Building the IS-2 in 1/35

Subject:	*IS-2*
Model by:	*Nicola Cortese*
Skill level:	*Master*
Kit:	*DML JS-2 Stalin II, kit no. 6012*
Additional detailing sets used:	*1/35 V-2 Engine from Maquette no. 35024* *Modelkasten SK-14 'split-type' workable tracks* *Jordi Rubio replacement metal barrel no. TG-20* *K&S Metal foil sheet for the fenders* *Sheets of 0.05, 0.10 and 0.20 Evergreen styrene and rod* *Tichy Train Groups various eyelet, nut and bolt details* *Athabasca brass-etch eyebolts and liftrings* *Aber photo-etch tie downs no. 35 A95* *Eduard photo-etch set no. 35 194* *Jaguar model JS-II resin interior no. 63501* *Detail Associates brass wire*
Markings:	*Eduard Express Masks no. XT 027*
Paints:	*Tamiya XF-13 JA Green* *Tamiya XF-20 Medium Grey* *Tamiya XF-52 Flat Earth* *Tamiya XF-61 Dark Green* *Tamiya XF-69 Nato Black*

In recent years, photos of destroyed or damaged vehicles have provided a rich source of inspiration for modellers. Given the amount of detail involved in recreating such subjects, a highly realistic approach to modelling is essential, particularly in terms of modification. It is important to note that removing detail can be just as difficult as adding it, especially when having to open up areas like hatches and engine bays. This chapter will focus on the more advanced skills and attention required in doing this.

The DML/Dragon JS-2 kit first hit the hobbystore shelves in the early 1990s, and has established itself as a favourite modelling subject. Crisp detailing and the generally 'spot-on' dimensions throughout have made this kit one of the manufacturer's most enduring.

I initially thought about presenting this model in a destroyed state, but changed my mind to show it as an abandoned vehicle. The latter would provide better scope for a demonstration of comprehensive modelling techniques, whilst the former would only mean that everything would get lost in the rubble! In addition, one particular double-page spread in *Ground Power* issue 76 (pages 58–59), showing a damaged and abandoned early IS-2, inspired me to use it as a basis for this model. This was an extensive build that involved major reworking, and numerous additional items.

General construction

As was the case for the ISU-152, the lower hull needs to be raised by about 2mm (see pages 7–8). Among the first things that caught my eye when studying the *Ground Power* reference photos was that the vehicle shown was missing its first two return rollers. I decided that this was something I just had to recreate: I did this by

Small details like this often have a big impact on the finished model.

I recreated a detached drive sprocket mechanism by studying one specific photo. Although maybe not 100 per cent accurate, I felt that it looked acceptable.

simply and carefully removing the moulded-in return rollers from the lower hull with the help of a razor saw.

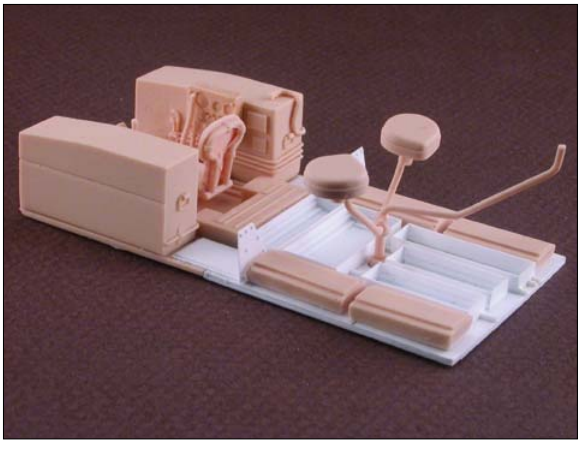
Only three bolts per side were drilled out, as per the real vehicle, even though the return roller has 12 bolt inserts. I presume that this was due to the rationing of parts during this hectic wartime period, it being important to avoid waste and to only use what was necessary.

The interior

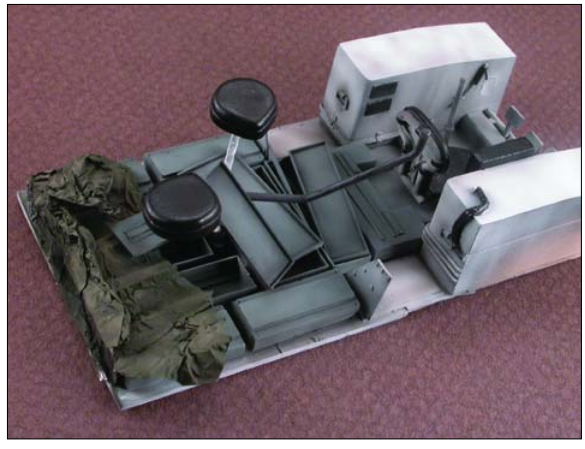
Jaguar's resin interior is well done in terms of the moulding, although the instructions are rather vague, and at some point the instruction sheet should be revised. The driver's compartment, partcularly the seat, is a nice piece of work.

The upper hull

In order to display the engine hatch and transmission bay open, a little surgery and an extra donor IS-2 kit were required. The first thing to be done after



Jaguar's interior is good, although, as you can see by the white styrene, I opted to scratch-build part of the floor interior with styrene to open up the bin containers.



