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AYR-CRAFT

ANTONIO MARTIN TELLO'S SCOTS GUARDS CHURCHILL Mk.IV



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FORD

GT40 Mk-II '66

1/24
CAR SERIES
CS-004

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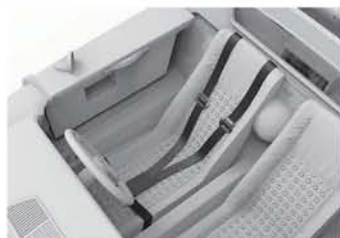
FORD GT40 MK.II '66

The Ford GT40 was a GT racing car launched by Ford Motor Company to win endurance races against Ferrari. It was simply named Ford GT at the beginning and later re-named GT40. The 40 represented its height of 40 inches. After the first two years of gaining experience, the GT40 Mk.IIs which were equipped with Ford 7.0 liter engines started to burst out with incredible power in 1966. They won at the 24 Hours of Daytona. Months later, they took all three top finishes at the 24 Hours of Le Mans, stopping Ferrari's five-year-long rule of this race. The Ford GT40 went on to win the race for the next three years.

This MENG CS-004 Ford GT40 Mk.II '66 is a 1/24 scale model kit officially licensed by Ford Motor Company. This kit features accurately reproduced engine bay interiors and the key parts of the quick-change braking systems. The model's engine hood is openable and its front wheels steerable. This kit includes clear light parts, grilles replicated by precision stainless steel PE parts. The safety belts made of special fabric material are not only realistic, but also easy to assemble. Tires of this model are made of quality vinyl material. They have fine tire tread texture and are free from bad smell. This kit includes pre-cut painting mask stickers to greatly reduce the difficulty of painting and masking. This kit provides decals of three liveries.

Length: 172mm Width: 77mm Height: 45mm

The futuristic tech that dominated the racing tracks.



The rear engine photo-etched metal grille further improves the precision of this model.



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MENG is willing to offer modellers excellent model kits and top-quality service.

1/24 The classic scale most suitable for your collection



To fully display the engine details, our designers have made the engine hood as an openable part.



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TYPHOON



MENG'S K-4386 TYPHOON-VDV

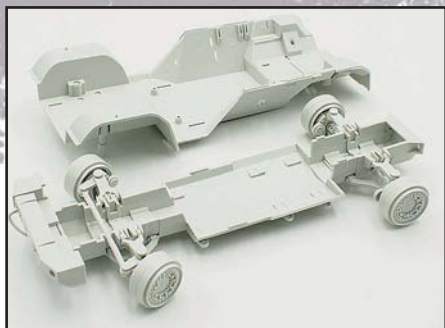
The history of the "Typhoon" family began in 2010, when the Minister of Armed Forces of the Russian Federation approved the plan "Development of military vehicles for the Armed Forces of the Russian Federation until 2020", which included the Typhoon MRAP using standardised engine and suspension components across all two, three and four axled vehicles. The first vehicles were launched in 2011.

The kamaz K-4386 is based on the Typhoon K-53949 project. It's most visual feature is the roof-mounted EPOCH remote controlled weapon Station (RCWS). This RCWS is fitted with a 30mm 2A42 autocannon, a 7.62mm PKTM coaxial machine gun and six smokegrenade launchers.

modelled by
**Domingo
Hernández
Martín**

OOON 1:35





One of the best brands currently on the market is undoubtedly MENG in my opinion. The proof is in this model, little short of amazing in detail, the quality of the plastic, very simple instructions, attractive presentation, etc... A real delight that I started to build with my mindset on getting the resin wheels from DEF Model when released.



One of the attractions of this model is the steerable front wheels. Suspension is simplified and here you can see the kit wheels with vinyl tyres, pretty good for detail.



Basically in three steps you have the model practically built! The look is completely robust and purposeful of this tough machine.



Meng provides some details to decorate the interior of the model such as the cannon control console, the seats, the movable doors, etc... This is the finished control console, base painted with acrylics and finished with enamels.

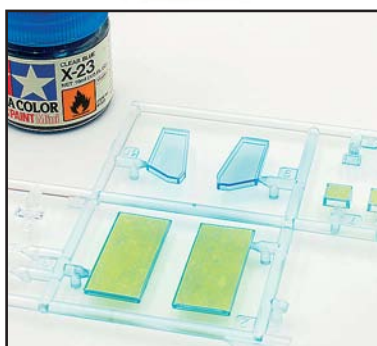


I knew it wouldn't show too much from the outside but I still painted the seats, dashboard, and other interior elements just in case.



With the interior finished, I glued the two parts of the body without any difficulty. This shows a dry fit, when clicked into place a few touches of liquid cement completes a major step of the build process.

This is the model finished and ready for the painting phase. Also, waiting for the Def Models wheels that I had reserved in anticipation.



All the transparent parts that corresponded to the armoured glass windows were painted with Tamiya Clear Blue. After letting it dry well, I masked with tape and glued the parts onto the model as the frames are body colour.

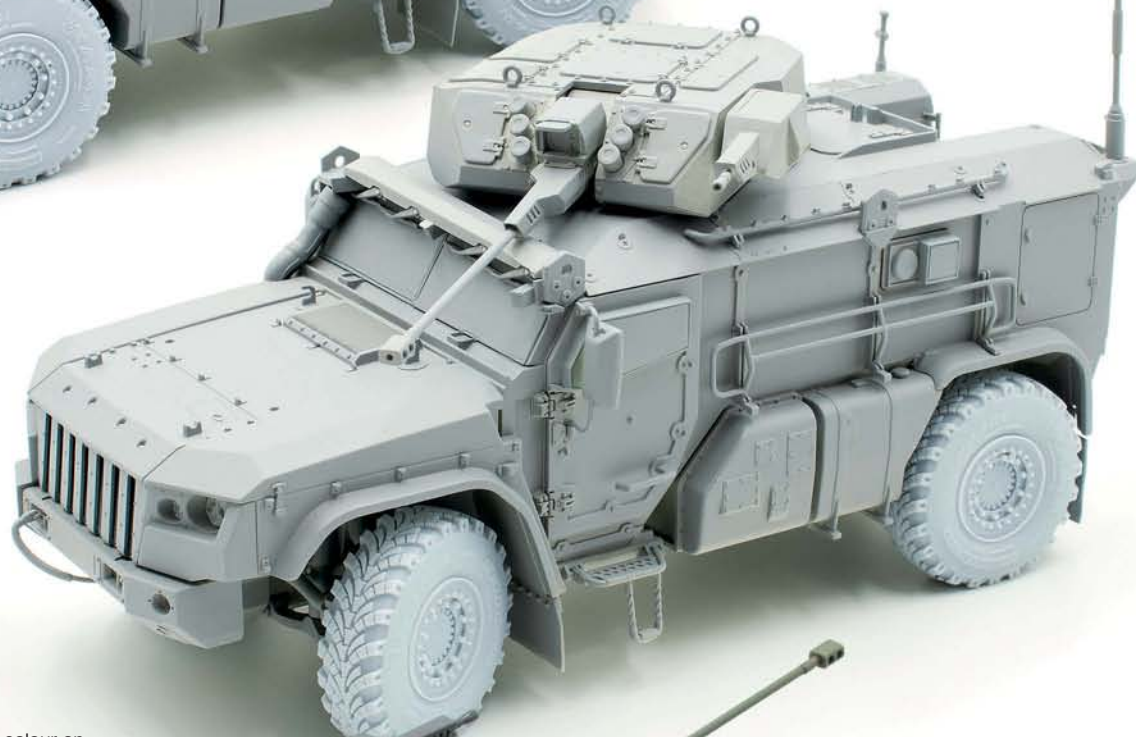




The difference is substantial with the wheels from DEF Model, weight simulation gives a further realism to the model. While waiting for the wheels I also applied a couple of coats of grey primer.

Under the primer the sharp moulding and finesse really shows, and just look at that futuristic turret!

V-shaped belly armour and steel / ceramic armoured body panels provide the vehicle state-of-the-art mine and IED protection. Fully sealed crew compartments with filtration systems protect from chemical, biological and nuclear threat. Camera systems ensure protected remote operation.



Time to get some colour on, pictures of dirty, muddy Typhoons had me inspired...

Note the roof escape hatch in case of roll-over and the protected crew access.





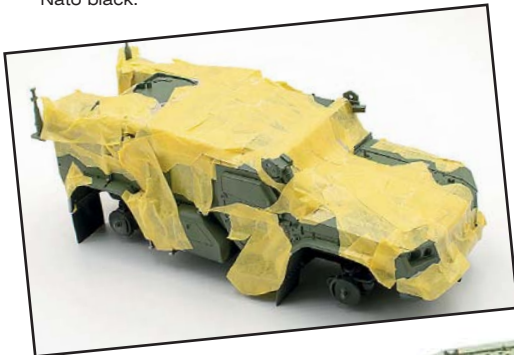
I already had in mind to paint this model in three colours with a splinter scheme very typical of the modern Russian armed forces. The first predominant layer was painted with Tamiya XF-73 Dark Green. After letting it dry, I masked the parts I wanted to keep in green and painted the lighter colour with Tamiya XF-57 Buff with a few drops of Dark Yellow. The third colour was Tamiya XF-69 Nato black.



The wheels, after washing them carefully and applying a good coat of primer, were painted in two colours, the outside with XF-69 Nato Black and the rims with X-18 Satin Black.



One of the most complicated and time-consuming steps is to apply and remove the masking tape on a camouflage combo. It should always be done with care and patience to let paint properly dry, and with great care when removing the masks.



This is the result of the painting and varnishing process of the model before starting the weathering process.



With XF-57 Buff colour paint diluted by 80%, I painted a light dust layer in many areas where, later on, I would accumulate dust and mud. This process is important because it allows me to make sure that all the following steps will hold well and not end up being too diluted.



While the paint was drying, I started to have fun with the wheels, as a first step I filled in all the tread in the tyre pattern with Ammo's Turned Dirt and Damp Earth products. These products are dense enough for this scale.



To kill the shine of the previous products, I painted a light coat of very diluted Tamiya XF-72 Brown.



I also lightened the previous brown colour with some Tamiya XF-57 Buff in the interior areas.



With AMMO Dry Steppe and Dry Earth products, I simulated the colours of the dried mud of the wheels with some consistency but without exaggerating the effect.



To finish and highlight some details I applied a spot wash with AMMO's Dar Mud and Wet effects.



This is the result of the wheels, the secret is to make them with the same products but all with slight variations to give a different aspect of realism to the model.



Continuing with the rest of the model I airbrushed another layer of powder with AMMO Thick Soil quite dissolved to make it flow better. In this step, I focused on the horizontal areas.



With enamel and oils I began to highlight the details that I wanted to emphasize and try to break the monotony of the dusty colours.



It was time to shade some parts again to give contrast. This time I helped myself with the new AMMO Shaders. It is a perfect product for this but you have to take into account two things, the first one is that you have to do it on a matt surface and the second one is using light pressure.



This is the result so far, nothing out of the ordinary, dirt, shadows, lights, and dirt accumulations in horizontal areas.



To begin with the process of applying extreme mud I had to have a surface that would hold well, for that I used the colours XF-57 and XF-55 in the areas where I wanted to deposit the mud.



To darken some parts, which would not even be completely covered in the following steps, I applied a dark brown colour with XF-72 from Tamiya.



The first coats were soft with AMMO's Thick Soil and Moist Ground products, the underbody, sides, and rear. It is a wait-and-see process until the desired result is achieved.



This is the result of three coats of the products described, always light colours first and dark colours last.



Some of the accessory elements of the model I painted separately to give them some contrast, for example, the rear footboard, the mirrors, and the tow bars. Here you can see how they stand out on the muddy surface.



The mirrors were placed at the end, the outer part was painted in black with a mild weathering session. The reflective part I painted with a chrome marker pen from Molotow.



The last touch to give more contrast where possible was to apply washes with the product 'Earth' from AMMO, a diluted enamel that allowed me to define contours and highlight volumes. I repeated this process several times.

A very good kit indeed, easy to build and packed with satisfying details and I think I managed to recreate the idea I had in my mind of a rather dirty vehicle. It is not a very complex process done in steps, but you have to repeat some stages several times until you get the desired result.

I hope you like the result. I want to thank David Parker for the opportunity to share my thoughts on the kit and DEF Model for the







FEO, FUERTE Y FORMAL

CHURCHILL MK IV.

SCOTS GUARDS, 6TH GUARDS TANK BRIGADE



AFV CLUB'S KIT MODELLED BY ANTONIO MARTIN TELLO

Legend has it that the famous American actor John Wayne, seeing his death approaching, asked for the following epitaph to be engraved on his tombstone in Spanish: "Feo, fuerte y formal" (Ugly, strong and formal). For some reason, this succinct description has always struck me as very apt for the Churchill.

Clearly, this tank is not exactly remarkable for its aesthetic beauty, but it has an old-fashioned, brutish look that I think lends it a lot of charm. It's like the guy who may not be the best looking, but who inspires confidence in you and who you know will do his job well and won't let you down. Ugly, strong and formal.

The last of its kind

After the experience of the First World War, the British were still convinced that in a new large-scale conflict there would be a repeat of the static battles of trenches and barbed wire. These battles would require heavy, highly armoured tanks to accompany and protect the infantry in their slow and gruelling assaults on enemy positions. These were the "Infantry Tanks", the opposite

concept to the "Cruiser Tanks" which had to be fast and light to exploit the advantages created in a more mobile war. In this specialisation, the Infantry Tank family gave rise at the beginning of the war to the Matilda and Valentine, and other heavier tank projects such as the A22.

After the fall of Poland and France in 1940, it seemed clear that the war would not go the way of the bloody Flanders campaigns of 25 years earlier. However, Britain found itself alone facing what appeared to be an imminent German invasion and accelerated any tank project that was underway and had the prospect of being completed in the shortest possible time. The A22 was one of these projects, so it was developed in haste to produce a vehicle named Churchill after the British Prime Minister. Because of this rush, the first Churchills, which left the Vauxhall factories in the summer of 1941, were plagued by problems and mechanical failures. The manufacturer itself accompanied the owner's manual with an appendix advising of these problems, suggesting temporary fixes while engineers worked to improve the design and attempted to remedy the defects at the factory.

SLOW AND STEADY



The Churchill's appearance gave it away as a concept from another era. Its wrap-around tracks and myriad wheels were reminiscent of the tanks of the First World War or the French heavy tanks of the 1930s, other dinosaurs that could not stand up to the Panzerwaffe and its blitzkrieg.

The basic problems were gradually corrected, but the Churchill's design itself suffered from intrinsic limitations that stayed with it throughout its career. One was its low power, which made it slow, although this was not a serious disadvantage when used in its theoretical role as an "Infantry Tank".

Another was its armament, which at first was almost ridiculous and, despite being improved with the adoption of 6-pounder or 75 mm guns, was almost always insufficient. In contrast, its armour was excellent and, due to its elongated design and high tracks, it was able to overcome obstacles that stopped other tanks. This latter capability was particularly useful in Normandy, where it performed well on the beaches during the landings, and in the subsequent bocage war. In general, the Churchill was appreciated by its crews once they adapted to its characteristics.

It was produced in a plethora of variants which differed in their armament, welded or riveted hulls, turret plates or cast iron... The one built in largest numbers, just over 1600 examples, was the Mk IV, the subject of this article, which in turn could be armed with either the 6-pounder or the more modern 75mm QF gun, and which was extensively used in Europe. In the Mk VII version, which debuted in the Normandy campaign, the hull was redesigned and widened slightly, the armour was increased, the turret was modified and a 75mm gun was adopted. In addition, the Mk VII served as the basis for the famous "Crocodile" flamethrower version. The Churchill was also used as a starting point for special engineer versions: AVRE, bridge layer, CS (Close Support), "Carpet Layer"... It was even suggested to extend its career beyond the Second World War in the form of the "Black Prince", basically a Mk VII with a larger turret carrying a 17-pounder gun. The project was abandoned in favour of the Centurion, Britain's first "Universal Tank", and with it the last dinosaur became extinct.

