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**SIX
APPEAL**

**BIG PANZER IV BUILD
SIXTH ANNIVERSARY**

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1/35
SCALE



GERMAN MEDIUM TANK **Sd.Kfz.171 PANTHER** Ausf.A EARLY

The German medium tank Sd.Kfz.171 Panther Ausf.A early production version was the start that the Panther series tanks became mature. Its production started in the fall of 1943. To solve the shortcomings of the Panther Ausf.D, the Panther Ausf.A had optimized protection and improved reliability of the power system. The Panther Ausf.A was fitted with a new commander's cupola and cancelled the snorkel on the Panther Ausf.D. However, it kept some features from the Panther Ausf.D. With the increase in operation experience, the shortcomings of the Panther tanks were resolved on the Panther Ausf.A. The strongest German medium tank finally showed a terrifying strength.

This MENG TS-046 1/35 German Medium Tank Sd.Kfz.171 Panther Ausf.A Early model kit perfectly represents the tank's exteriors and details. This kit includes multiple optional parts and provides various assembly options, covering the complete changes from Panther Ausf.D to Panther Ausf.A. This kit also includes track ice cleats, fine PE parts, metal cables and metal side skirts. Length: 252.9mm Width: 98.6mm

The early version of the Panther Ausf.A kept some features from the Panther Ausf.D.



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If you have any questions, please send an e-mail to the above address.

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



▲
This model can fully demonstrate the unique features on the Panther Ausf.A Early tank.



▶▶
This model is realistic and detailed.

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ACHZARIT

I find the Israel Defence Force's (IDF) ability to adapt and modify military hardware to suit their own requirements and budgets quite fascinating, and there's no better example than the Achzarit (Cruel Woman). With a large stock-pile of captured T-55 tanks from the 'Six Day War' and 'Yom Kippur' War the IDF had already pressed these converted 'Tiran' series tanks into service for many years but with eventual out-dating and a lack of parts supply they became the basis for a custom designed heavy armoured personnel carrier. With the increasing need to protect infantry from close-quarter enemy fire, IEDs and RPGs the IDF shunned the option of buying foreign vehicles (Bradley, Warrior and Marder) and built around the platform of their improved T-55 running gear. The main requirements were excellent troop transportation and protection gained from a taller profiled custom armoured hull 'suit' and the installation of an off-set more powerful engine system (as used in the IDF's M107 and M109 SP guns) allowing a rear opening ramp and corridor for safer mounting and dismounting (similar in principle to the Merkava). For firepower the Achzarit relies on 7.62 MAG machine guns, one which can be operated remotely (OWS, Overhead Weapons System) and a 60mm mortar can be launched from the roof. Two racks of smoke dischargers are also mounted to the hull front corners.

With Meng recently announcing a brand new kit of the Achzarit's replacement, the Namer (based on the Merkava IV) we thought it was about time to take a look at one of their Achzarit kits; this is the 'Bet' late version with upgraded suspension, wheels (Centurion) and reinforced track. Historically IDF modellers have had to depend on expensive resin kits and conversions to add the Achzarit in 1:35 to their collections until Meng released this all-new kit. The original 'Early' version was released first a staggering seven years ago! How time flies...so many kits...so little time...



MODELLED BY MARK NEVILLE

MENG'S ISRAELI 'CRUEL WOMAN' IS OUT ON PATROL



1:35

CRUEL FOR CATS

All packed and presented beautifully, this kit is a great out-of-the-box project with excellent detail throughout, well engineered and designed with a good level of finesse without being too fussy and minimal minute parts to frustrate. Talking of frustration, individual link tracks can be tedious, these aren't so bad to be honest as they're not 'workable' and with fine attachment points need zero clean-up if you have good sprue cutters. Ejector pin marks on the inner face are best removed with the links still in place on the sprue. Road wheels are made from five parts for superb detail, don't forget to trim a few mm's off the stub-axes as instructed or you won't get the wheels to sit 'home' properly. I found cementing the wheels in place was best practice as the fit is a touch sloppy.

After the lower chassis it's into the interior which has enough detail for what can be seen through the open hatches. I skipped painting as my plan was to be 'buttoned-up' but it would be fun to paint and weather if you added some ammo boxes to the frames and some personal gear.

Even though the engine isn't included, it's interesting to see the design of the vehicle and the access corridor arrangement. Interior appears quite spacious and heavily protected. You could easily skip the interior parts if showing closed hatches.

Clear vision blocks are a nice touch. Reference shows what appears to be a blue tint to all the glazing.

The kit provides nylon cord for the row ropes, never a match for Karaya copper parts. The kit ends need some filler to close them off.

The upper hull is an impressive piece of moulding and is an excellent fit for such a complex part.

I had it on good authority that all Achzarits had an anti-slip texture. I've had a bottle of 'Cast-A-Coat' powder for years which seems it will never run out! It's barely visible here but responds well to weathering.

The clam-door can be posed open and the ramp dropped. Note fuel filler caps for the cells either side

TOGA armour mesh is done nicely in photoetch, as is the rear intake grille.

The sensor unit is moulded with holes but not the antennas, easily done with stretched sprue and a dot of PVA on the ends.

The main antennas are from LED strands with the sprung bases to suit. Tie-downs are from stretched sprue.

The rear stowage rack is often seen with an additional net attached. IDF vehicles in hostile environments always appear to have any stowage removed. The net was made from strips of electrical tape set with CA.



As with the majority of modern armour kits of modern subjects there's a plethora of fiddly equipment, gun mounts and sensor units to deal with. With the absence of a turret the Achzarit is pretty simple in that respect. As with most subjects you could go mad with photoetch (Eduard provide a good selection for this kit) but sitting back to admire the finished kit I was more than satisfied with the finesse of detail with a couple of exceptions; front light guards (which I've thinned down to some degree but still look chunky) and the chains on the front tow-claws which I should have replaced.

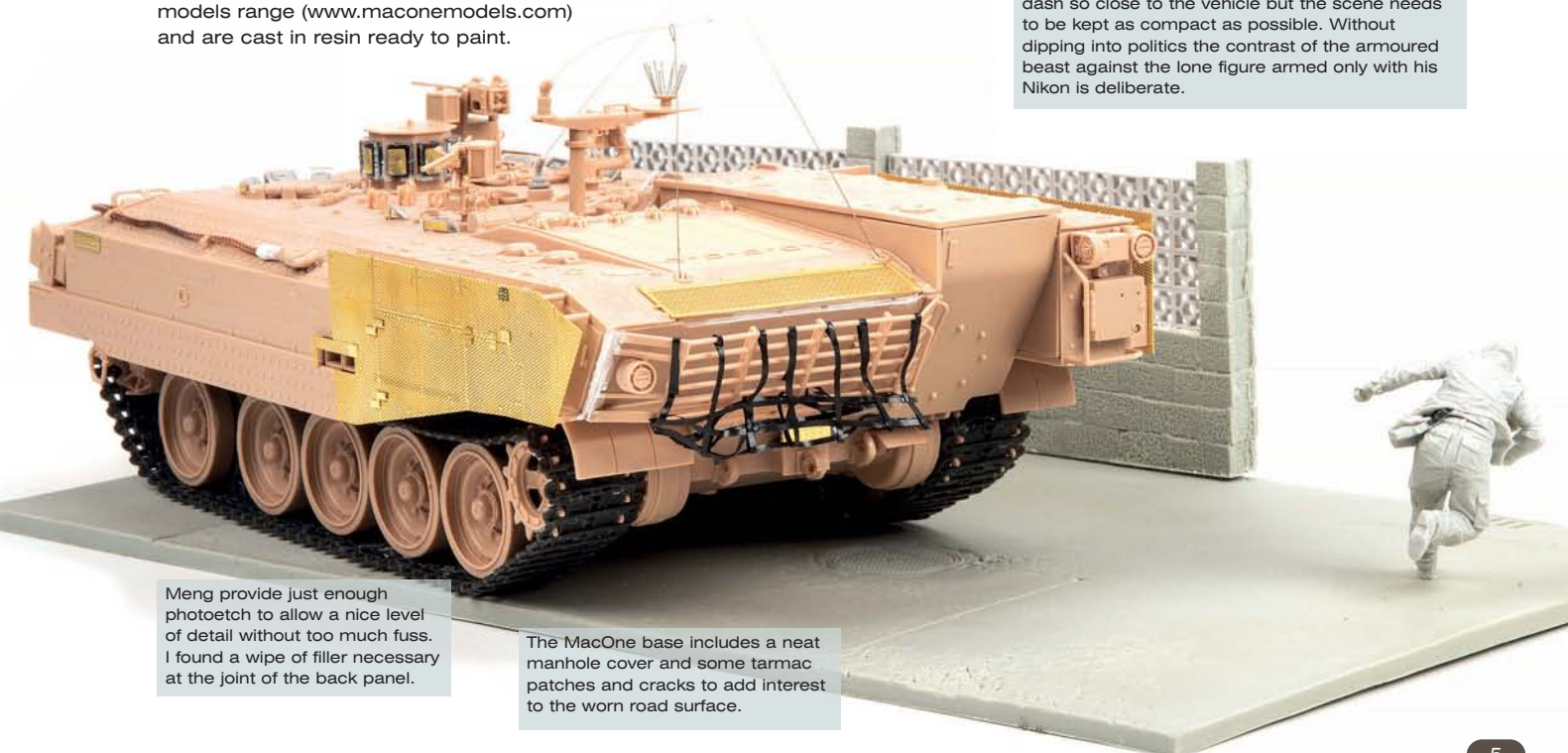
GUARDIANS OF THE GAZA STRIP

I felt a simple little scene was in order. Thumbing through reference books and searching on-line I found some footage on Youtube of vehicles on security patrols in urban areas of the West Bank and Gaza Strip and was surprised at how close civilians come to the armoured vehicles. Along with the typical 'David and Goliath' stone throwing by Palestinian youths I noticed the presence of a large number of camera crews and photographers recording the often tense situations. This jogged my memory of a nice set of figures from D-Day Miniature Studio (35098) of which I picked a running figure clutching his camera with a real sense of urgency and tension; Hopefully enough drama with just one figure to capture the atmosphere.

Suggesting a suitable style of surrounding was next, too much would detract focus from the lone figure so a simple wall section and suitably damaged road surface are from the excellent MacOne models range (www.maconemodells.com) and are cast in resin ready to paint.



The figure and base were drilled and pinned with a length of fine brass rod allowing a position to be set with a sense of motion to the running sharp-shooter. Maybe in reality he might not make his dash so close to the vehicle but the scene needs to be kept as compact as possible. Without dipping into politics the contrast of the armoured beast against the lone figure armed only with his Nikon is deliberate.



Meng provide just enough photoetch to allow a nice level of detail without too much fuss. I found a wipe of filler necessary at the joint of the back panel.

The MacOne base includes a neat manhole cover and some tarmac patches and cracks to add interest to the worn road surface.

LOW SLUNG AND DIRTY

This is one of those kits I would find difficult to break into sub-assemblies, I tend to paint everything in one big lump if I can anyway so with the vision blocks masked a gave a shot of Mission grey primer over everything to give a solid and unified base. Cast your mind back a couple of issues to the New Meng Merkava I looked at, I went the same route and mixed my own IDF grey / green / brown! always a colour sure to cause debate with apparently a multitude of tones over the years.

Working to colour photographs in the SabingaMartin books "Israeli Wild and Cruel Cats" colours range from grey to a faded olive drab (and everything in-between!). I went with my base colour on the 'green' side to compensate for the dust and weathering which would follow.

MMP 009 and 017 were mixed around three parts to one with a couple of drops of dark grey to kill the vibrance completely. An overall solid colour was laid down with our Iwata HP-TH, a great airbrush for base-coating bigger models.

Mission colours can be shot over their primer in around half an hour. For the top coats to dry and harden properly I usually wait at least 24 hours before attacking the surface with washes and the likes.

Before any weathering I brushed in the details using Lifecolor acrylics. Tracks were done first using 'Old Track' and a touch of red-brown. Reference images didn't seem to show any rusty tones to the links so I avoided this and limited myself to a wash of pigment powder mixed with thinner and a rub of the contact surfaces with a soft pencil. Everything fixed in place meant the painting of the tyres was also tricky, Lifecolor 'Old Rubber' gave a suitable shade. Now for some weathering.

Weathering Step 1: watching a few videos of security and anti-insurgent patrols in the West Bank towns and Gaza show vehicles crossing various terrain before entering urban areas so a degree of accumulated dried earth texture was added to the lower hull by mixing matt acrylic varnish and pigment powder.

MGs are base coated in satin black and buffed with Uschi polishing powder (steel). Some components were highlighted in silver-grey following reference. Note dust stuck to areas of lubrication.

Weathering Step 2: for a dry and dusty look I used water-based 'Aqualine Light Mud' from the Wilder range. I love the way this stuff allows gradual layers and re-working by diluting with water for washes and dabbing with sponges and brushes. Following reference images I paid attention to where the dust gathered.

Weathering Step 3: dark washes are added to lift details in areas where the lighter dust washes don't. Humbrol enamel thinner and oil paint (lamp black and burnt umber) were applied with a long bristled, fine pointed signwriters' style brush.

Kit markings were used as an airbrush stencil. Marking and number plate are 3rd Platoon, 1st Alef Co. Givati Brigade, Gaza

Further washes emulate where the dust has been dampened by fuel and lubricants.

Often IDF vehicles have maintenance points highlighted in red, some reference shows this to be very slap-dash in application but this would just look sloppy if replicated exactly so I've tried to make it appear just a little rough; honestly, it's deliberate...

one of the only recognisable features of the T-55 base vehicle is the exhaust outlet position! Soot stains were airbrushed 'Russian Earth' pigment powder mixed with thinners.

Cupola vision blocks were backed in Ammo 'Crystal Blue' and others tinted with blue ink after being backed with a Molotow Chrome marker pen

Weathering Step 4: damaged paint and scratches are replicated by 'tapping' a fine brush with primer-red and a sharp, soft pencil

Light lenses are cheap craft store gel beads, you can get various mixed sizes on a sheet and have a realistic 'glint'.

Smoke dischargers are mounted on each corner, these are usually covered in training exercises. I added some missing wiring conduit to the rear.

Mud flaps were thinned and separated with a razor saw for a slightly more worn appearance.

The front towing claws were heavily weathered with worn paint effects and dirty lubricant suggested with Lifecolor 'Dirty Grease'.

ACHZARIT



The concrete road and cinder-block wall received a coat of automotive grey primer and a mottle of a warmer grey was airbrushed randomly. The road was treated with layers of pigment powders applied with a make-up brush for general coverage and also sponged damp and 'tapped' from a brush to give random spots. Light pigment was scrubbed into recesses and cracks.



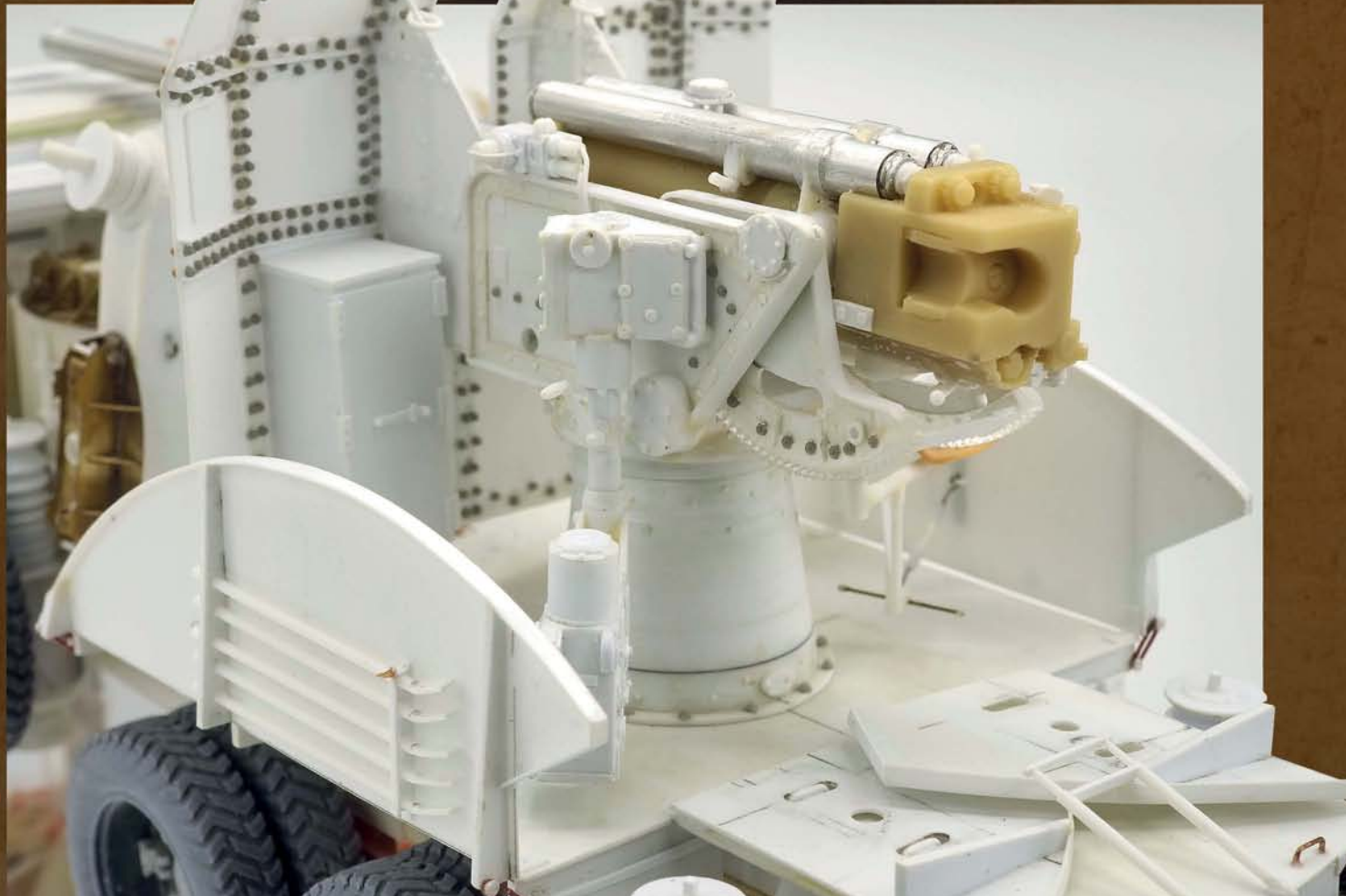
My original idea involved maybe an overturned waste bin or traffic cones, all of which were a distraction from the focus of the figure on such a small base. I simply added some stones which have been hurled in anger (as seen in the news footage and press images I'd discovered on-line) which help with the atmosphere somewhat.

The D-Day Miniature Studios figure is one of my usual rush-jobs but he's turned out well using AK's 'Figure' acrylics which have great coverage and a dead-matt finish.

I'm pleased I eventually took Meng's Achzarit for a spin, a satisfying build of an interesting and unique vehicle with minimal fuss and simple single colour paint-job means you can spend your precious modelling time having fun with weathering; the base also couldn't be simpler, there's so many 'ready to paint' buildings and scenics on offer these day we're spoiled for choice.

Maybe now I'll be justified building Meng's new Namer too?





SU BREDA 52

Autocannone da 90|53

**FABIO SACCHI CONCLUDES
HIS STUNNING SCRATCHBUILD.
WELL, COULD YOU BRING YOURSELF
TO PAINT IT?**



PART
2

GUN PLATFORM

This component is extremely important: it needs to be robust enough to absorb gun recoil force and vibrations as well as light enough to not negatively impact total vehicle weight.

It was fixed to truck chassis by means of long studs on each side of the frame and during firing it kept entire truck slightly suspended from the ground thanks to 6 hand-operated jacks.

Braces for these jacks were fixed on front and rear position, while the two central ones (one for each side of platform) were folded during travel and guaranteed traverse firing stability.