The floor and driver's compartment have been painted and are awaiting weathering. I added a makeshift tarp using a chocolate wrapper. Even though these details won't be seen, at least *I* know they are there!

removing the engine hatches was to open the exhaust grills and to 'box-in' the enclosed open area with 0.10 sheet styrene. I wanted to display one of the exhaust grills in an open position so that the ribbing of the exhaust bay could be seen.

Eduard's excellent photo-etch grills were a perfect fit, although I had to fabricate the three tiny exhaust hinges with 0.10 brass rod. I removed the louvres from the rear deck exhaust and replaced them with Plastruct 0.10 x 0.80 styrene strip, which I measured and cut with my 'Chopper' cutting board. I added a little more verism by detaching some of them from the frames, as this was common in many of the photos I'd seen, and included Tichy Train Groups eyelets to replace the liftrings.

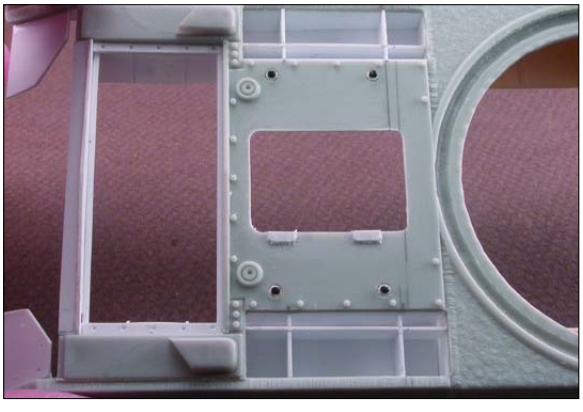
The engine and drive train

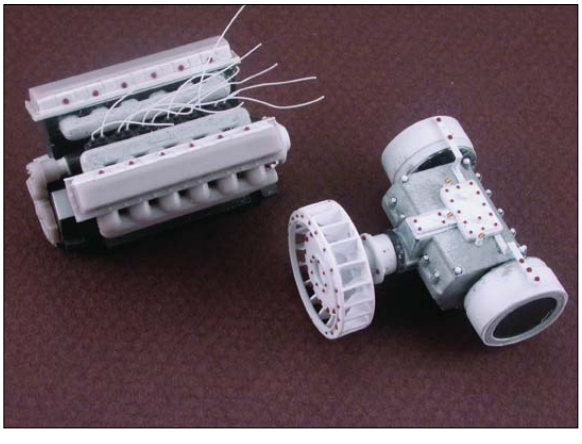
I opted to use Maquette's plastic T-34 V-2 engine kit as the basis for the engine and drive train, figuring it would be an acceptable platform to replicate an IS-2 engine and drive train.

The most intriguing part of the DML kit is the cooling fan, which is moulded as a solid object. Given the exposed engine detail, I decided to scratch-build the item, using the kit's cooling fan as a rough template. The fan filter was fabricated from styrene sheet, following careful examination of key reference photos. Note that it is extremely difficult to find specific shots of engine interiors, and as a result measuring up and trying to get the final look just right can be a challenging prospect. I used my Staedtler combo circle template to make a circular template for one part of the fan – this is a technique that can be used to make all kinds of small rings and discs. I then drilled out the inner part with my Dremel, and cut round the outer edge with scissors, finishing off with a light sanding to even out the edges.

Because I wanted to display the transmission, I really had to improve the Maquette plastic offering. After studying the limited number of available photos, I based the final transmission on Maquette's part, which is rather simplified but still acceptable. The transmission is a simple, two-piece affair, which, with a little help from

BELOW The rear deck in the preliminary stages. Once the moulded-in exhaust grills had been removed, I 'boxed in' the enclosed open area with 0.10 sheet styrene.

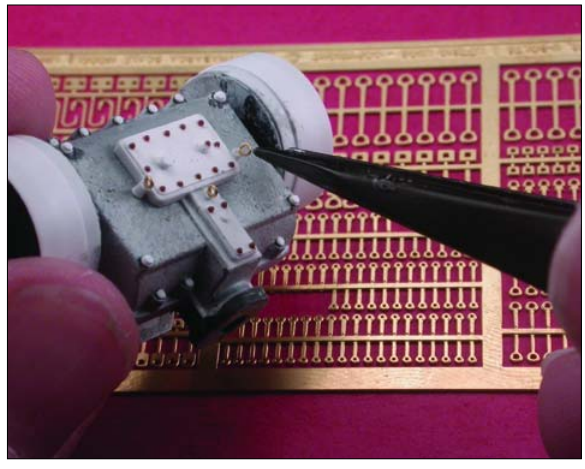




Maquette's plastic T-34 engine and transmission is a rather basic offering, but with some scratch-building and minor tweaks, it can be brought up to acceptable standards.

Hours of detailing went into replicating the transmission and cooling fan, mainly working with a couple of photos. After sanding off the top portion, I removed the moulded-in bolt detail, which I later replaced with various bolts fashioned by my Historex punch set. Tichy Train Groups came to the rescue once more with some small 0.20 rivets and nuts and bolts.