In the British Army, the Churchill was usually fielded in separate armoured brigades and the 79th Armoured Division picked up many of the specialised engineer variants. The only other operator to use the Churchill during the war was the Soviet Union, to which 391 tanks were sent under Lend-Lease arrangements. The Churchill's swansong came in the Korean War. There, a squadron of British Army Crocodiles took part in the fighting, primarily as conventional tanks rather than in their specialised role as

THE GUARDS

In the British Army, the "Guards" are infantry units with a long tradition. At the beginning of the Second World War, faced with a shortage of armoured vehicles and personnel trained in their use, the British Army decided to convert some of these units into armoured troops, thus creating the "Guards Armoured Division", which had two "Guards Armoured Brigades", the 5th and the 6th. The latter was eventually detached from the division and formed a separate brigade, the 6th Guards Tank Brigade (6GTB), which, like other similar units, was equipped with Churchills. There were three armoured battalions in the brigade, the 4th Tank Battalion Grenadiers Guards, the 4th Tank Battalion Coldstream Guards and the 3rd Tank Battalion Scots Guards, whose codes, painted on their vehicles in a green square with a white base line, were 152, 153 and 154 respectively. After suffering heavy losses in Italy in 1943 and 1944, the 6GTB was transferred to England where it was refitted for use on the Normandy front, where it arrived on 20 July 1944. During the first few days, the Guardsmen had the opportunity to make a tour of the area where they noted the disastrous effects the German 75 and 88mm guns were having on the British tanks, so they rushed, like other units, to weld onto their Churchills anything that would increase their protection, mainly track links that they had on hand, not only from their own Churchills, but also from Shermans. In addition, the Scots Guards had the misfortune on 30 July to run into three Jagdpanthers of 654 sPzJgAbt. posted in defensive positions, suffering heavy losses in a matter of minutes. In any case, the Guards continued to support the infantry until the fall of the Normandy front. After a period of some inactivity, from October onwards they took part in the liberation of Belgium and Holland, and in the final assault on northern Germany.

AFV CLUBBIN'

Apart from Tamiya's vintage Crocodile from 1977, the only firm that has paid attention to the Churchill in 1:35 in plastic has been the Taiwanese AFV Club. Since 2008, this company has marketed a dozen models of the British tank, most of them based on the chassis of the Mk III/IV/V versions (which are basically the same) and including some of the special vehicles, and very recently a Mk VII. Of course, many of the parts are common to all the models.

The kit described in this article is the Mk IV with the L/50 6-pounder Mk V gun and its reference number is AF35154. The model is excellent and I recommend it without reservation. .

Here I will simply say that the box contains, apart from the plastic parts, including transparent ones, a basic photo-etch sheet, a turned metal barrel, the tracks in the form of vinyl bands, a thread segment to simulate the towing cables and metal springs for the suspension. In addition, there is also a plastic track link sprue to add additional armour. I'm not sure if this last sprue is contained in all boxes, as I understand it was only included as a "bonus" in the initial release. Also enclosed is a poster with the excellent illustration of the box, which, by the way, is based on a period photo. All parts are moulded flawlessly and the fit is perfect. The detail is very fine. The assembly of the intricate running gear presents no problems at all following the instructions and the addition of the metal springs makes the suspension functional. The rest of the assembly is trouble-free, although some parts are a little small and require some care, but nothing beyond the reach of the average modeller.

In addition to the kits themselves, AFV Club also offers a series of extra accessories for their Churchill models such as ammunition, metal bolts or link by link tracks. In particular AFV Club has two references of the latter, "Track Link for Churchill" (AF35156) and "

Churchill British Infantry Tank B.T.S 3 Heavy Track" (AF35183). I decided to use a set of the latter (the others are the analogues to the vinyl ones in the model and one sprue of them is the one included as a "bonus") because they seemed more visually appealing, more "archaic". In fact, I later discovered that these "heavy tracks" are an earlier model than the others and, although perfectly valid for a Mk IV, they are not the most common as the war went on. In any case, their quality is excellent, with the casting numbers subtly depicted on each link, and fully functional once fitted.

Since a good section of the tracks, the one that runs along the top, under the mudguards, is hidden, I did not complete the whole track, but only the visible sections.



Once the assembly started, I decided that I needed some photo-etching to reproduce the peculiar tool holders, typical of British-built tanks. Here AFV Club simply chose to model the tools with the tool holders included, thus losing detail. After looking for a basic photoetch containing these parts and little else, I went for one from E.T. Model (ref. 35-006). Actually, this photoetch is intended for the AFV Club model of the Mk III, but as the hull is the same, and the turret very similar (only formed from welded plates instead of casting) most of the parts are usable. I also used other parts from the photoetched parts (as I bought it when I had already started the assembly, I couldn't use some of them) such as grilles, some hooks or the rear mudguard tin holders, which are functional. Besides, I made some homemade additions such as the wiring

of the small headlights on the mudguards or the tie downs on the sides of the turret, made with fine wire (and not visible with the additional armour tracks on).

As I wanted to represent a vehicle that was operational and quite "lived in" by its crew, I added a large amount of tarpaulins and other impedimenta in the rear area of the mudguards. Nothing on the engine cover, as I read that in this area, due to the presence of the exhaust pipes, a lot of heat was generated, and the fabrics left there could catch fire. All these accessories are from different sources, some from Black Dog, and to combine them in a way that they fit well with each other and on the vehicle I added some homemade tarpaulins made with white Milliput. I want to highlight the ones inside the rear turret stowage bin that will peek out in the finished vehicle.



Towards the middle of the war, the British began to use a standardised system (so to speak) for painting and camouflaging their vehicles. SCC (Standard Camouflage Colours) were stipulated and assigned a number. Specifically, SCC 15 was a colour approved in April 1944 and named Olive Drab. The coincidence of the name with the famous American colour was no coincidence, as it was intended to be a shade very similar to that used by the American Allies to avoid having to repaint vehicles arriving from the US under Lend-Lease agreements. Although very similar, SCC 15 and US Olive Drab no. 9 were not exactly the same and modelling folklore indicates that SCC 15 was more greenish. Dozens of equivalents have been described for various brands of paints, as well as mixtures of them. Personally I prefer to use Tamiya acrylic colours for the base coat of my models, so when looking for a "recipe" for SSC 15 based on this range of paints I came across one proposed by Mike Starmer, author of



several books on the colours and camouflage of British vehicles in WWII and an authority on the subject. Mr. Starmer proposes a mixture of five parts of XF81 Dark Green 2 (RAF), one part of XF58 Olive Green and one part of XF71 Cockpit Green which I used to paint the base coat of the Churchill.

XF61 turns out to be a fairly light colour so I used it to lighten the base mix and apply highlights. With this lightened colour, I airbrushed the horizontal surfaces and the top of the verticals to lighten them. To shade the lower areas I darkened the base mix with XF1 Matt Black. To finish off the base coat, I brush painted some details with a mixture like the one used for the highlights but even lighter. These details were the cross ribs of the mudguards, the fan domes, the handles, the cover of the periscopes, the upper part of the headlights and the side bolts...

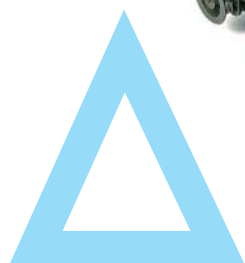
AYR(S) AND GRACES



A general coat of gloss acrylic varnish leaves the model ready to start the weathering and dirtying treatments. This coat also favours the application of the decals. On the decals provided with the model there are two decorations corresponding to the 6th Guards Tank Brigade. After searching for photos and information about the positions of the different elements, I came to the conclusion that they were not very standardised and, in many cases, the markings were hidden by tracks or stowage.

Also, many Churchills bore names that do not appear on the decals on the model. To make a long story short, I was looking for a name for my Churchill in the 6th Guards Tank Brigade and found a short one, which came in handy as I had to paint it by hand. It was "AYRE" a tank of the 1st Platoon, "right flank" squadron (triangle), 3rd Tank Battalion Scots Guards (blue in the triangle and "arm of service" consisting of the number 154 on a green square with a white line at the bottom). With this

information I set about "marking" my Churchill with the decals from the model, except for the blue triangle on the turret which came from the spare box, and painting the name freehand on the ventilation openings on both sides. For the decals I used the usual routine of trimming the motif as much as possible to remove the surrounding film, applying Microset and then Microsol. Once dry they are re-varnished in gloss acrylic to protect them from further treatment.



And I messed up. It turns out that the website where I found the name "AYRE" is wrong. The correct name is "AYR", a town in Scotland (all the Churchills in the "right flank" squadron were named after towns), but I only discovered this after I had finished the model. That's why you'll see in all but the final photos the name AYRE. Well, covering up the E in the end was not too difficult.

I started the weathering stage with the chipping. I began with some in a lighter shade of green than the base to represent superficial scratches. Actually these chipping are only noticeable in those areas that have not been lightened when the model was "illuminated". Then, and in many cases on top of the previous ones, I painted the deepest chipping with the colour "German camouflage brown black" 70.822 from Vallejo. In my opinion, this colour, a very dark reddish brown, is ideal for painting chipping.

I continued working with oils in two phases. The intention in the first was to simulate the wear and tear of the paint. For this I used ochre, grey, white or orange colours, applied individually as small dots, and fused on the surface of the model. The idea is to create subtle tonal variations by differentiating adjacent areas of the model, for example the hatches from their surroundings, or

the different segments of the horizontal area of the mudguards. In a second phase I used darker colours, such as sepia or browns, and rust tones. Here the work was more restrained, shading with the former some nooks and crannies and outlining some details, and using the latter to make subtle rust streaks on the vertical surfaces or very faded spots around the chipping on the horizontal ones.

At this point I painted with Vallejo acrylics the tools, hatch padding, machine guns, fire extinguishers and all those elements with a different colour to the base. For the exhaust pipe I also used pigments in various shades of rust and grey. I also paid a lot of attention to the wear and tear of the two wooden blocks that the tank has at the front. On them I applied an intense work of micro chipping with a fine brush, pretending to simulate the removal of the green paint revealing the wood

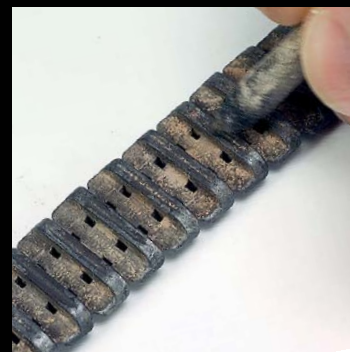
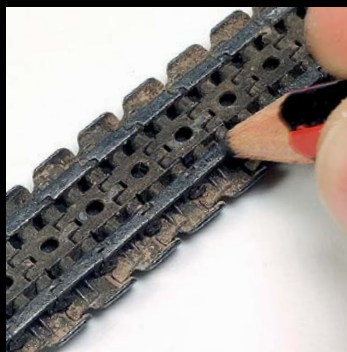


WASHED UP



The last action in the weathering phase was the profiling with a fairly diluted solution of black oil in odorless thinner. This technique is extremely effective and yields a very attractive result. On the horizontal areas of the Churchill's mudguards, with all those transversal reinforcements, I think it was particularly effective. Its application is very simple: On an area of the model, previously moistened with thinner, the diluted black oil solution is applied in such a way that it flows around the details and along the engraved lines. To avoid darkening the adjacent flat areas, the excess oil is removed with a brush dipped in clean thinner. If you want to further emphasise this effect, it can be repeated once the first application is dry.

All the treatments applied so far on an originally glossy base cause a random variation of glossy, satin and matt areas, rather unattractive to the eye. Before moving on to the dirtying phase I evened out the look of the model with a coat of Vallejo acrylic satin varnish, which is actually almost matt.



ON TRACK

The tracks are, as I said, of the "Churchill British Infantry Tank B.T.S 3 Heavy Track" type, and they are a bit peculiar to me. Normally I am used to painting tracks with much narrower links and full of nooks and crannies, like those on German tanks, whereas on these the links have a relatively large and flat surface. So I thought I would try something different by using the "lacquer technique". I must say at the outset that it was a relative failure and I am not sure that this procedure is the most suitable. In any case, here are the steps I followed.

I started with a general coat of AK's black primer. Then, using a brush, I applied a coat of a Vallejo's grey/silver mix, in a rough coat. This layer is supposed to be largely hidden in the following steps. Next, I covered the tracks with a coat of hairspray, applied directly from the can. I now airbrushed the tracks with a mixture of Tamiya NATO black XF-69 and Tamiya reddish brown XF-64.

Once dry, I rubbed the tracks with a stiff bristle brush dipped in

water but, unlike previous experiences with the lacquer technique, on this occasion the outermost brown layer came off very easily, exposing a portion of the "metallic" undercoat that was too obvious. I don't know the reason, maybe the lacquer was different or the lower "metallic" layer made the brown paint less gripping. In any case, I didn't get the subtle effect I was aiming for. However, the following treatments improved the appearance of the tracks quite a lot. Thus, I applied a general layer of pigments suspended in water which, once dry, I removed from the most prominent areas by rubbing them with my finger. I then painted directly over these more prominent areas with a soft lead pencil. and then rubbed with a smudger to obtain a burnished metal look from rubbing against the wheels or the ground. The tracks were now ready to be put on the model, where they will receive some final touches with more pigments.

MUCK'N BULLETS

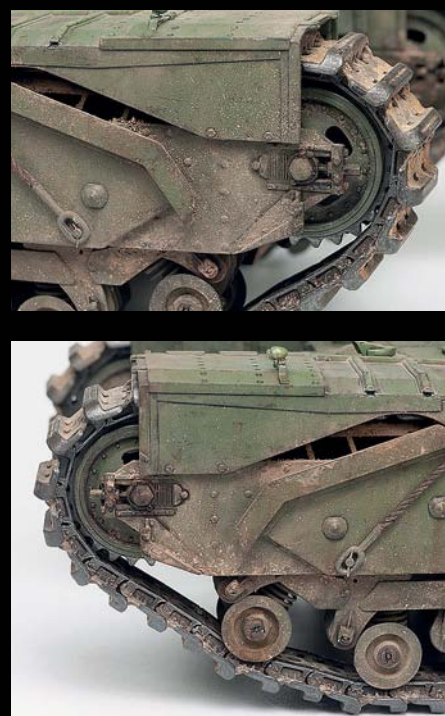


As usual, I did all the dirtying with pigments. In the lower and running gear areas I deposited small amounts with the brush and soaked them with a mixture of enamel thinner and fixer. Once dry, I retouched these areas by removing here and adding more pigments there. My advice is to always work in limited areas, with a small brush, always aiming for variety and avoiding a uniform look. You have to play with pigments of various shades and with more and less build-up. I also made some splashes with a paste of pigments mixed with solvent, projected with a stiff-bristled brush.

In the horizontal areas, especially on the mudguards, I tried to get the pigments to accumulate in the corners and nooks and crannies, removing the excess from the flat areas by wiping with the damp finger. Finally, in areas further away from the ground, such as the roof of the turret, I applied the pigments "dry" with a fine brush, and simulating accumulations around the details. Before putting the tracks on, I polished the sprocket teeth and the edges of the running wheels with a smudger impregnated with gun metal pigment. After putting on the tracks I finally touched up the more visible links a bit with more pigment, as well as some areas of the lower hull. I also put on the track links used as extra

armour. These were painted with a black base and then treated with various shades of rust pigments, reddish browns and greys, sometimes in the form of dots and splashes. On the Sherman ones, rust tones should be avoided on the rubber shoes. I also installed the towing cables on the side which were painted in a similar way to the tracks.

With the product "Oil and Grease Stain Mixture" from Mig Productions I simulated grease on the hubs of some of the wheels and on the adjustment mechanism of the idler wheel. This product can be diluted in solvent to obtain different degrees of opacity and fluidity, and can be applied more than once to obtain a greater or lesser intensity of the effect. I also went over some edges, such as those of the hatches, with the smudger and gun metal pigment to give a metallic feel to these areas exposed to rubbing. Finally, I added the tarpaulins and other stowage. These elements were painted with Vallejo acrylics, using light and shadow techniques applied in the form of glazes as if they were fabrics in figures. Later I added strings to hold these canvases together, which are nothing more than sewing thread retouched with very diluted acrylic paint.





GO FIGURE

The crew of my Churchill is made up of three figures. One, the driver, is barely visible and consists of a Hobby Fan head with a generic torso from the spares box. The tank Commander is an excellent resin figure from Ultracast (ref. 35048). This Canadian brand has a very interesting catalogue of British and Commonwealth tankmen figures. The other crewman is a discontinued white metal Hornet reference (ref. BH7); a pity that this range of magnificent figures is no longer in production. In all cases, the figures were painted with Vallejo acrylics, according to the zenithal light concept and applying light and shadows in the form of glazes.





FEO,
FUERTE Y
FORMAL





CHEMICAL ALLEY

IAN BARRACLOUGH CREATES A UNIQUE CHEMICAL DECONTAMINATION UNIT
BASED ON THE GAZ 66 LIGHT TRUCK



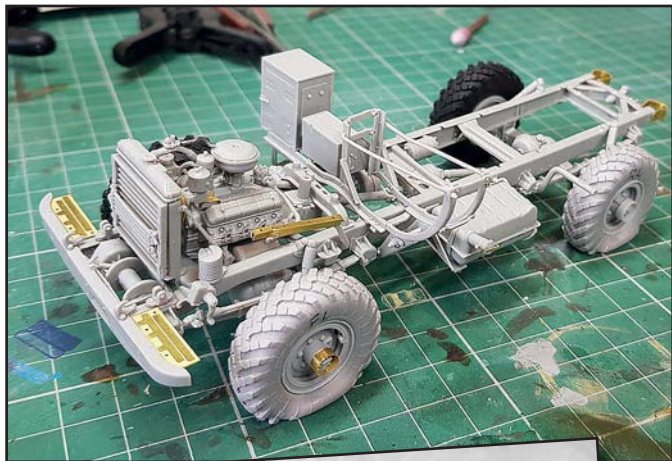
Many (many) years ago, when I first started to make models seriously, I had a real interest in Middle Eastern armour and equipment; especially the discarded detritus of the Iraqi forces following the first Gulf War. The problem, however, was that there was not a lot of information out there. I snapped up a second-hand copy of 'A Visit to the Zoo: Iraqi Tanks and AFVs' (A.J. Daverede) when I saw it at a show in the early noughties, as I think this was the only reference of captured vehicles and AFVs at this time. More recently I found an old hard drive of mine with an 'Iraq AFV' folder containing a paltry 15, mostly blurred images, of Iraqi and Middle Eastern equipment.

