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P R E S E N T S

Modeler's Special Edition Guide to the Kübelwagen

**The KdF 2.gf.PkW (Kfz.1)
Type 82 Family in World War Two**



Contains
twenty-one
super detailed
soft-skin
models

**Construction and detailing techniques
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SI
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SPECIAL ISSUE



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Modeler's Special Edition Guide to the Kübelwagen

The KdF 2.gf.PkW (Kfz.1) Type 82 Family in World War Two

- BY JOE PORTER -

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Introduction

Pat Stansell and I first began discussing this project in October 1998. Initially, I envisioned a series of articles to be published in *Military Miniatures in Review*, detailing the many uses of the Kübelwagen in World War Two. Yet, the more we dug and the more we talked, the more variants we discovered. It was finally decided that this project would launch a Special Issue series for the magazine. Rather than attempting to slap something together for the sake of selling a book, the research involved in this special has been, in a word, painstaking. For every mystery solved, four more surfaced; for every stone overturned, a new rabbit hole was discovered. I resolved that the vehicles presented in this book would be only those that could actually be verified by authentic wartime photographs, and which played a significant role in the story. One thing is certain—no two VW researchers anywhere agree 100% on everything. There exists a bizarre array of conflicting nomenclatures and designations, owing primarily to two points: a large amount of Volkswagen production data was destroyed in 1945 and the high volume of vehicles manufactured resulted in numerous modifications. The extensive research and time involved has proven beneficial, however, as many new kits and conversions have been released since this project commenced. Most importantly, to the best of our knowledge, the wide assortment of Kübelwagens, Schwimmwagens and Beetles has never been fully consolidated in one book.

A brief history of Volkswagen development

The wartime development of the Kübelwagen family in World War Two Germany is an expansive tale that has been well covered in many publications. So, I'll try to keep this brief and just fill you in on the good parts. Pull up a chair, won't you?

Hitler's fascination with automobiles was fueled by the development of several low-cost cars in the depressed Germany of the 1930's. The testing of a 'people's car' (literally, Volkswagen) costing only 1,000 Reichsmarks was already underway by different automobile industrialists when Hitler came to power. Nevertheless, his position as Reichschancellor enabled the project to proceed with government endorsement and Hitler enlisted the aid of noted automaker Dr. Ferdinand Porsche. In 1936 the first prototypes were tested featuring the early beetle-shaped body that would become recognized around the globe. By 1938 the Type 60 was ready for production. Control of the development and manufacture soon fell under the auspices of the Nazi party's KdF (Kraft durch Freude, or strength through joy) organization and construction of the first state-owned factory began in May 1938. German citizens were to be offered the opportunity to purchase their 'people's car' on a payment plan of five Reichsmarks per month. When the Third Reich invaded Poland in 1939, civilian production naturally shifted to wartime mode. The existing 'KdF cars' went to government and military officials. Production of wartime Beetles was extremely limited and primarily for military use. The cars were quickly nicknamed Kafer (beetle) and the military versions were often known as Kriegskafer (war beetle). Thus, the dream of the 'people's car' never fully materialized under the Third Reich and by 1940 production was geared towards the Kübelwagen.

The idea of a military version of the KdF car was first discussed in 1934, during a meeting of the Reich Chancellery and the Porsche firm. A new lightweight body was designed by Dr. Porsche in cooperation with the Trutz firm in Gotha, which was already designing new vehicles for the Wehrmacht. Kübelwagen is an abbreviated version of Kubelsitzwagen, or 'bucket seat car,' referring to the front bucket seats common to many Wehrmacht vehicles. In short order, however, the name Kübelwagen was associated only with the KdF version. Porsche's Type 62 prototype premiered at the Vienna Automobile Fair in 1939, featuring a body style based on the well-known Beetle. Porsche created a revolutionary front axle, comprised of two transverse tubes containing seven torsion leaves with two trailing arms on either side. Lightweight and extremely durable, his independent front wheel suspension set the Kübelwagen apart from all other

military vehicles. Another innovation was reduction gears in the rear hubs, giving the vehicle additional ground clearance. The revised Type 82 version featuring a more military body style entered full production in 1940. At over 50,000 units, the Kübelwagen was one of the most widely produced German vehicles of the war and production continued through the spring of 1945.

It wasn't long before the notion arose of a lightweight amphibious scout car for the military. Hans Trippel had launched his first aquatic car in 1934, which impressed Porsche immensely. After studying Trippel's methods, Porsche set about creating a strange new vehicle that had four-wheel drive and was propelled through the water by a three-bladed propeller meshed to the engine and mounted on a hinged arm. Thus the Schwimmwagen (swimming car) was born. An early prototype resembled an amphibious Kübelwagen, while a second prototype featured a long boat-style body on a KdF chassis. This long version (Type 128) began field trials in 1940 and at least 40 vehicles actually entered service. Consolidation of these designs resulted in the Type 166; the wheelbase was shortened by 40cm and the width was reduced 10cm. At their Stuttgart plant, the Porsche firm produced the first 125 Type 166 Schwimmwagens, which underwent numerous refinements and modifications before KdF production began in the summer of 1942. (The 125 Porsche units were highly photographed and continue to cause conflict.) The Schwimmwagen was capable of 49 mph (80km/hr) on land and 6 knots in the water and also bore the lesser-used moniker Kradschutzenwagen. Hailed by the German high command as 'the best off-road vehicle of the war,' 14,265 Type 166 Schwimmwagens were manufactured before wartime materials shortages caused production to cease in 1944.

One of the greatest obstacles in finalizing this project was the repeated reference to 7,545 Kübelwagens manufactured as 3-passenger Fernsprechkraftwagen (telephone communication/intelligence vehicles); and 273 Vermessungswagen or leichter Messtruppkraftwagen (Kfz.3) range-finding/measuring/surveying trucks, which worked with armored units in establishing actual firing range. These two variants comprise a whopping 15% of all Kübelwagen production and yet no photos of them could be found. Zero. Zip. Nada. After nearly two years, the mystery was finally solved through an extended chain of contacts via the Internet. The answer is that the two variants aren't discernible in photos, because they lack any real external distinction from the standard Kübelwagen. But more about that later.

Both the Kübelwagen and Schwimmwagen were immensely popular with the troops. Demand constantly exceeded production throughout the war, as these vehicles continuously proved their worth through any temperature extreme and in any terrain, from the African desert to the Russian winters. In 1941, American testing of a captured Kübelwagen at Aberdeen Proving Grounds labeled the vehicle "remarkable." While the Kübelwagen was not as rugged as the Jeep, it was lighter, required less material to manufacture, had superior mileage and was simple to operate and maintain. But while the combined production total of these two vehicles was 65,000 units, over 650,000 Jeeps were manufactured by the United States.

By the end of the war, the famous Wolfsburg plant had been decimated by bombing raids. The occupation forces, however, were so impressed with the vehicles that the British Army kept production going, piecing together nearly 12,000 additional VW vehicles before control of the factory was returned to the Germans in 1949. The bulk of these vehicles were manufactured for the Allies and public service departments. Throughout the war, the vehicles you are about to meet were referred to by their KdF designations. 'Volkswagen,' in essence, referred to the concept; it wasn't until after the war that the Kafers were referred to directly as Volkswagens. And thus our story begins. Enjoy the show.

—Joe Porter
Champaign, Illinois
July 2001

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The Kübelwagen Story and Other Tales

Wartime production changes to the Kübelwagen

The Kübelwagen was a constantly evolving vehicle during World War II. It is crucial to note that these vehicles were often pieced back together in the field and brand new Kübelwagens and Schwimmwagens could find themselves mated with older bodies and parts within weeks of their arrival on the front lines. Wartime material shortages and lessons learned in combat resulted in both compromise and upgrade; the last several thousand Kübelwagens were produced between January and April 1945, under devastating economic and materials conditions. Add to that the loss of most factory records in the waning months of World War Two and a complete historical record will never be assembled. You'll find many hybrids and anomalies in the photographic records of the Kübelwagen and the following points will help identify a photo by studying the dates certain features were introduced. Here's what to look for.

