

Pzkpfw. IV Ausf. H

No. 774

TESTORS



HISTORY

The *Panzerkampfwagen IV* was the only World War II German tank in production and active service for the entire war. It was the backbone of the German Panzer Divisions, seeing action in all of the battles and campaigns in which the German Army took part.

The *Panzer IV* was originally envisaged as a heavy close-support vehicle to be operated alongside light and medium tanks. Its heavier 75mm howitzer would enable it to engage targets that were beyond the range of the other tanks. Designed by Krupp to a 1934 specification, the first *Panzer IV*'s were delivered in 1936. As the war progressed, it became apparent that the light tank idea was superfluous, and the *Panzer IV* eventually became a main battle tank. Its armor and armament grew progressively heavier as technology advanced, until the design reached its apex with the *Panzerkampfwagen IV Ausfuehrung H*.

The *Panzer IV H* differed in many respects from the previous G version. The most apparent visual difference being the addition of "schurzen" armor skirting to help protect the vehicle from hollow charge weapons. These weapons were designed to burn their way through the armor and then explode inside the vehicle. The schurzen had the effect of "fooling" the charge into expending its energy before it penetrated the armor of the tank itself. The main gun was extended 15 inches for a total 48 caliber length. Extra 30mm applique nose armor, which was added to a few G models, became standard on the *H*.

More minor modifications included a lighter drive sprocket with open web type spokes, a new single piece hatch for the commander, the deletion of the roof signal port and side vision flaps from the turret and the moving of the radio antenna from the right side to the left rear corner of the hull. With the *H* model also came the advent of "zimmerit" textured paste which was applied to selected areas of the tank to protect it from magnetic mines which were designed to adhere to the armor plates of German tanks.

SPECIFICATIONS

Weight 26 tons
Engine one Maybach HL 120 TRM
water-cooled, V-12

Horsepower 300
Length 23 ft.
Width 9.3 ft. (11 ft. with skirts)
Height 8.8 ft.
Armament one 7.5cm KwK 40 L/48
Speed 24 mph
Range 130 miles road, 81 miles
cross-country

Crew 5

Reference Sources

Panzerkampfwagen IV, Workhorse of the German Panzertruppe, Uwe Feist and Walter Speilberger (Aero Publishers)

Pzkpfw IV in Action, Armor No. 12, Bruce Culver (Squadron/Signal Publications)

The Panzerkampfwagen IV, Bryan Perrett, Osprey Vanguard 18 (Osprey Publishing Ltd.)

Deutsche Panzer 1917-1945, Uwe Feist (Aero Publishers)

Encyclopedia of German Tanks of W.W. II, Chamberlain and Doyle (Arco)

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.

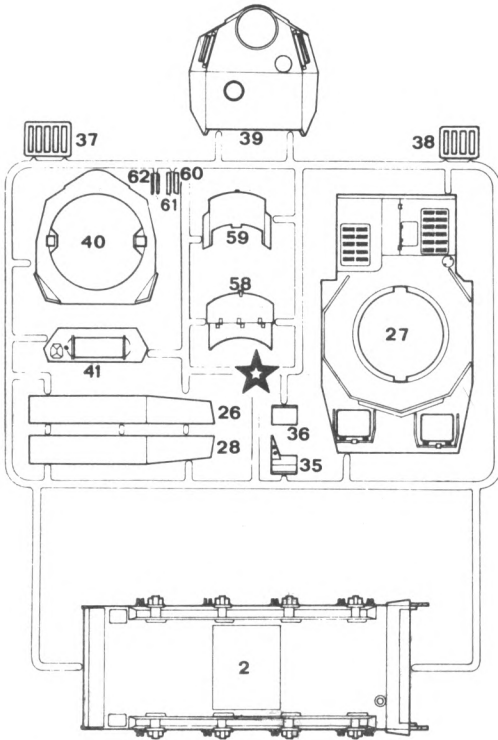
Let the paint dry completely before handling. When the parts are dry, assemble the model, following the directions closely. Remember cement will not stick to painted surfaces. Using your Testor Hobby Knife, carefully remove paint from all surfaces to be cemented. After you have assembled your model you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

Tweezers will be useful in assembling the many small parts in this kit. The type used by postage stamp collectors is recommended.

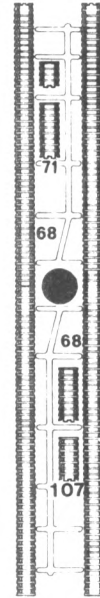
Liquid cement, Testor #3502, is recommended for construction since it can produce the neatest, quickest, and strongest glue joints. Apply small amounts of cement, using the tip of a 00 brush, to the surfaces to be joined while holding the parts in place. Do **not** use large amounts of cement.



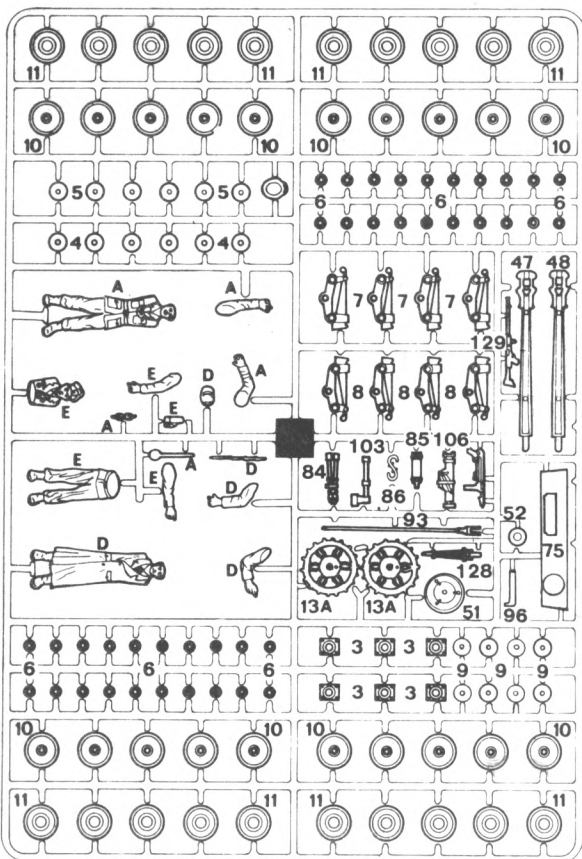
Parts from this section are identified with this symbol: ☆



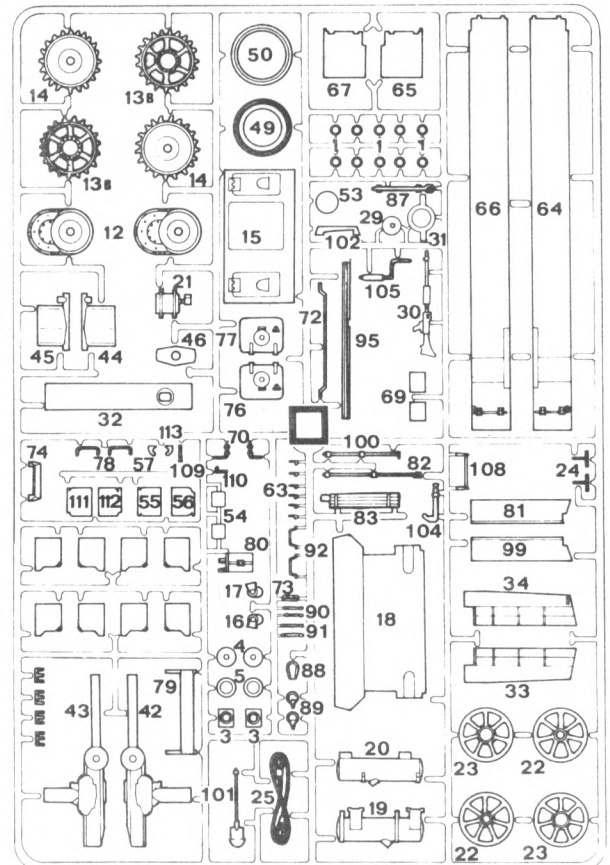
Parts from this section are identified with this symbol: ○



Parts from this section are identified with this symbol: ●



Parts from this section are identified with this symbol: ■



Parts from this section are identified with this symbol: □

The **Testor Model Master** paint system is specially designed to be used on military models. The **Preliminary Painting** instructions in the sheet indicate which **Model Master** colors to use by FS number and name. These colors are indicated by **bold italic type**. Wherever **Model Master** colors are not applicable, the required **Testor** color will be called out by number and name in **normal bold type**.