This photo shows how to make a small ring or disc. As you can see a smaller inner circle has been added to a larger outer one.



Made specifically for train modellers, Athabasca's brass-etch eyebolts and liftrings were a perfect match when it was time to detail up the transmission.

some styrene, Historex nut and bolt detail and the extremely tiny Athabasca eyelets and Tichy Train Groups 0.20 rivets, can be much improved. I purchased two of these kits (the other was for the IS-3 build) – and, with my customary luck, I found that they came in two different colours, black and light grey! Ever the optimist, I decided to mix up the two kits when building, just to give an interesting look to the final product.

The engine 'plumbing' was created with Plastruct 0.10 rod, and bolt detail was from Tichy Train Groups' 'Nut and Bolt' set. I fabricated (what seems to be) the engine air filter from stacked styrene discs and added a brass disc from my spares box.

Building the engine bay

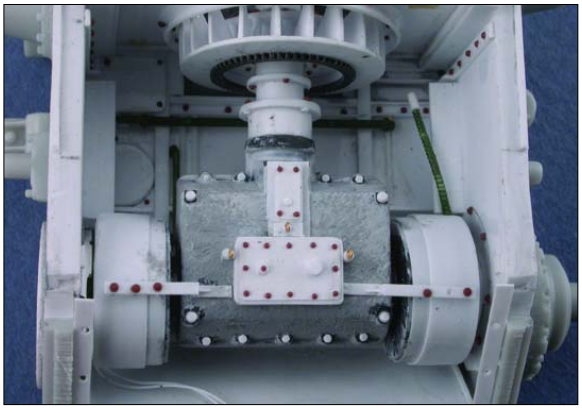
Building the engine bay was quite a challenge, mainly due to the lack of clear and precise reference material. I painstakingly fabricated the interior engine bay with lots of different-sized styrene sheets and U-Beam strips. Personally, I find this the most fun and rewarding part of the whole scratch-building process. The fact that with restricted reference material you can create an acceptable (albeit not perfect) replica is highly rewarding. It definitely helped hone my scratch-building skills too!

The turret

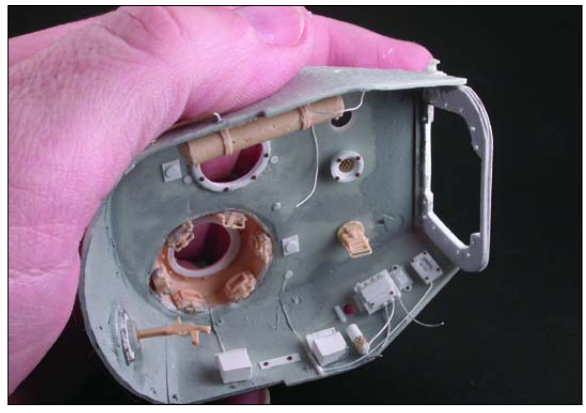
After much deliberation, I decided to use the kit turret as a platform to display some more scratch-building and to add some of the Jaguar bits.

I replaced the kit's plastic grab handles with 0.19 brass wire. In early IS-2s, the top grab handles are slightly off-centre. Having attached the grab handles with superglue I went back and trimmed the brass from the inside of the turret, because of the small interior bits to be added there afterwards. I also added a quick coat of Mr Surfacer 1000 to the inner walls of the turret to smooth out the area for the interior parts. I continued to add a mixture of Jaguar and scratch-built items here too. Even though most of this work won't be visible in the end, it's nice to know it's there.

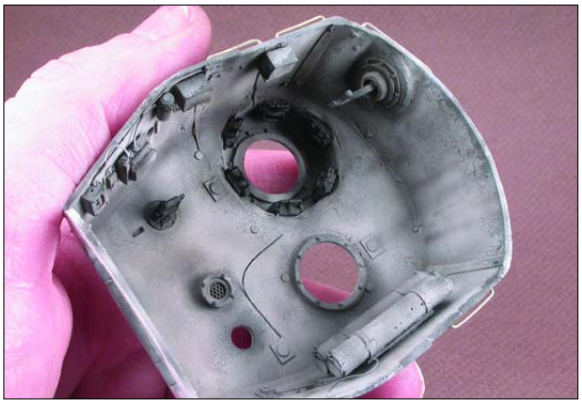
Scratch-building both the commander's and driver's hatches were mini projects in themselves, and the final results were very satisfying: I didn't feel that Dragon's hatches were up to standard. The most difficult part was achieving a realistic look for the outer lip: the real hatches are semi-oval in shape. I enjoyed replicating the periscope detail too.



