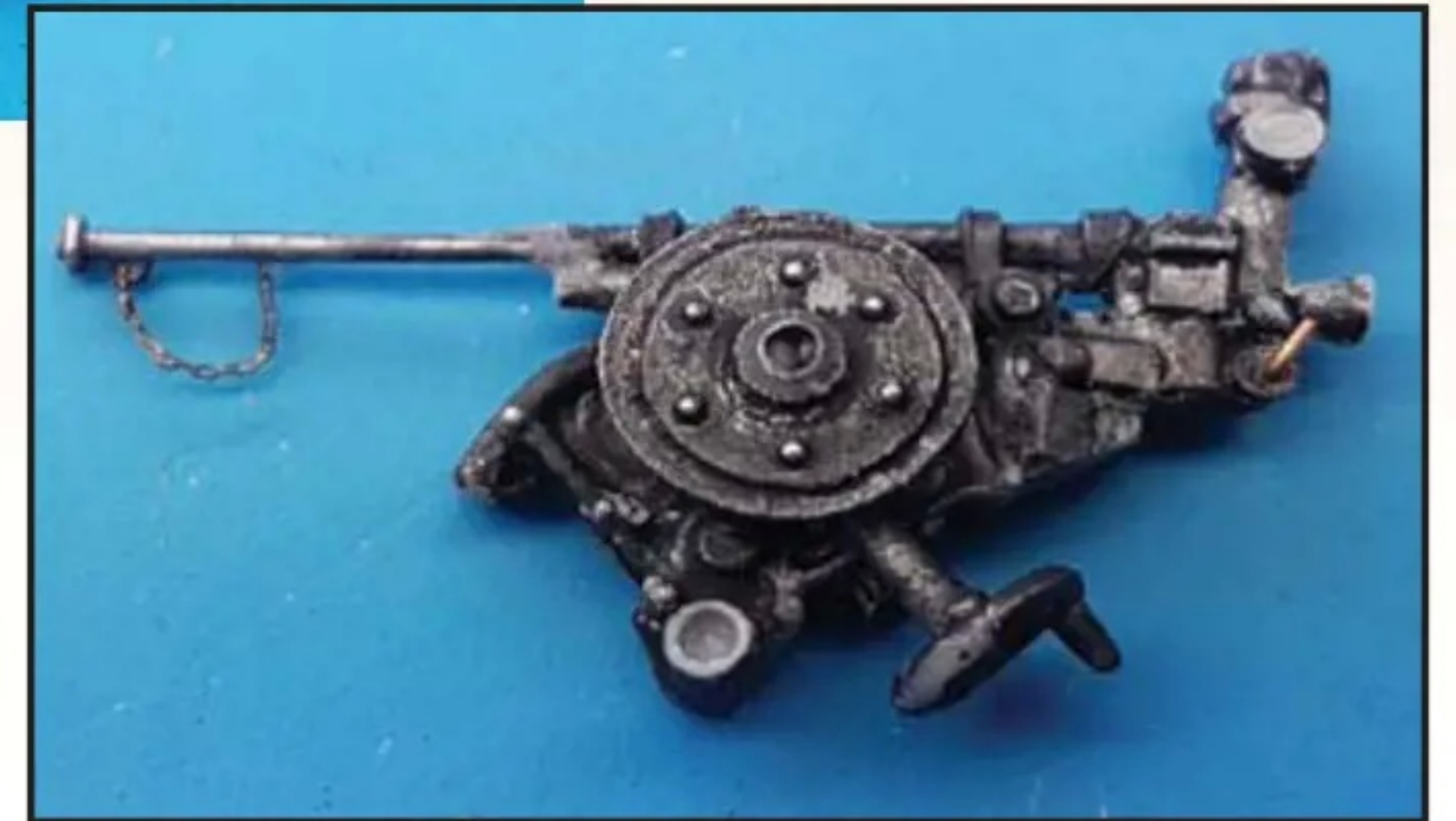




A single figure is always a good addition. It will not compete with the gun for attention and provides a readily understood measure of scale realising just how massive the gun is. Resicast's figure 'WWI First Lieutenant' is perfectly sculpted and cast in resin. I glued the officer's personal hand-gun on the opposite side of his belt as a little effort for originality. That meant filling the recess on his right pocket with Tamiya putty. Now he looks like a real cross draw pistolero!



Perfectly shaped projectiles don't provide need for other improvement nevertheless couple of projectiles I modified adding to the nose something resembling a point detonating fuze. In the nose's point I drilled 0.6mm holes and inserted a piece of lead wire to simulate a No. 106 percussion fuze. Drilling 0.4mm indents depict mounting holes in the projectile's base plate.



A lot of little details were added to the rocking bar sight such as a new foresight tube. The original resin 'stick' was a little shapeless.



Each canister for the cordite charges has two rope handles for moving. Initially I couldn't tell what the moulding was. I found something looking like resin threads but partly damaged and incomplete on some canisters so there was question what was it in reality, cut it off, convert or? Special thanks go to Mr. Steve Malley from Bovington museum who advised me 'The handles are normally made from rope' I was able to complete and repair damaged areas with a thin copper wire. They were painted with a mix of oils imitating the sisal rope colour. I used mix of Burnt Sienna, Ochre Light and Abt.135 Light Flesh Tone

Moving on at the next step I aimed my attention to a novel display base. There are many possibilities in our hobby that help us to give more interesting presentation to our models. I found (with my metal detector) a WWII relic in the shape of a cartridge case from a Czechoslovak howitzer 15cm vz.25 taken over by the Wehrmacht under the designation 15cm s.F.H.25 (t). Why not to use it like a base?

First of all I carefully and respectfully using an angle grinder, half of cylindrical shell was cut off then cleaned up to a usable edge. I filled up the remaining space with construction foam and a suitably trimmed piece of ply-wood and sprinkled on crushed marl stones and sieved marl on a layer of water-thinned PVA glue.

Bright marl stone created a striking



Transition points between the marl stone and rusty shell were pigmented with my own pigment mix, I used nothing more than common school coloured chalks for a gradual and natural colour transition.

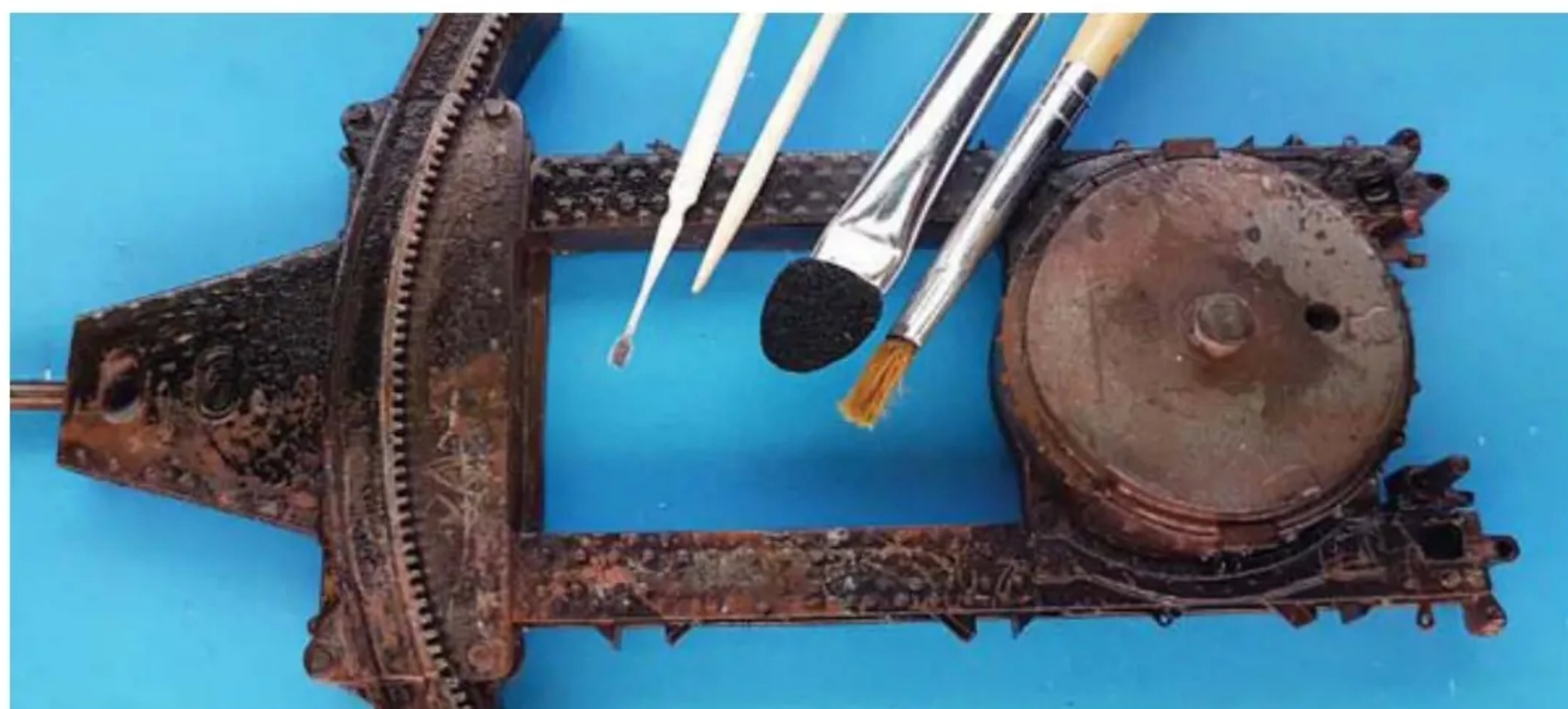
The model was attached to a separate wooden piece prepared with the same materials which was married to the presentation base as the final stage. I used the shell igniter cut into two pieces as the two front legs for better stability of the presentation.



Another scratchbuilt supplement to enhance the scene was a metal crate for six canisters full of cordite charges. lead sheet was cut and bent in appropriate shape and left in pretty much the original finish. Just a couple of heavy abraded colour traces of Vallejo Model Color 70.889 USA Olive Drab add interest to the surface.



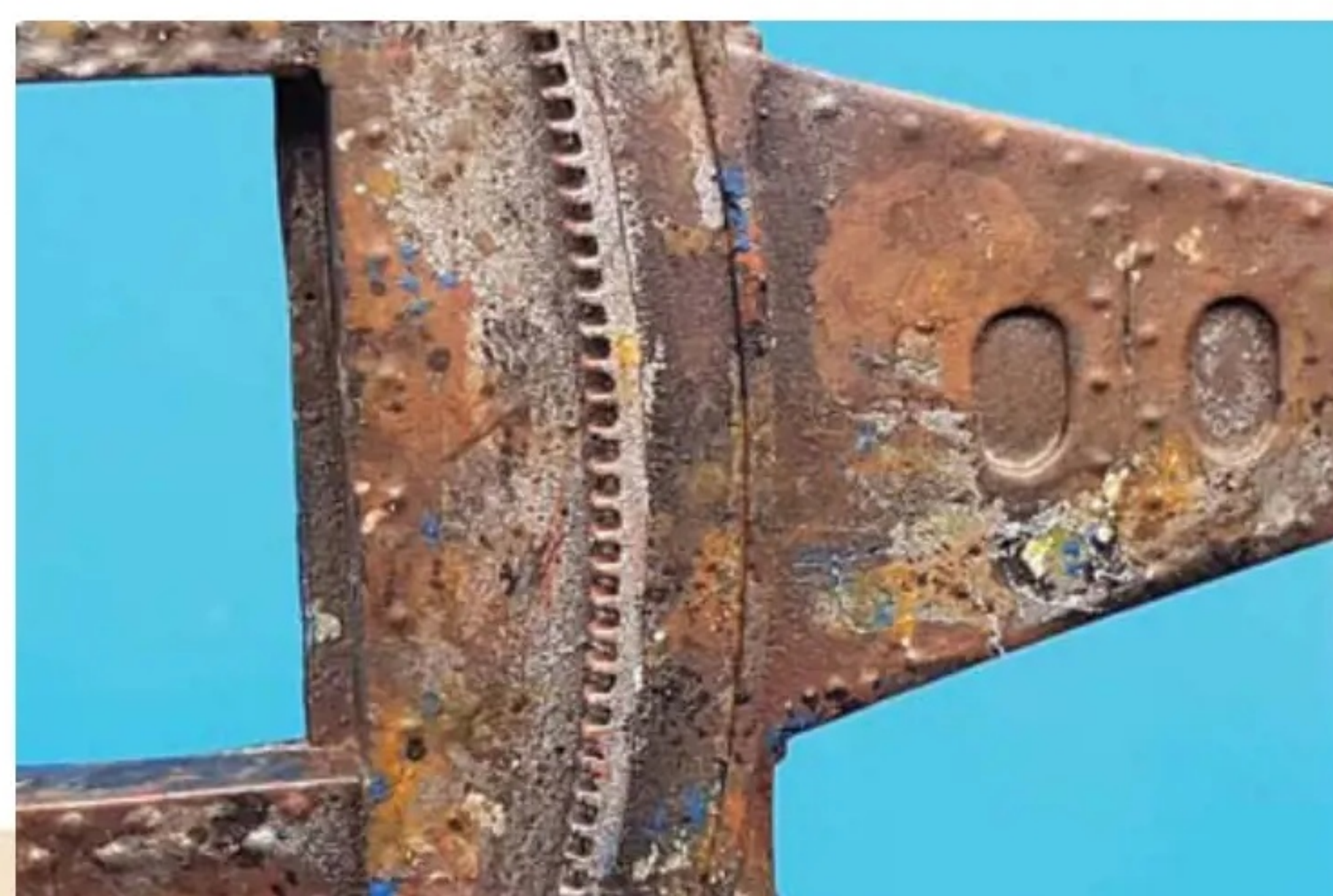
Once the assembly was complete the model 'subs' were washed with soapy water. The first stage in my paint promenade is always surfacer and I chose Mr.Finishing 1500 Gray from Gunze. The next step was metal colour Vallejo 77.712 Steel with a few drops of 77.723 Exhaust Manifold or 77.707 Chrome added for tones used for so-called preshading. A coat of hairspray was followed by a random mottle mixed from Tamiya colours giving a oxidised raw metal finish.



The rust tones were scrubbed off in places to expose the metal underneath (the unstable surface provided by the hairspray). That was a good base for next steps. By the way for the most delicate scrubbing I used and can recommend a 1mm micro eyelash brush.

Mr. Super Clear Gloss spray as the protective layer between the steps where the hairspray on the stage was always applied.

Next, I continuing the rusty spree by sponging many of irregular mutually intertwining stains they bestow the model shabby-rustic effect which I was going to cover with a top colour and partly revealed later. This process was realized with oils such as 502 Abt 235 Blue, Ivory Black and chemicals Vallejo 73.804 Splash Mud, AK676 Moss Deposit, 3x AK Rust Deposit Light Mid and Dark, AK013 Rust Streaks, Vallejo 77.713 Jet Exhaust. Dilution provided either by Isopropylalcohol or AK047 White Spirit. The final stains appearance was rectified with a slightly wet make-up sponge.



I am trying to develop new tricks for painting and this kit was the third in line; a great way to try out my new idea, so called 'Foaming'. A little piece of torn foam was slightly soaked in AK Rust Crusted Deposit then dabbed on a napkin to remove surplus fluid then soaked in Vallejo Rust Texture and touched again on the napkin once. Touch the model surface with the foam and wait a little for the result, something like a dark spot bordered with a lighter halo around.

In a random pattern, except the barrel, I sprayed over the mottled result heavily thinned Vallejo Panzer Aces 301 Light Rust (10:1 Vallejo Thinner 71.061). The colour haze applied in light coats allowed the previous effects to strikingly 'peek' through. It gives 'the colour landscape' a more interesting touch. In addition, the hairspray technique was also called on to help me at this stage.

Some projectiles received XF-3 Flat Yellow and others light blue resulted by mixing XF-2 Flat White and XF-18 Medium Blue in ratio 80% to 20% respectively. The rest of projectiles stayed in the same 'ugly' coat as the carriage. Driving bands was painted with AK454 Copper and the canisters for cordite charges with XF-51 Khaki Drab. Canvas bags for three and two half charges with XF-55 Deck Tan. Wooden crate boxes are XF-78 Wooden Deck Tan and

over the hairspray layer was laid a layer of green from my previous project. The figure of the officer has nothing more than the role of statuesque scale symbol was painted with X-33 Bronze from Tamiya.

Time for top coats. I didn't search or mix an exact British green and instead I opted for XF-81 Dark Green2 (RAF). In any case the follow filtering and washing changes the shade somewhat. Second top colour was X-18 Semi Gloss Black. A protective clear coat of Sidolux varnish over everything protects previous work. And that wasn't all. Next interventions were multishaped masking tape strips attached to the painted areas. Green colour featured mainly on the gun cradle and two of the earthbox sides, the black went over the other areas.

Ten minutes later I grabbed an old paintbrush with the bristles cut down, dipped it in water and began scrubbing away the paints exposing the previous effects beneath. I experimented with scrubbing tools, the 1mm eyelash brush again was great for getting in tight spots.



Once that was done I turned my attention at the decals. I prepared the projectiles for decals with a clear Sidolux varnish coat. I got the strips of colour coding system from my spare hodgepodge stock of decals. Academy's decal sheet intended for K2 Black Panther contents two, green and yellow rectangular decals. I turned them with my scalpel into narrow strips and together with 0.3mm white strips were applied onto the projectiles. Next set of decals were green strips with inscription TROTYL for yellow coloured high-explosive projectiles a British flag and Royal artillery emblem, both intended for the carriage's sidewalls.



Wooden crates for storage and transport the projectiles I decorated freehand with inscription 9.2 INCH TNT. For this purpose I can recommend Kuretake's black liner Mangaka 003, seems to me better than Gundam Marker. To achieve another colour nuance I decided to use two artist's oil filters in certain areas.. Blue filter (Abt235 Intense Blue) and yellowish filter (Umton's Gold Ochre) both heavily diluted with AK050 were applied with bigger round brush. Some of the black-ish areas including the barrel with a blue filter and green areas with yellows. Next up were some washes. I decided to give a gloss coat to make the subsequent washes flow more easily into the details and protect previous effects. Two oil washes was needed due to the final intensity and contrast. The darker wash (mix of Ivory Black+Sienna Burnt+drop of Light Vermillion) was applied over the green, yellow and blue painted parts while lighter wash (Abt.220 Dark Brick Red + Abt.240 Cream Brown + Abt.050 Olive Green + Iron Oxide Black and Burn Sienna) over the rusty-black surfaces. This gave recesses greater depth to emphasize surface detail, deepening the rivet details and improving overall visibility. The smaller details such as heads of rivets were emphasized with dirty metal oil colour (AK True Metal 454 Steel + Iron Oxide Black). For an appropriate consistence I use AK050 Odorless Thinner. Application was delicately realized with a fine Daler&Rowney 10/0 brush.

Finally I used a silver-coloured art pencil from FaberCastell and common graphite pencil to simulate scuffing along the edges of the howitzer. To give the stones in earthbox natural diversity, some of them were soaked with heavily diluted black oil paint while the



terrain around the model was treated with rusty colour pigment to unify transition points between the ground, base and rusty shell torso.

Leakage of a grease around the trunnion cap was depicted with Molyka (petroleum based) paste and oil-carbon liquid mix. To spice up the look on the service platforms, crates plus the most worn places on the undercarriage I added a pigment. AK Truck Rust pigment was applied dry and by brush without any thinner. The dry pigment adhered well on the surface so before the pigment permanent fixing to the surface with MIG Pigment fixer I retouched some spots to wipe out the unwanted surplus.



OK, what do I think? It had been a long journey, and was far more ambitious than I had originally intended, pushing my still developing skills to the absolute limit. On the flip side my effort was rewarded with a great feeling seeing the kit built into an accurate representation of one of the Great War artillery icons.

For those who feel they'd like to invest in this kit I would like to mention some small inaccuracies. The part marked A25 is in fact part A22. The part marked A3 is in fact A38 and A55 is marked in instruction as S3. The unmarked wheel is in fact part N, parts 47, A41 and B17 are not intended for the model so you can put them in your spares box. Part A18 had to be remade due to it doesn't match with my reference photo at all.

I have to thank Graham from Resicast who was very helpful in answering any questions. Graham has recently retired but thankfully Resicast continues to serve modellers with their unique subjects under new ownership.





BL 9.2-inch howitzer



Anyway, the kit is one of the best model kits I've built. All of the parts have part numbers attached to their sprue and the fully-illustrated instruction booklet is a clear photo step-by-step guide. The parts require some sanding but are cleanly cast. It's a joy to build for the heavy artillery aficionados.

HEROYAM SLAVA!

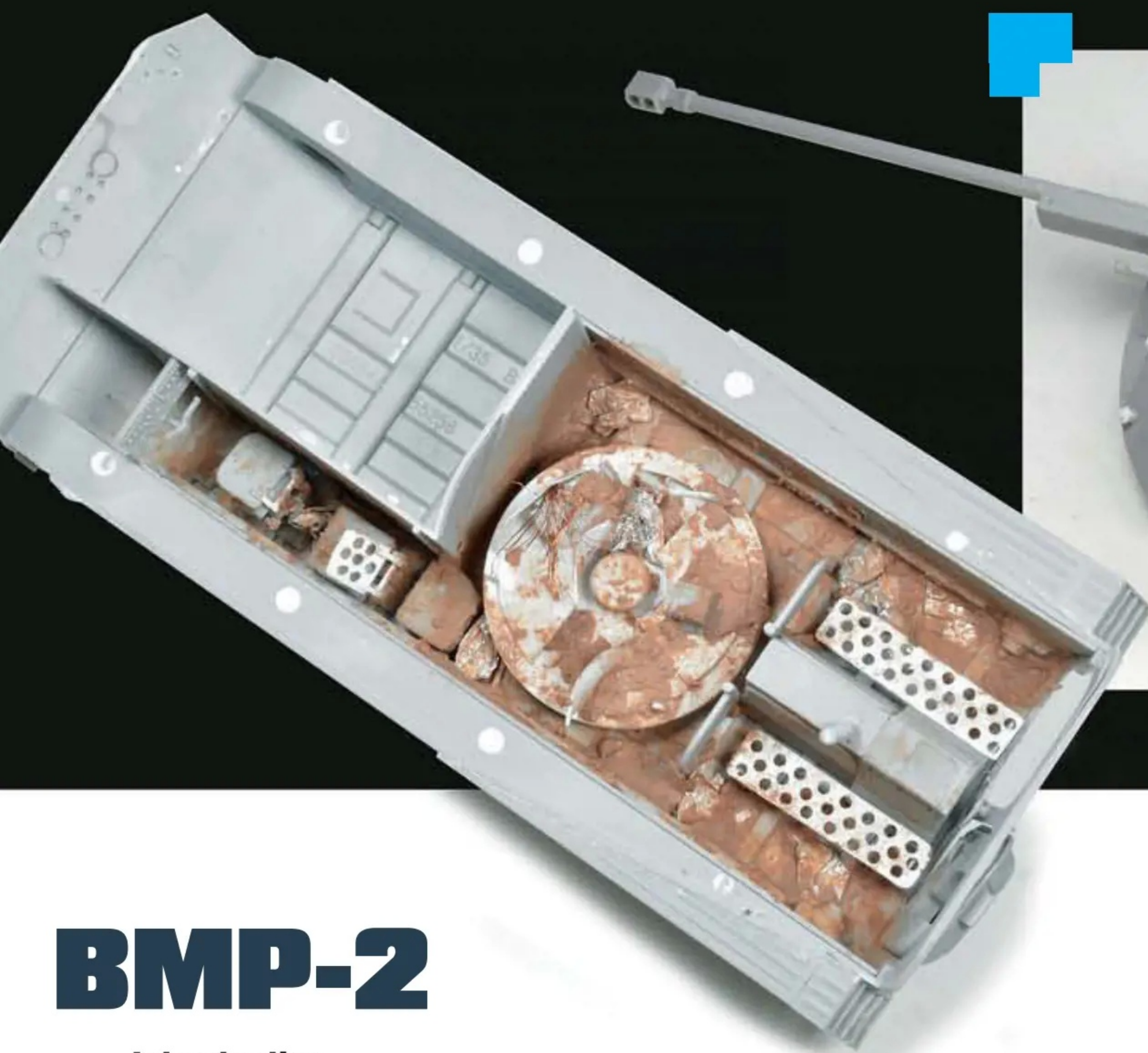
GLORY TO THE HEROES!



