

# CRUSADER III

No. 812

TESTORS



## HISTORY

The *Crusader III* represented a major stepping stone in the development of the British "Cruiser" tanks. Also known as the *Cruiser Mk VI*, the *Crusader* was the first tank produced for the "heavy cruiser" role. The development of the *Crusader* can be traced back to the *Cruiser Mk III*, which was initiated in 1937.

The *Cruiser Mk III* was based on the designs of the American tank designer J. Walter Christie. This tank first introduced the revolutionary Christie suspension which was to characterize most *Cruiser* designs throughout the war. The original *Cruiser* designs suffered from lack of reliability and inadequate armor. Reliability was not to be solved until the advent of the *Cromwell* (*Cruiser Mk VIII*); however, the *Crusader* was the first tank to realistically approach the armor problem. The major feature to distinguish the *Crusader* from earlier *Cruiser* tanks was the addition of an extra road wheel on each side to help accommodate the extra weight of heavier armor.

The *Crusader III* differed from the *Crusader I* and *II* in having the auxiliary machine gun turret removed, and the replacement of the 2 pdr. gun with a 6 pdr. The *Crusader* was the principal British tank in the Western Desert, and suffered miserably at the hands of German armor. The failure of the *Crusader* tank was not due to the tank itself; but the outmoded concepts upon which it was based. Its light armor and efficient suspension made it very fast even over rough terrain. However, when opposed by the more heavily armed and armored tanks of the German Afrika Korps, its mobility could not make up for the lack of armor and firepower. As a result the *Crusader* was withdrawn from front line service in 1943.

## SPECIFICATIONS

Crew	3
Weight	22.5 tons
Length	19.6 feet
Width	8.7 feet
Height	7.35 feet
Speed (road)	27.4 mph
Range	112 miles
Armament	1 x 6 pdr. gun and 1 coaxial 7.92 Besa machine gun
Engine	1 Nuffield Liberty liquid cooled engine, rated 340 hp @ 1500 rpm

## BEFORE STARTING

1. Study the illustrations and sequence of assembly before beginning.
2. Decide how much detail you wish to add to your model and whether or not you intend to modify or "convert" the basic model in any way. Study carefully all available reference material before beginning to ensure an authentic model.
3. Due to the amount of parts in this kit, do not detach the parts from the runners (sprue) until you need them. This helps avoid confusion and lost parts.
4. When cementing the parts together, check the way in which one part fits together with another. This ensures a neat job.
5. Always remember, when working with plastic model cement and paint, make sure your work is well-ventilated. The fumes from plastic modeling products can be harmful if inhaled.

## PREPARATION OF PARTS

1. Never tear parts off the runners (sprue). Use a Testor Hobby Knife, nail clippers, or small wire cutters.
2. It is possible some parts may require a little attention with a file or sandpaper to ensure a proper fit and neat appearance. Hobby files and Testor Hobby Sandpaper appropriate for model-building are available in most good hobby shops.
3. If you desire, you may fill any seams (where parts go together) or imperfections with Testor Contour Putty for Plastic Models which is also available at good hobby shops.

## PAINTING

You can obtain an excellent finish on your model using Testor Enamels. Parts of the model are painted individually, and then the entire model is oversprayed when you have finished construction.

First of all, be sure your brushes are soft, clean and flexible. (Keep them that way by cleaning them thoroughly with Testor Paint thinner.) Never use inexpensive brushes! A selection of Testor Shed-Proof Brushes will serve you well.

Wash plastic parts before detaching them from the sprue. Warm water and liquid detergent remove the oils left from the manufacturing process. Let the parts dry and avoid excessive handling. Immediately before painting, wipe the parts with a "tac rag" (available at automotive centers) to remove dust and lint.

Most parts are best painted while still attached to the sprue or they may be detached and held with tweezers or "magic" type transparent tape. Paint in one direction only. If your paint is the correct consistency, brush strokes will disappear as the color dries. If the paint seems too thick, thin it with Testor Paint Thinner. Wheels may be detached from the sprue and fit onto toothpicks or matchsticks for painting. Then just hold the paintbrush against the edge of the wheel and rotate the wheel to obtain a neat clean finish.

Let the paint dry completely before handling. When the parts are dry, assemble the model, following the directions closely. Remember cement will not stick to painted surfaces. Using your Testor Hobby Knife, carefully remove paint from all surfaces to be cemented. After you have assembled your model you may touch up areas where cement has marred the finish.

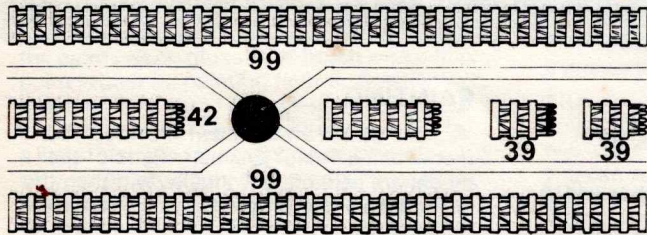
When your model is completed, apply a coat of Testor Dullcote #1260 to the entire model. This will give it an authentic, dull finish and protect the surface of the model.



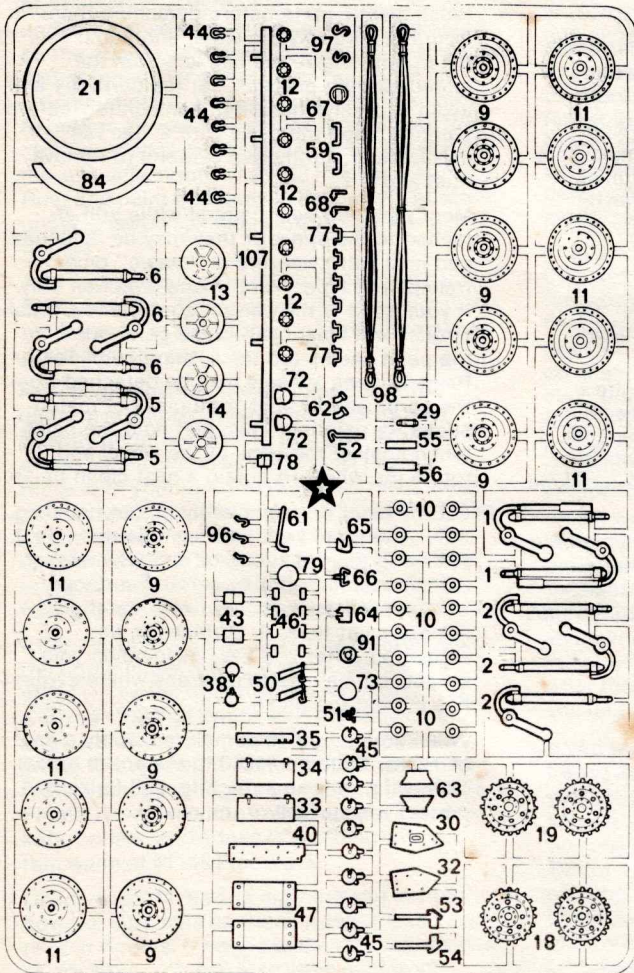
Remove this page from the instruction sheet by cutting along indicated line. Use the drawings of the complete sprue as a part-locating reference when building the model.

# Crusader III No. 812

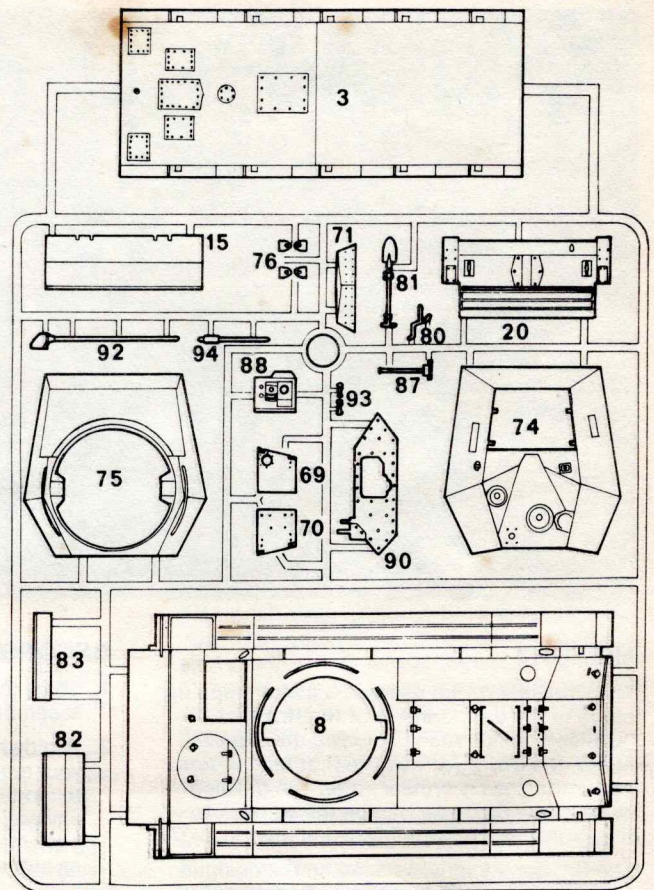
Liquid cement, Testor #3502, is recommended for construction since it can produce the neatest, quickest, and strongest glue joints. Apply small amounts of cement, using the tip of a 00 brush, to the surfaces to be joined while holding the parts in place. Do **not** use large amounts of cement.