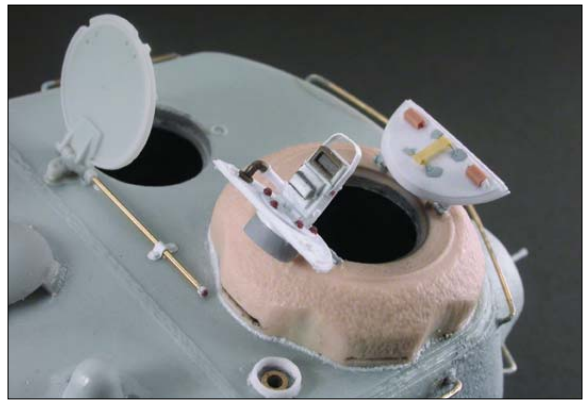
I cautiously improvised as I went along, adding bolt and nut detail, constantly referring to reference photos. It took much dry-fitting and measuring up to get the transmission right.



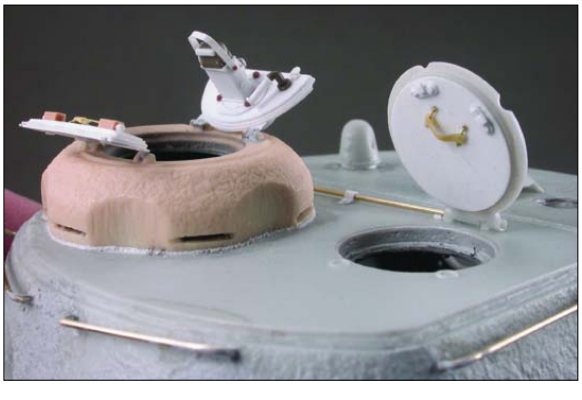
After deciding not to use Jaguar's resin turret, I scratch-built the various interior items with styrene strip and rod.



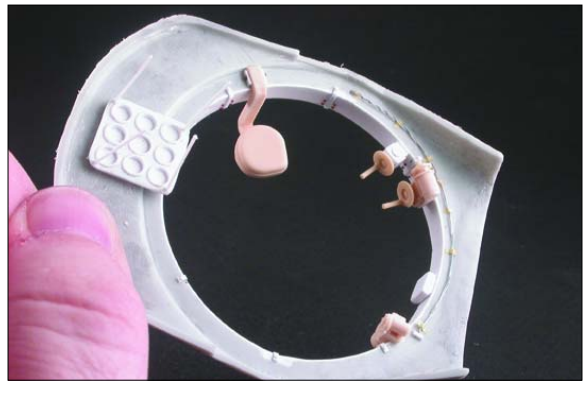
I added the Jaguar commander's cupola to the kit turret mainly because of the nicely cast texture and the inclusion of the inner periscopes. This was fairly easy to do, although the top part of the kit had to be widened slightly so that the cupola could sit properly. The interior of the turret was painted and weathered.



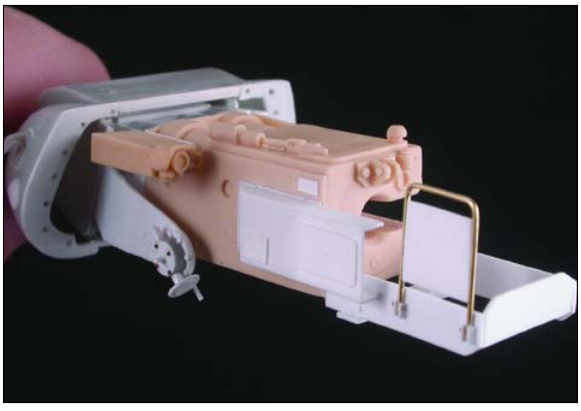
The commander's hatch was a mix of styrene strip, and aftermarket nut and bolt detail. The periscope comes from the Tamiya IS-3 kit.



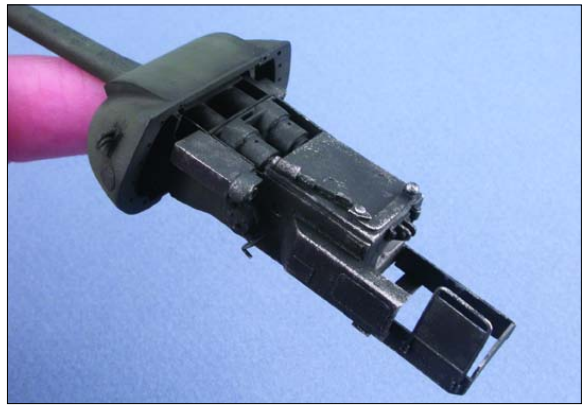
Aber photo-etch tie downs were used for the handles for the driver's hatch. A thin piece of Tamiya tape was used to simulate the strap handle.



Some of Jaguar's resin items were used in the bottom half of the turret assembly, though I scratch-built most of the items. When everything is together, it's quite a 'tight fit' – just like the real vehicle.



There are some major details missing from the gun cradle and lifting mechanism, so I scratch-built these items. Some of the resin parts were so badly warped too that it was easier to craft styrene replacements.