**PART
ONE**



1:35



BMP-2

Introduction

The BMP-2 has been a common feature of Soviet and ex-Warsaw-Pact countries since 1980. Like the BMP-1 it has been in service continuously since its introduction, and it is common in both the Ukrainian and Russian forces in large numbers.

The particular one I chose to model is based on a photo from Kyiv Oblast dated April 22nd 2022, and it seems to be part of the forces the Ukrainian defenders checked and repelled when Russia attempted to take Kyiv. Unfortunately, despite the fact it was a widely photographed vehicle (it seems journalists were bussed to see it), no information is available to indicate the unit.

The vehicle has the look I want for the diorama. The turret has popped off and the hull has partially burned out, leaving plenty of green paint and white 'V' markings, contrasting with very light fresh rust. The turret lies at an angle, with its rear on the hull and the barrel propping it up on the ground, the basket is gone, no doubt from an ammunition explosion. I had a Trumpeter BMP-2 in the stash, although the one I had was 05585 – the BMP-2D, so I had to leave off the add on armour and make some modifications.

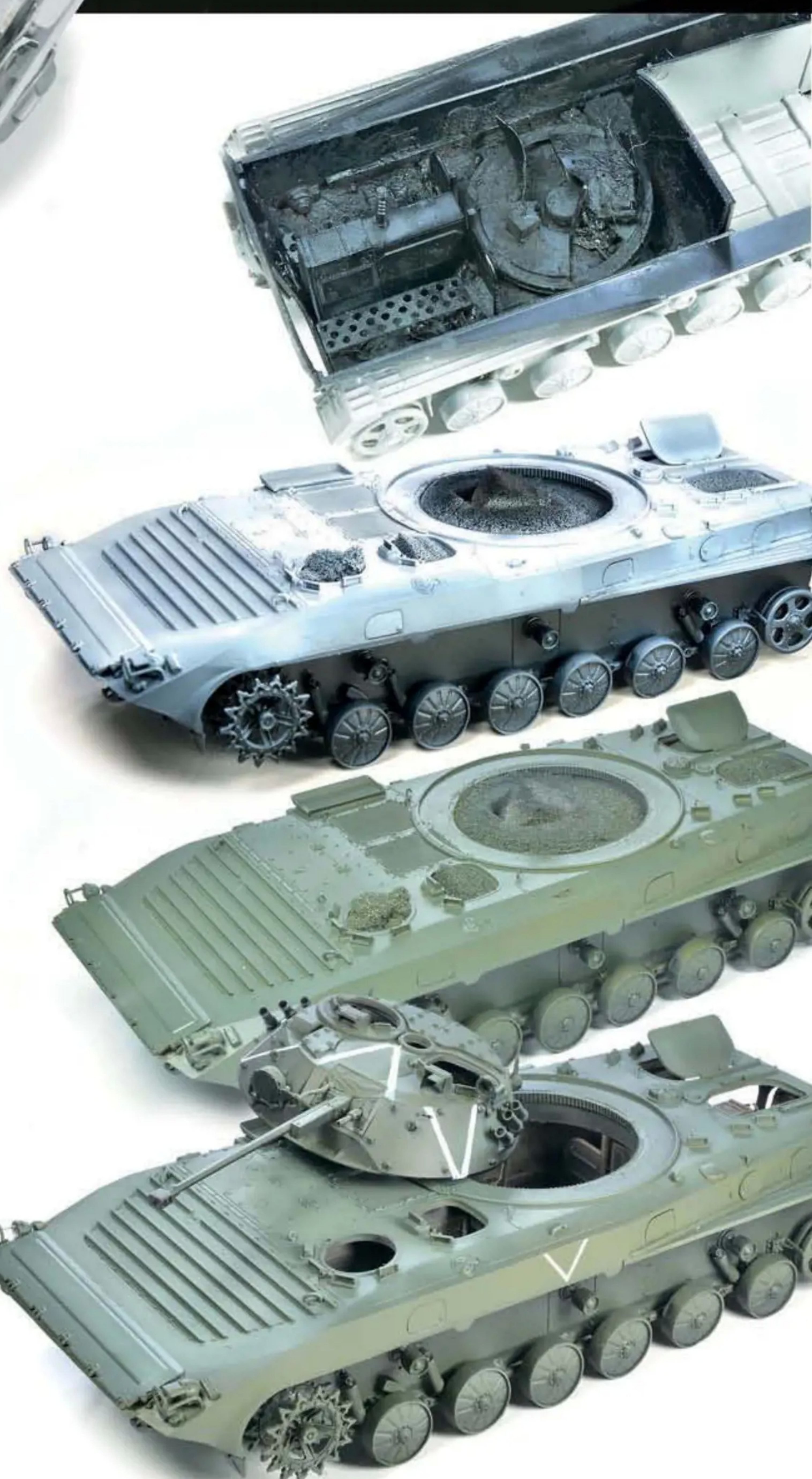
The Build

I started with the lower hull. This was mostly assembled as per the instructions, but I had to make some changes to represent a destroyed vehicle. The first was to replace the seats, with their moulded-on cushions, with new ones depicting just the seat pans with their lightening holes. I used thin sheet styrene and marked out the holes before using a punch and die to get clean holes of a consistent size. I also mocked up a basic turret floor, again using stock styrene, and bending some sections up as if twisted by a blast.

Next, I glued the elements in place, adding some bundles of destroyed wire and scrunched up aluminium foil for detritus, then added some dabs of brown wood filler to replicate the residue left inside the vehicle from burning.

When the filler was dry, I primed the whole interior black, then clouded it with SMS Brown.

Switching to hand brushing, I worked in several greys with diluted acrylic to represent burned metal, and ash, finishing off with some oils in earth and ashen tones.



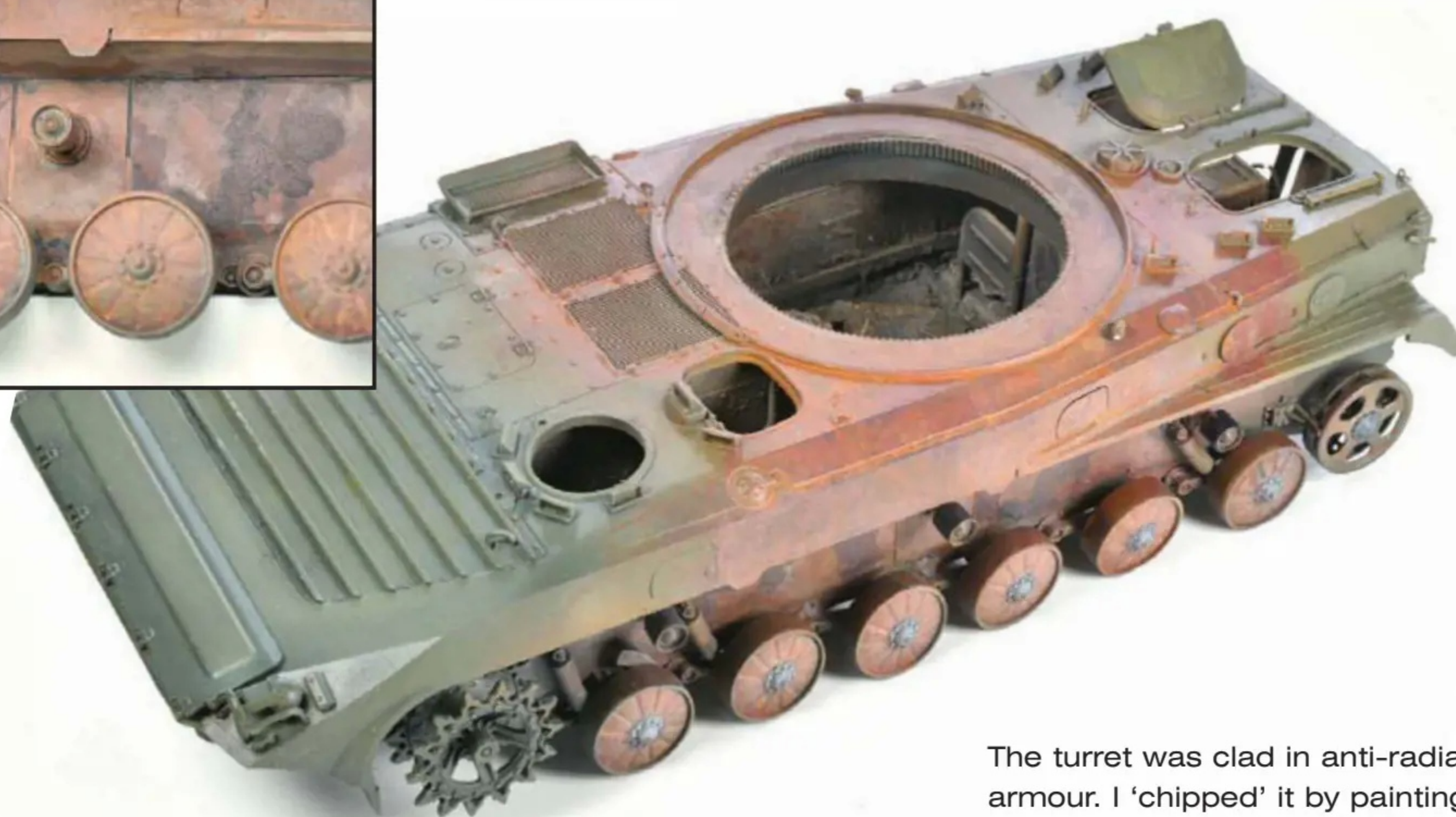
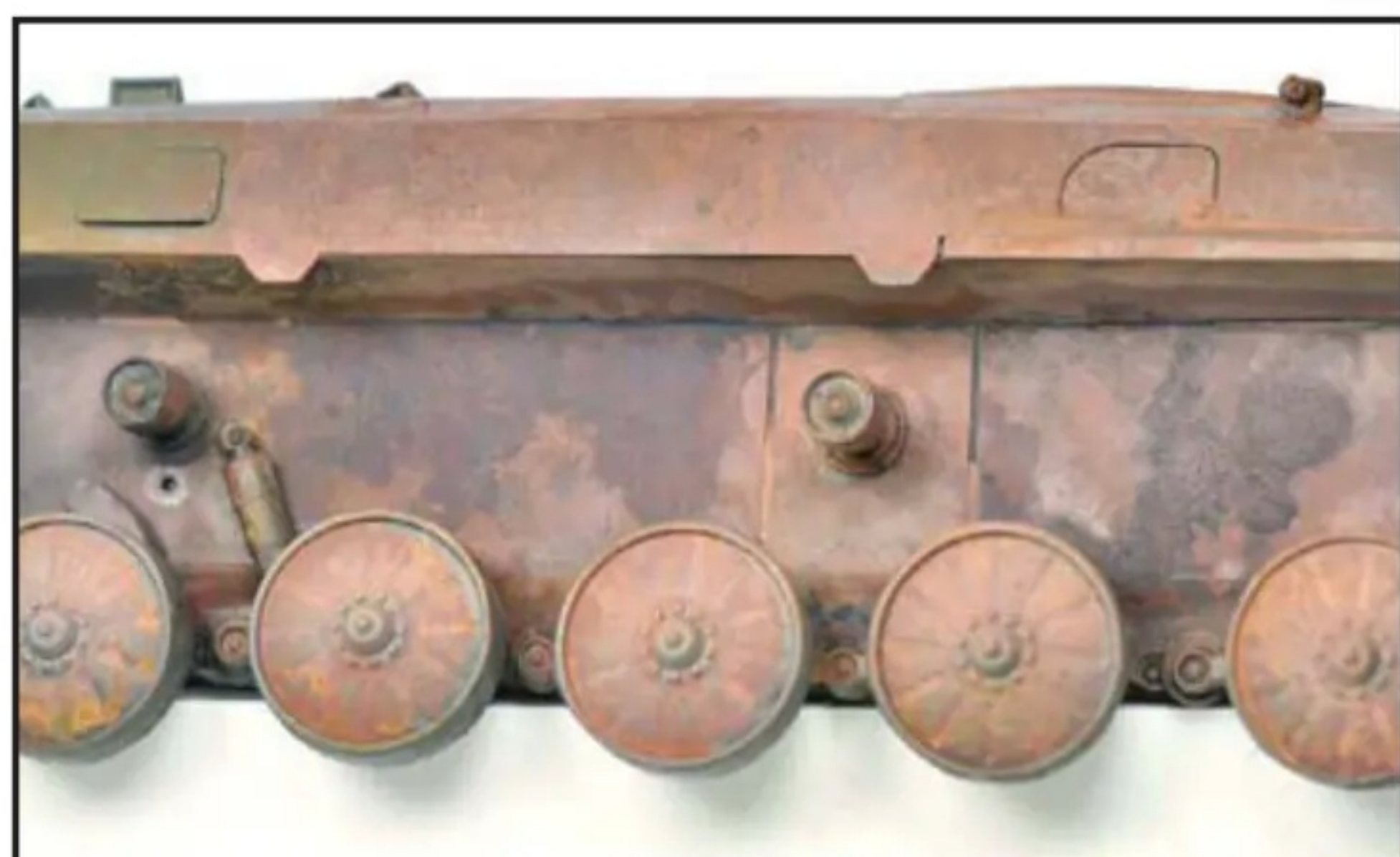
When I was happy with the interior, I sealed up the hull and added the running gear. This was mostly as it came in the box, but I did grind off the tyres on the road wheels and return rollers. I then masked off the interior with foam sponge, just stuffing it in the various openings, and primed the model black. I sprayed a zenithal white, then clouded on some green, matching it by eye to photos from Ukraine. The V markings were very simply, and easy to mask and spray. There are a few theories on what these markings mean, and the Russian MOD has offered numerous florid descriptions for the Z, but most likely they are tactical markings to reduce friendly fire (bearing in mind Russia and Ukraine operate very similar equipment) and to distinguish between army groups. These markings were certainly present on Russian vehicles during the 'exercises' in Belarus that preceded the invasion.

Most likely V stands for 'Vostok' and means East (Z being west and O being south), although this could also be incorrect, as the war has continued, Z seems to be more-or-less universal, taking on a life of its own as a symbol in Russia for the war, and a symbol not unlike the swastika for everyone else.

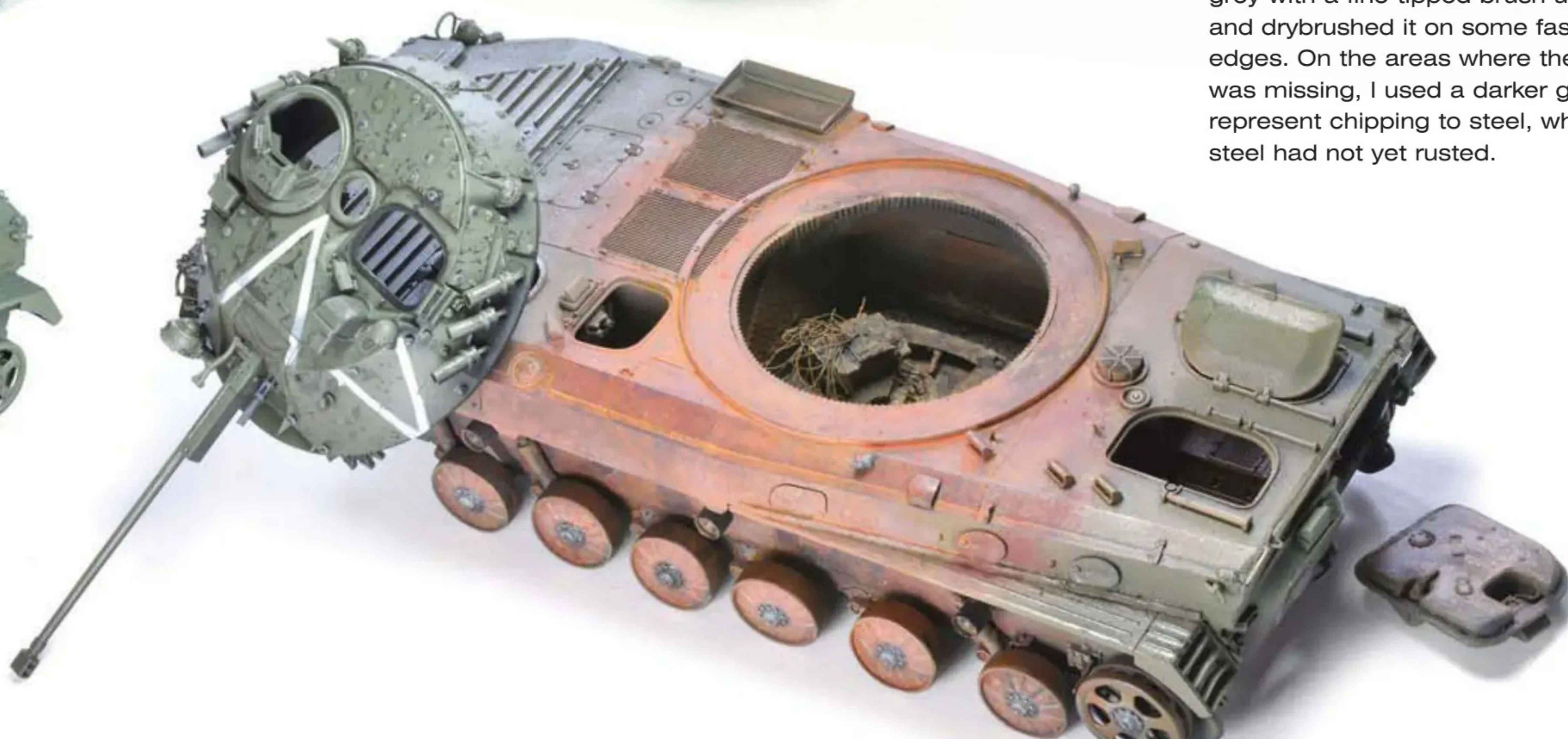
Next, I wanted to start the rusting process, so I put down a base of SMS Brown, then commenced working in Lifecolor Liquid Pigments from their Rust set, starting with Eroding Dark Rust and Orange Marks.

I noticed darker areas under the upper hull in photos and added these with oils and enamels, in very thin applications, letting it bleed out a little, and building it up in multiple applications to make overlapping layers and increase the textures. Do not use water-based paints to do this without first sealing the rust pigments, as they will reactivate under water.

With the rust done, it was time to add some life to the green. I started with a pinwash to outline the detail using a dark grey enamel. I wanted a grimy desaturated effect and grey was perfect. Next, I spattered the green with a variety of brown, sandy, and grey oils. I prefer oils for this, for two reasons. Firstly, the spray and spatter is much finer due to the low surface tension, and secondly: the marks are not opaque or too strong. I want them individually subtle.



The turret was clad in anti-radiation armour. I 'chipped' it by painting on dark grey with a fine tipped brush using acrylic, and drybrushed it on some fasteners and edges. On the areas where the cladding was missing, I used a darker grey to represent chipping to steel, where the steel had not yet rusted.





The tracks were added and rusted, and I put it aside to finish the diorama, but by the time I did, I had developed my techniques for depicting the damage, so I came back and added more destroyed clutter and rust tones, plus some dark spattering. More on these techniques in the T-72 later...



MT-LB

Introduction

The MT-LB wouldn't be anyone's idea of a sexy AFV. It's not an MBT, it's not a IFV and it's not even a good looking APC. What it is, is a workhorse. It is basically an armoured tractor, and it was developed as an artillery tractor and prime mover, but the chassis has proven reliable and adaptable, resulting in a variety of machines including the Strela-10 short-range SAM system, the 2S1 Gvozdika 122mm SPH, the AZM combat engineering vehicle, and many more.

The fact is, it's old now. It was originally developed in the late 1960's and entered service in the 1970s. As a platform, that makes it fifty years old, and puts it in the same generation as FV-432 and M113, but it is still incredibly common in post-soviet forces. Oryx list more than 500 Russian MT-LBs destroyed or captured in Ukraine since February 2022, and of course that is only those lost, not those still in operation. Of course, Ukraine too uses MT-LB, but in lower numbers, and with one tenth of the losses.

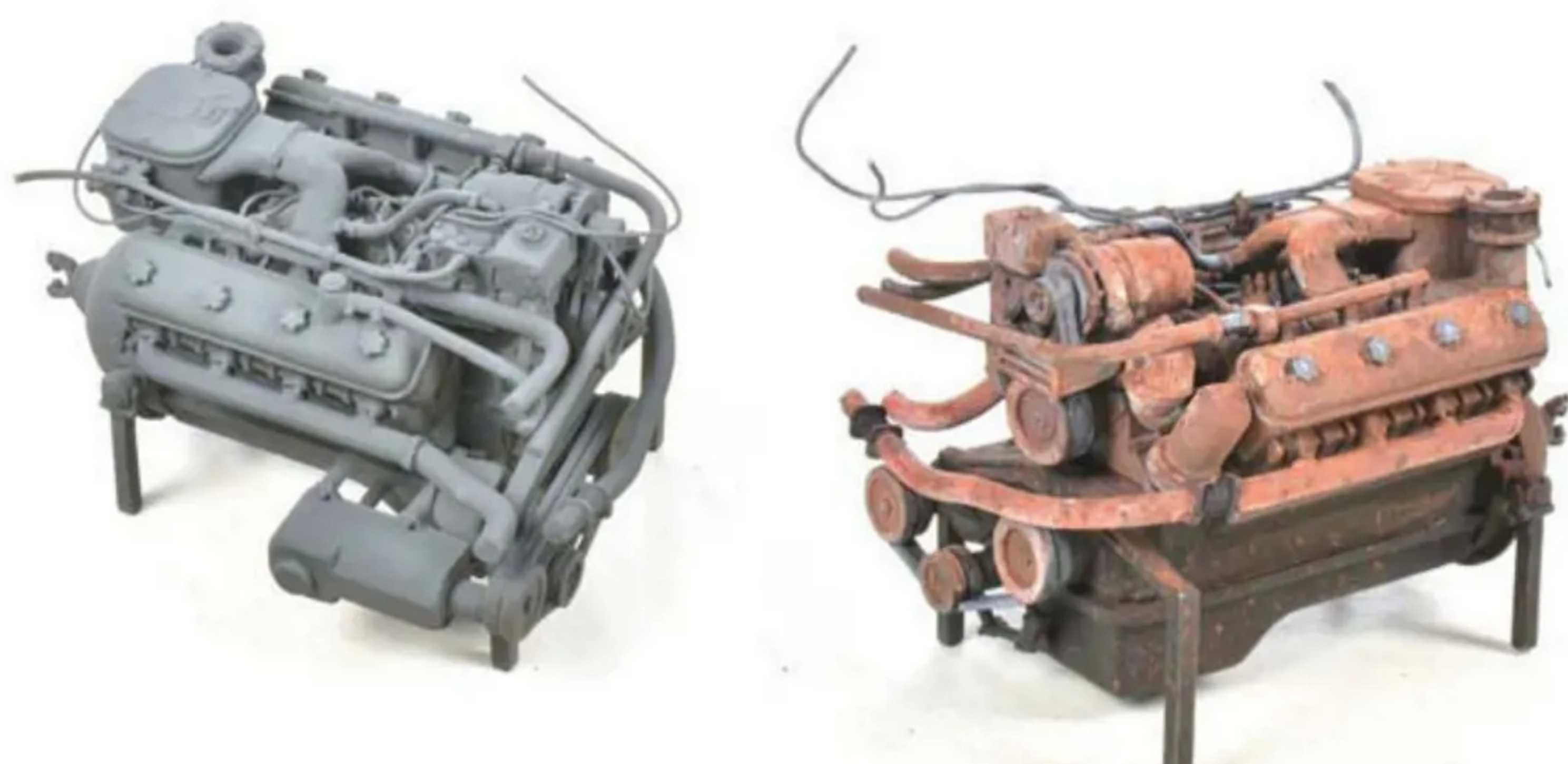
The Build

For such a widely used vehicle, there are very few kits on the market in 1/35. Basically, your options are to hunt down an old Skif

kit or get one of the Trumpeter kits. You can still get the Skif kits, and they are about half the price of the Trumpeter kits, but unless you really enjoy wrestling 1980s style moulds, with tracks to match, then Trumpeter is a better choice. It would certainly require a lot less aftermarket, so if you are thinking of which kit to start with for a superdetailed build, it is also better value.