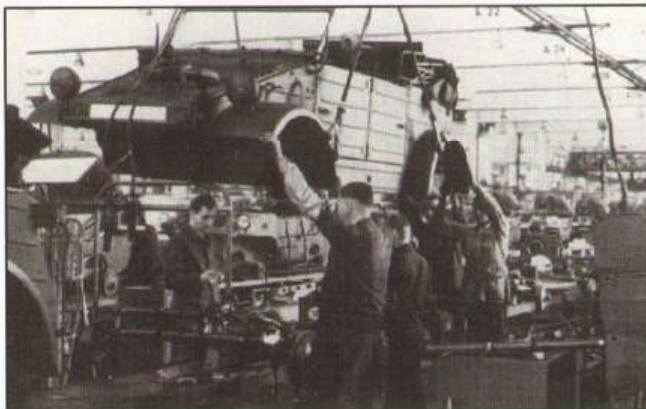
Rear Fenders:

The earliest Kübelwagens had short rear fenders ending at the bottom edge of the rear quarter panels. In November 1941, the rear fenders were extended approximately eight inches, requiring that a triangular support piece be welded vertically to the bottom

edge of the rear quarter panels for support.

Fuel Spout:

Early units featured a fuel spout in the right front quarter panel. This spout quickly moved to the hood, with a small chain or wire linking the cap to the spout. The early side spout was in approximately the same position as the later spotlight mount (see below). On these early models with the side spout,



under the axle to lift the vehicle, a device similar to the one used on the pre-war Beetle. In June 1942, a tower jack was introduced which used a crank and a cylindrical lifting pin. This required round jack holes in the rocker panels beneath the door post on each side. (This hole is sometimes mistaken for a drain.) The scissor jack, folding jack handle and starting crank were stored in the right side of the engine compartment, with a wooden toolbox on the engine's left side. The new jack was stored on the left and a pressed-metal toolbox was stored on the right side of the engine compartment.

Canvas Top:

Early Kübelwagen tops were supported by a collapsible metal frame with two major cross bars; one at the rear and one just above the grab bar. In 1943, a third cross bar was added over the driver's head. Some postwar tops were manufactured with an oval rear window.

Turn Signal Indicators, Mirror, Spotlight, Horn, Shovel and Dimples:

Kübelwagens originally had turn signal indicators mounted on each side of the windshield frame in long, thin housings. Exposed wiring came through the windshield brackets and fed up to these housings. The exposed wires were soon moved inside the windshield frame. The right side featured a spotlight. Just beneath the windshield wingnut, the position of the spotlight bracket was marked by a convex oval dimple. The

the spotlight attached directly to the windshield bracket swivel pin. In December 1942, a wider spout and cap were introduced. In 1944, some Kübelwagens sported the hinged Schwimmwagen fuel cap.

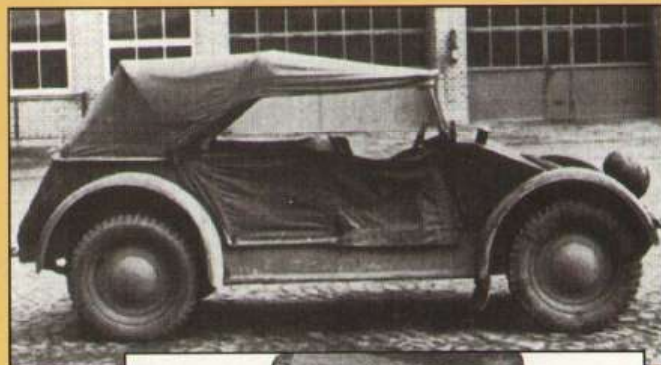
Jack Port and Tool Position:

Early Kübels had a scissor jack that was placed

The Early Years: Kübelwagen Prototypes



♦ *Type 62 with round fenders. One of Porsche's initial designs for a KdF Cross-Country Vehicle, built in 1938.*



♦ *Type 82 prototype. The Kübelwagen begins to take shape, with a more military body. The canvas doors were tested and found undesirable.*



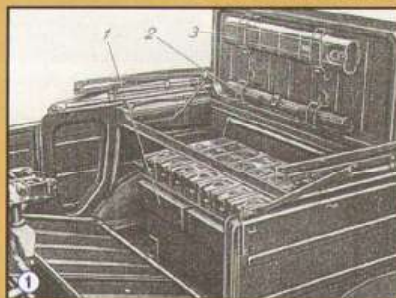
♦ *Type 82 prototype. One of the final Kübelwagen prototypes, showing the sheet metal body but still carrying the recessed spare tire.*

♦ *First production version. The Kübelwagen as it debuted in 1940. Note the side fuel spout, reinforced tow hooks and windshield frame curvatures around the wipers; all of these features were short-lived.*



All photos this page, Imperial War Museum

Other Interesting Stuff, Part One



1. Machine gun car. The proposed MG car that never materialized. The MG34 could be mounted front or rear, or stowed on the handhold bar. The storage compartment is packed with ammo and spare barrels and a tripod is lashed in front of the folded top. (Feist) 2. Type 155 prototype. Field trials were conducted to improve the Kubelwagen's performance in snow by replacing the rear wheels with a track system. Several designs were created, but it was soon discovered that the tracks did virtually nothing to improve traction since the vehicle was so lightweight. (Feist) 3. Fernsprechkraftwagen Kfz. 3, Type 821 (3-seat telephone communications vehicle). One of the white elephants of this project. 7,545 Kubelwagens were produced as this variant to relay radio communications and lay wire in the field. But it's a tough one to find. This wartime manual photo shows the Fernsprechkraftwagen configured on an early Kübel with right side shovel, spotlight and short rear fenders. 4. leichter Melstruppkraftwagen survey vehicle, Kfz. 3, Type 821 (survey and ranging vehicle). Our second white elephant. Beginning in 1940, 273 Kubelwagens were assigned to armor units to help the tankers sight in their guns. You won't spot this in wartime photographs, because it bears no external distinction whatsoever from the standard

Type 82. A special rack was installed inside the storage compartment to house flags, markers, flares and survey equipment. (Feist) 5. "Rommel's Dummy." In the early days of the fighting in North Africa, Rommel had engineer units create dummy tanks from wood frames and canvas, which were mounted on Kubelwagens. Spotted from the air, the vehicle resembled the diminutive PzKpfw. I. Though not a true variant, it is nonetheless an interesting use of the Kübel. (BA)



spotlight bracket curved upward from this dimple and attached to the windshield bracket swivel pin by a small crossbar. Several varieties of spotlights were used, but were not seen on all Kubelwagens. The spotlight wiring came up through the post, exiting below the light and entering the rear of the light itself. On the left side, the driver's mirror was attached to the windshield bracket swivel pin by a thin rod.

In early 1942, the spotlight was eliminated and turn signals were mounted on individual tubular towers, stemming from the spotlight dimple on the right and a new dimple on the left. Each tower attached to the windshield bracket swivel pin by a small crossbar. The turn signal wiring now ran through the tubular frame into the turn signal indicator. The tops of these towers were approximately even with the top of the raised windshield. Thus, when the windshield was lowered, the towers remained fixed in place and upright. The horn, which had been mounted beneath the left wind-

shield wingnut, stayed in that position beneath the left tower for a short while and was then moved to the forward edge of the left quarter panel, just above the fender. In February 1943, turn signal indicators were discontinued altogether and the driver's mirror returned to its original position, attached by a thin rod to the windshield bracket swivel pin. In some instances (both before the towers and after their discontinuation) drivers affixed the turn signal sleeves to the front quarter panels, so the turn signals remained visible with the windshield down. It is important to note that some Kubelwagens produced in 1946-47 had turn indicators mounted directly on the front quarter panels. These highly photographed vehicles continue to cause research problems.

Initially, the Kubelwagen shovel was mounted on the right front quarter panel along the wheel well. The ends of the shovel blade bracket were marked by convex dimples. In early 1942 two round dimples also appeared on the left side, as the shovel began to be mounted on the left. Dimples on both

sides continued until the summer of 1944, when they were eliminated on the right. By November 1944 they disappeared altogether. The dimples themselves are a minor point, but can be critical in identifying the production year.

Mufflers and Engine Guards:

Early Kubels had short mufflers mounted parallel to the rear axle. These cars lacked heaters and had a narrow guard plate (abdeckblech) running from the rear of the car under the engine to the transmission. The protective plate was widened in June 1942. In July 1942, heaters were introduced, along with new mufflers running alongside the motor. The front guard plate remained unchanged during the war.

Spare Tire Mount Spokes:

Early Kubels had four long spokes radiating from the spare tire mount, reaching almost to the edge of the hood. In late 1942, these spokes were shortened and became nearly invisible when the spare was in place. At the same time, a plate was welded directly in front of the spare tire mount.

Engine Removal/Engine Compartment Cross Member:

Early Kubels had a welded cross member below the engine, so the only way the engine could be removed was to lower it out the bottom. In January 1943 the rear cross member was converted to a bolt-on type. Removing this piece, a mechanic could remove the engine by simply pulling it straight out, like a drawer. This change is easily recognized by the two hex-head bolts at each side of the cross member, next to the rear tow hooks.