Any parts not called out in **Preliminary Painting** instructions should be painted **Dark Yellow**, which is the overall body color.

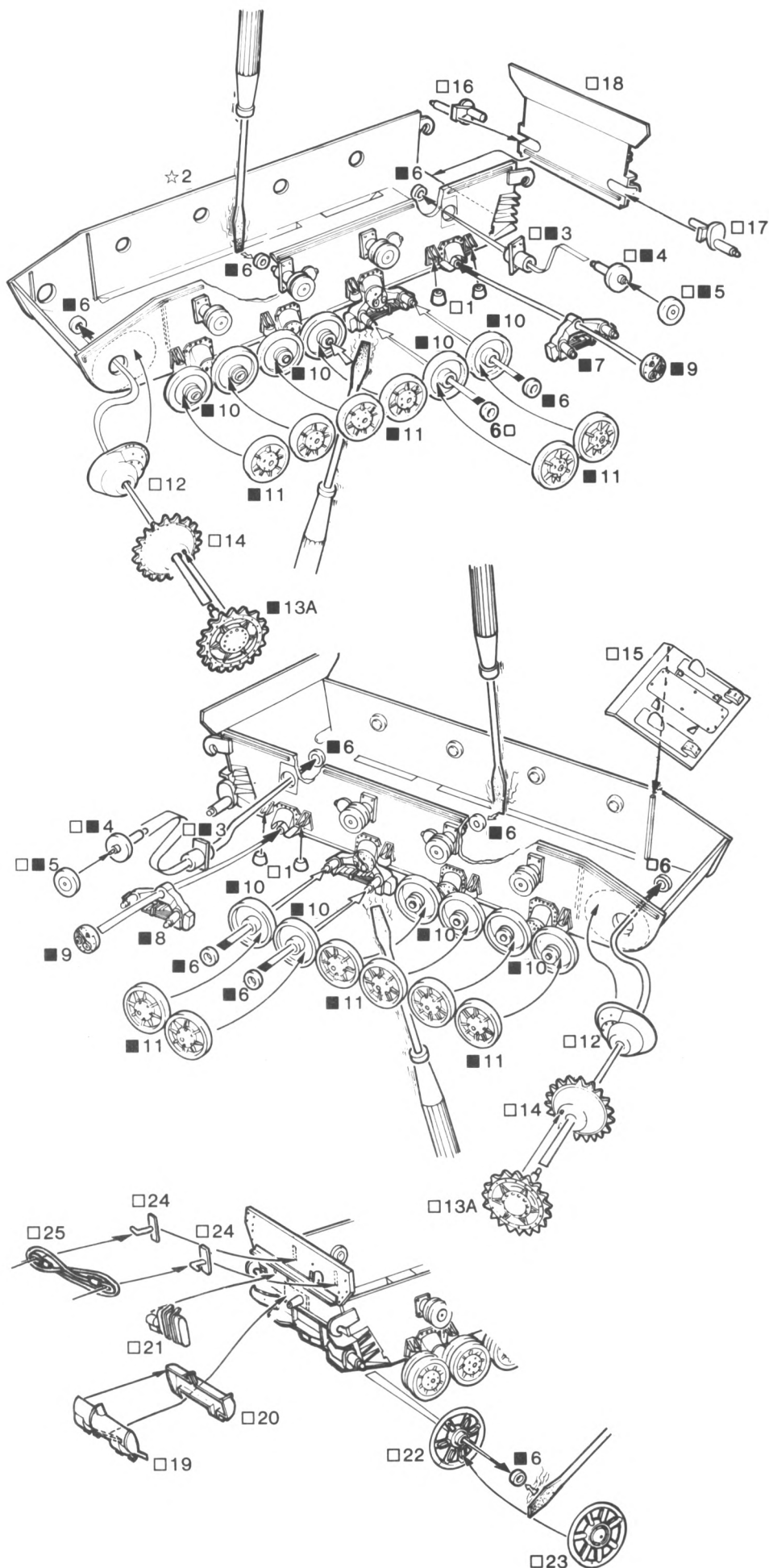
1 PARTS 1-25

Preliminary Painting

- 1 through □25 (overall body color):
"Dark Yellow" (mix 6 parts **FS 33531 Sand**, 2 parts **FS 30219 Dark Tan** and 1 part **FS 33538 Insignia Yellow**)
- 4, ■5, ■10, ■11 tire portion only:
FS 37038 Flat Black

Assembly

- 1. Cement bogey stops □1 to mounting brackets at sides of each bogey pivot on hull ☆2. Cement one return roller mount □■3 to each of the eight large holes on either side of hull ☆2. Glue one outer roller □■5 to each inner roller □■4. Slip (*do not cement*) a return roller into a return roller mount, then fasten by placing one retainer hub ■6 over end of shaft and fusing hub to shaft using a hot screwdriver. Repeat procedure for seven remaining return rollers.
- 2. Place (*do not cement*) one bogey ■7 over each pivot shaft on left side of hull, then fasten in place by carefully cementing one retainer plate ■9 to each pivot. Do not get cement on bogies or they will not operate. Repeat procedure for attaching bogies ■8 to right side of hull. Slip (*do not cement*) one inner road wheel ■10 over each axle on bogies, then fasten by carefully fusing one retainer hub ■6 to the tip of each axle with a hot screwdriver. Cement one outer road wheel ■11 to each inner road wheel ■10.
- 3. Glue one housing □12 to each side of hull as shown. Cement one outer drive sprocket ■13A to each inner sprocket □14. Slip (*do not cement*) one sprocket into each housing, then fasten in place by carefully fusing a retainer hub ■6 to the tip of each sprocket shaft with a hot screwdriver. Cement glacis plate □15 into upper forward portion of hull. Cement right idler axle □16 and left idler axle □17 to rear plate □18 at positions shown. Cement hull rear plate □18 to hull.
- 4. Cement muffler halves □19 and □20 together and cement to rear plate. Glue auxiliary motor muffler □21 to rear hull plate. Place (*do not cement*) one inner idler wheel □22 over each idler axle and fasten by carefully fusing a retainer hub ■6 to the tip of each axle with a hot screwdriver. Cement one outer idler □23 to each inner idler. Cement cable hangers □24 to positions scribed on rear hull panel. Glue cable □25 to hangers.



