



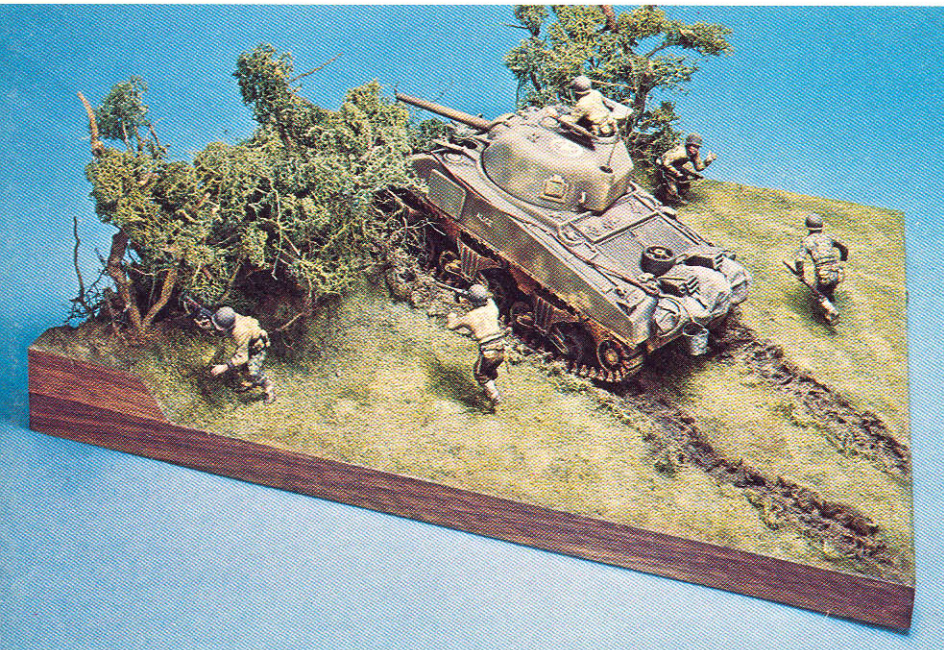
SHERMAN M4A3

Diorama created by Sheperd Paine

TIPS ON BUILDING DIORAMAS

ABOVE — In this action-packed diorama, an American M4A3 Sherman breaches yet another enemy-held hedgerow during the allied offensive west of Normandy. Following the initial landings, the numerous hedgerows of northern France seriously hindered the advance of allied armor. Ingenious ordnance personnel improvised devastatingly effective hedgerow cutters from salvaged German underwater obstacles. The Waffen SS machine gunner slain by the supporting infantry unit, was but one of thousands that perished during the savage fighting. Note his tripod-mounted model 34 machine gun that was no match for the marauding Sherman.

BELOW — Though it will require patience and planning, the diorama shown is well within the abilities of most modelers. To create the fox holes and surrounding uneven ground, bore 1" diameter holes of varying depths. The ridge that forms the hedgerow, or "bocage," is created with various size wood blocks covered with Celluclay. Note that walnut veneer strips, available at most lumber yards, were used to cover the exposed edges of the diorama base.



The making of dioramas has become a popular way to display models. Mounting your vehicle and figures (or even without figures) on a landscaped base provides a setting for the model that adds enormously to the interest. The Monogram Kit represents a vehicle in mint condition, as issued. Rather than finish it with a factory fresh coat of paint as though it had just come off the production line, why not try your hand at making a diorama for greater realism.

PLANNING YOUR DIORAMA

The first step, even before you begin the assembly of the vehicle, is to plan your setting. You can duplicate the scene shown, or create your own. There are many books on the market today with pictures of vehicles as they looked in combat. A good source is your local library. Even the smallest library is likely to have histories of local combat divisions which are excellent source material. The pictures were often taken by G.I.'s themselves. Color photos if available are very helpful.

Imagination is the key ingredient in any diorama. A good imaginative idea does not necessarily need a slick and professional looking execution to be successful; even the average modeler can easily pull it off. On the other hand, don't try anything too elaborate, especially at first. Find out what your limitations are, then work within them.