The gun crew platform had a round shape once deployed and had to be folded in four different pieces for travel.

I started by laying out with evergreen strips the base of platform.

Luckily I had a photo of a completed platform prior to being mounted on a truck and I could get most of the hidden details.

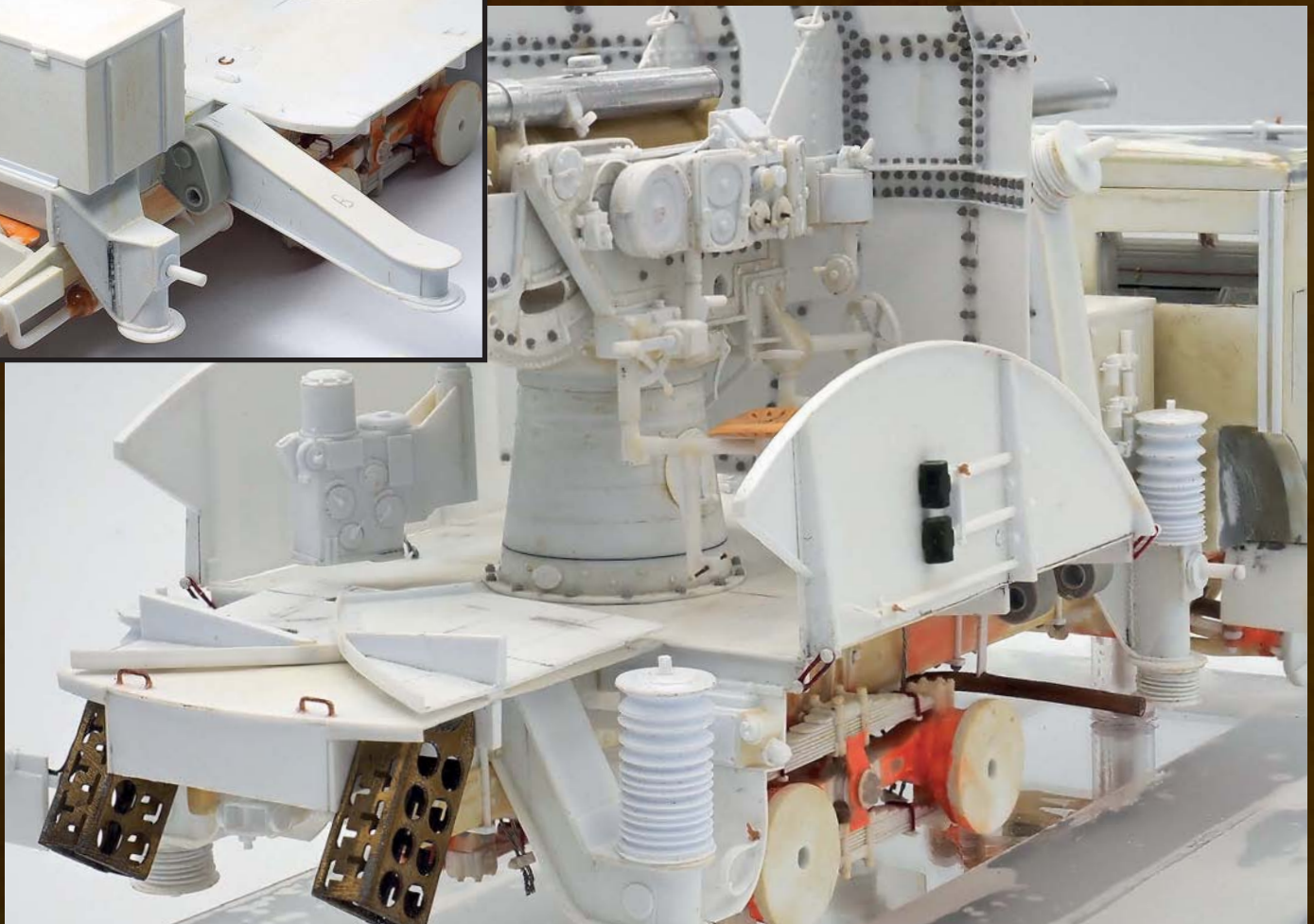
With base frame finished it was the turn of jack braces. They have a complex shape made with welded pieces to form a box structure. With some patience they came together. Front brace fixtures needed to be as precise as possible because they also act as spare wheels holders and if not placed correctly would cause later alignment problems with the cab.

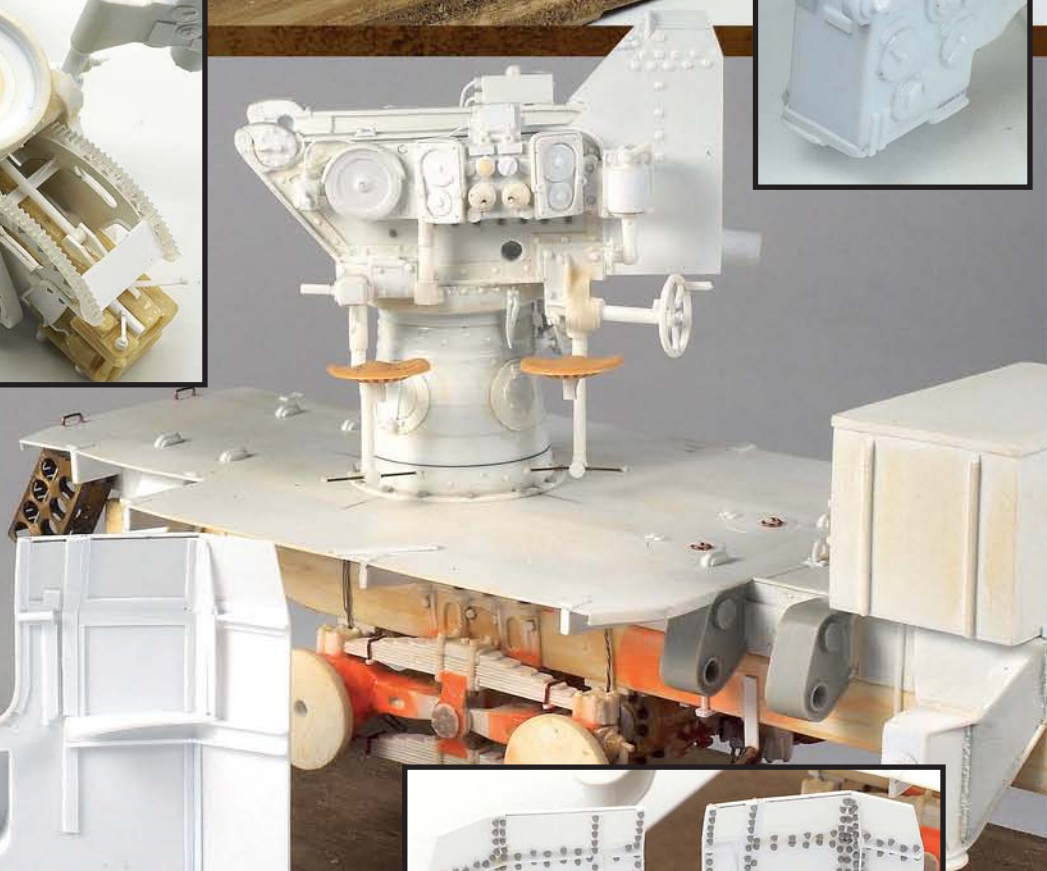
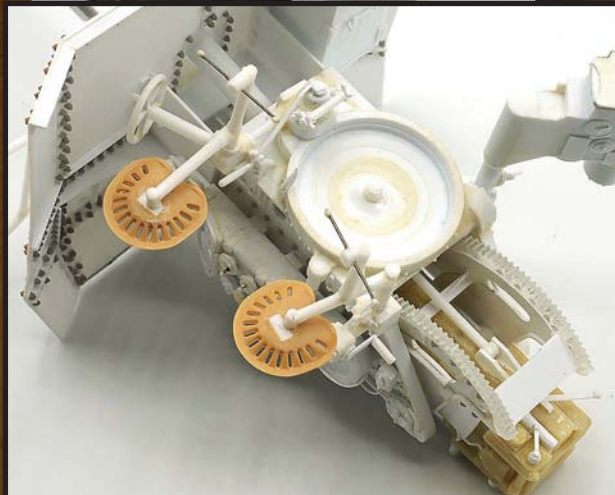
The two folding brace parts were done same way: a solid styrene piece with external surfaces wrapped and glued in position. I had then to make both braces pivoting supports and to avoid misalignments I made one and copied it in resin so I could have four exact pieces which could hold the braces in line. Six big Jacks screw-operated were placed at the end of these braces. They were manually operated. Internal screws were protected by rubber-like cover. To simulate this parts with all ridges, I used my lathe and made several grooves with a tool in 6 pieces of 6.4mm diameter styrene. I started one side with more but less deep grooves and step by step fewer but deeper grooves. This simulates the sloppiness of material and gives a better real feeling

to the piece.

The gunner's platform was then cut out of a 0.5mm styrene sheet. FIRST I cut the full circle and then all the folding parts. Two inspection hatches were added toward the front, they are to allow access to the compressed air tanks for services, and added all the locks which fix the platform to the gun frame and to truck frame.

A simple Box was then placed just behind the cabin. This is the ready round ammo case to which during travel four pedestal bases are fitted (remaining two are fit on folding braces) together with the six wrench handlebars. Folding braces are then secured during travel by means of two chains hooked on platform floor.





In total there are 298 conical head bolts on the front face of the shield and 298 nuts on inner shield. Shield was the very last major piece. It was then time of small details such as rear ladder, folded rear floors and main folded floor wings.



THE GUN

With truck and base 98% completed, it was time to turn to gun. I was lucky enough to be able to acquire the original build plans of 90/53 which helped a lot, but two major areas were still vague: the front armour including its fixing supports and the fuze setter. Guns installed on Lancia 3 RO and some on Breda 52 were equipped with fuze setter which were essentially a British modified Vickers model, adapted to communicate with Mod 40 "Gamma" predictor model. Later guns received BGS (Borletti-Galileo-San Giorgio) fuze setters to be coupled with the better performing BGS predictor, which was able to be eventually coupled to a Model "Wurzburg" Radar. Most of Breda 52 photos show this type of fuze setter so I had to somehow draw my own scale sketches...

I started with gun undercarriage. It has a conical shape and I had to lathe it. The finished piece would have had lots of rivets and details to be glued and I wanted to avoid to use aluminium or resin as base material as I am prone to making a mess with Cyanoacrilate. I therefore made my own styrene "block" by laminating with Cyanoacrilate several pieces of 3mm thick plasticard and leaving it to set under pressure thanks to a table vice. This gave me a nice material to lathe and the Cyano layers make it less prone to warp once in the lathe.

When I was happy with the result I added all detailing and I passed onto the carriage and cradle. To speed up (euphemistic) the built, I decided to use a resin copy of cradle and gun breech I created as master pattern many moons ago for a 90/53 semovente kit. It is still good to go and, even if it had to be modified, was a good basis to start from. The first thing I added

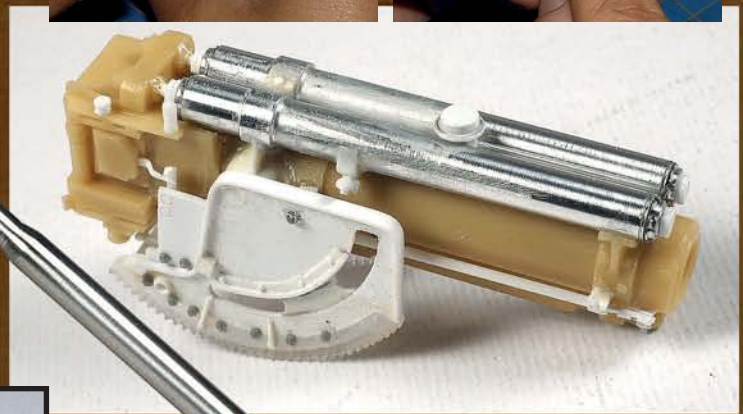
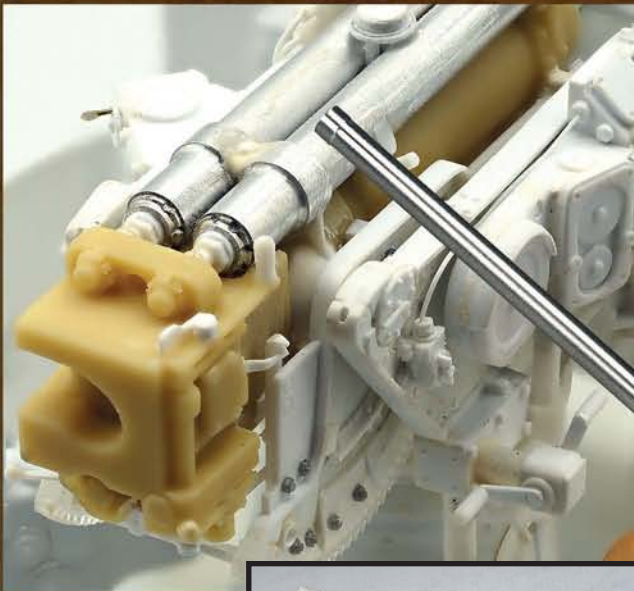
was the double elevation gears. A good friend of mine, Francesco Franchi, was kind enough to laser cut these parts and this ensured they were exactly the same!

After they were adapted and detailed I added gun recoil controls by using some styrene rods and it was ready to be assembled together. Resin recoil recuperators unfortunately were not well cast and at the time I originally made them I did not own a lathe so I rebuilt them in aluminium. They are actually 5 pieces each : one cylinder, sector screws, spacers. Sector screws were obtained by a piece of aluminium of 3mm diameter in which 14 sectors slots were milled with a 0.35mm tool. I then lathed 4 screws of 0.75mm thickness.

I also added the firing control and just detailed the breach block. The gun cradle walls were also laser cut from a 1:35 sized tech drawing but it had to be fully detailed with help of ministrips.

Articulated trunnions holders were obtained by coupling a sandwich of 0.4 x 0.4mm ministrips which were later sanded to shape. This simulated the hinged trunnion holders..Small details but once in place they look so good!

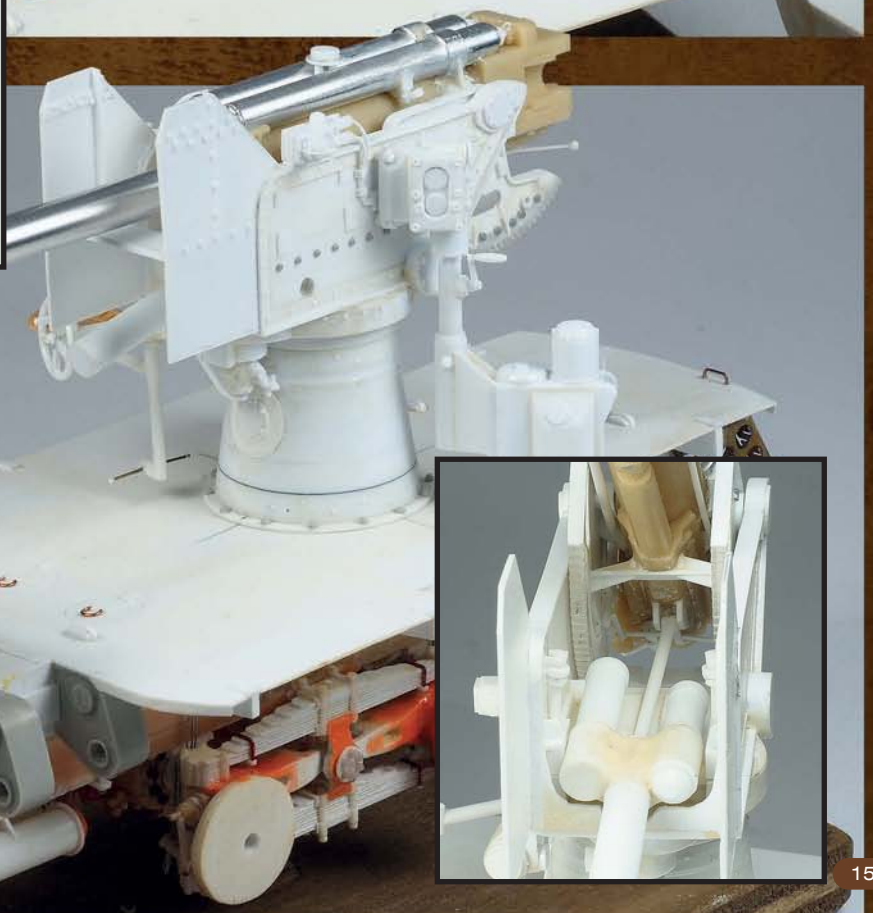
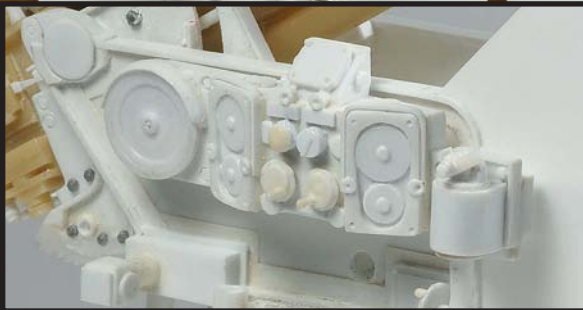
I then added seats, elevation and direction hand wheels and fire controls. For all these details I was quite lucky as I found a non modified post war gun near home positioned as gate guardian in a public garden!



By the time these parts were finished I had completed my 1:35 "translations" of BGS fuze setter device which was built with laminated plasticard. The swinging holder column was then lathed from a piece of 5.6mm solid styrene rod. It was quite an operation as thin styrene tends to bend once lathe cutter comes into contact with it, and if you misjudge the speed it will melt. After some failures I finally found the right speed and with several very light cutting tool passes I was able to obtain the two pieces making the column. I made them to fit snugly as I

had not yet decided how to position the fuze setter on finished model.

It was then time to tackle front shield. Luckily after having analysed few photos I obtained a technical drawing which helped a lot in sizing the armour plates and most importantly gave the sides and upper parts the right slope. It was then just a tedious work: plates were held together by conical nuts and rear bolts, It was by no means riveted, (a mistake I found in the new IBG Lancia 3RO Autocannone) so with lots of patience and a serious stock of Model Kasten Conical Head bolts and Meng Nuts I started the "slice and glue" operation.