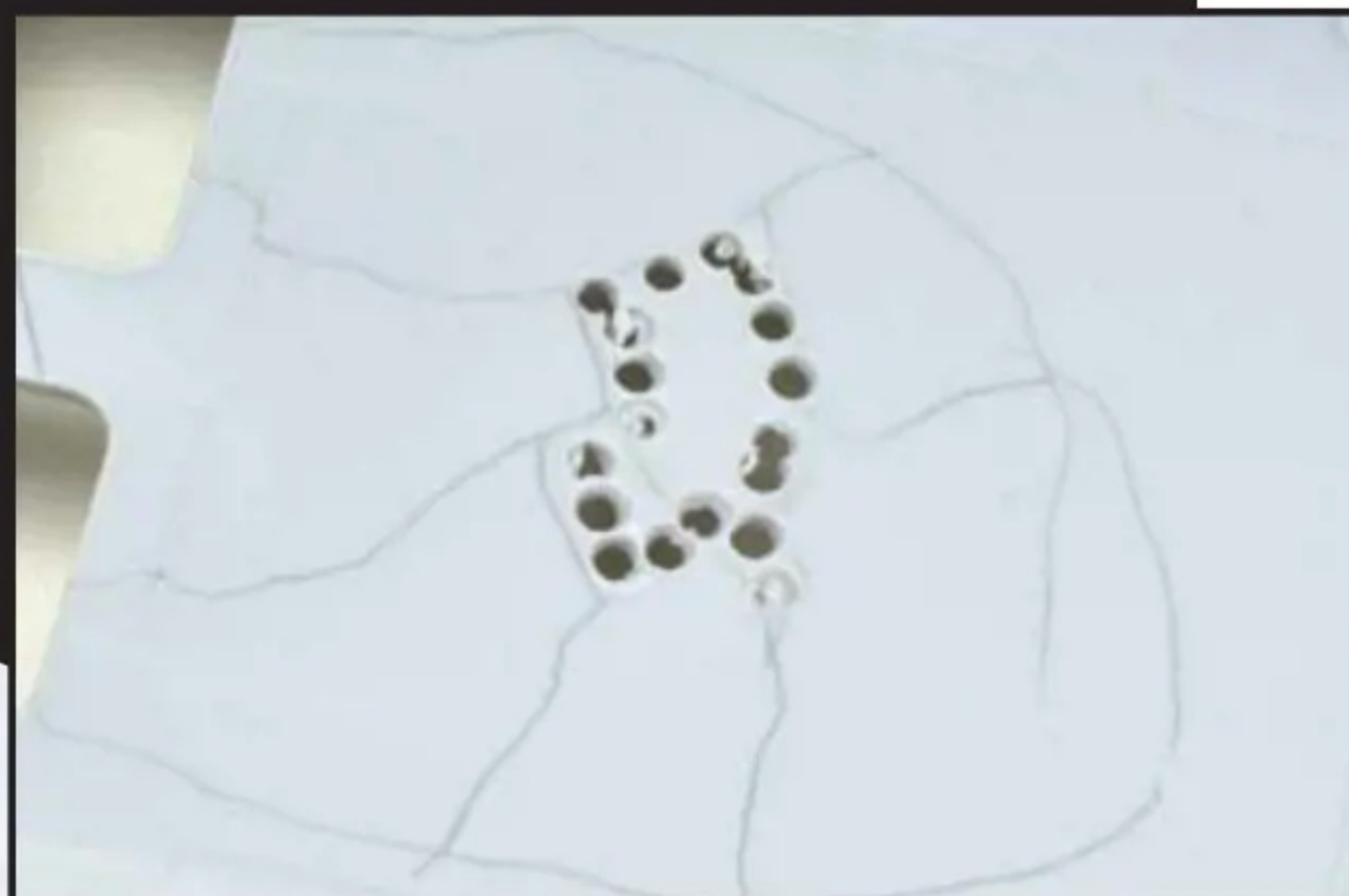
The main benefit of the Trumpeter kit though, is that it comes with an interior, including a full engine and most of the transmission compartment, although as we will see, with some annoying omissions.

I started with the engine, and built it more or less out of the box, although I did add some hoses and wires. Painting it was pretty fun: I started off priming it with a mid-grey, then gave it a shadow coat of dark brown, with a zenithal of white. Then I added a very thin coat of a rusty pink colour. I then used the Lifecolor Rust liquid pigments set to add various tones of rust, before speckling on spot rust and corrosion and to vary the otherwise clean looking rust tones. Of course, not everything on an engine is ferrous metal. I used a number 0 brush and various colours to add weathered rubber colours to hoses and corroded aluminium parts to the engine.



One big omission in the kit is the engine cooling fan. This is understandable, the cooling louvers are moulded closed [10], so you can't see the void. If you want to open them, (as I did) you will need to scratch new louvers, and the fan, housing and internals. There is a fan provided in the kit, for viewing from inside the engine compartment, but it is laughably fictitious.

Cutting consistently shaped small parts like the fan blades can be done by hand, but let's be honest, it is incredibly tedious. I cut these, and the rings for the fan, on my Silhouette Cameo cutter. The rest was done by hand. Once in place, everything was checked to ensure it fit neatly into the hull.

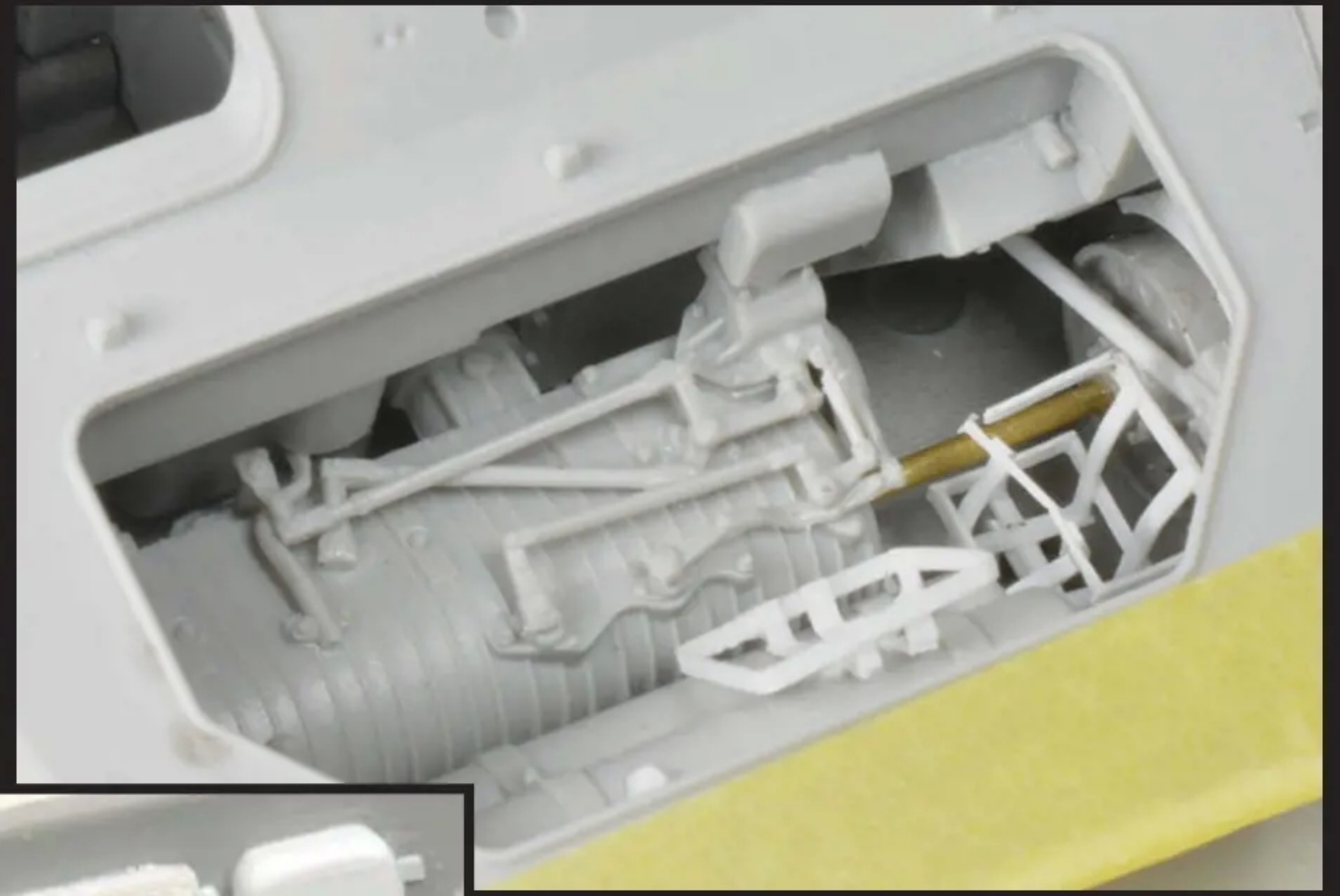
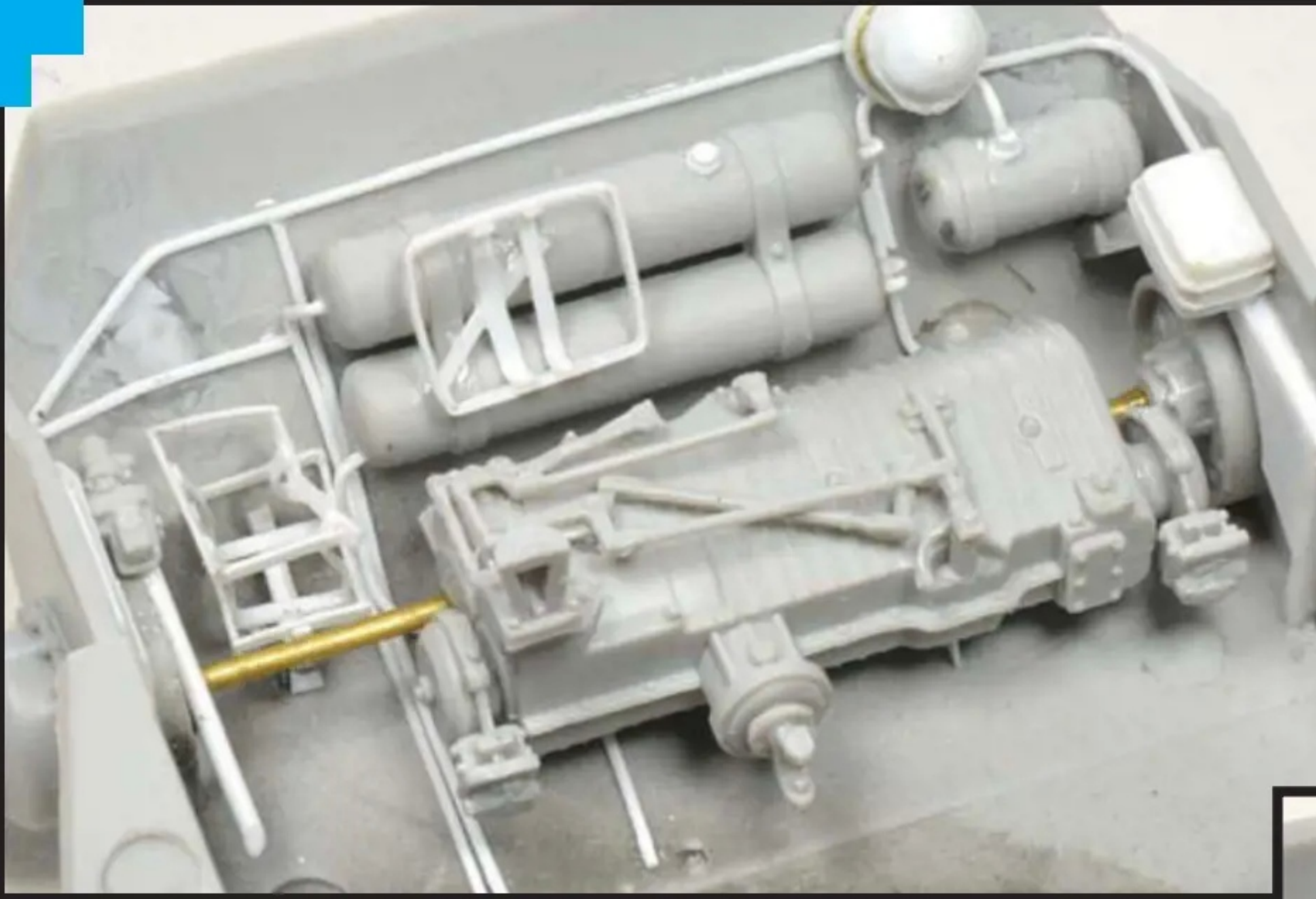


I got a lot of pictures from Oryx, and in a few, there were huge holes in the roofs of destroyed MT-LBs. No doubt these were hit by artillery or drones, and the armour is very thin on the roof, only 7mm.

I decided to do this on the model. I started by drawing a pattern to cut. In this pattern were the radiating splits, the bend lines where the 'petals' would bend inward from the blast, and some parts to remove.

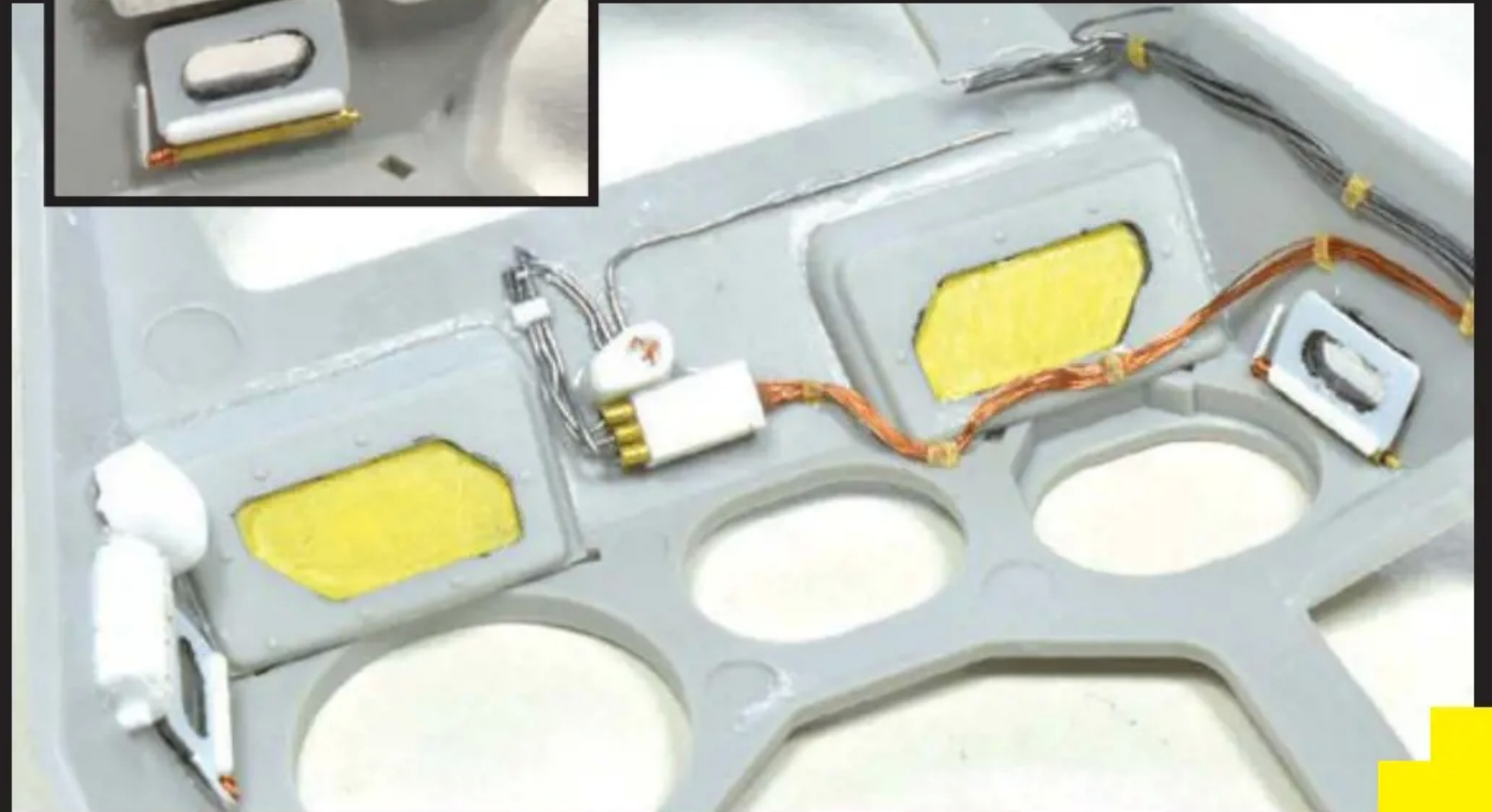
I cut the lines with a 0.1mm scribe until I was all the way through, then I used burs and a rotary tool to thin the edges closer to the 0.2mm scale thickness of the armour. I then applied gentle heat with a gas soldering iron to soften the 'petals' and allow me to bend them. At the same time, I thinned and split the floor of the machine, to replicate the floor being deformed by the impact, popping the welds.





The transmission compartment has a big hatch, and if you are going to open it, it will be noticeable that quite a lot is missing. I added the inside housing and brake details to the final drives, the hydraulic lines, brackets for removable items, and other details missing from the kit, with scratch. Good reference is hard to find in this area and I used a mix of internet photos from military vehicle dealers and a pdf of an East German maintenance manual.

For some inexplicable reason, Trumpeter moulded the vision ports closed. However, they did mould the styrene over them very thin, so it was easy to cut them out by carefully drilling each end for a round hole, then trimming away the part in between. I also added the inside bracket and mechanism for the armoured glass and inserted some thin clear plastic from a supermarket fruit box for the 'glass'.

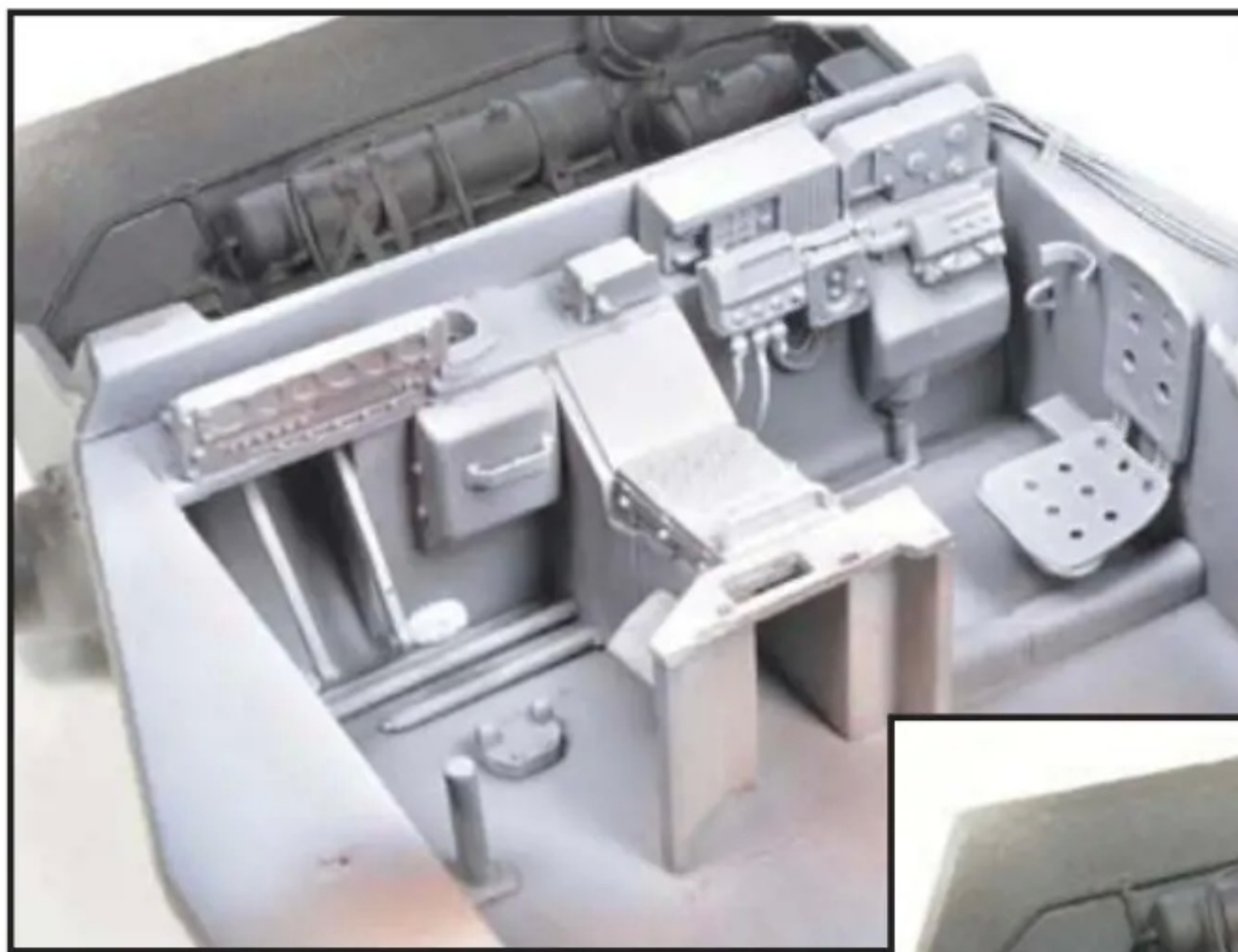
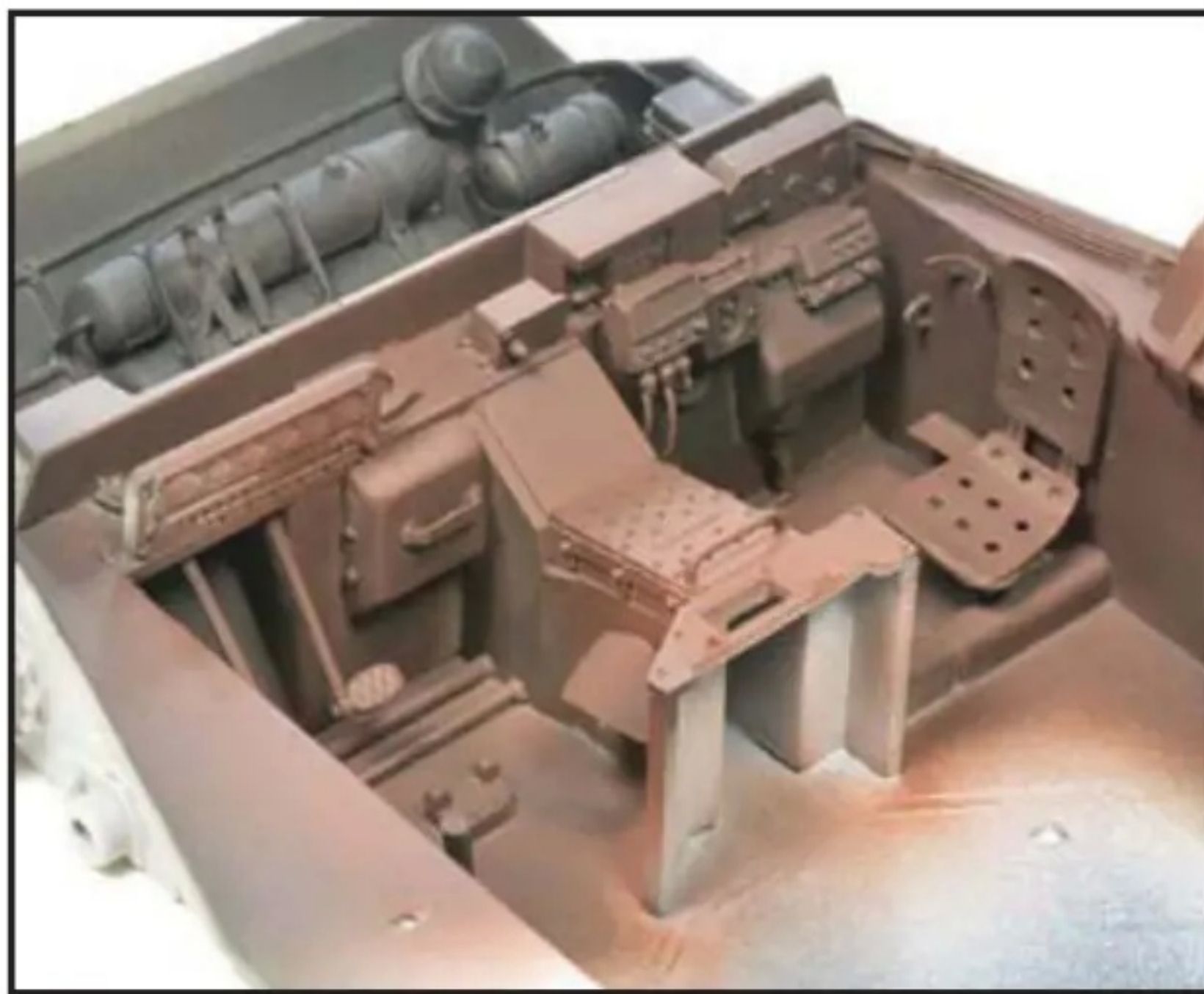


