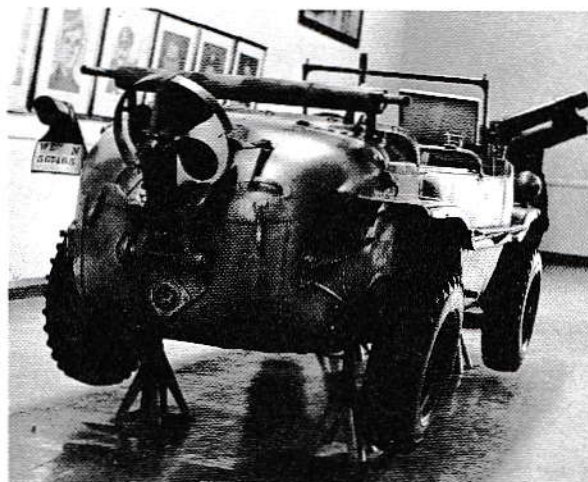
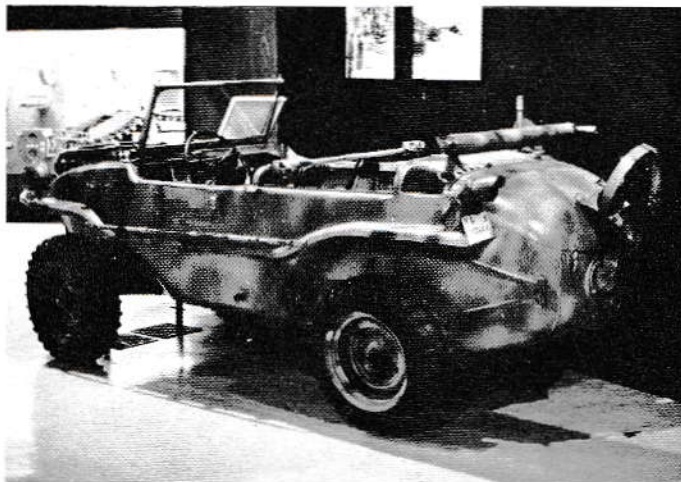




# Kfz. 1/20 K2s SCHWIMMWAGEN

1/35 MILITARY MINIATURE SERIES

GERMAN AMPHIBIOUS VEHICLE



The Volkswagen, which has been called a German national car, is familiar not only to the Germans themselves but also to millions of people throughout the world with its affectionate nickname, 'beetle'.

The Volkswagen itself was conceived and designed in 1938 by Dr. Ferdinand Porsche, the originator of the famous sports car, 'Porsche', by order of Hitler. Its main features were matchless durability and inexpensiveness. Then, the German Army decided to develop a military vehicle based on this small, tough and inexpensive car. As a result, several kinds of military vehicles were manufactured for trial. This amphibious Schwimmwagen was one of them. The Allied Forces, therefore, called it the 'amphibious Volkswagen'.

The form of the Schwimmwagen is a nimble boat-like one similar to that of a buggy which has recently become popular. Its high-set exhaust pipe at the rear looks quite humorous but of course it is so set in anticipation of the vehicle's use on the water. The engine is mounted at the rear and is the same as that of the Volkswagen - an air-cooled, 4-stroke, level-opposite, 4-cylinder one of 1,131cc capacity. Its maximum power reaches up to 24.5 HP and is generated when it is rotated at a low rate of 3,300 revolutions/min. This low revolution number is the main cause of its increased durability.

When running on the water, the vehicle uses a screw at the rear. However, the screw is raised above on the rear engine deck, once it is back on dry land. The propeller shaft of the screw is directly connected through a dog clutch with crankshaft of engine. Gear, therefore, is neutralized and no backward movement is possible when the Schwimmwagen is running on the water. The steering on the

water is done just like when it is on land by changes of direction of front wheels, which serve as a rudder.

