KIT. NO. MM 156

TIGER I

Panzerkampfwagen VI TIGER I (Sd.kfz.181) Ausfuehrung E

TAMIYA

1|35 MILITARY MINIATURES SERIES

History of the Tiger I tanks

Development of what eventually became known as the 'Tiger' Ausf. E., was initiated in a discussion with Hitler on 26th May, 1941.

Hitler had been impressed by the reports of the armour of the British Matilda and the French tanks, and wanted a heavier tank than the Pz.Kpfw IV to spearhead panzer attacks.

Whilst various medium and heavy tanks had been under development in Germany since

KV-1

T34/76

1937, no immediate plans were in hand to supersede or augment the PzKpfw III and IV owing to the satisfaction felt with them.

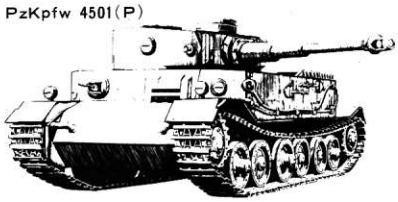
Within a week of the invasion of Russia on 22nd June 1941 the German forces came into contact with the Soviet Medium T.34 and heavy KV. I tanks. Both Russian tanks outclassed anything the Germans had, either in the field, or under development, and it was this which gave the impetus to implement Hitlers recommendations as quickly as possible.

The demand was for a tank mounting a gun capable of penetrate 100mm (approx. 4") of armour plate at 1500 meters (1640 yards); this tank, in accordance with current German practise, to have frontal armour capable of withstanding attack by a similar weapon. The gun advocated was an adaption of the highly successful 8.8 cm Flak 36, but the Ordnance Department were in favour of a smaller calibre weapon of either 6cm or 7.5 cm provided similar A/P performance could be obtained. By utilizing a smaller calibre gun the total size, and therefore the weight, of the projected vehicle could be lower.

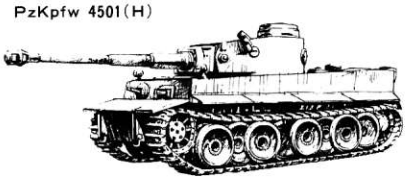
Whilst the performance of the 8.8 c.m. Flak 36 was known, the smaller calibre gun still had to be developed. The arguments in favour of a smaller tank were so self-evident however that it was decided to issue two separate specifications. The one given to Henschel designated VK 3601 (VK—Vollkettenhraftfahrzeug-fully tracked motor vehicle) being for a 36/40 ton tank to be armed with the tapered bore weapon 0725. The one given to Porsche was for a 45 ton tank to be armed with the 8.8 cm KwK and was designated VK. 4501. Separate turrets for both designs were ordered from Krupp.

Because of the shortage of tungsten steel essential for taper bore guns, Hitler ordered their elimination, including the weapon 0725. A total of only seven VK 3601 prototypes were therefore produced, the last of these appearing in April 1942. With the cancellation of the weapon 0725 and in order to enable Henschel to produce a tank with the requisite fire power within the alloted time, it was decided to utilise the turret and gun de-

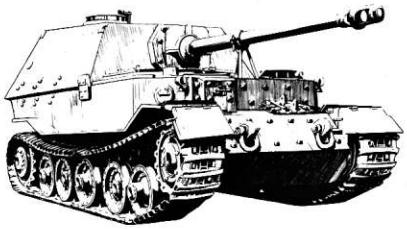
PzKpfw 4501(P)



PzKpfw 4501(H)

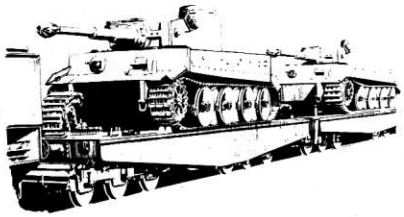


veloped by Krupp under the supervision of Professor Porsche for the VK. 4501 on the VK 3601 as well. A pointof interest about this turret is that the sides and rear were formed from a single plate of armour 82 mm ($3\frac{1}{4}$") thick bent round into the shape of a horse shoe. Owing to this turret having a ring diameter of 6'-1" (185 cm) against the 5'-5" (165 cm) ring diameter of the VK 36 01 Henschel was forced to alter their chassis to accommodate it. This was done by widening the hull above the tracks thus changing the section from a rectangular form to a 'T'



shape. Due to these chassis alterations, the heavier gun, and heavier turret, the weight of the vehicle was increased considerably, and the designation was therefore changed to VK. 4501 (H). This new project vehicle had the same main components such as transmission, final drive, and road wheels as were developed for the VK. 3601.

