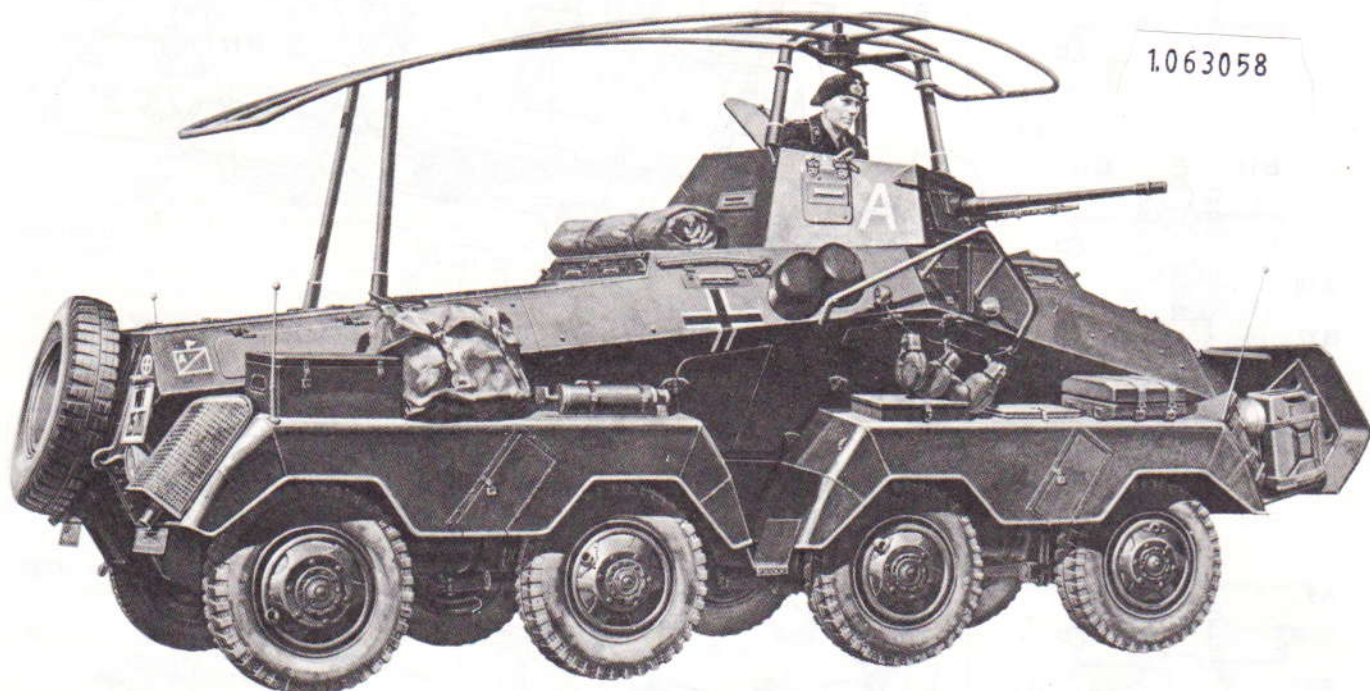


Schwerer Panzerspähwagen Sdkfz 232 (8Rad)

★ ★
TAMIYA
TAMIYA PLASTIC MODEL CO.
3-7 ONDWARA, SHIZUOKA-CITY, JAPAN

1/35 MILITARY MINIATURE SERIES

1.063058



German Eight-Wheeled Heavy Armoured Car
(Sdkfz-232)

Contrary to prewar expectation, the battle between Germany and Poland which led to the Second World War ended in only four weeks in an overwhelming victory for the Germans through the astounding exploits of their panzer units.

People in the world were astonished at the power of the German panzer units which brought about the signal victory. It was really astonishing to every one that the German Army, which had been beaten in World War I and prohibited from using armoured cars as well as tanks, reappeared like the phoenix with the panzer units having the newest equipment.

Above all, motorcycle infantry corps which rushed in the van of the panzer units and armoured car corps which supported them attracted much attention by their high speed. The main body of German reconnaissance battalions to which these corps belonged consisted of unique-shaped eight-wheeled heavy armoured cars.

Hidden behind the brilliant activity of the graceful high-speed heavy armoured cars were great pains of years' development continued by the Germans who had been prohibited by the Treaty of Versailles even from manufacturing armoured cars.

Early in the 1920's, the mechanization of the German Army was still in the melting pot. In Germany of those days, it was only the police that was allowed to use armoured cars.

In 1926, the German Army Ordnance Bureau secretly handed specifications consisting of 14 items to three police car manufacturers and requested them to develop chassis for typical eight- and ten-wheeled armoured cars under the pretext that they were to be used only by the police.

Pilot models based on the specifications were all completed in 1929. Daimler Benz made an eight-wheeler with confidence under the leadership of Dr. F. Porsche. Magirus constructed another eight-wheeler in rivalry with Daimler Benz. Büssing

built a ten-wheeler.

The pilot models of these three manufacturers were of the four- or five-axle all-wheel-driven type and had a driver seat in front and at the rear of the body. They employed stable suspension system and durable chassis and frame which made it possible to run at a speed of 100 km/h. To elude the Armament Inspection Committee of the League of Nations, however, the Germans had to remove the rear driver seat and apply cork on the armour plate.

After being put to simple tests by the manufacturers, the pilot models were brought to the Kammersdorf and Wünsdorf proving grounds of the German Army. Sufficient running trials of these vehicles were repeated there by German engineers. Thereafter they were delivered to the Army and further sent to the proving ground of the German Army Ordnance Development Bureau then located at Kazan in the eastern part of Russia under the pretext that their parts had to be put to endurance tests. Accurate tests of all parts and field experiments just like actual fighting were made at the proving ground in Russia.