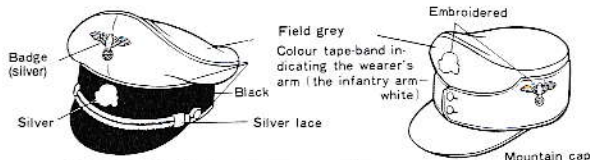
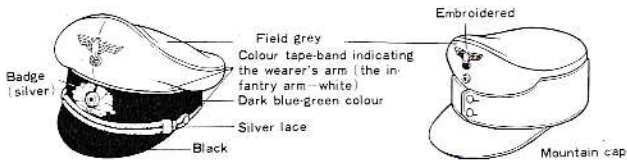
Suspension is an independent suspension, the same as that of the Volkswagen, which uses torsion bars both in front and at the rear. Front suspension and the steering device are fixed at the outside of waterproof bulkhead. Rear suspension also is fixed outside, but holes in the hull through which the rear wheel-shaft passes are water-proofed by rubber bushes.

Transmission, transfer case and limited slip differential (the other one is fixed to front wheel) are incorporated en bloc into the rear system. Transmission and differential gears are covered with grease to make them water-proof. Transmission consists of four forward steps and a single backward one. However, all wheels can be driven by this device only when its gear is in a low key.

Instrument board is equipped with a speedometer, a light switch, a red charge-lamp, a green oil-pressure warning lamp, a searchlight plug socket and an ignition key. Under the board are placed a fuel filter and an auxiliary tank pump.

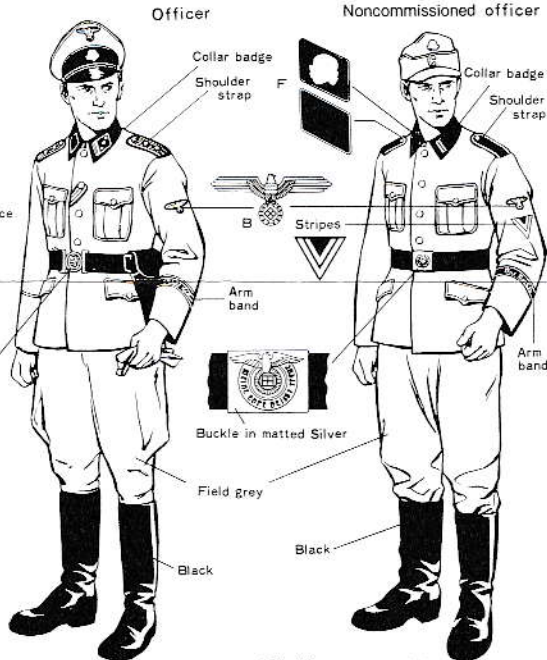
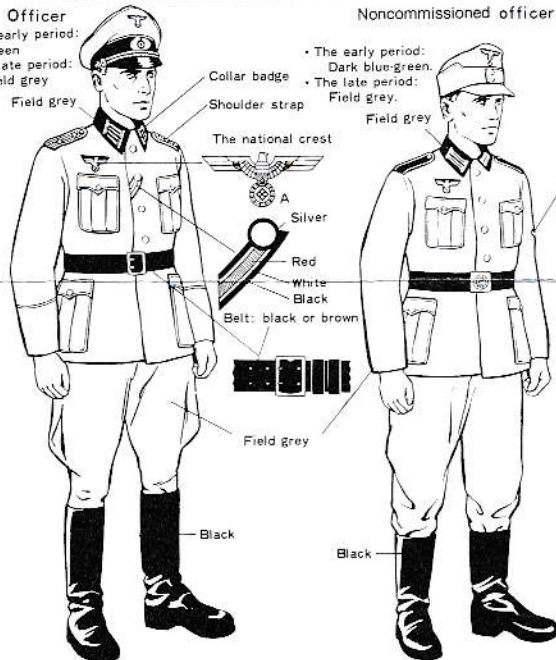
The vehicle has a crew of four and runs at an hourly speed of about 75km on land, while on the water, at about 12km.

The small amphibious Volkswagen served many purposes due to its high reliability and nimble maneuverability. In fact, several thousands of them were actively employed to fulfil reconnaissance, liaison and various other duties during the World War II.