Quite a bit of detail is missing in the driving compartment, and this was remedied again, with styrene and wire. The seats had their cushions carved off, and the pans thinned, before the lightening holes were drilled

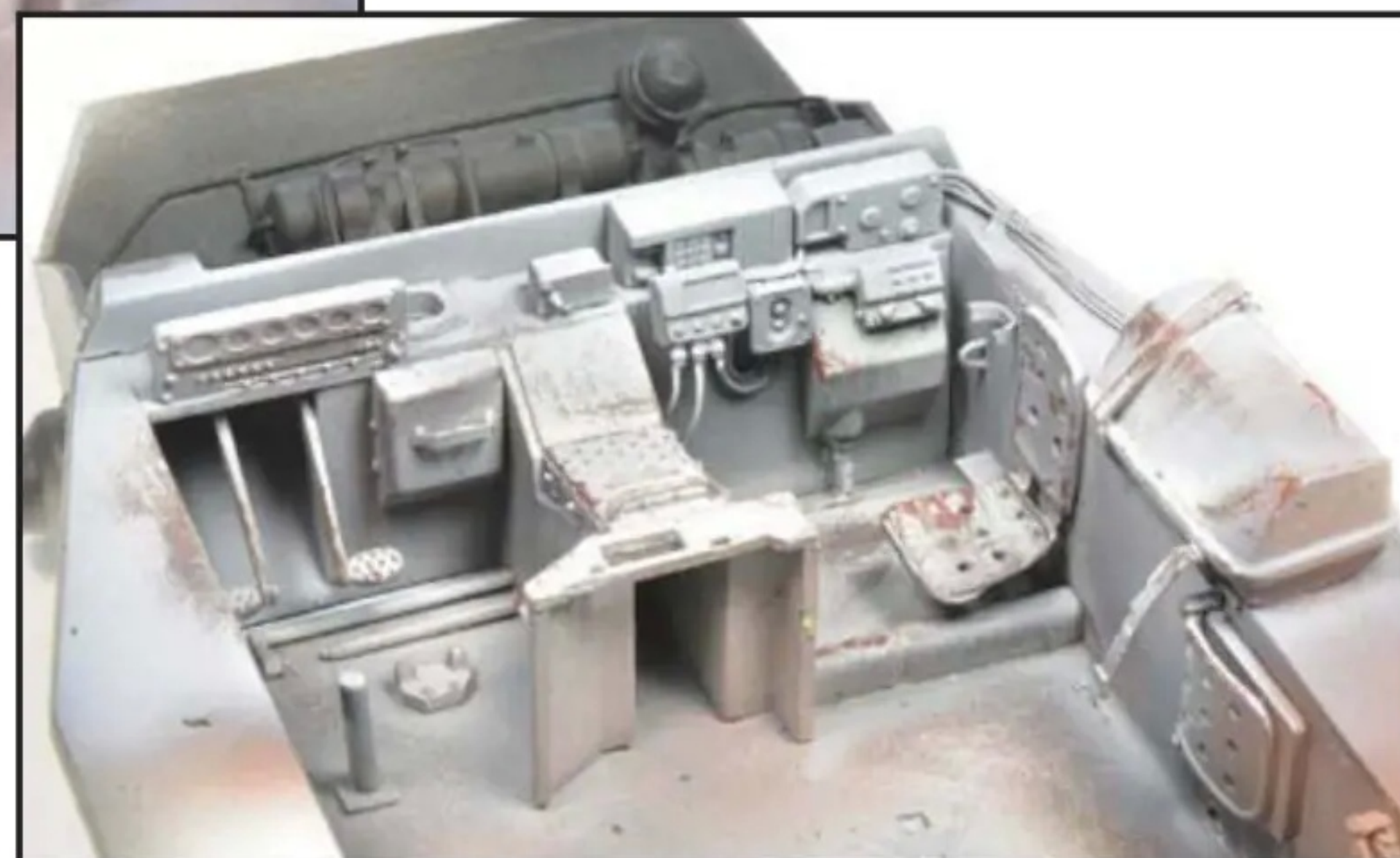
Looking at the engine compartment again, it was missing a few details, chiefly some of the ducting and an asbestos sheet that insulates the corridor between the driving and passenger compartments, from the engine heat. I added the insulation with two layers of styrene sheet and heat-formed some rod to the correct shape for the ducting.

I also replaced the wall facing the passenger compartment with copper sheet, and deformed it inwards to replate deformation from the blast in the rear.

I wanted the driving compartment to be battered and barely maintained, as befits the state in which Russians seem to keep their older equipment. I primed then gave the whole thing a coat of reddish brown, before spraying with some decanted hairspray.



Next, I sprayed some white, and rubbed high-wear areas back with a stiff wet brush to reveal the 'rust'/primer. I also shaded with some grey oil washes and hand painted a few details. Most of this would not be clearly visible when the model was completed, so it was done in a more 'impressionistic'

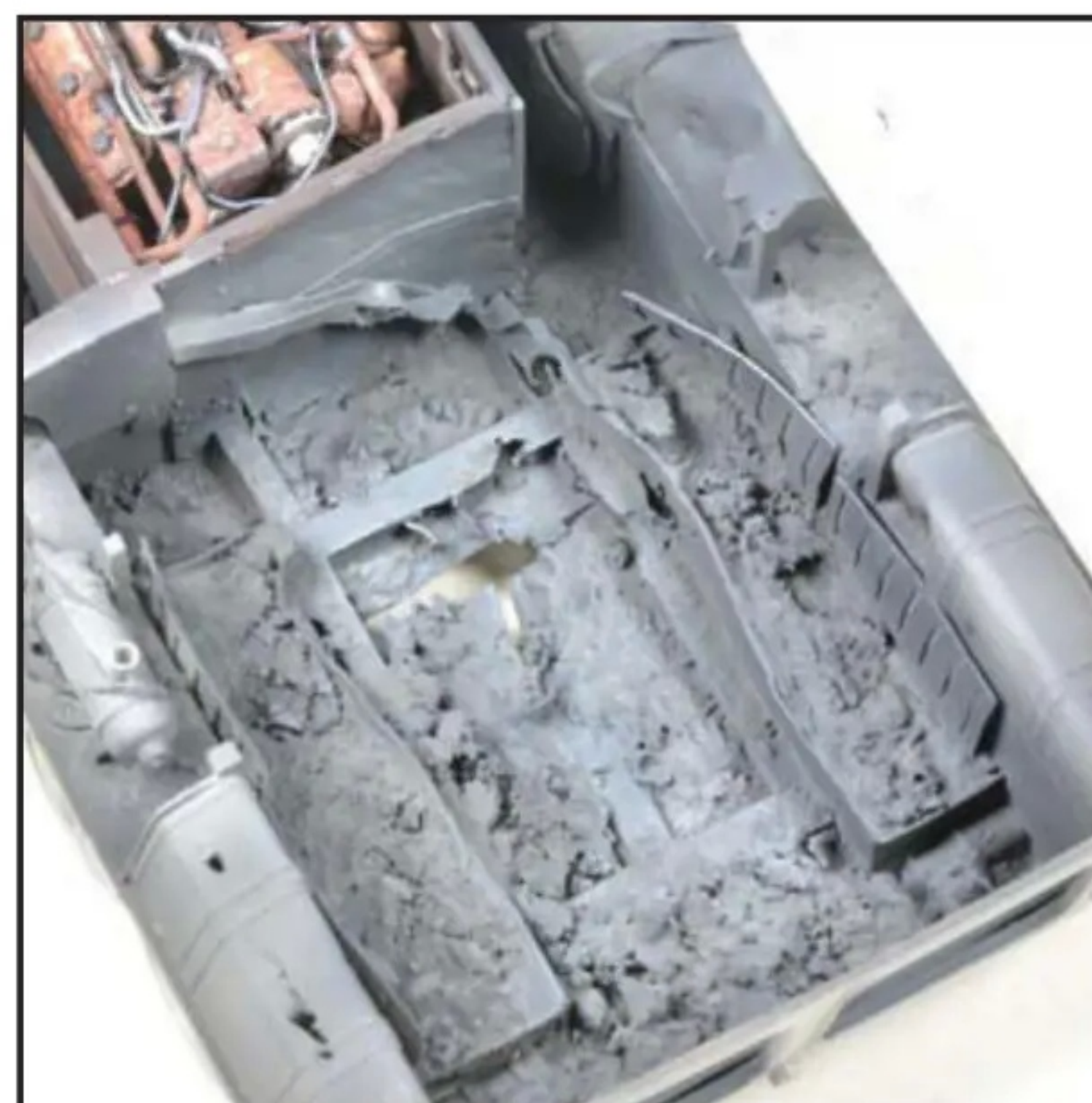
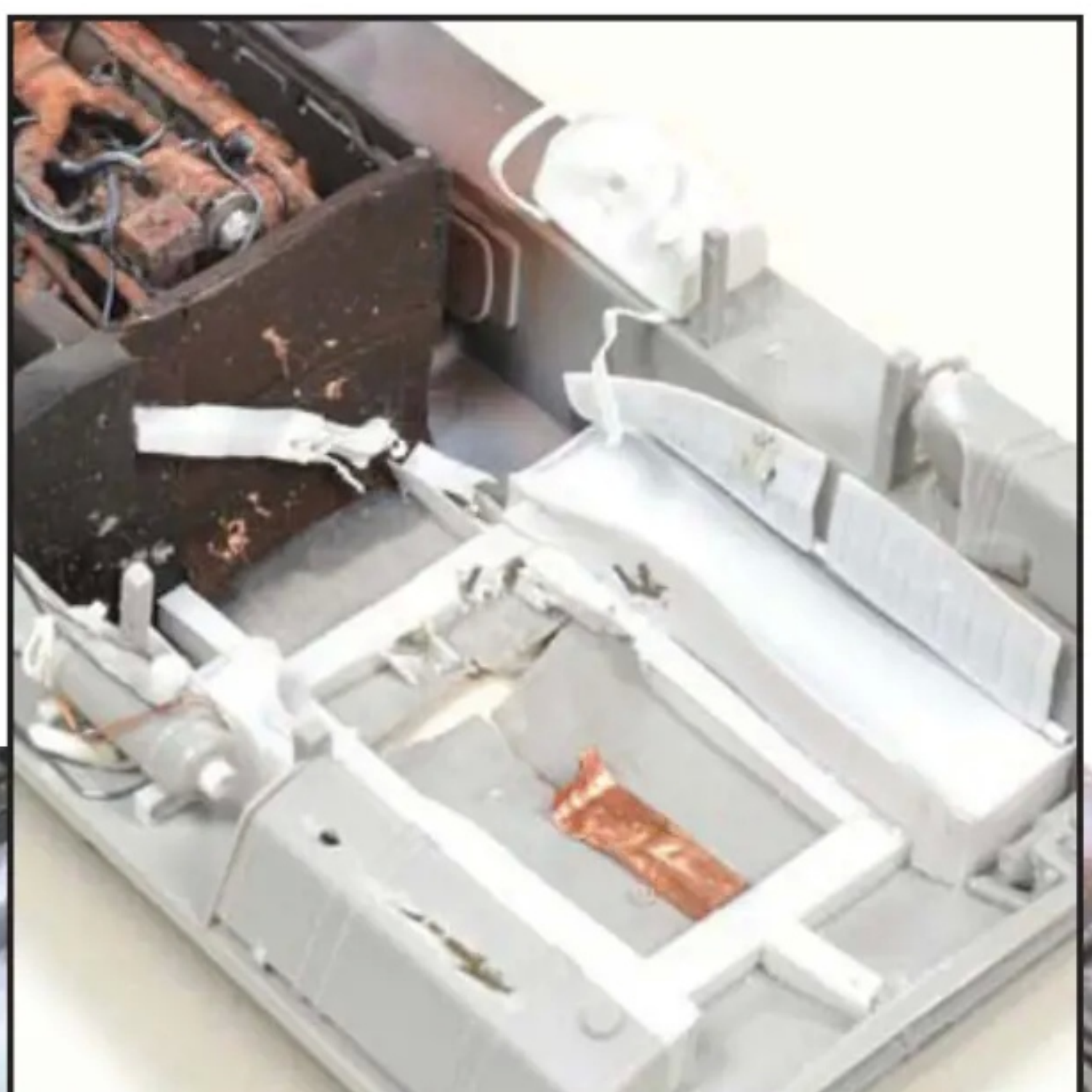


Although the kit provides the ducting for the passenger compartment heater, and seats for the rear of the compartment, they are not easy to damage and I wanted to depict the cushions on the seats burned away; so I scratched it all from thin styrene sheet. I also battered the fuel and water tanks to represent shrapnel and blast damage.

The heater itself is included in the kit, but needs some extra detailing. Check out the references section in this book for tips on where to get more information for it.

Of course, a big lump of HE going off in the back of the vehicle is going to be bad for the suspension, so I adjusted the torsion arms to show this. I also removed the tyres from some wheels to depict them as burned off, and scratched hub details for a couple of wheels.

Of course, when an AFV burns out, there is a lot of ash and debris, and recreating that is essential for a realistic wreck. I tried a number of different approaches in this project, and in the case of the MT-LB I ground up styrene using a rotary tool to create irregular and highly texture shapes, and glued it all into the rear of the model. I added further, more powdery texture with filler powder, and gently let water into it, in situ, with a fine tipped brush (rather than mixing it in the usual way). The water will sit on the powder a little, but leave it alone and it will be drawn into the absorbent powder.



I gave the whole area a coat of Mr Surfacer, just to 'glue it together' a bit better, then put various greys over it. Then I added various reddish browns as I did in the driver's compartment. Next, I hand painted over the greys again, looking to add lots of different tones, from almost white, to almost black, and with some browns mixed into the grey here and there for tonal variety.

The transmission compartment left me with something of a conundrum. The construction required assembling it before it could be fully painted, so I gave up on my usual method of painting things like this first and hit the compartment with black, till I could see no bare plastic, then green.

Now it was a matter of finishing and detailing the exterior. Most of what Trumpeter gives you is very usable, but some of it needs a little work. The brushguards on the headlights are a bit chunky, so I thinned them down for a more scale appearance. It was easier to do this than to scratch replacements. The kit doesn't provide much in the way of the exhaust, just some closed covers, so I scratched some louvres and left the covers ajar.

The mudguards on the kit did not match my references at all, so I made new ones from scratch. This also allowed me to damage them easily and to replicate them more in scale. I would have used PE but I could find no set available for this kit.

With that, the build was ready for paint.



Painting began with a coat of SMS Premium Dark Brown (PL115). As its a lacquer-bourne acrylic, it has a lot of bite, so I didn't need a primer. Next I built up a whole range of semi transparent patches of overlapping reds, oranges and yellows, mixing Tamiya Flat Yellow and Red and mixing in parts of Clear Yellow and Red. This was done in very thin applications, as I don't want to paint the surface red, orange, and yellow, I want to change the character of the brown underneath to vary its tone.

I then gave the model a good solid coat of SMS Flat Clear, to seal in the work done so far and protect it from the next stages. I gave the model a coat of hairspray, decanted and airbrushed on. I added more reddish-brown tones as before, and then used a stiff brush, moistened in water, to break up and chip the colours. I was aiming for a textured rust surface with lots of little micro-details in the paint.

I added more hairspray, then applied some greens in limited patches, matching my reference photos before chipping that too. The paint was still a bit stark, so I used oils to blend it in and add more glazes of tones and streaks.

I never see painting as a linear process. Personally, I use whatever tool, paint, and technique will get the mark I want, at the time. Because of this I am always switching back and forth. At this time I needed sooty marks around the impact area, but I wanted it over the paint, but blended to the other effects, so I used the airbrush to add dark stains.

Next it was time to tackle the front, and I started with hairspray, then a basecoat of green.

The hairspray did not work as well as I would have liked. I got some fine chipping, which was what I was looking for, but also

some big chunks came off, which I was not looking for. To deal with this, I painted back into some of the areas to restore colour. I also added the very 'hand painted' 'O' on the transmission cover. This dio is more symbolic than representational, so I included vehicles with all the symbols of the aggressors.

As previously noted, I sprayed the interior of the transmission compartment green. Now I needed to add some more colour. I started by carefully painting the transmission and tanks a very dark grey, then drybrushed them with a lighter grey, then a lighter drybrush with white. I then washed them repeatedly with dark grey enamel washes to add gradations of shade and grime. I also drybrushed some areas with dark grey for a worn metallic look. I also added dark grey inside the worn primer areas.

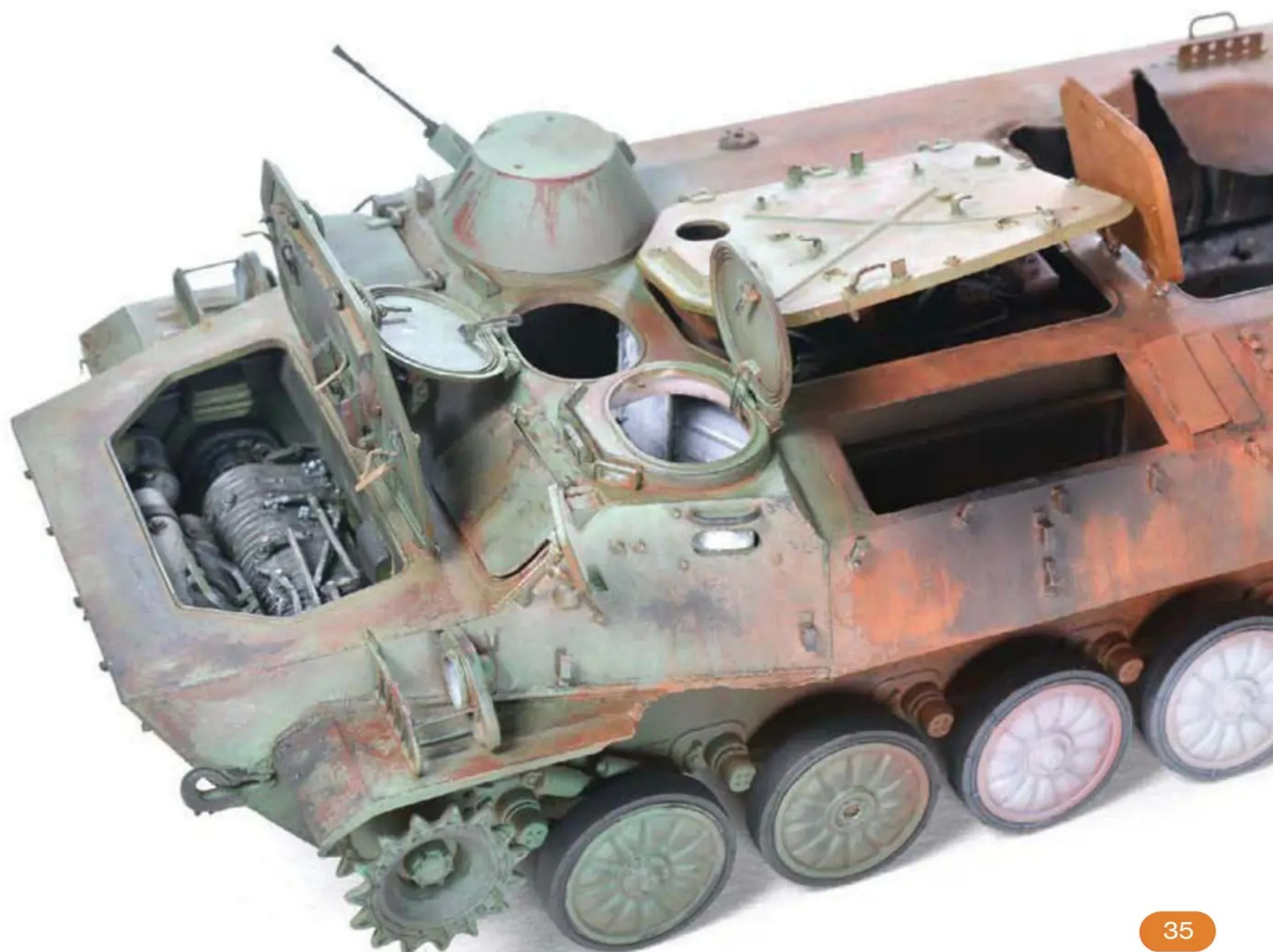
Like the wheels on BMPs, the wheels on the MT-LB are made of aluminium and steel, and they burn in a very interesting way. I basically copied what I saw in photos and first sprayed them a pinkish colour, then white. Then I used various grey washes to replicate the marks and stains in the photos.