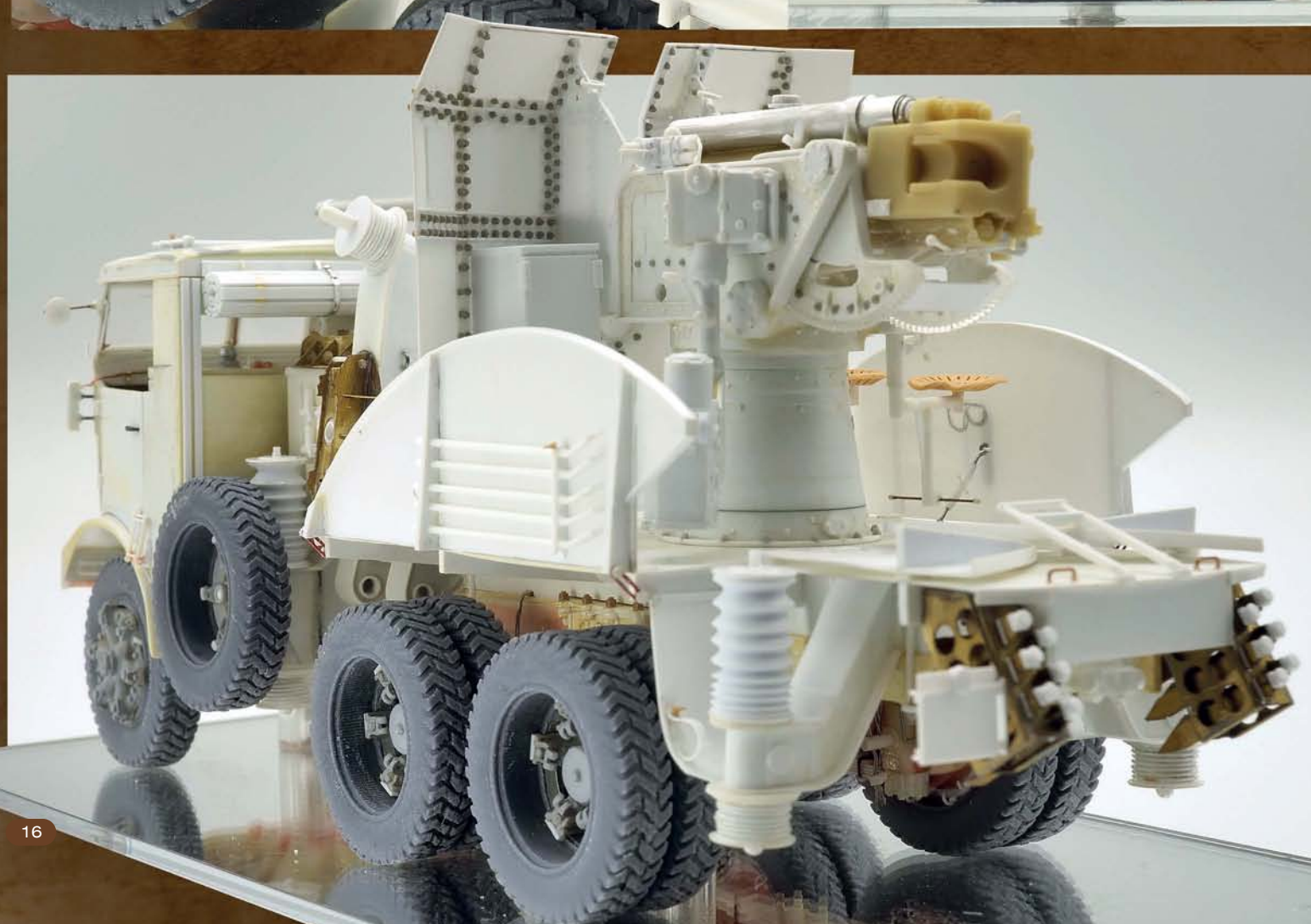


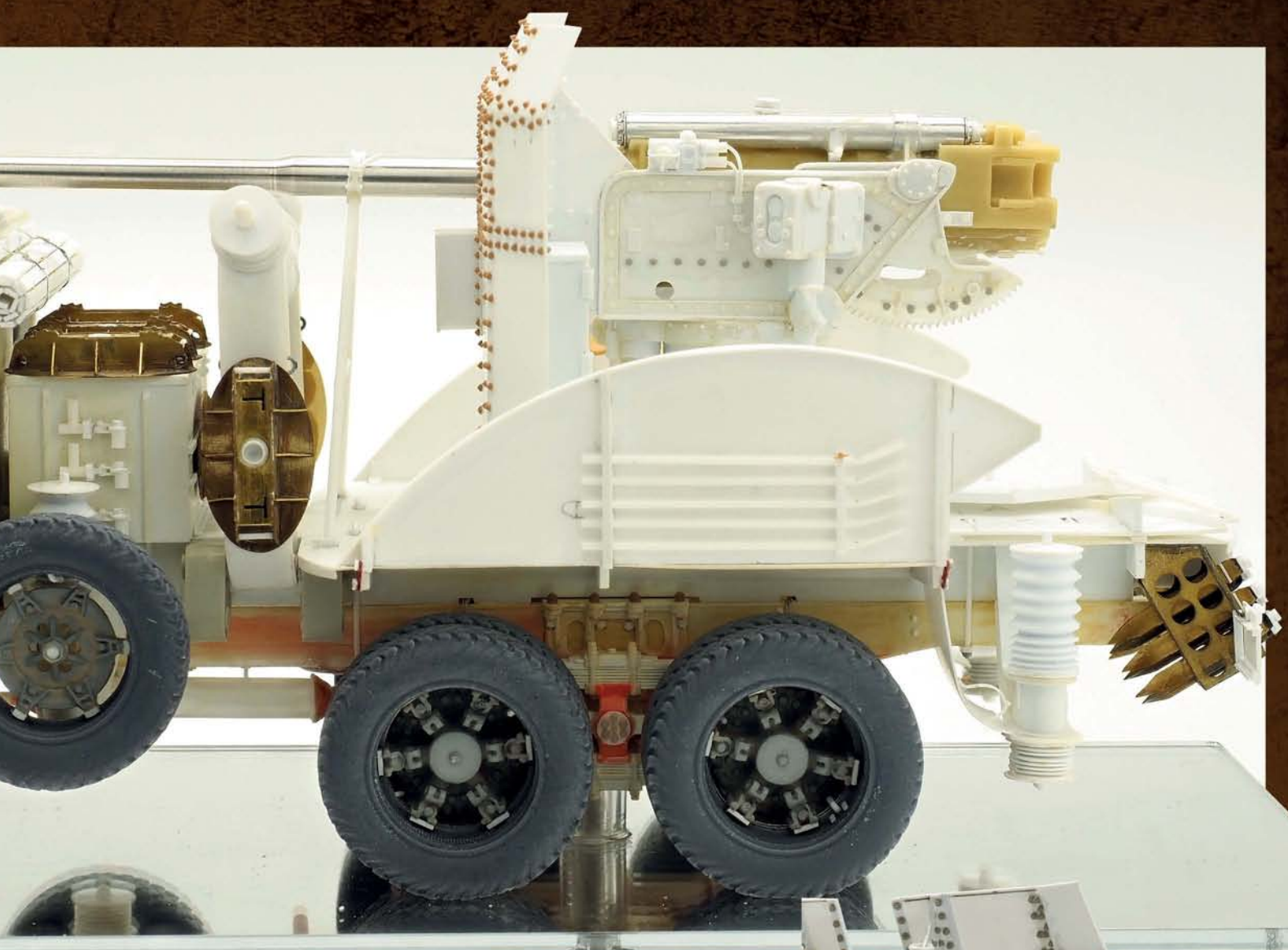
Autocannone da 90|53

SU

BREDA

52





FINALLY...

It took me about 21 years to complete this build. Lack of information, low motivation and ultimately life, caused me to put all the pieces on the shelf several times but I still wanted to see it completed and finally I reached my goal. Looking at the completed model I have mixed feelings, on one side relief, not having it looking at me from the shelf, on other side I am really, really concerned about painting. Honestly I don't know if I would ever dare to put it in front of an airbrush.

This is for sure one of the most obscure subjects in the Italian WWII arsenal but I already have some more on my bench.





BEUTE-BULLI

MICHAEL WOLFF TURNS HIS STALIN 607(R) ARTILLERY MULE AGAINST IT'S OLD OWNERS

During the initial phase of the Second World War captured vehicles played an increasingly important role in Europe. During the invasion of France and the capture of Dunkirk in 1940, the French and British armies lost many of their vehicles which subsequently fell into the hands of the Wehrmacht who still relied heavily on horse-drawn transport. Many of these trophies were examined, converted or transferred into service. The majority of the captured armoured vehicles had to be abandoned during combat due to a lack of ammunition. In contrast, supply and transport vehicles which could be repaired gave service until the end of the war.

'Beute' vehicles were used by Germany in all theatres from Norway to North Africa. The Russian army also lost a considerable proportion of its stock in the early days of the invasion of the Soviet Union. Everything that could not be taken in retreat fell into the hands of the Wehrmacht. Among them were the Russian army's workhorses - the "Voroshilovets Tractor", a vehicle which was mainly used to transport heavy artillery and to recover armoured combat vehicles. The army took over these "tracked trucks", which were equipped with a W-2 tank engine, a much sought-after towing vehicle which was produced in Russia in small numbers in the years 1939-1942. The "Voroshilovets Tractor" was based on the chassis of the T 24 armoured fighting vehicle, had a payload of 3 tons and a transport load of 22 tons. The speed was 42km/h. All of these points allowed it to be used as a towing, transport and recovery vehicle.



OUT OF THE BOX (GOES OUT OF THE WINDOW!)

Originally I had planned to build the Trumpeter kit directly out of the box, a model that could be created quickly and without major alterations and then enjoy painting. Over the course of the build I found out that there are many possibilities to enhance the model with more detail. A number of accessories are available for the detail demanding model maker and the idea of rebuilding the load-bed from birch plywood was born so I started to search for a suitable material that would meet my needs. E.T. Models supplied me with the appropriate etched parts set, which is mainly dedicated to the rear body, the engine and the interior of the tractor. I also replaced the single link tracks from Trumpeter with working metal links from Friul.

I used 0.6 and 0.8 mm birch plywood for the new body of the load bed. This can be found in well-stocked building merchants or in architectural supplies.

The construction began, as so often, with the chassis and drive-train. I tried to stick strictly to the building instructions, Trumpeter attaches great importance to accuracy of fit which is reflected in this kit. The wheels and the drive sprockets were quickly assembled and mounted on the vehicle. Only minor damage to the rollers had to be repaired with a scalpel blade and the vehicle suspension springs replaced with copper wire.

After that, the work on the lower body followed. Here too, everything was done quite quickly and without major alterations. I refined the exhaust system with Mr. Surfacer 500, which has the right 'grain' for just such work. For application it is best to use an old brush, whose bristles are shortened. With a dabbing motion a realistic rusted texture is created.

The work continued with the superstructures in the front area of the Art.S. Stalin 607 (r.). The fine detailed front linkage is taken from the E.T. Models PE set. Because some etched parts have to be put together here, I decided without further ado to connect all components with the soldering iron, flux and solder. This creates a strong connection and solid basis for later assembly.

As mentioned previously, I decided to use the excellent single link Friuls. These are characterised by very realistic sag and enhance the prominent focus of the tractor, the exposed tracks. I'd recommend this upgrade even if only for the enhanced detail finesse. At the End of the construction phase, the entire interior of the Art.S.Stalin 607(r.) was completely painted in matt black, so that no bare plastic would shine through later in the construction.



The drive components consist of a large number of well detailed individual parts.



When gluing the track rollers, you should make sure that the height of all components is maintained so that the track has a perfect fit.



The springs of the suspension have been refined with 0.6 mm thick copper wire.



For the exhaust system I created a realistic texture with the help of Mr.Surfacer 500. Before that the plastic was roughened a little and covered with revell glue.



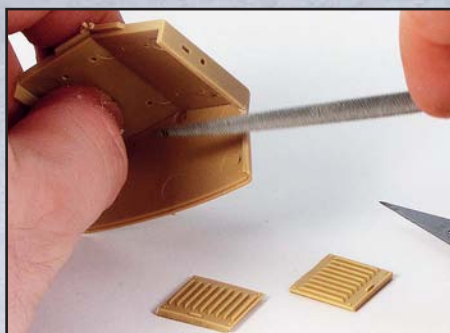
After the assembly of the exhaust, I formed a suitable welding bead with Magic Sculp.



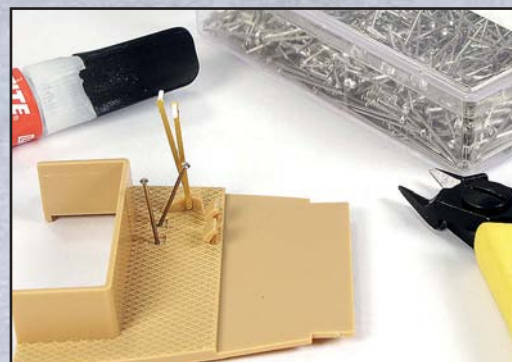
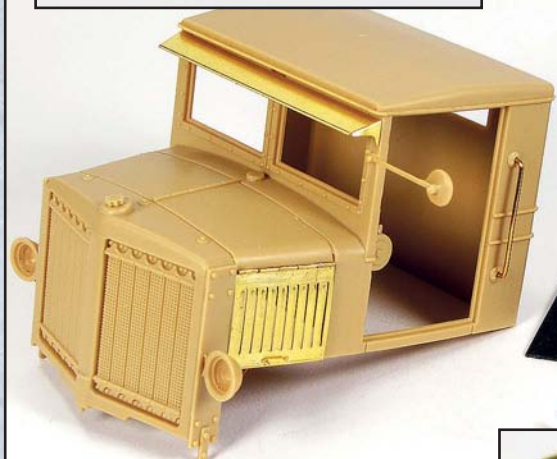
I joined the first etched parts for the front suspension by soldering for strength.



The plastic tracks were replaced by the finely detailed tin tracks from Friul.



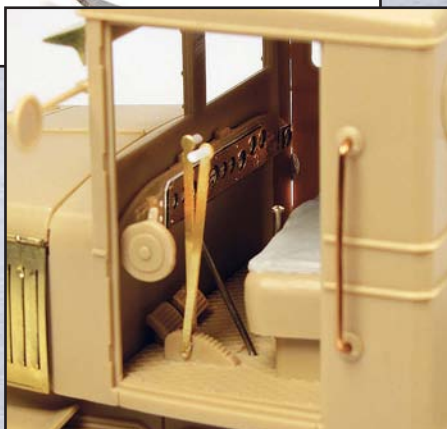
The louvred panels of the engine compartment are removed and replaced by photo-etched parts.



Further etched parts and handles made of copper wire were attached. For the shift and steering controls, pins (from office supplies) were used in addition to the etched parts.



The cabin is partially open, which requires at least a minimum of interior equipment. I covered the seat with a thin layer of Magic Sculp and shaped it.



The etched dashboard also found its place inside the "tractor" in the meantime. Now all important parts could be dry-fitted and glued.



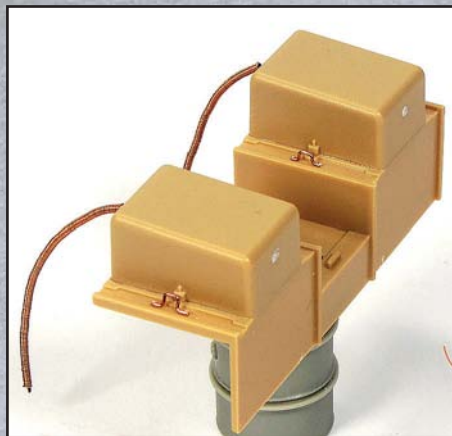
A newly designed rear seat made of copper wire, Evergreen and Magic Sculp found its place. For the form of the springs I made a jig from pins pushed in a wooden block.

The ventilation and maintenance covers are solid moulded on the kit parts. Since I wanted to add some finer details in this area, the removal was absolutely necessary. The PE-set from E.T. Models makes it possible to add finely detailed open louvred sheet metal so you could see an engine if added. This is not the case with my model - I could not find a suitable one, but nevertheless, the cab looks much better now. I removed the plastic parts, cleaned the edges and inserted the etched parts including detailed hinges. Now the cab interior followed. The kit parts fit together perfectly, even with my own details and E.T. parts it came together quite quickly.

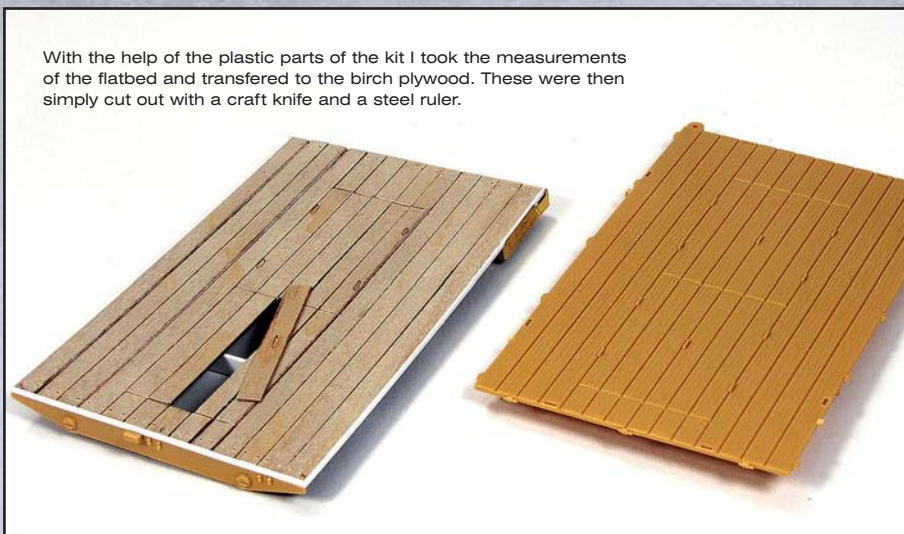
After finishing the interior, I took care of the exterior and especially the load bed timber construction. The side walls are replaced by thinner and finer detailed wooden planks of birch plywood. They

are beautifully textured and can be worked on and damaged at will. As the main parts were cut and prepared with etched parts, further details are added with plastic stock and fine brass tubes. On both sides I added stirrups made of finely bent copper wire and finally mounted everything on the prepared platform. After the main parts were assembled, I added the kit parts of the fuel tank system which was detailed with a hose made of coiled copper wire.

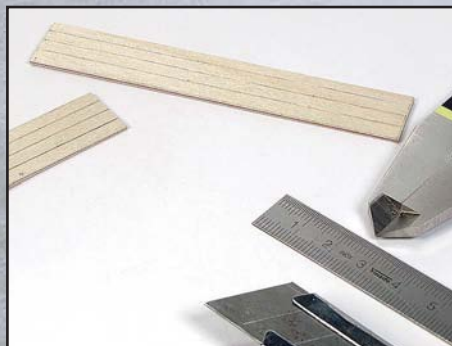
The additional seat, which consists only of frame and springs, is an interesting eye-catcher and scratchbuilt. The tarpaulin was also made from scratch from plastic profiles and modelled with thinly rolled out Magic Sculp. Finally I placed a few barrels, canisters and equipment on the load platform.



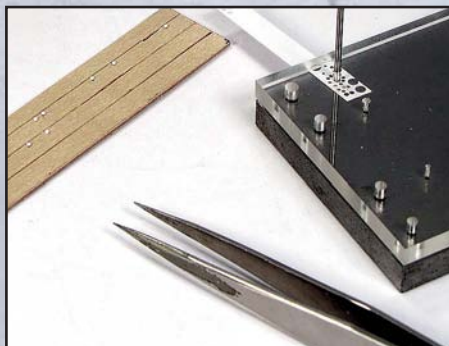
After I had checked my references, I added the two diesel tanks with the corresponding fuel line using wound copper wire these were quickly built.



With the help of the plastic parts of the kit I took the measurements of the flatbed and transferred to the birch plywood. These were then simply cut out with a craft knife and a steel ruler.



With the same procedure I also made the side walls. Not so difficult once I had the knack of it!



As the detailing of the side walls played an important role, a large number of rivets had to be punched out and glued. A commercially available Punch & Die set is used.

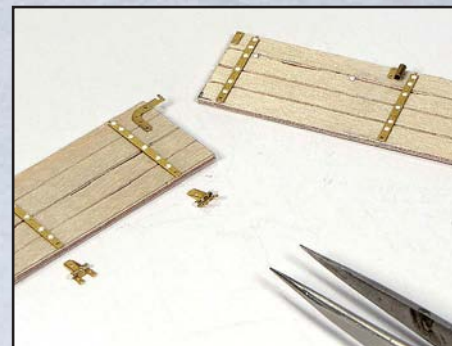


Photo-etched parts, brass tubes from Albion Alloys and plastic rivets were joined together to create a harmonious and detailed feature.



The final assembly of the loading area went smoothly. However, the parts should always be adjusted dry before they are finally stuck together with super glue. Meanwhile the cabin as well as the platform could be fixed on the chassis, thank goodness it fit at the first go!

Magic Sculp rolled thin made a tarpaulin to cover the platform and the load.