Towing Hooks:

Early Kubels used four simple towing hooks, two in the front and two in the rear. Initial units had small triangular plates welded horizontally between each hook and the body. In January 1943, a metal cross bar was installed between the hooks to act as a stabilizer. The rear bar featured a center support incorporating an extended housing for the crank port. The bars were discontinued in January 1945. Some Kubelwagens have been noted with the folding hooks developed for the Schwimmwagen, no doubt necessitated by wartime shortages.

Headlights:

Early Kubels had 160mm diameter headlights, with wiring running down through the mounting bolt, under the fender and into the body through the wheel well. In other words, wiring wasn't visible. By spring 1943, smaller 130mm diameter headlights were being installed. Initially their wiring was the same; but soon a special socket was developed so wiring ran from the rear of the headlight housing directly through the top of the fender about four inches behind the headlight. Thus, visible wiring. A variety of cloth and metal blackout covers were used throughout the war.

Dashboards:

Early Kubels had the same dashboard used in the civilian Beetle Type 60. In August 1943, Kubelwagens began using the same smaller dash that was installed in the Schwimmwagen. Therefore, approximately half of all Kubels featured a Schwimmwagen dash. All plastic kits predate this item.

Windshield:

The windshield frame on most Kubelwagens was manufactured with rounded inside upper corners. Very early Kubels had a pair of small curves rising from the lower frame onto the glass and the wipers were mounted in these curves. In early 1941 the lower edge of the windshield frame was



1. This sharp Kübelwagen is an early '42 model and is a fine example of how the round taillight was affixed. Note the lengthened rear fenders and narrower engine guard. 2. Supper's going to be late, boys! An early '42 Kübelwagen packed with groceries. 3. A schwimmwagen loaded to the gills. Note the tool box mounted beneath the right side of the dash.



widened, so these curved areas disappeared. In December 1943 the rounded inside upper corners were squared off. At the same time, split windshields were introduced on some Kubels, owing to material shortages. The split windshield utilized glass already manufactured for other vehicles.

Windshield Wiper Motor and Cable:

The wiper motor cables on the earliest Kübelwagens went directly from the dashboard to the two motors. Starting in early 1941, the cable emerged about one inch in front of the windshield and was protected by a small metal cowl. The cowl routed the cable to the left, then curved it back to enter the windshield frame. In August 1943 this arrangement was eliminated, so the cables again entered the windshield wiper motors from inside the vehicle. Wipers operated independently, by means of an electric switch on the back of each wiper motor. By late in the war, many Kübelwagens left the factory with only one wiper motor, on the driver's side.

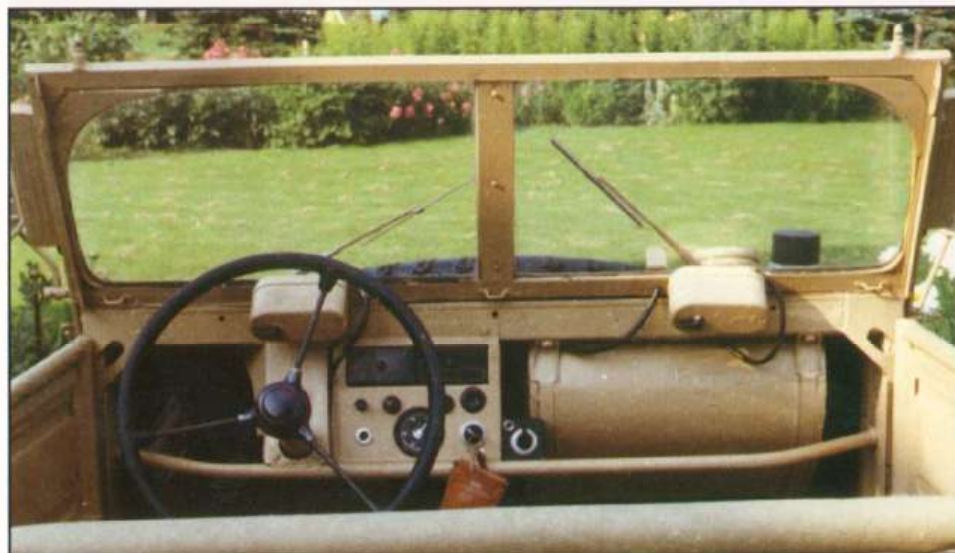


Engine Compartment Door/Stowage Door/License Plate/Notek Light/Taillights:

The engine door on early Kubels had seven evenly spaced, raised ribs. The license plate was mounted on a bracket that protruded on the left and the Notek light was mounted on a bracket above the license plate. In November 1943, this arrangement was altered by shortening the two left ribs, the leftmost shorter than the next. The Notek light was then mounted on the engine door; and the plate was mounted or painted in place of the two shortened ribs. Here's the interesting part—this same panel was used as the horizontal lid for the stowage area behind the rear seat. Thus, as of 1943 this stowage door also had the two shortened ribs. Small round taillights were mounted on the rear edge of the right quarter panel and sometimes on the right side of the engine door; their position varied considerably. Factories stopped installing the round taillights sometime in 1942. It is important to note that license plates and Notek lights were often bolted to the engine door before the ribs were shortened, as the protruding license plate was prone to being ripped loose. It is also of interest that some Kübelwagens produced in 1946-47 had two round taillights.

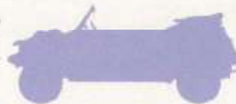
Engine:

Earlier Kübelwagens were powered by the 985cc, 4-cylinder, 22-hp air-cooled boxer engine. The



Over half of all Kübelwagens featured the Schwimmwagen dashboard (seen in its natural environment above), but photos are tough to find. Well, here it is. Herr Carsten Messer of Germany kindly provided this photo of his 1945 Kübelwagen. Herr Messer added the right mirror and handhold pad and also attached early turn signals to the windshield. The windshield itself pays tribute to late war shortages; it has split panes, but retains the curved inner corners. The auxiliary socket to the right of the dash is non-standard. Herr Hans Schucklenbohrer of Germany provided a copy of a thank you letter dated 7 July 1943 from Volkswagenwerk to the engineer who dreamed up the idea. By August 1943 Schwimmwagen dashboards were installed in all Kübelwagens leaving the factory.

Compressed into a timeline, Kübelwagen production looks like this. By noting the chassis number (out of 50,000+), you can approximate how many vehicles were manufactured with that particular feature. For instance, almost half the Kübels had the shortened ribs on the engine and stowage covers.



INITIAL DESIGN (1940)	Known Chassis #	Known Date
Side fuel spout		
Spotlight and turn indicators mounted to windshield		
Triangular braces welded to tow hooks		
Large headlights		
No jack holes in rocker panels		
Shovel mounted on right side		
No dimples on left front quarter panel		
Narrow exhaust guard; mufflers forward and turned		
Curves in windshield frame, around wiper mounts		
1940		
Fuel spout moved to hood	Unknown	Unknown
Spotlight mounted to dimple in right quarter panel	Unknown	Unknown
Triangular braces removed from tow hooks	Unknown	Unknown
1941		
Windshield frame widened at bottom (no curves)	Unknown	Unknown
Wiper cable outlet appears in front of windshield	Unknown	Unknown
Rear fenders lengthened	5000	November 41
1942		
Spotlight eliminated	Unknown	Early '42
Dimples appear on left quarter panel; shovel moved to left	Unknown	Early '42
Turn indicators mounted on towers; horn on side then moved forward	Unknown	Early '42
Holes appear in rocker panels for new jack	8501	June '42
Wider rear engine guard	9001	June '42
New exhaust design plus heaters	9501	July '42
Tool stowage changes in engine compartment	Unknown	Summer '42
Wider fuel spout introduced	14001	December '42
Spokes shortened on spare tire mount	14001	December '42
Plate added in front of spare	14001	December '42
Round taillights no longer standard, but continue to be used	Unknown	Unknown
1943		
Bolts on rear cross member, next to tow hooks	15371	January '43
Crossbars added between tow hooks	15371	January '43
Small starting fuel container added to engine	15518	February '43
Turn indicators eliminated; mirror now mounted on swivel pin	15656	February '43
Rear scoops now factory installed	Unknown	Early '43
Smaller headlights with internal wiring; external wiring soon appears	Unknown	Spring '43
More powerful engine becomes standard	Unknown	March '43
New tubular air filter introduced	24523	August '43
Schwimmwagen dashboard installed in Kübelwagens	25001	August '43
Wiper cables outlet in front of windshield eliminated	25001	August '43
Ribs shortened on engine cover and stowage cover;		
rear license plate and Nettek light moved onto engine cover	29001	November '43
Windshield frame squared off; some split windshields used	31000	December '43
Third crossbar added to canvas top	Unknown	Unknown
1944		
Welded/staggered hinges replace riveted hinges	Unknown	Spring '44
Dimples eliminated on right quarter panel	Unknown	Summer '44
Dimples eliminated on left quarter panel	Unknown	November '44
Schwimmwagen fuel spout and tow hooks used	Unknown	Unknown
1945		
Tow hook crossbars eliminated	47000	January '45
Final units leave factory with single wiper	Unknown	Unknown

Schwimmwagen was fitted with a more powerful 1131cc, 4-cylinder, 25-hp version. As of March 1943 this engine was installed in all new Beetles and Kübelwagens as well. In February 1943 a small can for priming the engine was added to the intake manifold. By 1943 many 'continental' Kübelwagens were sporting the inclined tubular air filter (wirbel-luftfilter) developed for tropical use, instead of the standard oil bath filter.

