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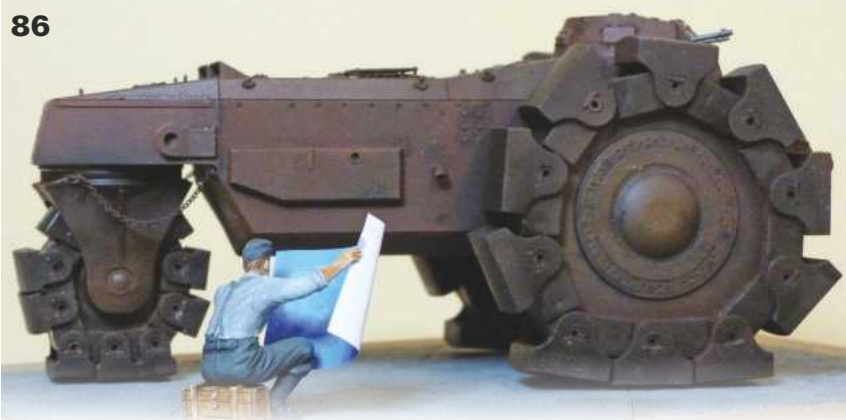
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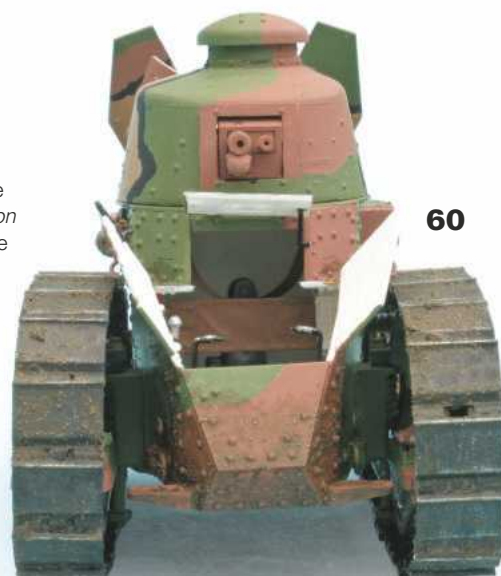
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I hope that this, my fourth *Military Vehicle Special*, with its selection of vehicle subjects from six different nations – including some more obscure ones – contains something to suit all AFV tastes. You will certainly find the modelling advice, techniques and historical references offered within, all from respected **MM** contributors, inspirational and very useful. Along with my designer Richard Dyer, we've certainly enjoyed putting it together for you!

Kelvin Barber



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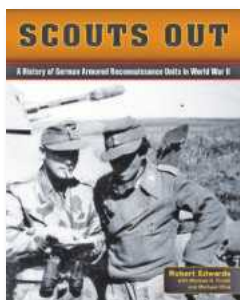
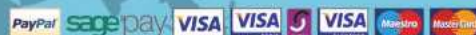
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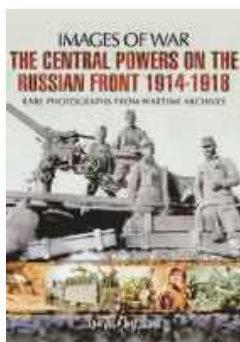
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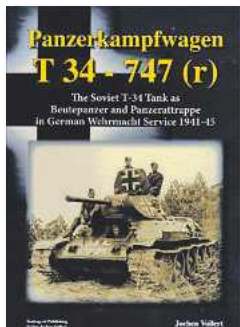
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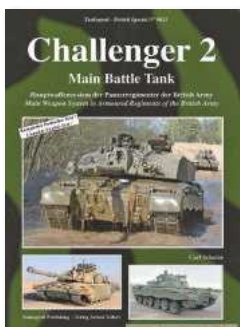
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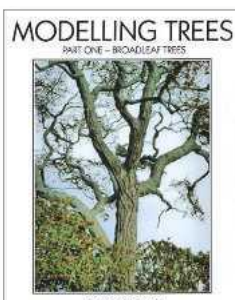
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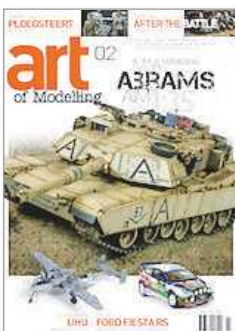
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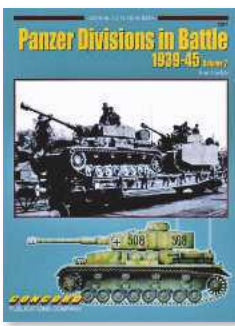
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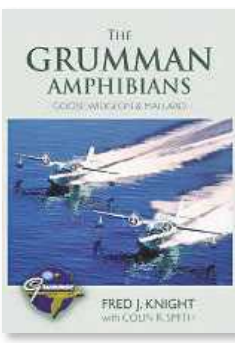
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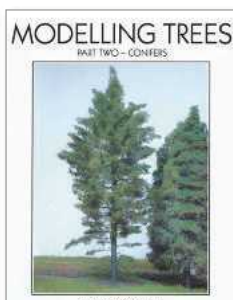
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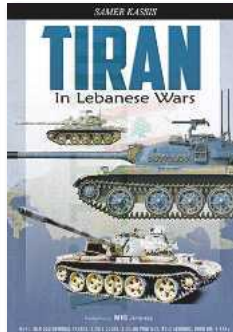
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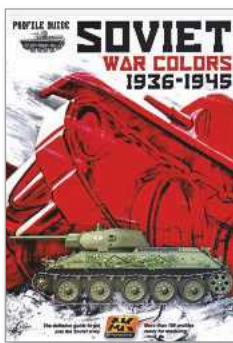
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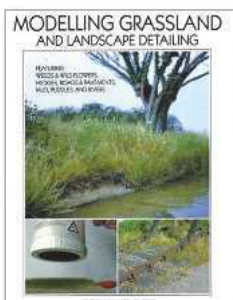
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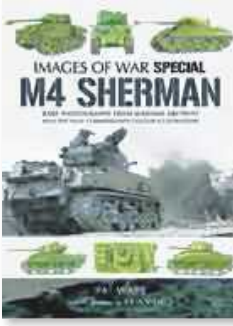
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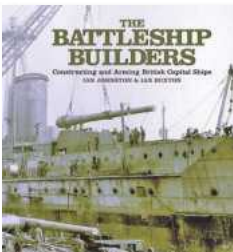
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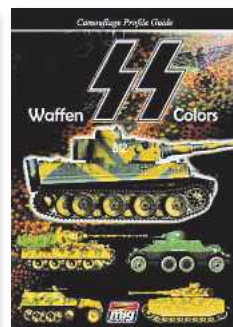
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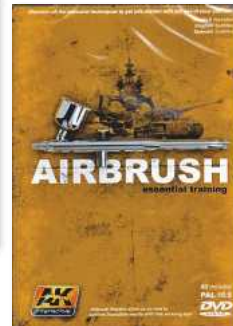
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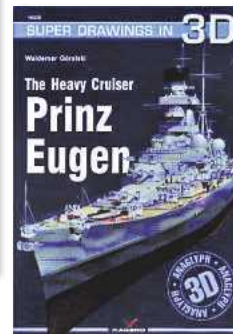
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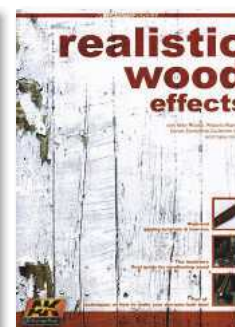
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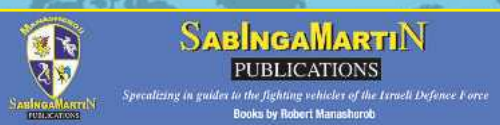


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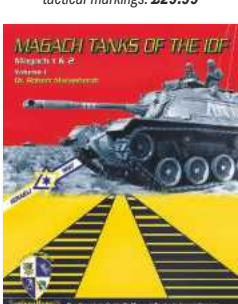
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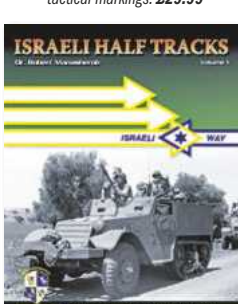
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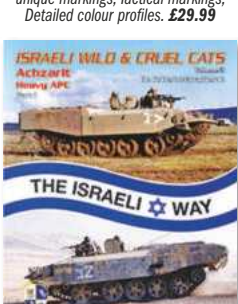
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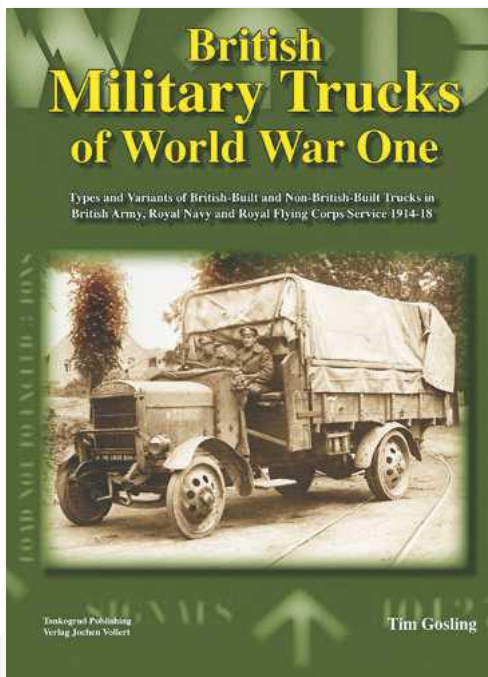
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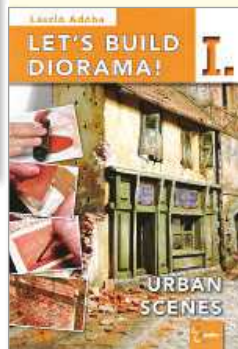
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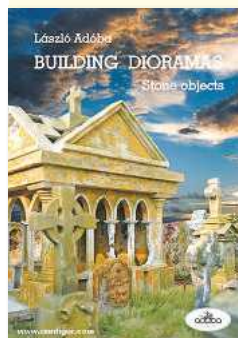
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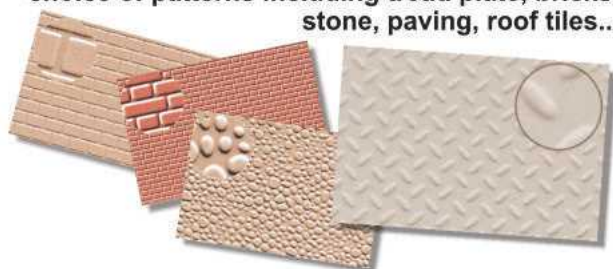
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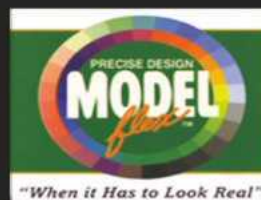
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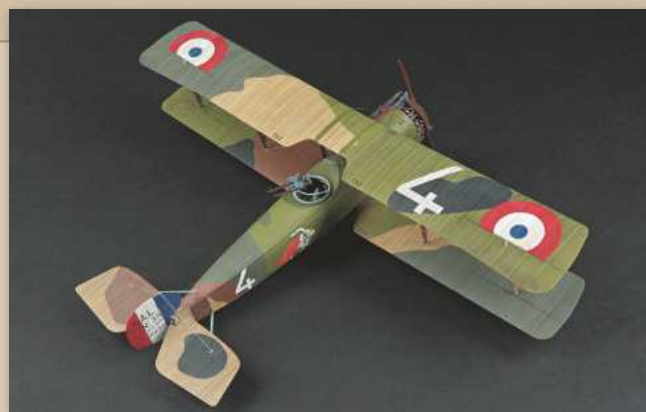
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Keeping it in Czech!

Mark Bannerman adds after-market detail products and a colourful scheme to CMK's 1:35 scale LT Vz 35 kit.

I had purchased the CMK Skoda LT Vz 35 many years ago and have waited for various after-market add-ons to be released in order to detail this unusual, but interesting, tank type. CMK is based in the Czech Republic and have released a number of plastic and resin models in 1:35 and 1:72 scales. They have released three versions of the Skoda 35(t): a Skoda LT Vz 35 with three Czech resin crew figures (item T35023), a *Möserzugmittel 35(t)* munitions carrier (item 35021 - also available as an upgraded kit with resin interior) and finally the Pz. Kpfw 35(t)/Skoda LT vz 35 subject of this article (item 35006).

Released in the late 1990s, the CMK kit is moulded in a grey plastic on four sprues. Two of the sprues are identical which contain the bogies, link and length type tracks, roadwheels, drive sprockets, idler wheels and return rollers (66 parts per tree) for each side. The instructions are fairly simple but this reflects the fact that the model is also quite simple. There are just 11

steps in the instructions and, as a straight out-of-the-box build, it can be assembled in just a few evenings. However, the offering does need some work to bring it to a more accurate rendition. There have been discussions on the Internet about various fit issues, that the link and length type track suffer from large injector pin marks on every piece, and that it was lacking some finer detail.

In preparation to build the model, I ordered the Eduard etch set (item 35121), the Royal Models update set (item 186), the LionMarc Model Designs replacement gun (item LM50007) and ModelKasten tracks (item SK-42). I later realized that I did not need both the Eduard etch set and the Royal Models set – though my preference was the Royal Models set because it included a few important resin parts which were far superior to CMK's plastic offering. The ModelKasten tracks are an absolute must and, although the LionMarc gun is not essential, it was cheap enough to be a worthwhile purchase. >>



ABOVE: Two photos of the author's completed model placed into a scenic setting courtesy of Photoshop.

RIGHT: An LT Vz 35. Note the support mount for the 7.92 Type 37 machine guns. There are two mount types – solid and perforated. (Photo source unknown)



ABOVE: The Academy 1:35 scale plastic release of the PzKpfw 35(t) from last year.

BELOW: The recent Tamiya release which is the CMK offering rebboxed with some additional details.





ABOVE: A row of Czech LT Vz 35s. Note how the camouflage pattern differs on each tank. (Photo source unknown)



ABOVE: Construction started with the suspension system. I replaced the suspension leaves with the Royal Models resin offering. The plastic offering was quite adequate but the resin version offers slightly more detail.

BELOW: An LT Vz 35 converted to a PzKpfw 35(t). The modifications include repainting in standard German Panzer Grey, adding a Notek light, jerrycan braces at the rear, black out plate on the front headlight and the addition of a fourth crewman. (Photo source unknown)



The ModelKasten tracks set item SK-42. These are superbly rendered and well worth the purchase – despite the price! Fruilmodel also produce a set of metal tracks.

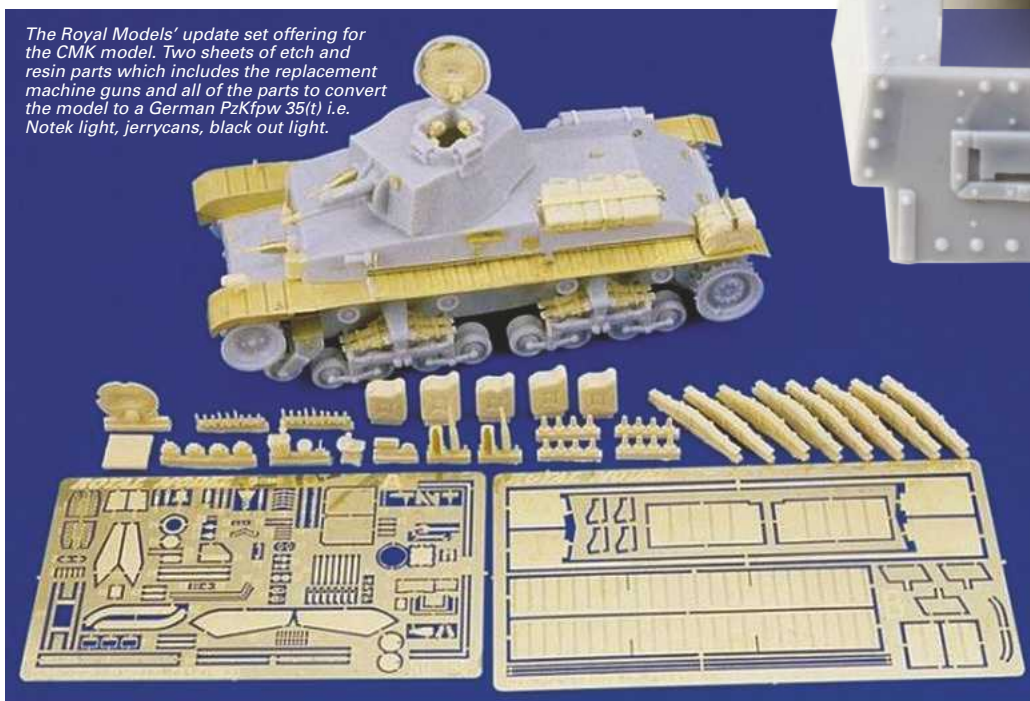
Construction

Assembly started with the suspension (without the tracks) and this took about an evening to complete. I replaced the suspension leaves with Royal Models' resin offering and, while this was not entirely necessary, the resin version does provide slightly crisper detail. The roadwheels (all 32 of them!) are a bit fiddly and a fair bit of time was required cleaning them up. I used super glue to attach these and, in fact, the entire suspension was reinforced with super glue to ensure everything was nice and secure. The important part with the roadwheels is ensuring that these are aligned when attached to the tank.

Next up were the tracks and I decided to use ModelKasten replacements which, although expensive at around £17, do add considerably to the overall appearance of the model. ModelKasten tracks feature exquisitely detailed individual plastic links that are attached piece-by-piece with pins using small plastic plugs provided in the track set. When finished, the track links can be articulated similar to full-sized tracks.

Although there are several methods for assembling ModelKasten tracks, I chose to build them in strips off of the model and then glue the tracks on the already attached roadwheels. I snipped off the tracks from the sprues, cleaned up any excess plastic, and then glued 7-10 links together with liquid glue. I used a wooden ruler as my surface so that liquid glue would

The Royal Models' update set offering for the CMK model. Two sheets of etch and resin parts which includes the replacement machine guns and all of the parts to convert the model to a German PzKpfw 35(t) i.e. Notek light, jerrycans, black out light.



not affix the plastic to the wood. I allowed the length of links to dry for 10-minutes and, while the glue was still tacky, I added some slack where the tracks would suspend between the return rollers. I repeated this step until one side was complete. The tricky part is the attachment of the last length and ensuring that the length is a perfect fit between two already installed lengths. If the length is slightly too long but removing one link will render the length too short, I pull the last two or three links on either side of the gap by a fraction inwards towards the gap so that the gap can be reduced in size to accommodate the last link. This worked and resulted in a perfect fit. The other option is to decrease the slack in the top tracks. Because there is little track slack on the LT Vz 35, I was cautious to start with the ground lengths, then work up around the idler and sprocket and then slowly add in the top length of tracks (the length that extends over the return rollers) to allow the flexibility of getting the length correct as I closed the gap. The tracks took me 3-hours to clean up and attach to the model.

Itching to add etch!

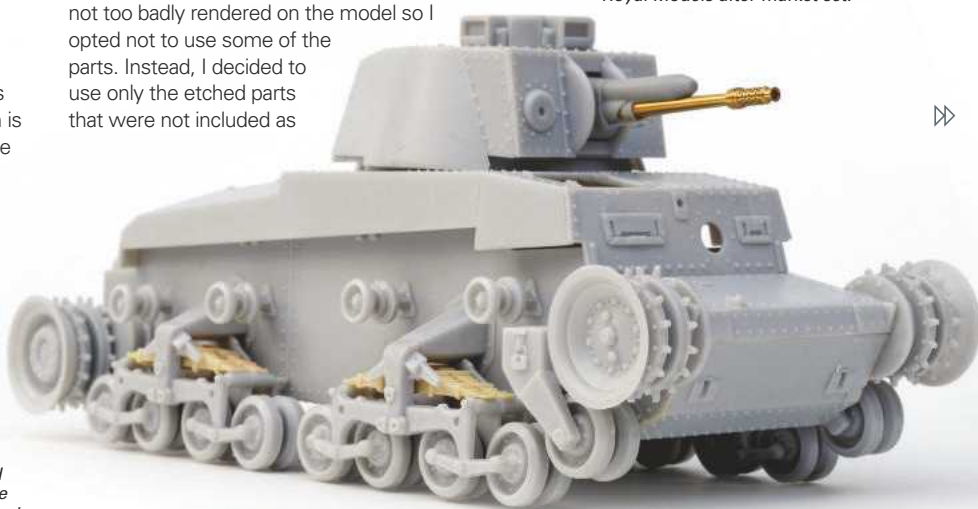
I moved through the CMK instructions (steps 6-11) and added all of the main parts for the turret and hull – leaving the small surface detail parts until later in the assembly process. Once the model was built, I turned to the Royal Models set and determined which etched-metal and resin parts I would use on the model. Quite a bit of the etch replaces parts that are not too badly rendered on the model so I opted not to use some of the parts. Instead, I decided to use only the etched parts that were not included as

ABOVE: I sliced out the front driver's hatch with a jeweller's saw as I had planned to have this open. To be absolutely correct – and something I missed after I had put paint down – is that the front plate directly below where the driver's hatches closes should actually be cut out to accommodate the hatch when it is in a closed position.



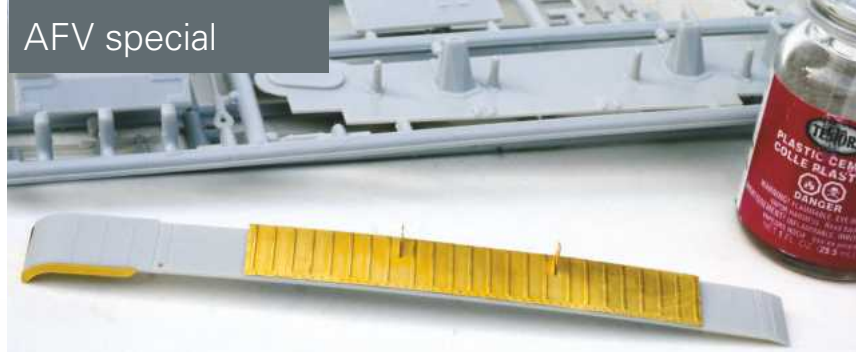
ABOVE: I replaced the main armament with an offering by LionMarc (LM50007). This is an inexpensive upgrade and well worth the purchase.

BELOW: Most of the CMK model parts have been put together and it was time for some detailing using the Royal Models after-market set.



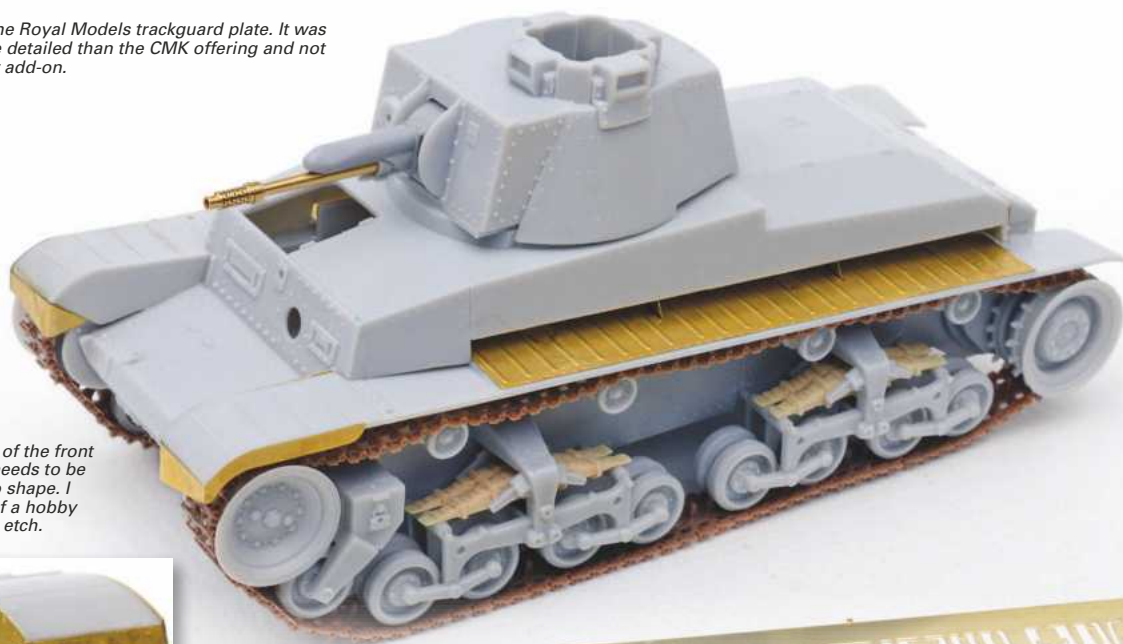
BELOW: I assembled the tracks in strips of 7-10 links, gluing these with liquid glue then affixing to the model. I start with the ground run, work around the sprocket and idler at the same time and add the last links about half way between the two middle return rollers.



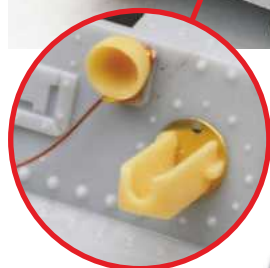


ABOVE: I added the Royal Models trackguard plate. It was only slightly more detailed than the CMK offering and not really a necessary add-on.

BELOW: I did choose to add the front trackguard plates as I noted that most LT Vz 35s had these mounted. Both Royal and Eduard offer these in their etched sets.



BELOW: Close-up of the front trackguard. This needs to be carefully bent into shape. I used the handle of a hobby knife to shape the etch.



LEFT: Royal Models provides some very nicely cast resin parts and these were added onto the model using super glue. I also added copper wiring for the front headlight and from the horn.

BELOW: I used strips of sheet styrene rod and 'T-block' styrene to provide a bit more detail to the tank, i.e. for the towrope braces.

a plastic part in the CMK offering or not moulded on the plastic. The only exception to this was the side trackguards. I carefully added the etched detail with super glue and, after a few evenings, discovered that I had used about half of the etched parts provided in the Royal Model offering and used around three-quarters of the resin bits (about 20 parts). I carefully studied the model and wartime images to ensure that I had captured most of the detail that needed attention.

All in all, the assembly took a week with 1-hour of work at the workbench per evening – almost 30% of that time was dedicated to the tracks. Despite reviews suggesting that fit was a major issue with the CMK model, I did not find any issues or problems. Overall, I would describe the assembly to be an easy build and the etch and resin was very easy to use. ➤➤



I had slightly damaged the model's surface with fingerprints smudged in super and liquid glue. However, this can be easily remedied by either applying a copious amount of liquid glue to melt and smooth out the plastic, or by sanding the plastic to a neat smooth surface (or a combination of both). The model was now ready for primer and paint.



An earlier variant of the LT Vz 35. Note the deeper dish style sprocket wheel plate and the arch-shaped suspension leaves. Also, the tank sports a different gun and does not have the armoured recoil cylinder above the barrel. (Photo source unknown)



After two coats of Tamiya primer, I put down the lighter colour with a mix of 20% Tamiya Buff XF-57, 70% Desert Yellow XF-59 and 10% Flat Yellow XF-3. This was airbrushed in two even coats allowing the first coat to dry before applying the second coat.



Painting and finishing

With the model built and ready for paint, I submerged it into warm water with some dish detergent to clean off specs of dust, resin, grime and cat hairs! Once dry, I primed the entire model in Tamiya White Primer in two light coats ensuring to get in-between the tracks, behind the wheels and up under the trackguards. The next step was deciding on a paint scheme. I had assembled the model as an LT Vz 35 – and not as a German variant – and this meant small details specific to the LT Vz 35 had to be decided upon during assembly (armament, placement of antennae, accessory latches etc.). A good reference book highly recommended to me was *Skoda LT. Vz. 35* by Vladimir Francev and Charles K. Kliment published by MBI (ISBN 80-901263-8-3) and this has good references on the various types of LT Vz 35s.

At this point, I had the option of either finishing the model as a Slovak LT Vz 35 which carried same 3-colour scheme as the Czechs, or a Romanian variant which was typically painted in an Olive Drab, or a Bulgarian variant painted in Panzer Grey. After studying various photos and determining how much reference material I had, I decided to proceed with the 3-colour version in Czechoslovakian service



ABOVE: The grassy green camouflage was a mix of 60% Tamiya Flat Green XF-5, 10% Flat White XF-2, 15% Vallejo 70967 Olive Green and 15% Vallejo German Uniform 70920.

LEFT: A German crewman mounting an LT Vz 35. Note the absence of the main armament and machine guns. Presumably these tanks are being prepared for transportation. Also of interest is the difference in camouflage pattern between the two tanks. (Photo source unknown)



An LT Vz 35 being tested out by a German tank crew.
(Photo source unknown)



with the 1st Assault Regiment. Czechoslovak camouflage was a base colour of 'Grass Green' with sharp-edged patches of light ochre sand and purple-brown. The camouflage pattern was painted on with brushes and typically in random fashion so no two vehicles were identical.

For the base, I decided to put down the lighter colour first as this is usually easier to paint over rather than trying to paint a light colour on a dark colour. The base colour was a mix of 20% Tamiya Buff XF-57, 70% Desert Yellow XF-59 and 10% Flat Yellow XF-3. This was applied to the entire model in two light applications through an airbrush. I allowed this to dry overnight. The next colour was a grass green tone. To attain this colour, I mixed 60% Tamiya Flat Green XF-5, 10% Flat White XF-2, 15% Vallejo 967 Olive Green and 15% Vallejo German Uniform 920. These are fairly accurate ratios as I counted drops of paint from an eyedropper. The Tamiya and Vallejo mixed quite well and the mix

was brushed on the model using a non-expensive but well tapered number '2' brush. I used reference photos to assist me in the placement of the camouflage. I then applied the brown camouflage paint by mixing Vallejo German Camouflage Brown 822 mixed with an equal amount of Vallejo Tank Primer 304. This was also brushed on in two coats and being careful to follow reference photos as much as possible. I did go back in and make every attempt to straighten out lines and ensure that patches were truly curved and cleanly rounded.

Once dry, the rubber on the roadwheels were painted in Vallejo Grey Black and the tracks painted in Humbrol Matt Black 33 mixed with 30% Humbrol Matt Chocolate 98. The application of the track paint was an easier process than I had expected and, if the paint is well thinned (20% Humbrol thinners), the paint will capillary off your brush and cover the entire track. It will be necessary to go in after the paint dries on the tracks and touch up and fill in any



ABOVE RIGHT: The purple-brown camouflage colour was a mix of Vallejo German Camouflage Brown 822 and Vallejo Tank Primer 304.

BELOW The camouflage paints were applied using a paintbrush and applied in two coats. The tricky part was getting a smooth border and achieving curved patches. The mix of paint to water was critical (about 20% water to paint) and a well-tapered brush was even more important. Reference images are invaluable for this part of the process.



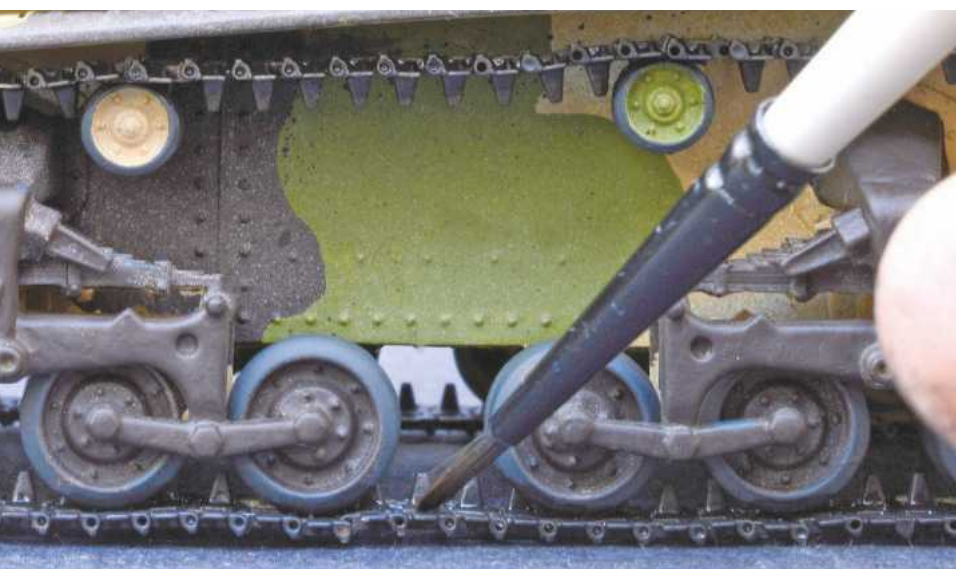


Painting the suspension was tedious and time-consuming but it does not have to be perfect because this area would take on considerable weathering and dusting which would help obliterate any glitches.



ABOVE: At first, I was unimpressed with the overall look of the basecoat and thought it all looked too stark. I pondered how such a camouflage scheme could possibly function to blend a vehicle into its surroundings!

BELOW: The black on the roadwheels was painted in Vallejo Grey Black and the tracks were painted in Humbrol Matt Black mixed with 30% Humbrol Matt Chocolate 98. This was not a difficult task, but the important part is to ensure that the paint is well thinned (20% Humbrol thinners for the track paint and 20% water for the Vallejo on the roadwheel rubber). It did require two applications of paint on both the roadwheels and the tracks.



areas that did not receive enough paint on the first application. This may seem to be a daunting chore (brush painting the rubber on the wheels and tracks) but small glitches will be 'hidden' with subsequent weathering and dirt application. The model then received an overall application of Tamiya Clear X-22 in two light coats and the registration number decals from the CMK kit were applied.

Before the weathering process, I opted to attach some of the surface details such as the crowbar, shovel, pickaxe and leather pad on the inside of the turret hatch. All of these details were painted off of the model then glued into place using regular white glue.

Weathering

I started with a light wash of Sepia oil paint diluted with Testors' Thinners. Two filters were applied using Humbrol Desert Yellow 93 followed by a filter of Gold Ochre oils. I added a few chips using Vallejo Black Grey and ensuring to keep these to a minimum. It is far too easy to go overboard with chips. The muffler was rusted up by applying several coats of pastels (rust, light brown and dark brown coloured pastels) mixed with Testors' Thinners. The rust was applied in several layers to create texture and depth. I also added copious amounts of powdered pastels of various earth tones onto the whole model and very heavily into the suspension system and tracks then fixed these into place by airbrushing the entire model with Tamiya Thinners. I repeated the step of adding more pastels onto the model but this time I used a large brush and allowed the Tamiya Thinners to drip from the brush onto the model. The thinners will capillary and provide some really neat effects. Just ensure that the thinners do not accumulate in any one place otherwise it could eat right into the base paint or leave a residue of powders that is unrealistically too heavy.

