IMPERIAL ARMOUR

MODEL MASTERCLASS

VOLUME TWO

WARHAMMER 40,000

MODELLING GUIDE

Forge World™

IMPERIAL ARMOUR
MODEL MASTERCLASS
VOLUME TWO

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MODEL MASTERCLASS VOLUME TWO

GAMES WORKSHOP®

Forge World™

PRODUCED BY FORGE WORLD

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TABLE OF CONTENTS

Introduction 7

Imperial Reaver Titan 8

Land Raider Proteus 22

Red Scorpions Angstrom Incident Raiding Force 34

Saim-hann Phantom Titan 40

Encounter at the Balmaeus Ice Mines 44

Great Brass Scorpion 66

Chaos Reaver Titan 74

Nurgle Plague Hulk 78

Nurgle Blight Drone 80

Blessed Be These Wings 82

Vulture Gunship 98

Valkyrie Sky Talon 100

Crassus Armoured Assault Transport 104

Praetor Armoured Assault Launcher 110

Renegade Minotaur 112

Renegade Valdor 114

The Raid on Kastorel-Novem 120

Weathering Powders 136

Tools and Equipment 140

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INTRODUCTION

Welcome to *Imperial Armour Model Masterclass Volume Two*, the second in Forge World's books dedicated to achieving the highest possible results in terms of quality and realism when building and painting your Warhammer 40,000 models.

Since we first published our phenomenally successful *Masterclass Volume One* several years ago, the painting and modelling landscape has changed, with an explosion of new models, paints and materials available, not least of all from Forge World itself, and there are more fantastic hobby models, dioramas and even entire armies finished to an extraordinarily high standard out there than ever before. With our second volume we hope to build on this even further and provide you with a plethora of informative articles, inspirational models and in-depth guides and galleries from some of the talented modellers and painters here at Forge World, making this book a feast for the eye and the imagination, as well as a practical resource for the reader.

It is worth mentioning as well that what you will find illustrated here are 'advanced' techniques, as the title of the book suggests, covering a wide range of topics and effects, and a moderate to high degree of knowledge and experience in painting and modelling will be needed to get the best out of them. For detailed information on more basic techniques, you should look no further than Citadel's own range of modelling and painting books, online support and of course the pages of White Dwarf magazine. The materials used within focus primarily on those produced by the Citadel and Forge World ranges where possible to achieve the desired results, and where not, other commonly available materials have also been used to supplement them.

The articles in this book cover a wide range of topics and techniques that will allow you to get the best out of your Forge World models, whether you making a centrepiece model for a collection, a display diorama, battlefield terrain or simply wish to lavish attention and time on a model or army you enjoy. Whether your project is a Battle Titan or a lowly Rhino APC for one of your squads, *Model Masterclass* will help you achieve fantastic results.

Lastly, credit goes to the combined talents of the many painters and designers, as well as this book's production team, without whose creativity, talent and imagination, *Model Masterclass Volume Two* would not have been possible.

Forge World

IMPERIAL REAVER TITAN

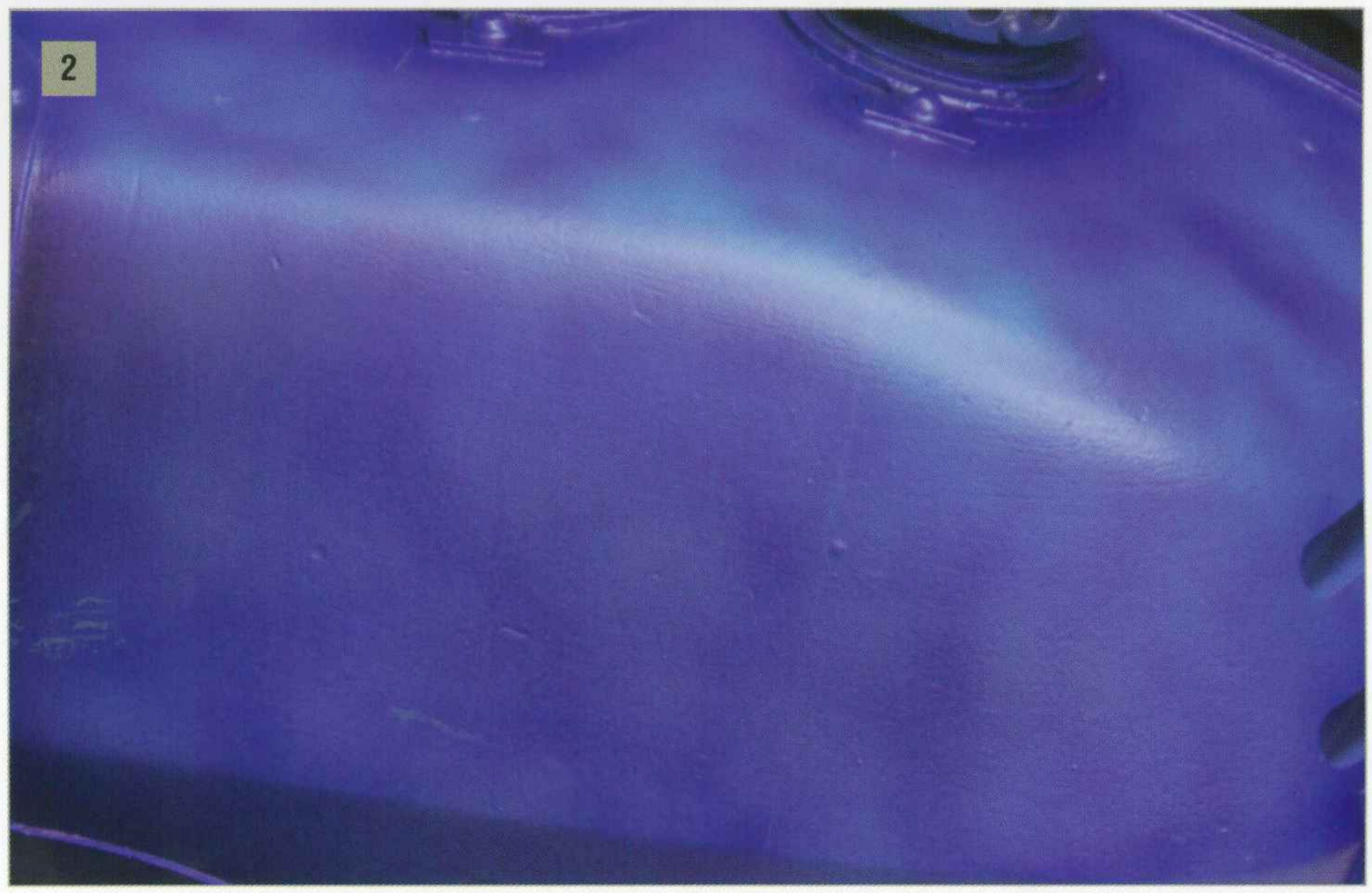
Painted by Phil Stutcinskas & Keith Robertson

Mars Pattern Reaver Titans are protected by thick adamantium armour plates and void shields. Equally effective at close and long range, they can be fitted with a wide range of weapons from arm-mounted blasters and Volcano cannons to long range carapace-mounted 'Apocalypse' missile launchers and Vulcan mega-bolters.

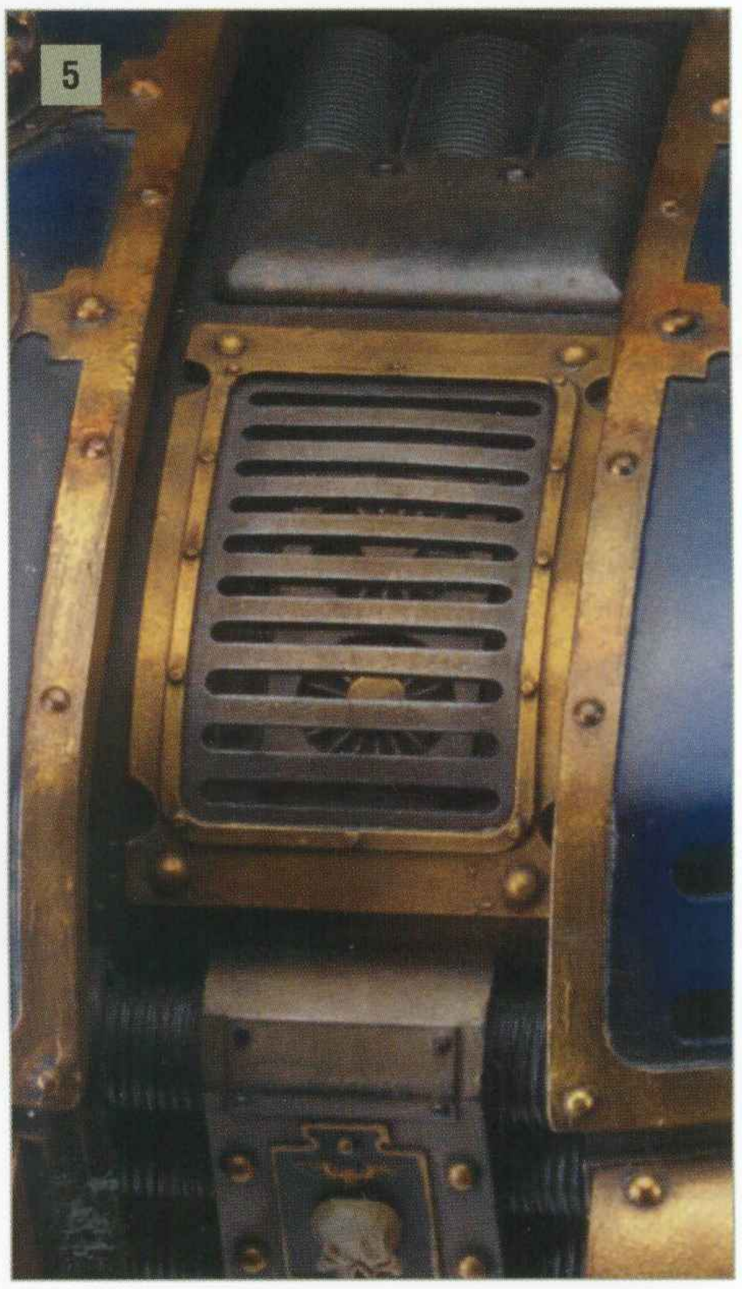
BLUE ENAMELLING

The major sections of the Titan were assembled and then undercoated with Chaos Black spray.

1 & 2 – The blue marbled enamel effect was achieved by first building up a base coat of Mordian Blue, followed by a coat of Regal Blue which was kept out of the model's recesses. Enchanted Blue was then airbrushed over the edges as a highlight, and blue and purple inks were airbrushed over the blue armoured plates in subtle marbled patterns.



Small subtle patches of damage were applied to the lower portions of the leg armour. Desert Yellow was first applied to the edges of the armour using a sponge, then a lighter, more sparsely, applied layer of Dwarf Bronze was applied.



BRASS BANDING & VENTS

1 – The areas of brass banding were first undercoated with Tin Bitz.

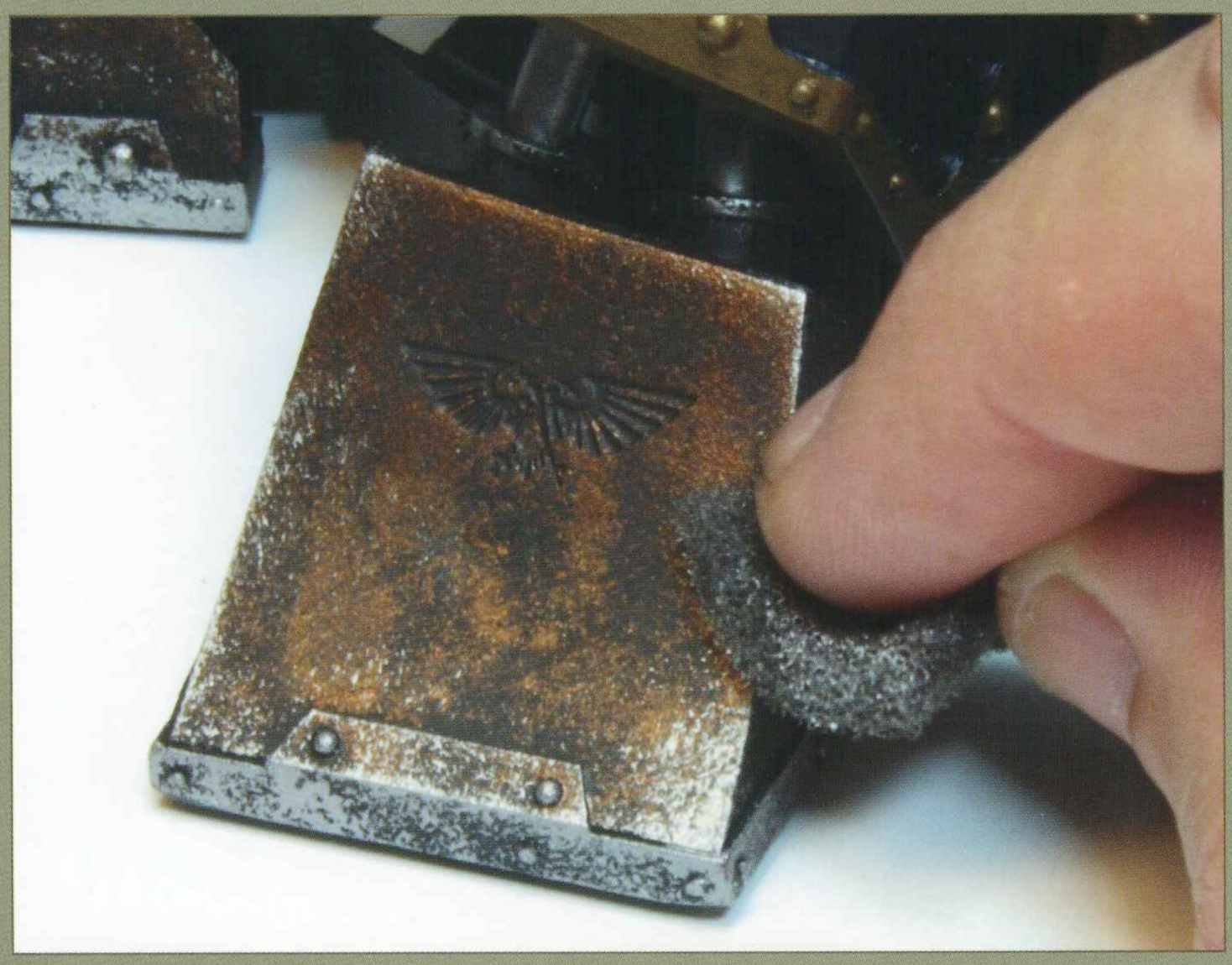
2 – The banding was then drybrushed with gold Rub 'n Buff wax. This wax polishes to a shine with repeated brush strokes, so particular attention was paid to the edges to give a realistic finish to them.

3 – The central vent areas were painted with a mix of Boltgun Metal and Chaos Black. The vent was then drybrushed lightly with Boltgun Metal.

4 – The whole vent was then given a wash of Gryphonne Sepia, followed by a second wash of Gryphonne Sepia mixed with a little Chaos Black. Fine highlights of Shining Gold were subtly applied to the uppermost edges of the brass.

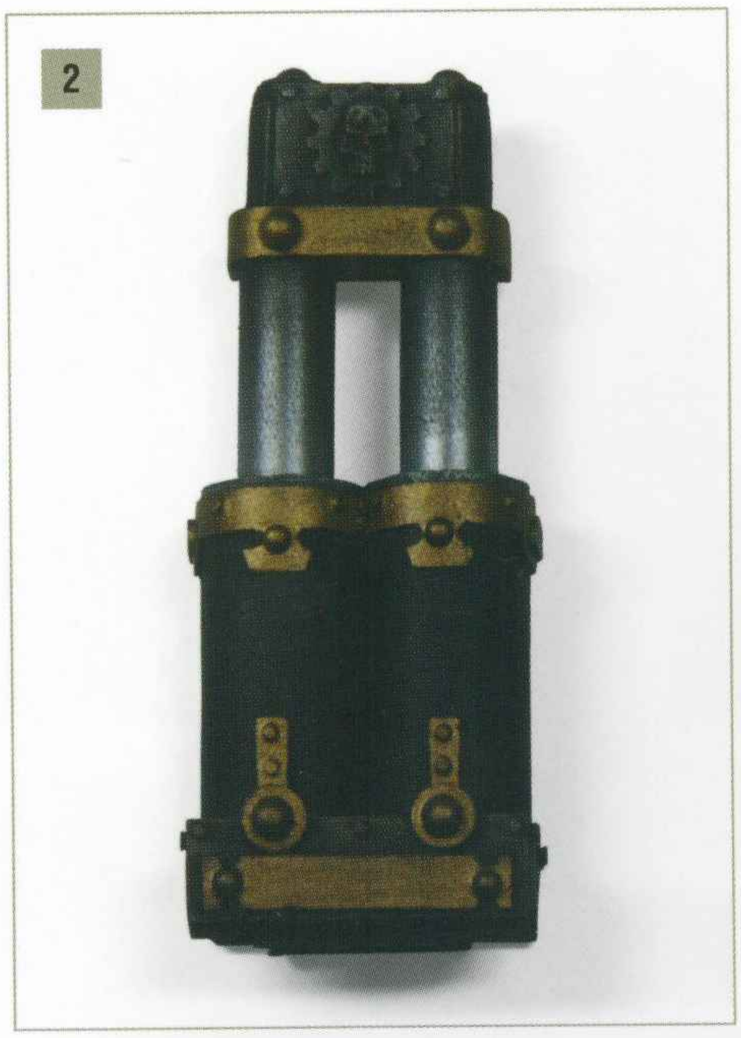
5 – The grill was fixed into place at the back of the Titan's carapace after the venting turbines beneath it had been painted.

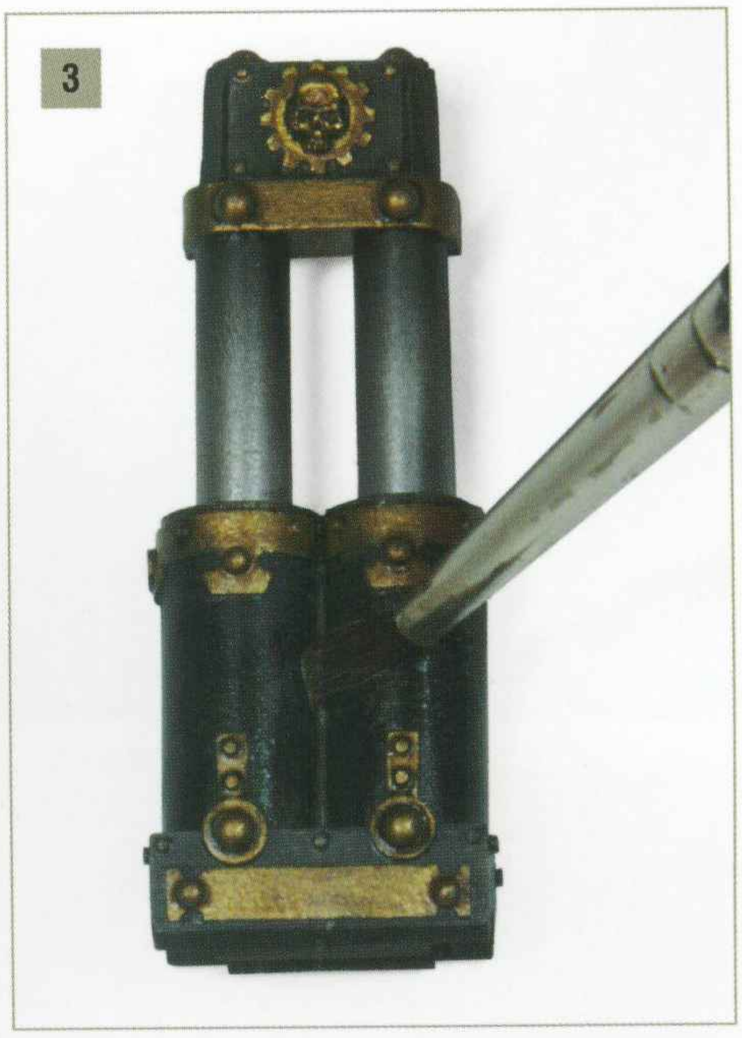
All of the areas of brass banding and detail across the Titan were painted in the same way.

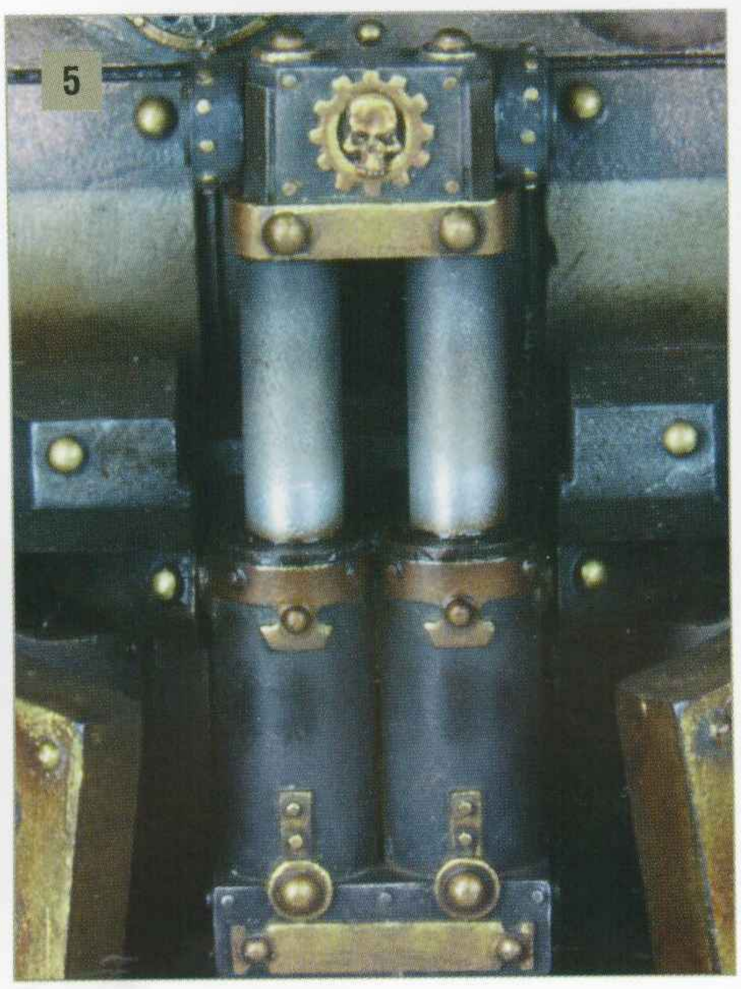


HEAVY WEATHERING

The Titan's feet were painted to look as if they were made from a more hard-wearing and heavily tarnished material than the rest of the Titan's metalwork. First a mix of Charadon Granite and Chaos Black was applied. A sponge was then used to stipple on patches of Tin Bitz, followed by Tin Bitz mixed with Shining Gold. Next Boltgun Metal was sponged around the edges before a final stippling of Chainmail was applied to the corners. Washes of Gryphonne Sepia, mixed with Graveyard Earth, were applied to soften and tie together the metallic tones. Dark Sand and Light Earth weathering powders were then separately applied and built up around the lower lipped panel. Finally, fresh patches of mud were subtly applied to the edges by sponging a little Graveyard Earth on to them.







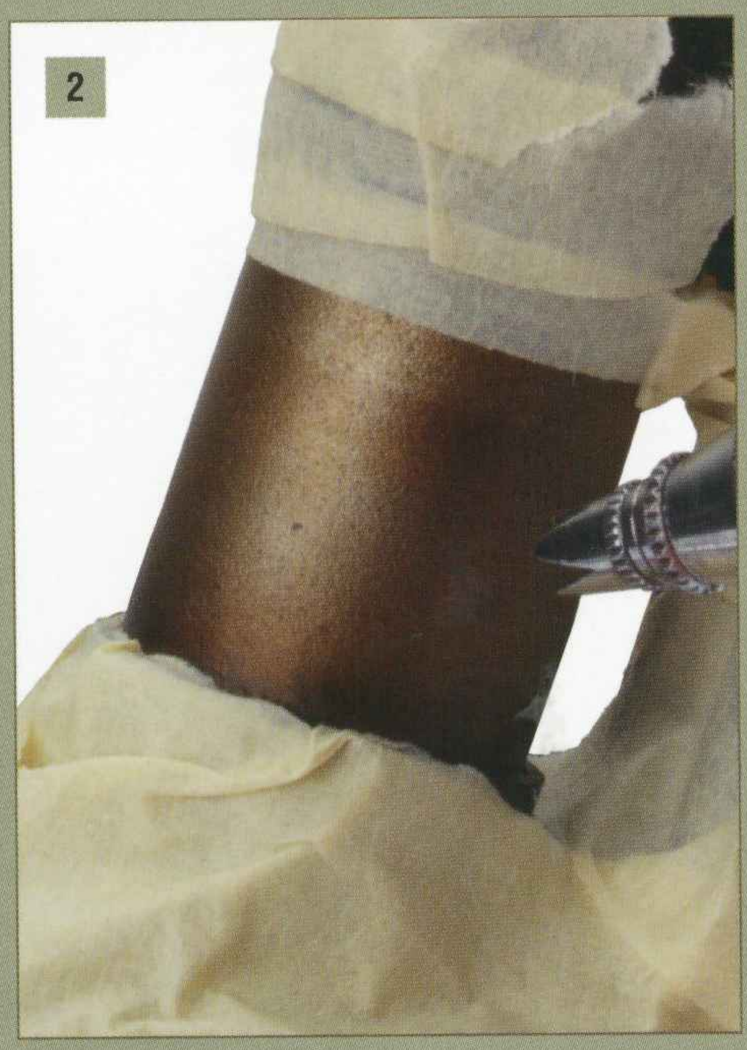
PISTONS

1 – The piston housings were painted black to provide some contrast to the blue armoured plates. Over a Chaos Black undercoat, Boltgun Metal was then drybrushed on to the lower portions of the piston rods.

2 – The brass banding was painted in the same manner as described on page 67.

3 & 4 – A wash of Gryphonne Sepia, Chaos Black and a little Gloss Varnish was applied over the entire surface of the piston shaft and sparingly around the housing to create an oily sheen.

5 – The pistons were fixed into position on the legs prior to the final weathering of these areas to maintain uniformity. Once the legs had been weathered, Shining Gold was used to highlight the upper edges of the brass banding

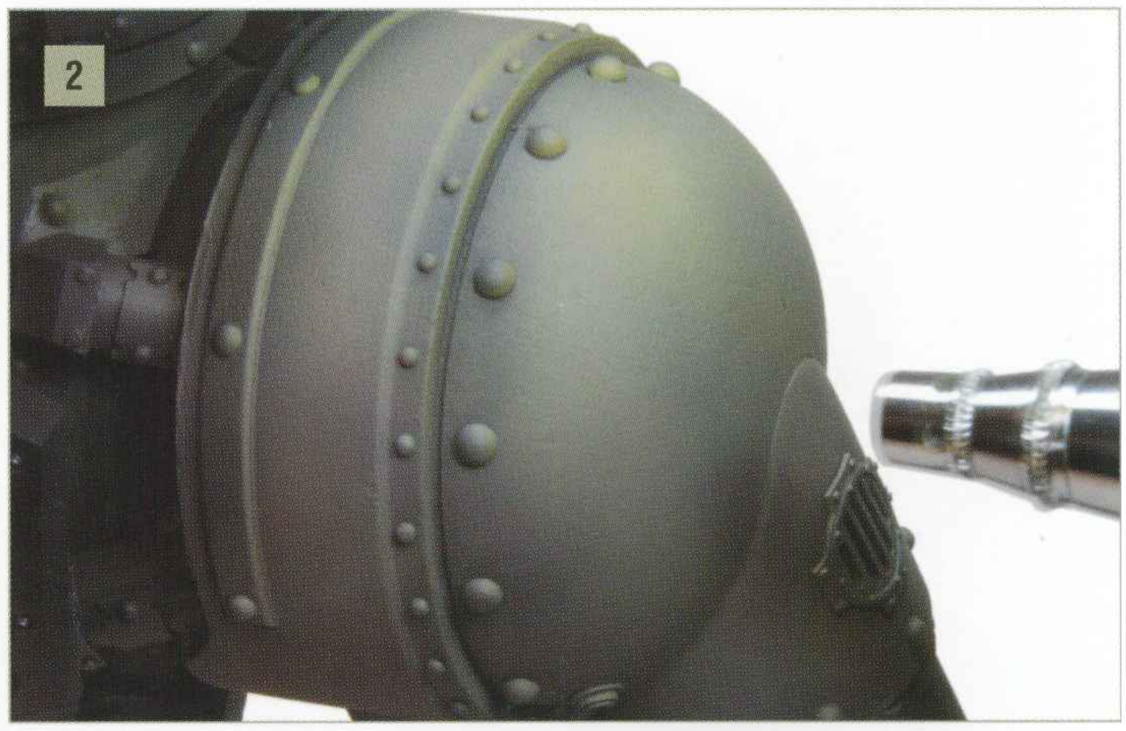


BANDING

On the larger piston shafts, oil staining was applied in bands around the upper half where the piston would be compressed into the hip housing.

1 – The piston shafts were first masked off and painted with Chainmail.

2 – Once dry more masking tape was then applied around the upper half of the piston shaft to define the lowest oil band. An oil colour was mixed from Gryphonne Sepia, Brown Ink and Johnson's Klear and then airbrushed on. Once the oil colour was dry the band of masking tape was removed and another applied higher up the piston shaft. The oil colour was re-applied and again allowed to dry before a third and fourth application of banding and oil colour, each higher than the last, completed the effect.



HIP JOINTS

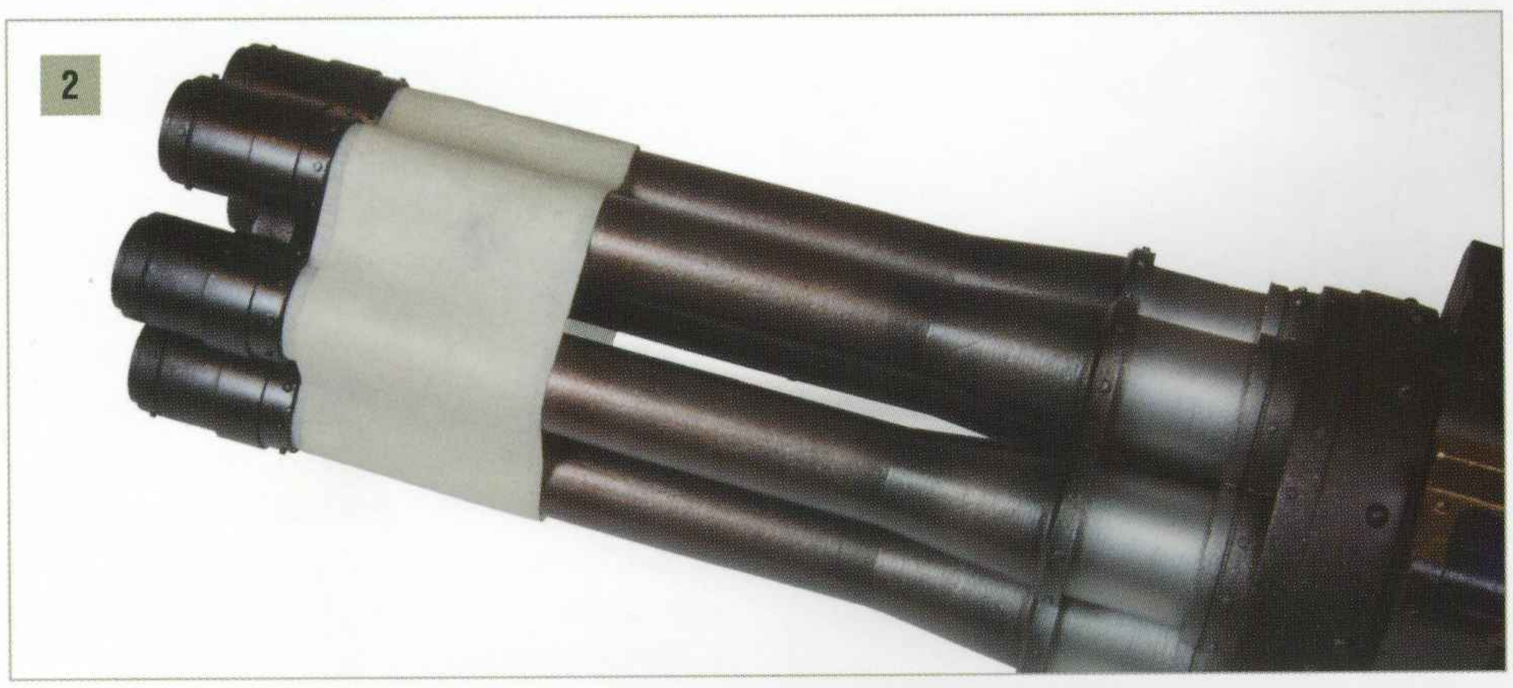
1 – The metal housing of the hip joint was first undercoated Chaos Black, then a mix of Liche Purple and Codex Grey was airbrushed on in an uneven mottled pattern.

2 – A mix of Tausept Ochre and Tallarn Flesh was airbrushed over the purple and grey layer, again in an uneven mottled pattern, allowing the colours beneath to show through in places.

3 – Next, light washes of red, blue and purple inks were sparsely airbrushed in patches over the surface to create a variety of tones and shades over the metal.

4 & 5 – The hip was then lightly drybrushed with Boltgun Metal. Care was taken to impart a metallic sheen to the colours below it but not obscure them.

6 – Finally, a fine layer of Gryphonne Sepia was airbrushed over the surface to give the Boltgun Metal a brassy hue.

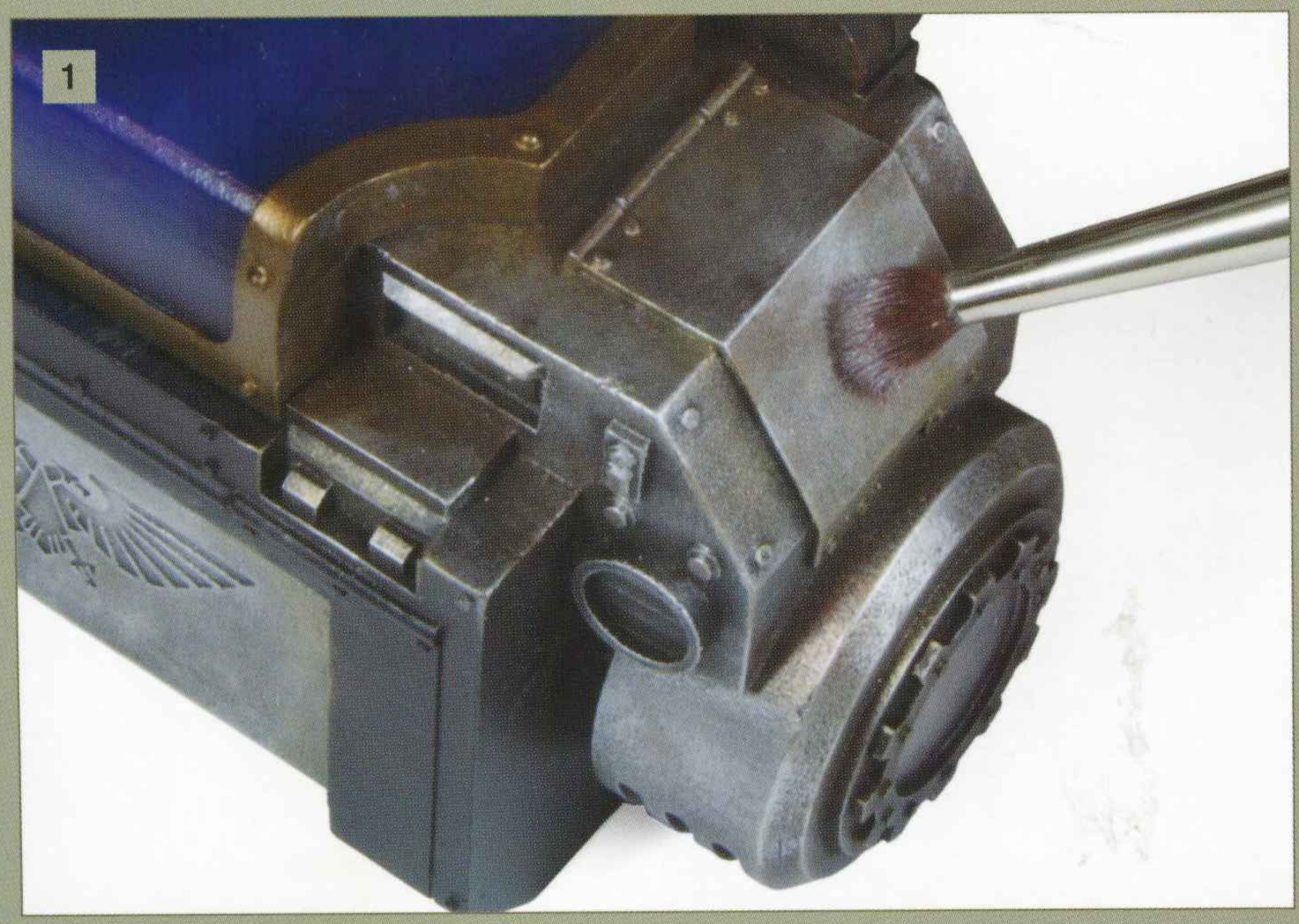


WEAPON BARRELS

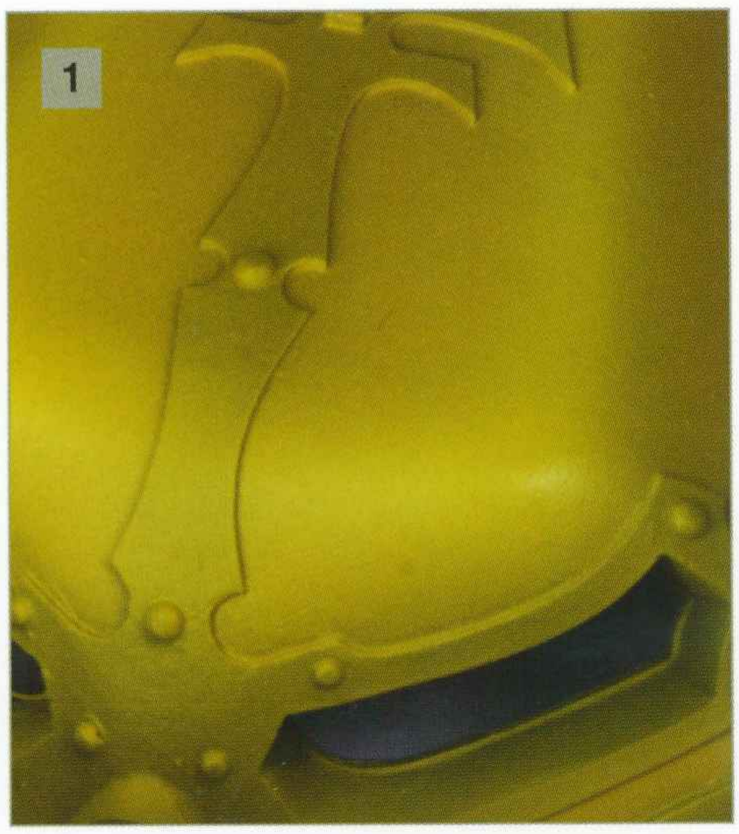
1 – The gattling blaster was airbrushed with Boltgun Metal over a Chaos Black undercoat. The Boltgun Metal was painted unevenly in vertical streaks to give the impression of weathering.

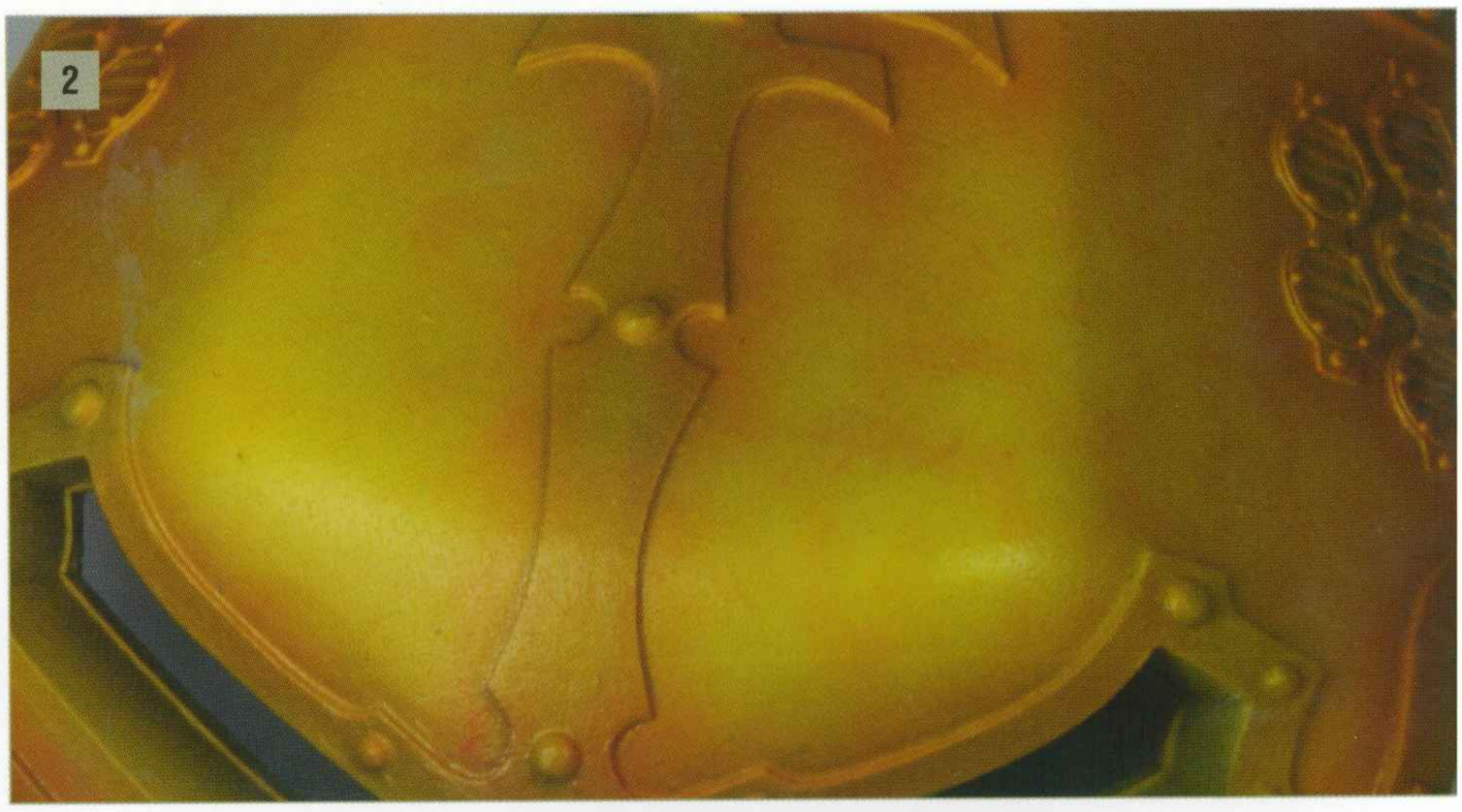
2 – The rear portions of the barrels were drybrushed with successive mixes of Chainmail followed by Mithril Silver. Although this creates a strong area of contrast initially, a much more subtle result was achieved following the application of Gryphonne Sepia in the final step. The ends of the barrels were then masked off, ready to be painted.

3 – The ends of the barrels were first airbrushed with Tin Bitz. Over this, gold Rub 'n Buff was applied and brushed to a shine. The banding and housing at the other end of the barrels were painted in the same manner. Finally, a coat of Gryphonne Sepia mixed with a little Johnson's Klear was airbrushed over the entire barrel. A heavier coating was applied around the end closest to the body of the weapon to give the impression of a heavily oiled area.



All of the flat metallic areas were drybrushed in patches with various shades of metallic colours, working from Tin Bitz, through Boltgun Metal, Chainmail and Mithril Silver. The different metallic tones were allowed to show through in places. Next, these same metallic tones were stippled on again in patches to create further random patterns, with each colour again being allowed to show through in places. The Mithril Silver layer was concentrated on the edges to both create highlights and the impression of high wear and tear. The whole effect was pulled together with multiple washes of Asurmen Blue, Gryphonne Sepia and finally Devlan Mud. To help cover larger areas, the washes were mixed with a little Johnson's Klear or Artists Medium to help the washes flow without drying prematurely and leaving a tide mark.





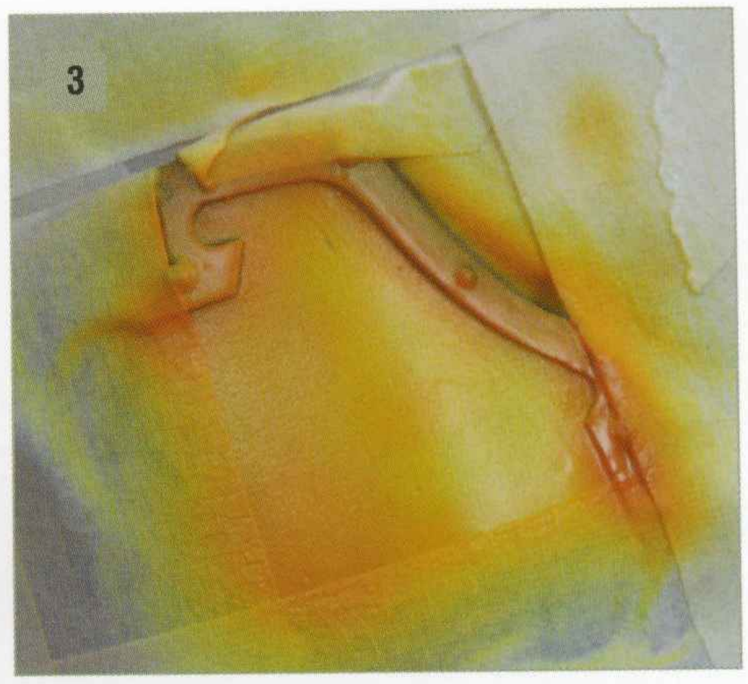
YELLOW ARMOUR

1 – Over a Chaos Black undercoat Flat Yellow was airbrushed over the surface of the head carapace. Due to the black layer below it, this initial coat appeared muted and 'dirty'. Repeated coats, added more strongly over the corners, produced a cleaner colour while creating natural areas of darker shade around the recesses. A little Flat White was mixed with the Flat Yellow and airbrushed over the corners to create stronger highlights.

2 & 3 – The recesses were airbrushed with a mix of Macharius Solar Orange and Calthan Brown. This mix was thinned and then finely airbrushed over the raised areas to create a marbled pattern.

4 – The brass banding and details around the edges of the carapace were painted using the same techniques described on page 67. A coat of Purity Seal was then applied to protect the painting done so far. Next a heavy wash of burnt umber oil paint thinned with white spirit was applied to the whole surface. A hairdryer was used to rapidly dry the oil paint until the surface moisture had been removed but the paint was still greasy enough to push around. A clean, dry cloth was used to wipe away the oil paint from the raised surfaces while leaving it in the recesses.

5 – When completely dry the carapace was given a light coat of gloss varnish.



KNEE PLATE HERALDRY

1 – A photocopy of a Titan's knee was made from a colour profile in an Imperial Armour book to use as a rough template.

2 – Masking tape was used to mark out the upper right quarter of the knee pad, artists masking fluid was then used to mask the irregular curved metal banding around the edge.

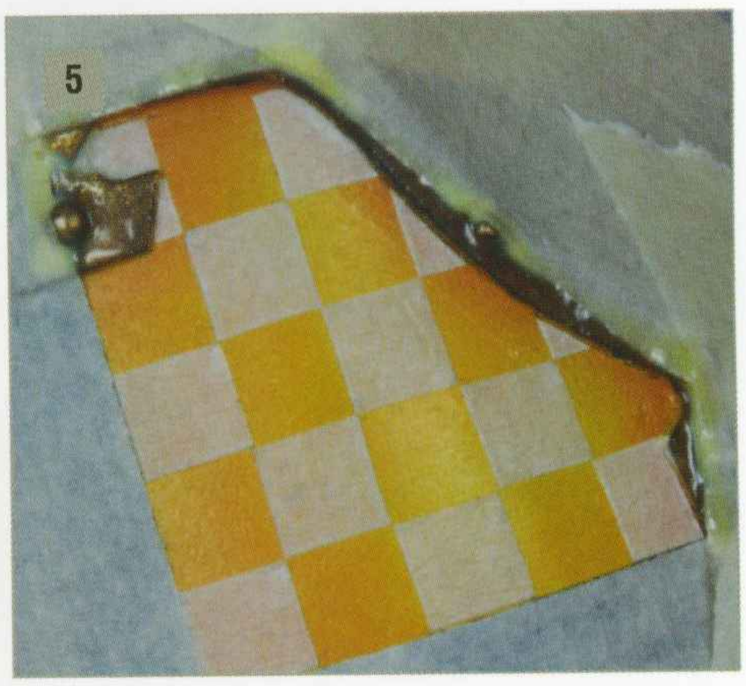
3 – Flat Yellow was airbrushed over the knee, before a mix of Macharius Solar Orange and Calthan Brown was airbrushed into the recesses by the metal banding.

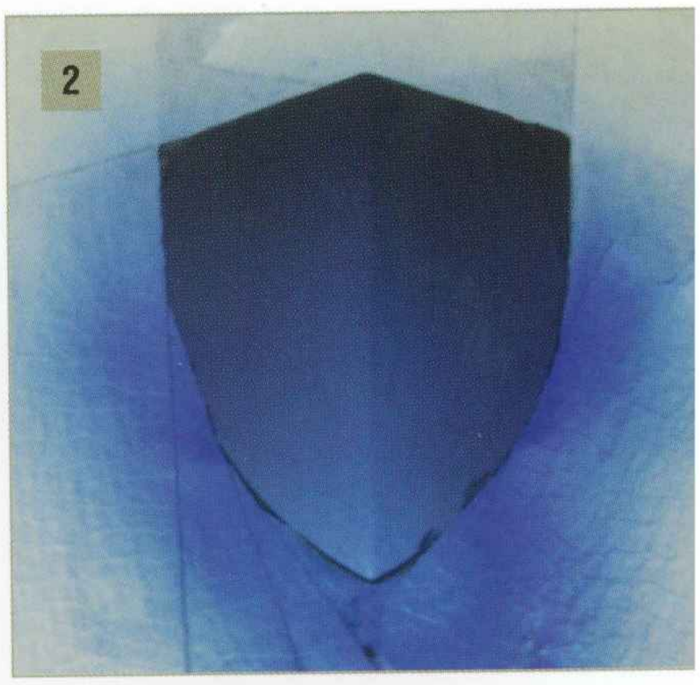
4 – The masking tape and fluid was then removed and the section allowed to dry.

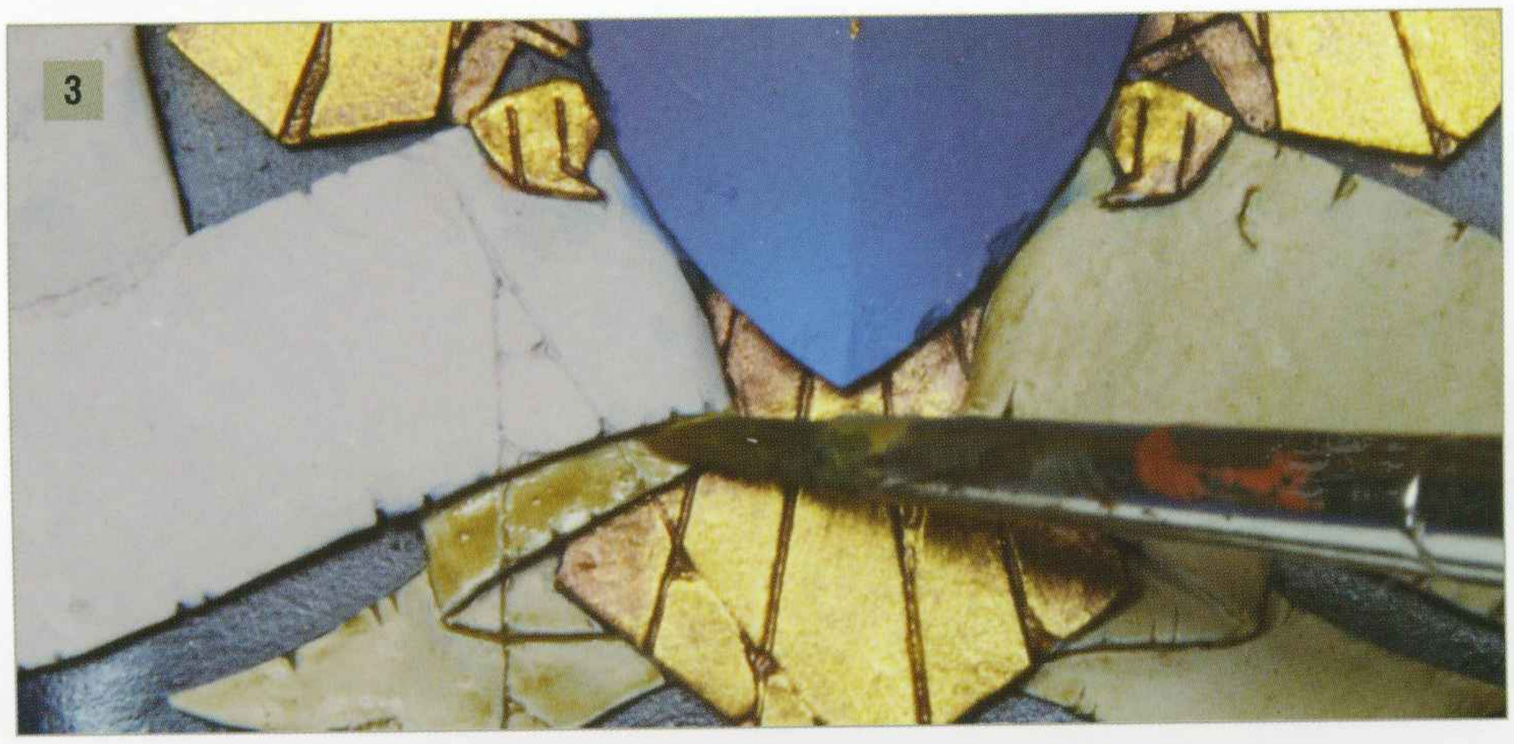
5 – The knee template was used to measure and cut out squares of masking tape, which were fixed in position over the knee in a checked pattern. The outer edges were again masked before Chaos Black was airbrushed on.

6 – The lower left knee quarter was masked and painted in the same manner as described in step 3. An Imperial Eagle decal was then cut in half and applied to the knee between two layers of Purity Seal varnish.

7 – To make the Warp Runners' Eclipse icon, a round sticker of the kind available in stationery shops was first used to mask out the centre. A light grey colour, mixed from Fortress Grey and Skull White, was lightly airbrushed over the edges of the round sticker to create a soft corona. This same grey mix was thinned and then used to lightly paint on sharp spokes. The grey was progressively lightened with Skull White and applied in fine layers to build up the glaring coronal effect. The sticker was then removed and the centre of the icon painted with Chaos Black.







CARAPACE DECORATION

The blue armour and brass banding were first painted as described previously.

1 – The scroll work was painted with Dheneb Stone and the eagle with Brazen Brass.

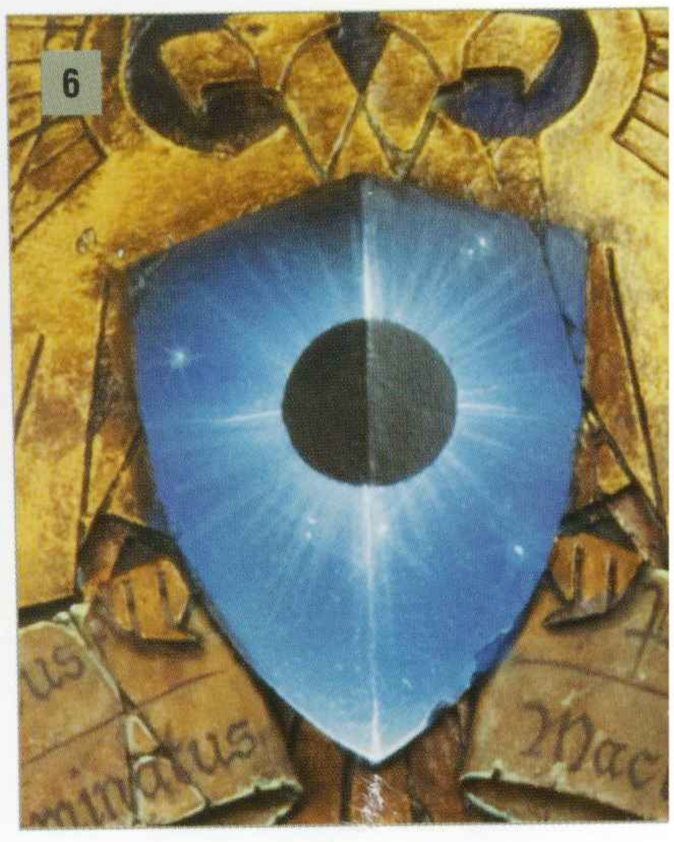
2 – Masking tape was applied around the shie before it was airbrushed with Mordian Blue. A little Ice Blue was mixed with the Mordian Blu and this lighter shade was lightly airbrushed over the lower portion of the shield.

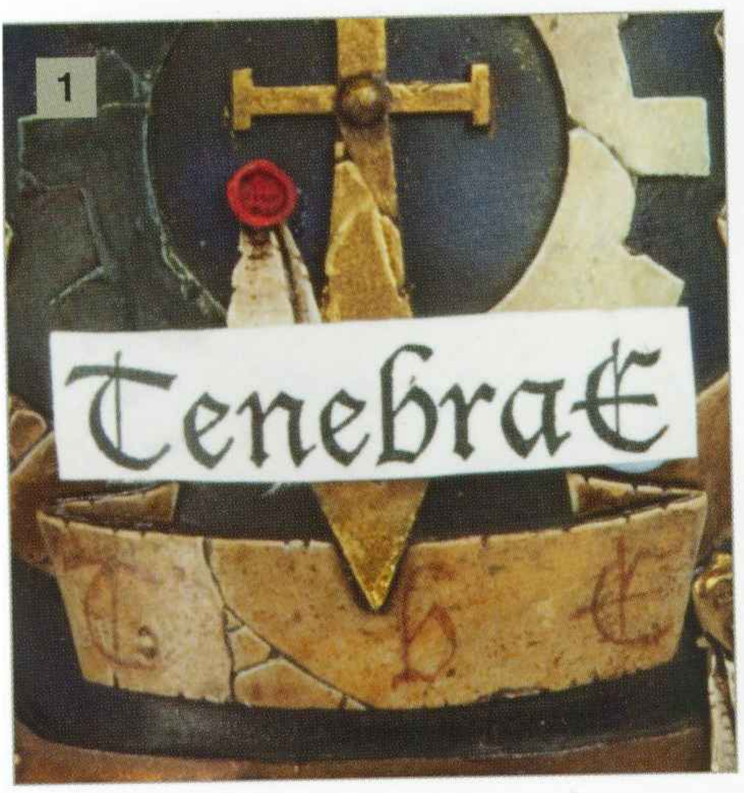
3 – Gold Rub 'n Buff was applied over the eag followed by a thinned wash of Gryphonne Se mixed with a little Johnson's Klear. This wash was strengthened with additional Gryphonne Sepia and applied over the scroll work to give the area texture.

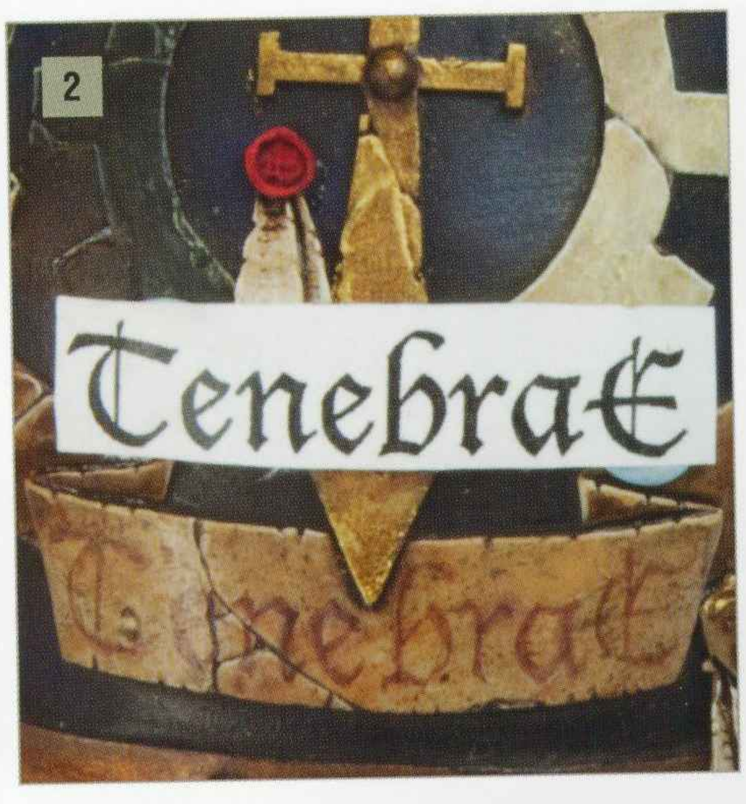
4 – A wash of dark brown oil paint was applie over the whole carapace and a hairdryer was used to rapidly dry off the moisture. A dry cle cloth was then used to wipe away most of th paint, leaving a little remaining in the recesse

5 – Additional weathering was applied to the scroll work by sponging on patches of Chara Granite and Tausept Ochre. Thinned Bleache Bone was then used to highlight the edges.

