

IMPERIAL ARMOUR

MODEL MASTERCLASS

VOLUME ONE



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PRODUCED BY FORGE WORLD

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INTRODUCTION

Welcome to Imperial Armour Model Masterclass – the first in what will hopefully become a series of Masterclass books showing you how to achieve fantastic results when building and painting your Warhammer 40,000 models.

As the name of this book suggests, a certain degree of knowledge in model construction and painting is assumed of the hobbyist. This book does not cover the basic techniques but demonstrates advanced techniques that will require some degree of skill and experience to get the best results. You will find all the basic modelling and painting techniques you will need covered in great detail in the Citadel modelling and painting books and within the pages of White Dwarf magazine.

Whether you are building and painting a centre piece model for your army or constructing a detailed diorama for competition and display, this book is packed with innovative techniques for construction and painting to help you get the most from your Forge World kits. All the techniques are demonstrated in step-by-step detail in extensive construction and painting articles. These articles range from painting tanks (always a favourite!) to constructing a diorama, to building wargaming scenery and terrain.

The results are further illustrated on the gallery pages – where you'll find a range of fantastically painted models to inspire even the most experienced modeller.

Where possible we have used Games Workshop's extensive range of Citadel paints, modelling materials and tools to achieve these results. Where an equivalent is not currently available, these materials have been supplemented with other readily available products.

Finally, credit should be given to Phil Stutcinkas and Mark Bedford whose spectacular models adorn these pages. Their skill, creativity and hard work have set new standards in painting Warhammer 40,000 vehicles.

Warwick Kinrade
2008



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 essentials and 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

Sponges 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

These 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. There are a few branded powders on the market such as the range marketed by Mig Productions. Equally, a great source of weathering powders would be crushed artist's chalk pastels. These come in a multitude of colours and are readily available from art and craft stores. 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. See the Krieg Macharius and Cadian Stormsword pages for full details of how to apply weathering powders.

OIL PAINT

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 richness and depth to shading.

WHITE SPIRITS

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 as car body primer (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 top colours 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. As well as being used as a traditional gloss varnish, it can be used as an additive to inks and paint to alter 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 be added to acrylic paint to aid in the blending and feathering of different layers of paint. The addition of Klear will also heighten the translucent quality of the paint.

Gloss varnish will also make the job of applying decals straightforward and effective. It can be used as a gloss varnish and setting agent when applying decals. See the D-battery, 45th artillery company pages 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. Available from Games Workshop stores are a gloss varnish ('Ard Coat) 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 & SAND PAPER

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. Sand paper 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)

The power tool equivalent of a pin vice or file, this 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, they 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 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 (unlike Green Stuff). It can be used for the quick filling of gaps during construction. Examples are Humbrol model filler and Squadron Green filler.

FLAT-NOSED PLIERS

These are useful for holding and forming metal materials such as wire and etched brass into required 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 scratchbuilt 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 will be 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.
- 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 strengths of this product over masking tape are 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 to utilize and can open up a whole world of experimentation. See the Renegade Medusa, page 26, 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 very small 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 the 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, please 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. This is done to ensure equal, neat spacing between individual rivets. Once the position of the rivet heads 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 adhesive should be placed into the indent. The balls are then best picked up by stabbing them gently with the tip of a craft knife.



RENEGADE MEDUSA

Built and
painted by
Phil Stutcinkas



This is a Medusa siege gun – a self-propelled heavy artillery piece used to destroy reinforced enemy strong points and defences. It is armed with a large calibre siege gun and a heavy bolter for close defence. This particular vehicle has an enclosed fighting compartment though most Medusa vehicles are open-topped. The enclosed fighting compartment variant is referred to as the 'Armageddon pattern'.

The renegade forces of the Apostate-Cardinal Xaphan deployed this particular vehicle during the Siege of Vraks. Plundered from the planet's extensive armouries, the vehicle still bears its original striped camouflage scheme, over

which the heretic forces have daubed their own blasphemous symbols and iconography. Any original identifying numbers have been removed.

Note, this vehicle has been modified to assist mobility across Vraks' artillery-blasted landscape; a dozer blade and track guards (some of which have subsequently been ripped off) have been added to prevent the vehicle becoming bogged down.

This vehicle was found disabled by counter-battery artillery fire in sector 46-55 at 177825.M41. It was subsequently destroyed with a demolition charge.



Typical contents of a Forge World conversion kit, including both resin and plastic parts.

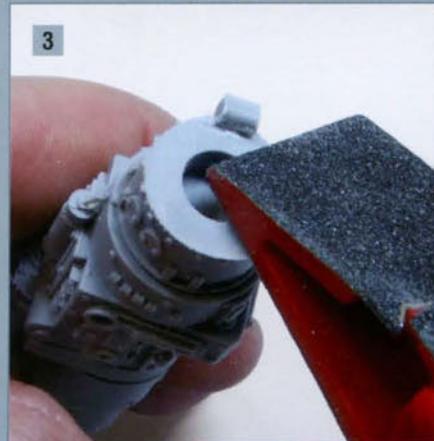
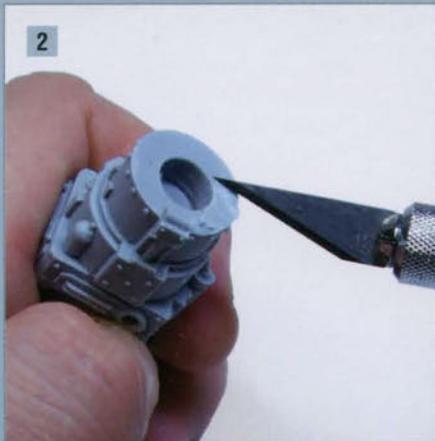
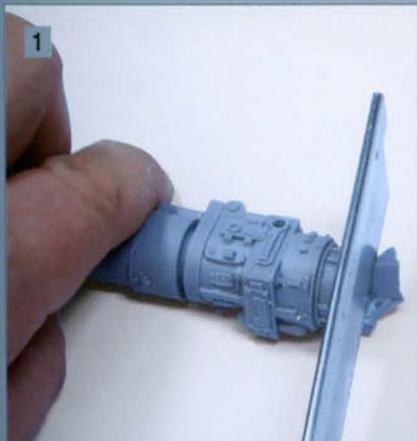
CLEANING UP RESIN KITS

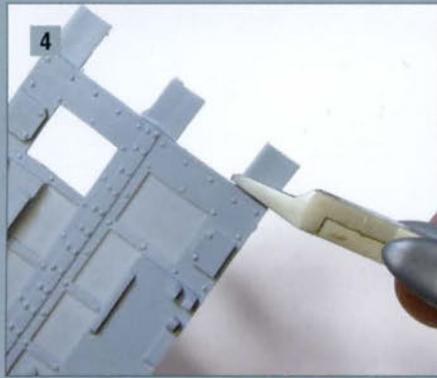
Before any assembly is undertaken, each resin piece needs to be cleaned up. This normally consists of eradicating any mould lines and the removal of surplus blocks (feeds) of resin created during the casting process. Mould lines are pretty straightforward to deal with. The use of a craft knife, files and some fine sandpaper can quickly remove any mould lines that are present but the removal of casting feeds can be a little trickier.

1 – A razor saw was used to remove the majority of this feed. Don't try to remove the entire feed with the saw though. It is a good idea to leave a very small amount on the model so that the saw does not damage the kit part itself.

2 – The remains of the resin feed were then tackled further with a craft knife. The knife was very carefully used to shave and carve away the remnants of the feed. Craft knives are extremely sharp so care needs to be taken at this stage and cuts should always be made away from you.

3 – The last visible remains of the feed were removed with sandpaper. Because this area needed to be flat, a sanding block tool was used. This ensures a perfectly straight and flat finish. If the kit part is curved or organic in form then it is best to use sandpaper without the block.



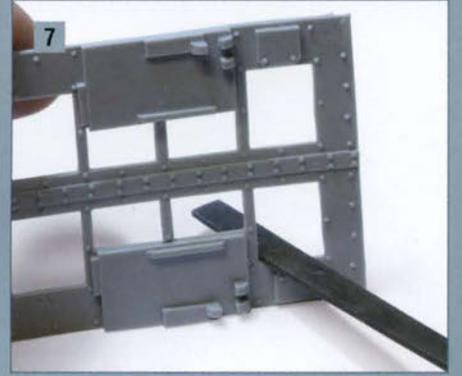
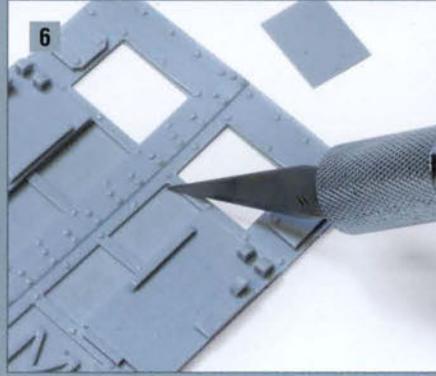
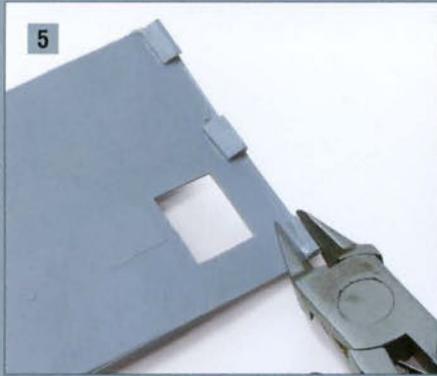


4 – Because of their small size, certain feeds can be removed with a pair of clippers. These produce a quick neat cut. The use of these types of cutters can result in the discarded pieces of resin being propelled through the air so a little care is needed.

5 – It is sometimes not possible to remove the entire feed in one go. A second cut was used to remove the feeds from the back of the piece. A needle file was then used to remove any remaining evidence of the feed.

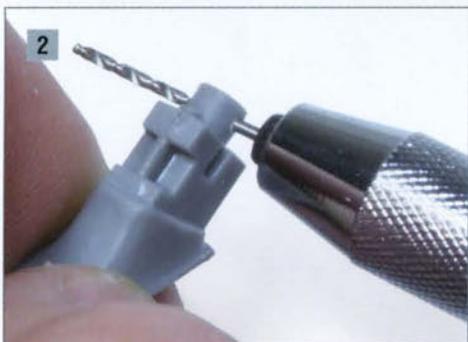
6 – There will be instances when resin kit parts have a fillet or membrane between sections of the kit part. These are part of the casting process and therefore need to be removed. Several careful light passes with a sharp knife will ensure a neat cut.

7 – A smooth and neat finish was then obtained with the use of a needle file.



DOZER BLADE

This was one area of the model that would really benefit from some extra detail. Also, from a gamer's point of view, this is an area of the model that isn't going to be handled so any fine or delicate additions aren't going to be repeatedly broken off each time it's played with. Extra rivets, bolts and hydraulic lines were added to give a little extra detail in this case. Also it is worth noting that the extra effort that is put into a model in the construction stage will reap benefits during the painting stage. It is much easier to create an interesting and engaging paint job if the detail is already there. The rivets were obtained from the contents of a disused household water filter and their placing was made easier by first drilling a shallow indent into the surface of the kit part. The nuts and bolts were a mixture of model railway items and sliced hex and round rod. The oil/hydraulic lines were made from thin plastic rod although wire could also have been used. The fixing of these lines was made a lot easier by first drilling out some location points for them.



DRILLING BARRELS

Drilling out gun barrels is probably the easiest and most effective way of detailing models.

1 – A pin vice is the best tool for this. Care needs to be taken to ensure that the drill bit is centered and level. The drilling is best done slowly to obtain a neat finish and also to ensure the drill doesn't slip.

2 – The pin vice was used to open up the side vent holes on the heavy bolter.

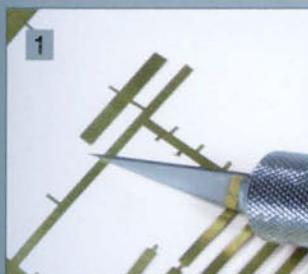


These photos show the Medusa during construction. The model has not yet been glued together and can still be stripped down into sub-assemblies for painting.



SUPER DETAILING

Super detailing adds yet another extra level of detail and hence some individuality to the model. The addition of this extra detail can range from some extra rivets or the drilling out of gun barrels to extensive re-detailing. The choice is up to the individual and there are no right or wrong approaches. Indeed, an effective and worthwhile model needn't have any extra detailing, although the addition of a little extra detail and individuality can look spectacular. It makes the models that we build unique, personal and adds depth and credibility to the subjects that we are modeling.



MAKING TRACK HANGERS

Super detailing requires the use of many different materials. The key is to pick the right material for the job. Different materials lend themselves to the depiction of different shapes and forms. Here hangers are added for spare track links.

1 – Track hangers need to be rigid and quite defined in shape and thickness so brass strip has been used. A good source for brass strip is the unused waste runners from photo etched sheets. There are usually a variety of widths to choose from. A suitable portion was simply cut from the fret using a sharp knife.

2 – The curved section of the hanger was formed by bending the brass around a suitably sized round object.

3 & 4 – The angular bend was formed with the use of square-nosed pliers.

5 – The finished hangers were attached to the tank using superglue. It was important to get the spacing of the hangers right so that the spare tracks can be hung onto the tank without fouling each other or other parts of the model.



TRACK GUARDS

When a model is being made, it is quite useful to imagine what different materials may have been used if the model was real. This, in turn, can then make for a more interesting model when this is visually recreated. With this in mind it was decided to detail the mudguards. A look of thin stamped metal was chosen to compliment the heavy plate armour of the tank's superstructure.

1 – To replicate the missing section of track guard, a razor saw was used to remove the unwanted section.

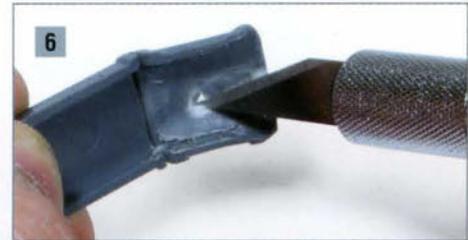
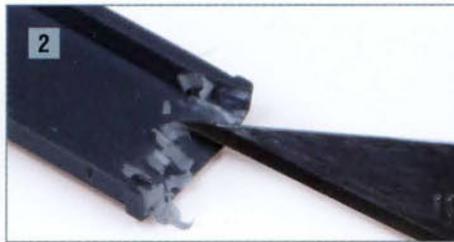
2 – To mimic the appearance of thin metal sheet, the exposed edge needed to be thinned. A sharp craft knife was used to gently scrape and carve away the excess plastic. It was important to review the look of the edge constantly. A thin edge that follows the lines of the outside edge of the mudguard uniformly was the goal.

3 – The final filing was done with needle files, to produce a neat appearance. It is worth noting that only the front edge of the track guard needed to be thinned as the rest was invisible on the finished model.

4 – A before and after comparison of the track guards.

5 – To replicate a torn and damaged fender on the other track guard, the first task was the removal of excess plastic. This was done to obtain a scale thickness to the damaged area. The plastic will bend and tear much more realistically if the plastic is thinned. To get the plastic to a suitable thickness, a hobby drill with a grinding burr was used. Much care was needed at this stage as it would be all too easy to grind completely through the piece. The aim was to get the plastic down to a paper-like thickness. A simple test was carried out to see if the kit part was thin enough by holding it up to a light. If light could be seen through the thinned area, the plastic was thin enough.

6 – Once the plastic was thin enough, a knife was carefully pushed and twisted through the thin plastic to produce a damaged effect.



TOW CABLE

Most model kit tow cables are made of plastic. These are perfectly fine to use but a more realistic effect can be obtained with the use of nylon cord or twisted wire. Nylon cord lends itself to the appearance of tow ropes that are stowed on vehicles in tight bending intricate patterns whereas twisted wire lends itself better to the look of a metal tow rope. A good source of twisted metal wire is picture hanging wire which is available from DIY shops. It is made from brass and so is easy to cut and bend.

1 – The end of the towrope was cut away from the cable.

2 – A hole was drilled into the tow rope end to accept the twisted wire.

3 – The moulded-on stowage bracket was carefully removed with the use of a sharp knife and files.

4 – The wire was inserted and glued into the two tow rope ends.





BATTLE DAMAGE

The addition of battle damage on a model can be a great way to add some character and background. However, it does need to be approached with caution. It is all too easy to overdo battle damage and thereby destroy a good model. Too little is much better than too much. It was decided that the Medusa would display some pretty straightforward mid-sized projectile hits which had no explosive qualities. There are many types of guns in the Warhammer 40,000 universe and each one would produce a different effect on the surface of the target. The scope for these is endless and they would make some great modelling challenges and it can be fun to imagine the directions of impacts and angles of deflection.

1 – The first job was to grind away the area of the impact. This was done with a grinding burr in a hobby drill. Again caution should be used to not go completely through the kit part.

2 – Using green stuff, the hole was then filled and leveled with the surrounding area. A projectile shaped tool was then pushed and manipulated into the green stuff to create realistic looking impacts. Some experimentation was needed to get the look and feel of a projectile strike correct.

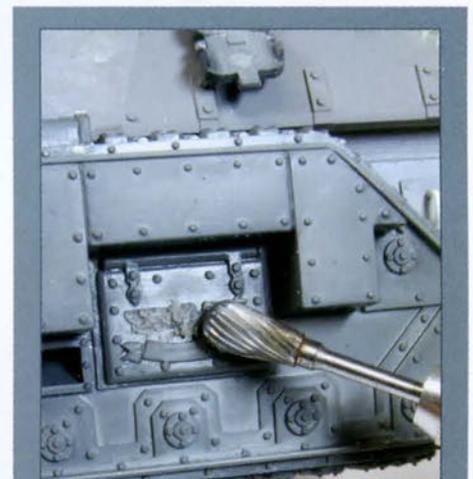
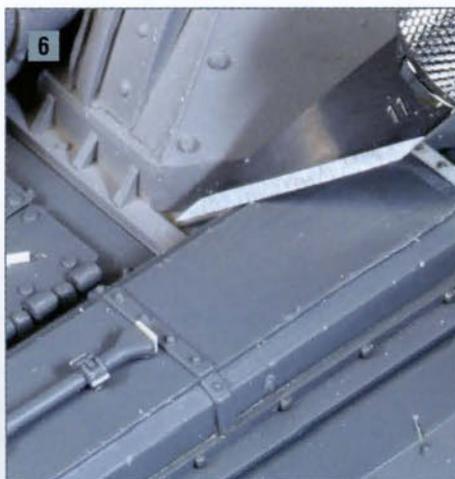
While the putty was workable, it was very simple to smooth it over and start again if any result was less than perfect.

3 – A variety of sculpting tools can be used to create a suitable effect. Here a silicon rubber sculpting tool was used to refine the impact mark.

4 – The finished impact scar.

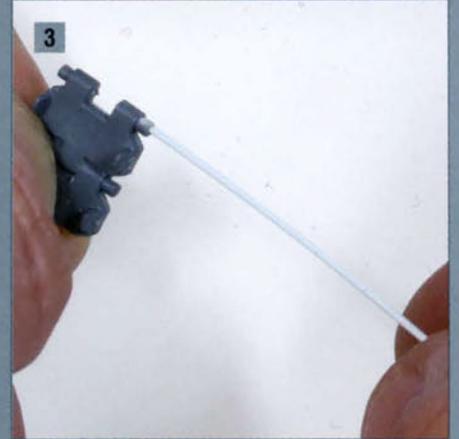
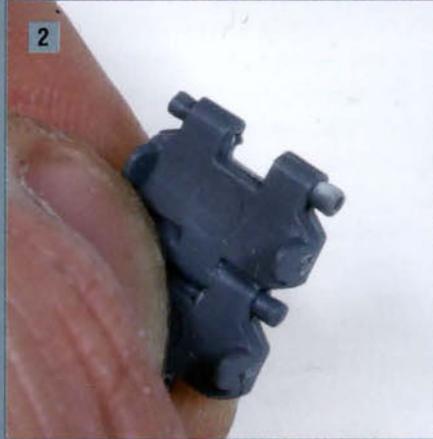
5 – The depiction of small round scorch marks and flying debris marks were easy to replicate with the use of a sharp craft knife. A knife was pushed and twisted into the plastic to make small random chips and scratches.

6 – Small dents and marks were carved into the mudguards to further represent the vehicle's battle history.



STORYTELLING WITH DETAILS

As this model is depicting an older vehicle taken out of storage and pressed into service by the renegade Chaos militia on Vraks, one can imagine that the once revered Imperial iconography would have no place in a Chaos army. I am sure that one of the first jobs that the Chaos militia crews would have done to their newly requisitioned vehicles would have been to attack the hated Imperial eagles with grinders!



SPARE TRACKS

One way of dressing any armoured vehicle is with the addition of some spare track links.

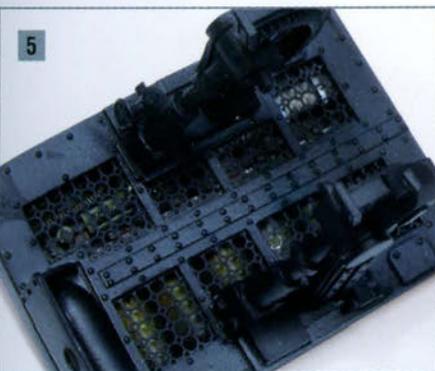
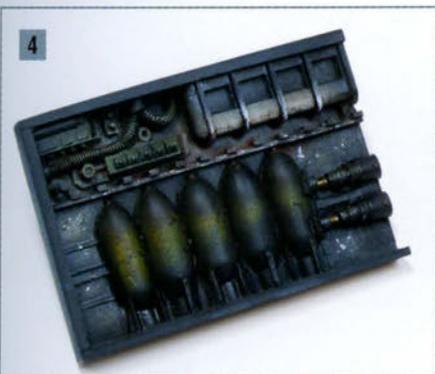
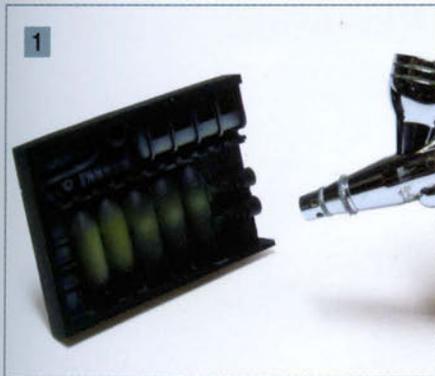
- 1 – The hole through which the pins go was drilled out with a pin vice.
- 2 – Both ends of the track links were drilled.
- 3 – A matching sized piece of plastic rod was pushed through the hole.
- 4 – The excess rod was cut flush at the edges of the track link.
- 5 – The round plastic ejector pin marks on each of the spare links were filled with green stuff. Once this dried, the area was sanded flat with a needle file.



Grab handles made from wire rod were also added. A good source of inexpensive wire is florist's wire. It comes in various diameters and is readily available. The forming of the handles was done with a pair of flat nose pliers.



The finished model ready for painting. The extra additions can clearly be seen and, while not extensive, will go quite a way to adding a level of individuality and a history to the Medusa. At this stage the model is only blue-tacked together so it can be taken apart to make the painting process easier.



PAINTING

Once the model had been prepared, ie, mould lines removed and extra details added, painting could begin, starting with the undercoat stage. The most commonly used undercoat for the models in this book is the Citadel Chaos Black spray. It goes on very smoothly, providing a very tough base layer of paint, homogenizing all of the different materials used in the construction stages and is a good basic shadow colour. Obviously other colours can and may be used depending on the model. Brighter colours will need a lighter undercoat.

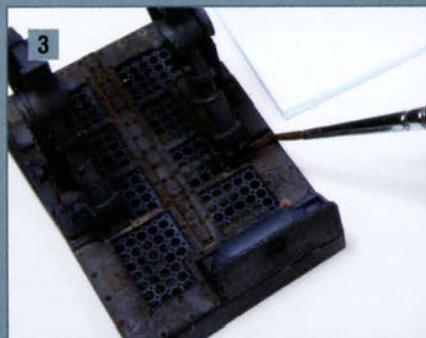
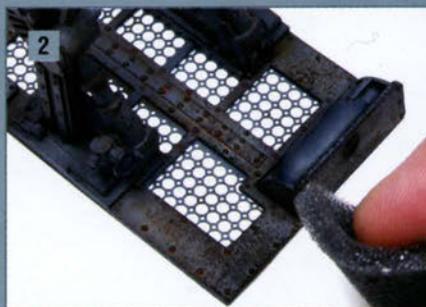
1 – An airbrush was used to apply Camo Green, Desert Yellow and Kommando Khaki. This part of the model, when finished, is situated below the floor of the Medusa and is almost invisible. With this in mind much of the piece was left black, forming an effective shadow area.

2 – Boltgun Metal was drybrushed and stippled onto some of the raised areas to represent chipped and worn metal. Only small amounts of paint were used in order to keep the effect subtle.

3 – The part has received an airbrushed coat of gloss varnish. This is done for a number of reasons, the first is to protect and consolidate the first few layers of the painting process. More importantly, a gloss or semi gloss surface will accept washes much better than a matt surface. Once the varnish had dried, thinned Flesh Wash was then used to outline the details. There are a few special ingredients that can be added to a wash to make them act more predictably and to break down the liquid tension of the wash. The first is plain detergent, this works okay but it can sometimes prevent the paint from curing. Others include Tamiya acrylic paint thinner, automotive screen wash and Johnson Klear acrylic floor varnish. Replacing water in a wash with any of these additives will yield better results.

4 – More areas of worn metal have been added before the part received its final stage, a layer of matt varnish.

5 – The finished part as can be seen underneath the vehicle's floor.



PAINTING THE FLOOR

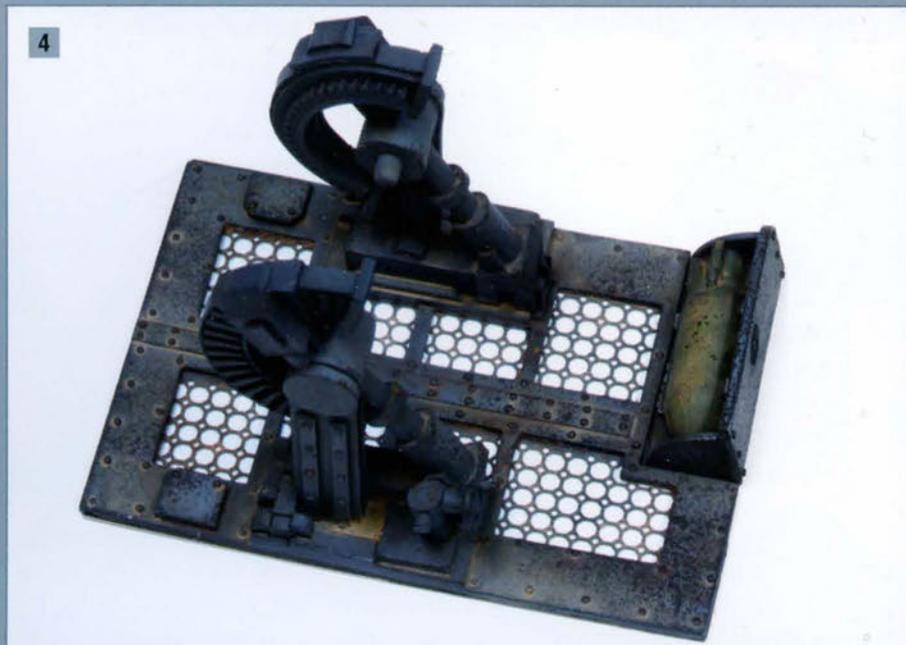
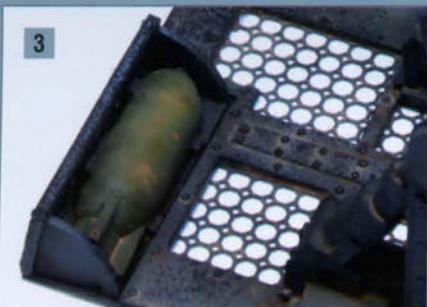
1 – Fortress Grey was roughly airbrushed over the black undercoat. A patchy finish will help provide a weathered appearance. Also care was taken to leave a little of the black in areas as shade.

2 – To achieve a chipped and worn look to the floor of the vehicle, a mix of Chaos Black and Scorched Brown was dabbed onto the model with a fine sponge. The result is very realistic and incredibly easy to achieve.

3 – Various earth and cream coloured washes were made from Graveyard Earth and Kommando Khaki mixed with small amounts of earth coloured weathering powders and screen wash. These were used in thin layers to build up a dirty and dusty appearance.

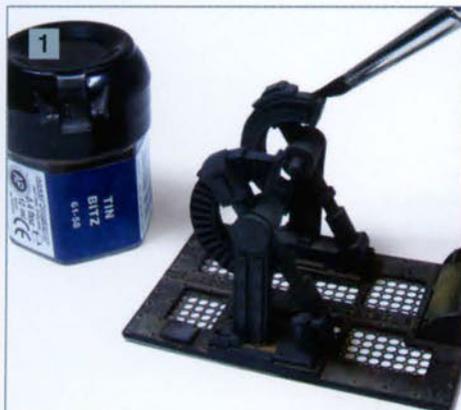
4 – Once the washes had dried, a clean drybrush was used to soften and blend the weathering powders which remain workable even though the wash has dried.





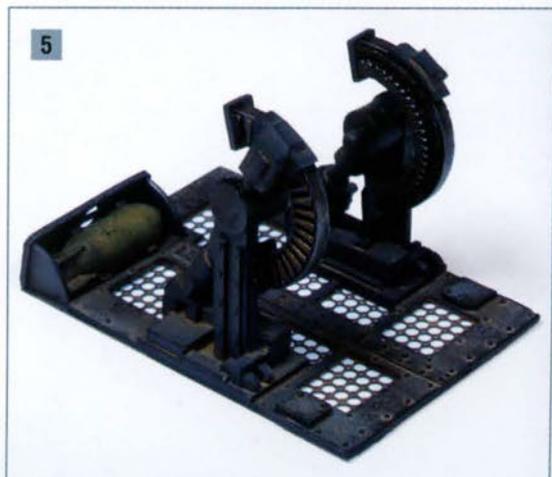
THE SHELL

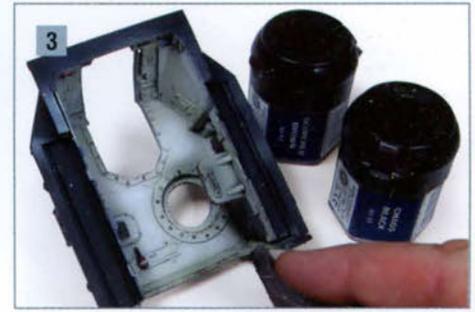
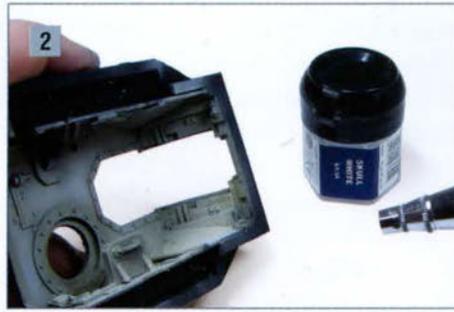
1 – The shell was an area of the fighting compartment that would easily be seen through the rear hatch of the model. Because of this a little more effort was put into its painting. A wash of burnt umber oil paint thinned with white spirits was first brushed over the surface of the shell.
 2 – While the oil paint wash was still wet, small amounts of weathering powder mixed with white spirits were then dabbed and worked into the still wet oil paint wash.
 3 – When dry, the weathering powders created a dusty weathered effect.
 4 – To finish, the shell received some small paint chips. These were applied with a sponge and brush using Chaos Black mixed with Scorched Brown.



GUN MOUNT

1 – Tin Bitz was drybrushed onto the gun mount concentrating on areas that would naturally show a lot of wear and tear.
 2 & 3 – Johnson's Klear floor varnish was used as a medium for thinning Purple Ink and Brown Ink. The thinned inks were then applied to the metallic areas.
 4 – Layers of thinned Brown Ink were sprayed onto the gun mount to portray oozing and seeping grease.
 5 – The finished gun mount.





FIGHTING COMPARTMENT

1 – Kommando Khaki was roughly airbrushed over a black undercoat, allowing some of the black to remain visible within the recesses and around the details.

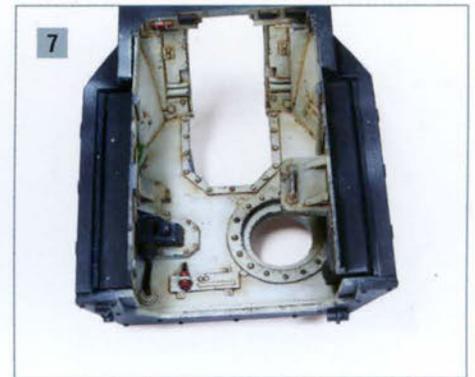
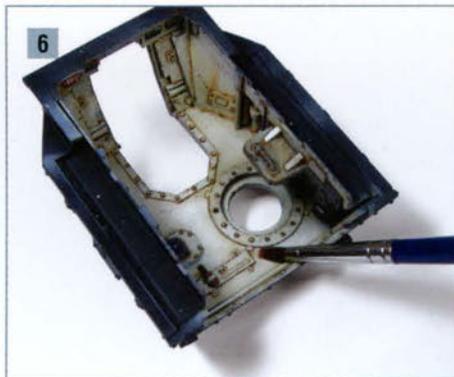
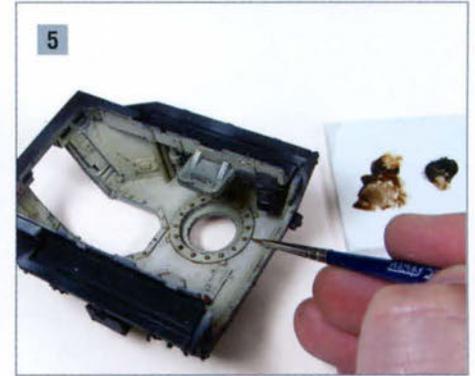
2 – Skull White was then lightly airbrushed into the centre of panels and onto raised details. Again coverage was not solid, a subtle gradation of colour was the goal.

3 & 4 – A mix of Chaos Black and Scorched Brown was sponged on to simulate wear and tear.

5 – After a coat of satin varnish, several thinned burnt umber oil paint washes were then applied to all of the details. Only small amounts were needed as the wash flows by capillary action around all of the raised and recessed details.