Door Hinges and Grab Bar:

Kübelwagen door hinges were initially square and were riveted to the doors. In the spring of 1944, the plate material was reduced by half, so the hinges looked like two stair steps. Rivets were no longer used and the abbreviated hinges were welded to the doors. Wartime photos show some vehicles with a lower front hinge, some with a lower rear hinge. Also by late 1944, the grab bar behind the front seat was no longer bolted to the door posts, but welded instead.

Door Handles:

Kübelwagen door handles were initially cut from flat steel plate. By 1943 new handles were being used which were devised from flattened steel tubing. (The difference is inconsequential in small scale.)

Engine Louvers and Air Intake Scoop:

Kübelwagens had a row of louvers or vertical slits just above the engine door. To increase air intake for the air-cooled engine, a scoop (Ansaug-Luftführung) was developed in Afrika. By early 1943 almost all production Kübels had an air intake scoop welded over the louvers, turning 90 degrees over the top rear of the vehicle with the open scoop facing forward.

Hubcaps:

Several hubcap styles were developed and used during World War Two. Early hubcaps had a slightly convex disc shape. In 1941 a protruding nipple was added featuring the KdF VW emblem surrounded by a cogwheel. Then, the nipple was enlarged and the logo removed. In 1943 the simpler convex disc returned, but retained the stamped logo. Finally the cogwheel was removed and only the VW logo remained. Not all rims were designed for hubcaps; a ring of small clips surrounded the hub on the rim and these clips were no longer standard after 1943. For obvious reasons, hubcaps were often discarded in the field.

And here's where it gets confusing

In the World War Two years, the KdF vehicles had five different numbering systems, which gave them extensive and confusing nomenclatures.

1. KdF (Kraft durch Freude) was the Volkswagen production numbering system referring to the chassis model.

KdF 1: ordinary civilian chassis, two-wheel drive, Beetle body (i.e., Type 60 civilian and government Beetles)

KdF 2: raised chassis, two-wheel drive, Kübelwagen body

KdF 5: raised chassis, two-wheel drive, Beetle body (i.e., Type 82 and 92 Beetles)

KdF 7: raised chassis, four-wheel drive (i.e., Schwimmwagens and Type 87 Beetles)

KdF 8: raised chassis, four-wheel drive, Beetle body manufactured with truck or van modifications

2. All OKW (Ober Kommando der Wehrmacht) light cross-country cars were designated Lgf.PkW. (leicht

gelandefähig Personenkraftwagen). This designation was further qualified according to body type with the letters **Kfz.** (Kraft-fahrzeug), followed by a number between 1 and 10. The standard Kübelwagen belonged to class Kfz.1 and the three-seat Schwimmwagen belonged to class Kfz.2. The Schwimmwagen was designated l.schw.f.Pkw. (leicht schwimmfähig Personenkraftwagen) Kfz 1/20.

3. Type refers to the Porsche studies, a wide range of projects that included the Kübelwagen, Schwimmwagen and many other types of vehicles and machinery. World War II "types" ran into the 400's.

4. Kar or K referred to the Porsche body type. The 2WD Beetle was a K1, while the standard Kübelwagen was a K820.

5. Postwar production continued at the Wolfsburg Motor Works under the control of the British Occupation Forces. **Model** numbers were created using two digits; the first referred to the chassis type and matched the wartime KdF model number and the second created new categories within each class.

Thus, a standard four-seat Kübelwagen could be known as a KdF 2; a Kfz. 1, or Lgf.PkW Kfz.1; a Type 82; a K820; or a postwar Model 21. Everybody still with us?

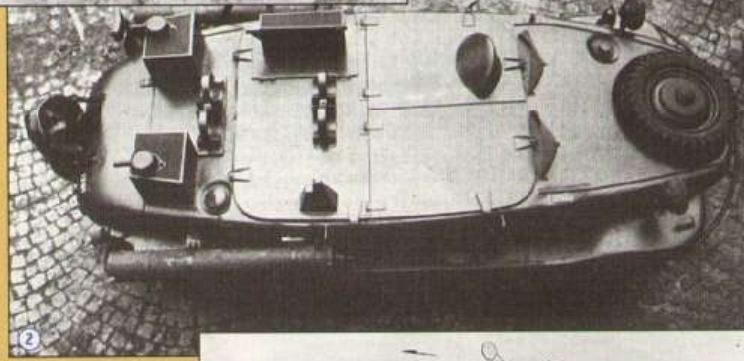
To horribly complicate matters, both "KdF" and "Kfz" designations are often abbreviated as "K," which confuses them with the "K" Porsche body type. On several mid-war variants, the Porsche Type and Kar are the same number.

Other Interesting Stuff, Part Two



1. The initial Schwimmwagen design, tested in 1940. The vehicle still bears the distinctive Kübelwagen style. The propeller is enclosed in a metal shroud. The Schwimmwagen went through five noteworthy phases; the welded Kübelwagen body prototype; the longer Type 128; the Porsche Type 166 prototype; the Porsche production Type 166; and the VW production Type 166. (BA) **2.** Thanks to new information published in Funklenpanzer: A History of German Army Remote and Radio-

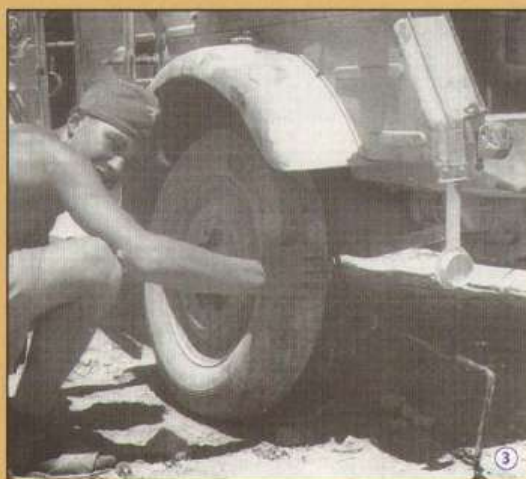
Controlled Armor Units, we now know that this Type 128 was converted to the Type 129 demolition vehicle. The crew compartment was completely covered by sheet metal and the demolition charges were housed in the area below. The concept even included rocket motors that were to be used to assist the vehicle in climbing out of the water. Needless to say, this idea was not pursued, but interestingly, the one remaining prototype was issued to the Panzer-Versuchs- und Ersatz-Abteilung 300 (FkI). The vehicle was apparently used in the same role as a conventional Schwimmwagen. (Feist) **3.** Like the Kübelwagen, the Schwimmwagen was tested with flanged wheels bolted to the rims. And like the Kübelwagen experiment, little improvement in traction was found. This vehicle is one of the Porsche production Schwimmwagens, number 166/5. (BA)