6 – The shield was painted with the same eclipse icon, in the same way as the icon on knee.







LETTERING

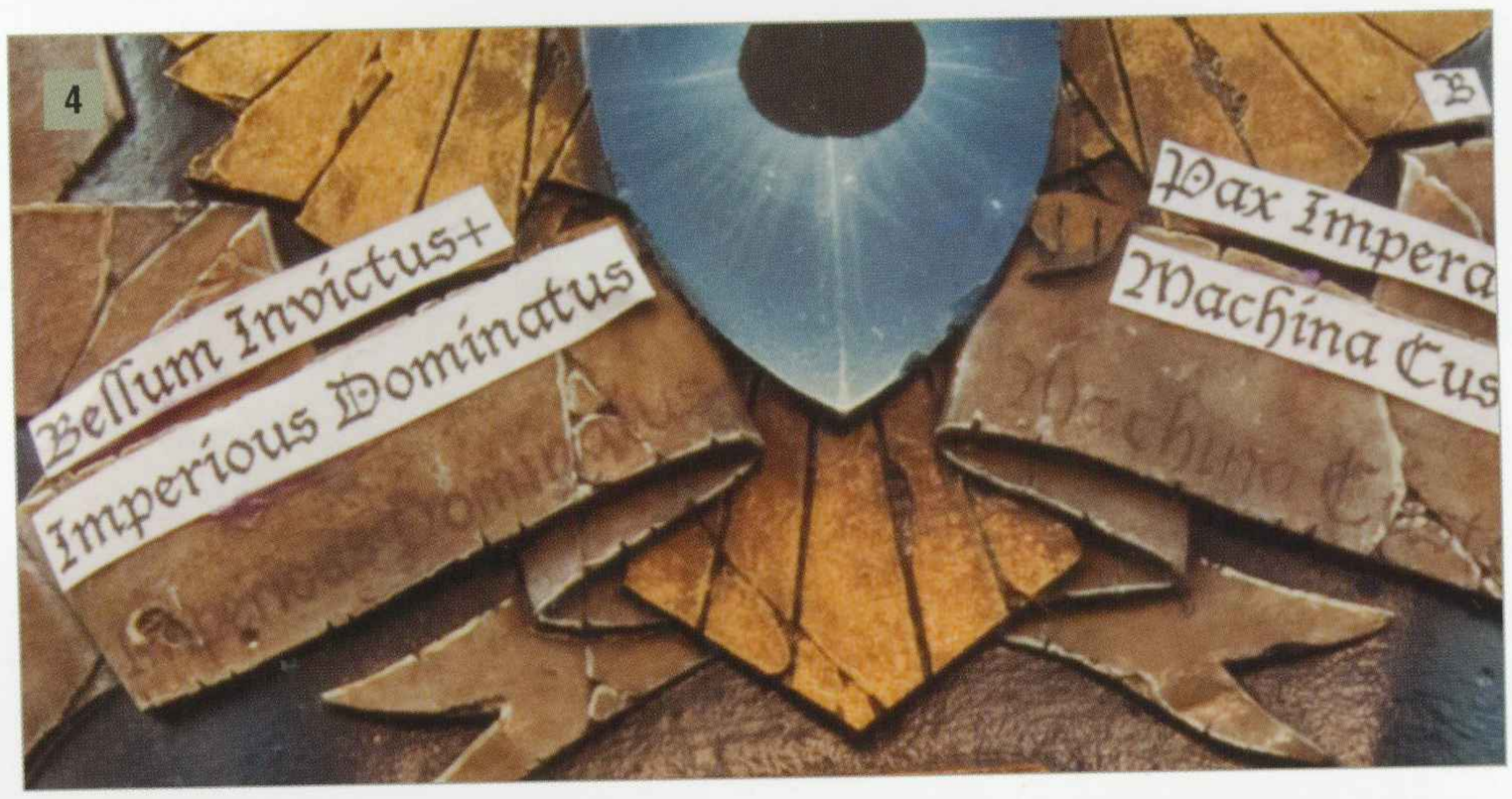
1 – A computer was used to generate and print out a suitable script of the correct size and proportions for the lettering on the Titan's scroll work, both on the carapace and knee. Scorched Brown mixed with Chaos Black was thinned with an artists medium to increase the flow of the mixture. This was then used to paint in the first, last and middle letters.

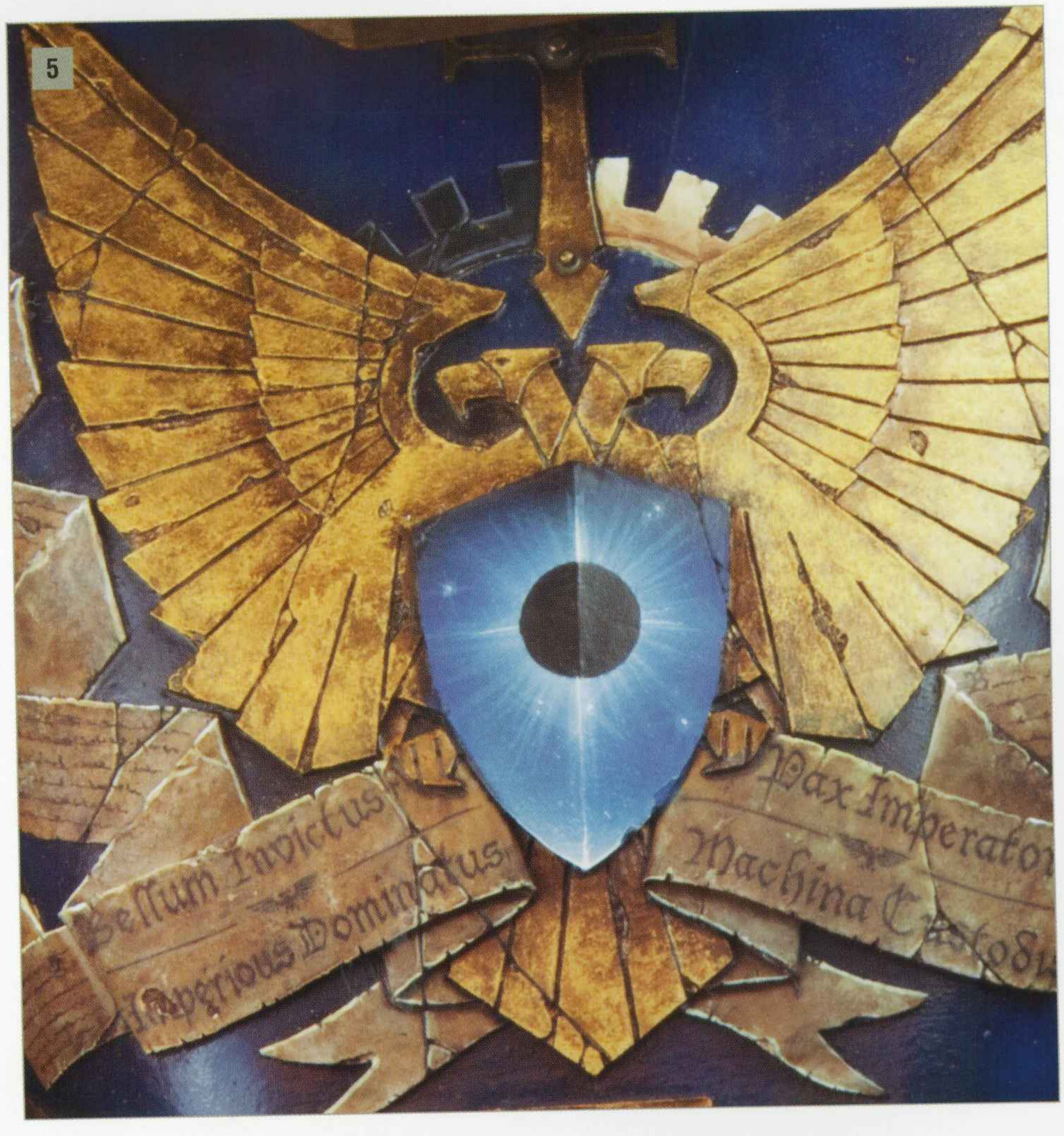
2 – The rest of the letters were then filled in and allowed to dry.

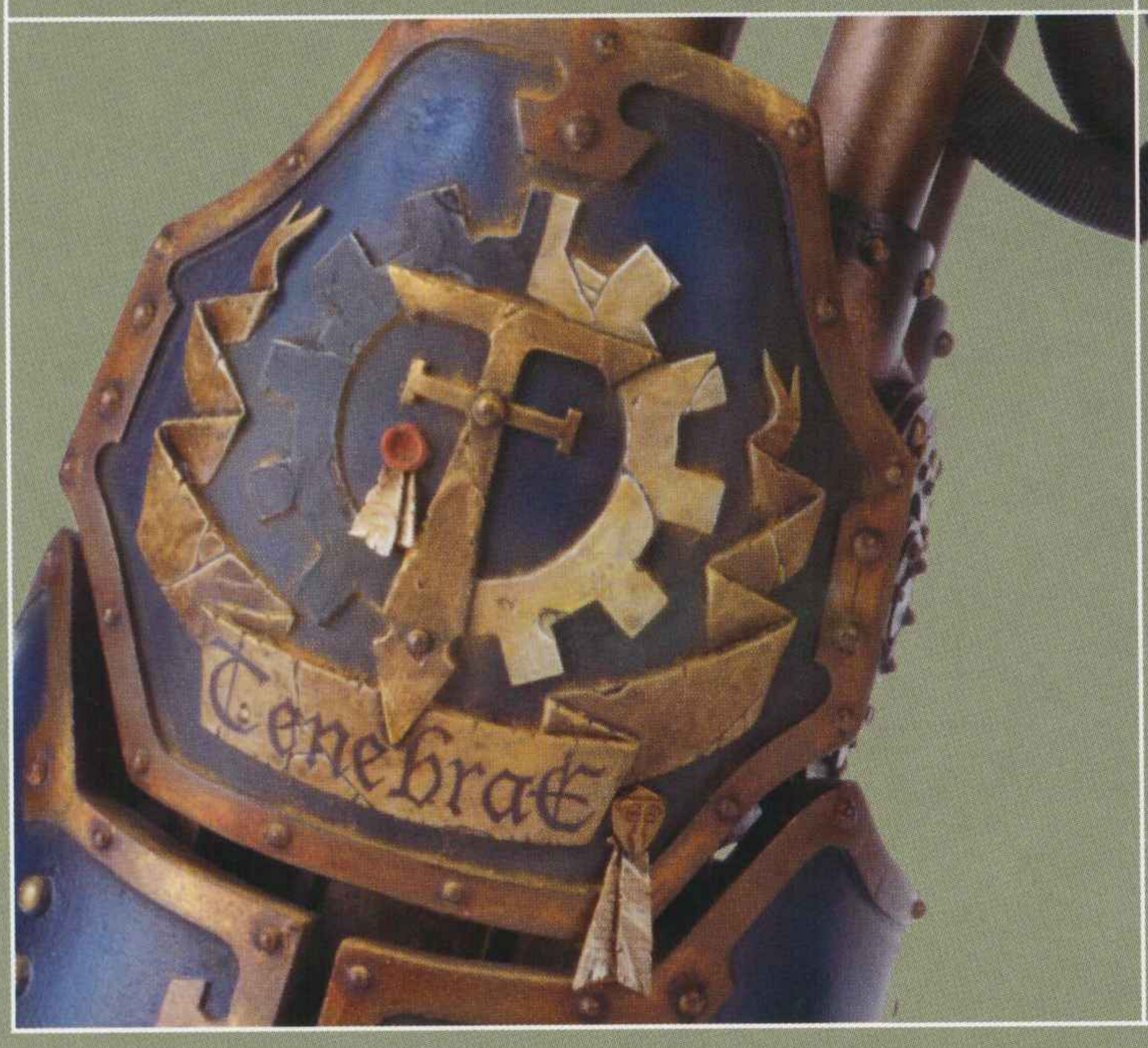
3 – The lettering was re-applied and darkened with a less thinned version of the Scorched Brown and Chaos Black mix. A little artists medium was still added to this to assist with the flow of the paint.

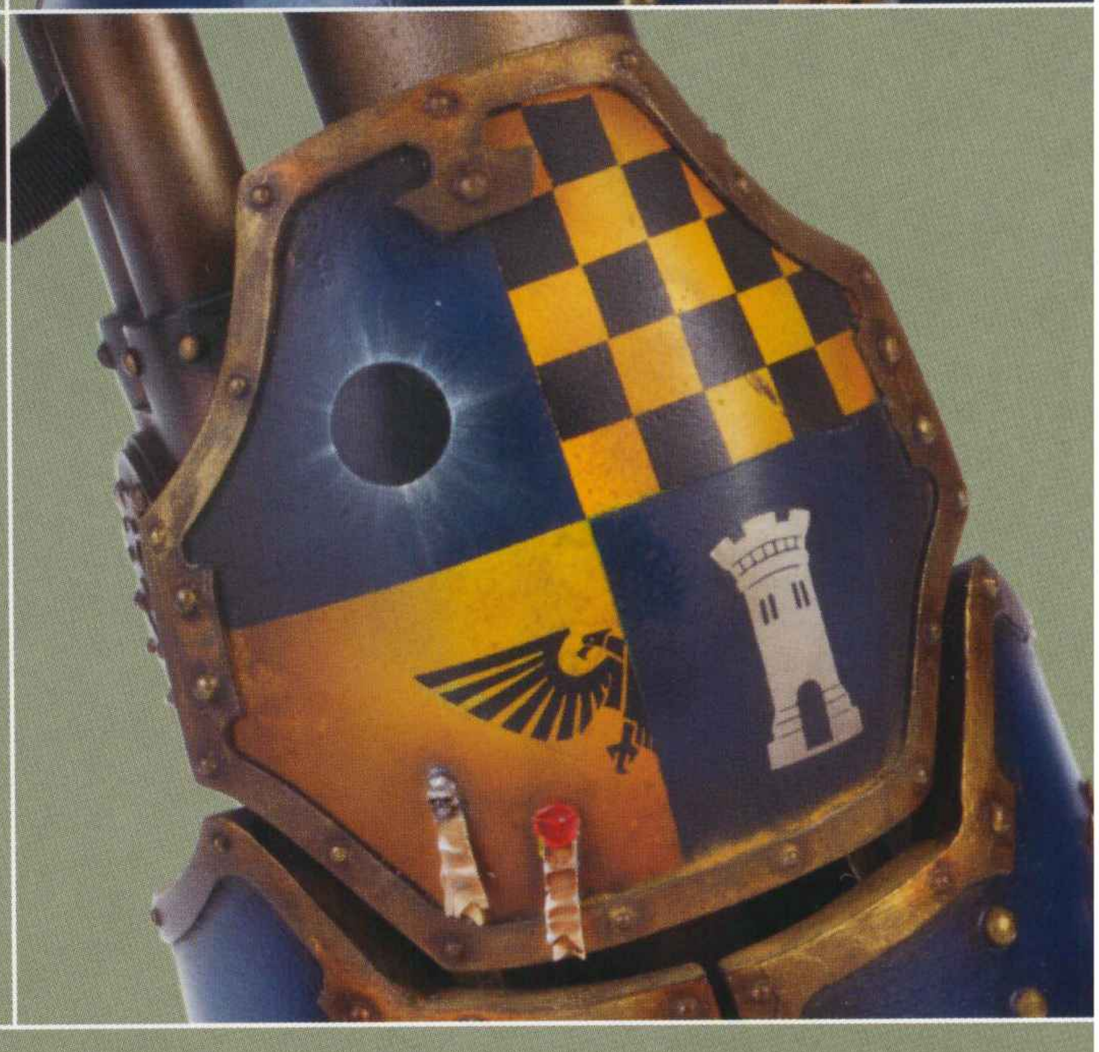
4 – This same method was used across all the areas of the scroll work.

5 – Minor weathering was applied over the lettering, particularly where it crossed damaged parts of the scrollwork. Bleached Bone was used to re-highlight any painted over broken edges and Charadon Granite and Tausept Ochre were sparsely applied with a sponge.





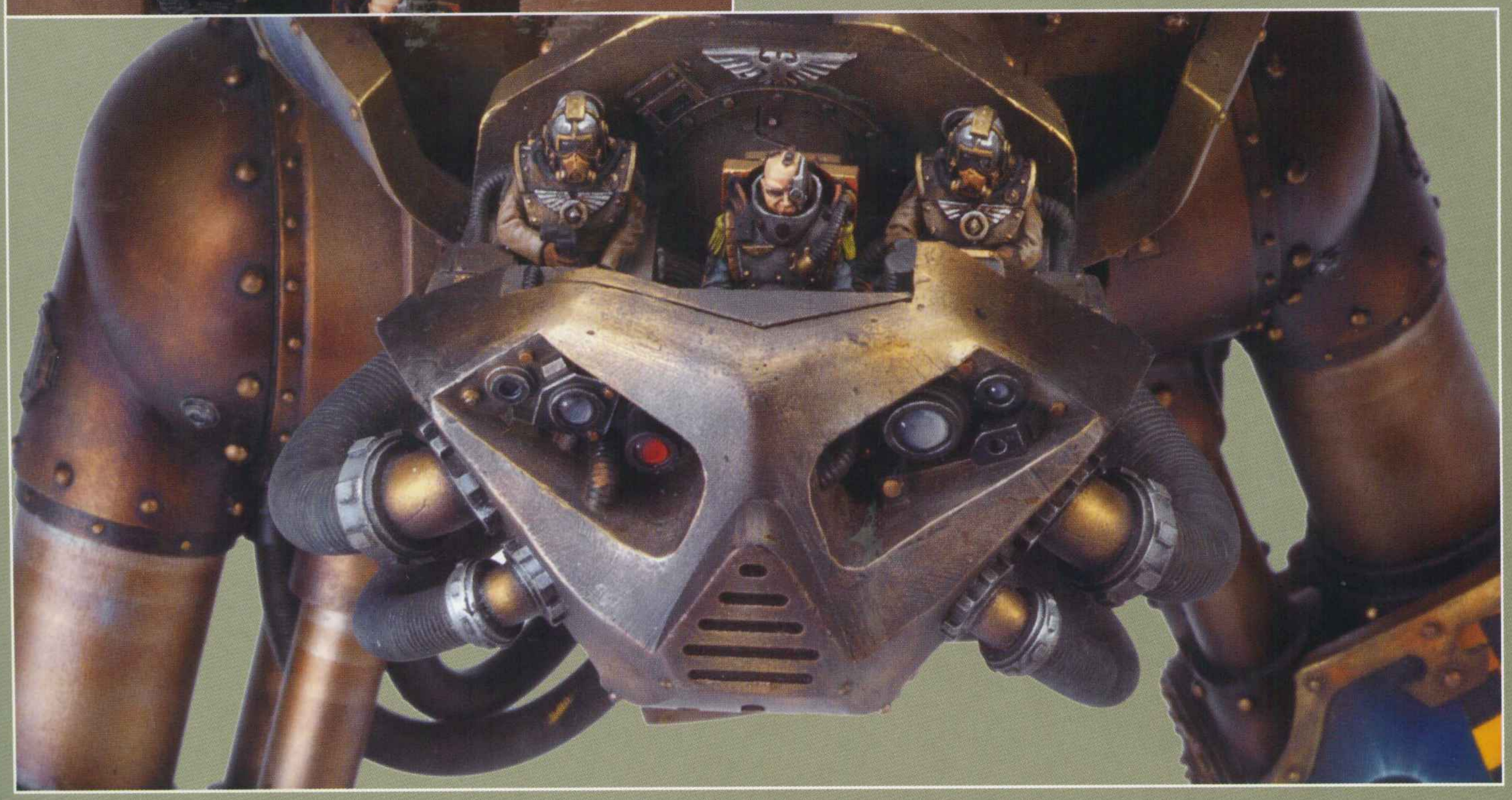




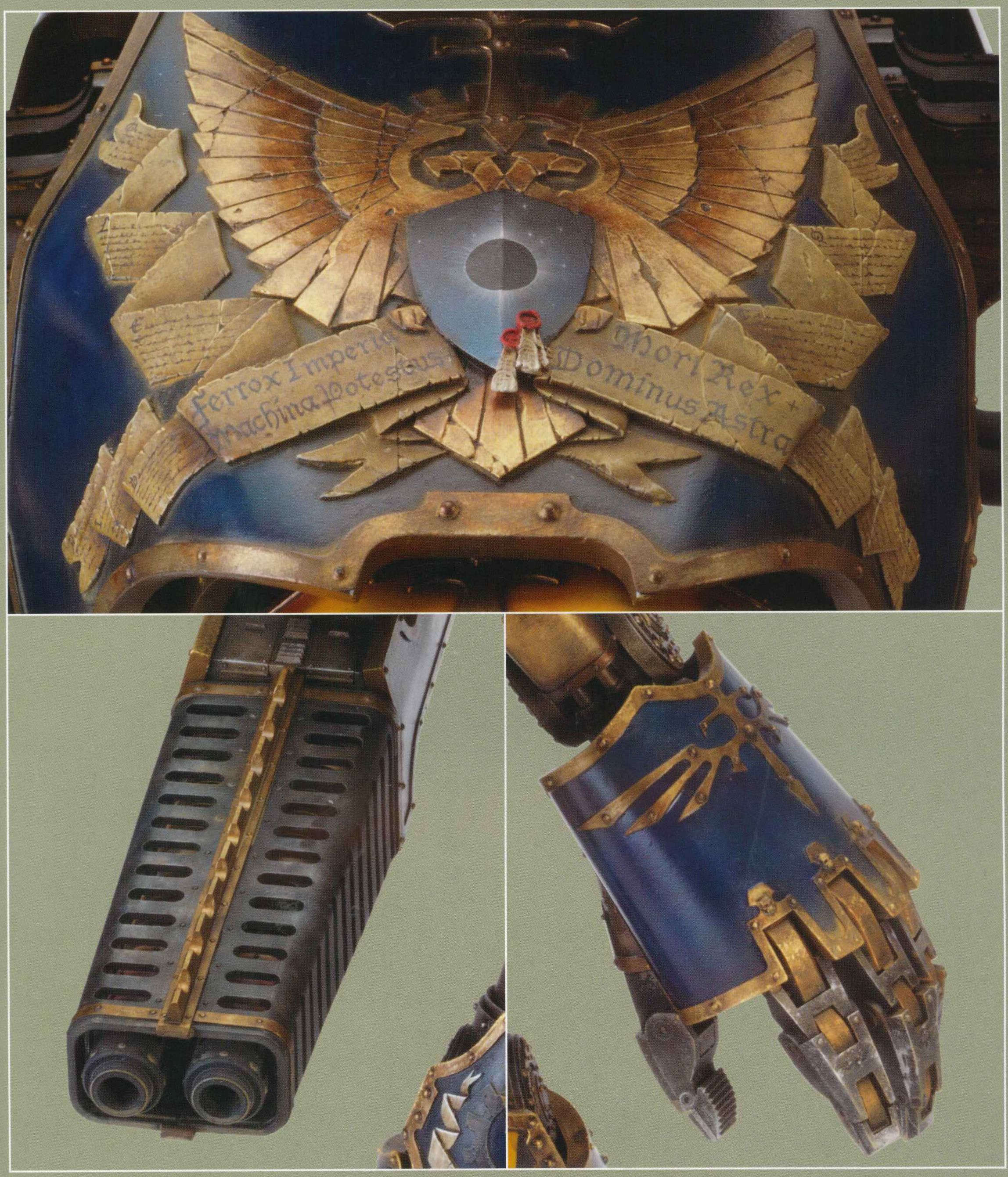
The metallic tones used across the interior sections of the Titan were all painted with Tin Bitz over a Chaos Black undercoat. Highlights were built up over them with layers of drybrushed Chainmail mixed with Shining Gold. Washes of Baal Red and Leviathan Purple, each mixed with a little gloss varnish, were then thinly applied over all of the metal work to produce tonal variations.

Most of the Titan's optical lenses were painted in grey tones to create the effect of them being made of thick glass, whilst one was painted in red tones to add variety.

The flesh of the servitor was given washes of reds and purples to create a bruised and scarred effect on it.



Astromaw



This second Reaver Titan, also from the Warp Runners Legion, was largely painted using the same methods and techniques described previously.

The dark metallic tones over the cooling shroud of the melta cannon were produced by first drybrushing Boltgun Metal over Chaos Black. Multiple washes of Gryphonne Sepia and blue and black inks were then airbrushed over the surface, creating subtle patches of each colour in successively darker layers. Gloss Varnish mixed with Gryphonne Sepia was washed over the elbow joint to represent fresh oil and grease.

The power fist was painted in a similar way to the feet on page 10.

Various metallic shades were then applied over a Chaos Black undercoat using a sponge. Each colour was blended into the next but allowed to show through. Washes of Gryphonne Sepia, Devlan Mud and Asurmen Blue were airbrushed on to pull together the metallic tones, and Light Earth and Dark Sand weathering powders were applied around some of the areas of banding. Chainmail was sponged onto the corners and edges of the Titan's fingers to create patches of heavy wear.

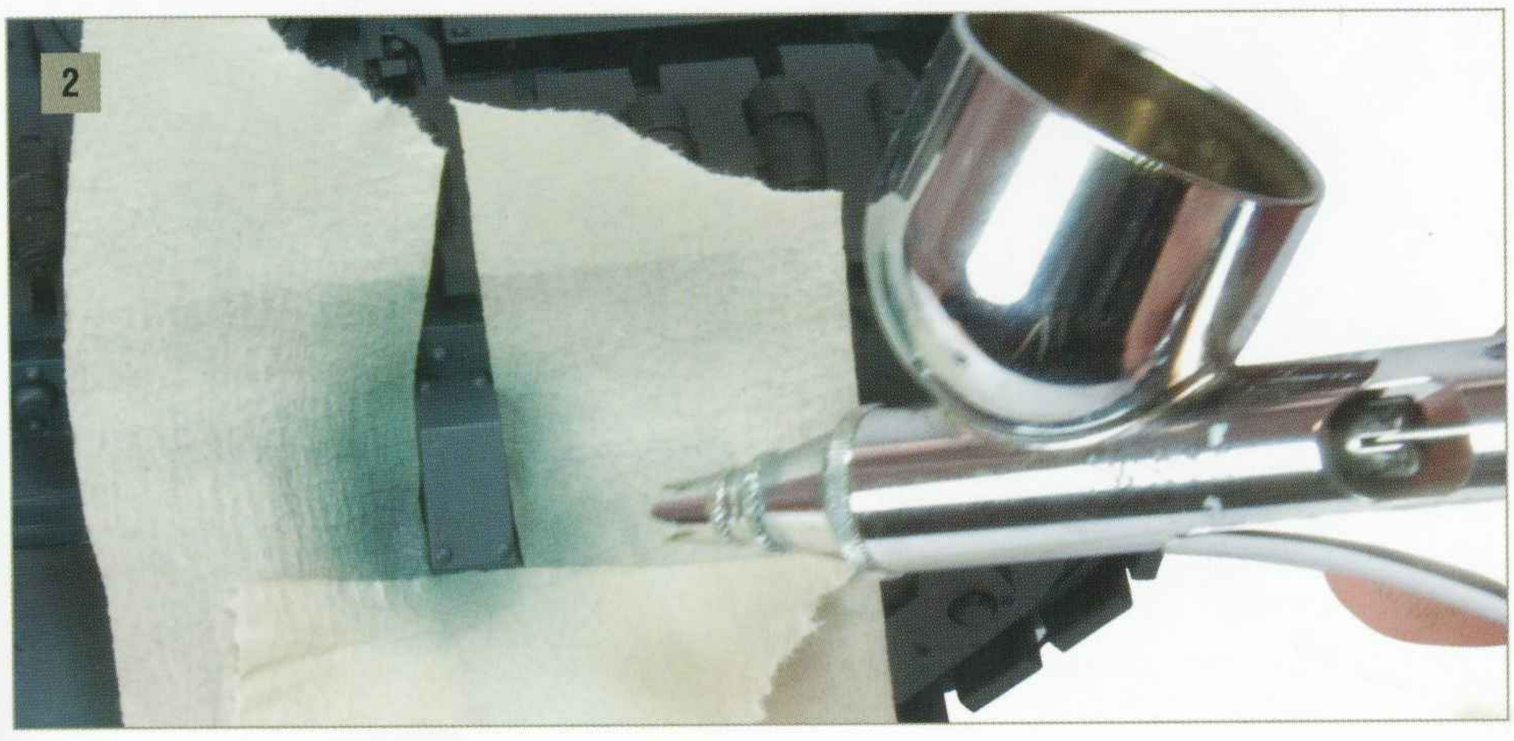
The knee pad was painted by applying strips of masking tape over the blue armoured surface and painting the area yellow, using the same techniques as described on pages 14 and 15.

RED SCORPIONS PROTEUS PATTERN

LAND RAIDER

Painted by Phil Stutcins

A forerunner to the Phobos pattern, Land Raider Proteus are forward assault vehicles. There are many recorded variants of this pattern, all of which are fitted with highly sophisticated augury systems and cogitator engines which enable their Space Marine crews to scan battlefields with phenomenal clarity. Created in the early days of the Imperium, Proteus are armed with two sponson-mounted twin-linked lascannon and can be upgraded further with a wide range of additional hull- and pintle-mounted weaponry.



BASE COLOUR

The assembled Proteus was given a Chaos Black undercoat, and then airbrushed with a base colour mixed from two parts Fenris Grey, one part Charadon Granite and two parts Chaos Black. An additional pot of this mix was also made and saved for later use. The recesses were only lightly painted to allow the black undercoat to show through, creating natural looking areas of shade.

1 & 2 – Fortress Grey was added to the base colour mix and airbrushed on to create highlights on the extreme edges of details. Where recessed areas and prominent details were close together, masking tape was used to prevent the highlight colour being sprayed into the areas of shade.

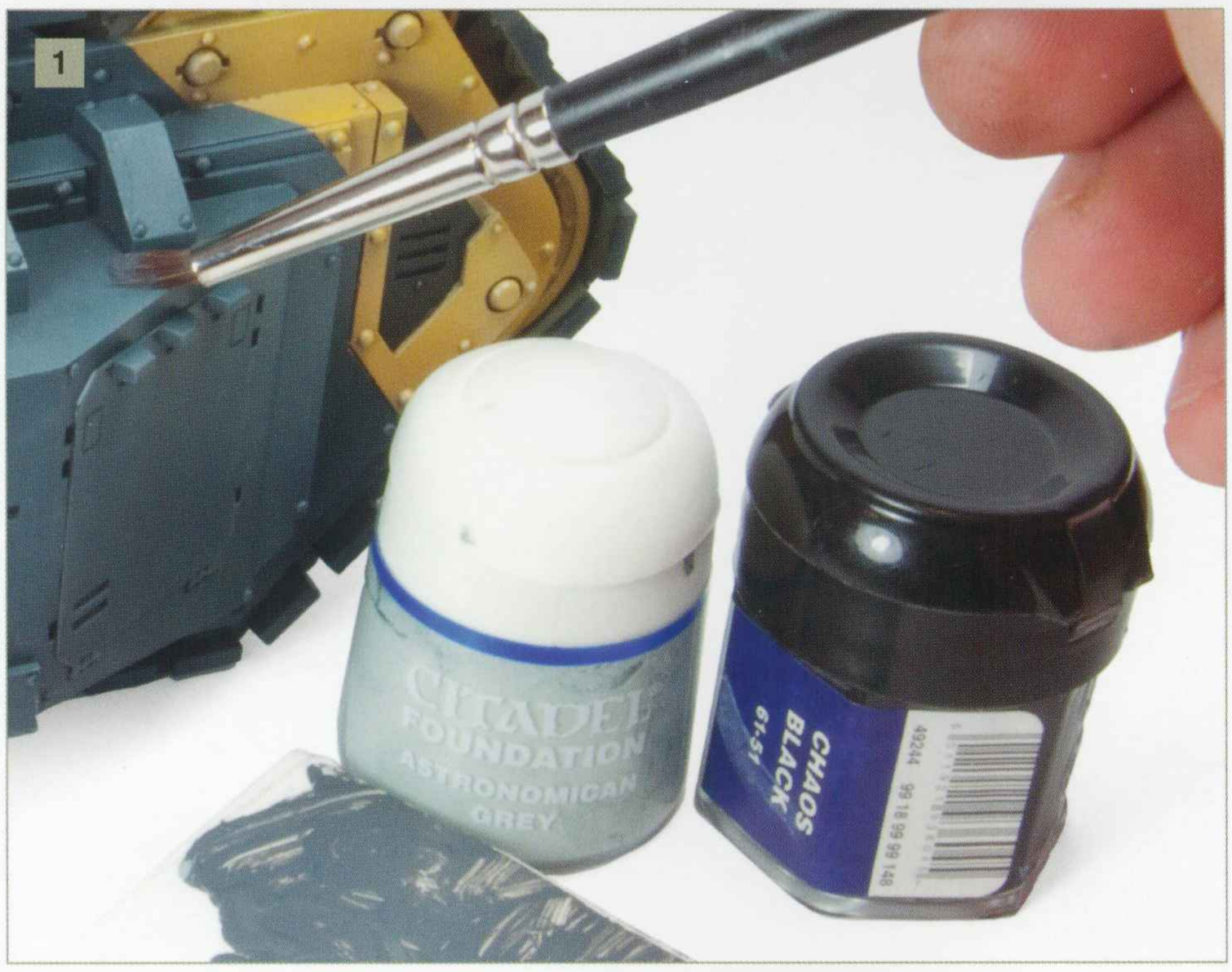
YELLOW PANELS

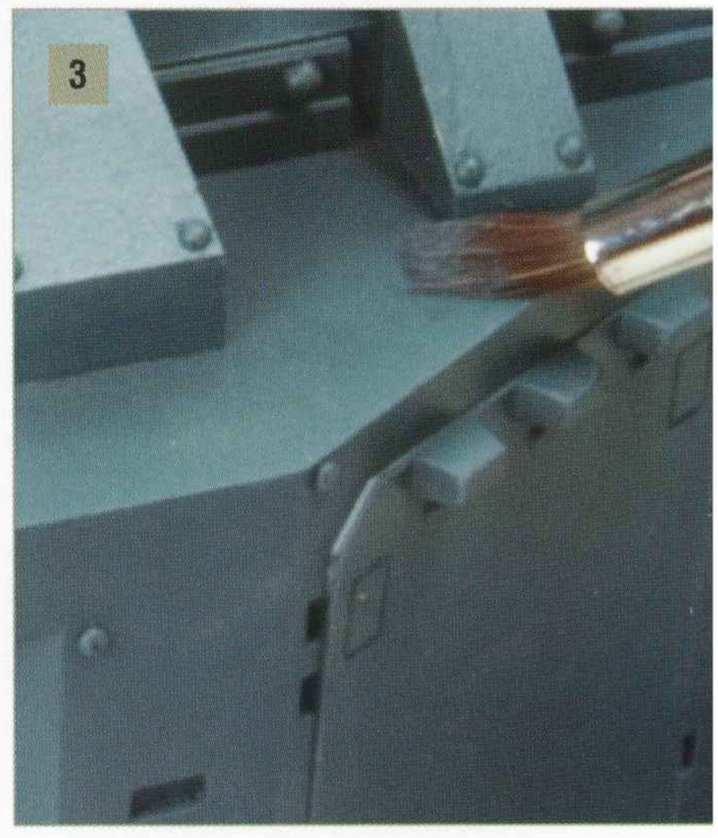
Prior to painting the yellow sections, masking tape was used to define the sections' edges and protect the rest of the paintwork.

1 – An undercoat of Khemri Brown was applied to warm the subsequent yellow layer and create more natural looking yellow shading.

2 – Tausept Ochre was airbrushed on, leaving a trace of the Khemri Brown in the recesses.

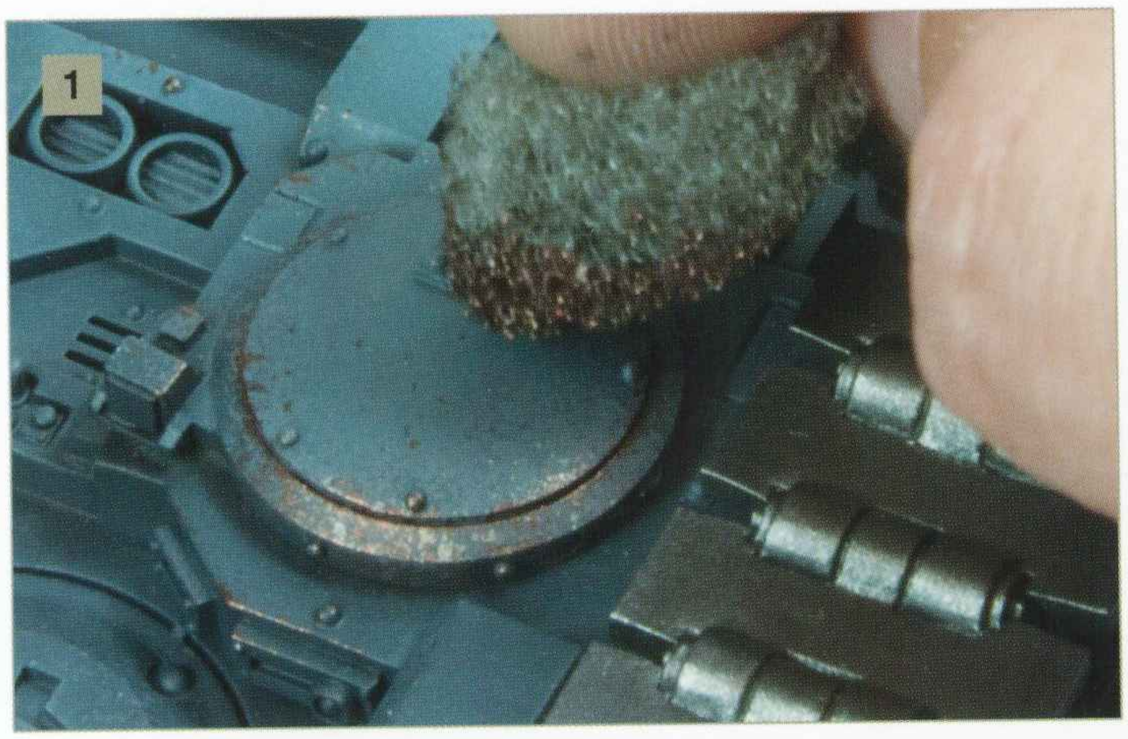
3 – The central panels of each yellow section were then filled in with Chaos Black to complete the colour scheme.





TONAL VARIATIONS

1, 2 & 3 – Astronomican Grey and a little Chaos Black were mixed together and drybrushed lightly over some of the edges and details. The aim was to create tonal variations rather than pick out every detail. A stippling and rolling action with the brush helped to create interesting marks and fields of colour. The engine intakes and other sections on the top of the vehicle were also drybrushed to pick out the details on them. Because the vehicle is painted so dark, the effect was intended to be subtle and understated, and care was taken not to add too much contrast between the base colour and the tonal variations in the colour schemes.

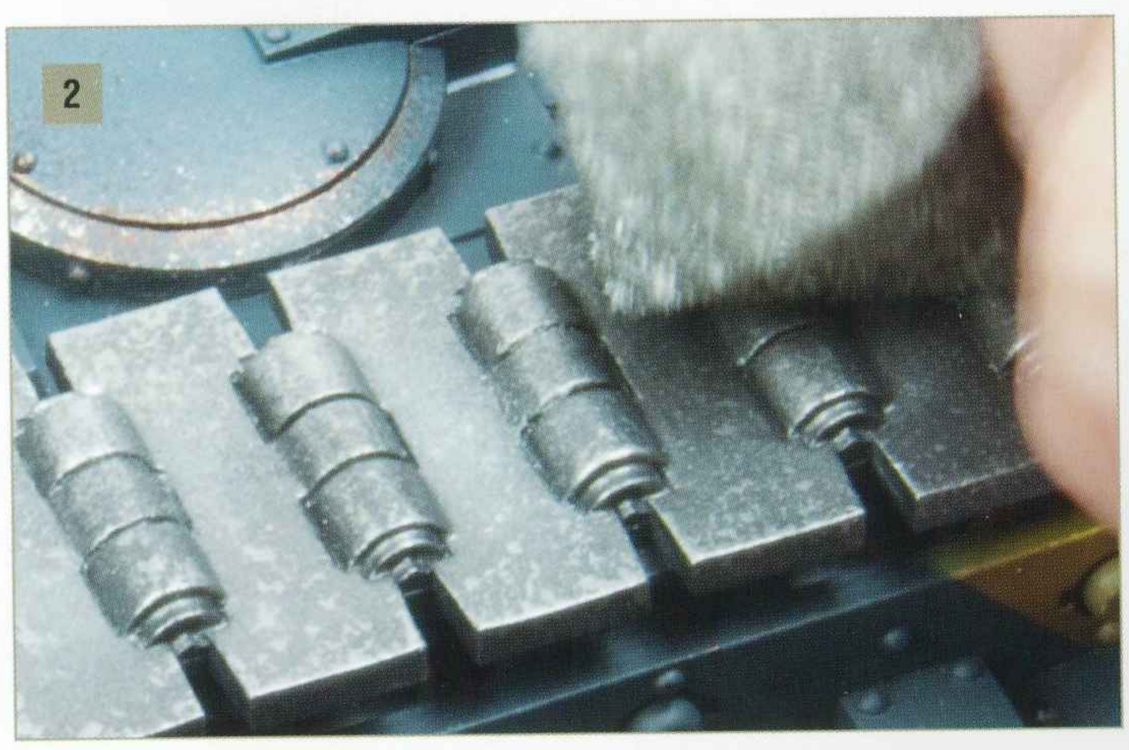


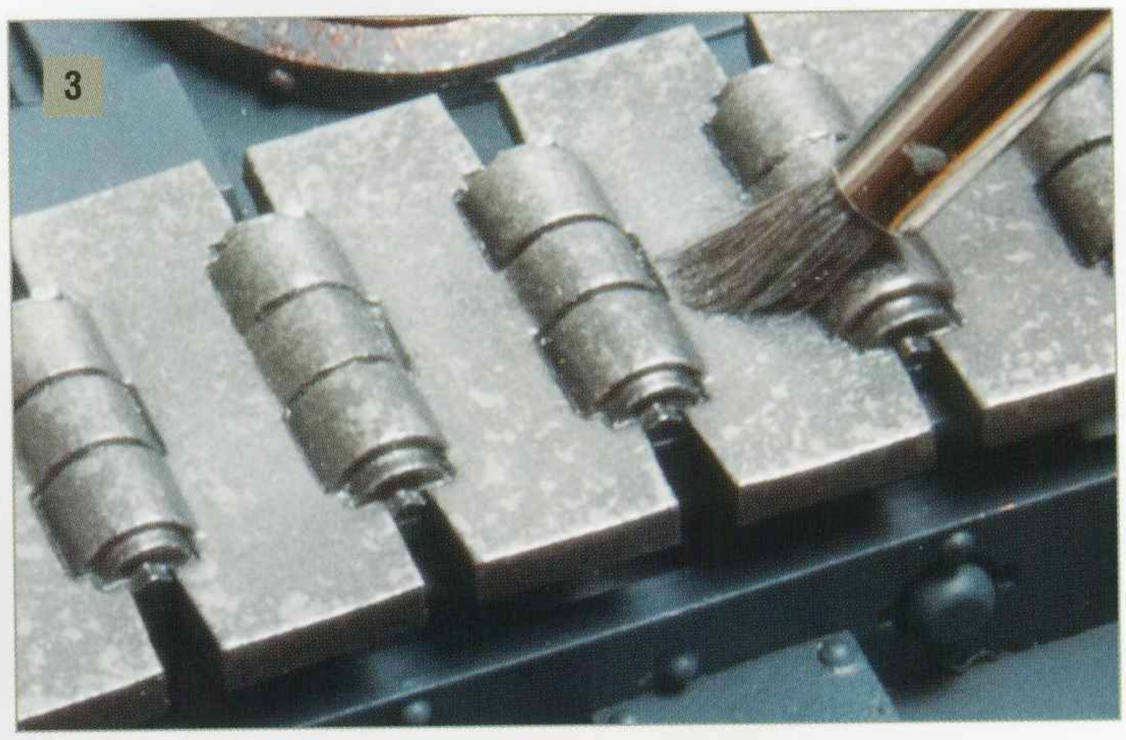
PAINT CHIPS

1 – A chipped paint effect was created by sponging on a mix of Tin Bitz and Chaos Black. This was added to all the areas where there would be wear and tear such as the hatch and especially the tracks.

2 – Subsequent layers of Boltgun Metal and then Chainmail were sponged on, creating a layered effect to the chipping.

3 – Finally, Mithril Silver was lightly drybrushed on as a final highlight.





ICONS

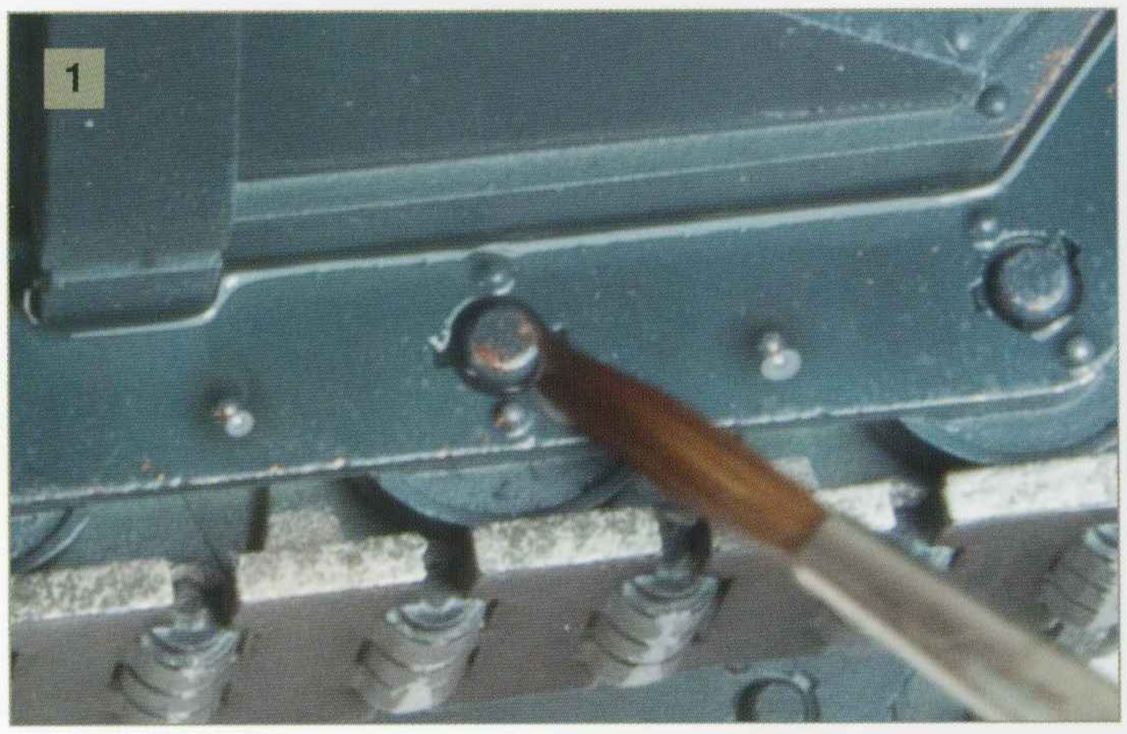
The Red Scorpions icon was painted separately before being fixed to the vehicle.

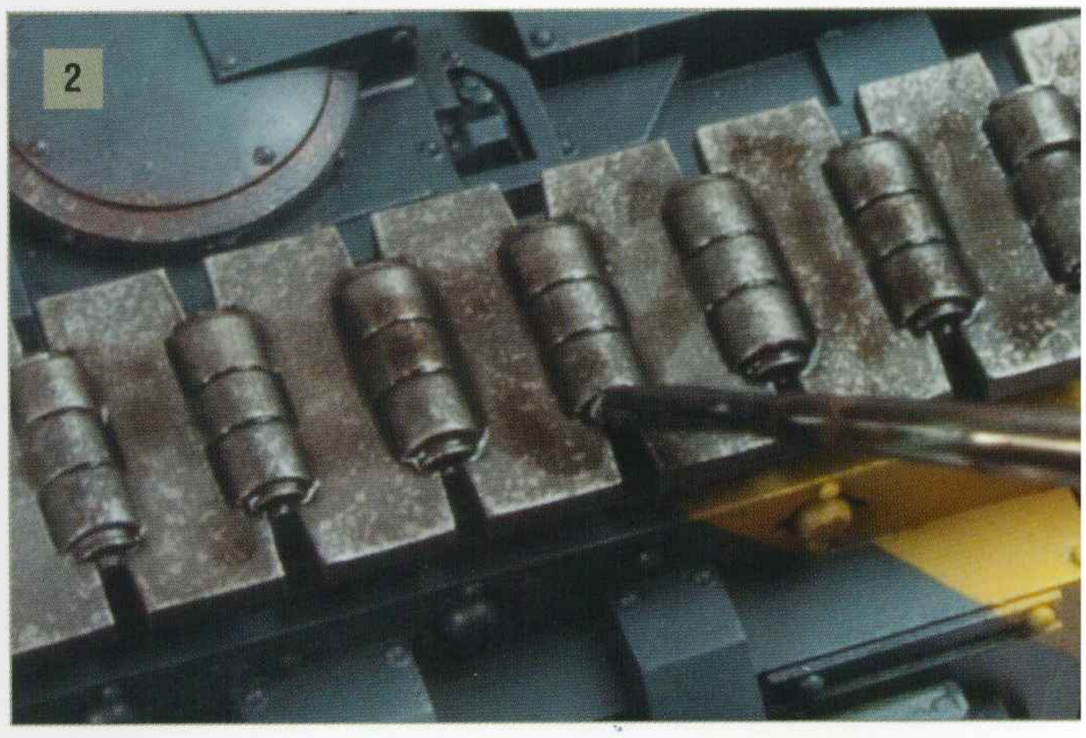
1 – The icon was first undercoated Skull White before the rim was painted Chaos Black and the scorpion Mechrite Red. Layered coats of thinned Blood Red were then applied over the scorpion. Thinned Macharius Solar Orange was used for the final highlight.

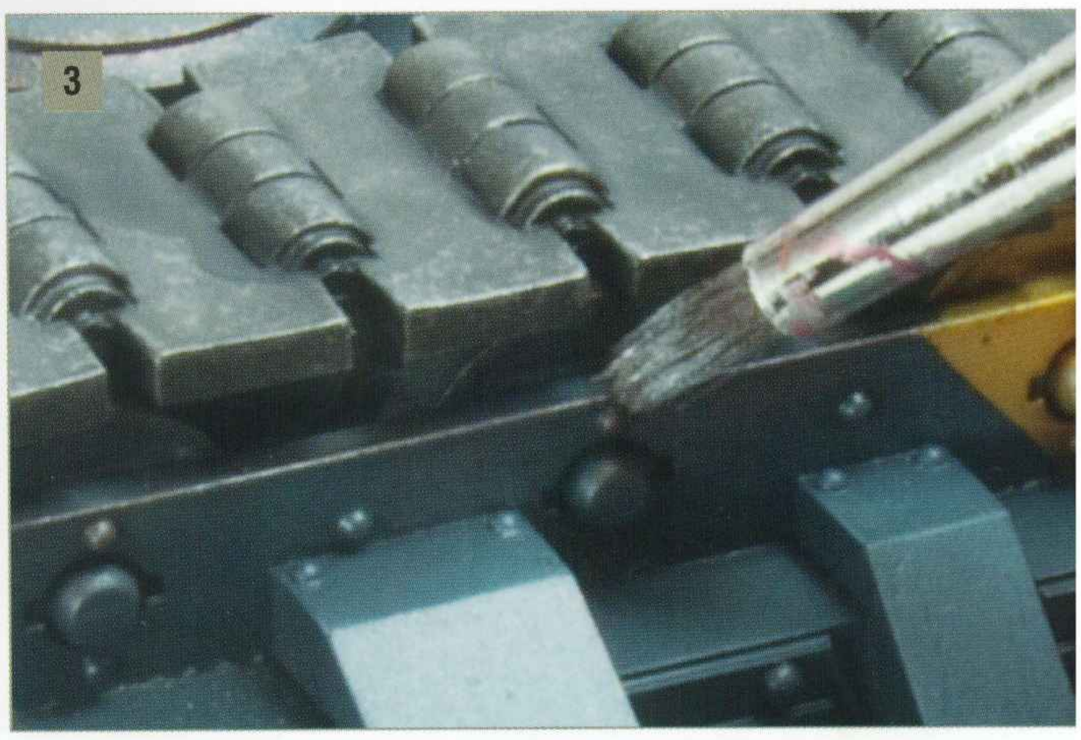
2 – A little Dheneb Stone was sponged on to the black rim before the studs were painted with Tin Bitz. The field behind the scorpion was then given a wash of Gryphonne Sepia.

3 & 4 – A Skull White highlight was added to the edges of the cracks to give them definition, and the gem was painted with Orkhide Shade followed by Gretchin Green and Golden Yellow highlights. Finally, a golden rim was added to the edge of the gem's setting using Shining Gold.

Once all the base colours had been applied, the icons were fixed in place. Additional decals were then added before a coat of Purity Seal was sprayed over them to seal them in place.







WASHES

1 – Asurmen Blue mixed with Devlan Mud was washed over the vehicle one plate at a time to ensure no unsightly tide marks were left. Applying the wash layer over the Purity Seal layer allows it to more smoothly collect around the details.

2 – The tracks were washed with a mix of Devlan Mud and Badab Black.

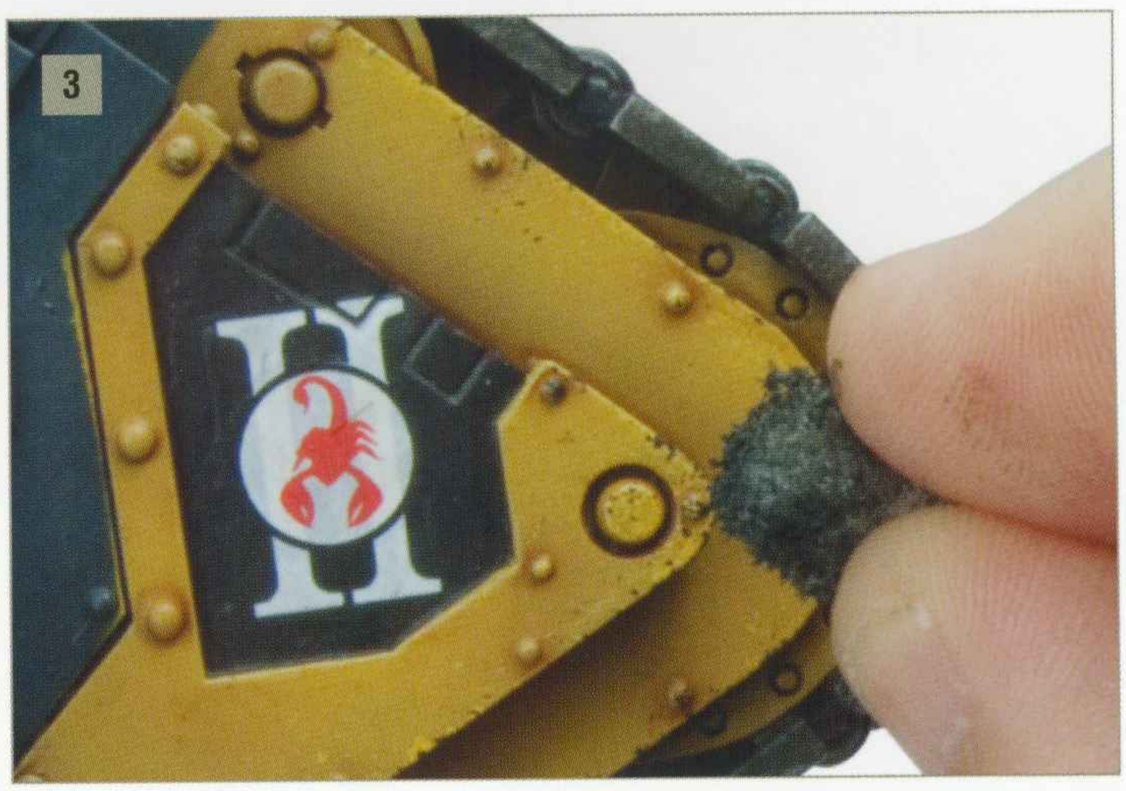
3 – Once the washes were all dry, Chainmail was lightly brushed over the areas of high wear and tear.

WEATHERING BRIGHTLY COLOURED ARMOUR

1 – The sections of yellow paint were first washed with Gryphonne Sepia, after which the blue-grey colour which was mixed for the base coat was mixed with a little Boltgun Metal and sponged on to the edges. A brush was then used to add more defined areas of wear and tear.

2 – Tausept Ochre was lightly applied across the yellow area, creating the effect of small, subtle dents and imperfections in the surface which would reflect more light than the original colour.

3 – Tausept Ochre mixed with Skull White and Golden Yellow was lightly sponged over the edges of the darker chips to create additional superficial scratches and highlights.



INSIDE HATCH

1 – The inside of the hatch was painted with a mix of Boltgun Metal and Chaos Black.

2 – Boltgun Metal was stippled across the surface, lightly first over the bottom half and more heavily across the top.

3 – This process was repeated with Chainmail, again only lightly across the lower half of the hatch.

4 – Scratches were added with a mix of Chainmail and Mithril Silver.

5 – A wash of Badab Black was added around the rim to pop the details out.

6 – Asurmen Blue was washed over the whole hatch to pull the different paint elements together and add depth to the colour of the bolts.

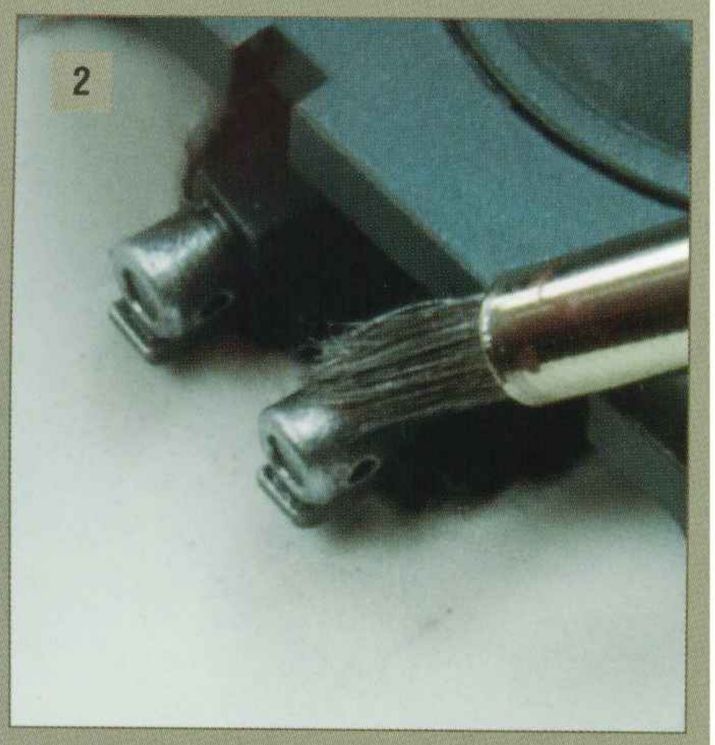
CREW

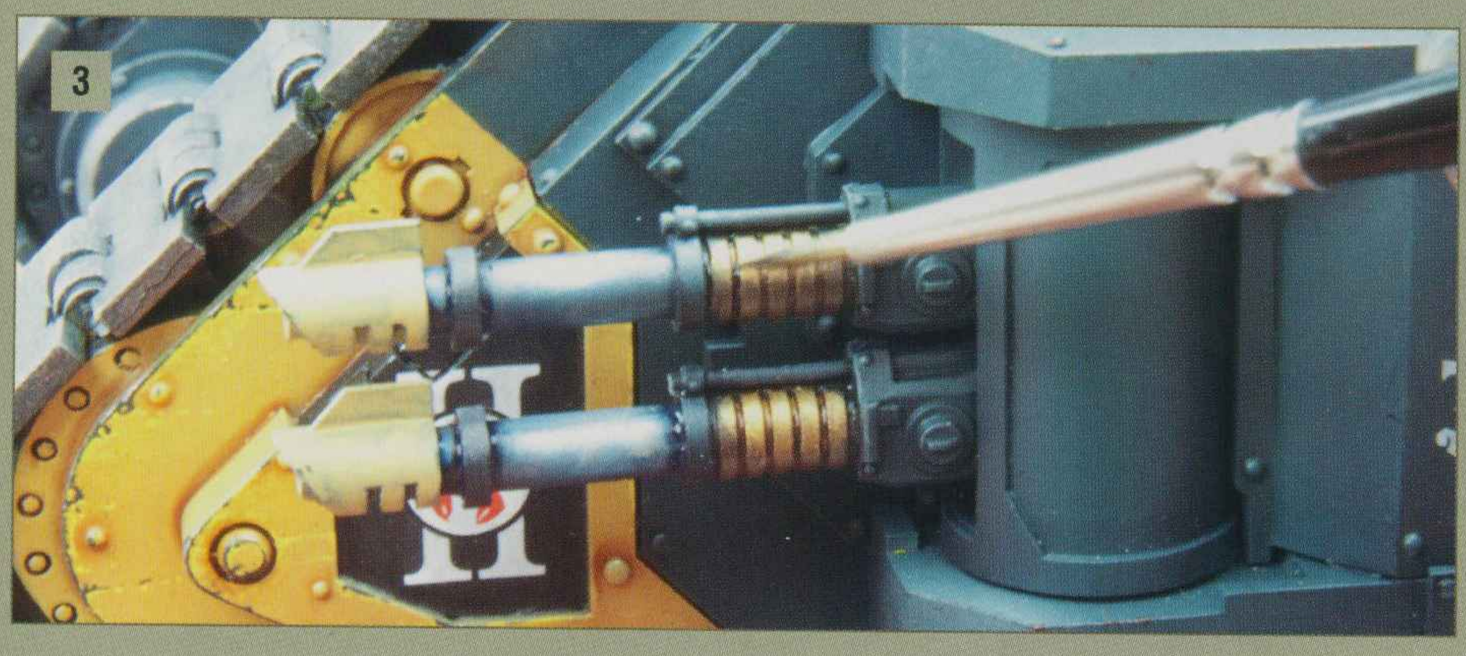
1 – The model was undercoated Chaos Black and then airbrushed with the Red Scorpions Grey mix. Additional highlights were lightly brushed over the armour in Codex Grey and its bionic arm was painted with a mix of Tin Bitz and Boltgun Metal.