### The National Defence Force WH

### SS The SS Force



### The SS Arm Band

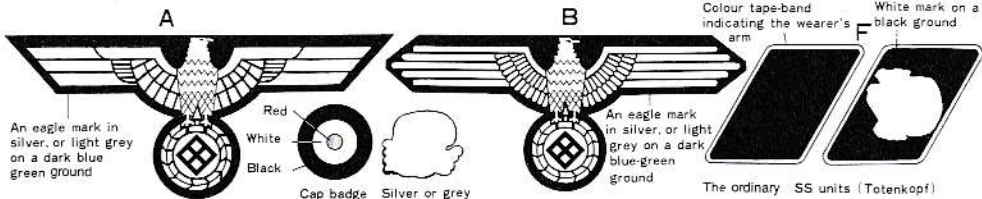


Table-1.

Ranks	Shoulder Strap	The Waffen SS left collar badges	The National Defence Force (right & left collar badges)
Recruit			
Private 1st class	Light grey		a
Lance-corporal	Silver	Dark blue-green (black for the SS)	b
Corporal			c

Colour indicating the wearer's arm (white)

A white stripe on a black ground

Light grey

Black

Light grey

a. b. c. Sleeve badges indicating the ranks

Ranks	Shoulder Straps	The Waffen SS left collar badges	The National Defence Force (right & left collar badges)
Sergeant	The Infantry arm Silver colour-white Black Dark blue-green		
Staff Sergeant		A white pattern on a black ground	
Technical Sergeant	silver	White	
Master Sergeant			White Light grey
Sergeant Major			

The Infantry arm colour - white

Ranks	Shoulder Strap	The Waffen SS left collar badges	The National Defence Force (right & left collar badges)
Second Lieutenant			
First Lieutenant			
Captain		Gold Silver	silver lace
Major			

The Infantry arm - white

## Right-side marks on the helmet:D



The German Army had two kinds of forces under its command: The National Defence Force and the Waffen SS (Waffen-Schutzstaffeln—combat black shirts, SS is abbreviation for Schutzstaffeln). Each had its own peculiar mark and collar badge, description of which follows below. The description below, however, chiefly concerns with uniforms of the National Defence Force and their painting instructions, that for the SS being without details except some figure comparisons.

### Uniform:

The German uniform including cloth gloves provided by the Army was all coloured in field-grey (green-grey colour) except the collar which at first was coloured in dark blue-green but later was changed into field grey like the colour of all the other parts. The upper garment had five front buttons and a single one, all in matted silver, on each pocket. Also, every German soldier wears a cap and a uniform, each attached with an eagle mark, the German national crest, (A) (B—SS). In case of a uniform, this eagle mark is on its right chest (in case of an SS uniform, on the left sleeve).

## C: The Camouflaged Uniform

### Cap & helmet:

Every officer was provided with an officer's full-dress Army cap and he used to wear it even at the front. A soldier generally wore a helmet at the time of combat but in other times, either a field-cap (refer to the picture on the parcel-box of the German tank crew set), or a mountain cap was preferred. The mountain cap was at first worn solely by foot-soldier units trained exclusively for mountain operations, but since 1943, by all the other fighting forces on land as well.

### Camouflaged garment:

In 1943, a camouflaged garment, (C), was officially adopted and widely used. Also, it sometimes happened that a helmet was covered with a cloth of the same camouflage pattern (refer to the parcel-box picture of the Ger-

## E: Left-side marks on the helmet:



man foot-soldier set). Further, wappen-type marks, (D) and (E), used to be fixed on the side of a helmet. But after the middle of the World War II, those wappen marks seemed rarely used.

As for rank marks, collar badges and shoulder straps, there was a clear difference between those of the National Defence Force and others of the SS Force. So, see the Table-1 for information.

### PAINTING

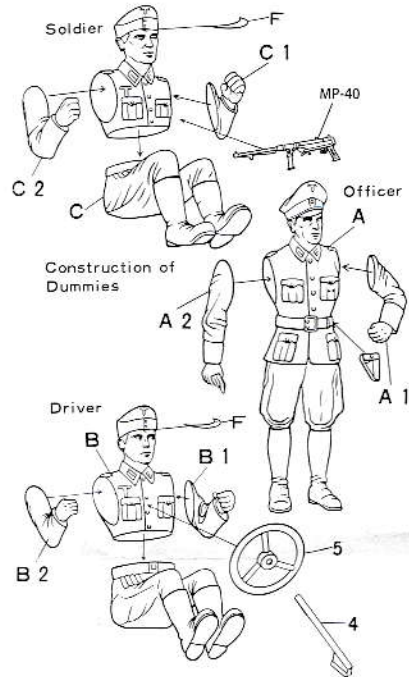
In constructing dummies, painting is the most essential work. So, be sure to have the following tools and paints ready as many as possible.