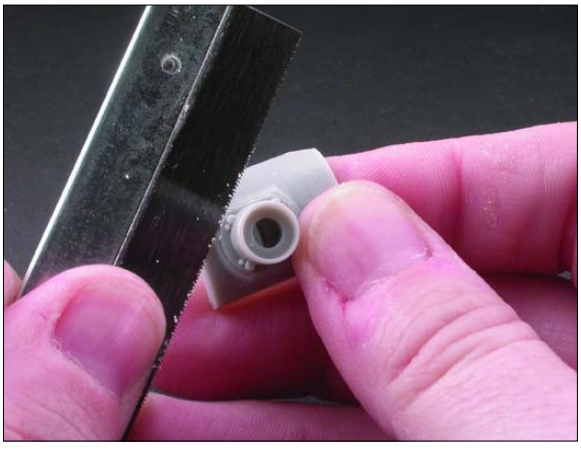
A view of the painted gun. Semi-gloss black seemed like the right colour to me.

The gun

Jordi Rubio's barrels make a nice addition to any model, although the DML gun moulding and detail is good. I replaced and added detail with styrene sheet to areas I thought could be improved, such as the front mantlet cover. One of my reference photos in particular intrigued me: it showed the mantlet detached from the turret, and also that the mantlet holding ring was in two pieces. So, I carefully separated the kit's one-piece item with a razor saw, keeping it damp with warm water to reduce styrene dust.

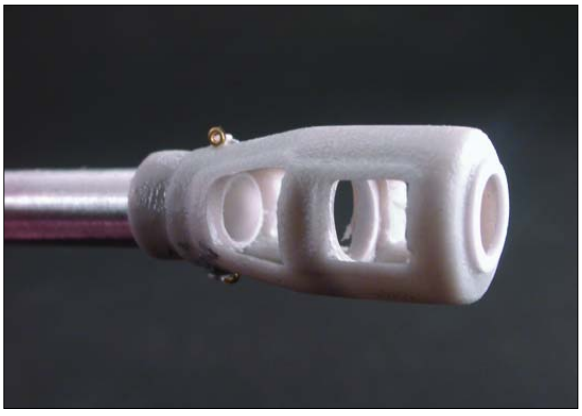
The tracks

The IS-2, and the entire range of Stalin tanks, featured 'split links', which were regular links with every other guide tooth missing. They were used to keep weight down to a minimum. I decided to use Modelkasten replacement tracks for this project. Manufactured in Japan, their workable and non-workable tracks are among the best plastic ones available. As explained in the previous chapter, a liberal coating of Tamiya's Nato Black was applied to seal and coat

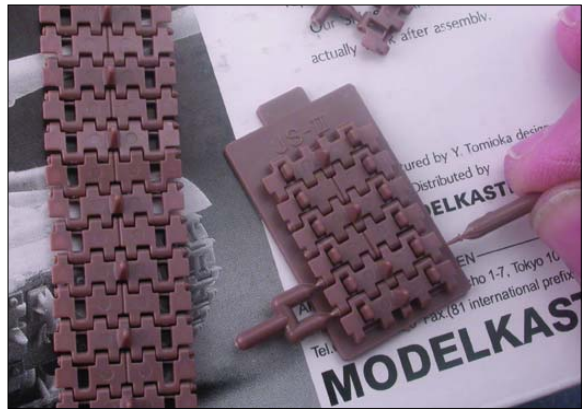


I slowly took my time to get an even, straight cut when separating the one-piece mantlet.

Once separated, I added a styrene backing to the mantlet and four bolts that are connected to it. The mantlet holding ring needed some fine drilling and sanding to remove the unwanted plastic.

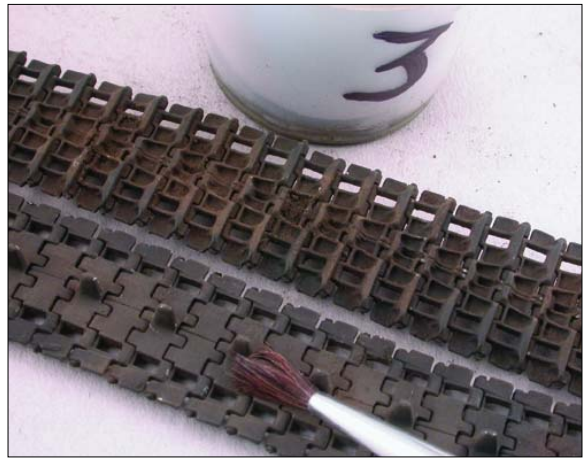


A close-up photo revealing the detail added to the gun muzzle break, including the tiny photo-etch lifting lugs from Athabasca, brass-etch eyebolts and Historex-punched discs. I also added styrene to the inner portion and made a new front 'ring'.



Modelkasten early split-link tracks were my first choice as a replacement for this particular model. Unfortunately, these are marred by two 'knock-out' marks on each track link.

A couple of quick stippled coats of Mr Surfacer 1000 can cover the 'knock-out' marks – better than sanding every track individually!



As per my usual routine, I applied a darker pastel tone and a quick dry-brushing of black oils, before leaving aside the tracks for installation later.

the tracks prior to a quick application of dark earth pastels – very much my standard procedure!