BUILDING DIORAMAS

Once you have decided what you want to do, the next step is to take the vehicle and whatever figures you decide upon, and plan out what space you will need for a base. As much of the model as possible should be put together as is convenient for painting. Torn or bent fenders and skirts and shell or bullet holes should be made before the pieces are assembled. Any parts which would make it impossible to reach around with a paint brush should be merely fitted or tacked in place for easy removal prior to actual painting and final assembly. You want a complete model so you can fit the terrain to it. Additional accessories such as bundles of camouflage netting, tarpaulins, ammo boxes, etc., can be made, painted, and attached in the final stages of assembly.

Look for a base. Plaques sold for decoupage work are ideal, but ordinary plywood will do quite nicely and can be cut to the exact size and shape you want. Allow room for a border of about 3/4 inch all the way around it. Remember that the base is the frame for your "picture," and that while a sloppy base can make a good diorama look bad a really classy-looking base can make a not-so-good job look pretty sharp. Varnish or shellac your base to keep it from warping when applying groundwork, and to give it a nice appearance. Even plywood, nicely sanded and varnished can look quite attractive.

For your basic ground work use a slow drying plaster or other landscape material. A material called Celluclay is ideal, and available at many art supply stores. You can use masking tape to keep the border of your base clean and give a crisp edge. For exceptionally uneven ground, build up underneath with blocks. You can score the base lightly with a knife to give the plaster something to stick to. Then seal the base with shellac or varnish.

While the ground material is still wet, sprinkle it with sand and small pebbles. The kind found in the street is best. Next make footprints, tire and tank tracks. Unravelling hemp rope makes excellent grass, and should be stuck into the plaster while it is still wet. As it is difficult to paint the ground in the middle of a clump of grass, you might want to dye the plaster before applying it — use food coloring. Sawdust can also be used for short grass. Paint your ground after it has dried thoroughly. For best appearance keep your ground distinctly yellowish but slightly green and your grass slightly brown. Avoid reddish browns because they don't look right.

ADDED EQUIPMENT — MINOR CONVERSIONS

A fighting vehicle served not only as transportation but also as a home for the men who rode it, and had to carry all of their personal belongings as well. Men in combat liked to "pick up" extra equipment, both civilian and military, along the way, to add to their firepower or simply make life more comfortable. Extra tires, ammunition, guns, tents, blankets, and even whole vehicles, including tanks, were the rule rather than the exception. "Grass was always greener" and the men liked to use enemy equipment.

Blanket and tent rolls can be made by folding and rolling moist facial tissue and tying tight with thread. Paint when dry and attach to a painted surface with white glue. Use plastic cement when gluing to unpainted plastic, or you can scrape away paint from areas where the cement will be applied. Plastic cement does not hold well to paint. In the same way, rolled camouflage nets can be made using cheesecloth. Ammo boxes and extra

stowage bins can be made with blocks of wood (bass or balsa), index card or sheet plastic, available in many hobby shops. Sheet styrene plastic can be cut by scribing or cutting once along the desired line and then bending and snapping it. Open boxes, cases and lids can be made with sheet bass or balsa, or sheet plastic. Assemble these like real boxes.

Sections of plastic sprue from the kit can be heated until soft over a candle and stretched to various thicknesses to make longer and thinner radio aerials, gun cleaning rods, etc. Immediately after stretching the plastic, and while it is still soft it can be bent over pencils or blocks of wood of different sizes to make extra grab handles or other curved pieces. Cut off the excess and glue in place. The thickness of the stretched sprue is determined by how long you allow it to cool after removing it from the candle before stretching it. This can be as long as 15 seconds. It's kind of like blowing glass.