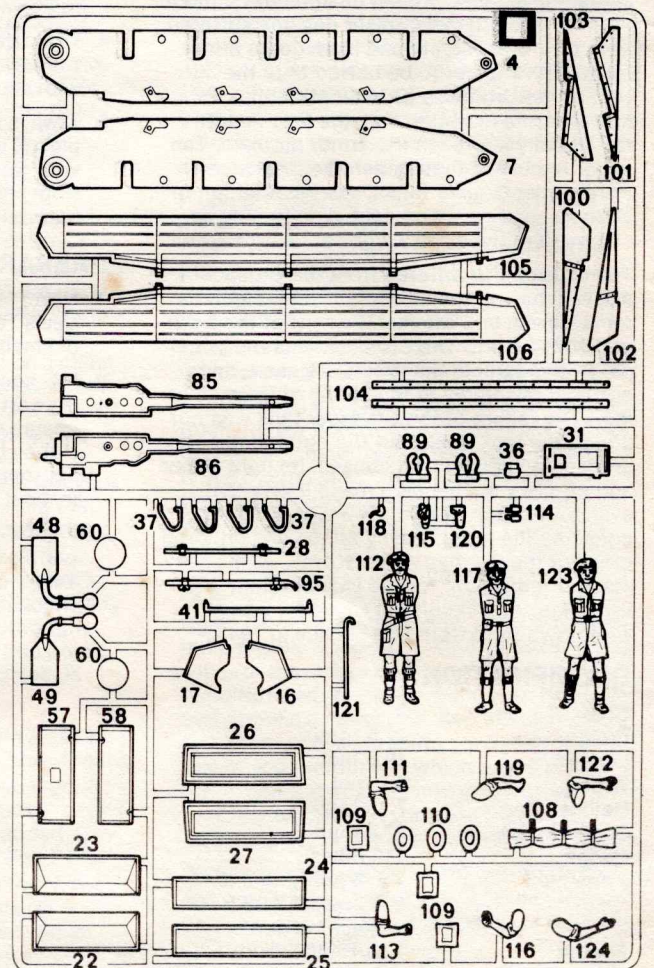
Parts from this section are identified with this symbol: ●



Parts from this section are identified with this symbol: ☆



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Parts from this section are identified with this symbol: □

Cut and remove this sheet.

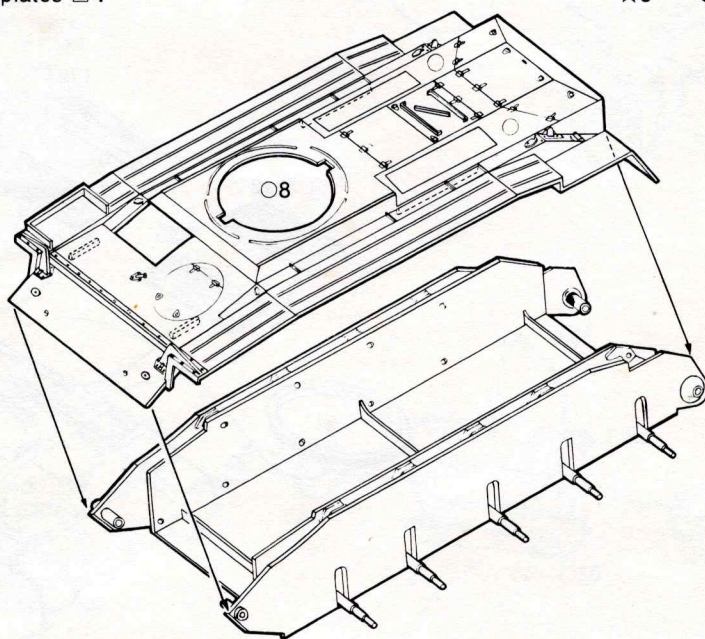
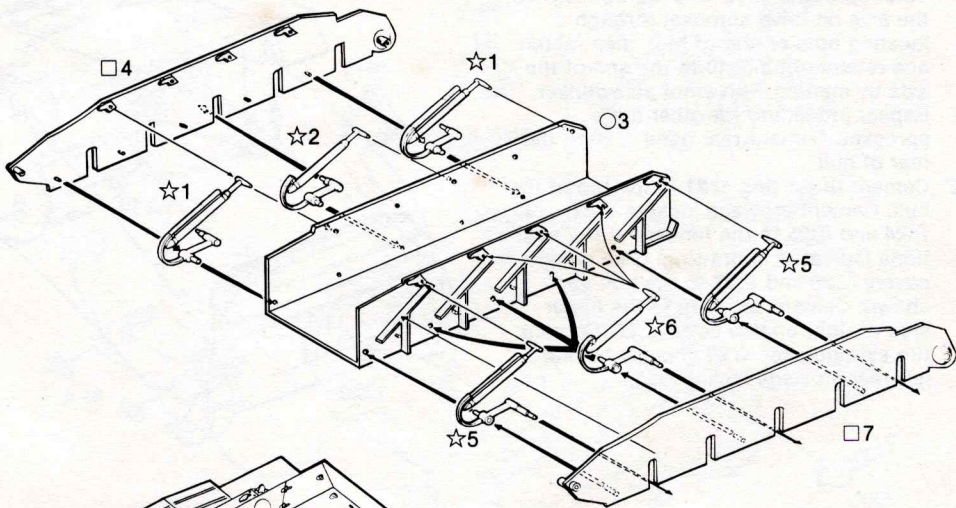


Your *Crusader III* kit can be finished in any one of three different paint schemes. Extra parts are included to build a model with or without sand skirts. It is suggested that the modeler decide which version he wants to build before proceeding. Any parts not called out in **Preliminary Painting** should be painted overall body color, which differs depending on which model you choose (see **Camouflage and Markings** on pages 10 and 11).

# 1 PARTS 1-8

## Assembly

- 1. Cement torsion bars ☆1 to front and rear positions on right side of hull ○3 as shown in drawing. Cement torsion bar ☆2 to center position between torsion bars ☆1. Cement right side plate □4 to torsion bars.
- 2. Repeat above assembly sequence for left side of hull, using parts ☆5, ☆6 and □7. Cement upper hull ○8 to side plates □4 and □7 as shown.



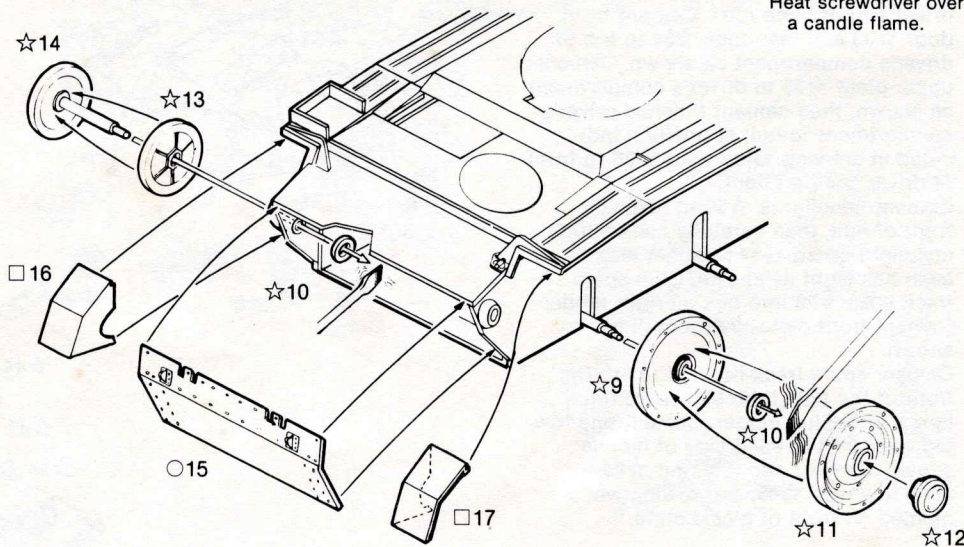
# 2 PARTS 9-17

## Preliminary Painting

☆9, ☆11, ☆13, ☆14, tires only:  
#1149 Flat Black

## Assembly

- 1. Slip (*do not cement*) one inner road wheel ☆9 over an axle as shown. Fasten one retainer hub ☆10 to the tip of the axle by melting it in place with a hot screwdriver. Cement one outer road wheel ☆11 to the inner road wheel ☆9. Do not get cement on axle or hub, or wheel won't roll. Cement one hub cap ☆12 to outer road wheel. Repeat above procedure for nine remaining road wheels.
- 2. Cement inner idler wheel ☆13 to outer idler ☆14 as shown. Slip (*do not cement*) the axle on idler through the locating hole on the front of the hull. Fasten one retainer hub ☆10 to the end of the axle by melting it with a hot screwdriver. Glue glacis plate ○15 to the front of the hull, then cement right and left front fenders □16 and □17 to the front of hull as shown.