In October 1929, the economic depression which suddenly set in the United States attacked Germany, too. Because of the drastic reduction of the budget consequent upon the severe depression in addition to the restriction imposed by the Treaty of Versailles, drafts and data of the pilot models thus tested were destined to be put away in a data room for years in vain.

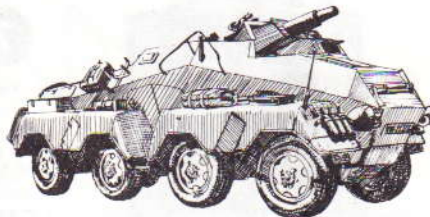
In 1933 when Adolf Hitler came into power and Germany left the League of Nations, German armaments began to expand quickly. The plan for the eight-wheeled armoured car which had been stalled for years was now set on foot again.

As a part of the German Army's standard fighting vehicle production plan, the German Army Ordnance Bureau decided in 1934 to develop an eight-wheeled heavy armoured car for reconnaissance troops and officially requested Büssing to design its chassis.

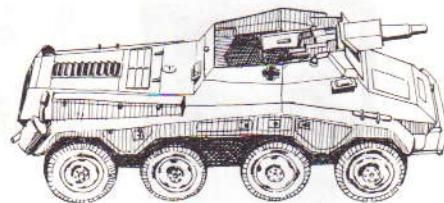
Sdkfz 231



Sdkfz 233



Sdkfz 234/4



Although Büssing gave up its own plan for the ten-wheeler because the production cost was too high, it developed a new chassis for the eight-wheeler on the basis of experience it had accumulated with great pains since the 1920s and with reference to valuable data furnished by Daimler Benz and Magirus. Thus was completed a good chassis called "Type GS" for the eight wheeled armoured car.

The GS chassis consisted mainly of simple and tough straight members and employed eight-wheel independent suspension system. Wheels on each side were connected two by two in a row with a long leaf spring. All-wheel-driven system was employed. A transmission with three forward and three reverse speeds was mounted near the centre of the chassis and could be controlled from either the front or the rear driver's seat. A Büssing "L8V" petrol engine offering 150 hp (later 180 hp) was mounted at the rear of the chassis. The maximum speed was 100 km/h.

The development of the body covered with armour plates was put in charge of the Kiel factory of Deutsche Werke which had experience in six-wheeled armoured cars. For better protection against bullets, the body had a linear and graceful shape characteristic of German military vehicles. The body style was stressed by large fenders over wheels connected two by two. Armour thickness was 14.5 mm in the front part (30 mm in only the last production type), 8 mm on both sides and 5 mm at the top. This means that the armour was light and designed to resist rifle bullets at the best.

A 20 mm machine gun KWK-30 (later KWK-38) and a machine gun MG-34 were coaxially mounted on the revolving turret. The eight-wheeled heavy armoured car was put to production in 1937. This vehicle was classified into the following four types according to equipment and armament:

- (1) Heavy Armoured Car Sd.Kfz 231-8Rad
- (2) Heavy Armoured Car Sd.Kfz 232-8Rad (with radio apparatus)
- (3) Heavy Armoured Car Sd.Kfz 233-8Rad (with 75 mm gun)
- (4) Armoured Radio Car Sd.Kfz 263-8Rad

The eight-wheeled heavy armoured car Sd.Kfz 232 was equipped with a radio apparatus Fu-11 (later Fu-12) on the division level and carried a large frame antenna (Bügel-Antenne) over the body. The

Fu-11 was a very good unit consisting of 100-watt medium-wave transmitter, receiver, power source and other accessories. It had a coverage of 50 km in radius. The Sd.Kfz 232 was also equipped with a radio telephone on the company level which was usually seen in tanks.

In 1938, eight-wheeled heavy armoured cars began to be delivered to the reconnaissance battalion of tank divisions, light divisions and infantry divisions in place of six-wheeled armoured cars. The eight-wheelers were to show activity as "the eye of the division" and "the eye of the commander".

The eight-wheeled heavy armoured car Sd.Kfz 232 with a frame antenna carried a crew of four men. The commander and the gunner were in the turret, and other two men sat in the front and the rear driver seat. Because the turret carrying the 20 mm machine gun was too small for two men and, to make matters worse, the radio apparatus Fu-11 took up much space, they had great operational difficulty. Therefore the production of the Sd.Kfz 232 was discontinued in May 1940. The duty of radio communication was gradually entrusted to the turretless armoured radio car Sd.Kfz 263.

In actual fighting, the eight-wheeled heavy armoured cars excelled others in speed and cross-country ability, but their silhouette was too high and armour was too thin. To reinforce their armour, the Germans hastily added an armour plate of 10 mm thickness to the front of the body but the result was not quite satisfactory.