WEATHERING

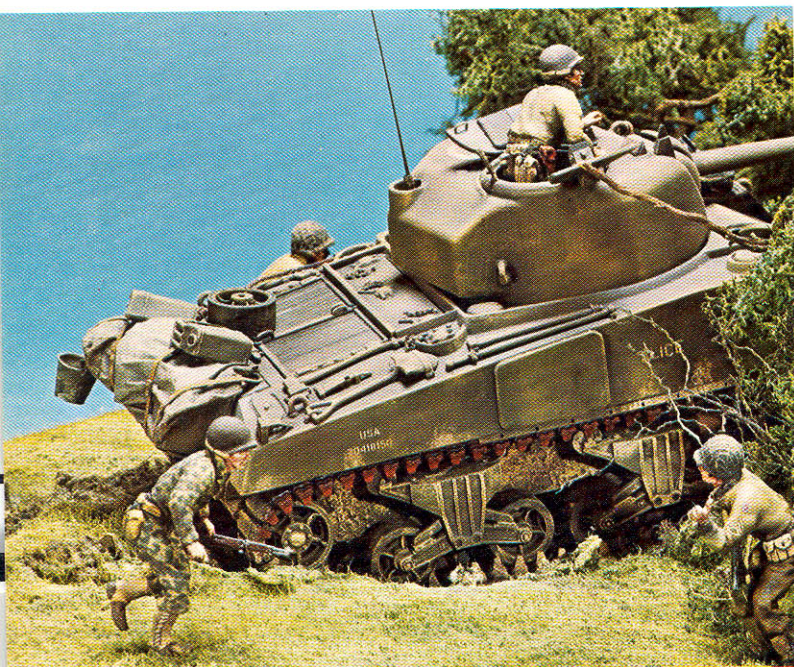
Assembling the vehicle is only the beginning. You should spend at least as long painting it as you do putting it together. Flat paints should be used. These should be oil base paints or paints for styrene plastic.

Vehicles in combat take a terrific beating, and the men rarely have time to clean them off. Fenders get bent or even torn off completely, paint fades and chips, lights and grab handles are bent or broken off.

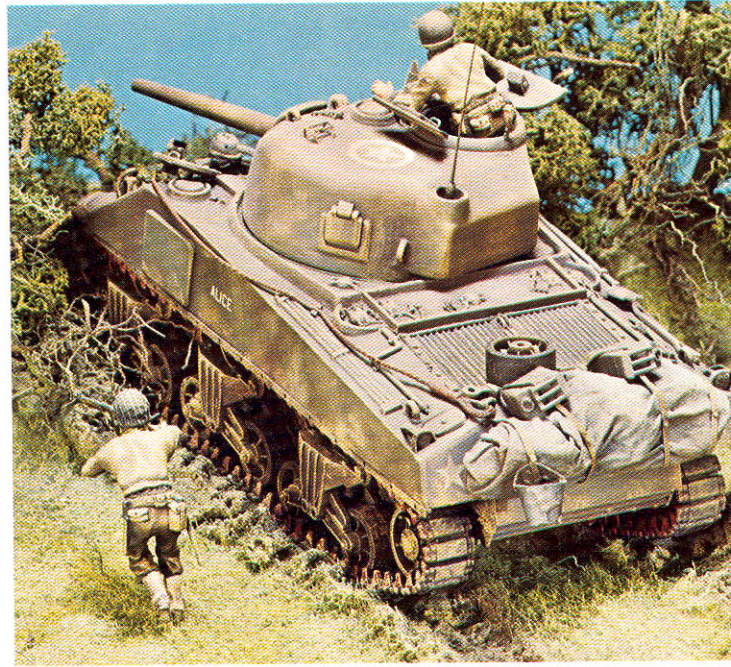
To bend fenders, heat the plastic over the flame of a candle very carefully. Be patient and hold the plastic high above the flame. You want to soften the plastic, not melt it. Remember that the thinner places are liable to melt before the thicker ones are soft. Test the plastic occasionally with a blunt instrument like a pencil eraser, to see if it is soft yet. When soft, use this instrument to make the desired bends. Scrape smooth any sharp edges which have been rounded by the heat. You want them to look bent, not melted. Practice this technique a few times with some plastic scraps before trying it on the model. Plastic melts very suddenly and you don't want to ruin it.

In painting the model, weathering accomplishes two things — it makes the vehicle more realistic, and it highlights the detail. Key to weathering is what is known as drybrushing. For this, there is only a little bit of paint on the brush (hence the term drybrushing), just enough to catch on the high points as it is dragged across the surface of the model.