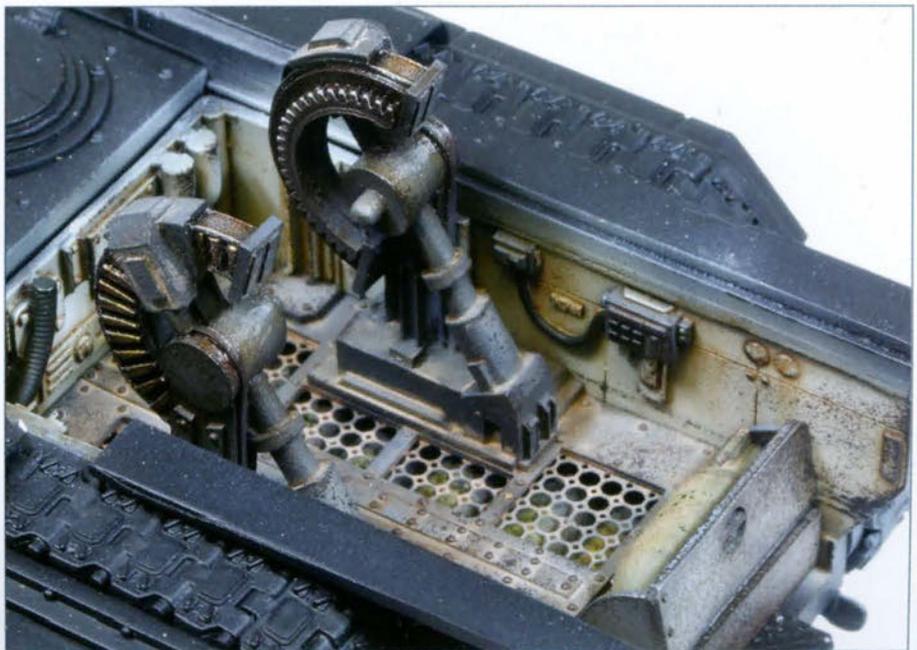
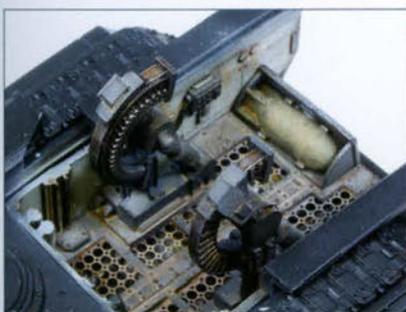
6 – The oil paint was allowed to dry for a few minutes. At this point the oil paint was softened and blended into the surrounding armour plate using a clean drybrush.

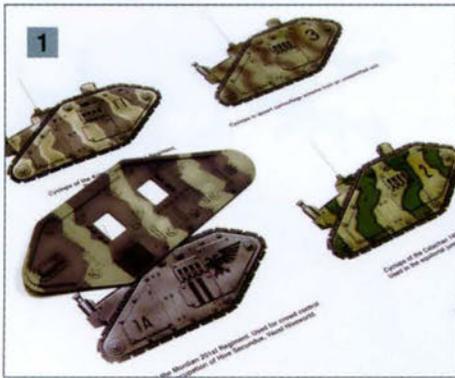
7 – To finish, the interior received a layer of matt varnish.



FINISHED INTERIOR

The finished interior of the Medusa. The different painting effects and colours work well together, creating a well used and lived-in feel.





CAMOUFLAGE BASECOAT

1 – A suitable colour scheme was chosen from the Imperial Armour volume 1 source book. The chosen camo pattern was tested on a spare piece of model to ensure the colours worked well together. It is better to make any mistakes in practice rather than on the model itself.
 2 – A basecoat of Codex Grey was airbrushed over a Chaos Black undercoat.
 3 & 4 – Kommando Khaki mixed with Codex Grey was roughly airbrushed over the model. The aim was to create gentle and seamless graduations of colour that would be darker in the recesses and lighter on the tops and centres of panels. Scorched Brown was then carefully airbrushed over and around details such as panel lines and rivets.



MASKING FOR CAMOUFLAGE

1 – Before painting the exterior, and to prevent the finished interior from being damaged by overspray, all holes and access hatches were sealed. To ensure the paint remained on the model when the tape was removed, a low tack masking tape was used.
 2 – More masking tape was laid down onto a clean cutting mat and an angular pattern was cut into it with a sharp craft knife. These lengths of tape were then carefully laid over the model, taking care to press what would be the demarcation line between the different colours firmly down. Masking tape was then used to fill up the areas that were to remain grey.
 3 – First, Desert Yellow was used as a basecoat, then Kommando Khaki was roughly airbrushed over, creating a variation in tone. Scorched Brown was then lightly airbrushed over all details such as panel lines and rivets.





WEATHERING

This vehicle has been fighting for a long time, exposed to the weather, mud, dust and enemy fire. Such wear and tear is called weathering, and gives a vehicle a realistic, well-used appearance.

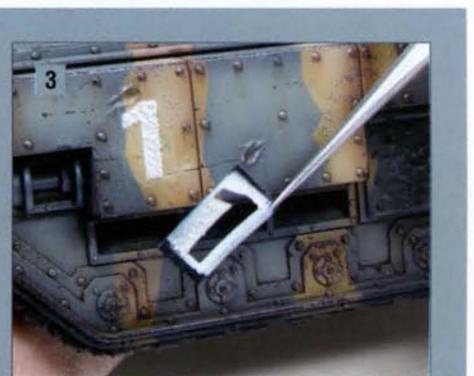
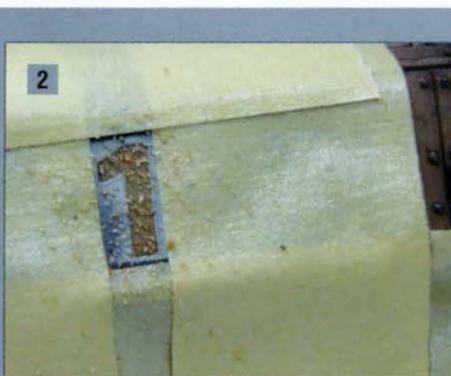
1 – A mix of Astronomican Grey and Dheneb Stone were lightly drybrushed over the model in several layers to add more depth and variation to the colour of the camo and highlight the sharp edge of the armour plates prior to weathering.

2 – The weathering was started by chipping back the sand coloured camo paint to the base grey. This was done with a fine sponge. Then Codex Grey was slowly dabbed on, building the effect up with each dab of the sponge.

3 – The effect was refined further with the use of a brush. Areas around crew access points such as hatches will always display the most wear.

4 – A mix of Chaos Black and Scorched Brown was then sponged on to simulate scuffs down to the base metal.

5 – The next stage was to give the model a coat of 'Ardcoat varnish. When the varnish had dried, thinned burnt umber oil paint was then carefully painted around each rivet. Once the oil paint began to dry for a few minutes, a large drybrush was then used to drag and blend the oil paint down the side of the model. The aim was to recreate how rain would wash rust and dirt from around the rivet down the side of the tank.



REMNANTS OF A FORMER OWNER

Because the Medusa was an old vehicle that had been pulled out of storage, it would be interesting to show the remnants of an old vehicle number.

1 – A vinyl number mask was placed on the tank. These masks can be found in any art/craft store for use in card decorating.

2 – Masking tape was used to protect a large area around the mask, hair spray was then sprayed onto the area. While the hairspray was still wet, sand was then sprinkled onto the area.

3 – Once the hairspray had dried, the area was then sprayed with an off-white colour. Once the paint had dried, the mask was removed.

4 – Because the sand was only held in place with hairspray, it can easily be rubbed off with a cloth, exposing the colour below.

5 – The final result should look suitably aged, weathered and distressed.



RUSTING

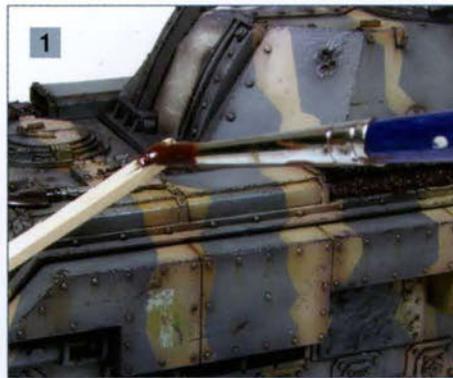
1 & 2 – A thinned mix of burnt umber oil paint and rust coloured weathering powder was flicked onto the model with a small stick and brush.

3 – Immediately after the paint has been flicked onto the model, some clean white spirit was lightly airbrushed onto the rust spots. The aim was to soften and gently diffuse the rust spots. Some spots will disappear totally while others will just form puddles of rust coloured wash. This wash will then settle around details. Wonderfully random techniques such as this mimic the real thing very well.

4 – Once dry, a very subtle rusted and stained effect is evident.

5 – The rust effect was enhanced further by applying a thinned mixture of the oil paint and weathering powder. The paint needs to be heavily thinned with white spirits to achieve this. An almost dry brush was then used to dab the paint on. Again this was done slowly and in layers, allowing each layer to dry before moving onto the next one.

6 – The model was then airbrushed with matt varnish to homogenize and pull all of the paint effects together.



The matt varnished Medusa is now starting to look like an old vehicle. The different paint effects working together add another layer of depth and realism. This is the key to good model painting – using a number of subtle stages to breathe life into a model.





MUD AND DUST

1 & 2 – Weathering powders mixed with thinner were then flicked onto the model. The thinner can be water, white spirits or an acrylic paint thinner. Once the pigment was flicked onto the model and whilst still wet, it can be further blended and manipulated with extra thinner. This can be applied with either a brush or with an airbrush. The use of this extra thinner is the key to creating interesting effects. This step can be repeated as many times as is needed.



PAINTING THE SHELL STRIKES

1 – The shell strikes have been sponged on with a little Scorched Brown mixed with Chaos Black to create a chipped and flaking paint effect. On top of this, some thinned Chaos Black has also been airbrushed on to represent smoke and soot stains.

2 – Boltgun Metal was then drybrushed onto the shell strikes.

3 – The effect is refined with a selection of Brown Ink washes and careful placement of highlight colours.



TRACKS

The track links were finished with a light drybrush of a dark metallic colour mixed from Chaos Black and Boltgun Metal. A dark colour was chosen to contrast with the light coloured dirt and dust.





DOZER BLADE

1 – A heavy metallic look to the dozer blade was created by airbrushing a basecoat of Tin Bitz followed by Boltgun Metal and finally Mithril Silver. The final layer of Mithril Silver was applied in rough patches to replicate how light reflects on metallic surfaces.

2 – Extra metallic tones were created by spraying on random patches of thinned Purple Ink, Yellow Ink and Brown Ink.



CLEVER USE OF HAIRSPRAY

1 – The dozer blade received several thin coats of Purity Seal spray and allowed to dry fully.

2 – Several thin coats of hairspray were then sprayed onto the dozer blade and allowed to dry.

3 – The dozer was then given a patchy coat of Desert Yellow using an airbrush.

4 – The paint was left for several minutes until touch dry. At this

point, a large drybrush was used to distress the Desert Yellow coat. This was simply done with the brush being moistened with a little warm water. It was then rubbed and rolled over the surface of the Desert Yellow. The warm water will soak through to the layer of hairspray thereby loosening the Desert Yellow paint. The paint layer will then start to lift creating random natural looking areas of wear. The more water and pressure applied, the more Desert Yellow will be removed.



FINISHING THE DOZER

1 – After applying another coat of gloss varnish to the chipped paint finish, the weathering stage was started. Heavily thinned washes of Graveyard Earth were applied to the dozer blade to give a dusty appearance to it. The acrylic was thinned with screen wash and applied in several thin coats and a little earth coloured weathering powder was also added to the washes before application. These washes were then applied all over the dozer assembly. Dry weathering powders were then sprinkled into the still wet wash.



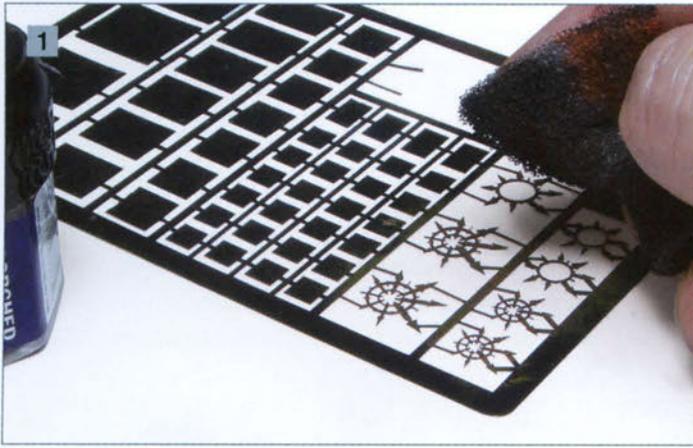
2 – Once the wash had completely dried, the clumps of weathering powders were blended into the surface of the dozer blade with a dry clean brush, adding to the used and dusty look of the model.

3 – A heavily worn and chipped appearance was again produced using a fine sponge with a Scorched Brown and Chaos Black mix.

4 – An oily and greasy appearance was achieved by airbrushing Brown Ink into and around the pivot points and moving parts.

5 – The pistons would generally see a lot of use and would therefore have a highly polished metallic sheen. To represent this they received a light drybrush of Mithril Silver.





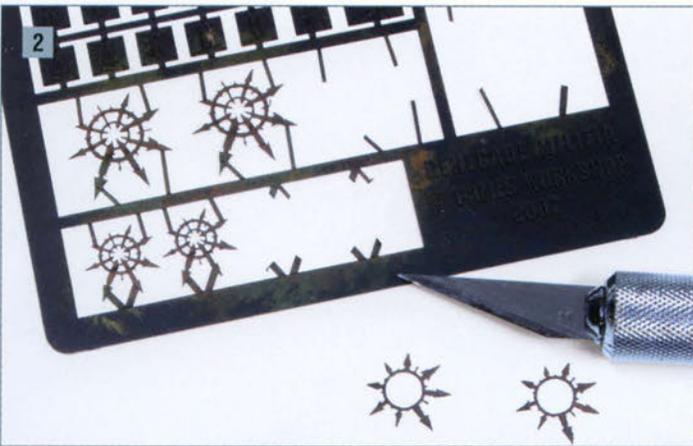
CHAOS SYMBOLS

To represent the crew's newly found allegiance to Chaos, the tank has been adorned with Chaos stars taken from the Renegade Militia brass etched sprue.

1 – For ease of handling, the symbols were painted while still on the frame. After an initial undercoat of Chaos Black, Scorched Brown and Dark Flesh were sponged on to create a rusted metal effect.

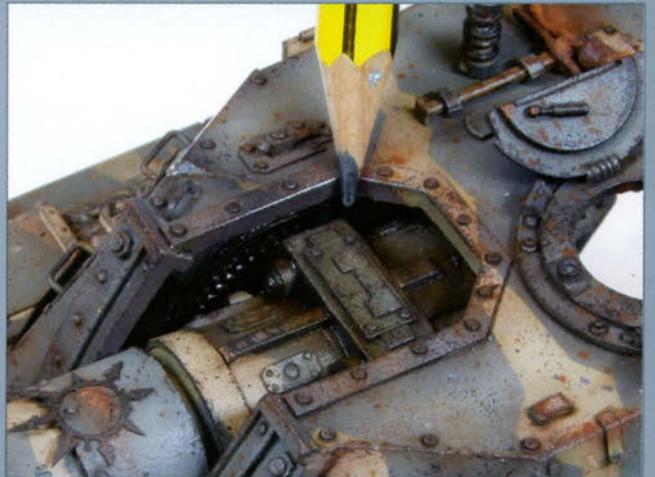
2 – The Chaos symbols were cut from the frame, any exposed metal attachment points still visible were covered with a little more paint.

3 & 4 – The finished symbols were then glued to the tank. Where situated around areas of damage, the stars were broken, twisted and bent.



WORN METAL

The appearance of worn metal was achieved on the edges of the Medusa with a pencil. The pencil was simply drawn along the edge, its graphite tip leaving a realistic metallic layer on the paintwork. The pencil was also used to add scuffs and scrapes to other areas of the vehicle.



ALLEGIANCE TO THE ALPHA LEGION

1 – The removal of the Imperial iconography left an ideal space to display new insignia. Another Chaos star was glued onto the model and then daubed with red paint.

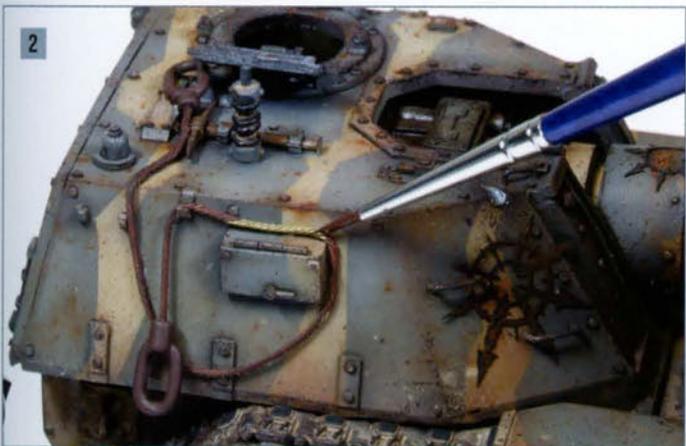
2 – An Alpha Legion symbol copied from an old issue of White Dwarf was then painted onto the Medusa using Skull White.





TOW ROPES

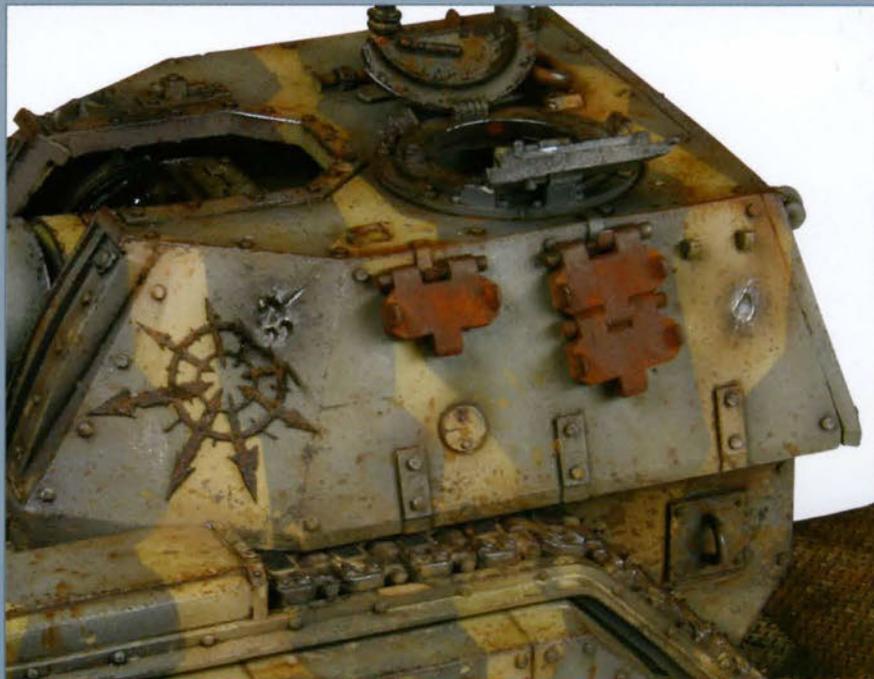
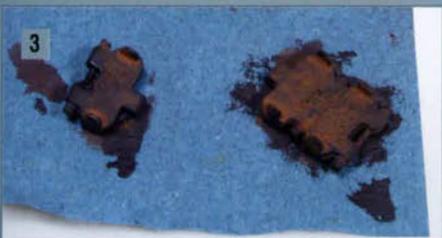
- 1 – Made from soft brass, the tow rope was simply bent into place on the tank and attached with superglue.
- 2 – The tow rope was then carefully painted with a mix of Boltgun Metal, Chaos Black and Scorched Brown.
- 3 – Washes of thinned Graveyard Earth and Dark Flesh were applied in layers creating a natural weathered appearance. Again rust coloured weathering powder was mixed into the washes to create a more realistic matt finish. The finishing touch was to apply a very light drybrushing of Boltgun Metal which imparted a slight metallic sheen.

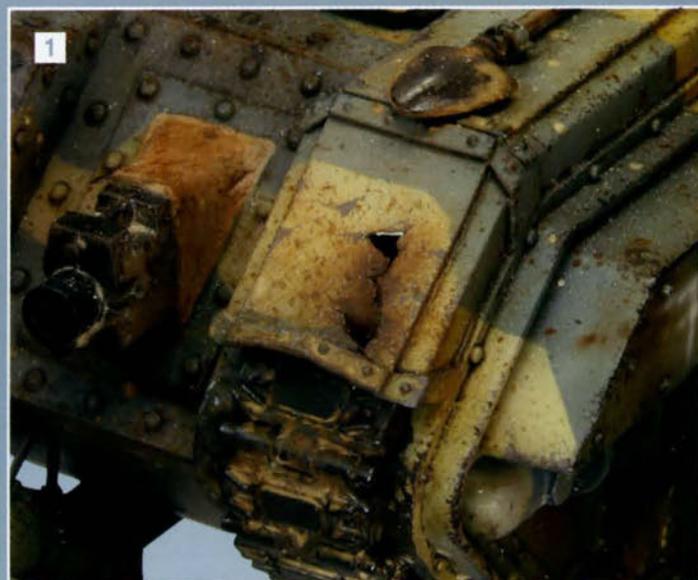
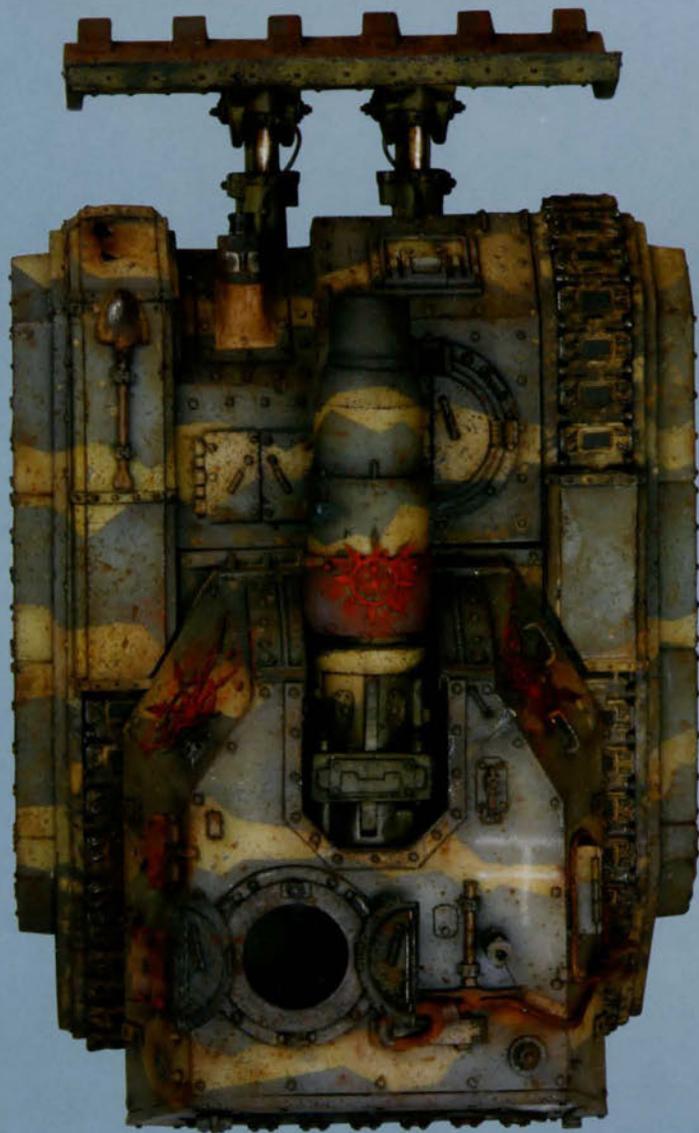


SPARE TRACK LINKS

The spare track would receive a variation of the paint scheme which was used on the tow ropes.

- 1 – The tracks were painted with a base colour of Scorched Brown.
- 2 – Rust coloured weathering powders were then brushed onto the track links.
- 3 – Thinned washes of Dark Flesh and Graveyard Earth were also applied to the tracks which helped to pull the weathering powders into the recesses of the tracks.





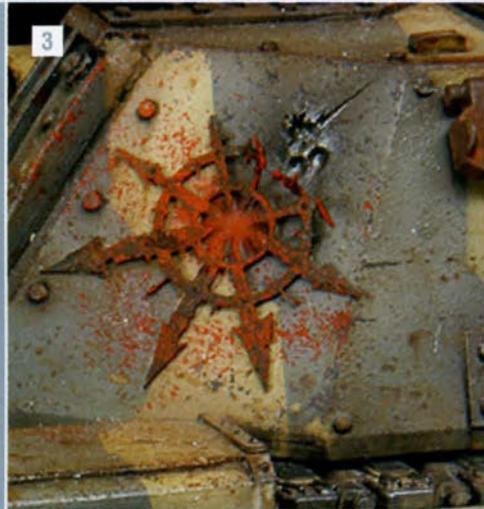
1 – Once painted with rust tones the battle damaged track guard takes on a realistic appearance. The rust was built up with washes of acrylic paint and layers of weathering powders.

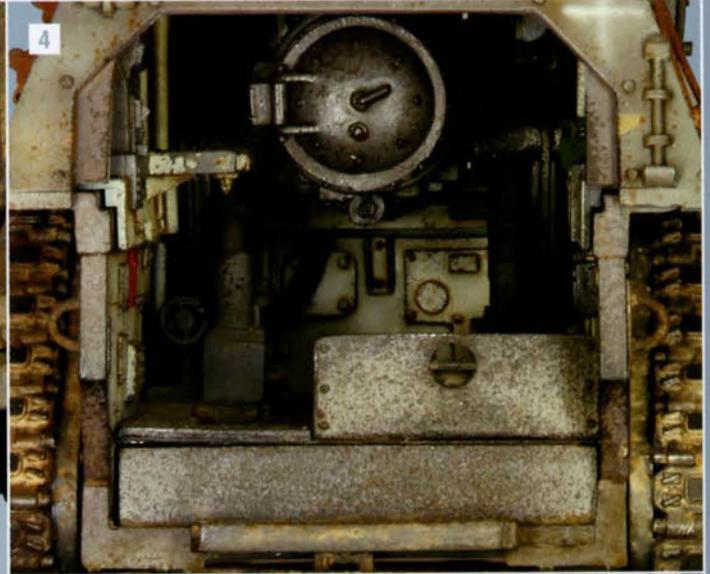
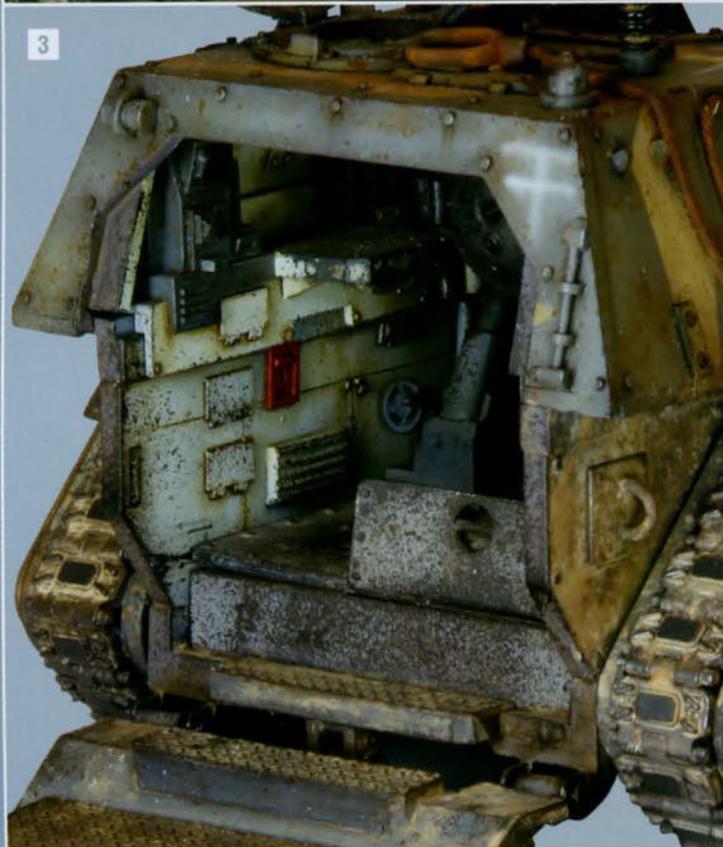


2 – The dried and collected earth was made from weathering powders. The weathering powders were applied to the blade dry and then fixed in place by the addition of some thinners. Once dry the effect looks very convincing.

3 – The Chaos star has been spattered with red paint by the Chaos renegades to represent blood.

4 – The careful painting of small items of equipment such as the spade is very important as these will greatly add to the finished look of the model.





- 1 – A mix of Citadel Brown Ink, Black Ink and Johnson's Klear was used to depict oil and grease on the pistons. The effect is built up slowly with layers of washes.
- 2 – The remnants of the Medusa's original vehicle number can just be seen under the grime and damage.
- 3 & 4 –The inside of the vehicle has been extensively weathered, as this area would receive a lot of wear from the continuous activity of the crew.
- 5 – The rust and dried mud trapped in the treadplate of the back door has been depicted with weathering powders. These were applied dry and then fixed in place with the addition of thinners. The effect was built up with three or four applications of the powders.



CADIAN Built and painted by Phil Stutcinkas STORMSWORD



This is an Arkurian pattern Stormsword super-heavy tank of the Cadian 15th Heavy Tank Company, part of Cadian Army Group VI, under Lord Dorff, during Operation Chrysos.

Operation Chrysos was Lord Castellan Creed's massive counter-attack against the traitor forces invading Cadia during the 13th Black Crusade. Millions of men and thousands of tanks launched an offensive that re-captured much of the ground lost to the enemy invasion. Hailed as a great success that cemented Lord Castellan Creed's reputation as a hero

of the Imperium, the victory was only won at a massive cost in men and materials. This tank was destroyed during fighting to relieve the beleaguered defenders of Kasr Gehr.

The Stormsword is a variant of the Shadowsword super-heavy tank. Replacing the Shadowsword's Volcano Cannon with a massive 'Hellhammer' siege gun, and with sponsons armed with heavy flamers and heavy bolters, it is a siege tank – deployed to support infantry attacks during close quarter city fighting or to assault well-entrenched enemy positions.



The model was given a basecoat of Desert Yellow using an airbrush. The hard-edged camouflage scheme was created using a low tack masking tape over which Catachan Green was applied, again using an airbrush.



PAIN CHIPS

Before the tank even left the factory, the paintwork would start to receive scratches and chips. When a crew get into their vehicle they do so by climbing onto the tank and walking over the hull to get to their entry hatch. Over time this creates areas of extreme wear and tear where the paint is worn away and only the bare metal remains.

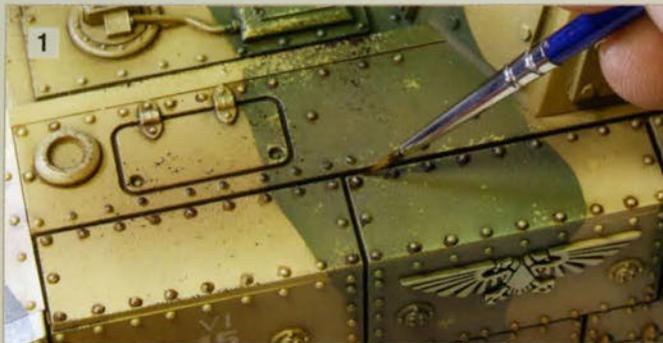
1 – A sponge was used to add chips over the Catachan Green camouflage. Desert Yellow was then sponged on to give the impression of a camouflage coat of paint that is chipping and flaking off the base colour.

2 & 3 – To represent paint chipping through to the base metal of the tank, Charadon Granite was then sponged onto the entire tank. The sponging was concentrated around moving parts such as hatches which would naturally show more wear and tear.





All of the individual details of the Stormsword have been painted in base colours. The transfers have been applied and the model has been given a coat of gloss varnish to aid in the weathering process.

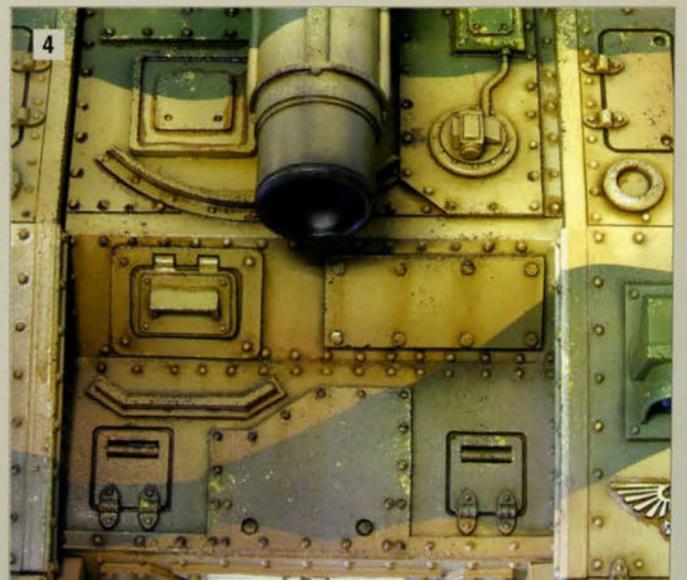


USING OIL PAINT

1 & 2 – A thinned mixture of black and brown oil paint was painted in and around all rivets and details.

3 – The thinner in the oil paint was left to evaporate, this took about an hour. A hairdryer can reduce this time to less than a minute. The remaining oil paint was then softened and blended into the vehicle's surface with a Small Drybrush, a small amount of clean white spirit (thinner) was used to dampen the brush. Extra thinner is not usually needed because the nature of the gloss surface allows the oil paint to be easily manipulated until the paint has fully cured.