The eight-wheeled heavy armoured cars of the four types entered production in 1937. A total of 1,235 were produced in about five years from 1937 to January 1942 when the last armoured radio car left the factory. After that, the position of being the main body of German reconnaissance battalions was accepted by the new eight-wheeled heavy armoured car Sd.Kfz 234 equipped with heavier armour and more powerful armament.

by courtesy of Akira Kikuchi

Sd.Kfz 263



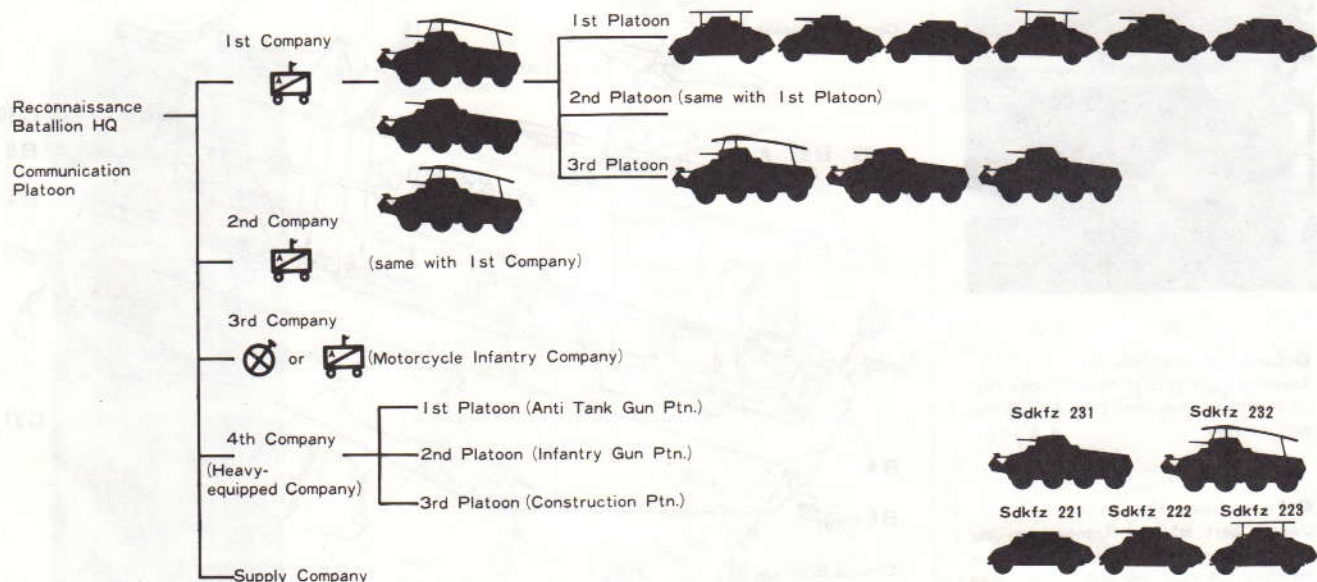
Sd.Kfz 222



Sd.Kfz 232 6 Wheeled Armoured Car



<The Formation of the Tank Division Reconnaissance Battalion (as of 1940)>





★Study the instructions and photographs before commencing assembly.

★This kit can be assembled into two types, either early or late version. As decals to each battle line are supplied, select one according to the period you prefer to assemble. The early type were used on the Polish or French battle line, the late one on the Balkan, African, or Russian lines.

★Do not break parts away from sprue, but cut off carefully with a pair of pliers.

★Use glue sparingly. Use only enough to make a good bond. Apply cement to both parts to be joined.

★Painting Your Model

As well as improving the reality of your completed model, painting will give you greater satisfaction to make your own model. Moreover, paint coat ensures a good application of decals.

★Small parts and internal parts should be painted while still on the sprue.

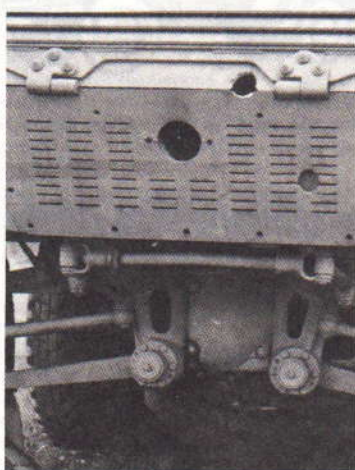
★For your painting scheme, refer to PAINTING.

①(Construction of Lower Hull Parts)

There is a difference between the front and rear part of A12. Make sure of the fit with A3 before cementing them together.

②(Construction of Suspension)

Two kinds of Suspension are to be assembled. Make sure of precise fit of each part.



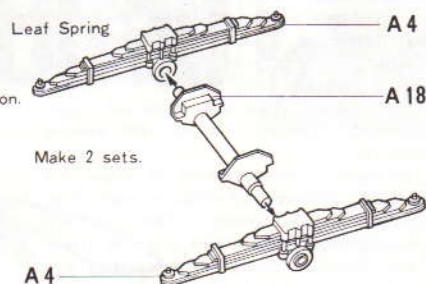
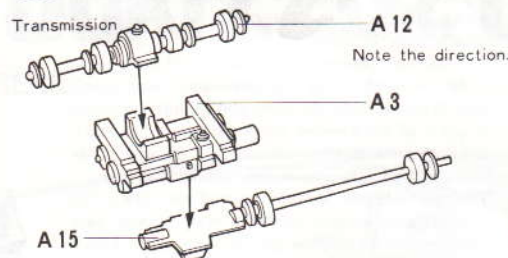
③(Construction of Wheels)

Assemble eight sets of Wheels. Note that no cement touches onto part A20 as this part rotates.