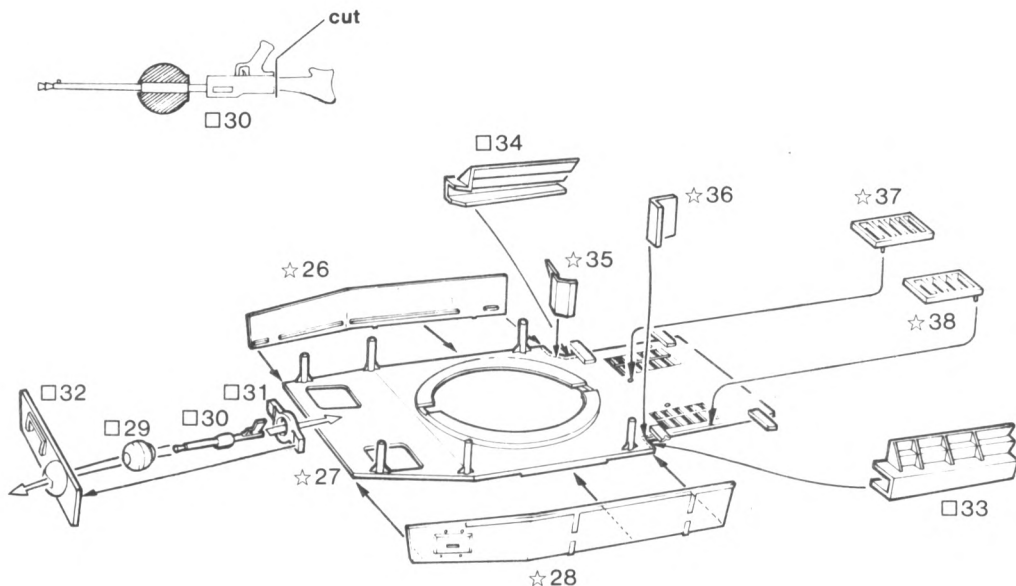
2 PARTS 26-38

Preliminary Painting

- 30:
"Gun Metal" (mix 10 parts *FS 15042 Dark Sea Blue* and 1 part *FS 17178 Chrome Silver*)

Assembly

- 1. Cement superstructure side panels ☆26 and ☆28 to top plate ☆27. Cut the stock off of machine gun □30 then glue into ball mount □29 as shown in fig. a. Place (*do not cement*) ball mount and machine gun into socket portion of superstructure front plate □32. Carefully cement retainer □31 onto backside of front plate □32 trapping ball mount between plate and retainer. Do not get cement on ball mount or machine gun will not elevate. Cement front plate □32 to front of superstructure.
- 2. Cement right and left engine vent housings □33 and □34 to tabs on either side of engine deck as shown. Glue superstructure corner plate ☆35 into left side of superstructure. Cement corner plate ☆36 into right side of superstructure. Cement engine intake baffles ☆37 and ☆38 onto underside of top plate at positions shown.



3 PARTS 39-63

Preliminary Painting

- 51 cushion on inside of hatch only (see box photos):

#1736 *Leather*

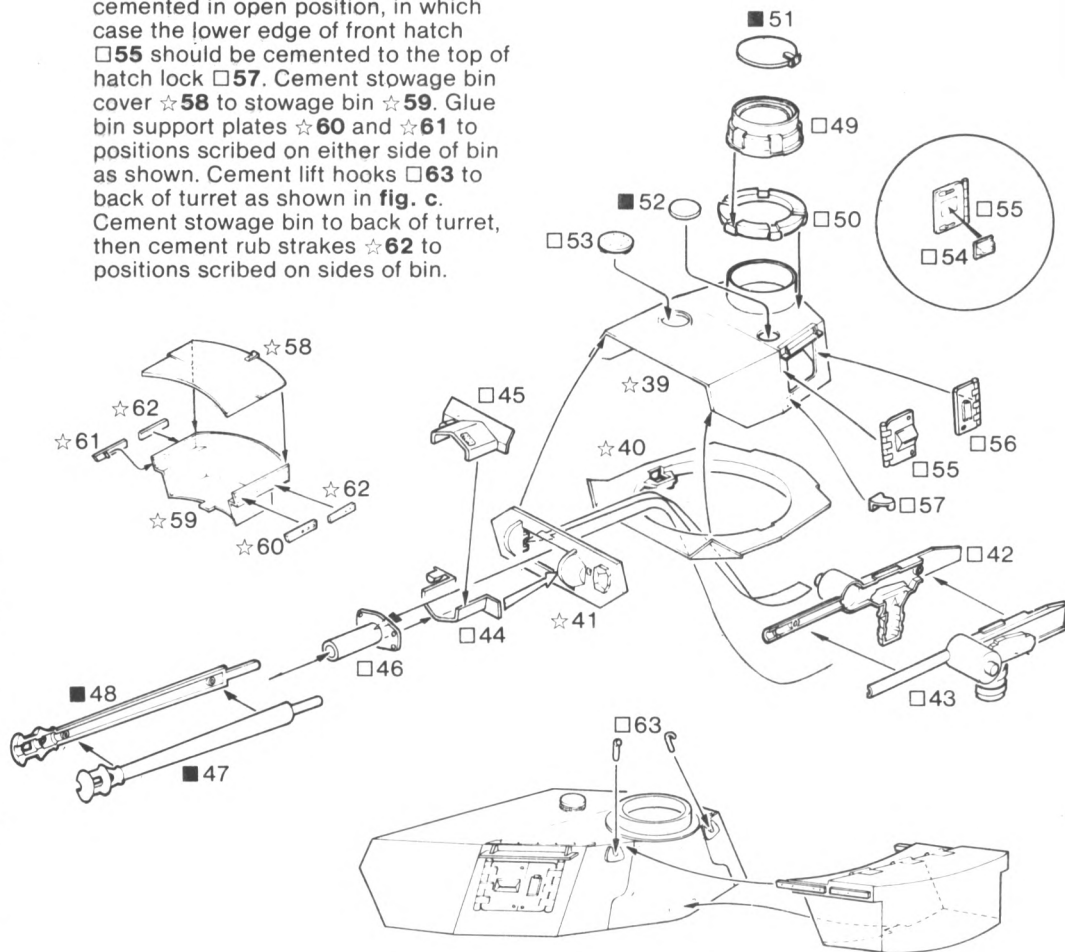
- ☆39, ☆40 interior of turret; ■51, □55, □56 inner side only; □42, □43, □54: **"Ivory"** (mix 10 parts #1168 *Flat White* and 1 part *FS 33531 Sand*)

NOTE: Although inner side of hatches were usually painted "Ivory", they were often repainted to match the exterior colors so that they would be less conspicuous when open.

Assembly

- 1. Cement turret ☆39 to turret base plate ☆40. Cement turret front plate ☆41 to turret. Cement gun halves □42 and □43 together. Cement mantlet halves □44 and □45 together, then glue mantlet front plate □46 to mantlet. Place (*do not cement*) trunions on gun (□42, □43) into slots on inside of turret front plate. Cement mantlet assembly to projecting portion of gun. Do not get cement on turret or gun will not elevate. Cement gun barrel halves ■47 and ■48 together, then glue into front of mantlet.
- 2. Cement cupola halves □49 and □50 together so that the five episcopes covers around their perimeters line up with each other (see box photos). Glue cupola to projecting barrel at top of turret making sure that one episcopes points directly forward as shown in drawing and box photos. Cement hatch cover ■51 into top of cupola in either open or closed positions; this hatch normally hinged on the left side as shown in the drawing, but occasionally was hinged at the back. Cement blanking plate ■52 into hole next to cupola. Cement ventilator cover □53 to hole on front portion of turret.

- 3. Cement vision block □54 onto inside of hatch □55 as shown in fig. b. Cement hatches □55 and □56 into left side of turret as shown. Cement front hatch lock □57 to position scribed on side of turret. These hatches may also be cemented in open position, in which case the lower edge of front hatch □55 should be cemented to the top of hatch lock □57. Cement stowage bin cover ☆58 to stowage bin ☆59. Glue bin support plates ☆60 and ☆61 to positions scribed on either side of bin as shown. Cement lift hooks □63 to back of turret as shown in fig. c. Cement stowage bin to back of turret, then cement rub strakes ☆62 to positions scribed on sides of bin.