POWER-SHOWER

I suppose more recently the trend towards heavy weathering has drawn modellers towards this era and area, so much so that the abundance of kits, books and reference material is now nearly overwhelming – just looking across at my bookshelf I can count no fewer than 14 books on Middle Eastern Armour and conflicts. At a show last year, I picked up a copy of 'The Iran Iraq Wars, 1980-88 and Beyond' (Zachary Sex). The whole series of these AK Interactive books (this is volume 4) contain fantastic reference material, mainly consisting of photo images followed by a larger colour profile. Flipping through the pages after the show, I came across an image of the Gaz 66 DDA Decontamination Vehicle and, as they say, the seed was sown.

A lot of research ensued revealing that firstly, that this was the 'middle' production variant of this type of decontamination equipment; this first being based on the GAZ 63 truck; and the latest having a more enclosed and slightly redesigned decontamination equipment. Secondly – there is not much information out there on this machine! Internet searches using the Cyrillic text dug up a few more images and I soon realised that the decontamination equipment and shower pods were shared between the Gaz 66 and Gaz 63 variants. Luckily, I had found an excellent walkaround of a Gaz 63 DDA on a Russian vehicle sales site, so I used these images extensively in the build. I suppose before I start detailing the build it'll be a good idea to mention what this equipment does and a little bit about how it works. The basic premise is that personnel who have been

subjected to a chemical or biological attack can be quickly showered with decontaminant, entering the shower pod on one side (dirty) and leaving on the other side (clean). Decontaminant depending on the type of attack, is mixed with water, then passed through heating tubes (over a stove type fire) before being pumped into numerous shower heads inside the two pods. What this does result in is a plethora of tubes, pipes and stopcocks that are more akin to a U-Boat dive station than a truck! I started off with the Trumpeter GAZ 66 Light Truck. This is the 'vanilla' version of this utility truck and I suppose any of their GAZ 66's could be used. I shied away from the Eastern Express GAZ 66 kit as I have built this in the past and it is now very definitely showing its age. The build starts with the engine parts, which are nicely detailed but ultimately, I would not be showing the engine. If you wanted to show the cab tilted you'd have to rework the plate for the gearstick, as on the kit it's moulded into the cab floor – in reality it's mounted on top of the gearbox and the cab lowers onto it. The chassis, suspension and spare wheel frame were built as per the kit instructions, although I replaced the wheels and tyres on the left hand side with the Miniarm flat tyres, wanting to depict a bit of battle damage later on. In a break from my usual, build everything then paint it – I sprayed the chassis and engine Tamiya Flat Black, followed by a clouding of Tamiya NATO Black. Once dried I gave the entire ensemble a thick wash of Lifecolor Dark Dust.



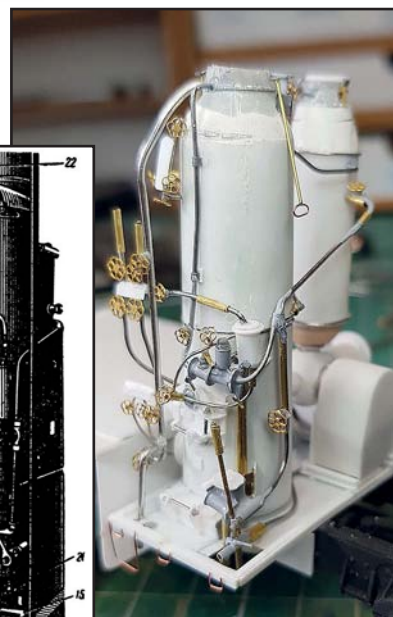
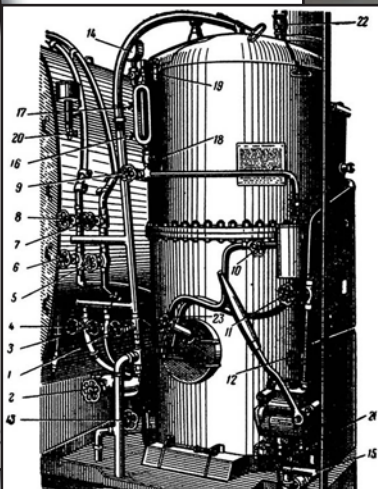
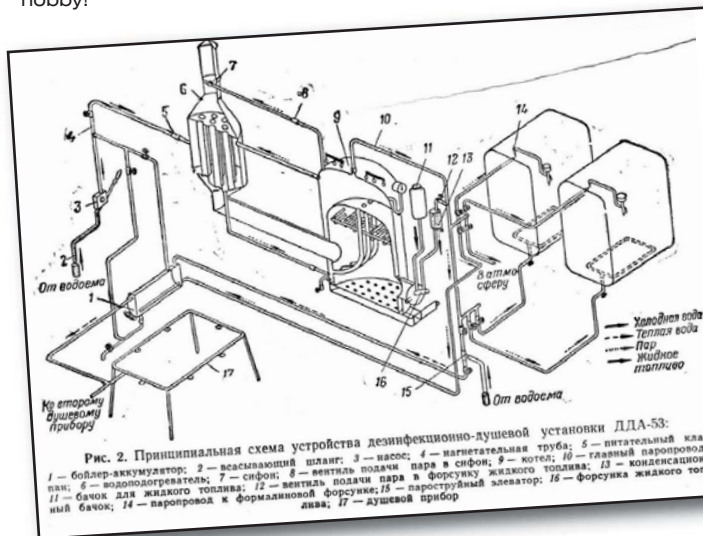


Moving on to the cab, I thinned out a few areas inside the left-hand door until light could be seen through the remaining plastic. I then used an airbrush reaming pin to punch small holes from the outside, creating 'bullet holes' in the door. I also removed the clear plastic 'glass' from the left-hand door and made up a shattered window in keeping with the bullet holes on the door. To create the shattered glass, I spread PVA glue onto a flat smooth surface (I used food cling film). Whilst still wet, liberally sprinkle Deluxe Material Icy Sparkle powder over the top, shake off and leave to dry. Once dry the 'shattered glass' can be peeked from the smooth surface and cut or torn to size. I painted the cab interior a faded Russian green before adding some 'lived in' accessories such as a Tropicana juice carton on the dashboard, a map, and some bunting in the front windscreen. I masked off the windows with Humbrol Maskol and put the cab aside.

Starting on the rear decontamination equipment I built up the load bed from plastic stock and card, ensuring that the platform for the two pods was raised above the rear wheels – this meant the addition of a second raised chassis beam and flatbed onto which the pods mounted. The lower bed which holds the decontamination tank and heater fits between the spare wheel frame/shower pods and mounts directly onto the GAZ 66 chassis. I initially tried to make a master of a half of one of the pods (images show two halves welded together to make one pod) but this proved to be problematic on such a large resin casting. I then turned to my good friend Tim Perry, an expert with a 3D printer. After the exchange of a few images and measurements I had 3D generated images of just what I wanted. Tim printed me up 5 pods, each of which consisted of the pod body and the pod front - complete with locking clasps and opening handle. This really is the future of our hobby!



So, with the 'easy' part done I moved onto that 'spaghetti' of pipework and cables for the tank and heater.

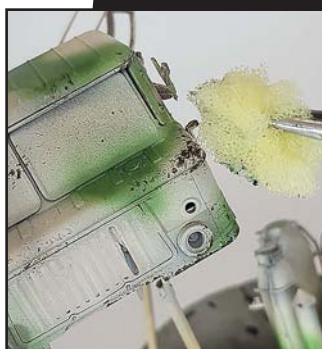
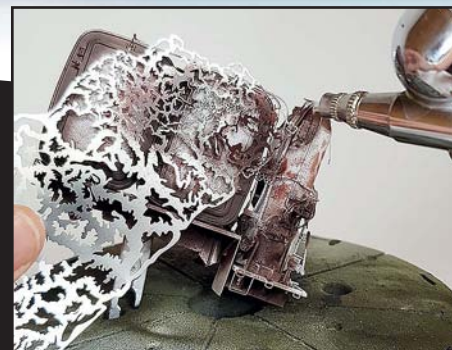
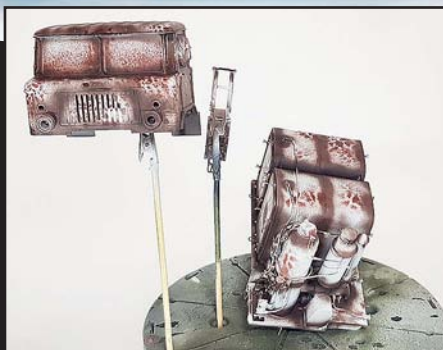


BELLS AND WHISTLES

On to the lower load bed, I added what I assume to be a power take off, again from plastic stock. I am since lead to believe that the whole contraption is hand pumped so this may not be entirely correct – but again reference material is very limited. I created the decontaminant tank, heater tank and chimney device from plastic tube before gluing them to the load bed, ensuring that their heights in comparison to each other remain constant with what I could see from my reference material. In front of the heater tank sits what looks to be various filters, a hand pump, and numerous valves. Working from zoomed-in images on my PC I added the various components built from plastic stock and parts from the spares box. Again, using my PC, I traced the routes of the pipework and added this from different thicknesses of solder cable and brass tube. I added the body parts for the numerous stopcocks from Meng plastic bolts, before adding etched brass handwheels to finish them off.



COLOURING-IN



Before starting the paint process, I always give my models a bath in some soapy water. This is not so much required on an 'out of the box' build, but with scratchbuilt parts there's always plastic particles and dust that gets washed off. The cab, chassis and equipment were first primed with Vallejo Light Grey primer followed by a second primer coat of Vallejo White on the upper surfaces. I then airbrushed Tamiya Flat Brown onto the panel lines and crevices; and again, using flat brown used an 'Inside the Armour' mottling stencil to apply a mottled effect all over the model. Over this I used Vallejo Pale Sand to build up the base sand colour, leaving some of the darker browns underneath to show through. Over the top of the initial sand colour I airbrushed a wavy pattern of Vallejo Cam. Light Green - I've since been informed that the pattern on the Iraqi DDA's was very specific, so this pattern may not be 100% accurate. I used various browns and greens, applied with a sponge to add chipping effects before 'blocking-in' the handle and detail colours with a paint brush. At this stage I consider the model to be reasonably 'factory fresh', but in the Middle East they seldom stay this way! After a quick coat of Future Klear to seal everything in, I mixed up

some brown/sepia oil paint into a wash and applied it as a pin-wash around detail and into panel lines. Any overspill can be easily wiped off with a cotton bud soaked in thinner. This gets and detail popping out and at this stage I really feel the model coming to life. A second sealing coat, this time with an acrylic matt varnish gets us ready for some fading effects. There were added with Naples Yellow oil paint, applied in very small dots, before using clean thinners to dilute and fade the effect into the sand and green paint. This technique was repeated, although this time streaking downwards to get rain marks. I finished off by using AK Interactive Weathering Pencils to add a bit of rust, particularly around the areas of high use, such as the pods and around the cab doors - water can be used to both thin and streak these pencils. I glued the top and bottom halves of the model together and airbrushed Lifecolor Dark Dust to the lower portions, bringing the weathering on both halves together. I added some spilled fuel and leaking hubcap effects using Vallejo Oil Stains and rubbed the wheels with some black pigment powder - and called it a day on the DDA.

REIGN OF HUSSEIN

I built up a small base using a cheap box frame; building up the groundwork from wall filler, PVA glue and scatter from my scenery drawer – I generally collect sands and soils whenever I go on walks so always take small takeaway pots with me! The Saddam mural wall is a resin item from MDMB Modelbouw – I reprinted the image onto correctly sized photo paper and then cut out all the tiles using a metal ruler and scalpel blade. I added some damage by 'flicking' out various tiles and added grouting using plastic putty and a toothpick. Around the base I scattered paper documents scaled to A4 in 1/35 that I found on the internet and printed myself. I created folders from plastic card and thin wire loops. Often the initial troops are more interested in clearing the area of weapons, so documentation does not hold much interest at this stage.





Trumpeter 1/35 Russian GAZ 66 Light Truck 01016
 Miniarm 1/35 Flat tyre for Soviet Truck Gaz-66 (2pcs) B35122
 MDMB Modelbouw 1/35 Saddam Hussein 202001
 Bespoke 3D Printed parts from www.flyingstartmodels.com



I know every modeller says that he/she is happy at the end of a build, but this was a real delight for me to build, especially at a time of (world) uncertainty and general strangeness. Not a 100% scratchbuild, but enough to be what I think is a one-of-a-kind, unique model. 3D printing has really piqued my interest and I don't think it will be long before my modelling space welcomes a 3D printer!

MODEL COLOR

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MEXAS NEXUS



MEXAS became a word synonymous with Canadian Leopard tanks during the war in Afghanistan when Leopard C2s up-armoured on the hull and turret with MEXAS began combat operations in late 2006. MEXAS (Modular Expandable Armour System) was developed by the German company IBD Deisenroth Engineering. This composite armour system was first introduced in 1994 and has been applied on tens of thousands of combat vehicles worldwide to provide varied levels of armour protection (light, medium, and heavy).

The legacy of operational MEXAS with Canadian Leopards travels back to 1999 when five Leopard C1s fitted with MEXAS deployed to Kosovo as part of the NATO-led Kosovo Force (KFOR). In 1996, two Leopard C1s fitted with MEXAS mounts deployed to Bosnia with IFOR to provide a heavy armoured mine clearing capability to Canadian troops but were rotated back to Canada after approximately one year. Moving further back Canadian Leopard C1s began receiving welded on mounts on the hull and turret for attaching MEXAS modules in the late 1990s. Most Leopard C1s only received the hull MEXAS mounts but some did receive the turret mounts as well.

To look at the origin of MEXAS on Canadian Leopards we reach our final destination in 1995-1996 when MEXAS was fitted for crew trials on two Canadian based Leopard C1s. The Leopard C1s belonged to B Squadron, Royal Canadian Dragoons based in Petawawa, Ontario. The Leopards were first prepped for the MEXAS by welding on turret and hull mounts. The fresh MEXAS in yellow primer paint was mounted on the two Leopards. To finish of the new look both Leopard C1s had the MEXAS modules repainted in three colour NATO camouflage providing a very unique look to the tanks while conducting crew trials.



Jason Bobrowich
builds a NATO camouflaged
Canadian Leopard C1 MEXAS

Managing MEXAS

The release of the Hobby Boss "Leopard C1A1 (Canadian MBT)" kit provides modellers who are keen on modern Canadian vehicles a new option for a Canadian heavy cat. The kit's C1A1 designation was never officially used in real life and was in fact created by modellers years ago when referring to the KFOR Leopard C1s. This botched tank designation raised eyebrows and red flags for many Canadian modellers believing that Hobby Boss should have gotten the kit correct after the success of their Canadian Leopard 2A4M CAN kit. But what's in a name, it's the kit contents that matters, correct? The Hobby Boss kit builds into the KFOR deployed version. This new kit has inherited traits from the Hobby Boss Leopard C2 MEXAS kit as there are common hull parts. Overall the kit has a good level of detail and during my build I identified areas to improve to enhance the final result.

An important point about this kit is that it cannot be built into a standard Leopard C1. The kit is lacking all of the hull side pioneer tools, glacis plate grouser racks, standard side skirts, and no turret loading port is present to create a non-MEXAS Leopard C1. Hobby Boss may release a standard Leopard C1 in the future using existing parts with the additional details added.

Trial Tank

My build targeted one of the Leopard C1 MEXAS tanks used for crew trials between 1995 - 1996. The application of overall NATO camouflage really stood out on these Leopards. I had previously built a KFOR Leopard C1 MEXAS (featured in Meng AFV Modeller Issue 35) so I wanted to change it up.

References for the two Leopard C1 MEXAS tanks used for crew trials is very limited but I was fortunate to work with the crew commander of one of the Leopards when we were posted at the same base in 1996. I was able to get the best possible reference details in the form of first hand information.

The trial Leopard C1s did not differ widely from the Leopard C1s deployed to Kosovo which made it easier to build the kit and make minor adjustments.

Handling The Hull

The hull build was straight forward and as stated the hull components in the kit were adopted from the existing Hobby Boss Leopard C2 MEXAS kit. The MEXAS for the hull of the C1 and C2 is the same as the C1 hulls were retained to create the C2 with the modified Leopard 1A5 turrets.