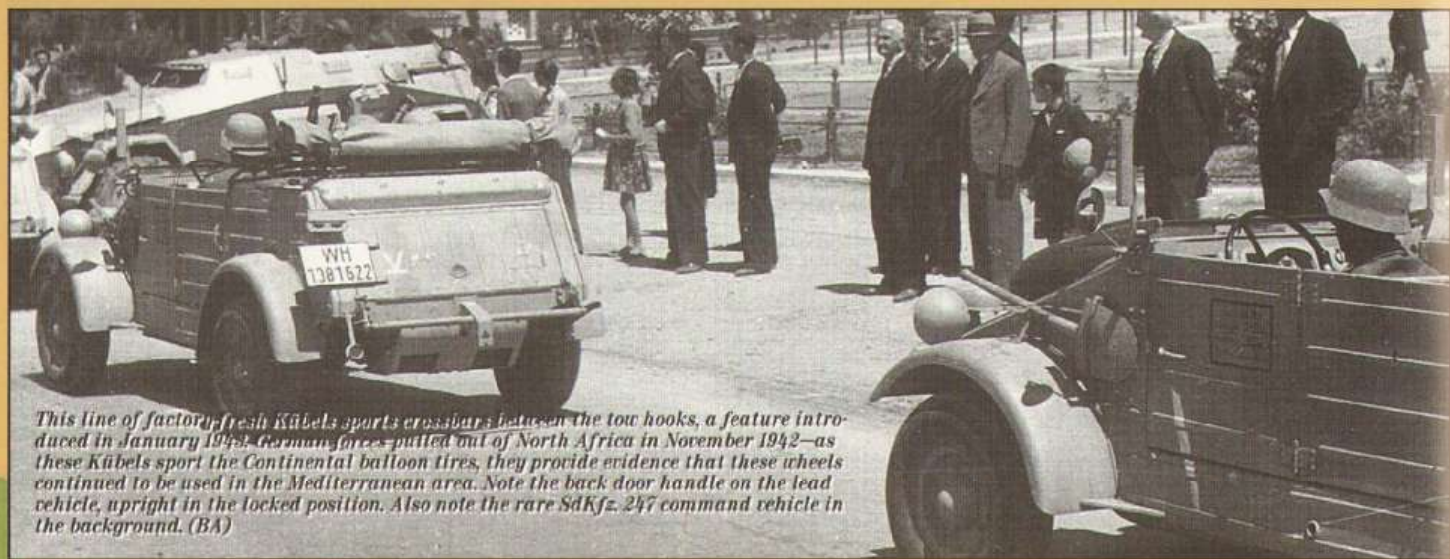
This is a fascinating photo of a Kübelwagen in Luftwaffe service. The blue-gray vehicle sports tan rims and has all the characteristics of an early model—spotlight, no jack holes, no tow hook bars, long spokes on the spare mount and turn signals mounted to the windshield. This Kübel is one of the few still configured with the left mounted shovel, prior to the introduction of the turn signal towers. (BA)



Other Interesting Stuff, Part Forty-Seven



1. The short rear fenders on this North Afrika Kübelwagen identify its manufacture as pre-November 1941. Note the angled plate inside the engine compartment—this permitted access to the coil from inside the stowage compartment. The coil itself was mounted on the forward side of the fan housing, and is visible at 8:00 in the photo, at the lower edge of the trench. The difficulty of engine removal was solved in January 1943, when the rear crossmember was changed to a bolted-on version. (BA) 2. An early Kübelwagen with Luftwaffe plates undergoes engine maintenance in North Afrika. The rear end sits on a jackstand, and the engine has been dropped through the bottom. This again demonstrates the difficulty of Kübelwagen engine removal prior to the introduction of the bolted-on rear crossmember. (BA) 3. This early Kübelwagen is identified by the lack of crossbars on the towing hook, and the fact that a scissors jack is being used under the rear axle. Note the Luftwaffe insignia on the soldier's cap, the missing lens in the rear reflector and the groovy sandals. (BA) 4. This Kübelwagen bears the unit insignia of Stug Brigade 667. With its tow hook bar, it can be identified as an early 1943 model. Note the Kübel radio car. (BA)



This line of factory-fresh Kübels sports crossbars between the tow hooks, a feature introduced in January 1943. German forces pulled out of North Africa in November 1942—as these Kübels sport the Continental balloon tires, they provide evidence that these wheels continued to be used in the Mediterranean area. Note the back door handle on the lead vehicle, upright in the locked position. Also note the rare SdKfz. 247 command vehicle in the background. (BA)



5. Fine study of an early Kübelwagen in Luftwaffe service. Note the hub-caps, spotlight, long spokes on the spare mount, short rear fenders, and turn signals on the windshield. The defining feature is the wiper cable emerging in front of the windshield, a feature introduced in 1941. The rear fenders would be lengthened in November of that year. (BA) 6. The driver of this Kübel operates the tire pump, normally stowed on the inside of the engine cover. With no jack holes and the shovel on the right side, this Kübelwagen is a 1941 model. (BA) 7. Squeezed into a Ju-52, this Wehrmacht Kübelwagen sports the treadless version of the balloon tires. Note that the wheels and fenders have been removed to transport the vehicle inside the tight confines of the aircraft. Interestingly, this Kübel features both long spokes on the spare mount and the curved reinforcement plate. (BA)



On the trail of the trailer: did it really tow?

The reinforced rear crossmember introduced in 1943 lends credence to the belief that Kübelwagens were meant to tow trailers. Interestingly, considering the proliferation of Kübelwagen photos, one showing a trailer is a rare bird, indeed. In late 1944, a test unit was assembled consisting of two modified Kübelwagens (designated

Schlepperfahrzeug Typ 276), a small caliber antitank gun (37mm PaK), an ammunition trailer carrying 16 cases of three rounds and a total of seven soldiers.

But, this doesn't mean you can just slap a heavy trailer on your kit. The rear suspension was beefed up, as the traction was inadequate for towing purposes. Different gears were added to the rear axle reduction boxes, which slightly raised the rear ground clearance but reduced the top speed and mileage. A governor was added to the generator shaft to prevent stripping of the gears. When it was all said and done, the modified Kübelwagen could pull 1200+ pounds. Most noticeably, the Type 276 Kübels were fitted with Schwimmwagen rims and tires. This 2-vehicle unit saw light action at the end of 1944 and the Type 276 never entered mass production.

The photo at left is not believed to be part of that unit, but a field modification. It's an early '42 vehicle, rigged up to tow a light infantry cart loaded with jerry cans and a mortar. So, it happened.



The Kübelwagen Owner's Manual



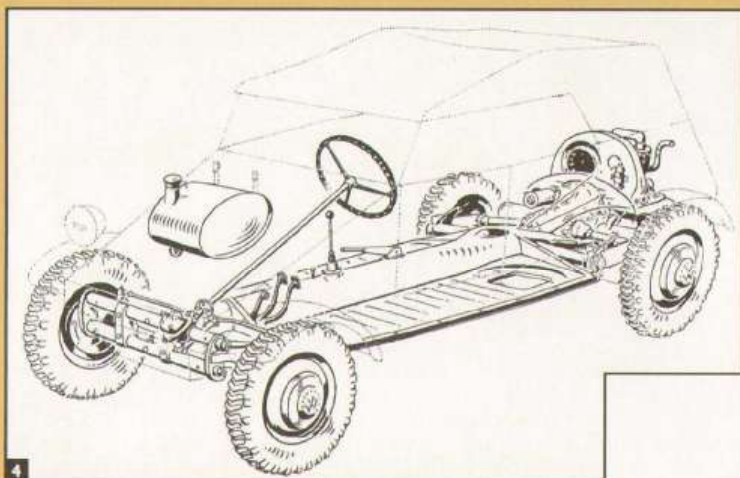
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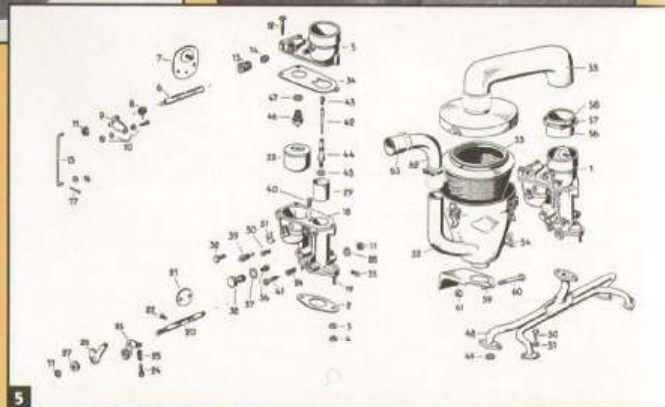
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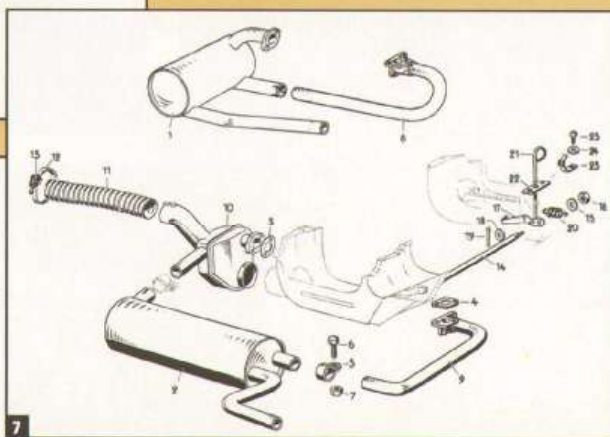
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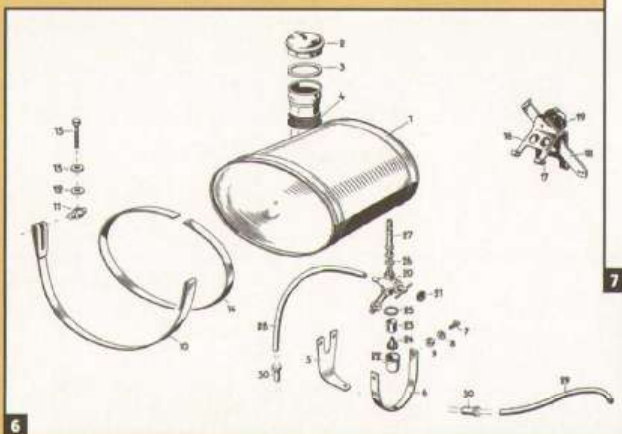