4 PARTS 63-78

Preliminary Painting

□76, □77 inside only:
 "Ivory" (mix 10 parts #1168 Flat White and 1 part FS 33531 Sand; also see NOTE at step 3, pg. 4)

●71:
 "Dark Yellow" (see Preliminary Painting at step 1, pg. 3)

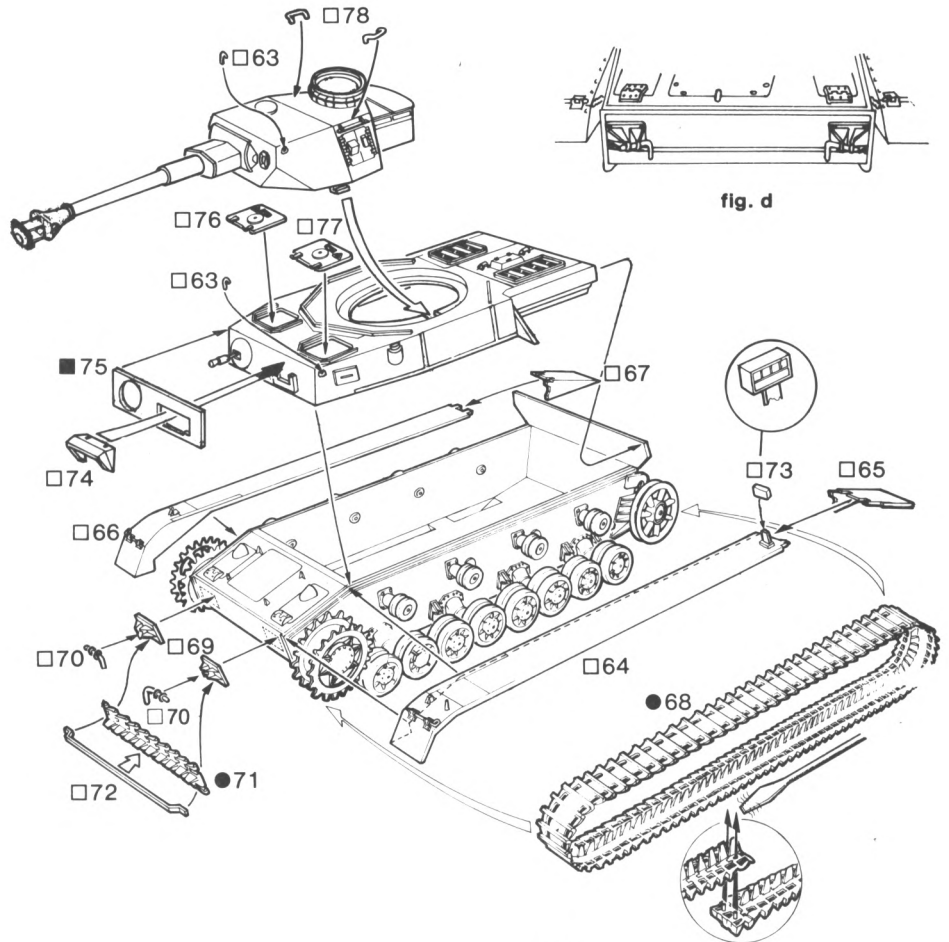
NOTE: The spare track links at the front of the vehicle were fitted at the factory and normally painted to match the rest of the tank.

Assembly

□1. Cement superstructure assembly to lower hull as shown. Fit (do not cement) the turret into the upper hull pointing to one side, then rotate the turret to lock it in place. Cement two lift hooks □63 to turret and hull at positions shown. Glue left and right fenders □64 and □66 to either side of hull. Cement left and right mudflaps □65 and □67 to rear end of left and right fender. Fit tracks ●68 around running gear by inserting one end of track between fender and drive sprocket and pushing until tracks exit out back fender. Notice that tracks run in one direction, that being as shown on the box photos, and not as shown in this drawing. Fasten the ends of tracks by pushing the pins through holes and melting over the ends of the pins with a hot screwdriver.

□2. Cement towing lugs □69 to the front of hull, noting that the webs on lugs should point inward as shown in fig. d. Glue hitch pins □70 to towing lugs. Cement track retainer bar □72 to lower portion of towing lugs and insert spare track links ●71 behind bar. Cement notek light □73 to projection at rear of left fender. Cement drivers

visor □74 to viewing port at front of superstructure. Cement applique armor plate ■75 to front of superstructure. Glue radio operator and driver hatches □76 and □77 to openings in superstructure. Cement grab handles □78 to positions indicated on top of turret as shown.



5 PARTS 10, 11, 79-93

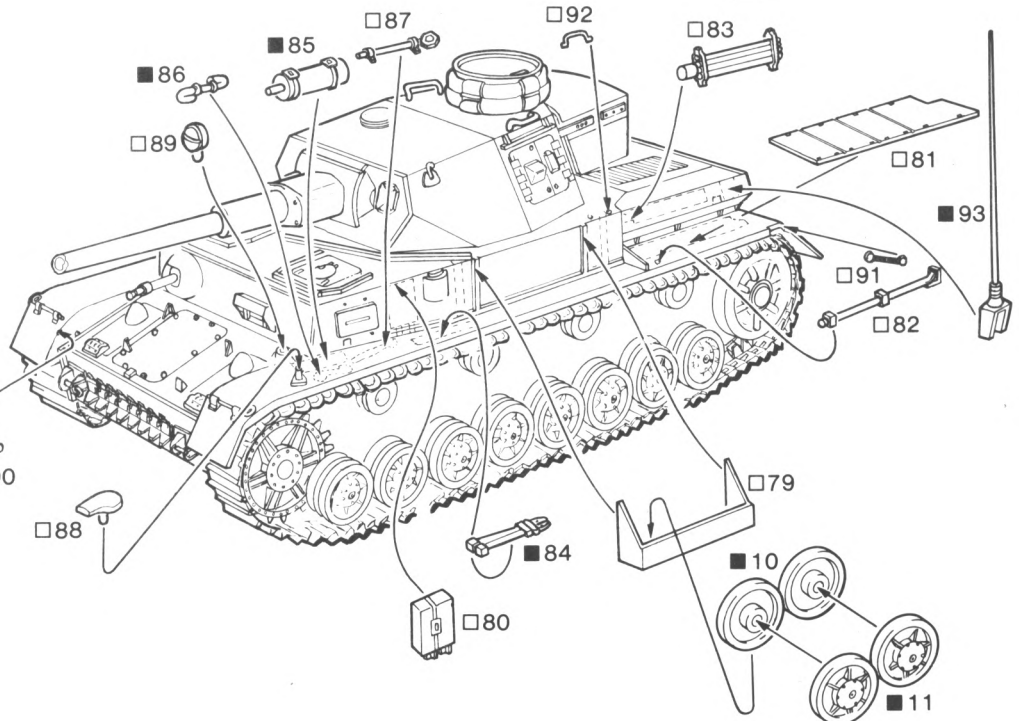
Preliminary Painting

■10, ■11 tires only:
 FS37038 Flat Black

Assembly

□1. Cement wrench, fire extinguisher and "S" hook □87, ■85, and ■86 to positions indicated on drawing. Cement headlight □89 to hole in mount. Glue notek light □88 to pin. Cement bolt cutter ■84 and wood block □80 to positions shown. Cement mudflap retainer spring □90 to inside of front fender.

□2. Cement two outer road wheels ■11 to two inner road wheels ■10. Cement spare wheel holder □79 to fender and side panel, then glue road wheels into holder. Cement crowbar □82, mudflap retainer spring □91 and engine vent flaps □81 to positions shown on rear fender. Cement radio antenna ■93 and gun cleaning rods □83 to side of engine vent housing. Glue grab handle □92 to position scribed at top of hull.