The tow cables in the kit needed to be changed as they are too short. The kit provides copper braided cables but they can only attach to the same side towing shackles. When the Leopard hulls received the MEXAS mounts the tow cable mounts were moved rearward along the hull. This resulted in the cables being crisscrossed at the hull rear to attach to opposite side pintles. I used Eureka XXL 1:35 Leopard 1/2 tow cables to replace the short kit cables. To add further details I added the Leopard Workshop 1:35 Leopard 1 and 2 tow eyes and T-hooks to secure the tow cables.

The kit lacks a variety of visible weld seams on the hull rear and front. To create the weld seams I used thin lengths of heat stretched sprue. Using liquid cement I placed the sprue and then carefully applied light coats of liquid cement. This softened the sprue to a point where I could then use a hobby blade to manipulate the soft sprue into realistic weld seams.

The rear hull was further detailed using the photo etched mud flaps provided in the Legend Productions Leopard C1 (Late Type) conversion set to replace the solid moulded kit mud flaps. Small photo etch chains were also added to the towing pintle and the gun crutch to add additional details. A small photo etch padlock was added to the driver's tool box as a final touch.

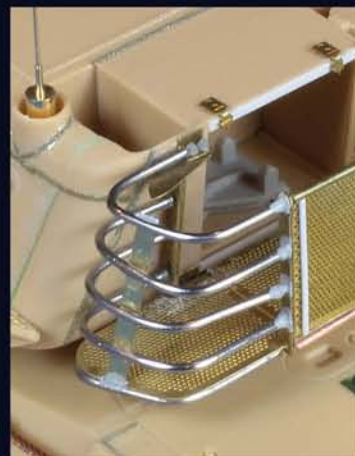


The kit comes with a full power pack that is designed to be placed in the hull. There is no ability to have the back deck removed from the kit without cutting it out so the power pack will be completely invisible if it is used.



I chose not to use it and sealed up the back deck with the kit provided engine air intake fan piece and the two piece photo etch grills provided in the kit.

On the exhaust grills I added photo etch chains to the tow cable bracket and three small downward curved hooks that I have noticed missing from all Leopard 1 kits ever produced.



Along the mid-hull the metal mesh grills covering the air filter intakes are completely void. Hobby Boss didn't include this detail perhaps because the turret MEXAS overhangs this portion of the hull. I dug into a spare Eduard Leopard 1 photo etch set and added the missing details.

The hull front only needed minor details including a small cable running from the right side of the driver's periscope cover down into a gap in the hull MEXAS. This is the power cable for the driver's periscope wipers. For the periscopes I added the driver's periscope washers and some minor missing bolt details. The horn on the right side of the glacis plate received a small wire power cable. I purposely left off the glacis plate tow pintles as the Leopard I was modelling had them removed. The headlights were left off for painting and the addition of lenses during finishing.

The suspension was straight forward to assemble once I identified the parts that needed to stay and go. Unlike the Leopard C1s deployed to Kosovo and the Leopard C2s deployed to Afghanistan the MEXAS trial Leopard C1s did not have their idler wheels changed to the smaller diameter version. On the Leopard C1 I was modelling the original round spring dampers were all changed out for the squared off hydraulic dampers. I used the Leopard Workshop 1/35 Leopard 1 'Export' suspension set resin hydraulic dampers instead of the kit spring dampers. With the MEXAS and road wheels attached the dampers are barely visible, but I know they are there and accurate. I decided to not use the kit individual link tracks as the end connectors are attached to the track link which would result in a sloppy fit around the drive sprockets. I opted for a set of the Orochi Leopard 1 tracks found in the Takom Leopard 1A5/C2 kit. The Orochi tracks are great with the individual parts resulting in a high degree of accuracy for wrapping around

the drive sprockets and idler wheels. As the MEXAS would be covering the entire upper run of the tracks I only need to assemble track links to wrap around the sprocket and idlers.

Turning The Turret

The turret of the Leopard C1 MEXAS is an impressive structure. The strong angles of the MEXAS provide a menacing look to the Leopard. The turret construction was broken down into five components; the main turret, the left side MEXAS, the right side MEXAS, the mantlet, and the turret basket. I quickly identified two areas on the turret that needed to be modified. The first being the gunner's primary sight as the kit provides the armoured sight cover in the closed position. I wanted the cover open so I cut off the moulded cover, cleaned up the opening, and used a spare armoured cover from an Italeri Leopard 1A4 kit. This provided a realistic operational look to the Leopard. The second modification was at the turret rear. When the turret basket was added to the Leopard C1s in the late 1990s as part of the MEXAS upgrades it was identified that the hatch securing the storage area for the PZB 200 and IRS 100 night fighting equipment could not be opened properly. The solution was to simply remove the hatch leaving an exposed storage area. Hobby Boss did not provide this feature in their kit but luckily Legend Productions did include the modification in their Leopard C1 (Late Type) conversion. This set provides a multitude of Leopard C1 details that are applicable to a MEXAS version and great aid in adding detail to the build.



The turret side MEXAS modules are simple to assemble and the level of bolt detail is very good. The Leopard C1 I was modelling had stowage bins mounted on both side of the forward MEXAS modules and fortunately duplicates are included in the kit. When the MEXAS modules were added to the Leopards the multi-barrel 76mm Wegmann grenade dischargers were removed from the turret sides and remounted on the MEXAS modules. The kit grenade dischargers were soft on detail so I replaced them with the Leopard Workshop 1:35 Leopard 1 and 2 Smoke Launchers (2-bolt) which are correct for Canadian Leopards. The photo etch cap retaining chains included in the set are a great added detail. On the visible portions of the turret sides I added missing weld seams and replaced oversized solid moulded tie down loops with fine brass wire.

The turret top received additional detailing with a Legends Productions C6 GPMG with mount and the wind sensor. I decided early on to have the turret hatches closed. The primary reason is that Hobby Boss failed to provide the ability to position the loader's hatch properly open. The hatch spring mechanism provided in the kit is moulded in the closed position with no part option for the spring assembly when the hatch is open. Additionally, in the closed position the hatch is completely void of the mount that the spring assembly attaches to. I scratch built the mount to provide an accurate feature.

Through the mid-1980s to the late 1990s the Leopard C1s could be seen with standard two piece long antennas or a single piece short antennas. The trial Leopard C1s used the short antennas. When I was commanding Leopard C1s I loved the short antennas as they reduced the profile of the tank and the short antenna rarely would snag on tree branches or camouflage netting. Leopard Workshop produces 1/35 Canadian Leopard C1 Short Antennae which fit perfectly in the kit antenna housings and look superb.

Jumping to the business end of the turret we again see a two piece barrel provided in a present day kit. For most tanks a two piece barrel is an inconvenience due to dealing with filling and sanding seam lines. On a Leopard 1 kit, two piece barrel seams lines run through multiple sections of barrel jacket, barrel ring clamps, the fume extractor, and the muzzle. To mount a better

barrel I turned to the Leopard Workshop 1/35 Leopard 1L7 Gun Barrel, Australian/Canadian with Thermal Sleeve. The seven resin pieces and metal turned barrel accurately represents a barrel on a Leopard C1. I drilled out the kit barrel mount on the mantlet slightly to attach the replacement barrel.

The mantlet was a straightforward build with only the addition of missing bolts on the bottom of the mantlet required. The canvas mantlet cover is designed to overlap the rear edge of the mantlet to eliminate dust, dirt, and debris from entering the gun trunnion area. The kit has the mantlet cover sitting rearward of the mantlet which then exposes the mantlet. I modified the mantlet cover with stretched sprue so that it would sit in the proper position.

A very noticeable detail on the mantlet is the large tubular protective cage for the PZB 200 Night Fighting Camera System and the IRS 100 Thermal Pointer. These component are included in the kit but the details are a bit soft and the protective cage is moulded with squared off supports instead of tubular supports. The PZB 200 and IRS 100 from the Legend Productions Leopard C1 (Late Type) conversion set were used to replace the kit parts. I added the dual electrical cables required for the components and ran the cable to the receptacle on the turret roof.

The turret basket is a very visible feature of the late Leopard C1s and the Leopard C1s with MEXAS. The turret basket in the kit is unique as it is a single moulded piece with the frame and rails. The floor plate is included as a separate part and photo etch parts are included for the mesh. The issues with the kit parts are accuracy based starting with the rails. Hobby Boss provided the rails on the outside as tubular but cut corners and squared them off on the inside. As well, the floor plate should be perforated rather than the solid part in the kit. The rear rails have mounts for the jerry cans moulded on so there is no option other than sanding them off to use aftermarket parts. As I wanted to show an open empty turret basket I focused on the turret basket parts included in the Leopard C1 (Late Type) conversion set. This is not an instant assembly process. Pre-planning, measuring, and the effective use of the template in the instructions to sequentially assemble the photo etch and wire required to build and attach the turret basket is required. I used CA glue extensively for the turret basket assembly but fine soldering would definitely be an option for some modellers.





Cat Colours

I primed the Leopard with Tamiya Neutral Grey XF-53 to check all the details before the base coat was applied. A base coat of Tamiya NATO Green XF-67 was applied to the entire build. The trial Leopard C1 I was building created some unique challenges with the rest of the base painting. The real trial Leopard C1 was painted in the NATO three colour camouflage and it had faded, worn, and weathered after several years of use during training. When the MEXAS was attached the modules were a dull yellow primer colour. A decision was made to paint the MEXAS in the NATO three colour camouflage to match the rest of the tank. The pattern of the original camouflage was not exactly followed and the freshly painted MEXAS stood out from the faded paint on the Leopard C1.

I painted the NATO camouflage on the exposed parts of the Leopard with Tamiya NATO Brown XF-68 and Tamiya NATO Black XF-69 using the standard pattern. Once that was done I applied lightened coats of the NATO Green, Brown, and Black to achieve a faded look. To achieve the contrast on the MEXAS modules I masked off the faded areas and mapped out the fresh NATO camouflage on the MEXAS. I darkened the Tamiya NATO Black XF-69 with a touch of Tamiya Flat Black X-1 as my reference photos showed a contrast on the Leopard. The result when the base coating was complete was a contrasting faded and fresh look to the camouflage.

As I was completing the painting and reviewing reference images I noticed a detail on the turret that I had originally missed. On the left front of the turret the MEXAS has a channel leading to the

armoured searchlight cover. On the trial Leopard C1 MEXAS I was building the channel was actually filled in with a fillet shaped small MEXAS module. Using my Mk. 1 eyeball and a single image I created the MEXAS module using sheet styrene. A coat of NATO Green XF-67 provided the final touch and it was dropped in place. In reviewing images of KFOR Leopard C1 MEXAS tanks I have discovered that at least one Leopard C1 in Kosovo was fitted with the same small MEXAS fillet in the gap. It appears at some point the MEXAS module was removed during the KFOR deployment. Markings on this Leopard C1 consisted of the traditional black maple leaf on both sides of the turret MEXAS and call signs on both turret mounted bins. The kit provides black maple leaves but they were oversized compared to reference images of the real tank. A set of black maple leaves from an Echelon Fine Details' Canadian Leopard C2 MEXAS decal set were a perfect fit. The '24B' call sign was a custom made ALPS printed decal created by Canadian modeller Peter Hickey based on reference images I had provided. The decals are an exact match for the call sign on the real Leopard C1. On the turret basket of '24B' a large call sign was temporarily attached for the trials. A board was created with styrene, painted with Tamiya NATO Green XF-67, and brass stencils were used to airbrush the '24B'. For interest sake, the call sign on the other trial Leopard C1 MEXAS was '23'.

The road wheels were painted with various shades of Tamiya NATO Green XF-67 that was out of the bottle, darkened, and lightened to show several variations of new, faded, and worn road wheels. The effect was spot on for what was seen on Canadian Leopards.



Kitty Litter

Before I took on the weathering of the hull and turret I painted and weathered the tracks to prepare them for mounting. The Orochi tracks were base coated with Vallejo Black Surface Primer. Light coats of Tamiya NATO Black XF-69 were added to the base coat. I used Windsor & Newton Raw Umber and Raw Sienna oil paint washes to add both depth and surface rust to the track sections.



After several applications of broad and pin washes the tracks began to show the contrast between metal and rubber components. I used Rub 'n Buff Silver Leaf Wax Metallic Finish on the centre guides, sprocket teeth, and the outer edges of random road wheels to show fresh wear. The tracks, as well as the spare track sections on the hull rear, were topped off with some light applications of MIG Productions Light Rust pigments. This provided a realistic worn look of surface rust. Weathering on the Leopard would be kept light to represent a tank commonly seen in garrison during the trials. Using Windsor & Newton Raw Umber pin washes I tackled the myriad of bolts, depressions, components, and details on the hull and turret. Detail painting was conducted on all the add-ons such as tow cables, sighting equipment, the C6 machine gun, antennas, canvas mantlet cover, and padlocks.



Taillights and reflectors were detailed painting with Tamiya Clear Red X-27 and Clear Orange X-26. The taillights on Leopards are split with red on the bottom half and orange on the top half. Careful painting created the proper coloured split. Light chipping on turret and hull wear areas was applied with a Derwent Graphitone HB pencil. This is an easy to use weathering option and you literally just tap the pencil tip on a surface detail and the results are tiny metallic chips and scratches. It also works very well for creating raised detail wear such as on bolts and rivets.

A very light airbrushing of diluted Tamiya Buff XF-57 was applied to the lower edges of the hull MEXAS, the hull rear, lower front hull, and lower edges of the turret to show a light build up of dust. Further dust applications were applied with MIG Gulf War Sand pigments in crevices, around bolt details, along the turret ring, road wheel inner surfaces, and any other area where dust accumulates day to day. The engine exhaust grills were given a sooty look with an application of MIG Black Smoke pigment to top

off the weathering.

Final detail finishing included the turret and hull periscopes as well as a few accessories. For the periscopes I simply could have painted them but I like to achieve a glass effect so I defaulted to a technique I have used on numerous builds. Using exposed black 35mm film negatives I carefully cut out rectangles to custom fit to each periscope and attached them with a small drop of white glue. Of note, is the Hobby Boss periscopes for the driver and turret hatches have several size variations so the custom cutting was required. The effect is a realistic black glass look. I used a couple of Accurate Armour clear resin water bottles on the turret (one is in the turret bin) to add a touch of colour. In the left turret bin is a tarp made with a piece of black latex surgical glove. The latex material is the perfect match for modern rubberized tarps. The final touch is a small folded up map tucked in at the front of the commander's hatch.



The trial Leopard C1 MEXAS tanks provided the Canadian Army with validation that a viable interim solution to bolster crew protection for deployments to conflict areas existed. The nexus of the MEXAS trials to operational use clearly materialized with the Kosovo deployment in 1999 and then seven years later when the Leopard C2s fitted with MEXAS were immersed into combat in Afghanistan. The investment to procure the MEXAS modules for the Canadian Leopard C1s and C2s was a wise decision and saved the lives of crew members.