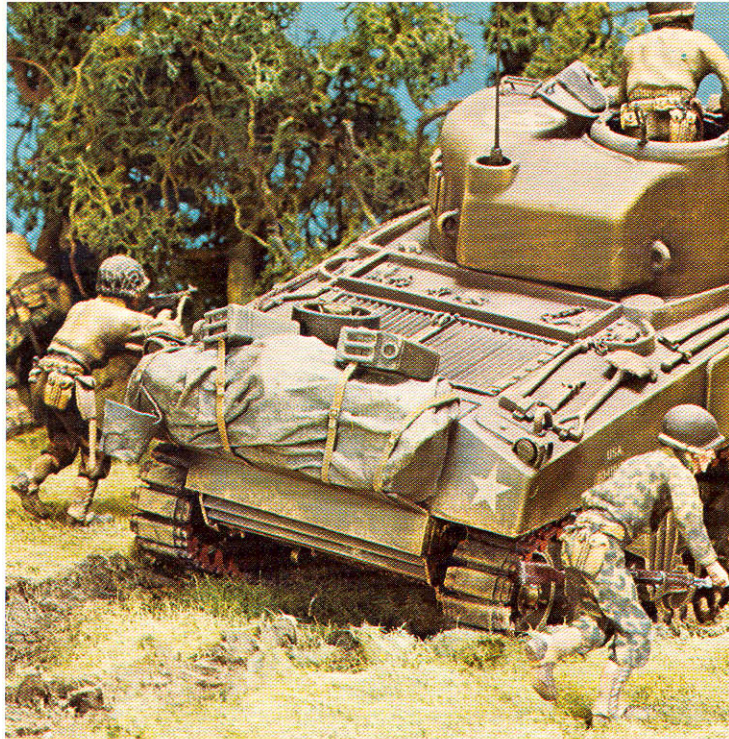
To begin weathering, choose a nice grubby yellowish brown, use the dry-brush technique to apply a blotchy coat of dust and dirt to the entire model. The best brush for weathering is a wide and flat red sable artist's brush (unfortunately expensive) but any similar brush will do. Technique at this point is almost a scrubbing action. Apply more of this dirt to the lower areas of the vehicle, closer to the wheel wells. Add some white to your dirt color, and go over the vehicle again, drybrushing more lightly, hitting only the highlights (screws, rivets, seams, corners, edges, tools, etc.). You might also add some vertical streaks of dust down from the top of the vehicle as well. Add more white to your dirt color, and repeat this step as often as necessary, drybrushing more lightly each time. Be careful, however, not to overdo it, or the vehicle will look like it had an accident in a flour factory.



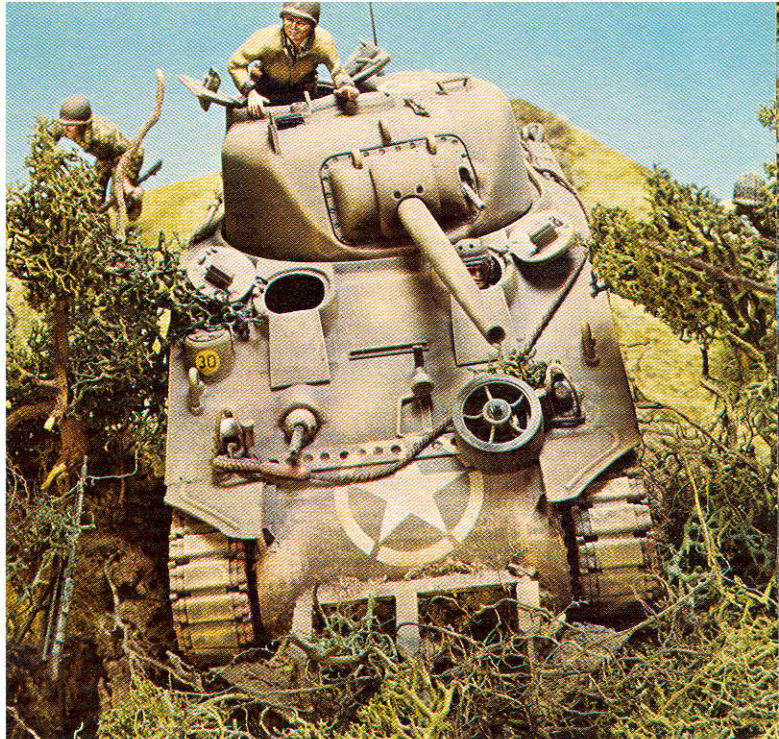
Sherman M4A3's were fitted with applique armor and horizontal volute suspension. A section of plastruct L angle has been fitted to duplicate the sand shield mountings. The metal infantry figures were finished to simulate typical uniforms worn during the 1944 fighting. The two-piece jungle suit, worn by one advancing soldier, was quickly replaced because of its similarity to German camouflage suits.