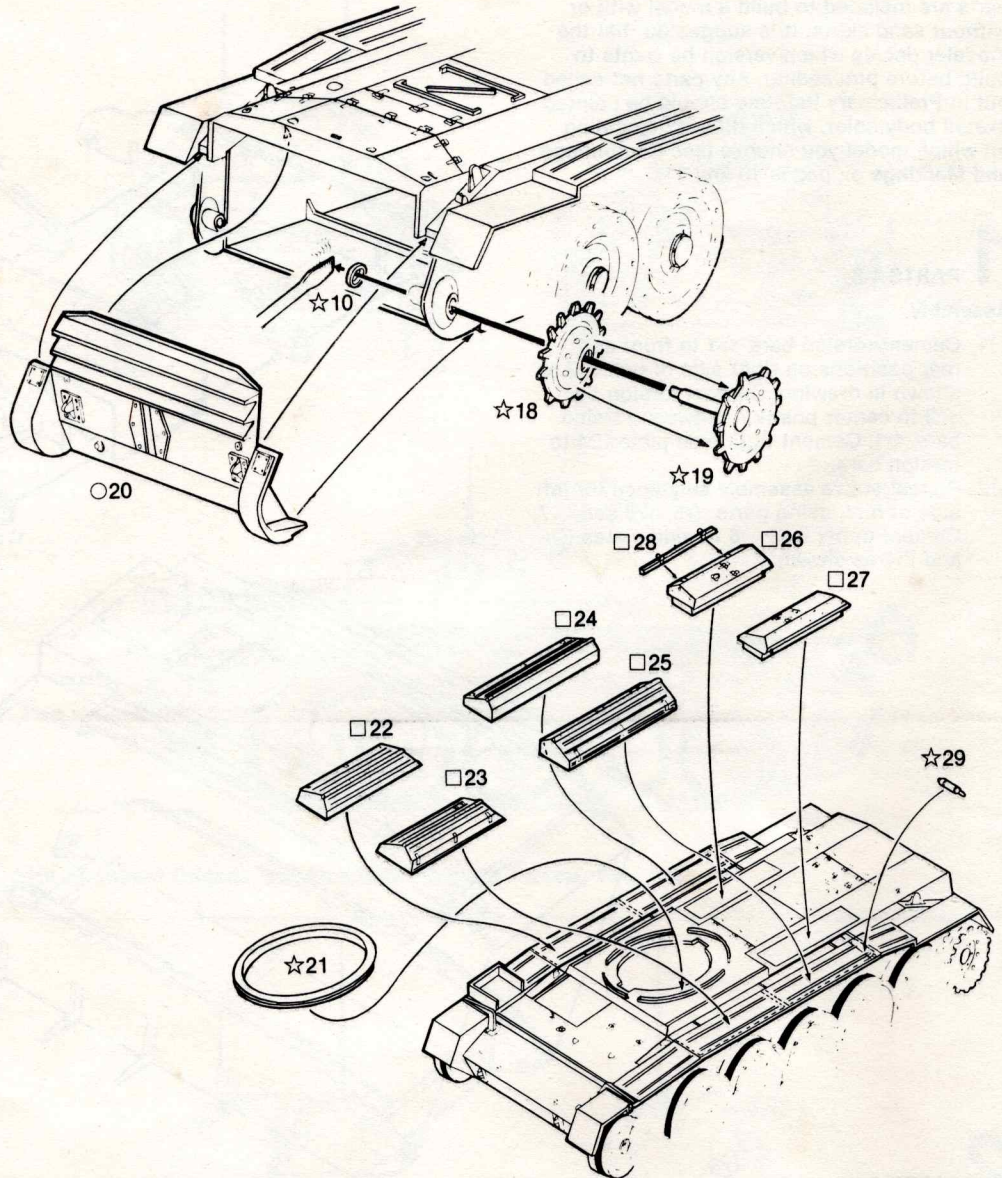
Heat screwdriver over a candle flame.



### 3 PARTS 18-29

#### Assembly

- 1. Cement inner drive sprocket ☆18 to outer sprocket ☆19. Slip (do not cement) the axle on drive sprocket through locating hole at rear of hull, then fasten one retainer hub ☆10 to the end of the axle by melting with a hot screwdriver. Repeat procedure for other drive sprocket. Cement rear plate ○20 to the rear of hull.
- 2. Cement turret ring ☆21 to the top of the hull. Cement stowage lockers □22, □23, □24 and □25 to the fenders at the positions indicated in drawing. Glue engine covers □26 and □27 to the hull as shown. Cement bar □28 to the upper side of right engine cover □26. Cement fire extinguisher ☆29 in place behind left rear stowage locker □25.



### 4 PARTS 30-44

#### Preliminary Painting

☆38 headlight lenses only:

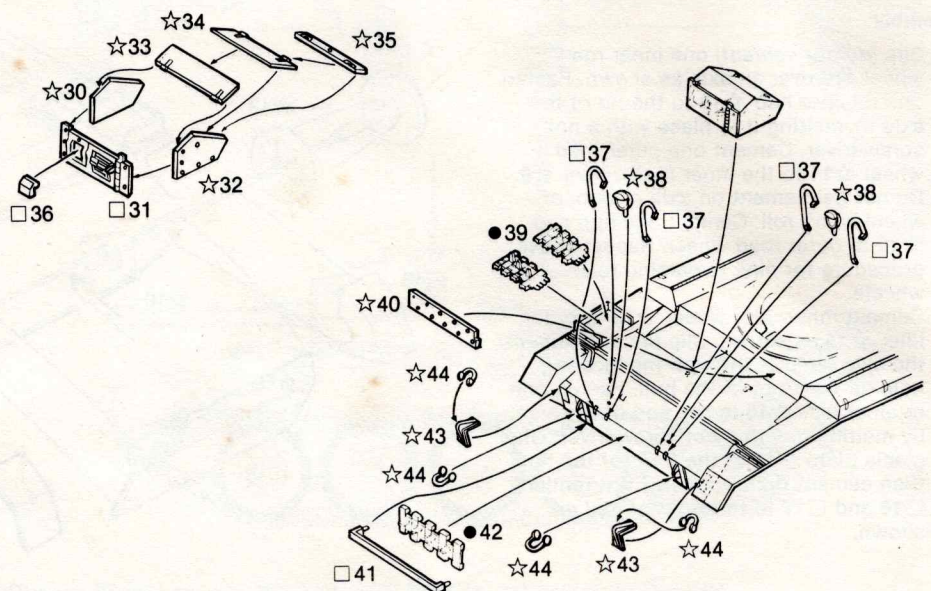
#1146 Silver

●39, ●42:

#1180 Steel

#### Assembly

- 1. Cement side plates ☆30 and ☆32 to driver's front plate □31. Cement front door ☆33 and rear door ☆34 to top of driver's compartment as shown. Cement upper plate ☆35 to driver's compartment as shown, then cement finished driver's compartment to hull at position indicated in drawing. Glue visor □36 to front of driver compartment.
- 2. Cement headlights ☆38 to holes on front of hull, then carefully cement one headlight guard □37 to either side of each headlight as shown. Glue spare track links ●39 into box on right fender. Cement front plate ☆40 to hull as shown.
- 3. Cement spare track holder □41 to the front of the hull, then slip spare track link ●42 behind holder. Cement one towing web ☆43 to each side of hull as shown. Cement one tow ring ☆44 to each tow web ☆43, and towing webs molded on front of glaciis plate.