The finish still seemed a bit.... flat.



I mixed up several oil colours and thinned them very heavily with odorless mineral spirits, then flicked them, one at a time, off a brush. Oils give a very fine speckle, thanks to the low surface tension of the thinner. In addition, I like the way oil speckling blends itself out and gives a very subtly dappled result. Plus of course, if you don't like one spot, it is very easy to remove.

The tracks were added, and I was very conscious of not having the track and wheels level. When you build a model before the ground work it is easy to fall into the trap of making it level, which rarely looks natural on the finished diorama, so I deliberately varied it a bit for more interest.





**CONTINUED IN
THE NEXT ISSUE**

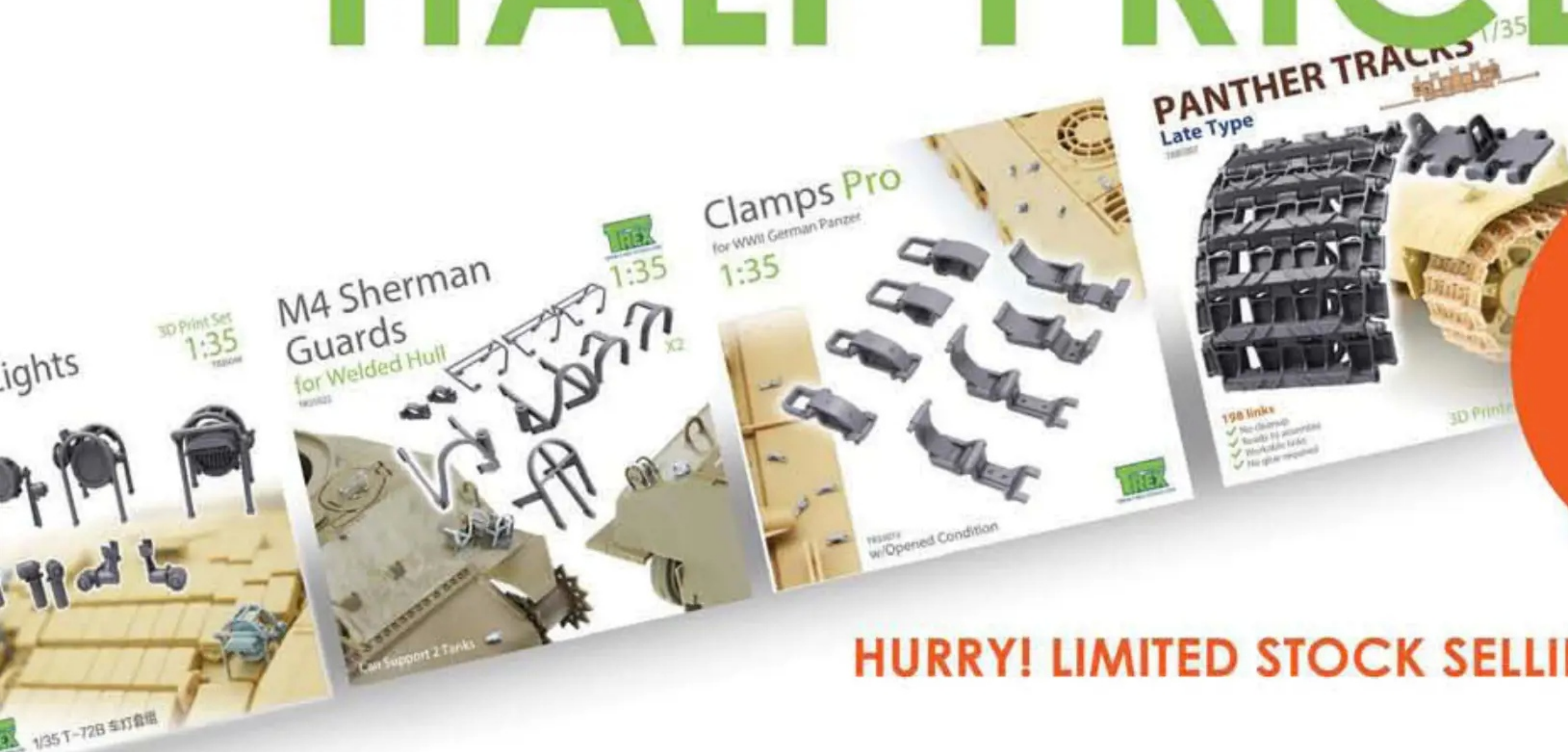


HEROYAM!
SLAWA!



TREX MONSTER SALE

ALL REMAINING STOCK
HALF PRICE!



HURRY! LIMITED STOCK SELLING FAST!

www.afvmodeller.com

SUBSCRIBE NOW!

AFV
modeller

SUBSCRIBE TO THE PRINTED VERSIONS NOW
AND NEVER MISS AN ISSUE, WE POST WORLDWIDE!

SUBSCRIBE TO OUR DIGITAL VERSIONS FOR AS LITTLE AS **£4 PER ISSUE**,
IMMEDIATE ACCESS ON YOUR DIGITAL DEVICE AT...



 **pocketmags.com**

FREE sample issue
available to download
NOW!

We are pleased to introduce you the new Model Color, the range that sets the standard for all figure and model kits painting enthusiasts

The range consists of **220 references**, including 192 very opaque colors, 10 metallics, 2 transparent, and 16 auxiliary products, presented in the new 18 ml r-PET (recycled/recyclable) bottle, completely transparent and more sustainable. NO, it's not the same, it's better!

We have introduced a new formulation that will surprise you with its amazing brushability, excellent opacity and superb matt finish. You will notice that the colors dry quickly, forming a homogeneous and self-leveling layer that respects the smallest detail present in your model.

The range has been designed according to the Vallejo **BSL** (Base, Shade, Light) painting system, allowing you to easily locate the appropriate tones for highlighting and shading a specific base color.

Scan for more information:



MODEL COLOR



Follow us at @VallejoColors



acrylicosvallejo.com

Vallejo V

1:35



BROKEN FAIRYTALE

KAMPFGRUPPE 1001 NACHT



ELCO ELINGS' LATE WWII DIORAMA

Inspired by a passage in the book "Endkampf um das Reichsgebiet 1944-1945" about the SS-Panzer-Jäger abt. 560 and the formation of Kampfgruppe 1001 nacht I got inspired to make a Hetzer from this unit with hardedge camouflage in a typical late ware scene.

The photo's in the book show crew members with leather U boat uniforms as seen a lot in Normandy by the 12th SS Panzer Division in Normandy what makes it interesting because for the bigger audience this uniforms stands for the Normandy theatre. The diversity in uniforms was very common in the last stages of the war and makes it very interesting to recreate a scene from this time.

The HETZER

For a change I tried to keep this project as simple possible by not using a lot of update sets and challenged myself to give it the look of a highly detailed model.

The base is the Tamiya Hetzer, an excellent kit and still one of the best around. The tool clamps are replaced with 3D printed ones and extra structure is added to the gun mantle by dabbing it with a stiff brush soaked in Tamiya extra thin. Once dried it is sand down a bit to give it that typical cast iron look. The original fenders are reworked by scraping with a Acto knife and sanding them with a sanding stick to give it the look of thin sheet metal, the schürzen received the same treatment so no PE this time!



A thin coat of Ammo black One Shot primer is sprayed over the Hetzer. I prefer black primer because it will create natural shadows in corners were it is hard to lay down the future paint from the basecoat.

The basecoat is a mix of dark yellow, white and buff from Tamiya. I let it cure for a day before the stencils from T models are applied for creating the hard edge camouflage.

The first round of stencils masking the yellow colour and the dark green mixed with buff form the Late War Set from Ammo is sprayed on. When firmly dried the second layer of stencils is applied and a mix of chocolate brown and buff from the same set is applied.

To protect the paint I prefer a thin coat of satin varnish, in this case the varnish from AK Interactive to give it the perfect base for further weathering with oils and enamel products without damaging the airbrush work. Next to the paint protection it gives the advantage washes flowing smooth instead of biting into the paintjob leaving marks and spots you don't want.



By using Buff in all colours gives it a more uniform look and a perfect base for further weathering.

The stencils are a bit tricky around the edges but once applied the overspray is easy to remove using a thin brush and paint away the overspray in several thin layers. The end result is a sharp appearance your looking for!

When the paint session was done I used a hairdryer to carefully warm up the stencils and carefully remove them leaving all the paint on it. Why warm the stencils, you don't want to ruin your fresh paintjob and warming up the stencils the glue layer will become more soft so the risk of paint peeling of is at a minimum risk.



For all enamel and oil weathering I first make sure the surface is touched with a dampened clean brush of AK Odorless thinner. The thinners makes it flow the mixtures even more and you can easily correct spills and other unwanted spots.

The first weathering round is done with oils only by placing tiny dots and blend them into the basecoat. By using this technique, you give the model are more faded look and tie down the colours.



The finished paintjob ready for weathering



Panel lining and chipping are done with diluted oils.



Pinwashes of dark washes from AMMO are used to bring out the details, the spills made are also blended into the paintwork giving the model even more variation. Once again the surface is touched with a damp brush loaded with AK Odorless thinner. This is just the first round of panel lining and later in the weathering process different colours are used for more variation.

Acrylic paint from the AK colour modulation set is used creating the chipping and scratches. I prefer doing this panel by panel to not "blur" your vision and not do the whole model at once. Also the whole chipping process is quite time consuming so several sessions are preferable. This way you also avoid tunnel vision and your model will be more balanced instead of weathering your model at once the same way.

Chipping colour from AK is perfect to give the applied chipping even more depth and variation. I always try not to overdo it and keep the scuffs and scratching in scale. After the chipping, minor streaking and scuffs with burnt umber and buff oil paint are applied. Another thin layer of weathering with light earth colours toned down the fresh chipping giving the model the right balance.

After the weathering I conserved the model with a thin layer of extra matt varnish from AMMO to get rid of the shiny side effects and spills from the enamel products. Of course when all is completely cured!

A few well-placed pin washes and satin look effects of dirt and oils spills are applied to avoid a flat looking model. Placing these effects on strategic places will only make the model more attractive to watch.

Acrylic mud products from Mig is used for building up dirt on the fenders mixed with small debris. A couple of washes are applied afterwards for more variation. Small twigs and leaves are secured with varnish on various places of the Hetzer. 1:35 MG shells secured with thinned white glue on the roof next for more detail.

The pine branches added by the crew for camouflage on the sides of the Hetzer are Natural Moss sprayed in various green tones and glued to the model. Thin copper wire is rigged between the moss to simulate the leaves are stuck behind the wires.

Weathering on the tracks are made after the model is placed into the groundwork to make sure it is blended in correctly.



The finished model, note it not heavily weathered to fit in the scene.

The SCENE



First set up with the Balsa foam shed.



Shaping the dio, first layers of Mig ground products is used over shaped foam.

I tried to give the dio the feeling like the pictures in the Endkampf book. A dry and cold environment abandoned by the population with exhausted soldiers still fanatic trying to hold the lines by the Russians. Mig muddy earth was applied over shaped foam in a couple of thin layers. While still wet, little leaves and branches are gently pushed into the groundwork. When all was completely dry I added a few light washes to give it a bit of variation and to highlighted wet areas.

The cobblestones cut out from a large strip from TM Models and worked into the groundwork to give it more variation. Dried seagrass is fixed with tinned white glue to give the groundwork more volume and give a certain deserted look to the scene.

Abandoned carts, newspapers and flyers lying next to the road simulating the refugees left the town in a hurry. The grey wood color is painted with the excellent old wood paint set from AK Interactive. Furthermore I weathered the carts with oils and a mixed texture of AK wet ground and leaves and detailed it like it is a scale model of its own.

The shed is scratch made with Balsa foam and accessories from Miniart. For the roof TM models sent me resin samples from their upcoming roof tiles line. To give the roof an old appearance the roof tiles are glued to a piece of curved cardboard and shaped once added to the shed.

After a black ground coat the shed is painted with Urban diorama colours from AMMO and the roof tiles airbrushed in a red rusty colour. With a mix of light and darker tones several roof tiles were hand painted for more variation.

The roof got several washes with dark and light earth colours. The moss on the roof is real dried moss cut into in scale to give it a realistic look.

A mix of thinned mortar was applied over the walls from the shed and washed in with a wet sponge to give it a faded look. By using the spatter technique with thinned oils the walls become more to life and larger spots were blend in by brush.

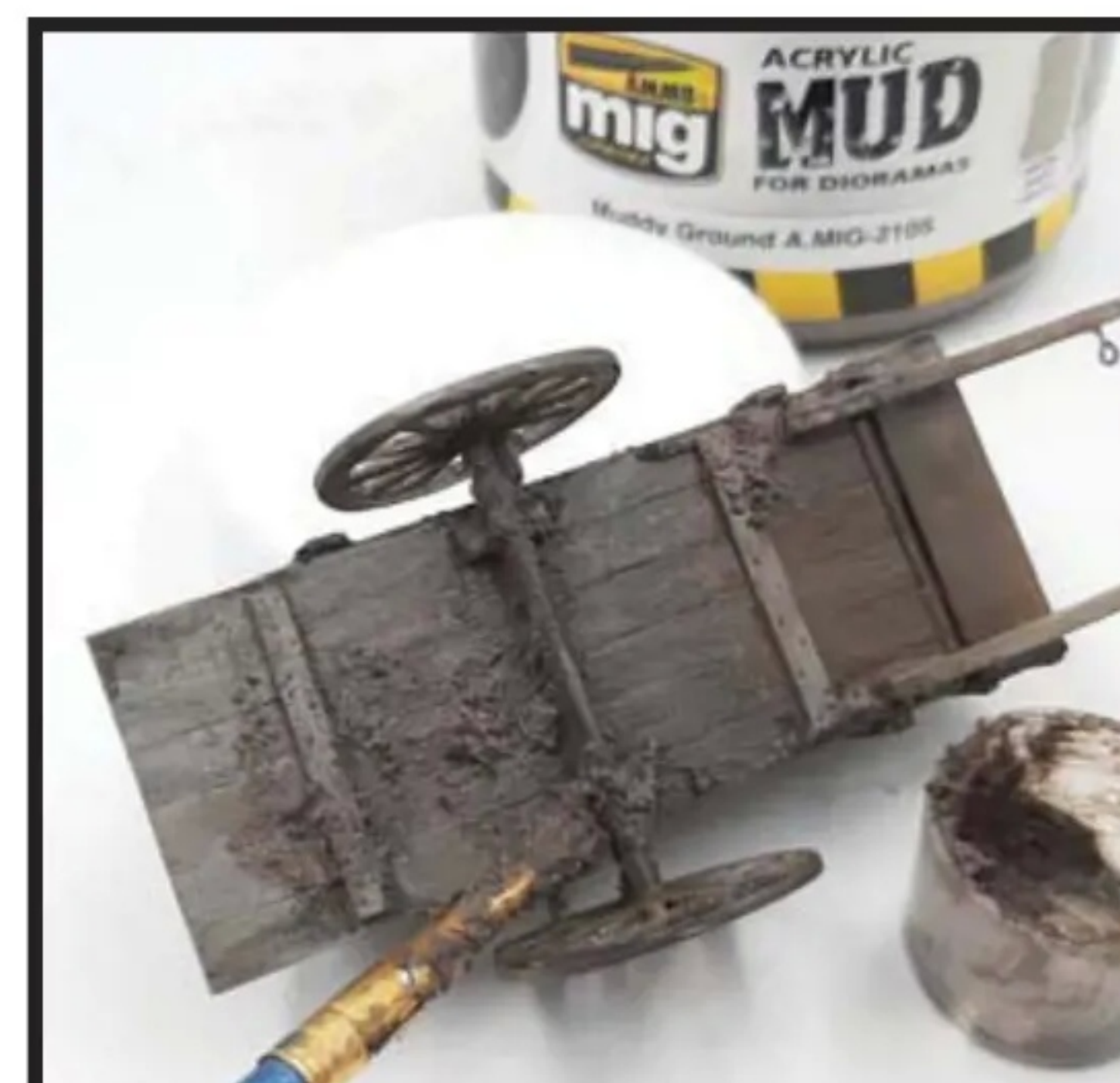


KAMPGRUPPE 1001 NACHT



When all done I sprayed the shed with extra matte from AK Interactive to get rid of the shiny parts left from the weathering giving the wall an even more old finish.

To make the left side of the dio more interesting I placed Ivy on the walls, airbrushed it in the right tones for the time of the year. An old rusty fence made out of POE is the finishing touch.



The FIGURES

Like said in the intro, one of the things got my attention in the pictures is the widely used U boat suits. Arto just came with a real nice set of figures I just wanted to use! The loader and crew member in front of the Hetzer are Arto, the commander is from Platoon slightly converted. Furthermore a mix converted figures from Alpine, Evolution and D-Day figures is used for the Grenadiers in front of the Hetzer.

I always airbrush the figures with a black primer and airbrush the base colours on it. With the primer on I always looking for seams I missed to that can be corrected before moving to the next step. I prefer to work with the AK Interactive paint for figures, most colours are spot on or can be mixed for more highlighting further on. Spraying from above natural highlighting is easily achieved and it works pretty quick. Oil paints are used for the shadows and highlights and work very well for me because of the easy blending. Last step is weather the figures to blend then into the diorama.

After the last detail painting like belts and personal equipment the figures are sealed with a Matt varnish coat to get rid of all shiny parts you don't want on a figure. Satin varnish is used to give the figure heads a





KAMPFGRUPPE 1001 NACHT







TARGET SARATOV

It was late March 2022 when Russian propaganda new outlet RT visited the strategic port of Berdyansk to report, showing to its viewing public a port they stated Ukrainian forces had abandoned. Amongst the scenes filmed by their intrepid reporters were BTR 82As being loaded on to a giant landing craft. RT war correspondent Murad Gazdiev breathlessly identified the large vessel as the Orsk landing ship, and then rattled off various details about cargo capacity including its ability to carry 20 tanks or 40 armoured vehicles, along with hundreds and hundreds of troops. The fact that the large landing ship was in fact the Saratov didn't much matter, but what would have bothered the editorial staff at RT was that along with the standard viewing public lapping up their pro-Russian party line were a bunch of Ukrainians from military intelligence. Quickly the decision was made in Kiev to strike the large landing craft in Berdyansk. A number of Ukrainian SS 21 Tochka U launchers were deployed south from their hidden bases driving

through the night to be in correct launching position for this tactical strike. On the morning of the 24th of March a number of SS 21 missiles blasted off the rear of their BAZ-5921 launch vehicles into the heavens. Quickly the large 9M79K missiles reached their maximum Mach 5.3 speed as they arched through their trajectory to plummet earth bound towards their unsuspecting targets. Massive explosions engulfed the bow of Saratov as secondary detonations of stored ammunition and fuel exploded onboard, meanwhile two neighbouring landing craft sustained major structural damages. As an example of use of the SS 21 by Ukrainian forces in their Homeland War, this one is suitably dramatic, highly effective and recorded on news footage beginning to end. Ukrainian missile forces have conducted numerous missile strikes using the OTR Tochka, with their own and donated missiles, now being joined by western weapons such as the ground based HIMARS and air launched Storm Shadows.

1:35

The SS 21 Tochka U

is a medium range ballistic missile developed by the Soviet union, designed to replace the Luna or Frog 7

Zack Sex tackles the Hobby boss kit and comes up with an up to date Ukrainian variant





The OTR Toucka or NATO reported SS-21 Scarab was designed in the 1970s and first introduced to the Red army in 1975. It was as already mentioned envisaged as a replacement for the earlier and relatively successful 9K52 Luna-M or FROG system, but more importantly its missile was smaller but a lot more precise.

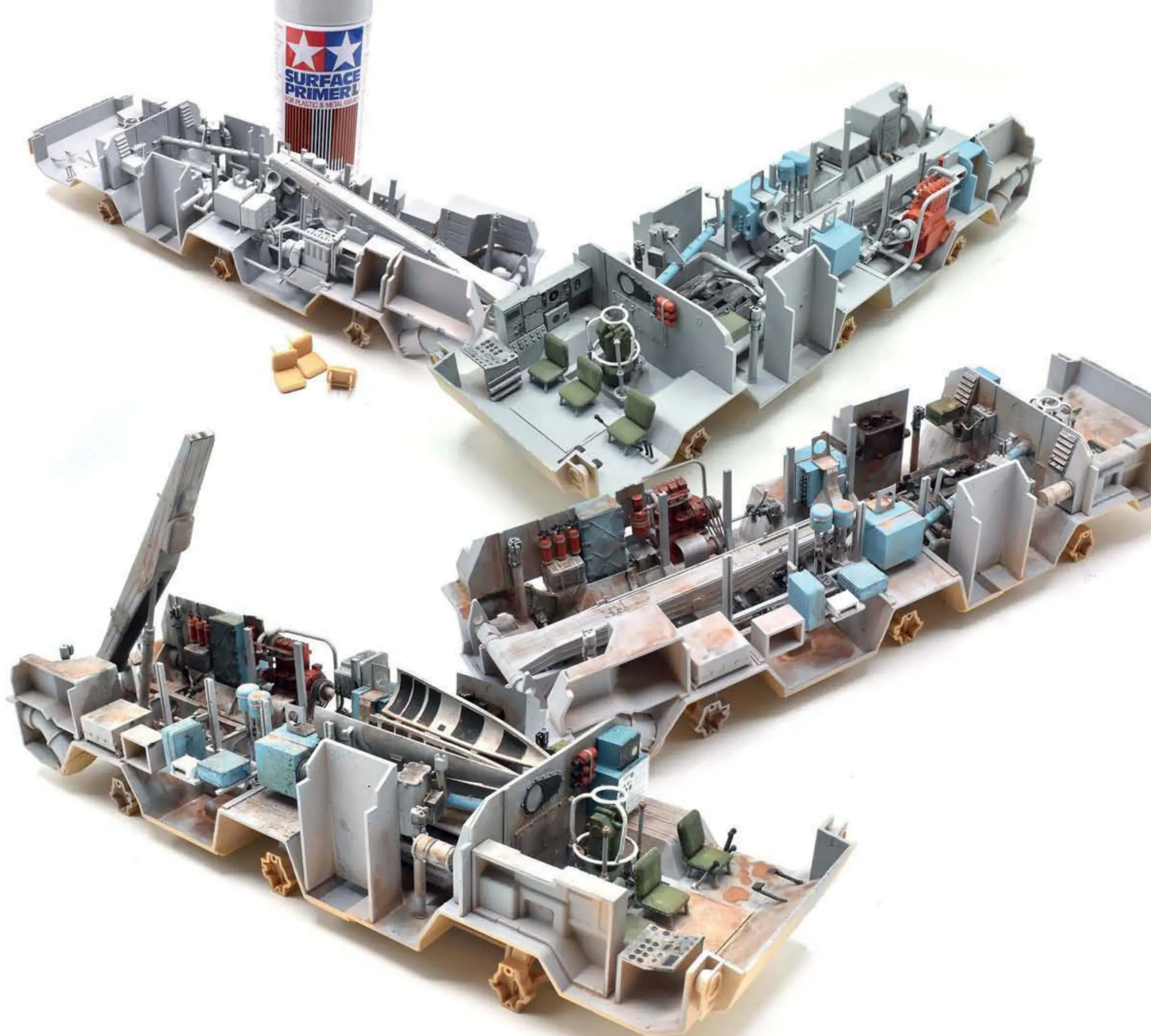
The Tochka could fire a wide range of warheads including fragmentation, nuclear, chemical and biological at such NATO targets as command posts, bridges, weapons storage facilities, troop concentrations and airfields, basically all the types of targets the Ukrainians are using their later models to hit in the current conflict. The Tochka was updated in 1986 to the Tochka U in 1986, NATO code name Scarab B, with an extended range of 120 kms and circular error probable or (CEP) chance of hitting a target in around 150 metres. With the lowering of the hammer and sickle for the last time over the Kremlin in December 1991, the first Cold War finally came to an end. The mid 90s and beyond would see vast amounts of Soviet weaponry being sold throughout the developing world and a string of very hot but smaller conflicts, amongst this deluge of T 72s, BMPs, BTRs and Migs, Tochka Us would find themselves in the arsenals of many countries waging war on neighbouring states or their own rebellious citizens. Tochka Us would see front line use with North Yemen forces against targets in the South in 1999. Russian forces in second Chechen War in 1999, in South Ossetia in 2008 and in the Donbass in 2014.