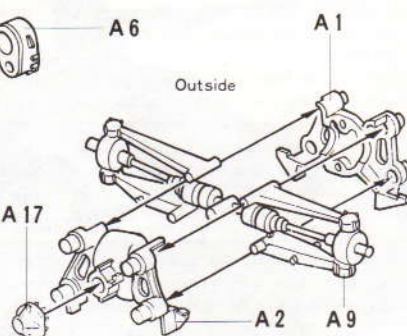
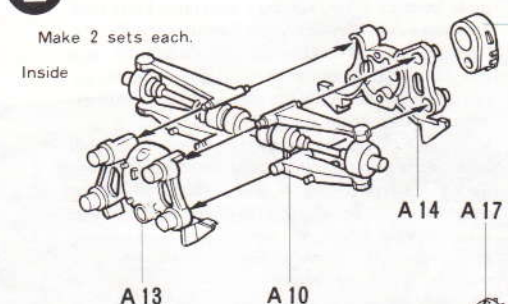
④(Fixing Lower Hull Parts)

Cement part B5 and Transmission together first. If you prefer to make Side Hatches C4, C5, C6, and C7 in open state, cement these parts at stage ⑩.

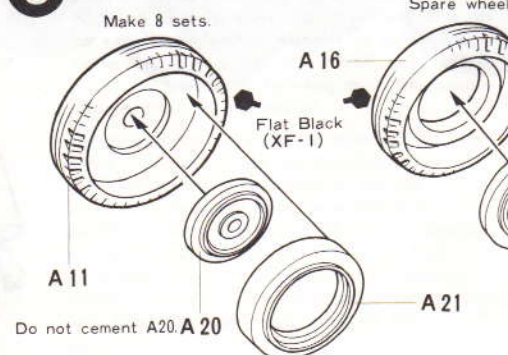
1 Construction of Lower Hull Parts



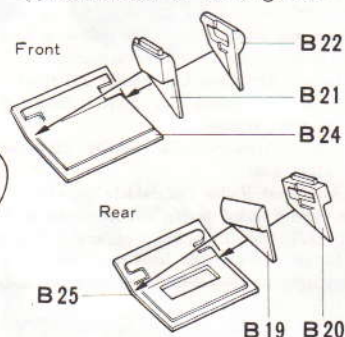
2 Construction of Suspension



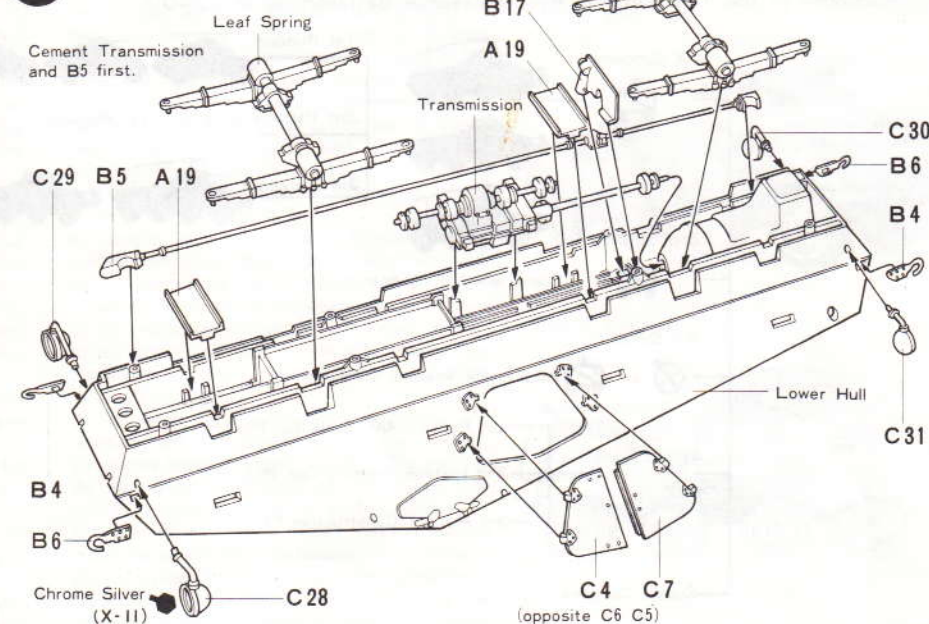
3 Construction of Wheels



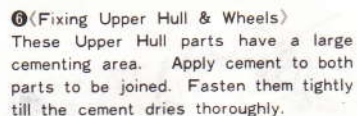
(Construction of Underguard)



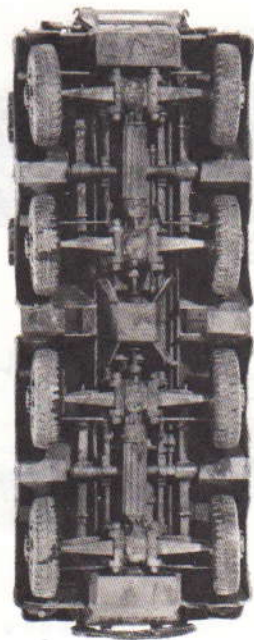
4 Fixing Lower Hull Parts



Note the direction of part B27. Refer to the figure below. Also the position of Tie Rod is shown below. Fix each part in position.



Select which part you cement to Left Front Fender, either C21 or C15. Also choose either C10, C43 or C18, C42 to be fixed onto Front Fender.



5 Fixing Suspension

B27 A10 B11 A5 A9 B2 B3

B2 A9 B12 A5 A10 B11

B3 B1

A7

B12

B1

Underguard Front

Underguard Rear

Also see the figure on the left.

6 Fixing Upper Hull & Wheels

Diagram illustrating the assembly of the Upper Hull and Wheels. The hull is shown in a perspective view, with various components labeled: D25, D27, D26, D24, C33, B23, C34, D27, D26, and C33. The wheels are shown at the bottom, with labels 'Wheels' and 'Fix Wheels also to opposite side.' indicating they should be installed on both sides.