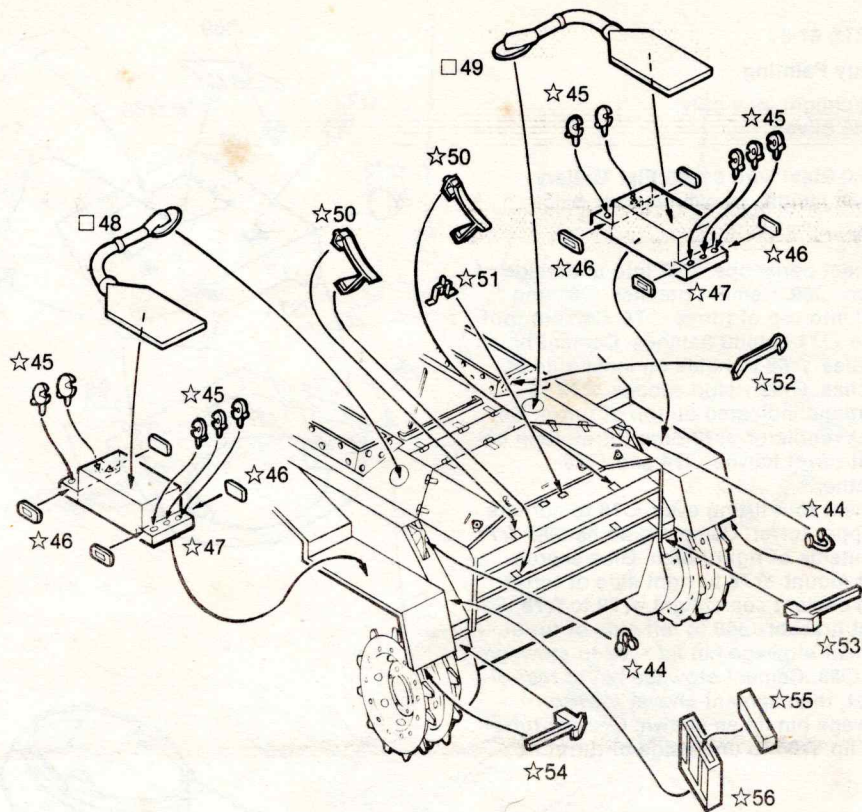
# 5 PARTS 44-56

## Preliminary Painting

- 48, □49 exhaust pipes only:  
#1185 Rust

## Assembly

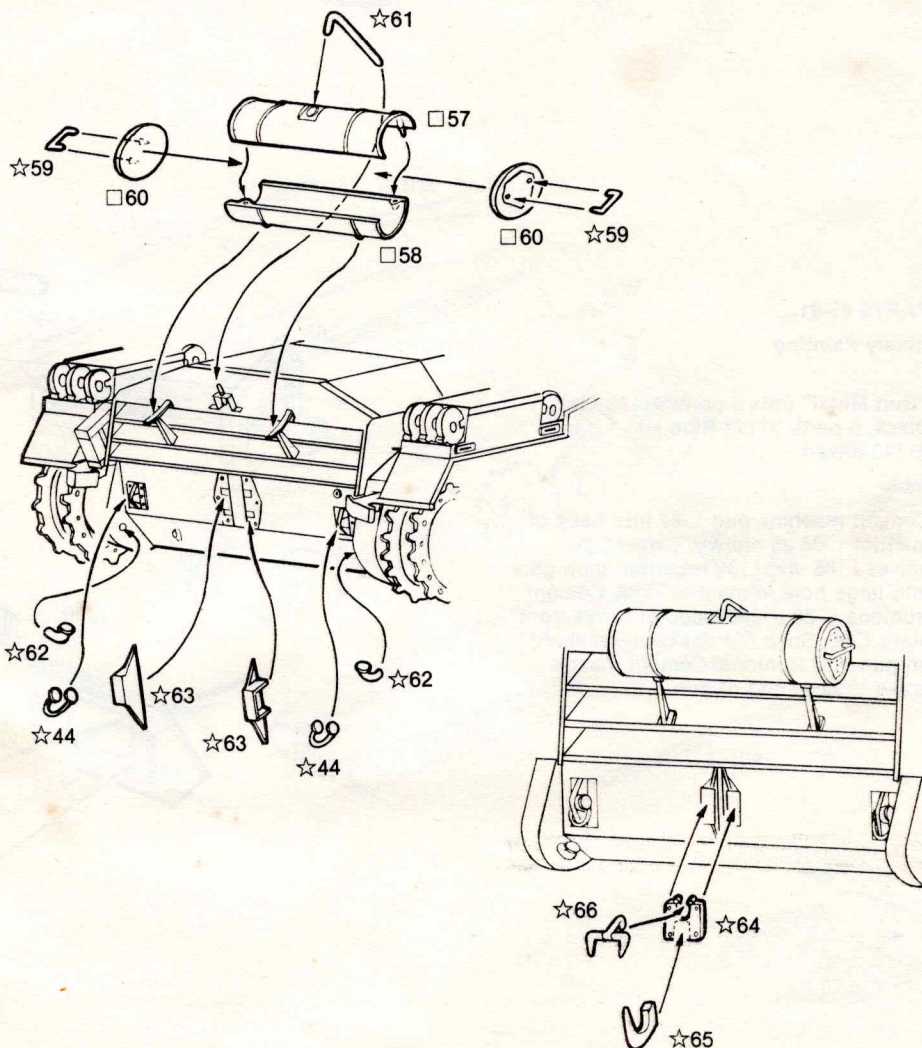
- 1. Cement five "C" fairings ☆45 to muffler box ☆47 as shown. Cement four vents ☆46 to sides of ☆47, then cement muffler box to one of the rear fenders. Repeat procedure for opposite fender. Cement left exhaust pipe ☆48 to engine compartment and left muffler box. Glue right exhaust pipe □49 to engine compartment and right muffler box.
- 2. Cement fuel tank brackets ☆50 to vents on rear of hull as shown. Cement fuel line coupling ☆51 to indicated position on engine compartment. Cement two tow rings ☆44 to webs at side of engine compartment. (NOTE: If you want to build your model with the tow cables in place it may be better to leave tow rings off until step 10; see drawing on page 6.)
- 3. Cement hook ☆52 to the back of right engine cover. Cement right and left fender braces ☆53 and ☆54 to rear fenders as shown. Cement box top ☆55 to box ☆56, then cement ☆56 to hull.



# 6 PARTS 44, 57-66

## Assembly

- 1. Cement fuel tank halves □57 and □58 together. Cement fuel tank end plates □60 to either end of fuel tank, then cement lift handles ☆59 to □60 as shown. Cement finished fuel tank to fuel tank brackets. Cement fuel line ☆61 to coupling and top of tank.
- 2. Cement grease nibs ☆62 to inside of either drive sprocket housing. Cement two tow rings ☆44 to towing webs on rear plate. Cement tow pintle mounts ☆63 to rear plate (photos on page 11 may be used as reference for positioning). Cement tow pintle plate ☆64 to mount ☆63, then cement jaws ☆65 and ☆66 to plate as shown.





# 7

## PARTS 67-84

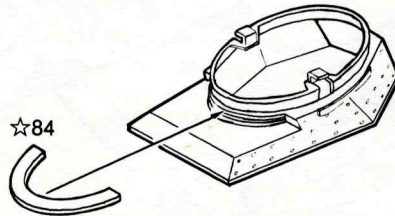
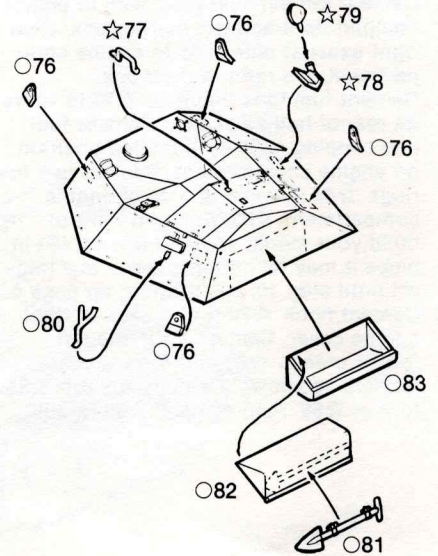
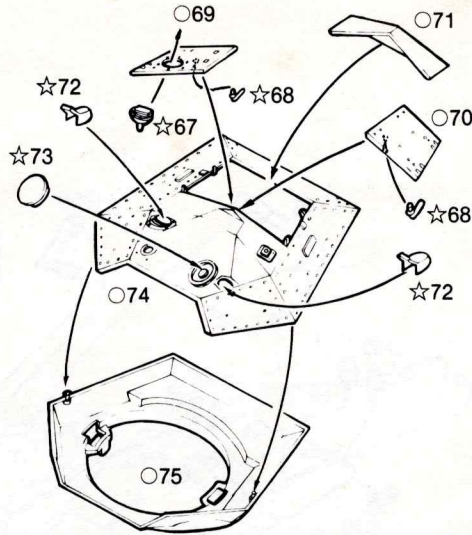
### Preliminary Painting

☆79 searchlight lens only:  
#1146 Silver

○81:  
#1180 Steel with #1166 Flat Military  
Brown handle, or overall body color

### Assembly

- 1. Cement periscope ☆67 into underside of hatch ○69. Cement hatches ○69 and ○70 into top of turret ○74. Cement roof plate ○71 behind hatches. Cement hatch handles ☆68 to holes on inner side of hatches. Glue vision scopes ☆72 to positions indicated on top of turret. Cement ventilator ☆73 onto turret, then cement turret halves ○74 and ○75 together.
- 2. Cement four lifting eyes ○76 to corners of upper turret. Cement grab handle ☆77 to outside of right hatch. Glue searchlight mount ☆78 to right side of turret, then cement searchlight ☆79 to ☆78. Cement bracket ○80 to left side of turret.
- 3. Cement stowage bin lid ○82 to stowage bin ○83. Cement stowage bin to rear of turret, then cement shovel ○81 to stowage bin lid as shown. Cement turret ring lip ☆84 to underside of turret.