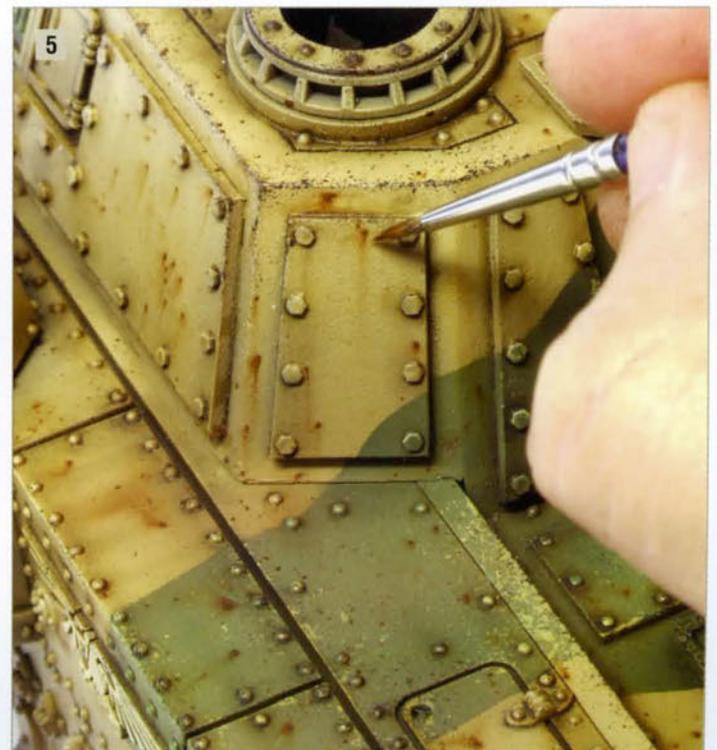
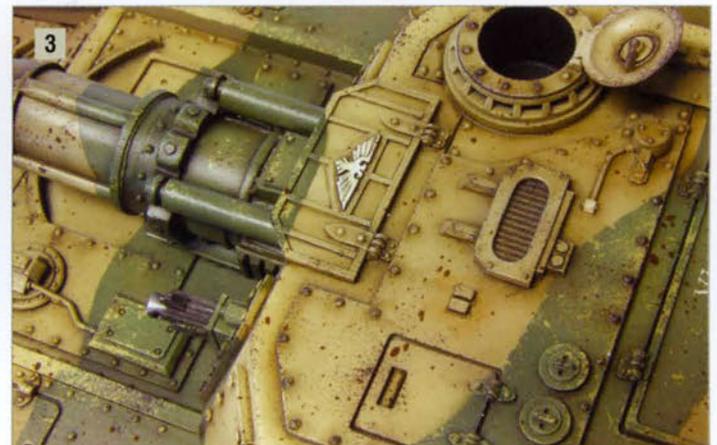
4 – The oil paint was dragged and blended downwards recreating the effect of rain streaking.





RUST PAINT

A rust coloured paint was made from burnt umber oil paint, white spirit and a rust coloured weathering powder.

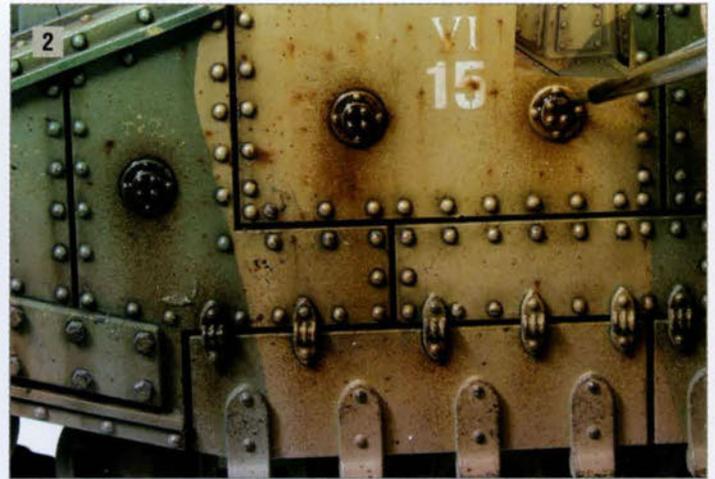
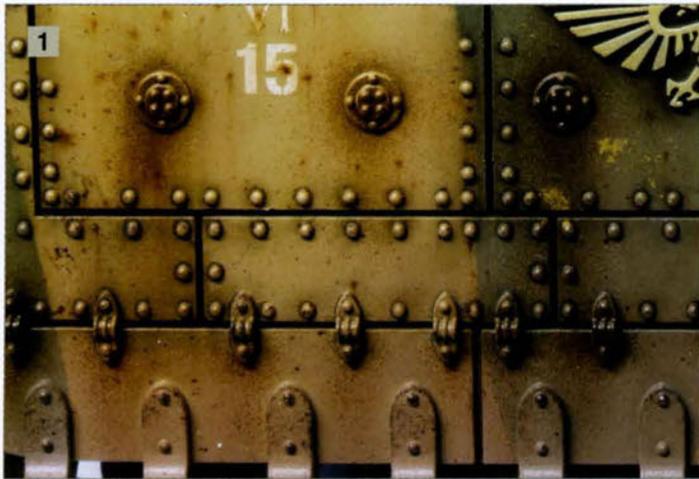


RUST

1, 2 & 3 – The rust paint was randomly flicked onto the model.

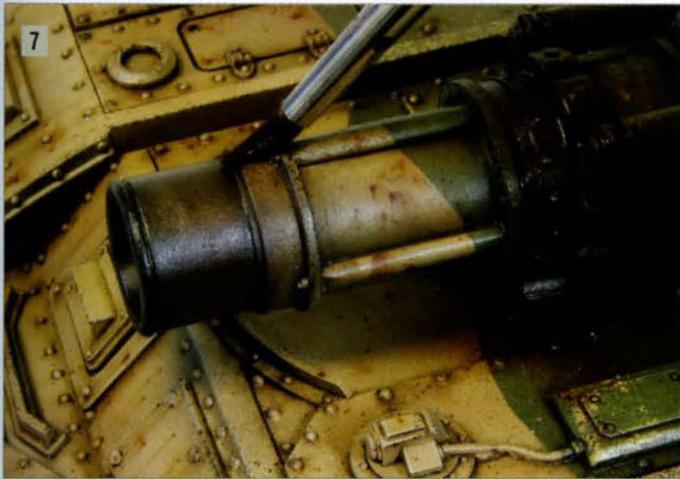
4 – Before the rust paint had dried, clean white spirit was airbrushed onto the rust spots. This diffused and blended the rust spots into the surrounding armour plate.

5 – Once the rust paint had dried, a little more oil paint was then used to represent the rust streaking down the vertical armour plates.



OIL AND GREASE

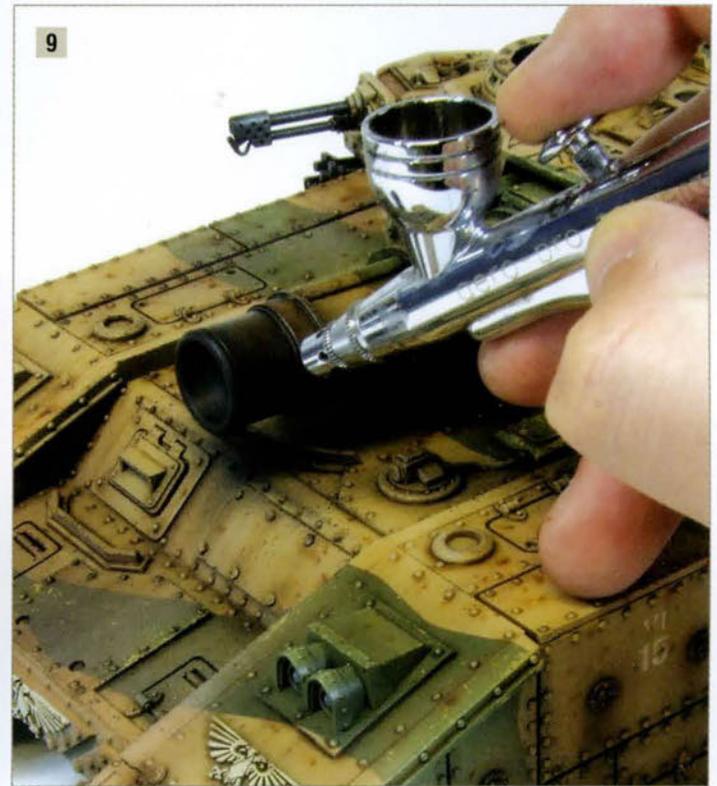
1 – Thinned Brown Ink was airbrushed onto the model to represent oil and grease oozing from moving parts and burst seals.
 2, 3 & 4 – A mix of Brown Ink and Black Ink thinned with Johnson’s Klear floor varnish was then flowed around the rivets. The ink mix was built up in layers to deepen and thicken the effect. Thin multiple layers look more natural than one heavy application.
 5 & 6 – The end of the gun barrel was carefully drybrushed with Tin Bitz. The same area was then lightly drybrushed with Mithril Silver. Layering metallic tones is the key to achieving a realistic look to metal areas.



7 – A mix of brown and black oil paint was drybrushed onto the gun barrel to tone down the metal. The oil paint also added an oily sheen to the barrel. Thinned inks can also be used to give a similar effect.



8 – A pencil was lightly drawn across the raised edges of the barrel to add a highlight to the metallic effect.

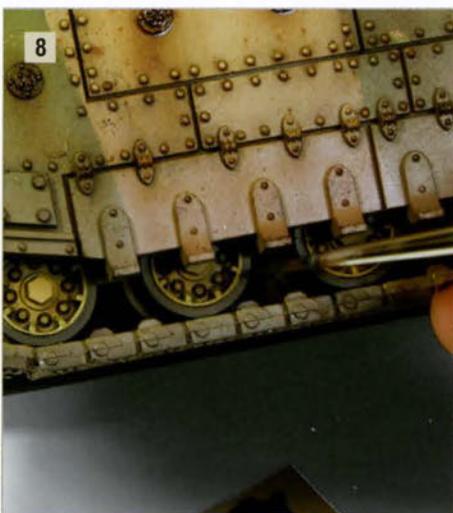
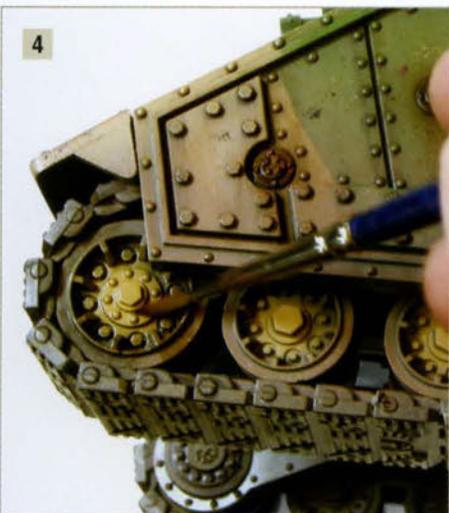


9 – Chaos Black was lightly airbrushed onto the end of the gun barrel to represent the build up of smoke and soot.



Chaos Black was also airbrushed onto the hull below the gun barrel to provide more detail.





RUNNING GEAR

1 & 2 – To add definition to the running gear, Desert Yellow was airbrushed into the centre of each road wheel.

3 – A wash was prepared from black and brown oil paint mixed with white spirit.

4 – Clean white spirit was applied to the road wheels. The application of thinner before a wash aids the flow of the wash around details.

5 – A small drybrush was loaded with the wash and applied against the detail of the road

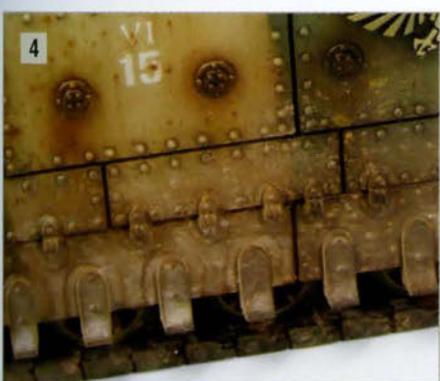
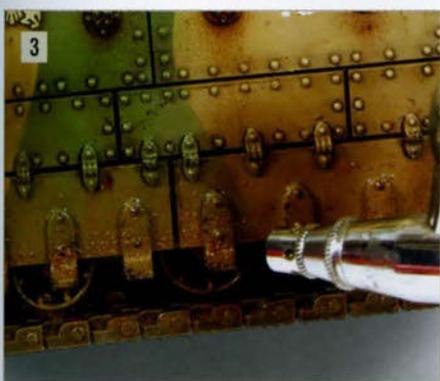
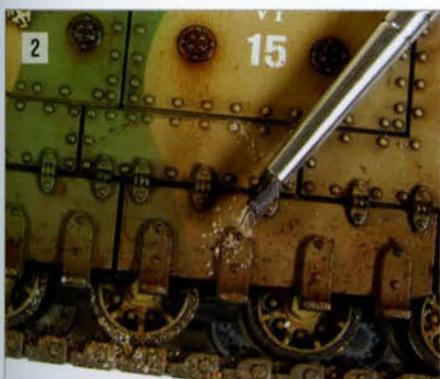
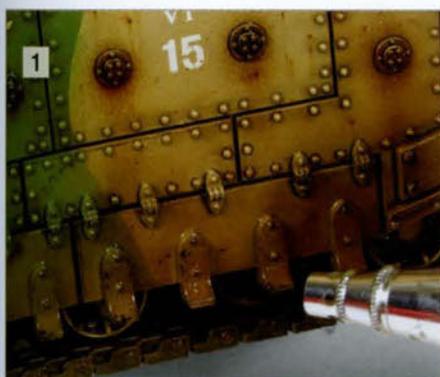
wheels. The wash naturally flowed around the detail. The model was placed on its side and held in place with the aid of a few books while the wash dried.

6 – Desert Yellow was lightly drybrushed onto the raised detail of the road wheels.

7 – Desert Yellow was then lightened with Bleached Bone and drybrushed onto the raised detail of the road wheels to create a further highlight.

8 – The outer rim of the road wheel would normally be made of rubber. This outer rim of the model's wheel was therefore painted with a coat of Charadon Granite.

9 – A wash made from Brown Ink and Blue Ink mixed with some Klear floor varnish was then flooded onto the track links.



DUST AND DRIED MUD

1 – Using an airbrush, the areas where mud and dirt would naturally collect were prepared by first spraying them with clean thinner. Any type of thinner can be used including acrylic paint thinner, water or white spirits.

2 – Various earth coloured weathering powders were sprinkled randomly into the still wet thinners.

3 – More thinner was then airbrushed onto the weathering powders, the additional thinners turned the weathering powder into a paint-like mixture, allowing the different powders to mix and blend in a very natural way.

4 – The model was left until the thinners had evaporated, leaving just the weathering powders which had taken on the appearance of dried-on mud and dirt.

5 – To create the appearance of a dry and dusty environment, the now dried weathering powders were lightly brushed off in a few areas.



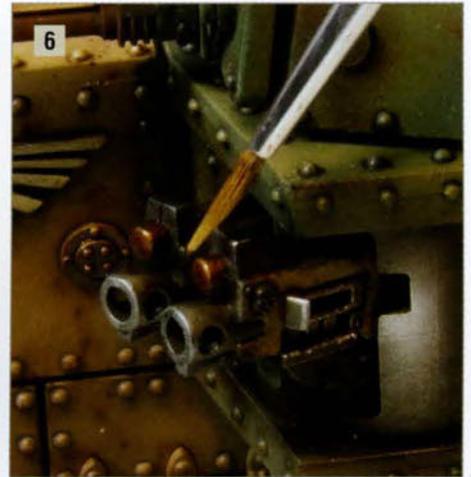
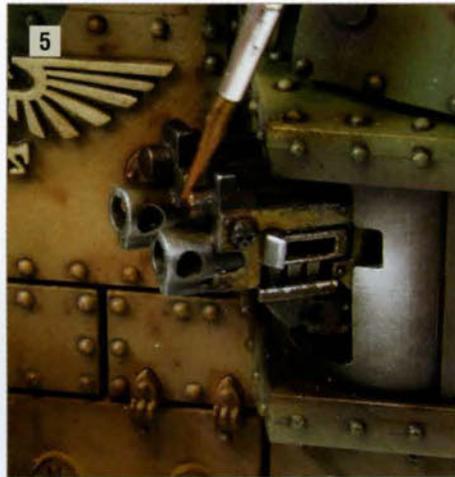
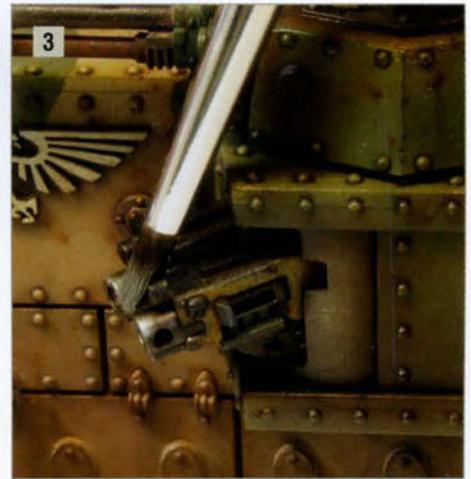
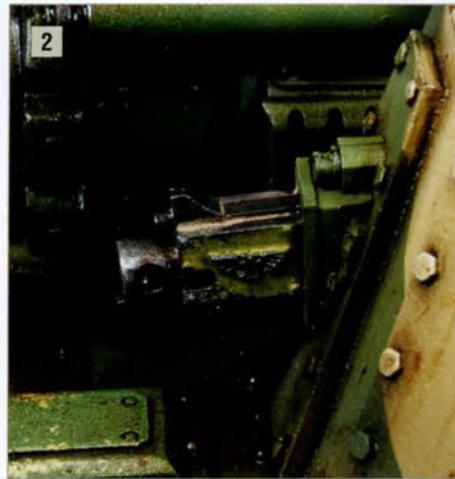
Finished dust effects.



FLAMER TURRETS

- 1 – The metallic moving parts of the sponson turret were first drybrushed with Tin Bitz, then Boltgun Metal and finally Mithril Silver.
- 2 – Thinned Brown Ink was then painted into the corners and recesses to tone and deepen the metal areas. The thinned ink dried quickly allowing the effect to be built up swiftly in layers.
- 3 – Burnt umber oil paint was drybrushed on to represent a further coating of oil and grease.
- 4 – Thinned Brown Ink mixed with rust coloured weathering powders was then painted onto the lower barrel.
- 5 – The shroud was drybrushed with Mithril Silver.
- 6 – The flamer shroud was then given a wash of thinned Black Ink.
- 7 – Washes of thinned Purple Ink and Brown Ink were then applied to the shroud to mimic heat discolouration.





HEAVY BOLTERS

1 & 2 – The side plate of the heavy bolters were painted with an initial coat of Desert Yellow. Charadon Granite was then sponged onto the plate to mimic a chipped and worn appearance.

3 – Chainmail was drybrushed onto the barrels and metal areas of the boltgun.

4 – Thinned Brown Ink was washed into the metal areas to produce a deeper, more defined appearance.

5 – Other small details were picked out with some careful painting.

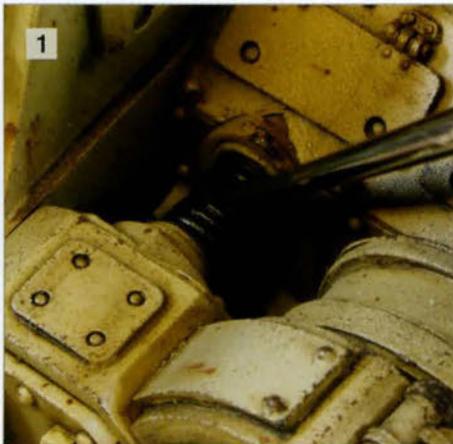
6 – A highlight of Shining Gold was applied to give a little definition and sharpness to some of the detailing on the gun.

7 – The painting of the sponson weapon systems is complete.



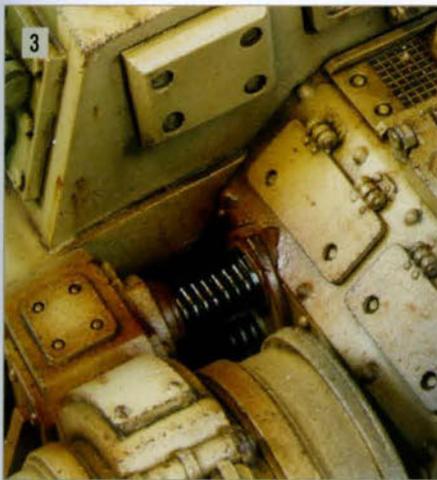
OILY TOW SHACKLES

- 1 – Thinned burnt umber oil paint was applied to the pivot points.
- 2 – Boltgun Metal was then drybrushed over the shackle.
- 3 – More thinned burnt umber oil paint was washed into the recesses.
- 4 – Burnt umber oil paint (straight from the tube - no thinners) was drybrushed onto the shackle to give an oily sheen.



LEAKING FUEL

- 1 – To portray the look of rubber hosing, the part was first painted Chaos Black.
- 2 – Thinned Brown Ink was then airbrushed onto and around the hose to represent leaking oil and fuel.



3 – The Brown Ink once dried created an oily semi gloss finish.

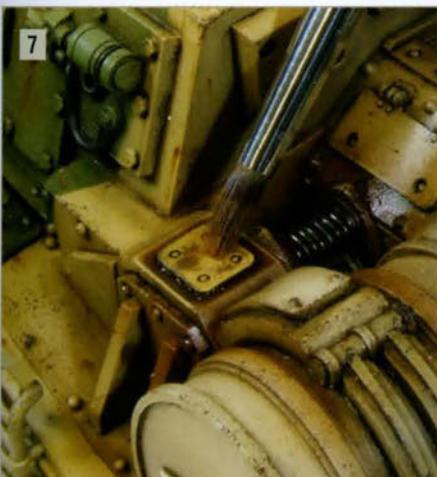
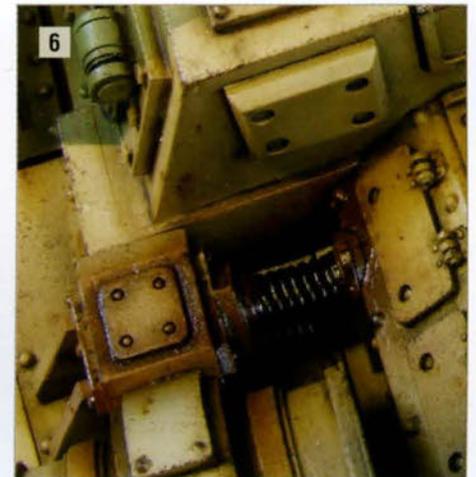
4 – A wash was prepared, made from Black Ink, Brown Ink and some Klear floor varnish.

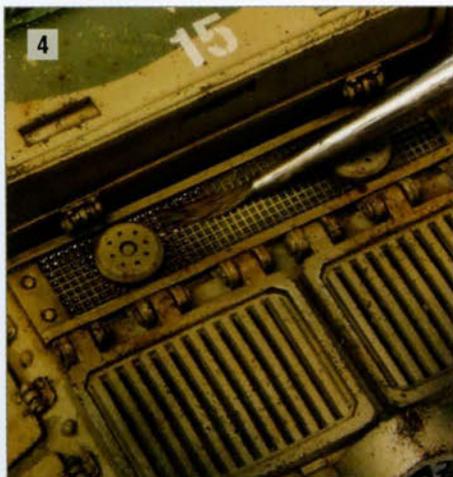
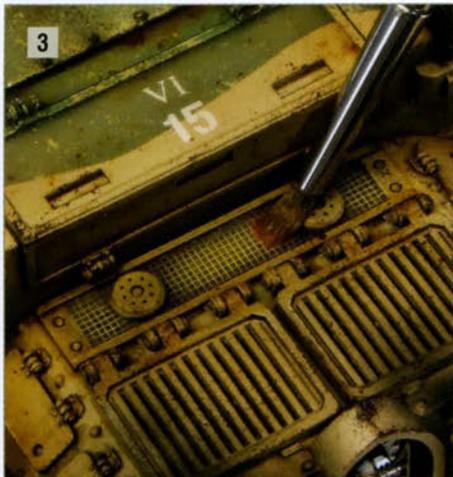
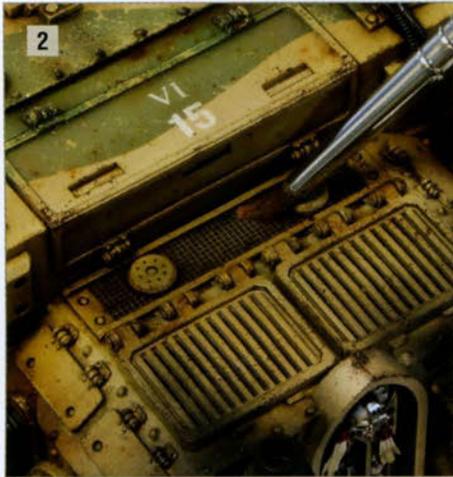
5 – The wash was painted into the recesses to give more depth. The wash laden brush was touched onto the base of the detailing and the ink was allowed to flow around it. The ink will act in a very controlled manner because of the addition of the varnish.

6 – The wash was applied in layers to imply a depth to the seeping fuel.

7 & 8 – Desert Yellow was applied to the top of the plate and corners of surrounding details, reinforcing the effect that the oil was leaking from under the plate.

9 & 10 – A chipped effect was applied to the plate with a sponge and some Charadon Granite. The chipped effect was extended to the surrounding area.





ENGINE DECK DETAILS

1 – A heavy wash made of Black Ink and Brown Ink was applied to the engine grill to create a level of depth.

2 – Once the wash had dried, Desert Yellow was drybrushed over the raised detail.

3 – A mix of Desert Yellow and Skull White was then drybrushed over the detail to add further definition to the grill.

4 – Another wash of thinned Black Ink and Brown Ink was then flowed into the engine grill to redefine the depth and to knock back and soften the harsh look of the drybrushing.

5 – The exhausts were then painted with a mix of a rust coloured weathering powder and Scorched Brown. The addition of the weathering powders helped to create the look and texture of rust.

6 – The metallic exhaust shrouds were then drybrushed – first with Boltgun Metal then with Mithril Silver.

7 – Charadon Granite was carefully sponged onto the exhaust supports to represent chipped and flaking paint. Care was taken to not sponge any paint onto the metal exhaust covers.

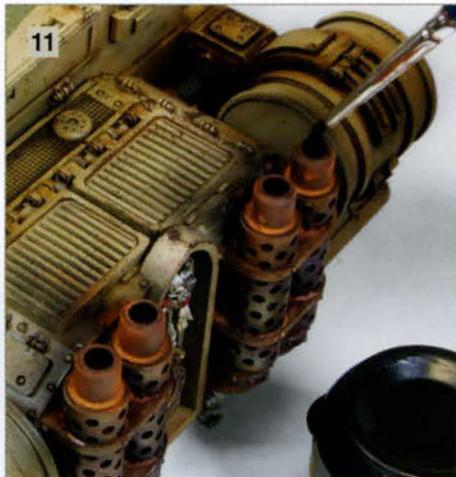
8 – A wash of thinned burnt umber oil paint was applied to the exhausts. While still wet, a selection of rust coloured weathering powders was mixed and blended into the still wet wash. Only small amounts of weathering powders were needed as the pigment within the powder was very concentrated.

9 & 10 – The metal shroud around the exhaust would, in use, get extremely hot and when certain types of metal are heated, the surface colour of the metal discolours. To mimic heat discolouration, the exhaust shroud was given several washes of thinned inks. The thinned ink was applied in layers to build up colour gradually. A wash of thinned Yellow Ink was painted onto the top part of the shroud. Red Ink and Purple Ink were then applied to the lower half of the shroud. With the use of a brush and while they were still wet, the inks were manipulated in order to intermingle and blend them together.

11 – The insides of the exhaust stacks were painted Chaos Black.

12 – Chaos Black was then airbrushed onto the exhausts to portray the build up of smoke and soot over time. The airbrush did of course overspray the Chaos Black paint onto the surrounding areas, thus adding to the effect.





FUME EXTRACTION UNIT

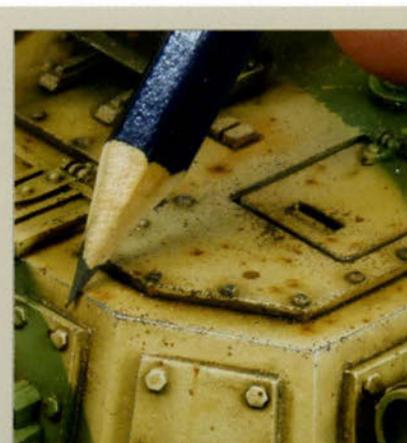
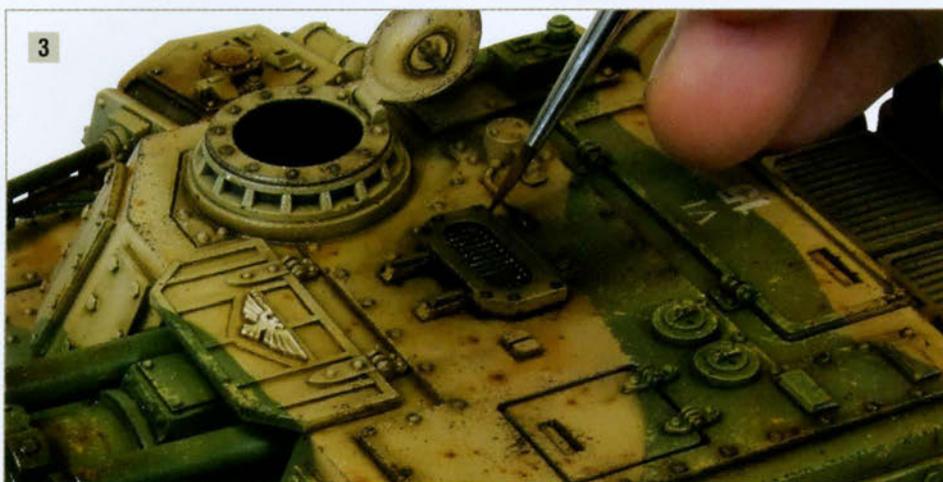
1 – Chaos Black was airbrushed onto the unit. The smoke effect was trailed towards the back of the vehicle to impart a feeling of the soot in the smoke travelling and settling.

2 – Desert Yellow was drybrushed over the unit to help redefine the edge of it.

3 & 4 – A wash of thinned black and brown oil paint was washed into the recesses and details of the unit.

5 – A clean drybrush was used to blend the oil paint into the surrounding armour plate.

6 – The finished fume extraction unit.



THE USE OF A PENCIL

A pencil is a great tool to use to achieve the look of fresh paint chips and worn metal on a model. The graphite in the pencil imparts a very realistic metallic sheen to the surface of a model.

FRESH MUD

1 – A “mud” mixture was made by combining matt varnish with several different earth coloured weathering powders.

2 & 3 – The mud was slowly and carefully flicked onto the model. If too much was flicked on, it was simply blended into the surface of the model with some extra thinner.

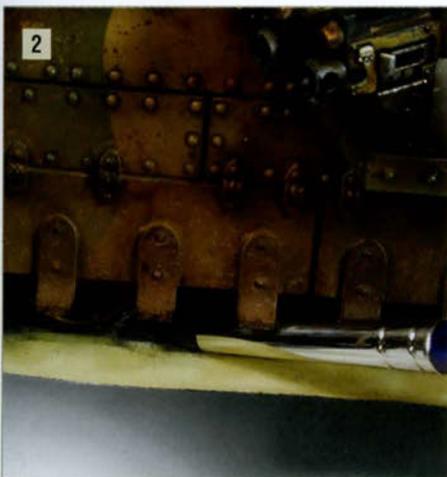
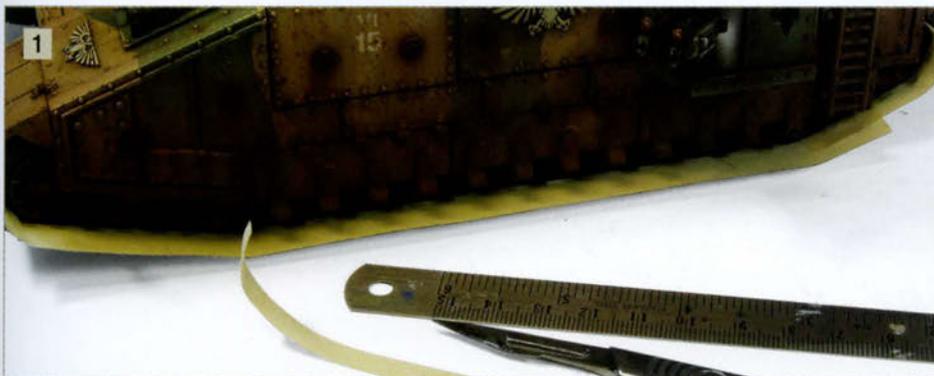


FINISHING THE TRACKS

1 – Tank tracks have what are called “road wheels”, these are located inside the track unit. When the tracks are in motion they continuously move under the road wheels. Because of this constant interaction, the inner track usually has a very clean and well worn strip which is generally free from mud and dirt. Masking tape was applied to the track to mask the area where the road wheels would travel.

2 – Boltgun Metal was then drybrushed onto the exposed sections of track, taking care to keep the metallic colour off the rubber road wheels.

3 – A mix of Chaos Black and Boltgun Metal was then drybrushed onto the raised details of the track links. This dark colour worked very well as a contrast colour to the pale tones of the mud and dust.



PAINTING A LARGE LENS

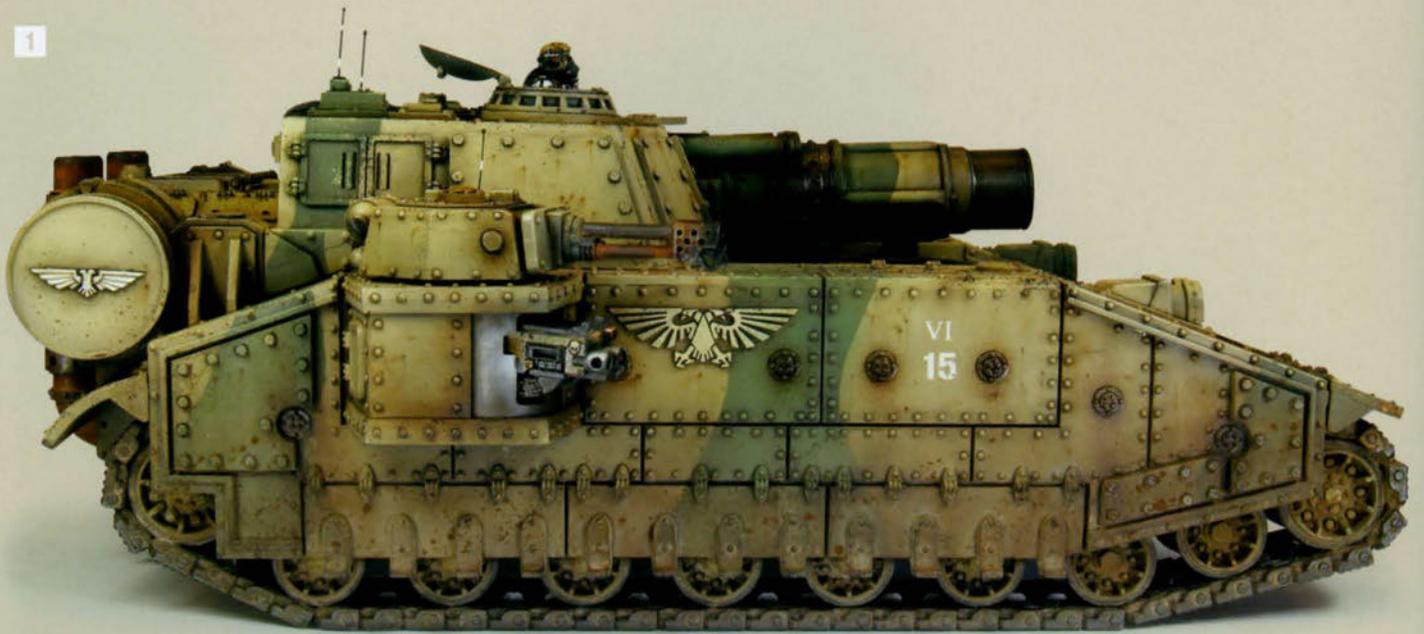
Lenses are painted using counter-shading. This involves applying a shadow colour to the upper portion of a lens and a highlight colour to the lower portion of a lens. Small lenses are painted with a brush, however large lenses are best airbrushed to produce a smooth graduation of colour.