During development of the VK. 4501 (H) two versions were contemplated. The VK 4501 (H) which was as built with the Krupp



turret mounting the 8.8 cm KwK36, and the VK. 4501 (H2) which was to have had a Rheinmetall designed turret mounting the 7.5 cm KwK 42 (L/70). This second version was never built.

By the middle of 1941 Henschel had made preparations for production of 60 vehicles and even before a prototype was finished they had increased their preparations to cover a further 1300.

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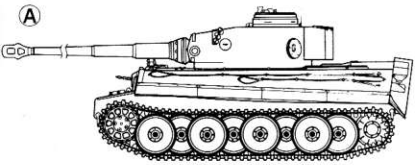

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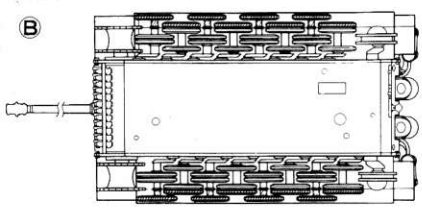


The first prototypes of the VK. 4501(H) and VK.4501(P) underwent their first competitive trials at Rastenburg in front of Hitler on his birthday the 20th April, 1942. The results of these, and subsequent trials were supposed to have shown that the Henschel vehicle was superior, thus production orders were placed for it. The Porsche vehicle, known colloquially within the firm as 'Tiger' now drops out of the picture as a battle tank, although the chassis of the 90 already ordered by Hitler and under construction were eventually adapted as the Panzer Jaeger Elefant'.

Actual production of the Pz.Kpfw 4501(H) commenced in August 1942 with twelve units a month. On Hitlers insistence, production was improved, so that by November 1942 the rate had reached 25 units per month. This increase continued and a maximum monthly output of 104 was obtained in April 1944. Production ceased in August 1944 after a total of 1355 had been built including prototype.

The designation Pz.Kpfw VI was eliminated through Hitlers order of 27th February 1944, the official designation from then on becoming Pz.Kpfw "Tiger" Ausf.E. which had in fact. appeared on official documents prior to this. The page consisting of the two view drawings shows a fairly eary production model (Chassis No.250122) fitted with full equipment and battle tracks. As mentioned previously, in order to reduce the width for transportation purposes, the outer wheel of each set of three (shown shaded in the underneath view of the same vehicle) was removed, narrow tracks were fitted,the outer portions of the front and rear mud flaps were hinged upwards, and the side mud guards removed entirely.

In view of the size and weight of these vehicles it was envisaged that difficulties would be met in crossing rivers by normal methods, for even in Germany not many bridges were officially of capable of carrying their weight. The original specifiication therefore included equipment to enable them to submerge up to depths of approximately 13 feet (4 metres) and cross on the bed of rivers. There is no evidence to prove that this feature was ever used in action, tank crew being very reluctant to go under water.

Hitler ordered in July 1942 that the first 'Tiger' Company was to be ready for action by September at the latest. This was against the advice of his Panzer experts and Generals, who wanted it to be throughly tested, crews trained, and them used for a massed attack in a Spring offensive in 1943. Following Hitlers orders the first company of 'Tigers' were used in action on the 23rd September 1942 in a secondary operation, in unsuitable tank country consisting of swampy forests near Leningrad. Here they were forced to move in single file along the roads which the Russians had covered with considerable numbers of well concealed heavy antitank guns. The results of this was heavy casualties among the 'Invincible' new 'Tigers' and complete loss of secrecy and the surprise that could have been effected the following Spring. Even worse was the fact that due to the weather and terrain the objective of

this attack was not even gained despite the cost. The introduction of the 'Tiger' was therefore a repetition in its way of the introduction of the British Mk.1 tanks on September 15th 1916. After this debut 'Tigers' appeared in North Africa in April, 1943, Sicily, Italy, and North West Europe, continuing as fighting tank up to the end of the war. 'Tiger, Battalions were originally organised as independent units under G.H.Q. troops. Later it was decided to include 'Tiger' tanks in the basic orgnization of German Armoured Divisions, but this never took place except with certain S.S. Panzer Corps.

At the time of its introduction the 'Tiger' Ausf. E. was the most powerful tank anywhere in the world. Workmanship was of a very high order, and the transmission and steering were extremely complicated, requiring many man hours to produce. Some justification for the fully regenerative steering and eight forward ratios in the gearbox, which was fully automatic, was that the vehicle was very light to control. Whilst first class crews were available the 'Tiger' was an efficient tank, but as the standard of training dropped so the mechanical failure rate increased. The main drawbacks, apart from the difficulties of transportation, were a short range of action, due to a fuel consumption of 2¾ gals. per mile, and a slow turret traverse. Whilst the turret traverse was normally hydraulic, in case this became inoperative hand traverse wheels were provided for both the Commander and Gunner. A factor which had nothing to do with the design or construction of the 'Tiger', but which tended to hamper its use, was a High Command Order that they were not to be allowed to fall into enemy hands.