7 PARTS 114-129

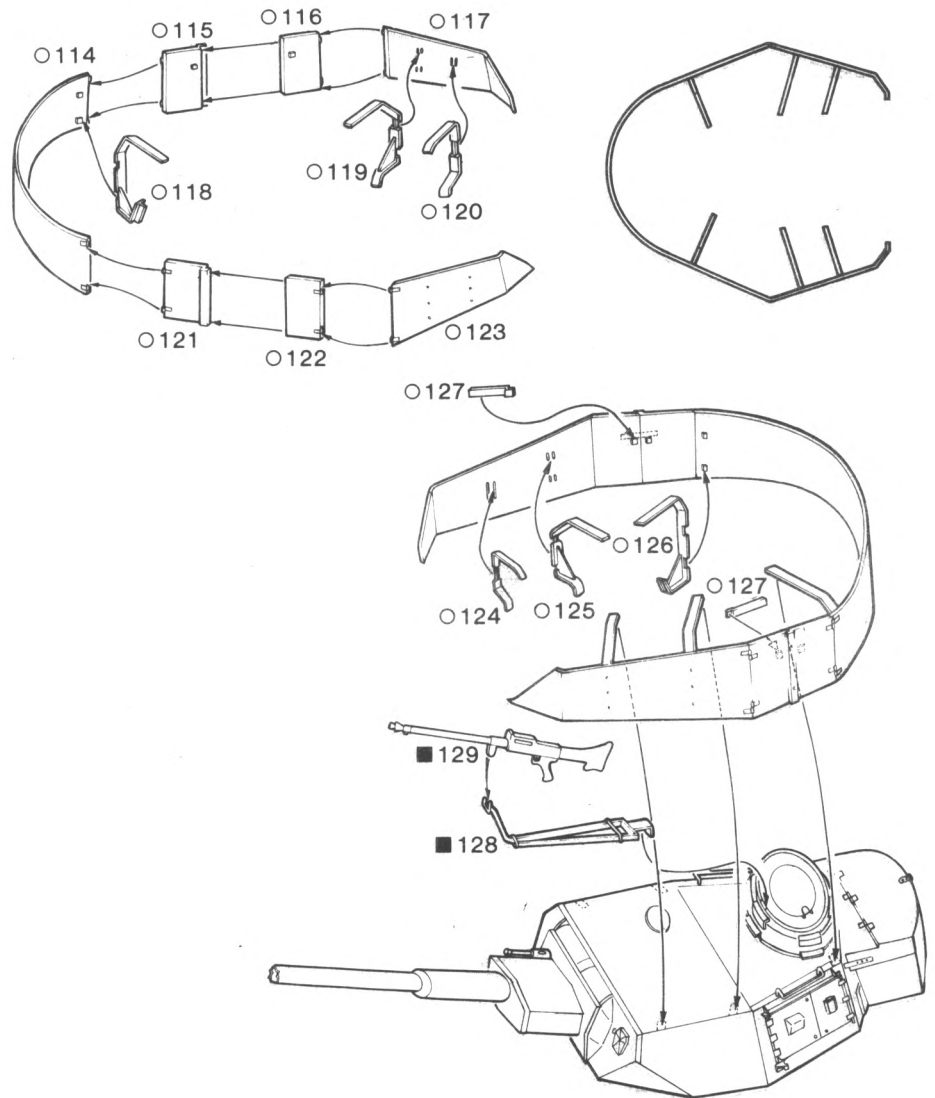
Preliminary Painting

- 129: "Gun Metal" (mix 10 parts **FS15042 Dark Sea Blue** and 1 part **FS17178 Silver**), with #1736 **Leather Butt**

Assembly

NOTE: It will be easier to paint and finish your model if all the skirts are left off and finished separately. Once all the painting and weathering on the model has been finished, the skirts can be added as the final step.

- 1. Cement left skirt doors ○115 and ○116 together. Cement rear skirt panel ○114 to doors. Cement left forward skirt panel ○117 to doors. Cement right skirt doors ○121 and ○122 and right forward skirt panel ○123 to this assembly. Cement skirt brackets ○118, ○119, ○120, ○124, ○125 and ○126 to positions shown inside skirts. Cement door locks ○127 directly above tabs inside doors. Glue finished skirt assembly at positions scribed on top of turret. Cement anti-aircraft mount ■128 to rim of cupola. Cement machine gun ■129 to mount.

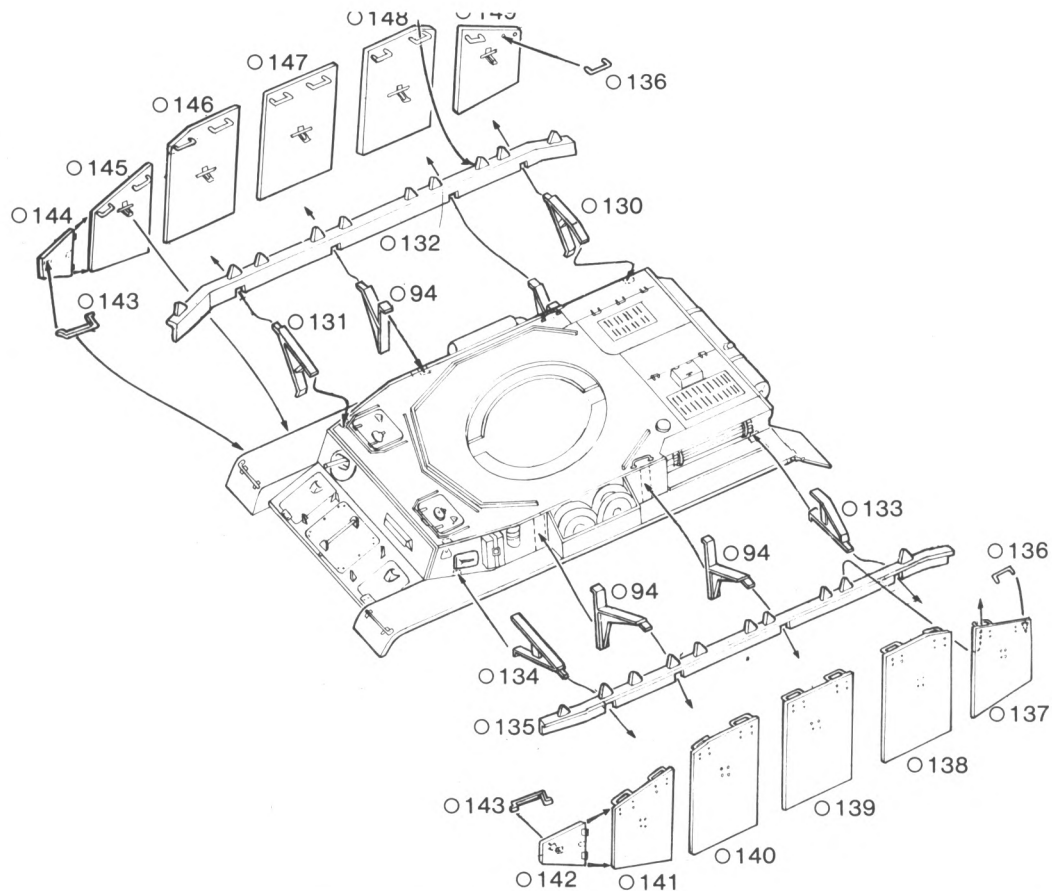


8 PARTS 94, 130-149

Assembly

NOTE: Again, it is suggested that the skirts be left off the model until all painting is completed. Cement skirt hangers to model paint skirts and model separately and add skirts to finished model as final step.