7 Construction of Fenders

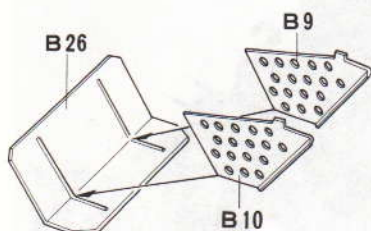
The diagrams illustrate the assembly of the fenders for a vehicle. The components are labeled as follows:

- Right front:** C42, B31, C43, C26, C10, C18, C8, B30, C20. Note: "Select one of two." for C26.
- Left front:** C26, C27, C8, C21, C15, C10, C18, B32, B35. Note: "Select one of two." for C26.
- Right rear:** C9, C8, C2, B33, B30, C26. Note: "Select one of two." for C26.
- Left rear:** C8, C9, C27, C36, C1, C26, B34, B35.

⑧ (Fixing Fenders)

Bullet Proof Plate was not fixed to the early type car. When you assemble this early type, cement Number Plate A22.

(Construction of Bullet Proof Plate)

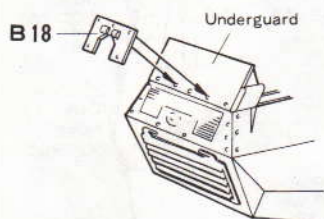


⑨ (Construction of Turret)

Hatch D13 can be fixed either in open or closed state. When you install the Figure onto the model, cement them in an open state. Also Rear Hatches D9 & D10 can be assembled in either open or closed position.

⑩ (Fixing Turret)

Some vehicles did not carry Spare Tyre according to their types. When you do not cement the Tyre, do not fix parts B16 & B18 either. When you fix Spare Tyre, refer to the figure below which shows fixing of B18.



(Construction of Figure)

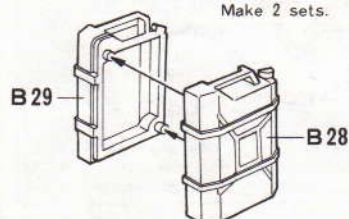
Install the Figure prior to fixing Turret. Install to Polish or Balkan car.



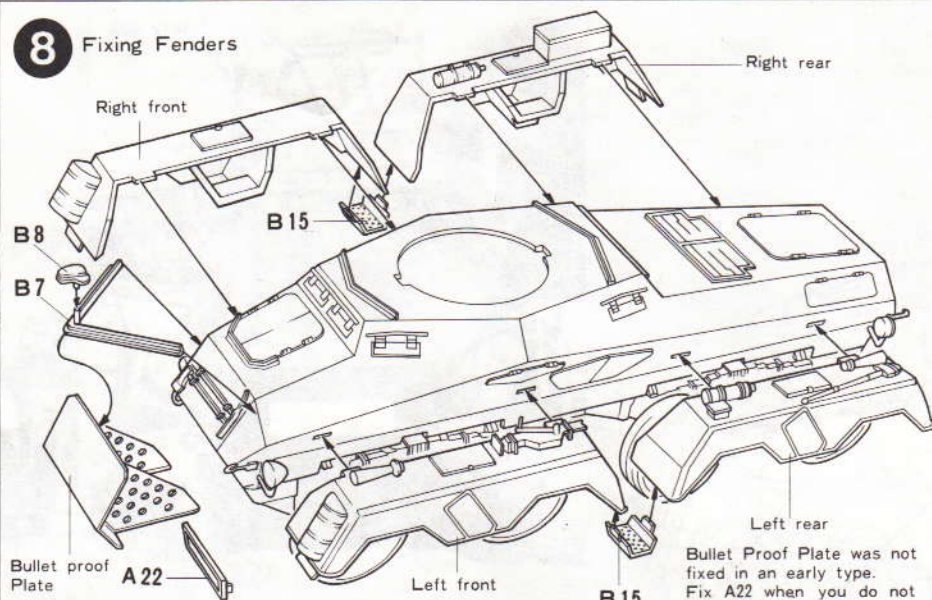
Install the Figure from the underside of Turret, and fix D2 at the top.

(Construction of Jerricans)

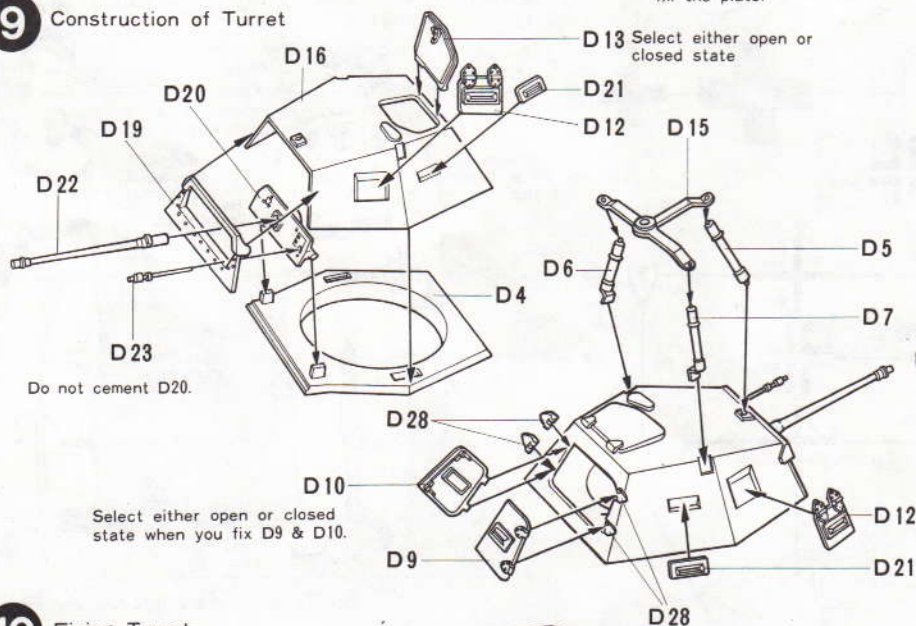
Make 2 sets.