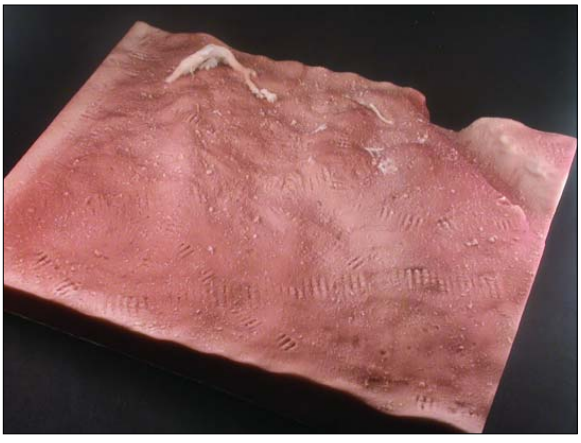
Creating a simple display base

I wanted to display my finished model on a small diorama-type base. Instead of scratch-building one, I decided to try the Trakz TX 0018 AFV Diorama Base, which is made from lightweight polyvinyl.

Painting it up was simple, and I used a mixture of Tamiya acrylics. I started with a base coat of Tamiya XF-69 Nato Black, and then airbrushed it with various shades of XF-52 Flat Earth and XF-61 Dark Green, coating it with heavily thinned layers of paint.

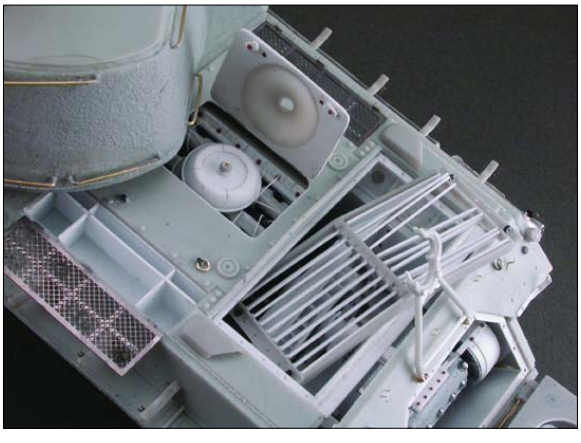
Painting and weathering

Before beginning to paint the model, I had to picture the vehicle in my mind's eye, sitting abandoned, with hatches open, parts missing and the mantlet detached. This would have an important effect on the selected finish.

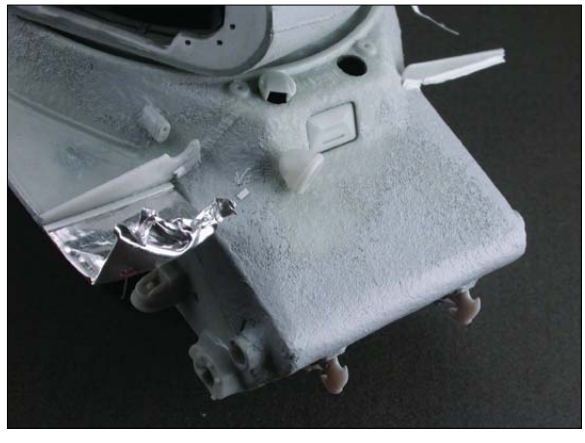


The gravel-like texture of the base is perfect for what I was looking for – barren, rough terrain.

I finished off painting the base with a light misting of Buff colour, giving it a dusty look.



A top view of the rear deck before painting commences. How the parts are placed is vital to the final overall presentation.

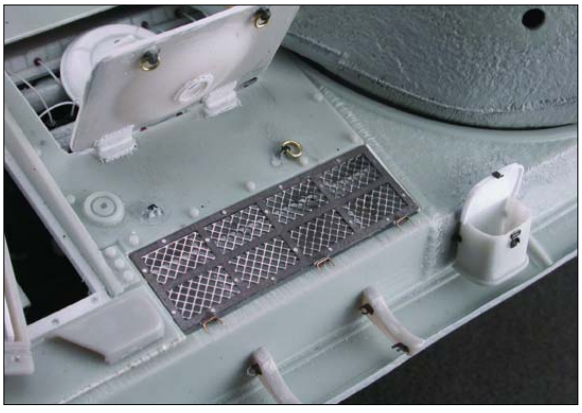


To add to the overall realism, I formed a mangled front fender from K&S Metal foil sheet, which worked really well. K&S Metal is available in rolls and each one will last a long time.

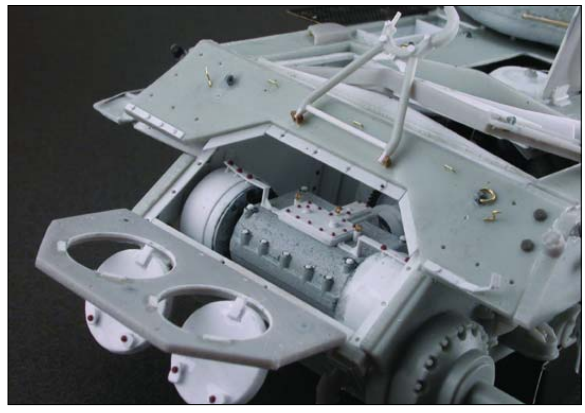
Tamiya JA Green XF-13 was chosen for the base colour. This is a nice rich colour that I've used before, and which I know works well in conjunction with a lighter weathering colour.