A few oil stains were added by flicking diluted Sepia oil paint mixed with Raw Umber oil paints from a dried brush onto the rear part of the model. The track links were then picked out with a regular pencil to show bare metal where the cleats would meet the road. More earth-coloured pastels were

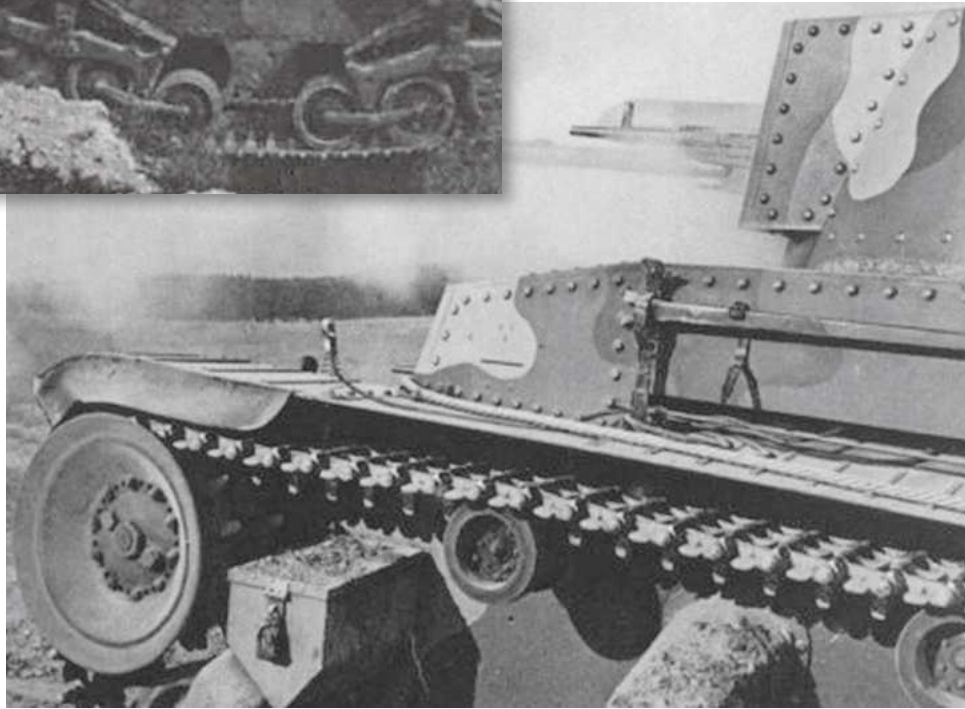


LEFT: LT Vz 35 tanks on tank trial manoeuvres. One of the key features of the tank was the durability of the suspension and track system. (Photo source unknown)

BELOW: Close-up of the surface of the LT Vz 35. The camouflage paint has been brushed on and it appears the on-vehicle equipment was painted while the tank received its coat of camouflage. (Photo source unknown)

added to the tracks and fixed into place with Tamiya thinners. I then added copper wires (horn and light fixture), an antenna from sheet styrene rod, and a little dry-brushing with Humbrol enamels on various parts of the model including the two machine guns and main barrels.

The very last step was using minute amounts of oil paint (Sienna, Sepia and Umber) and diluting this mix with Testors' Thinners and brushing the surface of the model in a downward direction all of the way around the model. This last step helps remove any excess pastels (so wiping off the brush frequently is crucial), and helps create run-off and rain marks. It also deposits some of the dark wash in any crevice or depression that may have been obliterated by the application of pastels in the initial weathering stage. Lastly, and perhaps more importantly, it helps provide a consistent finish to the whole model. »



The model basepainted – this took around two evening's work.





ABOVE: I made every attempt to duplicate the camouflage as closely as possible based on wartime images. The lighter base was perhaps not ochre enough, however subsequent weathering would considerably alter the overall tone.



ABOVE: My first step in the weathering process was a light wash of Sepia oil paint diluted with Testors' Thinners and an application of MIG Tri-Colour filter. The effect is very subtle but the real benefit is preparing the surface for subsequent weathering. The thinners break up the surface tension and will allow subsequent paints to be absorbed into the acrylic base.

BELOW: The model with filters and a light wash. The semi-gloss effect is actually the Tamiya Clear X-22 that I applied before the filters and wash.



Conclusion

Although Tamiya have recently reboxed the CMK model with a few add-ons, the Tamiya release is more expensive. One is better off purchasing the CMK offering and then acquiring a few after-market accessories (barrel and tracks for certain) to render it to a more accurate variant. While Passion Models have since released replacement roadwheels, I thought the CMK roadwheels were just fine as they were. At the time of writing, Academy and Bronco had both announced that they were each releasing a PzKpfw 35(t) in plastic (see *Atten-Shun! Vol.43 No.11 for the Academy kit review, Ed*). Therefore, modellers will soon have four options to build this unusual tank design.

I wanted to try my hand at the CMK variant – the original release – because it has been harshly criticized over the years and I wanted to see whether it really was such a bad model. My assessment is that





ABOVE: I also added two filters of Humbrol Desert Yellow 93 followed by a filter of Gold Ochre Winsor & Newton oils. The Gold Ochre helped change the light base to a more ochre colour. I added a few chips using Vallejo Black Grey ensuring to keep these to a minimum.



ABOVE LEFT: I added large amounts of powdered pastels of various earth tones onto the whole model, and particularly into the suspension system and tracks.

ABOVE RIGHT: The process was repeated of adding pastels – both MIG and artist chalk pastels – and brushing it inside the suspension. Using a variety of earth tones was integral to creating the effect I was looking to achieve.



ABOVE: Once the powdered pastels were added, I airbrushed the model with Tamiya Thinners to keep the pastels in place. However, some pastels will get loose so I kept repeating the process – adding pastels and airbrushing the model.

The author's completed model. Other details were added to bring a little more authenticity – i.e. the rear exit muffler pipe was replaced with a copper pipe.





ABOVE: The model in a wartime quality image courtesy of Photoshop.

INSET RIGHT: The last step was using oil paints and Testors' Thinners and small amounts of oil paint to add in details such as shadows in panel lines and, more importantly, use a wide moist brush with a little Sepia paint to clean up areas where pastels may have lumped up or cluttered – or where it just did not look correct. The moistened brush is dragged in a downward motion to spread the pastels and create rain marks and run offs.

BELOW: The author's completed model.





ABOVE: Two images of the completed CMK Skoda LT Vz 35 in Czech colours and markings. The Eastern Europe setting (courtesy of Photoshop) responds directly to my earlier question on how such a camouflage pattern could conceal a vehicle sporting these colours. It certainly does blend in!

it is actually a pretty good model, aside from the tracks, and simply needs some sprucing up with a little help from the after-market manufacturers. It is dimensionally sound, the fit is spot on and the rivet detail is very crisp with little in the way of clean-up required. I then realized that most of the 'harsh reviews' that I had read were actually 'in-box' reviews which is considerably different than a review written by someone who has actually built the model!

I thought the Royal Models set was pretty good but could be better appreciated by someone modelling a German *PzKpfw 35(t)* as it does provide jerrycans and other German conversion details. The Royal Models etched set is superb and just a notch

better than the Eduard one. However, I would have been just as content with only the Eduard set. It was not so involved and many of the details included in the model were quite adequate – certainly not a difficult model to detail and can be achieved by any modelling skill or level. The application of the 3-colour camouflage finish was the absolute pleasure in doing this model. The model is reasonably flat so it made brush application of the camouflage an easier task. It just requires a little patience and some time and cannot be hurried. I will be looking forward to building the Bronco Models offering when it is released – perhaps I'll even try my hand at a Bulgarian or Hungarian finish?



An excellent reference book is 'Nuts and Bolts Vol. 11 Panzerkampfwagen 35 (T) (Skoda LT vz. 35)' by John L. Rue.



This is the quintessential book for anyone looking to build the Skoda. Lots of great drawings, colour plates, photos and technical references. Thanks to fellow militarymodelling.com website modeller Alan McKenzie who recommended it.



Skoda LT Vz 35 Walkaround

Dick Taylor provides photo reference for modellers of this colourfully restored Czech tank.

ABOVE: A great overall view of the Skoda built LT Vz 35 in Czechoslovakian Army scheme.

The tank has very clean lines, consisting almost entirely of angled plates riveted together – notice there are no grilles on the engine compartment.



One of my favourite tanks that used to be on display at the Aberdeen Proving Ground is the diminutive Czech Skoda LT Vz 35, probably better known by most by the German designation of the *Panzer 35(t)*. It used to be on show in a sombre Panzer Grey, but now is fully restored in a beautiful 3-colour Czech Army scheme. My research into the vehicle indicates that the colours and pattern are both accurate. Whoever did the renovation at APG should be congratulated, as the paint finish is of very high quality and should protect the vehicle for years to come. It is most definitely NOT a case of painting over rust and dirt! At some point the APG example had been liberally sprayed with MG fire, and the hits can clearly be seen in the accompanying photos, as they are not hidden in any way and are on display for all to see.

The terminology used to identify the tank varied and is thus a little confusing without explanation. Built by Skoda in two factories in Czechoslovakia, it was generally known as the LT (*Lahky Tank*) Vz 35, or Light Tank Model 1935. It was also known as the S-IIa in its early development phase. Export versions were also built, over 120 of the R2 model being used by the Romanians and the T11 version was bought by Bulgaria. Until the introduction of the Skoda Model 1938 – more famously known later as the *PzKpfw 38(t)* – it was the main tank of the Czechoslovak Army with around 300 in service. Had the German occupation of that country been resisted, this tank would have been in combat

Despite weighing a tad over 10-tons, the LT Vz 35 is a very compact vehicle; cramming four men into it, when in German service, would have been a real challenge!

RIGHT & BELOW: The rear of the LT Vz 35; the tracks were an advanced design for the time, when most countries were producing flat plates with little grip.





ABOVE LEFT: The 37mm A3 gun was mounted with a very distinctive recuperator cylinder above the barrel. Combined with the geared elevation and traverse the heavy mount should have meant that it was a stable gun platform.

ABOVE RIGHT: The 37mm also featured an unusual multi-hole muzzle brake. As the recoil system was itself pretty substantial, it may be that the major function was to eliminate flash.



ABOVE: Close-up of the turret front; note the various silver-highlighted bullet scars.

ABOVE RIGHT: The camouflage scheme of Light Ochre Sand, Purple-Brown and Grass Green is a really attractive part of the tank, so much better than boring old Panzer Grey!

RIGHT: Plenty of bullet strikes to the vehicle's front surfaces.





ABOVE: The bullet strikes show clearly in silver. It is not clear when they occurred, but the renovation team has decided to highlight them rather than try to make good the damage.

BELOW: The top of the cupola.



against the *PzKpfw I* and *II*. It is believed that a total of 424 were produced between 1936 and 1939.

The tank had a crew of three – Driver, Radio Operator and Commander/Gunner. It is widely recognised these days that asking the Commander to lay the gun is a poor use of manpower, as he then becomes unable to command the tank effectively. Therefore, when the tank was in German service a fourth crewmember was added to be solely responsible for the turret's armament. The tank weighed a little over 10-tons and was powered by a water-cooled 6-cylinder 120bhp petrol engine, thus achieving only 12hp per ton, not a great power

to weight ratio. It could reach around 20mph on the road, and was armed with a Skoda A3 37mm L/40 main gun with 72 rounds, and two 7.92mm ZB 35 or 37 MGs. The turret mounted MG was not fixed co-axially with the main armament, but could

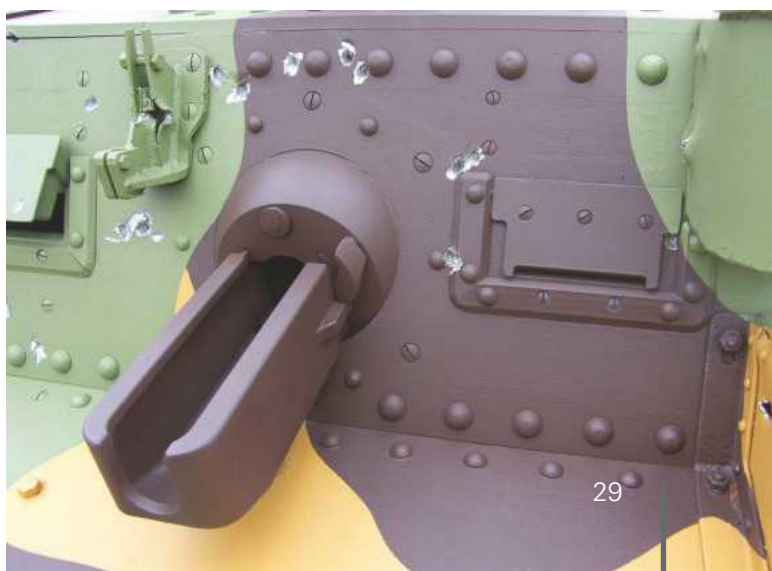
ABOVE: The domed commander's cupola features four periscope apertures which do not give complete all-round vision.



BELOW LEFT: One of the bullet strikes has started to separate the plates where it struck between them.



BELOW: The hull machine-gunner's MG mounting cradle.





ABOVE: The riveted construction, in which external armour plates were bolted to a frame, was dangerous in action; when hit, rivets would fly around the inside like bullets!

RIGHT: The sheer quality of the renovation paint job can be gauged from this view; the preparation was first-class, as is the paint finish. The pot on the corner is to mount an antenna base.



BELOW: The driver's vision visor.



elevate independently. Unlike contemporary British tanks, the main gun featured handwheel operated geared traverse and elevation, which made for more accurate shooting. The maximum armour was only 25mm (some sources state 35mm), and the riveted plates over internal frame construction had the usual drawback associated with this design – the rivets often becoming projectiles when the tank was hit, causing death and injury to the crew inside. Somewhat over-complicated and initially unreliable, the LT Vz 35 was not equipped with radio as standard, although in German service this was not the case and radio sets were installed – the Germans realised their utility. One of the reasons for the tank's unreliability was the compressed air transmission and steering, designed to reduce crew fatigue but which often failed, especially in Russia due to the extreme cold. ➤



My guess is that the blade mounted forward of the sprocket was meant to keep mud from building up inside the running gear.



My guess is that the blade mounted forward of the sprocket was meant to keep mud from building up inside the running gear.



The rear drive sprocket has this unusual dish around it.



The LT Vz 35 featured unusual toothed front idler wheels; these were not driven.



I believe that the suspension design may in part at least derive from a Vickers design used on their 6-ton tank.



The suspension was effective, apparently giving a smooth ride and extremely good hill-climbing ability.



BELOW: The rear left sprocket mounting and towhook.



After the occupation of Czechoslovakia in March 1939, nearly 220 LT Vz 35s were adopted by the *German Panzer Truppen*, and redesignated as *PzKpfw 35(t)* (the initial German designation was LTM 35). In German service it was used in both Poland (106 with 1st Light Division) and France (128 with the redesignated 6th Panzer Division), but it was already outclassed when around 160 were used in Russia in 1941 and subsequently withdrawn from active service as a gun tank. In July 1942 records

show that 178 were still in German hands, as training vehicles and with second line and anti-partisan units. During 1942 nearly 50 were converted into Mortar vehicles and/or artillery tractors by removing the turret and modifying the upper hull. The turrets were also embedded into concrete in coastal fortifications in Denmark. Twenty others were converted into command tanks, and others as the basis for experimental types that never entered service. The remaining gun tanks went to Bulgaria.

The Bulgarians had already bought the longer 37mm L/48 A7 (as used in the *PzKpfw 38(T)*) armed T11 version of the LT Vz 35 pre-war, and in 1940 the Germans sold on another 36 surplus tanks which were used to form a third Tank Battalion in the 1st Armoured Polk or Regiment. (The terminology is misleading; the regiment had three battalions and therefore was the equivalent of a Brigade.) The tanks were known as the Skoda Combat Car and were well received by their crews, though not all were equipped with radios. The tanks served the Bulgarians well, some remaining in service at least as late as mid 1944 alongside the *Panzer IV*, although spares provision must have been an issue. Some may even have stayed on the books as training tanks into the 1950s! Slovakia (79), Romania (126), Hungary and Italy also used the type. Afghanistan ordered 10 before the war, but these were diverted to Bulgaria instead. Aside from the example seen here, a few others do still survive, including in museums in Belgrade, Bucharest, Sofia, and Slovakia.

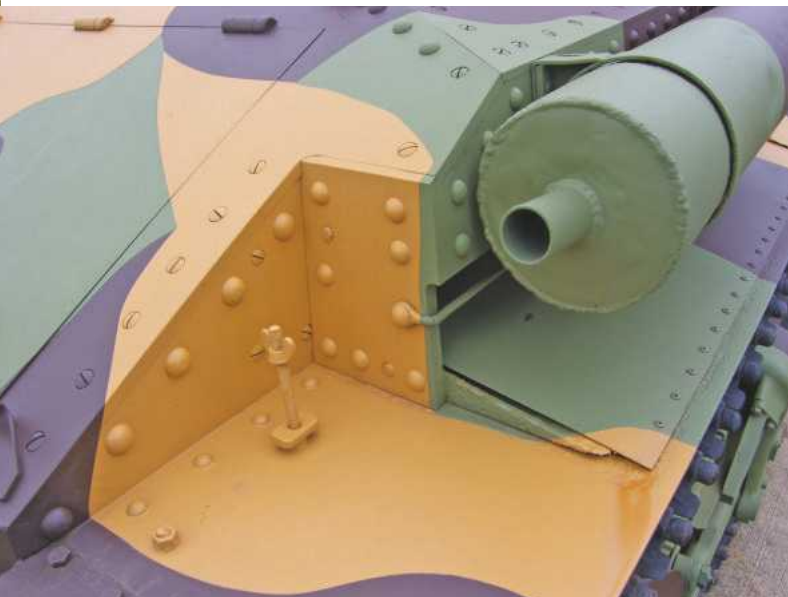
MM



A single exhaust silencer is fitted to the right-hand side of the engine.



Air intake for the engine is via louvres along the sides.



ABOVE: Close-up view of the vehicle's single exhaust silencer. BELOW: A close-up view of the rear engine access doors.





1ATB in France 1939-40

Peter Brown, in the first of a three-part feature, relates the structure, equipment, colours and markings of the tanks of British 1st Army Tank Brigade.

ABOVE: Apart from the 4RTR 'Chinese Eye' there is nothing to identify this tank. It appears to have been looted with several items placed on the track while a bundle, perhaps a tank cover is on the ground nearer the camera. The radio antenna is still in place.

Details of the day-to-day activities of British Army units were recorded in their War Diaries, original records containing details of actions, plus orders for movements including a lot of material, which modellers can find useful. The amount of information they contain varies, sometimes what we might like to know was not written down, for example transfers of vehicles from one Regiment to another may be recorded by the unit handing them over, but not by the recipients, while vehicles can be disposed of without being mentioned. However, at other times details of vehicle strengths and even individual tank serials or names are included.

1st Army Tank Brigade

This Brigade was made up of three Battalions of the Royal Tank Regiment – 4th, 7th and 8th plus supporting signals, supply and workshop units. Unlike an Armoured Division, which could operate independently, its role was to provide support to infantry units, and to do this it was equipped with 'Infantry Tanks'. To quote from Military Training Pamphlet No.22 Part III "Tactical Handling of Army Tank Battalions - Employment" issued in September 1939:

"Army Tank Battalions are army troops organised, equipped and trained for employment with formations of all arms.

Army tank units are equipped with tanks possessing heavy armour, relatively low speed and high obstacle-crossing power. They have no weapons for their own close support other than smoke projectors, nor have they any special reconnaissance sections. Thus they are not designed to act independently but in co-operation with infantry and artillery.

By virtue of its high degree of fire power, mobility and protection, the infantry tank is pre-eminently an offensive weapon of great effect in battle".

The pamphlet goes on to describe the equipment of Infantry Tanks, Mk.I and II with the statement that "Tanks armed only with medium machine guns have considerable limitations compared with tanks armed with an A.P. weapon". This showed the main difference between the two types; Mk.I with its single machine gun and Mk.II with 2pdr gun and co-axial machine gun. According to the Half Yearly Report on the Progress of the Royal Armoured Corps for September 1939 - June 1940, at the outbreak of war 66 Infantry Tanks Mk.I had been delivered and production was continuing. As the larger Infantry Tanks Mk.II was just coming into production, none were available at that time.

The Brigade's War Diary recorded that they mobilised at Farnborough on 1st September 1939 under the command of Colonel (Temporary Brigadier) J. A. L. Caunter. Most of the early entries

The photos accompanying this article are published courtesy of Bob Gregory. They were all taken by German soldiers during or more likely after the French Campaign. Caption details come from Bob, Nick Watts and the author using what information is on the back of the prints with locations which can be made out.



deal with personnel matters as officers and men were posted into and away from the Brigade, but oddly the move of 4RTR to France in the middle of September was not recorded. One significant event that was recorded came on 20th October when Brigadier Caunter handed over command to Colonel (Temporary Brigadier) D. H. Pratt, DSO MC.

Operational Order No.1 dated 3rd November dealt with providing support for units guarding airfields at Bramley and Odiham and the depot at Arborfield against enemy landings from the air. Six Light Tank Mk.II with drivers from 55 Training Regiment were placed under orders, while 7RTR were to provide reserve vehicles and a mobile column made up of Light Tanks and Machine Gun and Cavalry Carriers to be ready to move at 30-minutes' notice between midnight and 18.00 hrs.

Meanwhile the Battalions continued to build up strength as tanks became available. A letter from the War Office of 18th November stated:

"I am directed to inform you that the rate of production of equipment necessitated, as a temporary measure, organising regular Army Tank Battalions into Companies in which Mark I and Mark II 'I' tanks were mixed. Experience has shown that there are tactical disadvantages in the organisation of Companies of five Sections each of one Mark II and two Mark I 'I' tanks.

I am to say that 7th and 8th Battalions Royal Tank Regiment will therefore organise and train on the basis of Companies of two Sections of three Mark II and three sections of three Mark I 'I' tanks. Battalions of Army Tank Brigades other than 1st Army Tank Brigade will organise and train on the normal basis of Companies and Sections consisting entirely of Mark II or Mark III 'I' tanks".

At this time 4RTR in France was fully equipped with the Mk.I, both Mk.I and Mk.II tanks (Matildas) were being delivered no Mk.III 'I' tanks (Valentines) would be completed until mid-1940. (Full details of organisation and equipment will be shown in Part 3.)

Reference to the Brigade was made in the BEF GHQ AFV Branch War Diary on 15th January 1940, stating that depending on production and the state of training:

"4th Bn. At present in France with 50 Mk.I Tanks, 23 Mk.II (Vickers) Tanks to be sent out by 1st June.

Bde H.Q. and 7th Bn. To be ready by 1st April.

7th Bn. To consist of 23 Mk.II (Vickers) 27 Mk.I.

8th Bn. To be ready by 1st May. To consist of 23 Mk.IIA (Besa) 27 Mk.I."

The terms Vickers and Besa referred to the coaxial machine guns of the two types of Mk.II tank, a total of 55 had been ordered with the Vickers while all later tanks were to have the Besa. As events were to show, 4RTR was not to receive any Mk.IIs and although Brigade HQ and 7RTR were to move to France in April 8RTR was to remain in the UK.

Early in December the Brigadier and Brigade Major visited 4RTR in France. There was little else to report until March 1940, and on the 21st Mobilisation Orders were received while a week later the temporary issue of three Light Tanks in lieu of an Armoured Command Vehicle was approved. The official Brigade War Establishment at this time was 10 motorcycles, seven cars, five 15cwt trucks and three 3-ton lorries, but no AFVs, however, their attached Signals unit should have had one ACV along with more wheeled vehicles. By 15th April mobilisation was complete; an advance party left for Southampton on the 20th and embarked for Le Havre on the 22nd; a road party embarked on the 25th followed by the final rail party on the 29th.

4th Battalion Royal Tank Regiment

Tracing its history back to 'D' Company of the Heavy Branch, Machine Gun Corps, the 4th were one of the Battalions that had remained in being throughout the inter-war period. The Battalion had been working on infantry/tank co-operation for several years and had had Mk.I tanks for some time before the war. They were stationed at Farnborough when they received their orders to mobilise on the afternoon of 1st September 1939. Their own account does not list the receipt of more tanks at the outbreak of war, but does state that a draft of 98 reservists joined on the 4th, that they were short of machine guns - quickly made good by the King's

Dowager is easier to identify, note the Unit Mobilisation Number 1874 on the side of the hull by the driver's compartment which was typical of 4RTR. Having lost a track - seen a few metres behind it - and run into a ditch at the side of the road, it awaits recovery by the Germans who have marked it with the number 2033 and the 'walking stick and rhomboid' symbol seen on many tanks knocked out in France.



ABOVE & BELOW: Other photos of this tank show it was named Drastic. It is seen here abandoned at the side of the road along with a wrecked motorcycle as a German horse-drawn unit passes. Another photo shows it in poor condition along with another tank, which could be Dennis.

Dragoon Guards – and on the 8th that they needed two Sergeants and four RAOC privates, two 30cwt lorries, one Car 2-seater and one motorcycle to bring them up to full strength. A move to nearby Mytchett was made on the 9th but they were soon to travel to France making them the first British tank unit to land there in WW2.

An advance party left on the 13th, on the 17th 50 'I' Tanks were loaded onto two trains, which left for Southampton the next day. The remainder of the Battalion followed by road on the 19th, one Light Tank having steering trouble on the way. Tanks were loaded that day, the men embarked on the 20th and the Battalion was at Cherbourg before midday on the 21st. Unloading of vehicles was completed on the 24th. Details of train loadings show their vehicles, listing four Light and two 'I' Tanks plus four Carriers

in Battalion HQ with each Company having one Light and 16 'I' Tanks along with their transport. One other detail is that they were wearing Service Dress not Battle Dress at this time.

Initially they were stationed in the area around Vimy, from there they reconnoitred the Belgian border and nearby Cambrai. In November they moved to Attiches near Lille where HM The King visited them in December. Another move to Fienvillers followed, where training continued despite a cold winter.

One small change was made to some of their tanks. In an article in the February 1941 edition of the Royal Tank Regiment magazine *The Tank*, Section Sergeant-Major Armit recorded that the .303" Vickers machine gun in Troop Leader's tanks were replaced with .5" guns to increase firepower. The two different guns were designed to fit the same mountings which made





this an easy alteration. One converted in this way was inspected on 5th November 1939 according to the War Diary of the GHQ AFV Branch, it was intended that 15 per Battalion would be re-armed and 16 guns were to be made available according to the Diary for 14th November. As the Battalion's Light Tanks had these alongside their .303" guns there would have been no problems with training.

7th Battalion Royal Tank Regiment

The 7th Battalion Royal Tank Corps were 'reformed' - the original 7th Battalion had been disbanded after the Great War - on 21st May 1937 with several drafts coming from 4th Battalion. (The style 'Regiment' came into use on 4th April 1939 with the creation of the Royal Armoured Corps, the former RTC Battalions becoming Royal Tank Regiment).

The 7th were at Catterick Camp in Yorkshire when they received orders to mobilise on 1st September 1939. Initially they were ordered to stand by for Home Security duties. Their vehicle holdings were one Company of Mk.I 'I' Tanks and two Companies of old artillery Dragons with wooden turrets and guns. On the 2nd 14 Carriers, Machine Gun were received from 15th/19th Hussars and on the 3rd they dispatched nine Infantry Tanks Mk.I to 4RTR at Farnborough by train and 10 'tracked carriers' were sent along with several men to 55th Training Regiment RAC.

Other entries in the Diary recorded work on Passive Air Defence measures such as building air raid shelters and First Aid posts as well as personnel movements and training, whereas 23rd October's entry stated... "First Mk.II 'I' Tank arrives from Vulcan" which would be direct from Vulcan Foundry at Newton-le-Willows, Lancashire. It was just in time for the Battalion's move to Aldershot,

which was completed by the end of the month. There they prepared to be part of local defence schemes, trained and received more tanks.

The Diary for March records the "Necessity of organised H.Q. Squadron stressed by 4 R. Tanks from France" and that their own HQ Squadron was formed "without a recognised establishment". On vehicles, in March, "Intensive modifications to Mk.II Tanks undertaken, mainly the raising of the suspension. This work was undertaken as a result of not very satisfactory trials at Linney Head." While in April "Unit completed to Establishment with new 'B' vehicles and M/cs in one day. All Mk.II 'I' Tanks suspension modified". This was because of "Instructions for possible move issued" on the 6th, though it was to be several days standing before definite instructions were received. A form listing vehicle details was required to be completed, though no copy of the completed list is included in the Diary. Details of marking vehicles were issued, this was to be the Unit Serial Number 1875 and three coloured strips in Red Oxide of Iron G.S., Grey Ammunition and another in Red Oxide of Iron G.S. on the off-side wing of wheeled vehicles or front mudguard of motorcycles.

An advanced party left on the 30th and orders to move on 1st May were received as well, only for the date to be altered more than once. The men - recorded as wearing battledress - moved by train and road between the 3rd and 5th, wheeled vehicles going by road while tanks were loaded onto trains. On the 8th the last personnel reached Dover and the unit departed for Dunkirk, arriving safely that evening. One of the Movement Orders covers 23 'I' Tanks Mk.II, which were to be carried across the Channel by train ferry still on their rail wagons. Details of 'I' Tanks Mk.I and Light Tanks were not included.

Several photos show this tank either buried in masonry as here or upside down, location is Pont-à-Marq but there is nothing to identify the tank other than the 'Chinese Eye'. It is an early model from the second production batch.





ABOVE: From the front Gourock appears to be a typical A11 waiting to be towed away. The rear view shows the fitting for the Fowler Coulter Plough though the plough itself is not in place, this can just be seen in the other photo. Note the Unit Serial Number 1875 painted on the plough fitting.

8th Battalion Royal Tank Regiment

Also disbanded after the Great War, 8th Battalion RTC was brought back to life on 16th May 1938 at Perham Down on Salisbury Plain. As with the other two Battalions, September 1939 was busy with postings of men and vehicles. At 10am on 3rd September, only an hour before the declaration of war, nine 'I' tanks were transferred to 4RTR; 14 Machine Gun Carriers arrived from 4th/7th Dragoon

Guards on the 4th and five Medium Tanks from 4RTR on the 5th. The Battalion moved to Ilminster in Somerset on the 10th, their War Diary recording that seven Medium Tanks, three 'I' Tanks and six Dragons were transported by train.

Unfortunately their vehicle holdings when they travelled to Tidworth on 15th November were not recorded, though they must have received more tanks as the next record of vehicles was on 29th January



1940 when three Mk.II 'I' Tanks were transferred to 7RTR. When the Battalion travelled to the Castle Martin range in Wales in mid-May they sent 10 Mk.IIA 'I' Tanks and another three went to Wanstead.

Unlike the other two Battalions the 8th was not sent to France, leaving them one of the few formations with tanks in the period when the Germans were expected to invade the United Kingdom.

Into Belgium

The Brigade War Diary for the second half of April briefly listed movements. Formal records for May have not survived, but a summary from 12th May was produced. This states that as at 12th May "1 Army Tank Tk. Bde. less 7 & 8 R.Tanks were in Pacy area" – that is, Brigade HQ and 4RTR – with "7 R.Tanks in Domart area". (8RTR were in the UK and later references to the "Brigade" did not include them.)

After the German attack began, orders came to move to Brussels via Orchies without its tanks, these were to follow by train with 4RTR leaving overnight on the 13th/14th and 7RTR on the 14th. This was in accordance with Plan 'D' which called for the BEF and French forces to advance into Belgium and secure the River Dyle between Wavre and Louvain in the event of a German attack. Movement of the troops by road was slow with frequent halts and poor control, by the 14th they were east of Hal. Tank trains arrived overnight and were unloaded, 4RTR at Hal and 7RTR at Berchem.

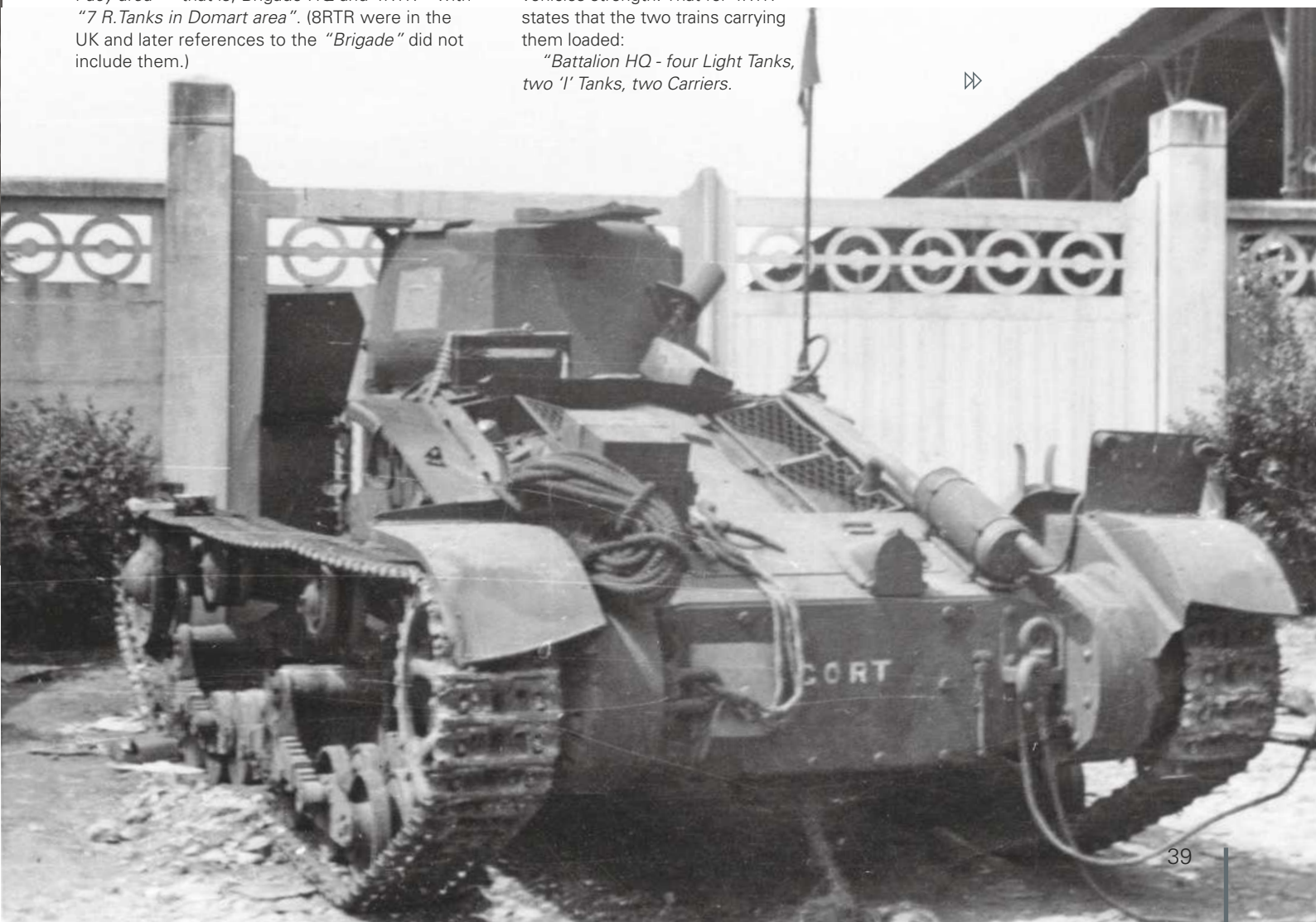
The Brigade was now under the orders of 1 Corps and given the role of countering any German attack and protecting the Corps' right flank.