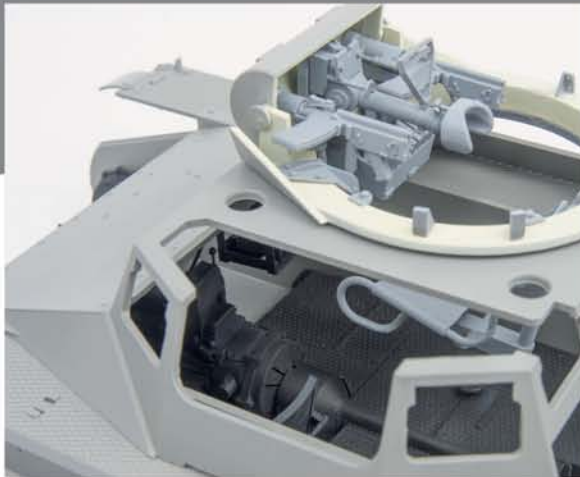
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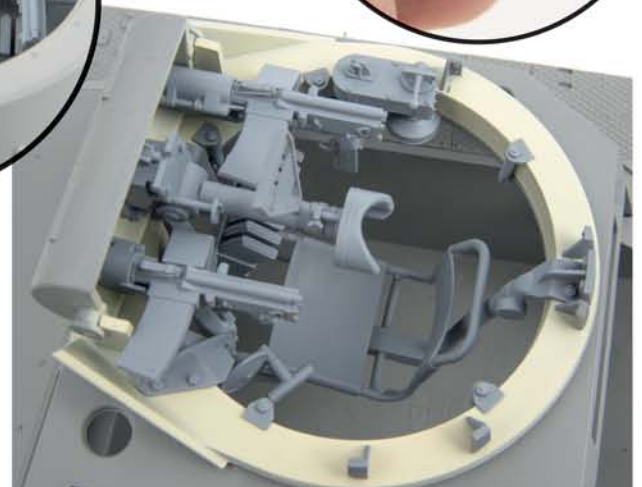
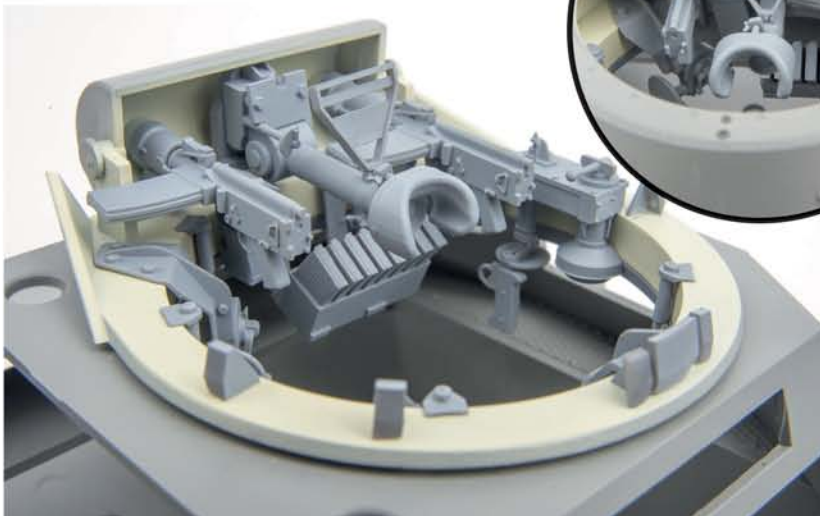
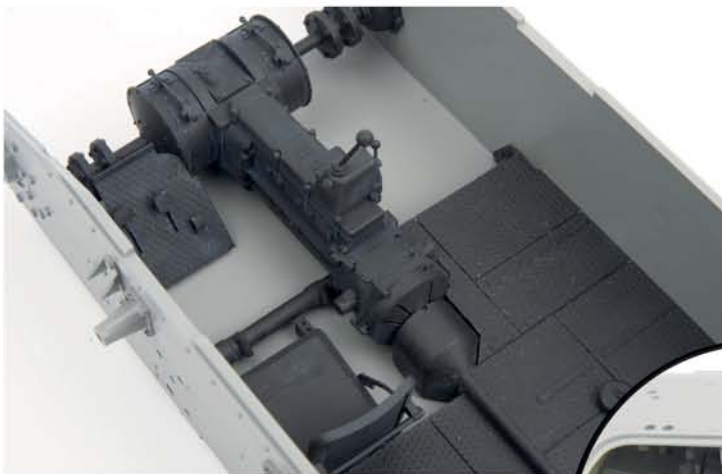


1:16 PANZER I INTERIOR SETS

DESIGNED FOR
THE TAKOM KIT

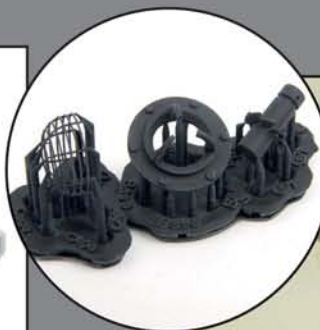
HULL INTERIOR- INCLUDES FLOOR, BULKHEAD,
DRIVER'S POSITION, TRANSMISSION AND RADIO SET

TURRET INTERIOR- INCLUDES GUN BREECHES,
COMMANDER'S SEAT AND TRAVERSE COMPONENTS





1:16 PANZER IV
BOW MG MOUNT



1:16 PANZER IV TURRET EXTRACTOR FAN



1:16 GERMAN GYROCOMPASS



1:16 PANZER IV MAIN GUN
COUNTER BALANCE



1:16 PANZER IV
SINGLE AMMO
CRATES

1:16 PANTHER
EXTRACTOR
HOSE (FLEXIBLE)



1:16 PANZER IV
STANDING AMMO
CRATES



1:16
PANZER IV
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(NOTE: WELD BEADS ADDED
WITH PUTTY AFTER ASSEMBLY)

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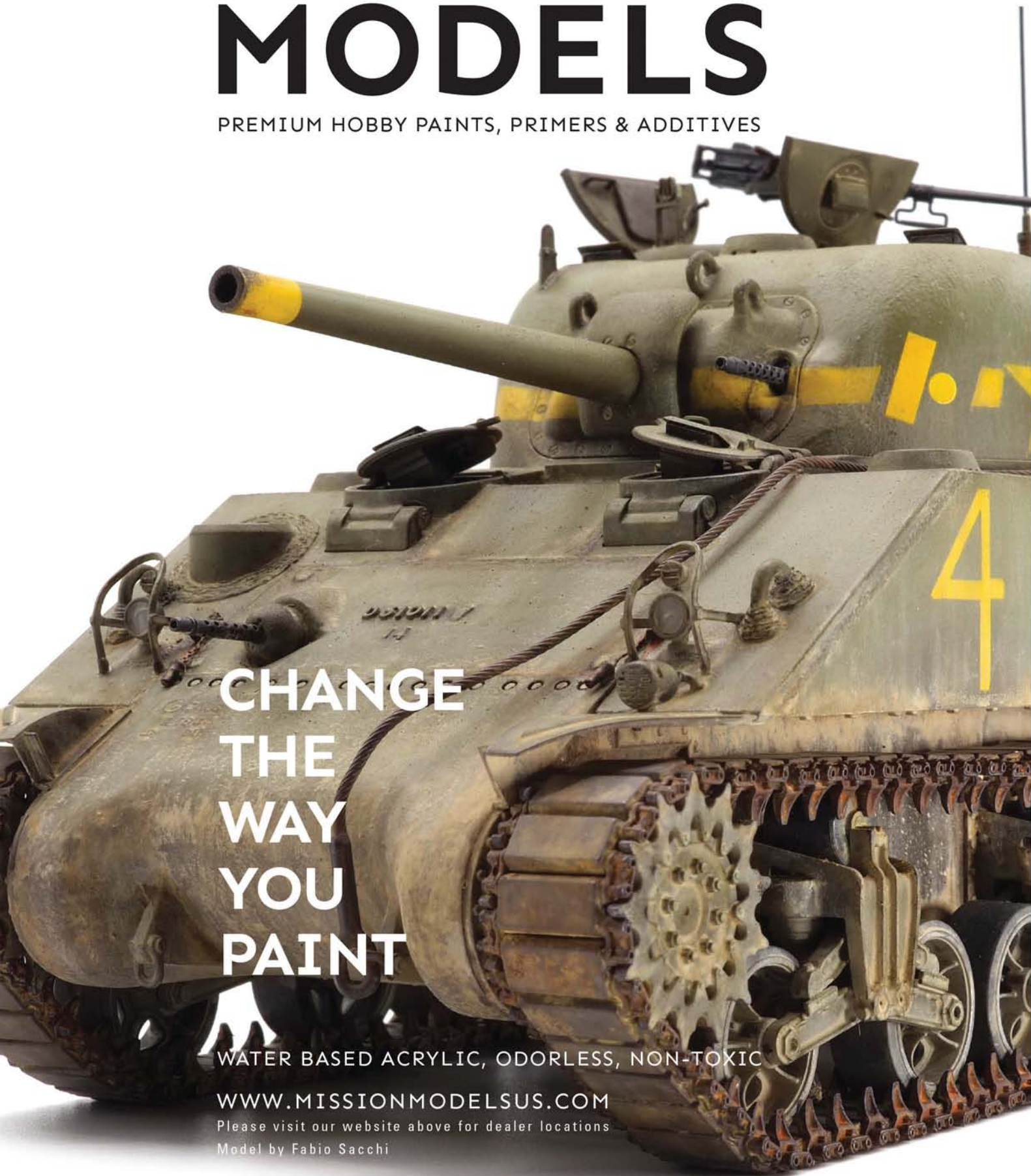
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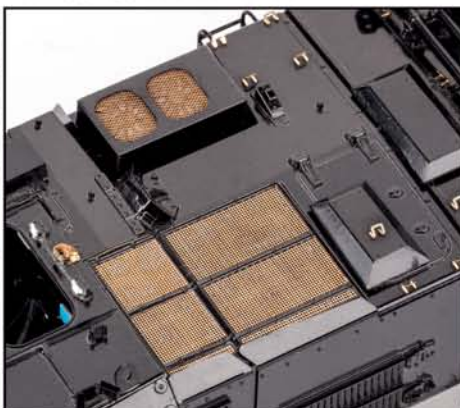
BEST BRASS AROUND

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Typhoon K

1/35 Zvezda

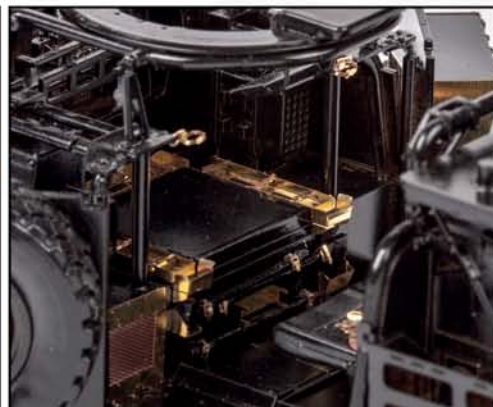
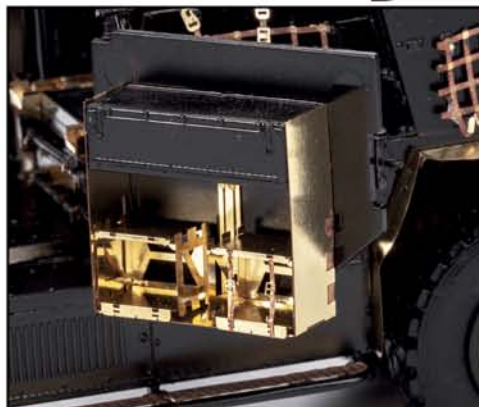
Cat. No. 36462 general set
Cat. No. 36463 seatbelts steel



Jackal 1

1/35 Hobby Boss

Cat. No. 36465 general set



T-60

1/35 Hobby Boss

Cat. No. 36464 general set



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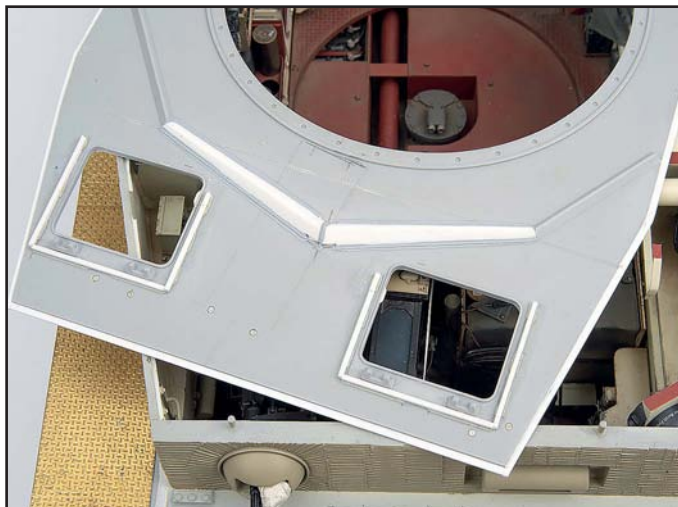
Panzerkampfwagen

David Parker builds Trumpeter's 1:16 kit

M

Part Thirty Seven

With the end of the interior now within sight I find myself a little bit lacking in direction at this stage of the build but logic dictated that the interior of the hull roof needed attention next. Its very much an unglamorous part of the project but nonetheless necessary. A key part of this is ensuring that the roof is easily detachable whilst appearing to look very much welded to the rest of the hull when in position. Internal detail on the roof is fairly minimal with some bracing and small fittings for the antenna and interior lamps but the reversal of locations caused by working upside down caught me out a few times when trying to locate parts.



Time to consider the hull roof which you may recall was cut out of the rest of the upper hull moulding to allow the interior to be viewed. I began by adding a strip of plastic around the edge of the plate to form the base of the weld.

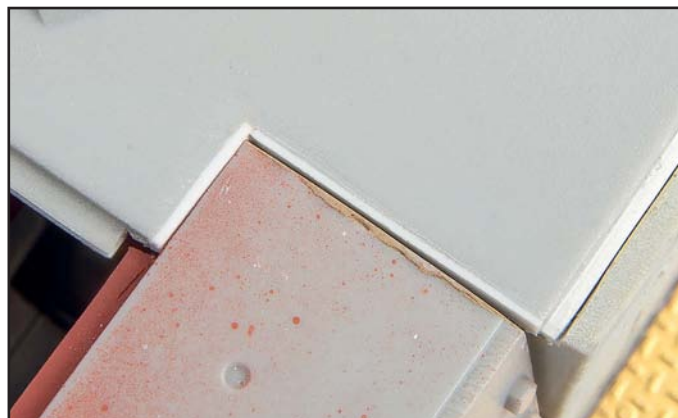
Another interesting feature of the roof is the quick-release bracket/clamp used to secure the hinges of the front hatches. Slackening the clamp with the single T handle released the pins of the hatch hinges so that the hatch could be jettisoned, something you see very frequently employed on knocked out Panzer IVs. With the roof complete I moved onto the remaining loose ends of the interior that I needed to complete because as so often happens those critical bits of research only turn up when you are not actively looking for them.



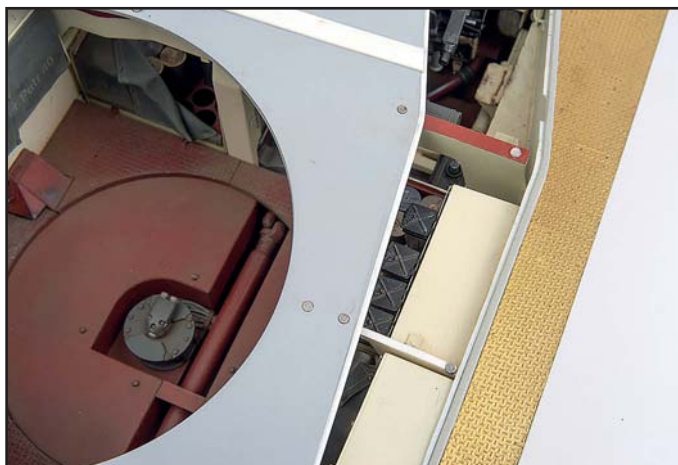
The strip was cut slightly over sized so that it could be trimmed for a good fit. The strip was also thinner than the roof plate so that the putty would have some depth.



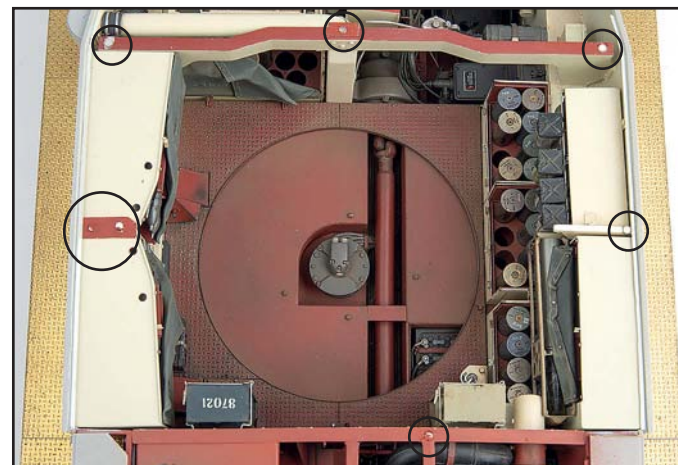
With the edge trimmed the roof now sits snugly into place in the hull.



Similarly the gaps at the rear of the roof where it intersects the engine bay was filled with plastic strip.



A necessary compromise to full realism was the strategic placement of miniature magnets to hold the roof plate in position. There are very few



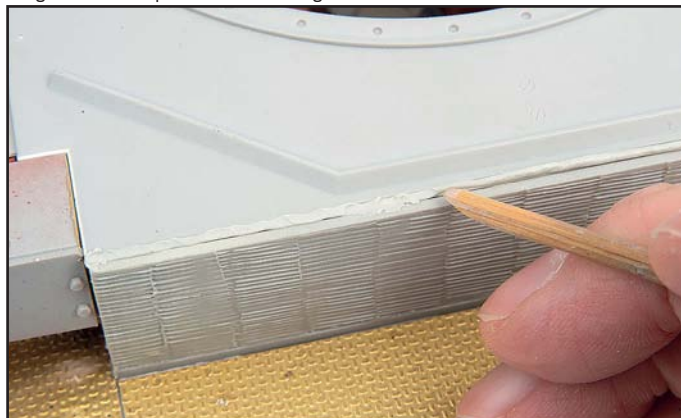
places that the magnets can be located but eventually I had enough to do the job.



Not everything went smoothly and I managed to securely glue one magnet in the roof plate so that it was repelling rather than attracting. Removing the magnet caused quite a bit of damage.



I used lip salve to treat the edges of the roof joint so that the putty would separate easily.