2 – The model's skin was painted with Tallarn Flesh and then highlighted with Tallarn Flesh mixed with increasing amounts of Skull White. Chainmail was used to highlight its bionic hand. The right pad was painted with Blood Red.

3 – The shoulder pad's rims were painted Tausept Ochre and highlighted with Tausept Ochre mixed with Golden Yellow and Skull White. Brazen Brass was used to pick out the studs and details. The Adeptus Mechanicus icon was painted Boltgun Metal to make it stand out against the dark armour, and Codex Grey, highlighted with Skull White. The shoulder pad was also painted to match. The Red Scorpions shoulder pad was painted in the same manner as the icons painted previously.

4 – A wash of Ogryn Flesh was used over the face. Washes of Graveyard Earth and Elf Flesh mixed with a little Artists Medium were then applied over the other parts of the model to create a weathered dusty effect. Finally, a coat of Purity Seal was applied to it.

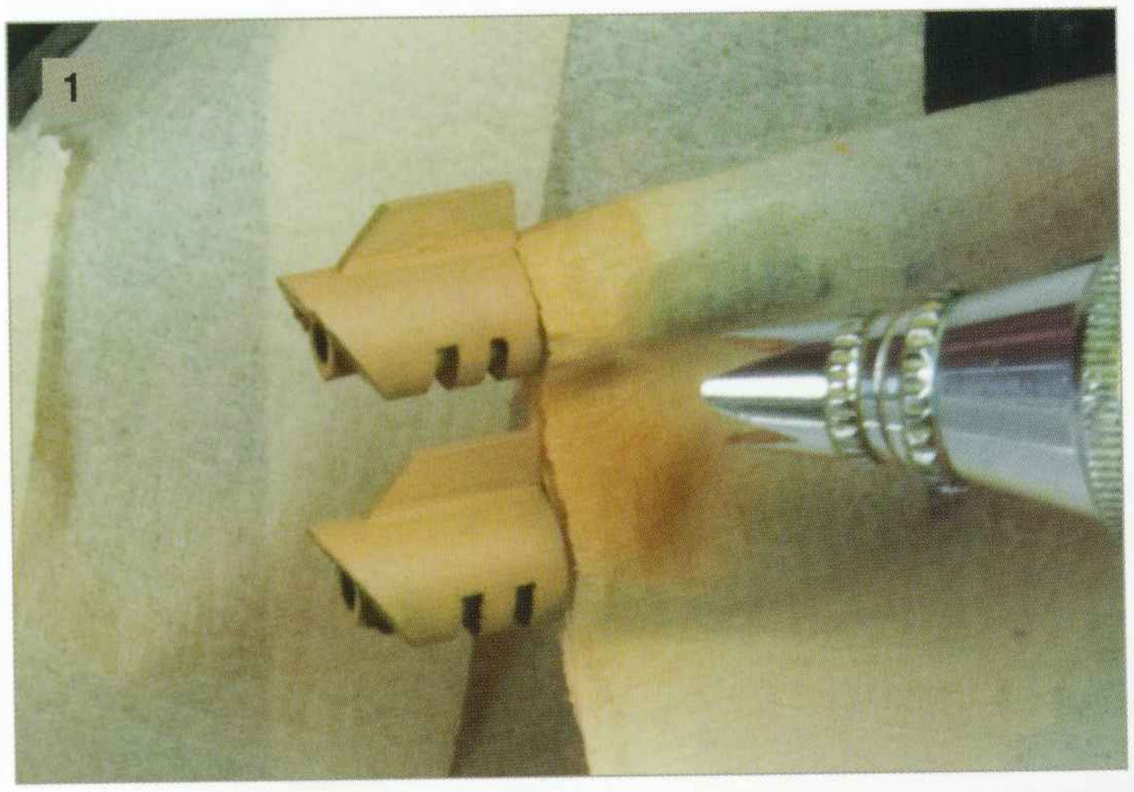


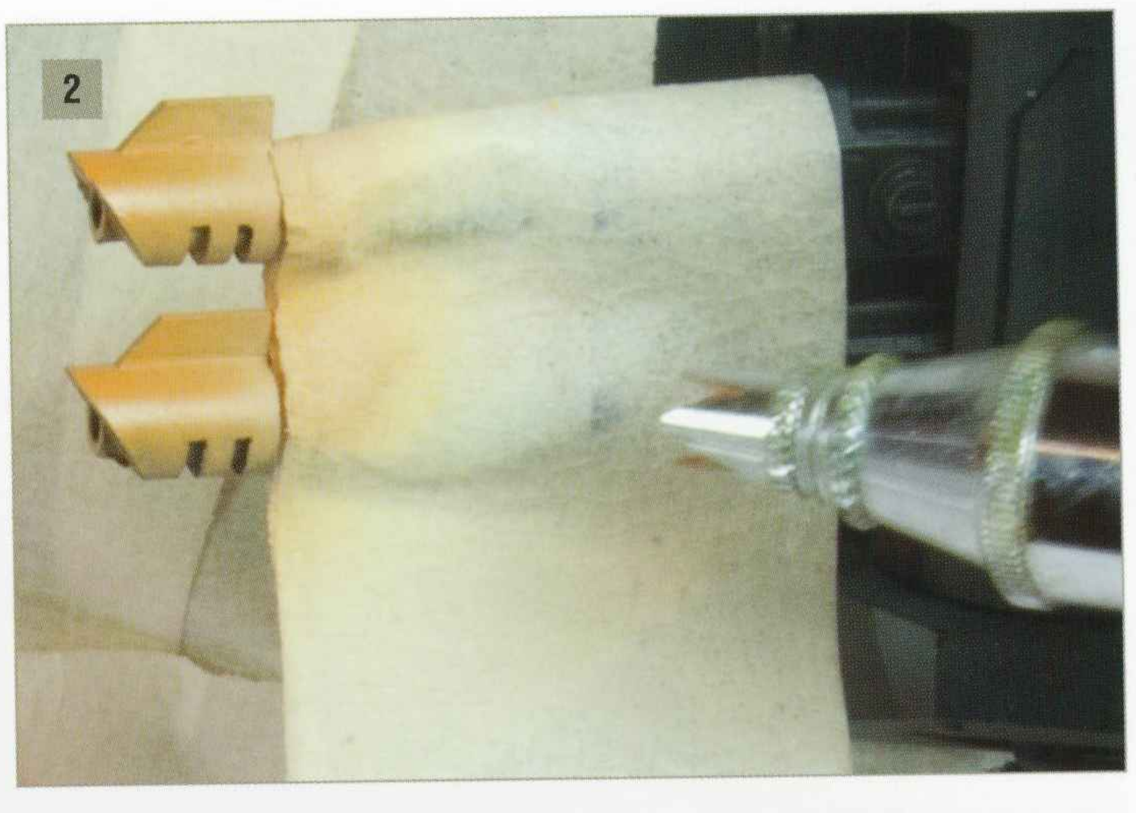


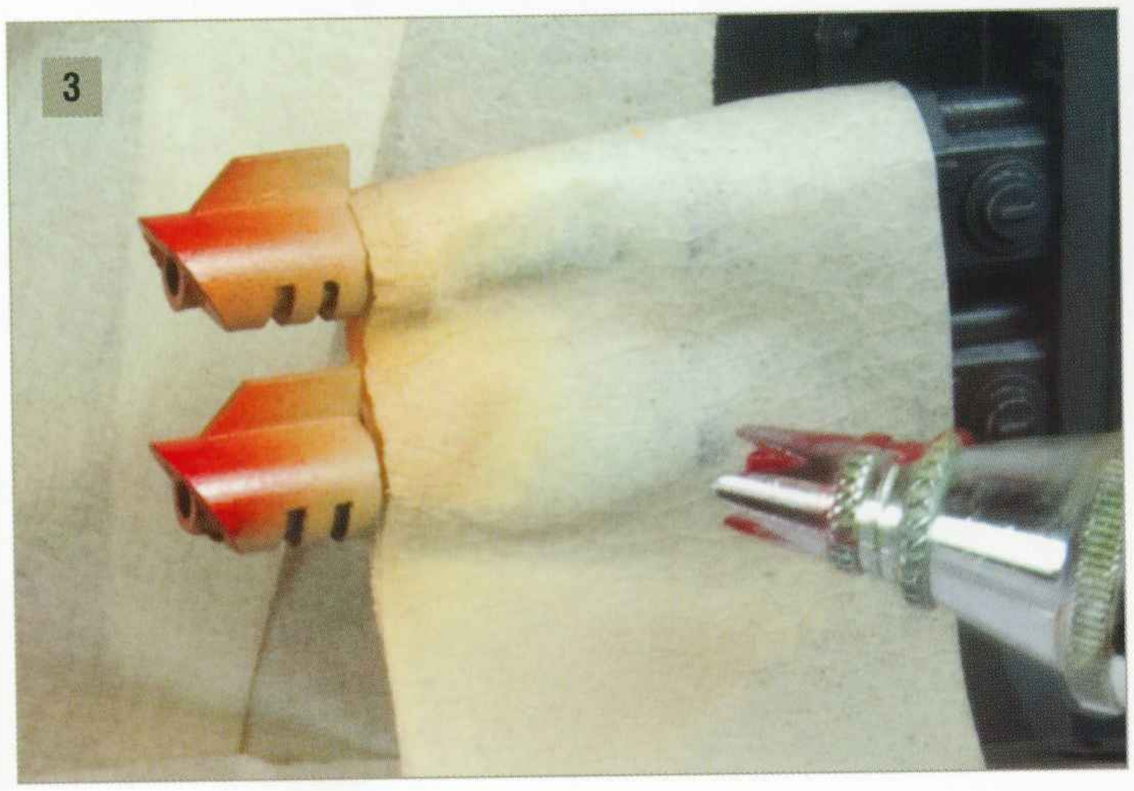
RUB 'N BUFF

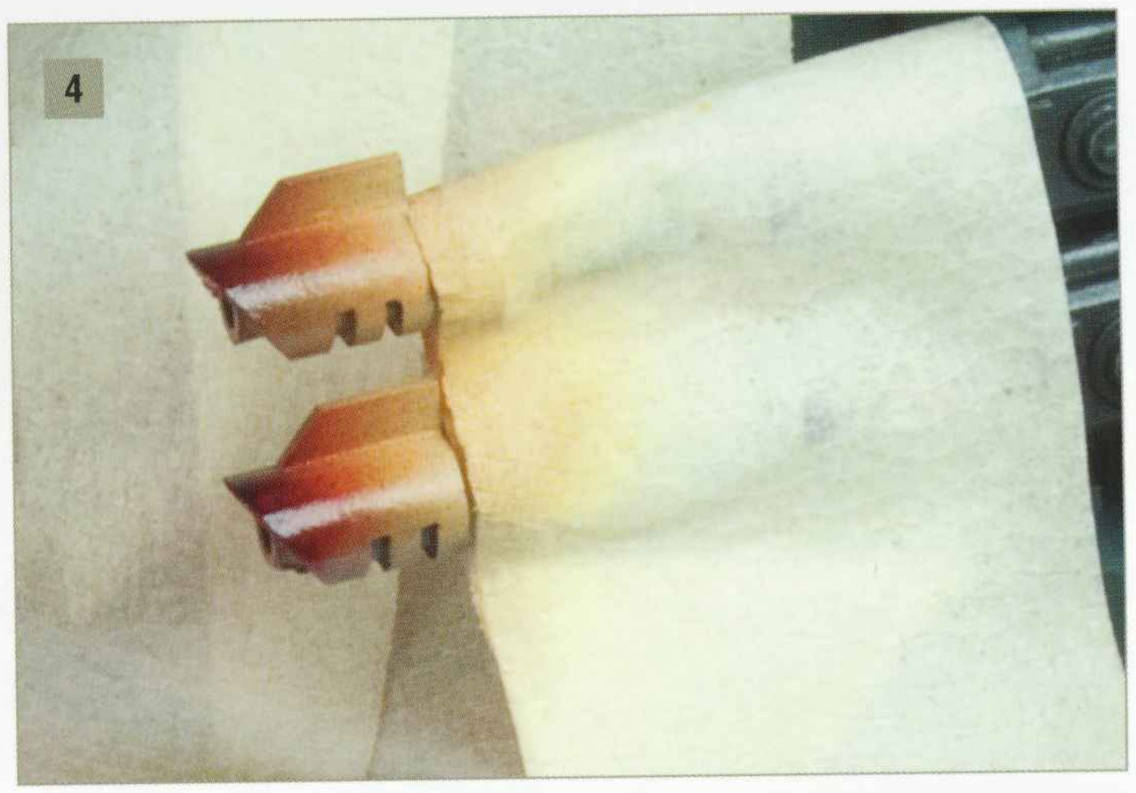
1& 2 – The barrels of the lascannon and heavy bolters were painted with Boltgun Metal followed by a drybrushed coat of Silver Rub 'n Buff. A piece of paper was used as a mask to prevent any stray particles of silver dust from landing on the other paintwork.

3 – Washes of Asurmen Blue followed by Gryphonne Sepia were applied over the barrels to add depth and contrast to them.









HEAT BLOOM

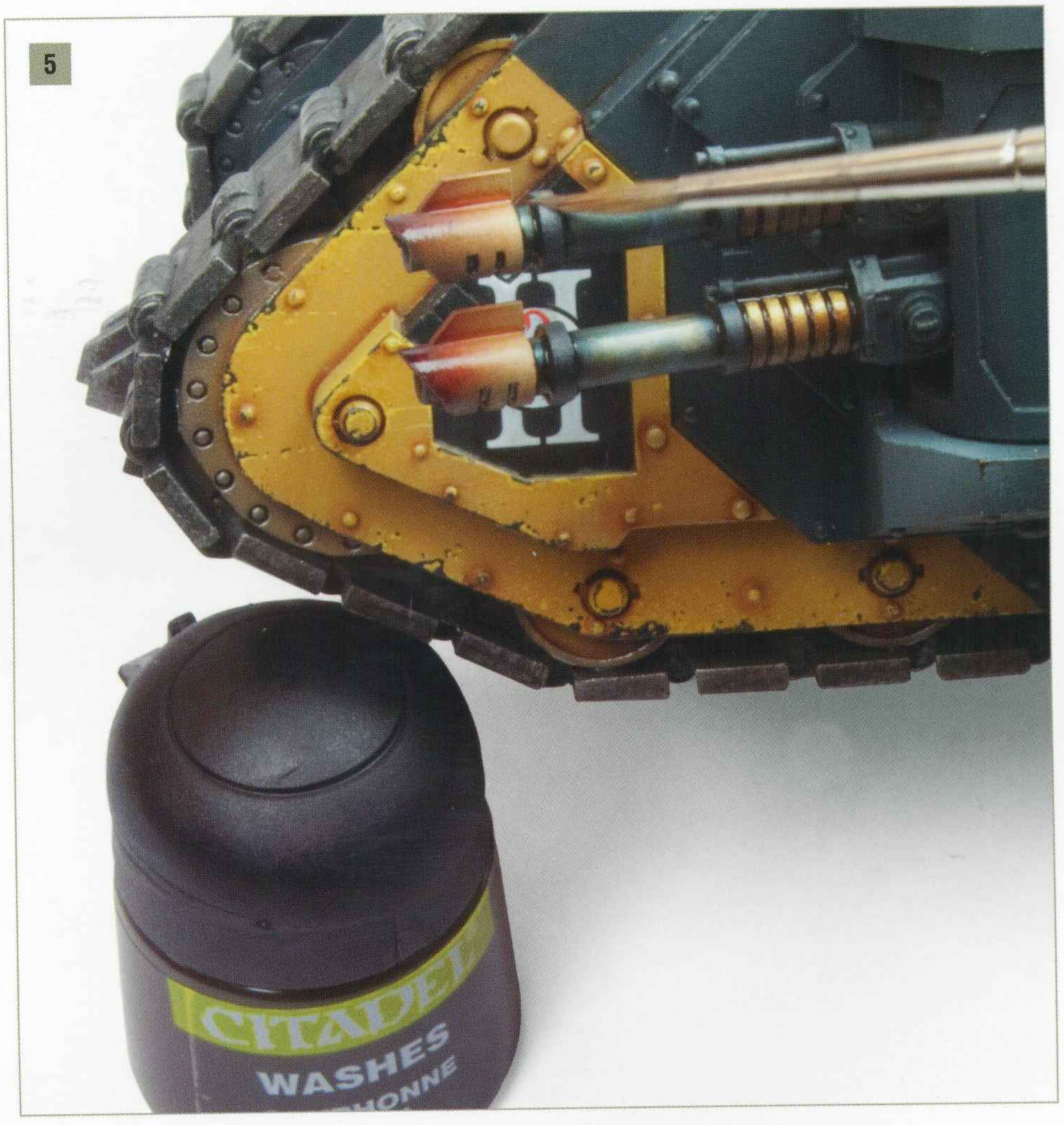
1 – The tips of the lascannon barrels were first painted with a straw colour mixed from Tausept Ochre, Tallarn Flesh and Skull White.

2 – Tamiya Clear Orange was sprayed over the end of the barrels leaving some of the straw colour showing at the base.

3 – Tamiya Clear Red was applied next, leaving some of the orange still visible.

4 – Tamiya Clear Blue was then airbrushed over the very end of the barrel. Each of the different clear colours combine to make a graded effect which goes from light to dark.

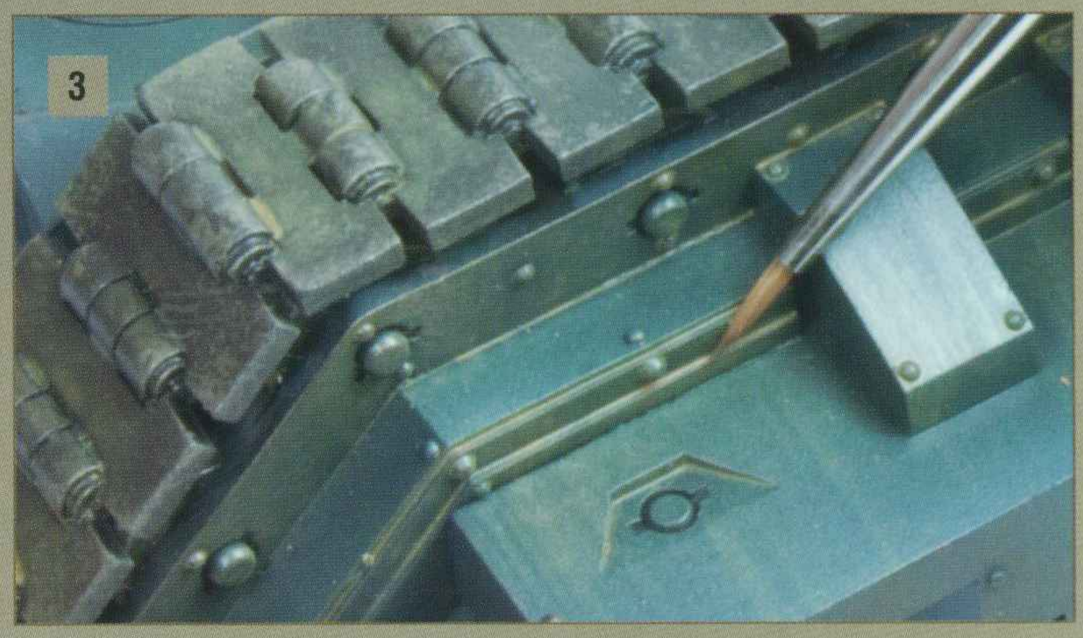
5 – A light wash of Gryphonne Sepia was painted over the barrel ends to tone the colour and add some depth around the fin area.



DUST

1 – Graveyard Earth, mixed with Vomit Brown and Airbrush Medium, were airbrushed on to areas of the model to represent dust and dried earth. By mixing in an Airbrush Medium the colours could be gradually built up in thin layers.

2 & 3 – A lighter dust colour was mixed from Elf Flesh and Graveyard Earth. A little 'Ard Coat varnish was also added to the mix to control and increase the flow of the paint. By adding gloss varnish, paint becomes much more predictable in how and where it dries because it helps the paint to cling around details and slows the drying time, which is especially useful when painting streaks on large surfaces. Once dry the areas dusted with the gloss varnish and paint mix were given a light coat of Purity Seal to help remove the shine created by the gloss varnish. The streaking was applied to angled and vertical surfaces to show the effect of rain on the dry, dusty surface.



WEATHERING POWDERS

1 – Dark Sand and Light Earth were lightly stippled on to the model over the areas where earth would naturally collect whilst the vehicle was moving.

2a – The powders were fixed in place with a fixative made from white spirit and a small amount of varnish. This was done one panel at time to prevent any unsightly tide marks.

2b – Whilst drying, the powders will appear darker than they do once dry. Several light applications of powders were applied rather than a single heavy one.

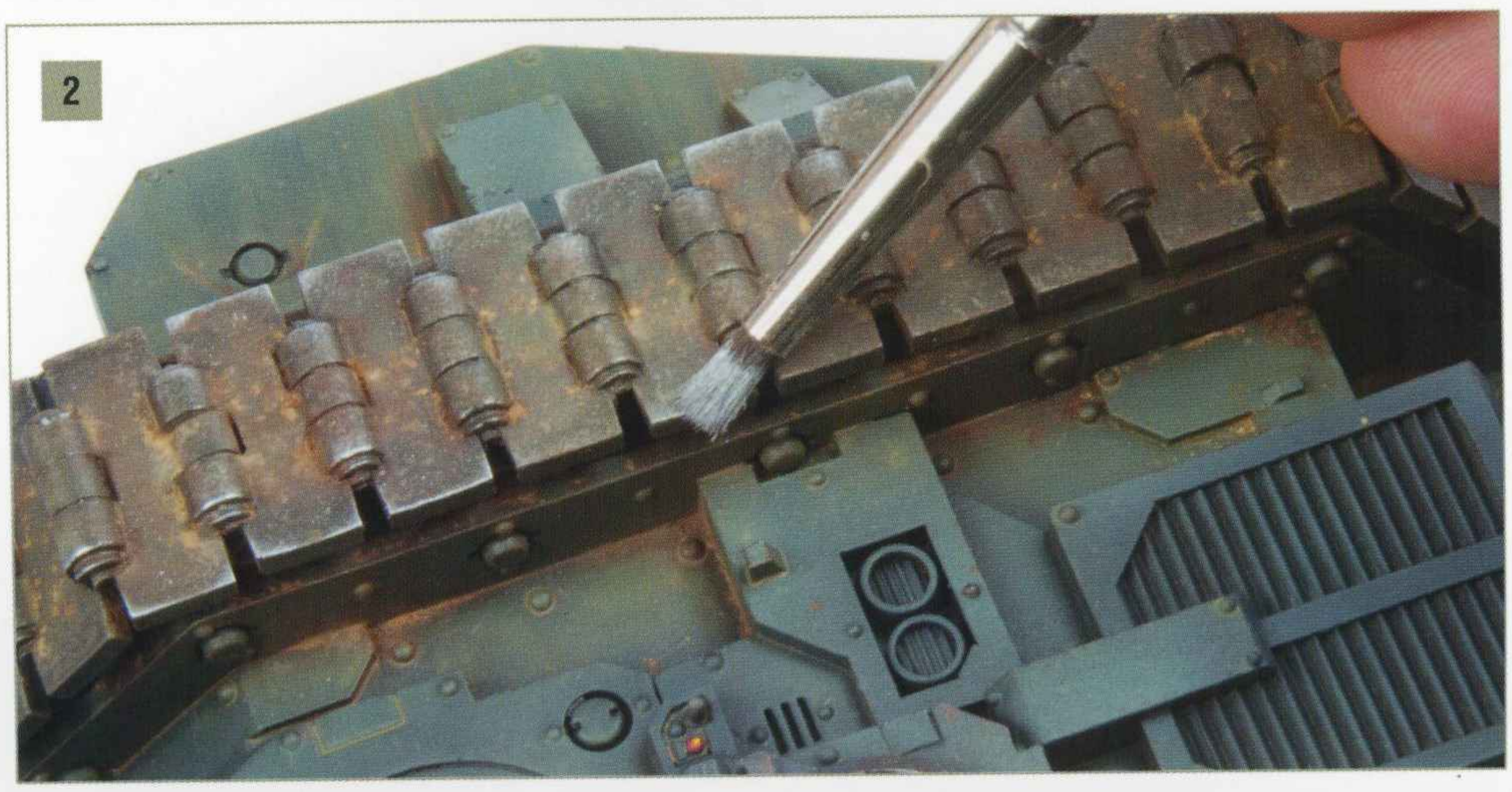
FINAL WEATHERING

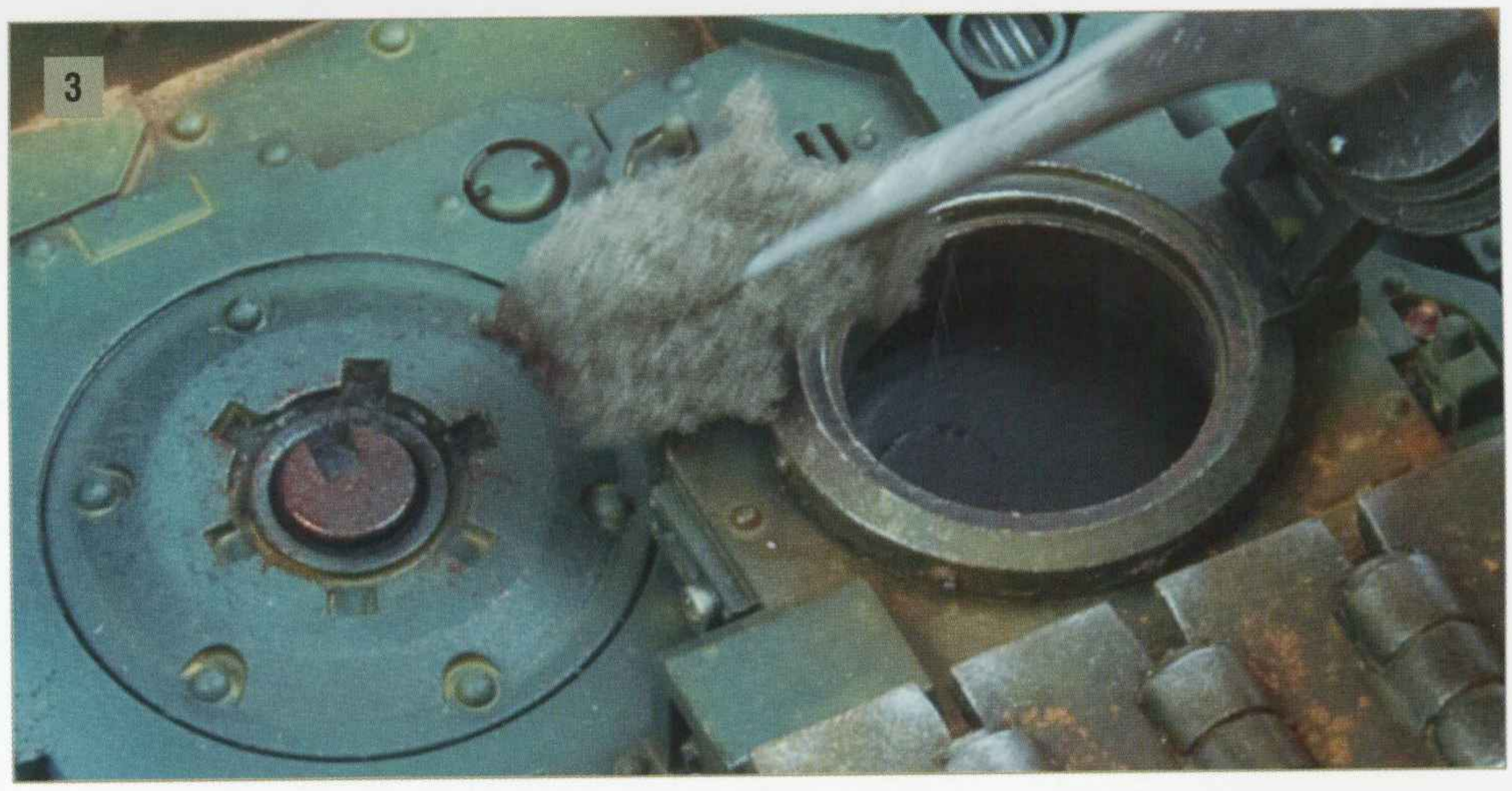
1 – A stippling brush was used to remove some of the excess powder once the fixer had dried. This also helped the powders to fix to the base as they were crushed and ground into the surface of the fixative layer.

2 – Chainmail was drybrushed onto the bridge and ends of each track plate to show wear and add contrast.

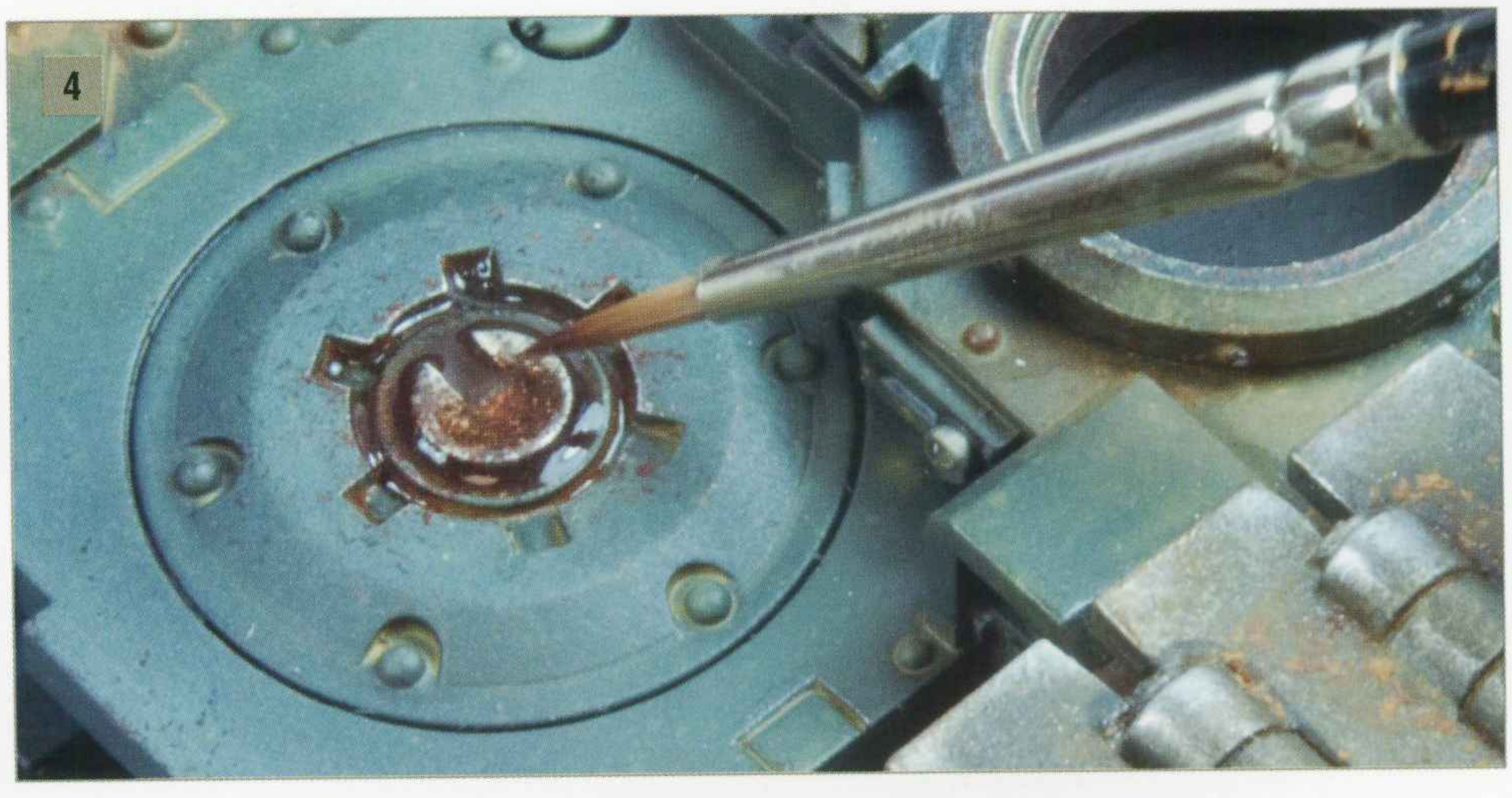
3 – The bearing cover over the heavy bolter received some additional sponge chipping with a mix of Tin Bitz and Chainmail. By gripping a small piece of sponge in fine nosed tweezers, chips can be more precisely added to a model's surface.

4 – Finally, an oily wash was mixed from Gryphonne Sepia and Chaos Black and applied to the tracks.

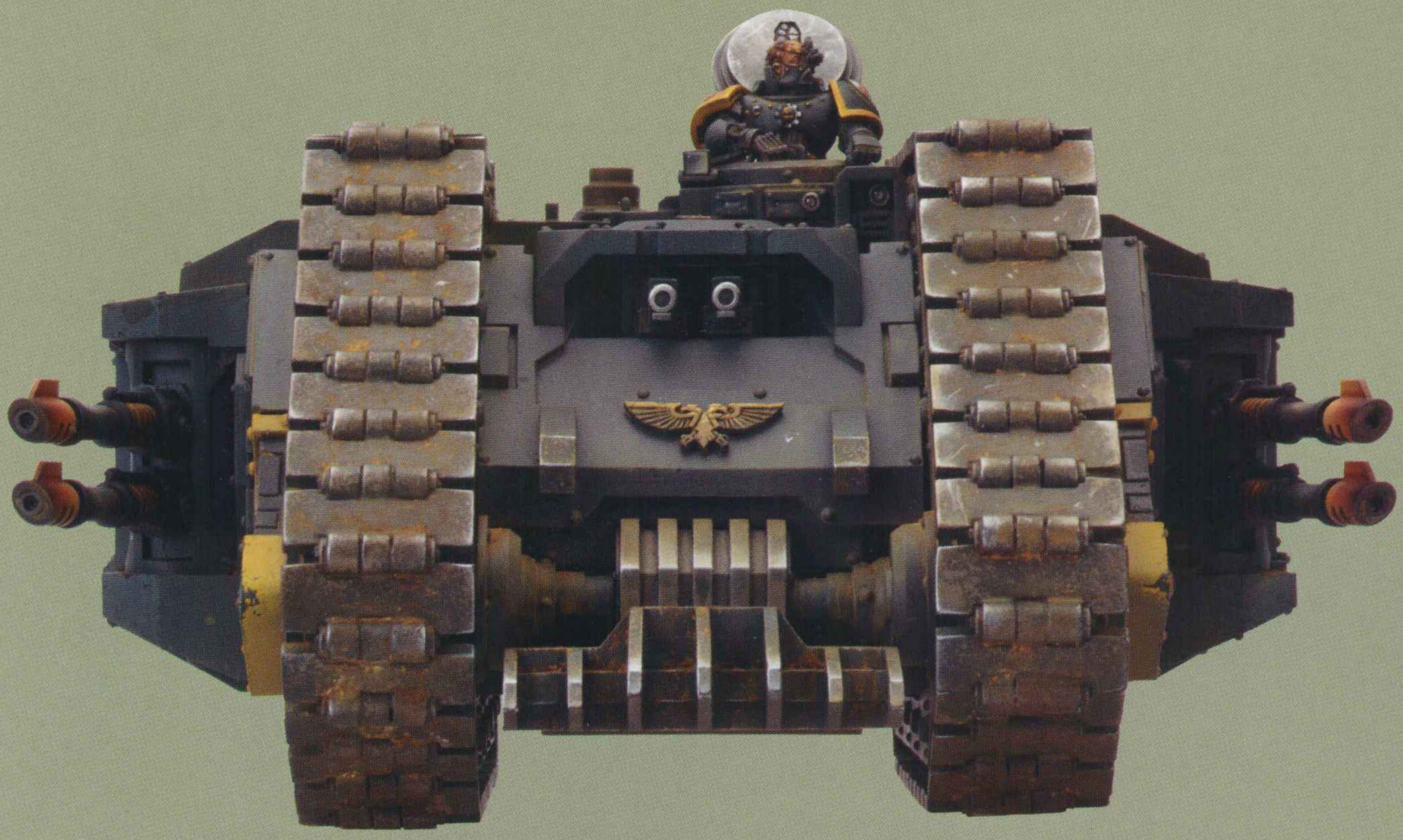


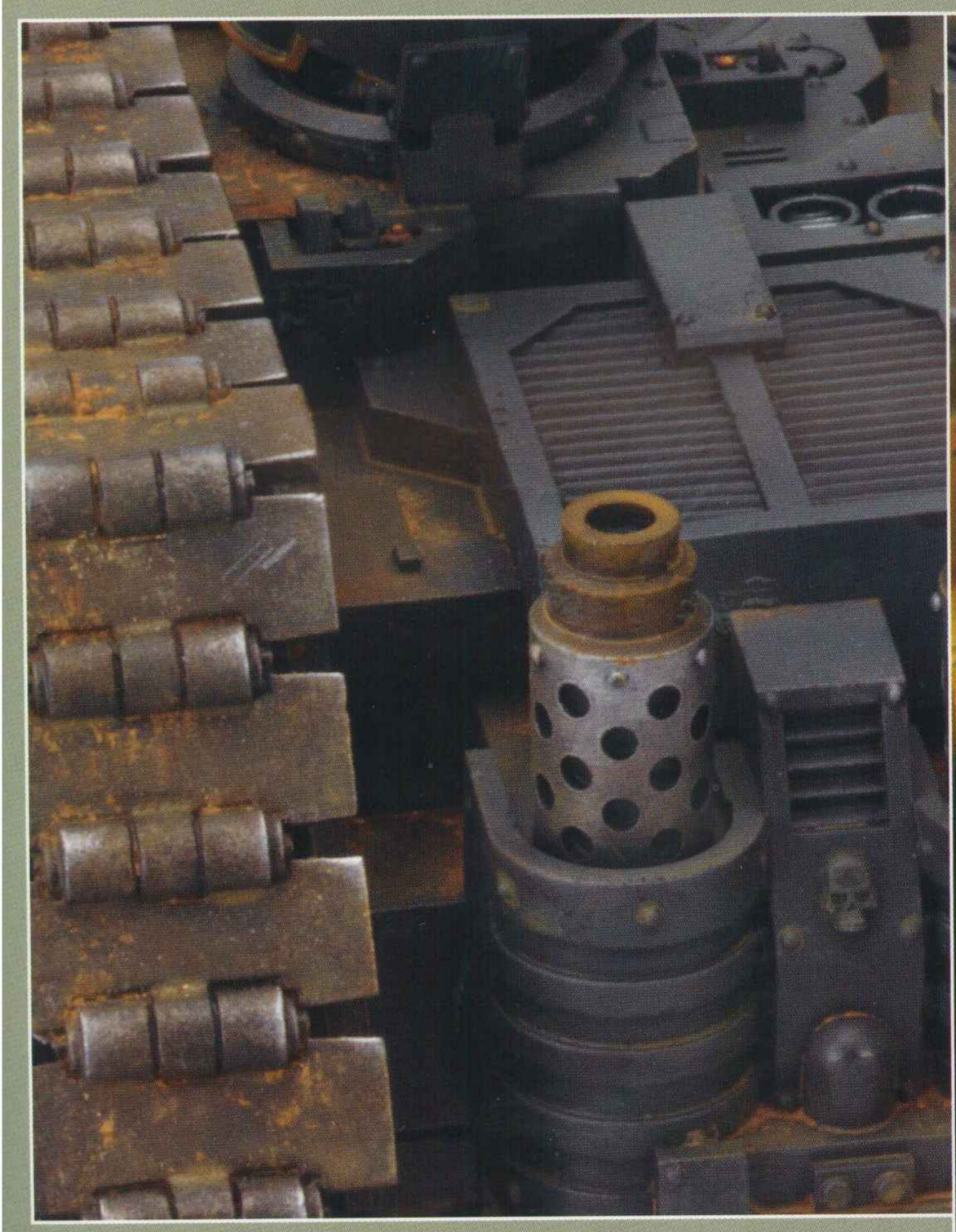


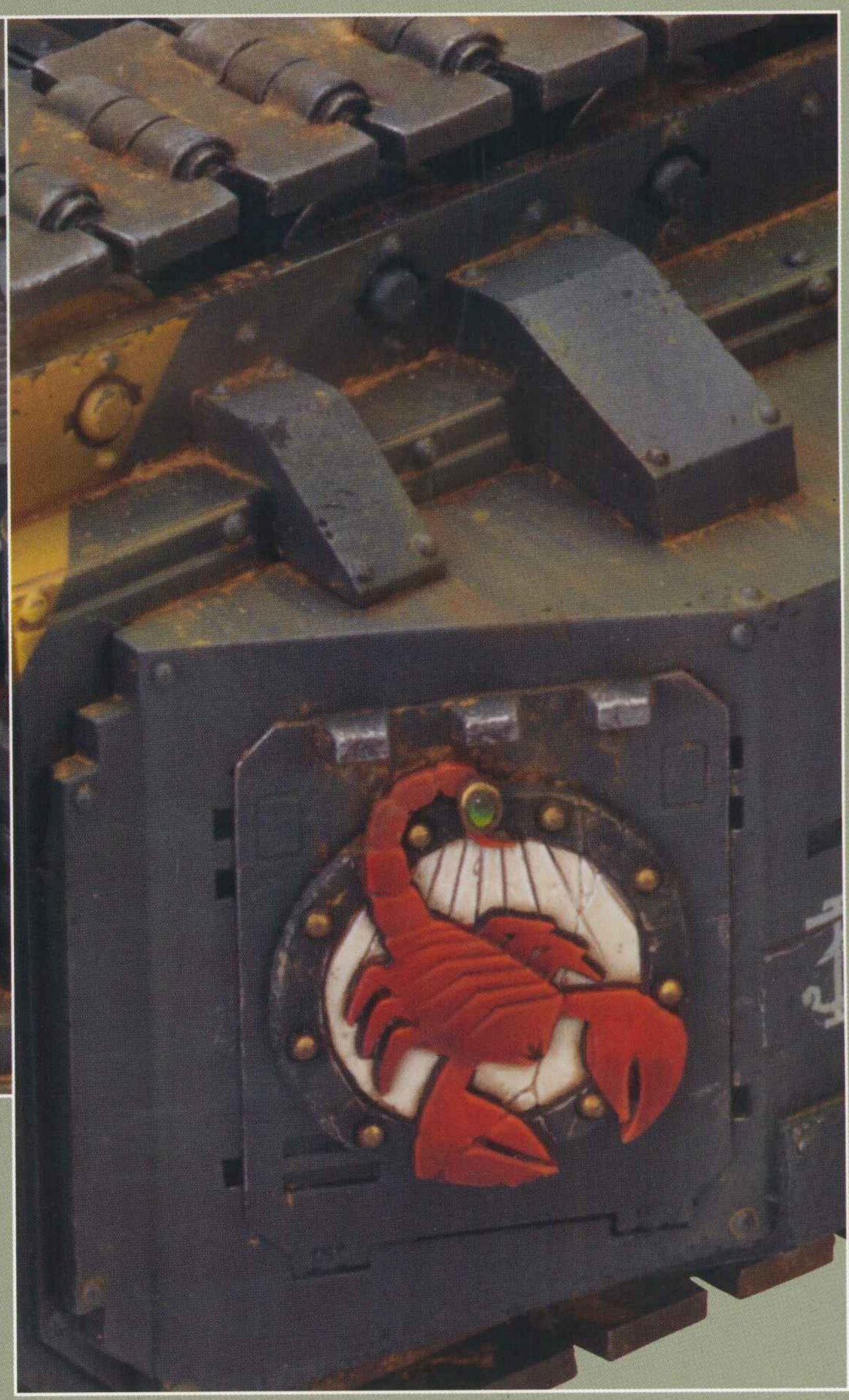
Black Soot weathering powders were added to some of the hubs to represent old grease that had collected in them.



The plough on the front of the Land Raider was given a chipped and worn look by sponging on Chainmail. The vehicle number was lightly weathered by sponging on a little of the Red Scorpions grey base colour that had been mixed up previously. The chipping and weathering on the Land Raider was kept to a minimum. Unlike Ork vehicles, for example, which suit a heavily weathered and poorly maintained appearance, Space Marine vehicles are maintained between battles, and so benefit from restrained weathering techniques.







The Proteus' exhaust was painted Scorched Brown and then given a wash of Snakebite Leather mixed with a little varnish.
The teeth on the hatch were chipped by sponging on Chainmail, followed by a little Mithril Silver to indicate fresh wear and tear. Additional weathering powders were added to the hatch area to depict mud and dirt collected when the hatch would be open and lying on the ground.

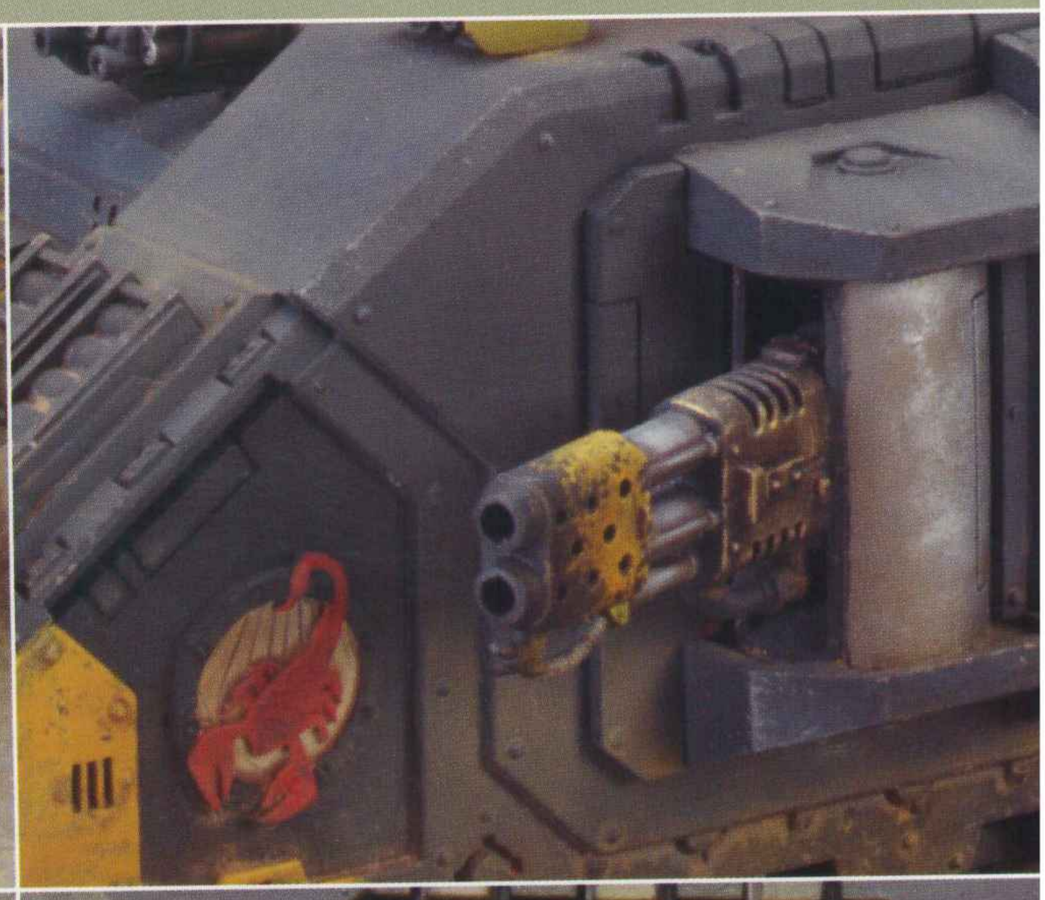
RED SCORPIONS

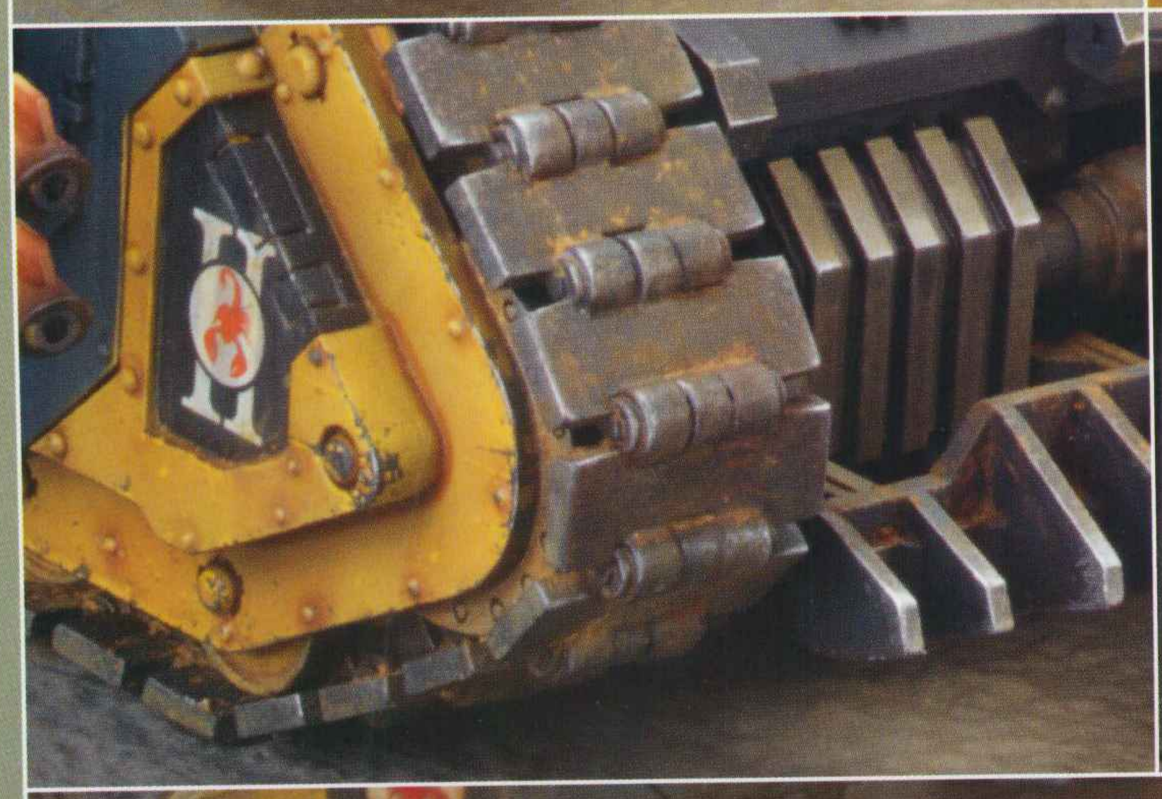
Angstrom Incident Raiding Force

Created during an unknown Founding prior to the 35th Millennium Red Scorpions Chapter are strict adherents to the *Codex Astartes* Favouring a combined arms approach, each Space Marine is expecte master all aspects of warfare.

The Chapter played a vital role in both the Siege of Vraks and the Ba War. Their unswerving loyalty in the latter dispelled some of the mis the Chapter faced from other factions in the Imperium, but it is still observed closely by others for fear of what secrets may remain in it hidden past.

Phil Stutcinskas' army was displayed on two Realm of Battle Gameboards. The boards were first sprayed with earth coloured aerosols – with a few different tones being used – then various shades of Citadel acrylic paints were sponged on to the base to create subtle and random variations in colour. The rocks were then sponged with Charadon Granite and Chaos Black. Washes of Elf Flesh and Graveyard Earth were flooded onto the base, and a small amount of Gloss Varnish was added to the wash to make the paint settle in the cracks around the rock sections. The boards were finally given a few coats of Purity Seal to protect them and unify the colours and finish. A converted Imperial Strongpoint was used to create a themed table feature. The Chapter markings were taken from the Forge World Red Scorpions transfer sheet.





The damage to the spiked ram bar on the Predator's front was created by first sponging on Charadon Granite, followed by Boltgun Metal. Dark Sand weathering powders were then applied to the recesses. To maintain consistency throughout the army, Dark Sand was the principal weathering powder used on all the models.

Decals should always be applied over a gloss coat as this helps them to bed down onto the model's surface. Even though the Predator's turret has a compound curve, the decal settled perfectly over the surface because of the gloss. A light coat of Purity Seal over the top then hid the edges of the decals and sealed them permanently, as well as also dulling down any areas of gloss that remained.

The elaborate eagle emblem on the front of the Chaplain Dreadnoug
torso was painted to resemble stone or marble. The effect was achie
by first painting on a mix of Iyanden Darksun and Desert Yellow. A v
of Iyanden Darksun and Gryphonne Sepia was then stippled lightly
the surface to create differing tones and veining in the stone surface
Finally, a thinned down wash of Gryphonne Sepia and Johnson's Kle
was applied to tie together the base colour and marbled patterns.

The weathering on the Dreadnought's close combat weapon was given a chipped and oily finish. This was achieved by first sponging on a pale yellow colour, mixed from Tausept Ochre, Golden Yellow and Skull White. A mix of Scorched Brown and Chaos Black were then sponged over the yellow chips to create the illusion of deeper, stepped chips. An edge highlight of Chainmail was then added to the edges of the blades. An oily finish was applied by washing the details with Gryphonne Sepia and Chaos Black.

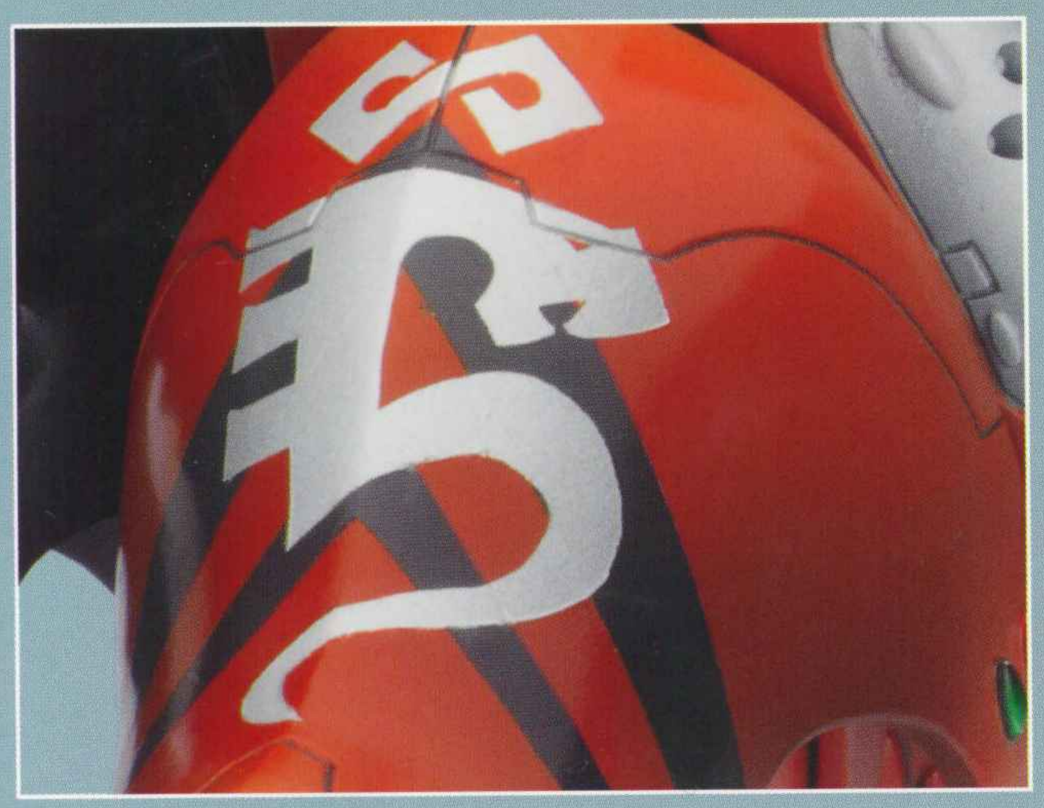
The Forge World Venerable Dreadnought shown opposite was weathered using multiple washes of Graveyard Earth and Elf Flesh to give it a dusty feel. A small amount of varnish was added to the wash to help get it into the recesses. Dark Sand weathering powders were then applied to help unify the weathering used across the army.

SAIM-HANN

PHANTOM TITAN

Painted By Keith Robertson

The largest of all Eldar Titan patt
Phantoms are much taller and
than their Imperial counterparts. C
by a single pilot, they are shielded
near impenetrable holo-fields and
some of the Eldar race's most adva
weaponry. This includes powerful
and laser weapons, and the massiv
destructive Distortion Cannon, a w
that can open up a Warp rift very c
to or even inside heavily armoured
targets, destroying them complete



ARMOUR LACQUER

Over a Chaos Black undercoat the Phantom Titan was given a grey base coat warmed with flesh coloured highlights. It was then airbrushed with Dark Sea Grey followed by highlights of Sky Grey. This layer was finished off with a final airbrushed highlight of Flat Flesh. Next a mix of Flat Red and Clear Red was lightly airbrushed on – this red coat tinted the tones laid down already. Two coats of Purity Seal were then applied and the model was allowed to dry for 24 hours to ensure it was completely dry. Micro-Surface polishing cloths were then used to lightly sand down the gloss. By first starting with a 2400 grit cloth and ending with an 8000 grit cloth, a smooth glossy finish was achieved.

1 – The veins on the Phantom Titan's back were first primed using Halfords Grey Primer, before being airbrushed with Sky Grey and then Flat White. The stripes were then masked off before the veins were airbrushed on using Chaos Black. Light highlights of Dark Sea Grey were also airbrushed on at this point, followed by a final highlight of Sky Grey on the very top edges.

2 – The large gem inside the Titan's head was first primed with Chaos Black. Then, starting from the top right of the gem and ending in its bottom left, Bestial Brown, Vomit Brown, Bleached Bone and finally Bleached Bone mixed with Skull White were blended over its surface. Th dark top right area was then glazed with a very thin coat of Regal Blue. T achieve a mother of pearl effect, a coat of Gloss Varnish was then applie followed by thin layers of Daler-Rowney FW Shimmering Red in the bottom left and Daler-Rowney FW Shimmering Green in the top right. Th was then finished off with another coat of Gloss Varnish.

2

ENCOUNTER AT THE BALMAEUS ICE MINES

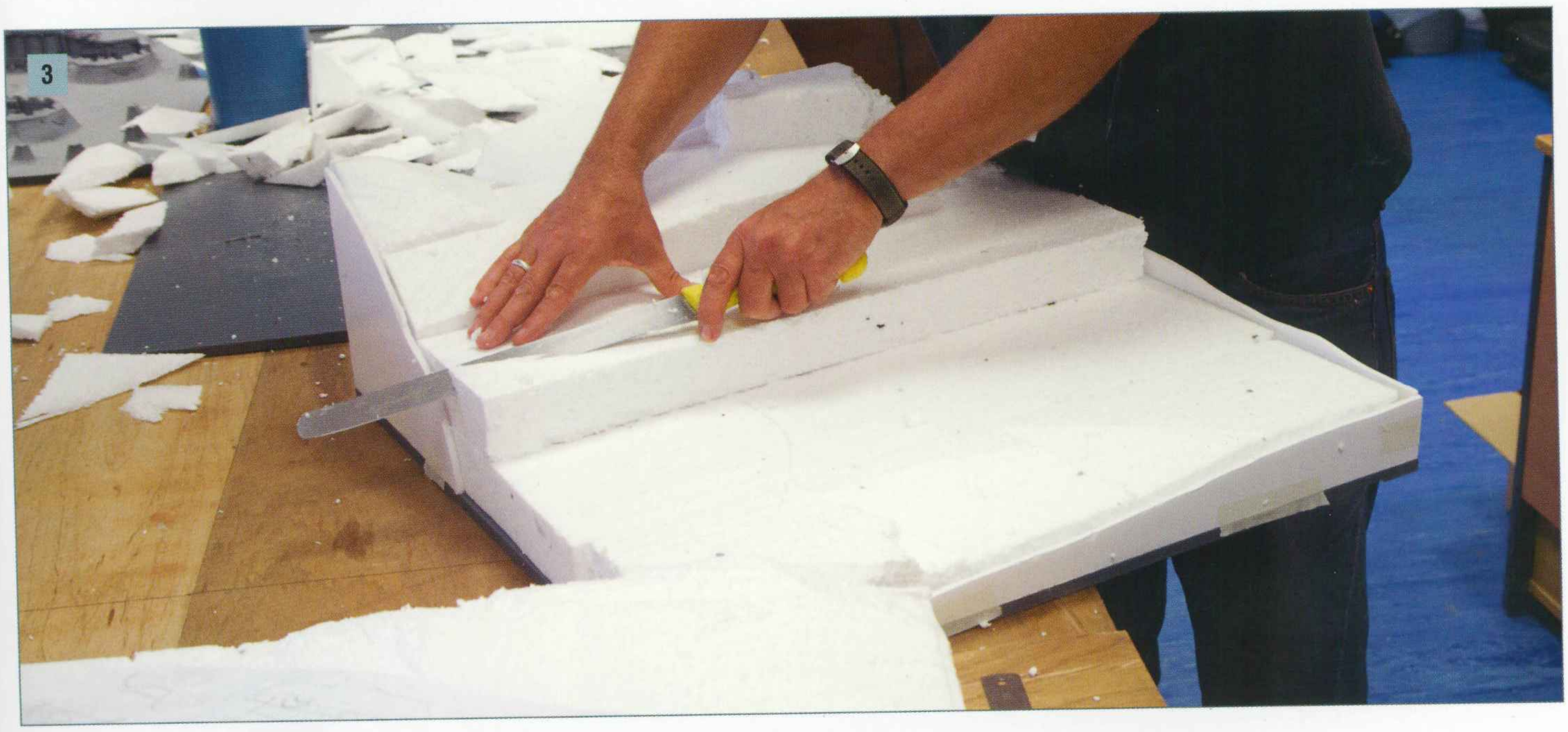
Providing most of Betalis III's fresh water supply, the Balmaeus Ice Mines were heavily reinforced by the Cadian 6th Armoured Regiment at the start of the battle for the planet. When the Eldar attack on the facility began, its defenders faced a war host spearheaded by forces from Craftworld Mymeara and included squadrons of Falcons, Lynx and Hornets, and squads of Eldar Guardians, Eldar Rangers and Aspect Warriors. Built centuries before by the Imperial colonists who were settled on the ice world, the Balmaeus Ice Mines were located in a steep, rocky valley only accessible via its southern-most point. As output from Balmaeus increased over the decades and centuries, the cliffs above it were widene to allow for the landing of larger transports and additional defences were constructed to protect the facility and its workers from airbourne attacks.