TIME TO LAY SOME GREY

First I airbrushed the darker areas with a Tamiya mixture of Flat Brown and Black. After that follows the typical Wehrmacht grey of Tamiya XF-25 Light Sea Grey, XF-8 Blue, XF-2 White and XF-50 Field blue. This paint was applied thinly in several layers and was made a little lighter on the upper part of the vehicle. This clearly brings the zenithal light into the foreground. The load bed got a light brown base colour of Lifecolor acrylic, after that everything is sealed with a mixture of Tamiya X-21 Matt and X-22 Clear in a ratio of 1:4. The surface is a perfect base for Archer decals. These are carefully applied by means of a set and sol providing a good grip. In the next step I started to age the wooden base. For this purpose a mixture of different brown and grey tones is mixed thinly and applied. After a short drying time I work in the wood grain with a wide brush to emphasize the fine details.

The smaller details, like the fire extinguisher were tackled next, painted with Vallejo acrylics. The interior of the cab is of minor importance, but nevertheless some areas can be visible from the

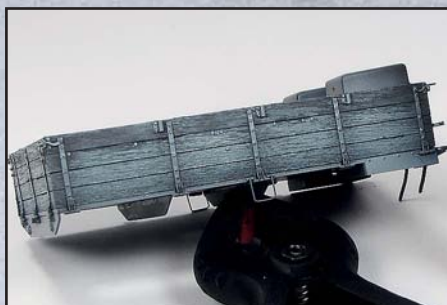
outside. The cabin is shown in Russian green on the inside and thus retains its original appearance. The seat is primed and aged with Vallejo colours, a realistic representation of leather with wear and tear is the key. A few items such as oil can, tow chain and map complete the interior.

After the model had its complete basic painting including the lightening, the exhaust system was installed. No matter which vehicle, wheeled or tracked, the depiction of rust is always a special challenge. I find the set from Lifecolor "Rust an Dust" most suitable. With a thin filter the spotted areas are then blended and structured with pigments.

Finally, washing and pinwashing are used to bring out the details around the vehicle. For this I mix a dark tone from different oil colours heavily thinned and work on all recesses with a thin brush to create more depth. Fine scratches and damage follow in the next step and give the vehicle a certain aging and realism.



After finishing the assembly all corners and edges are pre-shaded with a mixture of Tamiya XF-10 and XF-1.



The successive layers of paint produce the typical Wehrmacht grey. First the base colour of Tamiya XF-63 German Grey, followed by a thin layer of XF-8 Blue, XF-50 Field Blue and XF-25 Light Sea Grey. For brightening I added Tamiya XF-2 White.



The wooden planks were started with their natural colour. I sprayed a mixture of Lifecolor UA 201 Yellow-Brown and UA 90 Sand on the surface.



After drying I covered the model with a silk-matt layer of Tamiya X-21 Flat Base and X-22 Clear. This layer serves as a base for the decals. The dry rub decals are mostly made by Archer. For application the Set & Sol from Micorscale is well suited.



I used a mixture of different brown and grey tones to weather the wood surface.



Before the doors are fixed to the cabin, the interior has to be painted and weathered. Besides wire, chains and oil canisters, maps and documents also add interest to the interior.



For painting the exhaust I traditionally use the colours from the "Rust and Dust" set by Lifecolor. Afterwards I covered the muffler with a filter from MIG Productions. The final touch is a few rust-coloured pigments from the same manufacturer.



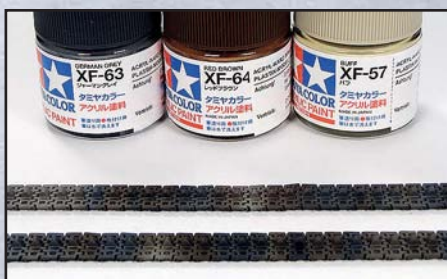
The metallic effect on the contact area of the drive wheels was achieved with Gun Metal Pigment from MIG Productions.



With the help of dry decals from Archer's range, the matching tactical symbols and divisional insignia could be displayed.



The track was first primed with Tamiya X-1 Black.



Afterwards a balanced painting with different Tamiya colours followed. Finally everything was covered with Tamiya XF-57 Buff.



Both washes and dry pigments finished the inside track surface, the external track weathering was completed when the groundwork was painted.



The first weathering step is a washing with highly diluted oil colours. I like to use a mixture of Sepia, Brown Umber and Black.



I 'glazed' the headlights with a 2 part epoxy glue. One should pay attention that the glue is mixed well on a glass plate, so that no air bubbles appear during the drying time.



Now follows a first washing with fine pigments in the colour 'Dry Mud' mixed with pigment fixer.



The tracks are now in place and I'm ready to place the vehicle on the base. Only the cab still has to be placed and fixed.



In this picture you can already see the extensive load being carried. Imagination but also background knowledge is required. Spare components of military vehicles and equipment had to be transported transported with the armoured units. The equipment is painted each piece at a time. A colourful combination of parts from the spares box is added and thoughtfully arranged. Also small parts like gearwheels and screws from broken clocks and watches find a place here.

GETTING GROUNDED

To make the base small and compact, I cut out a piece of insulation foam and edged it with balsa wood from the building supplies store. In this phase you can still place the vehicle freely until the right position is found. A layer of modelling clay is applied which is pushed into shape with a brush and water. Finely crushed bonsai earth gives the surface the basic structure. I put fine roots and stones into it to create more variations. After a sufficient drying time of 24 hours, I placed grasses of different heights from the ranges of Heki, Noch and Silhouette on the base and worked in etched plants from Royal Model. Also laser cut nettles were used, which harmonize perfectly with the grasses. Afterwards the vegetation is sprayed with different shades of green. XF-52 Flat Earth, XF-57 Buff and XF-15 form the basis for the earth colours which were sprayed with the airbrush. As soon as the base colour has dried, additional colour variations in the soil are created by lightening everything with XF-2 gently sprayed. With highly diluted oil colours additional depth of detail was achieved. Finally, the figure and the vehicle are brought into position, glued and fused into the landscape. Fine Silflor moss cushions around the vehicle complete the landscape design and show how varied vegetation can be.



The basis of the landscape consists of insulating material on which a layer of modelling clay is applied. The track imprints are pressed into the soft clay.



Using Magic Sculp I formed a tree stump with roots. Very little of the roots remain visible, they almost disappear into the ground.

Again and again I carried out adjusting tests, to make sure that the vehicle got its exact place.





The ground was covered with fine bonsai earth, fine sand, small stones, various grasses from model railways and etched plants. Also a boundary stone - made of insulating material, I carefully fixed at the wayside.



The etched plants are from Royal Model, they enhance the landscape detail considerably.



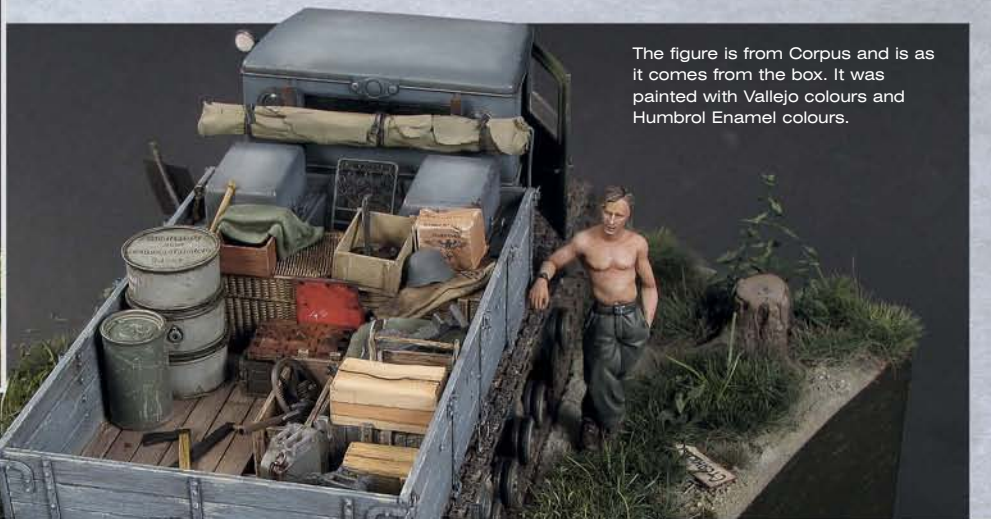
Beside the etched plants there are also some laser-cut nettles. Sheet by sheet has to be carefully bent along the copper wire, glued.....



...and then painted. When the glue is dry, the leaves are airbrushed with different green and yellow tones.

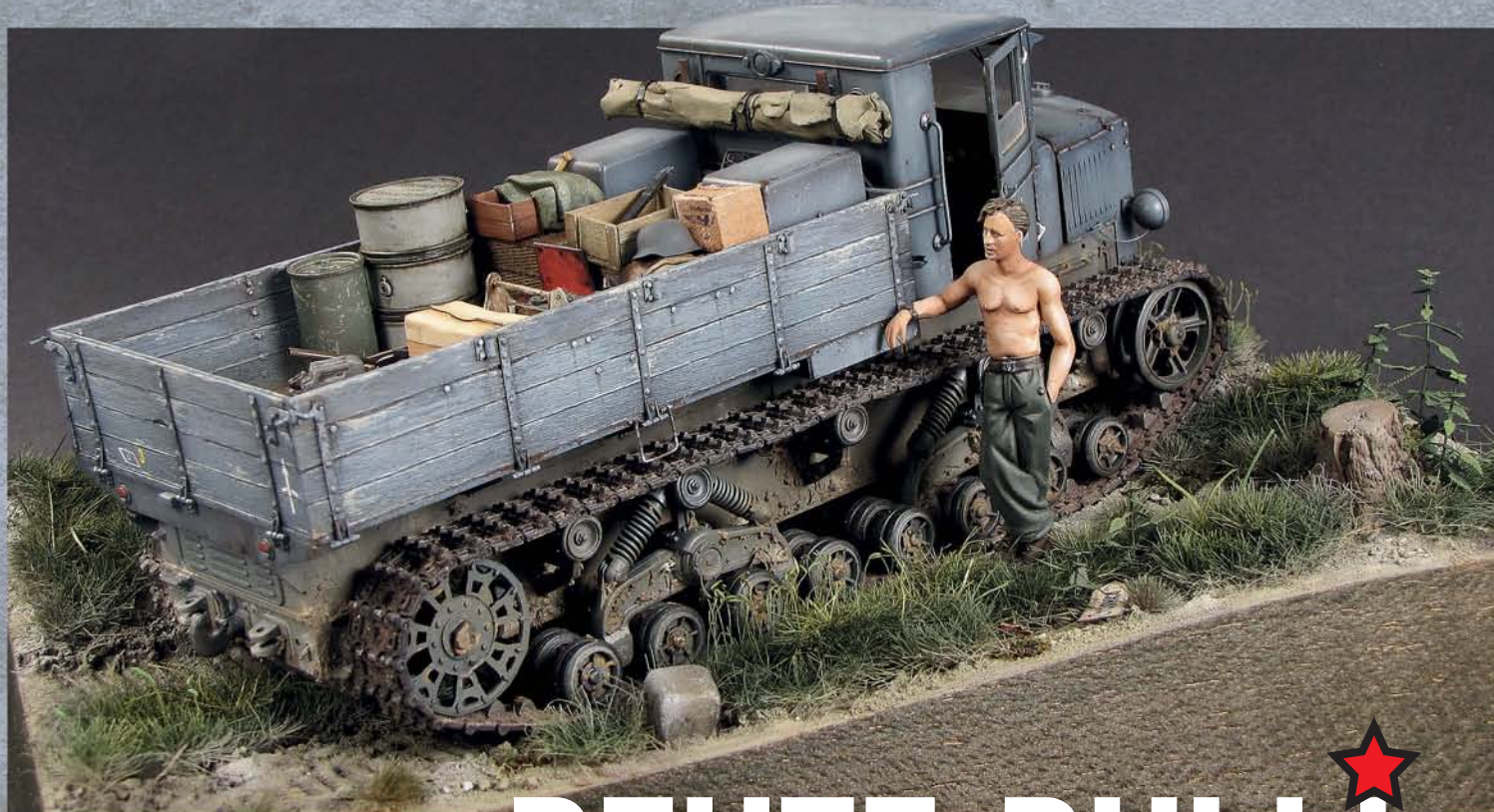


After the soil has dried out and all grasses have found their intended place, the vegetation and the soil could be treated with airbrushed colour. It is important to create different shadows and light effects with different tones which give a varied and natural look.

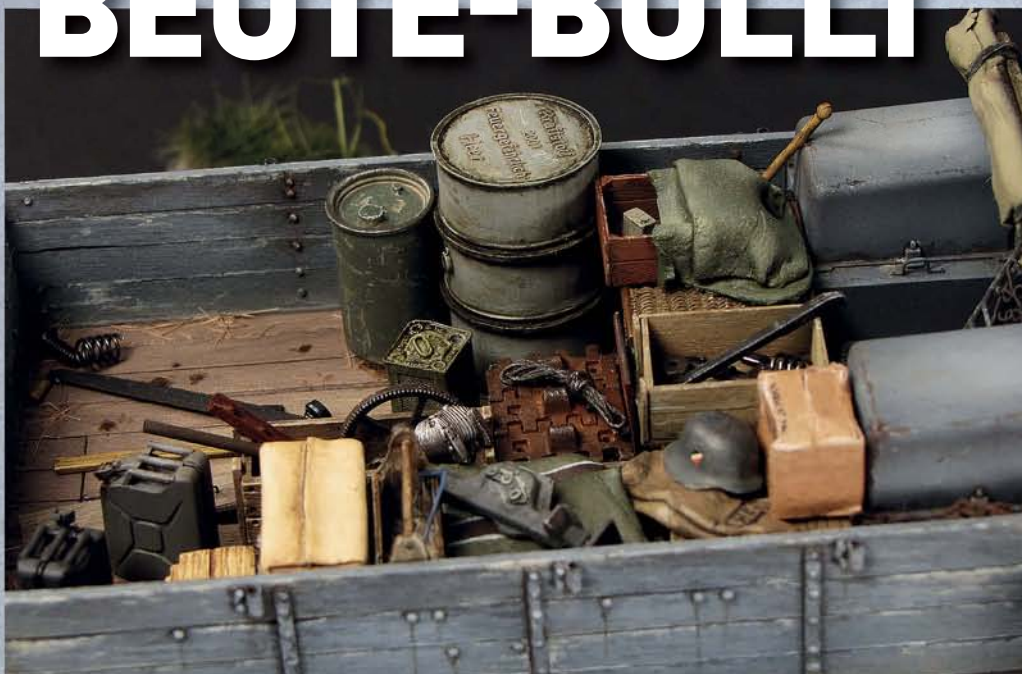


The figure is from Corpus and is as it comes from the box. It was painted with Vallejo colours and Humbrol Enamel colours.





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Generally the Germans were not afraid of allied armoured vehicles, at least not as much as their armoured vehicles scared the British and the Americans, however there was an English tank that terrified the Germans to such an extent that often the infantry surrendered without fighting at the mere appearance of it: the Churchill Crocodile. It was a fearsome vehicle, its fiery flamethrower could reach from 110 to 150 meters distance and was able to annihilate everything in its path. The crews of these tanks were hated to the point that if captured they were often shot. The

Crocodile was derived from the Churchill MK VII, of which it also kept the 75 mm gun in the turret; the flamethrower was placed in place of the Besa machine gun in the hull, while the gas cylinders and the fuel were transported in an armoured trailer, connected to the tank with a universal joint, so as to allow it to be towed even off-road. It was a very heavy vehicle, used in a specialized way and only at a short distance; it was generally used to destroy the most impregnable fortifications.

FIRE & ICE

1:72

ANDREA VIGNOCCHI
ADDS THE FIRE BREATHING
TO DRAGON'S CHURCHILL





Developed at the behest of General Percy Obar starting from 1943, the vehicle became operational in 1944, in time to participate in the Normandy landings; about 800 conversion kits were produced, but 250 were kept in reserve in the event of an invasion of Japan. The Crocodiles built were sufficient to equip three regiments of flamethrower tanks, distributed in various units that operated mainly in France, Germany and Northern Europe until the end of the conflict. Some of these vehicles were also present in Italy, with the 25th Armoured Assault Brigade. The end of the Second World War did not end the Crocodile's career, which returned to operation in 1951 during the Korean War, with the 7th Royal Tank Regiment.



The only small scale kit is the very old Airfix in 1:76, so making a Crocodile in 1:72 was impossible, at least until AP Models produced a resin conversion set to make this tank. I had a preview of the set available, with some details to modify and fix, but the bulk was there: Mk VII turret, trailer and all the necessary modifications.

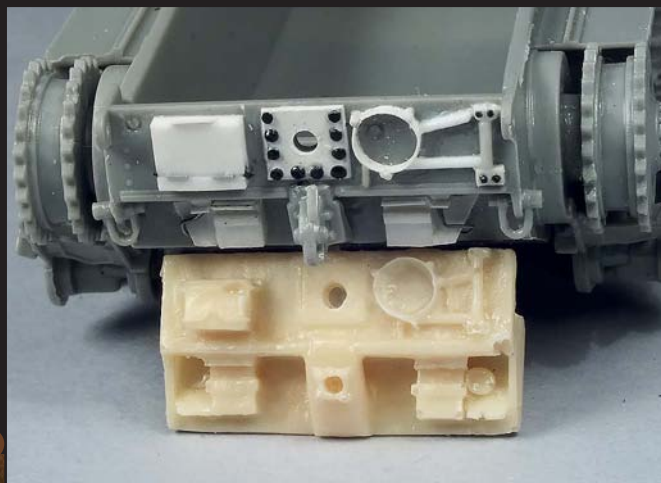
The kit to base it on is the usual Churchill MK IV from Dragon, with all the problems and simplifications that I had already faced when I did the Churchill AVRE, but there's any nothing better sadly.

As I said, the AP Models conversion was a pre-production series, so the definition of

some details left a little to be desired; I then cleaned the trailer of imperfections and scratch-built the doors, side tubes and handles, then I added some loads from my parts warehouse, as you can see in archive photos; with a little work the result is excellent.



Now let's move on to the turret, which is very well reproduced; it was enough to drill it out with a motortool burr (it's a habit of mine, you could very well leave it solid by putting the figures or closing the hatches...). Some external details of the turret, having a better definition, were taken from the Dragon kit; the periscopes were glued in the lowered position. The rear bin is redone starting from the Dragon one, suitably lengthened and shaped like that of the MKVII; other small external details of the turret are redone in scratch, taking inspiration from reference photos of preserved tanks.

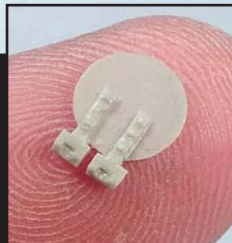
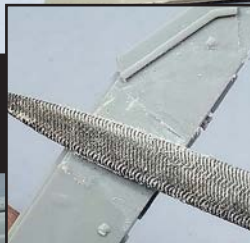


One of the most problematic parts of the conversion set was the rear plate: I decided to scratch-build everything in plastic, using the original part of the kit as a base. On the other side, the front shield with the circular hatch, typical of this version, and the flamethrower were perfect; it was enough to remove some ribs on the front part of the hull, not present on the MKVII, so I glued the front armoured plate with cyano glue, adapting its shape with bits of plasticard. The nose is completed by adding the welds around the armour, the headlights, the flamethrower nozzle and some bolts made from slices of black stretched sprue. The track adjusters were also detailed with plasticard and bolts; ultimately, bringing the Mk IV Dragon kit to the Mk VII standard required more modifications than I imagined.



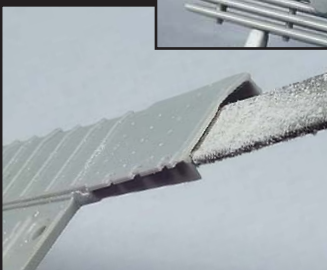
As usual I have to start fighting with Dragon simplifications; but where did the fantastic kits of the early days go? Here we have the cables, tools and exhaust assembly moulded integral with the hull, I can't stand it! First I removed the cables printed on the sides of the tank using a flat blade and smoothed the side as good as possible.