8 Fixing Fenders

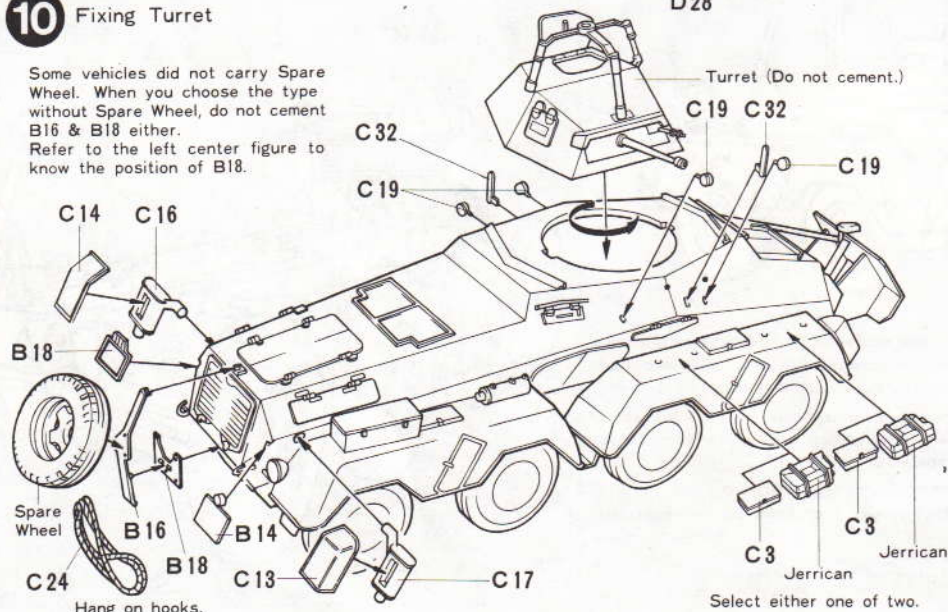


9 Construction of Turret



10 Fixing Turret

Some vehicles did not carry Spare Wheel. When you choose the type without Spare Wheel, do not cement B16 & B18 either. Refer to the left center figure to know the position of B18.



⑪(Completion of Sd.Kfz 232)

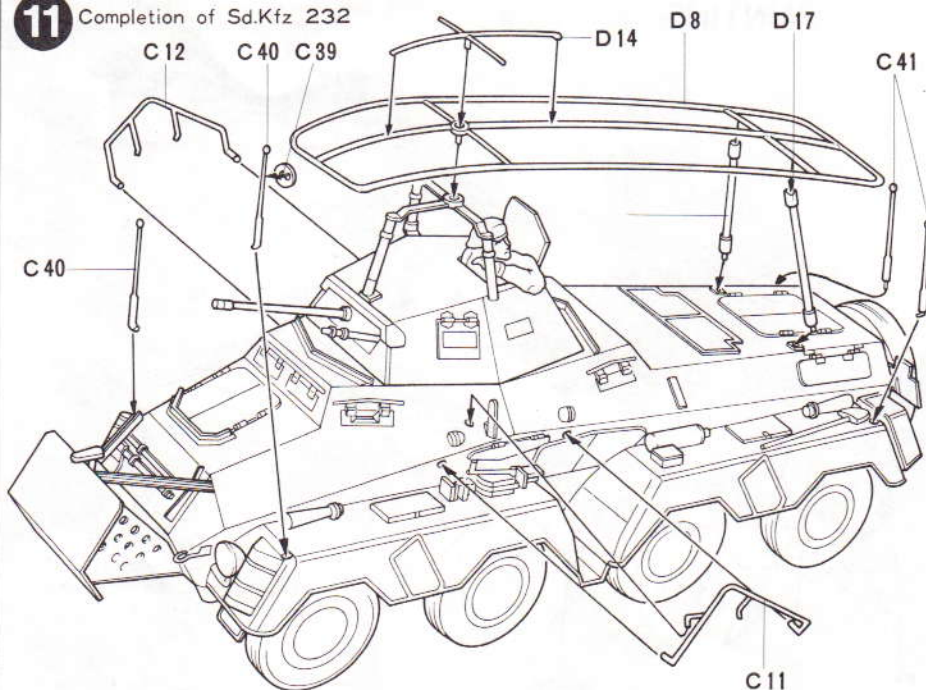
The whole construction process of the model finishes with fixing small parts such as antenna. Take enough care to fix these parts because they are fragile.