Possessing total air superiority from the start of the war, the Eldar were able to infiltrate via the north of the valley, but still faced stiff resistance from the Cadian 6th Regiment stationed there.

1 – The edges of the Realm of Battle gameboards were first built up with foam board into mountain sides and ravines. A Forge World Imperial Strongpoint expansion tile was also included amongst them to represent part of the mine's permanent defences.

2 – Polystyrene insulation boards were used to fill the areas between the foam boards. Copydex glue was then used to adhere the polystyrene to the base.

3 – The excess material on the boards was finally carved away. This was done slowly, taking a small amount away at a time.



ROCK MOULDS & SMOOTHING

1 – When the rough shape of the terrain had been formed, a wire brush was used to carve and refine it further.

2 – Using a Woodland Scenics rock mould multiple pieces of rock texture were cast up. The casts were kept as thin as possible so that the pieces could be broken up easily to create different rock formations. The pieces of rock were glued to the polystyrene using a hot glue gun with care was taken to achieve a natural appearance. A few real rocks were also used to compliment the cast rocks and fill in the gaps.

3 – DIY expanding foam filler was used to fill any major gaps left. These usually occurred around buildings and structures. The excess foam was then cut away when it had dried.

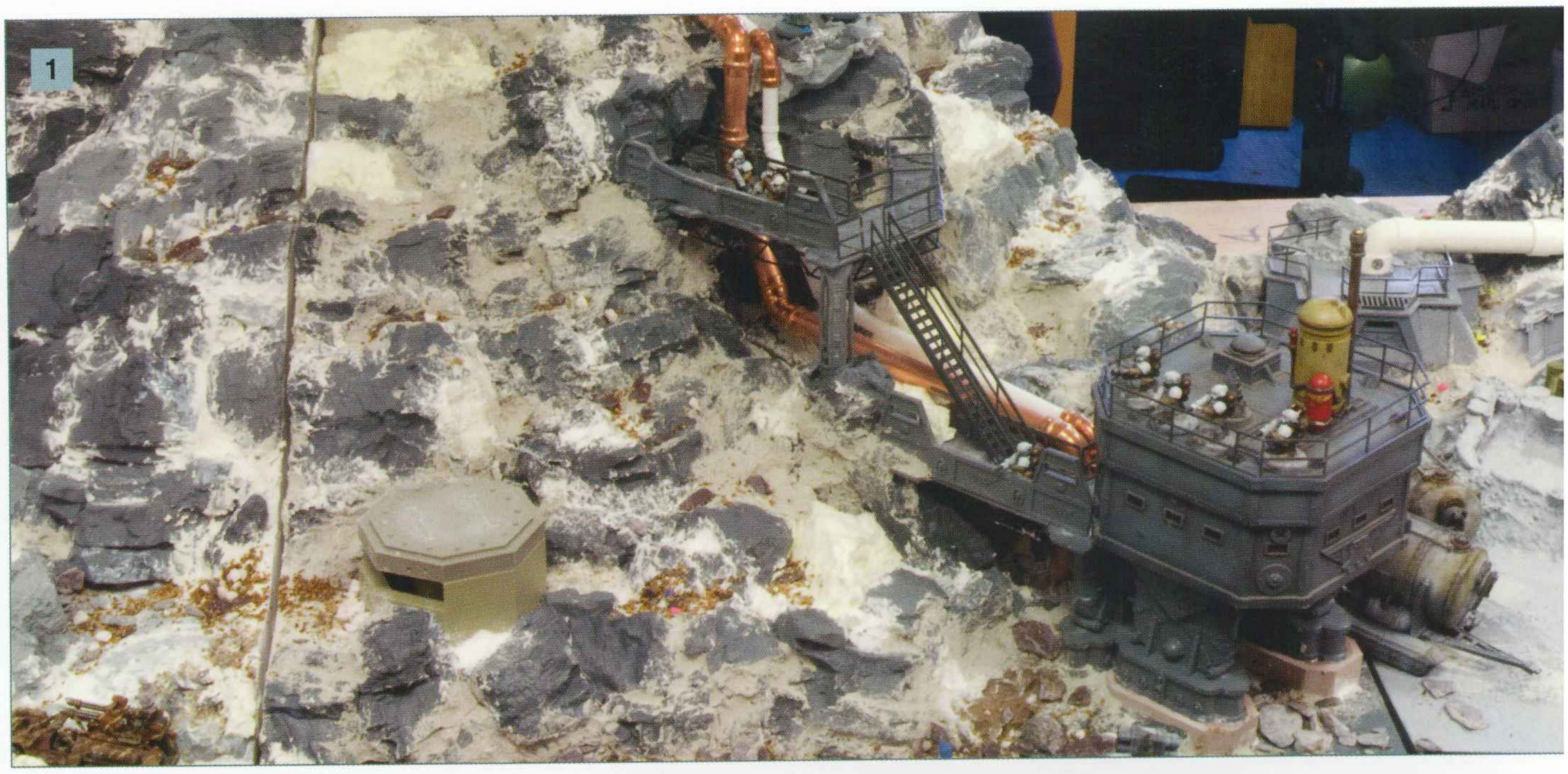
4 – The refinery control room was built up from a mixture of Citadel, Forge World and scratch built parts.

BLENDING BUILDINGS WITH SCENIC BOARDS

1 – To blend the Forge World Strongpoint feature into the board, the back of it was built up with the same polystyrene as the rest of the boards and rock textures. An extra building was also created from parts of the Citadel plastic Bastion kit, and the lower part of the Bastion was cut away to help it sit naturally on the board. Household filler was then used to fill in the gaps between the rock textures. Plumbing fittings were used to represent refinery ducting and pipe work.

COATING & TEXTURING

2 – Polyurethane resin was painted over bare areas of polystyrene to both prime and strengthen the boards. A cheaper alternative to using resin would be to use neat PVA glue. It requires a longer drying time but will yield similar results. Both will add strength and rigidity to the boards.
More filler was used to fill any gaps between the rocks, with an old brush used in a stippling motion to produce a rocky texture. Any exposed edges also received a coat of this filler.

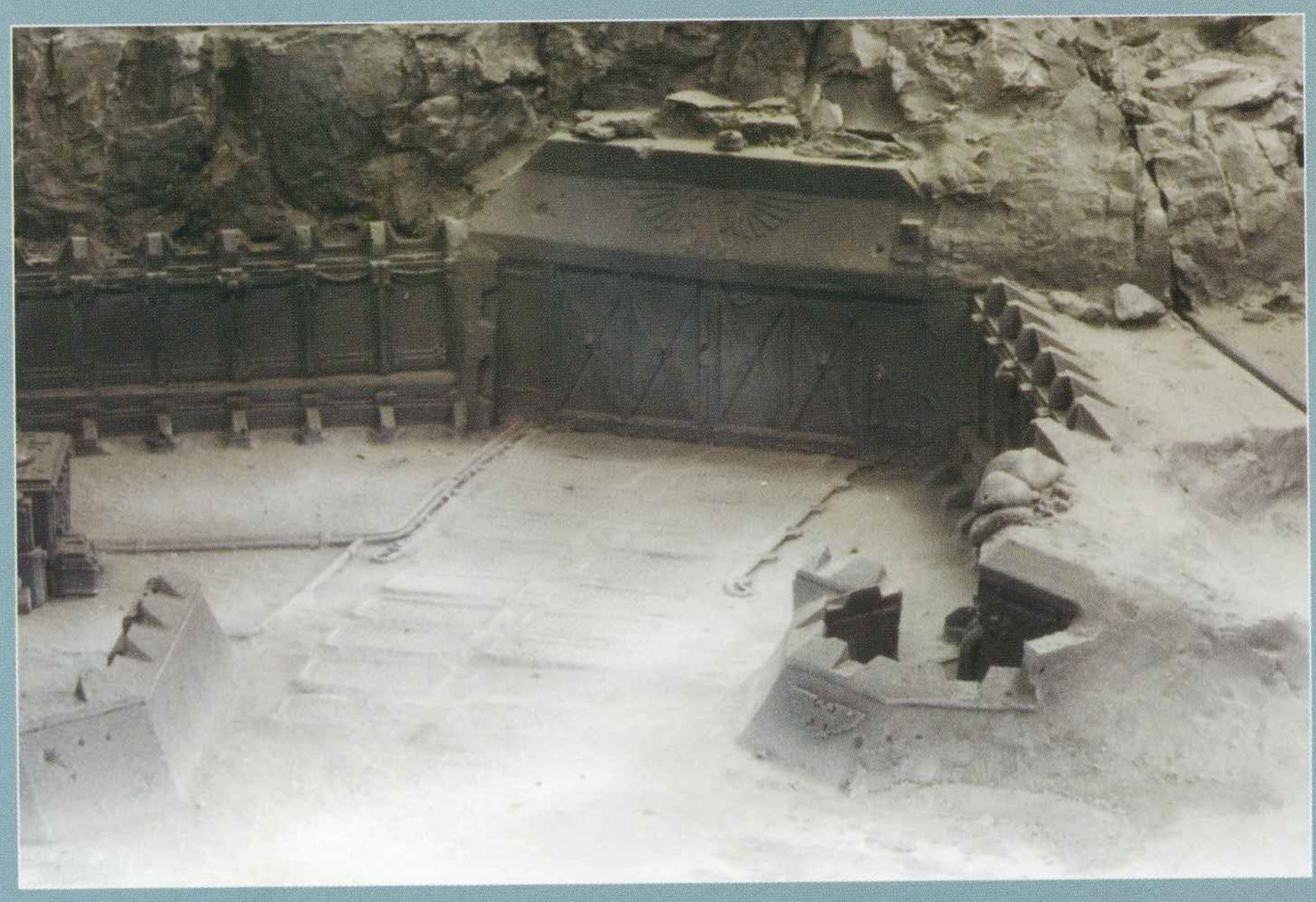


FINAL POSITIONING AND INITIAL PAINT SCHEMES

1 – The boards were constantly pieced together during construction to test the fit between them and check how they would look when finally joined together. Extra pieces of rock and gravel were then added to the flat horizontal areas of the board to represent loose fallen stones. PVA was used to glue these in place.

2 & 3 – When this had dried, a Chaos Black undercoat was sprayed over the whole board. The undercoat not only gave a good solid base to add further layers of paint to, but the dark colour would also create shading as painting progressed.

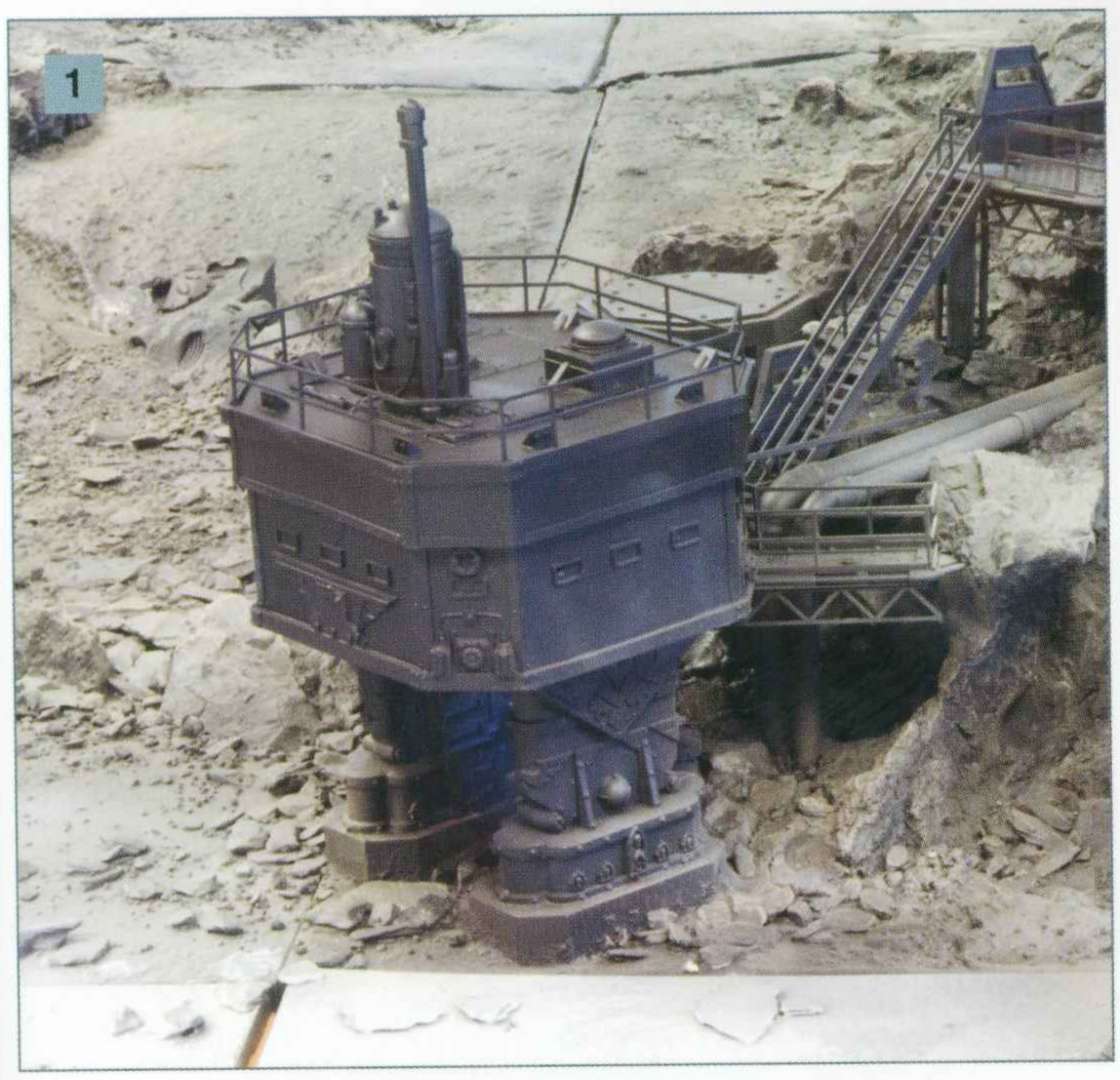
Various shades of grey and brown aerosol paints were used to colour the rocks. These were sprayed from above, leaving some of the black visible in the deepest crevices to create shadows. The rocks were also lightly drybrushed with Dheneb Stone, Codex Grey and Astronomican Grey. This was done in random patterns and layers to produce a varied and natural result.



SNOW UNDERCOAT

The areas that would be covered in snow were first sprayed with Skull White. To avoid any overspray from settling on the rocks, a piece of cardboard was used as a basic mask.

The added benefit of using this white undercoat was that if any of the snow wore away during gaming sessions or whilst the board was being transported to shows, it wouldn't be as noticeable as it would have been if a darker colour had been used.

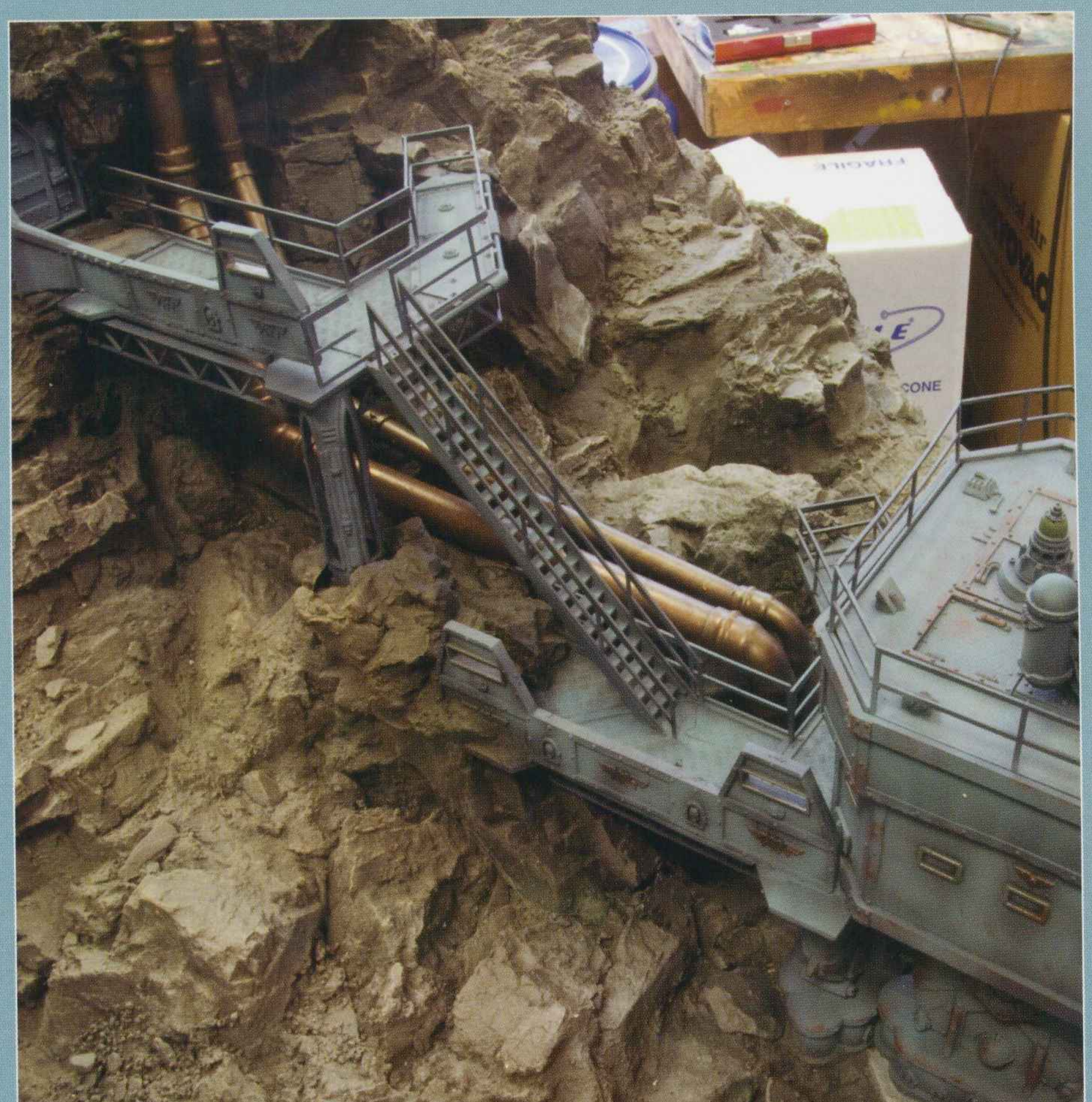


PAINTING STONE BUNKERS

1 & 2 – The Imperial buildings were airbrushed with a mix of Mordian Blue, Codex Grey and Chaos Black.

The bunker was painted in a two-tone colour scheme to represent the different materials from the Warhammer 40,000 universe which would have been used. The 'ferrocrete' was sponged with different mixes of Dheneb Stone and Skull White to give it different patterns and textures. The metal areas of the bunker were painted with the same dark blue grey colour that had earlier been mixed for the other Imperial buildings.

3 – Additional shading and weathering was airbrushed on to the structures using a dark grey brown tone mixed up from Charadon Granite. To keep the effect subtle and restrained, the paint was heavily thinned with Airbrush Medium.



PAINTING METALS

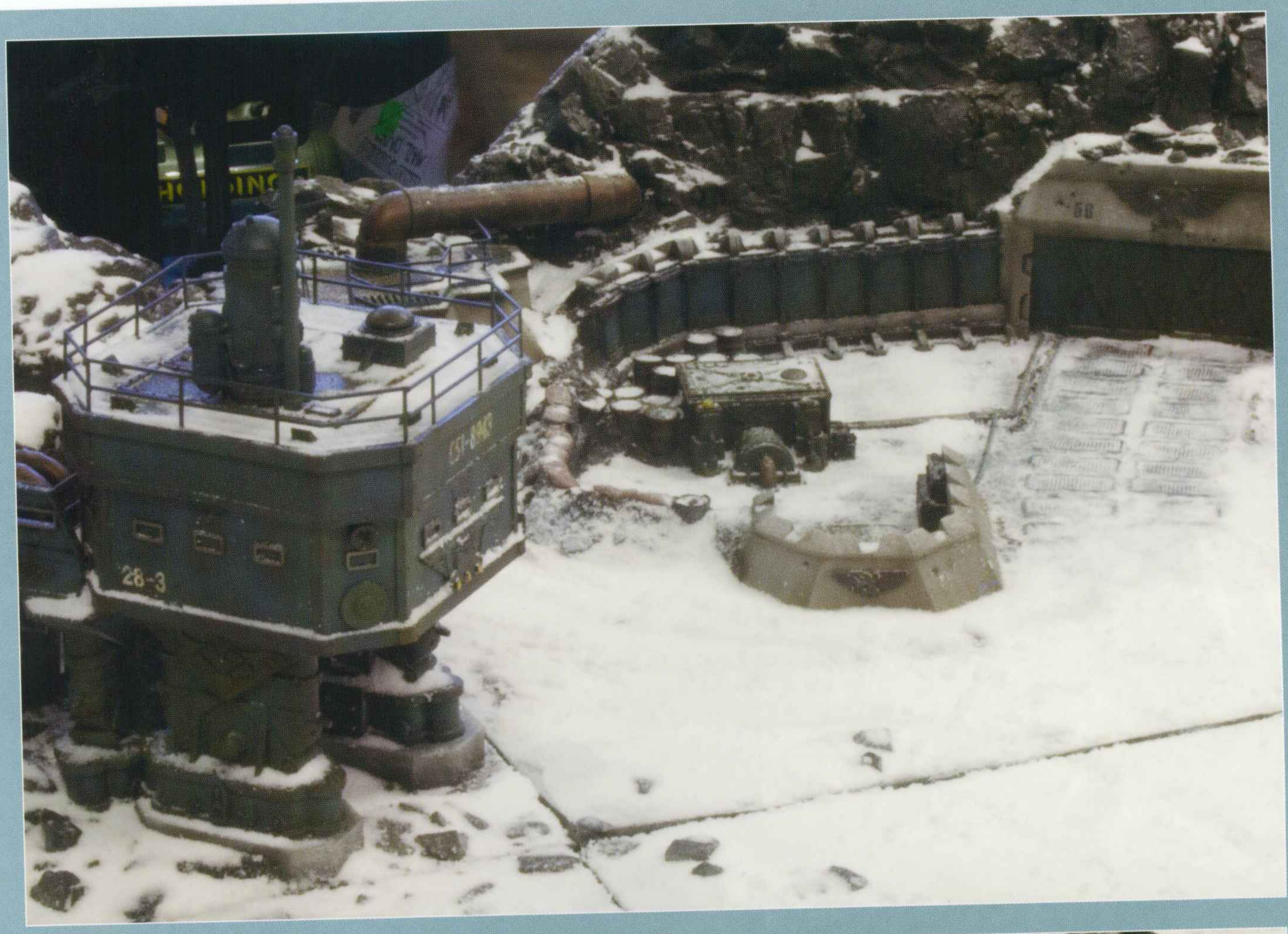
Elements and details on the Strongpoint were picked out in a dark blue grey colour. By keeping all of the structures the same colour, a uniform appearance was achieved across the board.

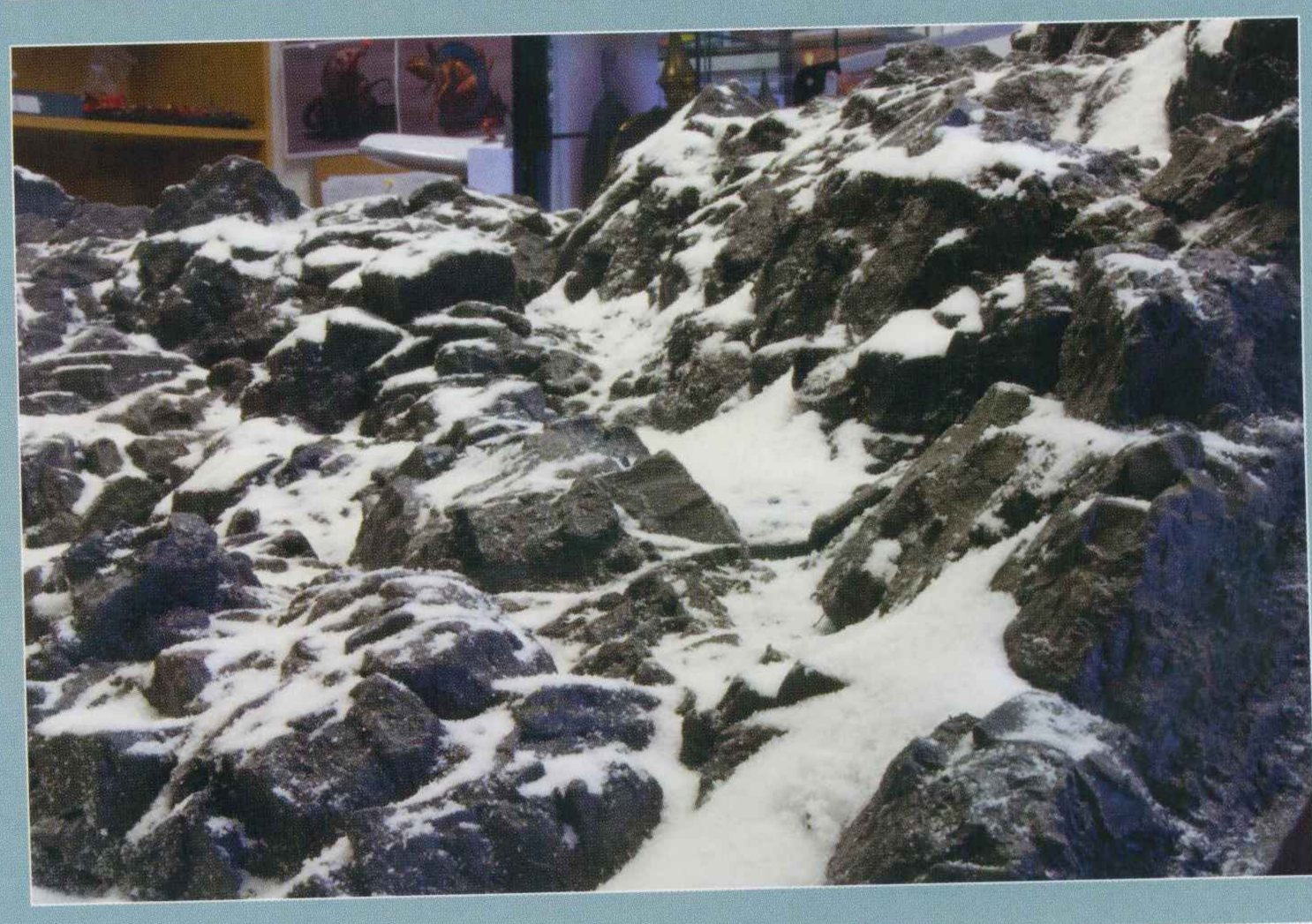
Other Imperial Strongpoints were used as further defence points on the boards. The lower Strongpoint was built into the rock by surrounding it with the previously cast rocks and remaining sections of the Strongpoint. Like all of the Imperial structures on the base, the Strongpoints were painted with the same mix of Mordian Blue, Codex Grey and Chaos Black. Washes of Snakebite Leather were also painted on to the grey to give it a rusty look.

The door on the model came from the Citadel Administratum building kit.

The markings on the buildings came from Forge World transfer sheets, with the codes and numbers being created from individual markings also off of one of the sheets. Once the decals had set, some of the blue grey Imperial colour was sponged over them to give them a weathered look.

The gantries were modelled from Citadel building kits and Plastruct architectural modellers components. By adding different levels of detail, such as the hand rails and ladders, the whole scenery piece gained more character.





APPLYING SNOW

The snow effect on the board was achieved by sprinkling on dry Woodland Scenics snow. A considerable amount was used to ensure an even coverage over the large surface area. The advantage of applying the snow dry was that it settled in realistic looking drifts and patterns where it fell.

To fix the snow in place it was sprayed with several cans of hairspray. The hairspray temporarily fixed the surface of the snow without moving or disrupting it.

To permanently fix the snow in place it was sprayed with a mixture of PVA and water, requiring eight litres of the water and glue mix in total! The mixture was sprayed onto the boards using pump spray bottles. This was done carefully so that the spray did not disturb the snow. Once the snow was thoroughly soaked with the mixture it was then left to fully dry before any further work was done on it.

The final scenery board measured 14 feet by 4 feet, and took two weeks to complete.

The Imperial Guard vehicles were all painted in a snow camouflage to varying degrees. Snow was also added to their wheels and tracks to help them blend into the board.

To finish the board off, the outside edges of it were given two coats of textured masonry paint.
All of the flyers and heavier models were supported by 6mm acrylic rod. Holes were drilled into the boards to accommodate the rods.

The Craftworld Mymeara colour scheme was based upon Hawk Turquoise which then fades down to Orkhide Shade and Ice Blue. The colours were airbrushed on to enhance the blending and fading effects. Also, by using the airbrush, a marbled effect could be recreated on the model.

To create the fading and marbling for the Mymeara colour scheme, the paint was applied in translucent layers onto a marbled base coat. The base coat was Skull White with veins airbrushed onto it in Chaos Black.

The Mymeara paint scheme was kept clean and only lightly weathered to provide a contrast to the Imperial vehicles.

1 – The panel lines on the Lynx were picked out with a wash of Asurmen Blue and Chaos Black, mixed with a little Gloss Varnish to help the colours flow more smoothly across the model.

2 – The gems on the Mymeara vehicles and walkers were painted Blood Red with highlights of Mechrite Solar Orange. These colours were chosen because red and orange are complimentary colours to blue and green.

3 – The Forge World Shadow Spectres were painted with thin glazes of colour over a Skull White base – Thraka Green, Asurmen Blue and a small amount of Gloss Varnish created the principal armour colour. The prism guns were painted a mixture of Mordian Blue and White.

4 – The Hornets were painted in the colours of the Void Dragons Corsairs, with their markings taken from the Forge World Eldar transfer sheet.

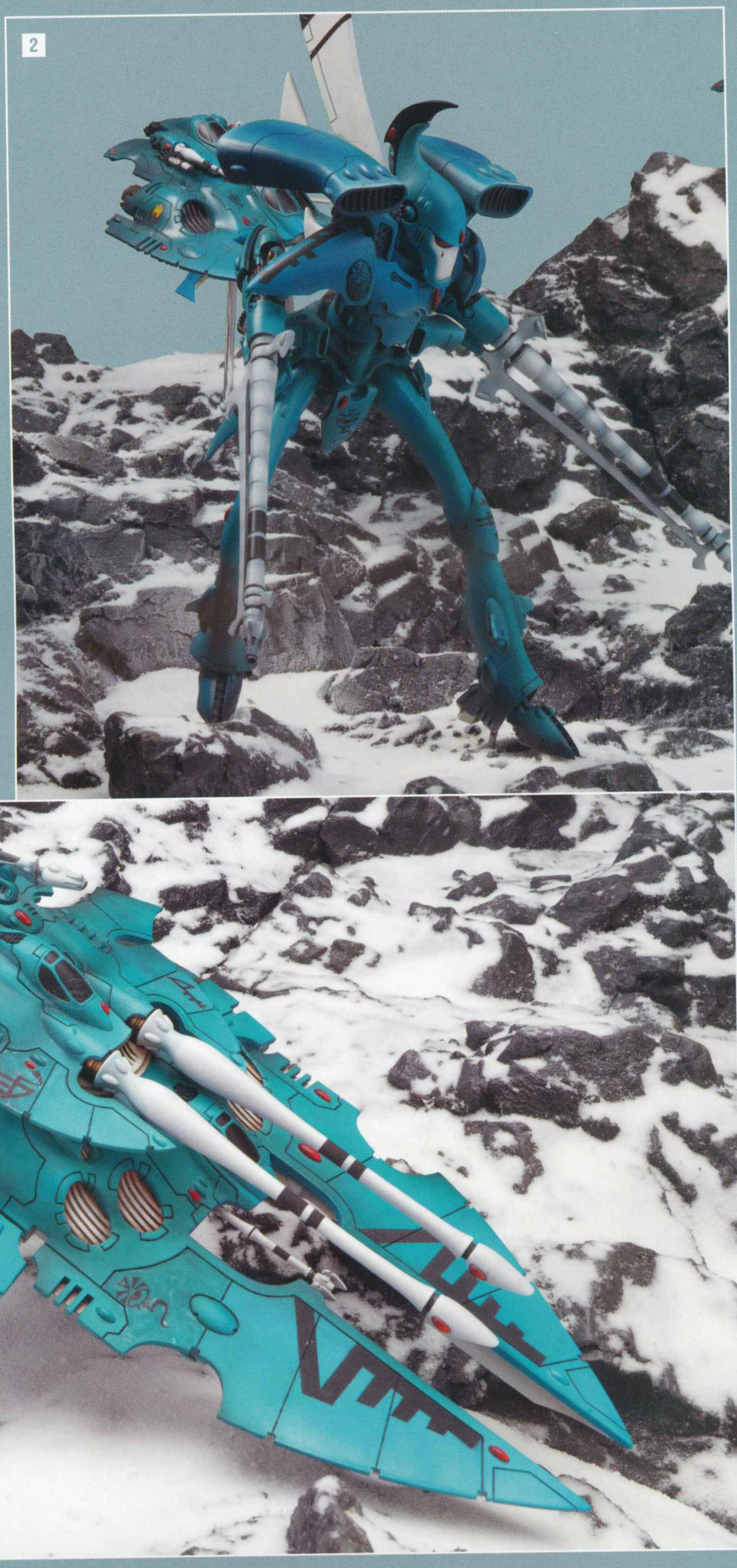
3

4

1 – The Eldar Wraithseer was painted in varying tones of Bleached Bone to give it a more ancient and antique look. Darker translucent tones were airbrushed onto specific areas to produce a faded effect. Translucent colours such as this can be created by the addition of varnish or Airbrush Medium to acrylic paint.

2 – The Eldar Revenant Titan was painted in a slightly deeper blue to the normal Craftworld Mymeara colour scheme. The colour shifts and merges, producing different tones, colours and fade effects. This technique provided some great variations compared to the basic colour scheme.

3 – The Eldar Scorpion was painted in a more turquoise colour scheme with only a subtle shift towards green at the rear of the model and pale blue towards its front. The large iconography on the front of the Scorpion was made by photocopying and enlarging an image from the Forge World Eldar transfer sheet. This image was traced onto airbrush frisk that was then used as a mask.



1 – The Crassus Armoured Assault Transport's winter camouflage was created using the hairspray technique. The interior was first painted Skull White. Scorched Brown and Chaos Black were then sponged onto areas that would see a lot of wear such as the floor and bulkheads.
Snow was added to the tracks of the Crassus and also to the top of its hu as well. The decals on the vehicle came from a selection of Forge World and Citadel transfer sheets.

1 – The yellow colour on the Titan was created using Iyanden Darksun. This was heavily weathered with sponged-on Boltgun Metal. Washes of burnt umber and black oil paint wer then applied all over the Reaver Titan to further weather it and add depth to areas which would be in shadow.

Oil paints are better for this style of painting compared to acrylics due to the sheer size of the Reaver Titan. Acrylics dry relatively quickly and by using the slower drying oil paints, the appearance of the whole model could be considered rather than being forced to focus o a single area at a time before it dried. The pain was removed in places with a soft dry cloth, leaving the darker coloured paint around detai and in areas of shade.

2 – The Malcador Infernus heavy flame tank's winter paint scheme was taken from a colour profile in *Imperial Armour 11 – The Doom of Mymeara.* The rust effect on the model was made with washes of Snakebite Leather and Scorched Brown. Gloss Varnish was added to the washes to create a streaking effect. The chipped paintwork effect was created by sponging on Scorched Brown and Chaos Black. The Imperial Reaver Titan was painted in the colours of the Legio Gryphonicus Titan Legion. The mottled grey was airbrushed on, starting with a layer of Codex Grey over a Cha Black undercoat. Astronomican Grey was the airbrushed over it to complete the mottled effect.

THE GREAT BRASS SCORPION

Painted by Mark Bedford

The daemonically possessed Great Brass Scorpions of Khorne manifest in a variety of forms, some of the earliest reported sharing similarities with Chaos Defilers. More rampaging beasts than war machines they are armed with three powerful weapons: a tail-mounted Scorpion Cannon, a maw-mounted Demolisher Cannon and two Hellmaw Cannon, enabling them to fulfil a variety of battlefield roles fr vehicle destroyer to siege breaker.

UNDERCOAT

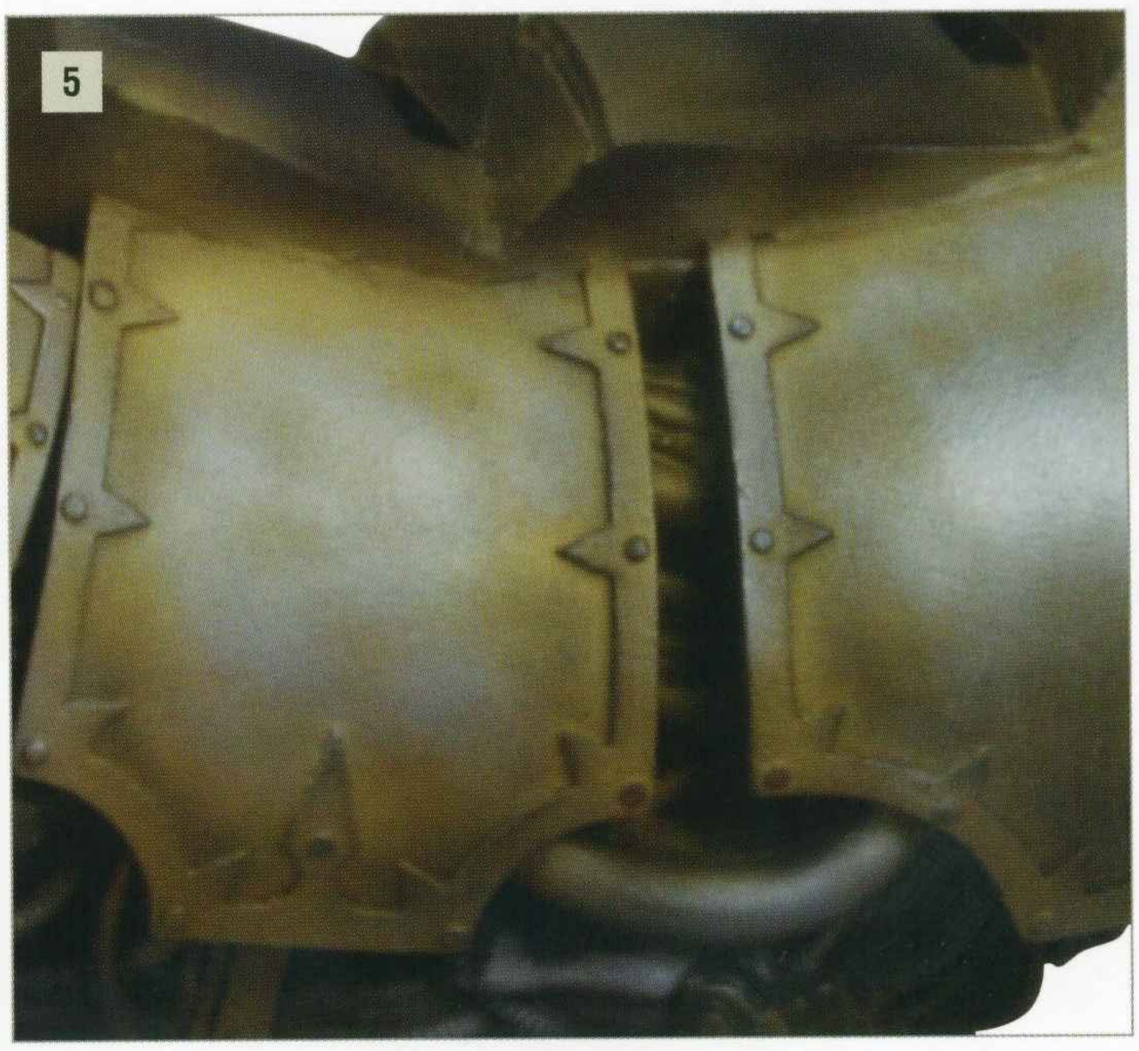
To reflect that the Great Brass Scorpion is an other-worldly creature, a Daemon Engine forged in the Warp, it was painted with swirling iridescent patterns beneath armour that had a lacquered appearance rather than the typical weathered look of other large models.

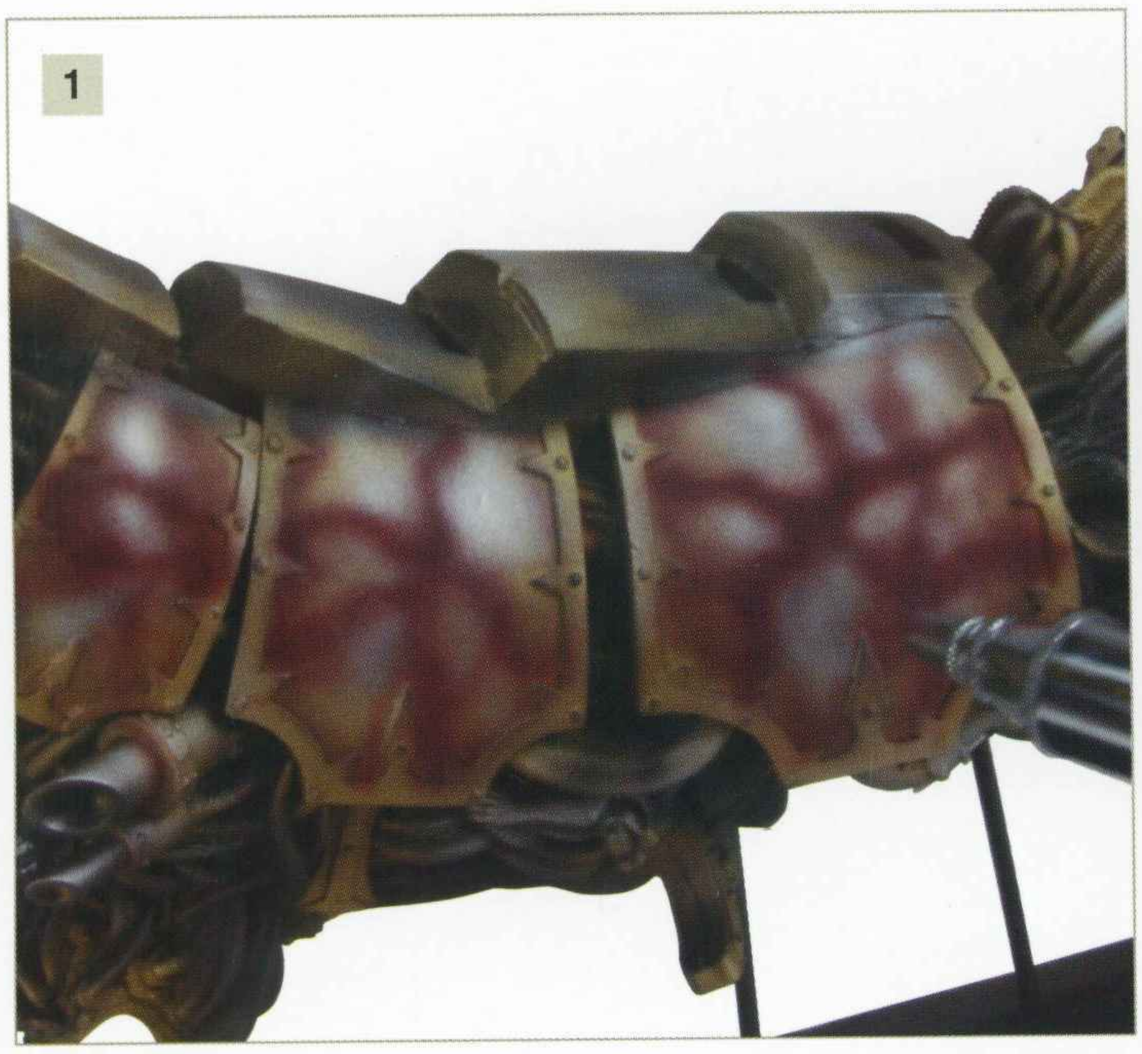
1 – The various sections were partially assembled and mounted on stiff wire rods ready for painting. Completely assembling the model would make painting it impractical due to its size and composition.

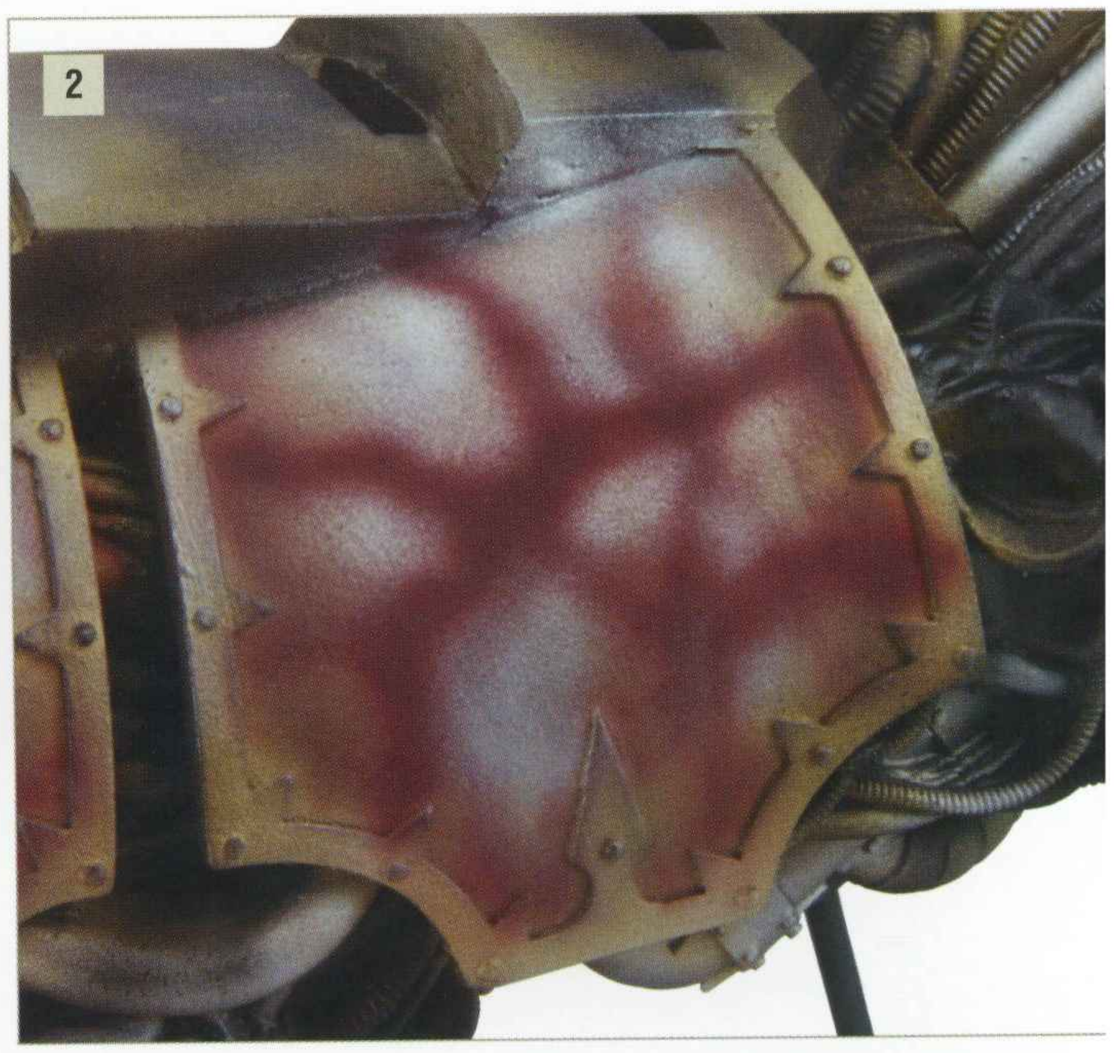
2 – Over a Chaos Black undercoat Tamiya Hull Red was airbrushed on to the model. Areas of detail such as the bundles of piping were only partially coated, allowing the black undercoat to create areas of shade.

3 – Metallic brass was then airbrushed over the model's armour plates and areas of metalwork, such as the claws and projectile weaponry.

4 & 5 – Fine swirling patterns of metallic silver were then applied to the middle of the armour plates, again using an airbrush. This silver undercoat will give the later glaze layers a subtle iridescence and glow. Silver was also lightly airbrushed over the gun barrels and some areas of piping.

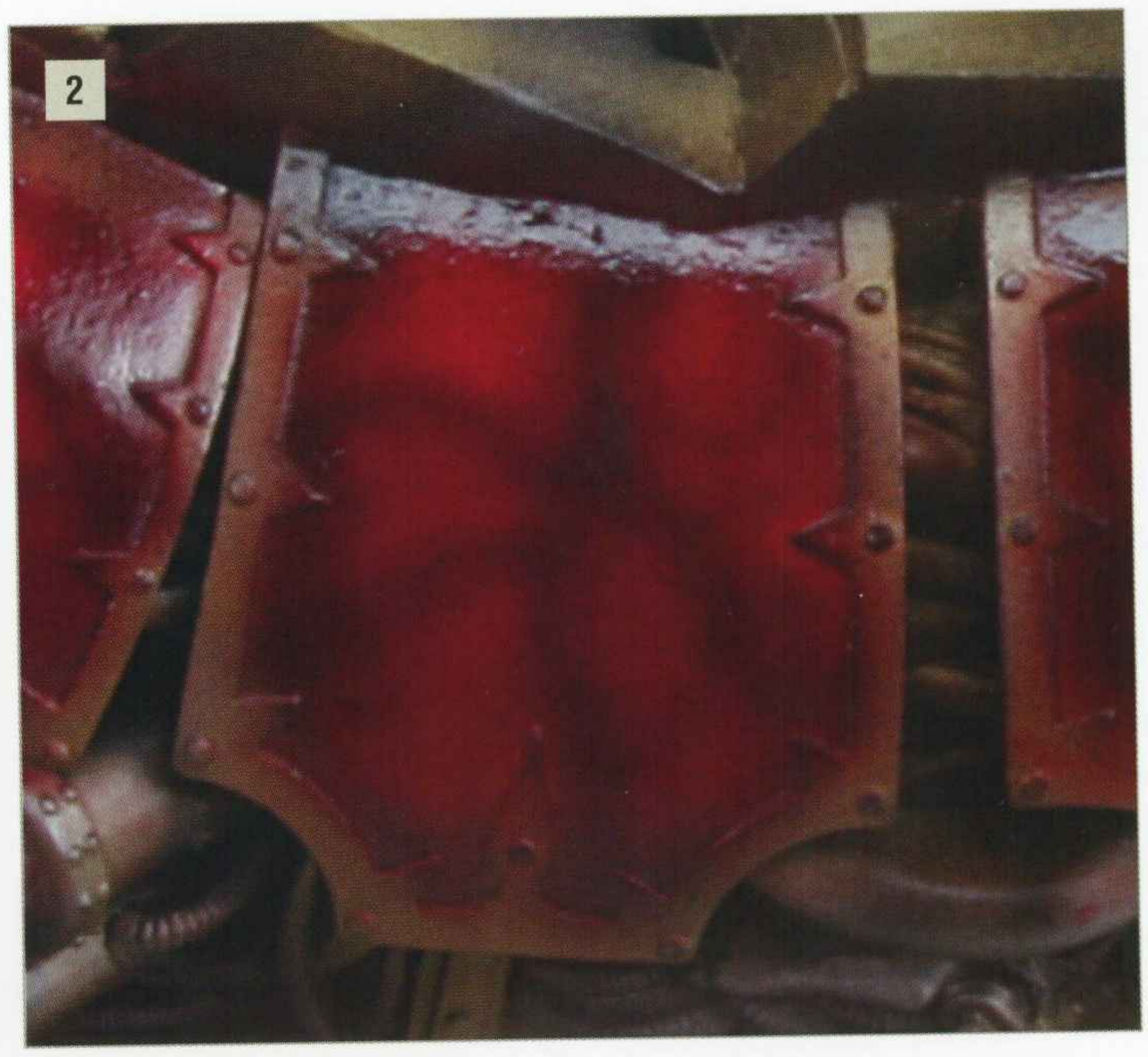






MOTTLING

1 & 2 – A mix of Tamiya Hull Red lightened with Flat Red was applied in swirling patterns over the armour plates to create a mottled effect, with some of the silver undercoat still showing through. This mix was progressively darkened with more Tamiya Hull Red and re-applied in fine layers.



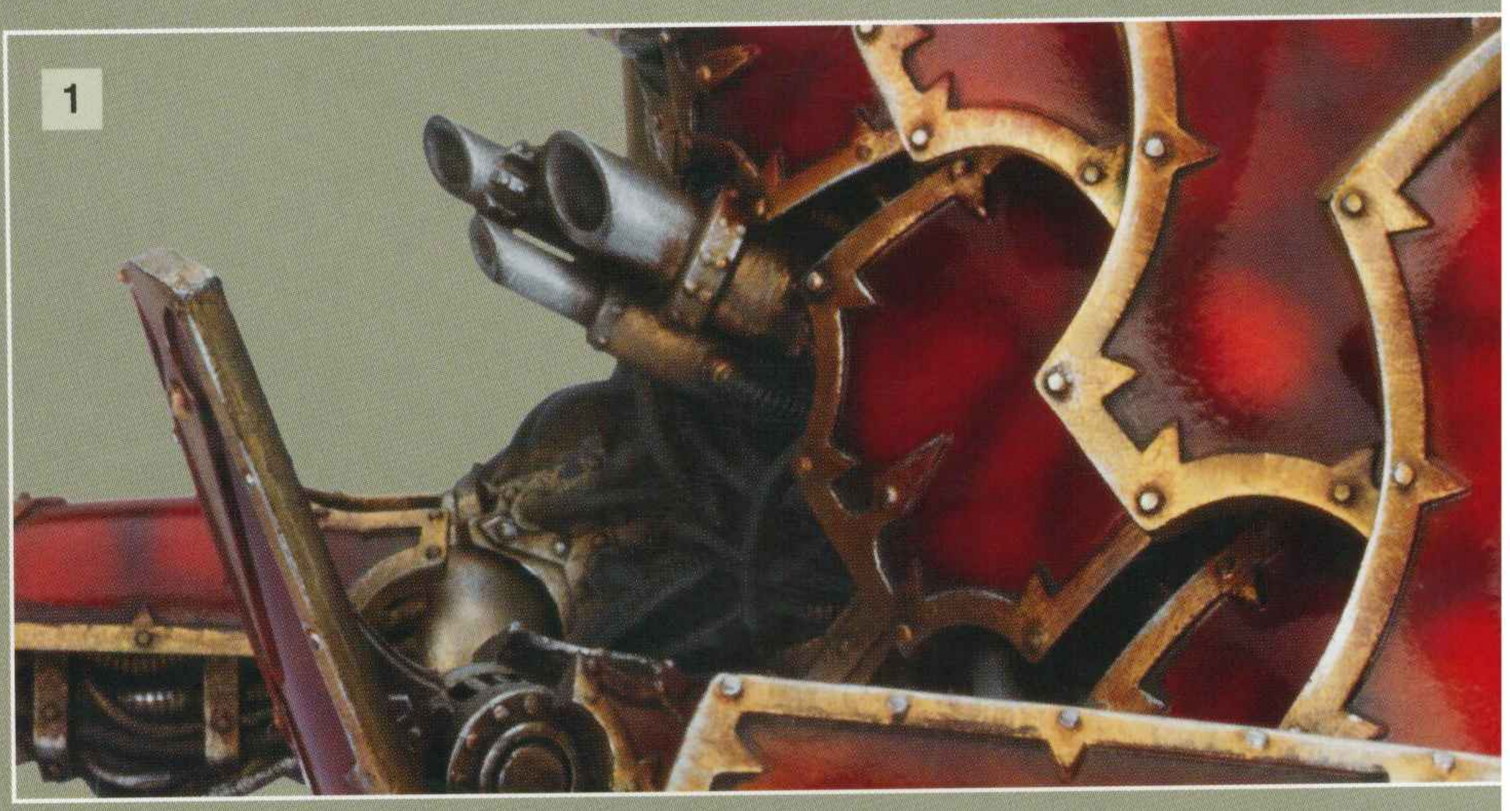
GLAZING

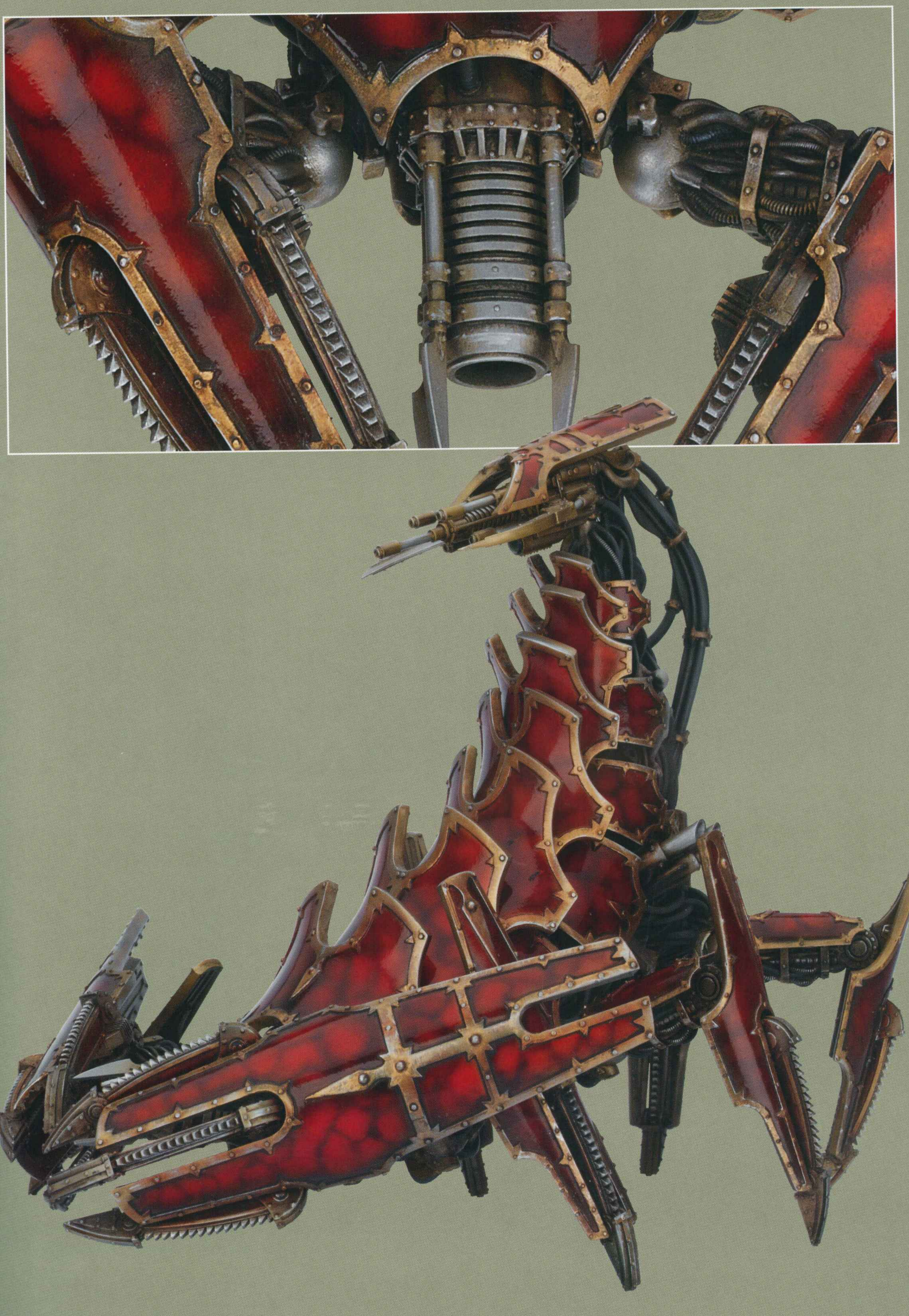
1 & 2 – A layer of Clear Red was then airbrushed on to the model to act as a glaze over the mottled pattern. Once dry, additional layers of Clear Red were built up to provide depth. Layers of Clear Orange and Clear Blue were also used to give additional subtle tonal variation to the glaze.

3 – To restore the shading to the edges of the red mottled plates, thinned burnt umber and black oil paints were mixed and then washed over the entire surface. After drying for half an hour, a cloth was used to wipe off the oil paint from the prominent surfaces of the plates, taking care not to remove it from the recesses.