As with any move, Movement Orders listed the trains and their loads, which show the units' vehicles strength. That for 4RTR states that the two trains carrying them loaded:

"Battalion HQ - four Light Tanks, two 'I' Tanks, two Carriers.

ABOVE: This tank formerly of 4RTR was used as a target at or near Lombardsijde on the Belgian coast. Several hits have been scored but the damage appears minor, these hits may have been made during its time in action.

BELOW: No details of registration or serial are visible on Gort, only the G in its name identify it as being from 7RTR. Whether the commander of the BEF approved its name, we can only speculate? Radio antenna is in place, other items including a rope on the vehicle suggest it is being recovered.





ABOVE: Another reserve tank shows shipping instructions for it to go to No.1 Sub Depot of No.2 Base Ordnance Depot. Barely visible on the turret are stencilled dimension and weight details.

BELOW: Enough of the number plate is visible to identify Giraffe as RMY943 T5589. It has a radio antenna mounting but no aerial, close inspection of the gun mounting shows the machine gun has been removed.

A, B and C Companies - each one Light Tank, 16 'I' Tanks, two Carriers".

Giving them a total of seven Light Tanks, 50 'I' Tanks - these would all be Mk.I - and eight Carriers. In addition, three Light Tanks of Brigade HQ travelled with them.

7RTR's list of tanks split across three trains showed their AFV strength as:

"Battalion HQ - four Light Tanks, two Infantry Tanks Mk.II, four Carriers.

A, B and D Companies - each one Light Tank, nine Infantry Tanks Mk.I and seven Mk.II, two Carriers".

Which totals seven Light Tanks, 27 Mk.I and 23 Mk.II 'I' Tanks and eight Carriers.

Overall total for the Brigade at this point was 17 Light Tanks, 77 Mk.I and 23 Mk.II Infantry Tanks plus 16 Carriers.

At first 7RTR's tanks were moved to the Forêt de Soignes on the 15th and 16th, 4RTR remaining to hold the reserve line and be ready to counter attack. Around midday on the 16th, Corps HQ ordered a general withdrawal, which was to be covered by two Sections of Mk.II tanks from 7RTR at Ermitte, south of Brussels. The move was begun despite





German bombing which caused a few casualties. Bombing prevented the tanks being loaded onto trains at Enghien so they were forced to continue westwards as a new loading point was sought while the wheeled vehicles continued as planned. As no train drivers could be found, the plan was altered and the tanks continued by road.

The withdrawal continued on the 17th with wheeled vehicles leading, followed by Light Tanks, Carriers, Mk.II and Mk.I tanks in that order. New orders were received at 11.00 hrs when the column was passing through Ath for the tanks to turn round

and make for Hal to cover the Corps withdrawal against a German armoured division. On reaching Enghein they prepared for action, but there was no sign of enemy tanks. At 15.00 hrs more orders were received to continue the withdrawal. This was carried out towards the north of Orchies as before along roads full of refugees, the route through Tournai was also difficult due to bombing and damaged bridges. On arrival the Brigade was put under command of 'Mac Force' consisting of one Infantry Brigade holding a German attack from the South across the River Scarpe. 4RTR were sent to positions south and east of Orchies with 7RTR in reserve to the north.

During the 19th patrols of Light Tanks were sent out, one from 4RTR towards Valenciennes and another from 7RTR to the Douai to Denain road. These returned overnight without finding the enemy. Two sections from 4RTR were sent to the river line to support the French, while one Company of 7RTR moved south-west of Orchies to protect against any German advance. More patrols on the 20th reached the line of the River Scarpe before being recalled during the afternoon. 7RTR also patrolled to the south-west of Orchies and one Company of 4RTR was moved six miles west to Evin. Air attacks continued with 4RTR suffering some casualties. Around midday the Brigade was ordered to Vimy, a move of around 30-miles. Again the roads were full of refugees making progress slow, wheeled vehicles arrived in the evening with tanks coming in during the night. An attack was planned with 1st Army Tank Brigade and 151 Infantry Brigade from 50th Infantry Division. At first this was to go in at dawn, but this could not be organised in time, final orders were not issued until after 10.00 hrs on the 21st.

Arras

The general situation by 21st May was that the German Army had made a gap around 20-miles wide in the Allied lines from Arras to Cambrai, pushing through to surround the British and French units in the North. It was believed that the French

The BEF had reserves of many items including tanks. These two were photographed captured apparently intact; they are missing some stowage items, which would have been put on before they were issued. The car on the right of the print is in German service.





ABOVE & BELOW: Grimsby from two different sides. The view of its right-hand side shows a non-mechanised German unit passing it, the top bomb thrower's mechanism has its bolt open while a belt of .303" ammunition is draped from the front. That from the left shows the Canadian War Memorial at Vimy in the distance which gives the location. The white square markings look like they were applied in a hurry.

Army had concentrated enough troops south of the Somme to counter attack and cut the Germans off. British GHQ were anxious to attack southwards from Arras, with 151 Brigade plus supporting arms from 50th Division and 1st Army Tank Brigade along with a French Division *Légère Mécanique*.

1st Army Tank Brigade had covered 120-miles in five days moving slowly on roads blocked by refugees and under constant threat of air attacks. They now had only 58 Mk.I and 16 Mk.II 'I' Tanks and 12 Light tanks available. Some Mk.II tanks from 7RTR were to come under command of 4RTR, these were to form a reserve. 4RTR's War Diary records that they had seven, though a report by Brigadier Pratt gave the figure as six. His allotment of tanks for the attack was:

Right Column - 7RTR supporting 8th Durham Light Infantry with 23 Mk.I, 10 Mk.II and 5 Light Tanks.

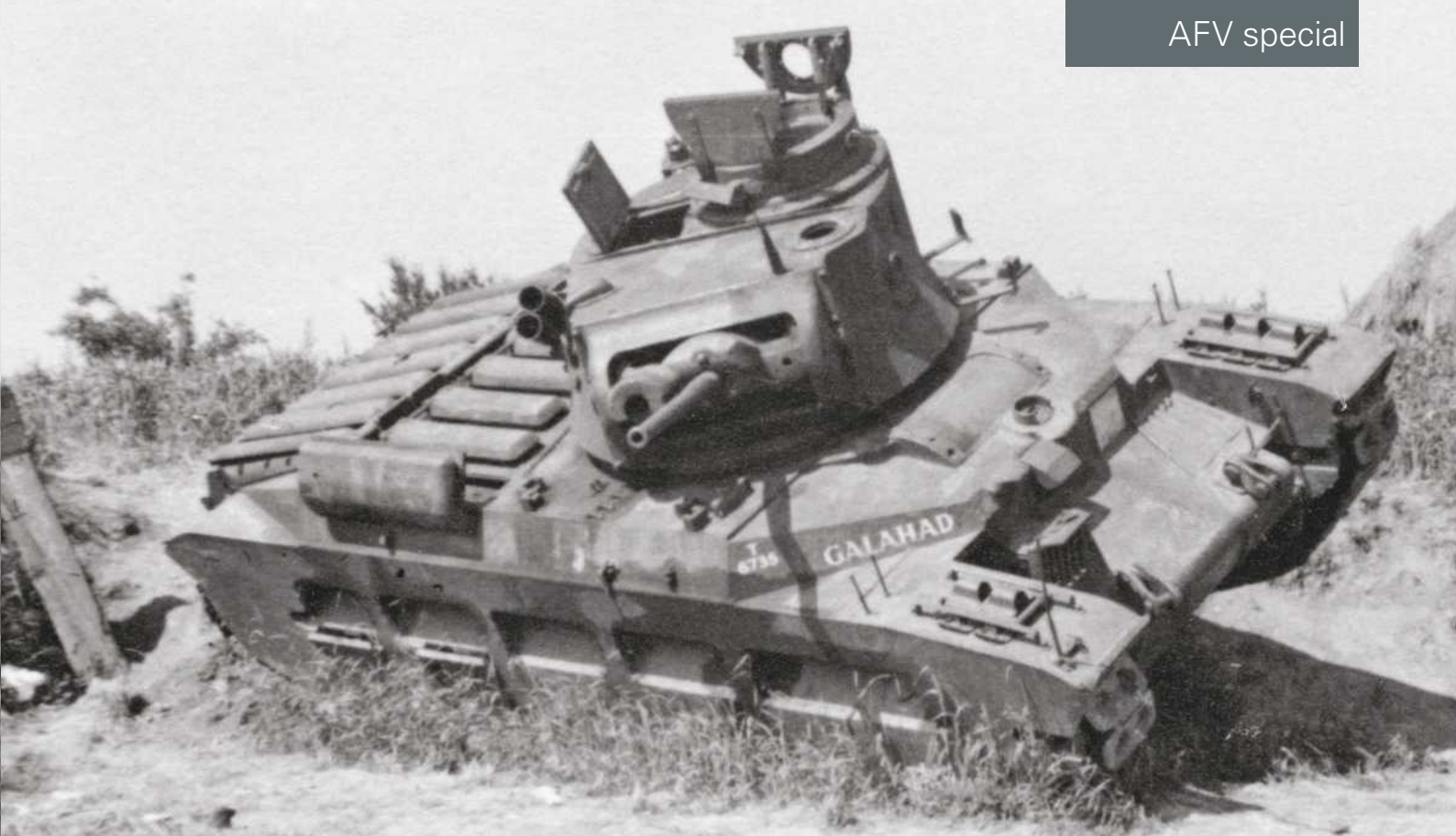
Left Column - 4RTR supporting 6th Durham Light Infantry with 35 Mk.I, 6 Mk.II and 7 Light tanks.

The two columns would be about three miles apart, the French 3ème DLM with approximately 60 tanks on the right flank giving protection.

Among the units facing them was the 7th Panzer Division under General Erwin Rommel. He recorded that a further German move forward had been planned to start at 15.00 hrs with 7th Panzer Division advancing round the north-west of Arras with the SS Totenkopf Division on its left and 5th Panzer Division advancing east of Arras.

Several period accounts of the battle and the original Operational Order for it survive, although details in these can be confused and contradictory. An approach march of some 8 or 9-miles from Petit Vimy would bring the British forces to the start line on the railway running south-east from Arras towards Doullens. The attack was timed to begin at 14 00 hrs, firstly an advance in a south-easterly direction of around 6.5-miles round the south of Arras then another advance of three miles to the River Sensee.





4RTR met opposition from anti-tank guns and artillery fire as soon as they left the FUPs at Maroeuil and Anzin-st-Aubin and crossed the start line. One section shot up a German motorised column which was advancing on Dainville from the west, killing many men and destroying their vehicles. Their advance was moving more to its right than intended until the River Crinchon was crossed. 6DLI followed some distance behind. Despite being under artillery fire, 4RTR continued the advance and mopped up the area around Dainville with many prisoners being taken. The men had started out tired from their march, but the sight of the damage caused by the tanks

and the fact that they were capturing and killing many Germans gave them new energy.

The advance continued to Achicourt, where the Mk.II tanks were ordered to deal with strong enemy anti-tank gun positions to its north. A Company had been in reserve, they were ordered into the attack between B and C Companies who by now had become separated. Very considerable anti-tank gun and field artillery opposition was met, until the advance of the tanks was held up on the Arras-Bapaume road between Beaurains and Mercatel.

ABOVE: Galahad was abandoned near Souchez after slipping down a field bank during the withdrawal from Noulette Ridge. No battle damage is visible in this or other views of it.



Sergeant B. T. Doyle's battle-scarred tank Good Luck, at the exit from Wailly Village where it was finally halted by artillery fire. This photo clearly shows the louvered lids of the front stowage bins – welded onto the main armour, these thinly armoured boxes were packed with cleaning equipment and could be easily set on fire by a penetration like the one on the left of this tank, or by tracer passing through the louvers.





Good Luck was not alone in advancing into the German lines, an unidentified A11 lies abandoned a few metres ahead of it.

Despite these successes, it became clear that the original plan to reach the River Sensee could not be achieved.

About this time their CO Lt Col Fitzmaurice, MC was killed when his Light Tank received a direct hit from a field gun.

About 16.00 hrs 6DLI were seen advancing towards the Arras-Doullens road. Contact was made to inform them that there was no opposition on the ridge immediately in front. At this time they were taking many prisoners who had put up no opposition.

7RTR and the Right Column had not been progressing so well. Arriving late on the start line, they proceeded at once through Duisans where they shot up enemy infantry and transport. 8DLI followed and entered Duisans about 15 00 hrs. Sniping and machine gun fire was coming from the west and a certain amount of shellfire, but casualties were slight. The area was mopped up and about 100 prisoners were taken. Again both tank crews and infantry were elated by these successes. However, the advance of 8DLI was held up by the enemy around Warlus, who were reported to be in some strength and supported by tanks.

At about 15.30 hrs Major-General G Le Q Martel, commander of 50th Division, arrived and saw the left column was pushing ahead faster than the right. He therefore ordered the left column to secure Beaurains and make it into a tank-proof area. He then returned to the right column at about 16.00 hrs where the situation was somewhat confused. 7RTR had continued their advance past Warlus, and were well on their way to Wailly-Ficheux which was strongly held by German field and anti-tank guns.

Meanwhile Lt Col Hoyland, DSO commanding 7RTR was killed by machine gun fire after he had left his tank after it was hit by several field gun shells which damaged the track. As the Adjutant's Rear Link tank was out of wireless contact at this time, control was very difficult and only possible by the using Light Tanks to carry messages. Enemy tanks were reported to be near Warlus. Major-General Martel ordered the right column to press hard and obtain further information so that more forces or artillery support could be used to clear a way through Warlus. Unfortunately there was no reserve of tanks to deal with this situation.

Shortly afterwards French tanks, advancing rather slowly, saw some British anti-tank guns which were in position protecting the right flank. Mistaking them for German they turned towards them and opened fire without warning, knocking out one anti-tank gun and killing two men. Another gun returned fire and killed or wounded the crews of four tanks. The French were now at close quarters and realised their mistake which they apologised for.

Meanwhile 4RTR was continuing to push ahead. Their Adjutant advanced into a shallow valley 1,000 yards north-west of Mercatel, where he found the remainder of the Battalion. During this move anti-tank guns, armoured cars and miscellaneous transport vehicles had been seen stationary on the road running west of Mercatel. All available tanks now attacked on to this road, inflicting very considerable damage on the enemy with no casualties to the tanks.

Despite these successes, it became clear that the original plan to reach the River Sensee could not be achieved. Heavy casualties had been inflicted on the Germans for only small British losses, however it was certain that the enemy would hit back and probably using very large forces. With no reserves available, Major-General Martel therefore suggested a withdrawal but to support the French counter-attack from the south, 50th Division was ordered to hold the tank-proof area at Beaurains and another at Duisans after the situation at Warlus had been cleared up. Orders were sent out to both tank Battalions to "stand fast". 4RTR had already taken up a forward rally position immediately behind the infantry, who were being subjected to heavy artillery fire from a battery due East of Mercatel. As the forward Company Commander of 6DLI thought the tanks were drawing this fire on them, 4RTR withdrew another 400-yards and rallied again ready for a counterattack.

What was thought to be the furthest point of the advance was made by two tanks of B Company, 7RTR. Major S. J. King, MC in a Mk.II along with Sergeant B. T. Doyle in another accounted for several machine guns and anti-tank guns, an 88mm



German soldiers examine Gorgonzola. At least 10 anti-tank hits are visible in this photo which have only grazed the main armour, although the side 'skirt' has been penetrated.

gun and four German tanks before being knocked out. The crews were captured, spending the remainder of the war as prisoners of war. It was not until after the war that their efforts became known, Sgt Doyle receiving the Distinguished Conduct Medal and Corporal Holland who was gunner on Major King's tank was awarded the Military Medal.

The enemy were alarmed at the successful attack which had been launched against them. They had complete superiority in the air, and had watched the whole progress of the battle. Seeing the British columns had halted, they made plans for a counterattack for which they had already concentrated the necessary forces. Their plan was simple and sound. Instead of attacking strong defensive position, they would use strong air attacks to drive the British out of their positions then attack them in the open using large numbers of tanks, counting on catching the infantry before they could be protected by anti-tank guns.

About 18.15 hrs heavy dive-bombing attacks by over 100 aircraft lasting 20-minutes were made on Beaurains against 6DLI and also on the main body of the right column near Warlus. 6DLI were forced back and attacked by a number of tanks in the open. Although reduced in numbers, 4RTR stemmed the tide of the enemy advance. Their tanks were at a forward rally 200-yards behind the forward line held by the infantry. By this time it was beginning to get dark. As soon as the tanks were in position 4RTR's Adjutant went to the crossroads 800-yards southeast of Achicourt to make contact with the CO of 6DLI. Tank movement was heard along the road from the front. This was thought to be one of the Mk.IIs attached to 4RTR, reported broken down on the ridge in front, coming back. The Adjutant went to investigate and waved a bundle of maps

in front of the driver's visor. The tank stopped, its hatches opened, heads appeared and there was some shouting in German. Realising that this was a German tank with more behind, the Adjutant shouted a warning and ran back to his own tanks, consisting of 10 Mk.Is and one Mk.II. Five German tanks took up a line along the road 250-yards away and began firing. 4RTR returned fire and both forces continued for several minutes with a brief halt after a smoke projector was fired before it was realised that ammunition was being wasted as neither side could see clearly. Firing ceased and the Germans withdrew, allowing 4RTR and the rest of the left column to withdraw to Achicourt.

On the right, the bombing was followed by tank attacks from south-west of Duisans and on Warlus. Anti-tank guns of 260 Antitank Battery were quickly in action and knocked out several German tanks, many of which were set on fire.

These actions showed that the Germans were in very superior strength, and both columns were ordered to withdraw. The two RTR Battalions rallied during the night at Ecurie and during the early hours of the 22nd returned to Vimy area, many tanks having been in action for some seven hours and their crews inside them for up to 12-hours.

The British attack had inflicted heavy casualties on the Germans including an estimated 20 tanks destroyed and 300-400 prisoners had been taken. 4RTR with 6DLI had advanced around five miles through enemy country, this showed remarkable powers of endurance especially as they had had little rest and had a long approach march to the start line. 7RTR and 8DLI had met stronger opposition, the tanks losing contact with their infantry and advancing without them. Radio communication had broken down early in the action, this together with

*These actions showed
that the Germans
were in very
superior strength...*



Some tanks were photographed several times which can help to pinpoint their identity and location. The distant photo from the author's collection does not show enough detail to identify the tank but when seen together with the others it can be seen to be Gough. The stone monument is one of a series marking the front line of the 1914-18 war. Location is south of Ypres between Voormezelle and Dikkebus and this is one of the two Mk.IIs that became detached from the combined Battalion and served briefly with 5th Division. Two of these photos show it without any tracks, whether they were added or removed by the Germans during recovery we may never know.

the loss of both Commanding Officers and other senior officers made command and control even more difficult. The German counterattack was however resisted with success. If there had been more tanks, better supported by aircraft, artillery and stronger mobile forces, a very great success might have been achieved.

On the German side, the attack was seen as a serious blow. General Rommel had personally commanded part of the defence, directing fire from all available guns against the advancing tanks. His Adjutant, Leutnant Most, was killed just as the attack was finally beaten off, showing how close Rommel came to death on that day.

Brigadier Pratt's report summed up several Points of Interest from this action:

The large number of enemy anti-tank guns (37mm) encountered.

The vulnerability of the crews of these anti-tank guns. A burst of well directed .303 M.G. fire at the flash invariably silenced the guns, even up to ranges of 800-yards.

Anti-tank guns were always sited frontally. In no case was an anti-tank gun seen in a defiladed position. The guns were usually well concealed, but were clearly indicated by the flash of firing.

The poor fighting qualities of the German troops encountered. They were very young, and large numbers were observed lying on the ground face downwards feigning dead, others ran up to the tanks surrendering.

The accuracy of the German field batteries and the efficient spotting of the German observation planes. Targets were rapidly and effectively engaged by them, e.g. Group of 3 tanks.

Lack of artillery support from our own artillery of any description during the attack.

Lack of own air support, and no defence against enemy bombers or reconnaissance machines was given.

The long distances that had been covered by the tanks during the previous week. Both Bns. arrived at Brussels during night 14/15 May by rail. They left Brussels by road during afternoon 17th May and had marched continuously since that date before going into this battle: (120-miles in 5 days approx.).

(Note: Speed of Mk.I, 3mph; Mk.II, 6mph approx.) The strain on crews and tanks had been great and led to losses of tanks due to mechanical failure.

Both Mk.I and Mk.II tanks were definitely proof against the German anti-tank gun. (37mm)

One tank showed 14 direct hits, another 24 including two hits from the gun of the German tank that appeared in the semi-darkness on 4th Bn. front. Ranges varied from 150-yards to 250-yards. The only indication the crew had of being hit was a red glow for a few seconds on the inside of the armour plate.

Another Mk.I was hit three times by a French Somua tank without any ill effects. The mark on the outside of the Armour plate was 1/10th" deep only.

Although on frequent occasions tanks passed through heavy enemy artillery fire, nothing but a direct hit from their field gun (10.5mm Gun-How) affected them. One tank Comdr. reports that a shell burst on the A.P. above the radiator of the Mk.I and the crew suffered slight concussion only, no damage to tank. This was probably from the German 75mm Infantry Gun (14lb. Shell) and not the 105mm Gun-How with 33lb Shell.

This was most effective, and it is essential to have a proportion of tracer 1 in 4 in each belt of S.A.A. Conversely, penetration of tracer ammunition through the front louvres of the Mk.II tank caused fires in some of our tanks.

Another Mk.I was hit three times by a French Somua tank without any ill effects.





Wireless communication inside Battalions broke down early in the battle. This was partly due to lack of time for netting, bad atmospherics, and casualties to commanders tanks (Two C.O.'s, one Adj., two Coy. Commrs.).

There was intermittent wireless communication with Battalion Liaison officers (Anchor sets) from Bde. H.Q. Communication was maintained through liaison officers and by sending each message with light tanks. The width of front and depth of advance made this a slow and difficult affair.

During the evening, when wireless communication was re-established with 7th Bn., the enemy definitely tried to jam, but without much success.

To be continued.



The author's completed model.

Battle of France Matilda II

Peter Heath modifies Tamiya's 1:35 scale Matilda II to one of the earlier variants serving with 1st Army Tank Brigade as part of the BEF in France during 1940.

A British Expeditionary Force Matilda A12, or Matilda II, has appeared in these pages before; Steve Zaloga's build appearing in *Military Modelling* Vol.30 No.11 in 2000. Inevitably, as time passes more material and information becomes available so I thought, and after having some encouragement, I would revisit this particular tank but using the latest products the hobby has to offer.

For my version of a Battle of France era Matilda II, I had access to three great products that Steve didn't have; Tiger Model Designs BEF Matilda Conversion, Echelon Fine Details BEF Matilda decals and of course Tamiya's latest Matilda Mk.III/IV. Firstly, I have to tell you that this Tiger Model Designs BEF Matilda Conversion is no longer available, but it has now been updated and made available again through 'The New TMD', see www.newtmd.com

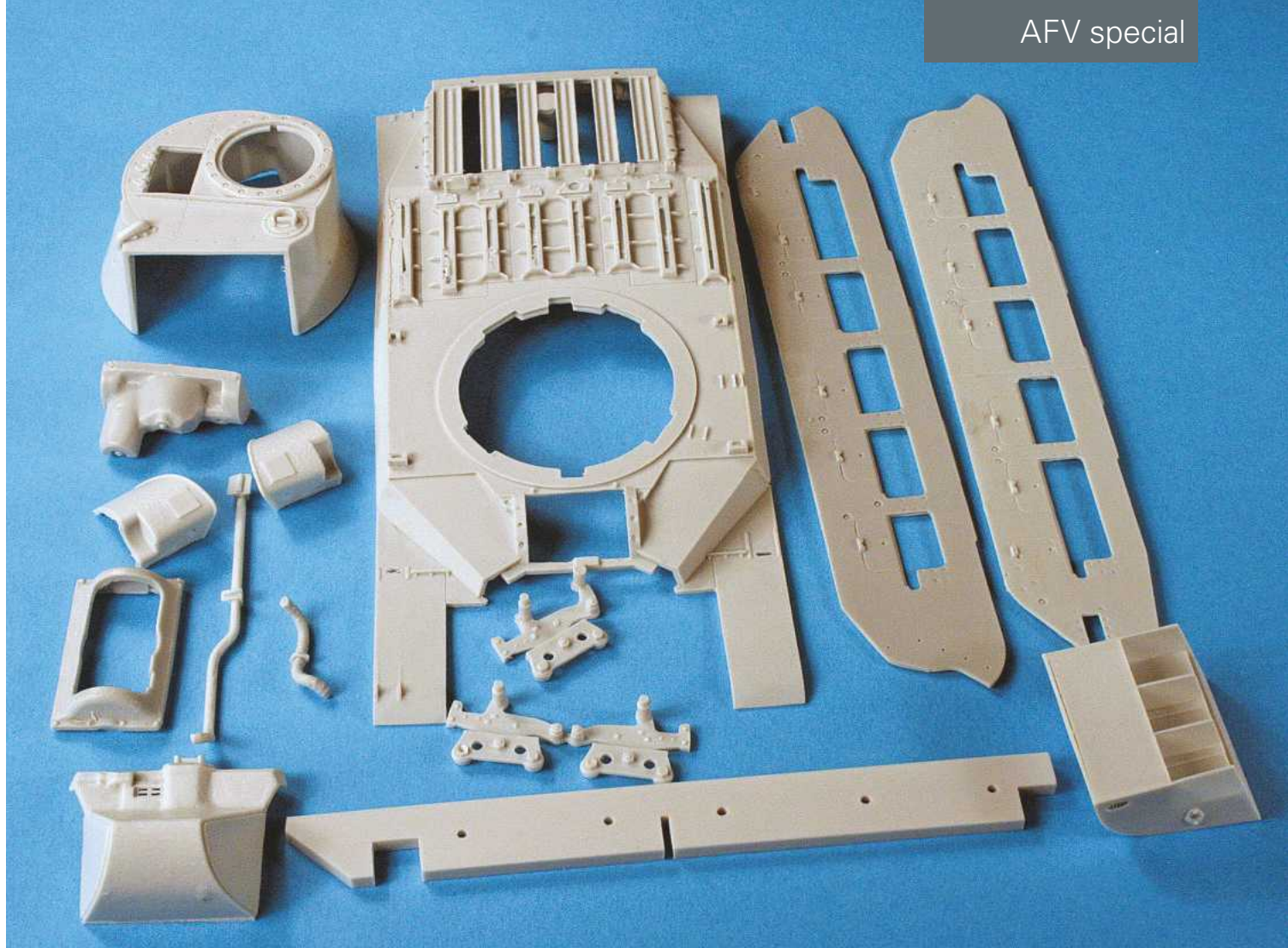
Construction

If you use the TMD conversion kit (incidentally, beautifully mastered by Mike Sills) the majority of the parts are simply 'drop in' replacement parts for Tamiya pieces; indeed the whole of the upper hull, front hull, turret and side plates are replaced. The 'in construction' photos show that these parts fit like proverbial gloves. BEF Matilda IIs were fitted with a box shaped tailskid at the rear of the tank, which replaced the exhaust silencers. The tailskid was added to supposedly improve the trench crossing ability of the Matilda and a nice resin additional part together with an exhaust pipe fits onto the Tamiya kit's lower hull. The Matilda conversion kit also has replacement parts for Tamiya suspension parts A18, D67 and D68.

BEF Matildas had their suspensions lowered to assist with ground clearance and to do this the conversion set provides a resin template to allow you to drill replacement holes for the suspension assemblies to fit into. At the time of construction I was made aware, via a thread on www.missing-lynx.com, that not only were the suspension units lowered, but also due to their articulation some displacement of the double bogie



Box illustration for the Tiger Model Designs BEF Matilda Conversion.



ABOVE: This should give you some idea of the parts that TMD's conversion has. The long rectangular part in the foreground is a 'jig' to allow you to re-drill holes for the lowered suspension.

LEFT: TMD's new 'nose' fits beautifully as in fact did all of their resin parts.

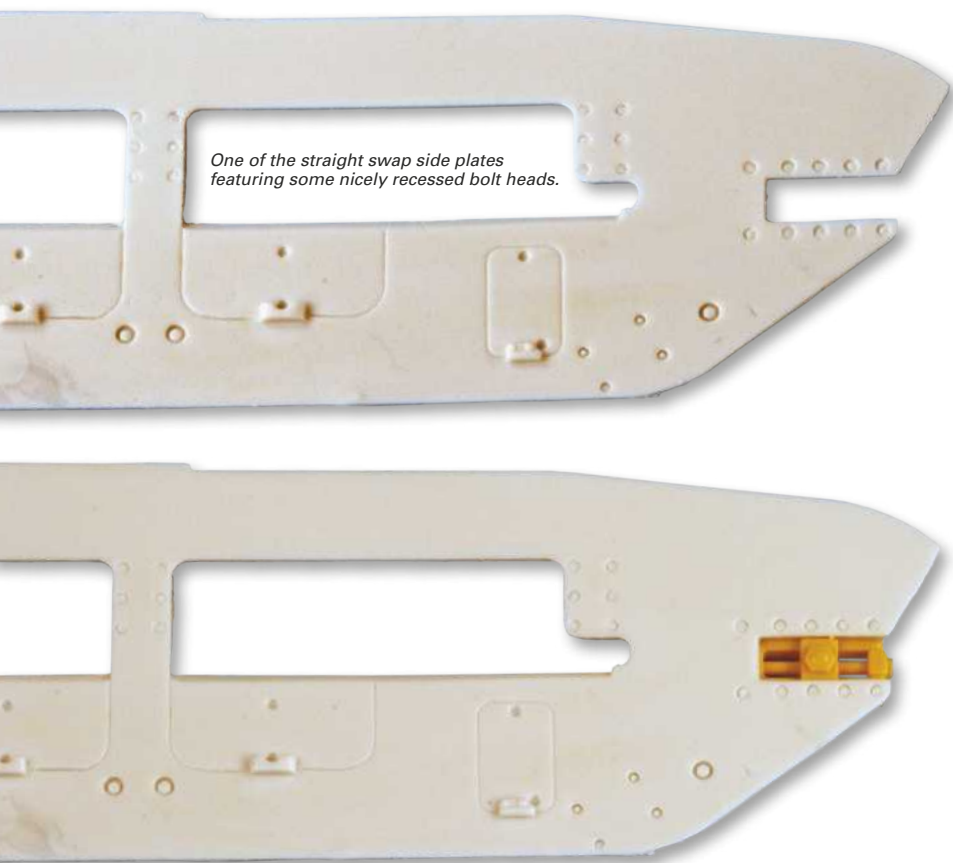
BELOW: A rear view of the author's completed model.



units occurred; i.e. they moved horizontally and not just downwards. It does depend how far you wish to go, but I found that the conversion 'as is' was a sufficient representation of the modification and I made no further model alterations other than to reposition the forward jockey wheel.

Prior to fitting the suspension units I strengthened the interior of the hull just to help with some rough handling I knew the model would receive when drilling holes in the lower hull side plates. Once the suspension units were attached they too were strengthened with plastic strip and whilst it looks a little messy none of the strengthening is visible when the side plates go on. You'll notice that I also added a 'tab' of plastic to the hull sides,





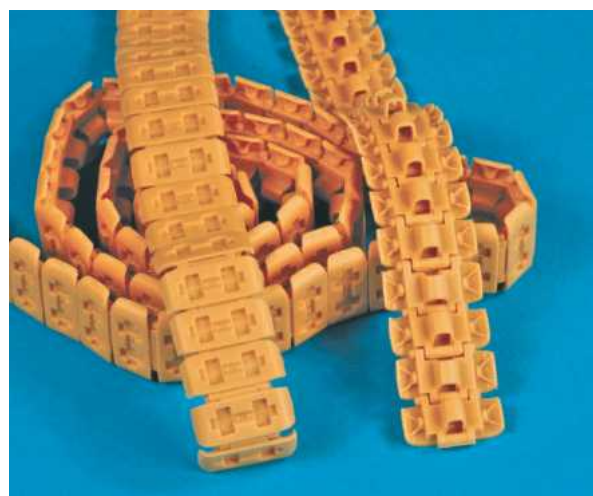
One of the straight swap side plates featuring some nicely recessed bolt heads.



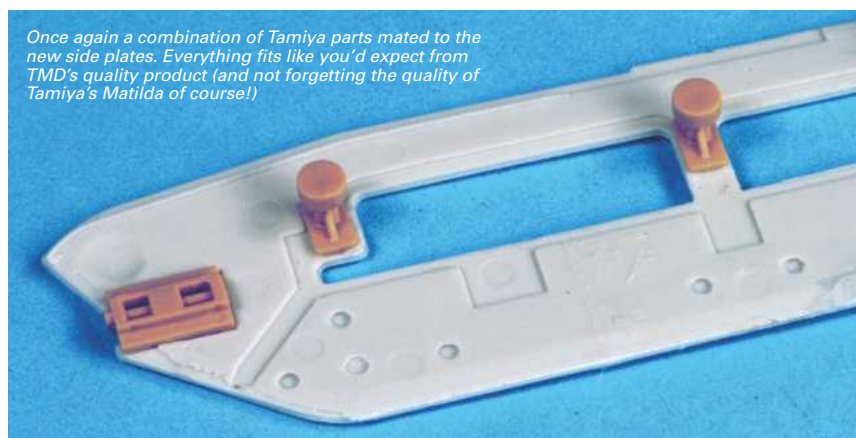
ABOVE: Just to illustrate that this is a quality conversion here's the new tail assembly featuring some delicate moulding.



A combination of TMD and Tamiya parts to produce the suspension units.