This photo depicts the louvered engine panels used on the M4A3's. The molded rear air scoops were removed and covered with .010 sheet styrene. To duplicate the communications antenna, cut the antenna from its base, and add a piece of stretched sprue to the base. Small lengths of metal chain have been added to each fuel cap, and a tow cable fabricated from braided picture wire has been installed.



Jerry cans, a small bucket, and a protective tarp, fashioned from facial tissue, rest on a baggage rack made from .020 sheet styrene. The tie-down straps are cut from file card, and small pieces of styrene have been shaped to simulate the buckles. Note the exhaust deflector fabricated from yet another styrene sheet. See the construction photos on the last page for additional details of the exhaust deflector.



This Sherman used a hedgerow cutter created from Plastruct I-beam and sheet styrene. The M4A3 was also equipped with a cast nose piece, and armor plates have been installed over the front vision slots. Also note that the open crew hatches have been detailed.

Rust is added in the same manner, starting with a base color of dark brown and working down in each step through red to a final highlight of bright orange. Vehicle tracks should always be rusty, but be careful with tracks that have rubber "shoes." Rubber doesn't rust. Don't over-rust the vehicle, just a few touches are all it needs. Heat rusts metal as well as water, so your exhaust pipes and mufflers will be rusty.

CONVERTING — PAINTING FIGURES

Figures of soldiers molded in the exact action poses suitable for your diorama may be impossible to find. This should not prove to be an insurmountable problem. Some of the figures in dioramas we've created were made using MONOGRAM'S U.S. INFANTRY FIGURES, KIT NO. 8213. The pose of figures can be converted quite easily with a bit of practice. Using a fine razor saw, such as an X-ACTO NO. 35 razor saw, the figures can be cut apart at the waist and "swapped." The same can be done with arms, legs, and heads.

Heads, torsos, arms, and legs can also be turned and resultant gaps filled with plastic body putty and sanded smooth if necessary. If you find it too difficult to cut and fit figures in this manner, you should attempt to create a scene which will look good using available figures.

Good quality brushes and paints are important in sculptured figure painting. The size of the brush point is far more important than the size of the brush itself. A well pointed "O" red sable brush is better than a "0000." Many types of paints are used but the best are turpentine base, flat military type paints.

Good painters paint a figure as though dressing it, working from the skin outward — the flesh being painted first and then the basic uniform and next the belts, straps and various equipment. The very small, delicate details such as decorations and insignia are usually reserved for last. The appearance of the figures will be greatly improved if you paint in additional highlights and shadows following the sculptured folds in clothes and facial contours already on the figure.

Shading and mixing of paints is important if you desire an attractive figure. Mix paints on a small white card or tablet of white paper. First put

a small puddle of the basic color on the tablet. On one side put the lighter color — usually white, and on the other side the darker color, usually black. Blend the puddles together from each side, keeping the basic color in the center untouched. This will give both darker and lighter shades of the basic color. Every so often, dip the brush in turpentine and stir it into the paint on the tablet to keep it from drying out.

Keeping the proper consistency of the paint is important. If its too "runny" it will run all over the place, and if the paint is too thick, it won't leave the brush at all. If it is just right, it will flow smoothly off the end of the brush — like ink from a pen.

The face is very important and usually the most difficult part to paint, but once a few simple tricks are mastered it becomes quite simple.

For good faces, remember two things. First, soldiers are out in the sun a lot and their faces really should be a shade of tan or light brown rather than pink or off-white. Second, men outdoors tend to squint in the bright light and the eyes should appear as little more than black slits. Never paint any whites in the eyes; these appear the same color as the face at normal distance. This will help eliminate the "pop-eyed" look. When painting the face itself, mix the flesh color with various shades of red, brown and white and shade the faces as illustrated in the drawing. Use the same technique for painting the hands. After the flesh areas, paint the uniform.

When adding highlights and shadows to the figures, don't be timid. If you are too subtle in your color changes, they won't be noticeable at all, and all your effort will be wasted. Even dramatic changes from highlight to shadow can be made to look quite subtle by carefully blending the edge (and only the edge) between the two colors with a brush moistened with turpentine. Remember, practice makes perfect.