The Syrian government under Assad would use these missile systems to bombard his own population extensively during the on going civil war causing frightful destruction. Current Yemeni forces in the form of the Houthis have used the Touhka and a multitude of missile system against the Saudis inside and outside Yemen and of course Ukrainian forces have used the Touhka against Russian invaders inside and outside

Ukraine. Russia itself while apparently retiring their Tochka Us have reportedly used some against Ukraine but have largely replaced their with the more powerful, accurate and longer range 9K720 Iskander to hit Ukrainian targets ranging from civilian shopping centres, hospitals to military airbases and high value individual targets such as Patriot SAM systems. The Tochka U story in the Ukrainian conflict will no doubt continue as this conflict, as extras missiles have been donated by former Warsaw pact members increasing Ukrainian's dwindling stocks. At time of writing Ukrainian forces have just launched a major incursion into the famous Kursk region, which threatens the whole dynamic of Putin's genocidal campaign, it is worth noting Ukraine used Touhka Us in some of the opening salvos.

Trumpeter's sister company Hobbyboss produce the Tochka U and I must say it's a fine kit, with all the bells and whistles that one expects from their releases. The Hobbyboss kit comes with enough etch but not a ridiculous amount and window masks, which I find a useful addition. On the down side for some are rubber tires but I think they are fine and fairly basic dashboard details which if they were more visible would need replacement with some etch or 3D printed replacement. The most important thing however about this kit is the sheer amount of parts inside and out, the part clean up and construction is fairly massive compared to a standard MBT model. The Hobbyboss Tochka has a serious internal missile bay or housing area that opens up prior to launch to reveal its complex internal structures and assemblies. This section demands some research on the web in conjunction with a useful colour diagram of the missile bay provided in the kit.





Careful assembling and dry fitting pays off in this area .Of course if you decide to close the launch bay doors you're off the hook, but where's the sense in that ?

I started by assembling the missile housing area and fittings over a number of evenings and took a number of breaks from what seemed like a mammoth task, it consists of a rear bay frame work and various sub assemblies. Eventually I just knuckled down as I wanted to the thing at least put together so as to get a feel for how the entire model would compare to the BM 27 and BM 30 in 1:35 scale. The top doors though capable of opening and closing in theory don't actually work, as the hinges constantly break, but that suited me and I glued them open on the top of outside of the module. Having completed the interior missile bay and front driver's and crew compartment with as many parts glued into position as I could get away with. I sprayed the internal layout mounted on the lower chassis and interior of the upper hull with Tamiya primer grey. With the two sections separated I then painted the pale blue items and fire engine red motors dry fitted them together examined the visual composition took it apart and added washes or different tones, this process went on for a while with various washes and colour detailing, till I felt I liked the look of the interior. I must add that reference shots of the real Tochka U missile bays on parade vehicles are spotlessly clean but look rather odd and toy like in reality, so I gave myself a bit of artistic liberty and decided to go with a well used work horse look, that I

imagined a battle hardened Touhka U interior might resemble. A similar approach was taken with the driver's compartment which is sparse enough with pretty lame and flat details on the internal equipment and not so great decals. I'm sure there all manner of detail sets for this area but unlike a standard truck cab most panel details are actually not that visible on the finished model.

Having completed the spray and paint jobs on most of the interior areas on the Tochka U I glued the top and lower section of the vehicle together and closed for the last time, sat back and thought right what next, how do I paint this baby ? Before even thinking about outer art work, I went around the kit adding various exterior details grab handles, etched grills and the like. The plastic grab handles and tiny etch step up points in the front and rear wheel wells were carefully glued into position with super glue at least twice, so as to stand up to rough weathering or treatment, as I didn't want them pinging off and becoming victims of the carpet monster. This said I still managed to knock off the driver's mirrors a number of times, the mounting bars of which were too thick anyway and were replaced with stiff guitar steel string , I also replaced the standard Soviet aerial with a NATO example spare from a recent Bradley kit. Upon gluing the driver's compartment windows into position I masked them off with the paper masks provided and then carefully masking taped the entire missile bay on the rear of the vehicle ready for spraying...



The next big decision was a suitable paint job, I had looked at Syrian ones in the past, along with a sand camouflaged Iraqi variant, a single variant of the Tochka had been sold or provided to Iraq sometime in the late 90s by Yemen, but I was always going to do this one Ukrainian. The prospect of spraying and masking repeatedly till I got the digital yellow, red brown and black segments over which I would spray NATO green such as XF-67, was a lot of work but there weren't any options. Well that's where I was wrong a Ukrainian pal of mine Tim had completed a ICM Kozak with me as a kind of joint build and paint job. The variant he wanted to complete was from the battle of Mariupol, his native city, currently occupied by Putin's forces. This Ukrainian Marine version left me with a large sheet of ICM Ukrainian digital camouflage for a second Kozak .

Having checked the ICM decals I quickly realized that they would do the trick nicely on the Ukrainian Tochka U. My first step having masked off the various sections of the model was to spray the kit in Humbrol acrylic green, this was left to dry for an hour or so and then I proceeded to rub Artist's Sap green onto the model with a stiff old oil paint brush, this gives the model a pleasing luster of used but well looked after vehicle. The artist oils take a day or two to dry properly but it's worth it. The ICM decals are very good and extremely thin, as a result they take careful application and really look the part when applied to the model, I examined photos of several Ukrainian Tochka Us from parades and mimicked their placement as "artistically" as possible. A pair of Ukrainian army parade marking crosses were added to the left and right of the driver's station, these were again ICM decals from a Kamaz truck kit and needed the crossed swords found on the older markings carefully cut off. The decals were carefully pressed down in areas with many ridges using tissue and a stiff brush, then the entire upper body of the vehicle was painted in a diluted semi gloss or silk varnish finish, consisting of a 50/50 blend of AV Vallejo Acrylic Satin Varnish and Tamiya Acrylic thinners.



At this point I had the decals applied and the AV Vellejo varnish worked very well, I had a nice n clean, fresh out of the garage looking Tochka U, this would never do.



I decided I wanted to weather the kit but not overdo it, subtle was going to be the key word in this part of the process. I started with a series of lamp black Artist Oil paint washes. I find this breaks the ice so to speak and eases you into the weathering process. Next I applied light pigment washes around the top of the vehicle with less diluted thicker pigments of dry earth and dark earth build up and small speckling and splattering on the lower sides, front and rear chassis. The pigments I used for these effects were Wilder pigments which I find really strong and effective. These washes were done subtly as stated and on a few occasions until I was happy with the effect. Over certain areas I now added enamel dark washes, for example around the driver's cab windows for more definition, and raised fittings on the vehicle sides.

The last phase in this process evolved dry brushing lamp black over the upper surface of the vehicle particularly around grab handles and various ribs n rims on the pressed metal structure, over which I gently rubbed 6B pencil highlighting various worn areas. The six road wheels were sprayed car primer black (from a can bought in a Polish pound shop, cheap and effective) then the tires painted in black acrylic, while the hubs were painted in Humbrol green enamel. The weathering process on the tires involved painting pigments between the threads and then heavy dry brushing the raised threads for a nice contrast on the tire surface.

The etched perforated climbing rings on the front and rear wheels were a nice touch and some pigment washes and small splattering showed the six wheels off to good effect.



This kit and its camouflage solution with the decals was great fun. I got on to ICM to see if I could purchase some more Kozak digital decal sheets but sadly they don't sell them separately, so if you are a decal producer out there I think there is definitely a market for Ukrainian digital decals.

I for one want to do a Ukrainian BUK and TOR SAM system in the same fashion not to mention a list of self propelled guns. Anyway till next time stay safe and enjoy your model making.





1:16
EXCLUSIVELY FROM
NFV
modeller

**THE ULTIMATE UPGRADES IN DETAIL AND
ACCURACY TO TAKE YOUR LARGE-SCALE
PROJECTS TO THE NEXT LEVEL**

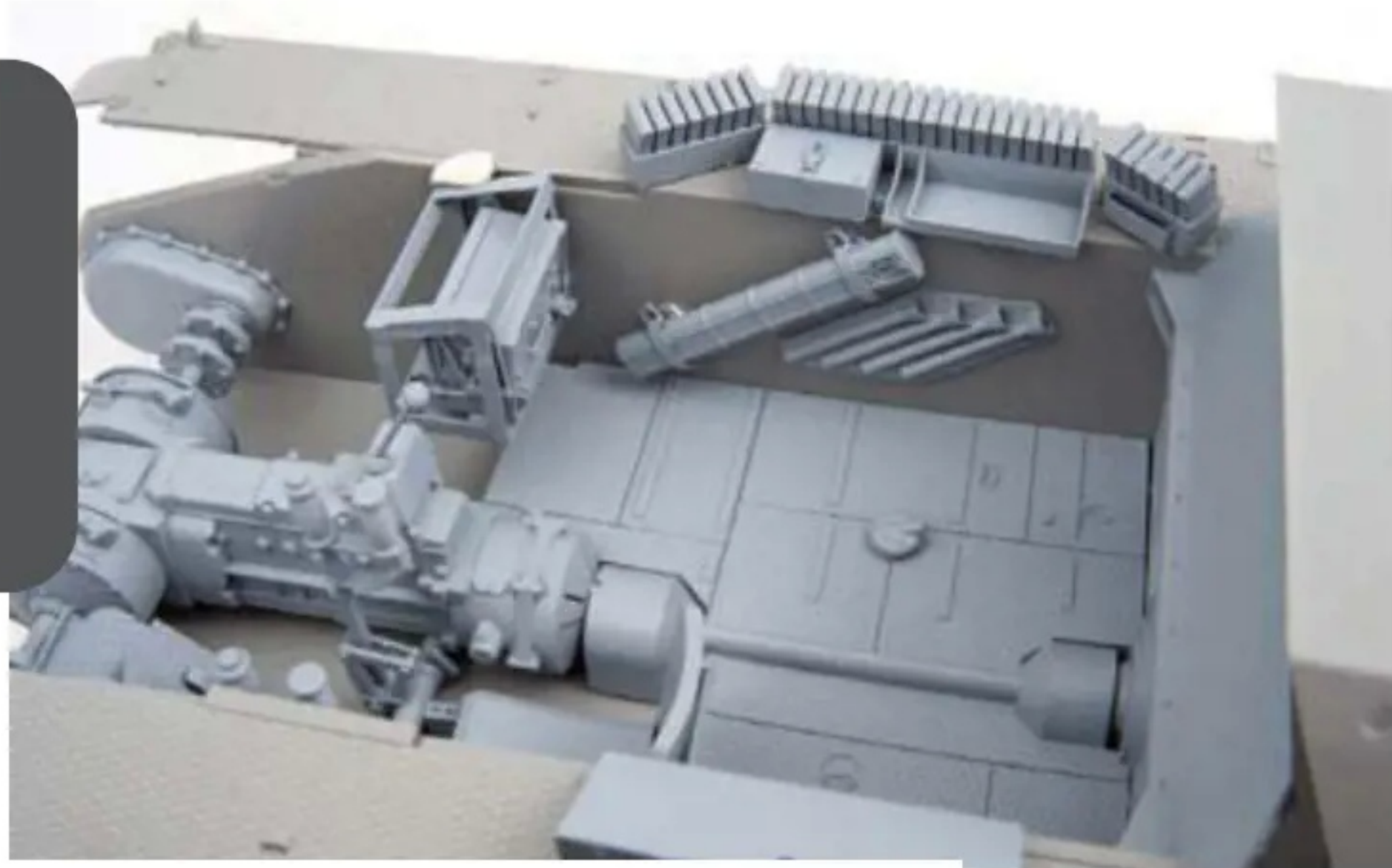
RESEARCHED AND DESIGNED BY DAVID PARKER

TRUMPETER PANZER IV

...OVER 60 SETS AVAILABLE!



TAKOM PANZER I
AUSF. A AND AUSF. B
INTERIORS
AND FULL TURRET
INTERIOR SETS



1:16 PANZER I
D.A.K. CREW



1:16 ARDENNES
SCHWIMMWAGEN CREW

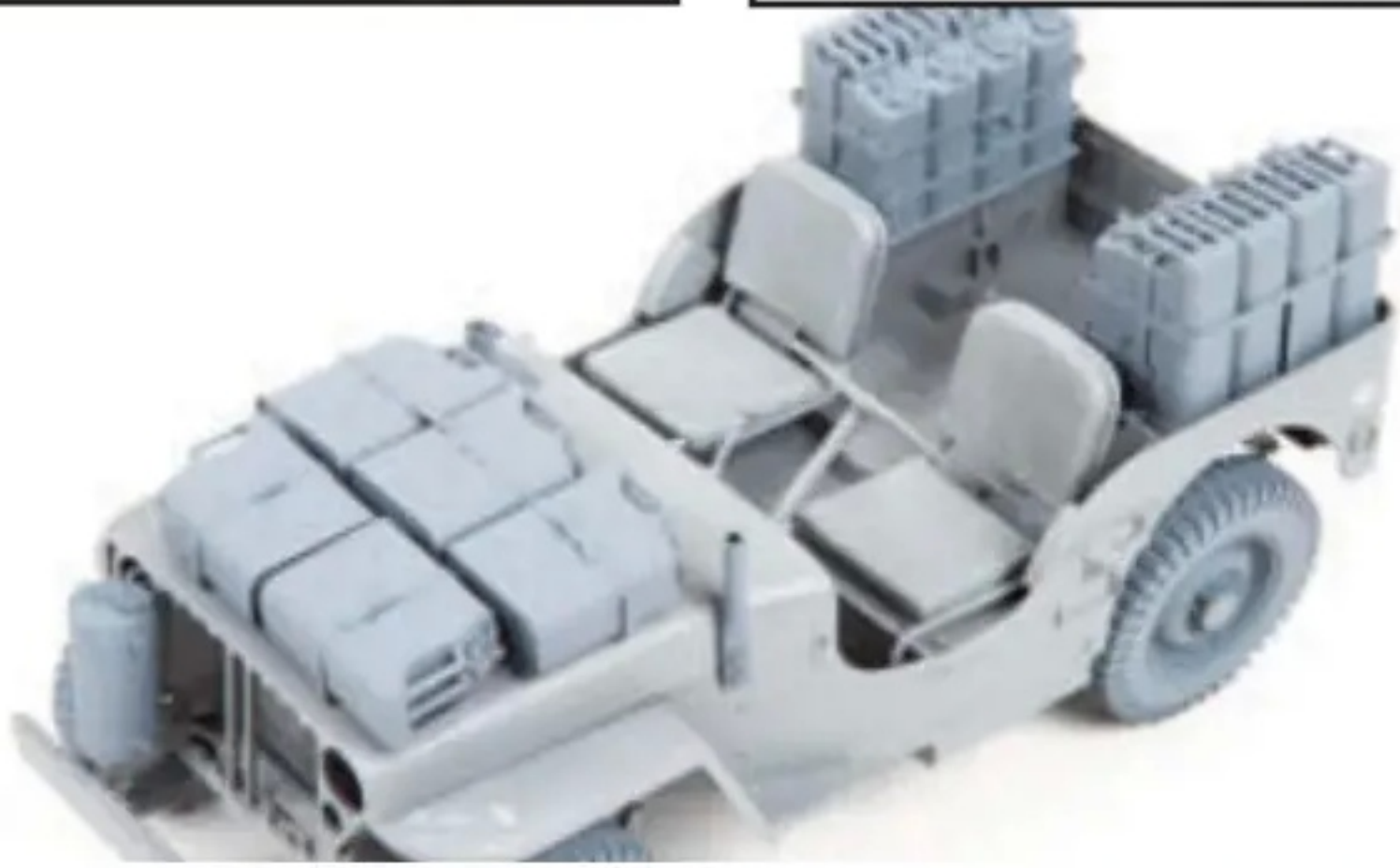


1:16 StuG III CREW

RESIN FIGURES
OVER A DOZEN SETS AND
SINGLE FIGURES TO
CHOOSE FROM

TRUMPETER KING TIGER

...OVER 25 SETS AVAILABLE!