Even though the AP Models set included the whole hull side in resin, I preferred to modify the plastic part to have a better bonding of the hull. I started by eliminating the square doors of the Mk IV, then I sanded the resin part until the detachment of the round door that will be glued on the plastic side. At this point I was able to assemble the lower part of the tank, but in the hurry to see the result of the modification, I did not observe well enough the front part of the hull side, which in the Mk VII is very different; nothing wrong with that, I eliminated the detail and with some plasticard I created the right shape of the armoured plate; a few bolts made with black sprue completed the modification.



In the rear part of the hull side I added protective plates on the radiators, as seen in many tanks photographed during the conflict, and I made another mistake, positioning the spare track link as in the Mk IV; once again I had to detach it and clean up the area.

Having finished assembling the lower part of the hull, it is time to correct another simplification of the Dragon kit: the complex exhaust system of the Churchill is molded integral with the upper part of the hull, with a horrible lack of three-dimensionality, therefore, very carefully, I removed everything, including the tools printed on the engine cover plate. After cleaning the whole part, I assembled the upper part of the hull, replacing with plasticard the area I cleaned with the burr. Above the engine there are many details such as hinges and inspection doors handles, so you have to work with caution, using the burr gently and at low speed; in conclusion, it's a chore that could have been avoided if the Dragon mold makers had kept the standard of their first 1:72 kits.



The modification work continues by eliminating the sections of the front, center and rear fenders, a practice often performed by Churchill crews to prevent mud and debris from blocking the tracks; also, in my opinion, the tank becomes much more aggressive this way. I cut out the sections of the fenders with a Tiger hacksaw and then thinned out the edges with a file for a more realistic scale effect.

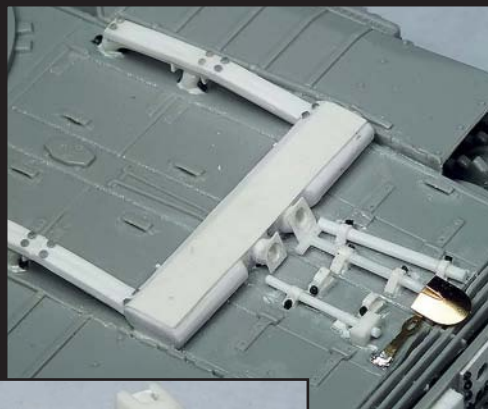
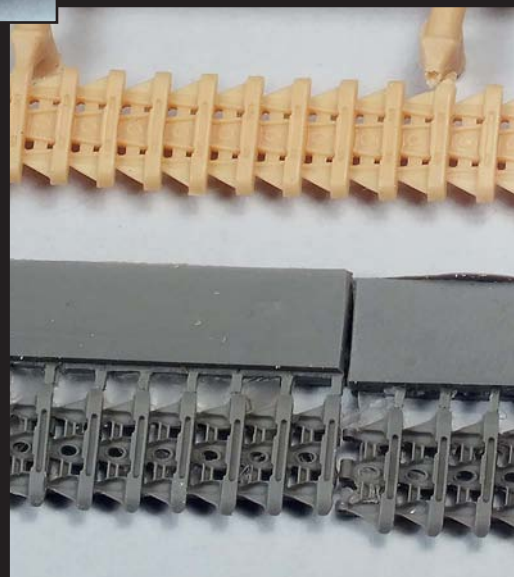


Dry-fitting the upper hull, I realized that the front mud scraper was different on the Mk VII, so I had to reshape it with plasticard and a file; the modifications really never end... By the way, I also had to add a third periscope, placed between the two front ones for the Driver and the operator of the flamethrower

The front fenders inner part on the Mk VII is different too. I had to remove the rivets and the box located to the inner left side of the fender, then I added reinforcement plates and stretched sprue bolts. At this point the upper hull is almost ready; I did some dry tests to see if it fits well on the underside.

As you can see from the track sections fixed to the sides of the hull, I got the really beautiful resin tracks from OKB. The Dragon tracks are not bad either, but the detail of the resin ones is stratospheric; the only problem is that they have a lot of flash to clean up and it is a long and delicate job, as the tracks are very fragile and easy to break. Fortunately, the type of tank makes it possible to hide the imperfect joints under the mudguards.

The resin tracks are presented in horizontal sections and to mount them just glue the first track section with cyano glue on the sled behind the front sprocket, leaving most of the track in front, after which just heat it slightly with a hairdryer; in this way the track becomes soft and we can rest it on the sprocket wheel. Warming it up progressively, I made it follow the whole wheel and leaned on the first lower rollers, then I inserted other sections until the whole loop was completed. The final junction between the various sections is placed under the fenders. Certainly they are not easy to install, but the level of detail obtained with these tracks is priceless.

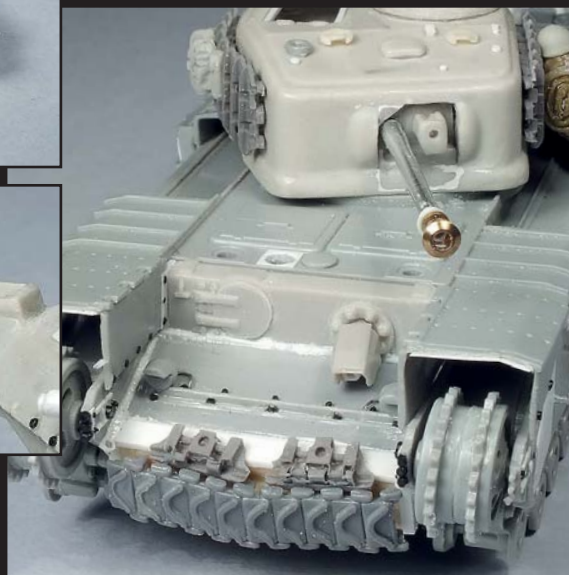
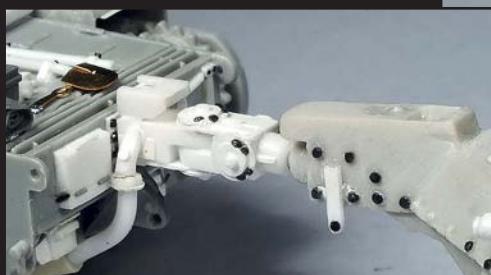


Now let's rebuild the tank exhaust, using plasticard rods and U profile sections. The two mufflers are made by shaping plastic blocks and adding the exhaust terminals; the bolts are always made with stretched sprue and in the end the result is much better than that proposed by Dragon. Even the tools are scratch-built; only the shovel blade and the pick come from a photoetched set and with a little work this area is greatly improved.

The resin joint that connects the trailer to the tank was not bad, but I wanted to increase the detail to the maximum by completely rebuilding it; the construction was complicated, but the result I obtained is worth the time spent.



Looking at the photos of operational Crocodiles, you can see many track sections used as an additional armour, sometimes even using tracks from Shermans or German tanks. I have put on the front of the vehicle the Extratech tracks of the M10 tank, which, being single-link, allow to obtain the rounded shape that I had seen in some photos. Even the single links placed on top are inspired by the same photo; I also used a metal gun barrel, really beautiful.

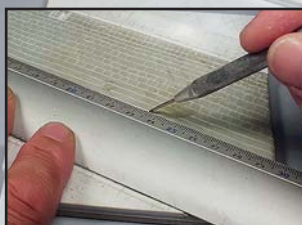


As I have already written in other articles, I love the overloaded aspect of the operational allied tanks. In the case of the Crocodiles we must not exaggerate, because these tanks had limited use; they were often transported by truck to the areas where their intervention was required and the trailer was towed by another truck, this due to the extreme slowness of the Churchill, further worsened by the weight of

the trailer. However, tracks, crates, tanks, tarpaulins and various bags can be seen in the photos of these vehicles, so I added track links on the hull sides and on the turret, metal crates, tarpaulins and some backpacks; I find that the look of the tank is much more realistic this way.

Many of the loads come from Value Gear, which produces a lot of sets in 1:72; I had

also used them for the B-17 and they are really nice and realistic, especially in the way the tarpaulins and boxes are paired. The result of the long detail and conversion work is remarkable; the rear part of the tank reproduces correctly the trailer joint and its pipes and various accessories give an operational aspect to the Crocodile.



Before starting the painting of the tank I wanted to set up the small diorama: for the first time I wanted to create some ruins around a northern Europe resin house that I had bought some time ago. Setting the scene in a town that is German, French, Dutch or Belgian requires doing the usual cobblestones, omnipresent in the photos of those streets during the Second World War. The method is always the same: first I created the sidewalks by engraving the plasticard, then I applied a coat of two-component putty Magic Sculpt, I tried to level it as best as possible, but not too much, then, when it dried, I engraved the tiles one by one (boredom at the highest levels...). I had seen photos of a German town where the stones were very irregular and of various sizes: I tried to recreate that effect, but perhaps I exaggerated with the size of the stones. Fortunately, mud and snow will greatly attenuate the exaggerated appearance of the cobblestones.

The rubble is made by first gluing pebbles of various sizes to simulate the collapsed stones of the wall, then mixing raw pumice stone with pebbles, resin rubble, pieces of the roof boards and house floor. I applied the first layer of rubble, inserting, before the pumice stone dries, parts of the roof beams, the entrance door partially submerged by the rubble, a chair and small parts of balsa slats, broken in an irregular way. It must be said that this pumice stone paste shrinks a lot when drying, so a few layers were needed to obtain a convincing thickness; to be my first experience, I think I got a credible result, at least for my personal taste.





Since I wanted to try to make a tank in winter camouflage, I had to choose the most suitable method to obtain a convincing white camouflage; in the end I decided to do everything without using lacquers or weathering products, working only with brush and airbrush. First of all I applied a little mud on the typical areas of Churchill, always without exaggerating: I used the specific Tamiya product, mixed with vinyl glue.

The painting begins by applying a layer of white, on which I made a very marked pre-shading with a very diluted dark green, then I sprayed a semi-transparent layer of white, in order to obtain a first fading effect of the washable white paint, used in the field by the crews.

Later I used a dark earth colour in the areas most prone to accumulations of mud and dirt, then, using white, I highlighted the areas that seemed too dirty; it is a question of playing a game of transparencies and glazes, always working at low pressure and with extremely diluted colours. I come from aircraft modelling, where this method is widely used and allows good colour control.



At this point the airbrush work is finished, the base is bright and contrasted, ready for washes and effects with acrylic colours. I started by preparing the running gear: after an oil wash on the rollers, I painted their outer part with acrylic white, emphasizing the recesses with a dark outline. The parts in direct contact with the tracks are painted with a metallic colour; the

technique resembles that of figure painting, a game of lights and shadows. The tracks need to be painted and weathered before assembly and to do this I used a basic dark rust colour, then a wash with AK Track Wash. After a coat of an acrylic clear matt to isolate the colours, I applied some drybrushing with Humbrol earth enamel and, finally, I painted the

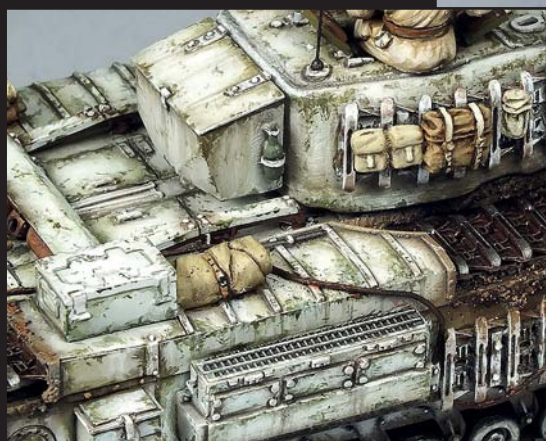
parts in contact with the ground and with the roadwheels with Vallejo Air Steel. The tracks are then ready to be assembled with the method illustrated above; in the end the result is beautiful and realistic and I believe that this type of track will be a constant of my next tanks.



After completing the lower hull, I was finally able to assemble the superstructure of the tank, finish the various slots and insert the periscopes of the Driver and the operator of the flamethrower. A light oil wash highlighted the recesses of the model; I mixed sepia and white in order not to have too strong a contrast on the white of the camouflage. The Crocodile begins to take shape!



Lately I often see tank models in which the winter camouflage is eliminated with numerous steps until the underlying green almost comes back; I didn't want to get this effect because I liked the idea that white was predominant and worn, but not completely gone. I think that, in the small scale, precision, contrast and details definition are fundamental for a model and in my opinion the best control of these effects is obtained with a brush with acrylic colours, using methods similar to figure painting, carefully adding lights, shadows and profiling of every detail. Illustrating this process with photos is not easy, because the colour variations are sometimes almost imperceptible under the light of the lamps; in principle it can be said that I use very diluted colours also for the scratches where the underlying green appears, so as not to have too sharp contrasts between white and green.



A series of successive shades with extremely diluted white and green colours create the transparencies, highlighting the areas where the white is more saturated or where the green paint shines through under the winter camouflage.

A careful profiling of the recesses with dark colours such as the American Olive Drab highlights the recesses. The inevitable mud dripping and dirt stains were made with the same method, overlapping very diluted layers of mud, until the right consistency and nuance are obtained. It is a long and demanding process, but I think the end result is worth the effort.



The crew figures came from the beautiful Mig set dedicated to English tankers in winter gear. I replaced the commander's head with a Millicast one that wears an officer's cap and headphones, while the second tanker had his position changed, so that he could sit on the side of the turret looking forward; I liked the position, it was dynamic and less static than the original one. The usual painting with Vallejo completes the figures.

The 3 foot soldiers with the coat are from Millicast. They are really beautiful, but with one flaw: they have short legs! The coats almost touching the ground, making them ridiculous; the solution was to lengthen each leg by about two millimeters with a plasticard rod glued with cyano glue, then shaped to follow the folds of the trousers. Subsequently, each leg was fixed back to the figure with a copper pin inside to have a stronger bond. Thus "elongated" the figures are much better proportioned; some weapons, such as the Bren and some rifles, have been replaced with finer and better defined resin parts. The last two infantrymen are in plastic from Zvezda; the sculpture is not at the level of the resin Millicasts, but the postures are natural and after the painting they look good too. The function of the figures in a diorama is very important and must be chosen well: the three soldiers with coats help to give a sense of winter and on many of them I have painted the balaclava and gloves, always to convey the idea of cold. These are small details that contribute to the realism of the scene.



I do not deny that the painting of the diorama made me think a lot because I wanted to achieve a dark effect, typical of winter; choosing the colours of the street and the house was not easy and I absolutely did not want to cover all the work done for the rubble with snow. I also needed a dark road surface to give the idea of wetness and make the tank stand out at the same time. After a search on the Internet, I found some photos of an old village in Germany still with the cobblestones of those times: in some photos the pavement was damp and took on a very dark, almost greenish appearance and here's the idea! I started



by painting each brick with Vallejo colours, using shades ranging from dark grey to khaki and olive drab, mixing these colours together to get even more different shades. The sidewalk, on the other hand, has a more greyish and very dark tone, as well as the bricks on the outer sides of the road; it is important to try to put the tank on the road, to see if the set of colours is harmonious.

After choosing the basic colours of the road, I dealt with the colouring of the rubble that looks like an indistinguishable dark grey mass. To highlight the texture of the debris and identify stones and boards



to be coloured with different tones, I made a Buff oil drybrush; in this way the first light tones are created and the details to be painted with acrylics are better identified. Also in this case, looking at photos of destroyed stone houses is essential to understand the colours to use; the difficulty is to create different but very similar tones to obtain the chaotic but at the same time uniform aspect of the rubble. In the photo you can see how the colour of the house wall stones is the same as that of the collapsed rubble, a very important detail for the realism of the scene.



A very heavy wash with Cassel Earth highlights the texture of the cobblestones and begins to tone down the too bright colours of the bricks, then a series of drybrushes with various greys and browns will uniform the colours of the street and sidewalk. Now wartime photos come back into play, where you can see how the continuous passage of tanks and trucks brought a layer of mud on the paved roads; I tried to achieve this effect using the Tamiya soil paste and in the end the appearance of the mud is convincing.



At the end of the road, I noticed that the walls of the house looked too light compared to the rest of the scene, so I went over all the joints between one stone and the other with the very diluted Olive Drab, also giving the walls the damp and cold look of the scene.



The final challenge of this work was the snow; after all the effort and time spent making the road and the rubble I didn't want to cover everything with a white mantle... At the same time, a tank in winter camouflage was out of place in a scene without snow, so I thought I'd make a scene where there was only a little. AK snow products are very good and have been of great help to me. With Terrain Snow I created the piles on the side of the road; applying it with a wet brush you can shape it to perfection. Immediately after, with water and vinyl glue, small patches are created which are covered with Snow Microballons powder; this is applied by aspirating a small amount with a dropper, then gently tapping the dropper with a finger and the powder descends as if it were really snowing. In the end the effect is very realistic.



The small area on the ground where the fountain and the marker stone are located first received some dry bushes from the Mininatur range, then with the method used for the road I created the snowy areas around the bushes, putting more layers of microspheres to create areas with a greater accumulation. Roadside snow usually has a dirty colour that I reproduced by infiltrating the snow with an extremely diluted mixture of khaki and olive drab,

almost dirty water. Finally, it was enough to put a few patches of snow on the rubble using AK microspheres and the job was done. In the end I was very satisfied with the result; I was pretty fearful of messing around, but with the right products it was easier than expected.

A pole holding a road sign with the name of the street and some arrows with military indications fills one of the empty corners of

the scene. On the road I created tank tracks with mud and I highlighted them with a lighter colour on the cobblestones; even if fictitious, the effect gives the idea of the passage of heavy vehicles. Finally the base is ready: I think I got exactly the dark and cold look I had in mind. It was not easy to choose and mix the colours and I had to modify them several times with oil washes and drybrushes, until the desired result.



FIRE AND ICE



The figures complete the scene and give life and proportions to the diorama. I was inspired by the same photo of the Crocodile in Holland mentioned before to position the figures; these vehicles were very vulnerable to the German anti-tank Panzerfaust: one hit was enough to transform the tank into a fireball and for this reason they were often accompanied by infantry for protection.

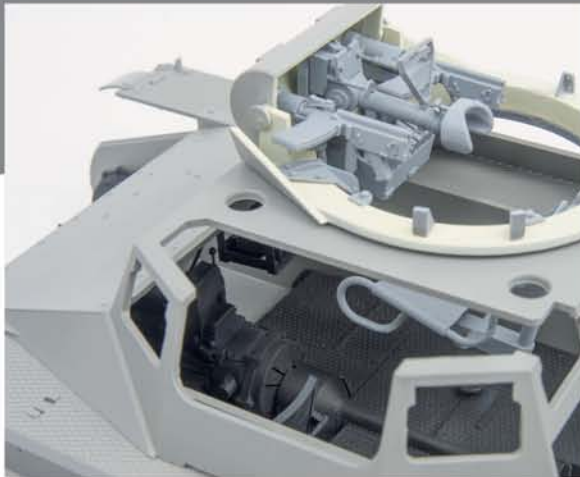
Making this model really enjoyed me; I learned new techniques and tested very good products and I'm already thinking about the next winter diorama.