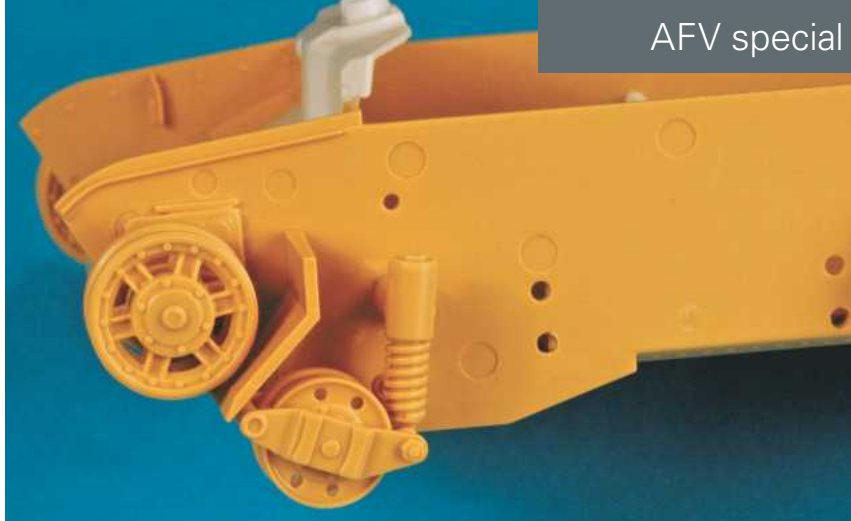
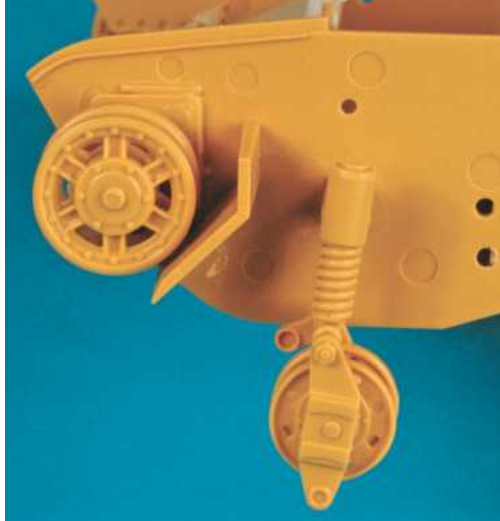
ABOVE: These are actually Bronco's beautiful replacement tracks. They are, of course, not essential as Tamiya give you the option of 'rubber bands' or plastic link and length in their latest Matilda kit and both are excellent but using Bronco's tracks suited my method of attaching the tracks.



Once again a combination of Tamiya parts mated to the new side plates. Everything fits like you'd expect from TMD's quality product (and not forgetting the quality of Tamiya's Matilda of course!)



The tracks I used on my model. They're probably the best and easiest single link tracks I've assembled although not an essential addition.



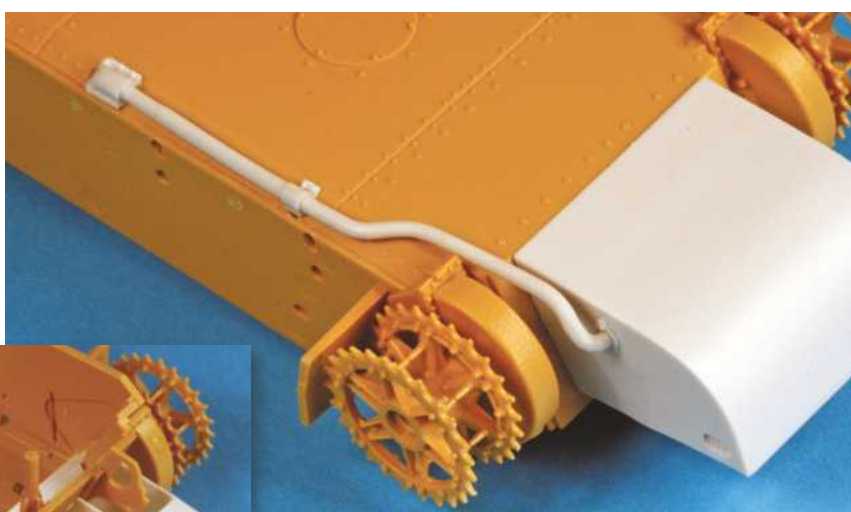
ABOVE LEFT: A close-up of the jockey wheel which I decided to move by expanding the wheel's locating hole on the Tamiya hull side downwards slightly. I then snipped off the locating pin to allow the jockey wheel to swing free which allowed me to move it further forward. Also visible are the newly drilled holes to accommodate the suspension units to duplicate the lowered suspension on all of the BEF Matilda IIs. **ABOVE RIGHT:** The end result for the repositioned jockey wheel. This change is not indicated on the TMD instructions but there is a whole debate about quite how and where the suspension units and jockey wheels displace to when the suspension is lowered. This represents where I feel the jockey wheel ends up but for the rest of the suspension parts I made no further alterations other than indicated in TMD's instructions.

which allowed me to later glue the tracks straight onto this tab. At this stage I painted the suspension assembly to make final painting easier later on in the build. I also opted to replace Tamiya's tracks with Bronco's, so I was able to once again pre-paint everything, glue one end of the made up track onto the tab, feed the track around the idler, bogies and sprocket and then glue the other end straight onto the tab. Once you've got the suspension and track on it's onto the upper hull.

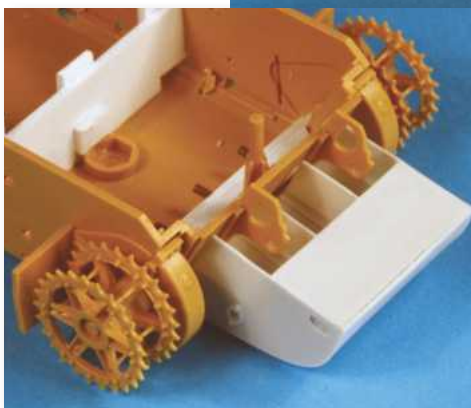
The upper hull parts are straight swaps for the Tamiya parts as the photos show. On the Matilda II the tool stowage is of a different configuration than on later marks but this is depicted on the resin replacement hull top. To be fair the instructions do say that while the stowage fittings are accurately portrayed the actual tools stowed and their position is not known for certain. Photographs of BEF Matilda IIs were invariably taken when abandoned and in German hands, and by this stage any tools had been removed. Nevertheless, I went with TMD's instructions regardless.

I also found that the 'towing eyes' don't quite match with photos of BEF Matildas, and so for the front parts (C24) I cut off the bolt heads and replaced them with plastic discs made with a punch and die set. The 'O' rings themselves (parts C25) were replaced with the parts supplied by TMD. Similarly, the rear fittings D9 and D10, due to the fact that they are shown as double-layered and not quite right for a BEF version, are replaced with rectangles of plastic sheet with, once again, discs of plastic for the bolt heads. The Resin TMD 'O' rings are again substituted for, in this case, parts A23. Other modifications include replacing the kit-supplied civilian registration plate D25 with thin plastic sheet and representing its supports with bits of etched-brass.

The only other things I added (and these were specific for my chosen subject of *Greynam*) were mudguards both front and back, a strip attached to the rear hull, which I'm assuming was to hold the exhaust pipe in place and a wire 'basket' which again I'm assuming acted as a protector for the engine outlet. The latter probably extended the full width of the outlet, as it is visible, in parts, on other Matildas in France. All other parts are Tamiya's. ▶▶



ABOVE: The new tailskid and exhaust fits neatly onto Tamiya's hull.

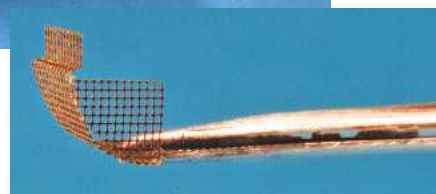


LEFT: As you can see I actually pinned the tailskid with thick plastic rod and also braced the inside but only because I knew that there was going to be some rough handling ahead! Note the new holes for the repositioning of suspension units.



ABOVE: Little to say here other than the resin parts fit beautifully. There's also a nicely rendered cast texture on these parts.

RIGHT: Something specific to *Greynam* is what I think is part of an engine outlet screen which probably ran the hull width of the aperture; *Greynam* has just this one part remaining. Made from bent and folded square brass mesh it adds a nice touch.





ABOVE: This is the nicely produced replacement mantlet which shows off the .303 Vickers large cooling jacket. The part is shown before I carved away a little bit of resin to get a more 'rounded' appearance to a section of the cooling jacket. This can be seen in other photos.

ABOVE RIGHT: The new resin turret captures the features of the BEF era turret nicely with the addition of the steam outlet for the Vickers MG (visible at the nearest corner).



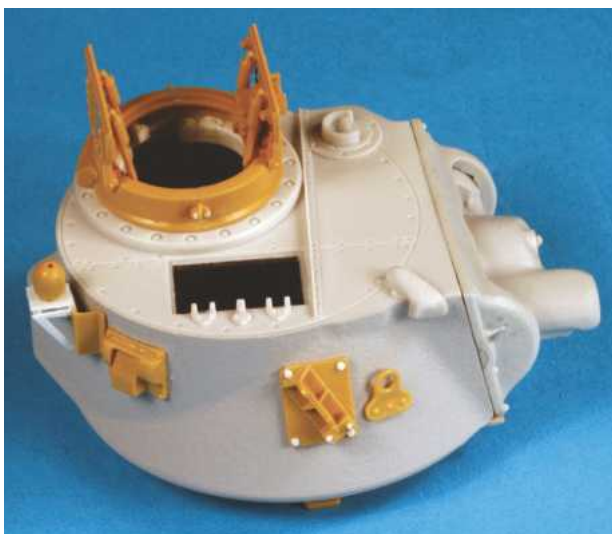
Turret

Like the hull, the turret is a straight swap for Tamiya's part C9 with the lower turret ring, part C10 being retained. The resin turret is a delight and features a nice cast texture. The main distinguishing features of the replacement turret, compared to Tamiya's, are the omission of the roof ventilator and the addition of the steam outlet on the right-hand

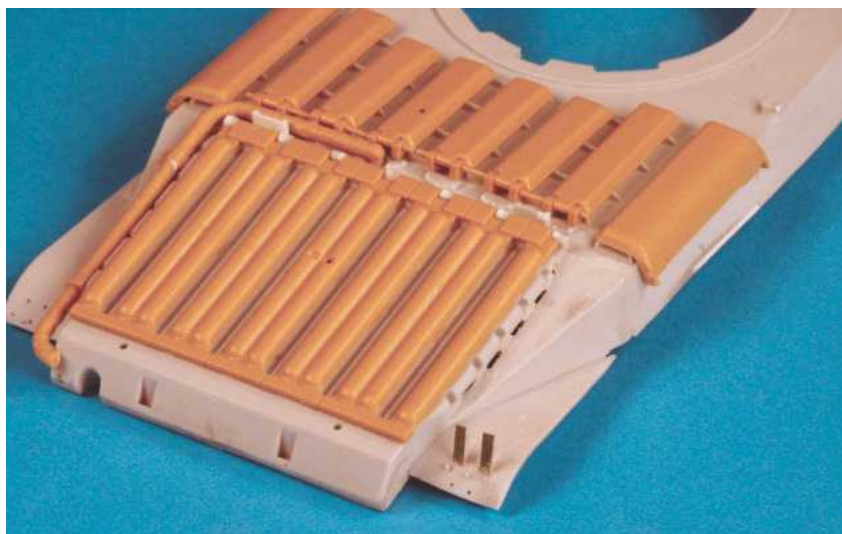
side of the turret for the water-cooled .303in co-axial Vickers Gun. To show the changes/improvements I made I'll work my way around the turret, beginning with the main gun mantlet.

The mantlet is a resin replacement and an equally lovely turned aluminium barrel for the 2pdr is also included in the TMD conversion, but I decided to sand away part of the .303 housing to get to a more accurate depiction of this part; the photos show the results of this. Moving clockwise around the turret from the front and we come to the smoke bomb launchers. You'll see that not only did I add some bolt detail, but also removed one of the launchers, which was copied from my reference photos, but one of the launchers may have been lost due to battle damage.

Continuing round, the aerial support was rebuilt with plastic strip and fuse wire. I'll not go into any great depth here as, (a) references were difficult to come by and (b) I can't say I'm 100% right! That said, it is a big improvement on the Tamiya parts, which are a bit clunky. Next, on our circular tour of the turret is the map case (Part D45 and while I used the kit part I did super glue a piece of Tamiya tape round the body to depict what I think is a canvas bodied case, as opposed to the later metal version. A couple of plastic strip pieces were

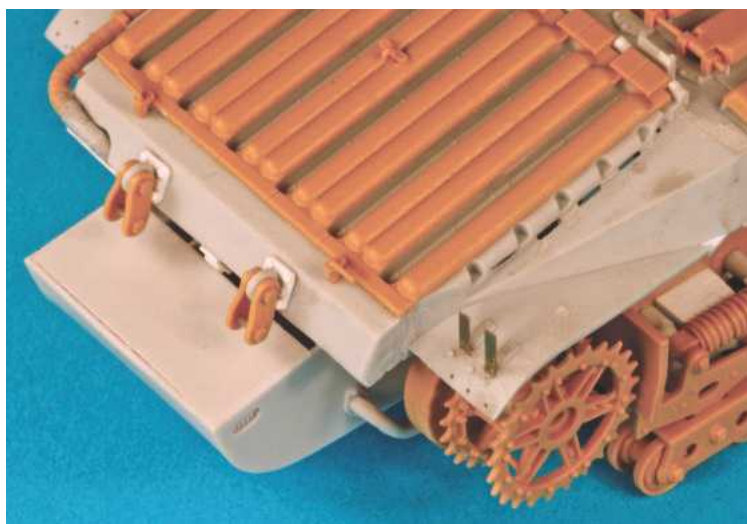


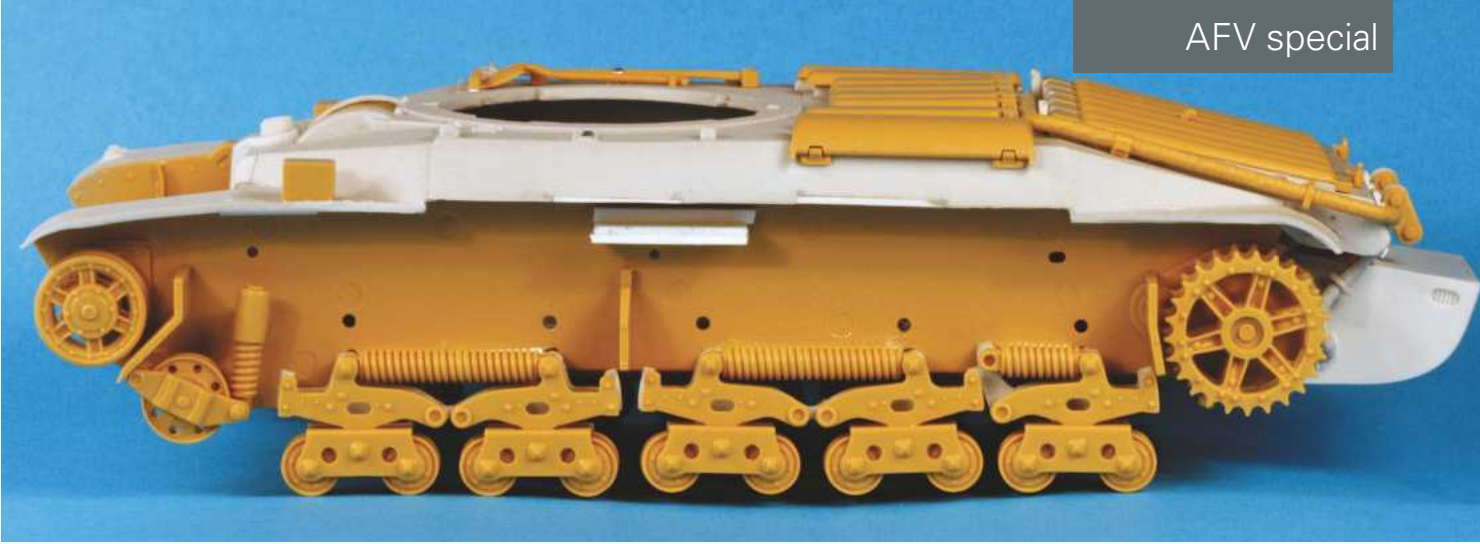
BELOW: This photo and the other turret photos should show the carving and sanding I did to the Vickers' cooling jacket. I can't say hand on heart it's 100% right but it should be pretty close.



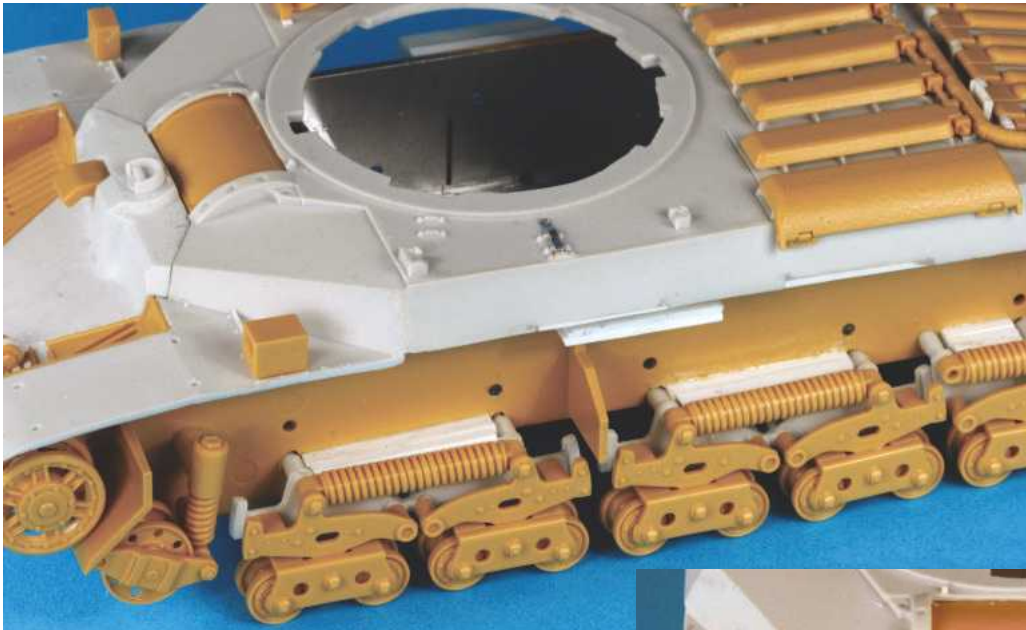
ABOVE: You can see just how much resin there is in TMD's conversion; all the major parts other than the lower hull are replaced. I also replaced Tamiya's licence plate and this required new supports to be made which were etched-brass and came from the spares box. You'll also notice in this view (and others) the repairs I made to parts of the upper hull edges due to some over-zealous sanding!

BELOW: Here you can see the plates for the towing eyes were replaced with plastic sheet and punched bolt heads to replace Tamiya's parts.



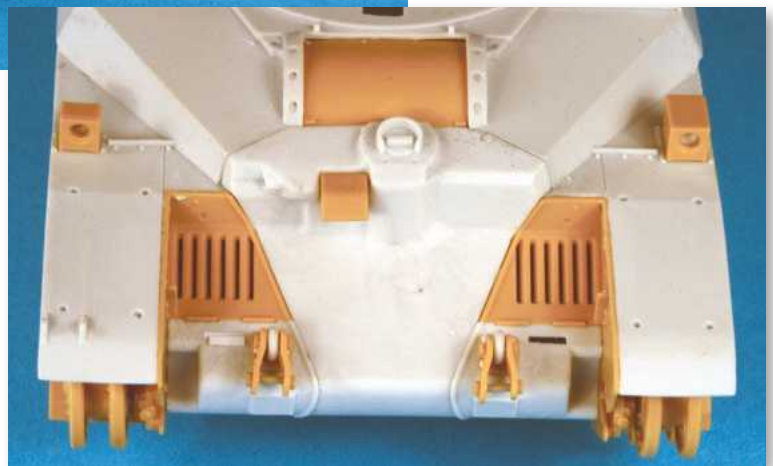


ABOVE: This side view clearly shows the lowered suspension and the original location holes. Also visible is the tab I added to which I later added the Bronco tracks. After I took this photo I did actually move the tab upwards slightly just to give a little more space for the tracks. The hull appears to be floating because my photographic background card has some ripples but everything is straight and level on the model!



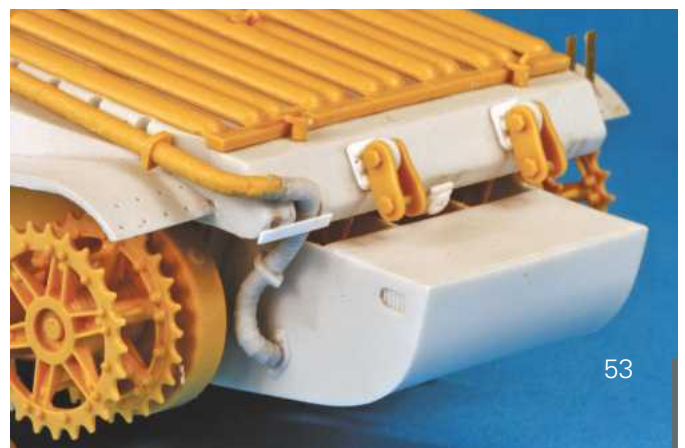
LEFT: I was slightly concerned when I added the suspension units that things looked a little fragile so I added some chunks of plastic strip to firm everything up. It may look untidy but nothing is visible when the side plates are added.

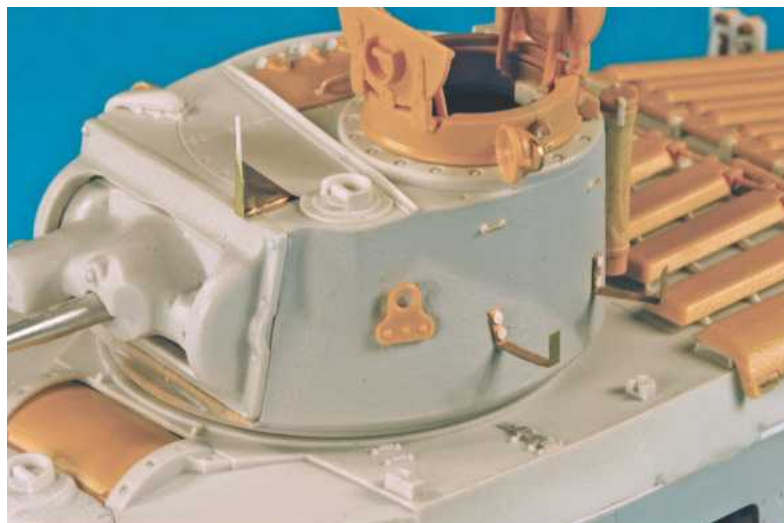
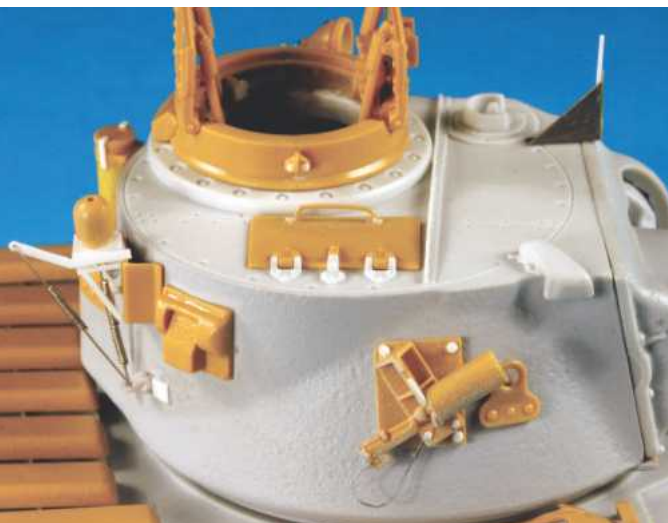
BELOW: The completed hull front.



LEFT: The front towing eyes utilising TMD's eye rings and Tamiya parts C24 but with the hexagonal bolt heads cut off and circular boltheads in their place. You'll also notice that I blanked off the nearest headlight aperture; Greynam had just one headlight fitted.

BELOW LEFT: The tool stowage on BEF Matildas is something of a guessing game. I wasn't able to confirm from photos the correct stowage for the tools so I went with TMD's instructions which was good enough for me! BELOW RIGHT: The rear hull is close to completion; there's a small plastic strip added to the rear hull of my chosen subject Greynam the purpose of which I'm assuming is the hold the exhaust pipe in place. Also visible between the towing eyes is a replacement for Tamiya part D19 which is thought to be a buzzer to attract the commander's attention. I only did this because I managed to lose the Tamiya part.

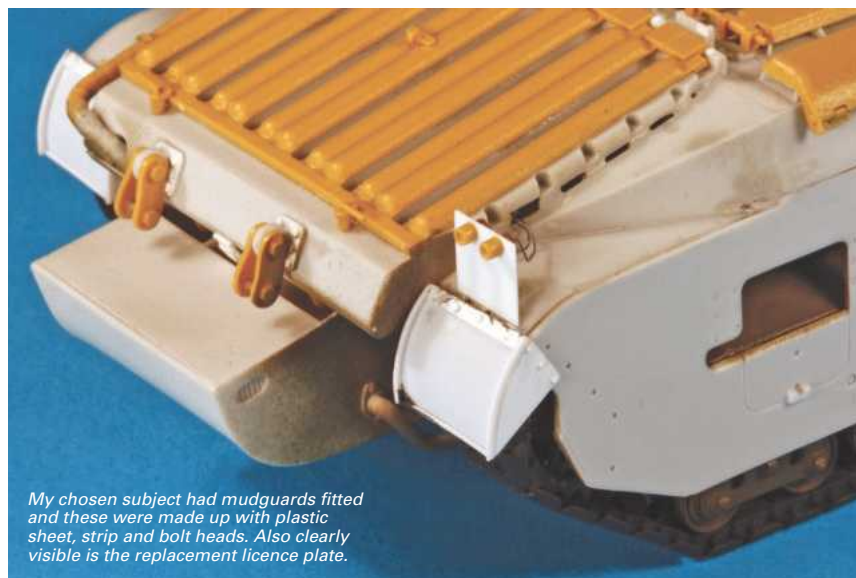




ABOVE LEFT: The completed turret shows the alteration I made to the smoke launchers; I removed one as per my reference photos but whether this was lost through enemy action is unclear. Other things to note are the relocated loader's hatch handle which is repositioned so it is parallel to the hatch edge not angled and the sight mounted on the turret roof which I made from bits of left over etched-brass and plastic strip. ABOVE RIGHT: The Tamiya turret stowage bracket (part D53) was replaced as the BEF era Matildas do not have the two horizontal supports. If you are modelling a specific vehicle you need to be careful if you want total accuracy as these brackets did vary where they were positioned; sometimes they were lower down and closer to the widest part of the turret. Perhaps picky of me but I thought you ought to know!



ABOVE LEFT & RIGHT: My 'version two' of the aerial mounting! It's now got the added wires and springs made from 5-amp fuse wire. The map case holder (Tamiya part D45) has a piece of modelling tape super-glued around it to show the fabric 'body' of the tube; later ones were steel.



My chosen subject had mudguards fitted and these were made up with plastic sheet, strip and bolt heads. Also clearly visible is the replacement licence plate.

added as catches and the revised part was left off the model until painting and decaling were done.

Carrying on round, I replaced D53, the bedroll/tarpaulin holder with bits from my 'etched-brass spares box'; the early version does not have the horizontal supports. A few bolt heads later and this part was completed too. Directly above were added a couple of tie downs from punched plastic discs and stretched sprue. Moving up to the turret roof, I added a replacement sight for part D11 from odd bits of etched-brass and bits of plastic strip, although I'm fairly sure that there must be etched detail sets would contain this part.

Finally, we come to the commander's cupola. Inside the two halves (Parts D51 and D52) I added some 'pads' from thick plastic strips and various bits and bobs, (shown in a picture in the Matilda Osprey book *New Vanguard 8 Matilda Infantry Tank 1938-45*) and a couple of bolt heads to the lifting hooks on the outside of these parts. The commander's searchlight also had a handle and a wire cable added. Finally, there was one last change; the handle

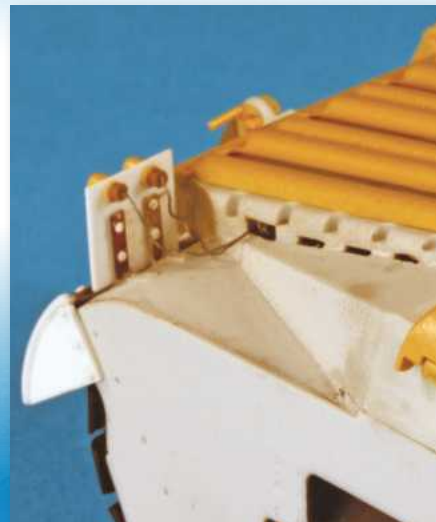




ABOVE & BELOW: The completed model awaits painting.

LEFT: The front mudguards and the rear-view mirror. As you can see I replaced the rear-view mirror support and depicted it folded down. One of the retaining brackets for the spare track links is in place but the other was left off until the majority of the painting was done. The masking tape is to allow me to paint the track links separately and then later glue them to an unpainted surface. Also visible are the hollowed out headlights ready for lenses later on. I opted to use Tamiya's headlight protectors, parts A1, but I did thin down their diameter.

RIGHT: The rear of the licence plate complete with wiring which I conveniently shoved into the nearest aperture. The wiring's still in the same place now!



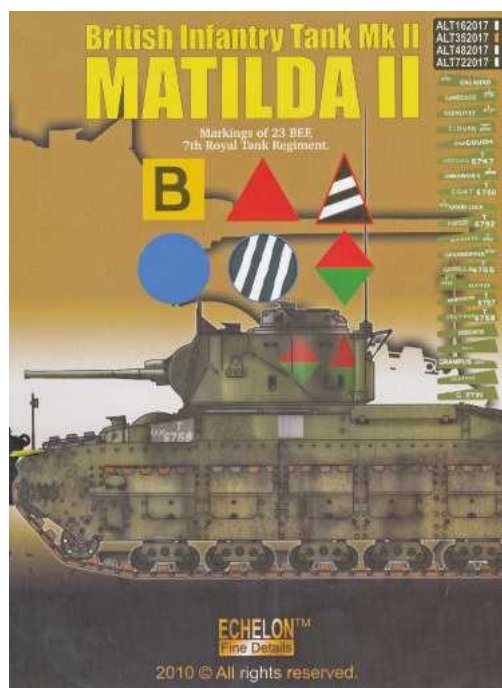


ABOVE: A rear view of the completed model prior to painting.



ABOVE: The red/green turret diamonds add a nice splash of colour and depicting them would have been much easier had I not made a complete mess of adding the decals!





ABOVE: If BEF Matildas are your thing then these Echelon Decals for you!



ABOVE: This close-up of the turret gives a good view of the single smoke launcher and also the tool stowage. The metal parts of the tools are, on reflection, a little bright but this can easily be toned down.



LEFT: A good view of the colourful markings on Greynam's turret and also the light painted antenna housing (I painted mine off white). Incidentally you'll also see that I painted the white BEF recognition squares using an airbrush as opposed to the decals provided by Echelon. This was entirely due to my experience with the turret diamonds which was, I reiterate, of my own making.

on the loader's hatch needs to be altered so that it is attached parallel to the hatch's long edge. Once you've done all these changes, that's if you really want to, it's time for the paint!

Painting

BEF Matildas were camouflaged in the then scheme of the time, G3 Khaki Green and the disruptor G4 Dark Green. There's little to say on this other than I used Mike Starmar's paint mixes (see References) using Tamiya acrylic colours. I used Khaki Drab XF-51 as the basis for both colours along with the addition of other colours to get me to what I thought were the right shades; a large amount of black being added to produce the G4 Dark Green colour.

I opted to paint over the exhaust pipe with the camouflage colours on the basis that it would

serve no purpose to mask this part off, but this is pure conjecture on my part; on the reference photos I used it's difficult to tell one way or the other. I conveniently forgot the stowed tools and painted them in 'natural' colours. Well at least they are removable... There is an odd-shaped patch of yellow-green gas detection paint on the inside of the right-hand track cover to be added, but when you're happy with the colours you've applied it's onto the decals and for my model I used Echelon Fine Details decals.

Markings

Echelon Fine Details sheet ALT 352017 provides markings for 23 tanks of 7 RTR (7th Royal Tank Regiment) BEF Matilda IIs in France. I opted for the one with red/green diamonds on the turret,



ABOVE LEFT: A close-up of the turret showing the commander's lamp. Resicast lenses were used for the lamp and both headlights.



Greynam. Applying the decals started well with the hull names and serials, etc., being applied easily. However, things started to go wrong with the red/green turret diamonds when I managed to rip one and due to constantly repositioning another lost all the adhesive qualities it once had! Faced with these problems I had no choice other than to take off the ones I had managed to apply incorrectly and airbrush the markings on. It's important to say that these

problems were of my own making and not the fault of Echelon Fine Details. Airbrushing the markings presented no great challenge other than taking time to get the masking right. Once this had been done I was able to finish off the painting by the application of some light weathering. I personally didn't go too 'over the top' with the weathering, but this can be done to your taste and depending on your chosen vehicle.

I personally didn't go too 'over the top' with the weathering, but this can be done to your taste...





Conclusion

I really enjoyed this project but I was helped by having not only some great products, but also some equally great help; Ken Jones who suggested revisiting the BEF Matilda in the first place, Peter Brown, for advice and providing the accompanying historical article, and Bob Gregory who kindly allowed me to use some of his reference photos; a big thank you to these three people. I now have the 'BEF bug' and have also built another Battle of France era British tank model, the Matilda I (see *MM* Vol.42 No.2).

MM

I really enjoyed this project but I was helped by having not only some great products, but also some equally great help...



A rear view showing the mesh 'basket' that is visible on Grey Nam.

References

New Vanguard 8 Matilda Infantry Tank 1938-45. David Fletcher, illustrated by Peter Sarson. Osprey Publishing 2002. A great all-round account with a colour profile of *Gamecock*.

British Army Colours & Disruptive Camouflage in the United Kingdom, France & NW Europe 1936-45. Mike Starmer, Private Publication. Great information on British vehicle camouflage.

Missing Lynx website (www.missing-lynx.com). A great source of information with some interesting threads on BEF Matildas.



Renault FT-17 – The inside story

John Prigent builds a 1:35 scale WW1 tank kit from Meng that's packed full of detail inside and out!





ABOVE LEFT: Box for Meng's 1:35 scale kit French FT-17 Light Tank. No mention of Renault anywhere which is probably due to licensing issues.