TAKOM
1/4 ton TRUCK
DETAIL SETS AND
SAS / LRDG
CONVERSIONS & FIGURES

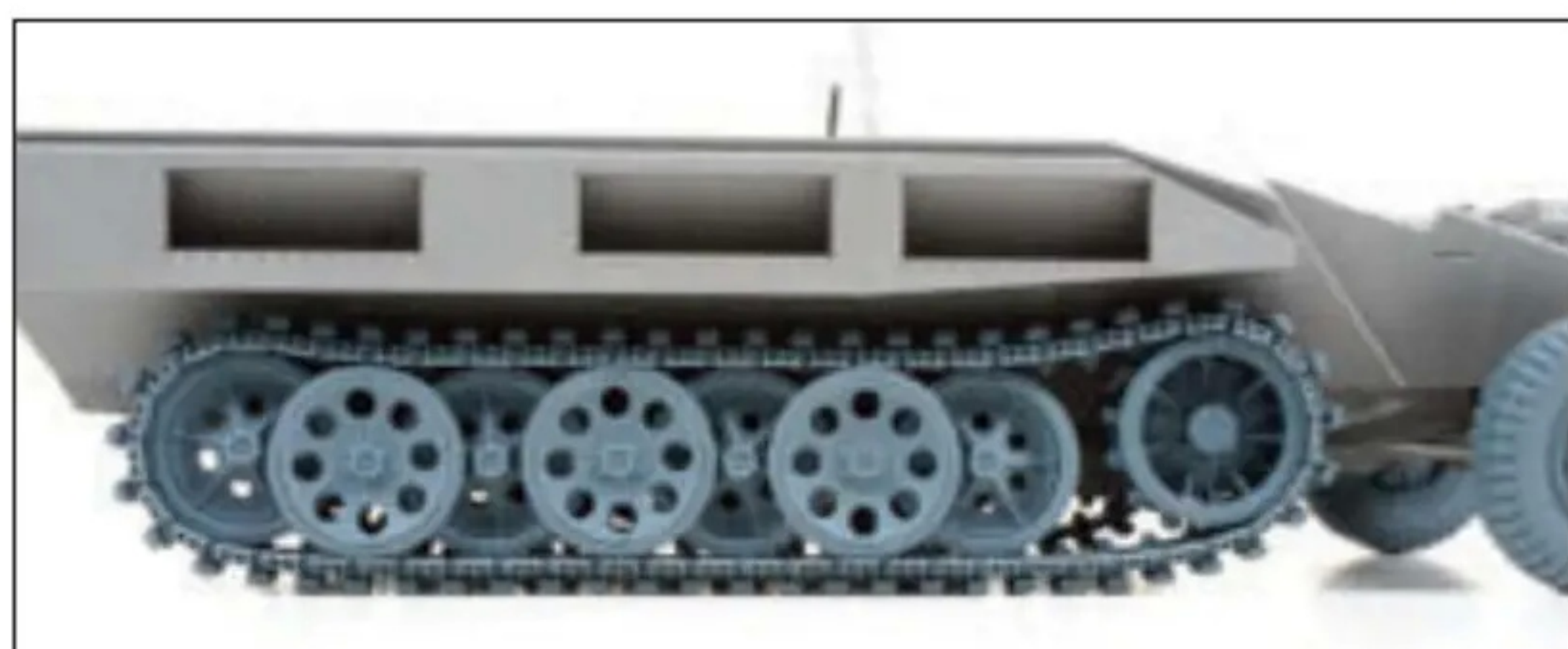
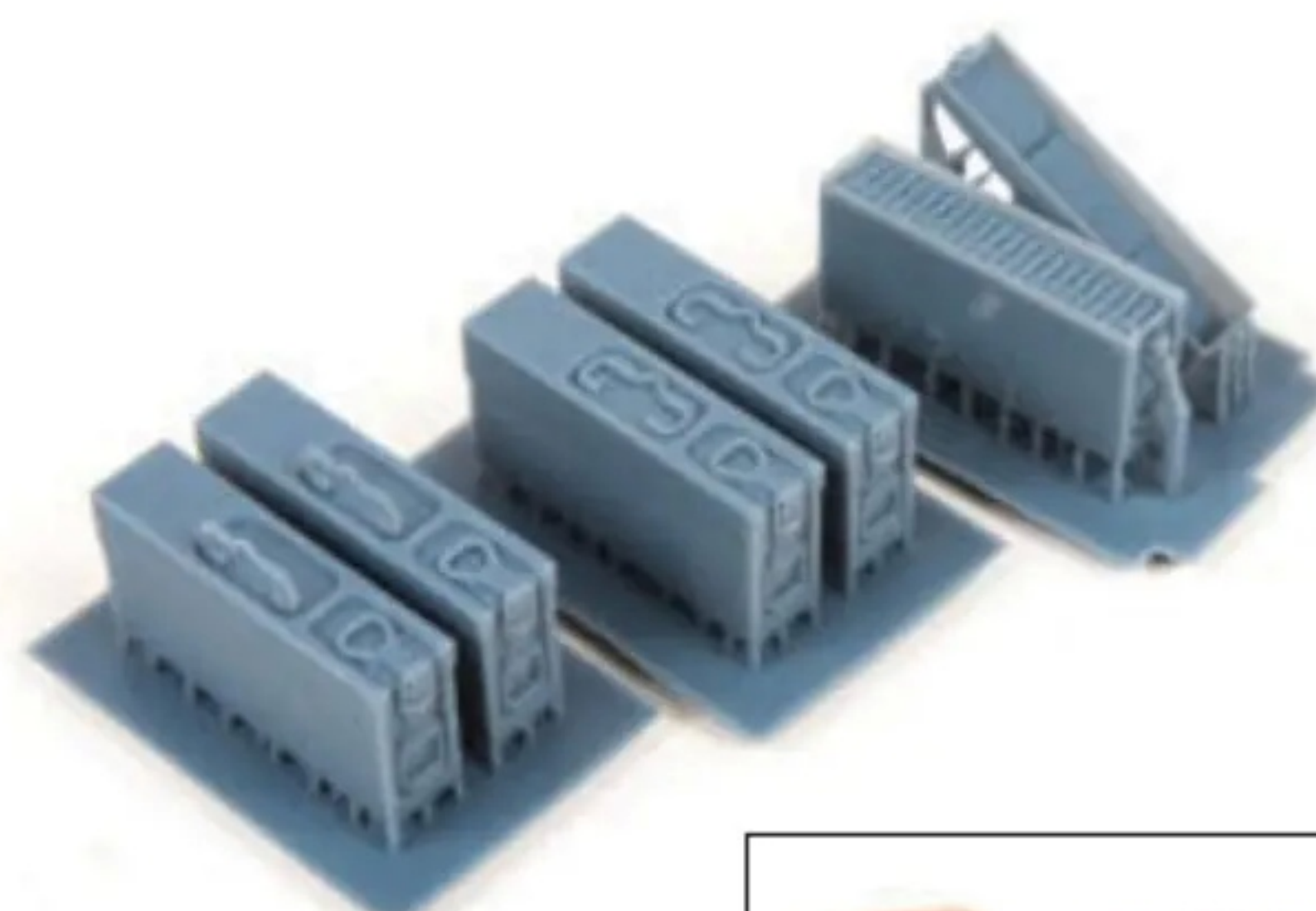
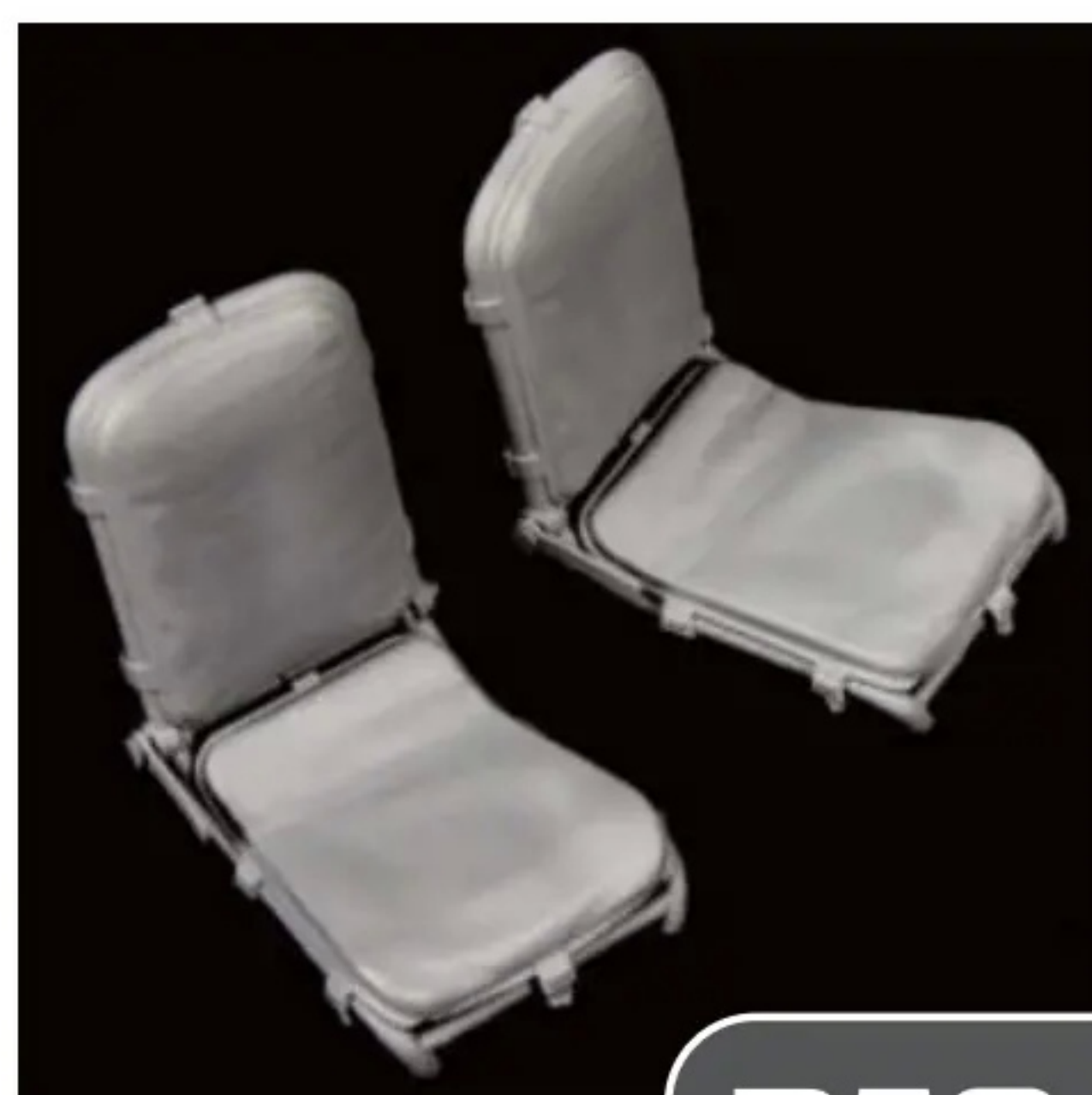
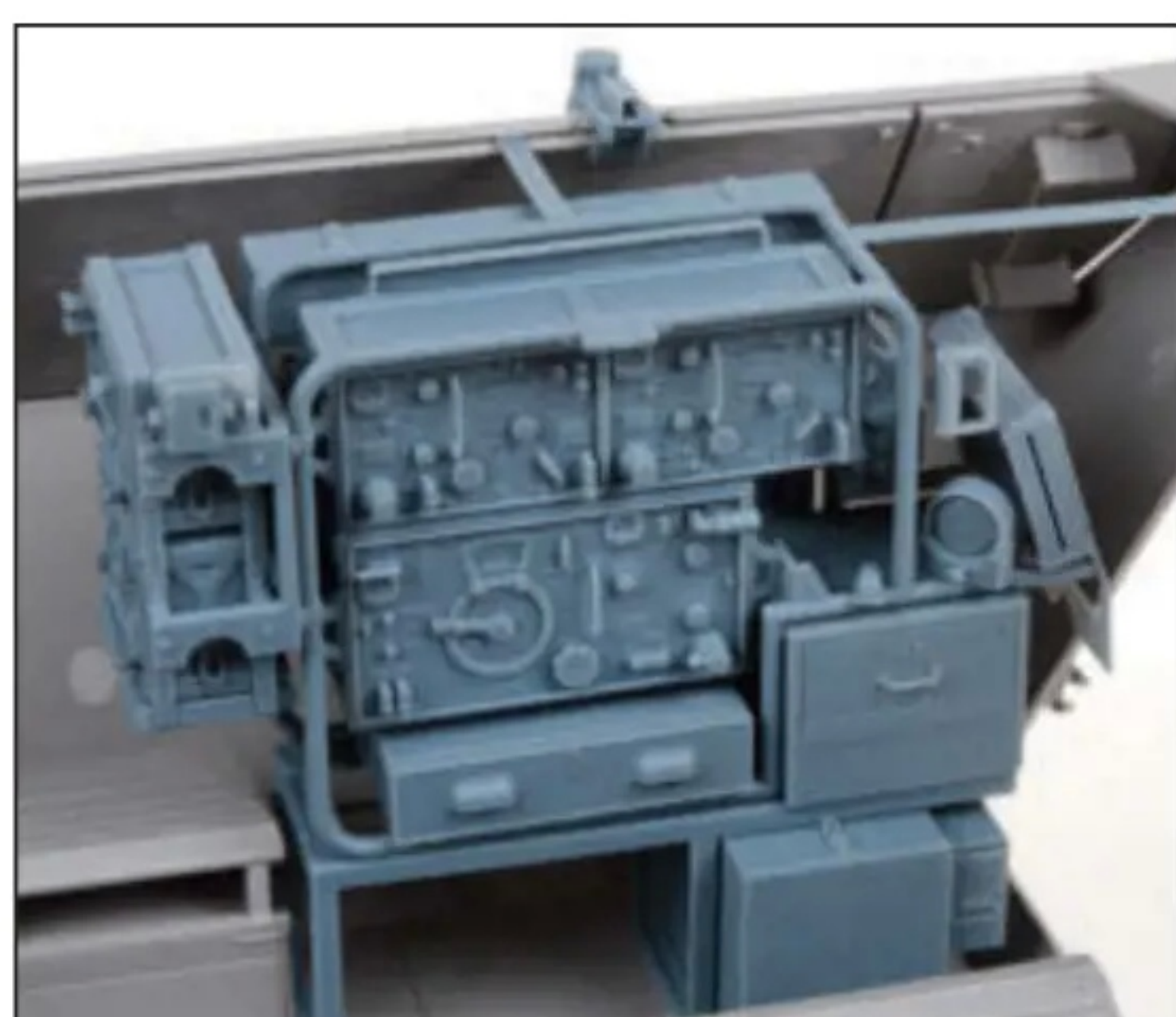
SHOP 24/7 AT OUR SECURE WEBSITE www.afvmodeller.com

WORLDWIDE SHIPPING WITH CHOICE OF DELIVERY SERVICES



DAS WERK AND HELLER STUG III

...OVER 50 SETS AVAILABLE!

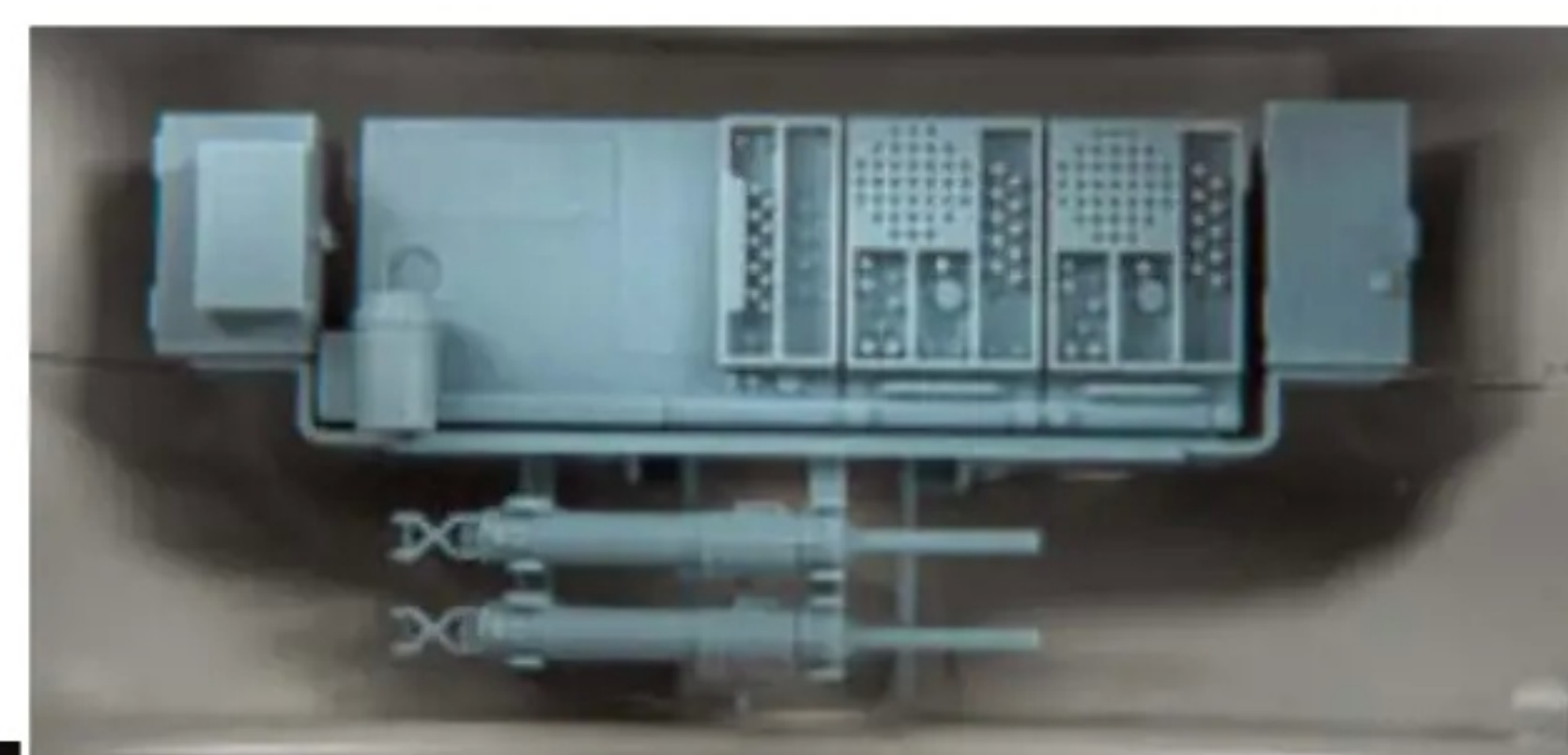
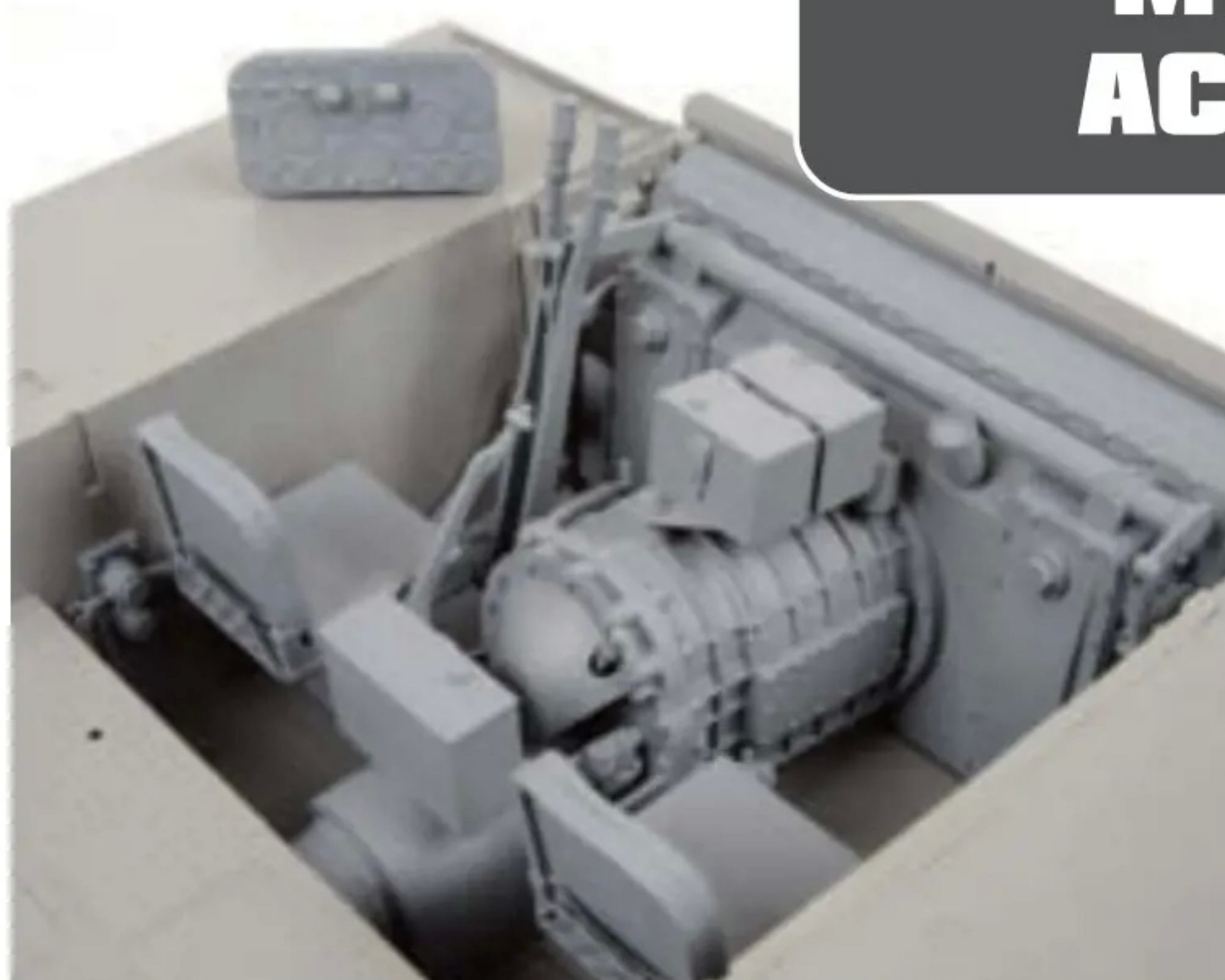


**DAS WERK &
TRUMPETER
SdKfz 251**

...OVER 25 SETS AVAILABLE!



**AHHQ SHERMAN,
M10 and
ACHILLES**



WE'RE YOUR ONE-SIXTEENTH SUPERSTORE!

CHECK DAILY FOR STOCK UPDATES AND NEW RELEASES www.afvmodeller.com



Alan Ranger Archives

In this series we gain exclusive access to the unpublished images in the collection of long-time Military historian and collector Alan Ranger. Most of the images are from private sources taken by the service personnel in the field or in training, hence the varying quality and lack of date and location recorded but offer a unique insight into lesser covered subject material.

French Armour

A selection of images taken by the WWII German occupiers of a wide range of French armoured vehicles, some very rarely seen and many available as kits from French manufacturers such as Azimut and Blitz.



This is a photo of a well and truly knocked out ARC-33, this light machine gun armed Tankette was purely for infantry support only with no anti-tank capability what so ever. This Tankette was photographed the area around Charleroi in western Belgium and was taken on the 24th of May 1940 and had belonged to the French 7th Army.



Pictured on the 28th of July 1940 this ARC-33 is being inspected by a group of curious German artillery troops, the tank was abandoned in working order in the Suippes area of eastern France.



(Left) According to the text in the album that this photograph came from this ARC-33 was abandoned in working order and was marked for recovery however when the recovery unit arrived on the scene it had been thoroughly looted by passing German troops who had also wrecked the engine by ripping out one of the fuel tanks without any care for the engine components that had to be removed first, what I find interesting is that even this early in the campaign the Germans were looking for any source of extra fuel. I have no date but it was located just west of the village of Somme-Suippe and was properly from the same French unit as the ARC-33 abandoned in Suippes.



This group of three ARC-33's have all been abandoned and subsequently thoroughly looted by passing Germans sadly I have no date of location information on this most interesting photo, however it is obviously a major road as it is very well constructed with a cobbled surface.



A rare colour photograph of a pair of ARC-33 pictured in a vehicle collection area on the outskirts of Reims, the photograph was taken on the 29th of August 1940.



Taken on the 23rd of June 1940 in the town of Saint Quentin, France this photo shows a knocked out ARC-33 notice the dislocated track on the tankette's lefthand side. Of extra interest is the German Panzer crew member that is walking towards the tankette and the group of German infantry of varying ranks using the tankette as a prop for a group shot.



These two photographs are both of the very rare artillery observation and command radio vehicle based on the ARC-33. Sadly I have no date or location for either photograph. The only other information I have on these two vehicles is that the vehicle in the rear view was captured in tacked and served with a German Anti Partisan unit in and around the La Rochelle and was based with that unit in Poitiers and is known to have at least served with them from 1941 through to September 1943.



(Left) This AMC 35 was also serving with the Belgian army and was abandoned due a mechanical breakdown but was repaired and saw limited service as a police vehicle in Brussels in 1941 Sadly I have no date for this photo but I can tell you the photo was taken in the suburbs of Brussels.

A knocked out AMC 35 of the Belgian army photographed on the 16th of May 1940 in Awans a village northwest of Liege. This was a good looking tank and was well armed with a 47mm gun but suffered from a one man turret and riveted construction as did many tanks of that time period. This particular AMC 35 suffered a hit in the engine compartment and that disabled the engine but did not result in a fire.



German Anti-tank rounds have smashed the drivers visor hatch such that it was blown of completely there are at least 4 penetration in various frontal armoured plated in this knocked out AMC 35. This tank served with the French army and was lost in the Lille area and was part of the rear guard that fought so well to enable far more troops to be evacuated from Dunkirk than anybody expected. This picture was taken on the 12th of September 1940 by one of the many monition & equipment recovery temporary units set up by the Germans after the surrender of France.



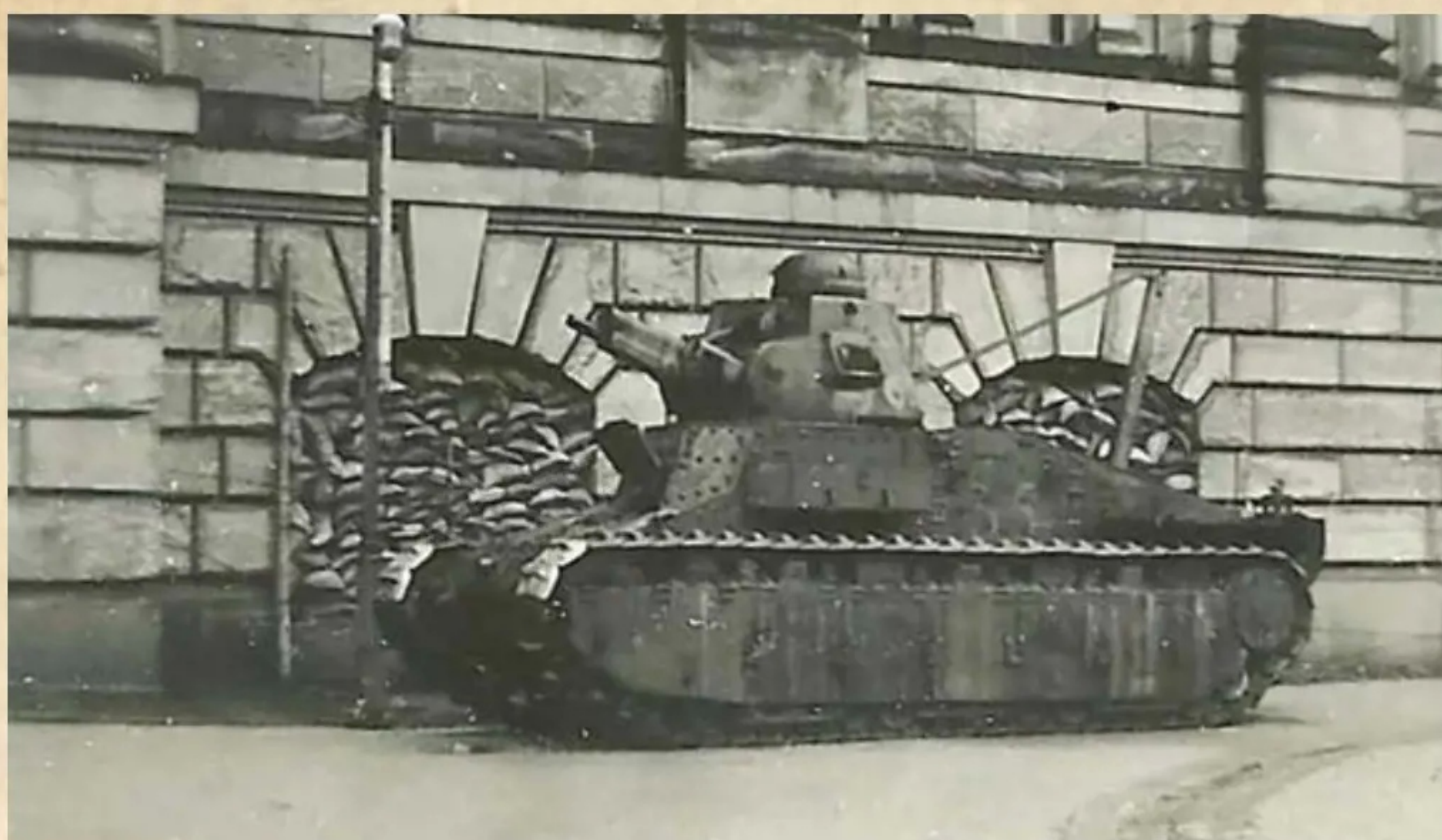
Here we see a Renault D1 recently returned from the French colony of Tunisia on the 7th of June and photographed here abandoned in running order in Villote only 9 days later. The photo was taken on the 18th of June 1940 and is shown looted forlorn on the main street of the village.