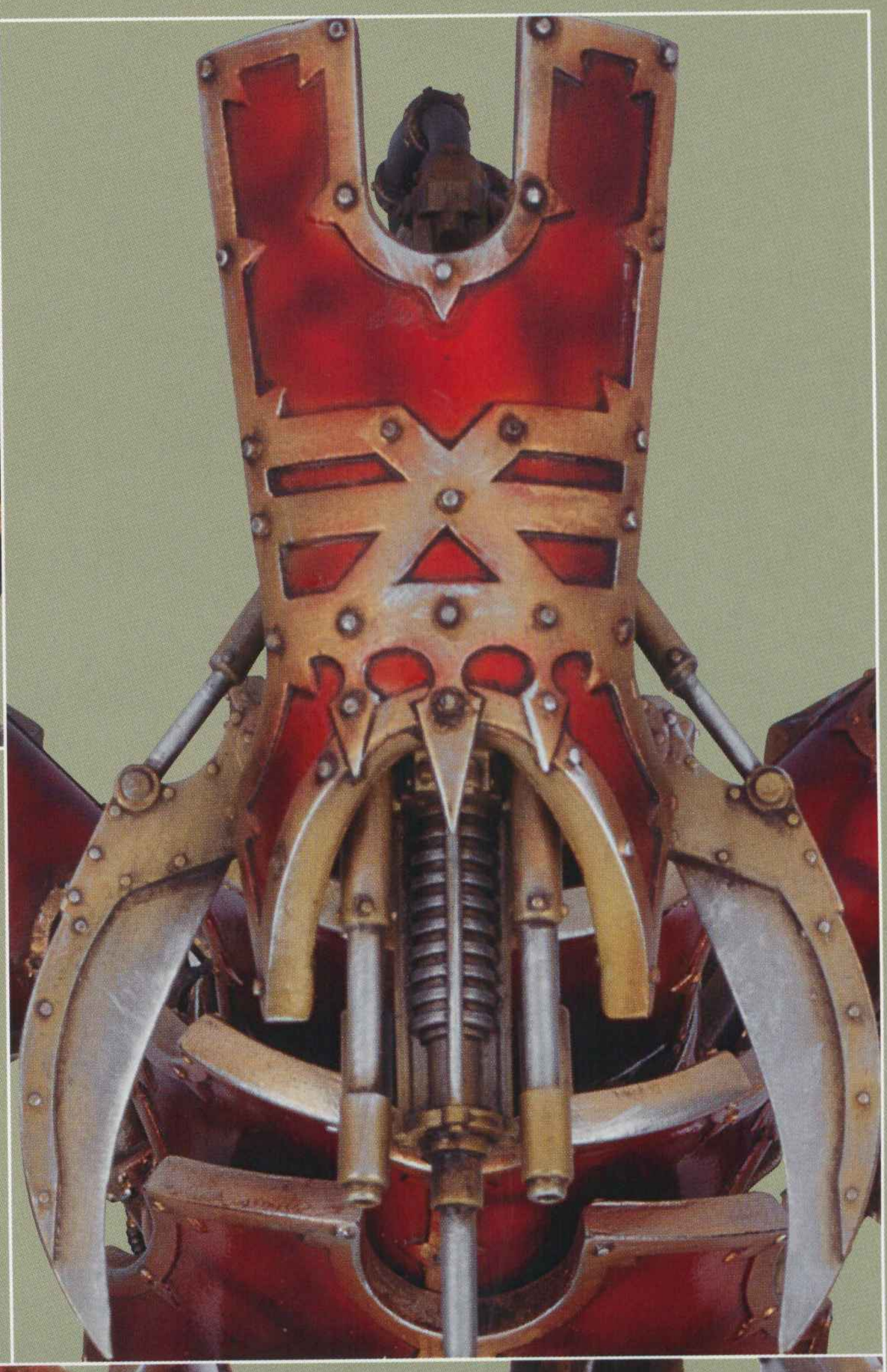
4 – To create highlights on the brass banding, Mithril Silver was drybrushed over the edges.

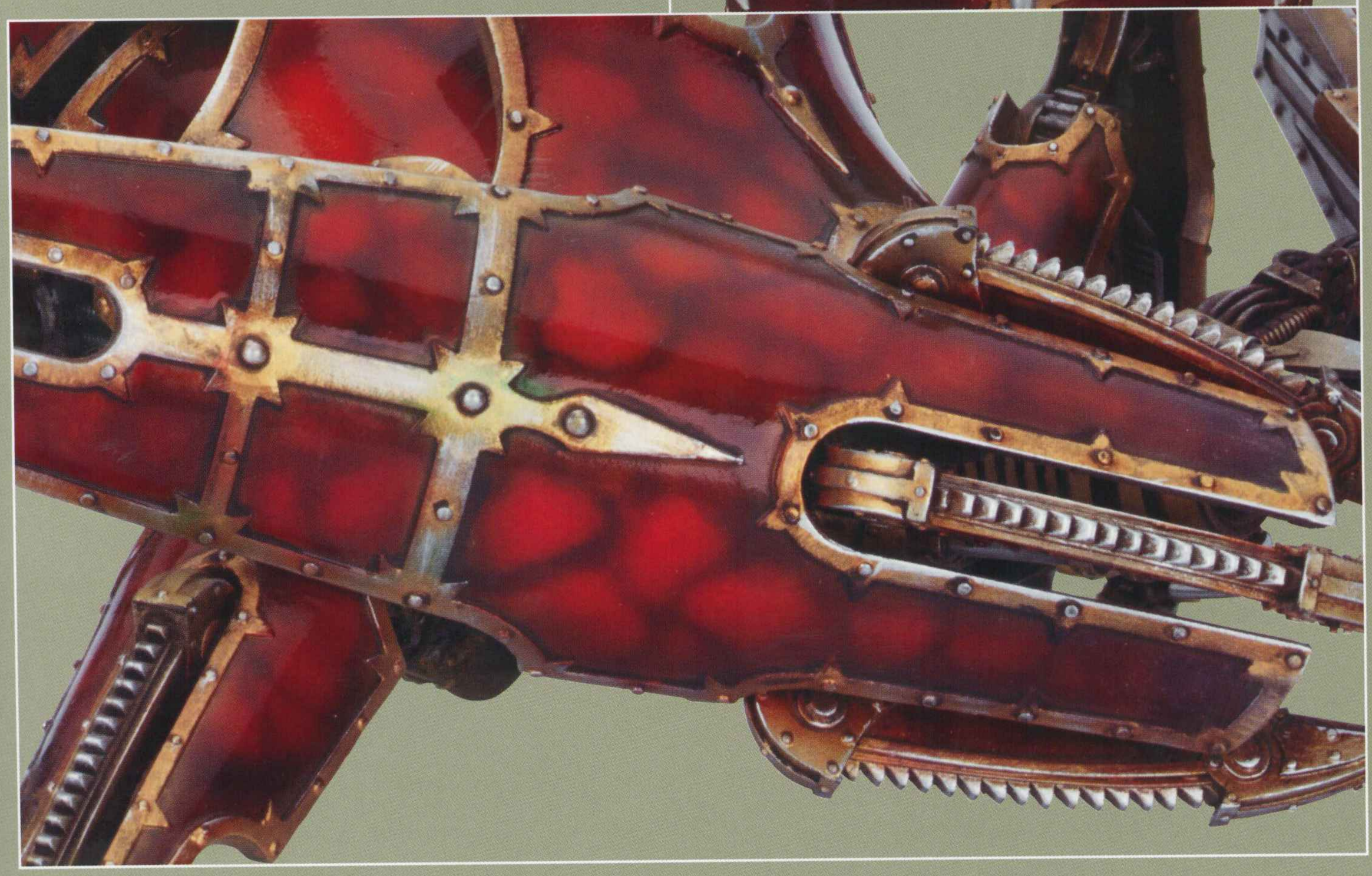
1 –To create contrast with the brass metal work, the joints, gun barrels and some sections of pipe work were painted and highlighted with progressively lighter shades of silver, starting with Boltgun Metal through Chainmail followed by Mithril Silver. A thinned down wash of Chaos Black mixed with Scorched Brown and Johnson's Klear was then applied to give a tarnished appearance to the metal.





1 – The sacrificial victims were painted with Dwarf Flesh mixed with Rotting Flesh. Highlights of Elf Flesh, again mixed with Rotting Flesh, were then applied. Washes of Warlock Purple and Scab Red were applied over the flesh tones to give the skin a sickly rotten pallor.

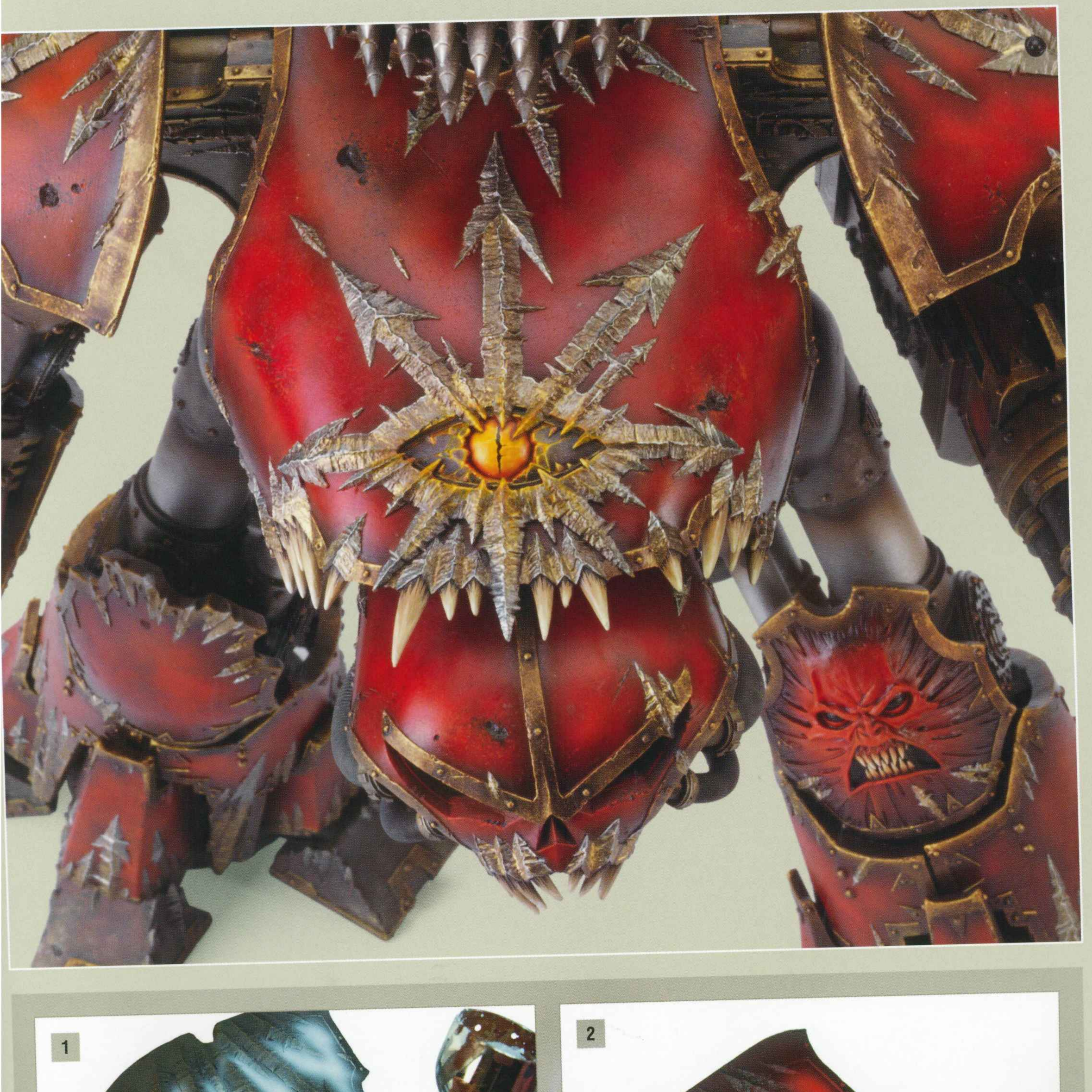




CHAOS REAVER TITAN

Painted by Phil Stutcinskas

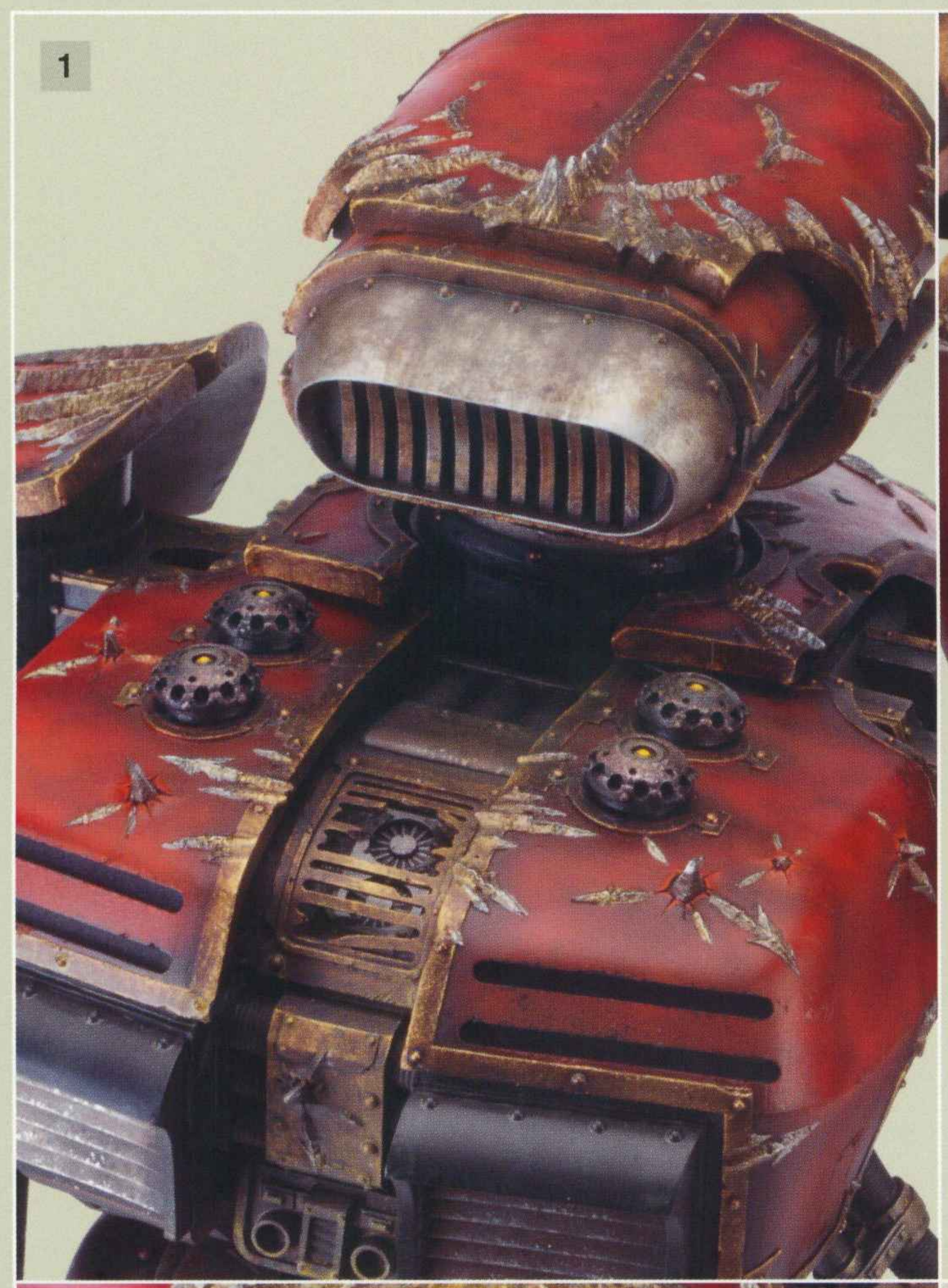
Deployed in a battlefield role identica to their Imperial counterparts, Cha Reaver Titans are heavily armoured goliaths of war armed with laser blasters, 'Apocalypse' missile launchers and close combat weapons such as siege hamm and Titan chain fists. Origina manned by a living crew, r Chaos Reaver Titans hav seen centuries of servi within the armies of t Dark Gods, their cre now fused with th Titan into a sing daemonically possessed e

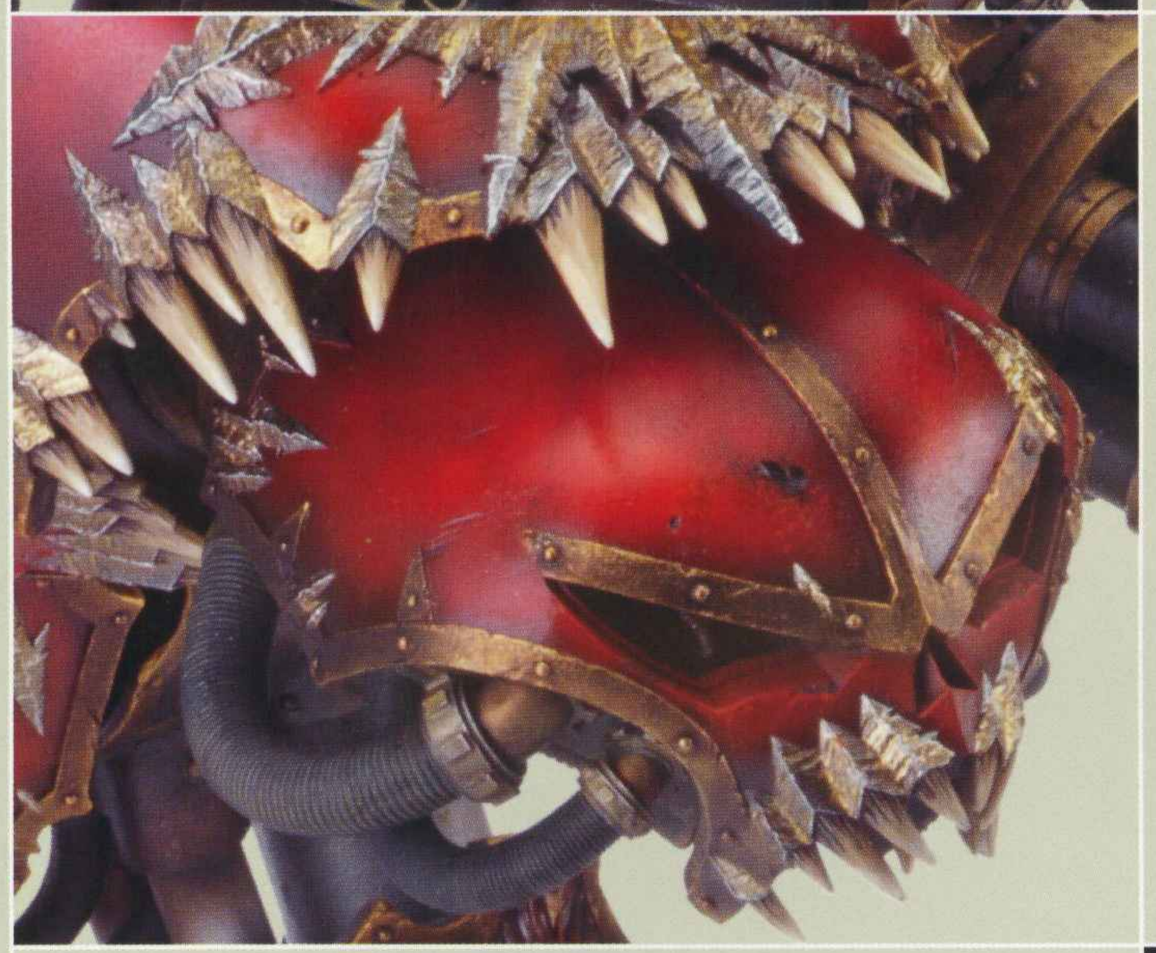


GLAZED ENAMEL

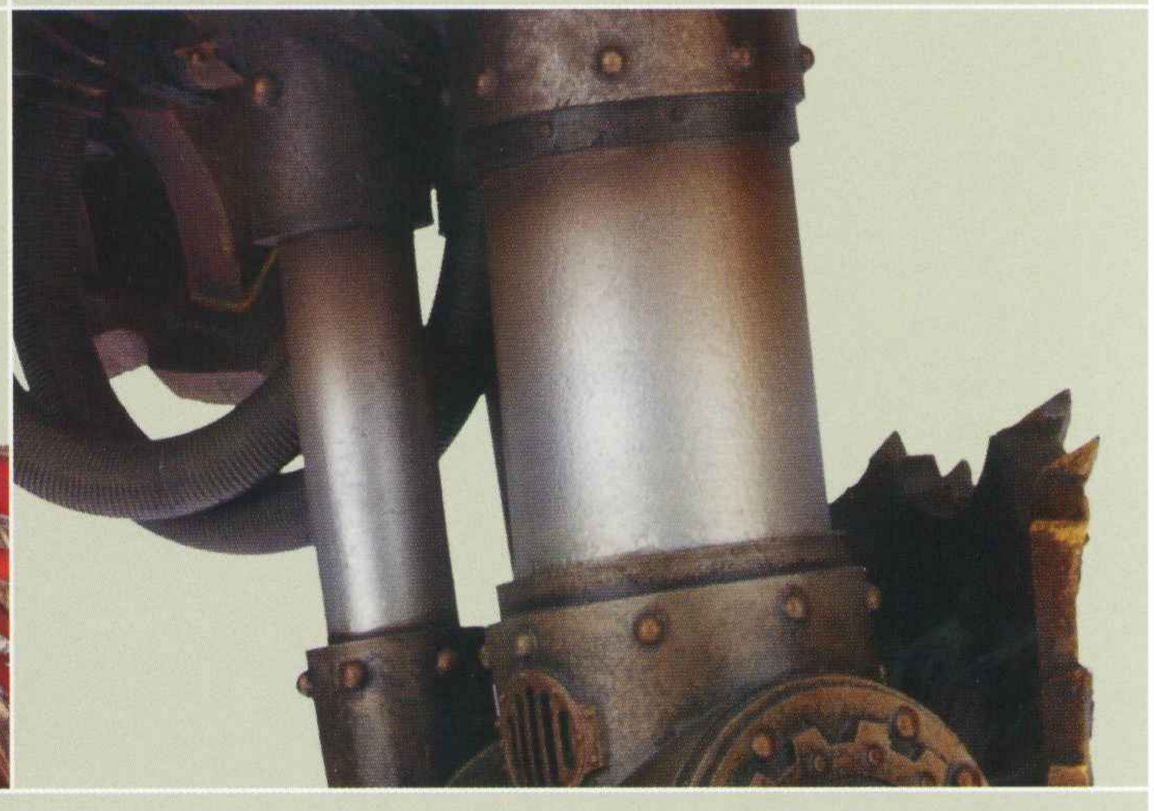
1 – The red armoured plates of the Chaos Reaver were painted using a similar technique to that used on the Great Brass Scorpion. Skull White was first airbrushed over the flat plated areas of the model, creating a mottled pattern, with some black left visible around the edges and where there would be areas of shade.

2 – A thin layer of Tamiya Clear Red was airbrushed over the plates and allowed to dry. Additional layers of clear red were then applied until they had built up to produce a deep rich colour on the plates.





1 – To achieve an aged and weathered appearance, the bare metal areas erupting out of the red plates were painted by stippling on metallic pain with lighter tones being used nearer the edges. To create contrast betwe them and the bright red plates, washes of purple and blue were used to darken the metal.
Applying fine layers of gloss varnish around the joints created an oily residue around them.
2 – The metallic bands around the edges of the red armoured plates we created by stippling onto the edges varying shades of gold and brass. A mix of Gryphonne Sepia and a small amount of Chaos Black was then applied to tie the effect together and create a tarnished metal look.
Silver metallic tones were stippled on to the claws, followed by washes Gryphonne Sepia mixed with gloss varnish to impart an oily sheen.

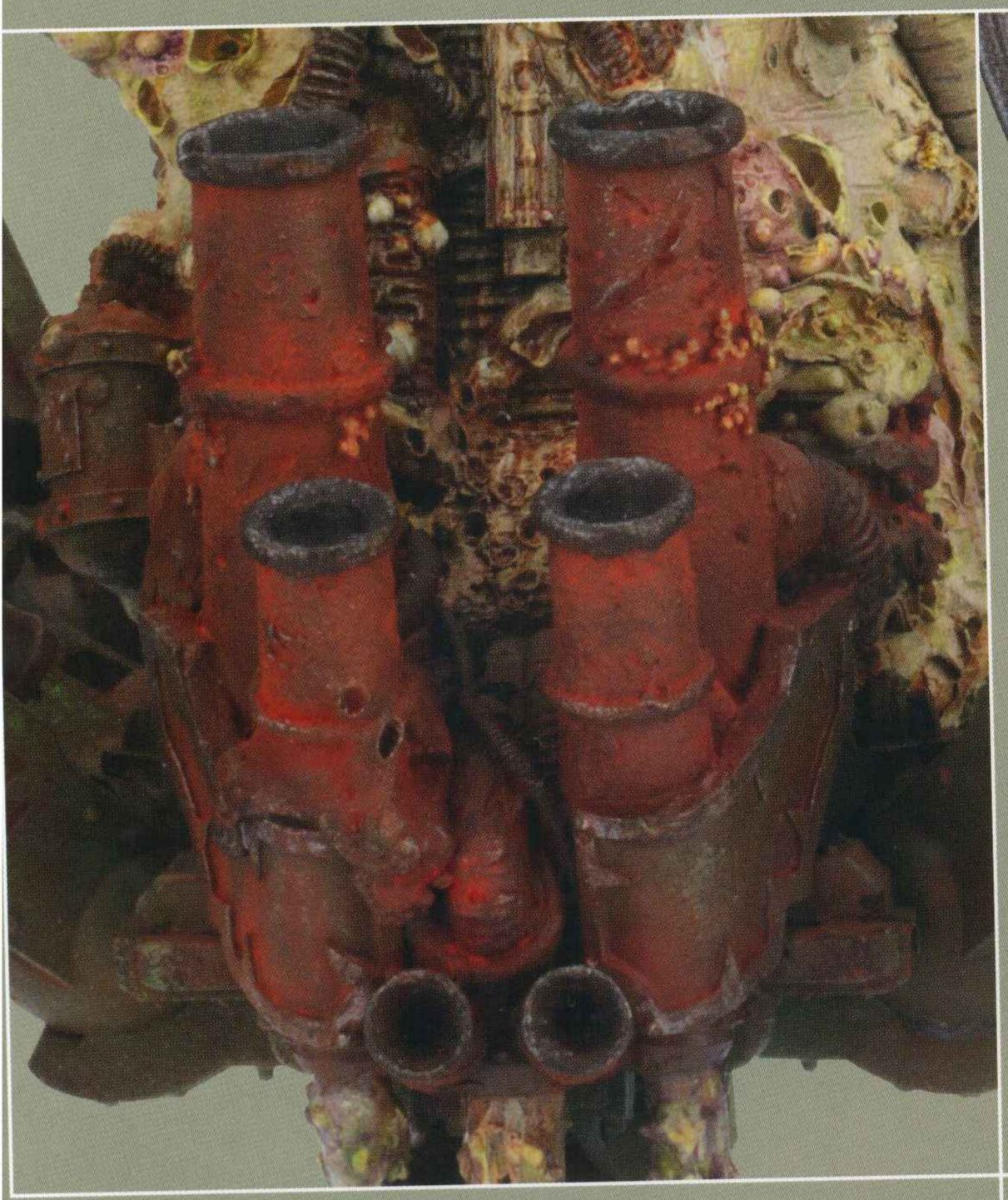


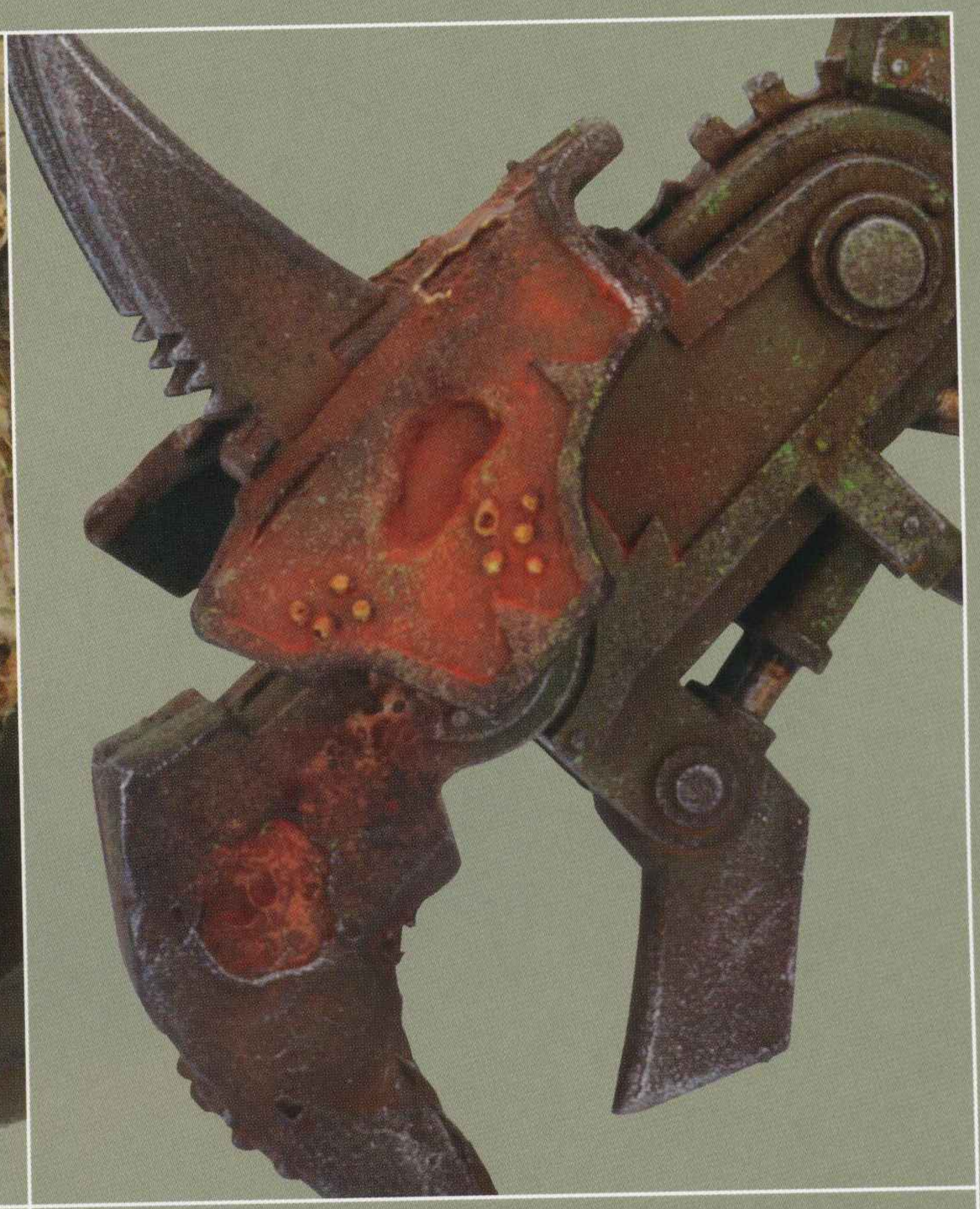
NURGLE

PLAGUE HULK

Painted by Paul Rudge

Plague Hulks are a hybrid of war machine and daemonic entity. They are heavily armed with powerful servo-claws that can tear apart heavy armour, and a rot cannon which fires shells impregnated with highly infectious contagions. These Daemon Engines can also generate vast fogs of poisonous gases via their exhausts or spew a tide of flesh-dissolving filth from their maw.





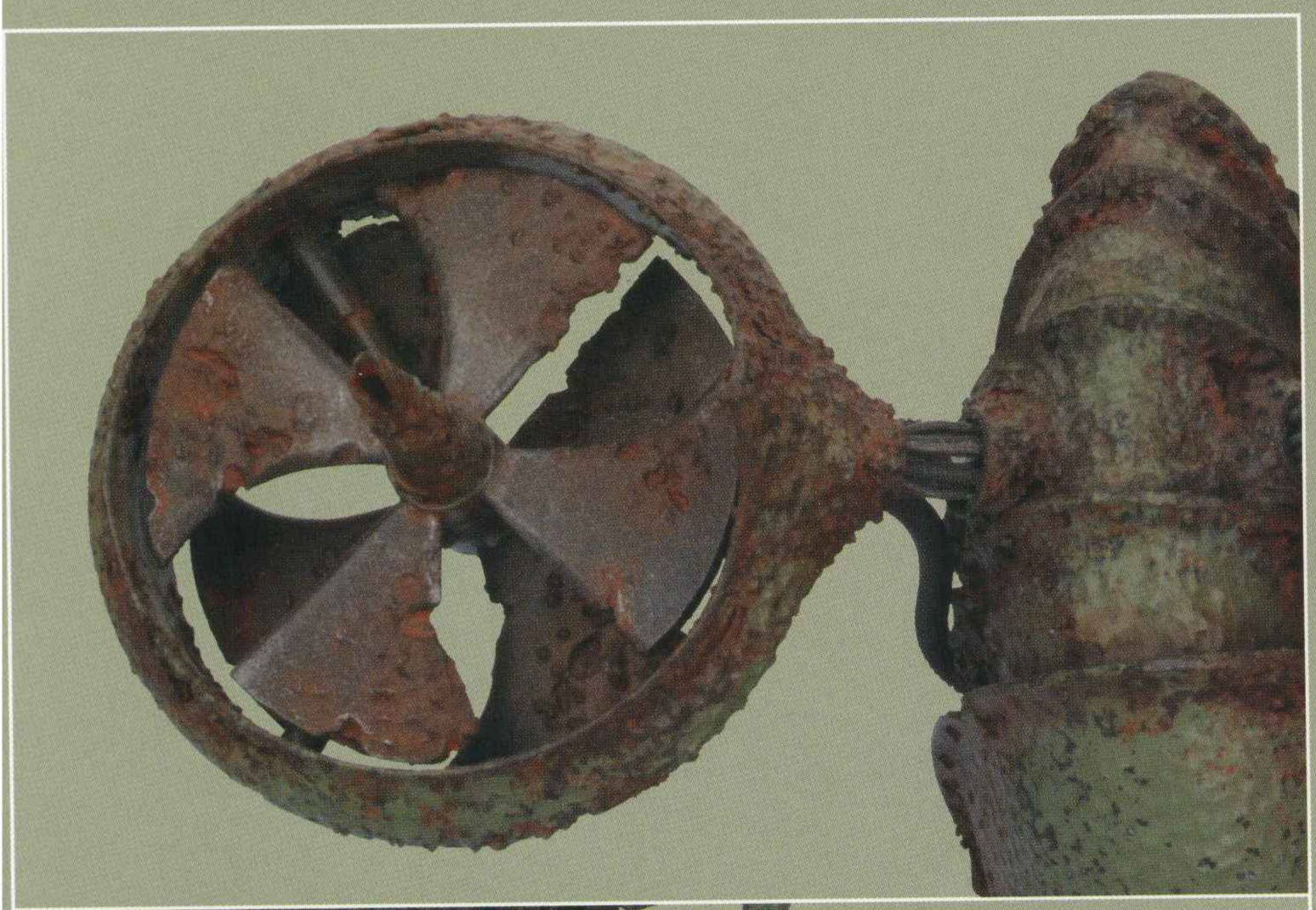
Glazes of various Games Workshop inks and washes were used to build up the colours on the rotting fleshy parts of the model. The Plague Hulk's mechanical body was first painted in tones of dark green before a dark metallic colour mixed from Tin Bitz and Scorched Brown was used to add areas of tarnish to it. Washes of various brown and orange tones were then used to build up rust patches before Forge World weathering powders were blended over the top to add subtle texture.

NURGLE

BLIGHT DRONE

Painted by Daren Parr

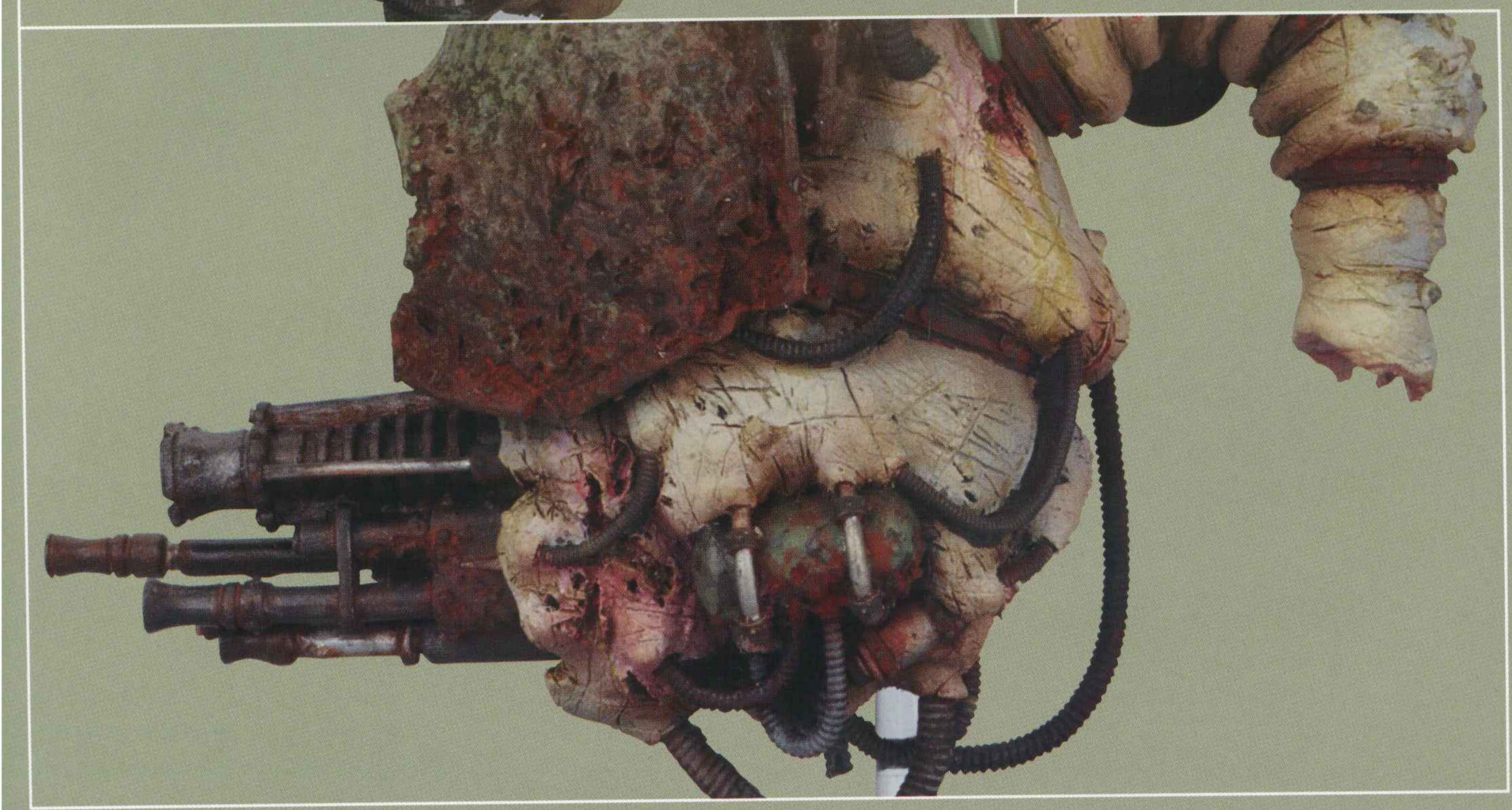
First officially engaged by Imperial forces on Vraks, Blight Drones of Nurgle are daemonically possessed bio-mechanical skimmers. Hovering in swarms and armed with reaper autocannon and virus bio-cannon, they perform a duel role for the followers of the Dark Gods, directly attacking troops in the open and infecting entrenched infantry and light vehicle crews with clouds of toxic contagions.



The armoured plates and machinery were first airbrushed with Catachan Green, lightened with a little Rotting Flesh. Charadon Granite was added
to this mix and then sponged on to the edges. A dull iron colour was mixed from Graphite Weathering Powder, Charadon Granite and Boltgun Metal, and applied as a highlight over the very edges of the machine sections. Washes of rust coloured weathering powders were then applied over the rust damaged sections, with darker colours being used on the deepest patches.

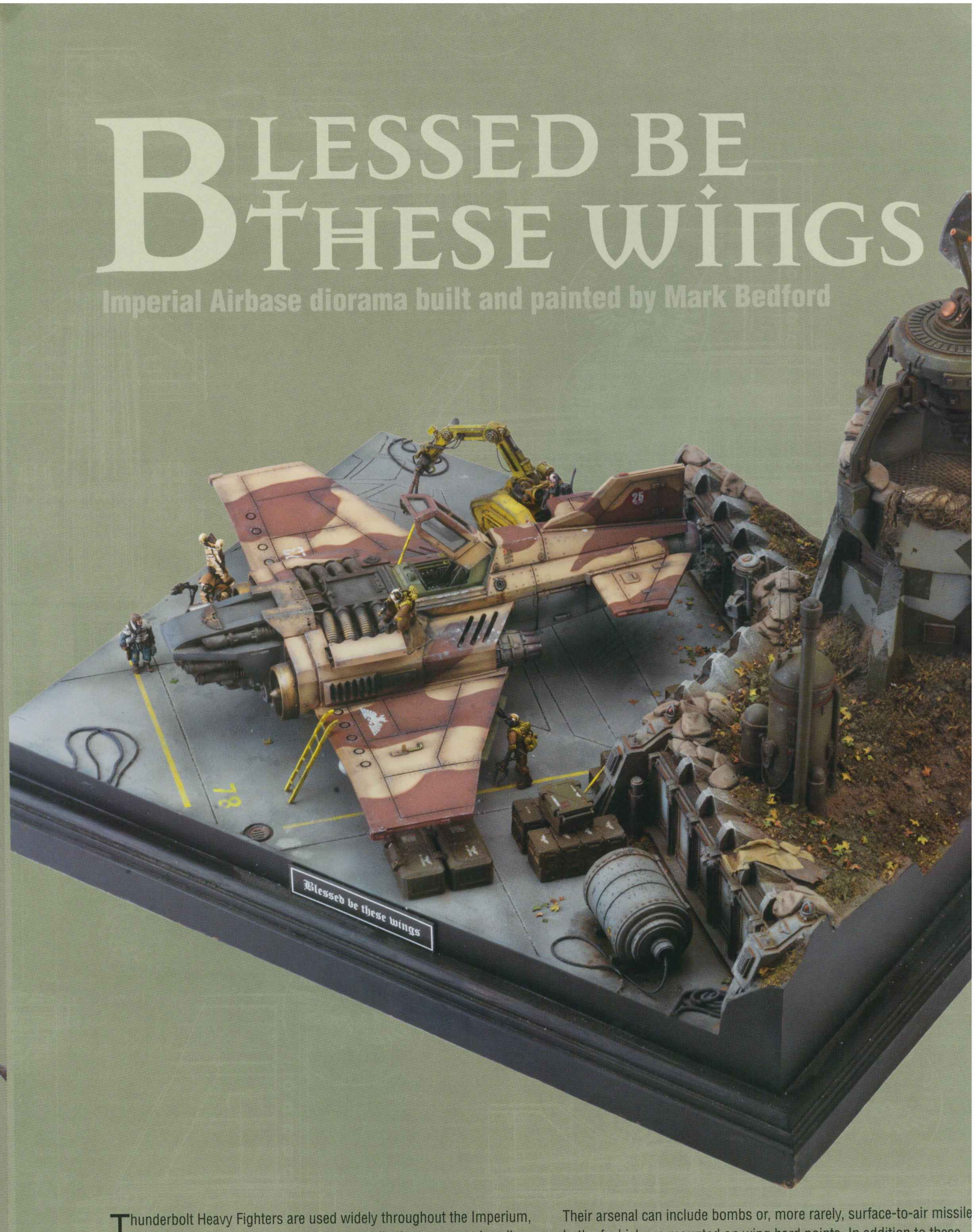
A pale skin tone was mixed from Rotting Flesh and Desert Yellow, and painted on to the organic sections. Pale blue was then lightly airbrushed over the stretched skin surfaces. The fleshy areas were washed with thinned raw umber oil paints to give the recesses a sickly green tint, and thinned Flat Red was lightly airbrushed around the open wounds before Red Gore mixed with gloss varnish was applied to the insides of them. Gloss varnish mixed with Camo Green was used to glaze over the damaged flesh areas and also painted on in streaks to look like leaking necrotic fluids.

Finally, the whole model was given a coat of matt varnish. Once this layer was dry the armour and other inorganic parts were painted with satin varnish, and the open wounds and sores on the organic parts were picked out with gloss varnish.



BLESSED BE THESE WINGS

Imperial Airbase diorama built and painted by Mark Bedford



Thunderbolt Heavy Fighters are used widely throughout the Imperium, and are its main fighter craft. Highly versatile they are more heavily armoured than similar flyers, and can mount a greater range of heavy weapons. Capable of functioning both in space and within planetary atmospheres, Thunderbolts require little in the way of maintenance crew and equipment, and can be quickly refuelled and rearmed via temporary airbases during battle.

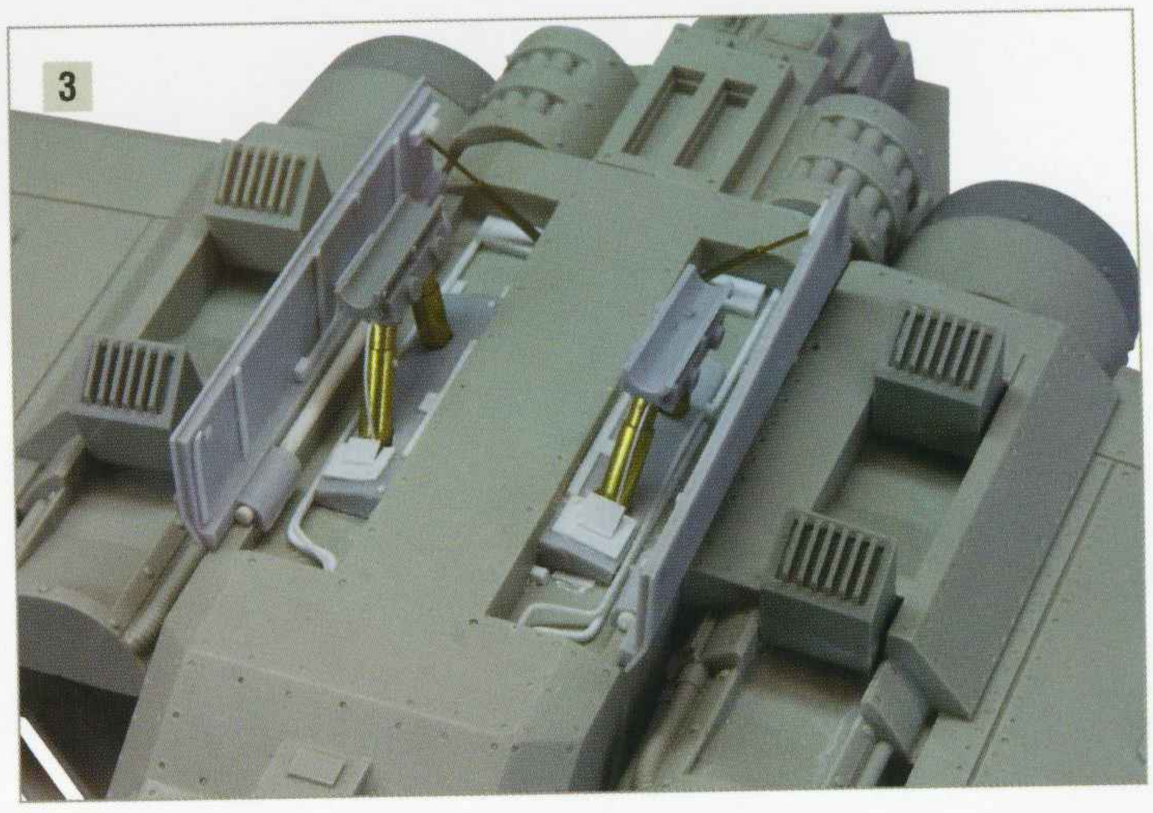
Their arsenal can include bombs or, more rarely, surface-to-air missile both of which are mounted on wing hard points. In addition to these Thunderbolts also have quad nose-mounted autocannon and twin-link lascannon. These make Thunderbolts incredibly versatile fighter craft, providing pilots with the ability to use their lascannon in a ground atta role against enemy vehicles, and their autocannon during dogfights or strafing enemy infantry.

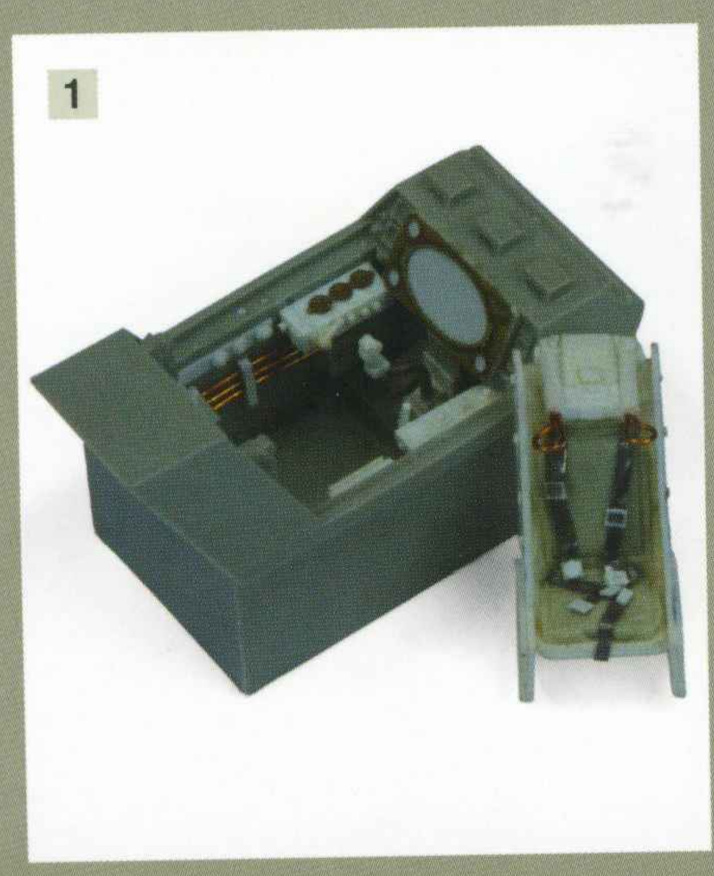
EXTRA DETAIL

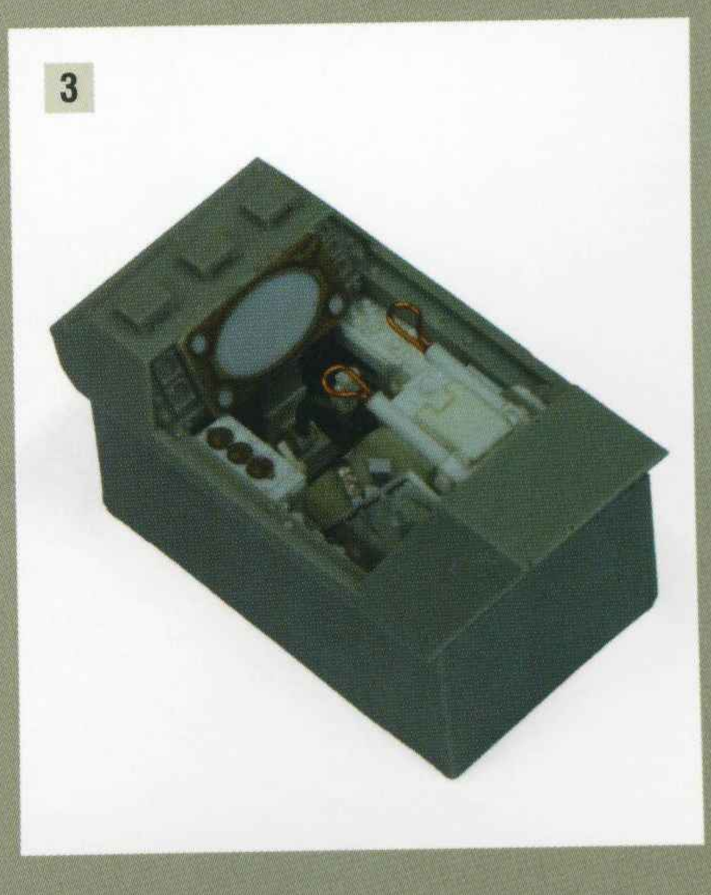
When planning any diorama keep in mind the story you want it to tell. The intention with this diorama was to show a Thunderbolt undergoing refurbishment, and to do this extra details would be added to areas not usually visible on the fully assembled kit. When attempting this type of project, photographs of real military aircraft can be a great source of reference material.

1 & 2 – Lead foil and different thicknesses of wire solder were used to add additional detail to the engine area, and extra rivets were added along the panels. This is a time consuming process, but extra detail such as this can really enhance a model.

3 – Brass tube and wire were also used to add extra detail to the undercarriage, and plastic rod and card were added to the undercarriage bay section.







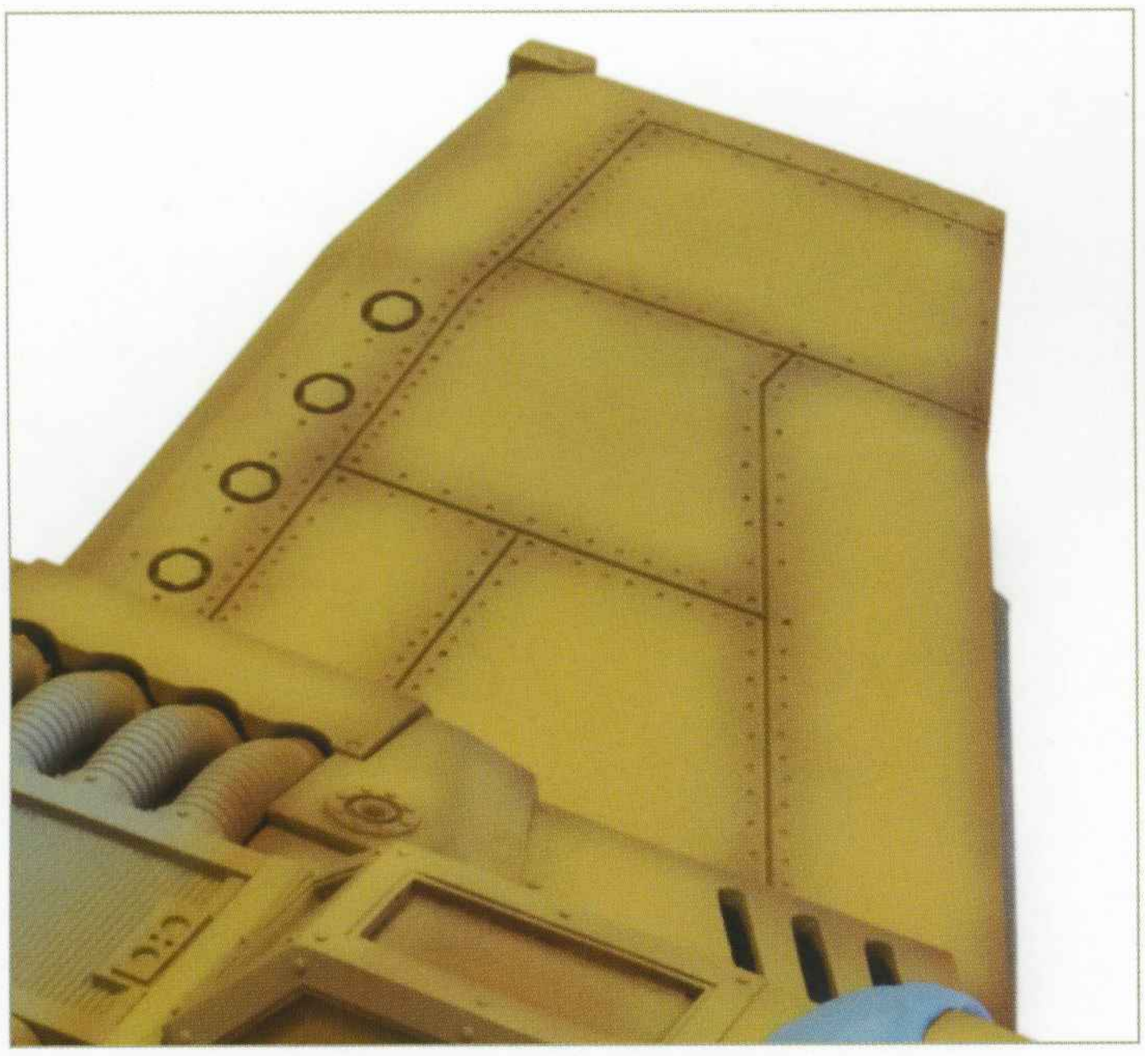
COCKPIT

The cockpit was heavily converted using various materials including brass and copper wires, plasticard, lead foil and putty.

1 – A scratch built ejection seat was made to replace the resin original. Its harness was created from lead foil cut into strips, and the securing clasps were made from plasticard.

2 – Thin copper wire was used to create ejection handles and a thicker wire was used to make the control yoke. Plasticard was cut to shape for the handle.

3 – Etched brass and more strips of plasticard were then used to add to and refine the additional details.



BASECOAT AND CAMOUFLAGE

A base coat of Tamiya NATO Brown was airbrushed over a grey underco Next, light coats of Tamiya Dark Yellow were airbrushed over the individual panels, working from the centre out. A little Tamiya Flat White was added to the yellow and airbrushed over the middle of the panels. Blu-tac was used to mask off the areas that would remain a sand colour This is a useful material to use as a mask as it is flexible, re-usable and cheap, and can be worked into different shapes. Once masked, Tamiya NATO Brown was reapplied to the unmasked areas.

The masking layer was removed and the model given a coat of Purity Seal varnish. Once the decals had been applied they were sealed with more Purity Seal.

WEATHERING

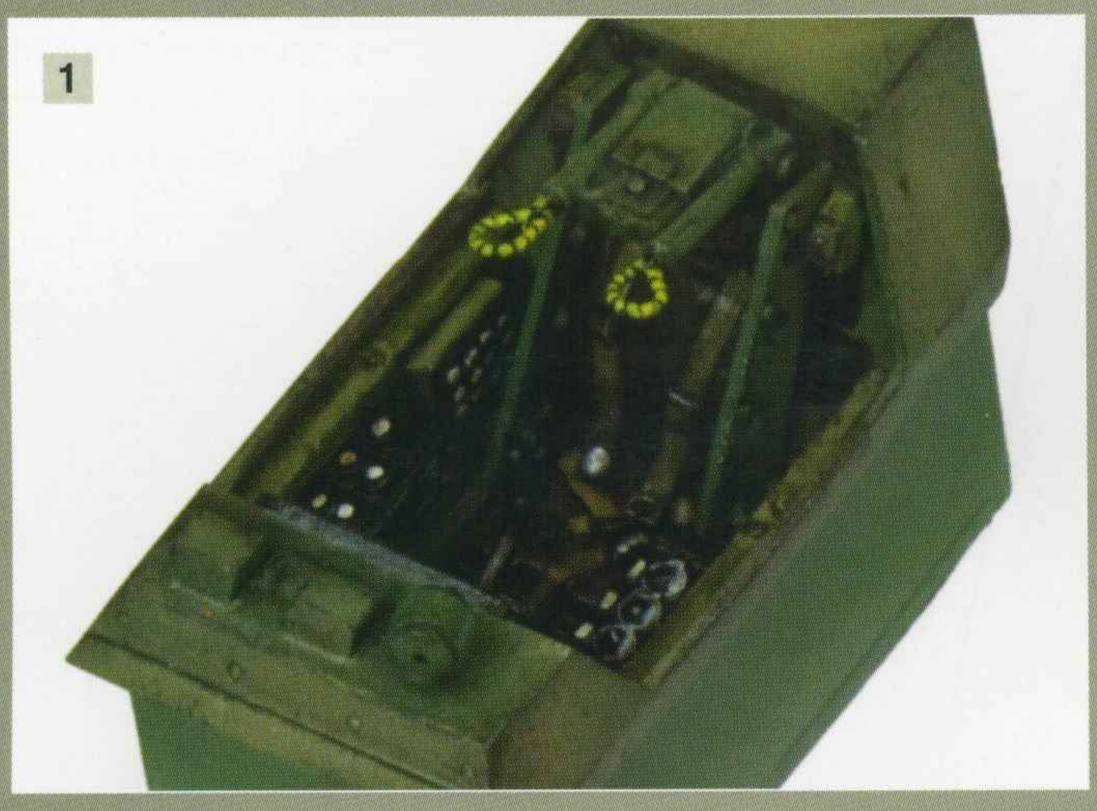
Various chipping and weathering effects were applied, and then different shades of grey were sprayed on to the underside of the aircraft's fuselage and wings.

Sepia and black oil paints were mixed with white spirit and used to pick out details such as the rivets and panel lines. This mix was also used to create the effect of grime building up on the Thunderbolt during a flight. This was done by dragging a flat brush, which was first dipped in white spirit, across the aircraft from front to back to thin the mix and create the effect of streaked grime.

PAINTING COMPONENTS SEPARATELY

1 – While most of the cockpit was painted in dark tones, the ejection seat handles were picked out in Bad Moon Yellow, striped with Chaos Black.