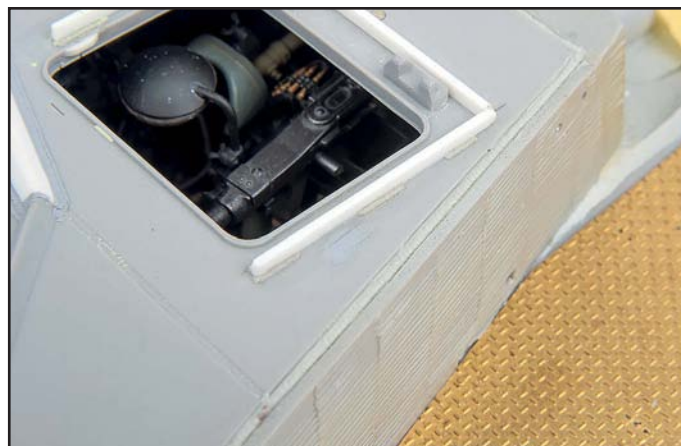
A rolled strip of Magic Sculp putty was pressed into the gap between the roof and the hull.



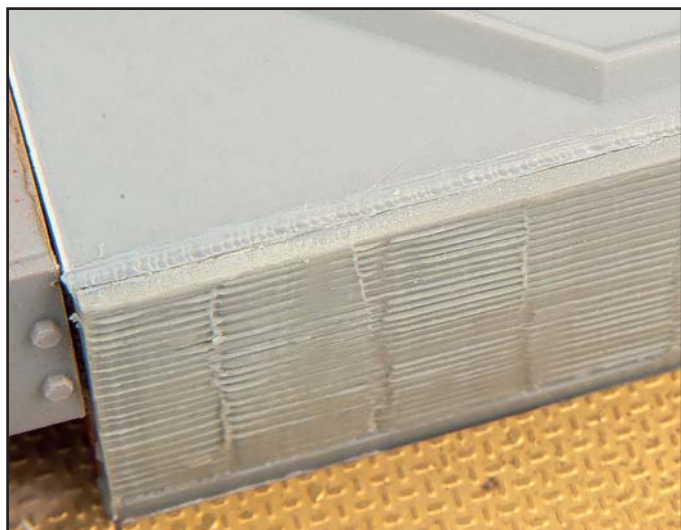
I used a home made tool made from brass rod to texture the putty around the edges of the roof. Any excess putty was cleaned off as the putty dried.



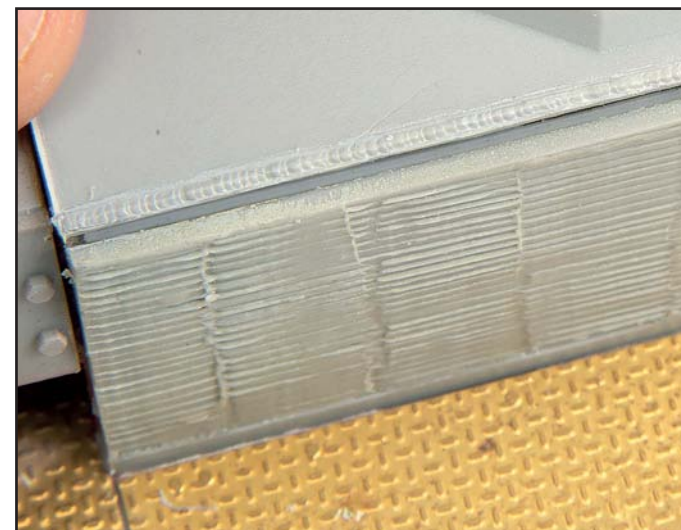
A wet brush was dragged along the weld to soften and blur the texture



The putty was then left to dry completely and once dry I painted a coat of Mr Surfacer over the welds.



The moment of truth. The roof seen here in position shows no sign of being a separate part which was the intention.



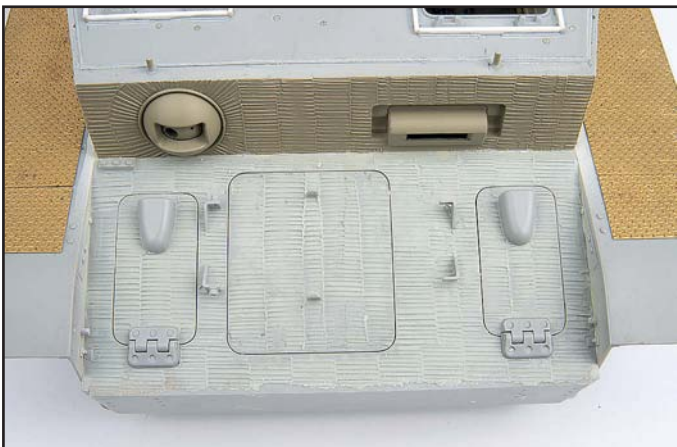
But the roof can now be popped off the hull to expose the interior with the welds forming part of the separate roof plate.



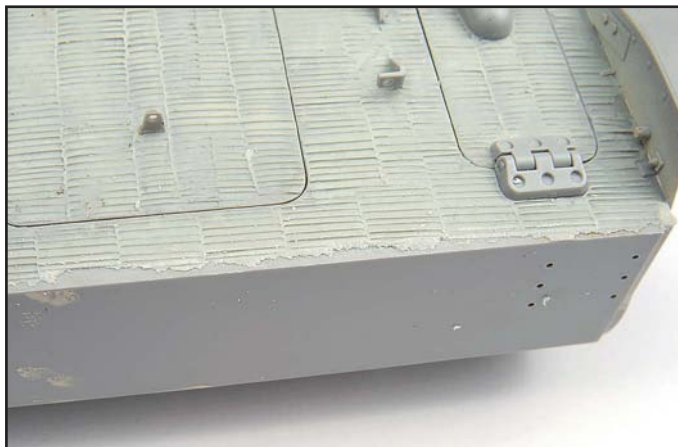
The detachable roof with its invisible joints means that the finished model will look like a complete vehicle until the roof is lifted off.



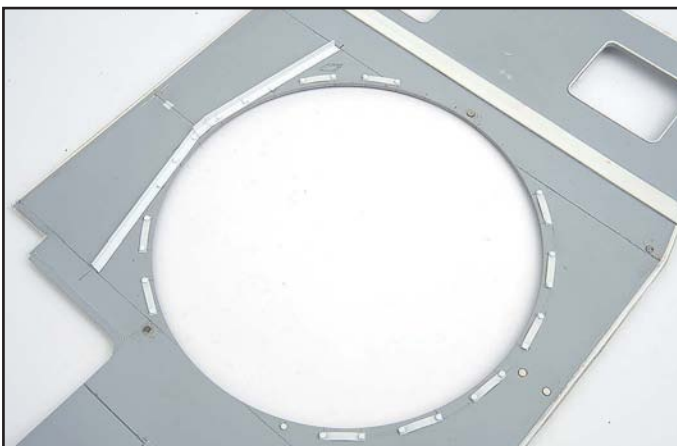
I also reworked the small weld running across the roof where the roof plate angles down. I cut a small V in the roof with the scalpel blade and used the same method of adding the weld using Magic Sculp.



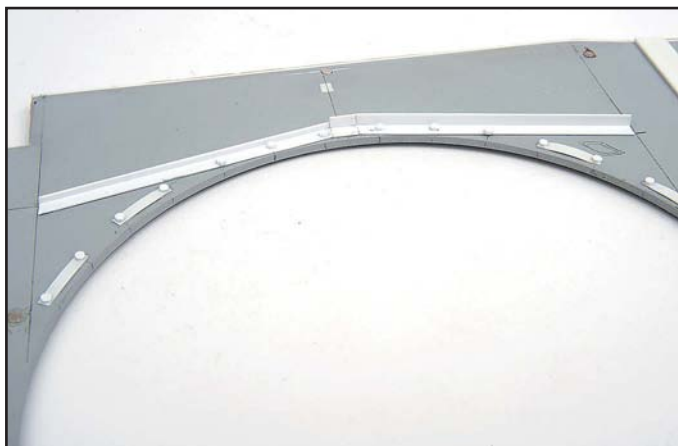
Whilst working with the Magic Sculp I went back and applied the rest of the Zimmerit to the bow, the hatches having already been treated.



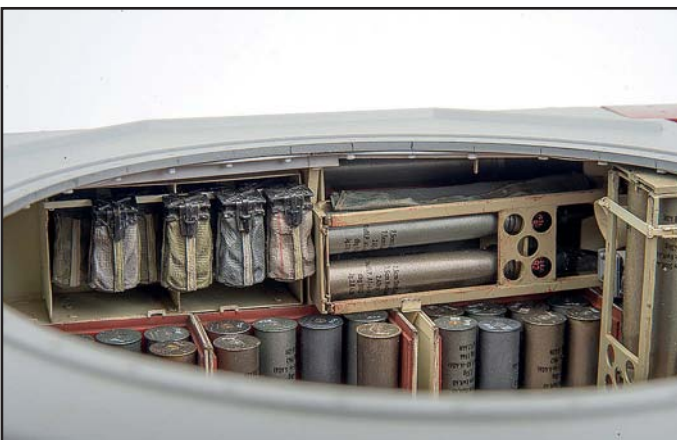
Before the putty had completely cured I created some chips and damage along the edge of the bow.



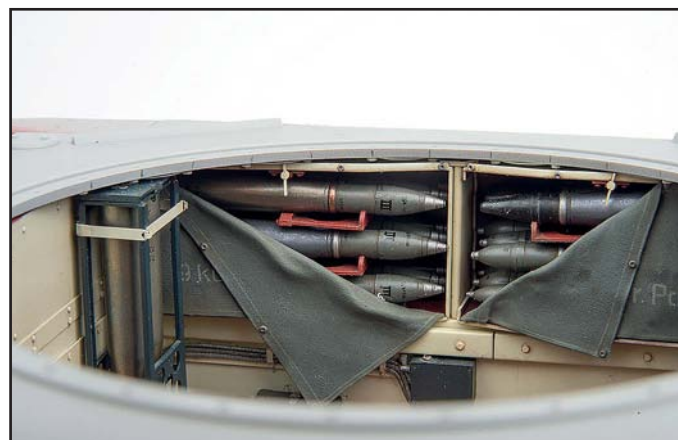
Work in the underside of the roof panel is necessary but I know it will be mostly hidden or ignored when the roof is lifted off the hull. I added the system of bolts and locking strips that secures the turret.



The support brace interestingly is not a consistent size with the rear section having a lower profile than the front. Both were made using Evergreen L section profile.



Test fitting the roof structures is absolutely critical but also almost impossible to see! If the roof still fits that is a good indication that things are working.

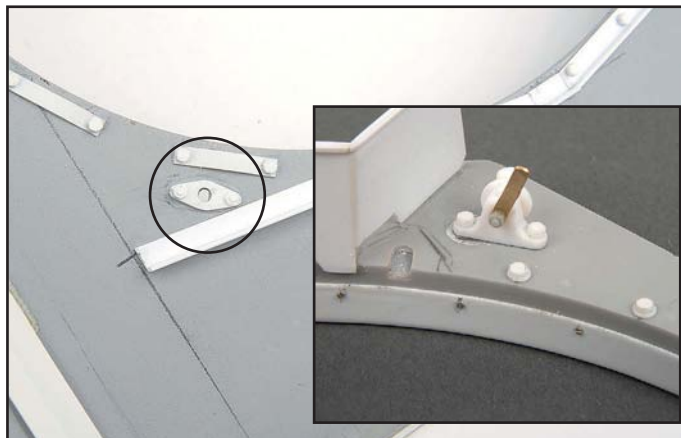




I added the pairs of welds to each side of the roof joint.



The antenna cable junction box was made from plastic card. It has a socket to plug in the connecting cable if the radio sets are not plugged in which is very useful for the removal of the roof so I added the plug on the front of the box.



The roof has two locking points to lock the turret's rotation facing either front or rear. On the underside there is a flange around the locking hole.



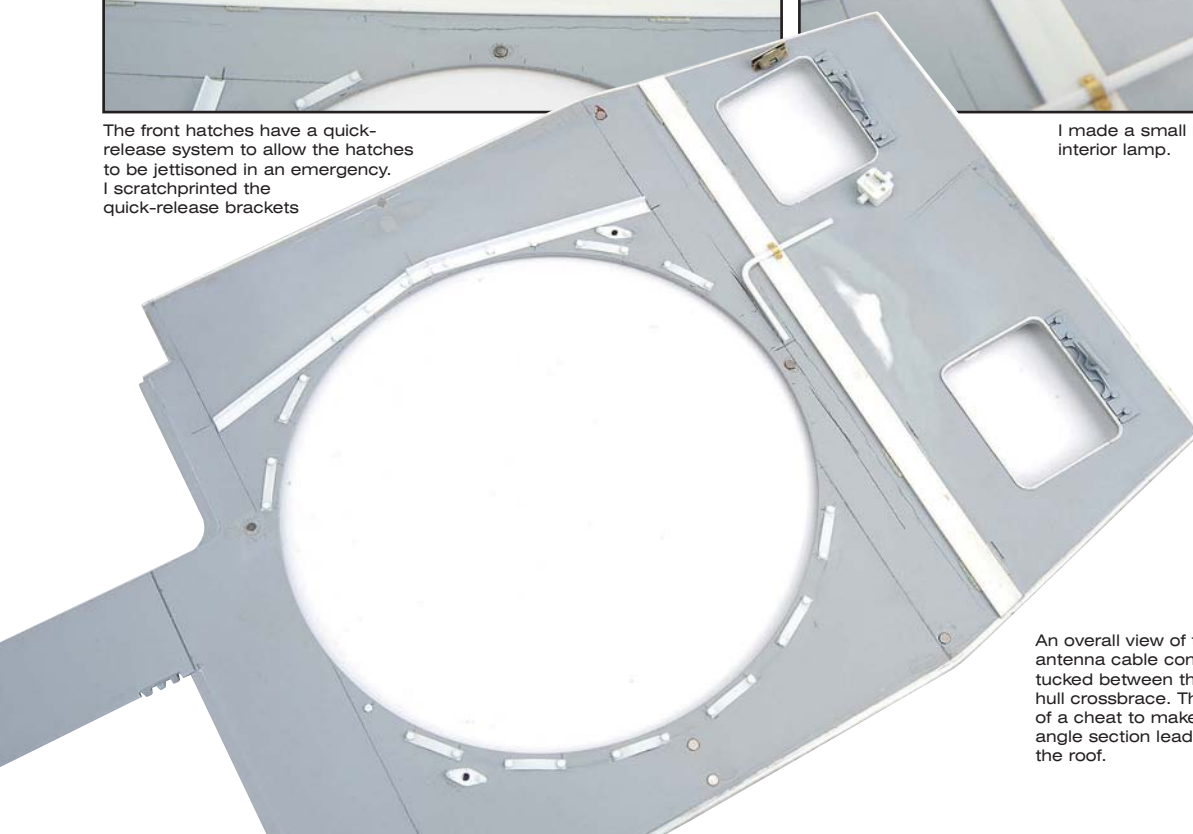
On the outside the hole is squared off and there are two recessed screw heads.



The front hatches have a quick-release system to allow the hatches to be jettisoned in an emergency. I scratchprinted the quick-release brackets



I made a small bracket from brass to mount the interior lamp.



An overall view of the completed roof details. The antenna cable conduit runs right across the roof tucked between the gearbox hot air vent and the hull crossbrace. The detachable roof required a bit of a cheat to make this work with just the right angle section leading to the junction box fitted to the roof.



The remainder of the antenna conduit 1 is fitted to the hull not without some difficulty I have to admit.



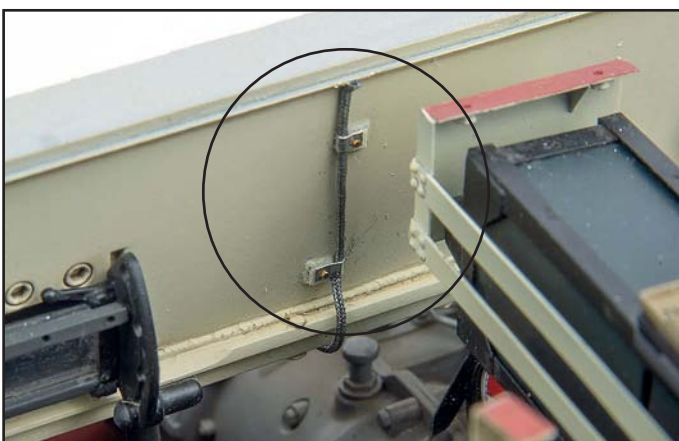
The roof interior was painted to match the rest of the interior.



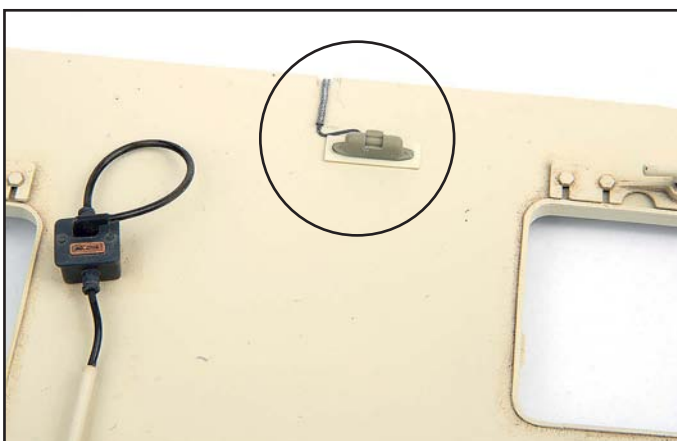
Only the antenna socket breaks up the uniform Elfenbein finish of the roof.