Although the original idea was for an offensive tank, their lack of mobility and the changing strategy of the war led to them being used and more as a definsive weapon.

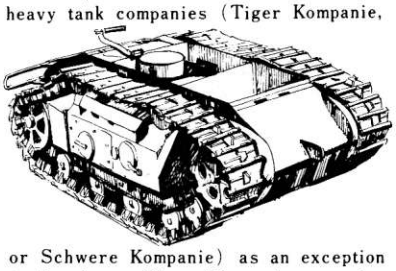
In this role they were formidable, being used more and more as a defensive weapon. In this role they were formidable, being completely impervious "Head On" to the British 6pdr., American 75 mm, and Russian 76 mm although the British 6 pdr could effect side penetration at close range. Until the advent of High velocity ammunition for the 6pdr. and the American 76 mm. and the introduction of the Russian 100 mm and 122 mm guns however the Tigers frontal armour was considered shot resistant.

The engine used on the 'Tiger' Ausf. E. was a development by Maybach of their range of 12 cylinder Vee engines as fitted to Pz. Kpfw III and IV but of far greater capacity. On the first 250 'Tiger' Ausf. E. they had the same engines as were mounted in the Panther D, differing only in details, mainly to do with the mounting. For the remainder of production these engines were increased in capacity for a larger power output. These improved engines were also fitted to the Tiger B, and the Panther Ausf. A. and G.

The Tiger I tanks had been active primarily in an independent heavy tank battalion (Heeres Schwere Panzerabteilung) formation under the direct command of the Army Corps (Korps). The H.S.P. itself existed before the outbreak of the Russo-German war but the history of the H.S.P. with the Tiger I tanks at its nucleus had began in the autumn of 1942. The formation during the 1942–1943, period was as figure A (page 3).

During the 1944–1945 period, production of the Tiger I got on the right track and its war tactics were fully completed. With this progress, the Tiger H.S.P. was much improved in formation and increased in number. By 1945, its number increased to 9 in the National Defence Force and 2 in the SS divisions. The formation at the time figure B (page 3).

However, since 1942 there existed several heavy tank companies (Tiger Kompanie,



or Schwere Kompanie) as an exception to the above. These Tiger I companies such as the 8th (later, 9th) Company, were always attached to the 'elite' division of the National Defence Force and the SS forces.

PAINTING & APPLYING DECALS

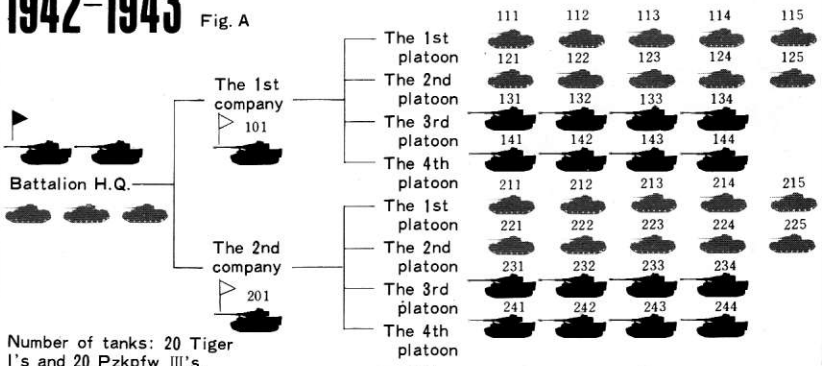
《Painting of Tiger I》

From 1935 to February 1943, German military vehicles for use in Africa wore uniform painting of dark yellow, camouflage of reddish brown and/or dark green on a dark yellow ground, while those for use in Europe were painted German Grey overall. In February 1943, the German authorities accepted only uniform dark yellow painting as a standard and after that many vehicles were repainted in this way. However, various camouflages were worn according to the season or the terrain of the battlefield. These were applied onto the basic colour by means of a brush or spray gun. And also matt white paint was often used in winter or the Eastern theatre of the war.