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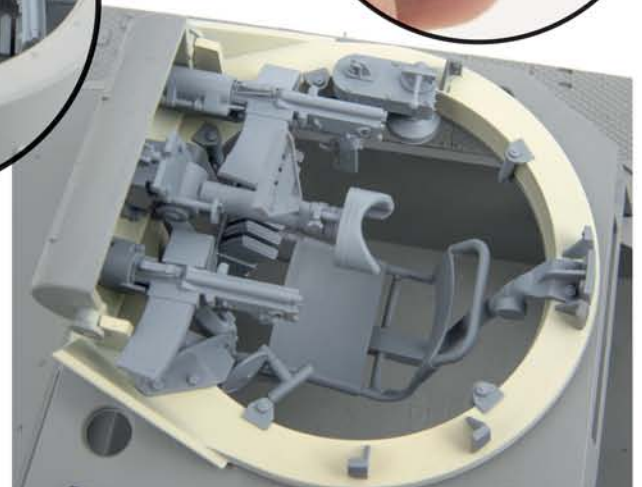
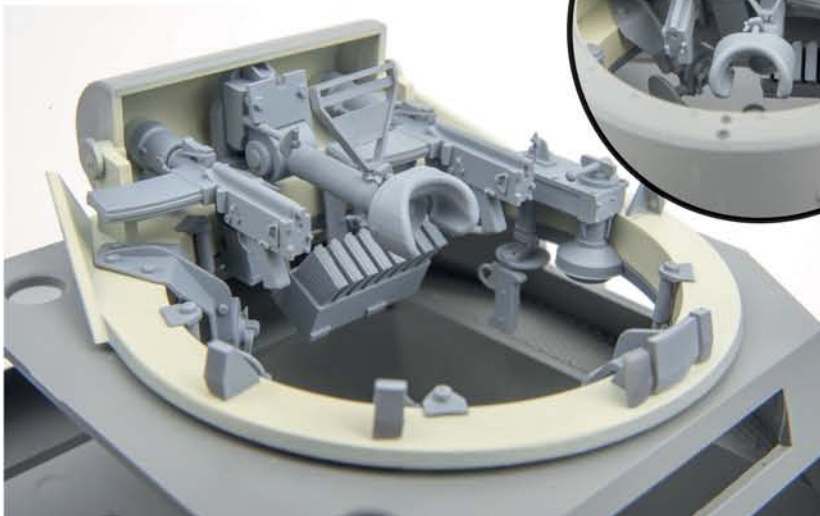
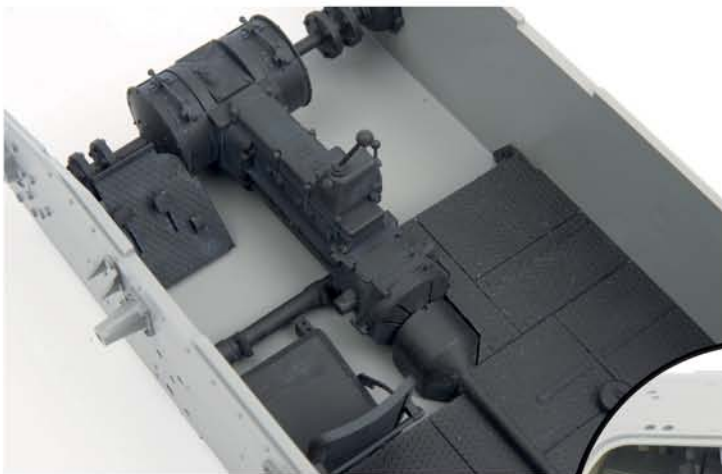


1:16 PANZER I INTERIOR SETS

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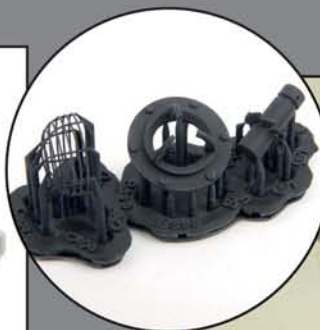
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1:16 PANZER IV
BOW MG MOUNT



1:16 PANZER IV TURRET EXTRACTOR FAN



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1:16 GERMAN GYROCOMPASS



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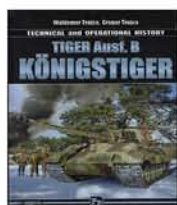
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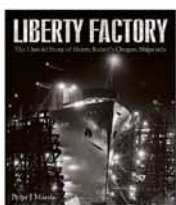
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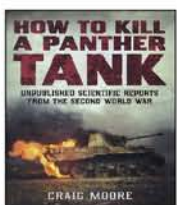
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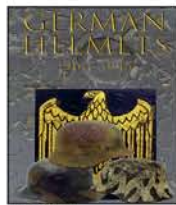
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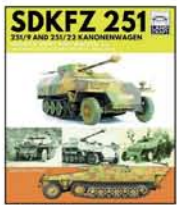
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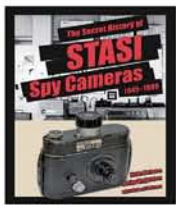
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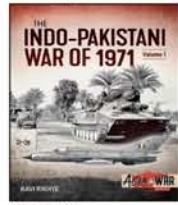
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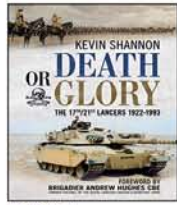
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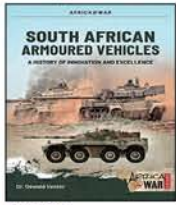
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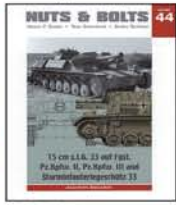
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David Parker builds Trumpeter's 1:16 kit

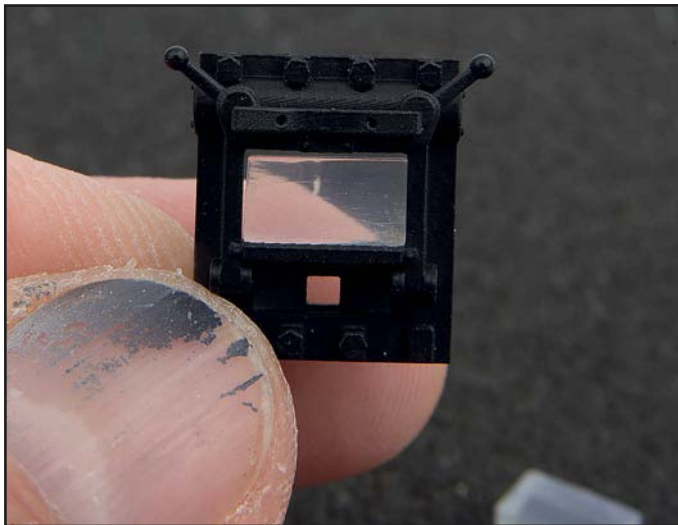
Part Thirty Six

The beginning of April marked the sixth Anniversary of this seemingly never-ending project. Encouragingly this also sees the completion of the interior now within sight, although not within the scope of this installment. The purist in me is I have to confess not entirely comfortable with any additional parts that I have not scratchbuilt myself. But I also don't have any qualms about utilising photoetched correction parts or other resin correction sets. This installment sees my move over to also using 3D printed parts that I had designed myself, a process that I have named

"Scratchprinting". There is no magic print solution with 3D print and it takes a considerable amount of time and thought to generate printable designs and in retrospect I set out to construct some of the most complex elements for a 3D design novice. Certainly this adds another useful tool into my repertoire. My new cupola and bow MG mount are good examples of the possibilities that this offers. Fitting the upper hull at last was certainly a bit of a landmark but also demanded that various details be added before the walls of the hull restricted access further.



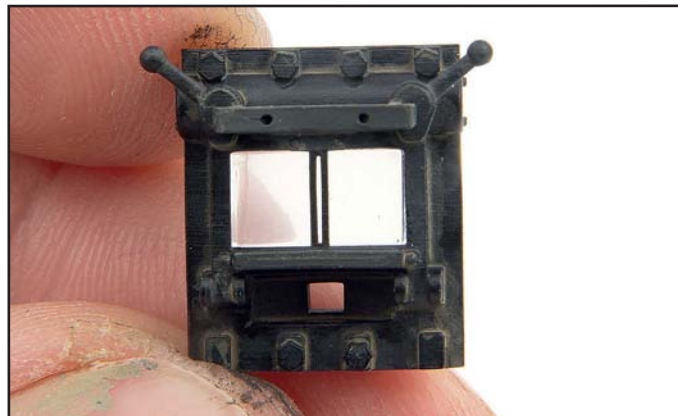
Once I had cleaned up the printed parts I was able to start to assemble the cupola. I began with the vision block frames. The transparent vision blocks are a little cloudy but some progressively finer sanding/polishing made them clear.



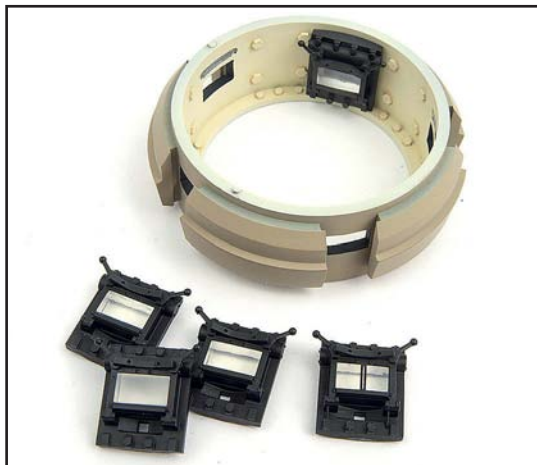
The polished up vision block slides into the frame from the back and is glued in place using a dab of PVA glue.



I pre-painted all of the vision block frames and applied weathering before moving ahead.



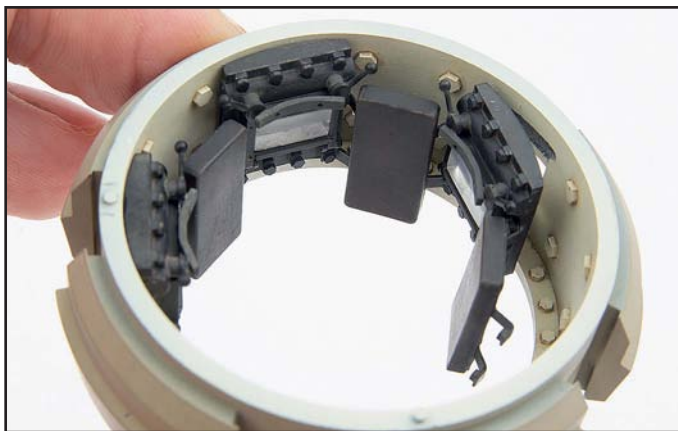
The front facing holder has a simple slot to help the Commander align with targets using this and the pointed post mounted ahead of the cupola on the turret roof. This fine detail was a part of the 3D print remarkably.



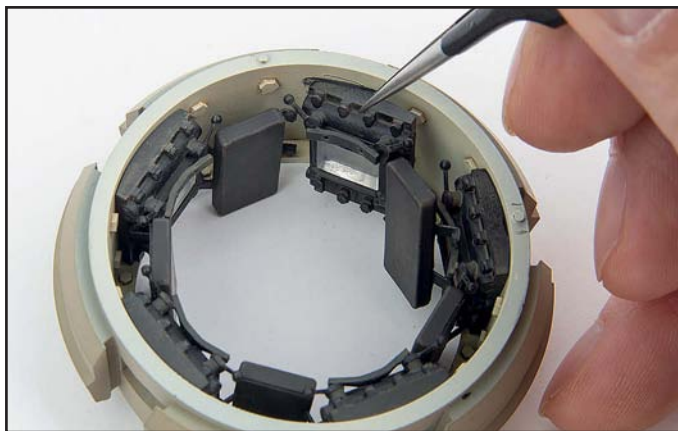
I also painted the base colours on the cupola drum, Elfenbein on the inside and Dunkelgelb on the outside.



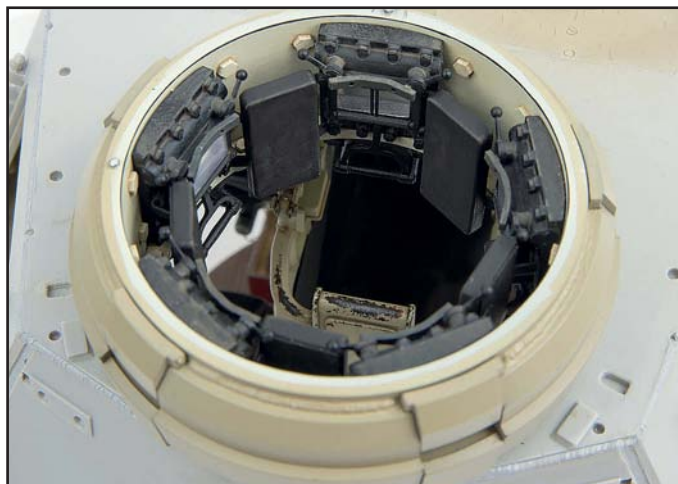
The complex design of the cupola makes fitting the padding between each vision block tricky. I decided to glue a pad to each vision block before fitting the block into the cupola. These are also pre-painted because of the restricted space inside the cupola.



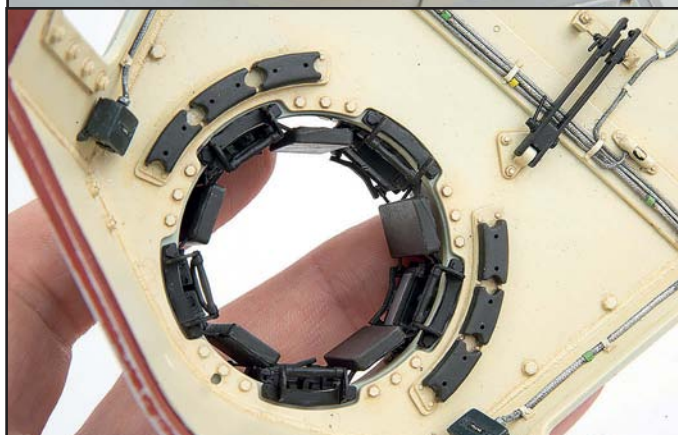
Subsequent vision blocks can then be slid into position behind the legs of the pad with some gentle persuasion.



Fitting the final vision block is of course the most difficult but with care I managed to get everything in position.



The levers that control the opening of the external visors were then added around the base of the cupola.

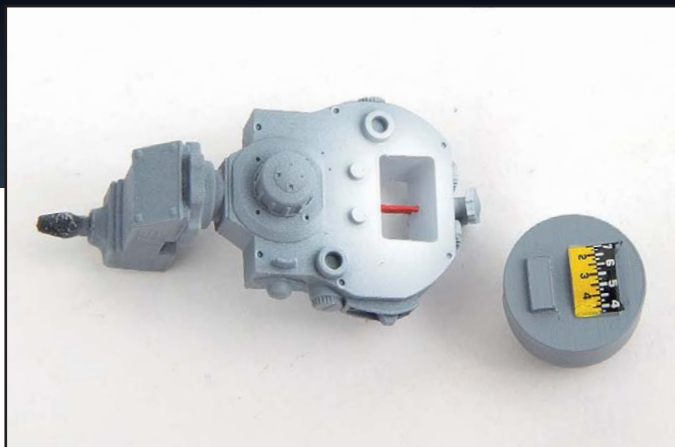


Test fitting the cupola onto the turret shows that all the hard work has paid off.



The visors were then positioned around the external faces and the top of the cupola then drops into place. I added weld beads to the top and bottom edges of the fixed areas of the cupola rings. The hatch, locking handles and hatch stay were then added.





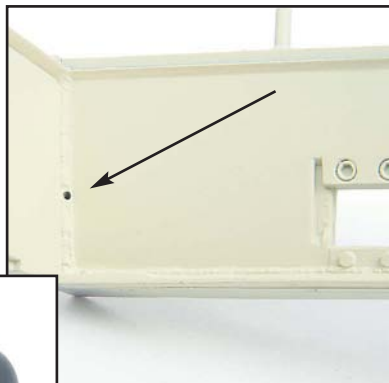
Another candidate for Scratchprinting was the vehicle's gyrocompass which is not supplied in the kit. I had scratchbuilt my own gyrocompass for my King Tiger but my new version was superior in terms of detail and it included the power supply connection bracket which my old version did not have.

I designed the new gyrocompass in three parts to allow the dial to be added easily and so that the front window could be glazed. I used the AFV Modeller decal from the King Tiger decal sheet for the dial markings and the interior faces were pre-painted in white.

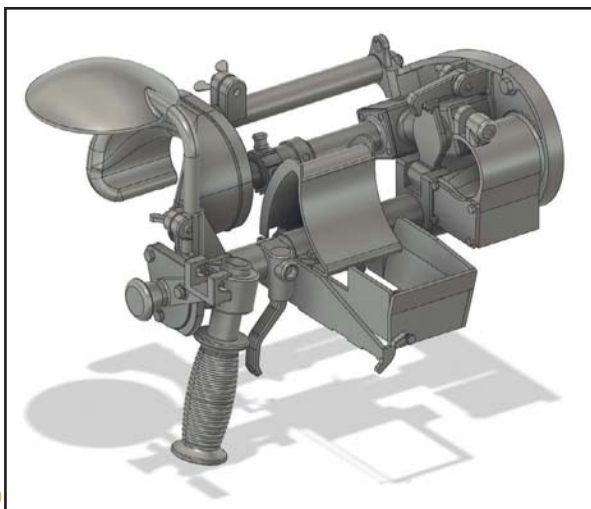


I cut a very small piece of acetate to make the glazing for the window. It was glued into place using diluted PVA glue applied with a fine paintbrush to run the glue around the edge of the acetate.

The gyrocompass was painted in RLM 66, they appear to have been painted black (possibly early versions) or grey. The warning marking on the dome is another decal from the AFV Modeller King Tiger sheet.



The gyrocompass is mounted onto a frame which bolts to the roof of the hull in the front LHS corner next to the Driver. With a detachable roof plate I had to find a solution to mount the compass without it being fixed to the roof plate. My solution was to drill a hole in the base of the dome and fix some 0.5mm brass rod. I drilled a hole in the corner of the hull to accept the other end of the rod which is hidden from view under the dome when installed, allowing the gyrocompass to 'float' in position.

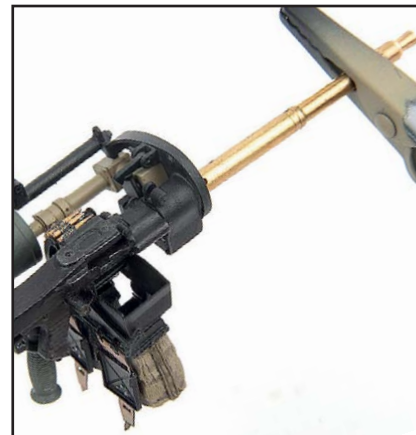
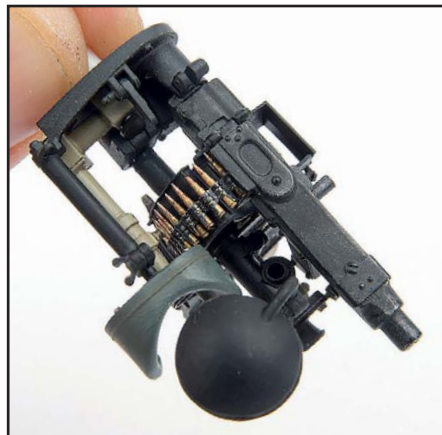


More scratchprinting now for the hull MG mount. I have undertaken the job of reworking the kit parts on the King Tiger kit and it is quite a job. The whole mount is quite complex but also quite fragile. Using this approach I have a more detailed finished result and one that is easily duplicated for any future projects.



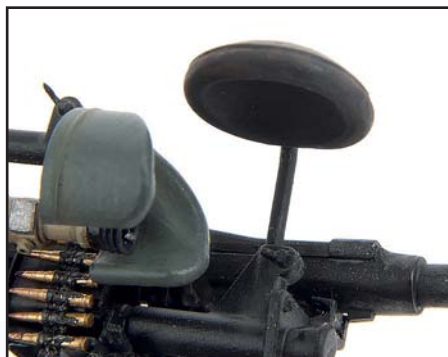
Because my 3D model is broken down into parts it makes it easier to paint during assembly. Here the sighting scope is finished in Dunkelgelb before being fitted into the mount. The pair of gurtsack (from the AFV Modeller range) hang on a crossbar beneath the mount. This bar was simply too fine

to be successfully printed so I added one made from brass rod and scrap photoetch for the brackets at each end. On the front of the frame the pair of spring-loaded clips which hold the sacks up were repositioned to contact with the gurtsacks.