Sun roof!



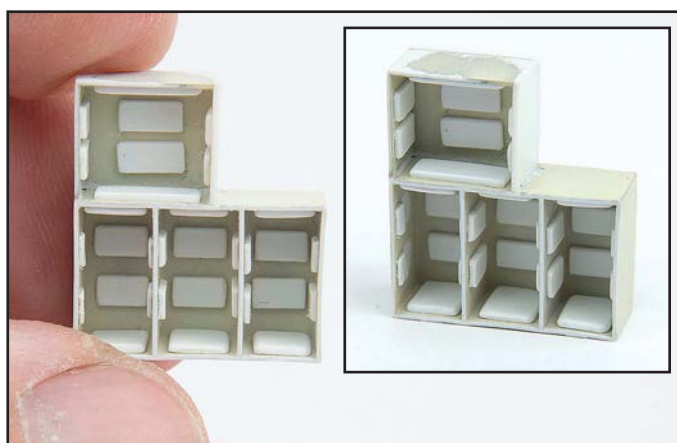
Just when I thought I had finished with the roof I stumbled on a missing detail which confirmed that the two cable clamp points on the glacis were indeed to power an interior lamp for the Driver. Happily I had already modelled the fixing points so I just had to add the cable and the clamps (seen here before they



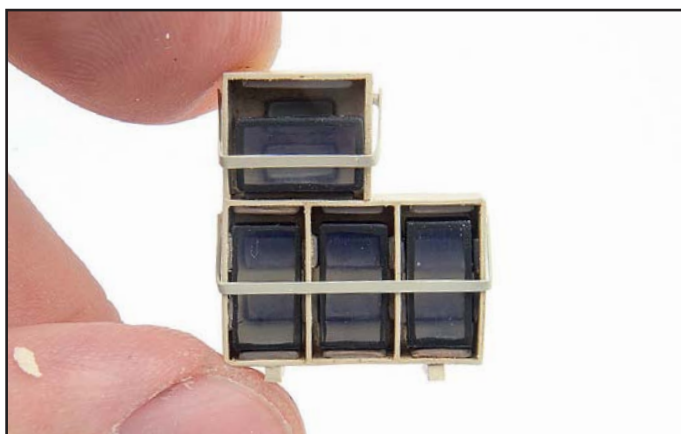
were painted). I also made a small mounting plate for the lamp on the roof plate and added the connecting power cables.



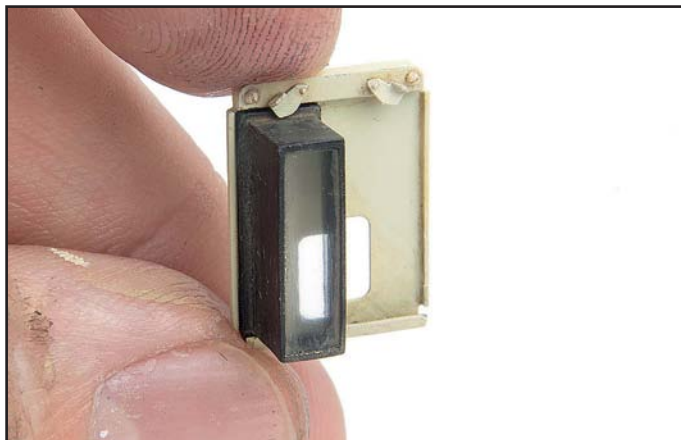
Time to tie up a few loose ends around the interior. The spare vision block rack needed to be completed and had been sized using the Cupola vision blocks as a starting point.



The shape of the uppermost box was modified based on the sizes of the real rack (thanks Przemek Wojdas) and the depth matched to the lower box. I then added the felt pads inside the racks.



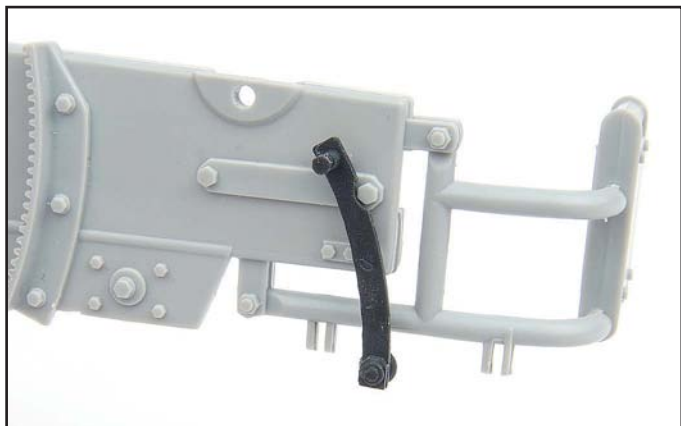
The transparent vision blocks show the felt pads at the back of the racks once they are installed. I used spare blocks from my cupola to fill the rack. The locking bars were made from scrap photoetch frets.



One of the loose ends to be tackled was the spare vision block stowage and despite having scratchbuilt the rack in the end I used my scratchprinted version with clear resin vision block.



The completed rack was then installed on the hull wall next to the Driver's position.



The exact purpose of this piece mounted on the recoil guard caused a great deal of head-scratching. It seems likely to be used to mount a clinometer to the gun for use in indirect fire. My vehicle would have been fitted with it so I scratchprinted one using a spare recoil guard for sizes.



Fortunately fitting the completed part into the turret was relatively easy.



The travel lock for the bow MG was simple enough to construct from plastic rod, card and some brass sheet.



The counterbalance spring was made from copper wire although I think the wire may be a little too thick so I may replace this with a thinner version.

The project continues in the next Issue

With ICM's release of the light A/A version of the Stoewer Type 40 in 1:35
ALAN RANGER
takes us on a walk-around of the only
known existing complete example



STOEWER

le.gl.Einheit-Pkw Kfz.4



The Zwillingslafette 36 mount consisted of two 7.92-mm MG34s on a pedestal-mount with an anti-aircraft sight and 360-degree traverse. The two MG34 machine guns combined for an impressive 1800 rounds-per-minute.





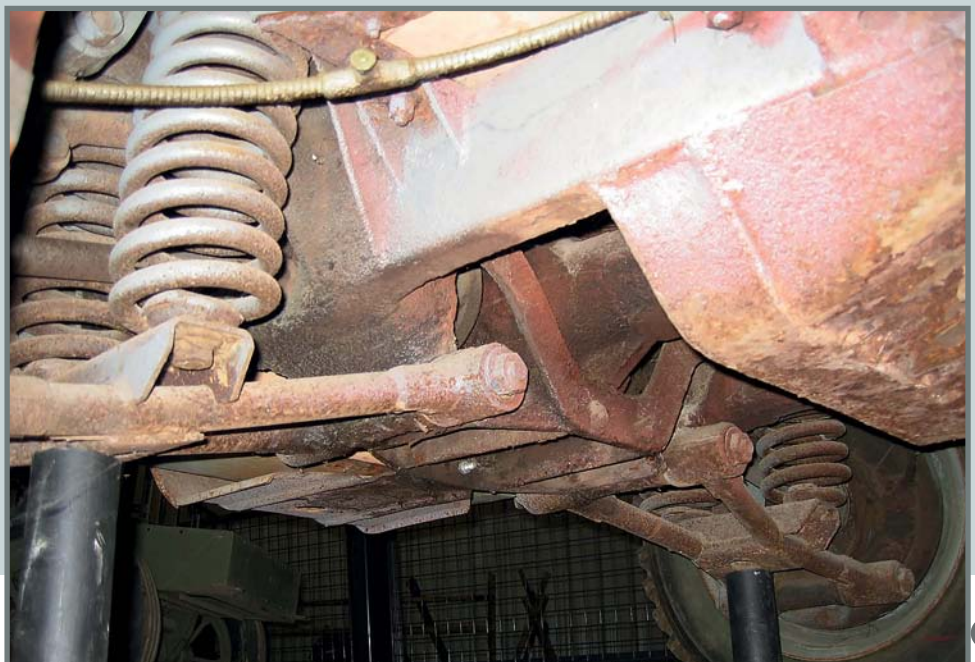
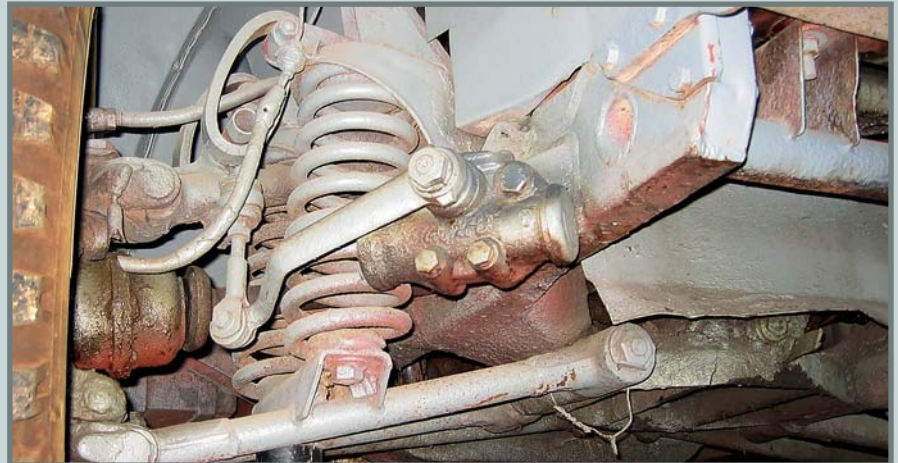








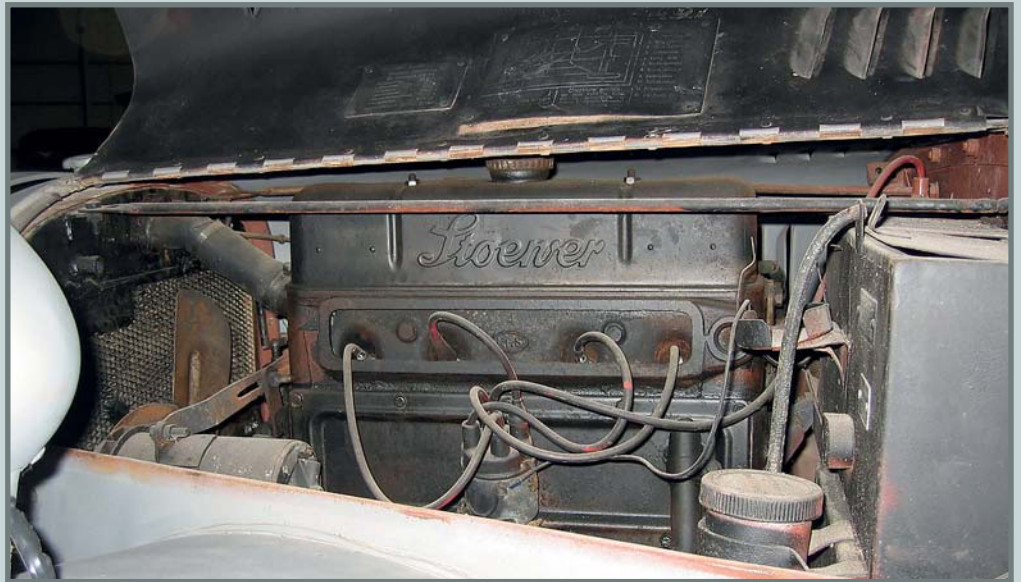
Manufactured by Stoewer, Hanomag and BMW from 1936 to early 1944, the superstructures were delivered by ten different companies and were identical from each manufacturer. Early versions had both 4-wheel drive and steering which later was dropped to just 4 wheel drive and front wheel steering.





Stoewer's AW2 ohv, 2.0-liter, 50-hp, water-cooled, four-cylinder petrol engine.





OPERATION EPSOM



JERRY RUTMAN Tells the story in-scale of this important part of the Normandy Campaign in WWII

Epsom was the brain child of General Montgomery and was meant to capture the D-Day prize of Caen by cutting it off from the south, seizing bridges over the Odon and Orne then culminating by landing on the high ground around Hill 112.

The main attacking force was the 15th Scottish Division, who faced on the first day almost exclusively the young men of the 12 SS Panzer Division, named the "Hitler Jugend" Division.

On 25 June Operation Martlet on the Scots' right flank was meant to capture high ground around Rauray. This objective was considered vital to secure the deep right flank of Epsom, slated to begin the next day. The Polar Bear Division punched through the lines but did not make it to Rauray by day's end. Evening of the 25th brought a pause to the blood letting and both sides regrouped.

EPISODE ONE- THE NIGHT BEFORE EPSOM

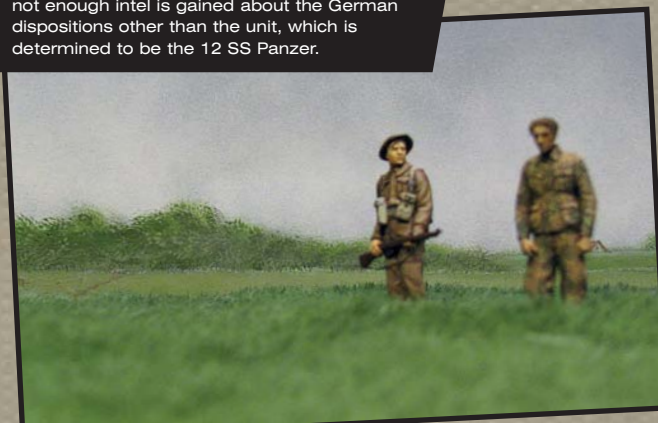
Troops in and around Le Mesnil-Patry also try to ascertain the exact German positions.



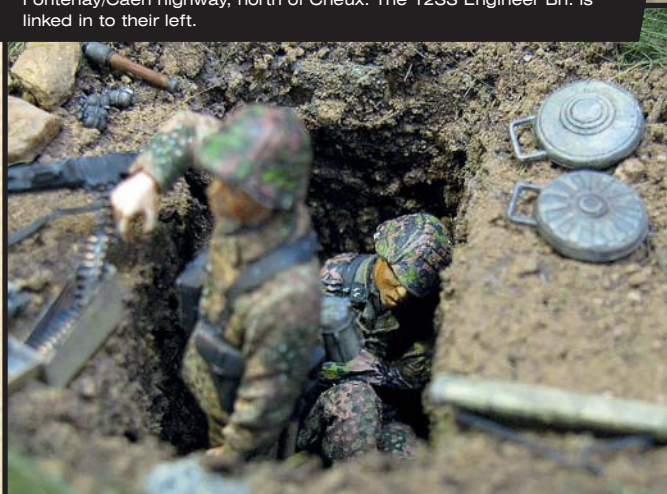
Commonwealth troops south of Norrey keep watch over the suspected positions of the Germans.



A few prisoners are brought in by patrols but not enough intel is gained about the German dispositions other than the unit, which is determined to be the 12 SS Panzer.



The young men of the 1/26 SS Panzer Grenadier Regt. are spread in a thin line of dug outs across the flat fields to the north of the Fontenay/Caen highway, north of Cheux. The 12SS Engineer Bn. is linked in to their left.



As the light fades on the 25th, a lonely sentry watches over the HQ of Sturmbahnführer Bernard Krause, the CO of the 1/26 SS PzGren Regt. located in a small château compound in St Manvieu.



This specialized unit is being used as Infantry to fill the gaps in the line because of the scarcity of troops considering the large space needing to be defended. One man sleeps and the other watches. This routine wears the troops out after a few

Krauses' main form of commo with his subordinate companies is by field phone. The duty telegraphist stands his watch as the day ends. Lines come in from the 4 companies and also the observation posts for the artillery support. The wires run to a switchboard, protected in the dugout and then by a wire into the cellar of the HQ building where the adjutant or his runner man the phone.

A linemans' staff waits in the background in case wires are cut by mortar/artillery fire and need to be repaired.



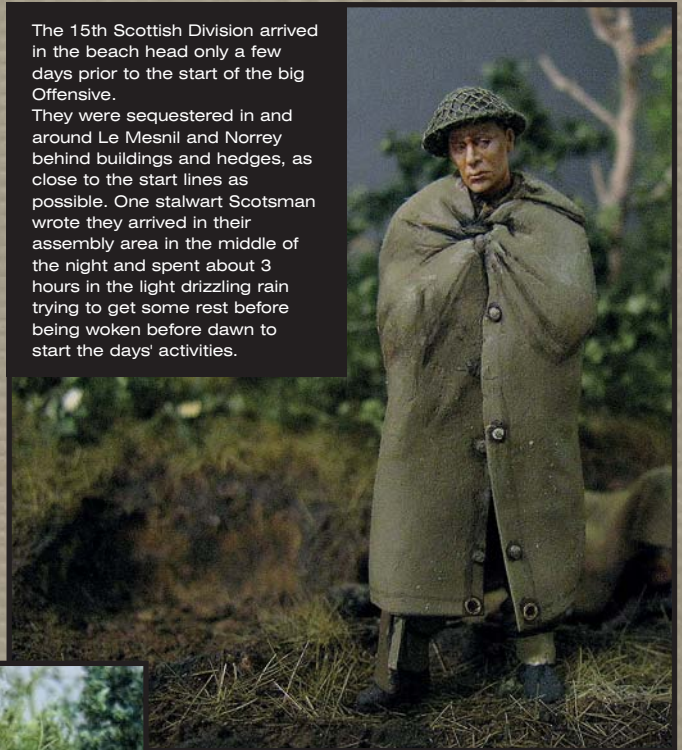
The Germans in Normandy quickly learned to use radios only as a last resort since their signals brought down massive Allied artillery barrages rather quickly.