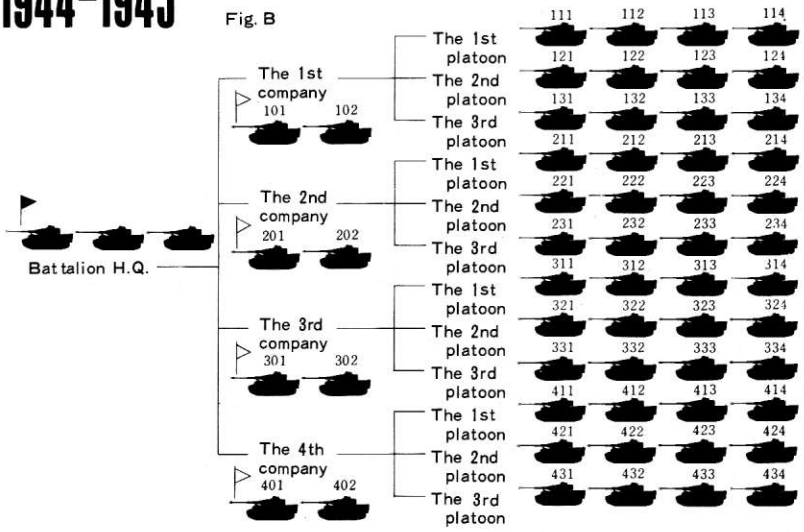
《Paint to be used》

Matt Black
Matt White
Copper
Metallic Grey
Dark Yellow
Dark Green
German Grey
Red Brown
Light Grey

1942-1943 Fig. A



1944-1945 Fig. B

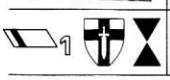


Number of tanks: 59 Tiger I's

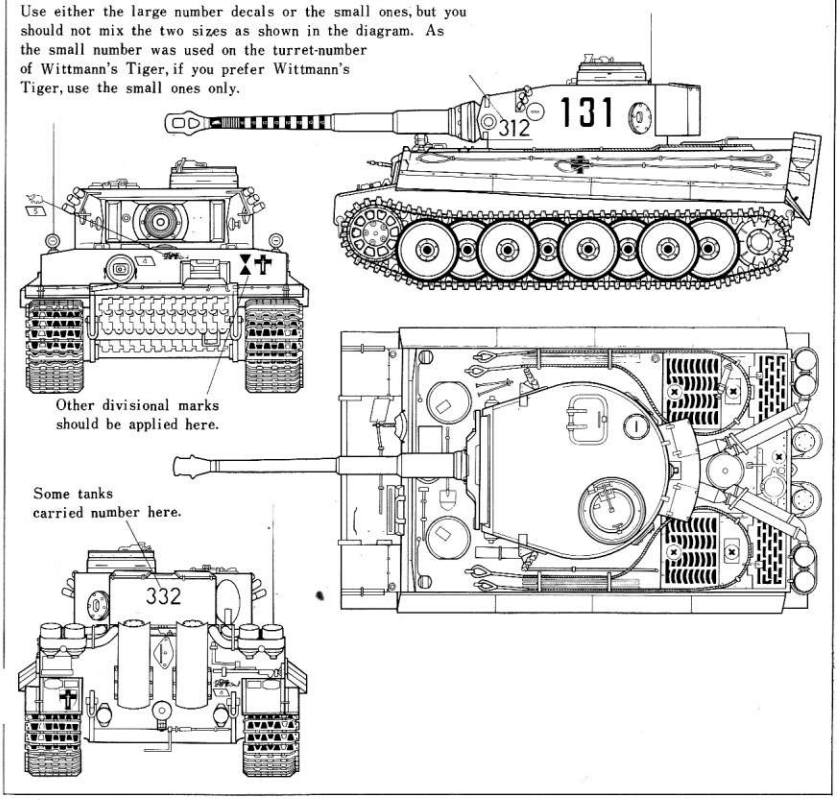
《Marking of Tiger I》

Wehrmacht		The German Army Panzer Division, "Grossdeutschland"
		The German Army Parachute Panzer Division, "Hermann Göring"
Waffen SS		The 1st SS Panzer Division, "Leibstandarts SS Adolf Hitler"
		The 1st SS Panzer Division, "Leibstandarte SS Adolf Hitler" After the Normandy operation, the badge was changed to this one
		The 2nd SS Panzer Division, "Dass Reich"
		The 2nd SS Panzer Division, "Dass Reich" After the Kursk battle, the badge was changed to this one.
		The 28th Panzergrenadier Division

Markings on Tiger I Captured in Tunisia

	The crest for the 501th Independent Heavy Tank Battalion
	This badge for the heavy tank battalion shows the initial letter, "S" for the German adjective, "Schwere" (heavy).
	The badge for the heavy tank battalion which has changed at the time of the Normandy operation
	The kill-marks drawn on the gun barrel of Wittman's Tiger I which destroyed 88 enemy tanks.
	Badges for the British 1st Army.