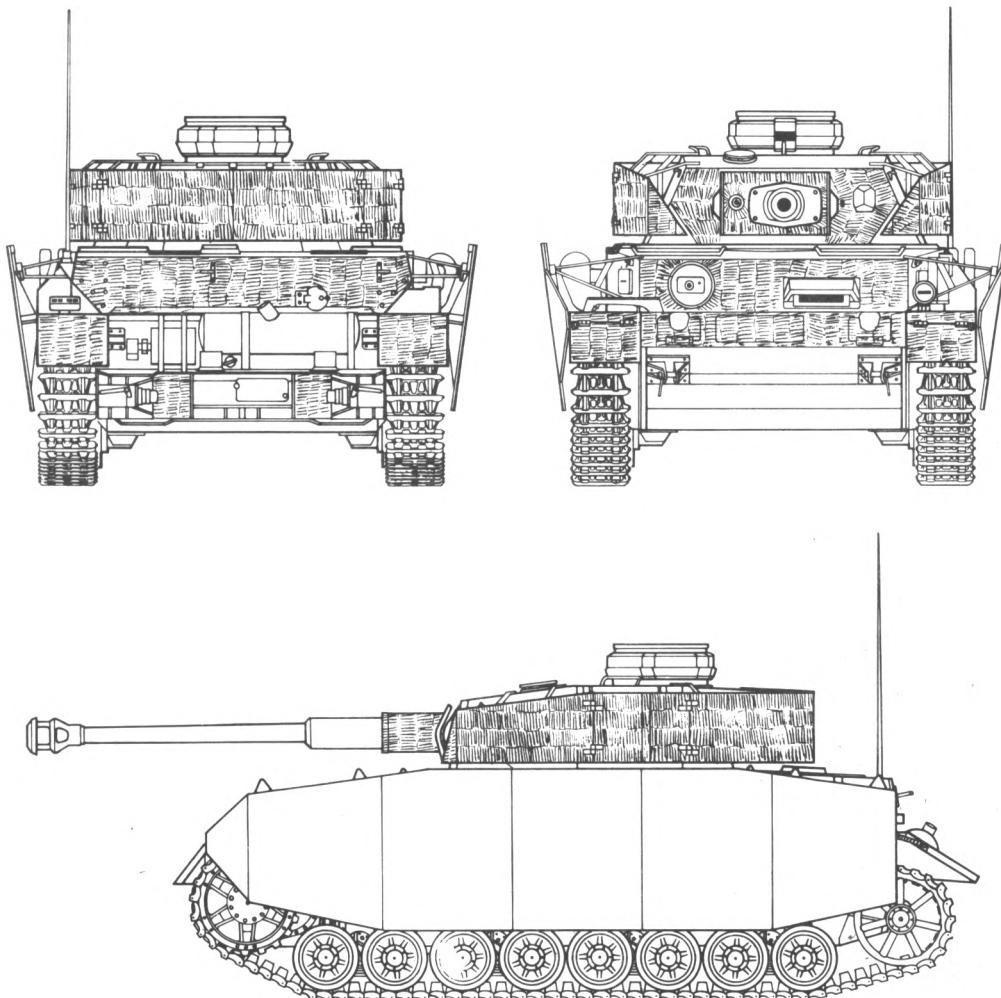
- 1. Cement one skirt bracket ○94 and skirt brackets ○130 and ○131 to positions scribed on right side of superstructure and engine vent housing. Cement skirt hanger ○132 to mounts as shown. Repeat procedure for left side using parts ○94, ○133, ○134, and ○135 respectively.
- 2. Cement two skirt retainers ○136 to holes inside each large skirt plate as shown. Cement one skirt retainer ○143 to each forward skirt ○142 and ○144. Cement or place each skirt at positions shown in drawing. Note that the small front skirts ○142 and ○144 will have to be cemented to the skirt immediately behind them, or the edge of the fender or both. See photos on box for proper appearance.



ZIMMERIT

Zimmerit was a cement-like paste, which, when applied to the outer surfaces of an armored vehicle, prevented the adhesion of magnetic "sticky mines" which were used by the Allies for defeating German tanks. Zimmerit became a standard feature on the *PzKpfw. IV H*, nearly the entire run of this model receiving it at the factory. All the versions depicted in this kit, with the exception of that belonging to the 3rd Panzer Division, utilized this finish. The drawings below, illustrate the textured pattern. The application of this finish is recommended for advanced modelers only.

Zimmerit was applied to the *PzKpfw. IV H* with a small trowel. This can be represented on your model using Testor Contour Putty and a miniature trowel. Cut a scrap strip of sheet plastic to a width of 9/64". Use a scrap piece of thin cardboard, such as the type used for this model box, and carefully spread a thin even coat of putty to an area no larger than one inch square. Allow this putty to dry for about 5-10 minutes. Test the putty by pressing lightly into it with your "trowel". The putty should be stiff on the surface, but still soft underneath. If the tool breaks through the outer skin of the putty, then let it set a little longer. Gently press the tool into the putty creating small ridges one over another in long rows, as shown in the drawing. Go slowly, and only do small areas at a time. You should try this technique on an old model or scrap of cardboard before committing it to your model. If you botch an area, carefully remove the wet putty from your model with a hobby knife and wipe the excess residue off with a cloth dipped in rubbing alcohol.



FIGURES

Refer to the drawings on the sprue page (pg. 2). All parts marked A go together to make FIGURE A, all parts marked D go together to make FIGURE D and so on. The drawings on this page illustrate their final appearance. It is suggested that the machine, pistol and helmet be left off FIGURE A until it is completely painted. (See pg. 12 for tips on figure painting). Use the painting guide below for painting of details. For more detailed study of uniforms, the book - **German Army Uniforms and Insignia 1933-1945**, Brian L. Davis (Arco Publishing Co.) - is recommended.

COLOR LIST

Field Gray:

(mix 2 parts **FS 35237 Medium Gray** and 1 part **FS 34102 Medium Green**)

Black:

FS 37038 Flat Black

Aluminum:

#1781 Aluminum

Orange:

(mix 8 parts **FS 33538 Insignia Yellow** and 1 part **FS 31136 Insignia Red**)

Pink:

(mix 10 parts **#1168 Flat White** and 1 part **FS 31136 Insignia Red**)

Red:

FS 31136 Insignia Red

Gold:

#1744 Gold

Khaki:

FS 30277 Armor Sand

Dark Green:

#1170 Flat Beret Green

PAINTING, FIGURE A

Helmet, pants and tunic:

Field Gray

Belt and shoes:

Black

Goggles and anklets:

Khaki

Belt buckle, gorget and insignia:

Aluminum

Piping on shoulder straps, police insignia on left upper arm:

Orange

PAINTING, FIGURE E

Shoes, pants, tunic, peak of hat, belt and holster:

Black

Belt buckle, insignia on hat and tunic, shoulder straps:

Aluminum

Crown of hat, shirt:

Field Gray

Cap band:

Dark Green

Piping on shoulder straps, collar tabs and hat:

Pink

PAINTING, FIGURE D

Hat and shirt:

Field Gray

Boots:

Black

Greatcoat:

Black or **Field Gray** Leather

Shoulder straps:

Gold over **Red** backing

Insignia and buttons:

Aluminum

Crown piping on hat:

Gold



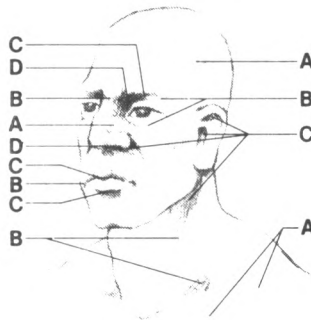
FIGURE A



FIGURE D



FIGURE E



Color Key for Face Painting

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

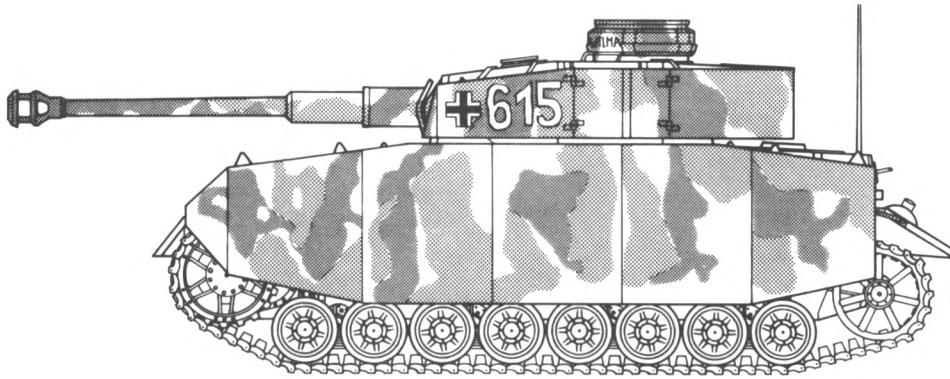
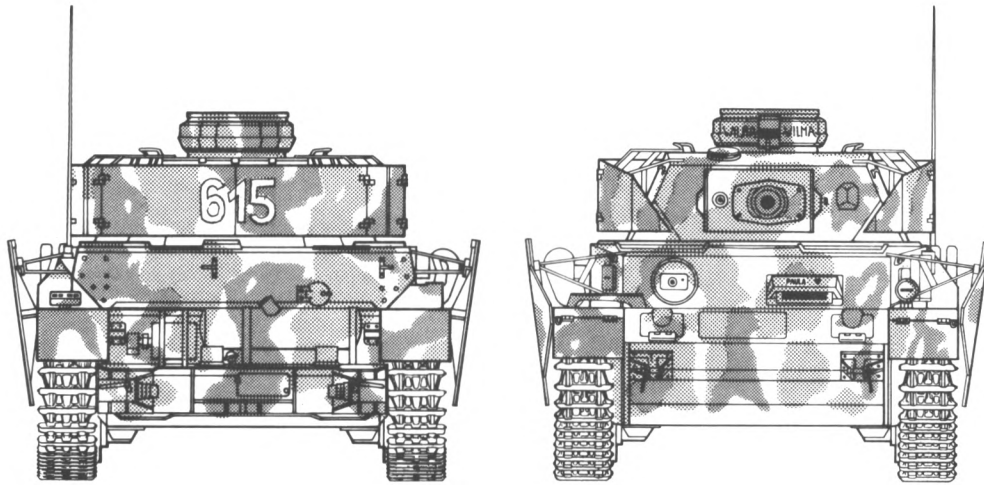
B: 2 parts **#1185 Rust** and 1 part **#1170 Flat Light Tan**

C: **#1185 Rust**

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

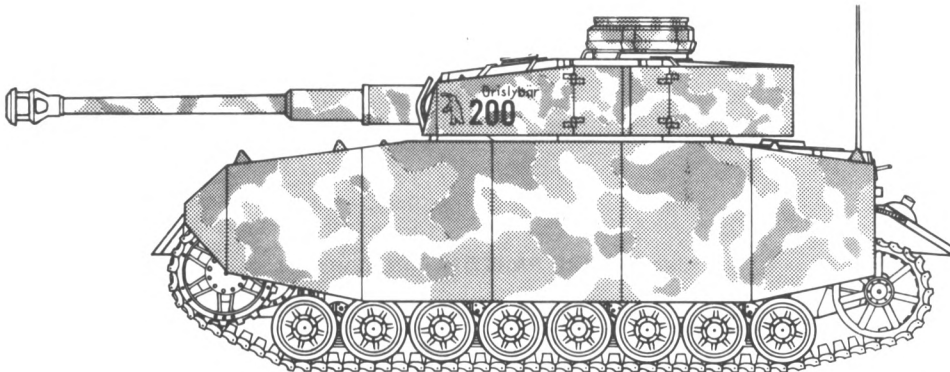
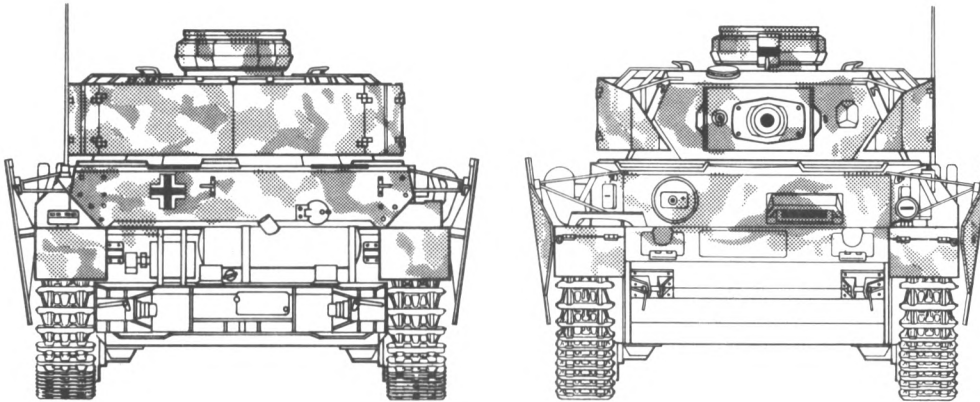
Highlights (white areas): 2 parts **#1170 Flat Light Tan** and 1 part **#1168 Flat White**

*See **FIGURE PAINTING** on page 12.



12th "SS" Panzer Division

3rd Panzer Division



COLOR KEY



1. "Dark Yellow" (mix 6 parts *FS 33531 Sand*, 2 parts *FS 30219 Dark Tan* and 1 part *FS 33538 Insignia Yellow*)



2. "Red Brown" (mix 1 part *FS 30219 Dark Tan* and 1 part *#1785 Rust*)

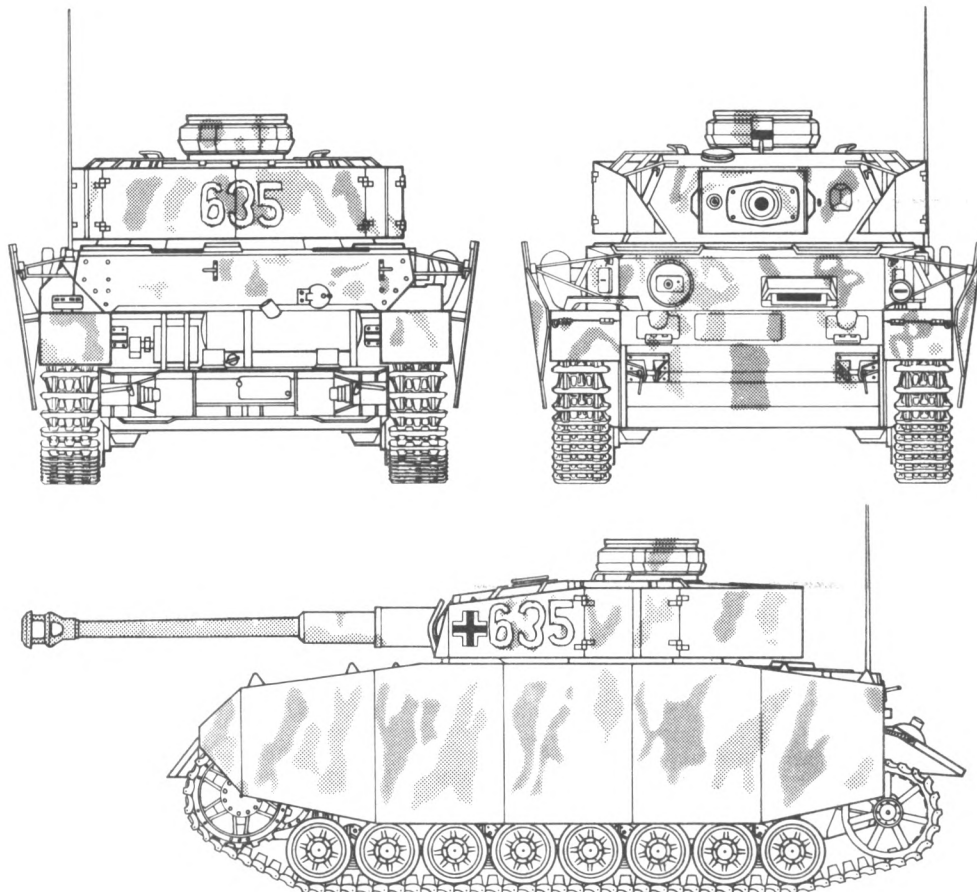


3. "Olive Green" (*FS 34151 Interior Green* is a close match for this color)

NOTE: The rough appearance of some of the turret numbers on our decal sheet is a deliberate attempt to simulate their actual appearance on the real tank. These numbers were hand painted over the rough zimmerit of the actual tank, giving them a very crude look (see pg. 8).