# 8

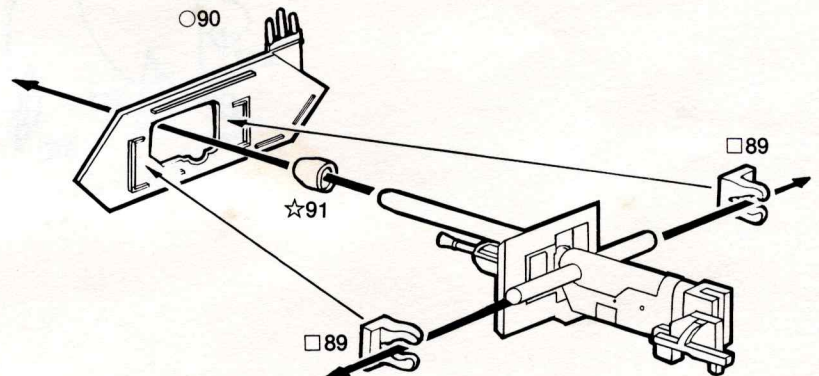
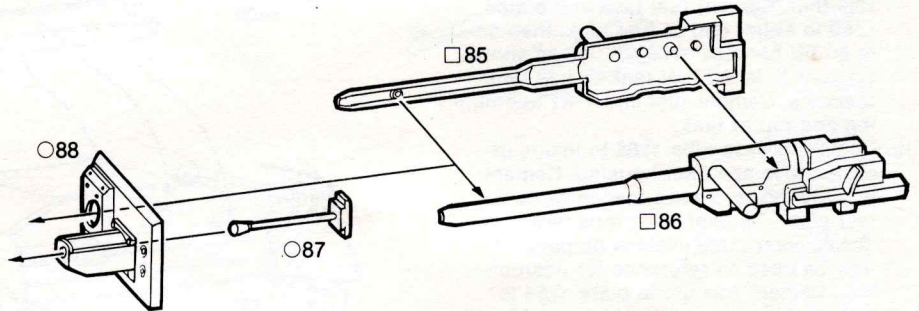
## PARTS 85-91

### Preliminary Painting

○87:  
"Gun Metal" (mix 5 parts #1149 Flat  
Black, 5 parts #1111 Blue and 1 part  
#1146 Silver)

### Assembly

- 1. Cement machine gun ○87 into back of mantlet ○88 as shown. Cement gun halves □85 and □86 together, then glue into large hole in mantlet ○88. Cement trunions □89 to backside of turret front plate ○90. Snap (do not cement) shaft on gun into trunions. Cement muzzle brake ☆91 to end of gun.

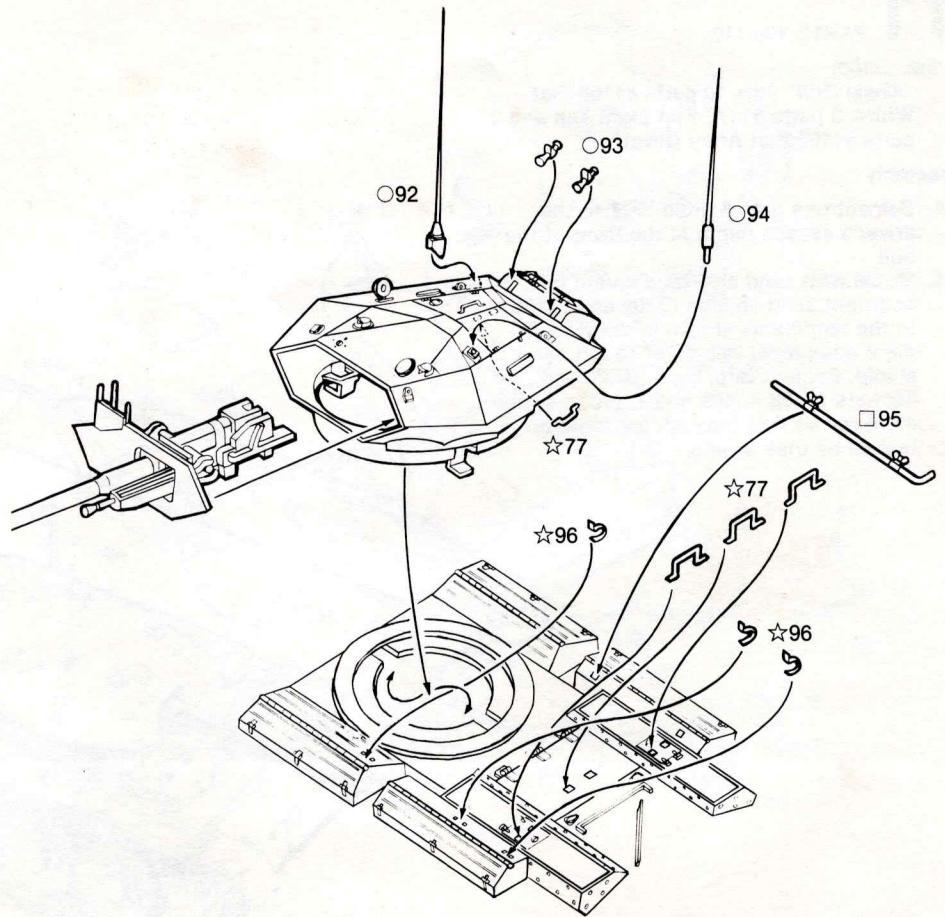




# 9 PARTS 77, 92-96

## Assembly

- 1. Cement antenna ○92 onto right side of turret just behind lifting eye. Cement hinges ○93 to top of stowage bin. Cement antenna ○94 to hole on top of turret. Cement one grab handle ☆77 to the inside of left hatch.
- 2. Cement three grab handles ☆77 to the engine covers and engine compartment as shown. Cement three tie downs ☆96 to the top of the left hand stowage lockers. Glue crow bar □95 to the top of the right rear stowage locker. Cement turret front plate/gun assembly into the front of the turret. Fit turret into turret ring on hull as shown, then turn to lock in place. Do not cement turret.



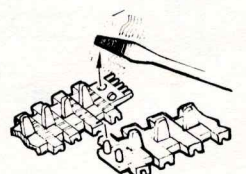
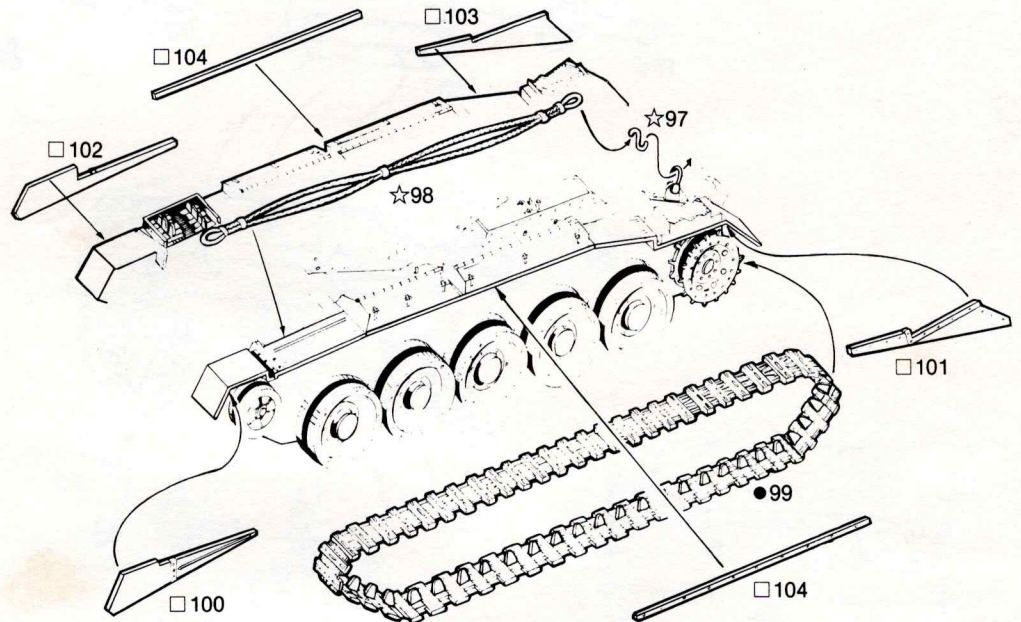
# 10 PARTS 97-104

## Preliminary Painting

☆97, ☆98:  
#1180 Steel

## Assembly

- 1. Slide tracks ●99 under fender and around all drive sprockets and road wheels. Press ends together and fasten by melting ends of pins with a hot screwdriver. If you have chosen to use tow cables cement tow rings ☆44 so that they point forward. Place one end of "S" hook ☆97 through tow ring and the other through the end of tow cable ☆98. Cement tow cable ☆98 to hull and secure "S" hook by applying Testor liquid cement to either end with a fine brush.
- 2. **NOTE:** Your model may be built with or without sand shields. Refer to drawings on page 10 and 11 to decide which version you are building. For model with sand shields proceed to step 11. For a model without sand shields cement left front track guard □100 and right front track guard □102 to front fenders. Cement rear track guards □101 and □103 to rear fenders. Cement fender flanges □104 to fenders as shown.