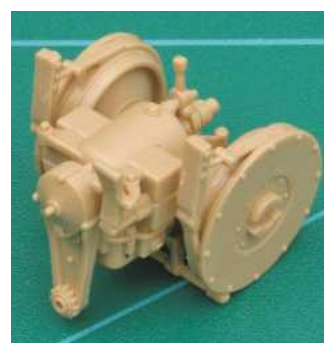
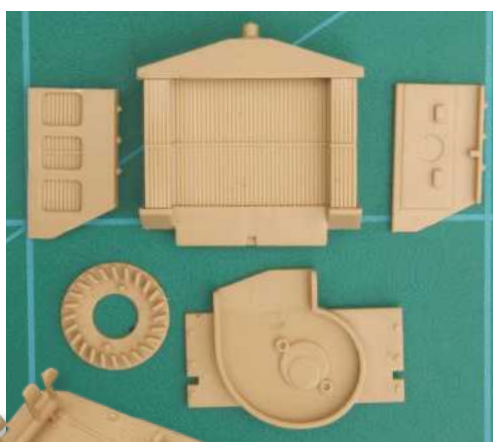
ABOVE RIGHT: Here's the engine body waiting for paint. I kept the top and bottom, and the overlapping end sub-assembly, separate to make painting easier.

The FT-17 is of course well known as the first tank to enter service with a rotating turret, earning it a place in history second only to the British Heavy Tank Mk.I which was the first tank ever to see combat. Its concept came from Colonel Estienne, who visited England to study the British tanks and knew about the French St. Chamond and Schneider tanks that were already being developed. In June 1916 he came up with the idea of a lighter tank that could be built in large numbers to operate as a 'swarm' supporting infantry attacks. Most armies adopted this idea after WW1, but later-generation infantry tactics and anti-tank weapons made them largely useless by the time WW2 broke out.

Estienne's concept was revolutionary: instead of the then-accepted arrangement of one or two guns firing high explosive shells, Britain fitting one in a sponson on each side and the French a single heavier gun in the bow with very limited traverse, he wanted a fully-rotating turret with a machine gun that could fire all around. He persuaded Louis Renault to take up this idea – Renault had already refused to join in the St. Chamond or Schneider projects, which were really only assault guns with obvious flaws.

The two worked together on the concept, and a full-size wooden mock-up of the proposed tank was built in October 1916. Estienne, by then a General, was unable to get it approved because his superiors wanted the Char 2C as a breakthrough tank. Estienne had to appeal to the Commander in Chief, General Joffre, to get a first order for 150 FTs approved.

The first prototype was ready in January 1917 and was tested for several months with various modifications being made along the way. Official trials on 9th April were so successful that 1,000 were ordered straight away. But the Army brass infighting continued, and the order was first cancelled on 29th April and then reinstated two weeks later. Nevertheless, the first mild steel examples, intended for training, were ready in September. They had cast body fronts and quite different turrets to the one in Meng's kit built, and one survives at Bovington if you want to see it. That first order was followed by an instruction to build 650 of them as chars canon with a 37mm quick-firing gun instead of the machine gun – thinking about the correct use of tanks was already changing. But there was no suitable gun that could fit into the turret! Louis Renault and Commandant Garnier managed to design one by working all through a single night. The original cast turret was



This is the gearbox ready for paint.

LEFT: These are the parts of the radiator.

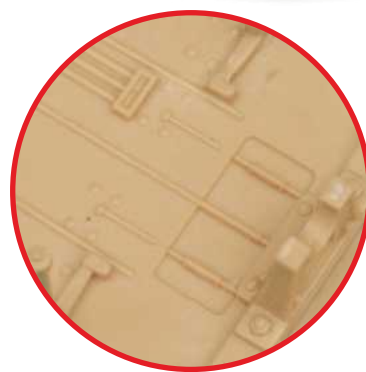
BELOW: The unpainted body floor. Meng even moulds onto it all the control runs to the engine bay in case you want to build the model without the treadplates that covered them!

supplemented by a new design using flat plates riveted together, and then an even better cast turret from the Girod foundry was introduced and became the most common. That's the one in the Meng kit.

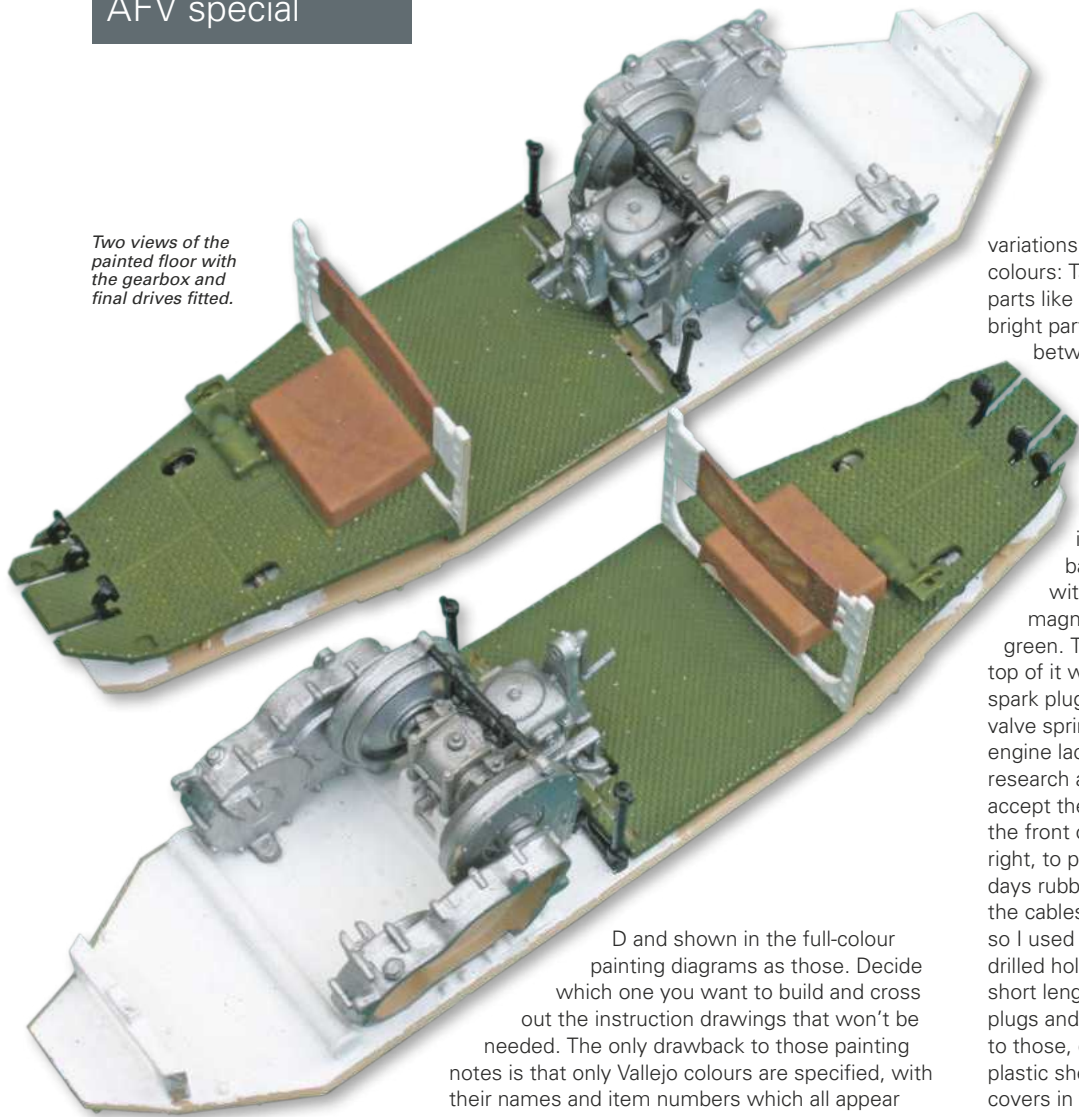
What's in the box?

Meng gives you not just the tank but a complete interior for it as well – even the entire engine bay! Separate track links are also included and there's a small etched-brass fret. There are no transparent parts because the FT didn't have vision blocks or lamps. Four coil springs are provided, plus two metal axles and two cast metal suspension arms. The instruction booklet is very good, and so is the decal sheet with four marking options. There are quite a few options in the instructions, including alternative wooden or steel idler wheels and of course the different armaments.

You do need to take care with the alternative options, marked in the instructions as A, B, C and



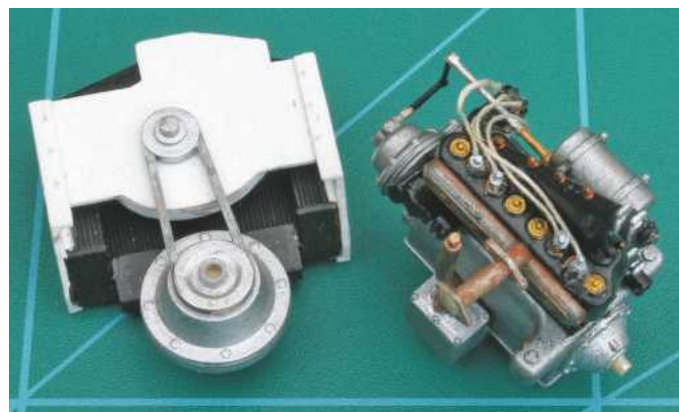
Two views of the painted floor with the gearbox and final drives fitted.



D and shown in the full-colour painting diagrams as those. Decide which one you want to build and cross out the instruction drawings that won't be needed. The only drawback to those painting notes is that only Vallejo colours are specified, with their names and item numbers which all appear to be Vallejo Air, so if you use other paints for the camouflage you'll need to check with colour cross-reference charts online for their equivalents. The 'ordinary' colours used are called out in the building instructions by their numbers, so to save continually referring back to the chart I noted the colour names against each building stage.

...cables were insulated by woven cotton covers so I used plain sewing thread to make them.

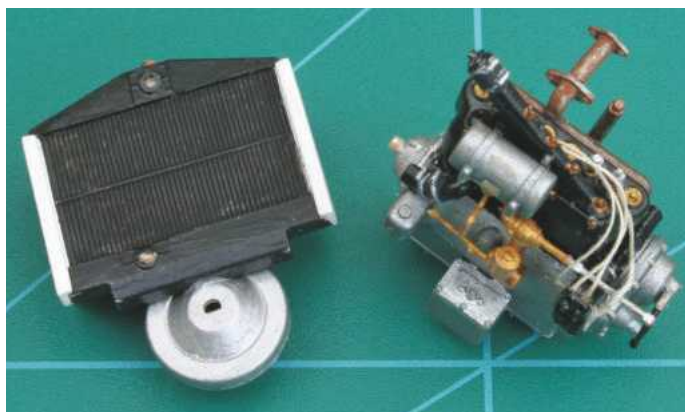
The different sides of the engine and radiator to show you where everything fits. Note how the spark plug leads run.

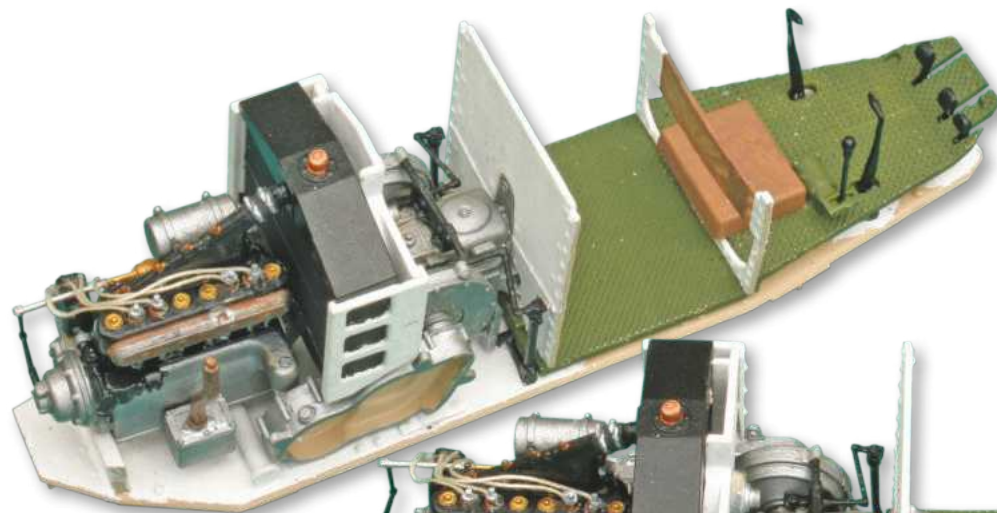


variations I used a number of different metal colours: Tamiya Metallic Grey XF-56 for cast iron parts like the engine block, Chrome Silver X-11 for bright parts, and Citadel Runefang Steel for those in between in tone.

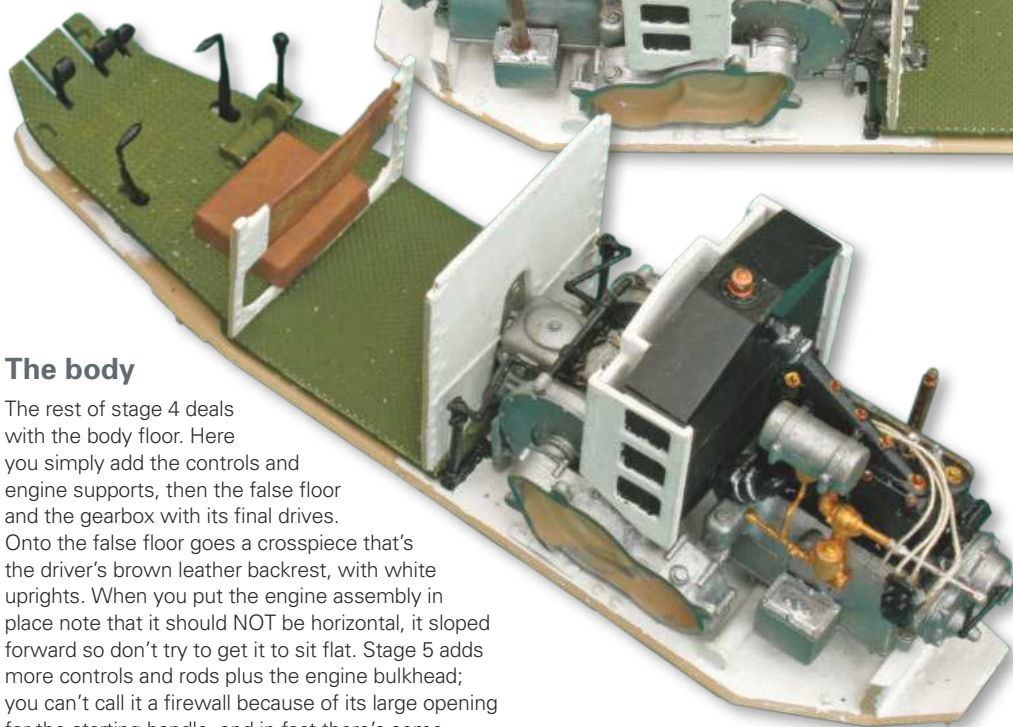
Moving on to the engine itself in the next stage, I checked carefully with photos and altered the suggested colours. The engine block shows as cast iron, not black, with aluminium covers for the oil reservoir tops on each side of it. G29 is the magneto (this tank didn't have a battery for starting, which had to be done with the starting handle to energise the magneto) and seems to usually have been green. The cylinder block and the water pipe on top of it were satin black with brass bolts and the spark plugs' disc bases were also brass, while the valve springs were bright steel not copper. The engine lacks any spark plug leads, so I did more research and drilled holes into the magneto to accept them as shown in my photo. Looking at the front of the magneto the leads ran, from left to right, to plugs 1, 3, 2 and 4 respectively. In those days rubber insulation wasn't common, instead the cables were insulated by woven cotton covers so I used plain sewing thread to make them. I drilled holes into the spark plug disc bases for short lengths of white plastic rod to represent the plugs and simply cemented the ends of the leads to those, on top of small discs punched from thin plastic sheet – there were no moulded spark plug covers in those days, just simple terminal ends held onto the plugs by bolts. Note how the plugs were lined up on the base discs: blank disc, two plugs, two blank discs, two plugs, and a final blank disc.

Stage 3 moves on to the radiator. This is called out as black-grey but I used plain black. Onto it go side mounts, which were white, and there's no need to paint the 'windows' in them black since they're not visible when the radiator is in its place in the body. The fan housing is sandwiched between the sides with the cyclone fan inside it, and the fan drive chain goes on its outside. Note that it's a chain, and not a rubber or leather belt. Finally, the lower water pipe and a small fuel tank go on the engine side and the radiator can be connected. To finish this very impressive assembly you need to skip ahead to stage 4 for the final engine parts. They're all either brass or bright steel apart from the cast iron exhaust pipe and the black rod connecting G20 to G27.





Everything is now in place on the floor.



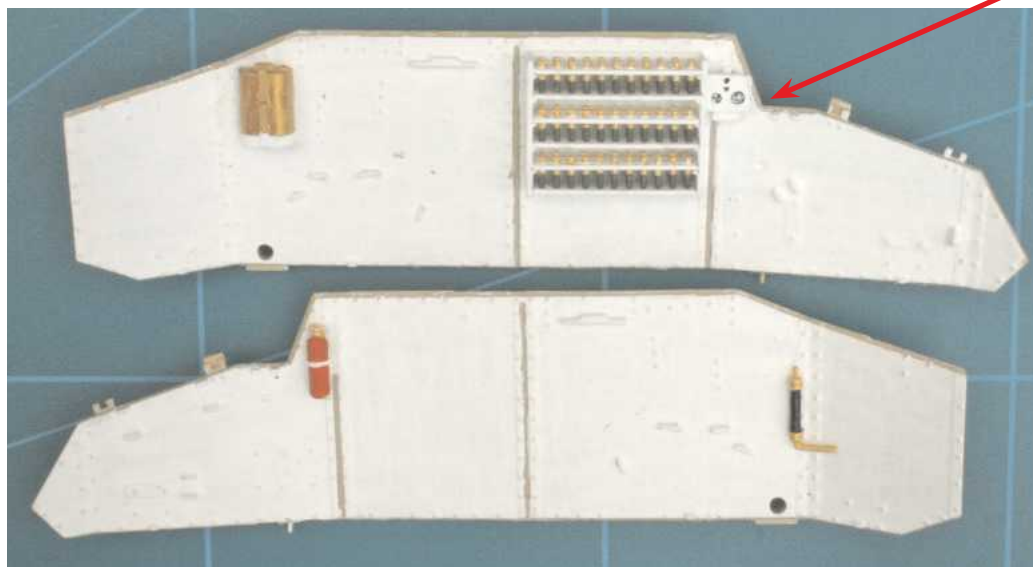
The body

The rest of stage 4 deals with the body floor. Here you simply add the controls and engine supports, then the false floor and the gearbox with its final drives. Onto the false floor goes a crosspiece that's the driver's brown leather backrest, with white uprights. When you put the engine assembly in place note that it should NOT be horizontal, it sloped forward so don't try to get it to sit flat. Stage 5 adds more controls and rods plus the engine bulkhead; you can't call it a firewall because of its large opening for the starting handle, and in fact there's some evidence that many FTs didn't have it at all, just its side members to stiffen the body sides.

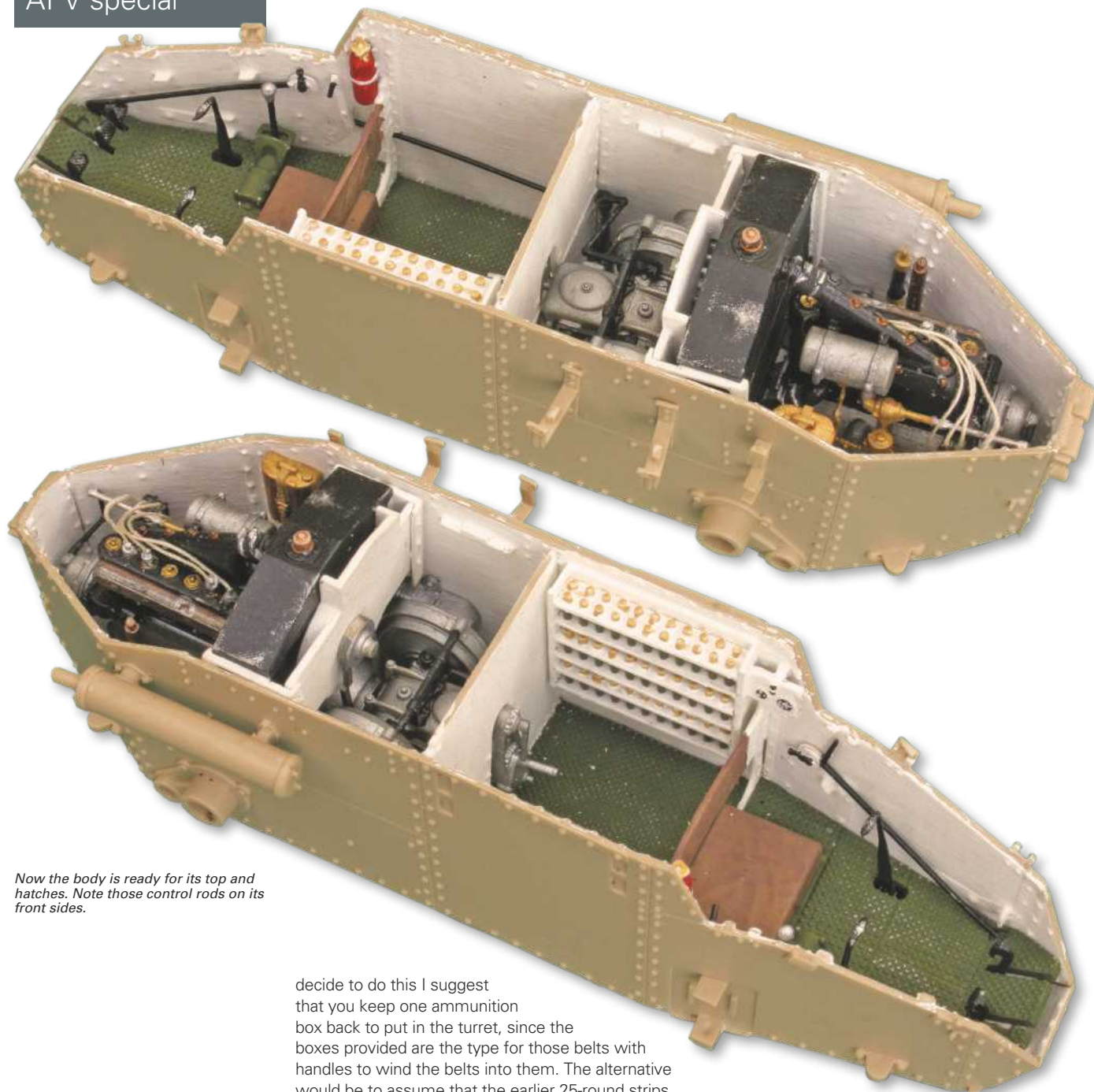
Now you can move on to the body sides, the left one first in stage 6. This is where your options must be decided if you didn't do so earlier. You have the choice of fitting the 3.7cm cannon's ammunition stowage, none for the Hotchkiss *modèle 1914* 8mm machine gun used in WW1 production and still fitted to the Finnish markings option, or the stowed ammunition of the Reibel *modèle 1931* 7.5mm MG retrofitted to French FTs during the 1930s and

retained in German service after capture in 1940. The reason for there being no ammunition stowage option for the Hotchkiss seems simply to be a lack of any photos showing how it was stowed, but Meng does provide you with a ground-mount tripod for that MG and six ammunition cans as used for ground mounts. You are quite entitled to use these in the same location as for the kit's stowage, in racks of your own design, since no-one can say you are wrong! The Hotchkiss was belt-fed from the right with 250-round articulated metal belts, so if you

...you can't call it a firewall because of its large opening for the starting handle, and in fact there's some evidence that many FTs didn't have it at all...



LEFT: Here are the body sides with their interior fittings.



Now the body is ready for its top and hatches. Note those control rods on its front sides.

decide to do this I suggest that you keep one ammunition box back to put in the turret, since the boxes provided are the type for those belts with handles to wind the belts into them. The alternative would be to assume that the earlier 25-round strips were used, possibly carried in similar boxes but without the belt-winding handles on them. For those just remove the handles and stow the boxes on the side in your own racks, cut down the single belt in the kit to a 25-round section and put it into the MG breech, again with a single stowed box in the turret. As I have already said, no one can prove you wrong!

The 3.7cm cannon racks give you two options – full or empty. Extra loose shells are provided for the turret rack, so you could use some in the empty rack to show it part full. The shells are called out as brass, but I doubt this for the actual projectiles so I painted those green. Also inside the left body side is the small instrument panel – no decal for the instruments, alas – and a brass oil can in the engine bay.

Skipping to stage 8 deals with the right body interior, with a second Lebel ammunition rack if you're fitting that gun. In any event you'll need the fire extinguisher beside the driver. Also beside

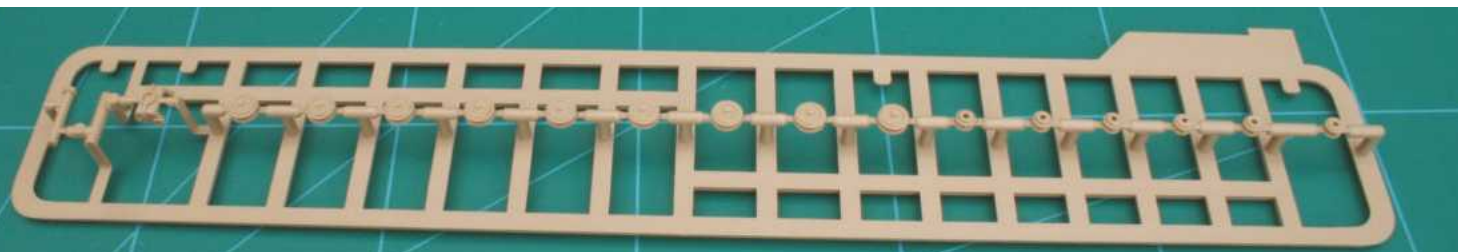
him is the hand-priming pump to feed petrol to the engine for starting. The one given by Meng looks to me like an oil-gun for lubricating moving parts, so I relocated it to behind the exhaust pipe in the engine bay and replaced it with the simple push-pull lever seen in very early photos. If you copy me you'll need to add the connecting rod that led from it back to the engine bay, where it vanishes from sight under the radiator. You should actually add this rod even if you use Meng's part as the hand-pump.

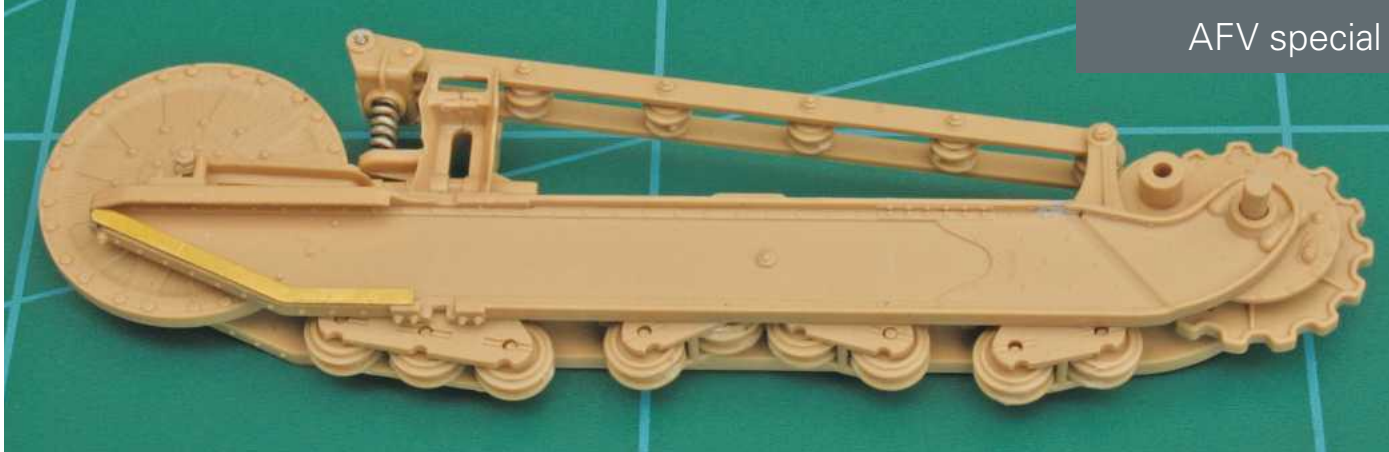
Now I went back to the outer sides, with various fittings that need no explanation. You'll find Meng's etched parts for straps of the spade and pick quite hard to bend into shape and fit into the very confined space between the mounting brackets, but what I did was simply cut them into sections and bend these to give one fitted into each top bracket and dropping down to the tools' handles and the



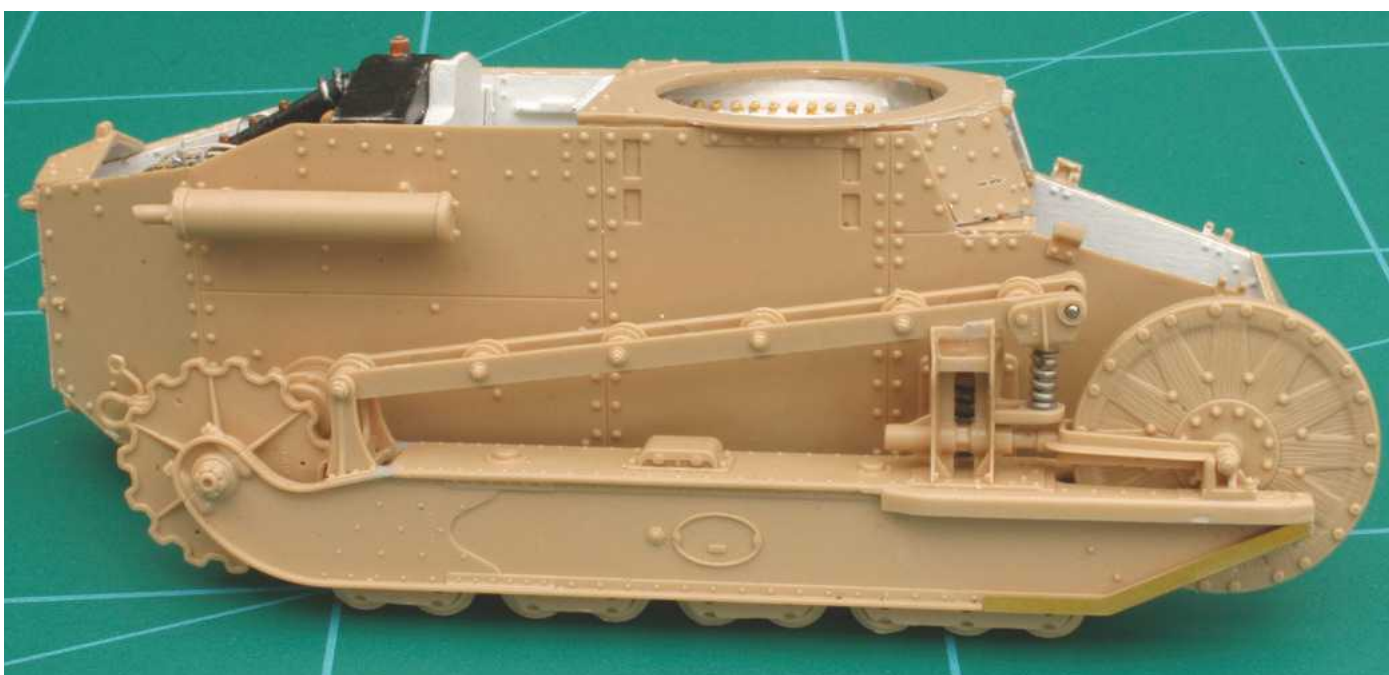
ABOVE: One of the kit's large sponson springs and my replacement.

BELOW: This is one of the two slide-moulded wheel sprues.





ABOVE: Here's the inside of the right suspension unit – the outside face has a maker's plate on it. I replaced the small spring that holds up the return rollers' girder too. Note how far the bogies can swivel if you need them to for a terrain base.



second bent to fit from the handles up and over the bracket to go into its slot. This was certainly easier to fit and can be done after painting the model.

What you do need to work on are the suspension springs for the two track units. Meng has provided these for you, but they're made of thin wire that simply doesn't match photos of the real coil springs. I made two new ones with thicker copper wire wound around a drill bit's shaft, checking that they would fit inside the spring housings B41 and B42 and were the same length as Meng's springs. With those made you can slip them onto the metal shafts and put those into the housings, but take careful note of the direction of the 'lug' at the bottom of each – it must point outward to fit a location provided on the suspension unit attached to it. The separate plastic D11 that has to be super-glued to the top of each metal shaft also has to point the same way.

Finishing the body

Stage 10 builds the engine deck, but if you want to see the compartment don't fix A20 and A21 together as Meng suggests. Cut the locating tab off the rear of A20 instead and leave the two areas separate, deck A21 is a good fit onto the body and doesn't need cement. You can also simplify painting by not putting sledgehammer A1 in place before the air intake B29 that partly covers it. It's quite simple to cut its shaft in a place that will be under B29 and add the separate ends after painting is done.

The next job is fitting the body sides to the floor, and the two end plates. The engine bulkhead and

driver's seat uprights will keep the sides vertical for you – double-check that the engine assembly is vertical if the radiator interferes here. Two control rods go on the body as well, the right one being a hand accelerator control linking to beside that pedal and the other adjusts the travel of the other pedal. It's easiest to add the two triangular parts A14 and A17 to the body sides, not to the driver's side plates A15 and A16, angling them slightly upward so that the side plates press them in as you fit the hull top. The main fuel tank F17 is a drop fit onto its holders on the body sides, so if you leave it uncemented you can lift it off to see the gearbox under it. Note that its rounded end faces to the rear, the flat one faces forward with support G16 under the engine deck sliding in front of it.