1 – A circle the same size as the lens was cut from a piece of masking tape. The tape was then placed over the lens. Three tones of grey were then airbrushed in bands across the lens to create a soft blended look.

2 – The lens was given a coat of varnish to finish the effect. Smaller lenses are usually given a small painted highlight but this was not needed on this larger lens as the varnish would give its own natural highlight.

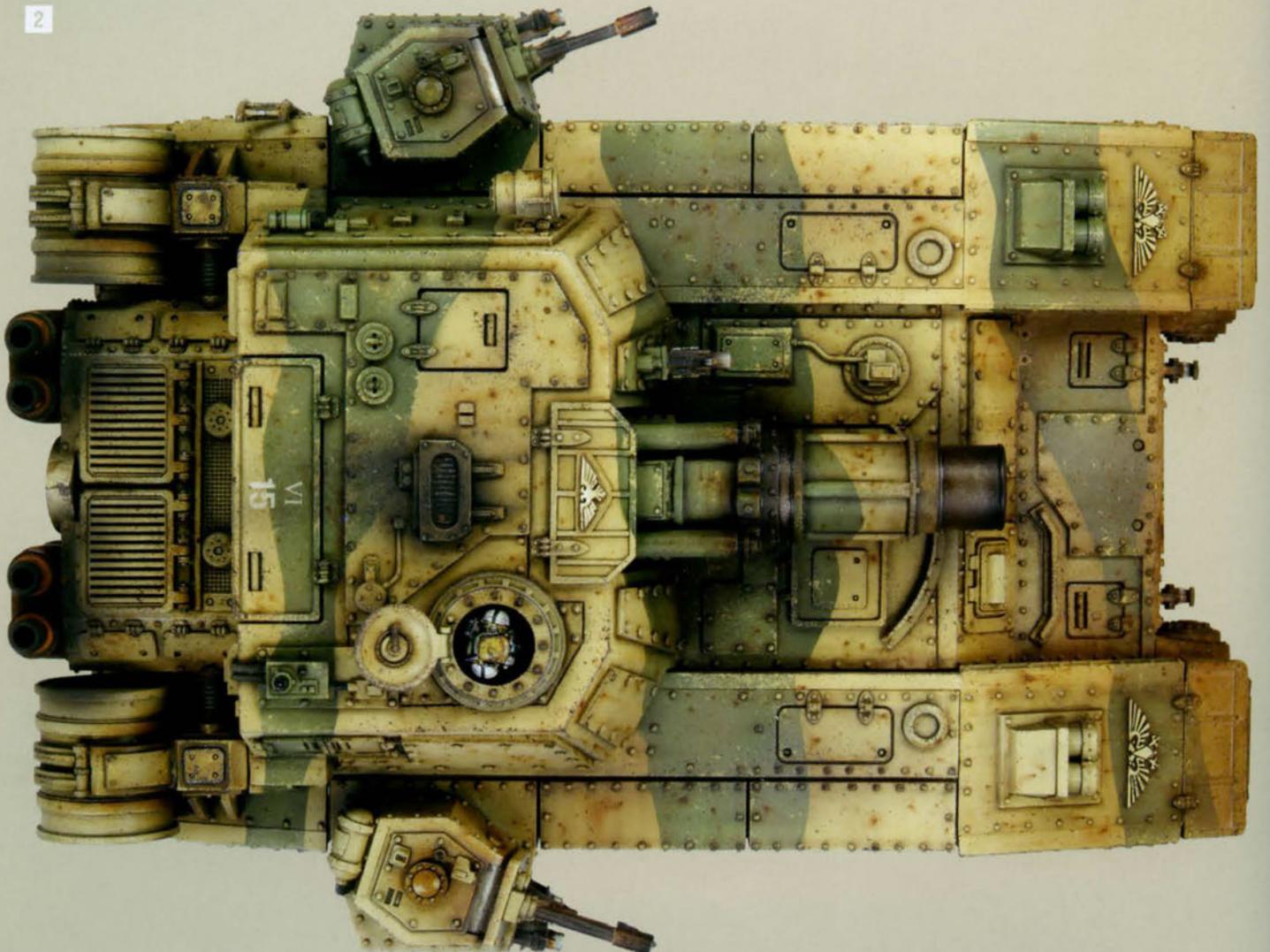


1



1 – The mixture of rust, oil, mud and dust blend together to form a balanced, weathered appearance, creating a sense of realism.
2 – Again, the different paint effects merge and sit comfortably with each other, with no one element upstaging another. It is important to get a sympathetic medium between the different paint effects.

2



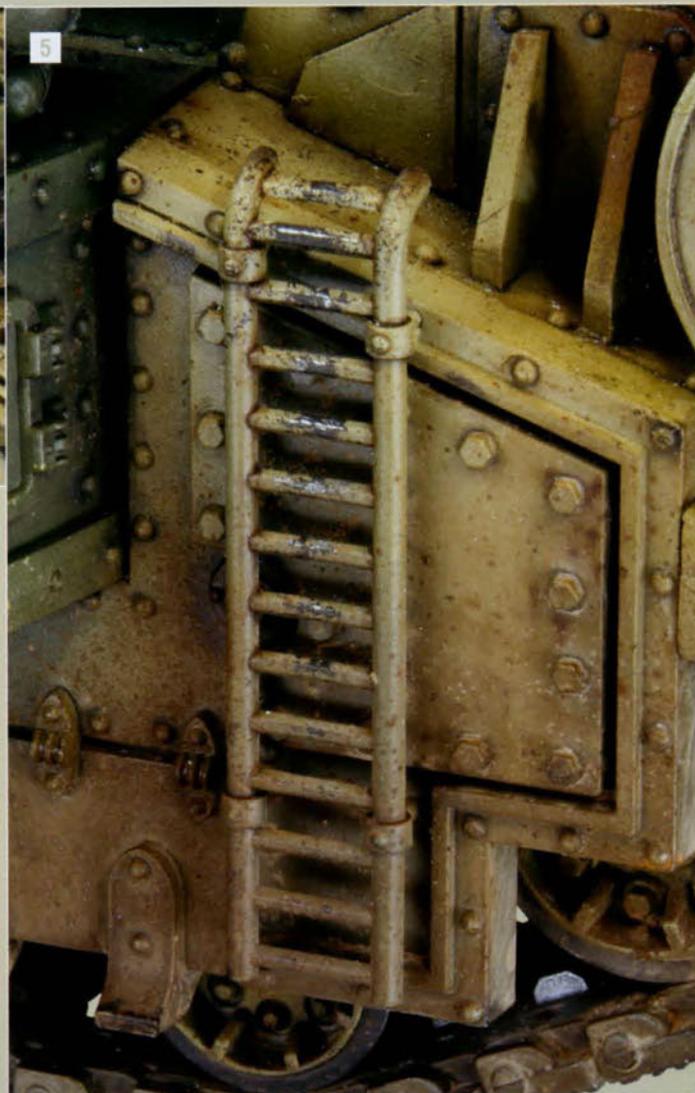
3



4



5



3 – The carefully painted lenses of the lights provide interesting focal points. These are painted using counter-shading to give the impression of bulbous glass.

4 – The commander's helmet has been chipped and weathered to compliment the well-used appearance of the tank.

5 – This close up of the access ladder shows how the paint has been worn away exposing the bare metal below. This was simply done by sponging on Boltgun Metal.



1 – The inside of the hatch was painted Chaos Black to create the illusion of depth. Chaos Black was also blended into the lower half of the driver to maintain this effect.

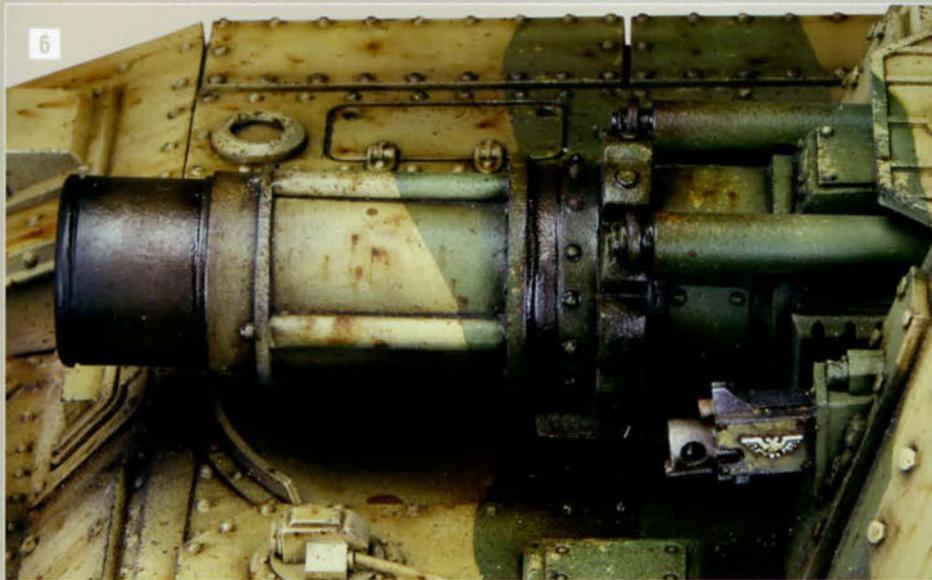
2 – The rear mudguard has been spattered with a few different shades of thinned paint to portray mud splashes.

3 – The downward streaking of the rust helps create the impression of an old and aged vehicle.

4 – The aerials were made from thin plastic rod. The bobbles at the end were simply added by dipping the tip into a pot of acrylic paint.

5 – The pale matt tones of the dried mud contrast effectively with the dark, shiny metal tones of the tracks. Contrast is a very useful tool to utilize on a model, providing definition and the illusion of depth.





6 – To show the oil and grease on the recoil mechanisms of the main gun, they were given several layers of Brown Ink, Black Ink and Johnson's Klear.

7 – This close up shows how heat can affect the colour of certain metals – it is a colourful effect that you can see on most motorcycle exhausts.



KRIEG MACHARIUS

Built and painted by Phil Stutcinskas



Named after the legendary hero of the Imperium, Lord Solar Macharius, the Macharius super-heavy tank is deployed for breakthrough assaults, at the centre of the heaviest fighting where its thick armour gives it good survivability and its heavy weapons can be brought to bear against enemy strong points. It generally fulfils the same battlefield role as the more famous Baneblade super-heavy tank. It is armed with twin-linked battlecannons in the turret, with hull-mounted heavy stubbers and sponson-mounted heavy bolters to provide anti-infantry suppressing fire.

This vehicle is part of the Krieg 11th Tank Regiment of the 8th Assault Korps. The number on the hull marks it as the first vehicle of 6th squadron, the command vehicle, also signified by the banner carried on the turret. Super-heavy tanks are rarely deployed as full companies, with squadrons and individual vehicles being deployed to reinforce infantry and tank companies as commanders see fit.

Judging by its state of repair, this vehicle has seen extensive service – the Vraks campaign proved particularly wearing on vehicles constantly exposed to the planet's turbulent atmosphere.

This vehicle has seen several modifications. Firstly, both battle cannon barrels have been replaced, and the steel of the new barrels is yet to be painted. It carries additional towing chains on the hull prow, should it be called upon to tow a stranded vehicle. It carries the company banner and bears a dedicational Imperial Eagle symbol on the turret. The meaning of the numbers 203 and 212 are unknown.

This vehicle took part in the Vraks campaign between 823.M41 and 825.M41, until it was reported destroyed by an enemy boobytrap in sector 56-46.



WEATHERING THE PAINTWORK

The Macharius was assembled and then undercoated with Chaos Black Spray. Then, using an airbrush, the model was given a basecoat of Catachan Green. Desert Yellow was used to add a finely sprayed camo pattern.

1 & 2 – A chipped paint effect was achieved by sponging on a dark brown colour mixed from Chaos Black and Dark Flesh.

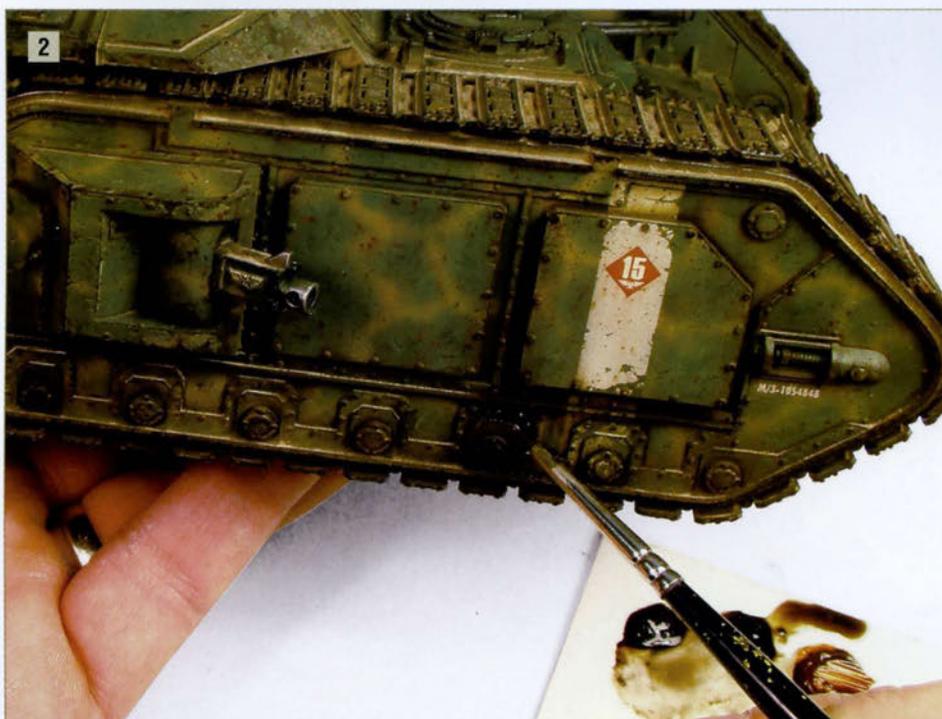
3 – The chipped paint effect was concentrated on areas that would show the most wear, areas such as engine covers, grab handles, ladders and the turret ring.

4 & 5 – The chipped paint effect was refined with some additional brushwork. A Detail brush was used to tidy up the paint chips and add more interesting and characterful paint chips and areas of worn paint. The same colour was used for both the sponged and brushed-on paint chips so they would blend together seamlessly.



HIGHLIGHTING PAINT CHIPS

Variations of Desert Yellow mixed with a little Ultramarines Blue were used to highlight the paint chips. Adding a line of highlight colour to the bottom edge of the paint chips helped to produce a more visually striking chipped paint effect. The line was kept as fine as possible. All chips and scuffmarks can be treated in this way, however the effect works best on vertical surfaces. It was a large amount of work, but the finished result is very striking.



WEATHERING

1a – A dried mud and dust effect was obtained by applying washes of thinned paint. The paint, a mix of Desert Yellow and Graveyard Earth was thinned with an acrylic paint thinner. The washes of dust coloured acrylics were carefully washed into recesses to simulate collected dried mud and dust.

1b – A wash-laden brush was carefully touched to all details and recessed areas. Due to capillary action, the wash naturally flowed around the details.

1c – The effect was slowly built up in thin layers, allowing it to be carefully controlled.

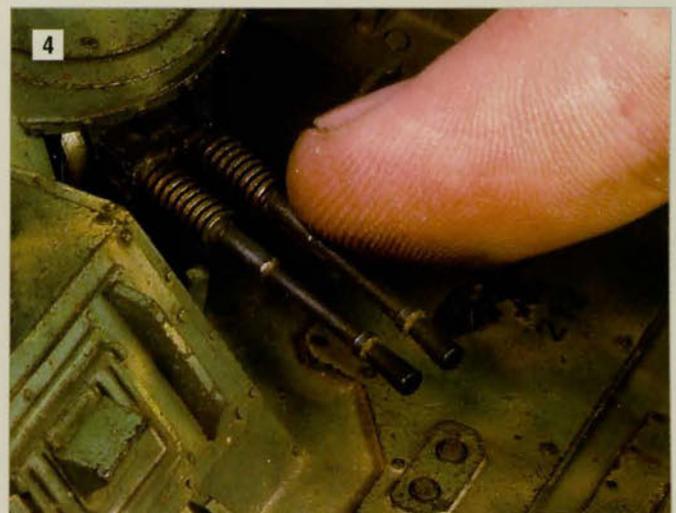
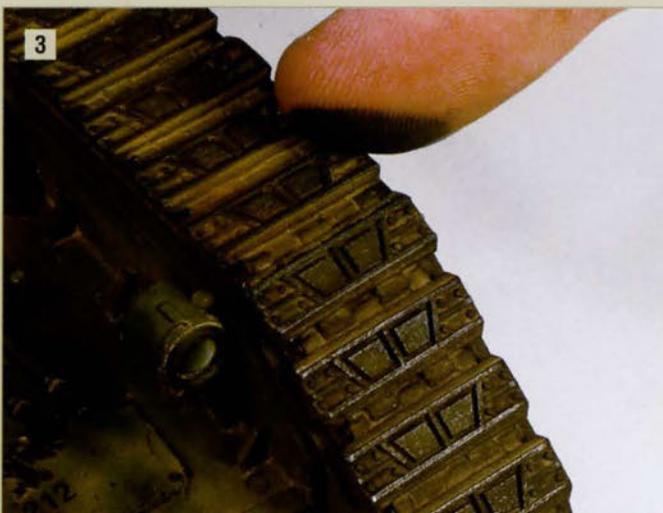
2 – Thinned washes of oil paints were applied in layers to represent the build up of leaking oil and fuel. The oil paint was painted and blended into the model's surface to produce a soft graduation of colour.

3 & 4 – Areas such as the fuel cap and hinges benefitted from having several oil washes.



TRACKS

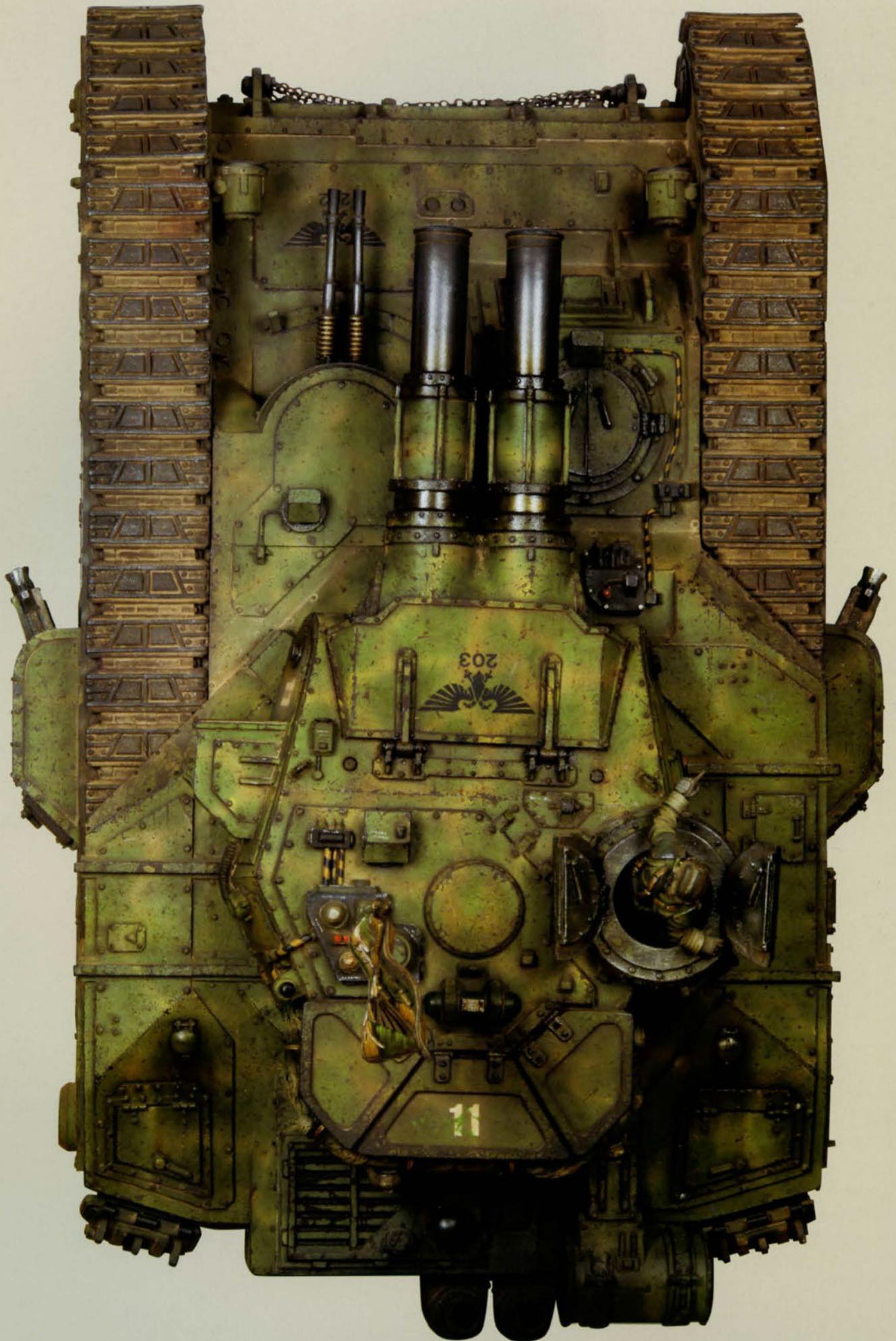
1 – Various mud coloured weathering powders were dusted onto the track with a large brush.
 2 – The weathering powders were fixed in place by applying a wash of thinner (white spirit). The application of the wash was critical, it was applied with as little pressure as possible to avoid disrupting the weathering powder. A brush fully loaded with thinners was then touched onto the powdered areas and the thinners allowed to spread out over the model. The wash was continued to be applied until all of the powder had been soaked in liquid. Once dry, the whole process was repeated, building up the effect one layer at a time.



METAL

1 – Pencil lead, or graphite, is a great modelling medium and will impart a very effective and realistic polished metal sheen that is hard to replicate with paint alone. Powdered graphite can be simply obtained from a pencil by scraping it with a craft knife. The ideal applicator for this powder is your finger!
 2 – Small amounts of the powder were rubbed onto the raised details and areas of high wear such as crew hatches.

3 – Tracks take on a very realistic sheen when rubbed with graphite.
 4 – Gun barrels also benefit greatly from the addition of graphite powder, providing an aged and used metal look.





1 – The tank commander's helmet and shoulder armour have been weathered to match the weathering of the tank. It is vital to maintain a coherent look to different elements of a model.

2 – The rolled camo-netting was made from medical gauze which was wrapped around a piece of wire. Thinned down PVA glue was painted on the netting to seal it and help maintain its shape.



1 & 2 – The staining on the exhaust was applied with an airbrush and allowed to creep onto adjoining areas.

3 – The white stripe was masked out with masking tape and airbrushed Skull White. The paint chips were applied with a brush, and care was taken to produce natural shapes. The markings were taken from various Forge World transfer sheets.

Washes of oil paint were used to portray the leaking oil then a final wash of Brown Ink mixed with Johnson's Klear gave the oil its moist look.



4



4 – The Krieg flag was taken from the Death Korps of Krieg command squad.

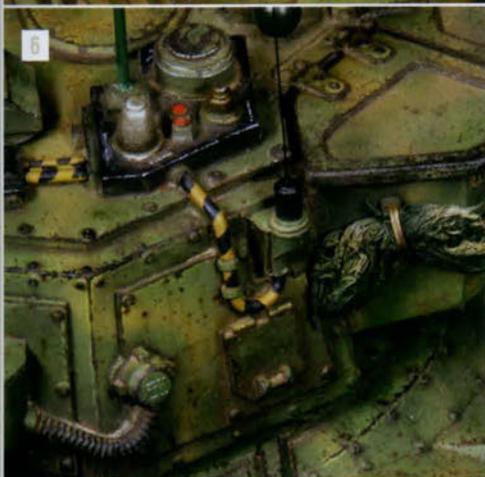
5 – Washes of thinned Brown Ink mixed with Johnson's Klear were applied in layers to represent spilled fuel.

6 – The electrical cables were painted with yellow and black chevrons to add some colour and additional points of interest.

5



6



7



7 – Front view showing the massive bulk and weight of the Imperial Macharius. The two shackles were obtained from the bits box. The chain is a Forge World accessory item.

KRIEG MACHARIUS VANQUISHER

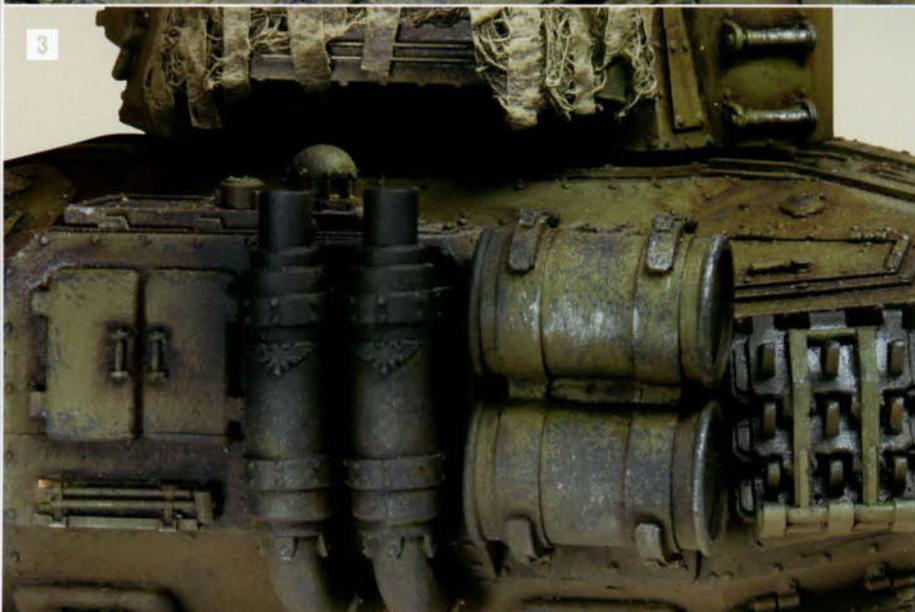


Mark Bedford painted this Krieg Macharius for the first *Siege of Vraks* book. Mark has used a simple paint scheme with heavy weathering and extra details to create an interesting model.

1 & 2 – Working in the Forge World studio, Mark is in the unique position of being able to get his hands on a spare Vulcan turret which he painted to match the hull of the tank of his Macharius Vanquisher, making two tanks from one hull.



3 – The chipped paintwork was created using a scouring pad to dab a mix of Chaos Black and Codex Grey over the base coat of Catachan Green.
4 – The camo netting was made by soaking a small piece of bandage in watered down PVA wood glue, squeezed out and pushed into place on the model. When dry, masking tape was cut into small strips and fixed to the bandage with superglue. This was then painted Graveyard Earth. Kommando Khaki was then drybrushed on the camo netting. The aerials are bristles cut from a large synthetic paintbrush.

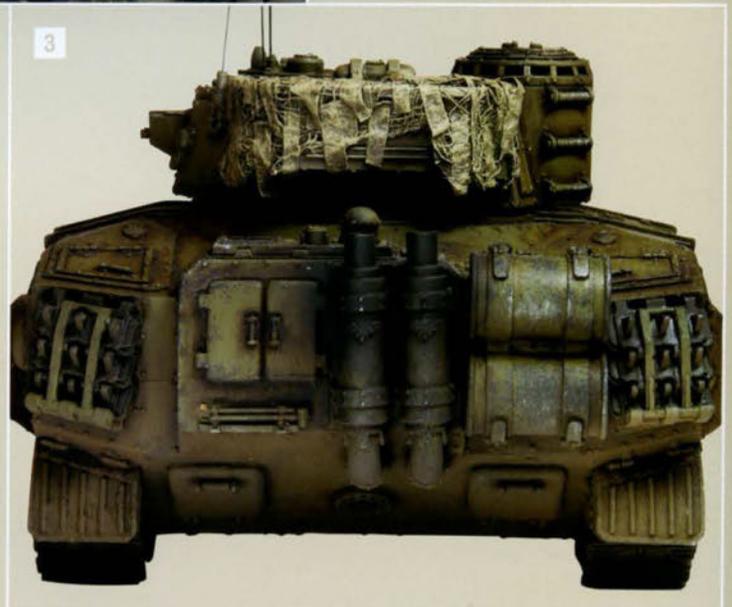


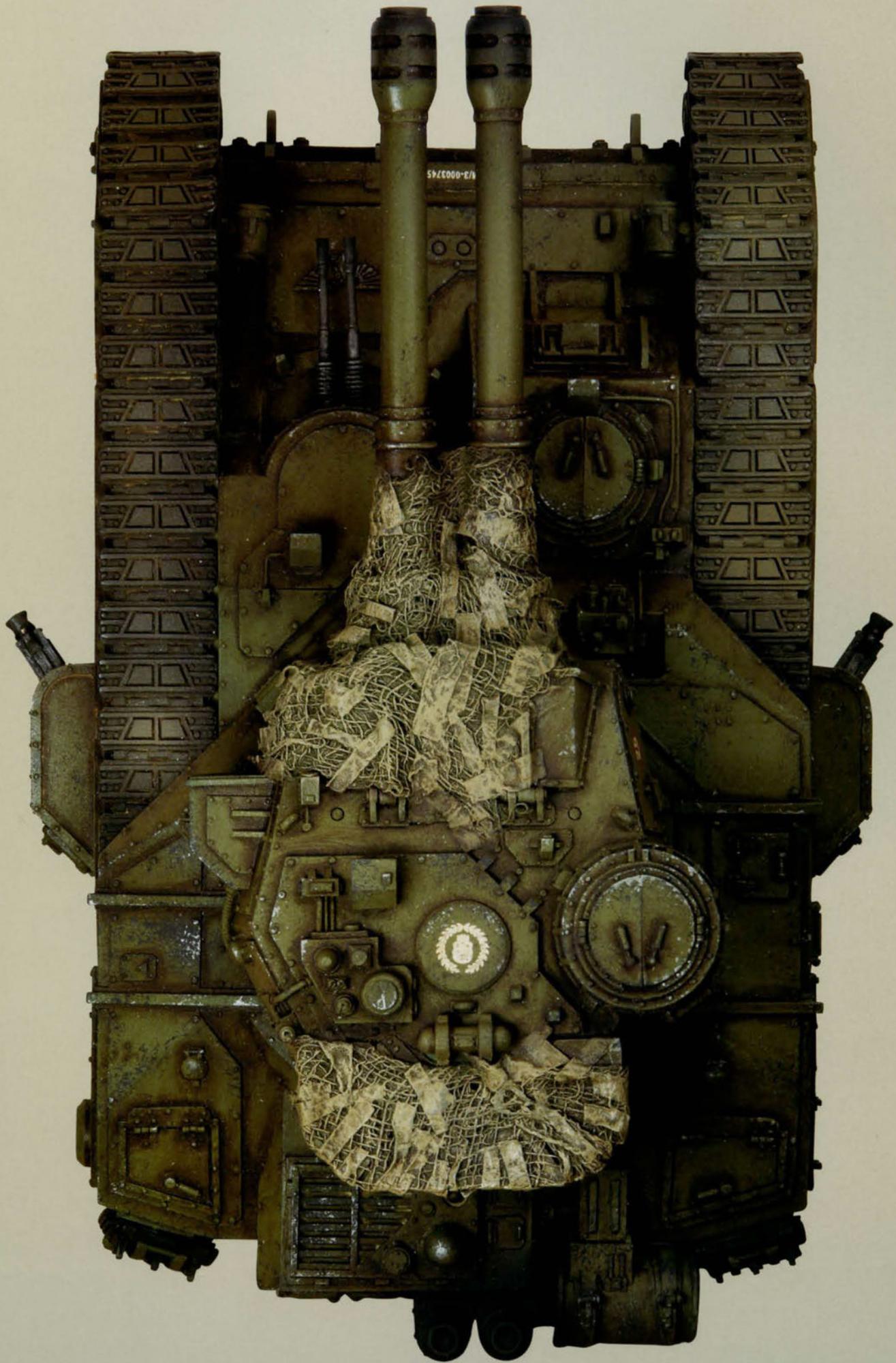


1 - A 4B pencil was used around the cupola, ladder and grab rails and areas where a lot of use takes place, to simulate wear.

2 & 3 - The mud effect on the tracks was made from a mixture of weathering powders, soil, static grass and matt varnish.

4 - A sepia oil wash was applied over the white band to 'dirty it down'. Transfers were taken from the Krieg sheet and spars from the Baneblade transfer sheet.







D-BATTERY

45th ARTILLERY COMPANY

Built and painted by Phil Stutcinkas

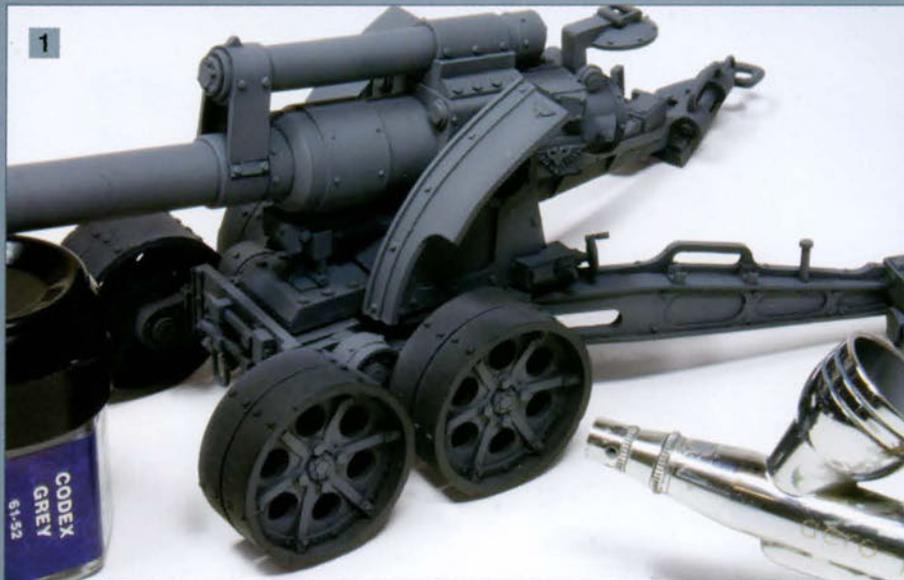
The backbone of the Krieg siege regiments is their heavy artillery. Before each attack the enemy are subjected to prolonged bombardments to destroy their trenches and strong points, and sap their morale. Each Krieg regiment is well equipped with heavy mortars, Medusa siege guns and Bombards, but the workhorse of the artillery companies is the Earthshaker cannon.