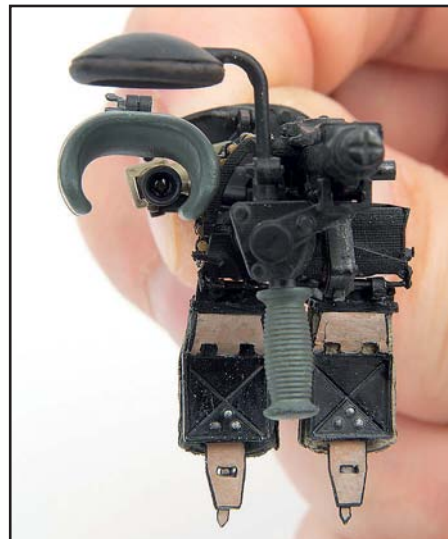


As with the co-axial MG I used the ABER's excellent ammunition to load the gun which takes some patience to feed into the top of the gurtsack and into the breech. I found that the kit MG34 breech has to be widened to accept the ammunition.

The kit gun barrel was removed and replaced with ABER's turned brass armoured barrel which is far more detailed as it is made in two parts with a separate barrel and sleeve. The barrel was blackened using a burnishing liquid.



I added some padding to the inside of the headpad using Magic sculp.



Above a touch of gloss varnish on the lens of the sight scope brings it to life.

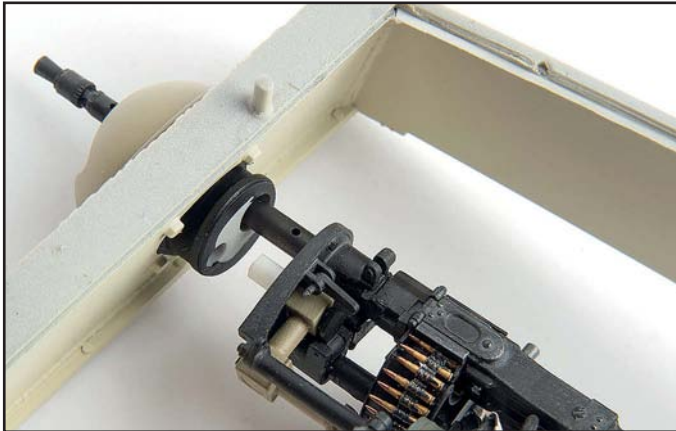
All this looks great on the final assembly but there had been a few mishaps along the way with delicate pieces getting broken or the ammunition rounds detaching themselves from the belt which proved quite tricky to reposition in the feed chute.



Time to prepare the ball mount in the glacié and this was pre-painted before it was installed. On the inside face of the mount the small raised rim was sanded flush.



To help align the gun assembly in the ball mount I added a plastic pin in the hole for the telescopic sight.



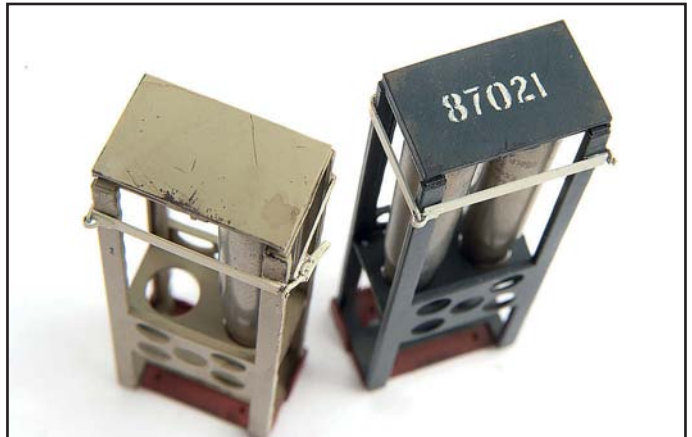
Fitting the gun into the ball mount is then very simple using the pin to fix the alignment.



The gun would be having its final fitting later in the assembly so as not to block access.



My planned photoetched firewall ammunition crates were proving problematic as they were too tall when seated on the base plate. Therefore I designed myself a new slightly shorter version complete with base plate.



I adapted my existing top straps to fit my new crates and I brush painted the vehicle chassis number on the lid of one of the crates, replicating one I had seen on an original crate.



The completed crates were then glued into place on the firewall.



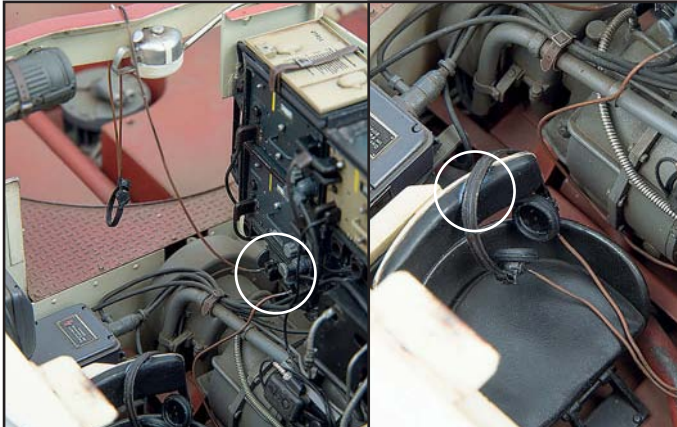
One little detail that I had deliberately postponed for fear that it would be damaged was the handle for the firewall primer pump. This was made from some aluminium sheet and a blob of PVA for the knob



Before I could fix the upper hull walls to the rest of the hull thereby extending the height of the 'box' I would be working in I needed to add the microphones and headphones for the front hull crew. I used the AFV Modeller



headphone/microphone set with the cables made from annealed 0.4mm copper wire. The sets were all pre-painted ahead of installation.



Fitting the sets into the hull proved to be far more difficult than I anticipated. Getting everything into position to look natural stressed the parts causing the cables to snap and the headphones to disintegrate several times.



Eventually I assembled the headphones using 5 minute epoxy instead of the CA I used initially. I also swapped the throat mic cables for flexible resin replacements to help in positioning them. My attempt to fix the headphones



hanging over the Radio Operator's backrest with CA glue both failed to secure them sufficiently and caused the paint to cloud. I tried again using 5 minute epoxy which was far more messy but did at least hold the headphones in position. I had to then attempt to clean up the surrounding areas of the back rest. It all looks very straight forward in the pictures but there is hours of unseen work to get to something that I was happy with. I decided to hang the throat mic onto the morse code key. I agonised about where to position these parts in the hull and no doubt the MG mount would make a convenient place to hook both but I felt that the complexities of replicating this in the model would be a step too far. For the Driver I reasoned that he might well push off his comms equipment and drop it on the ammunition bin behind his seat. This was far easier to arrange but fitting the ends of the wires into the back of the Kasten 20 box in the narrow gap between the ammunition bin was also quite a challenge.





Another small overlooked detail were the pair of small brackets securing the ammunition bin behind the Driver. These were made from plastic and pre-painted before being glued into place.



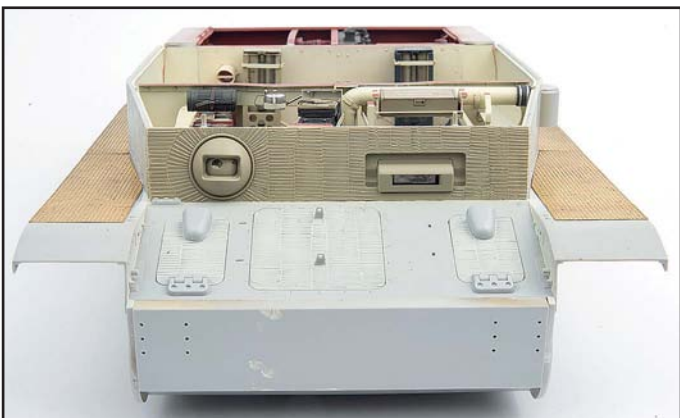
Having already detailed the Driver's visor I added the vision block to the rear which I made from a piece of clear perspex. The whole assembly was painted black and lightly weathered. The exterior visor parts were Also pre-painted.



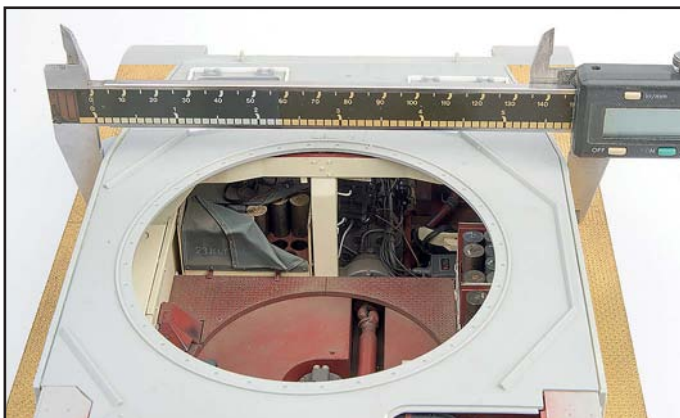
The visor was then glued into place inside the hull.



I added the pair of bolts on each side of the hull wall where the lifting hooks are attached. The bolts were scavenged from the lifting hooks which I plan to replace with an aftermarket alternative.



Finally I felt ready to glue the upper hull into position using Mr Cement S for this and I managed to obtain a good tight joint with minimal gaps on the inside joint to fill. Any gaps there were I filled with Magic Sculp.



Test fitting the hull roof showed the side walls bowing outward. I used 5 minute epoxy to glue the crossbeam ends to the side walls and for want of a suitable clamp I improvised with my calipers to hold everything in position.



5 minute epoxy doesn't always give the neatest finish but in this case I needed its strength to hold everything in position. I accidentally managed to strip the paint from a patch of the sidewall with a glue laden brush in the



process to my irritation. I managed to cover the messy epoxy with the Magic sculp weld beads.





I also added the weld bead to the base of the sidewalls in the bow, the areas of sidewall further to the rear are mostly covered with the ammunition stowage so were left unwelded.



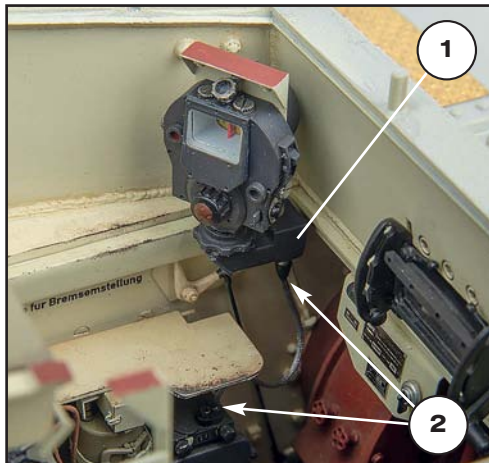
I could now add the grab handle to the RHS sidewall using copper wire and plastic card. The damage to the sidewall paintwork was also repaired.



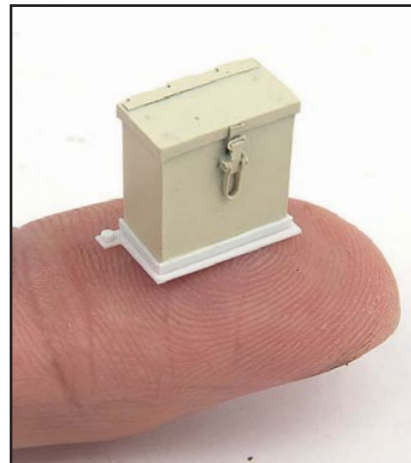
The sponson areas on both sides would collect dust deposits situated under the front hatches as they are. The sidewalls were masked off and I airbrushed a light coat of dust. Before the paint had time to cure I used a wet brush to lift



off select areas of dust exposing the clean paint. Small areas of scuffing were applied to the lip of the sponson where the crew's feet were likely to catch the edges getting in and out.



The Gyrocompass was installed. I had to adjust the position of the power connection 1 so it is parallel to the hull side and the power cable 2 was added between the transformer and gyrocompass. Not without some



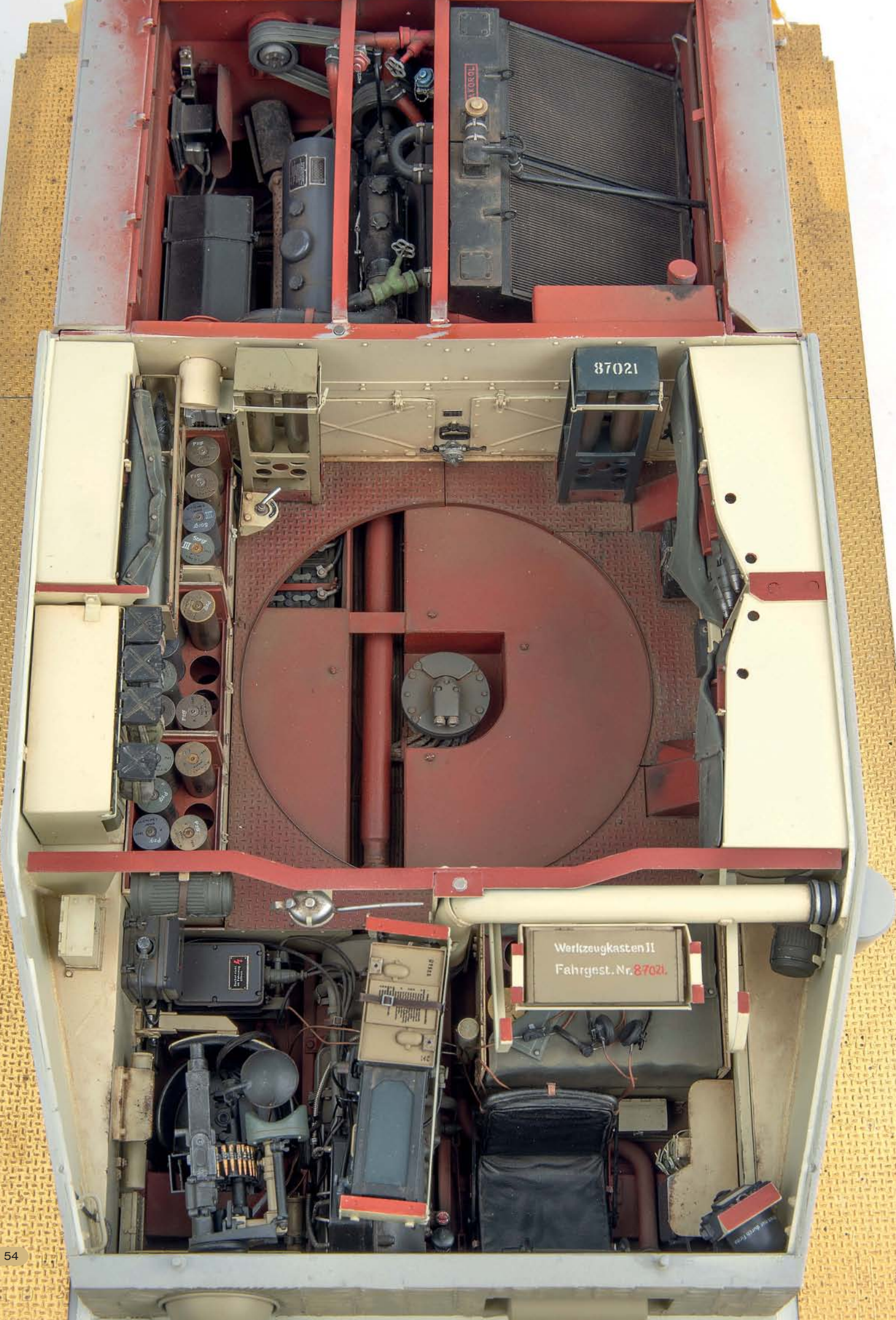
difficulty I fitted the Driver's Gasmask case to the hull wall. I then made the mounting frame for the Radio Operator's Headphone case from plastic card.



The headphone case was then fixed to the sponson above the transformer.



Next I added the power cable for the interior light that is mounted on the hull roof. The cable exits from under the glaci and uses one of the lifting hook bolts as a tether point.



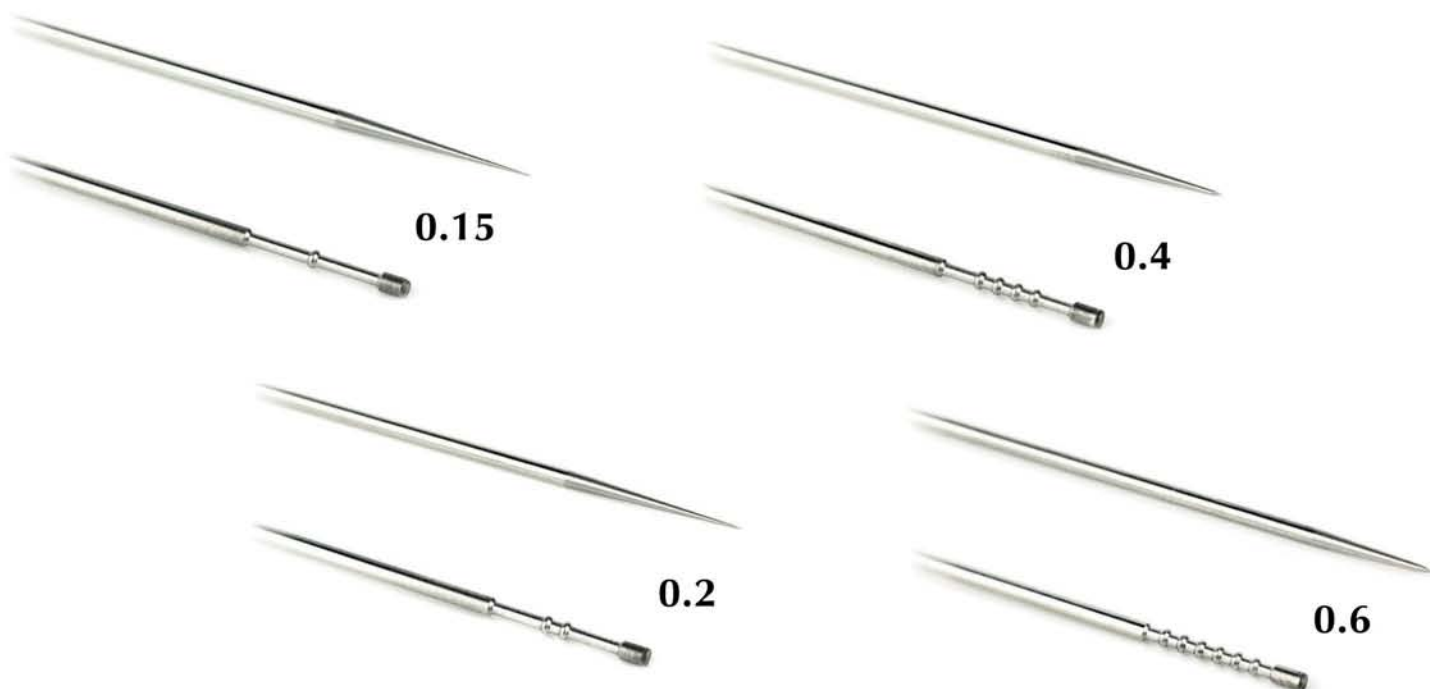
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CHALLY

CHALLENGER ONE MK.3

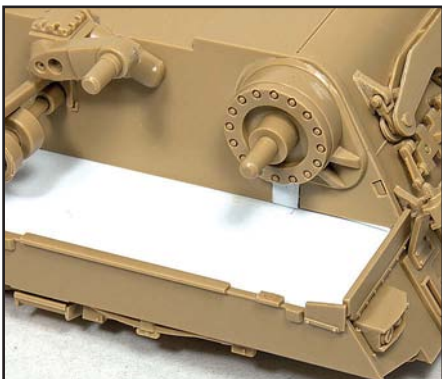
The British Challenger 1 has always been on my top 10 list of aesthetically pleasing tanks. In fact, the first kit I built when I returned to the hobby in the very early 2000's was the Tamiya 1:35th kit of the Challenger 1, kit number 35134. I had bought the kit when it was first released 1986 and had kept it in storage at my parent's house. As it was the first kit to be built when returning to the hobby I just built it straight out of the box with no research done. Several years ago I acquired the Tankograd book (British Special #9020) on the Challenger 1. In 2019 I picked the book up out of my library and gave it a read through again. I was inspired, this time to build the Mk 3 version with the Dorchester add-on armour to the hull; though I didn't yet know which theater of operations I would build to represent (Operation Granby/first Gulf War, Kosovo or training). I picked up the Tamiya Challenger 1 Mk3 from an online trading site in preparation for the upcoming build. What I didn't realize at the time was that Tamiya's original release was based upon a prototype vehicle and thus was not entirely accurate for an in service vehicle. In 1992 Tamiya released the Mk3 version of the Challenger 1 with the add-on armour seen in the first Gulf War. Needless to say Tamiya did

not update the base kit's errors and the add-on armour and rear fuel drum mounts were over simplified and not entirely accurate. While Tamiya is known for producing well fitting kits, the base model does have some fit issues with the turret in addition to the simplifications and errors. As I delved into research for the vehicle I realized this would be a fun project to update and fix errors in the kit as well as perform some scratch-building. The more I researched the more I realized I wanted to build a vehicle that had both the typical British Green-Black camouflage scheme but also show some of the yellow from the Gulf War camouflage. The Tankograd book has a picture on the cover of a Challenger 1 in Kosovo with the Green-Black camouflage but with the frontal Dorchester armour still in Gulf War yellow. Perfect. Some of the pictures of Challenger 1's in Kosovo show that have the rear most side skirts removed. I knew I wanted to include a missing skirt with my model once I saw the pictures. Since I was leaving the rear side skirts off the first modification was to include the missing sponson plates to the hull as well as motorization openings, which is a common item needed for earlier Tamiya kits.