Use either the large number decals or the small ones, but you should not mix the two sizes as shown in the diagram. As the small number was used on the turret-number of Wittmann's Tiger, if you prefer Wittmann's Tiger, use the small ones only.

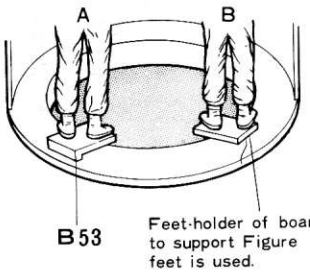


★Study the instructions and photographs before commencing assembly.
★If you paint your model, small parts and internal parts should be painted while still on the sprue.
★You will need a sharp knife, a screwdriver, a pair of tweezers, a file, and a pair of pliers.
★In painting, interior parts such as the turret inside should be painted in matt white or matt light grey. The outside surface may be painted after the whole assembly.
This mark shows the colour this part should be painted.

2 〈Construction of Gun Turret, A〉

Note that rear parts of Gun Barrel are different in length. Loading Section is movable, up and down. Do not cement but hold it in place with two B3 parts inserted from outside.

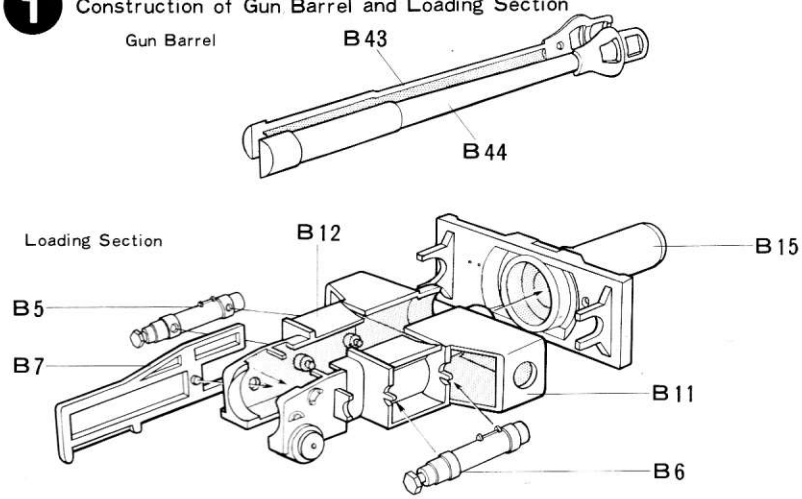
〈Position of Figure Feet〉



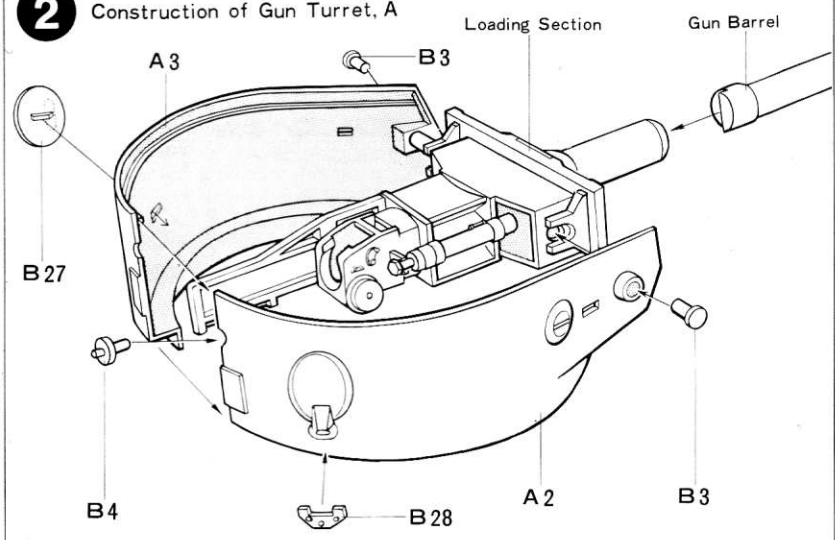
3 〈Construction of Gun Turret, B〉

Gunner's Hatch B38 can be fixed in either open or closed position. If you want to place Figure here, be sure to cement this hatch in open position.
★Fix but not glue Commander's Hatch onto Gun Turret by inserting its both pins by turns into holes of Cupola.