The Earthshaker is a general-purpose artillery piece, firing a wide variety of shells, from standard high-explosive rounds, to smoke, incendiary, illumination and an armour penetrating shell with a maximum range of 15 km.

This is a typical artillery position of the 45th artillery company, part of the 143rd siege regiment, in sector 53-45. The gun is dug-in well behind the

front line trenches. Once positioned it is not unusual for heavy artillery to remain in place for years as the front line slowly pushes ahead of them. Over time the crew will improve their position against attack, with the addition of walkways, razorwire, mines and dugouts. Such positions are often subjected to counter-battery fire, as evident by the proximity of numerous impact craters. One large crater has filled with water.

Each artillery battery is supported by numerous vehicles, the most common being the Trojan – a utility tow and supply vehicle based upon the Chimera chassis. Here a Trojan is delivering new ammunition supplies. Meanwhile the gun crew are preparing to open fire, receiving target co-ordinates over the vox-caster, checking range and target direction and loading the gun.



BASE COAT

1 – The Earthshaker Cannon received an initial undercoat of Chaos Black spray. Codex Grey was then airbrushed onto the gun, taking care to leave some of the black undercoat showing through in areas of shade and shadow.

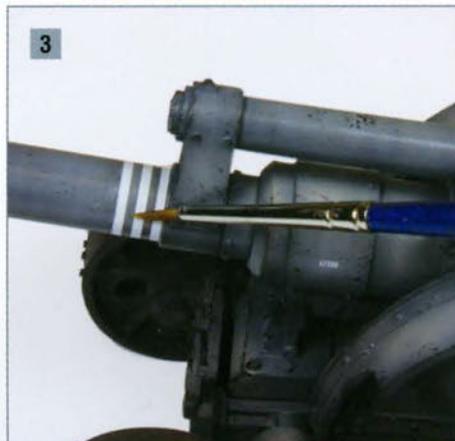
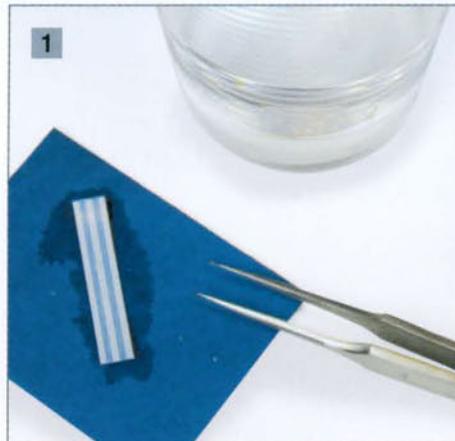
2 – Fortress Grey was airbrushed on, concentrating on the upper surfaces to produce a highlighted appearance. The paint was thinned with acrylic paint thinner to ensure an even and flat surface finish.

3 – A mix of Fortress Grey and Elf Flesh were then airbrushed on for the final highlight.



CHIPPED PAINT

Once the base colours had dried and before moving on to applying decals, the model required a little distressing to remove its factory fresh finish. A chipped and worn paint finish was created using a fine sponge and Charadon Granite. A similar chipped paint effect can be created using Chaos Black mixed with Scorched Brown.



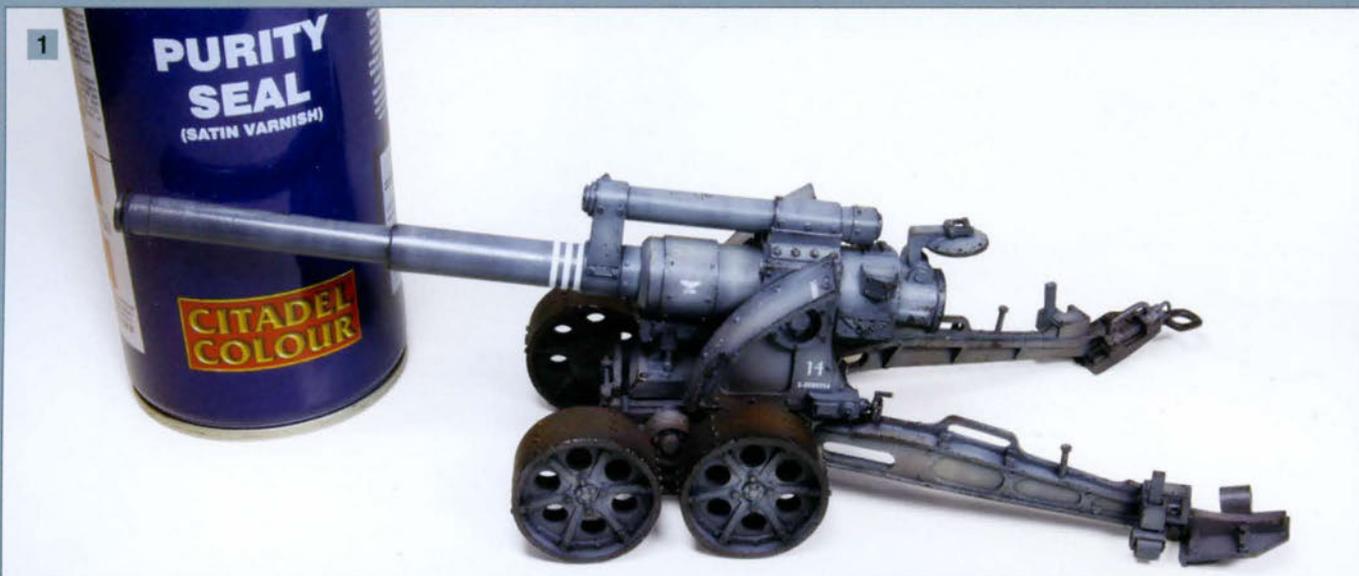
DECALS

Before the decals were applied, the model was given a coat of Klear.

1 – Suitable decals were cut from Forge World's Death Korps of Krieg transfer sheet and dipped into warm water. The excess water was removed from the decal with some tissue.

2 – Making sure that the area where the decal sits had received a coat of Klear, the decal was placed on the model.

3 – A clean brush and a little Klear were used to chase out any air bubbles and set the decal firmly onto the model's surface.



OIL PAINT WASHES

1 – Purity Seal was then sprayed onto the model to seal in the decals and to provide a good foundation for further weathering and painting.

2 – Thinned burnt umber oil paint was then painted into and around all of the details, panel lines and recessed areas.

3 – Once the thinner in the oil paint had evaporated, the remaining oil paint was then blended into the surface of the model. The blending was made easier because of the gloss surface.

4 – More oil paint was added to create rust and dirt streaks.

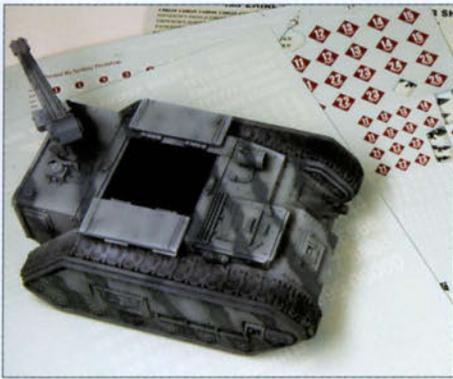
5 – Any hard edges were softened and blended with a dry brush.



AIRBRUSHING THE TROJAN

The Trojan was basecoated and airbrushed using the same colours as the Earthshaker Cannon.

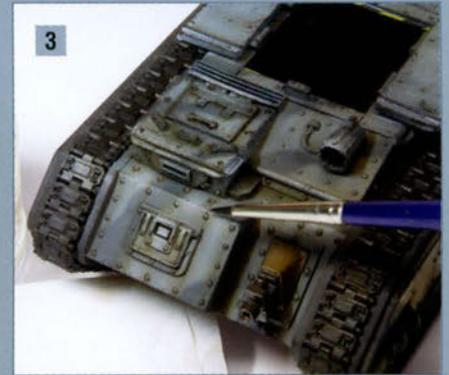




CHIPS AND DECALS

1 & 2 – Duplicating the processes from the Earthshaker Cannon, the Trojan's details such as the heavy bolter and tracks were blocked out in basic colours. A chipped and worn paint effect was applied using a fine sponge and some Calthan Brown. A variety of decals were then removed from the Krieg transfer sheet and applied to the Trojan.

The Trojan has received a coat of gloss varnish to seal in the decals and provide a solid base for subsequent painting and weathering.



WEATHERING PART 1

1 – A mix of Chaos Black and Graveyard Earth was airbrushed over details such as panel lines and rivets.
 2 – Thinned oil paint was washed around all details and recessed areas.
 3 & 4 – The oil paint was then blended and softened into the surface of the model. It can take quite a lot of time to do this but it should not be rushed.
 5 – The oil paint was blended down the side of the model to simulate the effects of rain.



WEATHERING PART 2

1 – A rust coloured wash was made from burnt umber oil paint, rust coloured weathering powders and white spirit.

2 – The rust wash was carefully applied to areas of damaged paintwork in thin layers and allowed to dry between coats.

3 – The tracks were drybrushed with Boltgun Metal. Thinned inks were then flooded over the tracks adding depth and a richness of colour. As usual the inks were thinned with Klear floor varnish as well as some water.

4 – Heavily thinned Graveyard Earth was airbrushed onto the side panels and tracks to simulate a layer of dust.



ACRYLIC WASHES

1 – A wash of acrylic paint was made from Graveyard Earth, Kommando Khaki and an acrylic paint thinner.

2 – The wash was painted into recesses and around details to portray collected dried mud and dust.

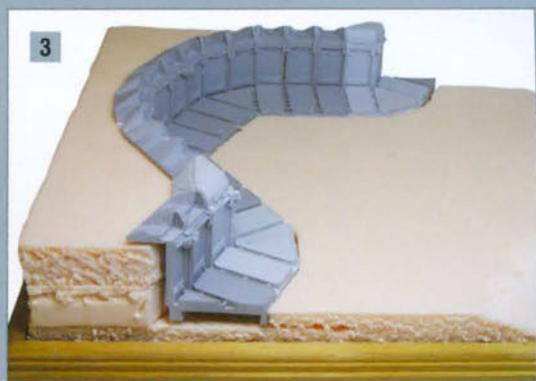
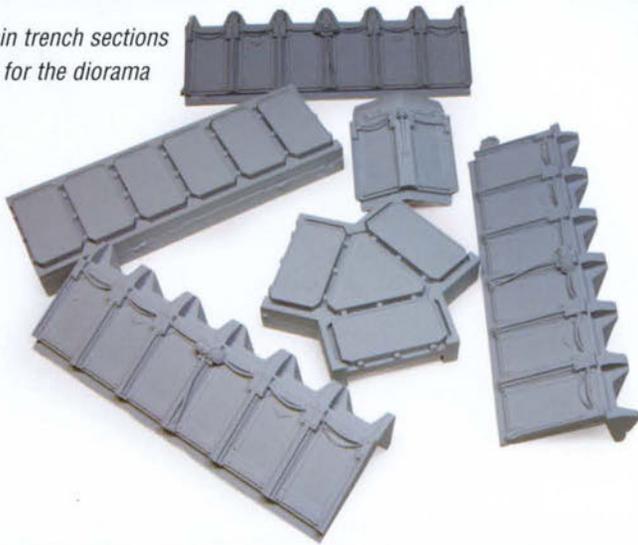
3 – The tracks received the same treatment.

4 – A mix of Chaos Black and Boltgun Metal was used to drybrush and redefine the edge of the track links.

5 – To represent the build up of soot, thinned Chaos Black was lightly airbrushed around the exhaust ports.



The resin trench sections needed for the diorama



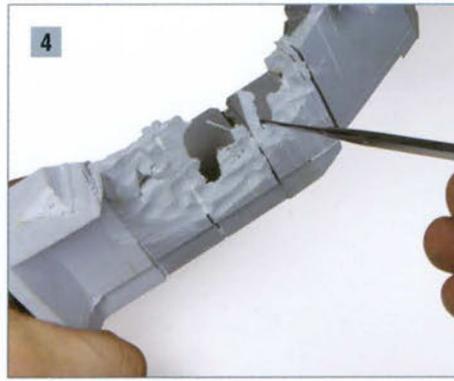
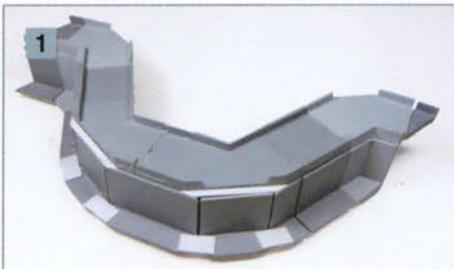
THE START OF A DIORAMA

Building a diorama from a collection of resin pieces can seem a daunting task. It isn't really. Infact the construction of a diorama can be one of the most rewarding experiences of the hobby.

1 – A suitable wooden base was made using a mitre saw and a length of wooden moulding readily available from DIY stores.

2 – The different height levels of the diorama were created from insulating foam, again bought from a DIY store.

3 – A collection of Forge World trench sections were glued together and test fitted onto the base to check their positioning.



BATTLE DAMAGE

1 – The joints of the trench systems were reinforced with scrap pieces of plastic.

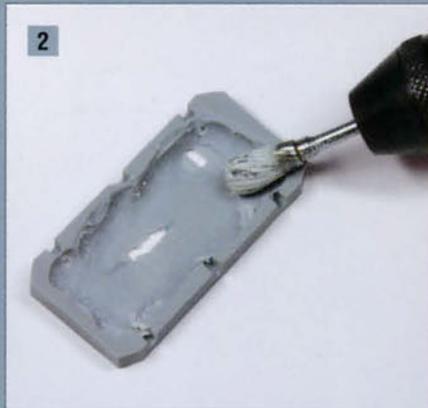
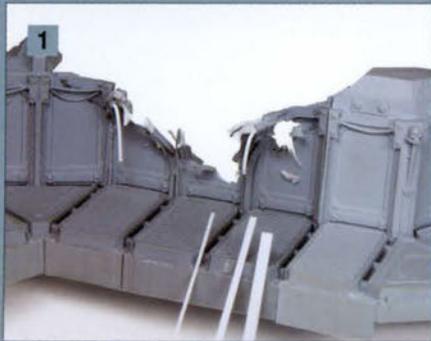
2 – To represent battle damage, a portion of the trench wall was removed with a coping saw.

3 – To create realistic looking damage, the plates that make up the trench walls were first thinned using a grinding tool.

4 – Once the resin was thinned, it was torn and bent to represent twisted metal.

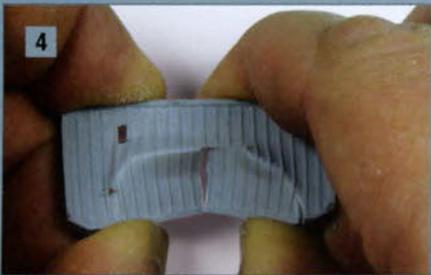
5 – The base was distressed to create the appearance of a cratered battlefield and framed using plasticard.





ADDING DETAIL

1 – Extra details such as hanging cables were added to the damaged area of the trench using plastic rod and plastic strip.
 2 & 3 – Several floor plates were thinned using a hobby drill.
 4 – The plates were then easy to bend and buckle.
 5 – The plates were glued behind the damaged section of trench to give the impression of an improvised repair to the fortification by its defenders.



FILLING THE GAPS

1 & 2 – Shell impacts and damage were carved into the trench sections using a craft knife.
 3 – A quick drying filler was used to fill any gaps between the trench sections. The filler was also used to match the texture of the resin trench pieces.
 4 & 5 – Household DIY filler was spread over the insulating foam. The addition of PVA glue mixed into the filler gave a very tough finish.
 6 – A mixture of filler powder, sand, grit and gravel were sprinkled over the still wet filler.





7 – While the filler was still wet, more sand and gravel were added to create a realistic earth texture.



8 – An assortment of spare parts from various kits were used to represent battlefield debris. Before the filler had dried, the selected pieces were pressed into it and, if needed, additional PVA glue was used to hold each piece in place.

9 – The goal was to create a scene which looked suitably busy and interesting to the eye.



MAKING SANDBAGS

1 – Green stuff was rolled into a long sausage shape and then squashed flat with a steel ruler. Individual sandbags were cut to size using a knife. A piece of cloth was lightly pressed into each sandbag to imprint a hint of woven texture.

2 – To avoid finger prints, the sandbag was then also pressed into place using the cloth.



3 – With the sandbag in place, a stitched seam line was pressed into the side of the bag using the blade of a knife.

4 – The sandbags were built up one by one, taking care to maintain a natural placement.

5 – Brass picture hanging wire was used to represent the connecting cables on the damaged floor sections.



Before the groundwork on the lower section of the diorama was started, everything was test fitted to obtain the final position of models and accessories.



GROUNDWORK

- 1 – A textured paint was made by mixing household filler, PVA glue, grit, sand, gravel and some Scorched Brown paint.
- 2 – The textured paint mixture was applied to the base using an old paintbrush.
- 3 – A mix of dry filler powder and grit was sprinkled onto the still wet textured paint.
- 4 – Any excess filler was removed using a dry paintbrush.



5 – Extra pieces of debris were pressed into the still soft wet textured paint.

Left: Various accessory items were added to the groundwork prior to painting. The base will be painted as one piece to help to maintain a consistent feel and atmosphere to the diorama.



1



2



3



4



PAINTING THE BASE – PART ONE

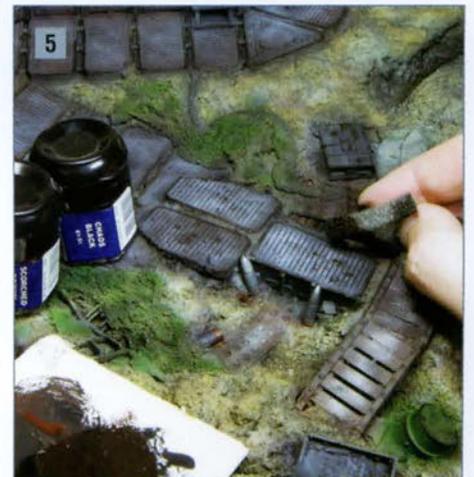
The whole diorama base was undercoated with Chaos Black spray. This provided a solid base coat to work on. The wooden display base was also sprayed Chaos Black. Once dry, the edge of the base was masked off with masking tape. 1 – Graveyard Earth was airbrushed on to any areas of earth. The use of an airbrush created a natural variation in tone and coverage.

2 – Again using an airbrush, other areas of the base were sprayed in basic colours. Some overspray between colours was inevitable at this stage. This was not a problem as the paint finish was continually refined with each successive layer of paint.

3 & 4 – Areas of light and shade were airbrushed onto the base using darker and lighter shades of the original colours. The layering of paint was continually refined and the aim was to produce a natural looking mix of tone and colour.

5 – Paint chips and scuffmarks were added using a fine sponge and a mix of Scorched Brown and Chaos Black.

6 – To pick out and refine the painting of individual details, the airbrush was replaced with a standard paintbrush.



PAINTING THE BASE – PART TWO

- 1 – To create the effect of dried mud and dust, a thinned mix of Graveyard Earth was airbrushed over the walkway. The dust also blended together the different coloured areas of the groundwork, creating a coherent look.
- 2 – The base was given a coat of gloss varnish. An oil wash made of burnt umber and black oil paint thinned with white spirit was then painted in and around details.
- 3 – Washes of thinned Graveyard Earth mixed with earth coloured weathering powder were applied into the recesses to simulate collected mud and dust.
- 4 – To highlight the metallic nature of the walkways, they were lightly drybrushed with Boltgun Metal.
- 5 – Various earth colours including Desert Yellow were drybrushed onto the groundwork to emphasise the surface texture and create a variation in tone.
- 6 – Thinned washes of Brown Ink were used to shade the deepest areas such as the shell crater.



- 1 – Forge World's Death Korps of Krieg transfers were added to each of the shells to create interesting and individual detail. A gloss surface aided in the application and placing of waterslide decals.
- 2 – Gloss varnish was brushed over the decal. This helped to secure the decal in place and hide the edge of the carrier film. The gloss finish will be matted down during a later stage of the painting.





SANDBAGS

1 & 2 – To enhance the woven surface texture of the sandbags, they were first drybrushed with Kommando Khaki. A wash made of Scorched Brown, Brown Ink and Yellow Ink mixed with Klear floor varnish was applied in layers. The wash naturally flooded into the recesses, enhancing details such as the seam lines.



BARBED WIRE

1 – A sheet of Forge World's brass etched barbed wire was undercoated with Chaos Black spray.
 2 – The sheet was then roughly painted with Scorched Brown. Mixtures of Graveyard Earth, Fiery Orange and Scorched Brown were stippled onto the barbed wire, taking care to ensure a variety of tones. Small amounts of weathering powder were then added to the paint to create a more realistic texture and tone.
 3 – Supports for the barbed wire were made from soft copper wire. This wire can be easily cut and formed using standard modelling tools.
 4 – The wire was cut to length and carefully bent around a pair of tweezers, forming characteristic barbed wire support poles.
 5 – The coil structure was simply created by wrapping the painted barbed wire around a plastic rod.
 6 – The finished barbed wire and support poles were secured in place using superglue. Small amounts of superglue should be placed using a cocktail stick – not directly from the tube!





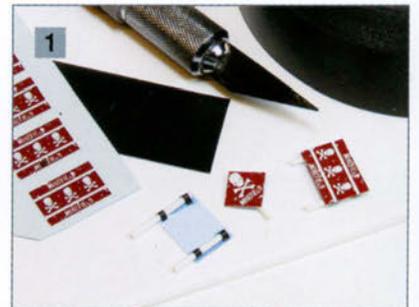
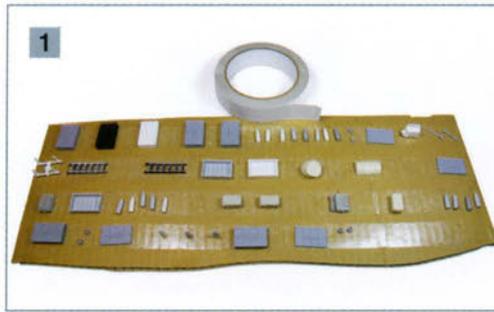
WATER FILLED SHELL CRATER

- 1 – To ensure a flat surface, the pool was given a light sand with fine sandpaper.
- 2 – A dust free surface was created by cleaning the area with a damp rag.
- 3 – The airbrush was used to mist on different tones.
- 4 – Thinned Brown Ink was applied to add a depth of tone and a murky appearance.
- 5 – When the diorama was complete, the water was painted with gloss varnish.



PAINTING ACCESSORIES

- 1 – To remove the problem of handling multiple small components, they were stuck down to a piece of cardboard using double sided tape.
- 2 – After an undercoat of Chaos Black spray, an airbrush was used to quickly block in the basic colours of the accessories.
- 3 – The accessories were painted and weathered using the same colours and techniques that were used on the base of the diorama.



MINIFIELD MARKERS

- 1 – Still attached to their backing paper to retain some stiffness, the signs were cut from the ForgeWorld Death Korps of Krieg transfer sheet. Poles made from plastic rod were then glued to the reverse side and small brackets were created using electrical tape.
- 2 – The signs were then weathered with streaks of Graveyard Earth thinned with matt varnish.



Accessories such as the ammo crate were attached to the crane and additional crates were placed into the internal cargo bay.

The crane's claw was scratch-built from plasti-card and plastic rod.



ADDING THE TROJAN

Apart from the crew, all of the individual components for the diorama were complete. Only the final assembly remained.

1 – The Trojan was glued in place. To illustrate the weight of the Trojan, additional earth mixture was applied around the base of the model implying that it was slowly sinking into the wet mud. The earth mixture is the same as was used for the groundwork.

2 – The earth mixture was also added to the tracks of the Trojan.

3 – An airbrush was used to blend the freshly applied earth into the surrounding base.

4 – Washes of thinned Brown Ink were applied to add depth and shading to the earth.





1

FINISHING THE EARTHSHAKER CANNON

With the Earthshaker in place on the base, it required a little extra work to blend it into its surroundings. 'Weathering the gun in' would make it appear to have been in place for some time.

1 – A rust wash was made from Bestial Brown, Fiery Orange and a rust coloured weathering powder, which was then thinned with screen wash. The rust wash was then painted around the rivet heads on the wheels.

2 – To soften the now dry wash, a mix of Chaos Black, Scorched Brown and Boltgun Metal was drybrushed onto the wheels. This also gives the wheels a metallic feel.

3 – More rust wash was added, this time it was carefully applied to just the rivet heads.

4 – Heavily thinned Graveyard Earth, airbrushed over the split trails of the gun helped to blend the Earthshaker Cannon into the base of the diorama.

5 – To finish, a final application of Brown Ink was used to portray a build up of oil and grease on the gun mountings.



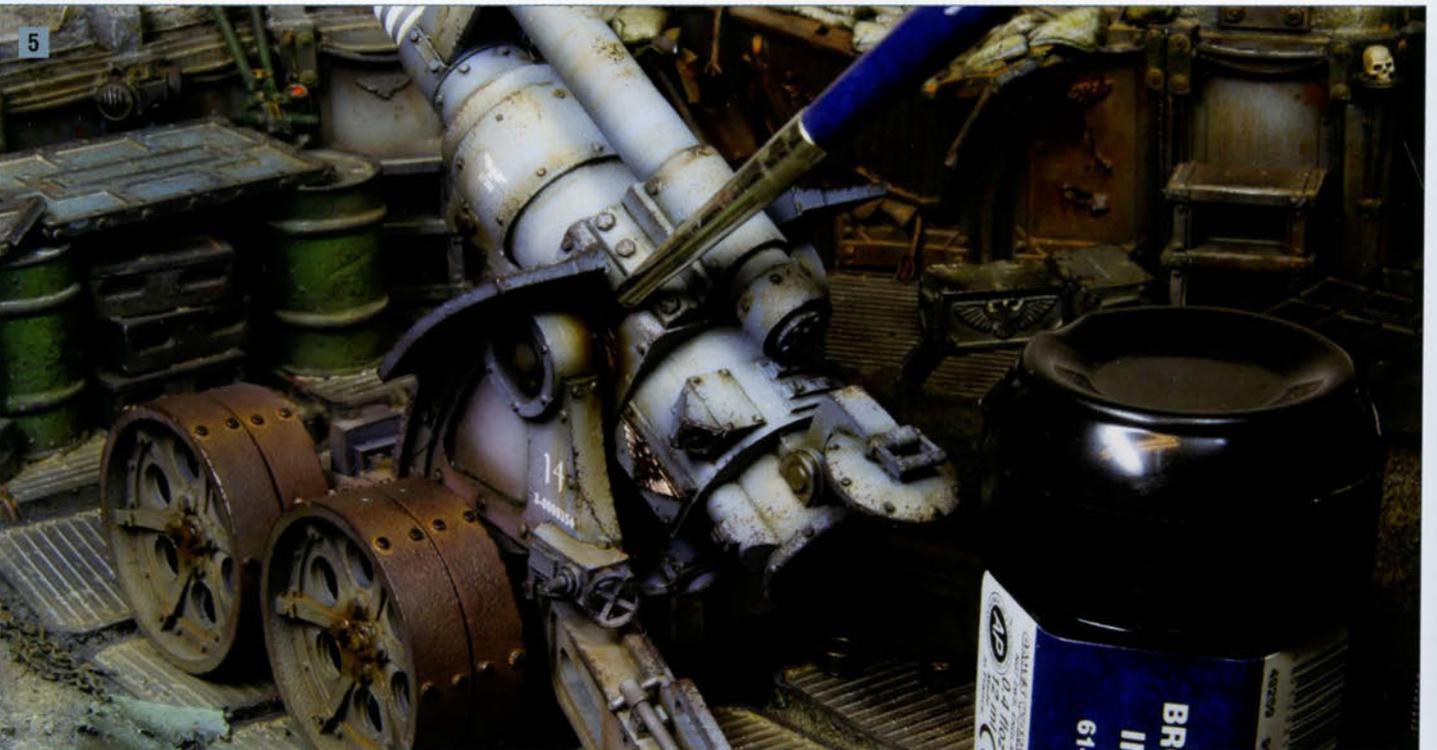
2



3



4



5



PAINTING THE GUN CREW

1 – The Krieg artillery crew were fixed to corks for ease of handling.

2 – An appropriate colour scheme was chosen from Imperial Armour volume five sourcebook.

3 – First undercoated Chaos Black, their trench coats were then airbrushed with a layer of Codex Grey. The undercoat was left visible in creases and areas of shade. Other equipment such as boots, helmets, etc, were painted in base colours.

4 & 5 – Gloss varnish was painted onto the shoulder pads and shells. Once dry, decals from the Krieg transfer sheet were placed on the models and secured using another layer of gloss varnish. At this point the models received thinned Brown Ink and Black Ink washes in thin, controlled layers to accentuate details and deepen areas of shade.

6 – A thinned wash of Desert Yellow mixed with weathering powder was painted over the armour, boots and other equipment to represent dust.

7 & 8 – Details were carefully highlighted using a fine brush. To finish them, the crew received a coat of matt varnish. Note that the earthy tones of the diorama base have been incorporated into the trenchcoats to give a weathered look.



1 – The water was painted using the counter-shading technique, to create the illusion of depth. A heavy layer of Klear added a very high gloss finish to the surface of the water. An oil drum, cut at an angle was then glued in place, helping to imply a depth to the water.



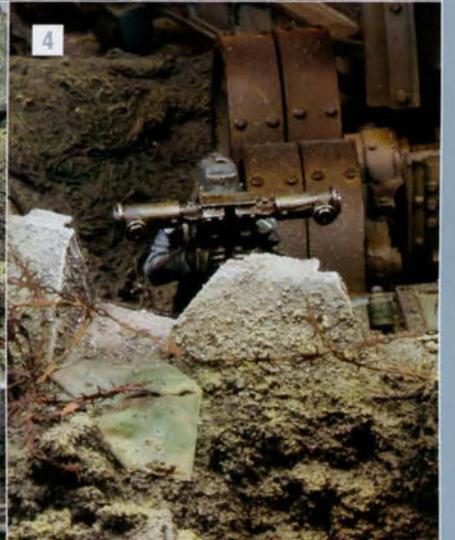


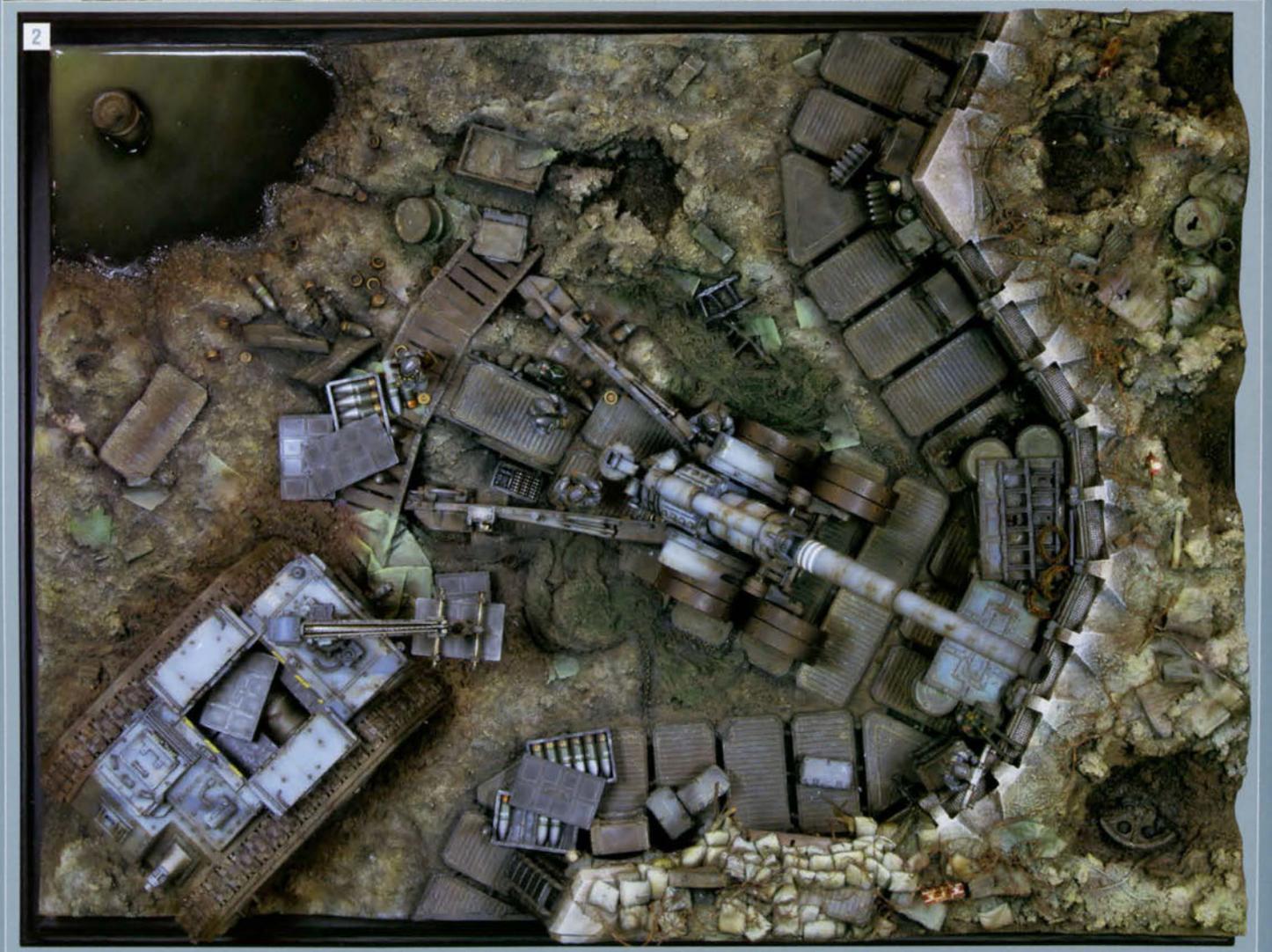
2 – It is the small details and accessories such as the lasgun, scissor-binoculars and rolls of barbed wire that add life to this diorama.

3 – The minefield markers were taken from the Death Korps of Krieg transfer sheet. The skeleton was an old Citadel plastic skeleton taken from a bits box.

4 – A Krieg guardsman checks the distance to his target with a rangefinder.

5 – The repaired trench section looks suitably busy thanks to small details. The trench marking is taken from the Krieg transfer sheet.