Knocked out and abandoned on the eastern edge of Suippers this Renault D1 vehicle number "62" had belonged to 67eme BCC of the French army but is now pictured here by advancing German infantry supply unit on June the 19th 1940.

(Right) This Renault D1 in one of three tanks that ran out of fuel on a march close to the town of Dommartin, France and were abandoned. This photo was taken in June 1940.





Having been captured intact and in full running order this Renault D1 has been driven in to the city centre of Reims by the Germans as a trophy of kind. This photo was taken on August the 25th 1940.



Abandoned having Brocken down just east of Souain-Perthes les Hurlus, France, this Renault D1 was found by Panzer Grenadiers from the 8th Panzer Division under part of Guderian's Battle Group. The tank was photographed on the 14th of June 1940.



Photographed close to Souain this Renault D1 was destroyed by anti-tank guns and is being inspected by officers (on horses) and other soldiers from an infantry unit. This photo was also taken on the 14th of June 1940.



This is the same Renault D1 as seen in at the bottom of the last page one of the three tanks that run out of fuel close to Dommartin. This photo was however dated more concisely as having been taken on the 16th of June 1940.



Abandoned in an unnamed French village but no doubt somewhere in the vicinity of Suippes, sadly I have no more information on the Renault D1 in this photo. It came from an album of a Panzer crew member who served in the 8th Panzer division during the battle of France 1940. I still hope to be able to gather more info as the tank number being so clear (No87) I have high hopes more info will found somewhere one day.



Destroyed in the battles of the 12th of June this Renault D1 is being looked over by the victors. No location is given here other than France; however the date is noted on the caption as the 13th of June 1940.



The location is only very vaguely given here as a few kilometres west of Reims. Again I do have a date, this photo was taken on the 14th of June 1940 and the caption tells of how this Renault D1 was put out of action by as many as 14 shots from 37mm Anti-tank guns into its left flank.



Another photo of the three abandoned tanks that had run out of fuel whilst on the march to the front close Dommartin. This photo was taken on June 16th 1940.



Sadly I have no date or location for this photo. However I can tell you that it was taken by a German munitions recovery team based close to Reims in the late summer and autumn of 1940. Note the clarity of the large number "12" this is the tanks unit ID but in fact the full tanks identification number was four figured and can be seen to the rear of the large numbers but in much smaller type, it is "1012".



I believe this is the middle tank in the line of 3 that ran out of fuel and has been seen here before from distance, however this assumption is only due to the position of this photo in the album it came from as it has no separate caption. Tank number "06" in full "1006".



Above is a photograph of one of the ten Char Lourd 2C's that were still in service in 1940 with the French army, they were placed in the 51a BCC (Bataillon de Chars de Combat). These tanks were survivors of the post World War One design ethos and had no real use by 1940. However they had been kept in service mainly as a public relations unit as these huge tanks did without doubt have an impressive look to untrained non-military member of the general public.

This was a propaganda unit by the time the German 8th Panzer division invaded under order (Fall Rot) on the 10th of June 1940. The French high command decided to ship these tanks out of harm's way as they were fully aware they had no military value but were held in high esteem by the public. The tanks were assembled for shipping but only six tanks were in working order at that time and the others were destroyed in situ by their crews. These six tanks were loaded onto two trains at the Landres station on the 13 of June 1940. Due to railway network damage caused by the German Luftwaffe the trains got held up on route at the forest of Badonviller, and were there until the evening of the 14th when they were bombed but no damage was sustained. They continued on to Neufchateau over night and arrived in the morning of the 15th. They were then ordered to travel to Dijon but never arrived as again due to rail network damage and destroyed trains blocking tracks, the trains were halted along with other trains approximately 14 Kilometres south of Neufchateau straddling a road way crossing point. This is where the story becomes confused as many post war sources state that they were bombed by Ju87 Stuka's in this location and destroyed by them but recently documentation has been found that claims that were after realizing they were not going to be able to out run the Germans the crews were ordered to destroy the tanks on the train as they could not be unloaded without the facilities available at a main line train station.

I have to admit I have only heard of this later story by hears say and still tend to believe the Stuka story until I am able to see original documented proof. Lastly after the 8th Panzer division found these tanks they became a regular high spot on any soldiers visit list and many photos exist of them on the trains. However later in July the Germans recovered at least one of these tanks and it is pictured here on the road by the crossing guards house it was eventually thought have been displayed in Berlin but its ultimate fate is unknown.





This Char B1bis belonged to the Be DCR and suffered a mechanical breakdown in Montcornet, France along with one other Char B1bis the unit sent another Char B1bis back to recover them only for it to breakdown during the recovery resulting in the loss of all three tanks the photo was taken in June 1940.



This Char B1bis was knocked out by a Panzer IV from the 8th Panzer division in the village of Soize, France. It had been ordered to stay behind as the unit retreated as rear guard and also guard the important road junction in the village. Whist I do not doubt it was destroyed by a Panzer for but in order to create this amount of damage the internal ammunition store must have exploded as well, the photo was taken on May 26th 1940.



A Char B1bis that had belonged to the 37 BBC but had been shot up on its left side by 37mm fire from Panzer III,s of Rommel's battle group west of the Belgium town of Dinant on the Rue de Philippeville, and was photographed here on the 19th of May 1940.



This scene was photographed close to the French Belgium boarder in May 1940, and depicts a knocked out and badly damaged French troop transport bus and an abandoned Char B1bis according g to the notation on the page of the album that this photo came from the bus was knocked out and after a short fight the French crew abandoned the Char B1bis fully intact I would like to think due to having run out of ammunition but the text does not clarify this.



On a road running towards Paris this Char B1bis named Bourguell, number 356, was found abandoned due to mechanical breakdown in June 1940.



This is one of my ebay purchases and sadly came with no context what so ever having been ripped from it album and split from any identifying information that might have been available to enable me to place it correctly in its true context. All I can say is that this is a picture of a Char B1bis during the battle for France summer of 1940.



This Char B1bis had breakdown on the march in the village of Chivres-en-Laonnois and was found to need more work than the units mobile repair unit could handle and was subsequently stripped of useful parts, notably it's tracks were salvaged as is very evident in this photo taken on 21st of May 1940.



I have seen many photos of this group of four destroyed or just abandoned Char B1bis's all in this town centre. This particular photo was taken in early July 1940.



On the 12th of June near Pogny sur le Marne Panzer Grenadiers found the remains of this Char B1bis along with a AMD Panhard 176 French armoured car that upon inspection was found to be in fully working order only requiring one new tire it was back in service with the German Grenadier unit within three hours of it being discovered and went on to serve in that unit right through the advance on Paris. It is noted in the album that it was taken from the unit and left behind in France to be handed over to the occupying military garrison.



The site of a major loss for the French sadly whilst I have seen many views of this scene in many other publications in my reference library none of the books confirm the date or location, sadly neither can I. I am sure however that this location is known and in time I will find the missing information.



Another view of the looted and damaged Char B1bis seen in the previous shot that sadly I have no cover information on currently.



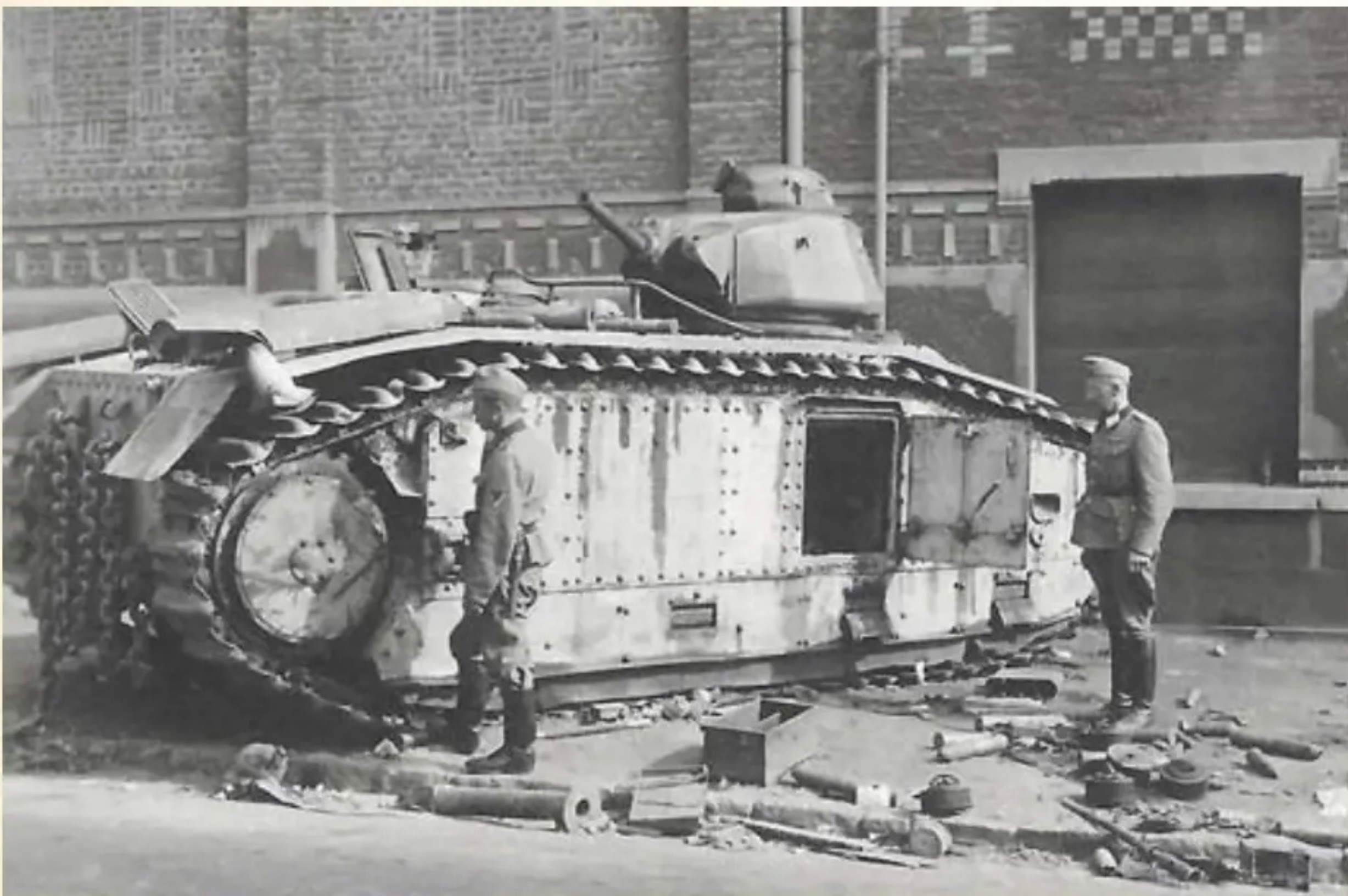
Another view of the Char B1bis named Bourguet, number 356, that was found abandoned due to mechanical breakdown in June 1940 on a road towards Paris.
Time to dig-out that 1:35 Tamiya kit?...



(Left) Lost to multiple hits from 37mm German tanks during the fighting north of Huppy and south of Abbeville on the southern side of the banks of the Somme river on the 28th of May 1940 this tank formerly of the 47th BCC was photographed two days later after having been thoroughly looted.



(Right) Torn apart by a single hit from a German 88 Flak 18 that hit this Char B1bis on the top side of the left-hand side track and splitting it apart the shot then glanced through the mud guard into the turret ring and exited the tank through the turrets right-hand side. This Char B1bis formally belonged to the 46th BCC and was another of the casualties of the fighting on the 28th of May north of Huppy; the 88mm gun was positioned behind cover afforded by Mont de Caubert.



An abandoned and thoroughly looted Char B1bis pictured in a railway marshalling yard somewhere in eastern France, and photographed on the 21st June 1940 again sadly I have no further information as yet.



Another Char B1bis from the previously mentioned group of four destroyed or abandoned in a town centre, this photo from a different source is also dated July 1940 and also shows this totally distorted Char B1bis after it's internal ammunition store has exploded.



BOOKWORLD

wholesale



PRE-ORDER KV Soviet Heavy Tanks.

In 728 pages, supported by 1,030 wartime photographs, 204 other black&white photographs, 345 2-D and 3-D graphics, as well as 18 1/35-scale 5-perspective line drawings plus 32 colour plates and graphics and 45 colour photographs

£150.00



Cold War Berlin. An Island City Volume 4

The text is richly illustrated with photographs, illustrations, diagrams, tables, maps, plans, and colour profiles, and is printed in full colour throughout.

£19.95



TTL 4. Through the Lens WW2 Vehicles

Each book in the series features six to eight sections, each focusing on a different subject with mostly previously unpublished photographs.

£25.99



Scale Modeling WW2 German Camouflage Uniforms

Five chapters, six camouflage uniforms, and six very detailed step-by-step tutorials for painting figures with acrylic paints – this is your guide to German camouflage

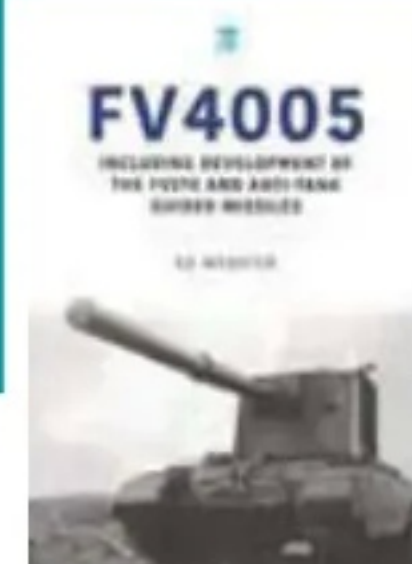
£55.00



Armoured Vehicles of the First Gulf War 1990-91

Included in this volume is a review of every vehicle that played a role, such as the main battle tanks operated by the key players and supporting frontline vehicles.

£17.99



FV4005 Including Development of the FV215 and Anti-Tank Guided Missiles

This book corrects inaccuracies using primary source historical documents written at the time, and shines a light on the fascinating history of one of largest anti-tank guns known to have ever been fitted to any tank.

£16.99



Panzer Tracts 22-1 Leichter Zugkraftwagen 1t Ausf. A and B

Panzerwrecks, in collaboration with Hilary Doyle, has enhanced this essential volume with additional pages, photographs, and a new chapter on Pak conversions

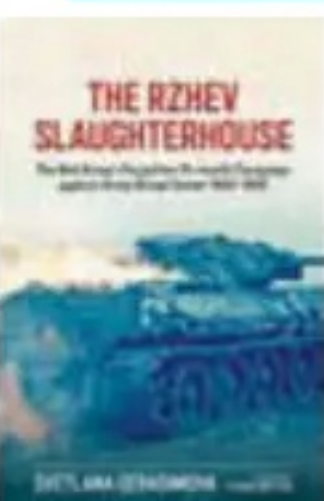
£19.99



NVG 330. British Lend-Lease Warships 1940-45

An illustrated history of the American-built destroyers and frigates supplied to the Royal Navy under Lend-Lease, which played a crucial role in Britain's war in the Atlantic.

£12.99



The Rzhev Slaughterhouse

In this book, which has been recognized in Russia as one of the best domestic studies of the Rzhev battle, answers to all these questions have been given.

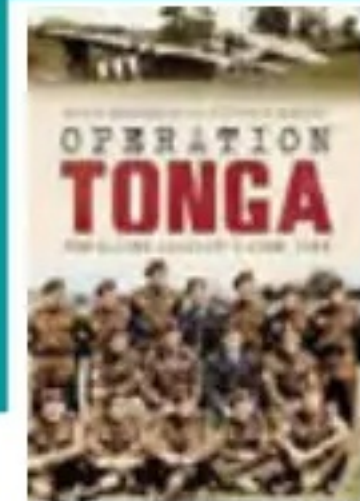
£35.00



The Centurion in Danish Service

The main battle tank was updated in relation to gunnery in the middle of the 1980s. Then, its ability to fight in the hours of darkness and with laser rangefinding, its gunnery was improved.

£37.50



Operation Tonga

The contribution of the nine gliders that took part in the 'Coup de Main' landings has been well documented, but little has been written of the other eighty-nine gliders that participated. Operation Tonga-The Glider Assault: 6 June 1944 tells the full story.

£25.00



Battle for Afghanistan Clash of Cultures

This special publication contains personal accounts from UK and US soldiers and covers many of the main events with never seen before pictures.

£9.99



Arnhem Operation Market Garden

This volume recounts the stirring valour of the participants along with the desperation and devotion to duty embodied in the famous phrase, "a bridge too far."

£8.99



Modern Tank Warfare

Modern Tank Warfare highlights the 'heavy metal' in service across the globe, from Europe to the Pacific with a special focus on new developments – new explosive reactive armour, firepower and speed ensures that the main battle tank continues to play a central role in ground combat.

£8.99



Tank Battles of World War Two

This new publication examines armoured warfare from the perspective of tank troops as they struggled to survive and win on the battlefield.

£9.99



Weapons of the Ukraine War

This special publication presents a sampling of these weapons, from new Western systems, major weapons in widespread use, and a few unusual and interesting items.

£8.99



British Army Yearbook 2024

We have the latest news about current operations and overseas training exercises, as well as news about the latest equipment on order.

£8.99



Spotlight On 29. Panzerkampfwagen V Panther

This meticulously crafted book showcases a captivating collection of 36 vivid color profiles featuring the iconic German "Panther" tank, a legendary tank that played a pivotal role in World War II.

£19.00



Red Machines 4. SU-122 Self Propelled Assault Gun

The SU-122 was the first self-propelled gun on the T-34 chassis to enter service with the Red Army.

£24.99



NVG 332. Beutepanzers of World War II

Illustrated with superb new profiles and some rare archive photos, this is a concise guide to an intriguing element of World War II armor."

£12.99



Campaign 404. Romania 1944

This in-depth work explores the strategic struggle within German-Romanian relations and the tactical development of the Battle of Romania.

£16.99



IOW Rommel's Ghost Division Victory in the West

June 1940. In just weeks, General Erwin Rommel's 7th Panzer Division – dubbed the 'Ghost Division' – had driven headlong through Allied forces in Belgium and France to reach the English Channel.

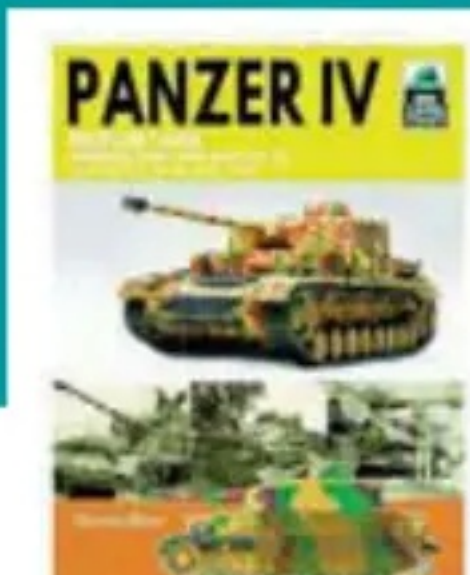
£16.99



DEP 37. Tanks and AFV's in the Iron Swords War

Through the camera lens of a Army Company Commander this book looks at the Merkava 4 and 4M in action during the war in Gaza.

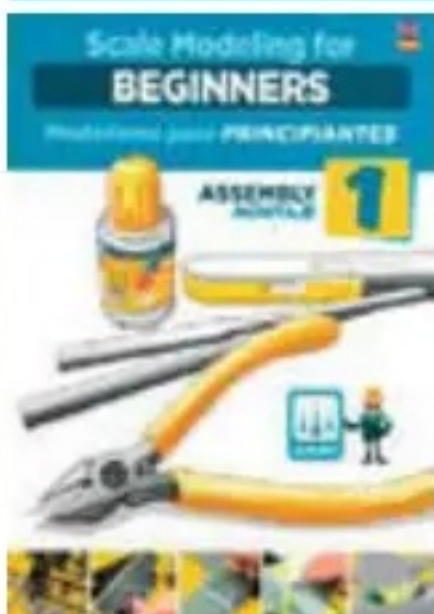
£33.90



Tankcraft 43 Panzer IV Medium Tank

In Dennis Oliver's latest volume in the TankCraft series he uses archive photos and extensively researched colour illustrations to examine the later models of the PzKpfw IV tank

£18.99



Scale Modelling for Beginners Part 1 Assembly

Discover the essential tools and products to assemble any model, as well as the techniques and methods required to work with the different types of parts, materials and scales

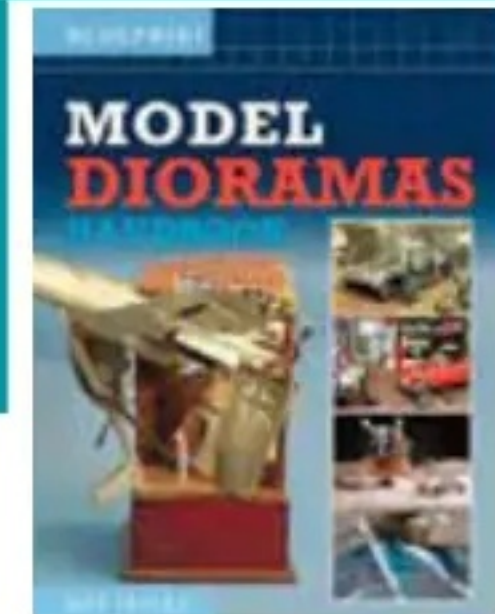
£19.99



The Weathering Aircraft 25 Acrylics

In this issue, you are shown everything you need to know about acrylics using a wide variety of interesting and popular subjects

£8.99



Model Dioramas Handbook

This book shows how you can create interesting dioramas irrespective as to what you are modelling. It looks at the materials required for building dioramas, primarily tools, paints and glues.

£27.95



Solution Book 23 How to Paint WWII German Late War Vehicles

This book contains explanatory texts in four languages (English, Spanish, French, and German). The model used as an example in this Solution Book is the Panther Ausf.G Late Production, 1/35 scale, TAKO2121 by TAKOM. Paperback

£9.99



Solution Book 01 How to Paint WWII German Tanks

Tanks
Paperback
67 Pages
Full Colour

£9.99



Modelling WW2 Light Tanks and Armored Vehicles

In this book, you will find a fantastic collection of light tanks created by extraordinary modelers. Vehicles from various armies and different contexts serve as a connecting thread throughout the work, showcasing striking finishes.

£24.99



The Weathering Technical Guide 01. Metallized

Full Colour
Projects Include
Mercedes Benz
Tank Railcar
Sicaran Tank
Space Marines
P-51 Mustang
Mazinger Z

£15.99



How to Paint Mid WW2 German Tanks

In this book, five master modelers explain in detail how to create the most commonly used camouflage for German armoured vehicles during the mid-phase of World War II, which includes most of the years 1943 and 1944.

£34.99



www.bookworldws.co.uk



info@bookworldws.co.uk



01299 823330

Unit 10 Hodfar Road, Sandy Lane Industrial Estate, Stourport-On-Severn, DY13 9QB

UK Delivery £3.50 RM or £6.25 Next day

Overseas orders contact us or visit the website

10/24



eduard

LEOPARD 2 A7V

Tamiya 1/35

#36524

www.eduard.com



HUMVEE M1097A2

ICM 1/35

#36522

10/24



10/24

SD.KFZ.234/2

MINIART 1/35

#36523



INFO | Eduard



Eduard monthly magazine with historical articles and modeling topics. More than 100 pages! Free download at info.eduard.com

www.eduard.com