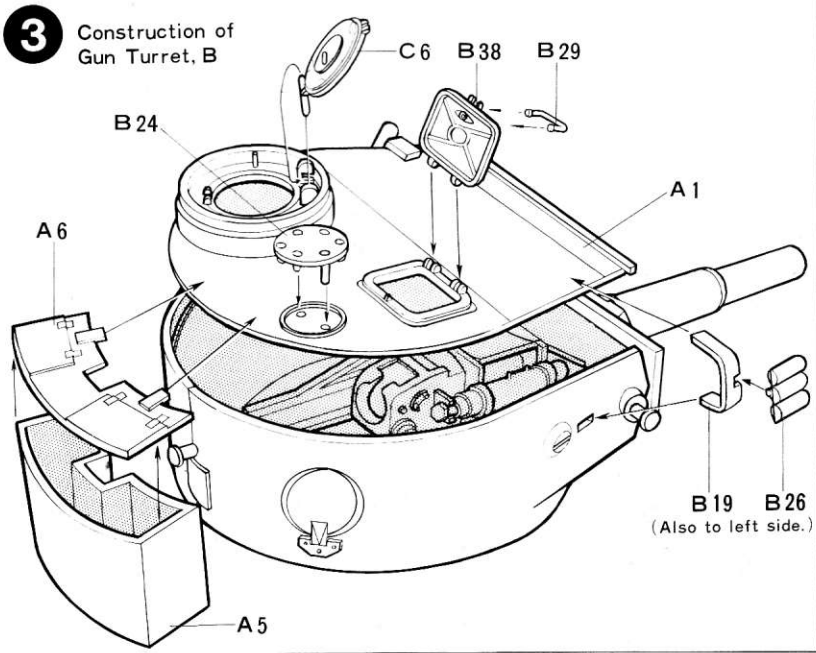
1 Construction of Gun Barrel and Loading Section



2 Construction of Gun Turret, A



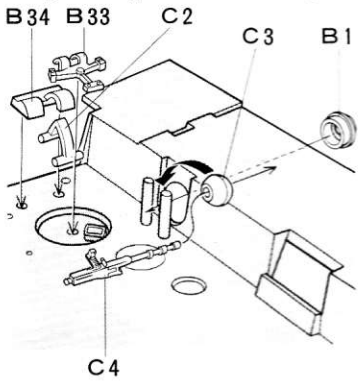
3 Construction of Gun Turret, B



4 〈Construction of Upper Hull〉

In fixing Hatches B36 and B37. make sure to refer to the figure below.

〈Figure of Upper Hull Underside〉

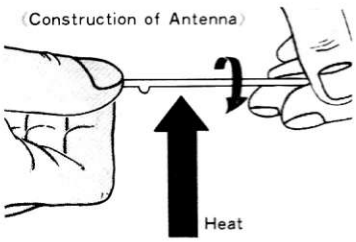


★Be careful not to touch cement to Hinges of Hatches. C2 etc.
★Assemble Machine Gun C3 and C4. and pass the barrel through a hole on Lower Hull before cementing B1.

5 〈Construction of Rear Panel〉

Construct Right and Left Air Cleaner Assemblies and cement them to Rear Panel A4 and dry. And then fix Exhaust Pipe Assemblies and Covers B13 and B14.

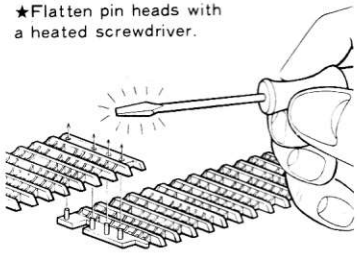
〈Construction of Antenna〉



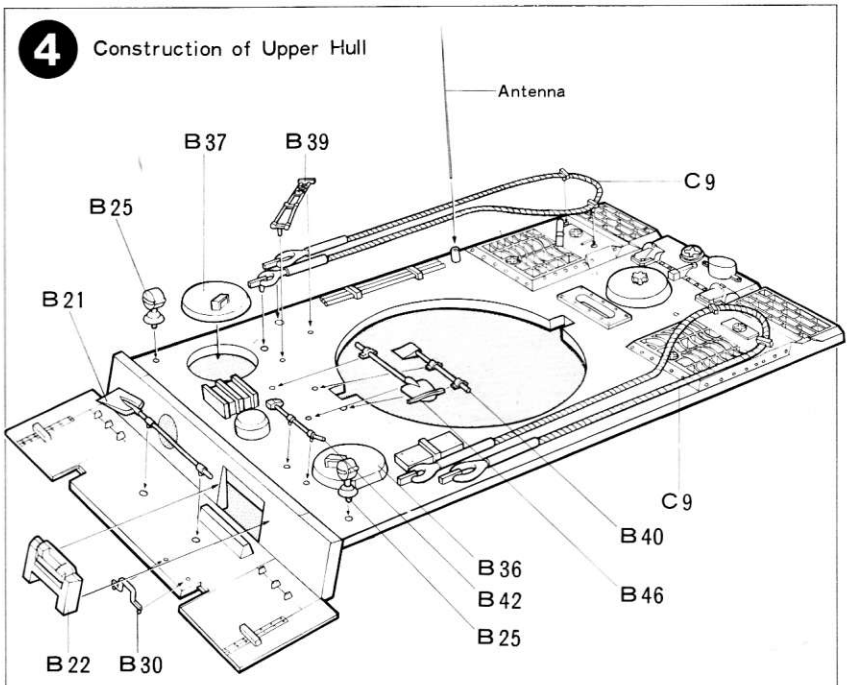
★Cut off any one of runners on which various parts have been attached. Pull it both sides while warming it over a heating device so that it will become slender and elongated. Cut it to a suitable length and you will have an antenna ready for use.