Paint each dummy carefully.

Tools & paints to be ready: Small brushes (those to describe face features of a design), a pincette; matted or glossy paints exclusively meant for the plastics (those of white, flesh tint, yellow, red, brown, green, blue, black and silver colours).

### Colour scheme for a field grey tint:

Mix white, black, green and yellowish brown in the ratio of 6, 3, 6, 4. Then, finish the mixture in matted colouring.



Note: When using Arm. C3 and C4, to be fixed onto Dummy of the Parts, C, let the Arm hold Machine Gun, 17, as shown in Fig. 4.

Fig. 1 Construction of Underside of Upper Hull  
Glue Instrument Board, 7, onto underside of Upper Hull carefully without confusing its inside with the outside.

Fig. 3 Construction of Upper Hull  
Fix each pin on both sides of Front Windshield, 31 into respective Windshield Stopper, 30. Then, fix Front Windshield into Upper Hull by gluing each Stopper into respective checks in the latter. In so doing, be sure not to apply adhesives too much, because the overflowed adhesives tend to fasten even the movable portion of the Windshield. Paint the frame of Windshield, which has been blackened in the figure, in the same colour as that for Hull.

Fig. 4 Gluing Upper and Lower Hull Portions together

Construction of Screw: When fixing Parts, 23, into Parts, 22, be sure not to glue but just fix them.

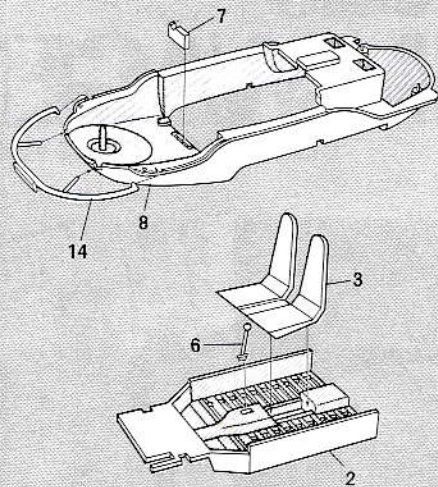
Fig. 5 Fixing of Wheels  
Insert Shaft 32 through Hull, which has been completed in Fig. 4. Then, construct Front and Rear Wheels. Lastly, fix those completed Wheels onto both ends of Shaft carefully without confusing their respective front and rear positions.

Fig. 6 Fixing of Hood  
There are two kinds of Hoods: One is folded and the other, spread out. You can choose either of the two. So, don't glue any one of them. In case of a folded Hood, some Windshields were let down forward.

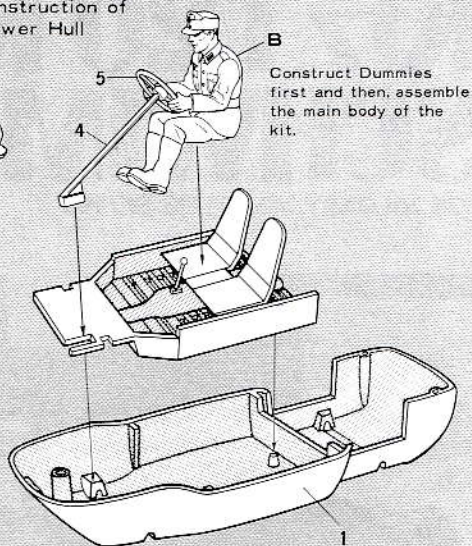
Colours of the German Military Vehicles:  
During the period from 1935 to February, 1943, the colour of all German military vehicles was standardized and they were painted all in grey except those for the African front—they were painted in combination colour of either yellow and light brown, or grey and green. However, all these colours were dull, matted ones, of course.