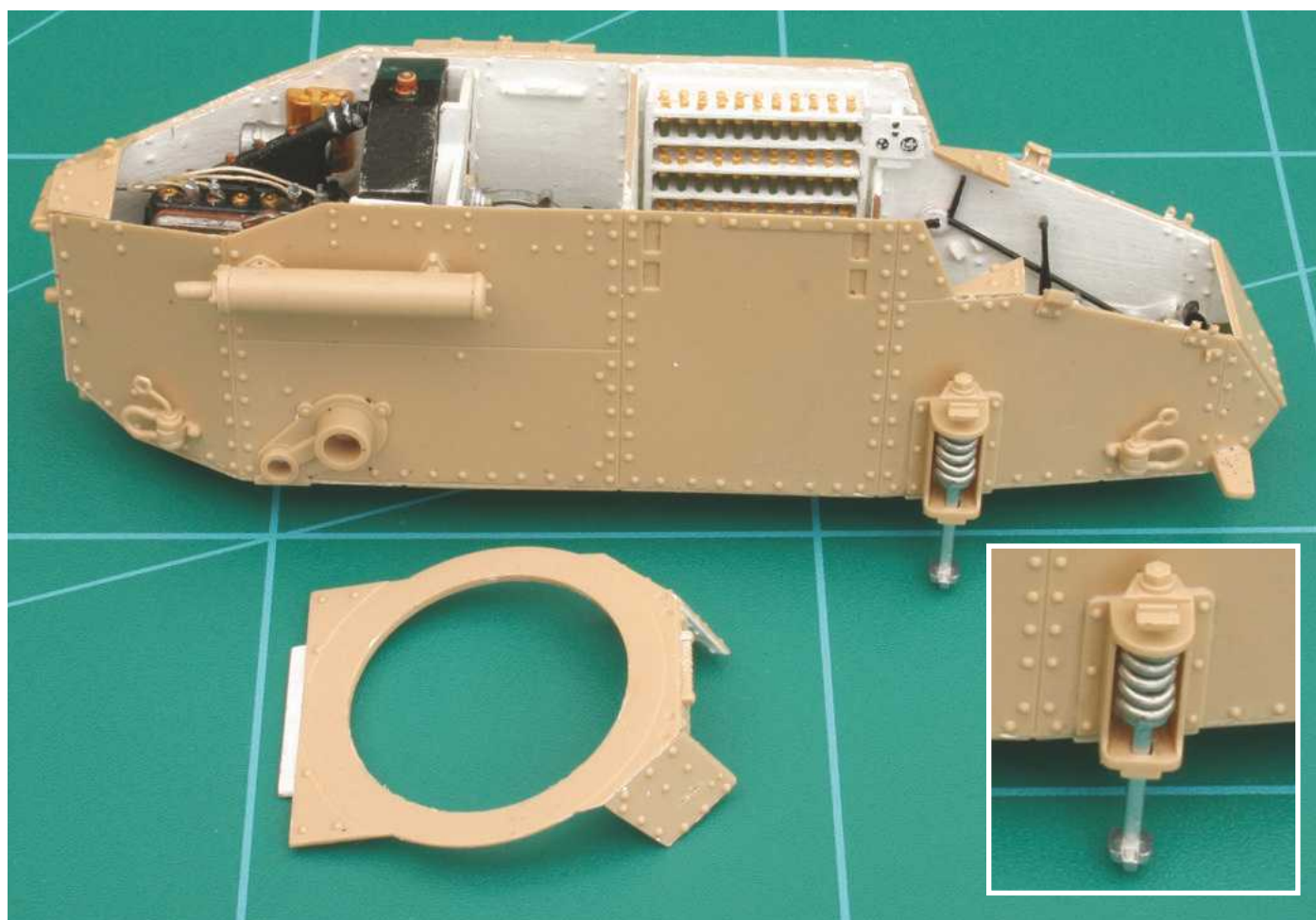
Suspension

All the roadwheels and return rollers are slide-moulded, no assembly required! I recommend cementing them in place, because putting the bogies together is tricky with them loose and clearance is so slight that they'll be stuck anyway when you put paint on the assembly, the same applying to the return rollers and their girders. When you come to put the bogies between their sideplates leave them loose until you've set them flat (or on a diorama terrain, of course) and cement them solid then. You will find it hard to get the track sitting neatly under them otherwise.

Meng gives you the choice of the original wooden idler wheels with small segments or the

ABOVE: Here I've dry-fitted the roof and right suspension unit for a final check before paint and cement. It's much easier to paint the body sides without the suspension units in the way!

All the roadwheels and return rollers are slide-moulded, no assembly required!



ABOVE: This shows the suspension unit spring in place on the body; you can also see how the lugs on its metal shaft need to point outward, and how I fixed the plates beside the driver to the body instead of to the roof.

INSET: This is the Hotchkiss MG on its ground-mount tripod with one of the six ammunition boxes. There's also a strip of belted ammunition to fit to its breech if wanted.

BELOW: Here are the complete 3.7cm gun in its mount and the turret bin for its shells.

later all-steel wheels; I used the early ones since they were common during WW1. The sprockets have a bulge at one side of their hubs – it goes on the outboard side. Small springs go between the complete suspension bottoms and the return roller girders above them, but Meng's are rather thin so I made new ones in the same way as the springs on the body side but with thinner wire.

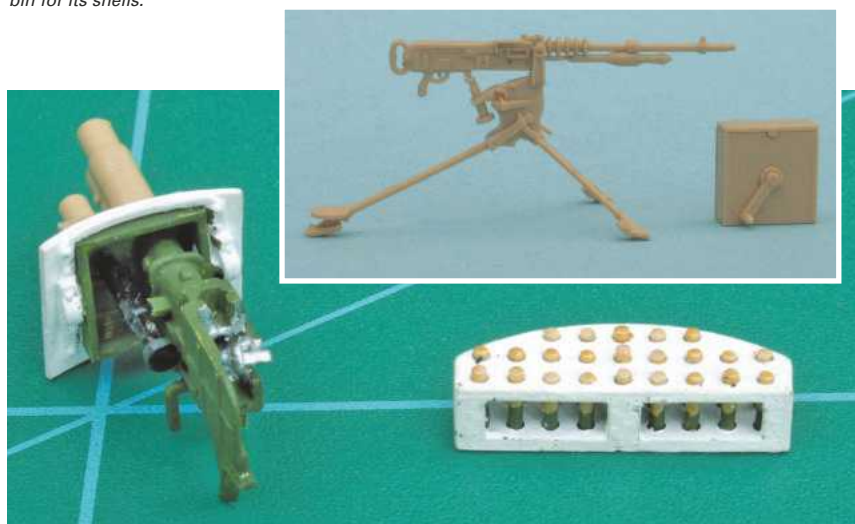
With the suspensions complete you can mount them on the body. The only thing to be careful of

is that their front attachments, on the metal struts of the body's springs, need to be super-glued to quite small recesses; search the inside of each suspension to find those and check that you're sticking them in the right places.

The trench-crossing tail is next, and all fits together well but look for the locating marks under the tops of its sides to get the etched cross-struts in the correct places and note that B24 above them is shown on the correct alignment in the instruction diagram – it isn't symmetrical so doesn't fit properly the other way round. Meng gives you another nice option here, with the towhook mount that was fitted to some FTs. Most didn't have it so I didn't fit it. There's also a folded tarpaulin that can be stowed on top of the tail, which I also left off because it didn't fit very well – the only part in the kit that didn't.

Tracks

These are gorgeous, single one-piece links that simply snap-together once you've found the right angle to push them at. You do need to remove a small moulding pip in the middle of each one, but it will only be visible on a few at front and rear if you leave it. Each track needs 32 links, and there are a few spares. Some are easier than others to click together, so keep those for the bottom runs of the tracks for the final joint. The tracks do need to be in place before you add the hatches, which will be easy to knock off while working if you fit them before





the tracks. Note that the engine's top hatch had a swivelling securing bolt, provided as B38. If you want to have your hatches open this needs to lie down against the end plate, not to stick up in the air.

Turret

As I said at the beginning, you have three armament choices. They have separate mantlet mouldings, two of which allow traverse and elevation but the Reibel's one only elevation. Don't fill the top and bottom holes in either of the others, they're present on the real tank. Your chosen 3.7cm gun or MG fits as a complete assembly onto a separate plate to be fixed inside the turret front, which makes life

The tracks do need to be in place before you add the hatches...





ABOVE: This is what you see of the engine with its hatches open.

BELOW: And more is visible with the deck removed.



BELOW: But the fuel tank can be removed too to show off the gearbox. RIGHT: A view into the turret.

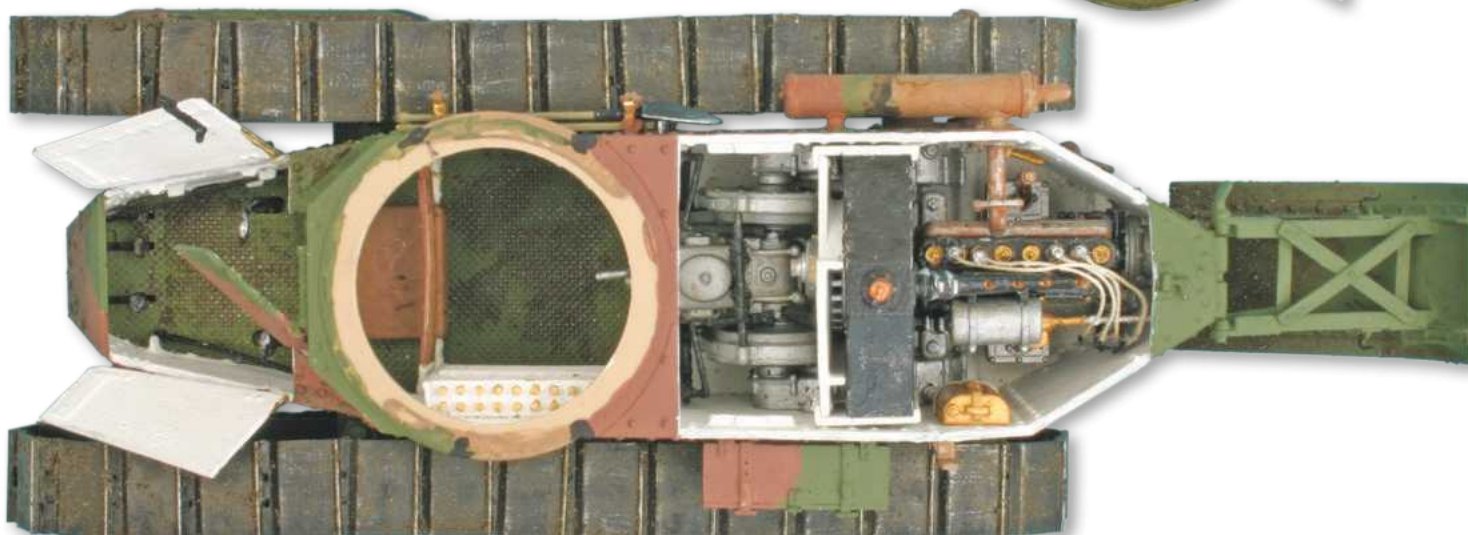


easy because you can add the gun to its plate and paint the complete thing before fixing it in the turret. Another plate goes on the outside of the turret front to cover the opening.

The 37mm gun has an extra ammunition rack to be fitted inside the turret. This is a single moulding with holes for the separate shells I mentioned earlier, but take care to have the narrower section at its top to fit the turret's side slope. If you use the Reibel MG there seems to be have been no turret ammunition stowage for it, just the drums stowed on the body sides, but as I mentioned before the Hotchkiss used belts fed from a box so you'll need to make some kind of support for one on the turret side. I'd suspect that this would have been on its side flat against the turret side, with the belt leading forward from an open box-end and bending to go to the MG, but you may prefer a different arrangement. You'll see that the turret shell has locations to be used or removed as indicated for each option. The ones on the first diagram of stage 20 are for fitting the commander/gunner's seat strap, according to which option you choose. Its ends need

to be twisted to fit against the turret side, of course.

On top of the turret there's a multi-ring cupola with vision slits. Its top is not a hinged hatch, so don't try to fit it open. The doors have locating pegs that fit holes in the turret rear, and all you have to do is cut off the ones not needed for your chosen position and fix the whole turret to its bottom. All done at last!



Colours and markings

The whole subject of FT colours depends on the period you choose to model. Meng makes suggestions for each of the four decal options and shows them in colour side views with their patterns and decal placements. I haven't been able to confirm any of them from photos but have no reason to doubt them, so I used the WW1 option. However, I did not use the suggested colours.

The actual 1917 colours were ordered to be green, *marron* and *café au lait*. There's no telling what green might have been intended by that order, it may or may not have been the pre-war olive green for which we have a surviving formula, but FTs were built in several factories which under wartime conditions might not have used identical greens anyway so I used Humbrol Marine Green 105. The *marron* is a touchy subject. It's commonly just translated as 'brown', and the word is certainly used for almost any brown. But it does also have the specific meaning of chestnut brown, a red-brown, and this colour can be seen on at least one FT restored by the Saumur tank museum so I used Humbrol Rust 113 for it. The *café au lait* is at the same time both more precise and less precise, but it certainly isn't the sandy or ochre colour seen on WW2 French tanks, that came in later. The term is usually translated simply as 'milky coffee', but the recipe for the drink is rather more exact: equal parts of strong black coffee and hot milk, well stirred. There's still some variation here, my French Grandmother and Aunt both made *café au lait* with different ideas of how strong the coffee should be so the results were different colours! I used Humbrol US Light Earth 119 as about what I saw in my Grandmother's cups, but as with the *marron* anything in the right colour range should be okay.

References

For French tank colours there's no better reference than *Peintures de Guerre* by Pascal Danjou (Editions du Barbotin, 2013, ISBN 978-2-91766-17-8). It's bilingual French/English and covers the whole period from 1900 to 2013, with colour swatches and colour photos and side-view drawings, so very useful for anyone modelling French tanks.

French Tanks of World War 1 by Steven J. Zaloga (Osprey Publishing, 2010, ISBN 978-1-84603-513-5) has a very useful section on the FT and good WW1 photos of the FT.

Trackstory No. 10, Renault FT by Pascal Danjou (Editions du Barbotin, undated, ISBN 978-2-9520988-7-8) is devoted to the FT in both World Wars and is bilingual French/English. It has photos and colour side views as well as an extremely informative text.

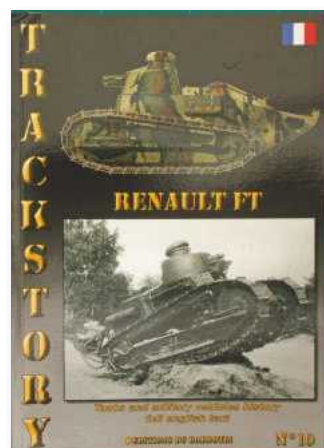
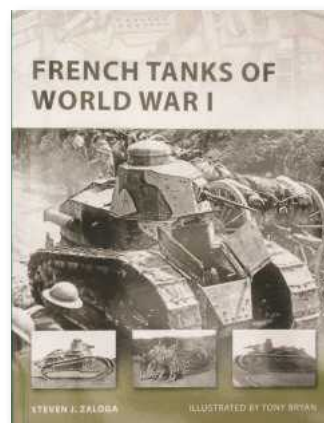
Armor PhotoGallery #15 French Light Tank Renault FT by Witold J. Lawrynowicz (Model Centrum Progress, 2006, ISBN 83-60672-00-8) is in English with a host of colour photos of a preserved FT, very useful for detailed close-ups. It also covers the US-built Six-Ton Tank M1917 if you are interested in a fairly simple conversion.

FT-17/M1917 WW1 Tanks Walk Around by David Doyle (Squadron/Signal Publications, 2011, ISBN 978-0-89747-642-3 and 978-0-89747-636-2) also has many colour photos of different preserved FTs (including the early one at Bovington) and an M1917 and is equally useful with details that aren't in the other books.

And finally there's a CD-ROM; *Technitracks No.2 Char Renault FT*, also from Editions du Barbotin at <http://www.minitracks.fr/> but possibly not to be found in bookshops) and with extremely useful photos and plans from the FT's technical manual. These show the early type with cast front, but apply to the main production tanks. All text and captions are in French but the photos speak for themselves.

www.chars-francais.net is a good place to look for online images.

MM



ABOVE: The driver's visor removed to show more.

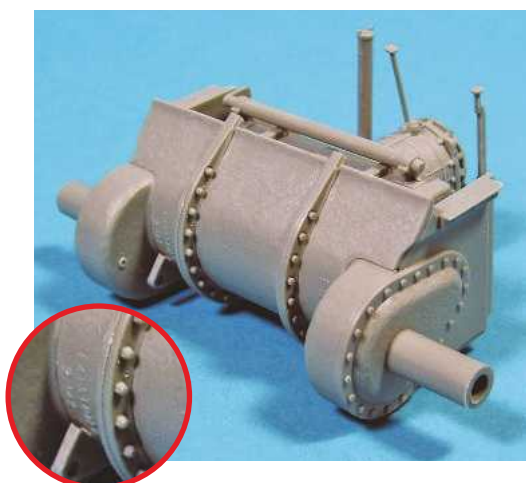


The author's completed model.

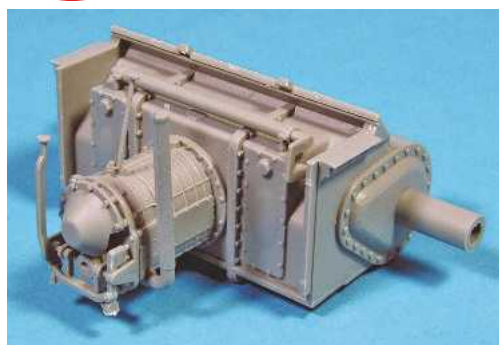
Nick Shuttleworth

brings Dragon's 1:35 scale M7 Priest 'Early Production' to life with a well-weathered finish and lots of stowage.

Heavy Metal Preacher



The kit has a really nicely detailed 3-piece transmission housing with cast texture and foundry numbers.



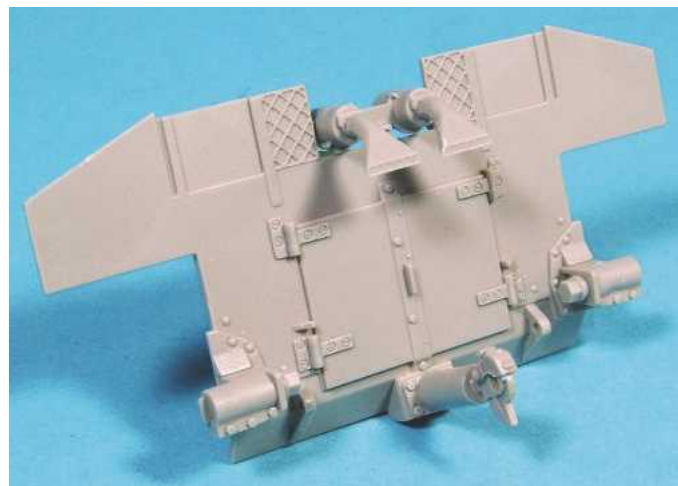
Also included with the transmission is a final drive housing and gearbox.

Prior to the start of World War Two, most artillery pieces were either towed or horse-drawn. However, at the start of WW2 both the Allied and Axis forces realised the need for self-propelled artillery pieces. US forces initially used weapons mounted on half-tracks, such as the T-19, but eventually it was realised that a fully-tracked, armoured vehicle was needed. The M3 Medium Tank chassis was used as a basis for the pilot vehicle, the T32, which eventually evolved into the M7 Priest. The name 'Priest' came about from the vehicle's raised circular machine gun ring mount, which looked like a pulpit.

The M7's first usage was with British Forces in North Africa and the M7 went on to serve with the British in the Italian Campaign and start of the Normandy Campaign. The M7 was also greatly successful with US Forces and saw service after WW2 in Korea and with many other forces for decades after the war.

In kit form

For many years the only mass-produced kit available of the M7 was Italeri's offering based on their Sherman kits. The model was a nice kit, but had many features of late and post-war M7s such as the Sherman suspension. The next arrival on the market



ABOVE LEFT: The inner bulkhead of the fighting compartment has crisp details such as grilles and gun cleaning rods. **ABOVE RIGHT:** The rear hull plate has sharp surface detail such as screw heads, idler mounts and exhausts and all the parts fit perfectly. **BELOW RIGHT:** A driver's seat and controls are also included, these are separate to the lower hull so can be painted separately.

was Academy's release of a few years ago, which while it didn't suffer from the same suspension inaccuracies as their M3 Lee and Grant, had a couple of other shortcomings instead. Dragon's latest M7 release (item 6627) appears to mark the start of a new family of M3 based kits, using some parts from their early Sherman releases.

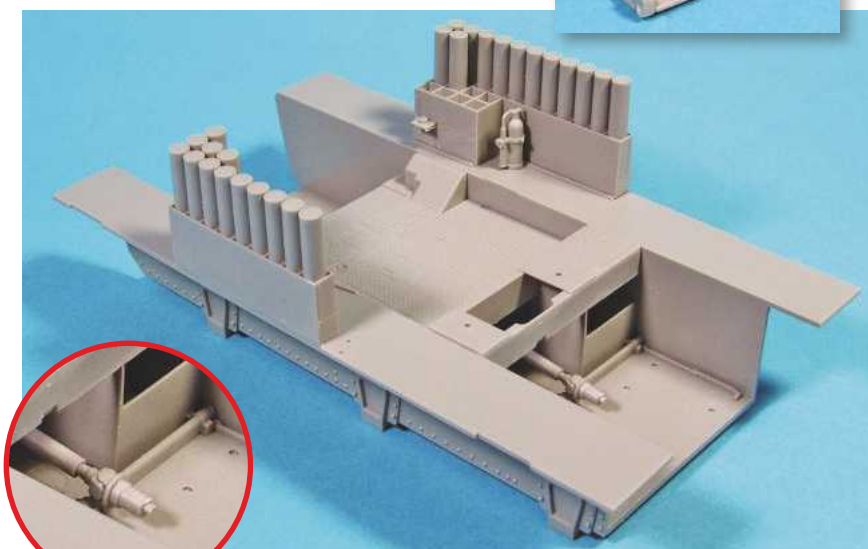
On opening the Dragon box one of the first things apparent is how simple and straightforward the kit appears. The box isn't crammed full of sprues and the instructions show a simple assembly method with three options for markings. The kit parts are crisply cast, with nice surface details, such as casting texture and foundry numbers. One point of note is the weld seams for the superstructure which run around the edges of the large panels, with a little care and attention these can be made to sit nicely providing some great detail without the need of stretched sprue or rolled filler for the welds. The 105mm gun in particular is a little gem in its own right, and the turned alloy end to the barrel with the rifling running down the inside really makes it something special.

Construction

The model was built pretty much straight out the box, although I found the following areas that needed a little thought. I planned to spray everything at once at the end of the build, so I had to carefully consider how to split the major sub-assemblies up so I could complete the build, but also get access to all the areas to get the paint on. In the event I kept the gun, transmission, driver's seat and hull areas separate until the painting had been completed.

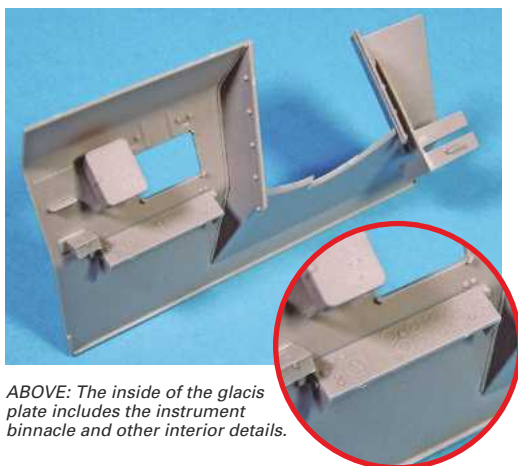
Another area that needed a little thought was the fitment of the superstructure sides. If the ammunition racks are fixed to the interior of the hull before the sides are fitted, there is a potential fit issue and I found I needed to take some material off the ammunition stowage blocks in order to allow the sides to line up correctly.

To increase the realism of the kit I added some Blast Model's stowage which is wonderfully sculpted and brings the model to life a treat in my



ABOVE: The lower hull assembles together very easily with the fighting compartment floor, propshaft and ammunition stowage dropping into place.

BELOW: The front of the glacis plate has lots of detail such as subtle weld seams, headlamps, brush guards and grouzers.



ABOVE: The inside of the glacis plate includes the instrument binnacle and other interior details.





ABOVE: The fit of the glacis plate is reasonably good with just a little filling needed to make good.



ABOVE: The hull sides, engine deck, glacis plate and rear superstructure fit nicely into position with weld seams included on the parts.

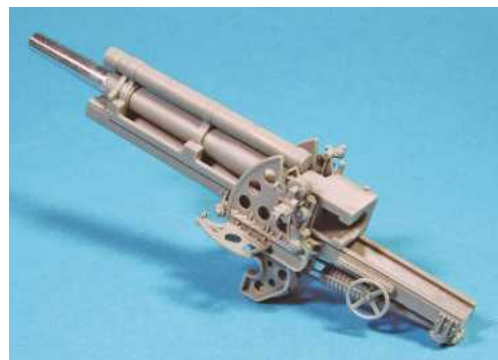


ABOVE: The Blast Models stowage set also includes a casting for the front of the model.

RIGHT: I had to keep the transmission removable so I could paint it, so this took a little thinking through to get right.



Dragon's 105mm gun is a cracking kit in its own right with great detail and excellent fit. The gun has a separate turned alloy barrel with rifling running down the inside.

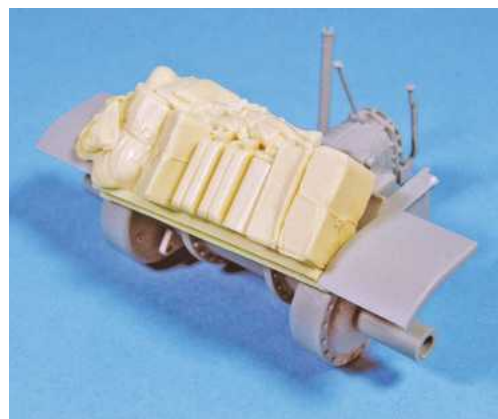


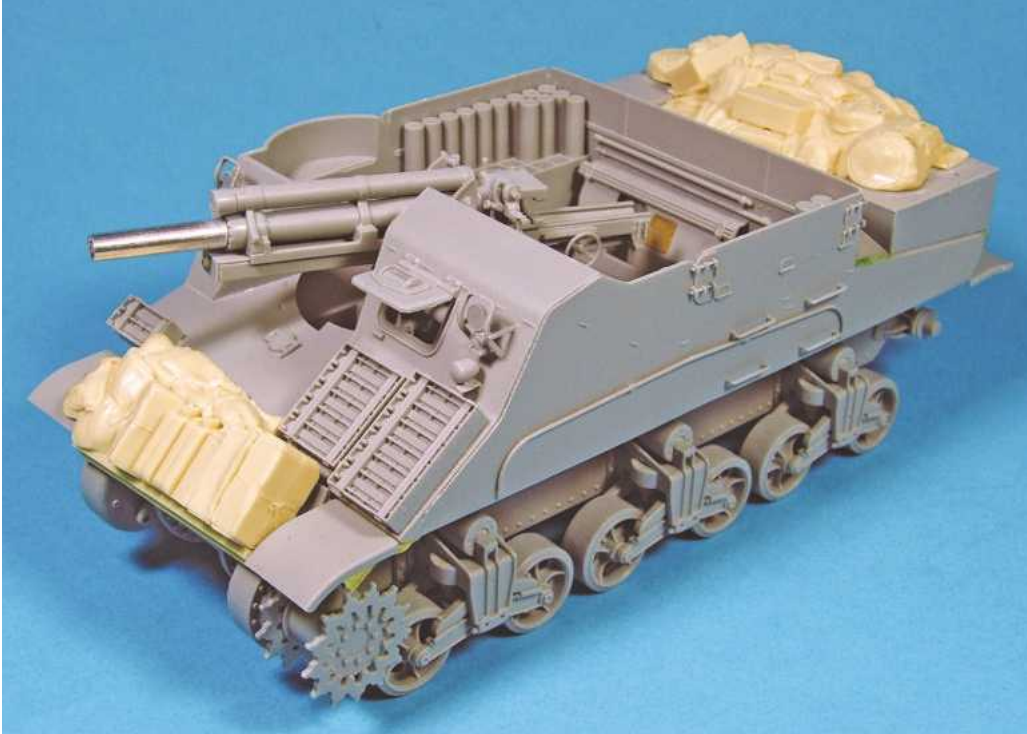
opinion. The set was designed around the Academy kit so needs a little tweaking to fit, but once it's all in place it looks great. I had to be extra careful with the stowage mounted on the front of the model to make sure it fitted well but was still removable along with the transmission.

The kit suspension, like the rest of the parts, is crisply cast with no flash, great fit and detail. Included in the kit is a set of the single-piece DS tracks which have sharp definition but wonderful flexibility. I did find, however, that they looked ever so slightly too long as M3 and M4 tracks don't normally exhibit much sag. The tracks can be glued with liquid cement, so in practice one of the links could be removed to increase the tension. The tracks can be glued to the sprockets, idlers and return rollers to get the fit right, though I did find I needed to put a pin in near the idler just to flatten the upper run. Overall though, they are a nice solution compared with individual links which are very time-consuming and can prove troublesome.

Painting and weathering

The Dragon kit provides decal options for three Olive Drab vehicles, although for those wishing to be a bit more adventurous the British North African schemes offer something different along with Israeli and other post-war schemes.





LEFT: The kit includes a really nice rendition of the M3 suspension which assembles together easily. The kit assemblies were put together in a dry run to check fit before the model was primed.



The kit suspension, like the rest of the parts, is crisply cast with no flash, great fit and detail.

LEFT: The model was sprayed with Tamiya, Lifecolor and Vallejo acrylics to get the desired base colours.

BELOW: The front stowage was painted by hand using Lifecolor acrylics.

I started by priming all the sub-assemblies with Halfords' Grey Primer to check for any errors or blemishes, before giving the model a base coat of Tamiya Olive Drab XF-62. Highlights and shadows were then added using Vallejo, Lifecolor and Tamiya acrylics mixed by eye to get the effect I was looking for. As Olive Drab seems to show fingerprints quite well, at this point I gave the model a coat of Citadel Purity Seal, but I seemed to get a 'frosting' on the paint, so after some careful reworking I then gave the model a coat of Johnson's Klear.

The stowage was painted in by hand using Lifecolor acrylics which being a little translucent are easier to blend together. For the larger areas of stowage I airbrushed the shadows and highlights on to speed up the process.

The next step was to start with the weathering of the vehicle. In the past I've weathered the





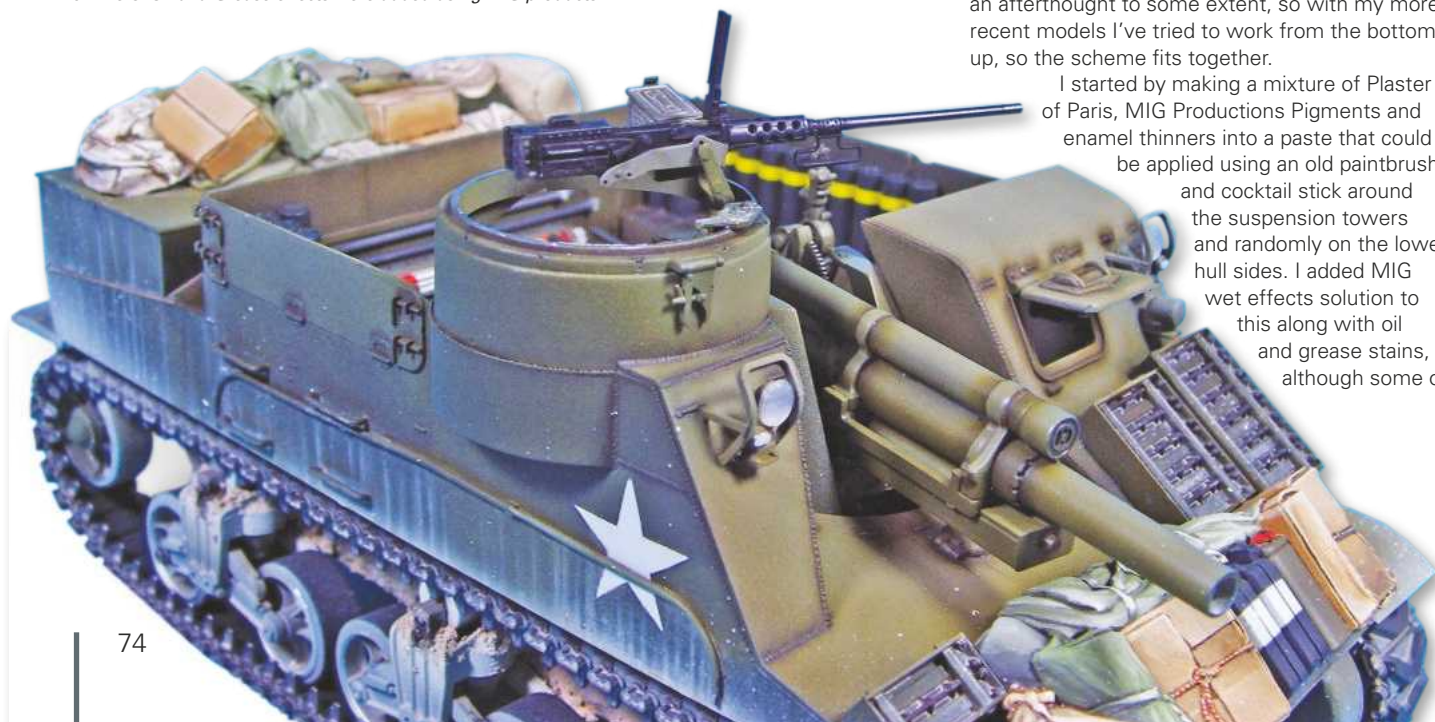
ABOVE: The rear stowage was painted by hand and by airbrush, blending together Lifecolor Acrylics.

RIGHT: MIG Productions 'Dark Wash' was used to weather the breech on the gun with Citadel Bolt Gun Metal being used on the worn and polished surfaces.

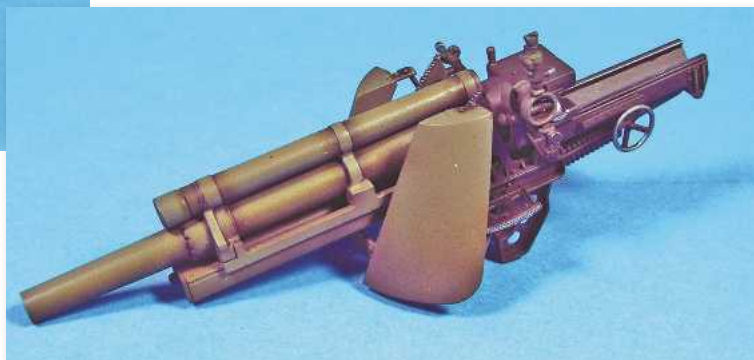
BELOW: The hull of the model completed ready for the gun. The national insignia was airbrushed on using a mask cut from tape. Dragon's DS tracks fit easily but look slightly long.



BELOW: Dry mud was added to the model using MIG Pigments mixed with Plaster of Paris and enamel thinners. Oil and Grease effects were added using MIG products.



ABOVE: Detail of the gun breech from a full-sized vehicle in the 'Budge Collection'. Photo: Robin Buckland.



upper half of a model then done the lower half as an afterthought to some extent, so with my more recent models I've tried to work from the bottom up, so the scheme fits together.

I started by making a mixture of Plaster of Paris, MIG Productions Pigments and enamel thinners into a paste that could be applied using an old paintbrush and cocktail stick around the suspension towers and randomly on the lower hull sides. I added MIG wet effects solution to this along with oil and grease stains, although some of



ABOVE: A restored M7 Priest from the 'Budge Collection'. Photo: Robin Buckland.

this effect was toned down when I gave the lower half of the model a light overspray with Lifecolor Dust to blend the effects together a little.