〈Connecting Tracks〉

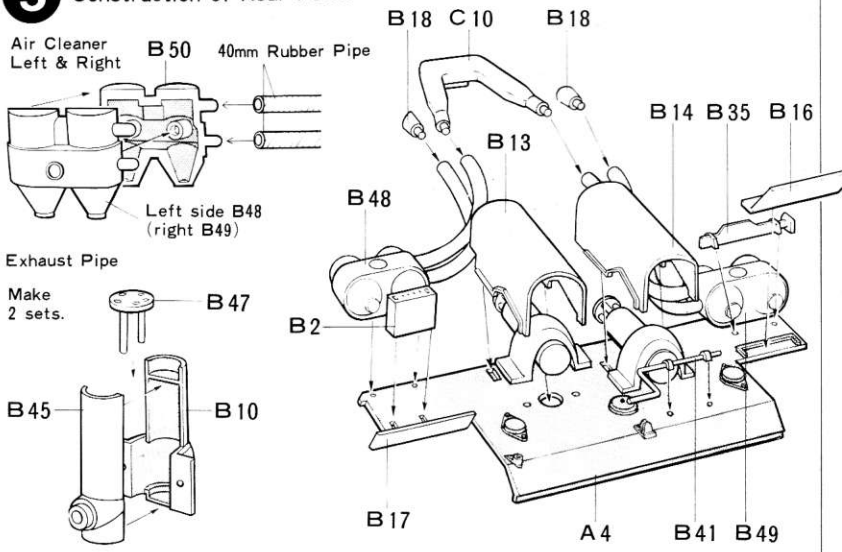
★Flatten pin heads with a heated screwdriver.