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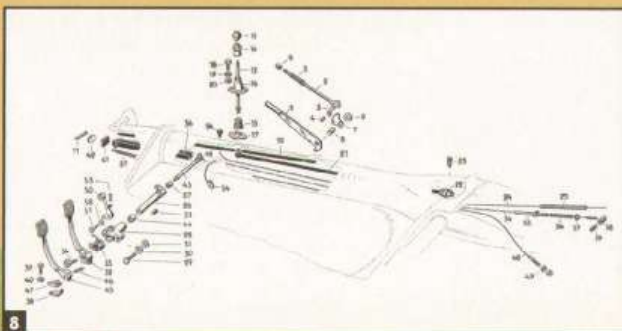


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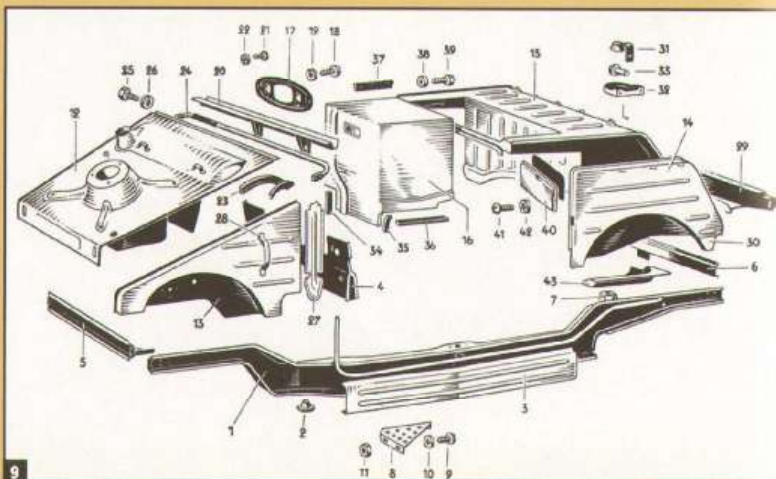
1, 2 The desert balloon tire required a special split rim. Note the series of bolts that hold the two halves together, in addition to the five standard lugnut holes. 3. A spacer had to be attached to the spare tire mount to accommodate the balloon tire. Note the position of the three bolts for holding the spare.



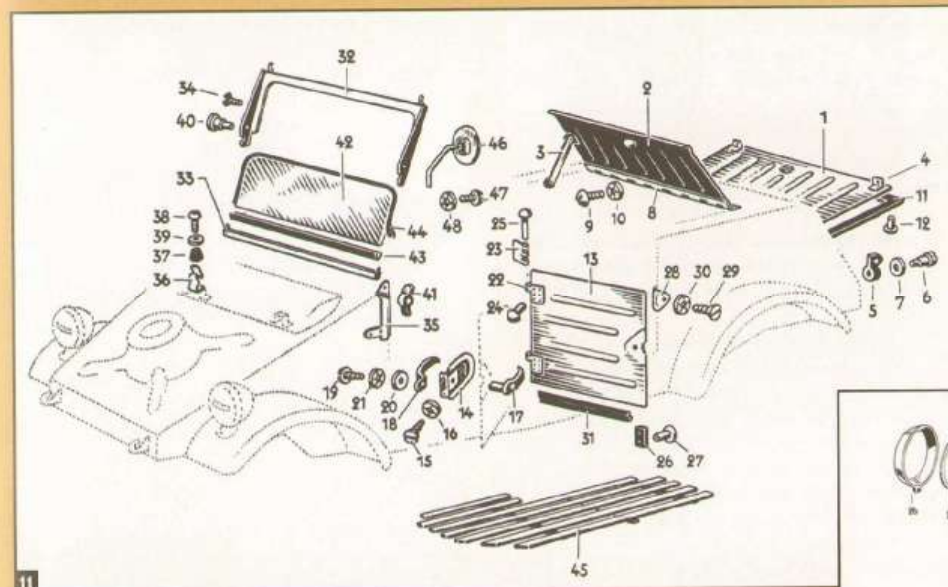
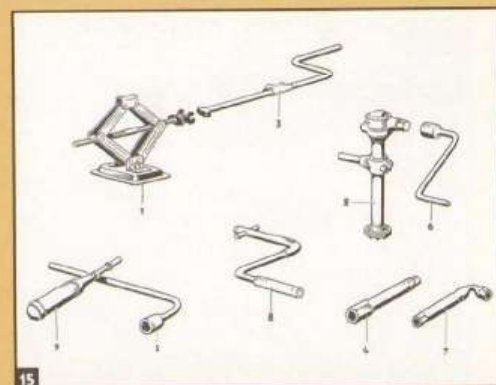
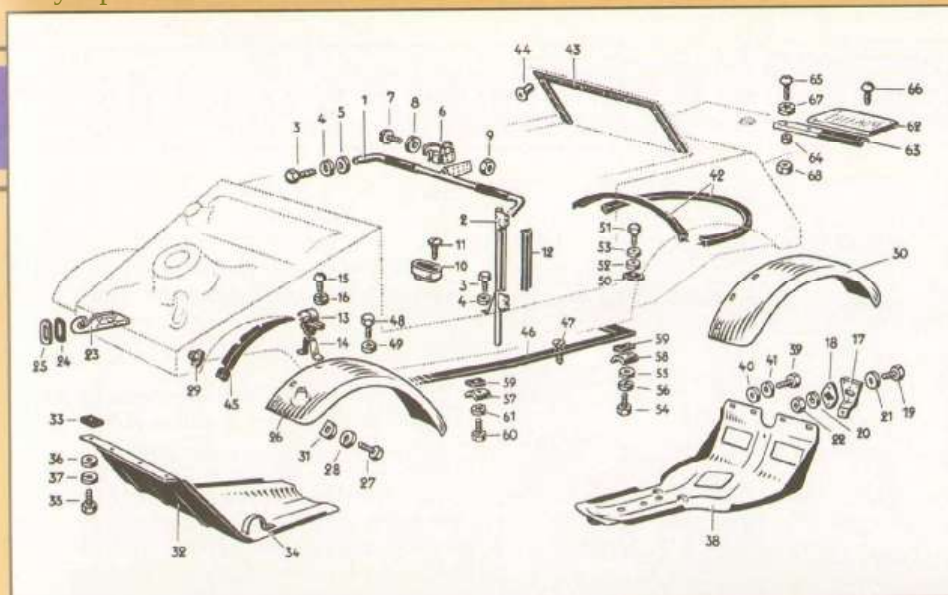
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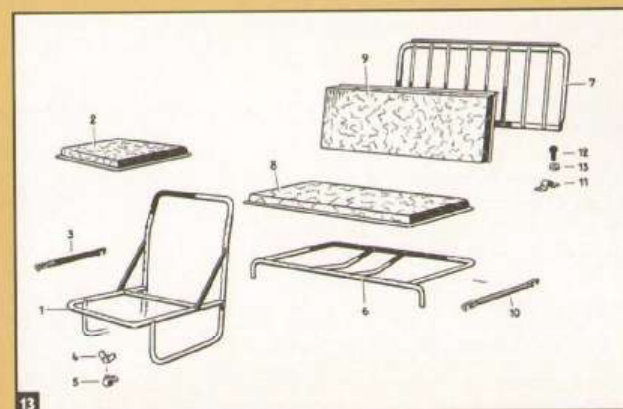
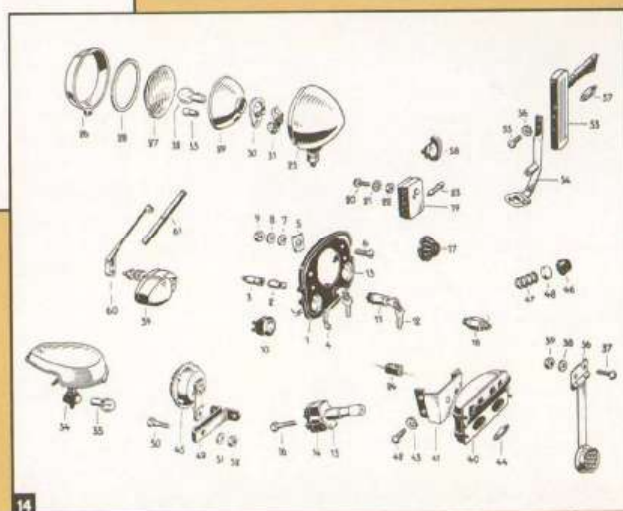
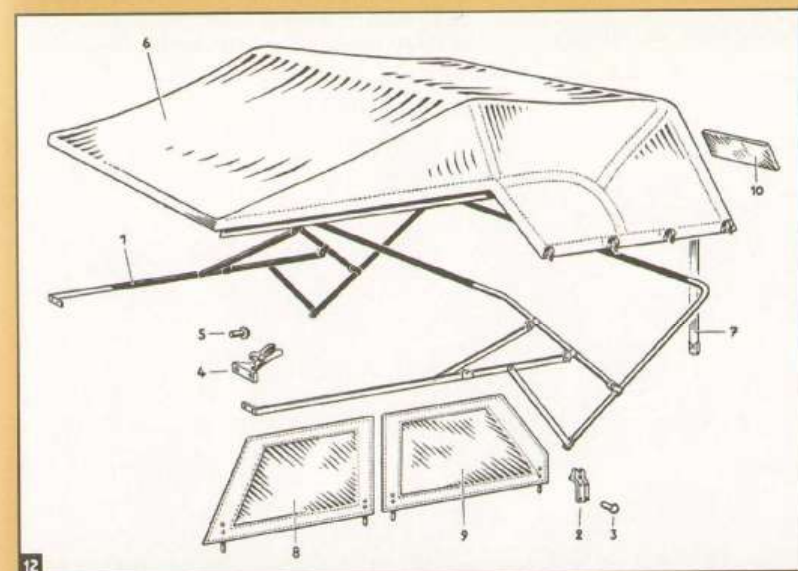
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9