With these dry mud effects in place I then added some dust streaks using MIG oil colours mixed into a wash and manipulated with a brush dampened with thinners. At the top of the model dirt streaks and shading was added using MIG Dark Wash, which was also used around the breech on the gun. The tracks were also weathered using oil colours, with the insides of the links being left in dark grey to simulate the rubber on rubber wear of the roadwheels and rubber track links.

The model was completed by painting in the last few small details, fitting parts such as the lenses and fitting the gun and 0.50 cal Browning.

Conclusion

Dragon have produced a kit which is lovely, simple and straightforward to build yet is not lacking on detail and provides great opportunities for enhancements and further details such as engine bays if the modeller wishes to add these. The standard of the parts and fit is spot on, with only a little attention needed here and there. The Blast Model's stowage really complements Dragon's kit and brings the model to life.

MM

Availability

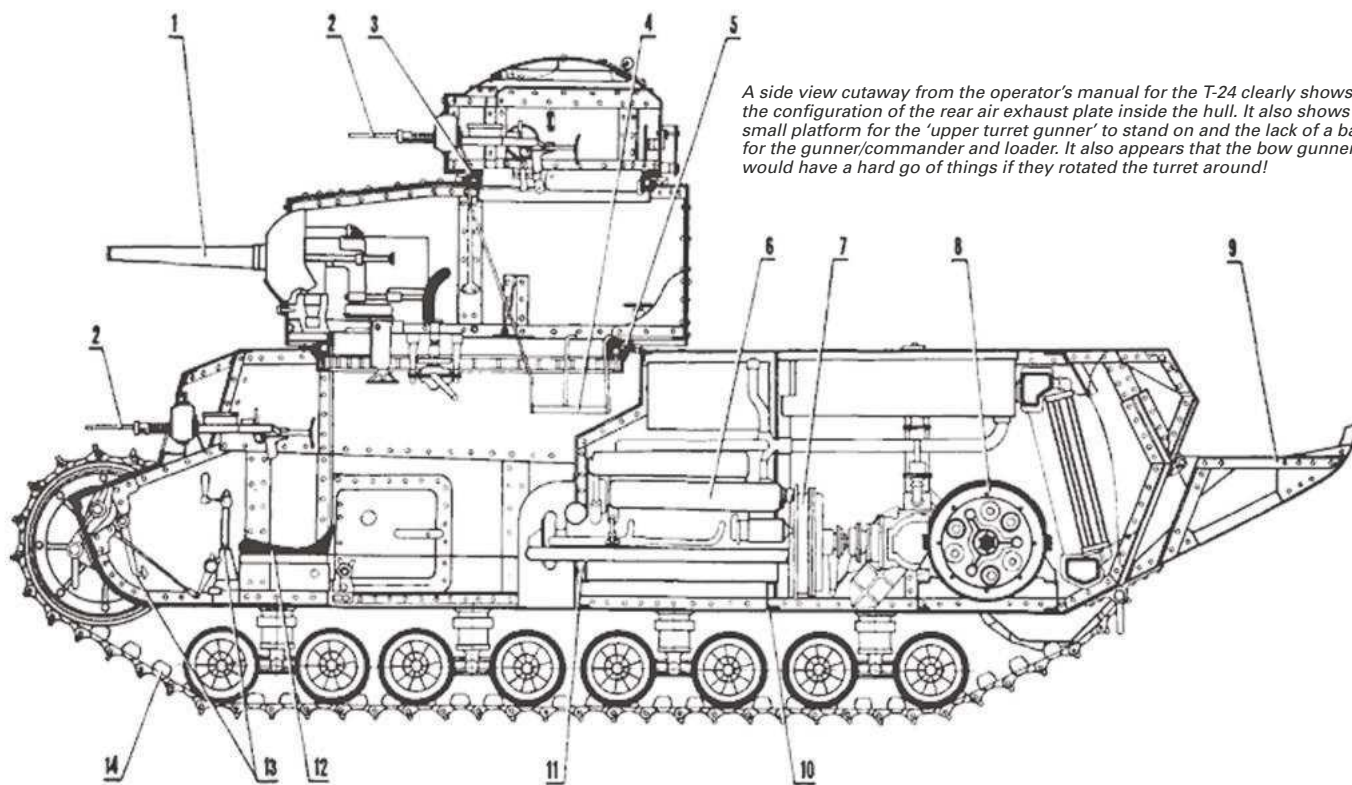
Dragon: All good model shops.

Vallejo Paints: MR Models, 35 Abbey Road, Bearwood, Birmingham B67 5RA; Tel: 0121 420 2046.

Lifecolor: Cammett Limited, Adlen House, Eardisland, Leominster, Herefordshire, HR6 9BD; Tel: 01544 388514; email: cammettco@btinternet.com

Blast Models: 5 rue Crozatier, 75012, Paris, France; www.blast-models.com





A side view cutaway from the operator's manual for the T-24 clearly shows the configuration of the rear air exhaust plate inside the hull. It also shows the small platform for the 'upper turret gunner' to stand on and the lack of a basket for the gunner/commander and loader. It also appears that the bow gunner would have a hard go of things if they rotated the turret around!

Soviet T-24 Medium Tank - First of the Breed

Cookie Sewell looks at HobbyBoss' recent 1:35 scale kit for this seminal Soviet medium tank.

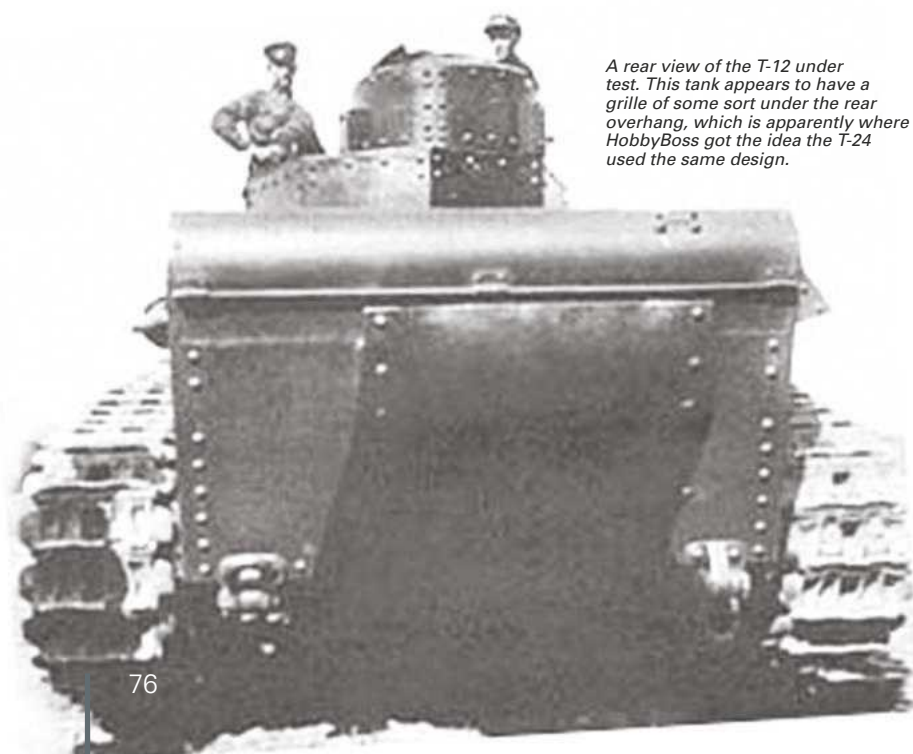
Soviet pre-war tanks have been a lot like the American comedian and actor Rodney Dangerfield – “they don’t get no respect”. But in recent years, there have been kits produced of the T-18, T-26, T-28, T-35, T-37, T-38, BT-5 and BT-7, and while quality varies from marginal to excellent they do provide a look at the evolution of Soviet armoured construction and theory. Now the companies are starting to relook at them and come up with modern kits made in China or Japan which cover these interesting and historic vehicles.

The first of the breed were the light T-18 (also called the MS-1 infantry escort tank) and the medium T-24. While there has been an AER kit of the T-18 out for more than 10-years, until last year no one had produced a kit of the T-24. Two were forecast – one from Trumpeter and one from HobbyBoss – but the latter was first to market. So, let’s take a look at this vehicle and the recent kit.

History and background

When the Soviets started their tank industry in 1927, they decided their first two tanks would be an ‘escort’ tank for infantry support and a ‘manoeuvre’ tank that would be able to provide for anti-tank support as well as breakthrough capability for other units. Both tanks were assigned to the Main Design Bureau of the Weapons and Arsenal Trust (GBK OAT) in Moscow. Tank design was overseen by S. Shulakov and specific details of the manoeuvre tank were tasked to other personnel. The tank was to be built at the Kharkov Steam Locomotive Factory (KhPZ) under the direction of engineer S. Makhonin.

After some preliminary designs based on US and British tanks of the period, the design was formally laid out and designated the T-12. Based loosely on the US T1E1 tank, it was to carry either a 45mm gun or a 60mm howitzer and three 7.62mm machine guns. Production started in October 1928 and the first prototype was ready by 15th October 1929. It used an M-6 aircraft engine downrated to 180-200hp and a purpose-built transmission with its armament in a main turret and a small machine gun turret cupola on top of that turret.



A rear view of the T-12 under test. This tank appears to have a grille of some sort under the rear overhang, which is apparently where HobbyBoss got the idea the T-24 used the same design.

Testing began in April 1930, but while it showed it could do well with a top speed of 30kph and the ability to hit targets with a machine gun of 60% on the move, it had too many teething troubles which did not appear to be solvable and as a result was joined in testing by an improved design. The T-24 design had been commenced in 1929 to follow the T-12, and both tanks were presented for testing in July 1930. But during testing the T-12 caught fire and as such was terminated in favour of the T-24. This tank also had problems but was improved, and as such the desire was now to build 200 T-24 tanks by the end of 1931.

While this was all well and good, two things conspired to cut the production of the T-24 short. First was the design of the 'Grotte' tank by Eduard Grotte which was a much more advanced vehicle (on paper) and more appealing to Moscow. Second was the fact that the Soviets had sent a purchasing commission abroad and they liked the Christie M-1932 tank design from the US. As they purchased that design and the manufacturing rights to it, the T-24's fate was sealed and production amounted to only 25 T-24 tanks. All were assigned to the Kharkov Military District (e.g. close to the factory) where they formed a single battalion for training purposes. All of the tanks were taken out of service in 1938 and in 1940 the decision was made to take them out of the reserves, strip them down, and send them to the Far East where they would serve as fixed fortifications. But this plan was not completed, and in 1941 the Germans captured the stripped and inoperative tanks in a storage facility. Their ultimate fate is unknown but all are believed to have been scrapped by the Germans and none exist today.

T-24 details

The T-24 used riveted construction and mounted eight four-wheel bogie suspension units similar in design to those used for the smaller T-18 but larger and more substantial. It used the same sort of interleaved drive wheels which alternated an inside/outside mesh with the guide teeth on the tracks for propulsion. It also used the M-6 engine of 200hp, but in its case used a different design

of transmission. Maximum armour protection was 20mm with 8mm being the average plate thickness; overall weight was 17.8 metric tons (19.6 short tons). Top speed was only 22.5kph or around 14mph. Road range was 140-miles.

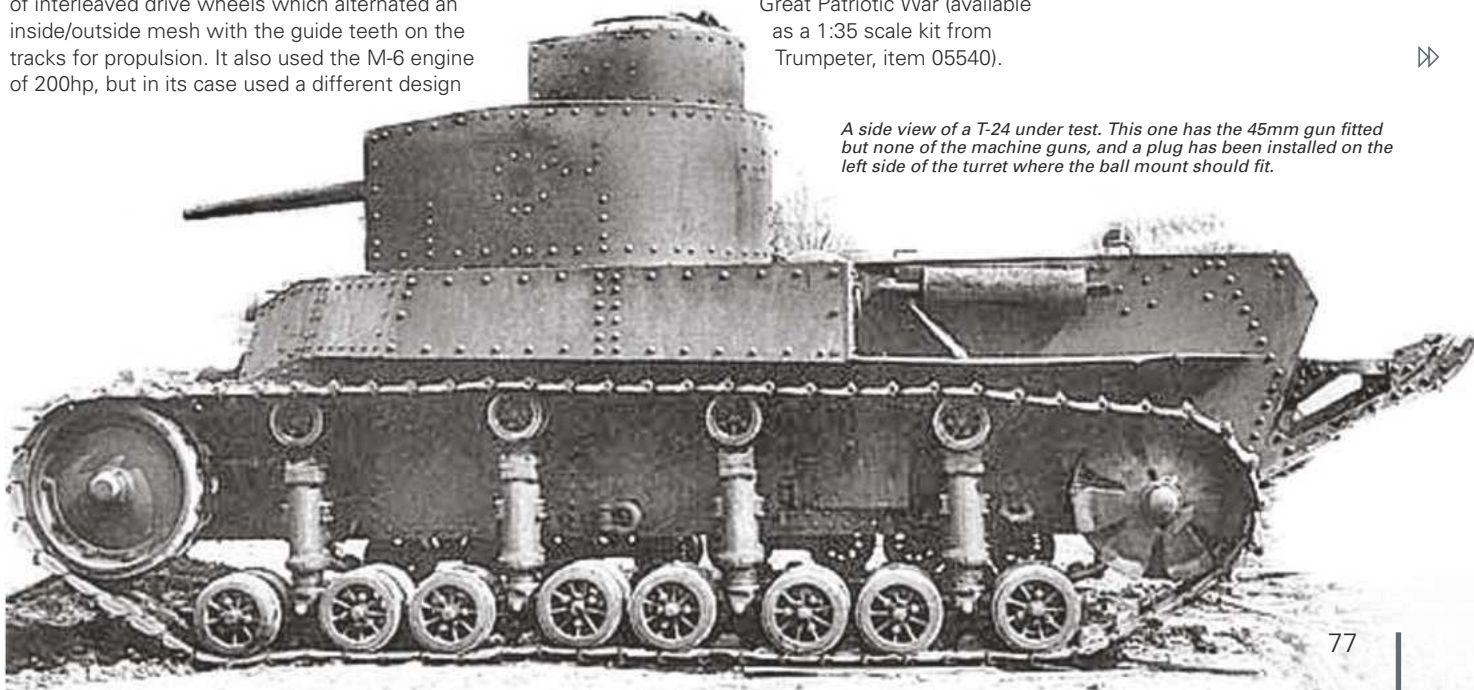
The tank had a crew of five: driver/mechanic, bow gunner, turret gunner/commander, loader, and upper turret machine gunner. The Soviets described it as having three 'layers' of armament: a 7.62mm DT machine gun in a ball mount in the bow; a second DT at the front of the turret to the right of the 45mm cannon, a third one on the left side of the main turret, and a fourth DT in the 'upper machine gun turret' or cupola. The philosophy behind it was that the tank could position itself so all four machine guns could cover 90 degree arcs or 360 degrees around the vehicle.

The sole accomplishment of the T-24 was donating its running gear to the *Komintern* artillery tractor – which did enter full-scale production and served with honour during the Great Patriotic War (available as a 1:35 scale kit from Trumpeter, item 05540).

The author's completed 1:35 scale T-24 tank model.

The sole accomplishment of the T-24 was donating its running gear to the Komintern artillery tractor – which did enter full-scale production...

A side view of a T-24 under test. This one has the 45mm gun fitted but none of the machine guns, and a plug has been installed on the left side of the turret where the ball mount should fit.



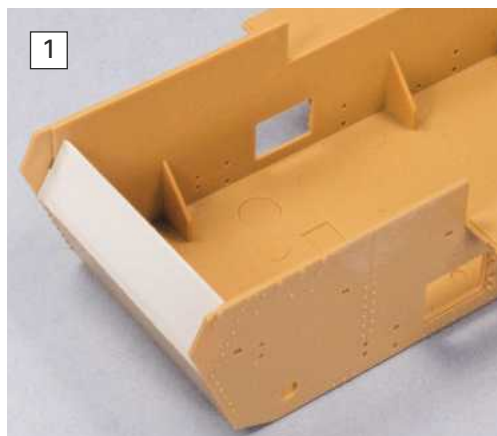


PHOTO 1: The new rear plate in place for the radiator air exhaust vent. Nothing fancy, just a section of .040" styrene trimmed to fit.

In kit form

The HobbyBoss kit (item 82493) is a nicely done affair of 389 parts (175 in tan styrene, 144 in brown styrene, 70 etched-brass). It is easier to build than some previous or current kits from the same company but has two minor pitfalls. For reasons best known to themselves HobbyBoss left off the complete air intake for the radiator, located above the right trackguard of the tank. They faithfully

copied the correct shape of the intake but only moulded its end view on the right sponson rear plate. Also, apparently in confusion with the T-12, they added an air exhaust grille at the rear of the hull which does not appear on the actual vehicles in either plans or photographic evidence. Happily, both items are fairly easy to fix.

Modelling the T-24

Like most tanks, assembly starts with building the hull pan. I replaced the upper rear plate with one made from styrene that matched the one on the cutaway view for length and depth. This was a simple fix. (**Photo 1**)

The suspension is complex but most of the parts are easy to sort out and goes together well. The kit provides a large number of etched-brass bolt heads for dealing the units as well as the eight shackles on the lower hull, but I replaced all of them with Plastruct hex rod slices. (**Photo 2**)

PHOTO 2: The suspension in place and detailed with styrene bolt heads and etched-brass details before 'wrapping' the tracks. Fitting the plate tracks to the drivers was easier than it looked.



A T-24 undergoing mobility testing without its armament. This one appears to have a headlight stuck up in the turret machine gun mount's position.



The model sails together and even the single link tracks are not a major problem, and were so easy to assemble that, once cleaned up, I got both tracks done in a single sitting! But there were some minor fit problems with the superstructure, and the first one I ran into was under the fixed plate for the bow gunner's machine gun mount. I had to shim it with a strip of .020" styrene. **(Photo 3)**

I had the same problem with the rear sponson plate on the left side and again had to put in a shim from .020" styrene – I trimmed it flush when dry. **(Photo 4)**

To fix the errant radiator air intake, I first copied the size and shape of the right sponson end plate from .030" styrene to replace the kit's part. I then cut out the section of the kit's right sponson rear plate that matched the shape of the air intake and then used it as a master to cut an identical size section out of .040" styrene to form its base end against the new sponson plate; afterwards a section of .020" styrene was rolled to shape to match it. The new rear sponson plate received scrap details and hex rod bolt heads. Finally, I wrapped a strip of .010" styrene over the formed intake shroud for the overhang at the rear to simulate the fit of the actual vehicle, and once dry installed it to the hull. The finished intake shroud is 27mm long. **(Photo 5)**

I added hex rod bolt heads to the rear plate and also a small device which appears to be the power feed for a taillight (some plans and photos appear to show one in that spot). **(Photo 6)**

The turret offered no problems other than the left side DT machine gun. Whereas the other three machine guns are left flexible, this one is fixed and care must be taken with the gun as it is quite fragile. I went through three barrels and five repairs before completing the model! I also swapped the etched-brass mounting strap from the muffler for one from .010" styrene which made it easier to mount and adjust the muffler in position on the side of the hull. **(Photo 7)**



PHOTO 3: The strip of styrene under the machine gun mount plate is obvious in this shot. Fit overall was pretty good, considering how many parts go together to form the upper bow.

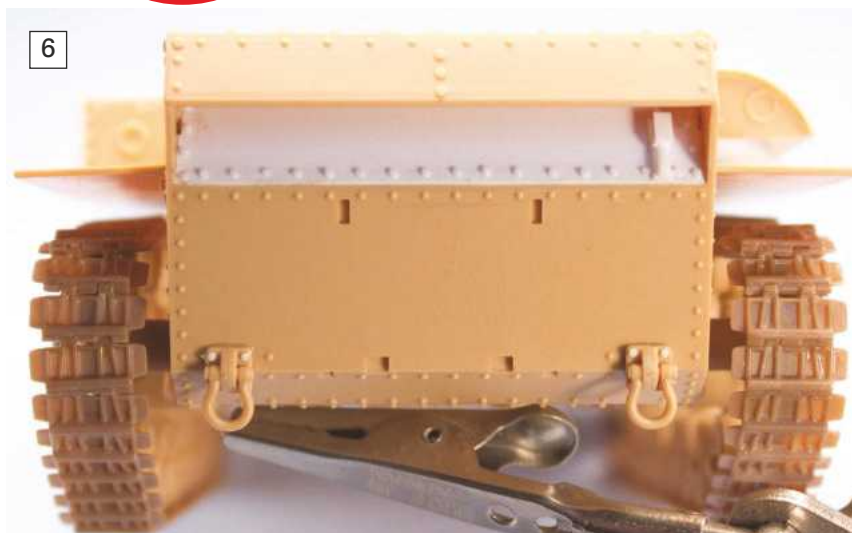


PHOTO 6: The rear plate with its detailing in place. As noted there is no evidence that it had a mesh grille as built.



PHOTO 4: The only other place with poor fit was the left rear sponson. A strip of styrene filled the gap and was easily trimmed down to fit.



PHOTO 5: The scratchbuilt radiator air intake cowl in place. Note where the section of the original right rear sponson plate has been used to form the rear of the cowl (as it should).



PHOTO 7: Front left view of the completed model prior to finishing. All of the modifications show up in this photo.

8

PHOTO 8: Right rear view with the new cowl quite visible in place.

PHOTO 9: Rear view with four changes visible in this photo.

PHOTO 10: Head-on view. There isn't much 'there' on a T-24!

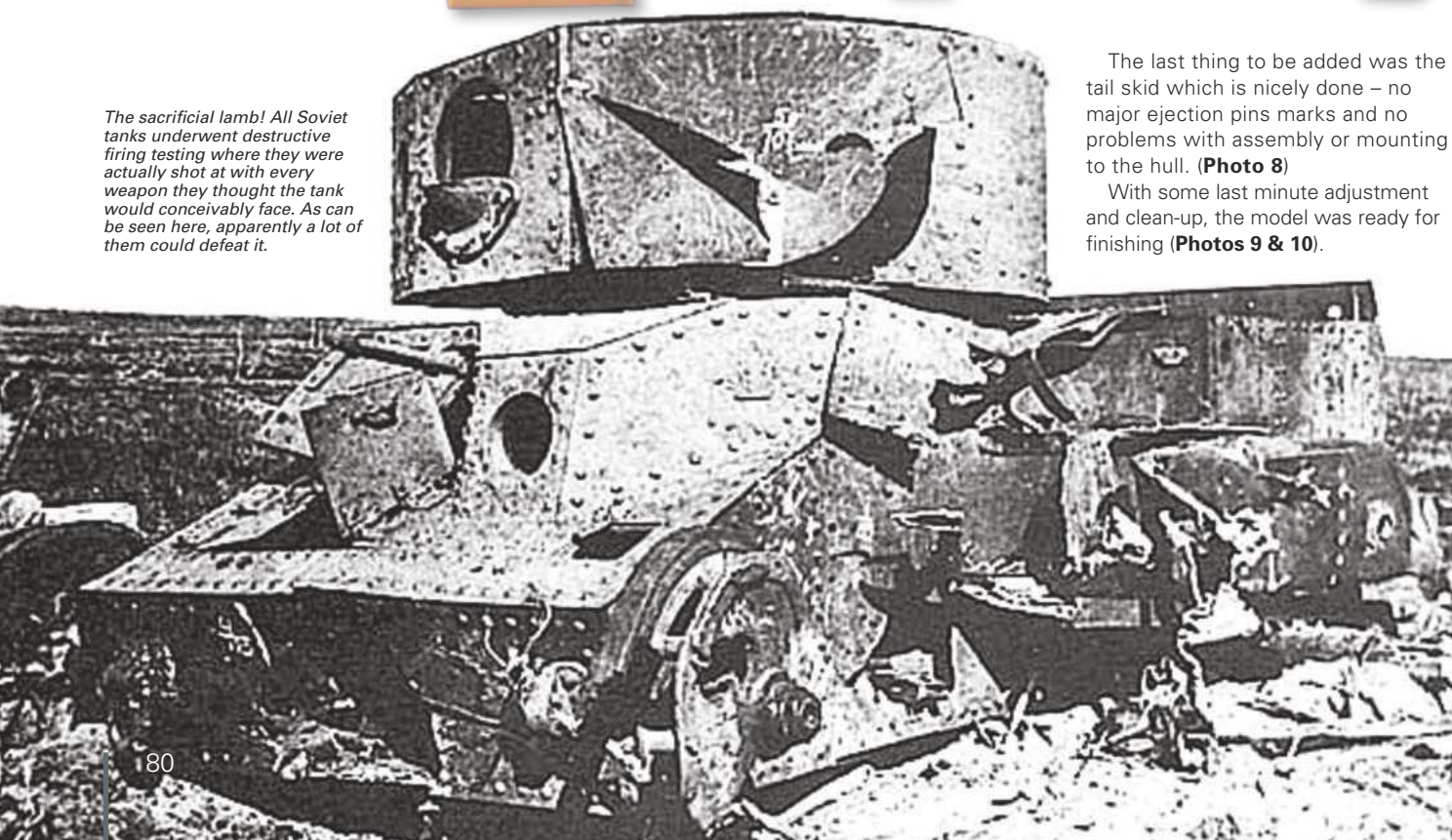
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The sacrificial lamb! All Soviet tanks underwent destructive firing testing where they were actually shot at with every weapon they thought the tank would conceivably face. As can be seen here, apparently a lot of them could defeat it.

The last thing to be added was the tail skid which is nicely done – no major ejection pins marks and no problems with assembly or mounting to the hull. (Photo 8)

With some last minute adjustment and clean-up, the model was ready for finishing (Photos 9 & 10).



11



12



Finishing

I used my latest finishing technique on this model. First, I sprayed the entire model with Floquil Railroad Brunswick Green, a very dark black green shade. (Photos 11 & 12)

Once dry, it was then top-coated it with Floquil Pullman Green and overshot with a misting coat of Floquil Depot Green. The result looks the part as a shade of 4BO 'protective green' paint. (Photos 13 & 14) ➤➤

13



14



PHOTO 11: Front left view of the model after receiving the Brunswick Green paint coat.

PHOTO 12: Rear right view of the model after receiving the Brunswick Green paint coat.

PHOTO 13: Front left view of the model after getting the Pullman Green coat and a dusting of Depot Green.

PHOTO 14: Rear right view of the model after getting the Pullman Green coat and a dusting of Depot Green.

15

PHOTO 15: Model after receiving detail painting of the muffler and machine gun barrels.

PHOTO 16: The model after receiving its base coat of Future acrylic wax.

PHOTO 17: The model after adding the decals and before adding the washes and dry-brushing to the surfaces.



After that I finished up detail painting of the model, which for this one meant only the machine guns and the muffler. I left the roadwheel tyres and tracks in Brunswick Green as it also makes a good weathered black shade. (Photo 15)

The next step was overshotting the entire model in Future acrylic floor wax (formerly Klear in the UK, but now known as Pledge Multi-Surface Wax, Ed). This is the preparatory step before adding decals and washes. (Photo 16)

I used the kit markings as I found they were actually fairly accurate. This tank was serial number 017 out of 25 built, and those numbers went on the 'cheeks' of the bow armour plate. The markings for this tank were based on a short-term use system that the Soviet RKKA tried

to set up in 1929, in which a coloured ring symbolized the battalion of assignment (red – 1st, white – 2nd, yellow – 3rd) and the company number inside it was written like a fraction (e.g. top number the company, bottom number the platoon). The specific tank number was given as a large Arabic number. So for this vehicle, it should read 1st Battalion, 1st Company, 1st Platoon, 3rd tank. But from Russian research into these markings, the white markings should not be a cross but numbers over each other – in this case 1 over 2. That would make it 1st Company 2nd Platoon. This specific tank was using these markings in the 1933 Kharkov Military District manoeuvres. (Photo 17)

The model then received a variety of washes using AK Interactive prepared washes and 'filters'. A rust colour was lightly applied to the tracks (these tanks were the 'stars' of their time so kept in top shape until considered obsolete) and then a light rub of Rub'n'Buff Antique Silver was used to shine up the faces of the tracks. The entire vehicle was dry-brushed with Testors' Model Maker Interior Green and then overshot with a coat of Testors' Dullcote to seal the paint, hide the decal film, and level the finish. After applying weathering powders from ModelMakerZ the entire model received a coat of Floquil Dust to kill any shine and seal the powders in place. (Photos 18-22).

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PHOTO 18: Right rear view of the completed model.

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PHOTO 19: Front left view of the completed model. Not much dirt as these were 'showpiece' tanks.

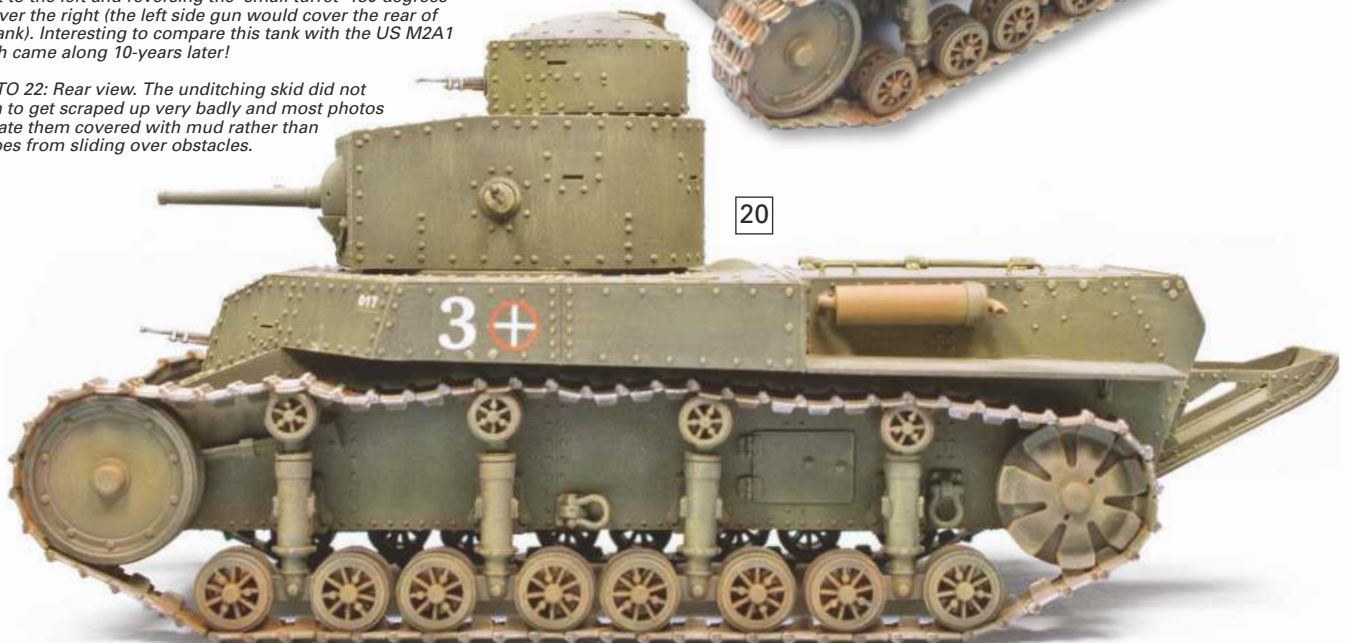


PHOTO 20: Left side showing light mud and dust along the lower hull and roadwheels.

PHOTO 21: When they wanted to the tank's crew could put three machine guns and the cannon against a specific target. But the idea was to cover 360 degrees by turning the turret to the left and reversing the 'small turret' 180 degrees to cover the right (the left side gun would cover the rear of the tank). Interesting to compare this tank with the US M2A1 which came along 10-years later!

PHOTO 22: Rear view. The unditching skid did not seem to get scraped up very badly and most photos indicate them covered with mud rather than scrapes from sliding over obstacles.

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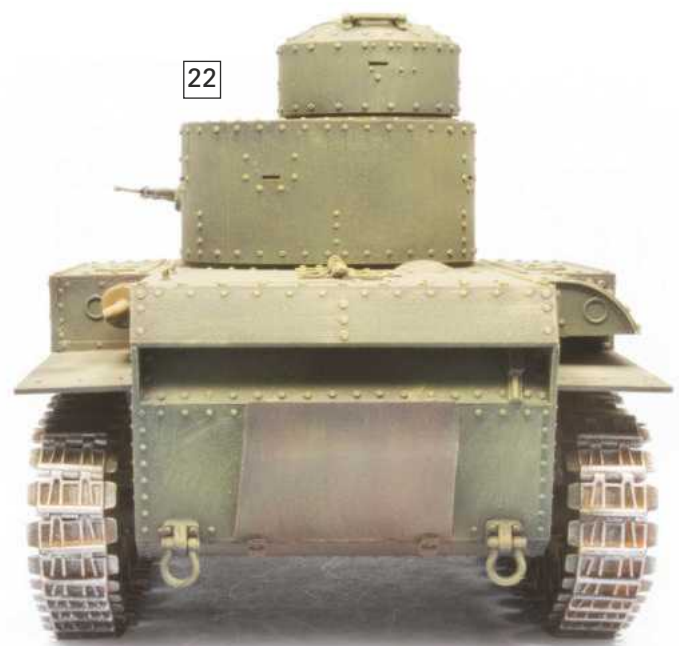


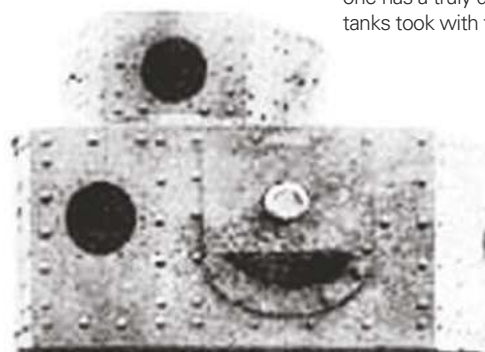


PHOTO 23: "Papa!" The family resemblance between the T-24 and the T-18 Model 1927 is obvious in this photo.