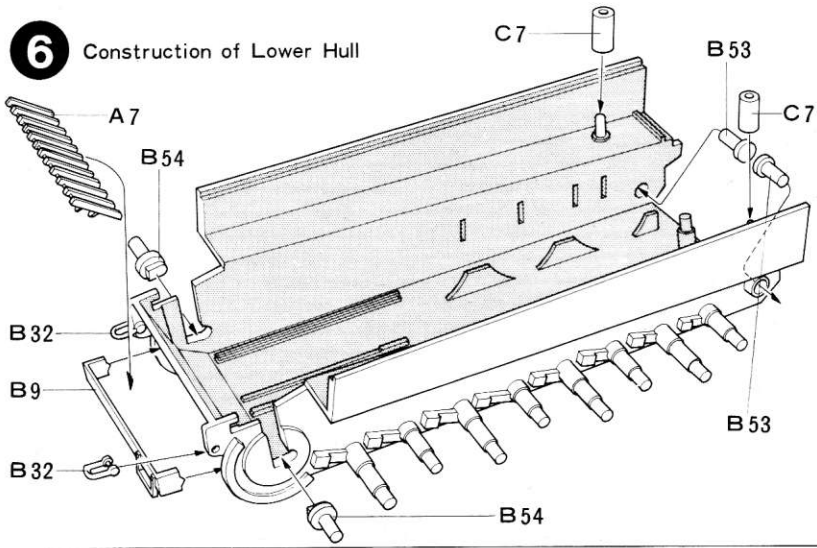
4 Construction of Upper Hull



5 Construction of Rear Panel



6 Construction of Lower Hull



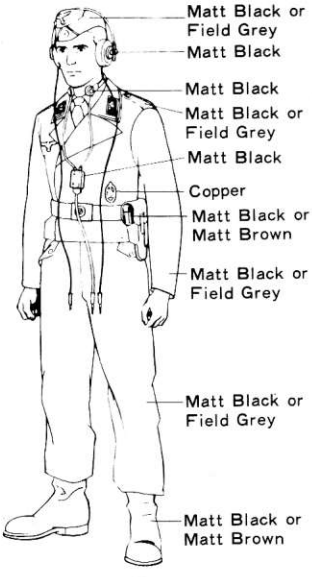
7 《Installation of Wheels》

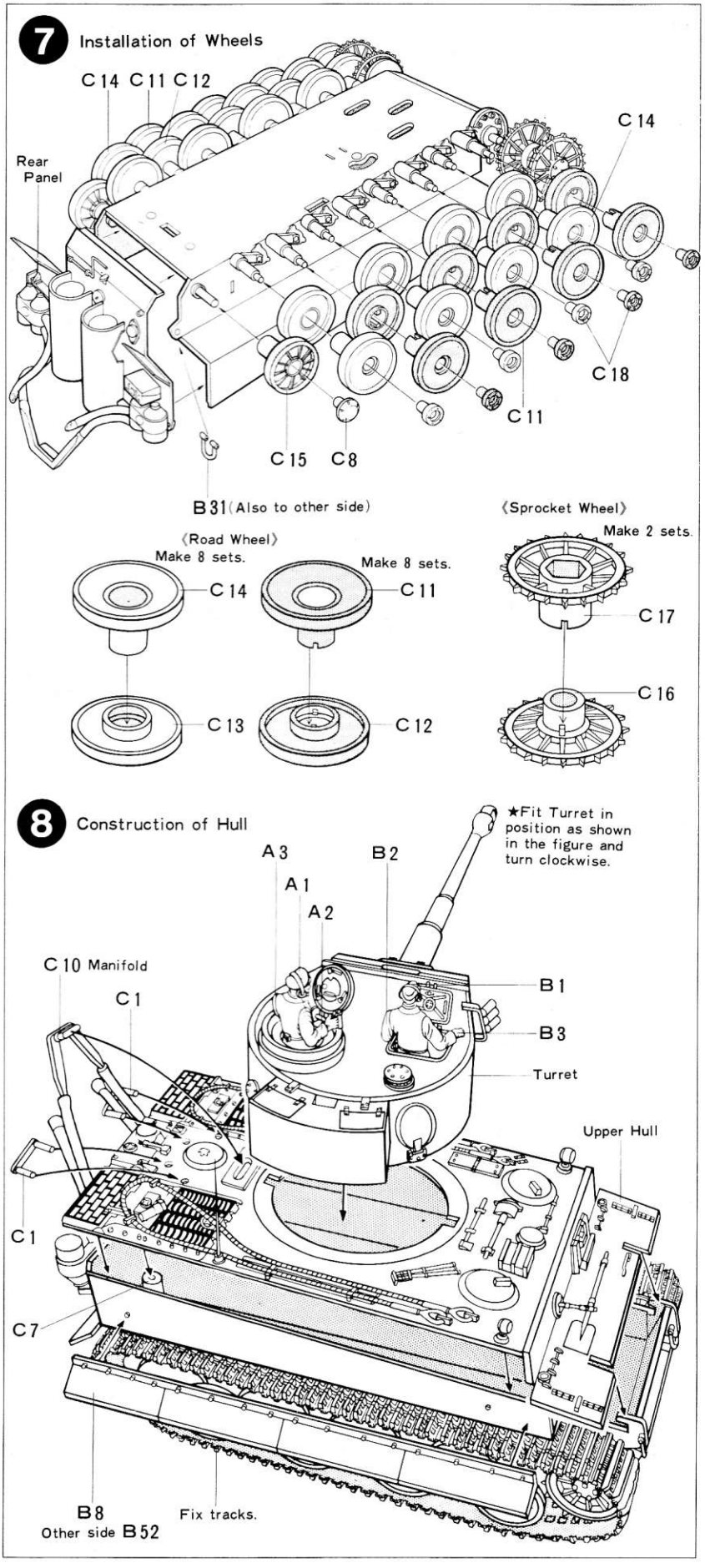
★No adhesives should be used in constructing wheels.
★Install various wheels as shown in the right figure. Do not use cement, but fix them with Poly Caps. C8. C18.
★Glue Rear Panel, which has already been constructed at ❺ onto Rear Hull. Hook. B31, should just be fixed without glue.

8 《Construction of Hull》

Cement Fender B8 to the right side, and B52 to the left side.
★When fixing Upper Hull onto Lower Hull together, first fix each notch in the former into hooks of the latter. Then, fix each pin of the former into Parts. C7. in the latter and secure Manifold. C10. in the arrowed place as shown in the figure. Lastly, fasten two Pipes with Pipe Stopper. C1.
★Construct figures and fix them onto Gun Turret. Then, turn Gun Turret right to 90 degrees to fix it onto Upper Hull shown and turn clockwise.

《Painting of Figures》





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