10. Fenders, skid guards and assorted brackets. 11. Windshield, door assembly and covers for the stowage and engine compartments. This schematic also answers the question as to whether the wooden floorboards were added at the factory. 12. Canvas top, frame and side windows. A third crossbar was added to the folding frame in late 1943, after this particular manual was printed. Even older Kübel often upgraded to the new top to keep the canvas from beating on the driver's head. Thus, tops aren't a good feature to determine the year of a vehicle. 13. Seats and all the fixings. 14. There's a lot to love in this one. Headlights, Notek lights, horn, turn signal indicators and towers, dashboard, wiper motor, dimmer switch, reflector and more. 15. Both styles of jacks and tire tools.



4. Overall view of the chassis. 5. Oil bath filter and carburetor. 6. 25-liter fuel tank and fuel cock. 7. Exhaust system, showing both early and late mufflers. 8. Arrangement of the pedals, choke, gearshift lever and brake cables. 9. Main body panels, including optional Zusatzkasten, the metal cabinet for the 3-seat workshop and radio car. Note part #30, the triangular brace to support the lengthened fenders as of late 1941.

INTERESTING FACTS AND FEATURES



Bundesarchiv

• The military Beetle mounted the Kafer sedan body on the standard Kübelwagen chassis. The four-wheel drive Beetle was developed from the sedan body mounted on a new chassis intended for the Kübelwagen, but four-wheel drive Kübelwagens never made it into production. Thus, Kübelwagens

tires, as opposed to the notion that they all cruised around on big knobbies.

• The MG mounts are mostly seen in factory photos; MGs and their mounts rarely appear in photographs of Kübelwagens in the field.

• While most Beetles, Kübelwagens, and Schwimmwagens were manufactured at the famous mile-long plant at Wolfsburg, the Kübelwagen body was developed by Ambi-Budd-Presswerke in Berlin. When Kübelwagen production commenced on 21 December 1940, the Wolfsburg facility was not geared up for body production, so Ambi-Budd made the initial bodies. Ambi-Budd also produced all of the Schwimmwagen bodies in World War Two.

• Kronprinz and Hering were the primary

manufacturers of Kübelwagen and Schwimmwagen rims.

• Schwimmwagen propeller speed was regulated only by the gas pedal. The propeller was one-directional; only forward speed was possible.

• U.S. troops reportedly would give up two Jeeps in trade for one captured Kübelwagen.

• Other Porsche studies of interest based on the Kübelwagen include a unified doorless body, a light artillery tractor, a remote controlled demolition vehicle, a Kübelwagen body built from wood, a 2-seater with shortened wheelbase and even a rocket launcher platform. Engines powered by acetylene, propane and electricity also were studied.



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• The production Schwimmwagen Type 166 had two 25-liter fuel tanks. All other vehicles built on the VW chassis had one tank of 40 liters.

• The KdF vehicles were prone to heavy damage due to their lightweight construction. They were often viewed as entirely disposable. By late in the war, Kübelwagens and Schwimmwagens had a life expectancy of three weeks after entering the line.



Bundesarchiv

were two-wheel drive, while some military Beetles and all Schwimmwagens were four-wheel drive.

• It's rarely seen, but Kübelwagen handles in the upright (12:00) position indicate the door is locked.

• 'Kübel' and 'Schwimmers' were so light that empty vehicles required no jack; 2 men could easily lift one side up, particularly under combat conditions.

• The Schwimmwagen was designed with only one windshield wiper.

• The long-body Type 128 Schwimmwagen had Kübelwagen-style removable side windows. By the time the finalized Type 166 Schwimmwagen entered production, side windows were eliminated.

• Wartime shortages saw many Schwimmwagens with sedan-style



Imperial War Museum

List of Modeling Details

All of the Kübelwagens built for this publication underwent extensive detailing. Rather than repeat these steps in each feature, here is a list of general upgrades that apply to most Kübelwagen models.

Exterior:

Latches for engine cover and stowage compartment - (fig. 3) Each of the two hatches has two fixtures, one at each corner opposite the hinge.



The keylatch looks like half a wingnut with a hole through the wing. Each latch turns against a stop welded to the hatch; the stops were made from spare etch or lead foil. The holes allowed these

devices to be padlocked. You'll find these on the Aber and Royal Model detail sets.

Valve stems - (figs. 1, 2) Holes were drilled in all rims and valve stems added from fine brass wire.

Tailpipes - (figs. 3, 4) All tailpipes were drilled out.

Tie rods and brake lines - (fig. 5) Tie rods for the front end were made with fine plastic rod, pinched at the end with flatnose pliers. Brake lines for all four wheels were made from stretched sprue.

Bolts on rear cross-member - (fig. 6) If the Kübelwagen is a January '43 model or later, it will feature a pair of bolt-heads on the rear, just inside each tow hook. Photo-etched bolt heads were added on the Dragon kits when necessary.

Dimples - (fig. 7) Following the Wartime Production Changes out-

line, dimples were added or removed on each model. They were created using thin sheet plastic and a punch and die.

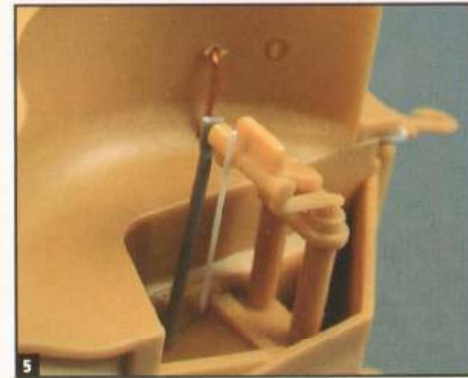
Shovel bracket and clamp - (fig. 8) Most kit shovels were scraped clean and treated to photo-

etched fixtures. Using etched parts on the Tamiya shovel required plugging the locating hole with plastic rod.