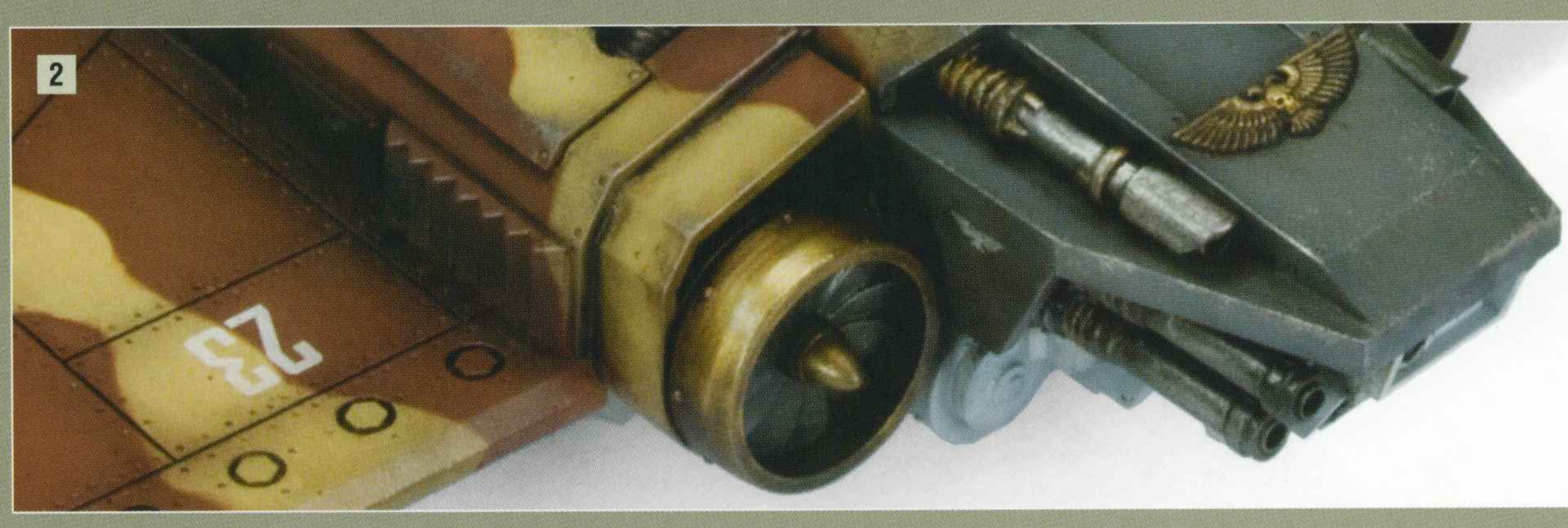
2 & 3 – The landing skids and external fuel tanks were heavily weathered as these would see a lot of wear when the aircraft was in use. They were given a base coat of Medium Grey, with Skull White being progressively added to the Medium Grey on subsequent layers as they were airbrushed on to the middle of the panels. Following the addition of chipping, which was applied with a sponge, a mix of burnt umber and sepia oil paints were applied, allowed to dry a little and then partially removed with a clean cloth.



WEATHERING

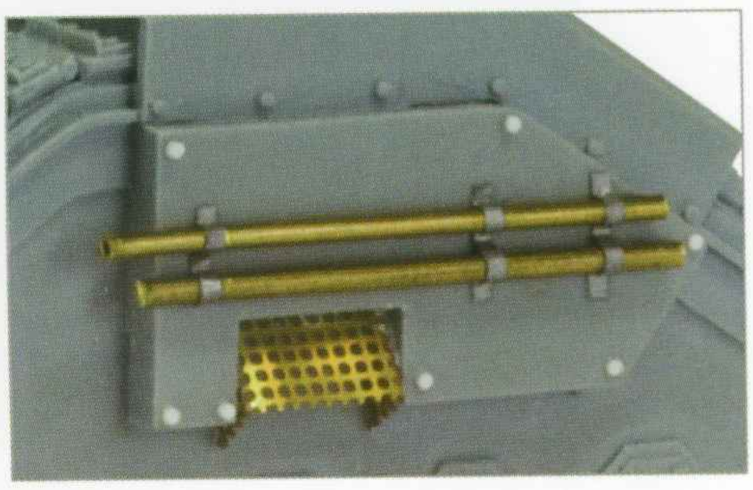
1 – The exposed radiator was first given a heavy coat of grime. The coolant pipes were then picked out in Tin Bitz and their top edges drybrushed with a mixture of Brazen Brass and Mithril Silver. Sepia and burnt umber oil paints mixed with white spirit were then washed around the details to help pick them out.

2 – The engine cowl was painted with Brazen Brass to provide contrast between it and the painted sections of the aircraft. The replacement lascannon was given a less weathered appearance than the other lascannon on the craft, to give the impression it had been fitted whilst the aircraft was at the airbase.

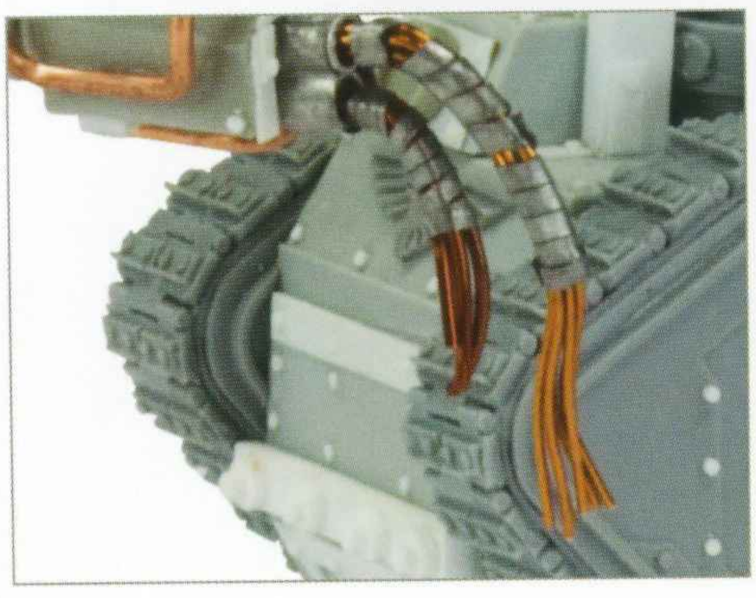


REPAIR CRANE

The repair crane was scratch built from various bits boxes and plastic kits. A Forge World servitor model with added etched brass pieces and pipes was mounted on its back.



Lead foil was used to create the clasps holding the sections of brass tube in place at the crane's sides. Thin electrical wire was then used as light cabling on the crane arm and strips of lead foil were wrapped around lengths of copper wire to represent heavy insulated cabling.

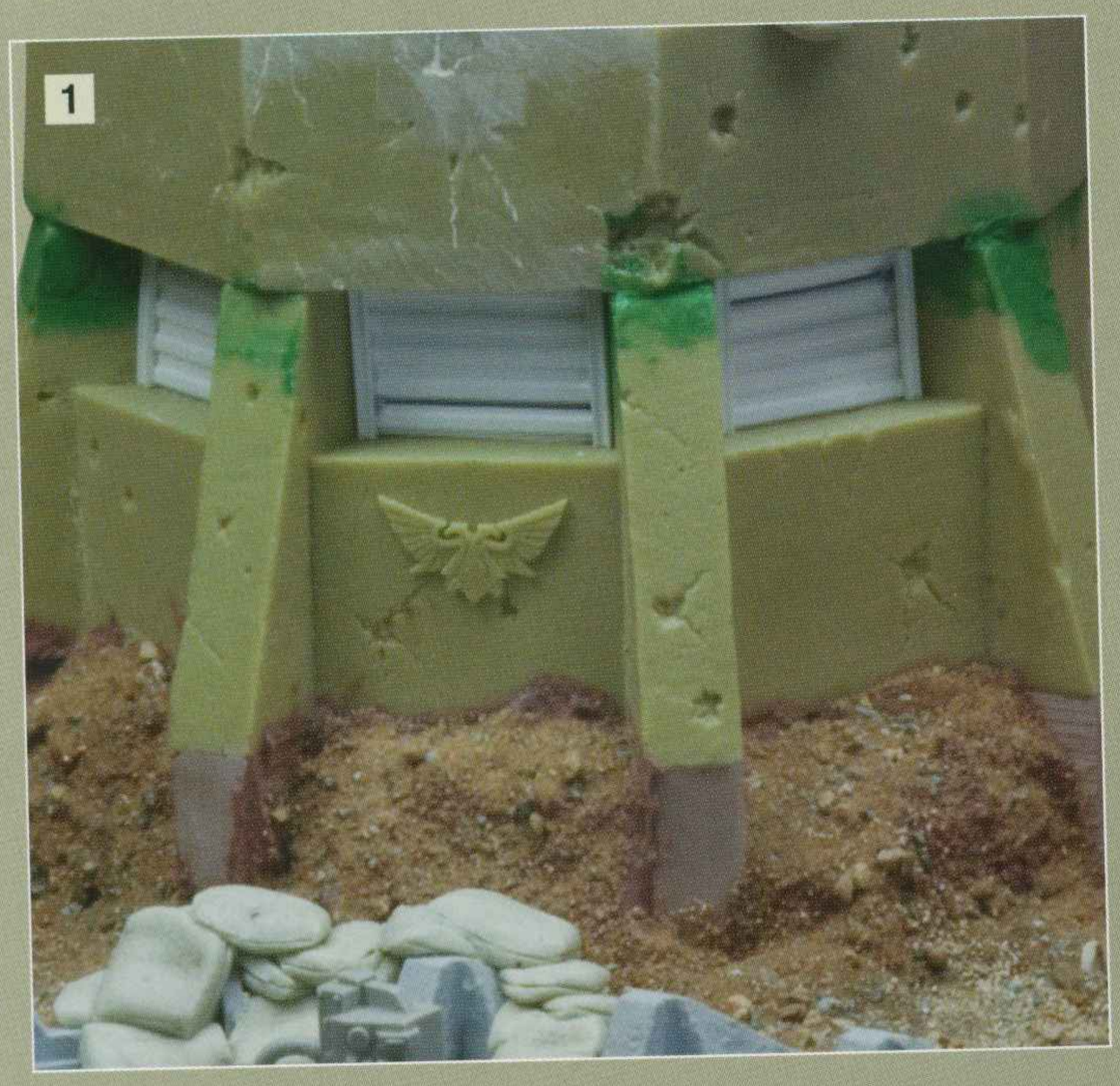


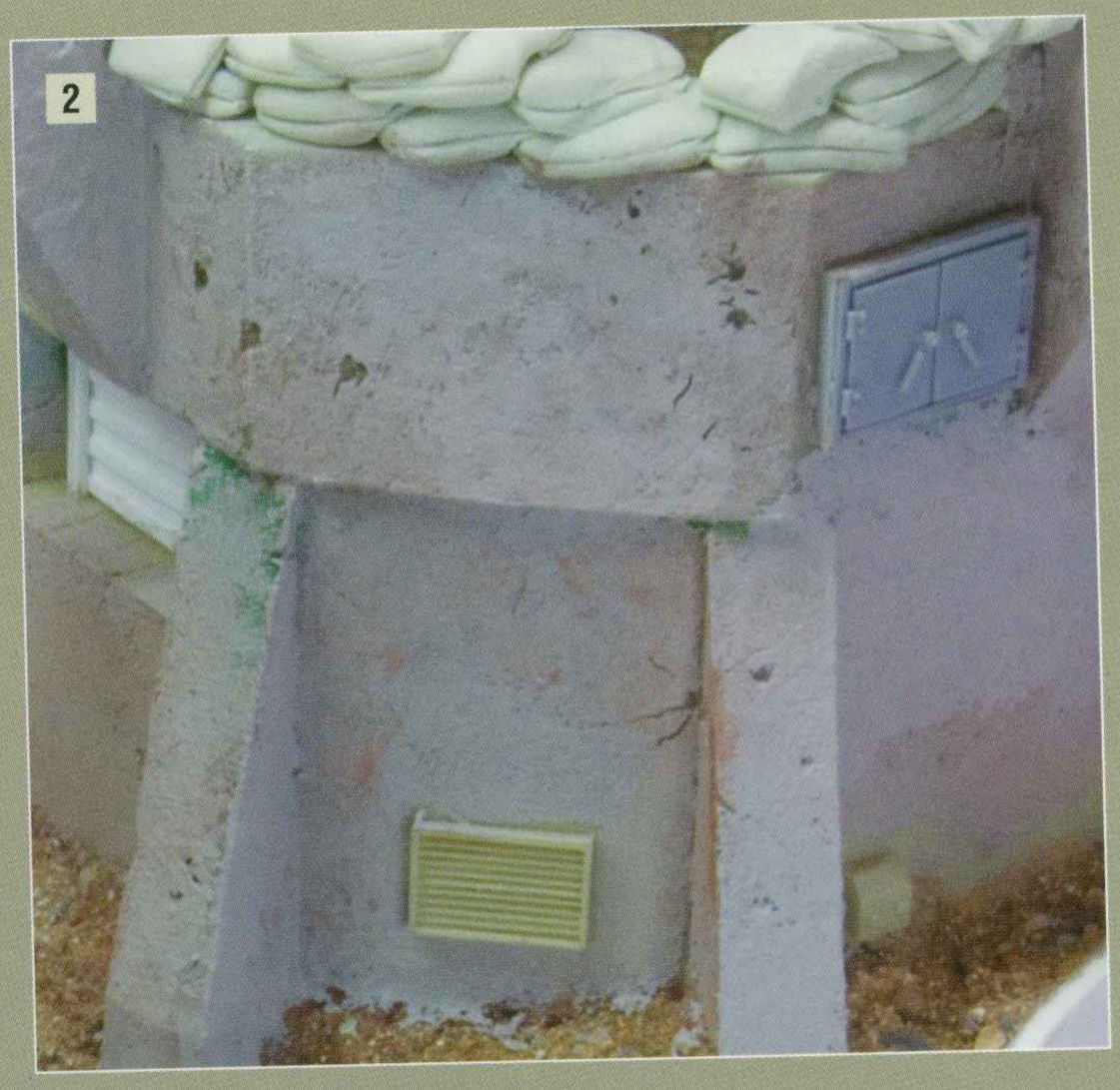
CONSTRUCTING THE BASE

Before work began on the diorama's base, a few sketches were made and from these the scene was mocked up to get a feel for what it would eventually look like. Parts of the Forge World Trench Works kit were used to make the wall, then sandbags made from modelling putty were layered over sections to break up the lines and add variation to the top of the wall. Plasticard was then used to finish and neaten the edges.

PAINTING AND WEATHERING THE GROUNDWORK

An Imperial double-headed eagle design was enlarged using a photocopier and traced into position on a sheet of balsa foam board. Balsa foam is a light weight plastic foam that can be easily carved, chiselled, textured or embossed, and was ideal for replicating the concrete airfield on this diorama. It can be purchased from hobby stores and comes in various shapes, sizes and densities.





BUILDING THE CONTROL TOWER

1 & 2 – Plastic card shutters and vents were created to add extra detail to the bunkers, and plastic model filler was then stippled onto the bunker to give a rougher texture to its concrete surface.

3 – The radar array from Forge World's Anphelion base was then fixed into position on the tower.

4 – Modelling putty sand bags and additional features were positioned on and around the tower to add more detail to it.

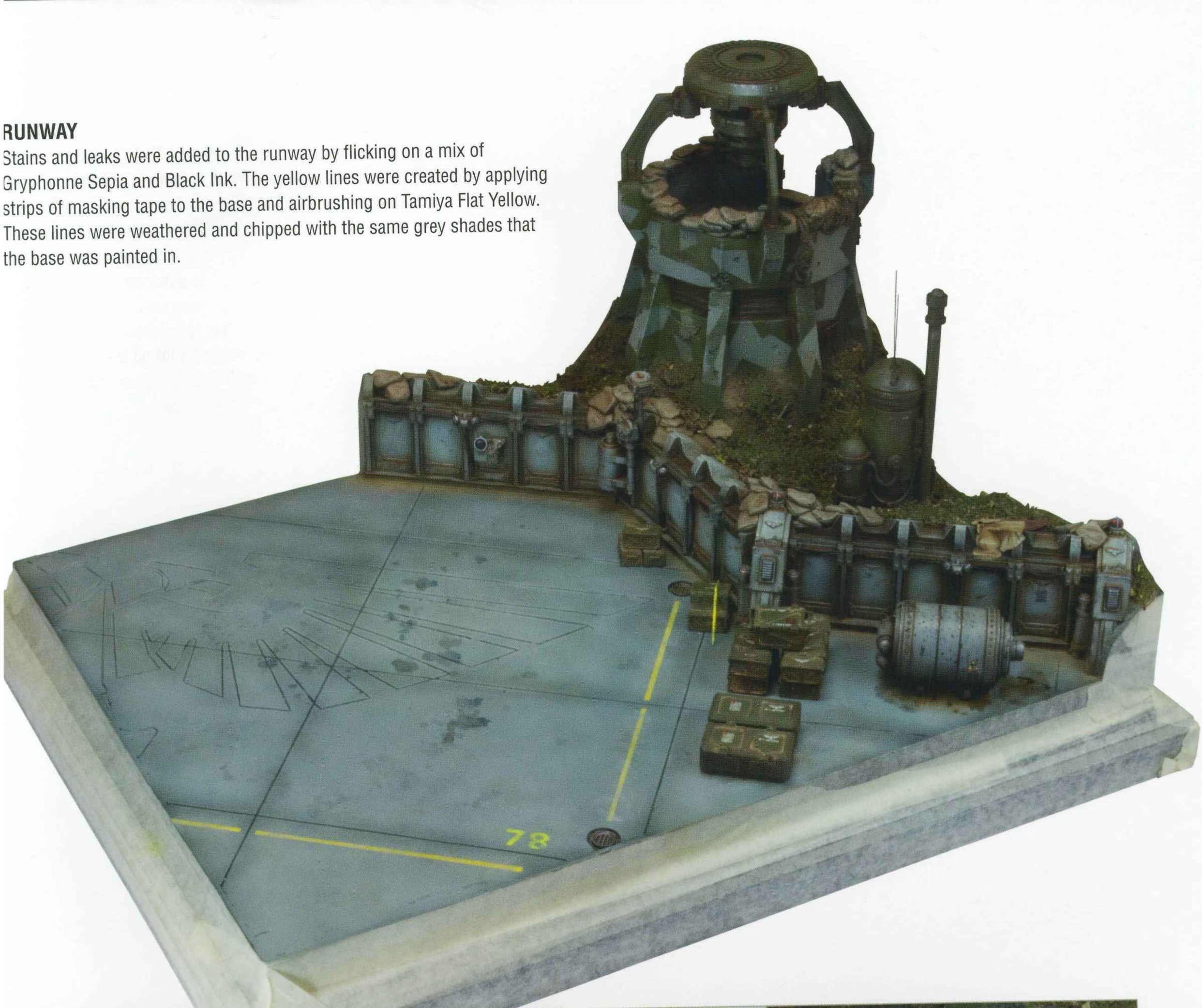
5 – Two small pieces of brass tube were fixed into the top of one of the structures surrounding the control tower. These would later hold fine brass aerials which would be inserted once the model was complete to minimise the chance of damaging them.

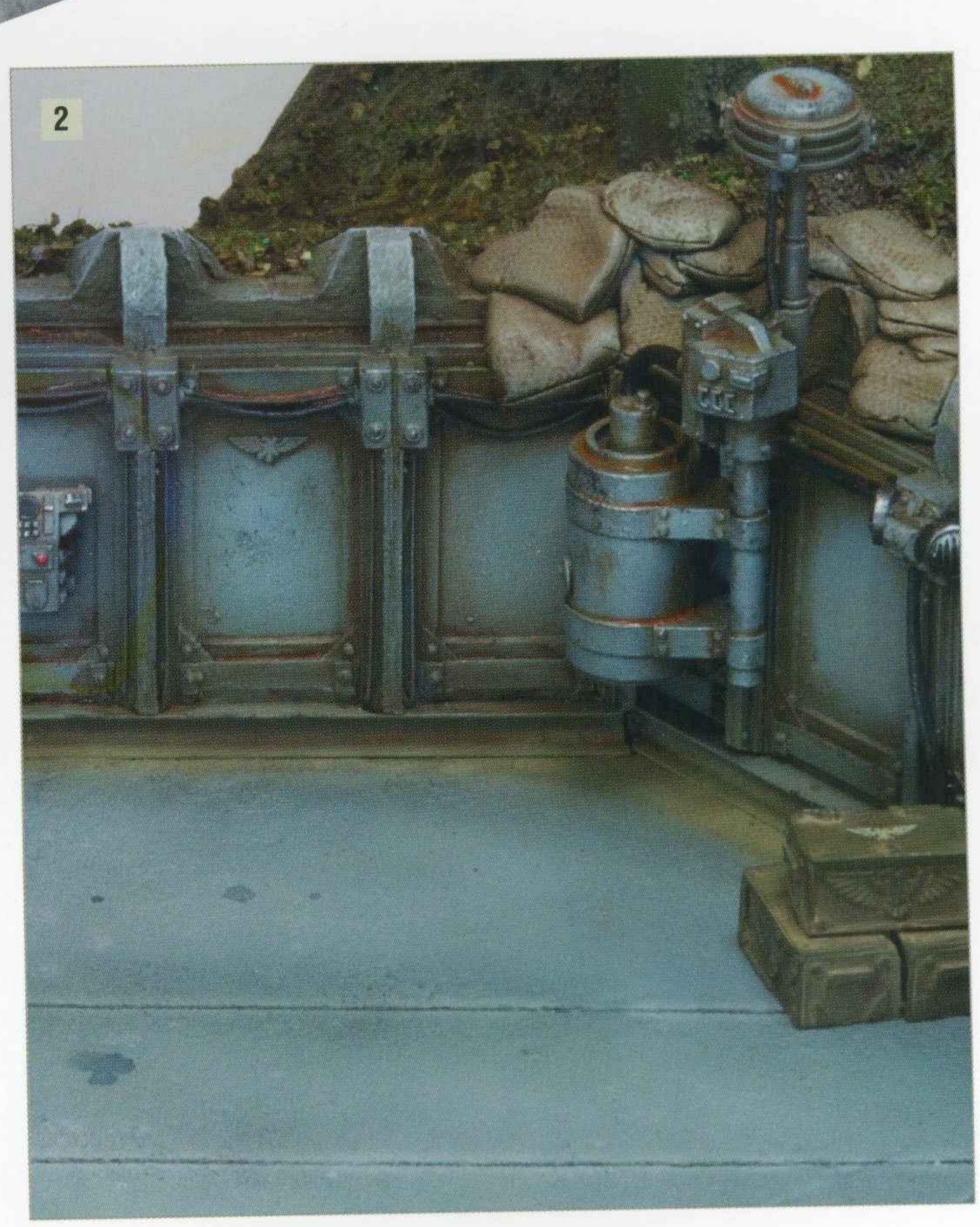
GROUND CREW

The Servitor ground crew and Tech-priest were converted from servo skulls and Elysian models, with sculpting putty being used to create sleeves and additional details. Before any models were fixed in place on the airbase, various configuration were tried out to determine what would make the most dynamic and interesting scene. When buildin dioramas the main aim is to tell a story, the success of this can depend a lot on the placement of models as they help to draw the onlooker's eyes to details you want them to see.

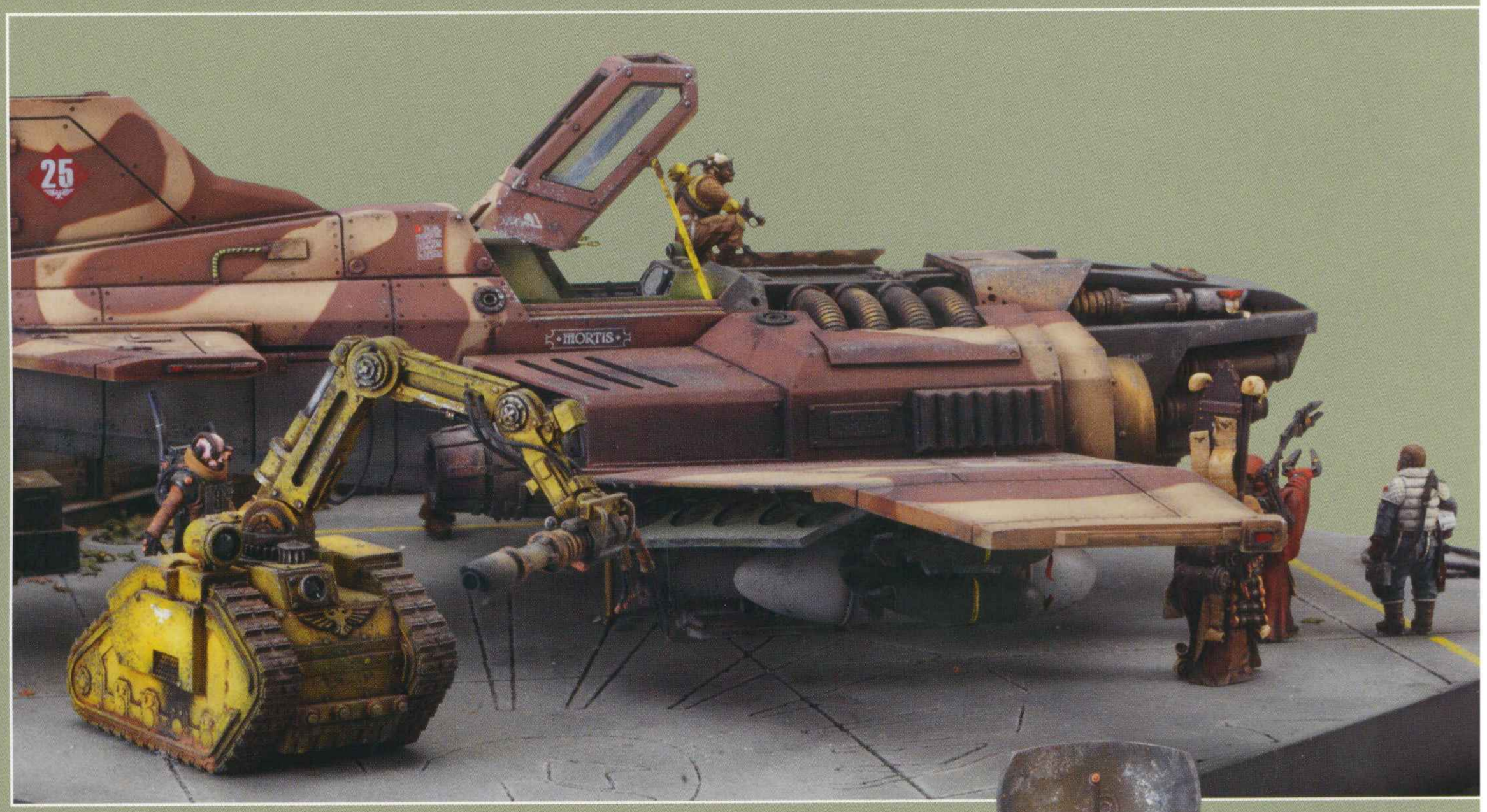
RUNWAY

Stains and leaks were added to the runway by flicking on a mix of Gryphonne Sepia and Black Ink. The yellow lines were created by applying strips of masking tape to the base and airbrushing on Tamiya Flat Yellow. These lines were weathered and chipped with the same grey shades that the base was painted in.

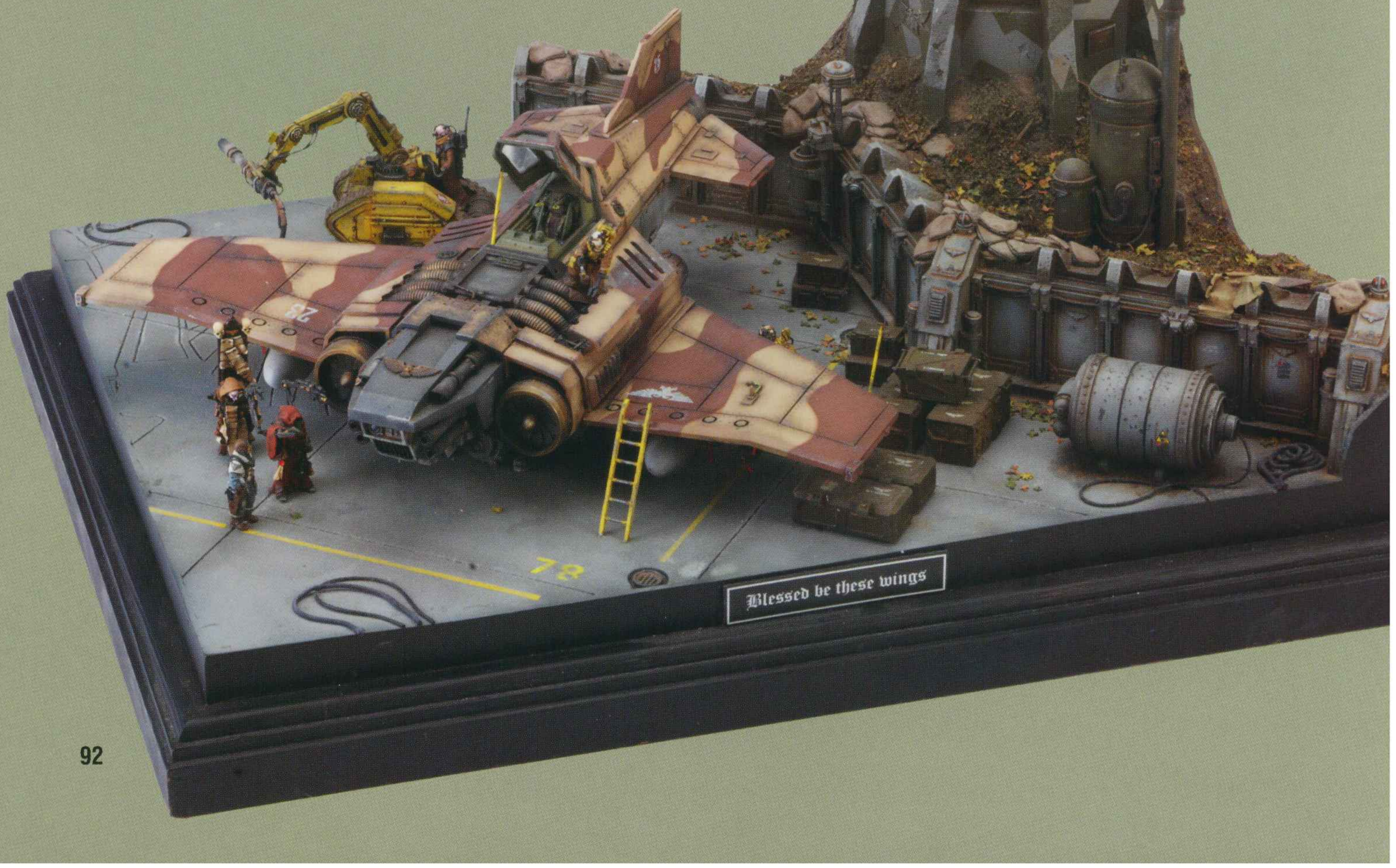




1 – The refuelling bowser was painted with a high amount of wear, metal chips and oil stains.
2 – Weathering powders were applied around the lower edges of the walls and fixed in place with white spirit.



1 – The crane was predominantly painted in bright yellow colours. Images of real world construction vehicles were used as reference for this.
2 & 3– Silver birch seeds make fantastic scaled leaves. They are easy to use and free in Autumn!
4 – The hard edges of the camouflage pattern on the observation tower were achieved with masking tape rather than using Blu-tac as the mask. The fine brass aerials were inserted last and painted with Mithril Silver.



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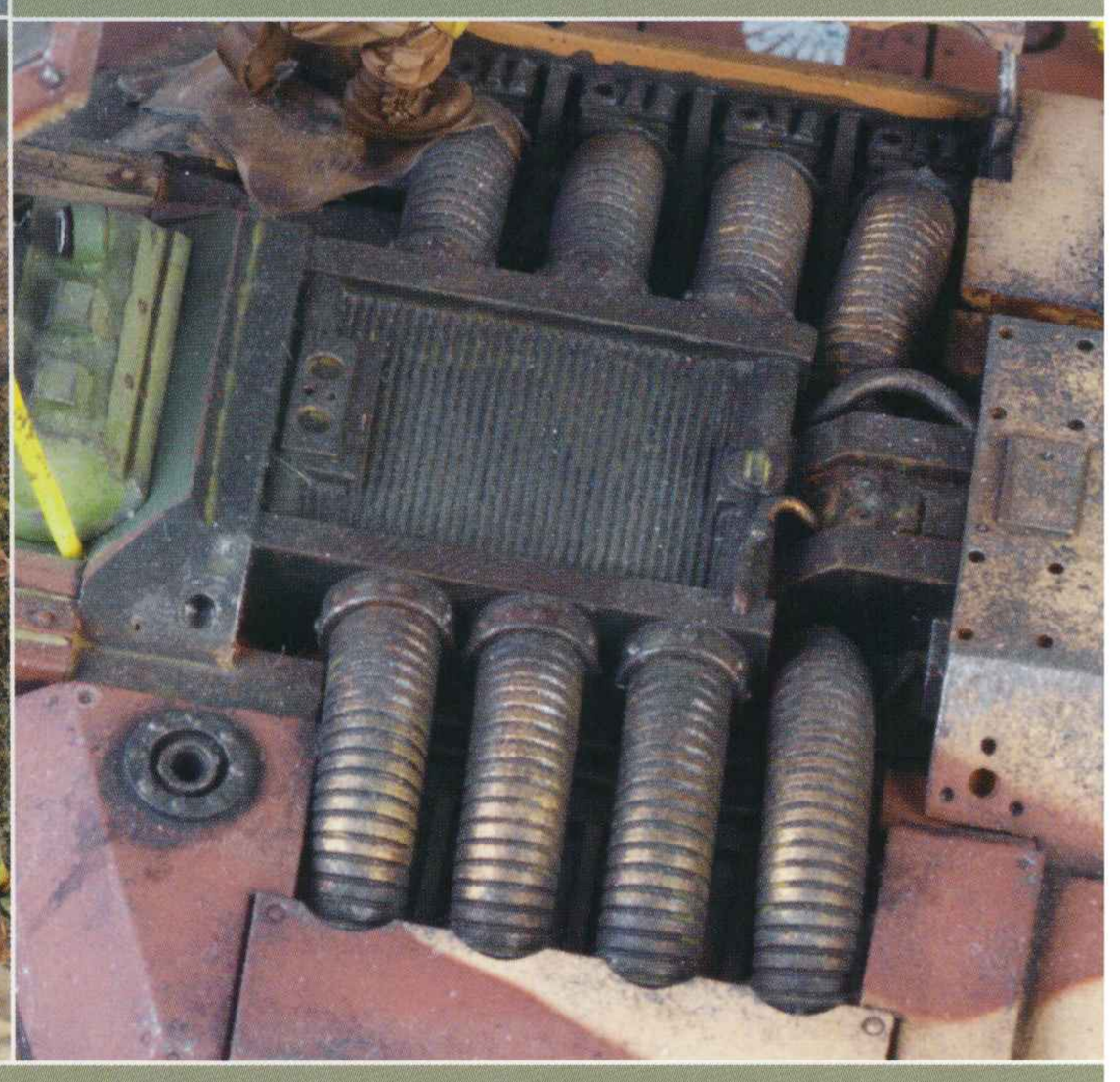
DETAIL

1 – Tissue was soaked in watered-down PVA, then moulded into shap and allowed to dry to create tarpaulins.

2 – After the whole model was given a coat of Purity Seal, a gloss varn was re-applied to the screens and lenses to create a natural glassy shi

3 – The ladder was scratch built from lengths of square and round plasticard rod. It was then painted and wear & tear effects added to areas which would have been heavily used by the crew, such as on the horizontal bars of the ladder. Small strips of lead foil were painted red attached to the pods under the wings to create "Remove Before Flight tags.

4 – The patches of earth beyond the walls of the hanger were layered Static Grass and silver birch seeds to create a realistic ground coverin and provide contrast to the rest of the diorama.



The various elements of the diorama were arranged at different angles pointing away from the front of the base, to produce a more interesting configuration.

25
MORTIS

25
MORTIS
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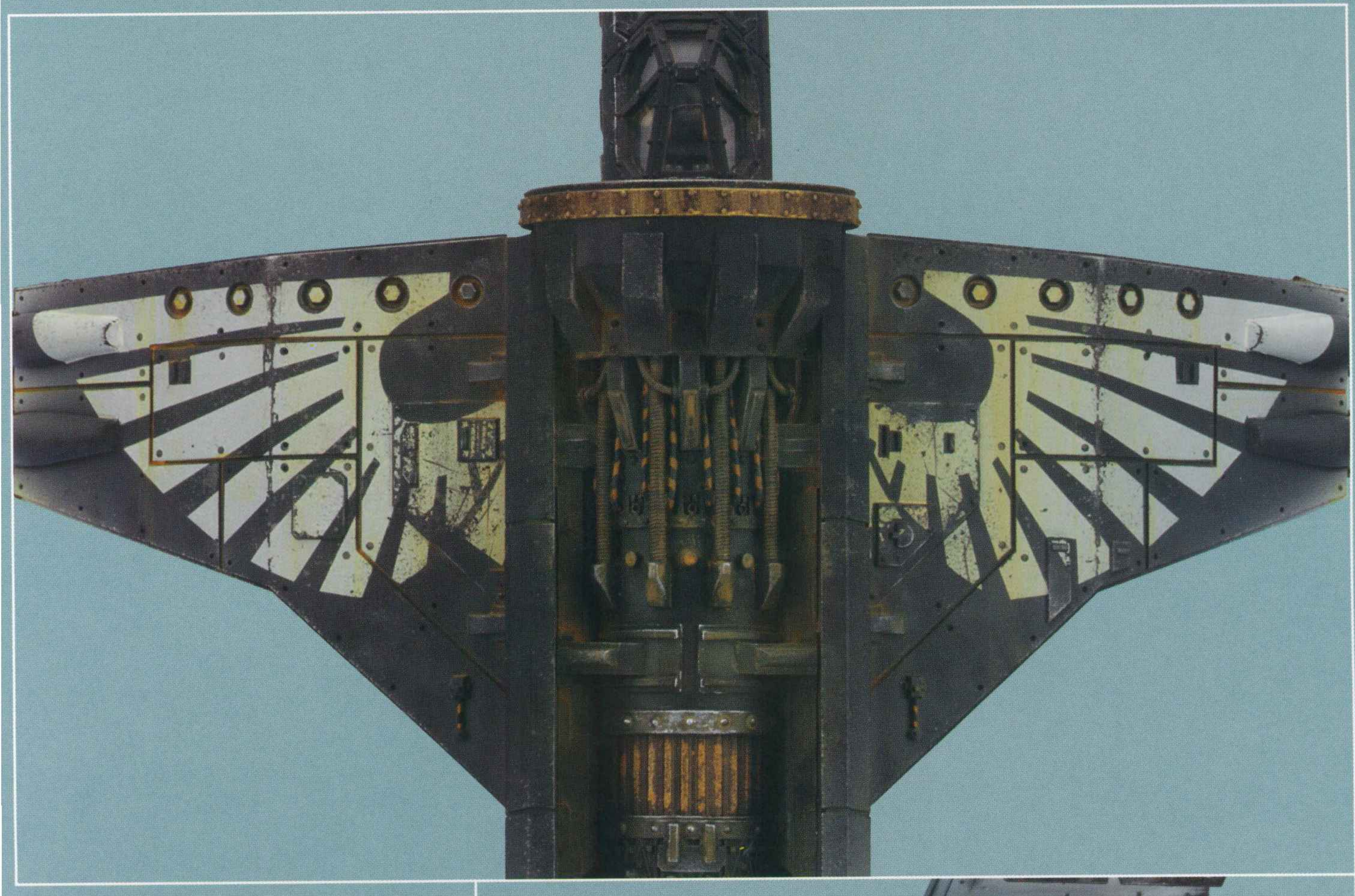
MORTIS
78

VULTURE GUNSHIP

Painted by Phil Stutcinska

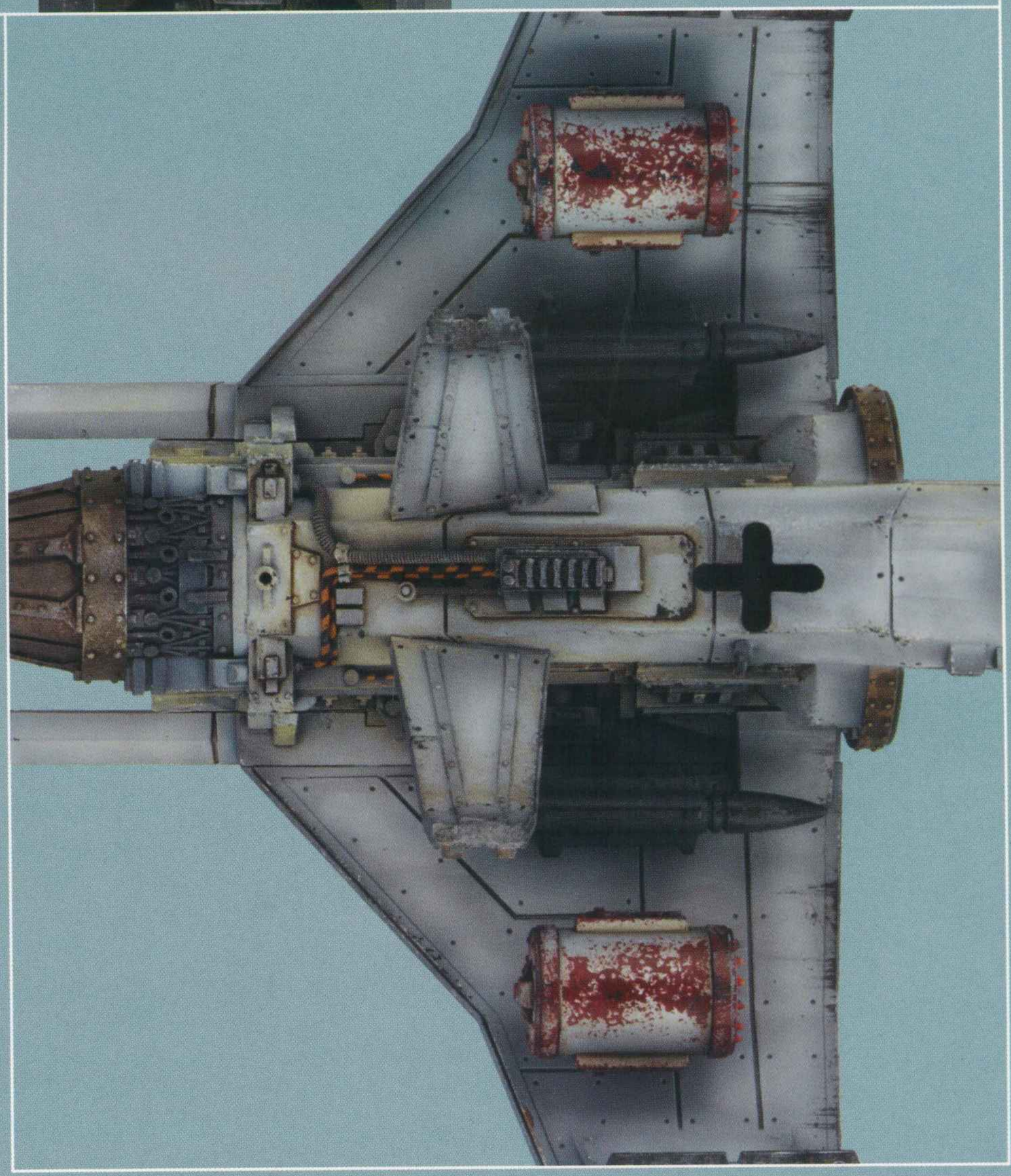
An extremely adaptable aircraft that can be quickly retro-fitted with a wide variety of weapons, the Vulture Gunship is used predominantly for attacks deep into enemy territory, particularly in urban locations. Capable of carrying many different payloads, they are highly prized by their pilots for their speed and manoeuvrability, particularly when flying through hostile regions.



After applying a Chaos Black undercoat, Skull White was airbrushed over the nose, tail and underside of the Vulture. None of the areas were masked off whilst doing this so that a smooth transition was achieved between the colours. Before decals from the Forge World Valkyrie sheet were applied, they were cut into sections to match the panel lines of the aircraft.

The engine was left black, while the pipes were picked out in contrasting colours. The whole area was then heavily weathered with Dark Sand weathering powders and washes of Snakebite Leather. Washes of Graveyard Earth and Tallarn Flesh were also applied all over the model to give a dusty feel to it.

Washes of Gryphonne Sepia and Chaos Black were applied in the panel lines on the white areas of the model to help them stand out, as well as subtle chips which were sponged on in different colours. To provide greater contrast across the model, Skull White was applied to the white areas and Boltgun Metal to the black sections. Dark Sand weathering powder was then applied sparingly. To prevent the white areas looking too stark, additional washes of Gryphonne Sepia were used to weather them. The rocket pods were finally sponged with some Mechrite Red and Blood Red to depict worn and battered interchangeable weapons, the red providing a bright counterpoint to the largely monochrome colour scheme on the rest of the model.



VALKYRIE SKY TALON

Painted by Phil Stutcinska

A variant of the airborne assault carriers favoured by regiments such as the Elysian Drop Troops, Valkyrie Sky Talons are fitted with nose-mounted heavy bolters for anti-personnel fire and either Hellstrike missiles or two multiple rocket pods for heavier targets. Their primary battlefield role is to deliver their cargo safely, then retreat to a safe distance and stand ready for extraction orders.

This Sky Talon was first airbrushed with Astronomican Grey and Skull White, and the web camouflage pattern was created by airbrushing Codex Grey on to the model in random patterns. The engines were painted in various metallic shades to give them a heavily used look, and contrast was created with washes and drybrushing, with some areas of the engines being given a rusty finish by applying washes of Snakebite Leather mixed with a little varnish.

Dark Sand weathering powder was dusted around the wings to give them a weathered look, and thin washes of Devlan Mud were applied all over to darken panel lines and tone together the camouflage colours. More of the Astronomican Grey and Skull White base colour was then carefully sponged on to create superficial knocks and scrapes in the paintwork.
Heavier scrapes and knocks were represented by sponging on a mix of Boltgun Metal and Charadon Granite. These were further refined with additional brush work.

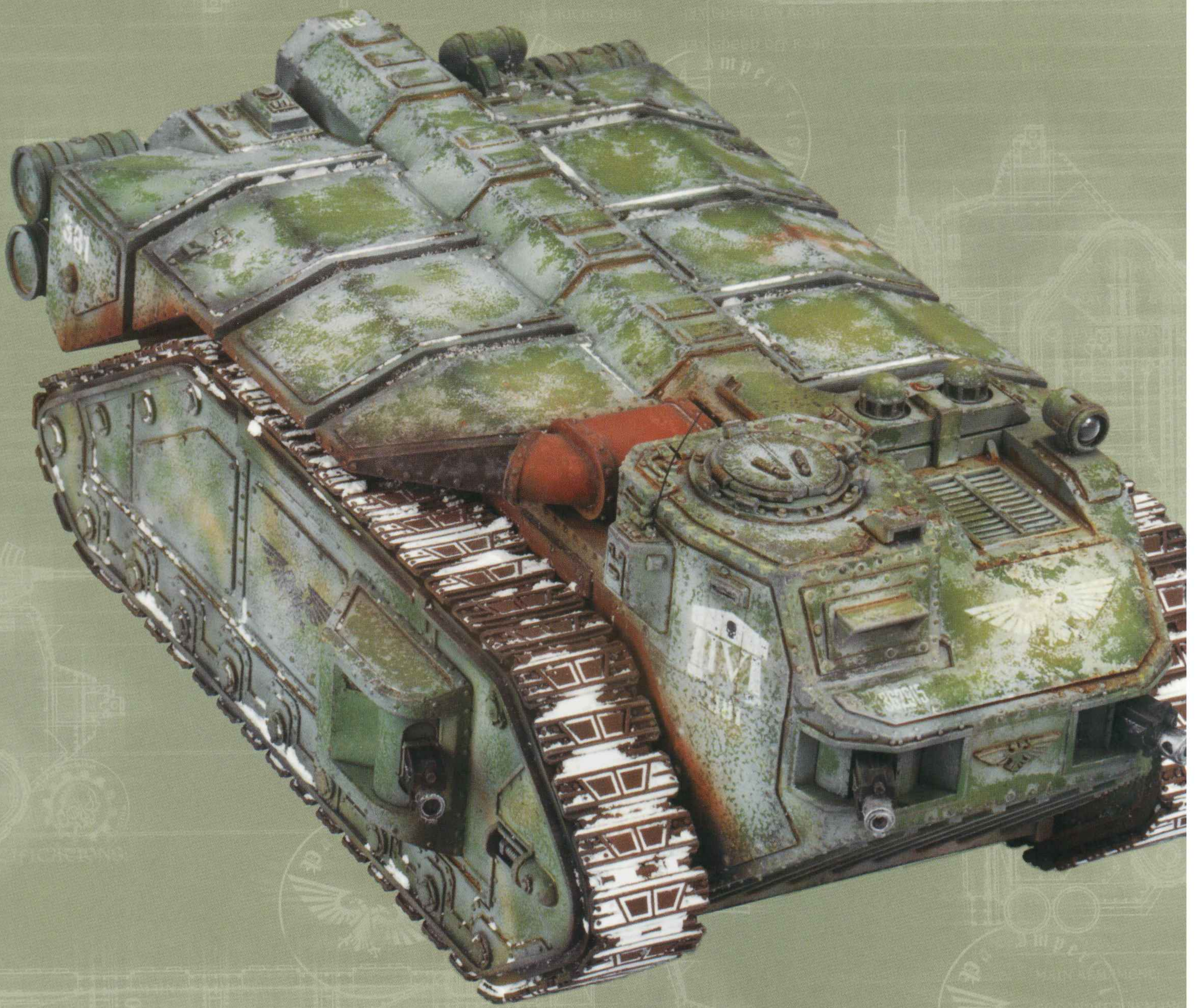
The yellow and black markings were applied with some careful masking and airbrush work. The area covered by the markings was first masked out with tape and sprayed yellow. 10mm wide masking tape was then applied and the area sprayed Chaos Black. The markings were weathered with some light sponged-on chipping and washes of Gryphonne Sepia and Chaos Black.

The landing legs and grabber arms were also heavily weathered with sponged-on chipping and washes of Gryphonne Sepia and Chaos Black. The rails for the grabber arms were drybrushed with silver Rub 'n Buff, and then Dark Sand weathering powder was stippled on in small amounts to represent dust deposits.

The exhaust staining was a mixture of Chaos Black streaking and some airbrushed Chaos Black to soften the effect.

CRASSUS ARMOURED ASSAULT TRANSPORT

PAINTED BY MARK BEDFORD



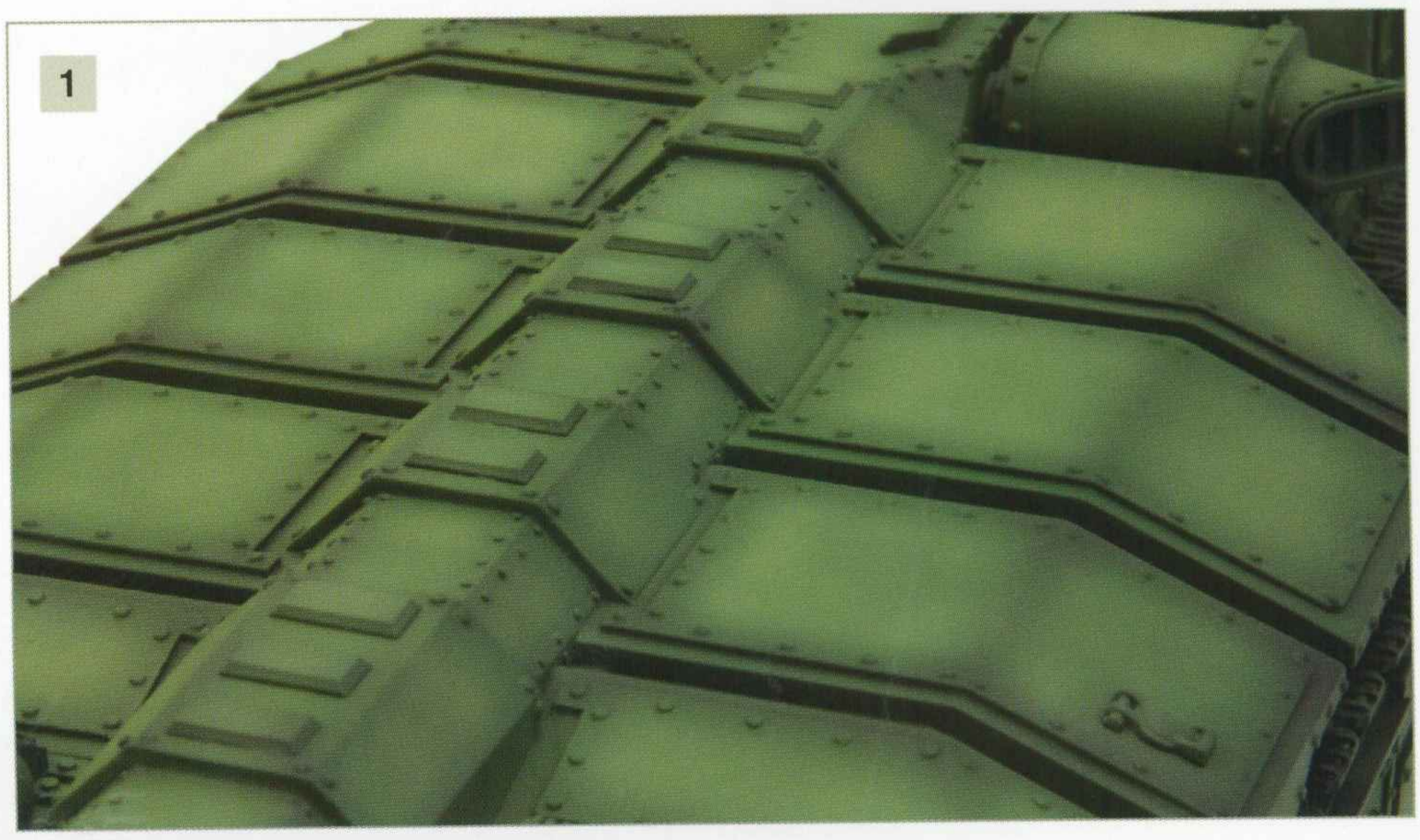
These heavily armoured, high capacity troop transporters are used throughout the southern and western Segmentum Tempestus by the Imperial Guard as well as Adeptus Mechanicus armoured units.

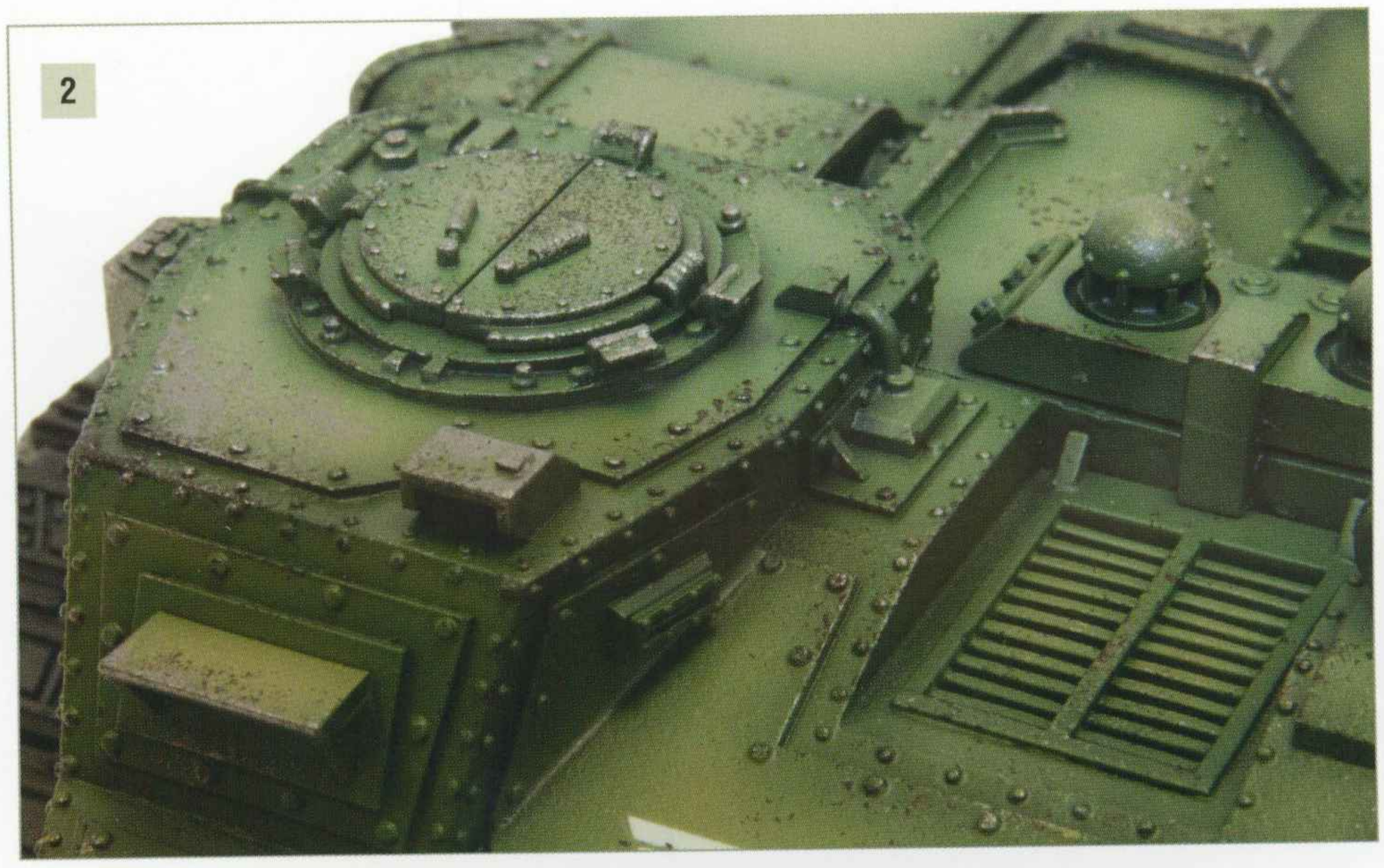
Manufactured on major forge worlds such as Lucius, the Crassus' four heavy bolters are used in a defensive role during troop deployment, but they can also be retrofitted with hunter-killer missiles, providing additional support once battle is underway.

This vehicle displays the iconography of the Cadian 4th Regiment. It was originally due to be sent to the grassy plains of the Imperial agri-world of Serentus XII to combat a Tyranid invasion of the planet. Whilst awaiting redeployment from its staging point on Betalis IV, it was commandeered by Imperial forces fighting on the nearby ice worl of Betalis III. Although most of this Crassus' original markings were retained, its agri-world camouflage was overpainted with white wash : it was less visible on Betalis III's snow covered battlefields.

BASE COAT

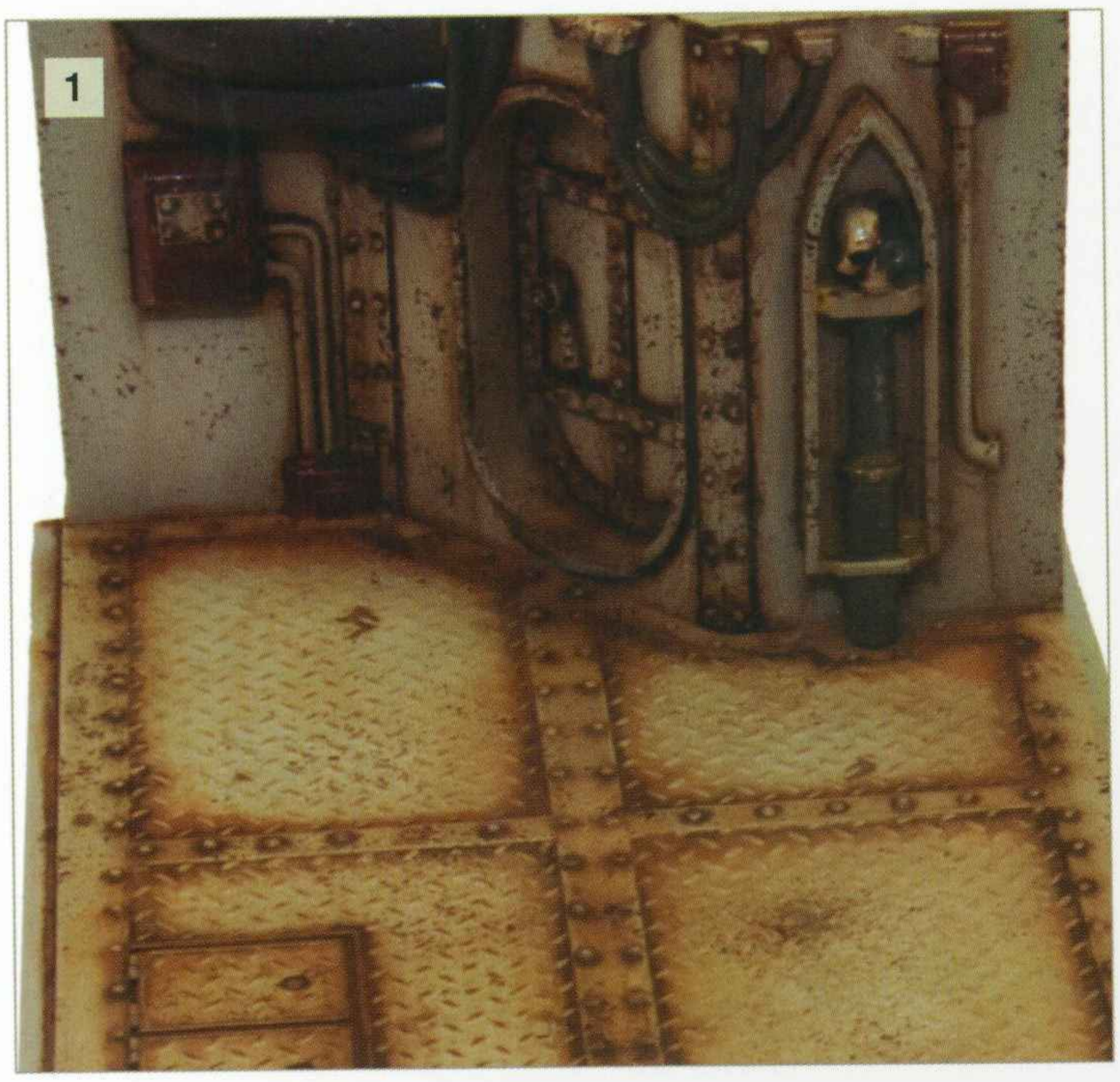
1 – With the interior painted, the model was then completely assembled. The rear door was temporarily sealed shut with some reusable adhesive putty before the model was undercoated with Chaos Black. Gretchin Green was then airbrushed onto the model, which was then highlighted with a mix of Gretchin Green and Desert Yellow. More Desert Yellow was added to the mix and airbrushed on to lighten the middle of the panels. Catachan Green was used to shade the edges and recesses. The tracks were painted with a mix of Chaos Black and a little Tin Bitz. Swirling camouflage patterns were also applied in Desert Yellow with an airbrush. Finally, the model was given a coat of Purity Seal before the decals were applied, which were then sealed down with a little Johnson's Klear.