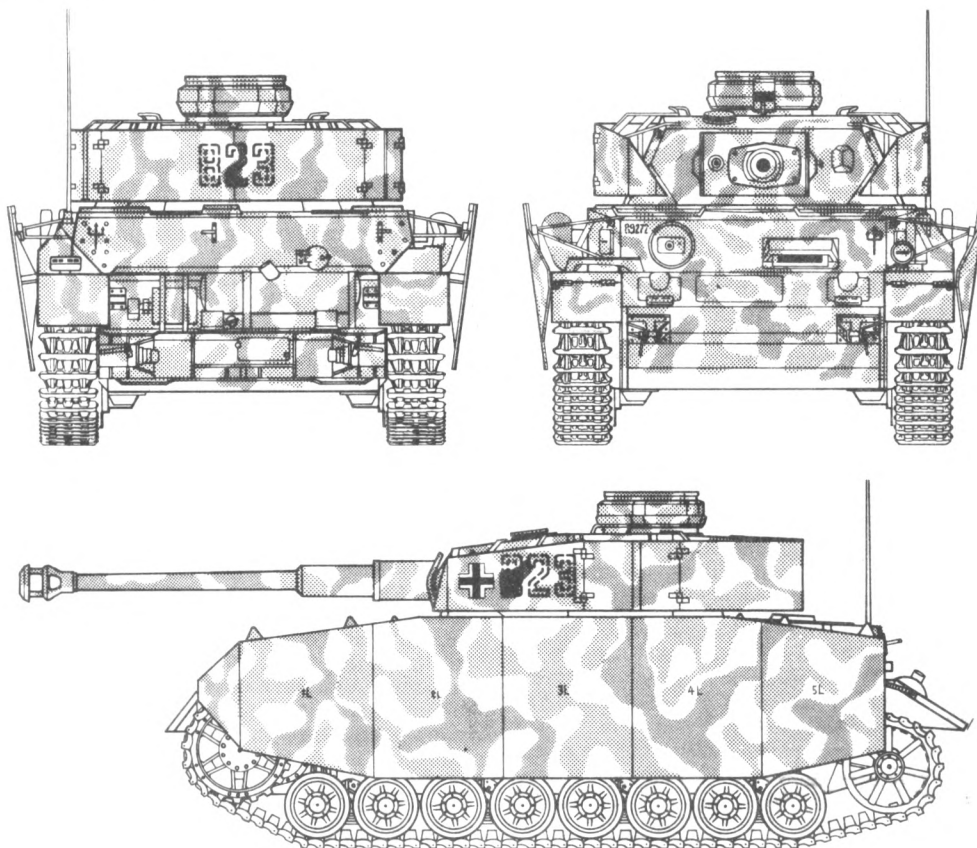
APPLYING DECALS

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.



12th "SS" Panzer Division

2nd Panzer Division



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 #1260 **Dullcote** or Model Master #1960 **Lusterless (Flat) Clear Lacquer**. This will help prevent subsequent washes from lifting the base color. 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. You should experiment with washes of differing strengths on an old model until you find the dilution which works best for you. A good wash should leave dark deposits in depressions and around projections without obliterating the base color in other areas. Use a broad brush and apply an even wash of **FS 37038 Flat Black** (use **FS 30118 Field Drab** 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 projections and details. If you like, you can darken these shadows in certain places by adding additional washes with a #0 brush.

The next step is highlighting your model. For this, use a technique called drybrushing. Wide, flat, chisel shaped brushes in various sizes are used. On a palette or scrap of cardboard, mix a slightly lighter shade of your base color. For example, if your model is painted **Panzer Gray (FS 36118 Gunship Gray)** is a close match) mix a little **FS 36375 Light Ghost Gray** into your **Panzer Gray** color. Wipe the brush off on a clean cloth until there is barely a trace of paint left in it. Gently drag this "drybrush" across the surface of your model. Paint will begin to collect on all the edges and high points of the model. You will soon begin to see how this enhances the shape of your model, causing the details to "pop-out." Use a scrubbing action at first and literally tint your model with this color. Lighten up this color a little more and drybrush again, this time applying the paint a little more subtly. Repeat this process one or two more times, lightening the color and drybrushing 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. Start by drybrushing the model with **FS 30219 Dark Tan**. You may want to adjust this color somewhat to more closely resemble the earth color prevalent to the area in which your model would be operating. For a dusty appearance, drybrush lightly. For a grubby or filthy look, scrub the paint on in blotchy or streaked patches. Try to keep in mind that a dusty vehicle would have a lighter chalky ap-

pearance, while a grubby vehicle would have patches of a more natural earth color. As with the base color you can drybrush on further highlights by adding **FS 33531 Sand** or **FS 33613 Radome Tan** to your basic earth color, again lightening your color and drybrushing more subtly with each succeeding layer.

When drybrushing always remember, a lighter color goes over a darker, and brush pressure gets lighter with each succeeding tone.

It is important, especially at first, to try not to overdo weathering. Weathering which is understated looks far more convincing than that which is overdone. Knowing when you have applied too much is often difficult to determine, so pause often and inspect your model for the desired effect. If your model is not weathered enough it is simple to add a little more, however, if you have gone too far it is difficult to "unweather" it.

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 wrecked or an abandoned vehicle, go very easy with the rust. To rust out a muffler, first brush on a coat or two of Testor Liquid Cement or lacquer thinner. This will craze the plastic and give it a slight texture. After this has hardened, paint the muffler **FS 30117 Military Brown** or **#1785 Rust** and follow with a couple of heavy washes of Testor **#1183 Rubber**. After this dries mix some **Rust** with the **Rubber** and drybrush liberally. Follow this color with pure **Rust**, and if you wish you can add a touch of **FS 33538 Insignia Yellow** to this, drybrushing very lightly.

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 and upper surfaces of a tank where the crew walks over it regularly. 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 **#1780 Aluminum** or **FS 17178 Chrome Silver**. 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 **FS 30219 Dark Tan**. After this dries add a wash of **FS 37038 Flat Black** between the shoes, then drybrush the shoes very lightly with **FS 17178 Chrome Silver**. Be careful though; some tracks have rubber shoes and these areas should be painted **#1183 Rubber**.

Vehicles operating cross country and on unpaved roads collect layers of mud and road dirt like a magnet. Heavy layers of mud can be built up with successive layers of Testor Contour Putty applied with an old paint brush. This can be painted with earth color paint. Remember that wet mud is dark in color, and turns lighter as it dries. Also thick globs of mud will dry slower than thin ones. A very realistic wet/dry mud effect can be obtained by painting the mud a light color and blending darker washes into the heavier areas. An effective way to create thin coverings of mud is by mixing baking soda with earth color paint. This technique has the advantage of minimizing the need to paint the mud after it has been applied.

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.