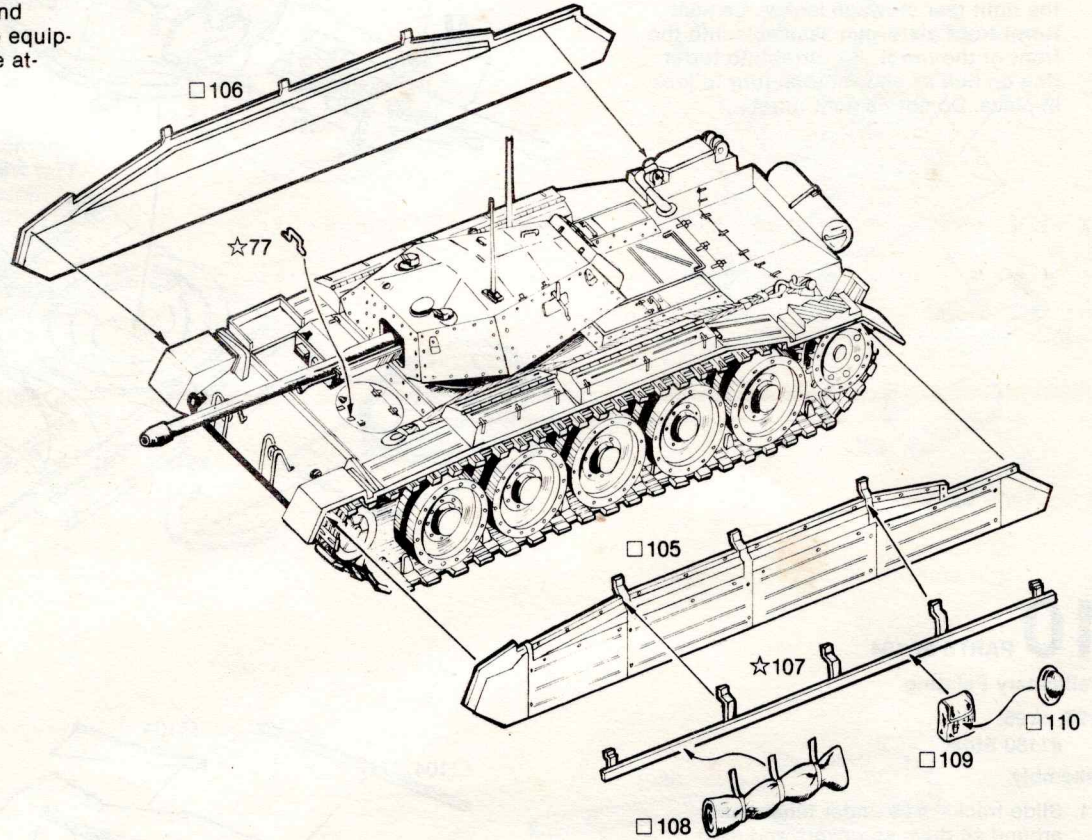


# 11 PARTS 105-110

- 108, □109:  
"Khaki Drill" (mix 10 parts #1168 Flat White, 3 parts #1170 Flat Light Tan and 2 parts #1165 Flat Army Olive)

## Assembly

- 1. Cement one grab handle ☆77 to the driver's escape hatch at the front of the hull
- 2. **Model with sand shields:** Cement left and right sand shields □105 and □106 to the fenders as shown in drawing. Cement equipment rail ☆107 to left sand shield. Cement tarp, back packs and helmets □108, □109 and □110 to equipment rail so that they appear to be attached by their straps.





# 12 PARTS 111-124

**NOTE:** Figures should be completely assembled before painting. However, you may want to leave the pipe and cane off until all painting is completed, as it will make surrounding areas easier to get to. See page 12 for additional figure painting tips.

## Assembly

1. Assemble figures as shown in drawings by following the numbered sequence. Paint all flesh areas #1170 Flat Light Tan and shade as shown on the diagram on this page.

## FIGURE COLOR LIST

**Khaki Drill:** (mix 10 parts #1168 Flat White, 3 parts #1170 Flat Light Tan and 2 parts #1165 Flat Army Olive)

**Khaki:** (mix 3 parts #1166 Flat Military Brown and 2 parts #1165 Flat Army Olive)

**Black:** #1149 Flat Black

**Gun Metal:** (mix 5 parts #1149 Flat Black, 5 parts #1111 Blue and 1 part #1146 Silver)

**Wood:** #1166 Flat Military Brown

**Aluminum:** #1181 Aluminum

## PAINTING INSTRUCTIONS

Shirts, pants, anklets, belts, holsters:

**Khaki Drill**

Berets, shoes, binoculars:

**Black**

Officer's peaked cap, socks:

**Khaki**

Pistol butt:

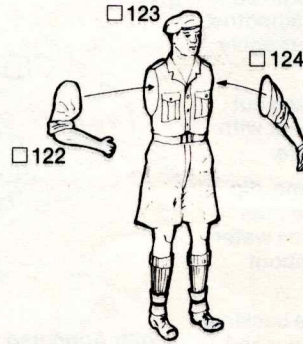
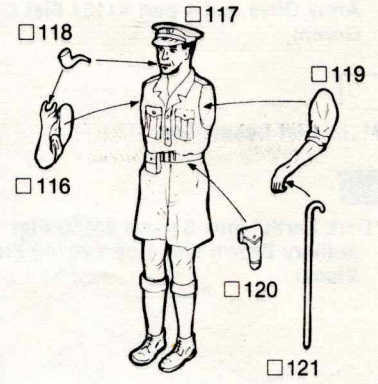
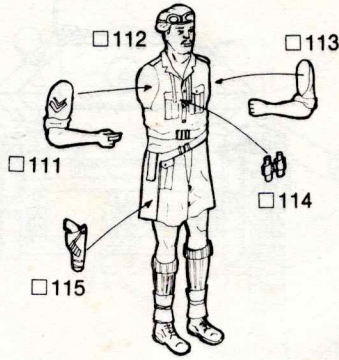
**Gun Metal** with **Wood** hand grips:

Pipe and cane:

**Wood**

Badges on front of hats:

**Aluminum**



## Color Key for Face Painting

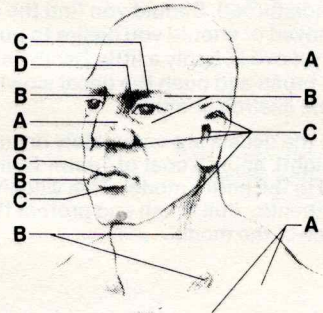
**A:** 1 part #1185 Rust and 2 parts #1170 Flat Light Tan

**B:** 2 parts #1185 Rust and 1 part #1170 Flat Light Tan

**C:** #1185 Rust

**D:** 1 part #1185 Rust and 1 part #1183 Rubber

**Highlights** (white areas): 2 parts #1170 Flat Light Tan and 1 part #1168 Flat White





## CAMOUFLAGE AND MARKINGS



1. "Bronze Green" (mix 1 part #1165 Flat Army Olive and 1 part #1164 Flat O.D. Green)



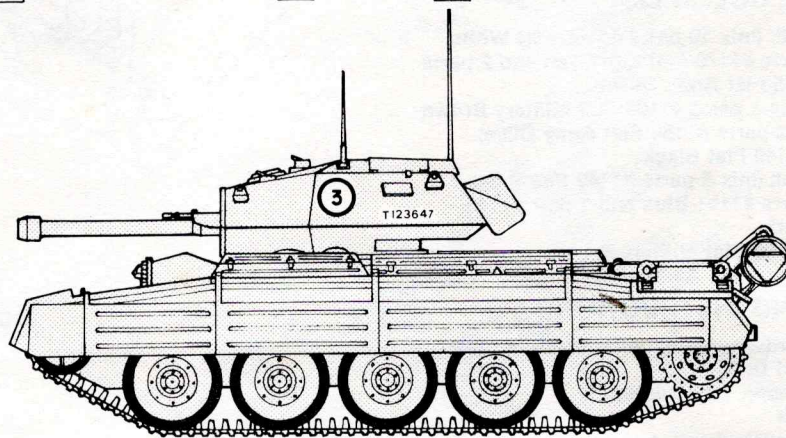
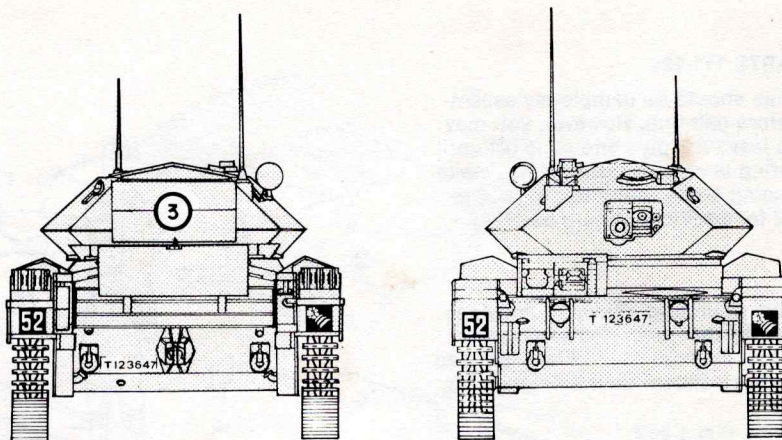
2. #1167 Flat Desert Tan