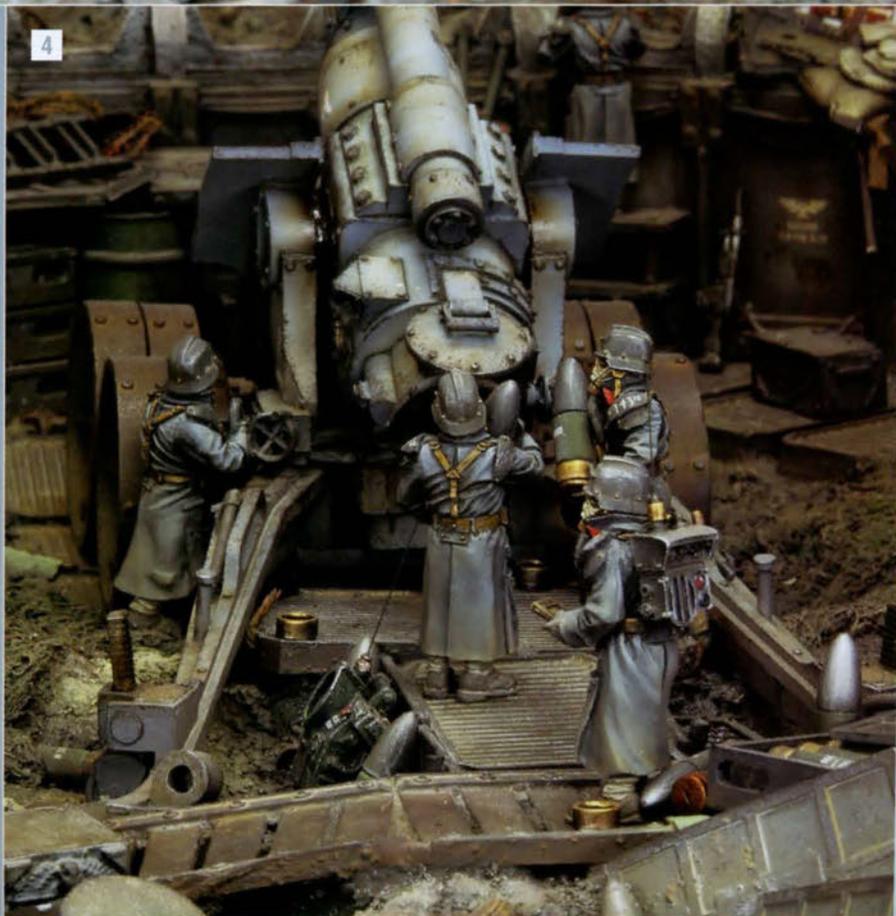


1 – A good overview of the gun and crew at work. The tarpaulin in the background was simply created using a piece of paper towel dipped in PVA glue.

2 – An effective diorama will have no dead space. There should be points of interest over the whole board. Also, it is good idea to avoid having any elements of the diorama parallel with the edges of the base. This will make for an interesting and natural looking scene.

3 – The discarded camo-netting on the ground to the right of the wheels is made from medical gauze. It was fixed in place with PVA glue.

4 – Miniatures on any diorama will be a focal point so it is important to put extra effort into painting them, taking care to employ similar tones of colour to that of the groundwork. This can be seen on the lower halves of the trenchcoats and boots.



MARCHING TO THE FRONT

MODELLING AND PAINTING MUD

Inspired by a vast collection of World War One reference photographs, Mark Bedford created and painted this diorama depicting a heavy bolter weapons team dragging their gun through mud. Mark entered this compact diorama in the Open category at Golden Demon 2006 and won Silver.





1 – The tree stumps are made from old dry twigs snapped off at different lengths.

2 – The base was given a coat of rather wet DIY filler. Tracks were then roughly scored into the still wet filler and then the heavy bolter was pushed into the filler whilst it was still damp, ensuring it sank up to its axle. Gloss varnish was then used to add a moist look to the mud.

3 – The reins on the beast of burden were made from thin strips of kitchen foil.

4 – The beast of burden was made from a Krieg Deathrider model – minus the rider. The equipment it carries was selected from Mark's well-stocked bits box!





KRIEG MALCADOR IN WINTER CAMOUFLAGE

This diorama featuring a Malcador with Death Korps of Krieg lost in a bleak winter wasteland was created and painted by Mark Bedford. Mark entered this stunning diorama in the Open category at Golden Demon 2007 and won Bronze.

1 – The tank riders were simple conversions based on the Krieg artillery crew and Krieg squad at ease.

2 – The mounted Commissar is a conversion made from a Krieg Death Rider, and a Krieg Commissar. The arm with binoculars came from a tank crewman.

3 – The groundwork was sprayed with a coat of hairspray then, while still wet, snow was sprinkled over the sprayed area. To seal the snow in place, it received another coat of hairspray.

4 – From the front you can clearly see the direction in which the riders are looking, note the sergeant holding what appears to be a compass and map.

5 – Mud made from a mix of soil, PVA wood glue, plaster of paris, a small amount of static grass and earth coloured weathering powders was roughly applied to the tracks. The rusted exhausts were painted Terracotta Red and then aged with rust coloured weathering powders and brown oil paints.





1 – From directly above, the placement of snow can be more clearly seen, it also illustrates how the patchy nature of its application has helped to create a very realistic look to the groundwork.

2 – When snow falls, tank crews will apply a hasty non-permanent coat of white wash to their tanks. The patchy white wash painted over the tank's camouflage scheme was created using the same

technique as that of the Medusa's dozer blade detailed on pages 26 and 27.

3 – To create cracked ice, superglue was allowed to set on a sheet of plastic, once cured, it was peeled off the plastic sheet and snapped into small pieces creating the effect of broken ice. It was then fixed in place with PVA wood glue or more superglue.



4 – Transfers from the Death Korps of Krieg transfer sheet provided all of the identification markings for the Malcador and Krieg troops. The transfers were applied over a layer of gloss varnish, another layer of gloss varnish then sealed the transfer in place, and finally matt varnish was used to remove the gloss sheen.

5 – Cutting the bristles from a synthetic paintbrush created the aerials for both the Malcador and Vox operator.



IMPERIAL AIRBASE TYPHA-IV

Built and painted
by Phil Stutcinkas

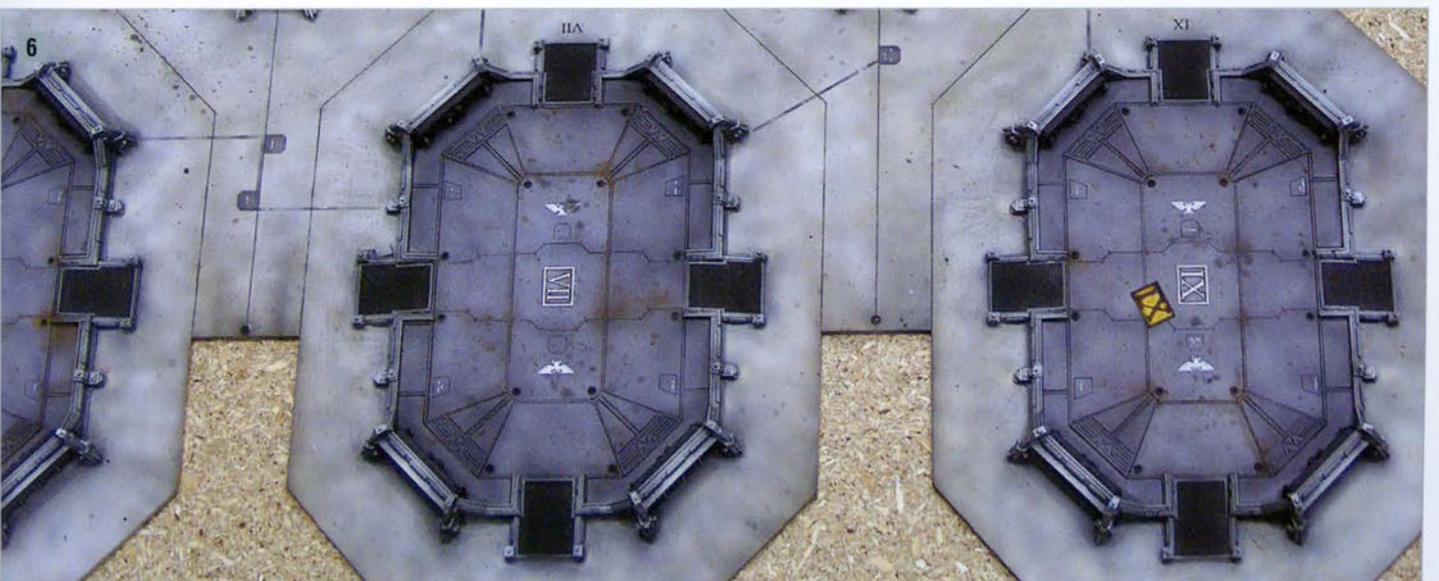
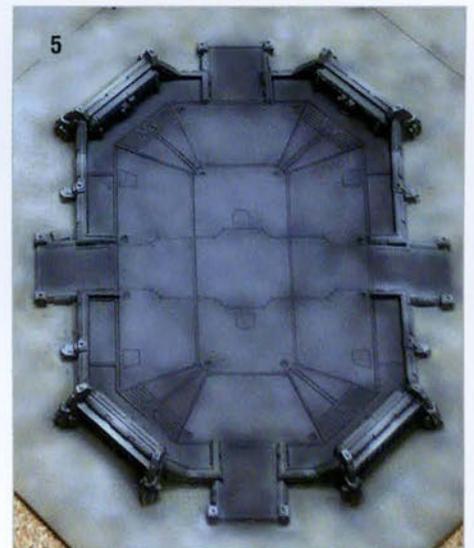
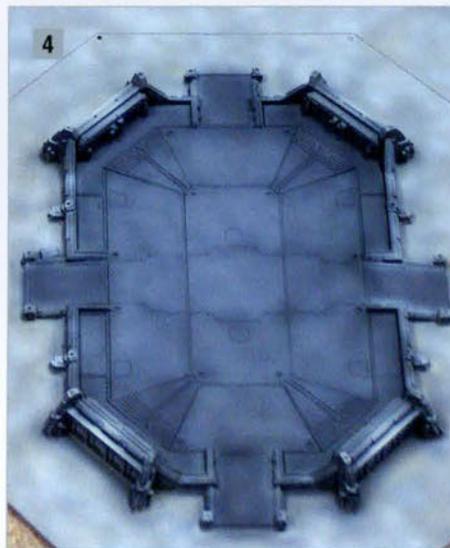
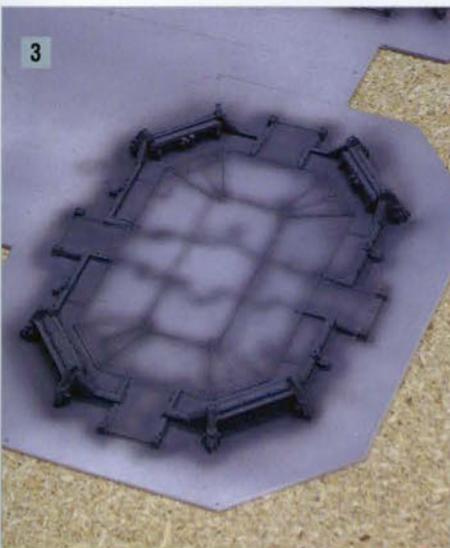
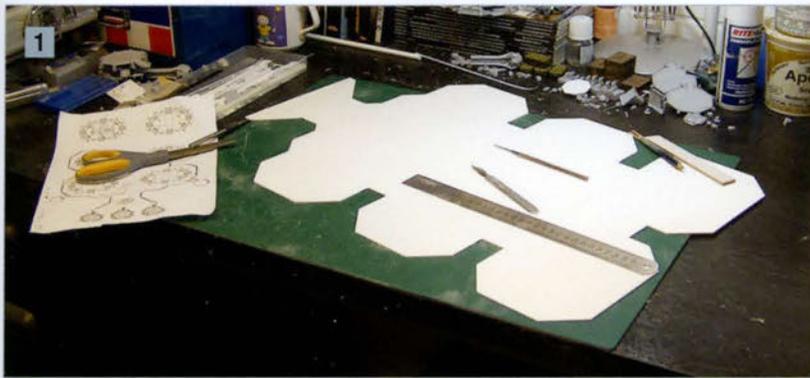


This airfield is part of the Imperial Navy's Climate/Hazard Tactical Training Facility on Typha-IV, known as 'Black Rock' to the pilots. The airfield was the base of the 35th bomber squadron during the Typha-IV campaign.

Typha-IV itself is a penal colony and promethium mining and refining facility. A storm-ridden, cold and heavily polluted world, it was attacked by Tau forces as part of their 'Third Sphere Expansion'. During the brief, but fierce war, the airfield came under regular air attack and its ground

defences were heavily reinforced to protect its bombers. Flak guns and hydra platforms ring the base.

The airfield itself, one of several that make up the entire base, consists of six main landing pads, capable of landing a single bomber or two fighter-sized aircraft, and three secondary pads for supply aircraft. It has a control tower and two personnel bunkers, which give access to the base's extensive underground facilities. It also has a network of pillboxes for defence against a ground assault.



ASSEMBLING THE AIRBASE

1 – The plan of an Imperial airbase was outlined onto a piece of thick plasti-card. The base was then carefully cut from the sheet. An element of extra detail was also added in the form of panel lines. These were drawn onto the plasti-card with a pencil. A scribing tool was then used with a ruler to scribe the lines into the plasti-card.

2 – A collection of Forge World airbase pieces, including landing platforms and a control tower were placed on the plasti-card to finalise the layout before gluing them in place.

3 – The airbase was undercoated with a grey primer. Using a mix of Chaos Black and Codex Grey, basic shadows were airbrushed to all panel lines and recesses.

4 & 5 – Using an airbrush, several layers of lighter greys were applied in a random mottled pattern to achieve a realistic depth of colour and textured look to the concrete surface. Additional shadows were then carefully airbrushed to redefine areas of detail and shadow. The concrete base was treated in a similar way using stone and concrete colours.

6 – Details such as stairways, access doors and lights were painted using a Detail brush. The airbase was weathered using washes representing dirt, rust, fuel and oil. Landing pad numbers were added from an etched brass sheet and a transfer sheet provided the Imperial Eagles.



GROUNDWORK

1 – The painted airbase, additional bunkers and gun pits were then glued to a wooden base made from a piece of MDF and some lengths of timber. An earth texture was made from a mixture of sand, ready mixed filler, watered down PVA and Graveyard Earth paint. The earth mixture was painted onto the primed base with an old paintbrush. Using a cloth, small areas were wiped clean, creating areas which would later represent pools of water.

2 – While the earth mixture was still wet, coarse flock and gravel were added to enhance the texture and detail of the groundwork around the airbase.

3 – Narrow paths through the earth were created in the wet earth mixture linking the outer defences to the main airbase.

4 – The groundwork was then airbrushed to provide tones and shades of colour. The pools were airbrushed with tones of grey to mimic the reflection of a grey sky. To create some depth to the water, the edges of the pools were kept dark. Using Graveyard Earth, Bestial Brown, Scorched Brown and an airbrush, the earth was randomly shaded.



SNOW

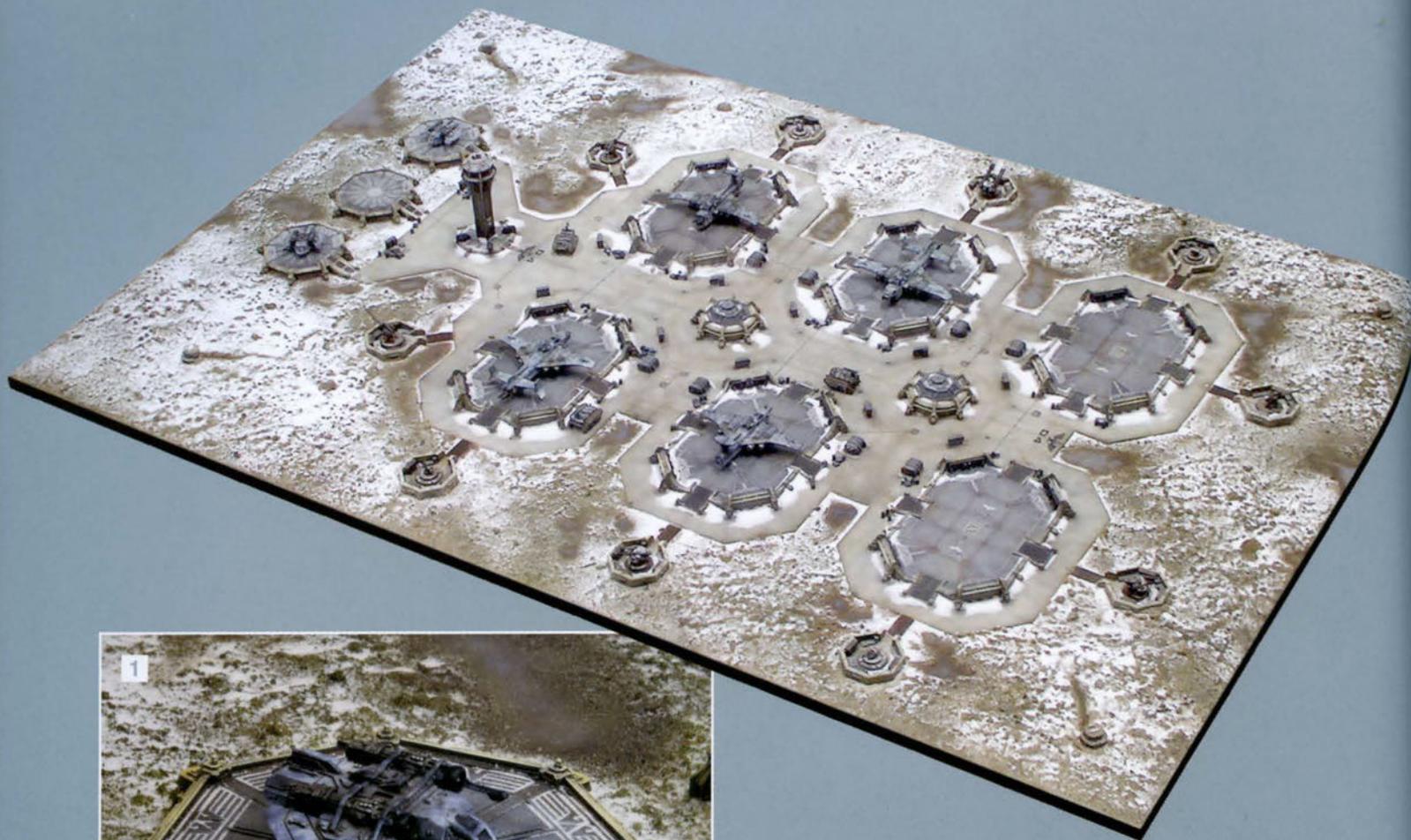
1 – To represent snow, a thin layer of baking powder was sprinkled over the entire board.

2 – An empty airbrush was used to simulate wind and blow the excess snow from the table. The airbrush was also used to move and concentrate the snow into areas where it would naturally gather.

3 – In some areas the snow was only lightly removed, exposing only small amounts of the earth below, creating a very realistic appearance. The snow was then fixed in place by simply spraying the table with several layers of hairspray. This acts as an adhesive without affecting the paintwork. The board was then sprayed with a coat of matt varnish to provide a tough gaming finish.

4 – To finish the board, small details such as darkened pathways and edges of pools were picked out using a Detail brush. The goal was to create the impression of melted snow and damp earth. All of the pools were then given several coats of gloss varnish to provide a realistic shine.





1 – The trapped and drifted snow looks very effective on and around the landing pads.
2 – The control tower adds some height to the base. To accentuate this further, the upper surfaces of the tower were painted in lighter tones.
3 – The finished airbase looks incredibly realistic. The use of too many colours has been avoided in order to obtain a utilitarian and 'used' feel to the base. The addition of the pools adds a little detailing and helps to break up the larger areas of earth around the base.



4 – The Marauder Destroyer was painted in a winter camouflage scheme. This was done with an airbrush.
5 – It is the small details and accessories such as the fuel drums and crates that add a sense of realism to this model.
6 – Some rust was added to the bases of the AA guns to suggest that the guns have been in place for some time.
7 – The command bunkers were painted to represent a mixture of concrete and painted metal surfaces. This adds some subtle variation and extra interest.

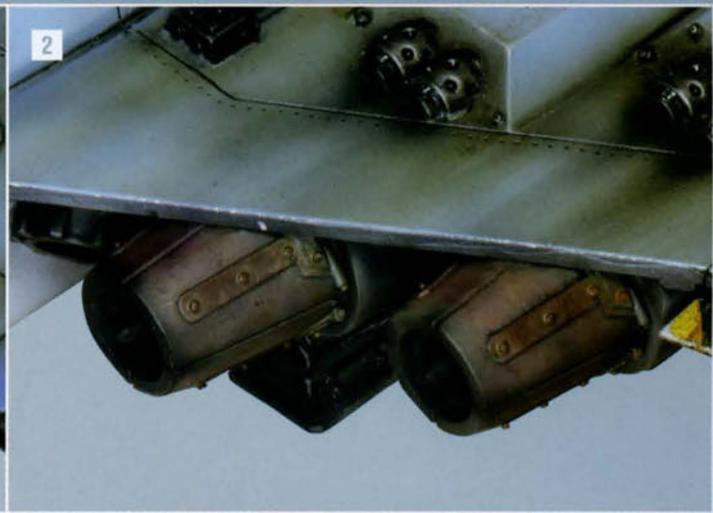




MARAUDER DESTROYER

This Warhammer 40,000 scale Marauder Destroyer, painted by Phil Stutcinkas, represents an aircraft belonging to the 35th Bomber Squadron.



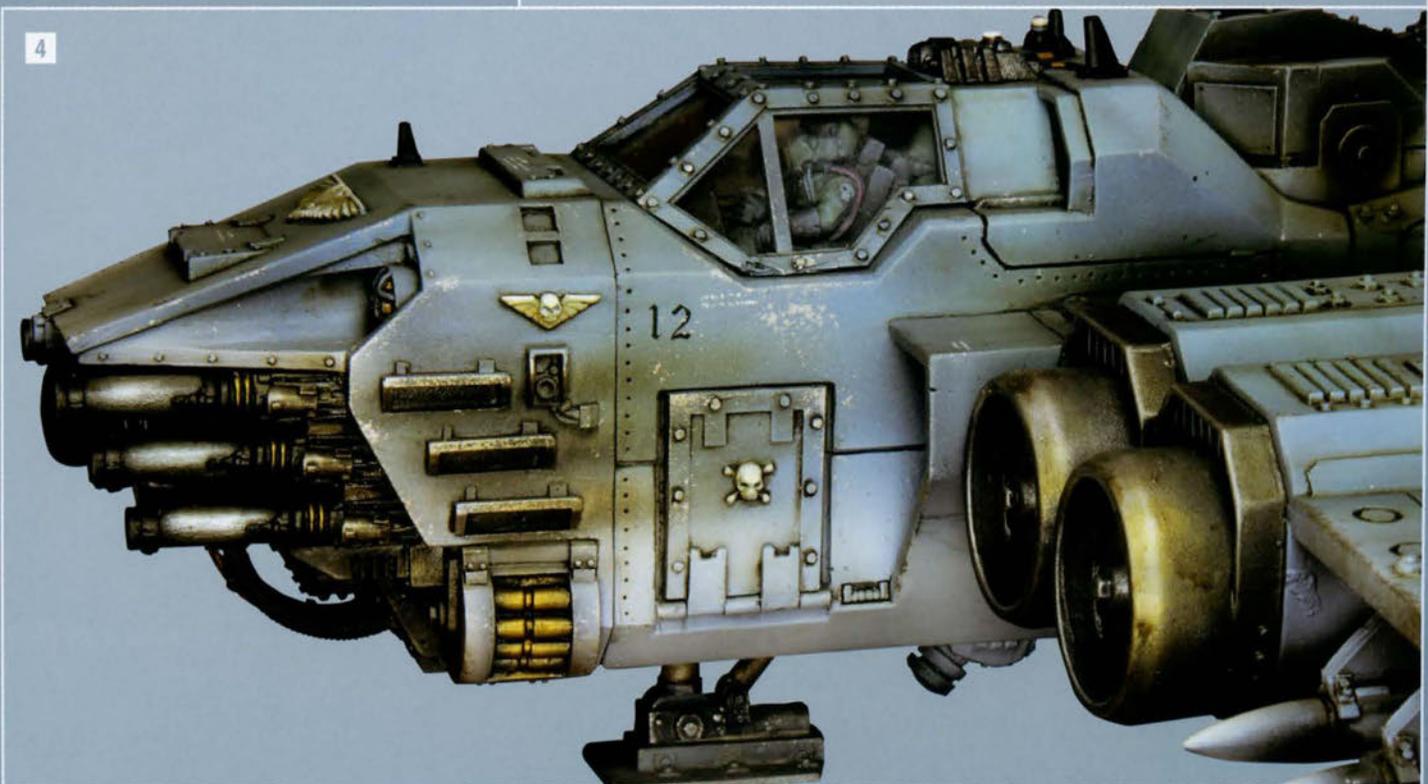
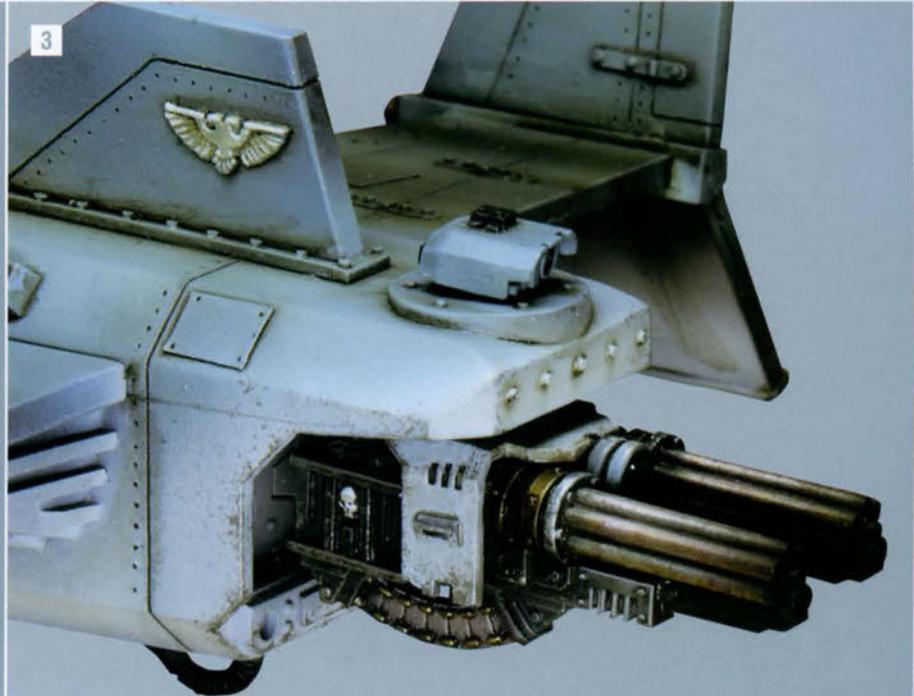


1 – The air flaps were painted with black and yellow chevrons to add a splash of colour. The bands were marked out with masking tape and then sprayed with an airbrush.

2 – The engine nozzles were first painted in Kommando Khaki and then treated to several layers of red and purple washes. This gives them a heat scorched metallic look.

3 – The nozzle of the assault cannons were given a very light layer of Chaos Black with an airbrush.

4 – Chainmail was dabbed onto the model using a small sponge to create a chipped paint effect. The metallic tones of the engine intake cowls were weathered by applying a few coats of Brown Ink and Johnson's Klear.

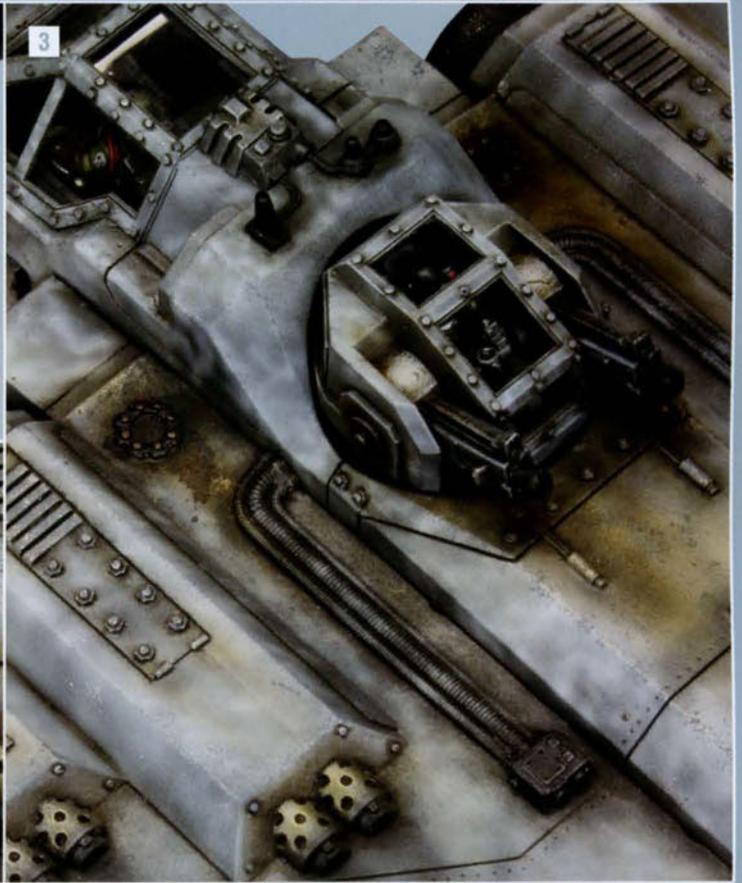
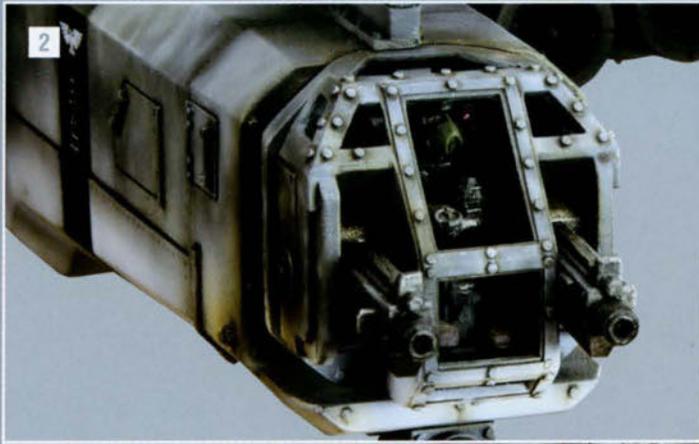




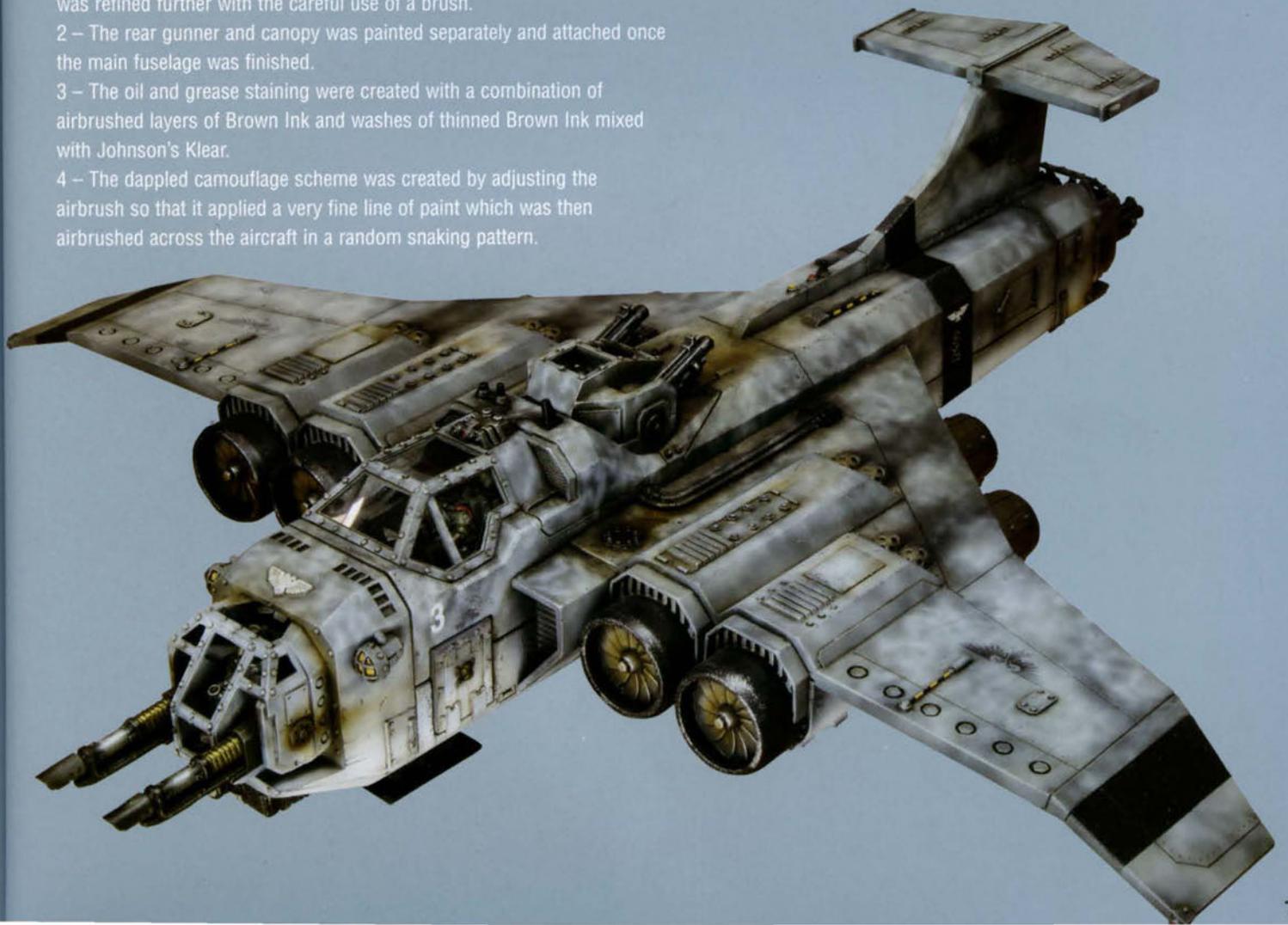
MARAUDER BOMBER

Painted by Phil Stutcinkas, this Warhammer 40,000 scale Marauder Bomber was given a winter camouflage scheme to depict a bomber from the Typha-IV airbase (shown on page 97).