Then, in 1942, those two combination colours for the African vehicles were changed into brown-grey. Also, in the eastern front,

## 1 Construction of Underside of Upper Hull



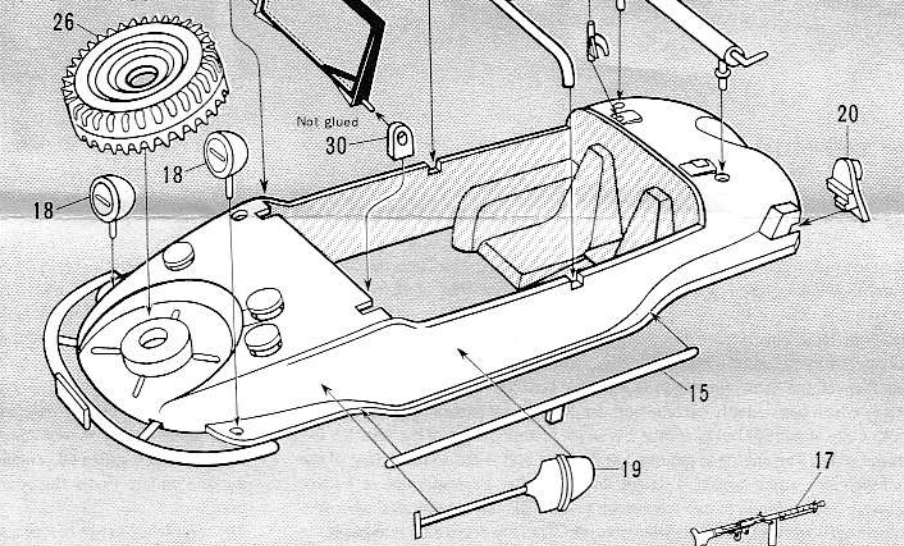
## 2 Construction of Lower Hull



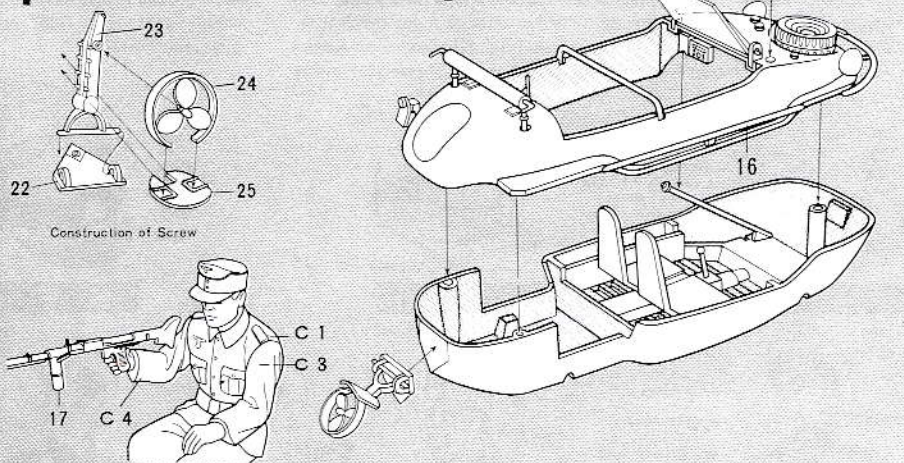
Construct Dummies first and then, assemble the main body of the kit.

## 3 Construction of Upper Hull

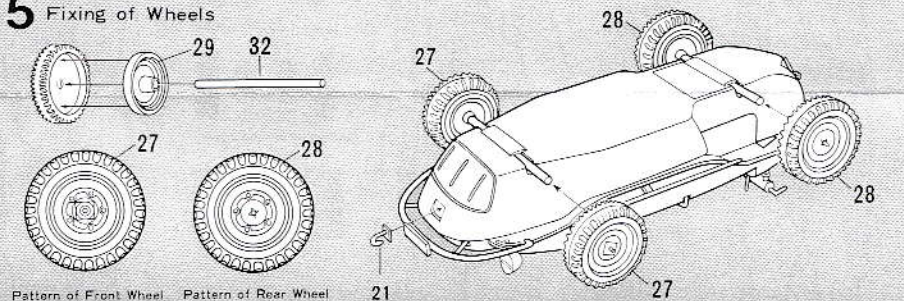
Be sure not to glue Spare Tire onto Hull.