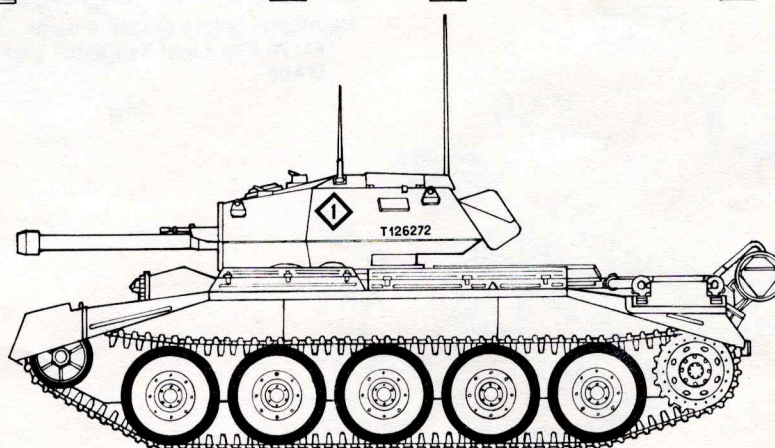
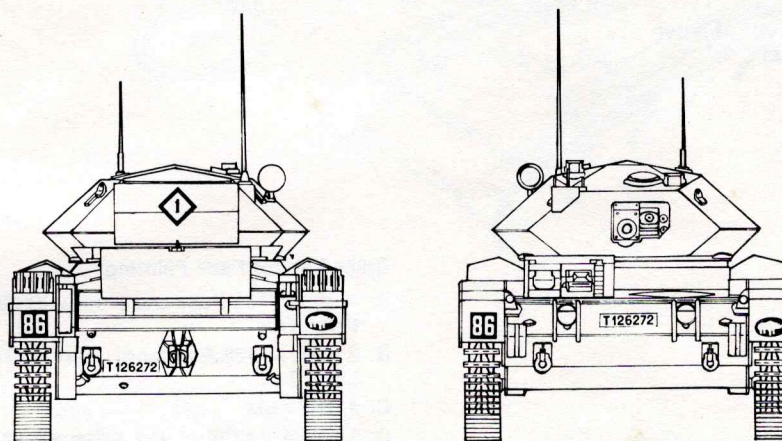
3. "Dark Earth" (mix 3 parts #1166 Flat Military Brown and 1 part #1149 Flat Black)

## APPLYING DECALS

1. Spray entire model with Testor Glosscote #1261. Decals adhere best to a smooth surface and the shinier the finish, the smoother it is. Allow the Glosscote to dry thoroughly before going further.
2. Select the decals you plan to use, and cut each of them out from the decal sheet with small scissors or Testor Hobby Knife.
3. Working with only one decal at a time, dip the decal in clean water for no more than five seconds, then remove it from the water and place on a dry paper towel for about one minute.
4. When the decal slides easily on the backing paper, slide it to the edge of the paper and onto the surface of the model with a soft paintbrush or tweezers. Remember: the decals are very thin and can be easily ripped if care is not taken. Work slowly and patiently.
5. Once the decal is in the desired position, apply a small amount of Testor Decal Set #8804. This will help the decal to conform to any irregularities in the surface of the model (rivets, curves, etc.). Allow the decal to dry undisturbed. Should you find the decal has moved or should you desire to purposely move it, apply a little Decal Set to a soft brush and push the decal slowly into the desired position.
6. When the decals are completely dry (usually overnight), apply a coat of Testor Dullcote #1260 to the entire model. This will give it an authentic, dull finish and protect the surface of the model.

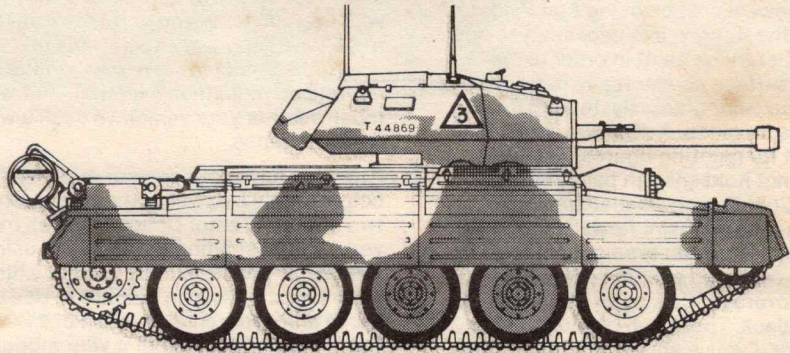
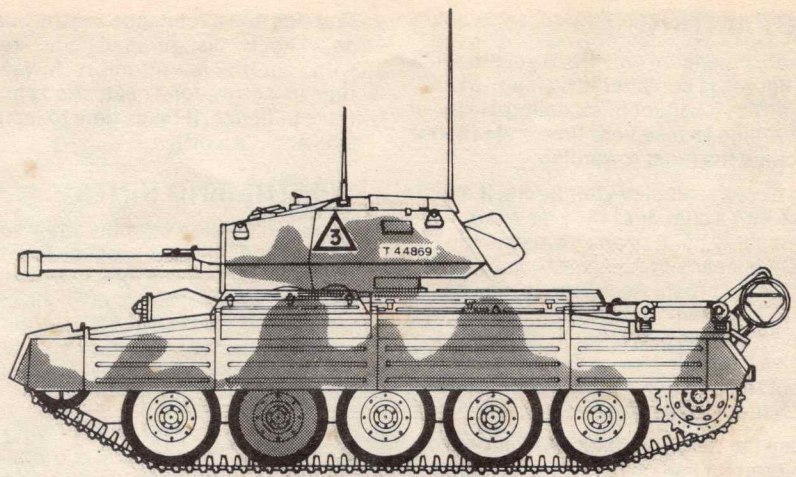
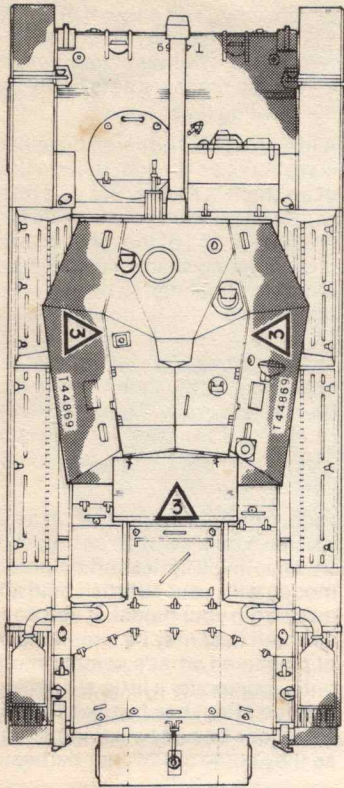


26th Armoured Brigade, 6th Armoured Division; Tunisia, Feb. 1943

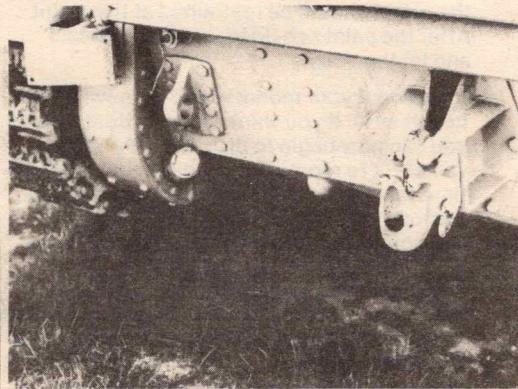
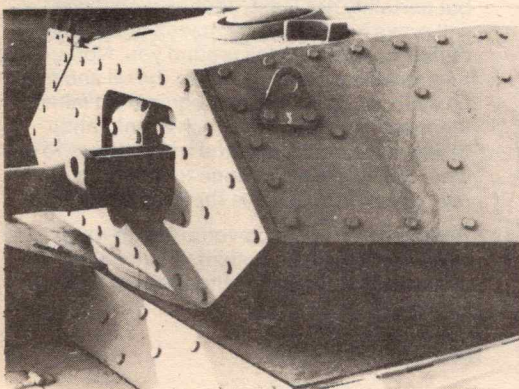
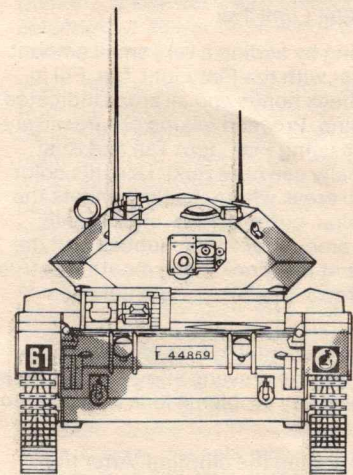
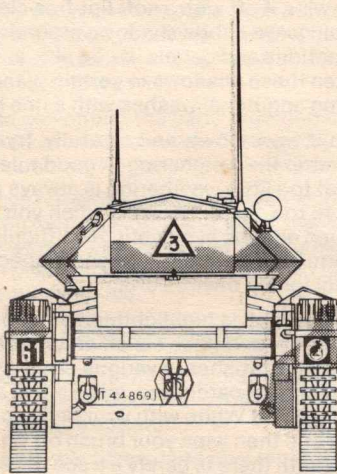


9th Queens Royal Lancers, 2nd Armoured Brigade, 1st Armoured Division, X Corps, 8th Army; El Alamein, Nov. 1942





7th Hussars, 4th Armoured Brigade, 7th Armoured Division,  
XIII Corps, 8th Army; North Africa, Nov. 1942





## FIGURE PAINTING

Figures add dimension and life to your models. Painting figures is considered by many to be the most difficult aspect of modeling. However, if you are willing to take your time and practice, it can become the most rewarding.