⑫(Fixing Accessory Parts)

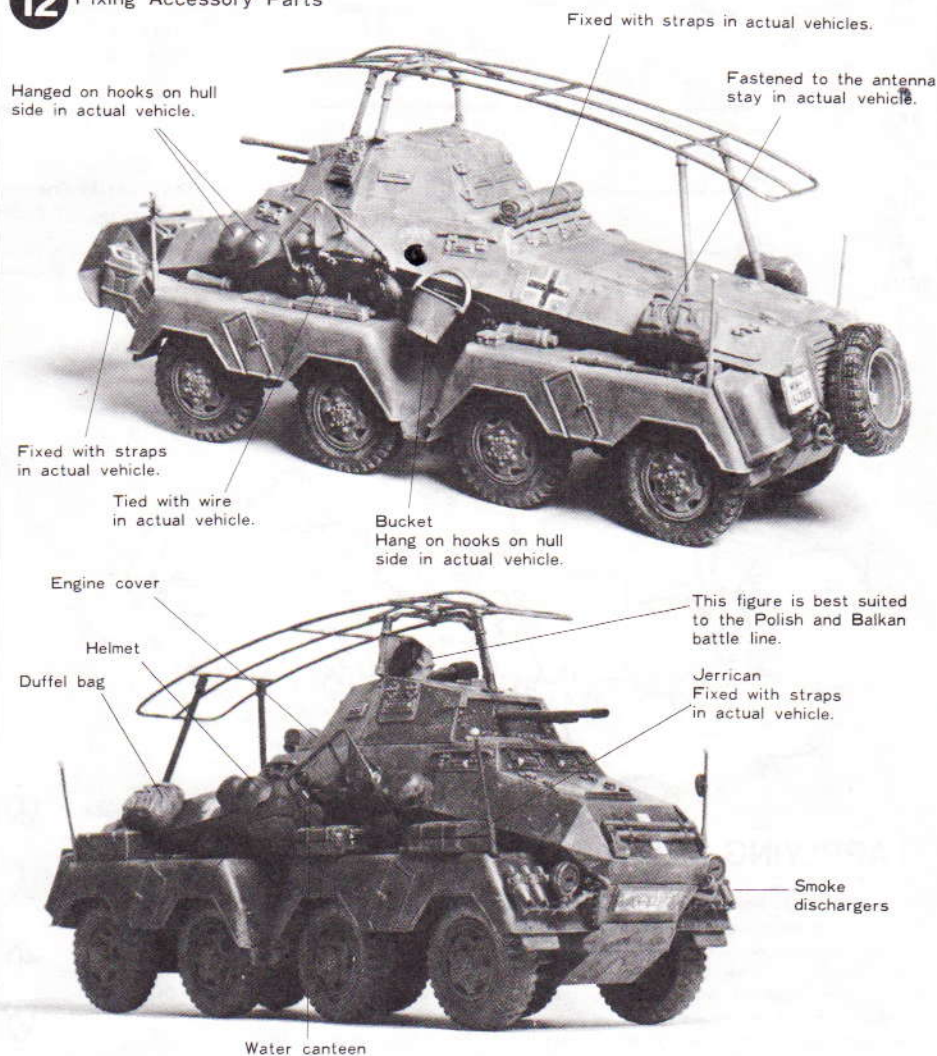
Fix Accessory Parts with reference to the photograph on the right. Most of them are personal equipment. Cement them according to your preference.



11 Completion of Sd.Kfz 232



12 Fixing Accessory Parts



Tamiya Acrylic Paints

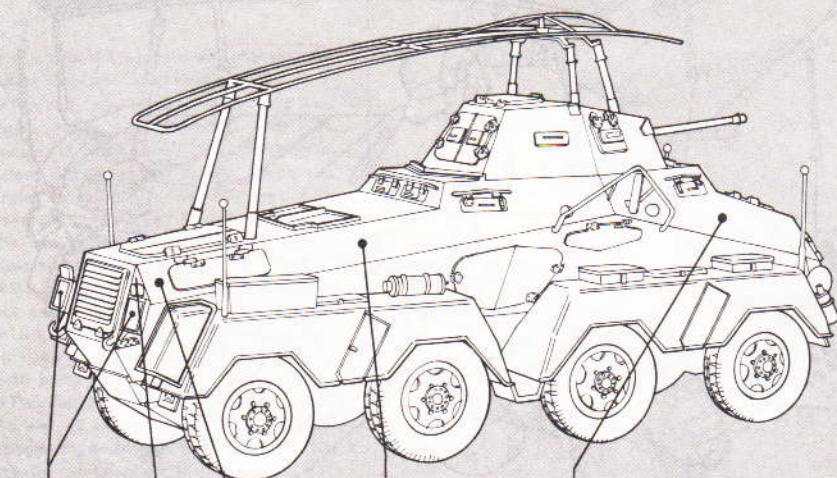
Need precise colour matching? Try the new Tamiya acrylic paints. Engineered by modelers for modeler's use. The final cover for the finest models. Insist on Tamiya for perfect results.



PAINTING

(Painting of Eight-Wheeled Heavy Armoured Car)
The four types of eight-wheeled heavy armoured cars Sd.Kfz 231 to 233 had been produced from 1937 to 1942, however, the production of the Sd.Kfz 232 was discontinued in May 1940. After that, the turretless type Sd.Kfz 263 or Sd.Kfz 234 were used in battle instead. The

basic colour of German armoured cars till 1942 had been a single German grey except for those used in Africa. And some were applied the camouflage pattern according to the terrain where it had been used. On the African front, all the vehicles were repainted into dark yellow overall.



WH
83534

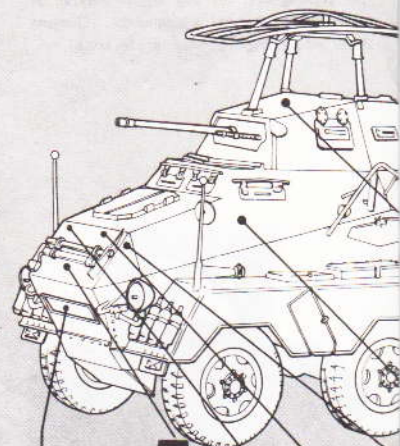
WH
83534

G
K



Polish battle line
1939

French battle line
1940~41



WH-83534

WH-83534

G
K



Balkan battle line
1941

African battle line
1941~43

Russian battle line
1941~44

1088

WH
1313384

WH
1021483



1088

WH-1313384

WH-1021483



APPLYING DECALS

(Marking of Eight-Wheeled Heavy Armoured Car)
This kit contains a collection of seven different markings used in the five locations. Select one you prefer. A vertical line on markings shows the position where a decal should be applied, while a horizontal line means its battle line. The ones both on the Polish and French fronts did

not carry the bullet proof plate to the front. As it was fixed to the cars through the experience in actual fighting of early days, it was appeared from the late days of the battle on the French front. When you do not fix Spare Wheel to the rear of the model, a German marking should be applied to the rear cover. Paint a flat white German cross here.