I decided to put my T-18 model (built about 13-years ago) next to the T-24 for fun and it makes the family resemblance (the same design team did design both tanks) quite obvious. Both tanks use the same design of suspension, tracks and construction, and both are still fitted with the unditching tail at the rear of the hull. The 5-man T-24 is a lot bigger than the T-18, to be sure; but both tanks combine more firepower than their crews could probably realistically handle in combat and neither one has a truly dedicated commander, a flaw that Soviet tanks took with them into WW2. **(Photos 23-24)**

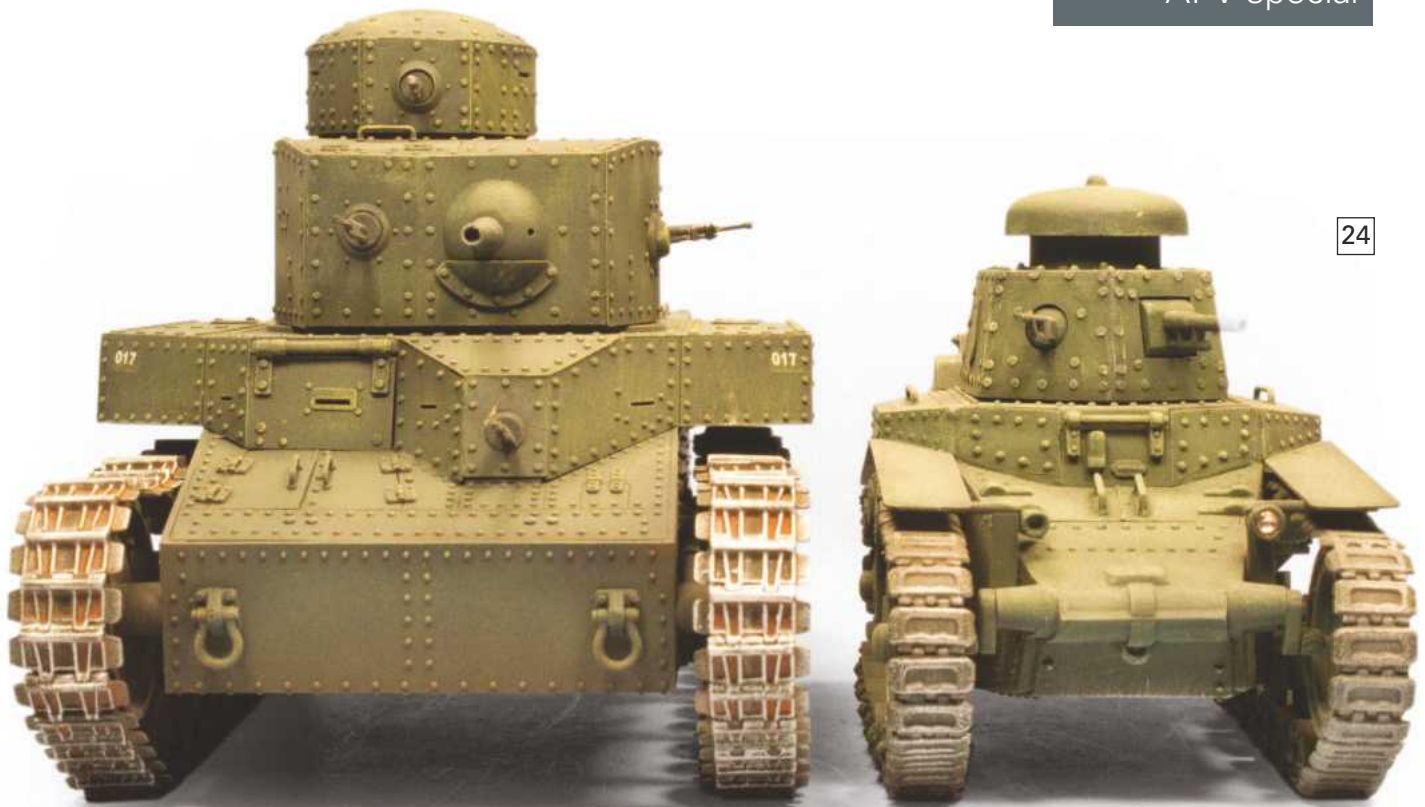


ABOVE: One of the military parades in Kiev with a T-26 'Twin Turret' tank (Model 1931) in front of a T-24. No date but obviously the early 1930s.



LEFT: A front view of a T-24 minus its armament. Apparently they did not receive their production numbers until finished as there are no markings on this tank.





Conclusion

It's a bit of a shame that HobbyBoss got the air intake wrong as this is a spot on model for the most part in other areas. While it may not receive wide popularity, it's nice to have a 'complete the record' model of this seminal Soviet tank.

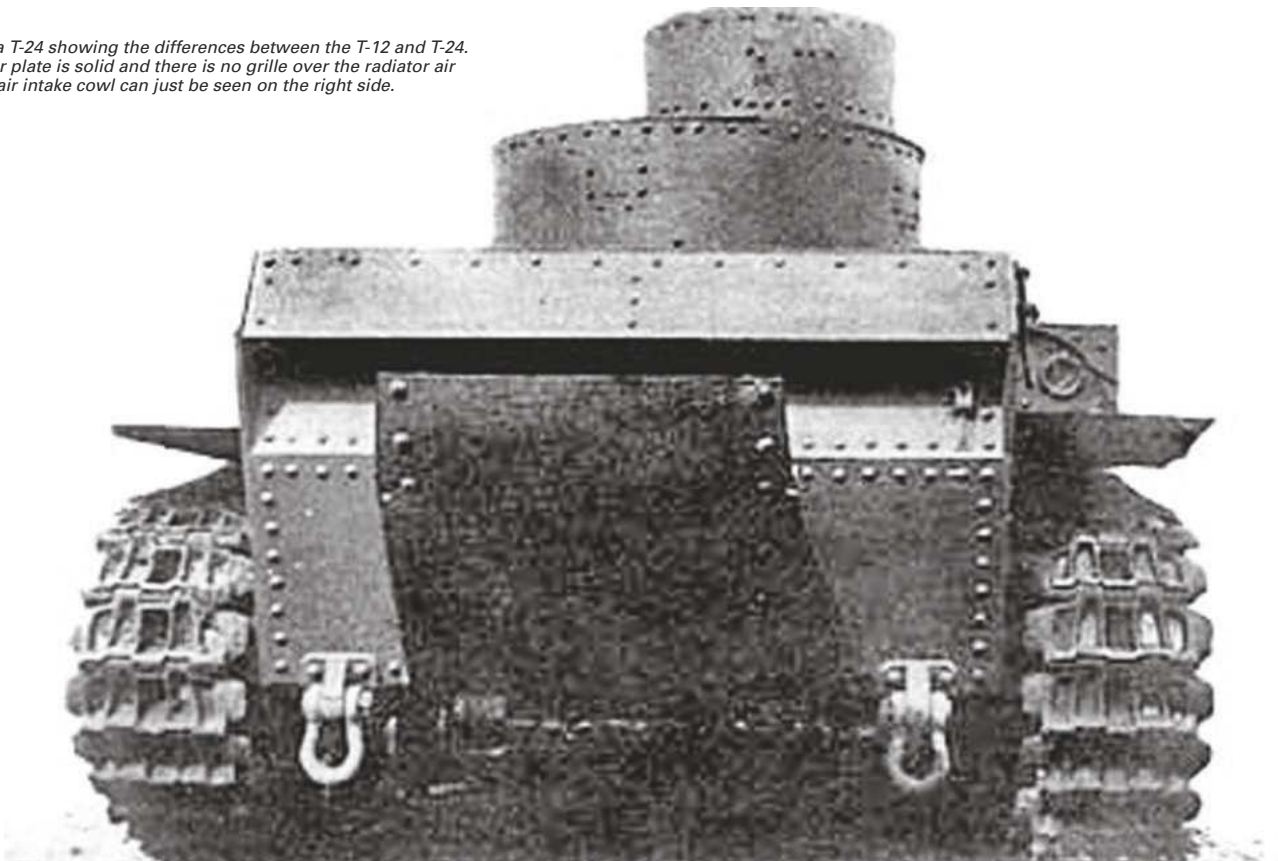


PHOTO 24: The commonality of design features – driver-mechanic's position, multiple separate gun mounts, riveted construction and plate angles – stands out when both tanks are viewed head on.

References

Beskurnikov, Andrey, Svirin, Mikhail; *Armada 1: The First Soviet Tanks* (translated by Stephen L. Sewell); Exprint Publishing, Moscow 2000; ISBN 5-94038-001-8.
 Pavlov, M. V., Pavlov, I. V.; *The First Mediums: The T-12 and T-24 Maneuver Tanks*; Tekhnika I Vooruzheniye 10-2012 pp. 15-21; Tekhnika I Vooruzheniye 11-2012 pp. 13-19.
 Solyakin, A.G., Pavlov, M. V.; Pavlov, I. V., Zheltov, I. G.; *Otechesvennyye Bronirovannyye Mashiny XX Vek Tom 1: Otechesvennyye Bronirovannyye Mashiny 1905-1941*; Exprint Publishing, Moscow 2002; ISBN 5-94038-030-1.

RIGHT: A rear view of a T-24 showing the differences between the T-12 and T-24. As can be seen the rear plate is solid and there is no grille over the radiator air exhaust opening. The air intake cowl can just be seen on the right side.





Germany's 'Great Panjandrum'!

Peter Gillson builds Meng's 1:35 scale model for the strange-looking one-off VsKfz 617 Minenräumer mine-clearing vehicle.

The author's completed model.



The first time I saw this vehicle was in Tony Greenland's book *Panzer Modelling Masterclass* and I remember thinking what a wonderfully useless vehicle it was – but one which would make an interesting addition to any collection. Most of my modelling is either near scratchbuilding or converting, but every now and then a bit of plain, straightforward 'kit bashing' is needed. When I saw this kit in a small independent model shop while on holiday I thought it would be great for such an occasion, as well as being a good opportunity to build the kit and evaluate a new manufacturer at the same time.

History

The vehicle was a joint design by Alkett, Krupp and Daimler-Benz, with the first prototype being built during 1942 by Alkett of Berlin and designated VsKfz 617. At a time when the German Army was advancing eastwards and suffering heavy losses from Russian minefields, the intention was for the vehicle to be able to clear a path for German troops or vehicles. The design was simple enough, three wheels each with huge steel pressure pad 'feet' which would put force on the mines causing them to detonate.

The armour of the hull varied between 10-40mm with the floor shielding of 40mm. Inside the superstructure there was additional shielding of 20mm, which when combined with its height was

designed to resist the explosion of mines. On top of the superstructure was a *PzKpfw I* tank turret which was equipped with two 7.92mm MG-34 machine guns for close defence. When moving any steering was effected by a rear wheel controlled by a system of chains, but the use of a Maybach HL-12 engine resulted in it being underpowered for its weight.

Although a creative design it suffered from a number of design faults, the most obvious being that the two front wheels and the rear did not overlap so the vehicle would clear three relatively narrow tracks rather than a single wide one. The weak armour could not provide effective protection, while its height and slow speed would have made it a very easy target. The size of the wheels also meant that if it was covering rough ground, any mines in dips in the ground could easily be missed. All in all, a not a very effective vehicle.

Only one is known to exist which was captured by the Russian Army during April 1945 at the Kummersdorf testing grounds. The vehicle is now in the Kubinka Museum outside Moscow.

In kit form

The kit was the first release from new manufacturer Meng (item SS-001). The parts which are presented in a sturdy box consist of only three sprues, two relate to the two large wheels, the third has parts for the rear wheel and details for the body of the vehicle. The two parts which make the body are nicely packaged in a separate area in the box, as is the turret. A nice touch is that all of the 'feet' and type of chain links which they fix to are safely protected in separate blister packaging. There is no etched-brass, but there is a length of brass chain for the steering chains. The instructions are in the form of a little booklet and are very clear, also containing a brief history of the vehicle. The moulding of the parts is really good and easily up to the standards of other Far East manufacturers.

Construction

This is a very simple vehicle to build, just a couple of evening's work required. The first stage is to assemble some hooks by fixing the hook to a little mounting bracket. I found the easiest method was to glue to hook onto the bracket while the latter was still attached to the sprue. The next few stages relate to the main body, two parts make the body with remainder being details such as hatches and hooks.

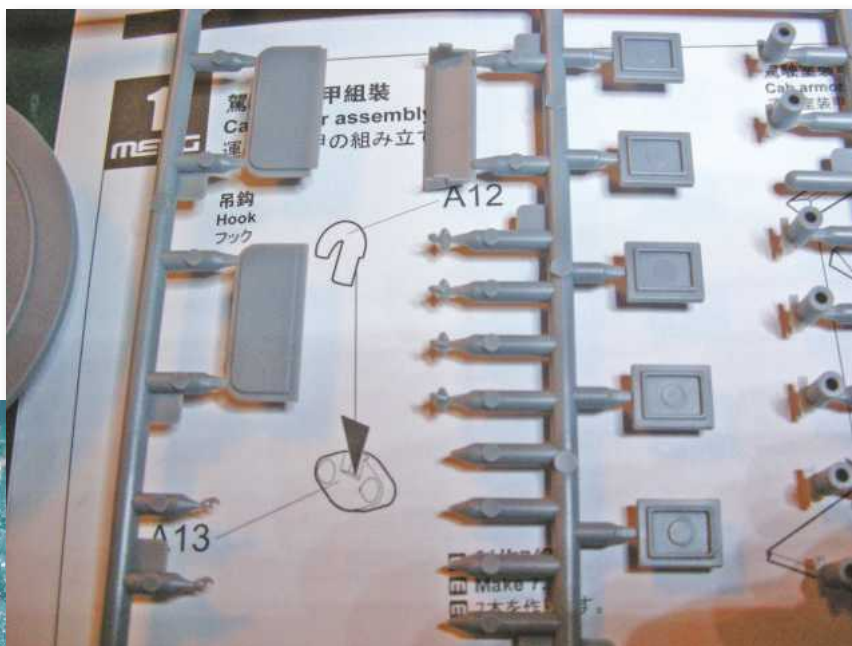
The 'feet' on the wheels are mounted on large chain-links and their construction was



The kit box, note the colour of the vehicle on the artwork.



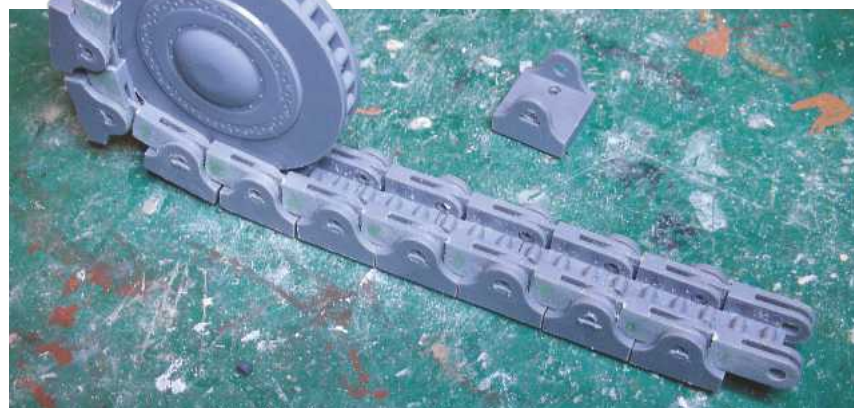
Inside the box the kit contents are safely packaged to prevent damage.



ABOVE: Stage one, making the tiny hooks.

LEFT: Length of the chain with the 'feet' added.

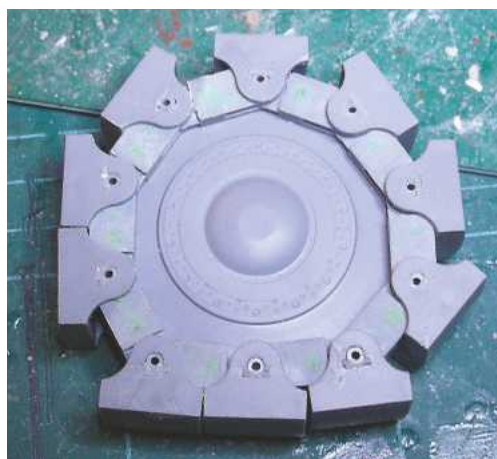




TOP: Length of the wheel chain, with the wheel and the last of the feet to add.

ABOVE: The chain being wound onto the wheel.

RIGHT: A completed wheel.



BELOW: All three completed wheels.



straightforward enough, with small 'pegs' being used to fix the feet in place so they would be secure but still able to move. To fit the peg, holes in three parts had to be aligned exactly. The method I used was to fit the hollow peg onto a cocktail stick so that I could wiggle the peg into place. The only filler I needed was to fill some depressions on the sides of the large chain links. A very nice touch is that the feet are moulded with a metal block inside which gives them weight to help them hang correctly and makes it quite a heavy model.

The chains, now with the feet attached, are wound around the wheels – this is where there is an oddity. Each of the 10 chain links has three teeth, 30 teeth in all, but the wheel on the other hand has only 28 holes for the teeth to fit into – in effect the chains with the feet are too long for the wheels they fit around! Without access to the actual vehicle we have to assume the kit is correct, presumably the logic is that such a loose fit would allow three feet to touch the ground at once, but such a design is very strange and I cannot help but think it would make movement more difficult. Many WW1 guns had similar arrangements and after I had finished the build I noticed that many also seemed to have the same slack.

All in all, it was a pleasantly simple vehicle to build, easily within the capabilities of a beginner, building into a sizable vehicle, and thanks to the metal in the feet, a heavy one!

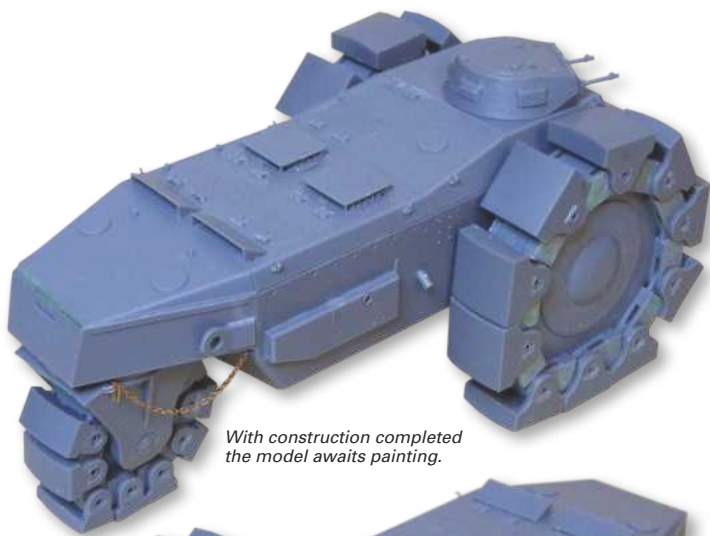
What colour?

The instructions provide three different camouflage options all for unknown units in Kursk, 1943 but all seem speculative, I could find no record of the vehicle actually seeing combat. Photographs of the actual vehicle at Kubinka look green, but as the Germans never used this green it looks as though the vehicle has been over painted. Indeed, in some photos it appears as a sand colour so it definitely looks as if it has been painted since the war. Some commentators have suggested Panzer Grey as the original finish, indeed the box art is of a grey vehicle, and there is logic for this colour since all German vehicles were painted in this shade at the start of the war. The order changing the basic colour of German vehicles from Panzer Grey to a *Dunkelgelb* base colour with disruptive pattern (HM 1943, Nr. 181 and 322) was not issued until February 1943 and since the prototype was built in 1942 it does seem likely that it would have been painted only Panzer Grey, at least initially.

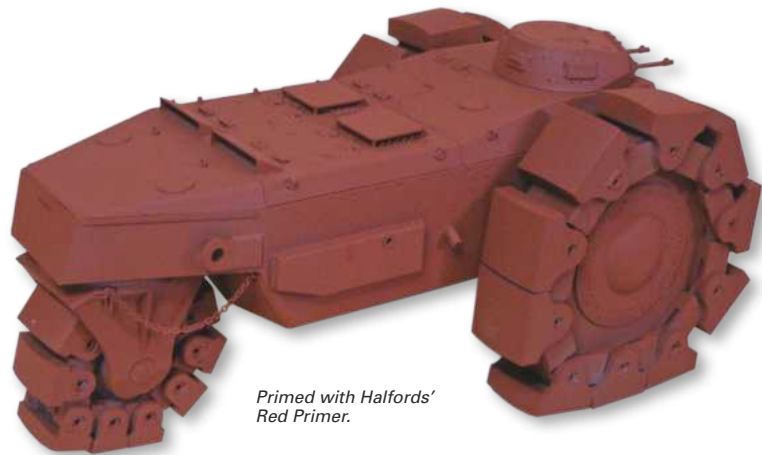
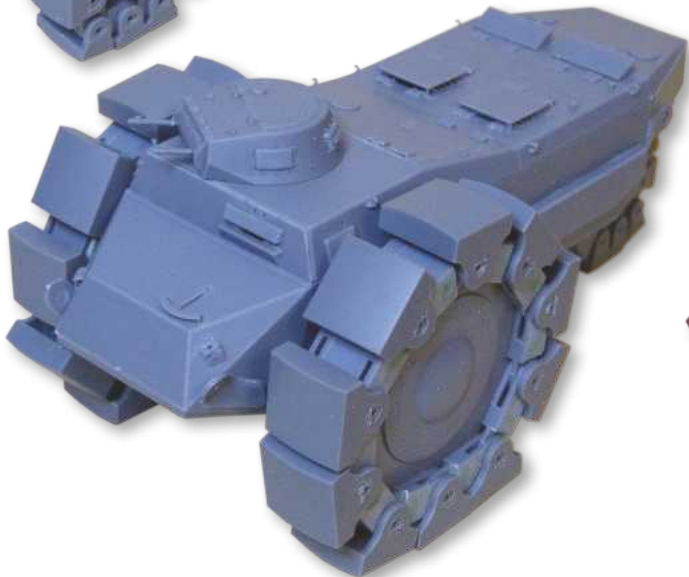
In short, we do not know what colour it was when the Russian Army captured it, although it is likely to have been painted grey when built (in 1942) but could have been painted in 3-colour camouflage after February 1943 but in what pattern is anybody's guess.

Interestingly the 'feet' are shown in the painting suggestions as being black, but why since they were metal and not rubber would they be painted black? I know that the actual vehicle has the 'feet' painted black but surely it is more logical for them to have been painted the same colour as the body?

The only colour I am 100% sure it would have been painted is red primer – all German vehicles were painted in red primer. Since the vehicle looks a like a science fiction one I thought that painting it



With construction completed the model awaits painting.



Primed with Halfords' Red Primer.



in red primer would, not only be accurate, but also more fun! It would also give me an excuse to use the red primer set produced by AK Interactive.

Painting

Normally I prime my vehicles in either Halfords' Grey or White, but on this occasion I opted for Halfords' Red Primer which would be the perfect basecoat. The AK Interactive set consists of six colours which progressively build up the colour of the WW2 German red primer and I did this as per the following stages:

1. Applying the dark shadow to the deepest recesses. In order to add a little interest I painted all of the shoes in the dark shadow so that they would be a darker red than the remainder of the vehicle. All of the paints were applied using my trusty Badger airbrush with the air pressure set at about 15psi.

2. A dark base is applied to a slightly larger area.

3. Primer base is applied to all but the highlight areas, and to create some subtle tonal variations, it was applied in a patchy manner onto the large side panels. At this stage the vehicle looks brown which is a little disconcerting!

4. Light base is applied over pretty much the whole vehicle.

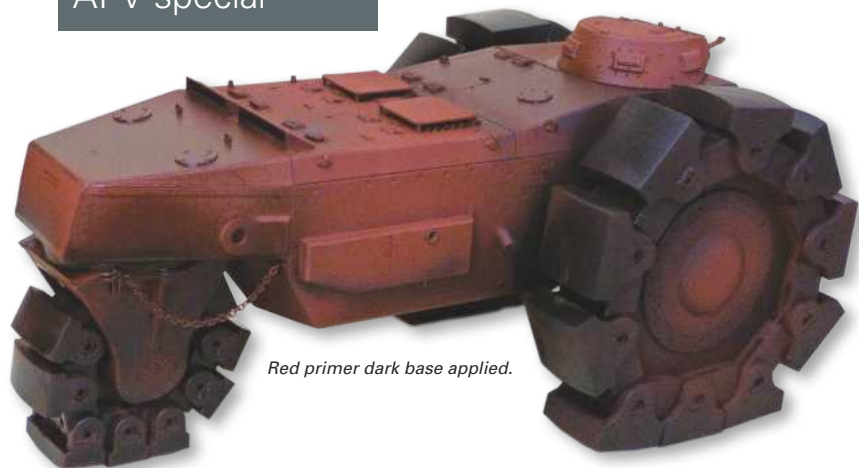
5. Highlight shade is added along the edges of the panels especially the upper surfaces.

6. This should be applying a sheen coats, but I decided at this stage to give the vehicle a thin wash of black oil paint along all panel lines and around

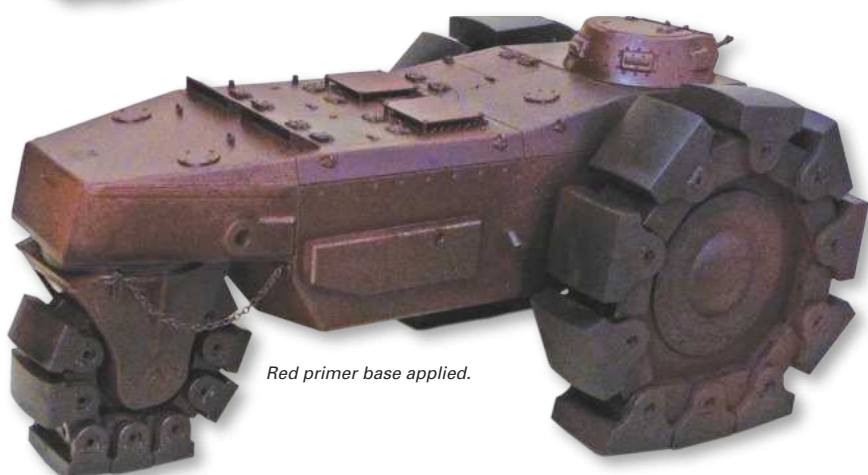


The Red primer shadow applied.

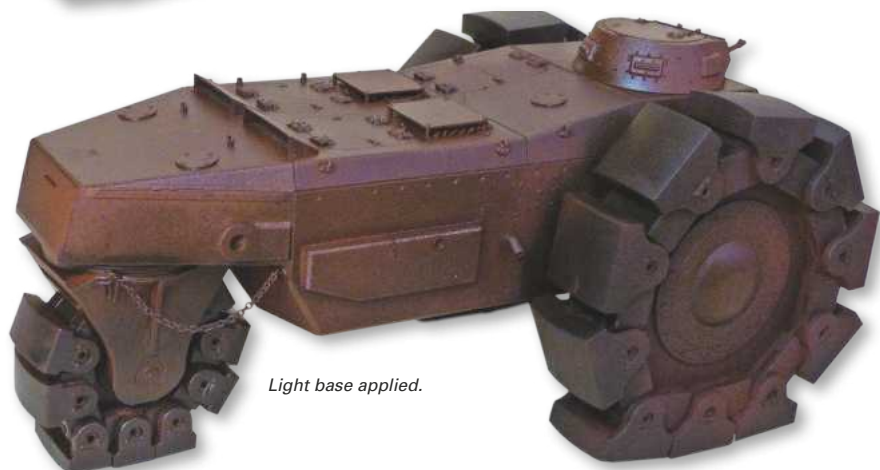




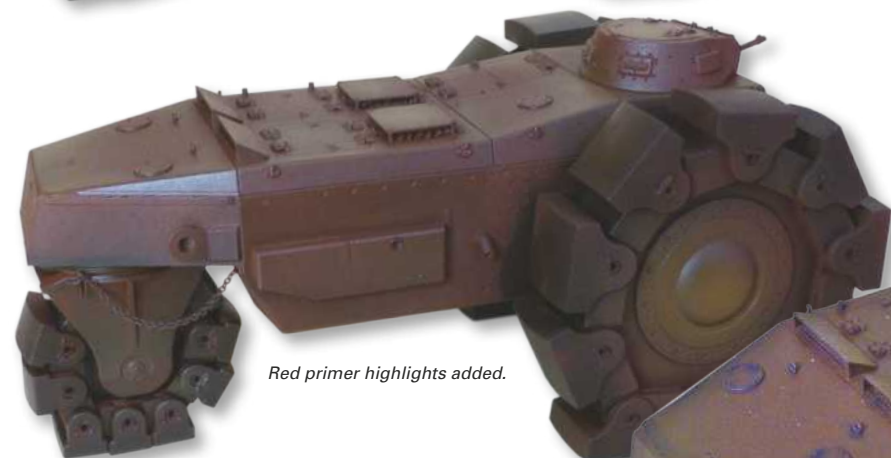
Red primer dark base applied.



Red primer base applied.



Light base applied.



Red primer highlights added.



rivets and other details to enhance the shadow areas. This is a slow process of dampening a small area with turpentine, then applying the diluted oil paint and took a full evening to apply. When this had dried I used the highlight colour to add a little more definition to the highlights before applying the final AK Interactive colour, the sheen shade.

Base and figure

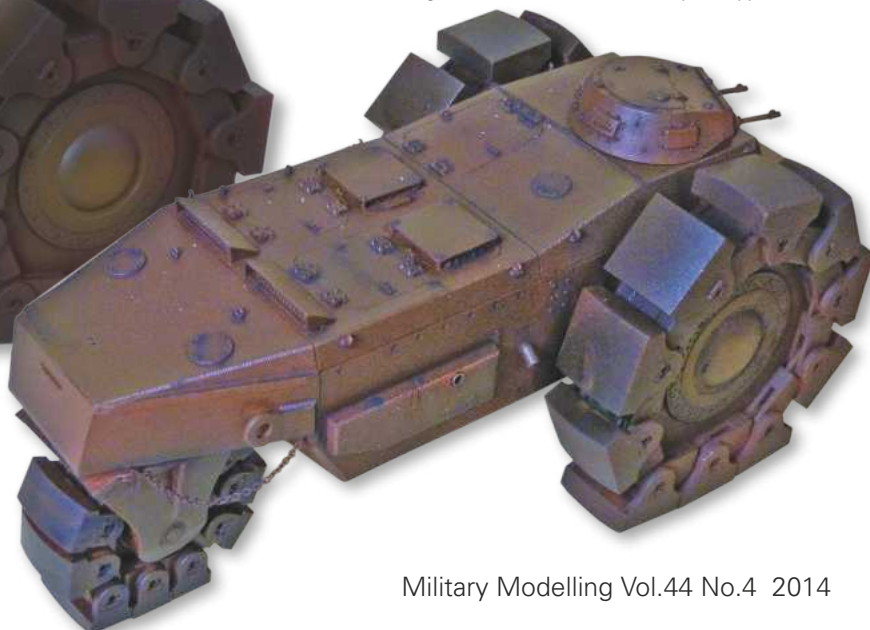
Initially I intended to mount the model on ground with the feet having made slight depressions which would emphasize its purpose and weight, but it would be unlikely to have undergone field trials while painted in its primer coat.

There is so much speculation and uncertainty about this vehicle that I decided to mount it on concrete as if during its construction process. The method of constructing the base was as per Emmanuel Nouaillier's *Foam Board Concrete* articles in *MM* Vol.42 No.2 and No.4.

I needed to add a figure to give a real sense of size to the vehicle so I searched my spares box and came up with one that I think is okay. He was supposed to be reading a newspaper but I changed this for a blueprint of the vehicle which I found on the Internet.



After having the wash of thinned black oil paint applied.






Views of the author's completed model.



Conclusion

This was a delightful (and quick) kit to assemble of very unusual subject and is of good quality. Meng are certainly a manufacturer to look out for and I have already purchased their kit of the British A39 Tortoise tank. Painting the *Minenräumer* in red primer was a different challenge which was great fun, and resulted in a model which really stands out in my collection – I do sometimes get asked if it is a sci-fi model! As I said at the beginning, there are times when a little simple 'kit bashing' is needed, and this was a simple but fun kit to build. 

Technical data

Length: 6.5m (21.33ft.).

Width: 3.17m (10.40ft.).

Height: 1.28m (9.19ft.).

Armour thickness: 34 - 40mm.

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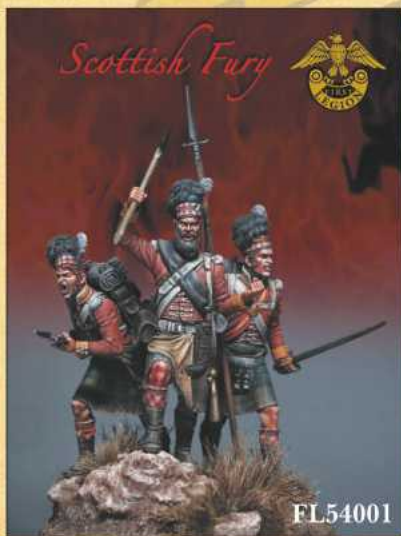
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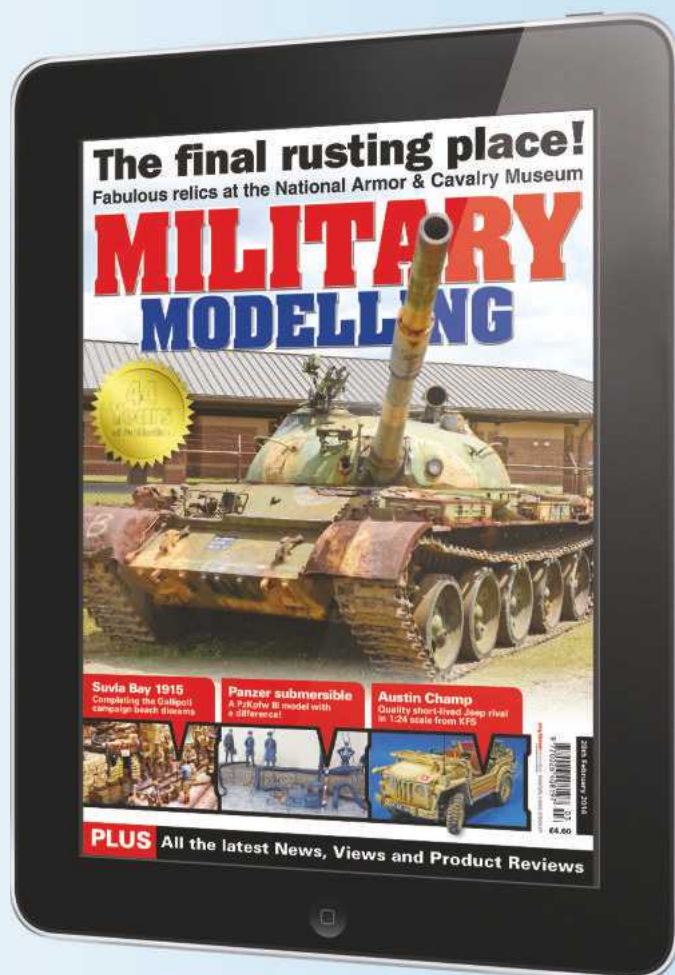
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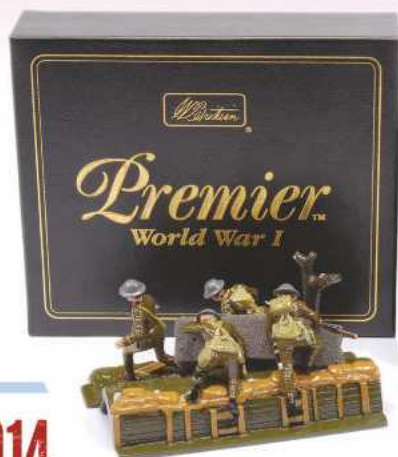
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