A pre-shading layer of Tamiya Nato Black XF-69 was first sprayed over the entire kit. Next, the painting proper began (as always) with thin layers of shaded colour, starting off with the 'out of the bottle' colour before adding on lighter shades until I felt the look was just right. Since this vehicle was supposed to be an abandoned and dusty one, I wanted to add some sort of weathering, and to do this I used the 'sponge technique' described previously. I dabbed the model with a very subtle post-shade mix of Tamiya paint, which is barely visible yet works well.

At this point, the weathering is not too heavy still, and markings can be applied. I chose Eduard's excellent Express Masks no. XT 027, which are easy to use and merely require you to spray on the right colour. After placing the mask on the turret I misted on a couple of coats of Tamiya Flat White until I was happy with the results. Next I sprayed on a post-shade mix of Tamiya Flat Black and Tamiya Red Brown acrylics in a ratio of 4:1, carefully adding this where oil washes would normally go, with the aim of enhancing with paint rather than



Eduard photo-etch set 35194 was partially used for the exhaust screens and mostly smaller items. In this pre-painting photo the etch screens have merely been placed on, because when the pre-shading starts you don't want to be spending time spraying paint though those screens. I also partially scratch-built the engine hatch cover and mounts.



Getting everything to line up was the hardest part of the rear engine deck. In many photos I've seen of vehicles in this state, the rear back plate is often hanging off or completely missing, so I positioned it so that the left side was detached and was just held on by two bolts.

This view of the top of the rear deck shows what I assume is an engine carburettor of some sort.

BELOW I also decided to scratch-build the inner workings of one of the road wheels.

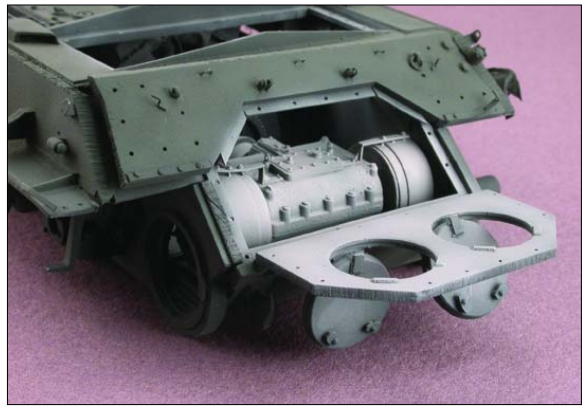
K&S Metal foil sheet was again used to form part of the back fender. To add to the realism I cut pieces of 0.05 styrene strips to replicate the metal strips that attach the fenders to the hull.

with oils. Next a number of washes were applied to even out the contrast in the model's colour. I then mixed some dark pastels into the post-shade mix and once more used the sponge to apply them. This produced the encrusted, slightly dirty appearance I was looking to achieve.

All that remained to be done was to add the final weathering touches, comprising a little light streaking with oil paints to represent rust and dirt marks.

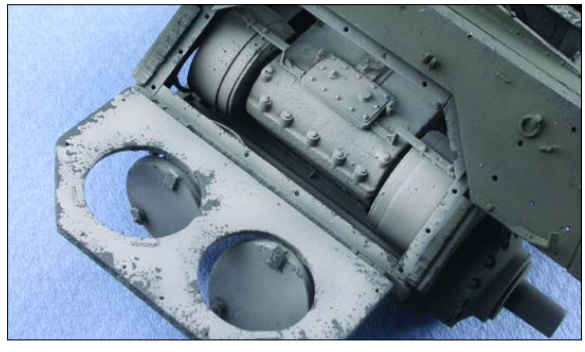
Perfecting the look of a vehicle that has been out in the elements for some time was difficult, and this was by no means a weekend project. However, I feel the project was a good learning experience for me and I enjoyed the challenge of mixing up scratch-building techniques, and resin and photo-etch parts.

The interior of the turret and gun, painted and weathered and awaiting installation – although it will be hardly noticed! Note the chipping effects in and around the sides and corners.



After a little research, I decided on Tamiya XF-20 Medium Grey for the engine bay area, which I thought would contrast nicely with the rich green hull colour. At this point everything was in sub-assembly stage except for the tracks, which have already been painted and weathered up.

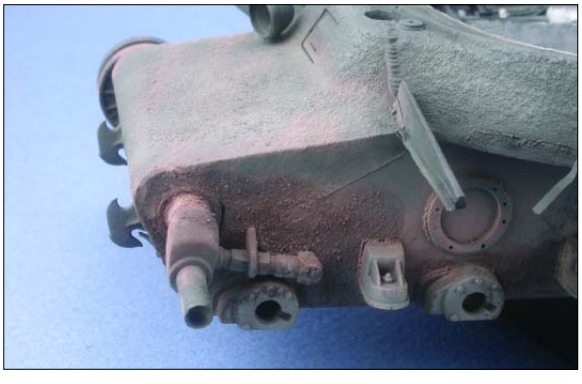
Turret number '222' was chosen from Eduard's excellent Express Masks XT 027. I misted on a couple of coats of Tamiya Flat White to get a nice clean result.