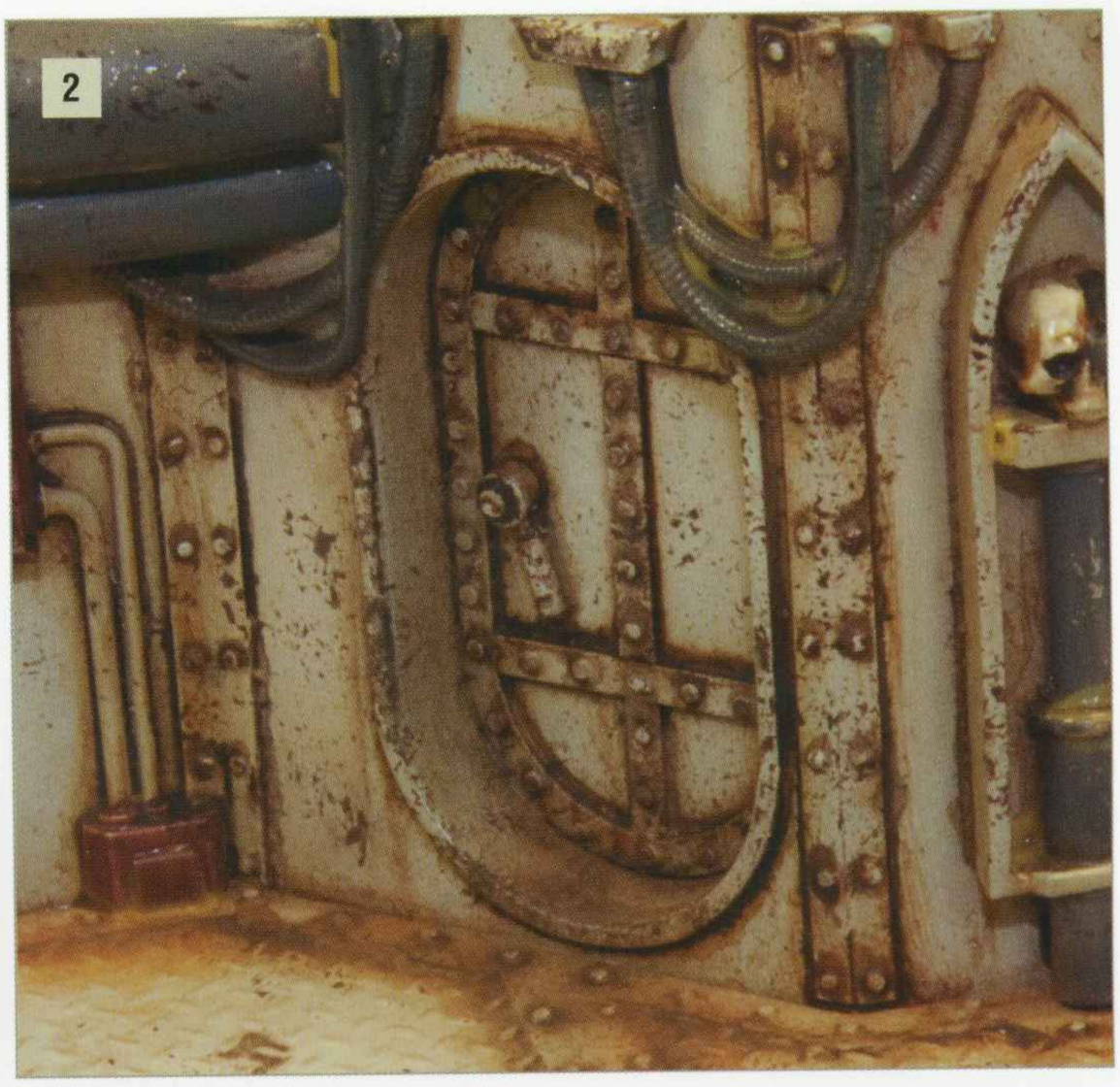




WEATHERING

2 & 3 – A chipped paint effect was created by sponging on a mix of Scorched Brown and Chaos Black. Boltgun Metal was also applied t represent deep scratches and chips exposing bare metal through the paintwork and dirt. Another couple of effects used on this model included sponging on a slightly lighter shade c the base colour to create 'clean' patches wher the dirt and grime had been shaken loose, and pencil was also used to create metallic patche on the edges of surfaces where the paint had been worn away.





INTERIOR DETAILS AND WEATHERING

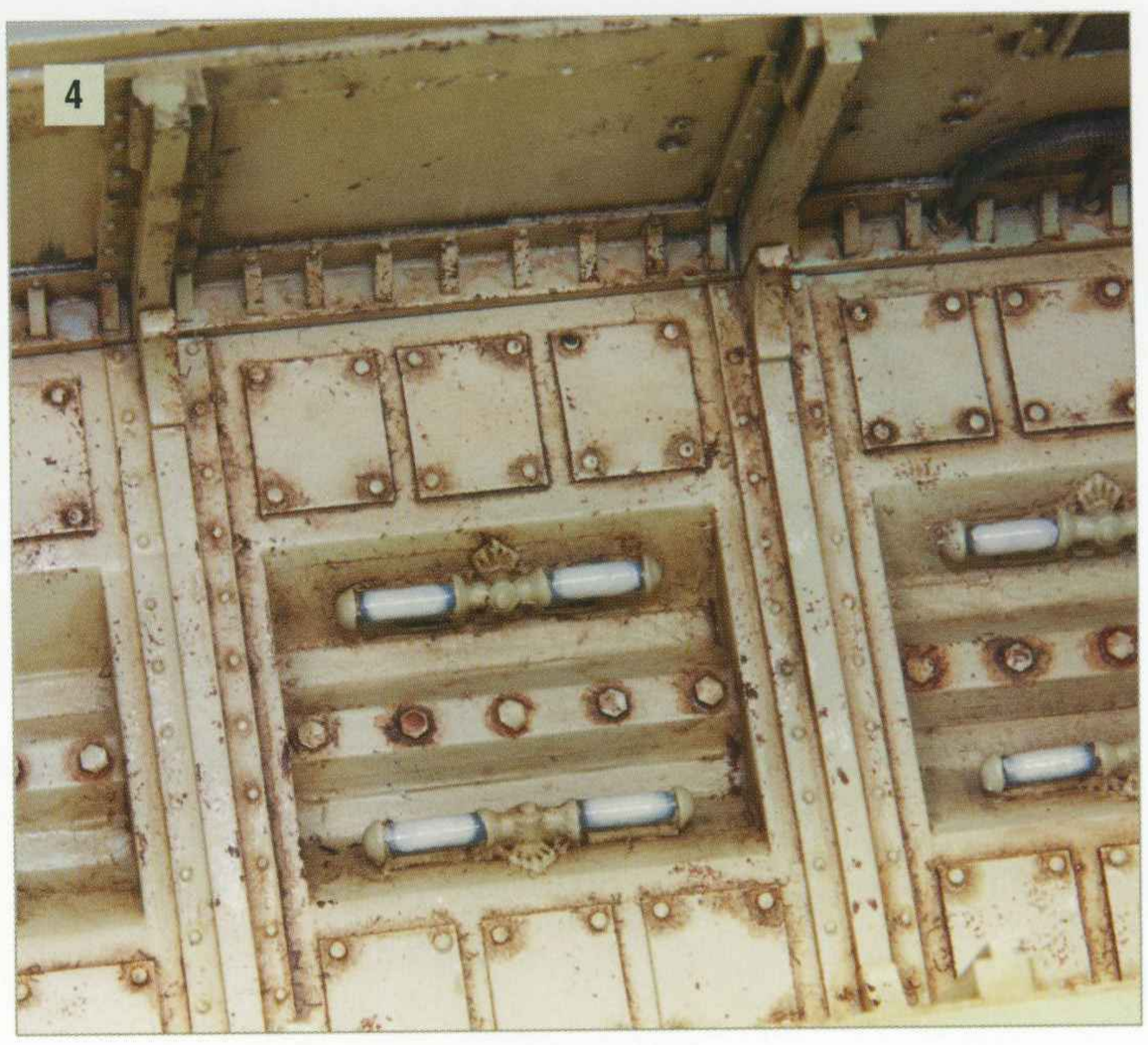
The interior of the Crassus can be easily seen when the rear access door is lowered, so these sections were fully painted prior to assembly. Because the Crassus is a troop transport, the Guardsmen using it would bring the dirt and grime of the battlefield inside the vehicle on their boots as well as their equipment scratching and chipping the walls as they embarked and disembarked.

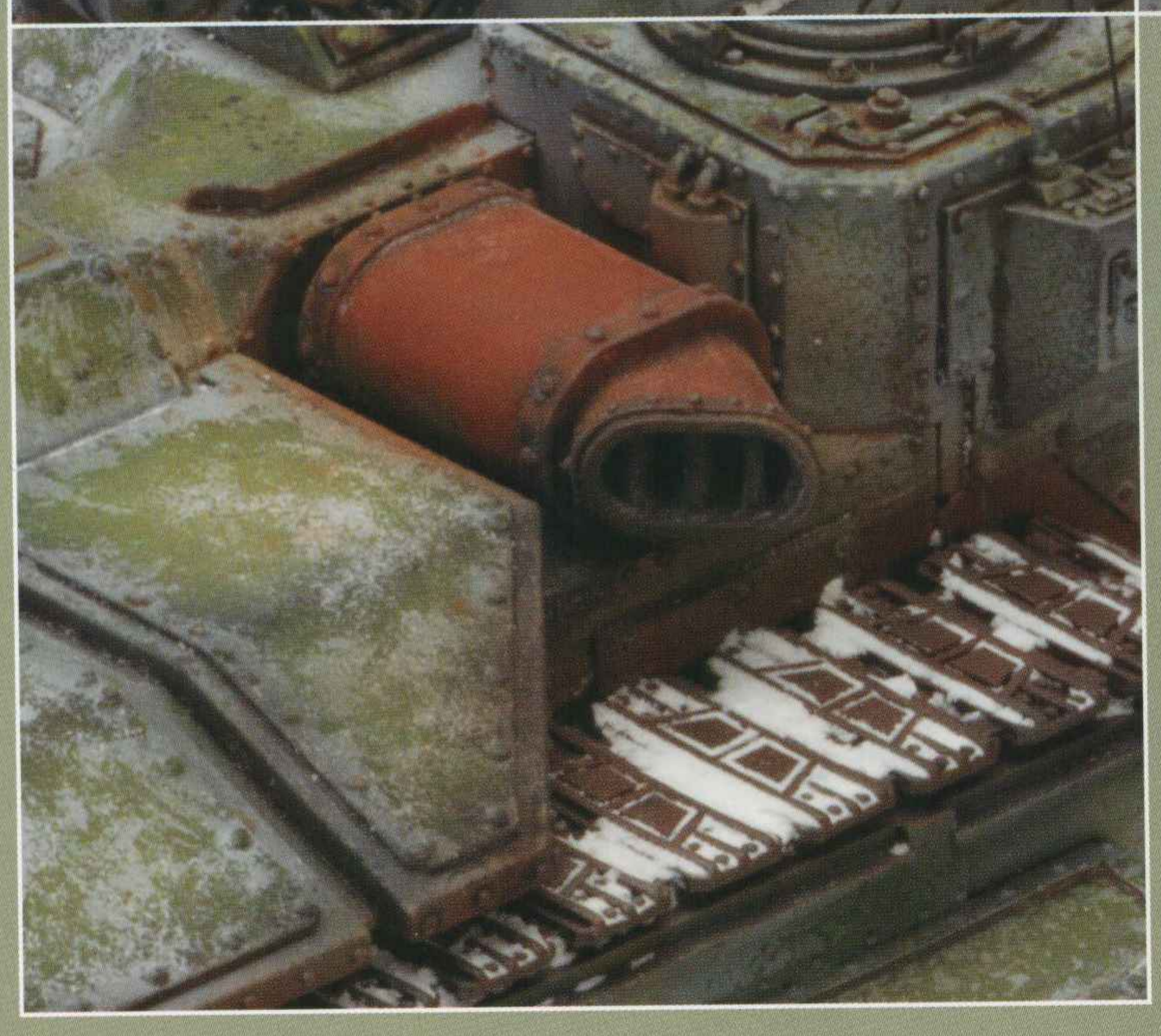
1 – The interior was first undercoated with grey then given a base coat of Skull White, applied with an airbrush. Care was taken to ensure the white was only lightly applied in shaded recesses or where dirt would naturally build up.

2 – Chips, stains and rust patches in the paintwork were then applied by sponging on Scorched Brown mixed with a little Tin Bitz.

3 – Chainmail was also sparingly applied with a sponge to create fresh scratches and represent areas of particularly high wear such as on the ridge at the bottom of the door.

4 – Before any further weathering was added a layer of Johnson's Klear was applied. The interior details were then given several fine washes of sepia oil paints thinned with white spirit. After the oil paint washes had dried for a few minutes, a clean drybrush was used to blend and soften the edges into the surrounding plates. Weathering powders mixed with white spirit were then applied around details such as rivets, and into the crevices between armoured plates. Once dry, any excess weathering powders were removed from these areas with a soft brush and a cloth. Finally, a coat of Purity Seal was applied to fix the weathering powders in place.





WHITE WASH

It may sometimes happen that a fighting vehicle is redeployed to a comb theatre without being properly repainted to suit its new environment. In such cases it is often left to its crew to make what changes they can to suitably camouflage their vehicle. As this Crassus would be part of the force fighting on the ice world of Betalis III, a white wash effect was applied after the other weathering was complete. To create this hastily applied white wash camouflage scheme, the hairspray method was used

After a layer of Purity Seal was applied, to protect the work done so far, two light coats of hairspray were applied followed by a fine misting of white paint applied with an airbrush. A coarsely bristled brush moistene with warm water was used to distress away areas of the hairspray and white paint layers. A coat of Purity Seal was then applied to prevent any more of the white wash layer being removed. Finally, Flat Earth was then lightly sprayed on to and around the tracks to represent heavy rust, and was also applied to the exhaust before Orange Rust weathering powder thinned with white spirit were heavily washed over it.

SNOW

Watered down PVA glue was washed over the tracks and around crevices which would naturally trap falling snow. Modelling snow was then sprinkled on to the Crassus model and allowed to fix in place before any excess was brushed off.

PRAETOR

ARMOURED ASSAULT LAUNCHER

PAINTED BY MARK BEDFORD

After the hull was pinned together it was undercoated Chaos Black. Then the vehicle was sprayed with a dark green mix of Goblin Green, Scorched Brown and a small amount of Chaos Black.

Once this had thoroughly dried, it was sprayed with Purity Seal and then a couple of coats of hairspray.

Skull White was then lightly sprayed in patches over the bodywork. Then, using some warm water and a brush, the white camouflaged areas were rubbed back to give a mottled white and green effect on the paintwork.

Rust and darker tones were then lightly airbrushed onto different areas to build up more of the mottled effect.

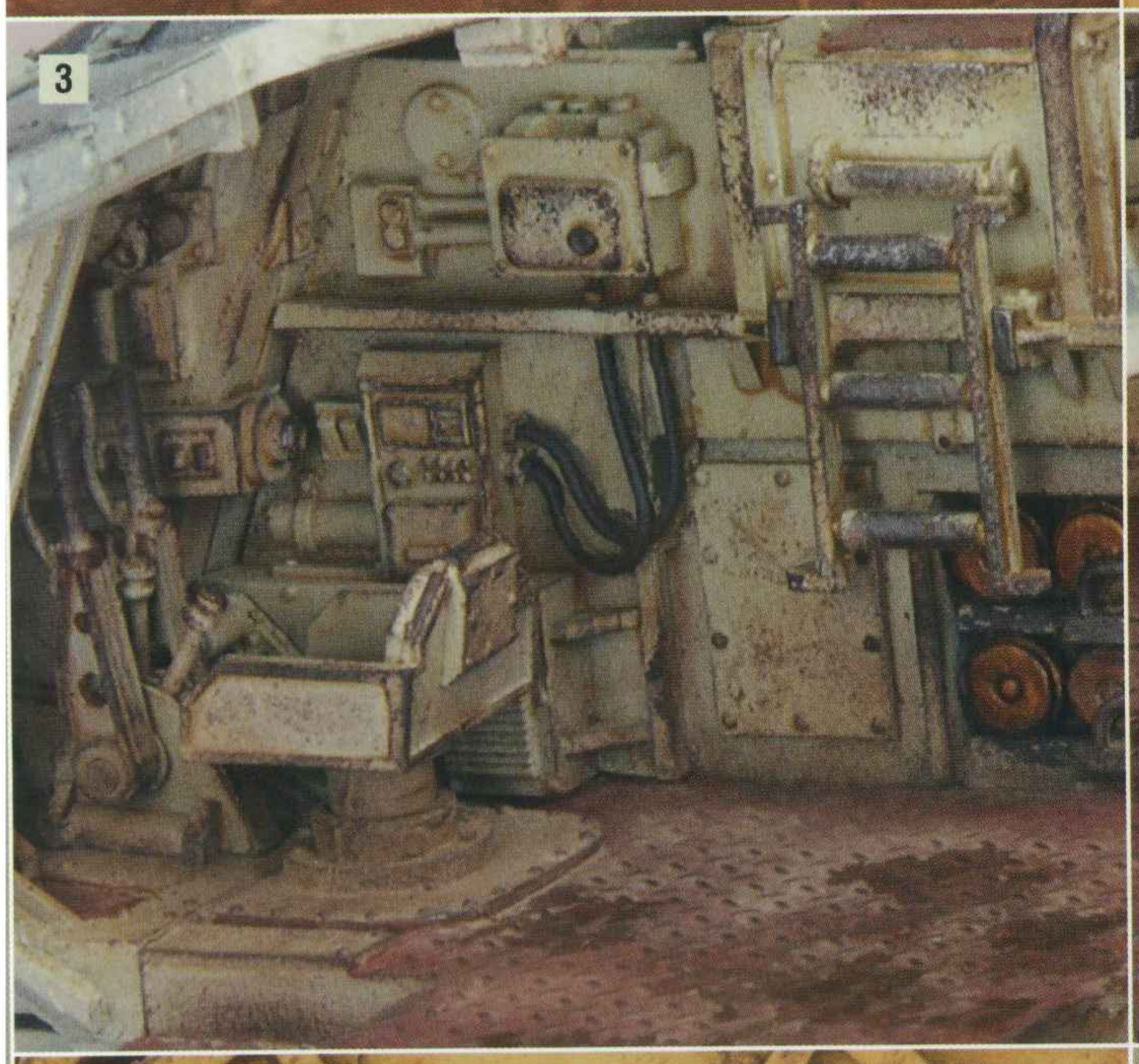
After being given a final coat of Purity Seal, decals were added and the Praetor was sprayed with matt varnish. Finally, Citadel Snow was applied to areas of the model using PVA glue to fix it in place.

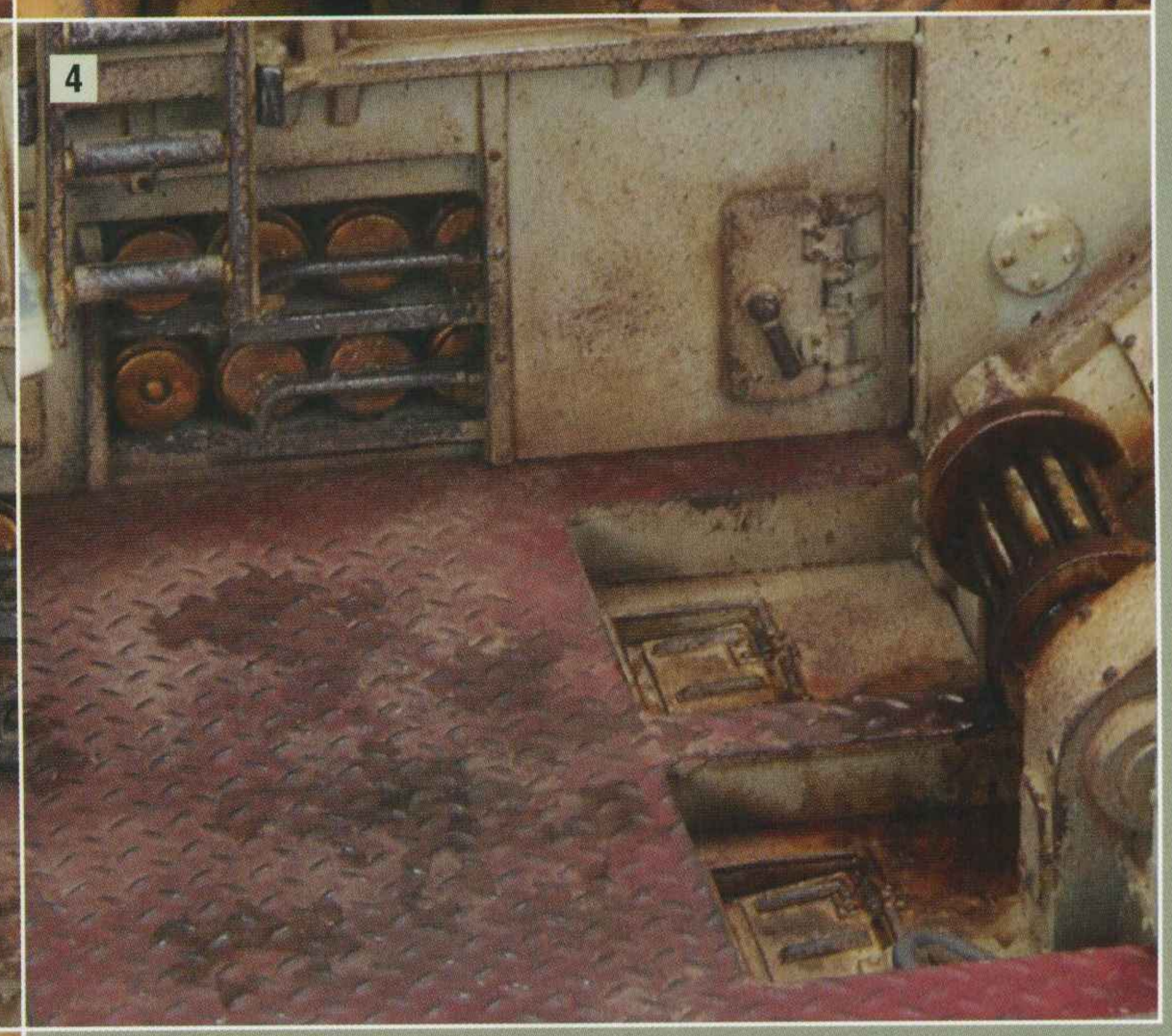
RENEGADE MINOTAUR SUPER-HEAVY ARTILLERY

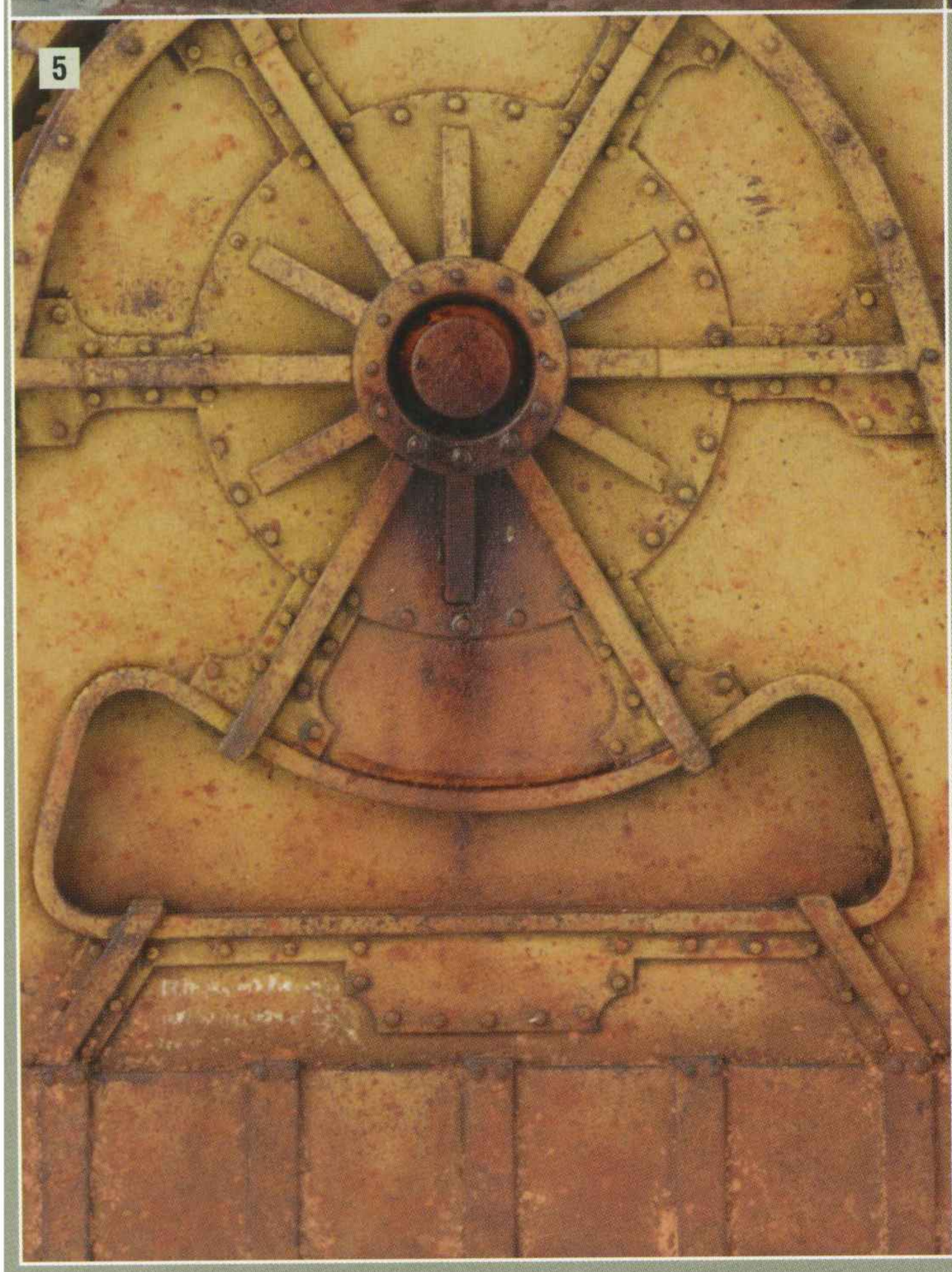
Painted by Paul Rudge

Sharing similar design features to the Malcador pattern, Minotau are self-propelled guns which are used to provide heavy fire sup in the heat of battle. They are considered reliable weapons by thei crews, and are heavily armoured, enabling them to be set up close the frontline before redeploying elsewhere under their own power.

This colour scheme was inspired by a colour profile plate Rudgie had produced for page 22 of *Imperial Armour Volume Seven – The Siege Vraks part 3*. It represents a Minotaur deployed by the rebel forces in service of Lord Xaphan. We can imagine from the weathering and chi paint that this tank has seen many years of service and has been ado with graffiti over that time by its crew.







1 - A thinned mix of burnt umber oil paint and rust coloured weathering powder was flicked randomly onto the model to create spots of rust. Immediately after the paint had been flicked onto the model, some clean white spirit was lightly airbrushed onto the rust spots. The aim with using this technique was to soften and gently diffuse them.

2 - The rust effect on the exhaust was achieved by brushing a selection of rust and earth coloured weathering powders over a basecoat of Chaos Black mixed with Scorched Brown. Black Weathering powder was brushed over the surrounding areas to create the effect of a build-up of soot from the exhaust.

3 - The interior was airbrushed using a 50/50 mixture of Bleached Bone and Kommando Khaki. The heavily weathered and chipped appearance was created by randomly sponging on a 50/50 mixture of Chaos Black and Scorched Brown.

4 - The floor of the Minotaur was given a basecoat of Scab Red. To give an aged look to the floor, a selection of earth coloured weathering powders were brushed over the basecoat. The floor was then given a light drybrush of Boltgun Metal. To finish, oily patches were added by applying washes made from a mixture of brown ink, water and gloss varnish.

5 - To again represent an oily fluid leaking down the metal work, a mixture of brown ink, water and gloss varnish was brushed down the side of the tank. This mixture of ink and gloss varnish will appear realistically moist and sticky when it has dried.

RENEGADE VALDOR

Painted by Phil Stutcinskas

A variant of the Malcador super-heavy tank, Macharius Valdors are tank hunters, their crew's primary objective being to seek out and destroy enemy super-heavy tanks and large targets.

Although their chassis and superstructure can be closely compared to those of the Malcador and Minotaur, the Valdors' core systems components and associated technology are unique and highly sophisticated. It is now beyond the ability of most Forge Worlds to repair or replicate them and production facilities for Valdors are mainly limited to Adeptus Mechanicus strongholds such as the forge worlds of Lathe-het and Cyraxus II.

The interior of the Valdors themselves is dominated by a powerful neutron laser. These long range weapons discharge a massive electro-magnetic shock-pulse that can breach the armour of some of the largest vehicles on the battlefields of the 41st Millennium, shorting out electrical systems and setting off any ammunition which is stored or has been already loaded within them.

Believed to have been apocryphally named after the sainted figure of Constantine Valdor, the head of the Custodian Guard during the Great Betrayal, Valdors saw their most widespread use during the time known as the Scouring, which followed Mankind's greatest civil war. Since then they have seen action in countless conflicts although attrition has undoubtedly taken its toll on their numbers, and those armoured regiments that still possess them consider them to be treasured relics.

Although a rare sight amongst the forces of the Dark Gods, Valdors were reported to have been used by renegade forces during the Siege of Vrak. Prior to the war, Vraks had been a Departmento Munitorum Armoury world and it was believed that as many as 20-30 Valdors were held in storage there. Given the high levels of knowledge and skill required to operate them, Vraks' Valdors only began to play a part in the war when Dark Magos accompanying a Steel Brethren Chaos Space Marine warba arrived on-world, the payment for this service believed to have been several working Valdors and a secured data-core detailing their design.

The paintwork on this Valdor has been heavily weathered and chipped. This type of paint scheme can be rewarding to recreate, but may require extra forethought and planning. In the case of this Valdor the intention was that the model would look as if the camouflage scheme, which would have been hastily applied by the renegades during the war, had been worn away by the battlefield's toxic conditions and its original sandy base colour was showing through again. To achieve this, the hairspray technique was used.

BASECOAT

1 – After being undercoated with Chaos Black, the model was given a basecoat of Desert Yellow using an airbrush. Care was taken to ensure that the recesses were only lightly covered to create areas of natural looking shade and subtle weathering. Highlights of Bleached Bone were then applied. Finally, before being masked, the model was given several thin coats of Purity Seal and allowed to dry. This varnish layer will assist in the removal of the hairspray and dark green camouflage layers later.

2 – A low tack modeller's masking tape was used to define the edges of where the dark green fields of colour would be airbrushed on later. Before being applied the tape was first torn in half along its length. The ragged edges along its edges would then give a rough, weathered appearance to the paint scheme. The tape was then cut into manageable sections and needle nosed tweezers were used to manoeuvre the tape into position, ensuring it had adhered to details and recesses.

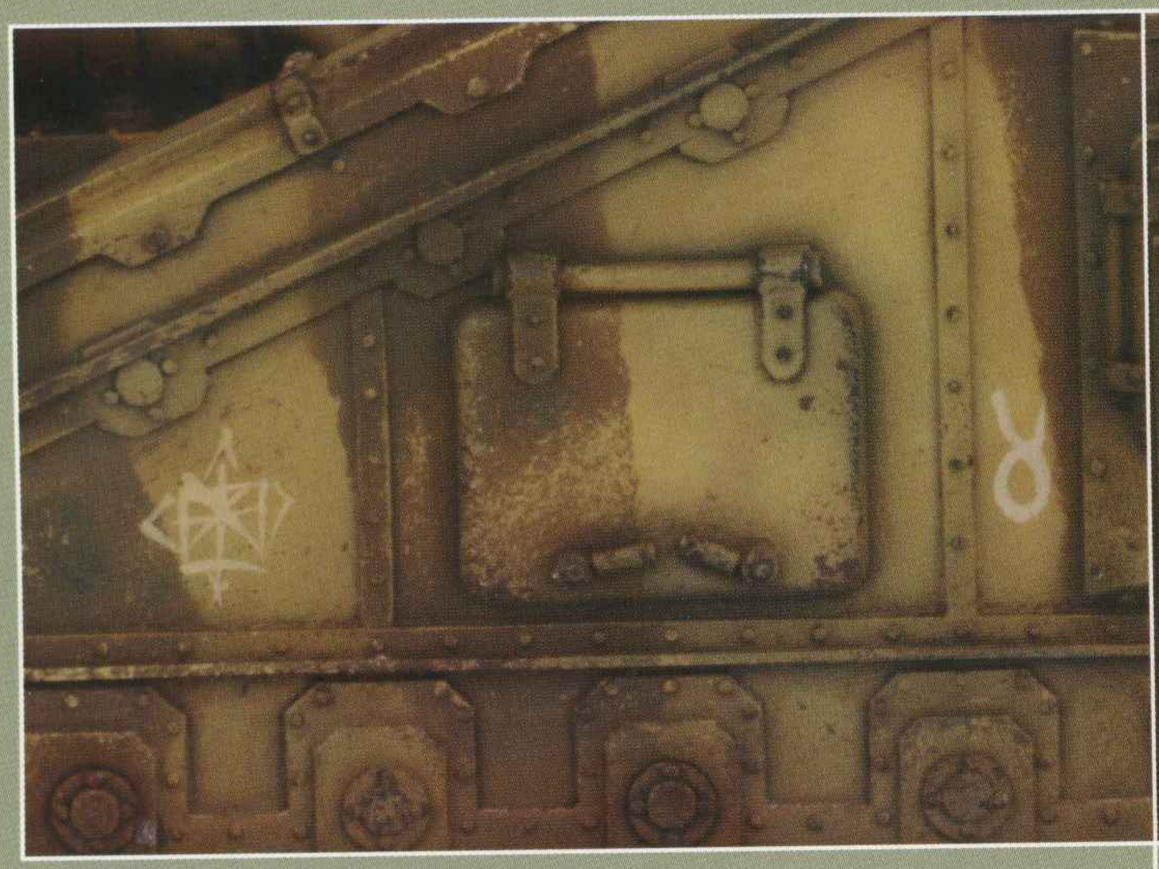
3 – The spaces between the modeller's masking tape were then filled in with wider masking tape, which again was divided into manageable pieces to make positioning them easier.

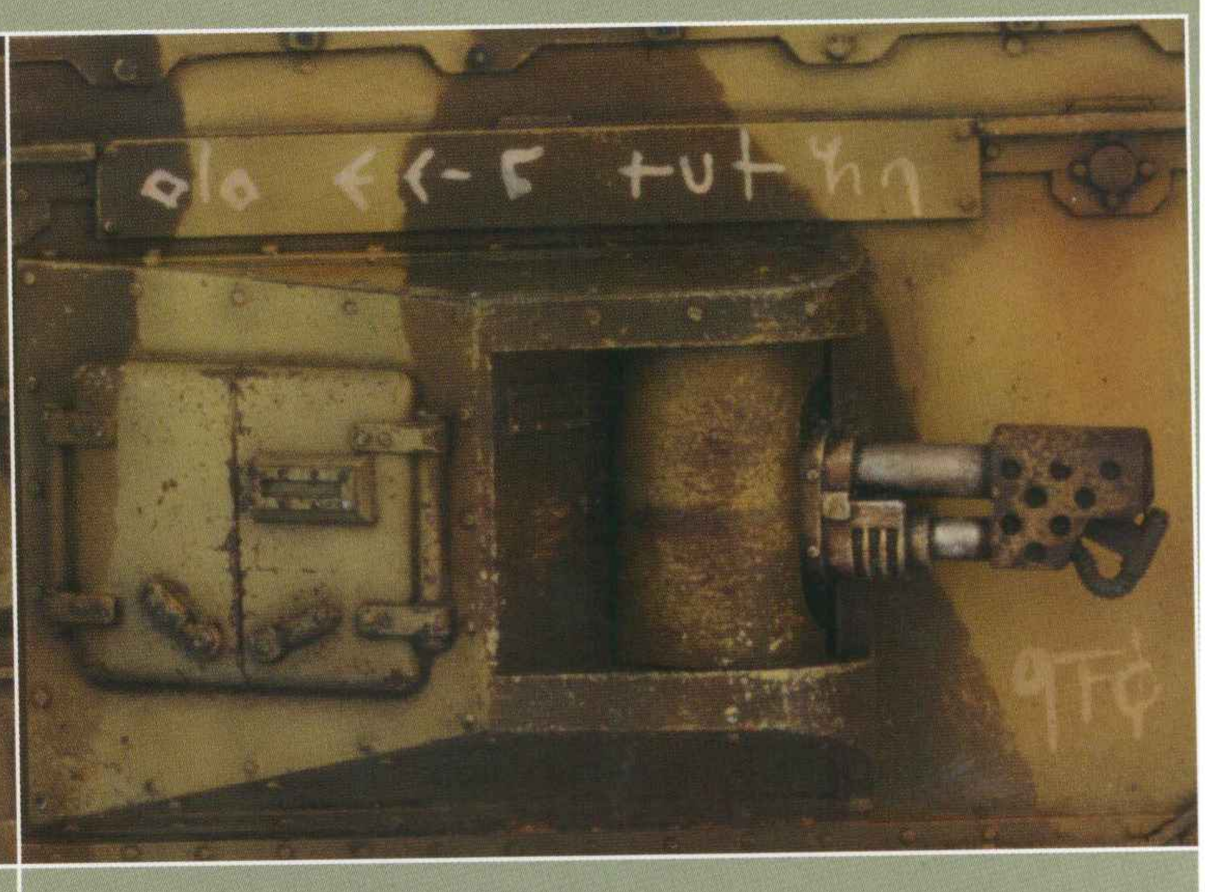
HAIRSPRAY

1 – With the model undercoated and masked it was ready for the application of hairspray. Several thin coats were applied, each layer being allowed to dry for five minutes before the next was sprayed over it.

2 – A dark green camouflage colour was created by mixing together Dark Angels Green and Catachan Green. This camouflage colour was then airbrushed on to the model over the layers of hairspray.

3 & 4 – Once the camouflage colour layer was touch dry the masking tape was removed. The colour layer that sat over the hairspray was not allowed to dry or 'cure' fully as this would have hindered its removal. A stippling brush moistened with warm water was then used to distress and remove areas of the colour layer by rubbing and rolling it over the surface. The warm water soaked through to the hairspray layer and loosened it, removing the camouflage colour layered over it at the same time. The amount of water on the brush and pressure used affected how much of the camouflage hairspray layer was removed. When the desired effect was reached, the Valdor was given a coat of Purity Seal to prevent any further distressing or removal of the camouflage hairspray layer.





Dark Sand and Light Earth weathering powders were applied to the tracks and lower portions of the Valdor to give them a heavily used appearance. The powders were applied dry and then fixed with white spirit mixed with some varnish. Once this first layer was dry, additional layers were built up over it until the desired effect had been reached.

The finished model was given additional dark coloured washes and layers of weathering powders to further bring out its detail and add additional character.

To accentuate the chipped paint effect further, a mix of Tin Bitz, Chaos Black and Scorched Brown was applied to the corners and high spots of the model with a sponge. This effect really stood out against the sandy base colour. The chipping is more evident in areas that would have seen high amounts of use such as crew access hatches and walk ways.

Black Soot weathering powder was dusted over the exhaust area.

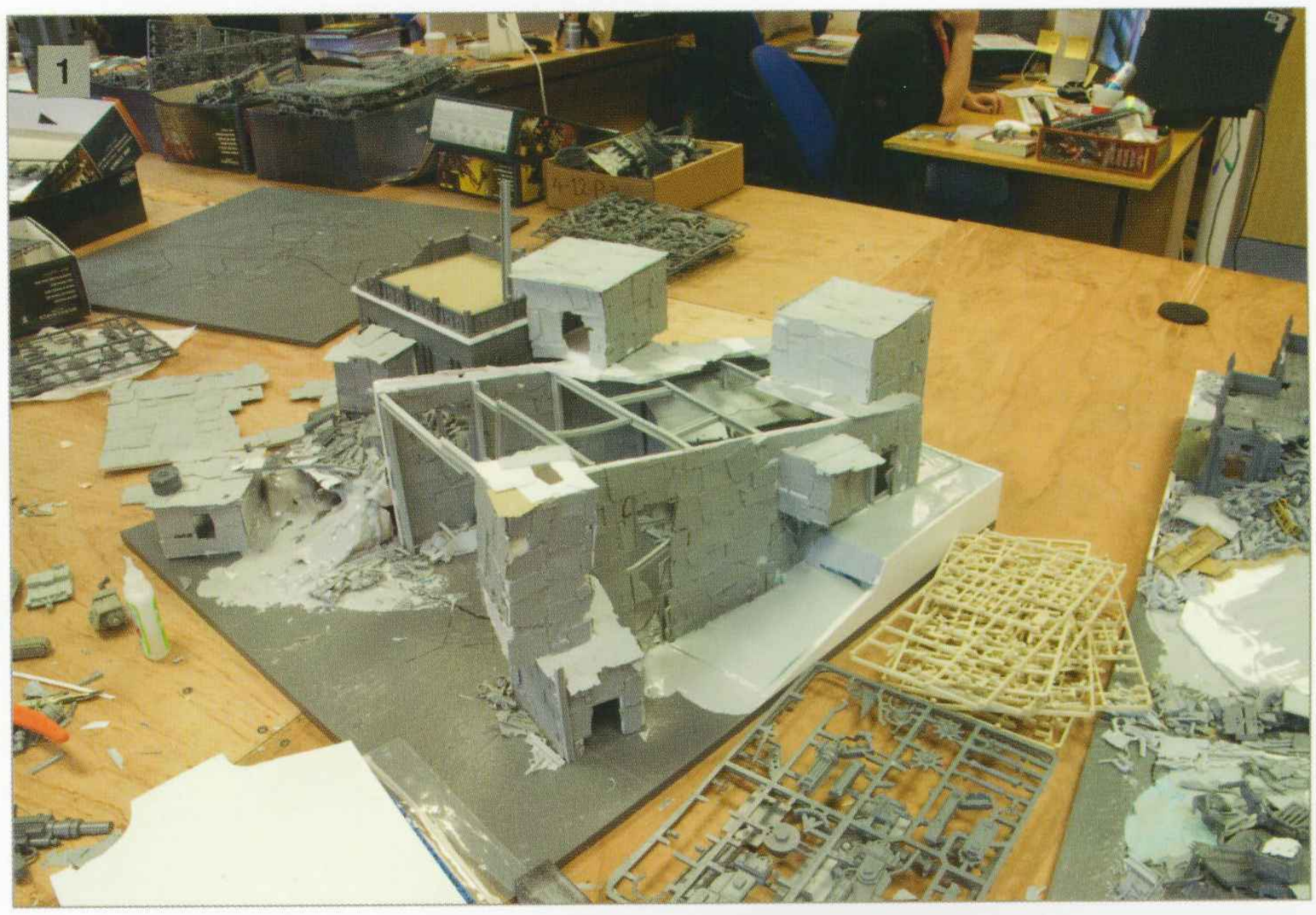
The housing for the power cells was painted in shades of Chainmail to add contrast to the model.

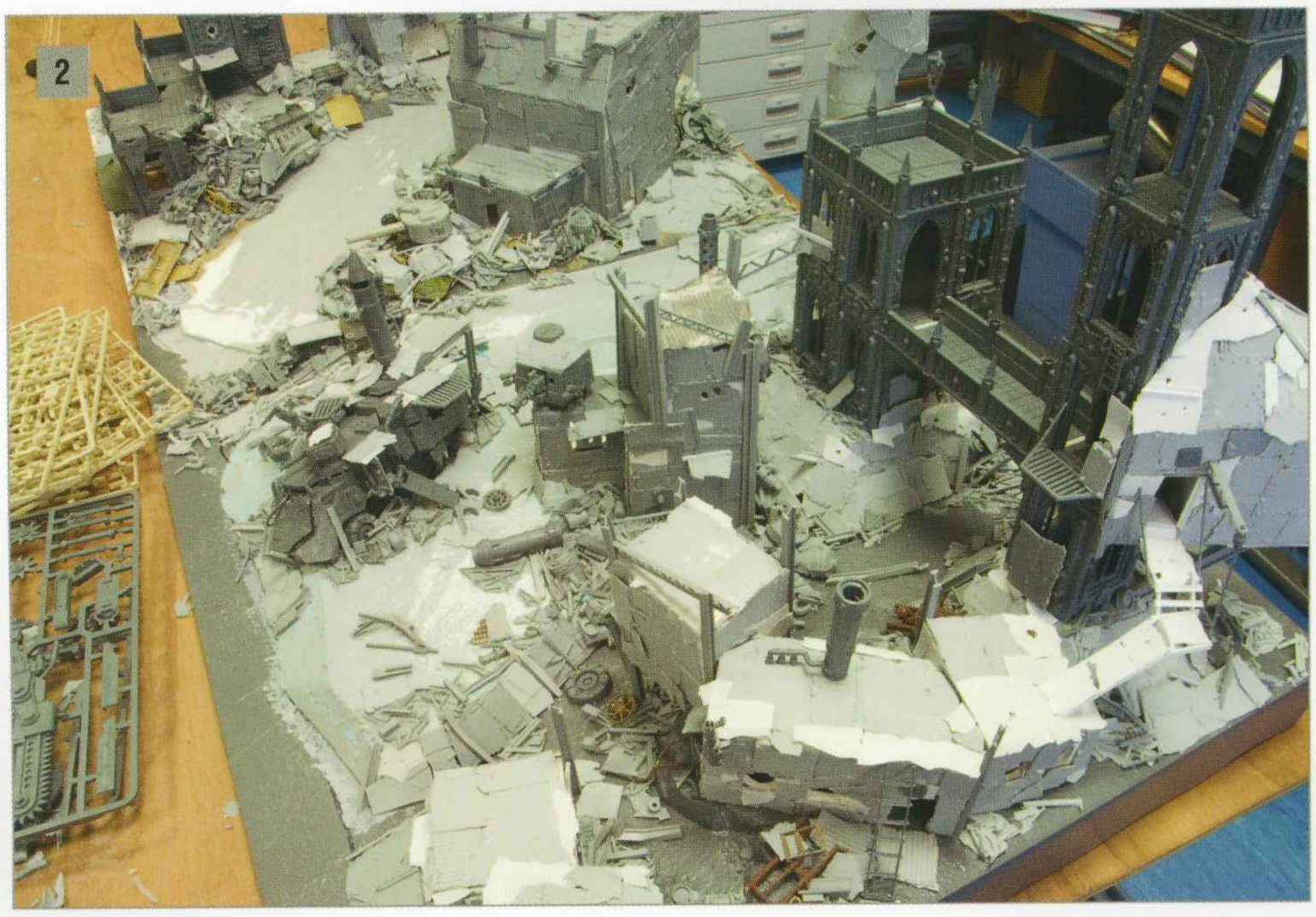
THE RAID ON KASTOREL-NOVEM

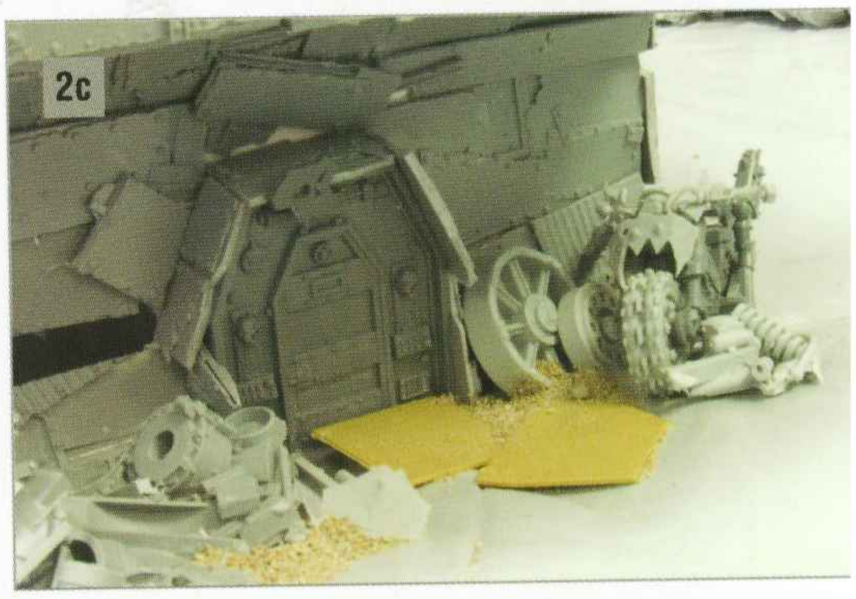
A mineral rich planet colonized by the Imperium early in the 38th Millennium, Kastorel-Novem's principal exports comprised chemicals, sulphides and munitions vital to the Imperium's war effort in that region of space. Since it was originally colonised the planet had been the target of several major Ork raids, and was attacked en masse by the Ork hordes of Waaagh! Garaghak in the latter half of the 41st Millennium.

Despite strong resistance by the 181st Elysian Drop Troops Regiment an Space Marines from the Raven Guard Chapter, the planet was captured by Mek Boss Buzzgob in a battle which was dominated by the Mek Boss' three Ork Stompas. Within weeks Kastorel-Novem had become a major manufacturing world that supplied arms and armaments to the ever expanding Ork Waaagh! across the Forsarr sector.

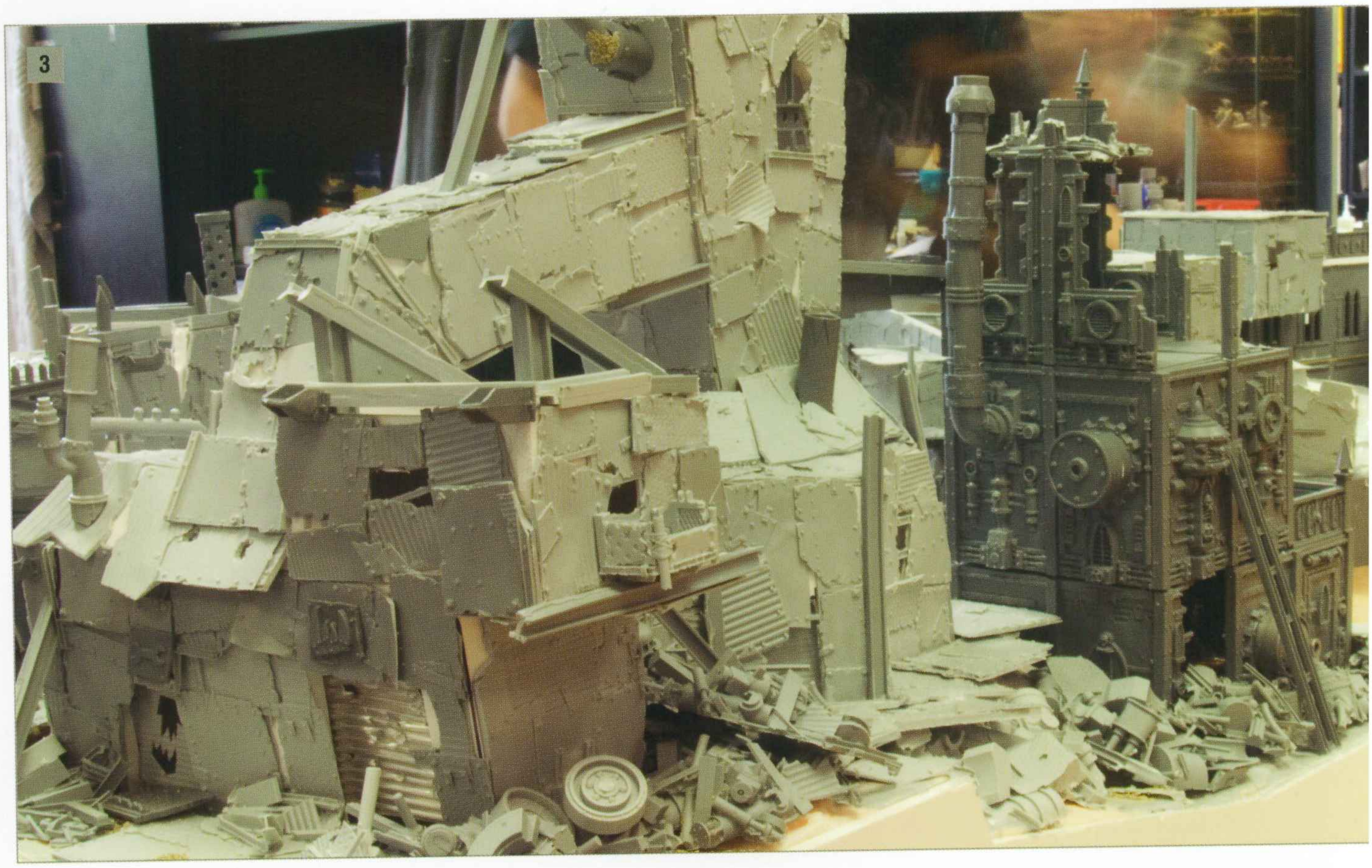
1 – Using nine Citadel Realm of Battle Gameboards as the basis for the Kastorel-Novem scene, the details were built up in stages. Expanded foam sheets were first used to raise up areas, which were then sealed with expanded polyurethane resin so that other elements could be glued to them without melting the foam.
Foam card was then used to create the basic structures for the large Ork Mekshop and the Ork shanty town. Parts from plastic Warhammer 40,000 Imperial buildings such as the Basilica Administratum and Manufactorum were also added at this stage to the basic foam card structures to give the impression that the Orks had simply built over existing Imperial buildings with looted materials.
2 – This detail was then built up over the boards to give them the ramshackle look associated with an Ork encampment, with components from various plastic kits stacked around buildings as if the Orks had just left scrap strewn about. The roads between the buildings were kept relatively clear of obstructions, with only the occasional obstacle.
3 – A 'patchwork' of metal sheeting was created by overlapping pieces of plastic card to look like looted scrap bolted together. This was then moulded and cast in resin so it could be easily reproduced in large quantities.
The resin pieces were then cut up and reoriented to fit different parts of the buildings, such as on roofs and the sides of walls. Additional rooms were also created from the plastic 'scrap' sheeting. These were joined to the buildings to look as if the Orks had just bolted them on to existing Imperial structures. Scrap plastic and broken components were also culled from various bits boxes and old kits to further enhance the 'scrap yard' feel of the boards.

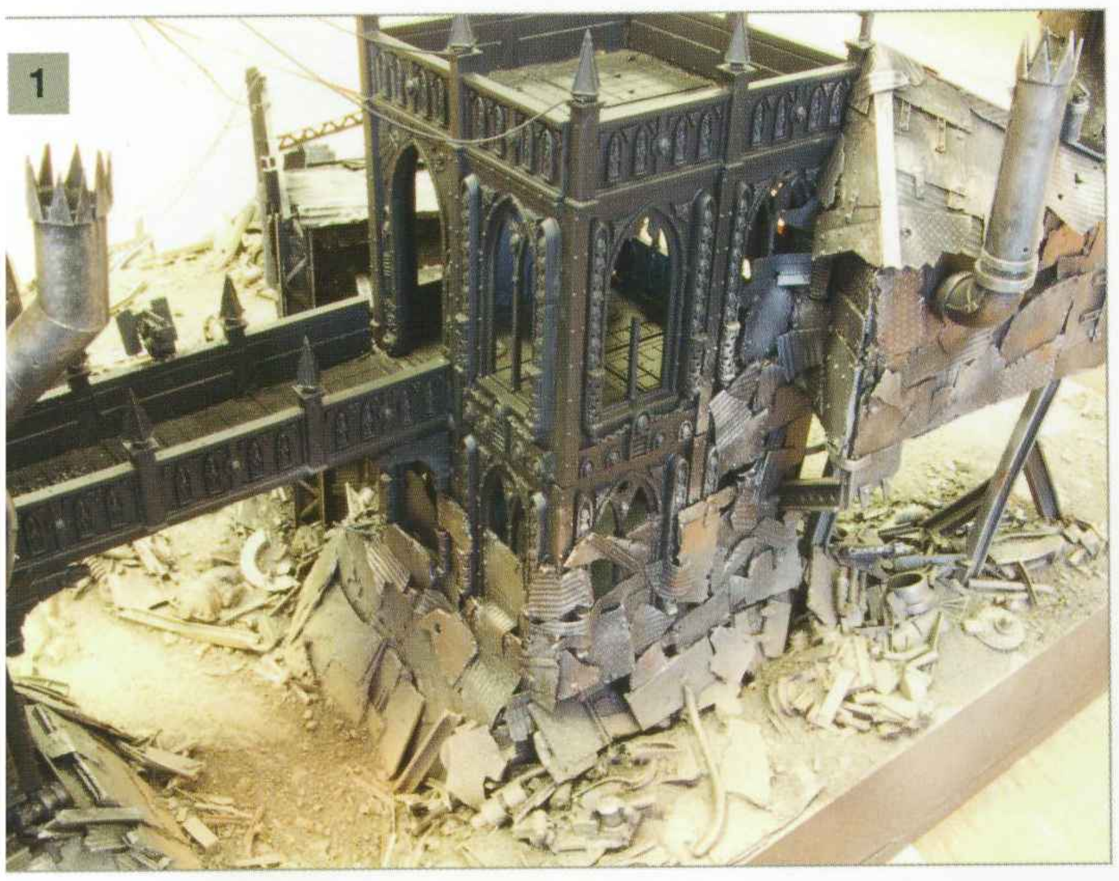


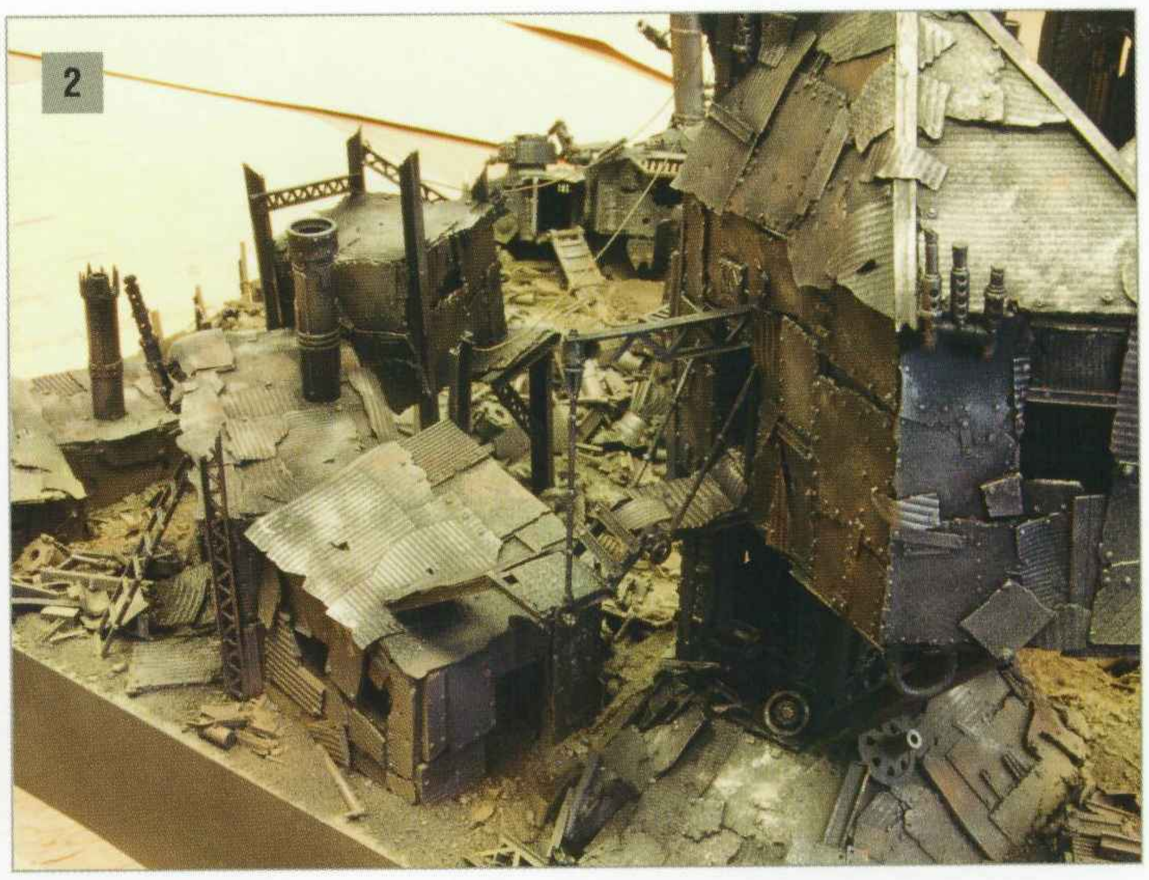




1 – In the centre of the board, an Ork Battlewagon was partly sunk into the foamboard. To do this, sections were cut out of both the board and the vehicle until it sat at an appropriate level.
The Battlewagon was then partly covered with some of the resin sheeting and other bits from plastic Ork and Imperial kits, the aim being to make it look as if the Orks had turned the stranded vehicle into a fortified strongpoint.
2a, 2b, & 2c – Alongside the converted Imperial buildings, ramshackle Ork structures were added. These were first built using foamcard and overlapped with sections of resin scrap metal sheeting. Sections of the resin scrap were warmed using a heat gun during this stage so they could be bent into shape.
3 – Sections of plastic scale modelling 'I' bars were then added to represent metal joists. These were cut to different lengths and stacked in an irregular fashion, with some being placed as if they were propping up the outer walls of the buildings and others serving as the exposed carcasses of partially built structures.