## 4 Gluing Upper & Lower Hull Portions together



## 5 Fixing of Wheels

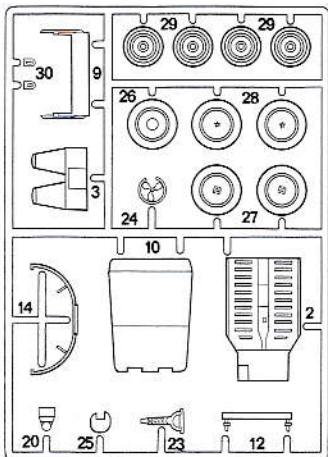
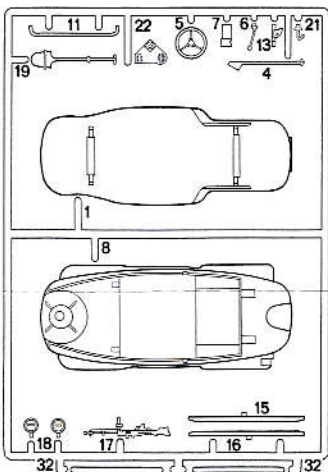


Pattern of Front Wheel Pattern of Rear Wheel

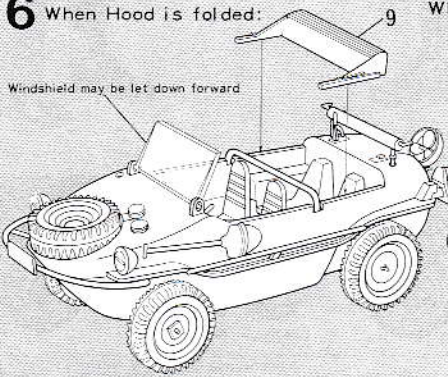
for those vehicles fighting against the Soviet forces.

However, again in 1943, all these colours were dismissed and dark yellow was decided as the standard colour for all military vehicles by the order of the German Central Command. All other colours were sprayed over this dark yellow by front forces in various war districts to heighten camouflage effect. They were medium green (green), red-brown (dark brown mixed with red) and dark yellow (standard colour).

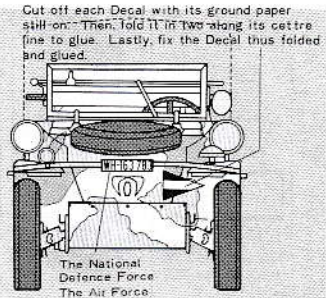
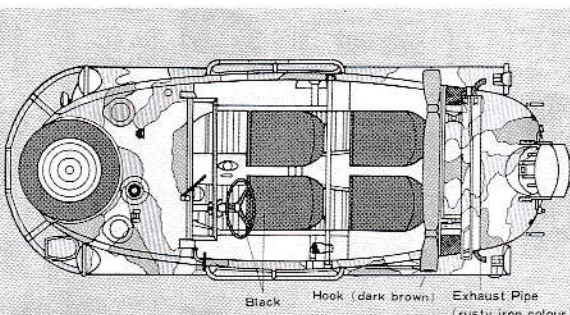
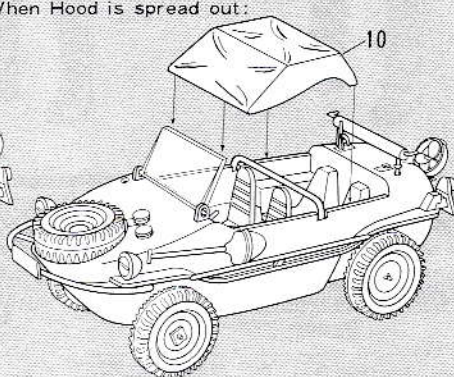
Painting therefore, might be done either in large spots with rapping brushes, or thickly spread stripe formations, or again by means of spraying all over, using freely those three colours. Any one of these painting method and free use of those colours was allowed until the end of the World War II.



**6** When Hood is folded:



When Hood is spread out:



Cut-off each Decal with its ground paper still on. Then, fold it in two along its centre line to glue. Lastly, fix the Decal thus folded and glued.