More of the 'sponge technique' was carried out, using heavily thinned Tamiya XF-69 Nato Black.

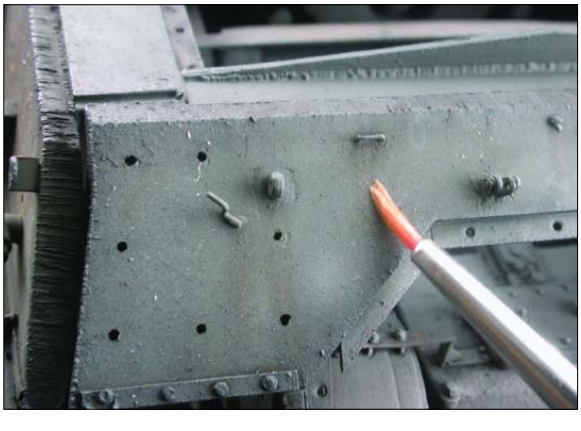
I weathered the turret with various layers of paint and shades to achieve a really worn look.

The weathering process in its opening stages.



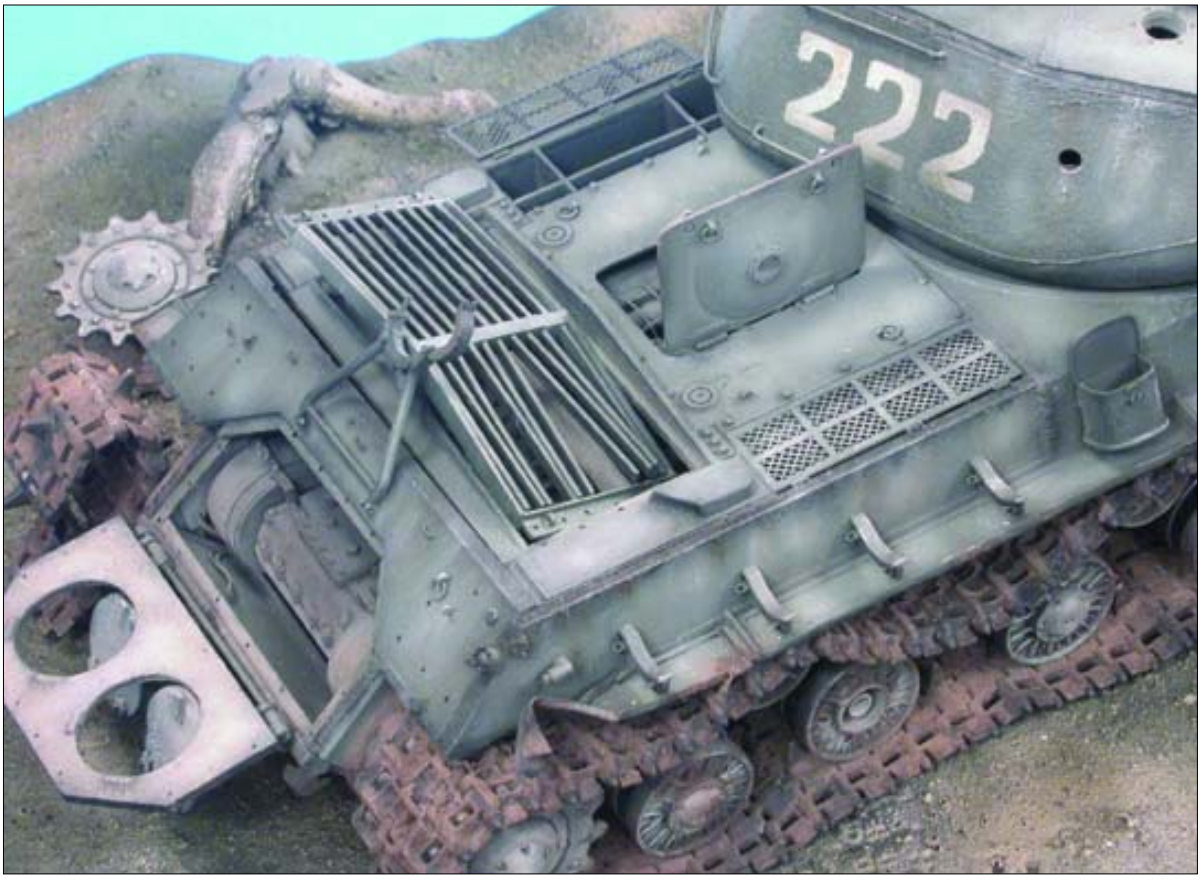
I added a layer of caked-on mud to the underside and lower hull using medium-shade pastels and Tamiya thinner.

An easy way to paint the metal wheels is to simply dab a small amount of paint on a cloth and wipe it on. The paint is a Citadel Colour acrylic called Chain Mail.



Applying light rust streaks throughout with oil paint should be done as subtlly as possible. Burnt Umber mixed super thin was applied with a clean brush.

Prismicolour pencil was used to add a very faint hint of metal.



ABOVE AND PAGES 30–31: The finished IS-2 installed on its base.