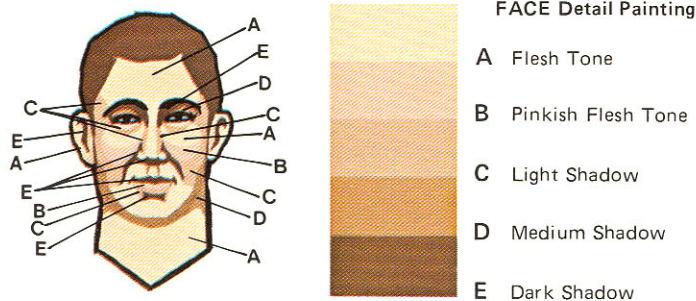
For variety, don't paint any two articles of clothing the same shade of green or brown. Color depends on how often the item was washed, and a variety of colors can add life and give a weatherbeaten appearance to the figures.

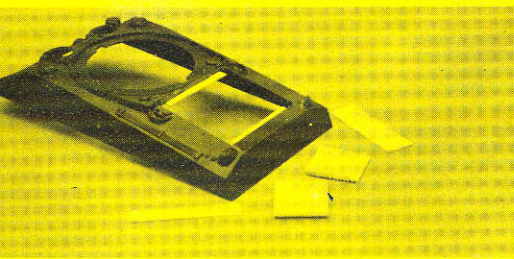
FINAL ASSEMBLY

Use white glue for attachment of the vehicle, figures and any remaining accessories. Tires should be flattened a little where they come in contact with the ground. Use the point of a razor knife to make undercuts in rubber or plastic so the glue will hold well. After the glue has dried, touch up areas which require build-up of terrain or paint. Pay close attention to little details. Clever little touches can do much to enhance the fascination of your model.

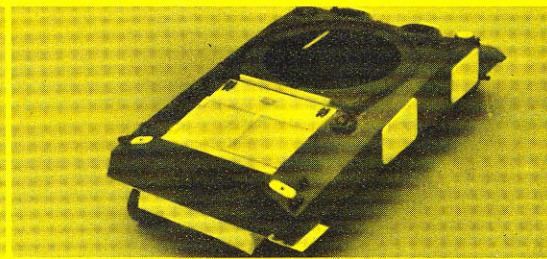
Imagination, not skill, is the key ingredient. Imagination, in painting, in "pirating" parts from other kits for super-detailing, in scratch building or in designing your diorama, can put you on par with the best model builders in the world.

Although much has been written here, it is impossible to go into every detail regarding the building and painting of a diorama. With the information given, and using your own imagination and experimentation, an infinite variety of materials can be used to create a work of art. After you've built your first diorama, your skills will develop so that each succeeding effort will be better.





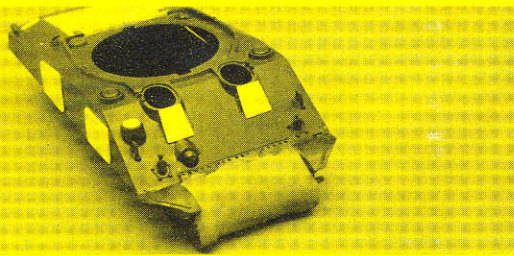
1.



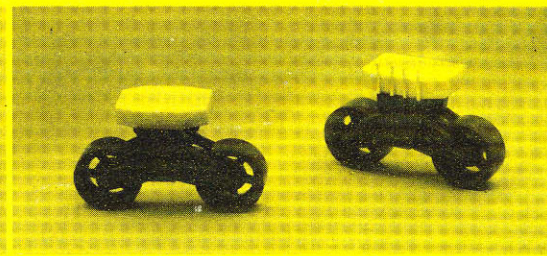
2.



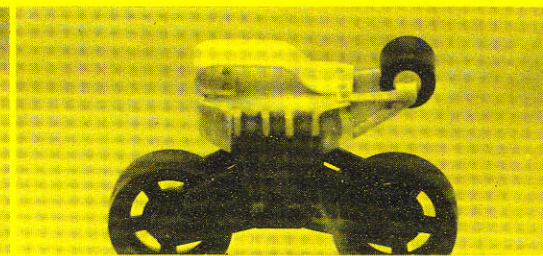
3.