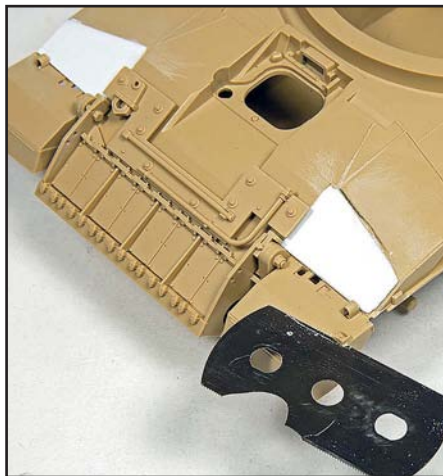
1:35

**MODELLED BY
SEAN M. LYNCH**





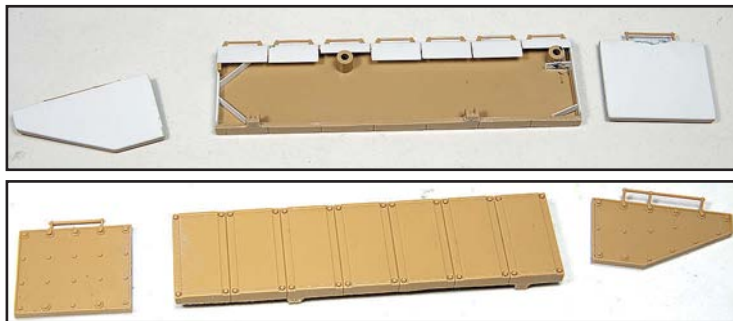
Plastic sheet is used to fill in the portion of the sponsons that will be visible as well has filling in motorization openings.



CHALLENGing times

The frontal hull "cheek" armour of the Tamiya Challenger 1 has a slight indentation to it which is due to the fact that the kit is based upon a prototype of the Challenger 1. This was remedied by first sawing of some of the details on the fender that were either not needed at all needed to be moved forward to accommodate a new armour plate. A rough shape of plastic card of 0.030" thickness was cut out and installed to the desired area. A final trimming was given to the plate once installed.

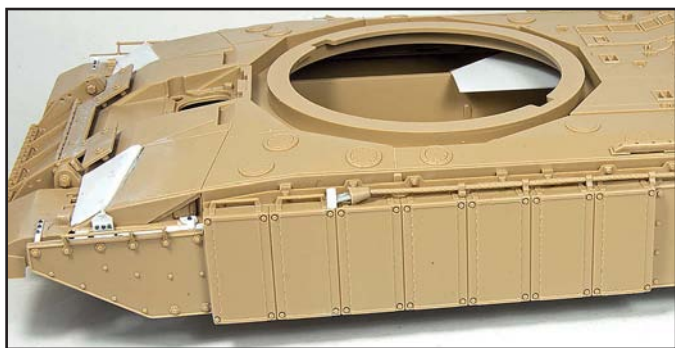
Note that the tools attached to the frontal add on armour would need to be relocated to the rear top of the turret based on further research of reference photos.



The most obvious external feature used by the Challenger 1 Mk.3 was the Dorchester add-on armour installed to the hull, usually only in times of conflict. Tamiya quickly added this to their existing Challenger 1 kit in 1992 in response to the first Gulf War. While it looks the part, they did not account for the hangars for the armour and instead decided to have them attach flush to the hull. Tamiya released their "Desertised" Challenger 2 after the start of the second Gulf War in Iraq. This featured the Dorchester armour that had a bit better detail than what the Challenger 1 Mk.3 kit had as well as a hangar for it, though the Challenger 2 armour is in a slightly different configuration than that of the Mk.3, so it would

need to be modified. The Challenger 2 armour also has dust curtains on the armour that needs to be removed. In the picture above the hangar and armour from the Challenger 2 kit is at the top and bottom while the Challenger 1 Mk3 armour is in the middle. Fortunately, I had left over parts from a Challenger 2 kit that I had converted in another project.

The two sets of armour were cut up for the need pieces to create the updated armour for the Challenger 1 Mk.3. The pieces were cleaned up and styrene strips and card were used to fill in gaps that would be visible with the properly spaced armour arrangement.



The hangar was first attached to the hull followed by the Dorchester armour. This was done by eye and educated guess based on pictures since there were no guides on the kit itself. While the hangar from the Challenger 2 is very helpful to have, it is not long enough. A strip of the correct width and length was cut from plastic card and added to the hangar. Smaller details such mounting brackets were added and some the attachment points were modified. The tow cable was added, though again this had to be modified. The front armour need to have hangars added and sand shields added in the space between the armour and the hull.

I had originally thought that the Challenger 1's in Kosovo had the rear fuel drums installed. I even went so far as to attach the mounting brackets to the model. I realized after installing them that the brackets were woefully simplified and would need to be removed and new ones scratch built as well as the fuel drum braces themselves. However, after further research and closer examination of photos I realized the Challengers in Kosovo did not have the external fuel drums and instead carried the standard rear configuration. While I did have to remove the brackets and perform a fair amount of putty work and sanding, this save me a bit of scratch build work which I was growing tired of as I had already done a lot of work on the turret (to be discussed next).

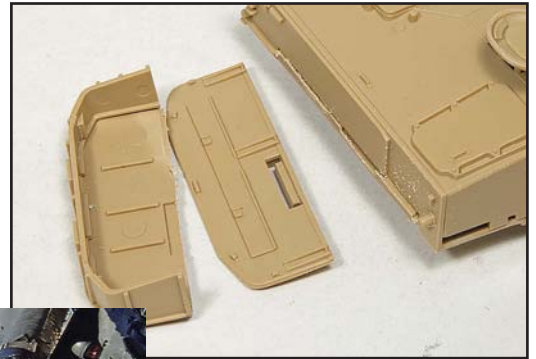
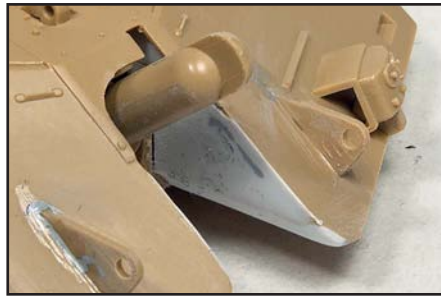
Some of Eduard's PE set 35332 was used to add further details to the model.



TURRET TWEAKS

The upper and lower hull pieces when joined do leave some visible gaps. Most are hidden by equipment and stowage boxes. However there is a visible gap in the space around the main gun entrance to the hull. This is not easily puttied and sanded. Instead the gaps were covered with plastic sheet.

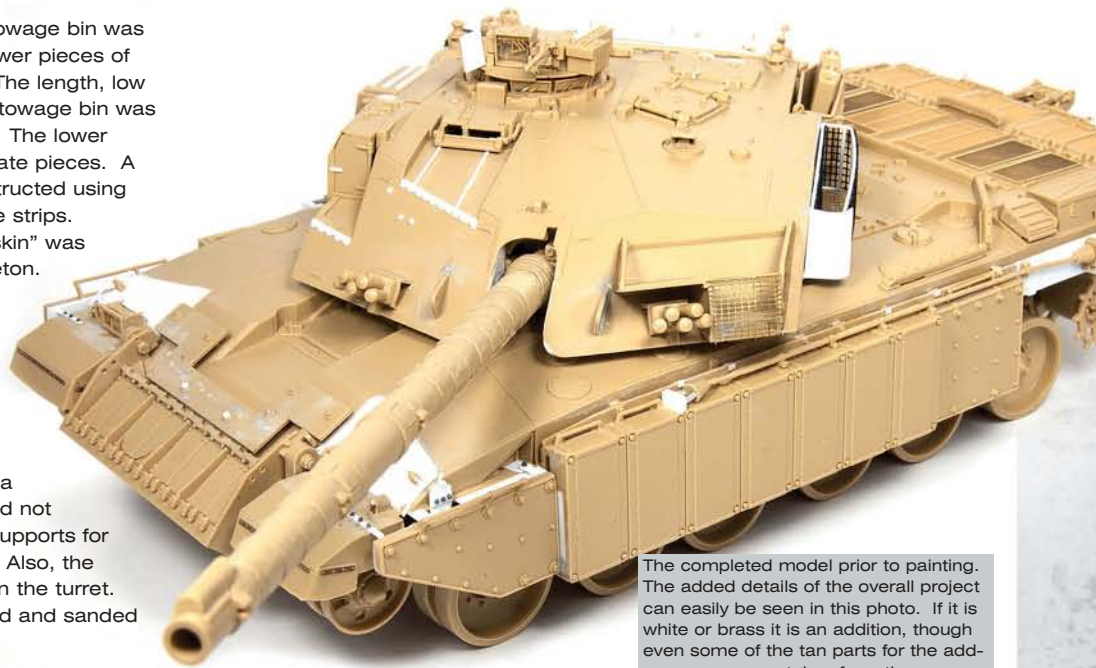
The most prominent item that needs to be addressed on the turret, if not the whole kit, is the rear turret stowage bin. The shape of the basket is incorrect as well as the orientation of the lid being backwards, most likely an issue dating from the use of a prototype for the reference for the kit. The base of the bin is molded to the lower turret piece and need to be removed.



The first step used to create a new stowage bin was to make patterns for the upper and lower pieces of the stowage bin on note card stock. The length, low and high points and the width of the stowage bin was determined using the kit stowage bin. The lower pattern was used to cut several replicate pieces. A skeleton of the stowage bin was constructed using these pieces and 1mm square styrene strips. A rough cut of 0.010" sheet styrene "skin" was wrapped around the sides of the skeleton. The 0.010" styrene was used as it was easily bent to the proper shape.

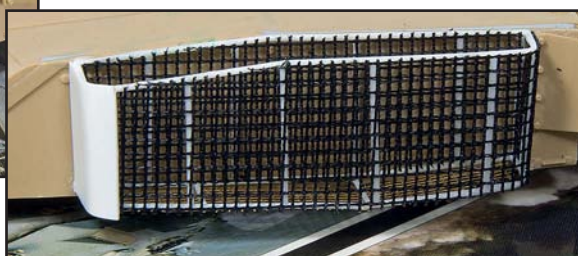
A second layer was added to help smooth out any imperfections that came through from the skeleton. The bottom of the stowage bin does have a support frame on the real vehicle. I did not follow that pattern as I needed extra supports for the details added to the stowage bin. Also, the underside would not be visible once on the turret. The excess styrene sheet was trimmed and sanded smooth.

The stowage bin sits in a support frame that has metal rods at the top and bottom. The rods were simulated with 0.020" styrene rod. The stowage bin hatch was cut out from the template.



The completed model prior to painting. The added details of the overall project can easily be seen in this photo. If it is white or brass it is an addition, though even some of the tan parts for the add-on armour were taken from the Challenger 2 kit.





The stowage bin was attached to the hull. Supports between the rods were added. PE from the Eduard set as well from the spares box were used for hinges, straps and a mesh screen. A rack for extra fuel cans made from 0.020" styrene was installed. Other details were made from styrene sheet and strips. The orange wire for the telephone wire spool came from extra telephone wire in my house that is no longer used due to cell phones and wireless modems.

It always appears that more stowage racks and bins are needed for AFV's; the Challenger 1 was no exception to this. Photos show that around the time of the first Gulf War, many Challengers used extra bins removed from Chieftains or custom made racks on the left side of the turret. After the Gulf War a standardized rack was put into service. All photos of Challenger 1's in Kosovo show this standardized rack installed. The Tamiya kit does provide the Chieftain bins and customized rack as options but since the kit was released before the standardized rack was put in-service a

scratch built one would be needed.

The standardized camouflage net stowage basket was built using 0.020" plastic rod. The rod was bent using a round former to ensure consistency. While the length and height of the basket was determined by the kit turret dimensions, the width was estimated. The estimation was made by measuring known reference spots on the kit turret that corresponded with a photo of the same spot of the real turret. A correction ratio between the kit and the photo was determined and the measured width of the basket was corrected for the scratch built basket.

While a PE mesh would've looked better for the basket, I didn't have enough for this project and bending it to the somewhat fragile frame would've been difficult. However, the mesh netting provided in the Tamiya kit for the front stowage basket proved to be a reasonable match and was easy to install.



The tools that were once located on the front of the hull were relocated to the back upper deck of the turret. Additional details were added to the turret using a combination of PE from the Aber set and plastic card and rod.

laying down the colour

The yellow of the frontal add-on armour was painted first after priming and is a mix of AK Real Colors British Sand Yellow (RC093) and Russian Greyish Yellow (RC099) in a ratio of 2:3. The armour bricks were masked and the first layer of green, AK Real Colours British Dark Olive Green PFI (RC042) and Olive Green (RC209) in ratio of 3:1 was applied. As I studied my reference photos I decided that this was a bit too green, though I did like it for the frame of the frontal add on armour for variation and masked that off for further paint work. However, at the end of the day, the Green of British vehicles do tend to vary so this would've been fine if left as is. A combination of AK Real Colour Russian Grey Green (RC100) and The British Dark Olive Green PFI in a ratio of 4:3 seemed to be a very good match to the references and sprayed over the existing green.



The next colour to be painted was black, in this case Tamiya NATO Black (XF-69). Silly Putty was used to create guides for the areas that black would be painted, one band at a time.

The canvass portions of the main gun were painted with Tamiya Khaki (XF-49) and Black (XF-1) in a ratio of 5:1.

Many Challengers in Kosovo appear to have an orange air recognition panel on the top of the rear stowage bin, either painted or a tarp of some kind. I chose to go with the bin being painted as a tarp would cover the detail I had worked to create on the stowage bin. This was a mix of Vallejo Red (70957) and Deep Yellow (70915).



Fine details such as bolt heads were picked out with lighter versions of the base colours to help pop them from the model. A coat of future was then airbrushed on to prepare the vehicle for decals and washes.



The King's Royal Hussars was the armoured force that was deployed by the British into Kosovo in June of 1999. While pictures and video of the Challenger 1's deployed by the various Troops of the King's Royal Hussars sent in are readily available, they seem to be focused a few specific tanks and of course not of all angles. In addition, most photos show the vehicles to be very dusty, so trying get the camouflage pattern of each tank correct (my understanding is that the pattern is more of a guide to the field troops versus a specific standard pattern) for each tank. I decided to mark the model as accurate as possible based on the various photos but not mark it to a specific vehicle in photos that I was able to find. Luckily I was able to find a newsletter published by the King's Royal Hussars online that described their operations

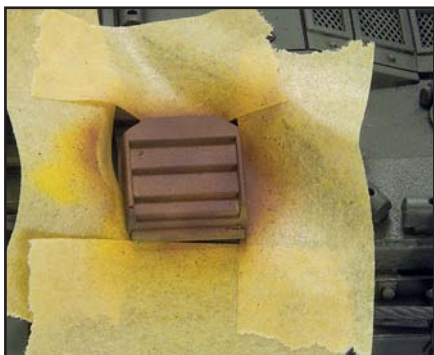
for 1999 with even more photographs. This proved invaluable for ensuring that I made an educated decision on how to mark the model with the correct call signs.

The decals provided by Tamiya are basic and don't include what was needed for King's Royal Hussars tanks in Kosovo. Echelon Fine Details does make a set of decals for Challenger 1's used in the Balkans for IFOR, SFOR and KFOR. The set was excellent, though the vehicle warning reflectors used on the rear mudguard were fragile and troublesome. I wasn't too concerned about them being perfectly applied as they would be covered with mud or dust later on.

A pin wash of dark brown was applied after the decals to create depth for the small details.



Ready for weathering; Echelon's decals and the turret bin top certainly add some interesting splashes of colour.



The engine exhausts appeared to be rusty and very sooty. I started by masking the area around the exhaust. A base coat of Tamiya Yellow (XF-3) was airbrushed on followed by thin layers of Red Brown (XF-64) and Linoleum Deck Brown (XF-79). Black pigments were brushed on once all the remaining weathering had been applied.



TALKING DIRTY

The weathering process was started by airbrushing a layer of Vallejo Chipping fluid on the vertical surfaces of the hull, wheels and tracks. A dried mud colour consisting of Tamiya Buff (XF-57) and Flat Brown (XF-10), ratio of 5:1, was sprayed over the top of the dried chipping fluid. This was allowed to dry for around 30 minutes. A wide flat brush, wetted with hot water was then dragged down the vertical surfaces. The process leaves a nice broken pattern of dried mud while at the same leaves streaks from the residue on the brush. The wheels and track receive more of a stabbing motion to create a mottled effect with the dirt. This does leave a bit of a gloss to the dried mud, so a coat of matt varnish is applied to reduce the gloss tone.

A bit more buff was then added to the paint mix and heavily thinned down. This was then misted over the hull, tracks and wheels to create a light layer of dust. The mix was also built up

into crevices and other areas of accumulation. The turret did not receive this treatment as the turret isn't as dusty as the hull. Dust is applied to turret in the next step.

AK Interactive enamel colours Africa Dust Effects and Earth Effects were mixed to get a similar colour to the Tamiya dried mud mix created earlier. This was then applied randomly to the hull and turret, with emphasis on areas of accumulation such as corners. Once dried a brush was dipped in mineral spirits and then used to stipple and blend the enamel colour to the model.

Some final items such as antennae and the tracks and the exhaust soot were added and the model was complete. While the Challenger 1 from Tamiya needs work, it can be fun project to update. I did strive to make this project as accurate as possible, though I am sure there is always more that could be done.





CHALLENGER



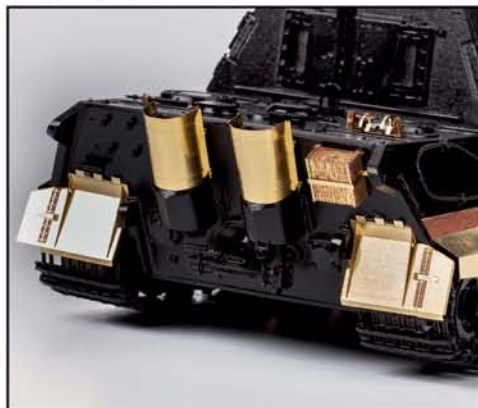
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