Marking of the 1st Panzer Division (Wehrmacht) which had shown activity on the French front in 1940.



Marking of the 3rd Panzer Division (Wehrmacht) which participated in battle on the French front in 1940.

Marking of the 4th Panzer Division (Wehrmacht) which took part in the battle with Russia in 1941.

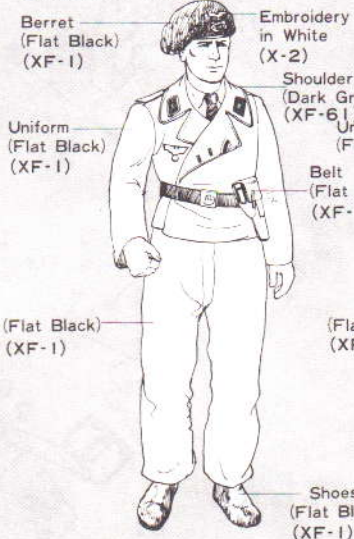
Marking of the 15th Panzer Division (Wehrmacht) which had shown activity as a part of Afrika Korps.

Marking of the Adolf Hitler Brigade which participated in the Balkan battle (1941).

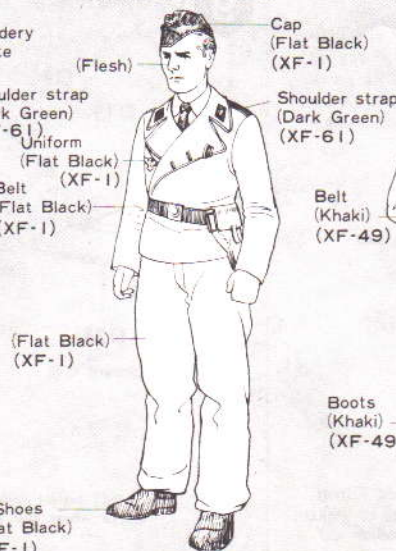


Uniform of Tank Soldier

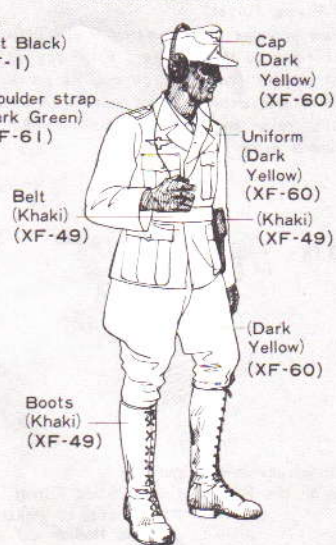
Uniform till 1940



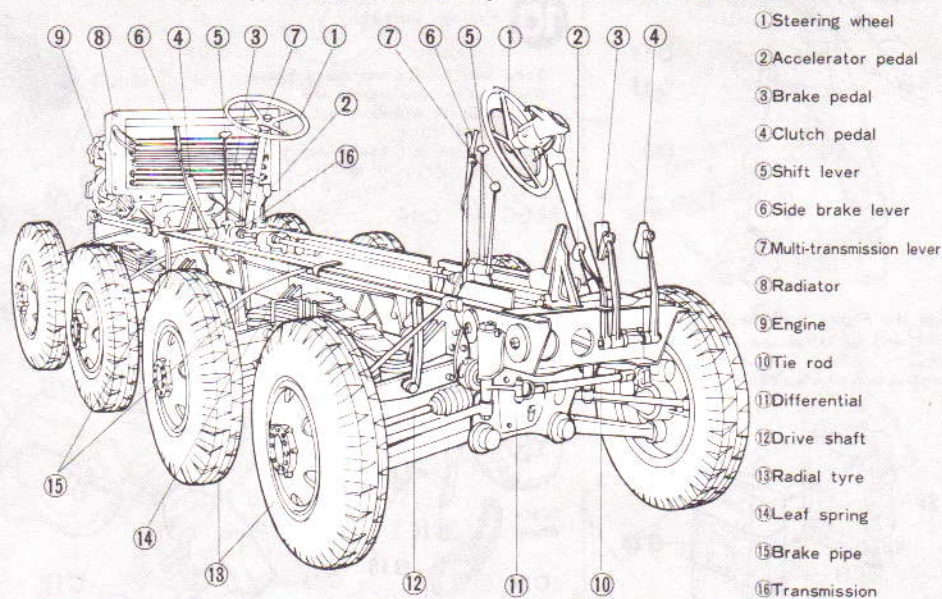
Uniform after 1940



African battle line



(GS Type Chassis Exclusively For Sd.Kfz 232 (8 Rad))



Marking of the Panzer Grenadier Division which was organized in 1942 and had shown activity on the Russian front.

These two letters show the divisions under the control of Gen. Guderian or Gen. Kleist respectively.

Tactical sign of an Aufklärungs or reconnaissance unit.

Marking of the Motorcycle unit.