- 1 – The chipped and distressed effect was created by sponging Codex Grey over the top of the finished camouflage scheme – the effect was refined further with the careful use of a brush.
- 2 – The rear gunner and canopy was painted separately and attached once the main fuselage was finished.
- 3 – The oil and grease staining were created with a combination of airbrushed layers of Brown Ink and washes of thinned Brown Ink mixed with Johnson's Klear.
- 4 – The dappled camouflage scheme was created by adjusting the airbrush so that it applied a very fine line of paint which was then airbrushed across the aircraft in a random snaking pattern.



THUNDERBOLT

THE IMPERIUM'S FRONT LINE FIGHTER



Painted by Phil Stutcinkas this colour scheme was copied from Forge World's *Tactica Aeronautica*, page 67 and depicts the Thunderbolt flown by fighter ace Ixan Muro.

1 – The squadron badge was enlarged and photocopied from the colour profile contained in *Tactica Aeronautica*. Once glued into place, the badge was given a coat of varnish to seal it.

2 – The display console in the cockpit was painted to represent a computer screen. Small details such as this will really add impact to a finished model.

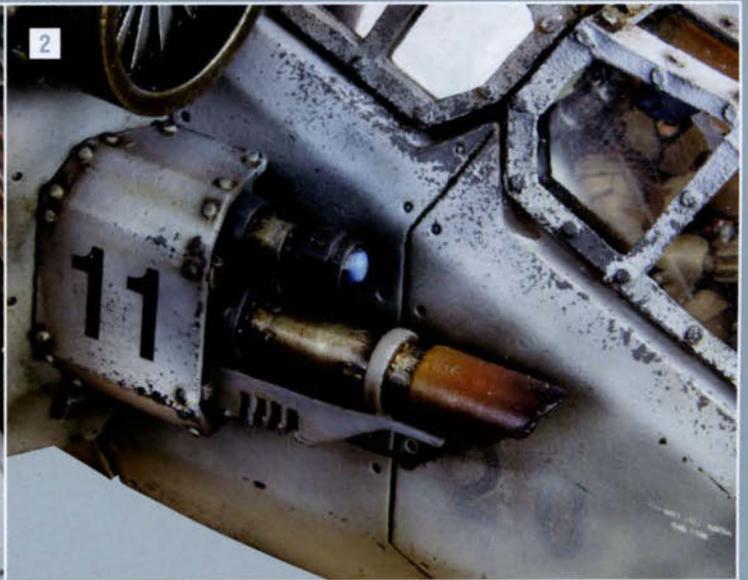
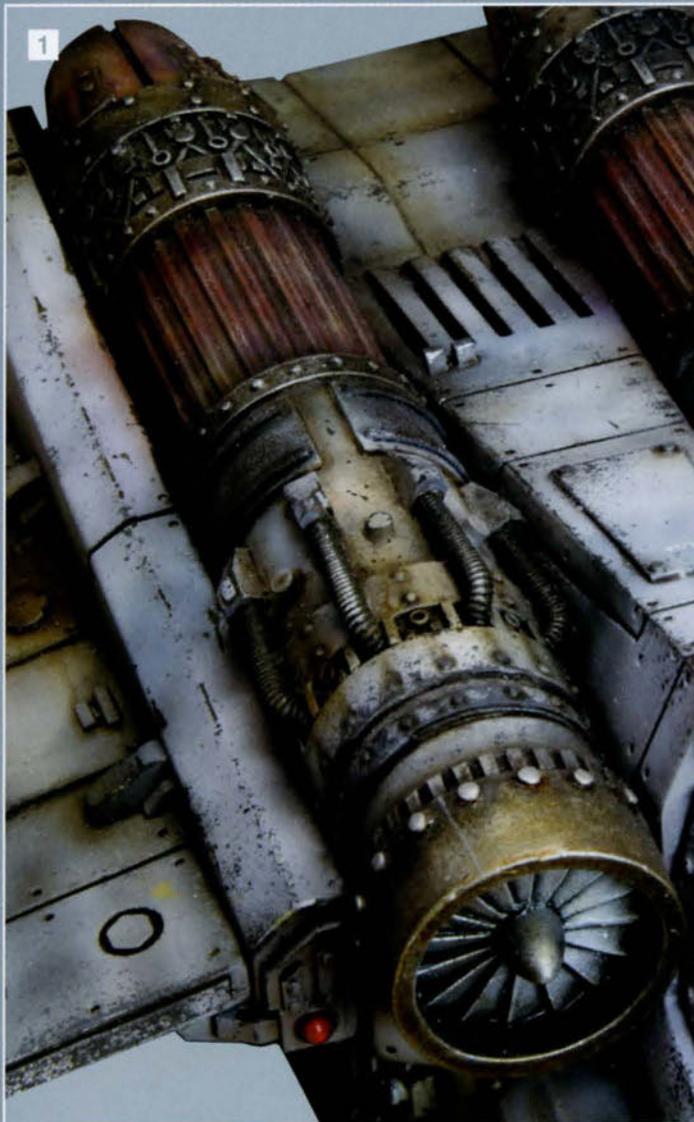
3 – The wings of an Imperial Eagle were airbrushed onto the Thunderbolt using a vinyl mask. To do this, an Imperial Eagle was enlarged on a photocopier, and used as a guide to create a stencil made from an adhesive vinyl sheet. Vinyl sheets are sold in art material shops as a masking frisk for airbrush work.



VALKYRIE

Aircraft 11 of the Typhan Orbital Interface Detachment, painted by Phil Stutcinskas.





1 – The engines were given a worn and weathered appearance. This was achieved by sponging on Codex Grey paint to represent chipped and flaking paintwork. Layers of Brown Ink thinned with Klear added depth and lustre to metal areas of the engine.

2 – The lascanon's muzzle was painted to have a heat scorched metal effect. This involved painting the muzzle with a base coat of Bronzed Flesh mixed with Desert Yellow. Over this base bands of colour were applied by airbrushing on thin layers of Red Ink, Purple Ink, Blue Ink and Black Ink to create spectrum-like bands of colour.

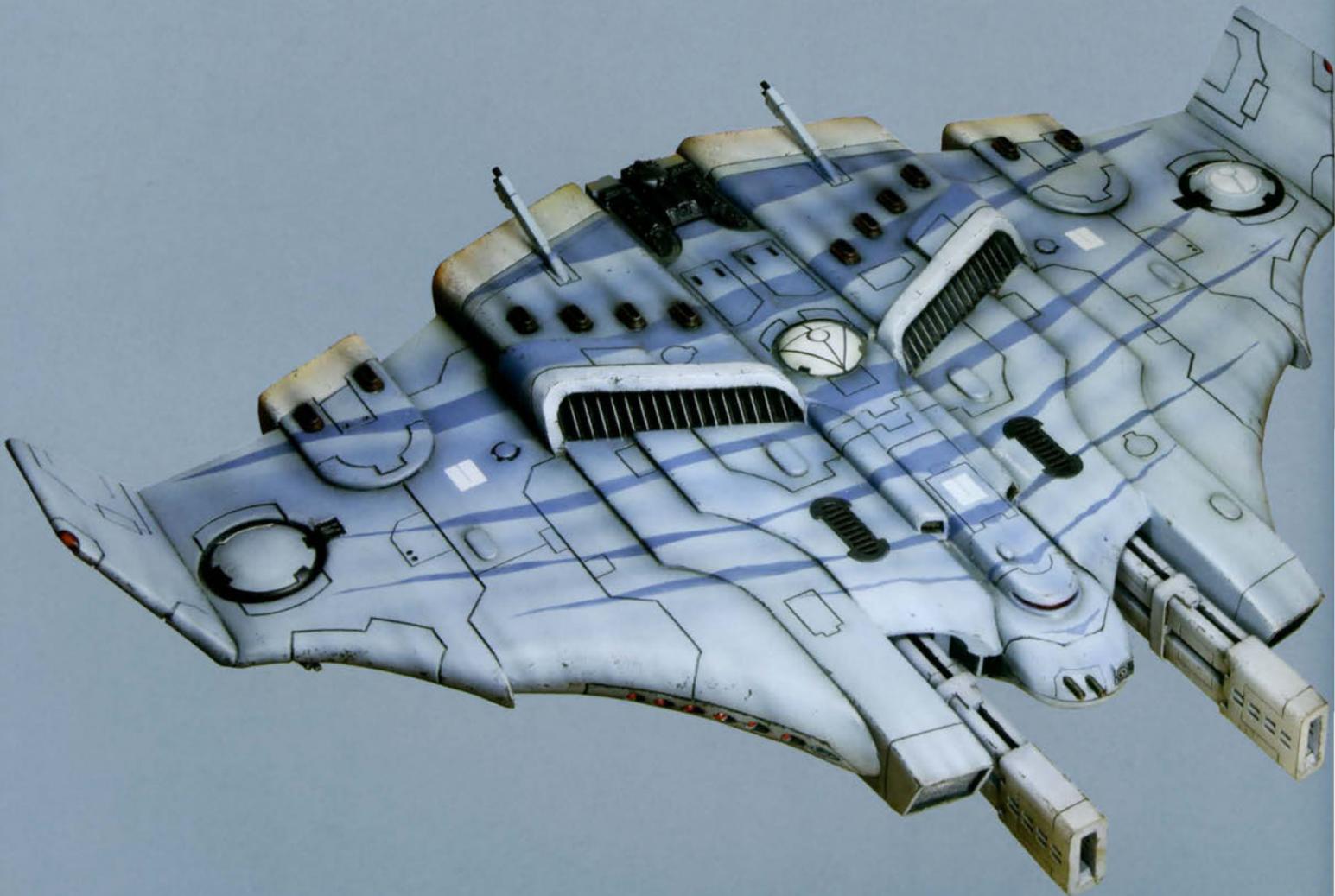
3 – Oil and grease staining was created by airbrushing on thin layers of Brown Ink.

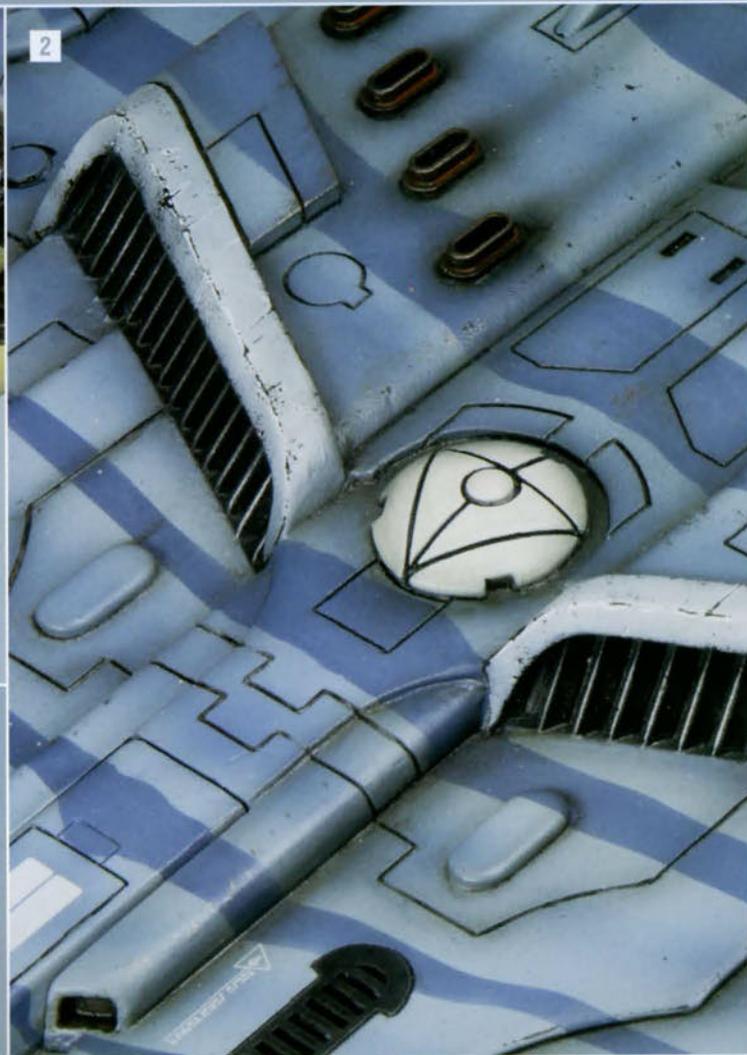
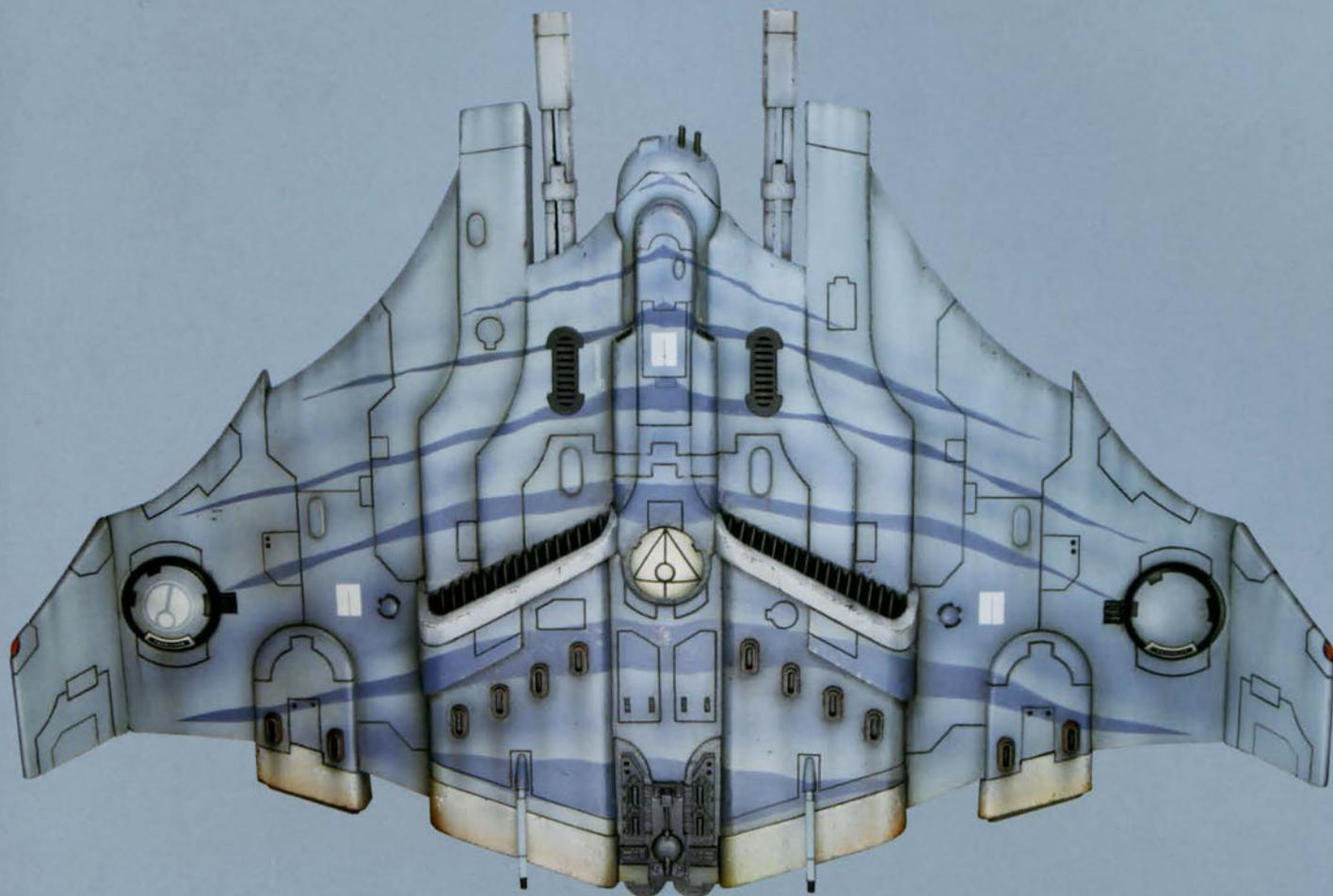
4 – A heavily chipped effect was created around the cockpit. The transfers were taken from the Forge World Imperial Guard transfer sheets, and to ensure a seamless finish they were sealed with a coat of Klear.



A TIGER SHARK AX-1-0

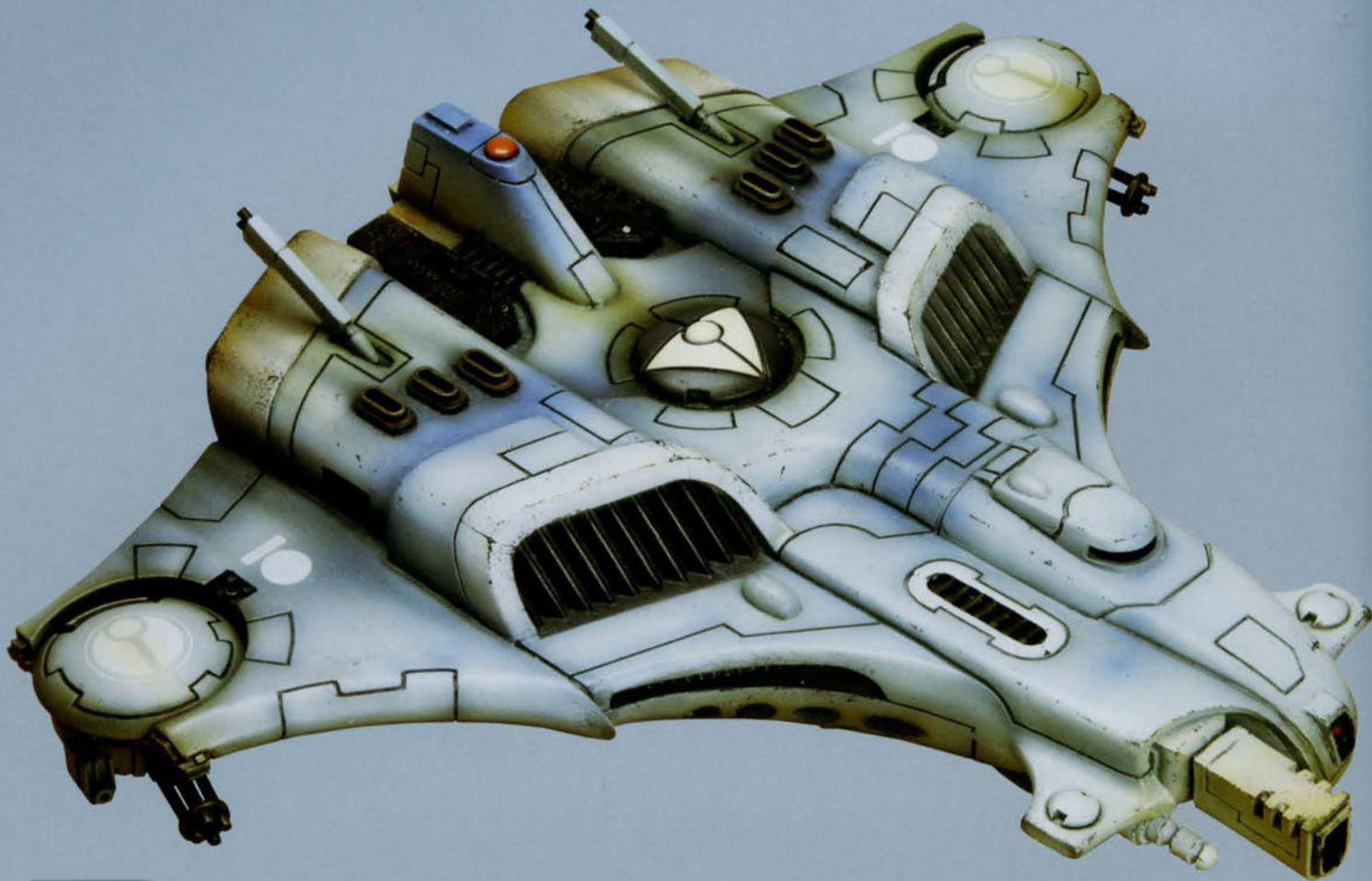
Painted by Phil Stutcinkas,
page 73 of Forge World's *Tactica
Aeronautica* book provided the colour
scheme for this Tiger Shark AX-1-0.





1 – The exhaust staining was created by airbrushing thinned layers of Bestial Brown, Blazing Orange and Chaos Black paint. These are best applied in very thin layers to produce soft and subtle gradations of colour.

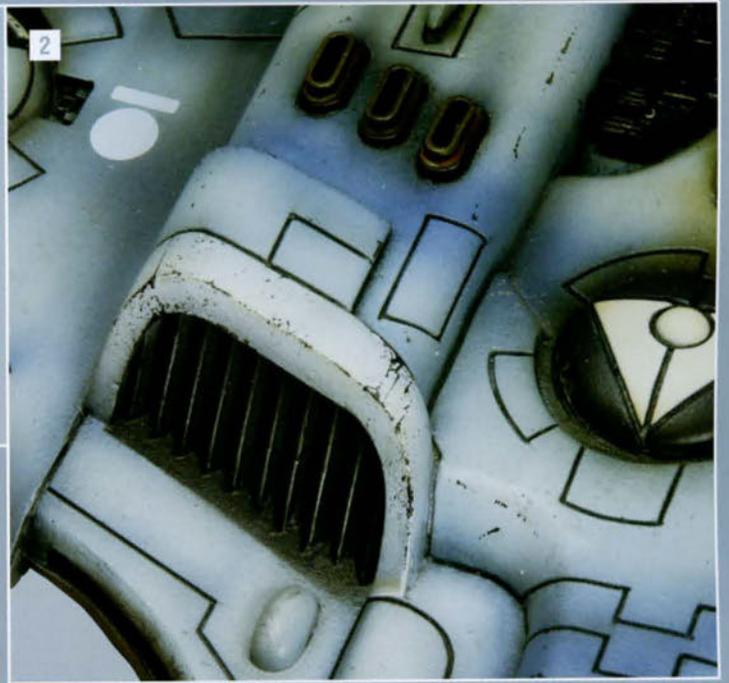
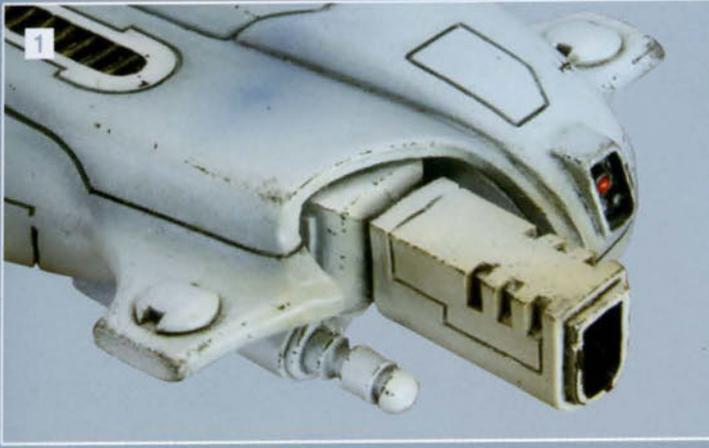
2 – The dark coloured panel lines were created using oil paint. The oil paint was applied over a glossed surface and then subsequently wiped off with a clean cloth moistened with a little white spirits. The effect produces a neat dark line of paint in the panel line.



בטו BARRACUDA

Phil Stutcinkas painted this Tau Barracuda for Forge World's *Tactica Aeronautica* book. The colour scheme is similar to that seen on Barracuda fighters of Air Cadre El Ao'rata.





1 – The chipped and weathered paintwork of the Barracuda was created by sponging Charadon Granite over the finished paint scheme. Thinned Graveyard Earth was then airbrushed over the Ion Cannon, creating some light staining.

2 – The intakes were given a chipped and weathered appearance with a mixture of sponged and brushed-on Charadon Granite paint. Sponging is a fast way of applying random paint chips. Applying paint chips by brush allows more control of the actual placing of them.



THE SIEGE OF VRAKS

SECTOR 577-449

Phil Stutcinkas and Mark Bedford build and paint a modular siege battlefield



Vraks was once a highly volcanic world, but became extinct millions of years ago. Now it is a sulphurous world, covered in layers of volcanic dust. Scourged by frequent and violent electrical storms it is bare, rocky and criss-crossed by dried lava flows and deep gorges.

After the long Siege of Vraks, the battlefields had become an artillery churned, battle-scarred wasteland, littered with the rusting hulks of destroyed vehicles and the abandoned or destroyed remnants of old defences.

This is Gate 57a; sector 577-449, where a secondary service road passes through the defences. The Citadel of Vraks is surrounded by a large

curtain wall, which is reinforced by an additional defensive wall, pillboxes and hidden minefields, designed to repulse a direct assault.

Opposite the gate are the forward trenches of the Krieg 291st Regiment. Heavily reinforced with their own heavy weapon bunkers and gun pits, this is the carefully constructed position from which a frontal assault upon the gate will eventually be made – but only after the defences have been subjected to a sustained destructive bombardment.

Between the two frontlines lies a desolate, fire-swept no-man's land, across which lies the remains of a dried lava flow.

THE PLAN

The Siege of Vraks board began its life as a 4' x 2' board. The original board was built to show how the trench systems would fit together and look for Games Day 2006. The plan now was for the battlefield to grow in size and when finished it would measure 12' x 4'. For ease of construction and transportation, the board was constructed as six 4' x 2' boards. The individual boards were made from a base of chipboard onto which a layer of polystyrene insulating board was glued. Insulating board is a great lightweight modelling material that can be purchased from builders merchants. It can easily be cut and carved, making it the ideal material for large terrain projects.

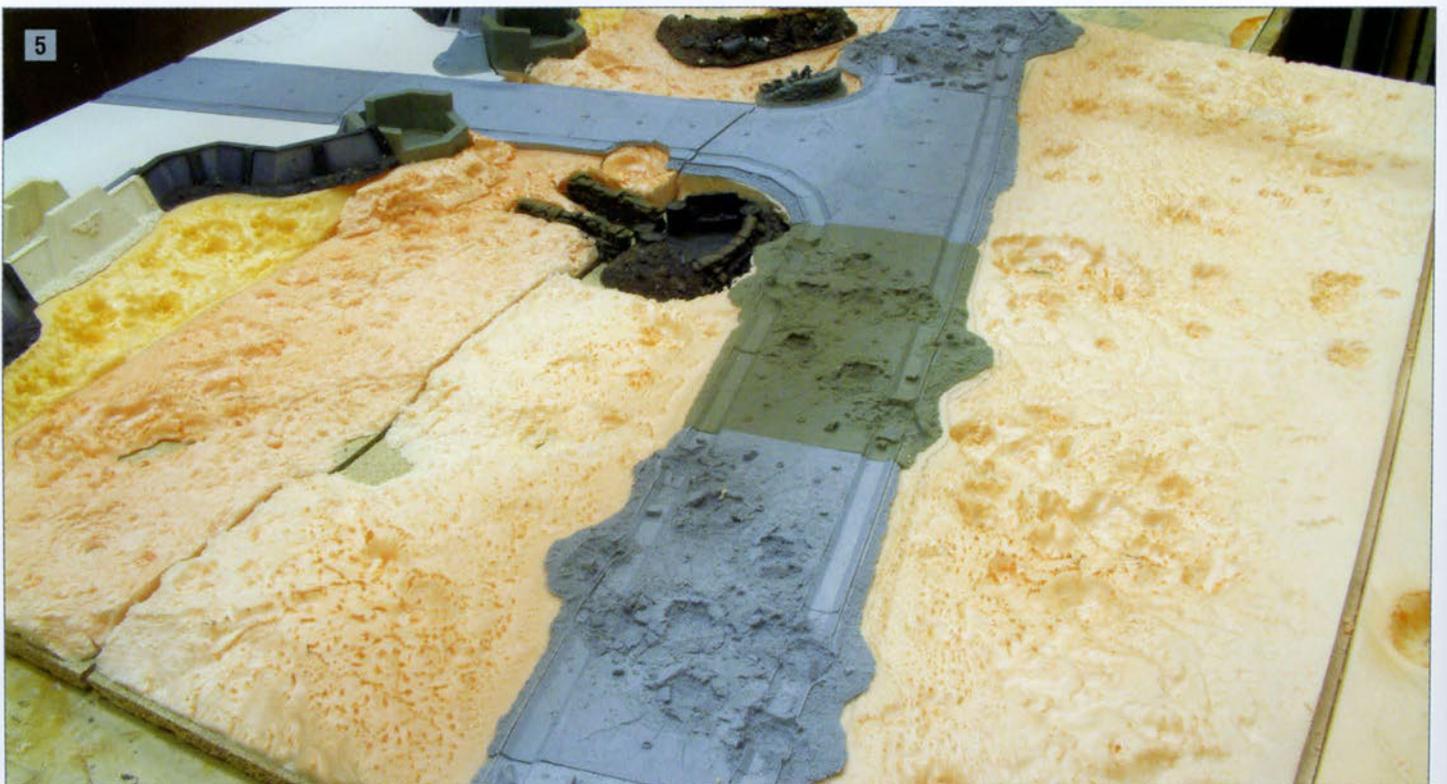
1, 2 & 3 – Before any construction began, the placement and composition of the resin terrain pieces such as roads and the defensive line were tested. To ensure a coherent look, all six boards were planned together. Once the final positions were chosen, they were marked onto the boards with marker pen. Extra features such as shell craters were also planned and drawn on. As the marked lines would disappear once carving began, a plan of the board was also copied onto a piece of paper. Photographs were also taken to ensure we knew where everything was meant to go.





SHAPING FOAM

- 1 – Before any paint was applied, the boards were cut, shaped, sculpted and melted!
- 2 – Raised areas of groundwork such as hills were created with extra pieces of insulating board. A hot glue gun was used to attach the hill to the base and any gaps were filled with expanding foam.
- 3 – A wire brush was used to shape areas of the insulating board, this tool also formed the texture of weathered rock in places.
- 4 – A soldering iron was used to melt cracks and fault lines into the boards. This should always be done in a well ventilated area incase of fumes.
- 5 – The area around the outer defence wall and roads have received a heavily bombed and cratered look. This was created using a grinding bit in a power drill. Holes were randomly ground out of the insulating board taking care to reproduce the natural pattern of shell strikes. Once all of the shell holes were added, the effect was consolidated with the use of a hot air gun. The hot air gun melted, sealed and smoothed the surface of the insulating board. Extreme caution should be used with a hot air gun to prevent burning yourself and the model.





FINISHING THE CONSTRUCTION

1, 2 & 3 – Once the basic shaping of the groundwork was finished, the surface was refined with the use of household filler. At this stage any gaps around resin terrain pieces were also filled. The filler was also used to blend and soften the edges of terrain features such as hills and shell craters. The application of household filler was purely to refine and finish the construction stage – it was not intended to add any surface texture.



TEXTURING THE GROUNDWORK

1 – A textured paint was made from masonry paint, sand, grit and small stones. This mix was painted onto the boards.
 2 – More sand and grit was then sprinkled over the still wet paint.
 3 – A mix of PVA and water was then sprayed over the groundwork with a pump action spray bottle. This coating of glue added a very durable gaming surface.
 4 & 5 – Twisted plastic girders and lengths of wire were pressed into the soft earth. Extra PVA glue was then used to secure them to the board.





FINAL DETAILS

1, 2 & 3 – The groundwork was now starting to take shape. The layers of textured paint and additional details were beginning to add a sense of scale and realism.

4 – The pipeline was made from copper tubing, available from any DIY store. The pipes were extensively damaged to fit the narrative of a prolonged siege. Several scratchbuilt couplings finished the piece.

5 – It is never too late to add or alter details. A shell impact was given some extra detail and definition prior to painting.

6 – The boards were then undercoated with Chaos Black spray. Several earth coloured sprays purchased from a local hobby store were used to block out the basic earth colours of the battlefield. This was done outside and a mask was worn to minimise inhalation of paint fumes.



PAINTING

1 – A variety of thinned washes made of Graveyard Earth, Desert Yellow, Bestial Brown and Catachan Green were painted roughly onto the earth. The goal was to create realistic earth tones so the greater the variety of colours used at this stage, the better the result would be.

2 – While still wet, the different washes were mixed and blended together. To help with the blending process and to stop the washes from drying too soon, water was sprayed onto the boards using a pump action spray.

3 – Again, it is never too late to add or alter details. Slabs of broken and smashed rock were then added to the battlefield. Textured paint and additional sand was used to blend the rock into the battlefield prior to painting.

4 – The pipes were first sprayed Dark Flesh, and when dry they then received a layer of gloss varnish.

5 – Hairspray was then sprayed onto the pipes. While the hairspray was still wet, sand was then sprinkled over the pipes. Once the hairspray had dried, the pipes were then sprayed with Codex Grey. Because of the layer of hairspray, both the sand and grey paint were easily loosened with warm water and a brush, exposing the rust colour below.

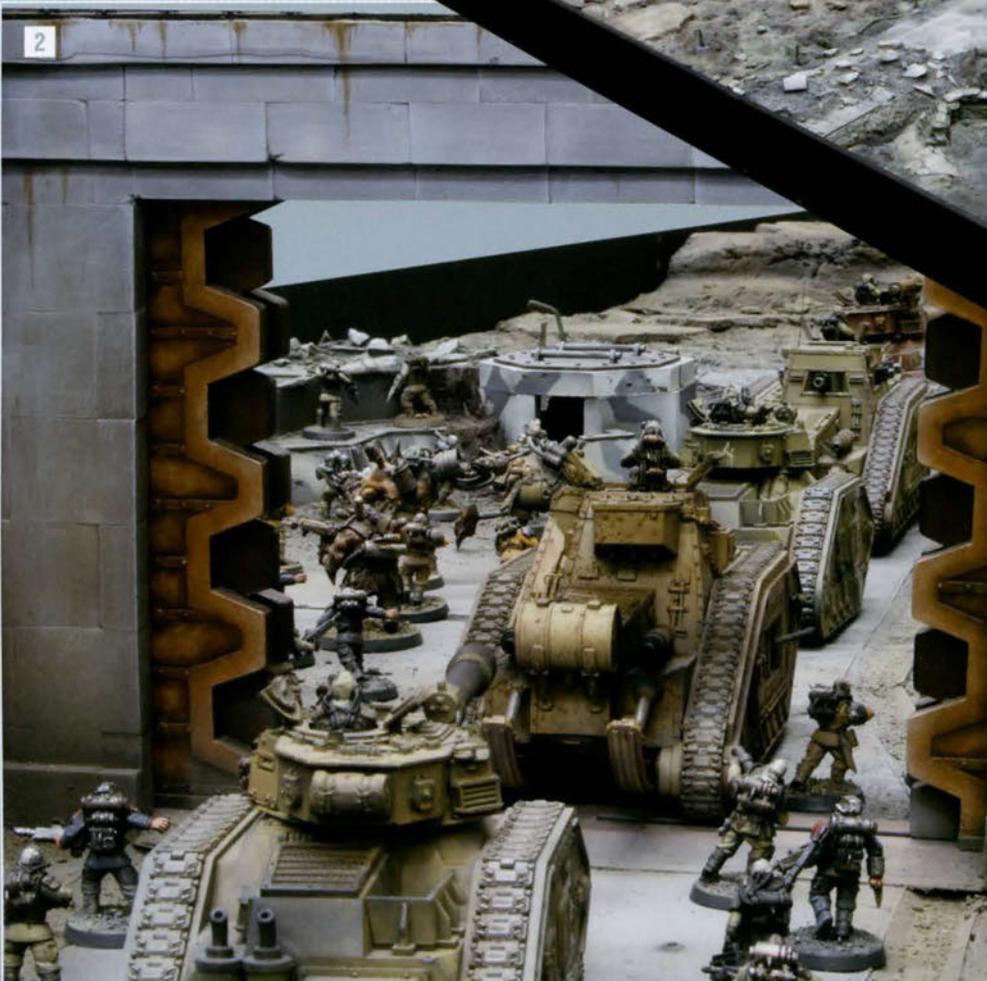


6 – Masking tape and an airbrush were used to add a disruptive camouflage scheme to the defensive line. The shell craters were then airbrushed with a mix of Graveyard Earth and Chaos Black to represent scorched earth. The additional slabs of rock were airbrushed with mixes of Graveyard Earth and Kommando Khaki, blending them into the battlefield.