1, 2 & 3 – An area was created on the board which would later be painted to look like a gully filled with oily water and scrap. To begin with, the sides of the gully were built up with scrap plastic and old components. Then, more of the resin sheeting was glued to the base of the buildings that sat alongside the gully to represent where the Orks had attempted to shore them up and prevent the water entering the battle-damaged buildings. Finally, the roofs of the buildings were topped off with spikes, weapons emplacements and Ork icons.

Once the buildings had been constructed, the ground between them was covered with a layer of sand and small stones mixed together with bits of scrap plastic and spare components from plastic kits. This was then sprayed with PVA glue to hold it all in place.

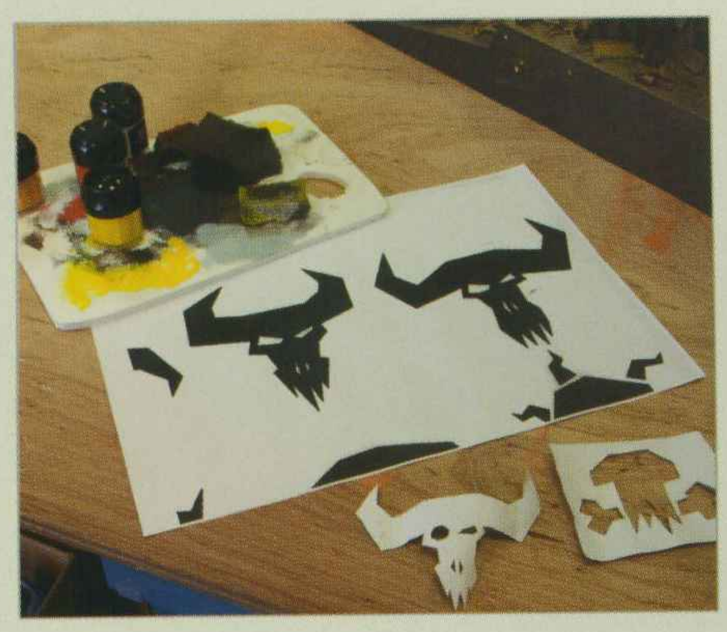
All of the boards were then undercoated with Chaos Black, and the ground areas sprayed with brown tones. Using a small pump spray bottle, a sandy rusty colour was added to the boards. This was used on both the ground area and other parts of the board.

MIXED MATERIALS

1 – To reinforce the impression that the buildings had been put together with a mix of metal and other materials, they were painted with different tones and colours. Once dry these were sprayed with the same colour as the ground and then individual plates and bits of scrap were picked out with various shades of brown before again being sprayed with the sandy colour. Using the same sandy colour on both the ground and the buildings helped to tie them together, and gave a dusty look to the boards. A light earth tone was used on the roofs of the buildings to pick out further detail and as a contrast to the darker metal plates. Various tones of brown were also drybrushed onto the groundwork and buildings to enhance details.

Where Ork and Imperial decals were added, dark brown tones of watered down paint were lightly sponged over them to give a weather worn appearance. Once all the paint had dried, rust and earth tone weathering powders were applied to the ground and areas of the buildings, particularly at the base of them where dirt and sand would be kicked up by speeding Ork vehicles.

2 – To create the oil slick in the gully, black and brown paints were mixed with gloss varnish and poured through it. This mix was also watered down and streaked down the sides of the gully to make it look as though the oily water was oozing out of the ground and gully's banks.



STENCILS

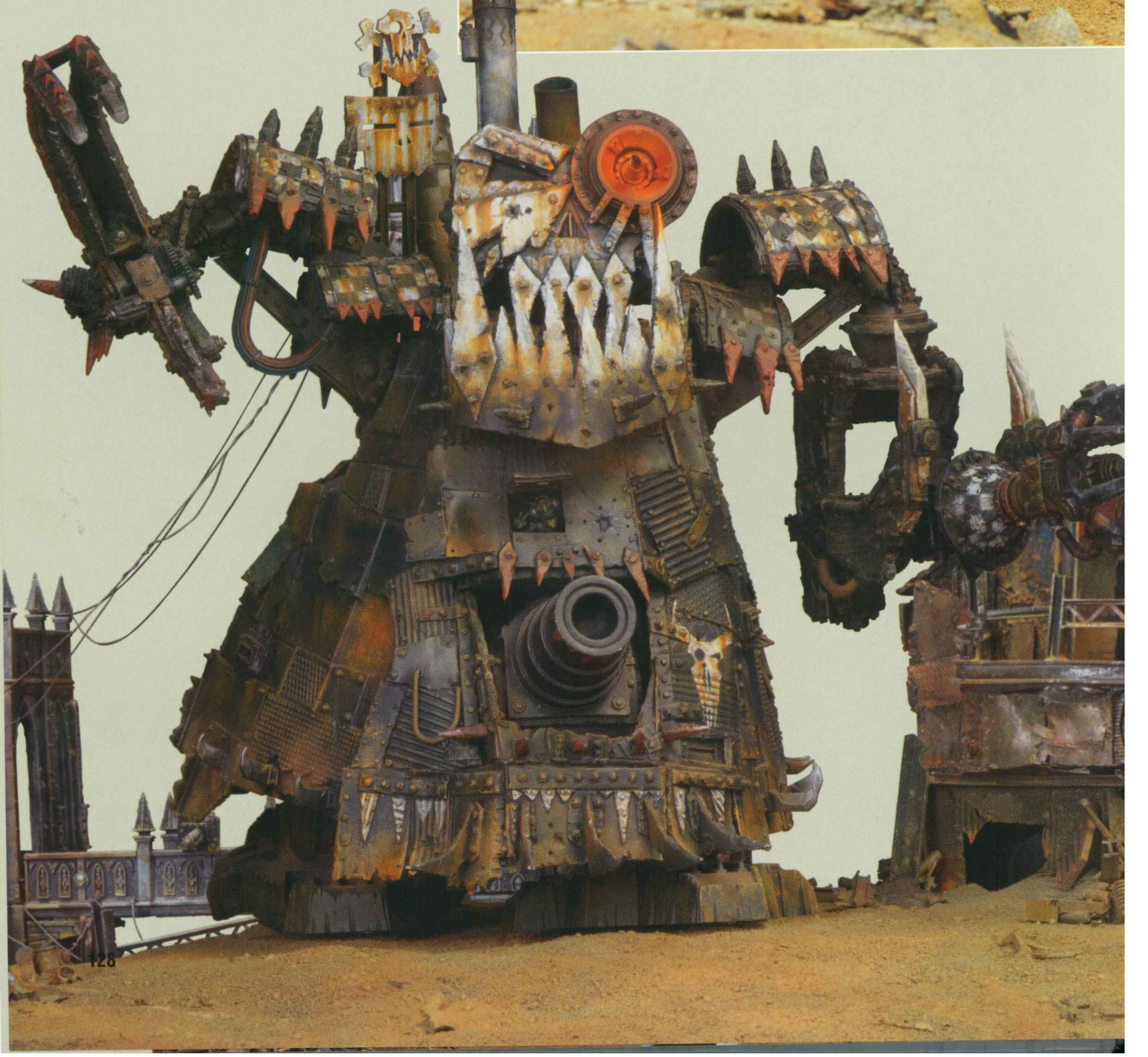
Stencils were created for use on the sides of the buildings and other large areas. The Ork glyphs were mainly sprayed on with Skull White or it was sponged on instead to give them a rough, daubed look. Once dry, they were again sprayed with the same dark brown watered down paint so that they didn't look too clean compared to the rest of the boards.

The Evil Sunz Big Trakk was emblazoned with yellow flame markings. These were created using a combination of hand painted flames and flames taken from Forge World transfer sheets.
The vehicle's red base colour was heavily chipped with a sponged on mix of Scorched Brown and Chaos Black. These dark areas were then highlighted along their edges with Chainmail to give them a polished metal effect.

ıe same 'oily' paint/varnish mix was used in
e Mekshop area to represent oil spills from
e vehicles being worked on by the Mek's
ew. Patches were also applied to areas of
e ground to make it seem as if pollution was
sing up through the dirt.
owders were used extensively to add dirt and
ud to vehicle tracks and all horizontal surfaces
ıch as the Ork gun platform. Washes of acrylic
ıint and varnish added definition to areas such
; wheels, and Vomit Brown paint was used
tensively on all of the Ork vehicles as it was a
ose match to the colour used on the ground.

The Ork Stompa was upgraded with a Forge World Stompa head, claw arm, Lifta-droppa arm and belly gun. The model was first undercoated with Chaos Black, and then the colours were either sponged or stippled over it in various shades of rust and earth, bringing out the different shapes and textures on the model. The Stompa was then painted with both dark and light washes and then weathering powders were added around the bottom half of the Stompa. Skull White paint was sponged onto the Stompa's face, and then washed with Snakebite Leather mixed with varnish to aid with the streaking effect. The white chequer pattern was created using strips of masking tape. Skull White was then sponged on to the exposed areas of the pattern, with Chaos Black being lightly sponged along those edges to give a chipped rather than hard, straight edge. A wash of Snakebite Leather was also applied to tone down the white and give it a weathered appearance.

Finally, Black Soot weathering powder was dusted on the Stompa's chimney stacks to represent smoke deposits.



A Vomit Brown wash and Dark Sand weathering powder was used on the Ork Big Trakk to match its weathering against the colour of the terrain.

A Forge World Ork Looted Rhino was converted into a Mekboy Junka, with extra Deff Rollas and a Turbo Charger.

1 – The Forge World Grot Mega Tank was painted in a similar way to the Ork Stompa. After being undercoated with Chaos Black, Mordian Blue mixed with a little Skull White were sponged on as a base colour. Successive coats of Mordian Blue were also added on to th model with a sponge rather than a brush, each being lightened further with a small amount of Skull White.

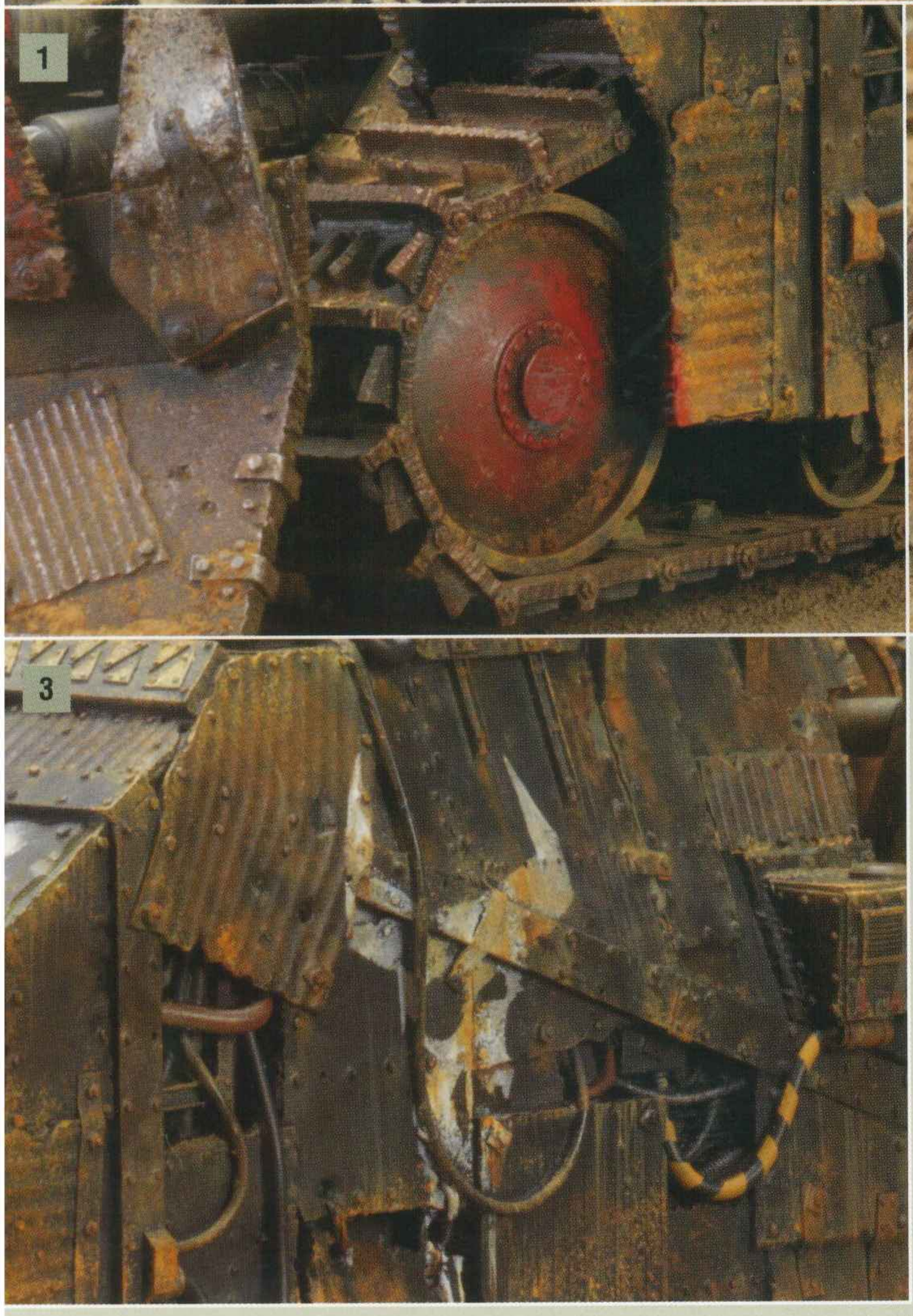
Rust tones were then sponged on using variou mixes of Scorched Brown and Snakebite Leather. Finally, the whole vehicle was given a few washes of Gryphonne Sepia and Devlan Mud to unify the colours together, with Light Earth and Dark Earth weathering powders use to create the effect of mud and dried earth alo the Grot Tank's lower chassis and tracks.

2 – The Mek Boss' Grot 'elper's 'flip chart' provides a great focal point. The Stompa diagram was painted using a mix of thinned down Snakebite Leather and Chaos Black. The paper was then washed with some Tau Sept Ochre to make it look like parchment.

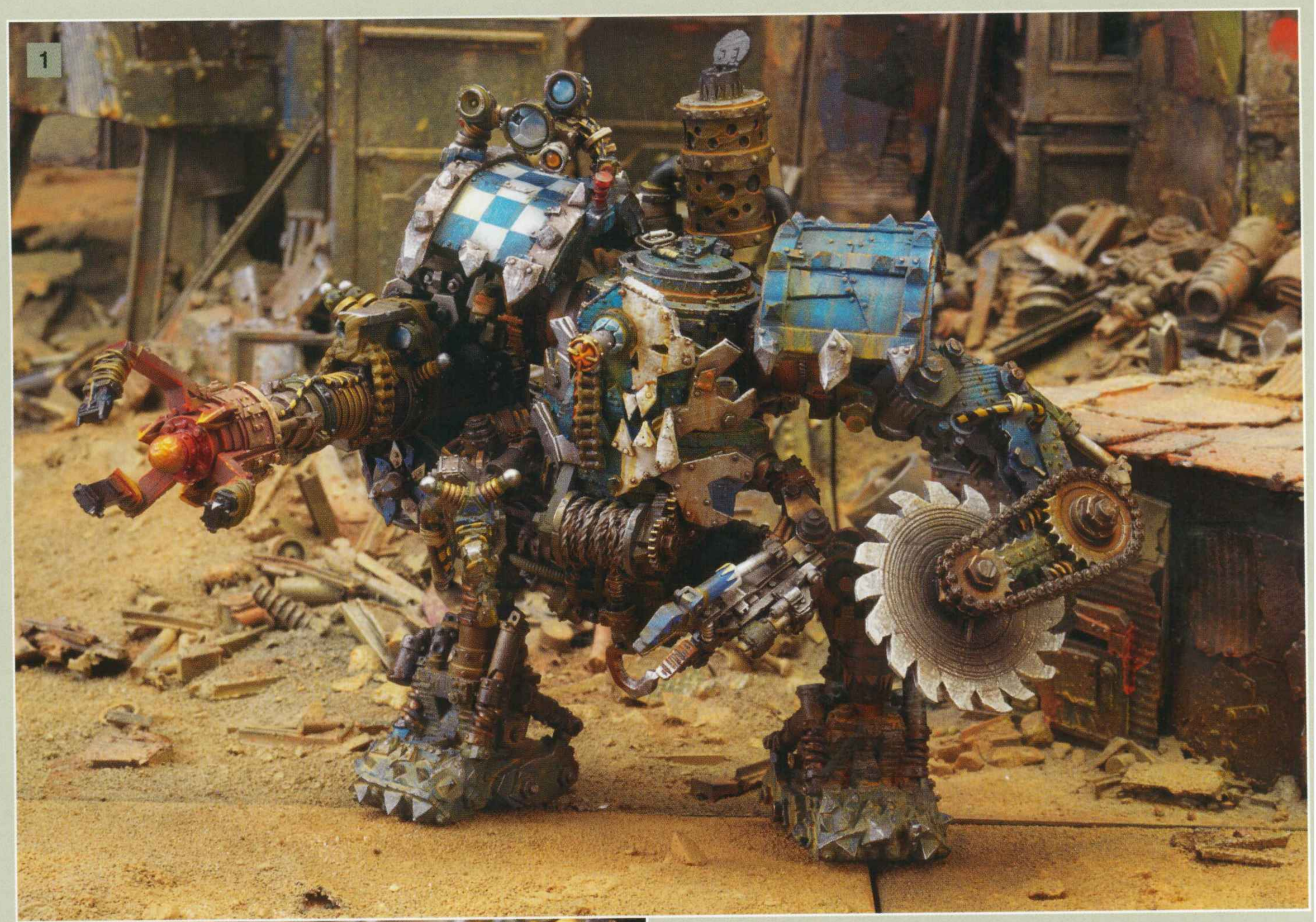
3 – A gun from a Basilisk was 'Orkified' by adding some Ork components to it which wer left over from the construction of the Ork Truk and Stompa.

4 – The Forge World Ork Kil Blasta and Kil Bursta tanks were painted in similar colours to give the impression that they were from the same Ork mob or even built in the same mekshop.
Like many of the Ork vehicles they were both initially undercoated with Chaos Black. On dark, or in this case, black models, the dried earth and rust tones that were used became an important way of defining detail on a model. This was also aided by flooding the detail on the vehicles with washes of Vomit Brown and medium varnish. The models were then finished off with Dark Sand and Light Earth weathering powders.

On the Elysian Tauros Venator vehicle, the sand coloured camouflage that had been added over the green base colour was brush painted with Tausept Ochre. Citadel Foundation paints are great for this type of work as they are fully opaque and provide good coverage.



1 – The drive wheel of the Ork Kil Blasta Tank was given a sponged-on coat of Blood Red.
2 – Weathering powders were then used on the dozer blade to represent the build-up of dried earth. It is recommended that you use at least two coats of weathering powder to obtain the best effect from them.
3 – The glyph marking on the side of the vehicle was applied using the stencil method described on page 124.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1 – The Ork Meka-Dread was painted in the blue and white Ork Deathskulls colour scheme, with lots of rust colours added to complement the blue. When viewed on an artists colour wheel, orange is a complimentary colour for blue, thus making the combination of the blue base colour and the orange tones of rust and earth avery pleasing to the eye. Simple colour theory such as this can be very useful when deciding upon colour schemes for your models.

2 – The Shunta arm was also painted with orange and yellow tones to further enhance the contrast on the model. The method used was the same as that applied to the Lifta droppa as detailed in caption 4 below.

3 – Snakebite Leather was mixed with medium varnish and painted on the model, with a Vomit Brown wash added around the legs and feet. Boltgun Metal was then used to represent areas of wear and tear.

4 – The Forge World Lifta-droppa on the Battlewagon was also painted in an Ork Deathskulls scheme with the focal point on the model being the glowing end of the Lifta-droppa. To recreate the fading effect on the weapon, which ranges from red to yellow, the colours were applied using an airbrush.

First Mechrite Red was painted on as the base colour. Macharius Solar Orange was then airbrushed on next, leaving the red only visible at the base. Finally Golden Yellow was sprayed on to the gun's tips.

5 – The Forge World Grots on this Trukk were painted in a more lurid shade of green than the Orks to make them more of a focal point.

4
5

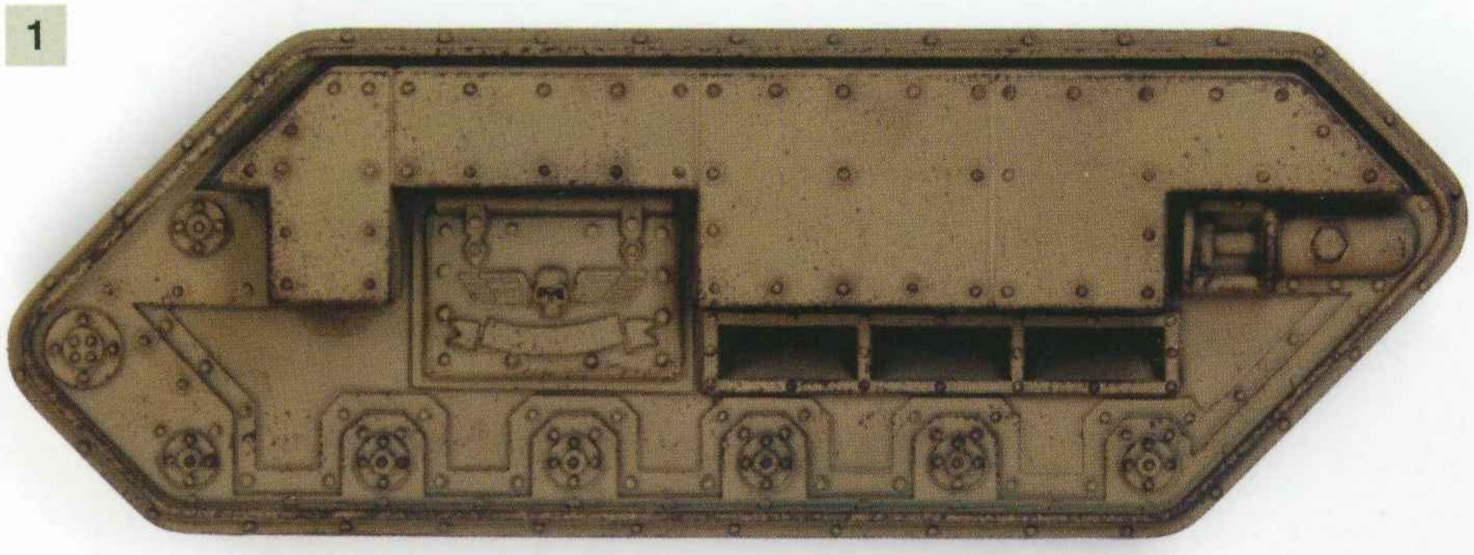
WEATHERING POWDERS

NATURAL TONES

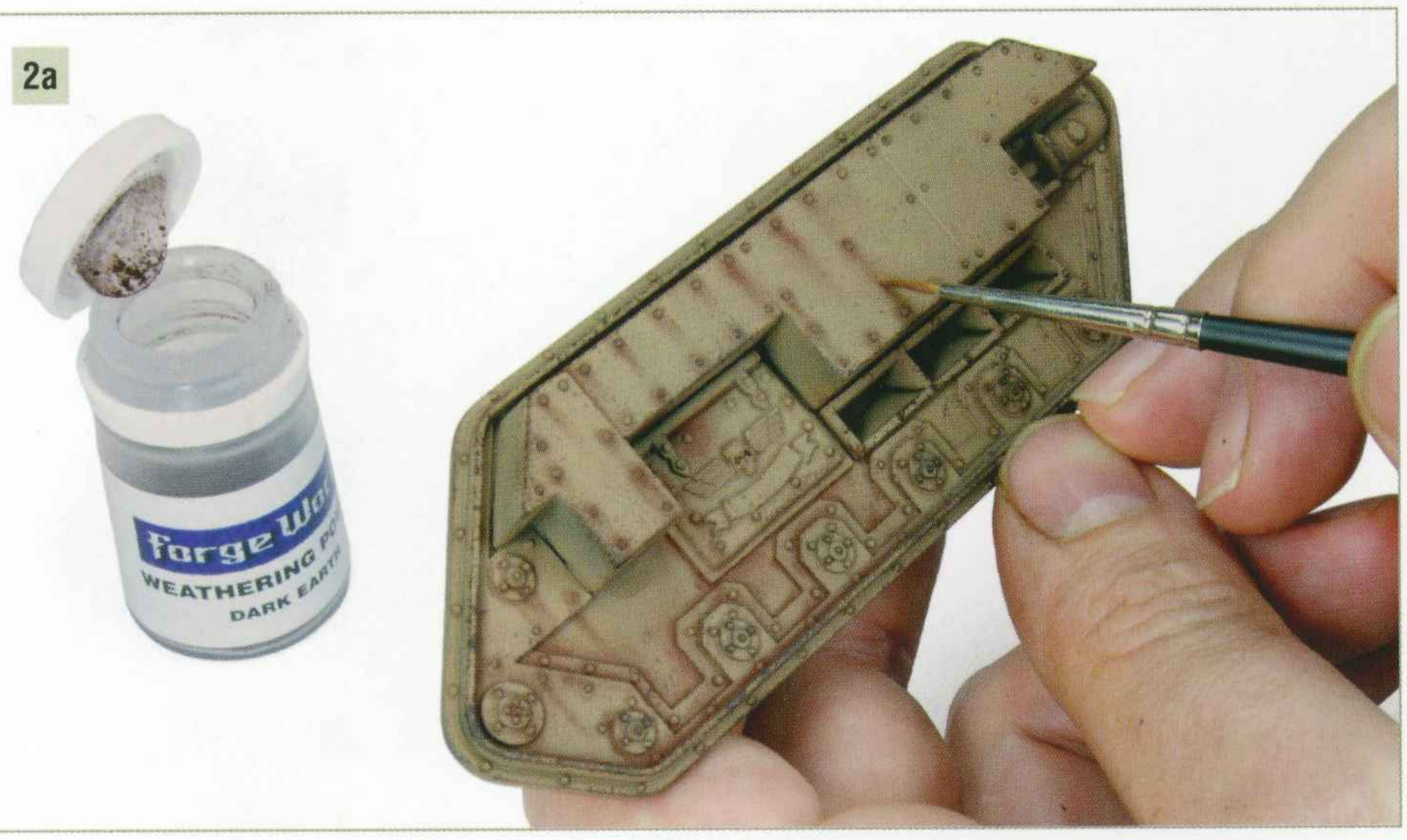
Forge World weathering powders offer a versatile way of adding new painting effects and detail to your models.

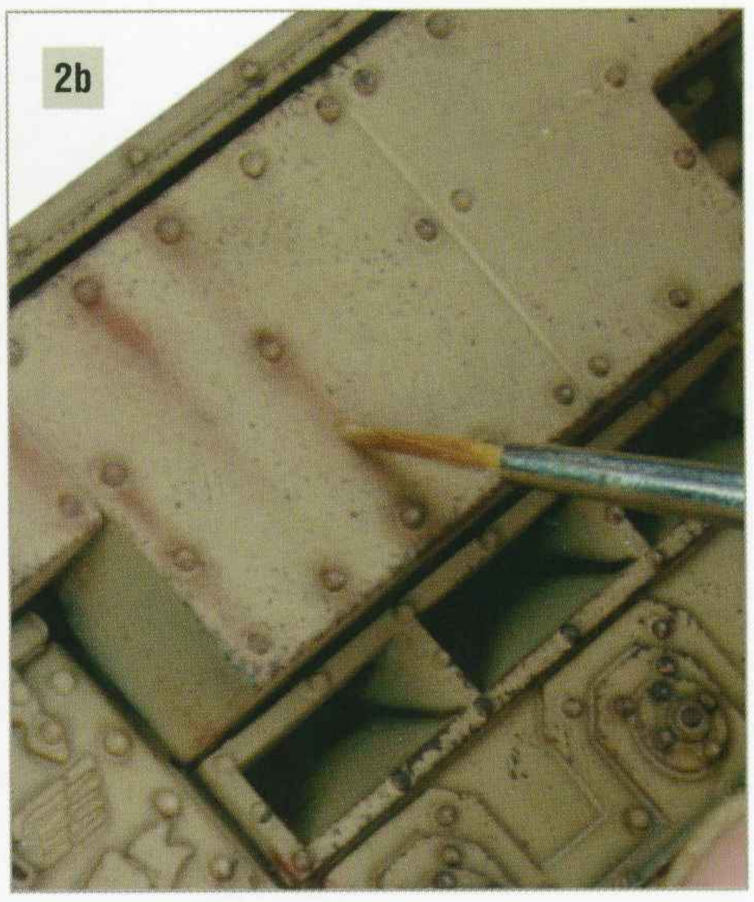
Weathering powders can be most simply applied as a dry powder with a brush, and it is very easy to blend and stipple the weathering powder onto your painted models in this way. When you are doing this it's important that you use a clean brush (the Citadel Small Drybrush is ideal). The effect you can achieve using weathering powder in this way can be very vivid and strong, so it's best to apply small amounts of the powder at a time, particularly if it's your first time using them!

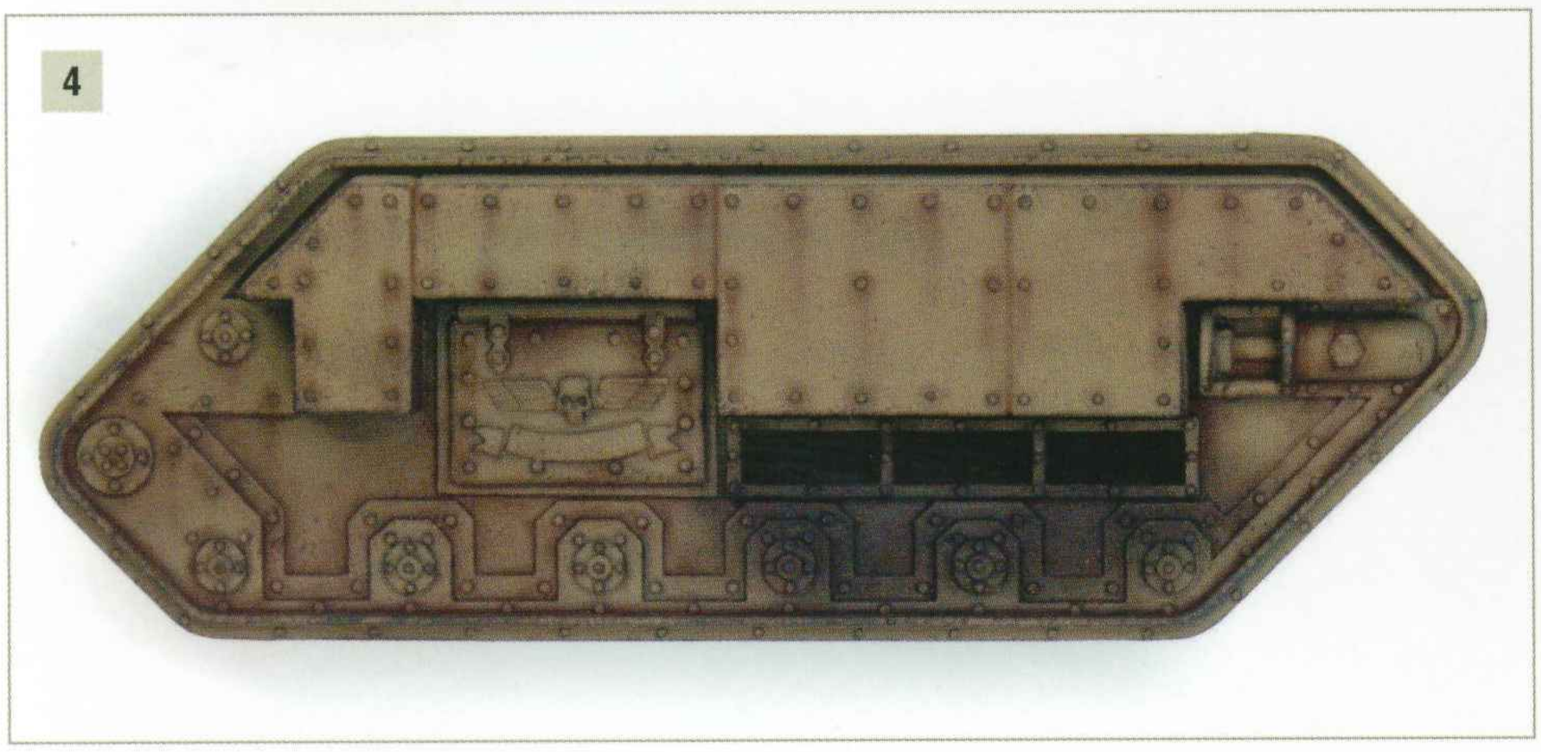
Once on the model the powders create quite a resilient finish, however if your models are going to be frequently handled you might want to fix them in place with a light spray of matt varnish after they've been applied.



1 – After being undercoated and given a base coat of Desert Yellow, the model was then lightly drybrushed with Kommando Khaki, followed by a wash of Gryphonne Sepia.
To represent chipped and scratched metal, a fine sponge was used to dab a mixture of Scorched Brown and Chaos Black on to the edges of the armour plates.

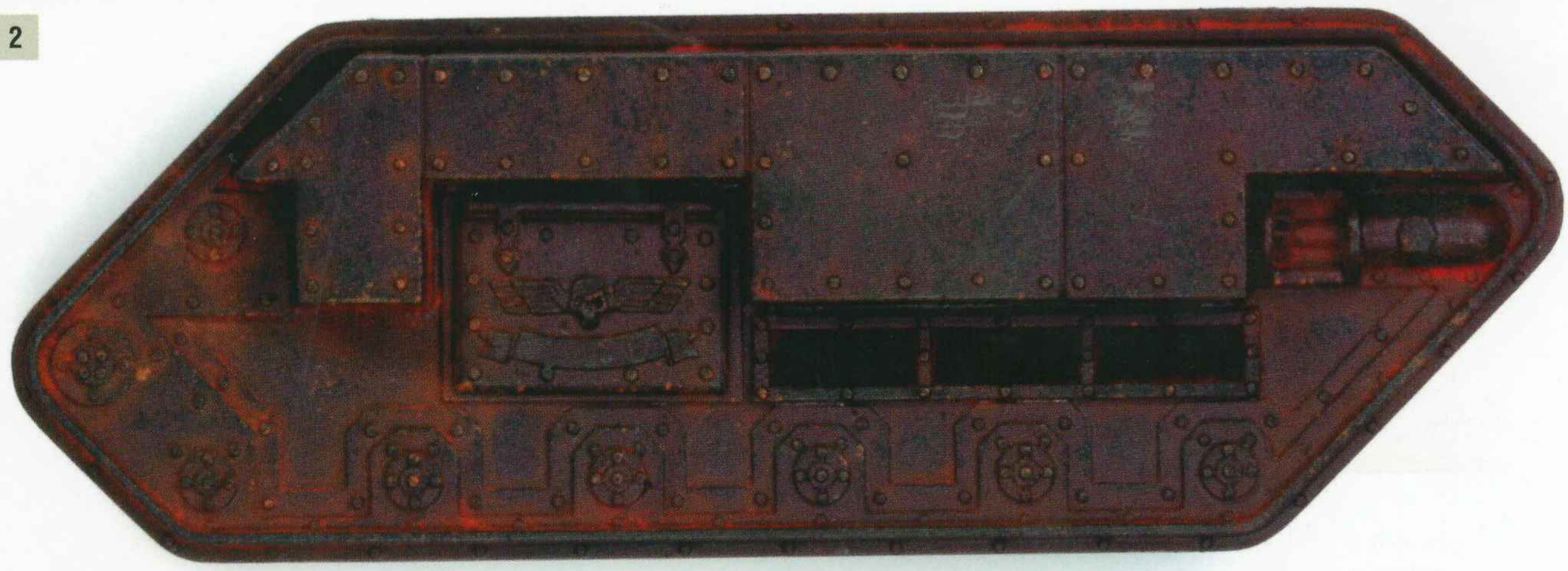






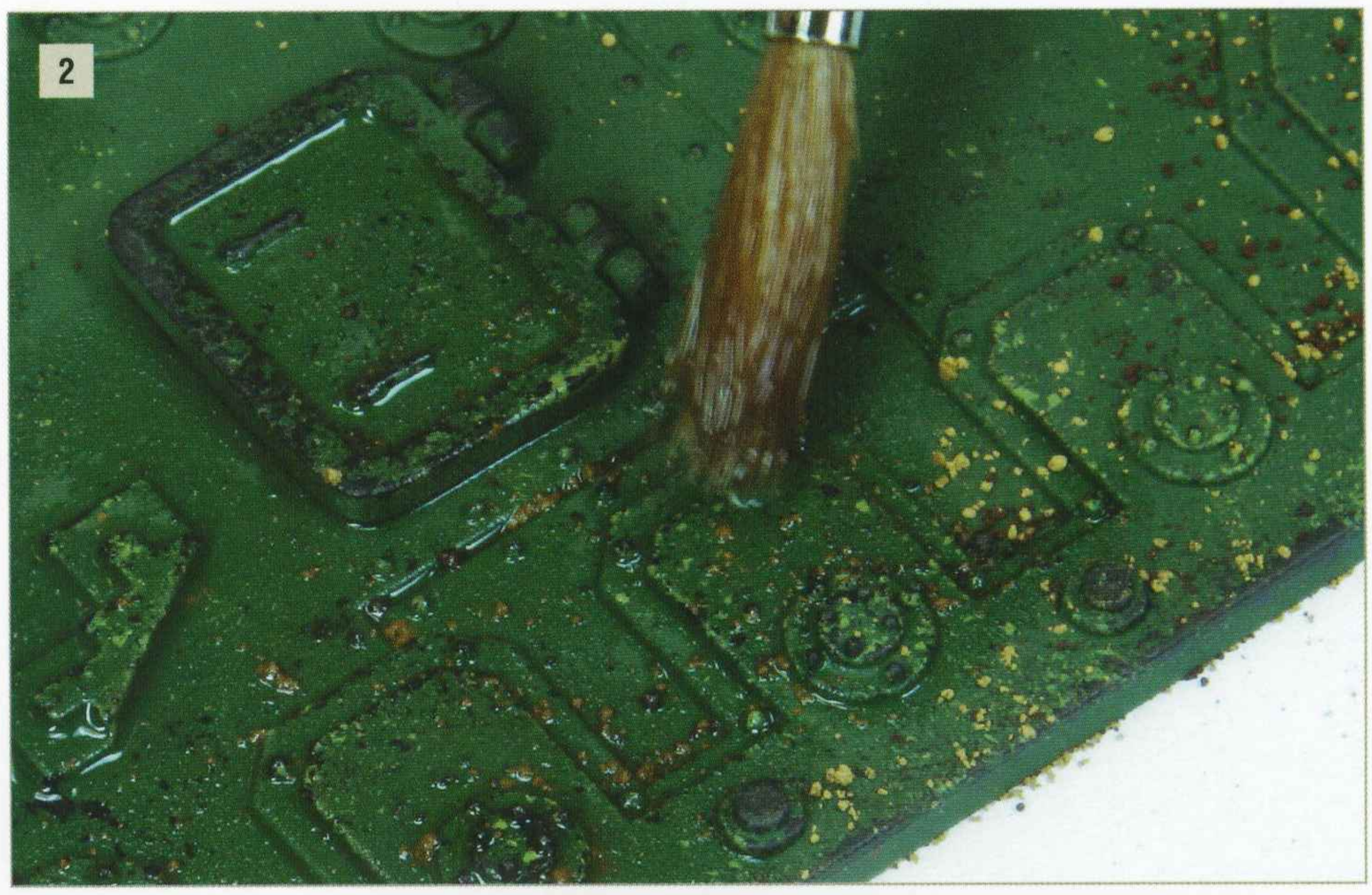
2a & 2b – Using a Detail brush, Dark Earth weathering powder was then brushed onto the armour plates to weather the model.
3a & 3b – Black Soot weathering powder was brushed in and around the vents to simulate the discolouration that exhaust gases would create over time.
4 – To finish and seal the weathering powders, the model was sprayed with a coat of matt varnish.

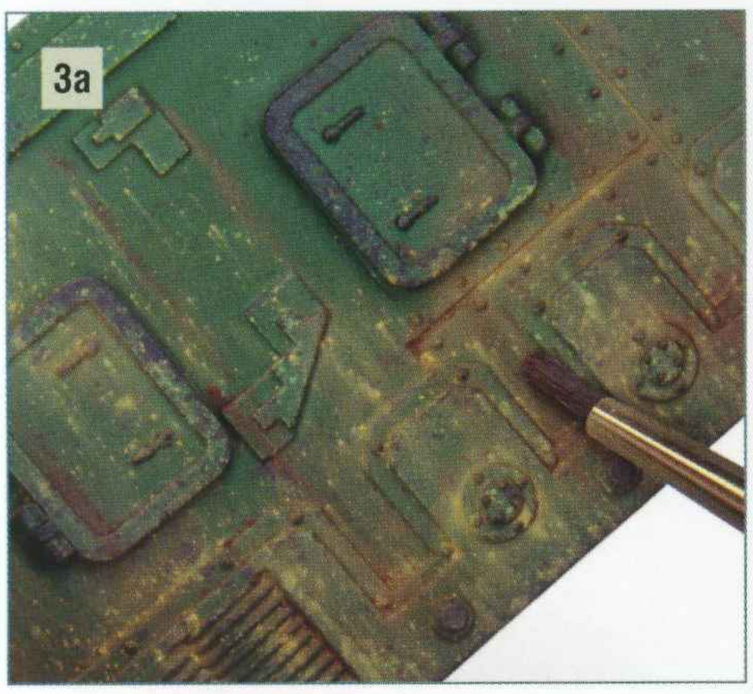
1 – This Imperial Guard Chimera side panel was given a heavily rusted appearance using Orange Rust weathering powder around the raised edges of the armour plating.
Extra layers were applied around rivets and other surface details to represent the most severe corrosion.
2 – To seal the weathering powder in place a coat of matt varnish was applied.

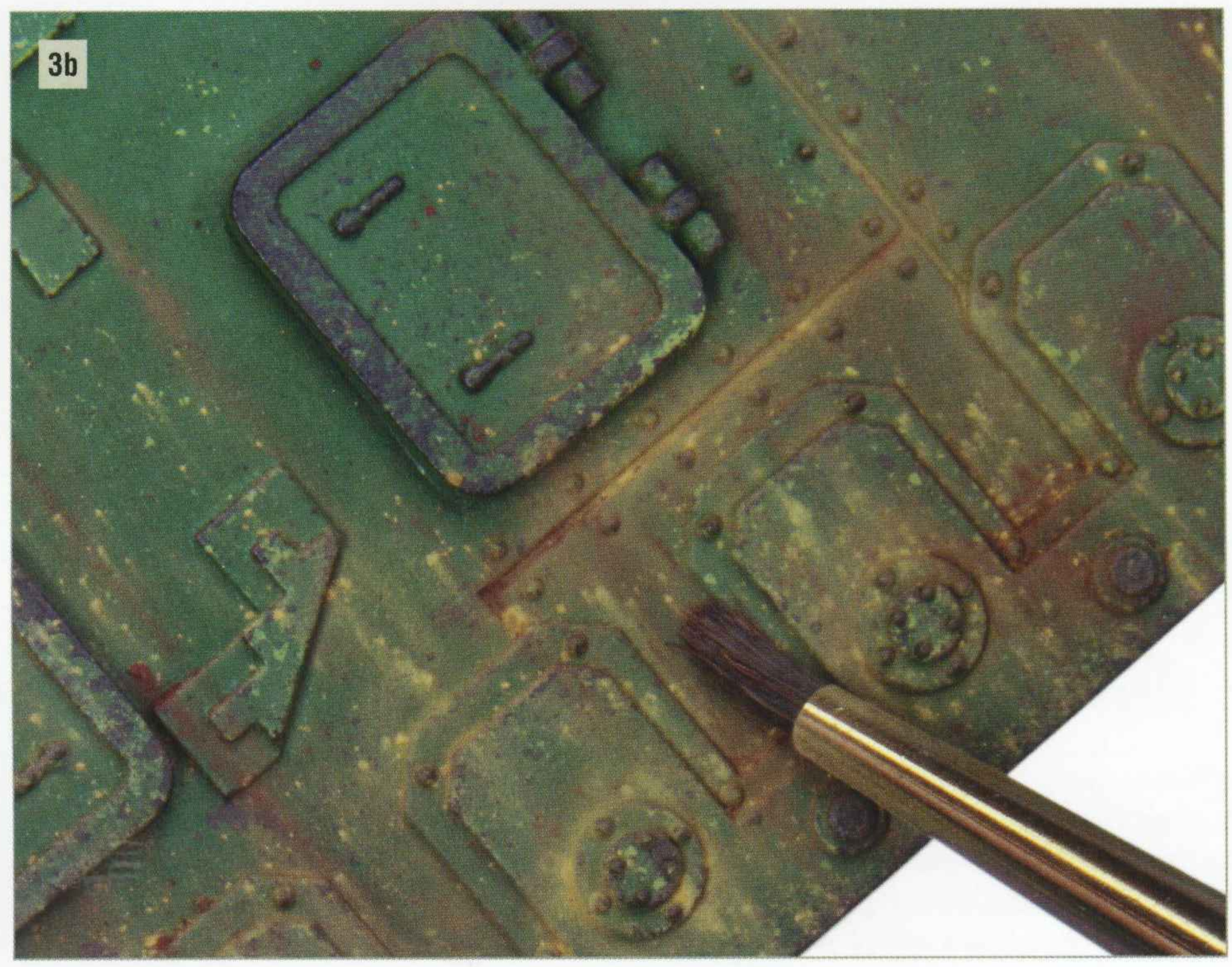


1 – A side panel of a Leman Russ was painted Catachan Green, again it was weathered and chipped prior to applying the powder.
An old brush was then used to randomly sprinkle Light Earth and Dark Sand weathering powders on to the model.

2 – White spirit was then touched onto the surface of the model and allowed to flood over the armour plates naturally. Care was taken not to actually move or disturb any of the weathering powder with the wet brush itself.

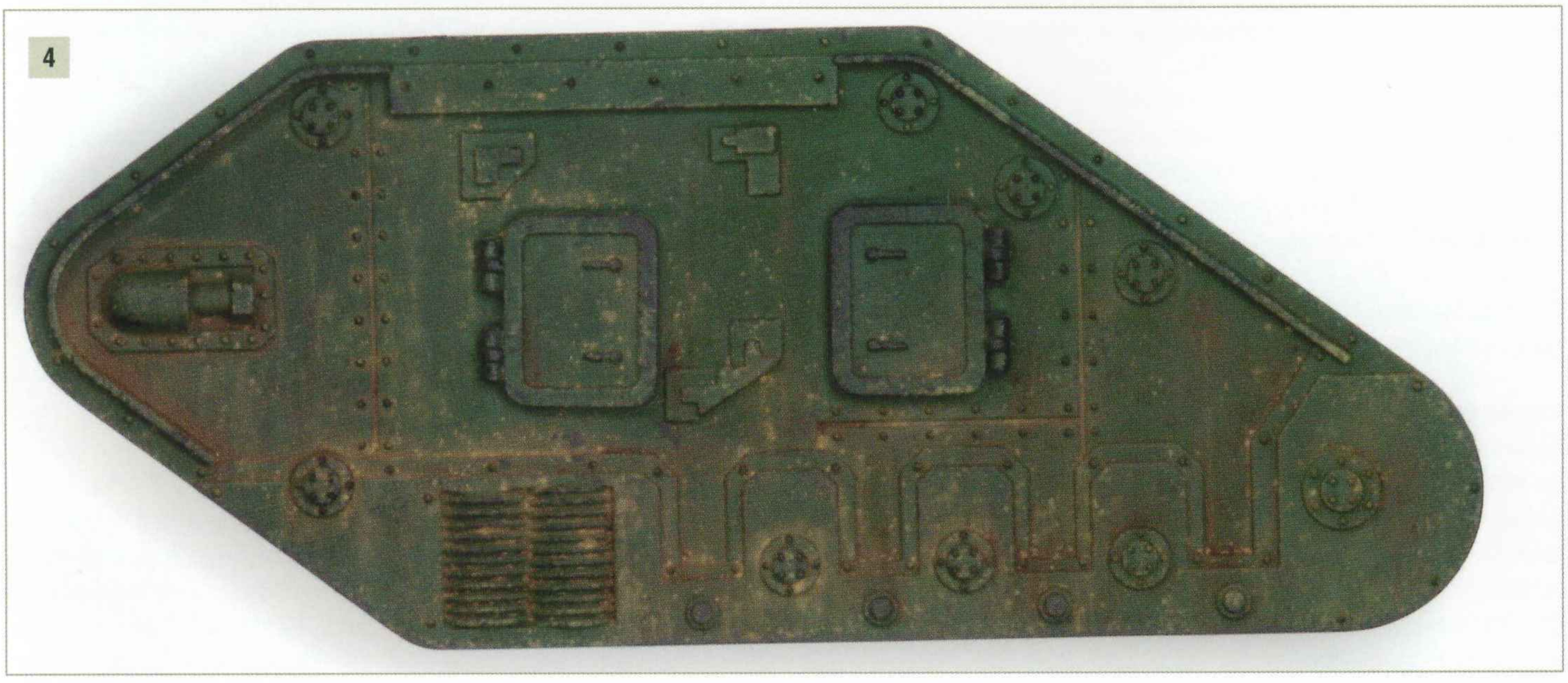






3a & 3b – Once the wash of white spirit had completely dried on the model, the clumps of weathering powders were blended into the surface colour of the armour plates with a clean small drybrush, and dragged downwards to form streaks.

4 – To seal the weathering powders, the panel was given a coat of matt varnish.



Shown above is a selection of tools and modelling materials you may find useful when putting together your own models and scenery. Do not fear, there is no need to buy everything at once. Most people build up a collection of tools and paints over a few years, but there are a few essentials you will require from the start. Paints and brushes are obviously essential – other tools will only be needed occasionally, for specialist jobs, and can be purchased as and when you need them.

BRUSHES

Games Workshop Citadel brushes are particularly well suited to model painting and come in a good selection of sizes. You will need a range of brushes for fine detail work, and larger brushes for bigger areas. The Citadel Small Drybrush makes a great general purpose brush.

Replace your detail brushes as they lose their points – old brushes can be kept for tough work such as applying PVA glue or drybrushing.

TAKING CARE OF BRUSHES

Good brushes that have bristles which come together with a pointed tip are essential for fine, detailed work and a well cared for brush will last longer and help you achieve better results. At the end of every modelling session clean all your brushes in warm soapy water, re-point them between thumb and forefinger, and store them carefully so that the points don't get damaged. Don't use very hot water to clean brushes as this may unseat the bristles.

SPONGES

These are a fast and effective way of applying an irregular chipped, rusted and worn finish to a model. A small piece of sponge can be found in each Games Workshop blister pack or a coarser, wiry sponge can be pulled from the rough side of a washing-up scouring pad.

PAINT

The Citadel Colour paint range provides an extensive selection of colours and has been formulated especially for painting Games Workshop's models. The paint is water based but waterproof once dry. By mixing paints you can create any colour you need and they can be thinned with water for general painting and acrylic paint thinner for airbrushing.

FOUNDATION PAINT

The Citadel Foundation paints are ideal for painting colours over black or dark undercoats. They provide excellent coverage in a single coat because of their high pigment content. Citadel Foundation and Citadel Colour paints are intended to be used together.

INKS

Inks are a transparent form of paint that is highly pigmented – giving a bright, vibrant result. They are used for washes over base colours. To get the best results with inks they need to be thinned with water and varnish. The varnish helps the ink to settle and dry in the recessed areas of a model. The varnish will also give a little more working time to aid in the blending and feathering of painted edges.

CITADEL WASHES

Citadel Washes share many of the properties of inks, but they do not require thinning and dry with a matt finish rather than gloss. They can be applied directly from the pot and the pigment naturally runs into the recesses of the model, providing shading at a stroke. Unlike regular inks, they're waterproof once dry, allowing you to add further washes or glazes without fear of re-wetting the original wash.

WEATHERING POWDERS

Forge World Weathering Powders are finely ground coloured powders that can produce some great weathered effects on models. These powders are particularly adept at creating mud, rust and dust effects. The methods of application are many and varied, all of which will yield different results and effects. They can be applied in their dry state with a soft brush and can be mixed with any type of thinner and applied as paint or a wash. However the most common and effective method of application is a combination of the wet and dry methods. A brief article describing these techniques can be found on page 136.

OIL PAINT

This is a traditional form of paint used by artists. For model painting it is primarily used with white spirit to make washes. A characteristic of this type of wash is that it can be manipulated, removed (with more white spirit) and blended because it takes a few hours to dry. It adds both richness and depth to shading.

WHITE SPIRIT

This is a petroleum spirit that is used to thin oil paints. There are a few different grades available ranging from cheap DIY store brands to more expensive low odour types aimed at artists. The more expensive types will yield better results but the cheap DIY brands are perfectly usable if you do not mind the strong smell.

SPRAY PRIMERS

It is a good idea to prime your resin model before painting it. Primer provides a good surface for further painting, and will help acrylic paint adhere to a resin model. Citadel spray paints are available in Chaos Black and Skull White, and will make a good primer and undercoat. Grey is available in car body primer form from most motor stores.

Black is a good starting point for all shadow areas and can dull down overly bright colours. White will make further applications of colour bright and vibrant. Grey is a neutral colour somewhere between the two extremes and colours used over it will not be overly affected by the undercoat.

VARNISHES

Gloss – A good source of gloss varnish is Johnson's Klear. It is a water-based floor varnish, and as well as being used as a traditional gloss varnish, it can be used as an additive to inks and paint to alter their performance and properties. When added to a wash it will make the wash settle and dry in the recessed areas with no patchiness or tidemarks. It can also be added to acrylic paint to aid in the blending and feathering of different layers of paint, and will also heighten the translucent quality of the paint.

Gloss varnish will also make the job of applying decals straightforward as it can be used both as a gloss varnish and setting agent. See the Red Scorpions Angstrom Incident Raiding Force on page 37 for more details of how to use gloss varnish on decals.

Matt – When coupled with gloss varnish, a good matt varnish is a most useful paint medium. Some techniques and paint applications work better on a matt surface, such as drybrushing and detail painting, while other applications will work best on a gloss surface. A model can be switched between a gloss and matt finish with the simple application of a thin layer of airbrushed varnish. Daler-Rowney soluble matt varnish is very good for this, especially when thinned and applied with an airbrush.

AEROSOL VARNISHES

As well as applying varnishes with an airbrush or paint brush, they can also be quickly applied to a model from an aerosol can. Games Workshop stores sell Gloss Varnish and a satin varnish (Purity Seal). Matt sprays are also available from model stores. These types of varnishes provide a tough layer of protection for gaming miniatures which are regularly handled.

Most of the following tools are available from your local Games Workshop store or any good modelling shop. When using tools, please make sure you read and follow the manufacturer's guidelines. Many tools are sharp and can be dangerous if not used with care.

CLIPPERS

Clippers are good for quickly removing parts from a sprue and removing unwanted resin feeds from cast parts.

VICE

A vice is useful for firmly gripping a model whilst sawing or drilling. Be careful not to over-tighten and squash your model – a rubber jawed vice such as the Citadel Hobby Vice will help prevent this.

RAZOR SAW

This is a thin, fine-toothed saw that can be used for cutting either metal, plastic or resin components.

SCULPTING TOOL & GREEN STUFF

Green Stuff is a two-part modelling putty, good for filling gaps and adding detail to your models. When used with a sculpting tool it can be used to sculpt or convert miniatures.

CRAFT KNIFE

A good craft knife will be necessary for cleaning up castings prior to assembly and removing small parts from plastic frames. A sharp blade is required at all times so it is important to change dull blades regularly. A dull blade is more likely to slip and cause an injury.

DRILL OR PIN VICE

A drill or pin vice is a handy way of holding small drill bits when converting a model or pinning larger pieces together.

CUTTING MAT

A cutting mat makes a great work surface, protects your tabletop, and prolongs the life of your knife blade.

FILES & SANDPAPER

Used for cleaning and smoothing castings and filing pieces to fit where necessary, files come in different profiles: flat, round, half-round, etc, and it is a good idea to have a selection to choose from. Sandpaper is useful on larger surfaces whilst files can be used for hard to reach areas.

DUST MASK

When filing or sanding resin components, a small amount of dust will be created. Whilst resin dust is not actually harmful, a dust mask will prevent inhalation of it.

VARIABLE SPEED ROTARY TOOL (DREMEL, MINICRAFT, ETC)

This is the power tool equivalent of a pin vice or file. It will speed up drilling and filing tasks, but should be used with care.

TWEEZERS

As well as being a great tool for holding small model parts during construction, tweezers are an invaluable aid for the application of decals.

GLUES

Superglue is needed to assemble resin models. Combined with activator, this will greatly speed up the drying process. Superglue is available in different grades. Thin superglue is very runny and is good for flowing into gaps as a filler. Thick superglue allows for some adjustment when sticking a model and can also be used for filling gaps. Medium strength superglue is probably the most useful and is most commonly used for general gluing.

Polystyrene cement comes in both liquid and gel form. Used for sticking plastic kits together, it forms a strong bond by fusing the plastic parts securely.

PVA or wood glue is a water based glue, useful for sticking porous surfaces together, such as basing material and ground work.

Two-part epoxy adhesive is a very strong glue and is useful for gluing large pieces of resin together. Less brittle than superglue, its strength means the largest models can be held together without fear of the model's own weight pulling it apart.

MODEL FILLER

Model filler is a fast-drying filler than can be sanded smooth. It can be used for the quick filling of gaps during construction. The Citadel Liquid Green Stuff sold by Games Workshop is ideal for this.

FLAT-NOSED PLIERS

These are useful for holding and forming metal materials such as wire and etched brass into specific shapes.

WIRE
Wire has a broad range of uses in modelling. It can be used for pinning, to replace plastic grab handles on tank kits or for other details. A good source is florist's wire. It comes in a variety of thicknesses and is easy to bend.

PLASTICARD
Plastic card, rod and strip is a versatile material that will be the basis for any scratch built or re-detailed elements of a model. The Evergreen and Plastruct ranges of plastic are widely available and offer a large selection of sizes.

AIRBRUSH AND COMPRESSOR
A good quality double-action airbrush is a valuable and versatile tool with numerous uses and applications. It is the most effective way of laying down a thin neat layer of paint onto a model. The effective use of an airbrush is straightforward as long as a few rules are kept in mind:

1. Use the best quality airbrush that you can afford. A good quality airbrush will last for many years and be far easier to use and achieve good results with.

2. Use a good dependable air supply. The best airbrush will perform badly if the air source is poor. A compressor with a holding tank and regulator is the best option. It will last for years and the inclusion of a pressure regulator will broaden the capabilities of the airbrush.

3. Always keep the airbrush clean. A poorly maintained airbrush will always produce poor results.

4. Use properly thinned paint. Most types of paint will spray if thinned correctly. For airbrushing, water is not an appropriate thinner. When thinning acrylic paint for spraying it is best to use an acrylic paint thinner such as that made by Tamiya. A cheaper alternative to acrylic paint thinner is automotive screen wash, although this will not work quite as well as a branded acrylic paint thinner.

5. Experiment and have fun with the airbrush. Practice on a scrap model to see what is possible.

MASKS
Masking tape is used mainly in decorating to prevent overpainting one colour onto another. It can be purchased with varying levels of adhesion (or tack), a low tack grade is better for use on models as when it is removed it should hopefully not remove the paint it was applied to.

Masking fluid is a liquid latex compound that can be painted directly onto a model. Wherever the masking fluid is painted, the layer below it is protected from further painting. The strength of this product over masking tape is that it prevents paint from seeping underneath it, resulting in clean edges.

Masking frisk is a vinyl sheet with an adhesive backing used in airbrushing to mask off specific areas of a model so that only the exposed area can be covered with paint. Masking frisk can be purchased in large sheets onto which you can draw and cut detailed masks that can then be applied to a model.

HAIRSPRAY
This can be used to produce highly realistic chipped paint effects. Hairspray is actually a soluble fixative that can be removed with warm water. This is a very useful characteristic and can open up a whole world of experimentation. See the Renegade Valdor on page 114 for full details on the use of hairspray.

HAIR DRYER
A hair dryer is useful to help speed up the drying time of paints and glues. It can also be used to straighten bent or warped resin parts. When gently heated the resin becomes slightly malleable and is easy to bend back into shape. Warning, do not melt the resin!

RIVETS FROM A USED WATER FILTER
A water filter contains millions of tiny balls along with small pieces of charcoal, these balls vary in size but most are under 1mm in diameter. The balls look very much like rivet heads when applied to models and their different diameters allow different sizes of rivets to be recreated on the same model. One used water filter contains enough rivets to last a lifetime. If you choose to open a water filter then be careful, particularly if you use any sharp or bladed tools to do so.
The location points for the rivet heads are best marked on the model with a pencil and ruler to ensure equal, neat spacing between them. Once their position has been determined, a small hole is made with a pin vice and drill bit. The diameter of the drill bit needs to be slightly smaller than the actual ball/rivet. The depth of the hole should be very shallow – more of an indent than a hole. To secure the rivet in place, a tiny amount of glue should be placed into the indent. The balls are then best picked up by stabbing them gently with the tip of a craft knife.

IMPERIAL ARMOUR

MODEL MASTERCLASS

VOLUME TWO

This book is a masterclass in advanced painting and modelling techniques to help you get more from your Warhammer 40,000 models.

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