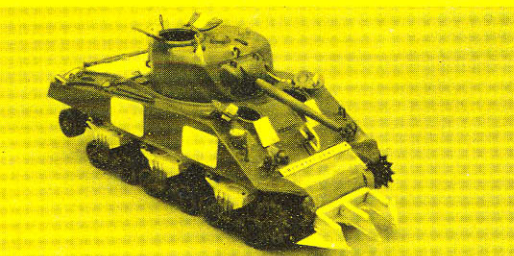
4.



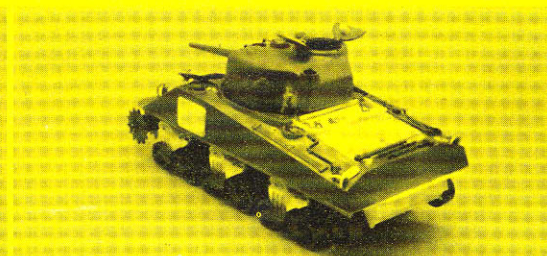
5.



6.



7.



8.



9.

1. Completely remove the molded engine covers from the hull and add support strips to all four sides of the opening. Trim the fuel filters from the discarded panel, as they will be used on the new panels. To form the engine louvers, cut a long strip of styrene into equal lengths, and glue as shown. Trim the panel to size and add border strips.
2. Install the new engine covers and add the fuel filters. Cut small pieces of .010 styrene to cover the rear air intakes, and add the applique armor. Refer to detail photos in this diorama sheet to assist you in fabricating the exhaust deflector.
3. Add the armor plates over the vision slits, and build-up the nose area with strips of styrene.
4. Cover the nose area with body putty, and sand to the final shape when dry. Note that actual cast nose pieces had a very rough finish.
5. Assemble each bogie according to the instruction sheet and cut off the top section as shown. To construct the new top section, glue three pieces of .040 sheet styrene together and sand to shape shown in the photo. Add

- four thin ribs to complete the casting detail.
6. Add two pieces of .060 styrene to form the return roller support. Cut the round pins from the discarded top sections and glue into the return roller. Glue the return roller in place and add the side pieces. Carefully bend a strip of .020 styrene to the desired shape, glue in place on the top section and add small rivet detail.
7. This overall photo clearly depicts the scratch-built hedgerow cutter. Also note the drilled styrene strip added to the nose.
8. Note that hatch detail has been added with scrap plastic. The left side of the hull has only one additional armor plate and the exhaust deflector is readily visible.
9. The locations of the hedge and land depressions have been marked. Bore large diameter holes and contour the base with Celluclay to simulate undulating ground and foxholes. Mount the tree roots in clay or putty before applying Celluclay to hedge area.

CONSTRUCTION NOTES

Before you begin building the engine covers, note in the color detail photos that the louvered panels do not extend to the end of the opening. A narrow piece sheet styrene is put in place behind the louvered covers. Additional detail can be obtained by adding rivet and bolt heads from various molded components, such as a Sherman hull. The grab handles were fashioned from stretched sprue.

During construction, test fit the bogey to check the position of the return roller. When fitting the modified bogey, it is advisable to mount the track on the drive sprocket and common idler wheel on each side. If the return roller does not touch the track once the new bogeys are in place, cut the mounting pins from the hull, position the bogeys by eye, and refit the track.

The tree roots should be anchored in modeling clay or putty prior to applying Celluclay. Once the base is dry, brush on white glue and sprinkle the grass material over the wet area. It is advisable to only work a small area at a time, and blow off any excess. The grass and lichen are available in the model railroading section of most hobby shops. Most likely, the grass and lichen will be much too green and will require some touch-up with a yellow-green color.

Initially, white stars were applied to the sides of most Shermans, as well as the top surfaces, but the side markings proved to be well placed aiming points for enemy gunners, and they were soon deleted. The markings on the top surfaces were retained to identify allied armor to over enthusiastic allied fighter pilots.



This knocked-out German gun emplacement looks much more realistic with the addition of ammunition boxes, a weather-beaten poncho, and other military gear. Note that one cartridge box has been assembled in an open position, and all the accessories have been appropriately weathered.