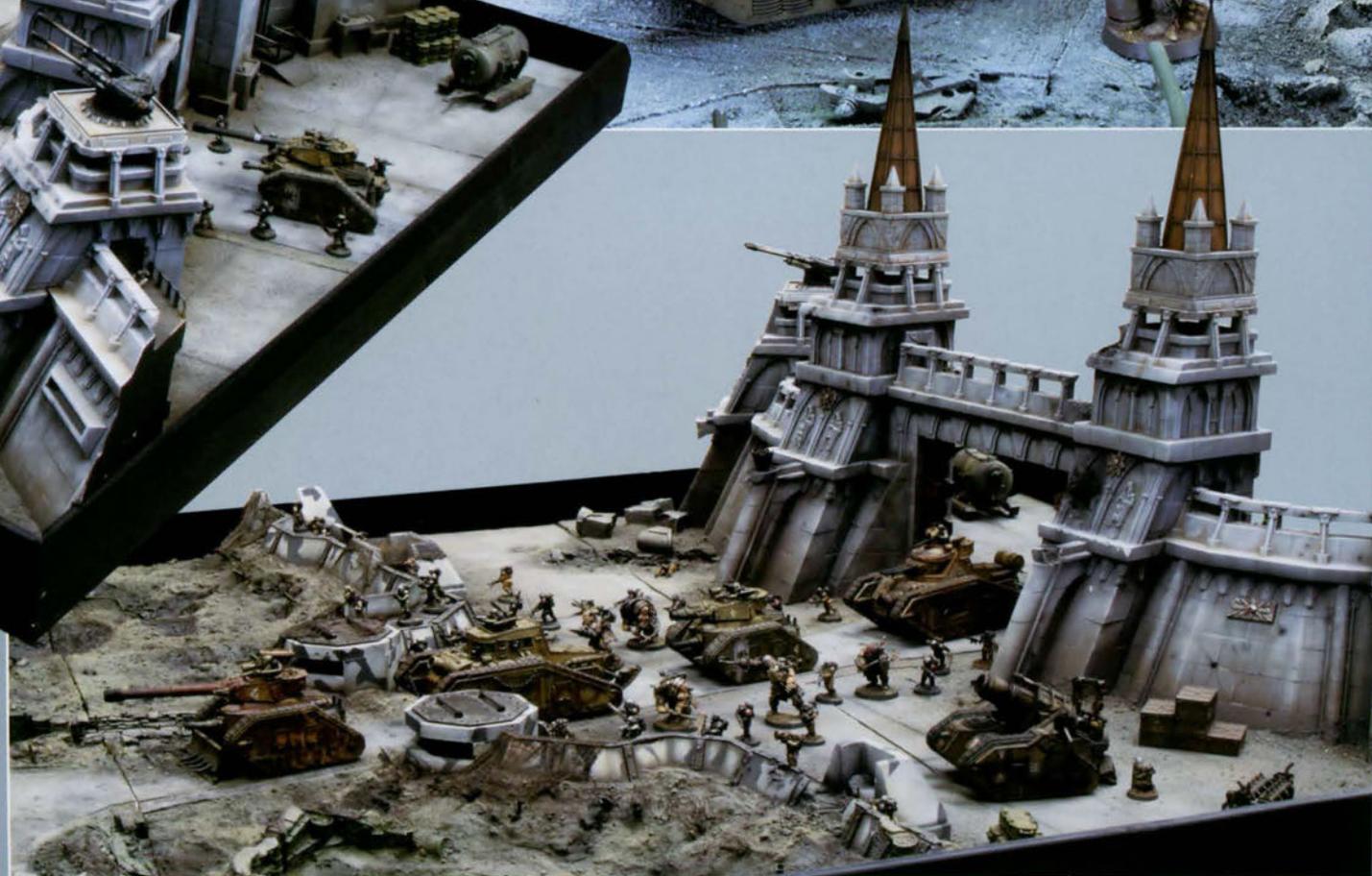


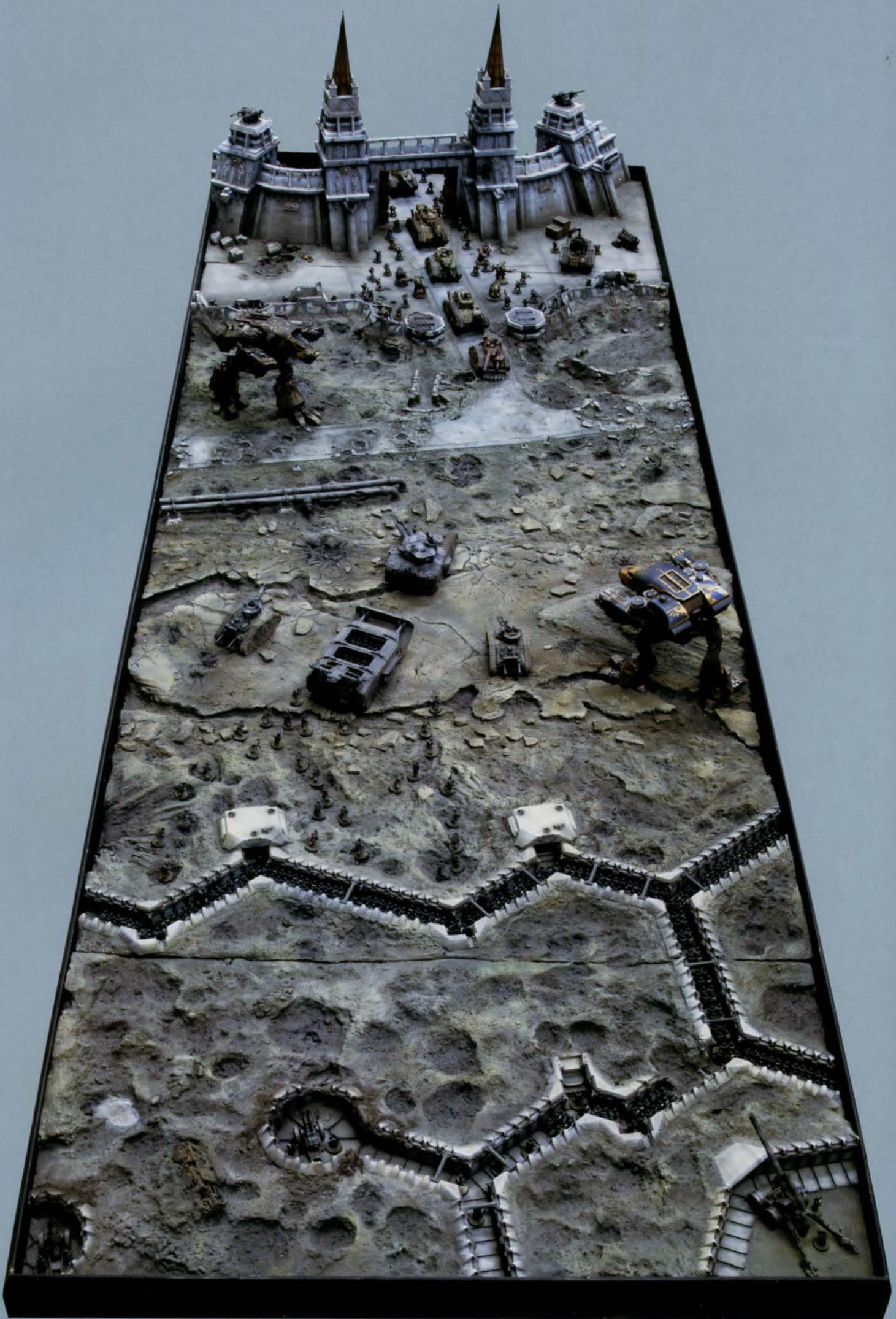
1 – This Chaos Leman Russ Vanquisher has been given a roughly applied coat of Terracotta paint. This has been chipped and weathered using the hairspray technique featured on page 26. The Chaos graffiti was added with an airbrush.

2 & 3 – The Chaos Militia tanks were painted in various shades of tan and light brown. The weathering and chipping on them is quite heavy to depict older, more well-used vehicles.



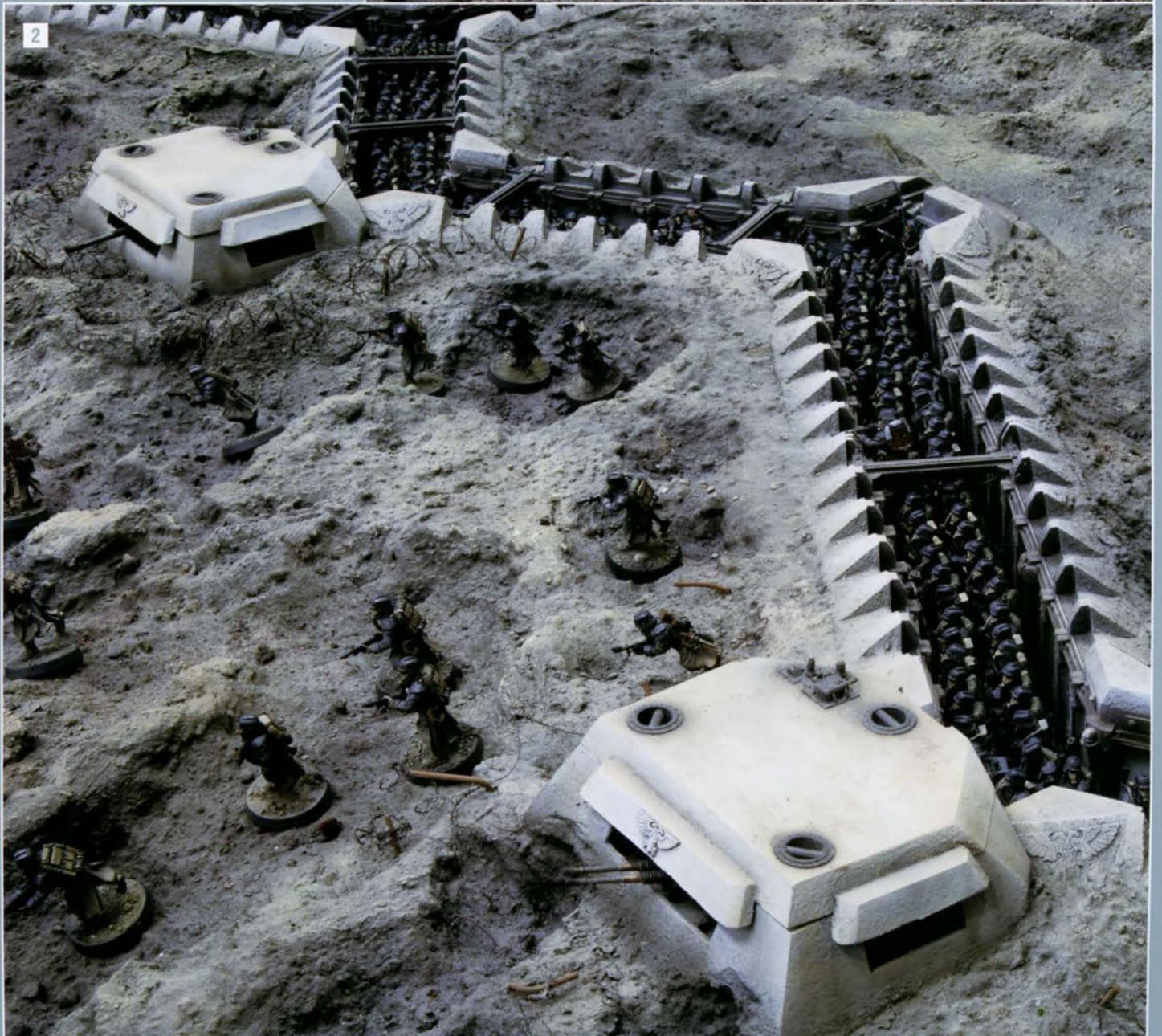
4 – The Bombard displays a combination of markings. The Chaos number was airbrushed on free hand. The white stripe was airbrushed using masking tape to produce the sharp edges. The partial Chaos star was hand painted using Chaos Black. Finally the small Chaos star is a Forge World etched brass item. The gun was given an oily and greasy finish to represent a well-used piece of machinery. After base coating the metal areas with Boltgun Metal, they received drybrushed highlights of Chainmail and Mithril Silver. The metal areas were then enriched and deepened with washes of thinned Brown Ink. The use of Brown Ink and Klear produces a convincing look of oil and grease.





1 – The camouflage netting was made from medical gauze bandage. This was coloured with some Green Ink and Brown Ink. The netting was then fixed in place with thinned down PVA wood glue.

2 – Painting the massed ranks of Death Korps took a great deal of time and effort. The job was made much easier though by gluing the figures into blocks of ten and airbrushing the base uniform colours. All of the details and equipment were then painted by hand.

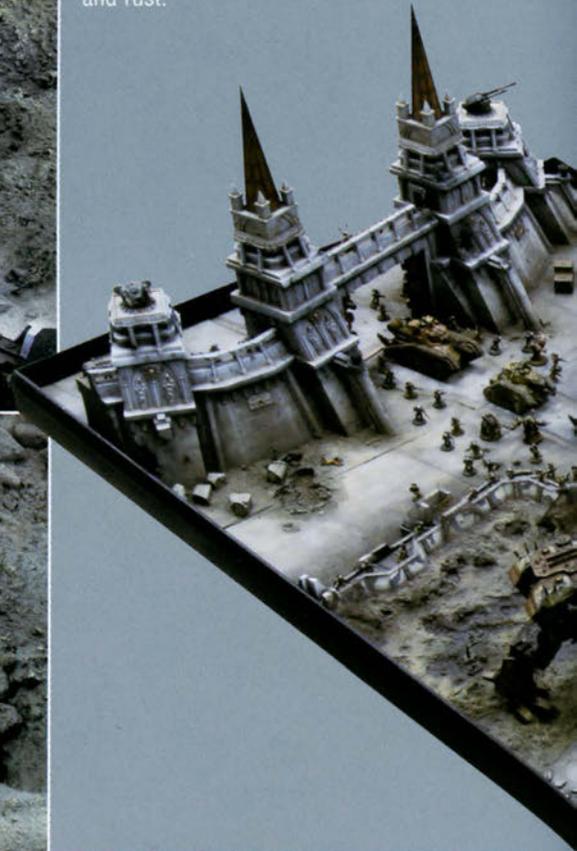




1 – The Krieg guardsmen stand ready, waiting for the order to advance.

2 – The barbed wire adds more detail to the battlefield. An example of how to use barbed wire can be found on page 77.

3 – The destroyed vehicle was made from various kits. It was textured and painted to depict a burned and rusted hulk. Weathering powders will greatly help in the creation of dirt and rust.



4 & 5 – The dust and dirt streaking on the Death Korps vehicles was applied with an airbrush. To achieve a fine and thin application, the paint was thinned down much more than usual and then built up slowly in multiple passes with the airbrush. By using the same Graveyard Earth colour scheme that was used on the groundwork, a natural consistency can be achieved between the base and vehicles.





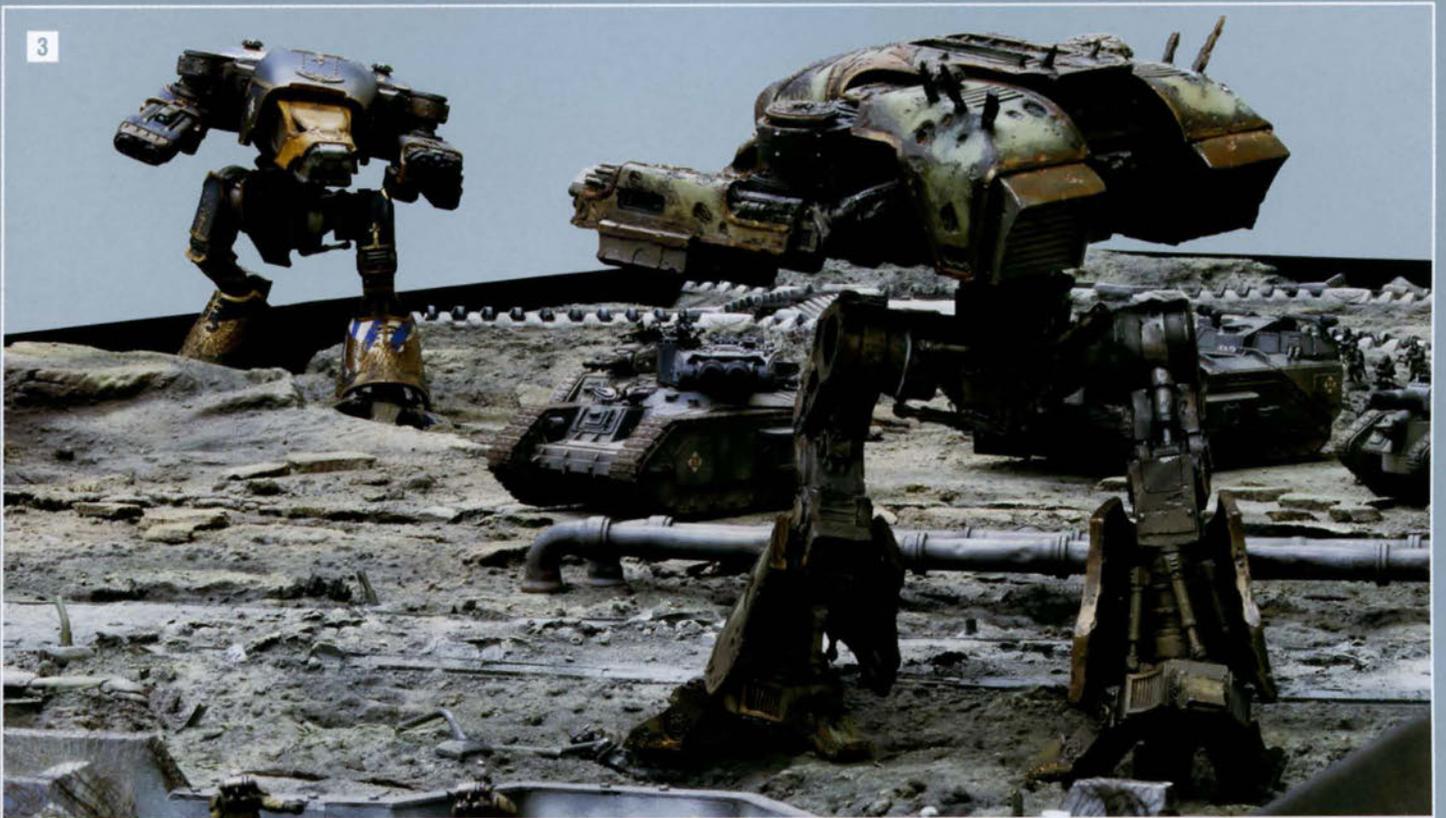
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2

1 & 2 – The Warhound Titan's bold colour scheme was given a more weathered feel with the application of a few thin coats of airbrushed Graveyard Earth. This was more concentrated on the lower portions of the model.

3 & 4 – The Chaos Warhound was given a much more weathered paint scheme achieved using the hairspray technique (page 26) to show different layers and colours of paint. Again the lower portions were airbrushed with Graveyard Earth to blend the model into its surroundings. The model received a few washes of thinned oil paint to weather and add depth to the base paint work.



Phil started modelling at an early age with plastic kits of dinosaurs and monsters from Airfix and Aurora. He moved on to Citadel metal miniatures when they first appeared on the market in the early 1980s. In the late 80s he took up WW2 military modelling. He has won many competitions with his models, culminating in the prestigious Best of Show Award at Euro Militaire 2006, but he came home to fantasy miniatures in 2007. He is now working on a Red Scorpions Space Marine army.

Phil's other hobbies include bird-watching and BMX riding (but not at the same time!).

"Don't be afraid to try something new in your painting in terms of both style and technique. Experimentation is a fun and rewarding aspect of model painting. The real key to producing good models though is practice, lots of it... get building and painting those models!"

Phil



Everyone needs a hobby. Phil likes to travel around the world finding rare tanks to photograph.

Mark has been working for Games Workshop for over 11 years now and in this time he has worked for the Design Studio, Fanatic and now resides in the Forge World studio as a model designer.

He enjoys all aspects of the wargaming hobby, from painting and converting to playing and has been doing so for the past 26 years. He has won several trophies in the Golden Demon painting competition and always has several projects on the go, including increasing the size of his 40K Ork army and painting a large 'Army of the Imperium' which includes Imperial Guard, Space Marines, Imperial Navy and perhaps (eventually) the odd Titan or two. He's currently working on ideas for future Model Masterclass volumes.

If you plan to build a diorama yourself, Mark has a few top tips you may find useful:

"Composition – I try to make the diorama look pleasing from all angles. Take time to place the models in various positions using blu-tac to hold them in place and mock up the scene you wish to create. Think of the diorama as a picture, try to tell a story with the models."

"Base size – Try not to make the base overly large for the scene. You don't want to spend hours of modelling time creating vast areas with nothing much actually in it."

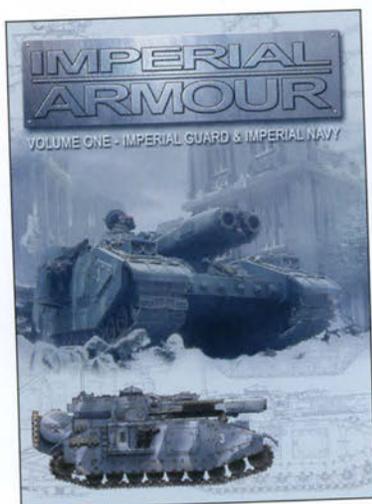
"Focal point – This can either be a point on the diorama base where all the action is happening or off the base where all the figures are looking."

"Vehicles/Figures – If you are fantastic at painting vehicles and okay with figures, don't be tempted to build a diorama with both on, play to your strengths. You need to compliment your skills not show your weaknesses."



Mark hard at work, painting!

IMPERIAL ARMOUR



VOLUME ONE – IMPERIAL GUARD & IMPERIAL NAVY

This 288-page hardback book provides detailed information on the war engines and weapons of the 41st Millennium. From Leman Russ battle tanks, Chimera armoured carriers and Basilisk self-propelled artillery, to Tarantula sentry guns, Thunderbolt fighter aircraft and super-heavy tanks like the Baneblade and Shadowword, this book describes them all in superb detail. It contains information, in exacting detail, on 32 vehicles, weapons and aircraft.

Heavily illustrated with over 120 colour and black and white pictures, 200 full-colour vehicle profiles, over 120 technical drawings, plus organisation charts, combat formations, battle reports and tactics, to add depth and character to the Warhammer 40,000 universe.

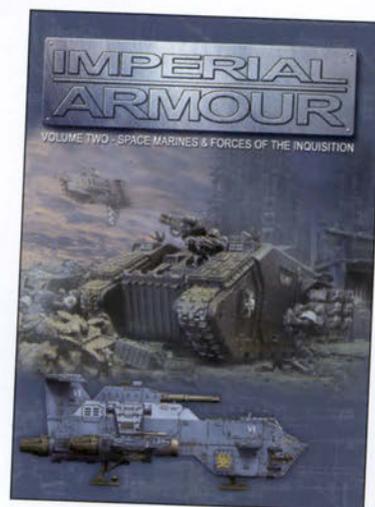
In addition to all this, there is a new army list for Imperial Guard Armoured Battlegroups, background and rules for variable ammunition types and rules for four of the Imperial Guard's most famous tank aces.

VOLUME TWO – SPACE MARINES & FORCES OF THE INQUISITION

This book provides detailed information on the war engines and weapons of the 41st Millennium. From Land Raider battle tanks, Rhino armoured personnel carriers and Whirlwind missile launchers, to Tarantula sentry guns, Dreadnought armour and Super-heavy aircraft, like the Thunderhawk gunship, this book describes them all in superb detail.

It contains information, in exacting detail, on 30 vehicles, weapons and aircraft. There is background, interior details, technical specifications, illustrations, colour schemes and rules for using all these vehicles in games of Warhammer 40,000.

Heavily illustrated with 100 colour and black and white pictures, 150 full-colour vehicle profiles, over 130 technical drawings, plus organisation charts, tactics and combat formations to add new depth and character to the Warhammer 40,000 universe.



VOLUME THREE – THE TAROS CAMPAIGN

When the Imperium discovers that the Planetary Governor of Taros has been illicitly trading with the alien Tau Empire, selling valuable mineral resources, the Imperium are forced to remove the traitor. The Tau respond in force, and the desert mining world of Taros plunges into war. This book details the history of that war, the units involved, the strategies employed and the battles won and lost.

This 320 page hardback book provides information on Tau vehicles, aircraft, their allies and the Tau fleet. Also covered are new fighting machines of the Imperium. There is background, interior details, technical specifications, illustrations, colour schemes and rules for using all these vehicles and aircraft in games of Warhammer 40,000. Heavily Illustrated with 120 colour and black and white pictures, 110 full-colour vehicle profiles, over 80 technical drawings, plus organisation charts, tactics and scenarios to add new depth to the Warhammer 40,000 universe.

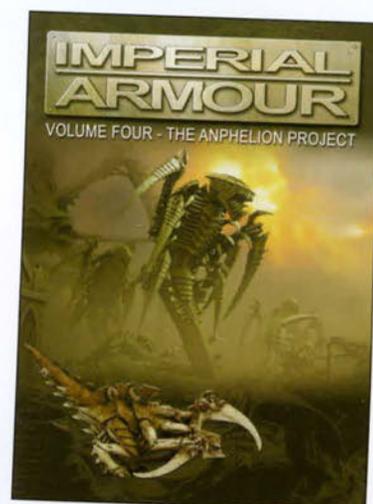
All of these books contain more background and vehicle colour schemes.

IMPERIAL ARMOUR™

VOLUME FOUR – THE ANPHELION PROJECT

When Ordo Xenos Inquisitor Solomon Lok receives orders to investigate the loss of astropathic communications from a moon in the Anphelion system, he begins a journey into darkness, horror and treachery. Assisted by Space Marines of the Red Scorpions Chapter, Elysian Drop Troops of Special Detachment D-99 and Cadian Guardsmen of 266th regiment, Lok's forces are faced by mist-enshrouded swamps and a deserted laboratory facility. They set about discovering the secrets within. Unknown to the Imperium's forces they are not alone. Soon Lok and his men encounter the horror of the laboratory's escaped subjects – the Tyranids. Amongst the ammonia-swamps of Beta Anphelion IV, and along the corridors of the Anphelion base, Lok must fight to recover the lab's secret data and escape before being overrun by the Tyranids lurking outside.

Inside this book you'll find information on new Tyranid creatures spawned by the Hive Mind. Also covered are new fighting machines of the Imperium. There is also an army list for the Elysian Drop Troop veterans of Detachment D-99, new background and rules for the Red Scorpions Space Marine Chapter and details of Inquisitor Lok and his retinue.

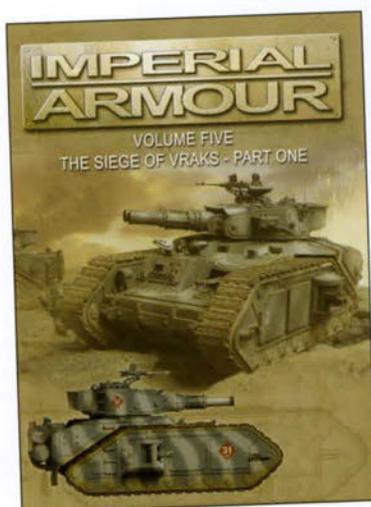


VOLUME FIVE – THE SEIGE OF VRAKS – PART ONE

Treachery and heresy have taken hold on the armoury world of Vraks. Once an impregnable fortress, surrounded by miles of defence lines, the Citadel of Vraks has fallen into the hands of the renegade forces of Apostate Cardinal Xaphan, along with Vraks' vast stockpiles of war supplies.

Inside you'll find, in exacting detail, information on the Death Korps of Krieg, including their vehicles, weapons and organisation, and the background of these grim, fiercely loyal soldiers of the Imperial Guard. Also covered are those forces of the Dark Angels Space Marine Chapter deployed on Vraks.

This book is heavily illustrated with over 50 colour and black & white pictures, 70 full colour vehicle profiles, 25 technical drawings, plus organisation charts and scenarios to add new depth to the Warhammer 40,000 universe. There are also army lists for the Death Korps of Krieg Siege regiments and the Renegade and Heretic defenders of Vraks in Warhammer 40,000. Also included is a large campaign map poster.

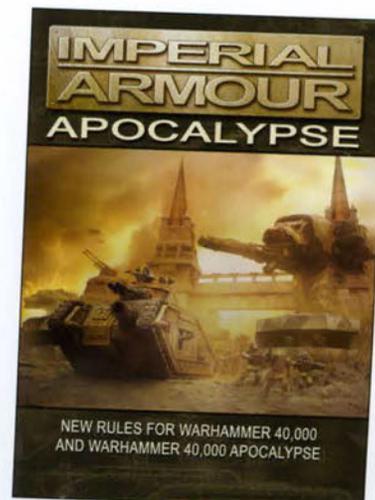


IMPERIAL ARMOUR – APOCALYPSE

This rules guide is packed with over 60 new legendary unit datasheets for Warhammer 40,000 Apocalypse; from Imperial Guard super-heavy tanks like the Shadowsword, Macharius and Malcador, to the awesome power of the Chaos Warhound Titan and the mighty Daemon-Lords, as well as gargantuan Tyranid creatures like the Scythed Heirodole and Trygon.

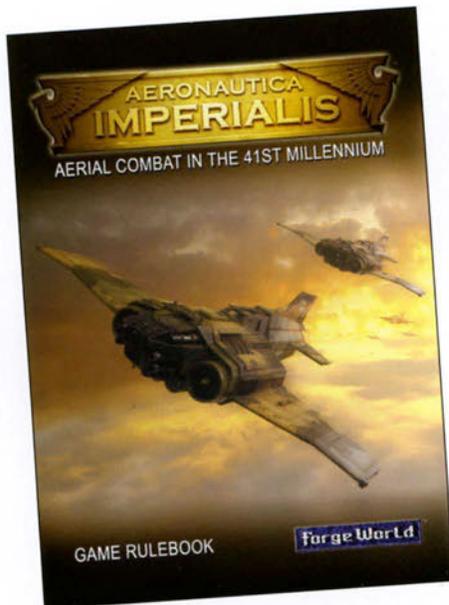
There are also 25 new battle formations, including all the races, from the Space Marine 'Strike Eagle' Drop Pod Assault, Eldar Guardian Serpent Rider Host, Winged Tyranid Swarm and Tau Pathfinder Search & Destroy Cadre to the Necron Undying Legion and Daemon Engine Coven.

Within the book you will find the latest rules you'll need to include Imperial Armour models in your games of Warhammer 40,000 and Warhammer 40,000 Apocalypse.



All of these books contain more background and vehicle colour schemes.

AERONAUTICA IMPERIALIS™



THE GAME OF AERIAL COMBAT IN THE 41st MILLENNIUM

In the dark future of the 41st Millennium, Mankind must fight for survival in a hostile galaxy full of dangerous alien threats. The galaxy spanning Imperium of Man is the greatest empire in human history, but it must battle for its very existence. Wars rage across every planet in the Imperium, by land and now – in the skies, as the Imperial Navy, the Aeronautica Imperialis, joins the battle for Mankind's survival.

Aeronautica Imperialis is a tabletop wargame for two or more players where you command the aircraft of the Imperial Navy or one of its many alien enemies. This book provides you with all the rules you need to play, and guides you through collecting and painting your own squadrons of Forge World miniatures.

TACTICA AERONAUTICA A SUPPLEMENT FOR AERONAUTICA IMPERIALIS

Inside you'll find new and expanded rules for Aeronautica Imperialis, including aircraft upgrades for all races, expanded squadron lists and guidance for designing and building ground installations.

Detailed background and colour profiles are provided for seven new aircraft. You'll find the Imperium's Marauder Colossus and Marauder Vigilant, brutal Ork Bombers and Blasta Bombers, Tau Empire Remora drone fighters and the Tigershark AX-2-2, and the huge and powerful Chaos Harbinger heavy bomber.

Details of the Typha-IV campaign are provided, including background, a campaign system and historical scenarios. You'll also find hobby articles, a battle report, rules questions and answers, tactics articles and designer's notes.



For more information visit Forge World's website at:
www.forgeworld.co.uk

IMPERIAL ARMOUR

MODEL MASTERCLASS

VOLUME ONE

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

Whether you are building and painting a centre piece model for your army or constructing a detailed diorama for display, this book is packed with innovative techniques for construction and painting to help you create stunning models. All the techniques are demonstrated in step-by-step detail in extensive construction and painting sections that range from painting tanks to constructing a diorama, to building wargaming scenery and terrain.

Inside you'll find construction and painting articles on the following:

Renegade Medusa
Cadian Stormsword
Krieg Macharius
'D-Battery, 45th Artillery Company'
diorama
Typha IV Imperial airbase
Siege of Vraks 'Sector 577-449'
terrain boards

And detailed galleries of:

Krieg Macharius Vanquisher
'Marching to the Front' diorama
Krieg Malcador diorama
Marauder Destroyer
Marauder Bomber
Valkyrie
Thunderbolt
Tau Barracuda
Tau Tiger Shark AX-1-0

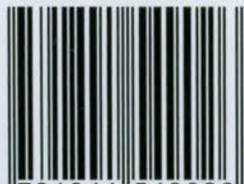
As a Masterclass this book assumes a certain degree of knowledge in model construction and painting. This book does not cover the basic techniques but demonstrates advanced techniques that will require some degree of skill and experience in order to get the best results.

www.forgeworld.co.uk

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