After you have assembled your figure, it should be primed with a coat of #1168 Flat White. Use Testor spray paint or an airbrush if you have one. It is nearly impossible to get proper coverage with a brush. Accessories may be glued on at this point, but this sometimes makes certain areas of the figure difficult to reach with a brush. In these cases it is more convenient to paint these pieces separately and attach them to the finished figure.

Always use flat paints. Testor Flat Paints are manufactured for use on military vehicles and airplanes. However, when using Flat Paint for clothing on the figures, it is necessary to add talcum powder to the paint in order to make the painted surface appear really flat. Add powder to the paint gradually, testing it until the paint has no gloss. A #0 brush with a fine point is best for painting figures. Smaller brushes do not hold enough paint. Put some #1170 Flat Light Tan on a palette and mix in a little thinner so the paint flows smoothly off your brush. Apply an even coat over all the flesh areas. A second coat may be required for proper coverage. Now paint the eyes with #1149 Flat Black. These can be indicated by black slits, or if you wish, you can paint them as shown on the drawing. If they need shaping up, you can do this by painting around them with #1170 Flat Light Tan.

Begin shading by adding a very small amount of #1185 Rust with the Flat Light Tan. Fill in under the cheek bones and all areas indicated on the drawing. Proceed mixing progressively darker tones using Flat Light Tan and Rust until you finally use pure Rust. Use this color to outline all areas where the flesh meets the clothing (collar, cuffs, gloves, etc.). Finally, mix a small amount of #1183 Rubber with the Rust and paint fine lines in the mouth, nostrils, under eyebrows, inside ears and between fingers.

Add highlights by mixing Flat White with the Flat Light Tan. The drawing shows where these go. If you have any problems look at the photographs on the box.

Now begin shading the clothing. After the uniform is painted the proper color, hold it directly underneath a strong light. Notice where all the shadows fall. Mix #1149 Flat Black with your uniform color and fill in these areas, carefully following the sculpted wrinkles on the figure. You can blend the color on the uniform to this shadow color by lightly moistening your clean brush with thinner and carefully going over where these colors meet.

After you are satisfied with the shadows, hold the figure under the light again. Notice the areas where the light hits the strongest. Mix a little #1168 Flat White with the base color and carefully apply the highlights to these areas. Remember, the shadows go *under* the folds and the highlights go *on top* of the folds. Finally, you can outline all straps, belts, pockets, collars, and edges of clothing with a thin wash of #1149 Flat Black.

Observe real faces and clothing and notice how the light falls on them. Adapt these ideas to your figures, trying to make them as realistic as possible. You can also learn a lot from studying other people's figures. Don't be too subtle in your shading—contrast is what gives figures life.

Practice and experience are the best teachers, so do not be discouraged if you aren't pleased with your first few attempts. Always take your time and strive for a neat, crisp appearance. Have patience. It takes time to learn a new skill and it's worth it.

## WEATHERING HINTS

Nearly all military vehicles show some signs of wear and tear. The process by which the modeler imparts this look to a model is referred to as *weathering*. Many times, the weathering, that is, the representing on the model of rust, mud, oil stains, dust, chipped paint, etc., can really make a model stand out and give it amazing authenticity.

Always try to be logical in applying weathering techniques. For instance, you wouldn't want to show rust on top of mud or dust on your vehicle, nor would you normally want to cover a vehicle supposedly operating in the desert with mud. Vehicles move *through* the land they operate on more than *over* that land, and you must weather your vehicle in such a way that it makes sense.

After you have painted your model in its basic colors, begin by sealing the paint with one or two coats of Testor Dullcote. When this dries, you can add shading to the model using washes. A wash is simply thinner which has been tinted by adding paint to it. Use a broad brush and apply an even wash of #1149 Flat Black (use #1183 Rubber if your model is painted "sand" or tan) over the entire model. Apply this quickly, and before it dries, carefully wipe it off with a soft lint-free cloth. This should leave subtle shadows around all the projections and details. If you like, you can darken these shadows in certain places by adding additional washes with a fine brush.

Always work slowly and carefully, trying not to overdo the weathering. A good rule of thumb is that too little weathering is always preferable to too much. Knowing when you have applied enough is sometimes difficult to determine, so pause often and inspect your model for the desired effect.

The next step is highlighting your model. For this, use a technique called drybrushing. Wide, flat, chisel brushes in various sizes are used. On a scrap of cardboard, mix a small amount of #1168 Flat White with your basic model color and then wipe your brush off on a clean cloth until there is barely a trace of paint left. Drag this drybrush across the surface of your model. Paint will begin to collect on all the edges and high points of the model. Use a scrubbing action at first and literally tint your model with this color. Add a little more Flat White to this color and drybrush again, this time applying the paint a little more subtly. Repeat this process one or two more times, lightening the color and applying more lightly each time. Don't get carried away, though, the effect should be restrained at this point. After the paint has dried, apply the decals and let them dry.

If you want your model to appear new, it can be left as is. If you want a dirty or dusty model, you can now begin to dirty it up. But if your vehicle is to represent a non-combat or peacetime vehicle, be especially light-handed. Use Testor #1166 Flat Brown or #1167 Flat Tan, and apply using the drybrush method. For a dusty appearance, drybrush lightly; for a grubby or filthy look, scrub the paint on in blotchy or streaked patches. Again add further highlights adding #1168 Flat White and #1169 Flat Yellow, lightening your dirt color and pressure on the brush with each succeeding

layer. If your dirt color gets too washed out or yellowish, add a touch of #1185 Rust and #1165 Olive to it. When drybrushing always remember, a lighter color goes over a darker, and brush pressure gets lighter with each succeeding layer.

A little rust on mufflers and exhaust pipes is realistic, as is a hint of it on the metal parts of a vehicle's tracks. But as a rule, be sparing with it if you wish your vehicle to look authentic. Rust is one of the most overdone forms of weathering seen on models. Unless your model is supposed to be a wrecked or an abandoned vehicle, go very easy with the rust. To rust out a muffler, first apply a couple of heavy washes of #1183 Rubber. After this dries, mix some #1185 Rust with the Rubber and drybrush liberally. Follow this color with pure Rust, and if you wish you can add a touch of #1169 Yellow to this, drybrushing very lightly.

Dust is difficult to portray on a model unless you have the use of an airbrush. If you do, try shooting a light sand-colored paint at your model, with your airbrush held about two feet away from your model. If you do not have an airbrush dust may be simulated by the use of powdered artist's pastels carefully brushed onto your model a little at a time until the desired effect has been achieved. A similar effect can be had by using barbecue ashes just as they come out of your barbecue.

Occasionally there are areas on a vehicle where paint becomes scraped or scuffed off. Such areas include metal flooring, around hatches, grab handles, gun breeches, etc. Paint only rubs off under extreme wear, so keep this to a minimum. There are two ways to represent this. The first is by drybrushing *very lightly* with #1180 Steel or #1181 Aluminum. The second method is by applying graphite. You can do this by drawing directly on the area with a pencil, or by grinding the lead into a powder and applying with your fingers or a paint brush. This aspect of weathering is the easiest to overdo—so use it sparingly.

If you are building a tank, leave the tracks off until last and paint them separately. Use a touch of #1183 Rubber mixed with some #1166 Flat Brown. After this dries add a wash of #1149 Flat Black between the shoes, then, drybrush the shoes very lightly with #1181 Aluminum. Some tracks have rubber shoes—these areas should be painted Rubber.

Experienced modelers do several things to aid them in their hobby. One of the most helpful is attending meetings of their local International Plastic Modeling Society chapter. Here they see and discuss modeling techniques. Your local hobby shop will help you locate your local I.P.M.S. group. Serious modelers also collect books and photographs to use as reference when they finish their models. Again, your local hobby shop can help. Last, but certainly not least, your own observation will prove helpful. Visit museums. Look at buildings and vehicles around you. Notice how rust streaks a metal roof. See the oil and dirt on a piece of road grading equipment (almost identical conditions in which a tank runs). Study railroad boxcars and locomotives to see what the weather has done to them. Your own observation can be the best aid of all.

Remember: try not to overdo weathering—and *keep practicing*. Be patient, it takes time to discover and master all the tricks of this fascinating hobby.