The civilians in the area suffered greatly through the entire battle of Normandy. Almost always completely in the dark as to current news they often fled areas of heavy fighting only to go to areas that were worse!



The 15th Scottish Division arrived in the beach head only a few days prior to the start of the big Offensive.

They were sequestered in and around Le Mesnil and Norrey behind buildings and hedges, as close to the start lines as possible. One stalwart Scotsman wrote they arrived in their assembly area in the middle of the night and spent about 3 hours in the light drizzling rain trying to get some rest before being woken before dawn to start the days' activities.

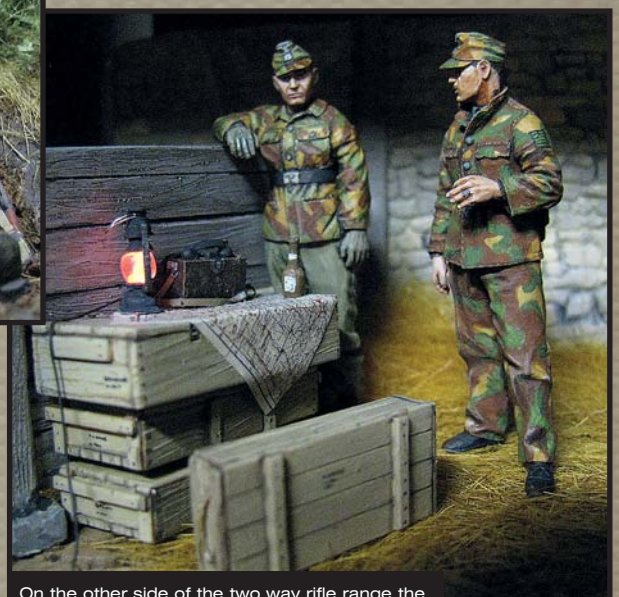


Any Vet that has served in the Infantry knows about sleep though. Anytime allowed, anywhere, BUT...weapon always at the ready.



Somebody always has to be on guard though so pulling the late night shifts meant even less

A quick scrape to get below ground a bit and....light's out.



On the other side of the two way rifle range the Commander of the 12SS Standartenführer Kurt Meyer (known as "Panzermeier") has a late night meeting with the Commander of his tank Regt., the 12 SS Panzer Regt. Obersturmbahnführer Max Wünsche.

They plan the next days' operation which is meant to seal off the penetration made the previous day during Operation Martlet. Meyer puts Wünsche in charge of the counterattack with the goal of clearing the Tessel woods and linking up again with the German unit to the left, Panzer Lehr.

In the 12 SS Pioneer sector, a mine laying team goes about their business as quietly as possible.

One man digs while the other has a flare gun ready should "Tommy" surprise them. The coloured signal will let their own lines know not to kill them when they return.

Tracers from Vickers machine guns arch overhead, fired from north of Fonteney in an "H&I mission (harass and interdict) This, combined with desultory mortar and artillery fire and also foot patrols, gives the Germans little rest during the short summer night.



And so ends that day in late June Normandy. Many of the boys and men in the units depicted here will be killed, wounded or taken prisoner in the next few days. But tonight... Tonight that is unknown to them.

EPISODE 2 - THE START LINE

Early in the morning of June 26/44 the Jocks were awoken after a short rest in the cool drizzle. They carried out the usual soldiers' routine of a brief breakfast and shave and then ...KIT ON!

Nerves probably compensated for the paltry amount of sleep that they got, with the officers and NCOs always getting even less because of the usual late night briefings.

As they made their way to the assigned starting positions, the supporting artillery program began. The steel tubes of over 600 guns ranging from mortars, 25 pounders and 155mm heavies up to 14 inch battleship guns anchored in the Channel spat out high explosives as fast as their human servants could reload. The white hot shells began arcing overhead and crashing into the German front lines. Soon the detonations were so close together as to blend into one ear splitting rumble. Think of the "grand finale" at a large fireworks display but one that goes on for an hour!

The schedule called for the guns to create a moving wall of steel behind which the Infantry would advance, keeping as close as possible to the barrage so as to give the enemy little reaction time when the Scots arrived at their foxholes.

One Commonwealth soldier remarked in awe as the barrage started "That's where we have to go!"



A few units moving into position at the start lines were serenaded by pipers. This was after all, the Scottish Division!



Some things cannot be ignored and so a passing Jock breaks into the serious matter of a Highland sword dance. His mates give him some encouragement. An Englishman posted to one of these Scots units remarked on the atmosphere in and around the start lines as like being at a sporting match. Men were laughing and shouting to nearby groups as they waited for the barrage to move south

The 15th Divisions' attack was on a 2 Brigade front with each Brigade having 2 Battalions on line and one in reserve. Then each Bn. had two companies on line and one following in the back. The Companies each had 2 platoons on line and one held back. In turn, the Platoons had 2 sections on line and one held in reserve. So, even though it was a 3 Brigade attack, the cutting edge was a widely spread out line of sections in formation like the "V" shown here. Or, "On line" in a spaced rank. So the paradox was even though thousands of men were involved, it still seemed mighty lonely at times in the front line.



The Infantry moved on. If the artillery were absent, you would only hear the rustling of the young wheat in the light breeze. The air smells of damp grass and cordite.



In the thin line of foxholes manned by the I/26.SS.PzGrenRegt and the 12.SS.PzPioniere. Abt the youngsters are experiencing a life changing event as the avalanche of shells descends, lingers and then moves slowly on. The smells of cordite are mixed with those of damp churned up earth and dust. The morning mist mixed with the smoke and dust makes visibility minimal.



BOOOOM!!

SCHIESS! THAT WAS CLOSE!

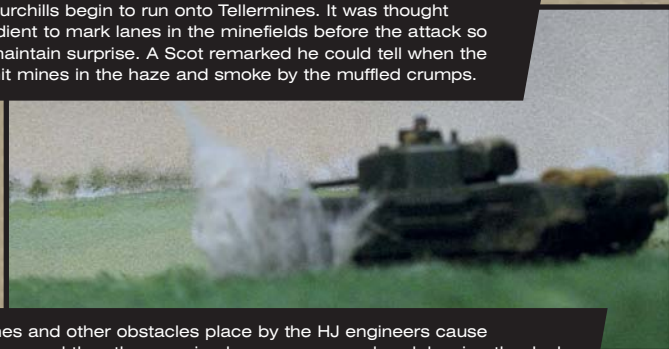


From positions south of Cheux, the towed and self propelled 105mm batteries of the 12.SS begin to respond, albeit with nothing like the volume of the Commonwealth artillery. In the days before the Allies have seriously choked off the supply routes to the Invasion zone. Ammunition is scarce for the HJ.



The Churchills begin to run onto Tellermines. It was thought inexpedient to mark lanes in the minefields before the attack so as to maintain surprise. A Scot remarked he could tell when the tanks hit mines in the haze and smoke by the muffled crumps.

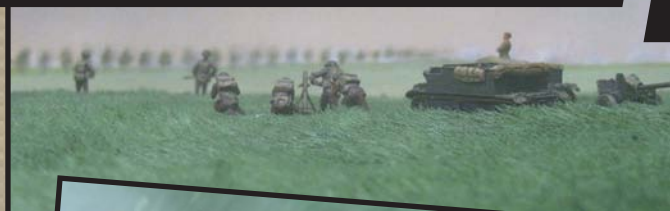
The mist and smoke get worse and the Platoon leaders have to use the compass to remain oriented on the attack routes. Here a young subaltern with his radioman motions for corrections.



The mines and other obstacles place by the HJ engineers cause slowdowns and thus the covering barrage moves ahead, leaving the Jocks behind. Smack in the middle of the assault the Glasgow Highlanders advance to the initial objective, the tree lined Caen/ Fontenay road.



Small arms fire begins to pick up from German positions not eliminated by the artillery. MG42 burst rip across the fields punctuated by rifle and SMG fire. Mortars are called up to deal with local strongpoints. Bypassed foxholes reveal that some Germans survive and the effect is that fire seems to come from every direction! Anti-tank guns stand by. Where is the German armour?

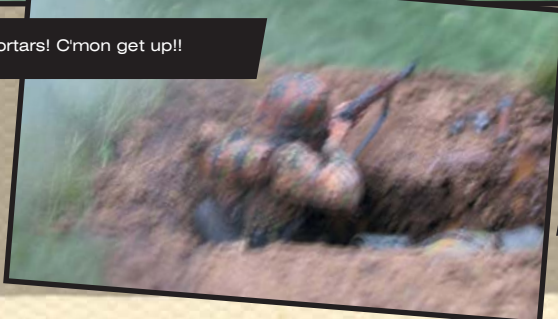


Single riflemen pop up.



Hans! Get up and fire! They are here

Mortars! C'mon get up!!



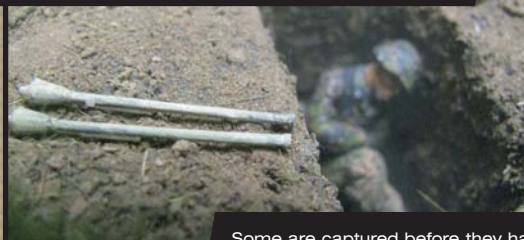
"Got him!" The front sections begin to lose men more quickly



Bren up! Return fire! Bill, move to the right and flank'em!



In the sparse line of dugouts the Germans have created some of the boys of the HJ are killed outright by shell fragments or concussion.



Some are captured before they have a chance to fight back, since the Jocks are upon them right behind the barrage.



Some are shot down trying to make a break to their fall-back positions.



Some were killed by direct artillery hits or crushed by the treads of Churchill heavy tanks. This kid had his grenades ready along with spare rifle ammo, hidden behind square pieces of cut turf. He managed to fire one Panzerfaust anti tank rocket before meeting a soldier's fate. The front lines of the HJ were pierced but this was just the beginning of the long long day.

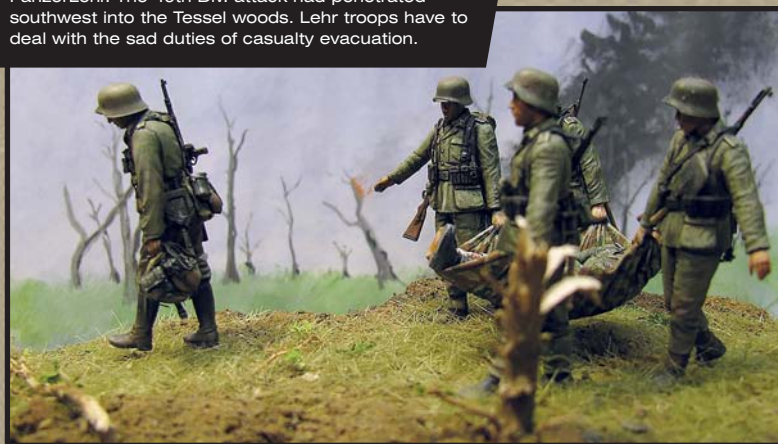
EPISODE 3 - BREAKING THE LINE

The morning of the first day of Epsom was also the beginning of the second day of Operation Martlet. This was directly on the Scottish Divisions' right flank. Failing to take the first day's objective, a road junction south of the village of Rauray, the 49th Inf. Div. (Polar Bears) attacked again the next day so now both operations blazed across the Norman countryside together.

The Germans had pulled their armor over to the Rauray area the night before to counterattack the 49th Div and they did so in a "meeting engagement" this first day of Epsom. This was a stroke of good luck for the Scots, who consequently faced no tanks that first morning in their sector.

Like almost any battle in Normandy the individual soldiers dealt with what was right in their immediate area.

Martlet had also involved HJs' left flank neighbour, the PanzerLehr. The 49th Div. attack had penetrated southwest into the Tessel woods. Lehr troops have to deal with the sad duties of casualty evacuation.



The situation is terrifyingly unclear for this PanzerLehr Infantryman.



Polar Bears are detached from their units to search for German troops left behind after the day's fighting. They have learned the HJ could be anywhere.



The blasted woods and fields have to all be cleared.

And yet, soldiers from the III/26.SS.PzGrenRegt manage to slip south even though sometimes almost surrounded. Several personal anecdotes tell of soldiers doing this and finding wounded comrades along the way back, begging for help. And...help is given.



All across the advancing Commonwealth front the situation was the same. The German front lines were broken but the firing seemed to still come from all over.



Wounded coming through...Smile for the newspapers back home mates!



Also behind the front lines POW collections mounted as more cut-off and often dazed Waffen SS men are brought in.



A sad cargo but for them, the war is over. Some temporarily, some for good!



This 15th Division carrier on the far right side of the Divisions' Operational area was commandeered to carry a load of 49th Div. men to the dressing station.



More POWs are brought in. Several whole companies of the 12.SS Pioniere Abt. being about dead center of the Scottish attack almost cease to exist because of the killed, wounded and missing, which almost always means captured. Here, Obersturmführer Kuret, a Company Commander in that unit, leads men from his unit into captivity. They have been disarmed and searched and Kuret has had his camouflaged jacket removed in order to show off his SS Officer status. Newsreel film from this incident shows it to be a gusty day.



To Be Continued...

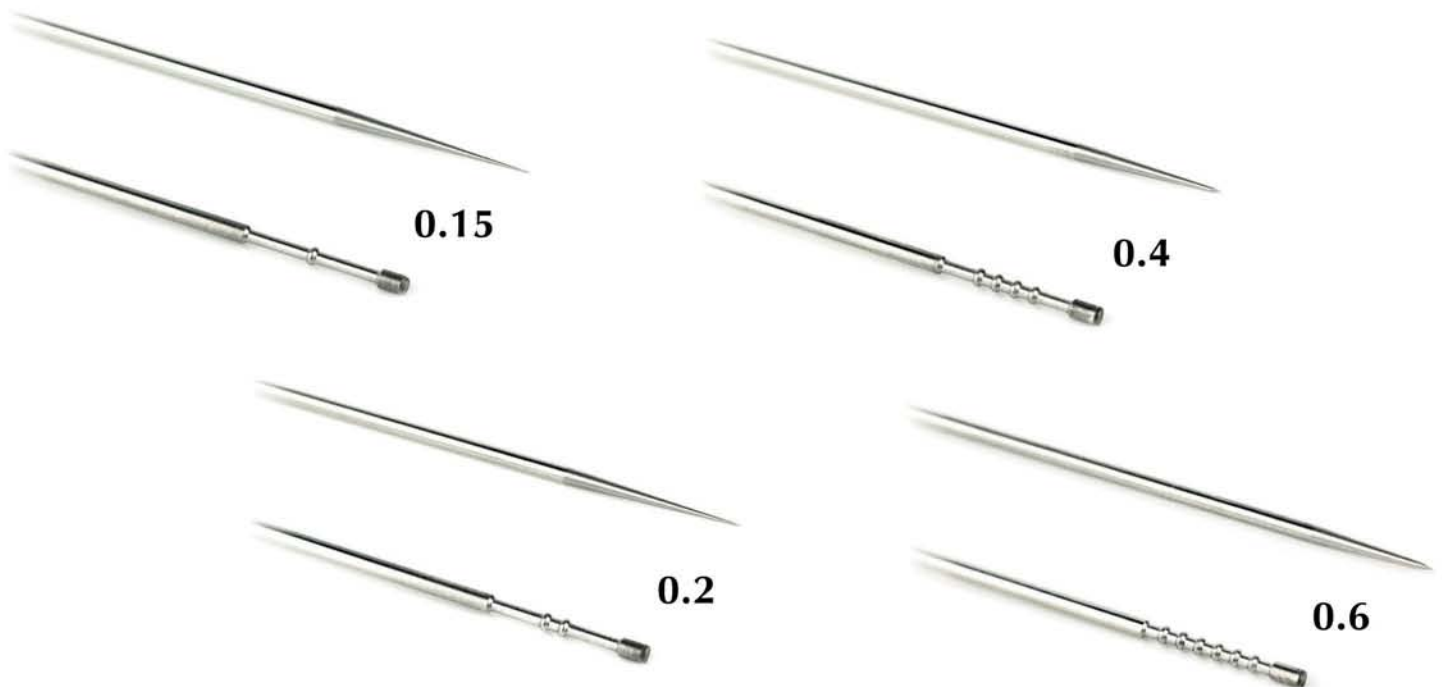
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