Fender steps - (fig. 9) These are integral on the Tamiya kit, but must be added to others. Plentiful etched parts are available.

Fuel spout strap - (fig. 10) When appropriate, a strap was added to the fuel spout. As on many vehicles, this strap kept the cap from becoming lost

continued on next page



Plastic kit analysis: dating your Kübelwagen

Tamiya Kübelwagen Type 82 (Kit No. 35213)

The predominant features include short spokes on the spare tire mount; turn signal indicators mounted on towers; bolts on rear cross-member; crossbars on towing hooks; wide engine guard; and full-length ribs on the engine cover and stowage compartment lid. Built out of the box, this vehicle rolled off the production line in the summer of 1943.

Tamiya DAK Kübelwagen Type 82 (Kit No. 35238)

Tamiya did more than just add balloon tires to create this release; there are several differences in the components, including long spokes on the enlarged spare tire mount and rivets added to the door hinges. The predominant features include turn signal indicators mounted on towers; wide engine guard; and full-length ribs on the

engine cover and stowage compartment lid. Built out of the box, this vehicle rolled off the production line in summer/fall 1942. Oddly, this model has bolts on the rear cross member but no bars between the tow hooks. These were introduced simultaneously and the crossbars eliminated in early 1945.

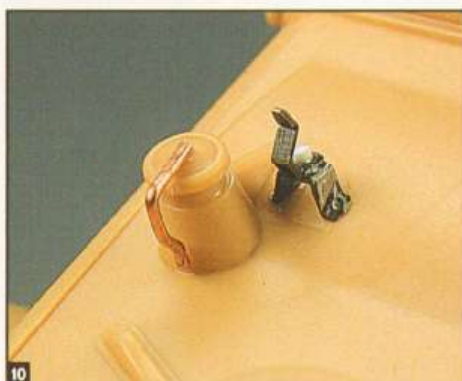
Dragon Kübelwagen Type 82 (Kit Nos. 9034, 9042, 9050, 9051)

Dragon's version, formerly released under the Hasegawa label, came to us in four different styles, but the body type is the same. The predominant features include long spokes on the spare tire mount; turn signal indicators mounted on towers; no bolts on rear crossmember; no crossbars on towing hooks; wide engine guard; and full-length ribs on the engine cover and stowage compartment lid. These kits also feature the wiper cable outlet in front of the windshield,

but are missing the wooden floorboards. Built out of the box, this vehicle rolled off the production line in summer/fall 1942.

Italeri Kübelwagen Type 82 (Kit No. 312)

Still an active kit, this model has appeared under several brands and numbers in the last 30 years, and has been far outdistanced by the Tamiya and Dragon technology. The predominant features include short spokes on the spare tire mount (which should be long); turn signal indicators mounted on windshield; spotlight; no side holes for jack; no bolts on rear cross member; no crossbars on towing hooks; and full-length ribs on the engine cover and stowage compartment lid. It's an early version and built out of the box, this vehicle rolled off the production line in late 1941. It includes both raised and lowered tops, but oddly lacks an exhaust system.



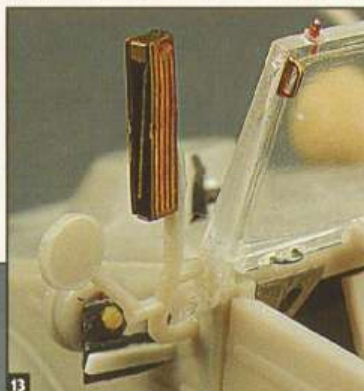
and was made by pinching copper wire with flat-nose pliers, then bending to shape.

Horn - (figs. 11, 13) Whether on the side or moved forward, each horn was wired. Generally, the horns received scratchbuilt brackets. On several kits it was necessary to plug the locating hole for the horn, using plastic strip.

Tow Hook Rings - (figs. 3, 4) Like most German vehicles, the Kübelwagen featured tow hooks with fine rings running through the tip of each hook. When the tow cables went slack, they could easily pop off of the tow hooks; the small rings helped prevent this. The rings were made by wrapping fine wire around a rod to form a loose spring, then nipping off the coils one by one, leaving a pile of nearly

closed rings. Let's go through the book and play 'count the tow hook rings,' shall we?

Notek Lights and Taillight - (fig. 12) The front and rear Notek lights in the Tamiya and Dragon kits are terrific, but the rear unit required drilling the small pinhole that allowed for night operations. The mounts for the rear lights were all replaced with etch parts. Detail sets generally accommodate the side-mounted light, so kits featuring the light mounted directly to the engine cover necessitated the use of spare etched parts to make the bracket. All rear Notek lights and taillights were properly wired. Kits not requiring a front Notek light had the locating hole filled with plastic strip.



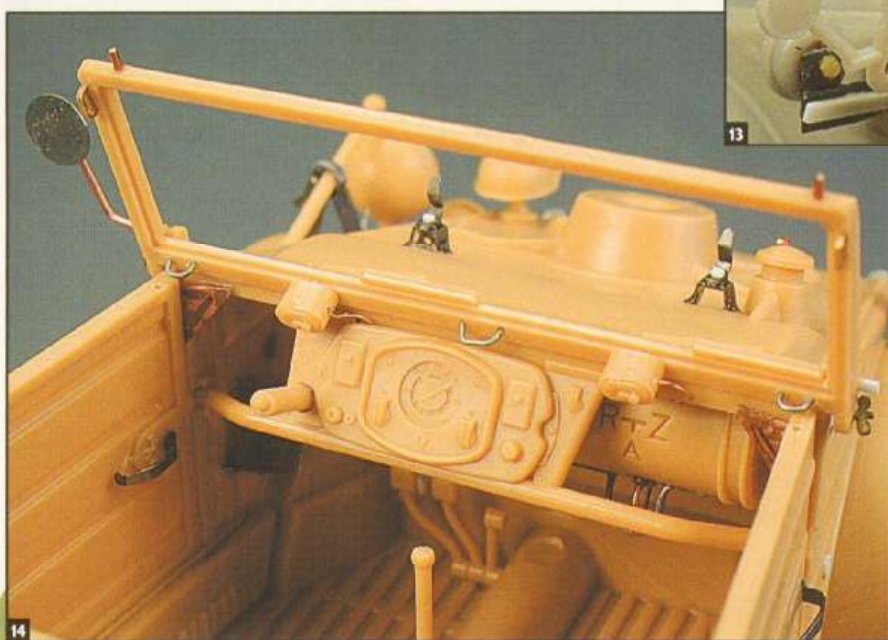
Headlights - (fig. 11) Following the chosen reference photo for each vehicle, many required headlight wiring. Holes were drilled through the back of the headlight, through the fender, and through the wheelwell, and the lights were wired up. Bits of plastic rod were used to make the clamp screws found under the lower lip of the headlight.

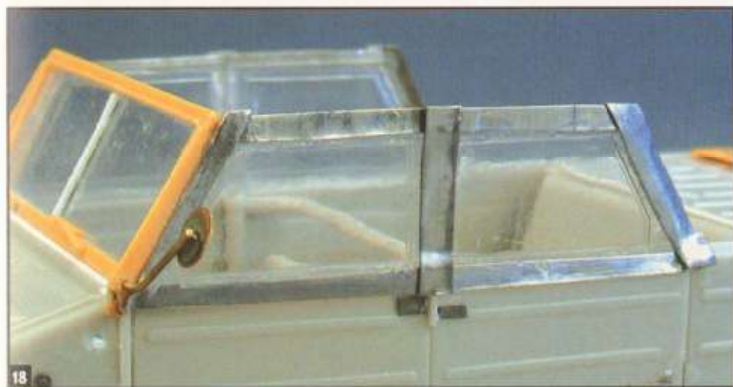
Turn signal indicators and mirrors - (figs. 13, 14) Turn signals and mirrors were added, deleted, or moved in accordance with the chosen reference photo for each vehicle. The turn

signals in this book are mostly from Eduard. A combination of kit mirrors and etched parts were used throughout.

Windshield - (fig. 14) The windshields received plenty of attention. The two lockdown clamps on the hood were scraped off the kits and replaced with etched parts, along with a bit of plastic rod for the rubber bumper (also see fig. 10). The sides of the frames were cleaned up, adding pivot bars and wingnuts. Two holes were drilled in the top of the window frames and wire added for the two posts on the top edge, used for clamping the canvas top. Detailing the inside of the windshield included adding the two rectangular brackets on the inside edges, for securing the removable side windows; and wire for the three small hooks along the inside bottom edge, for securing the windshield cover.

Doors - (figs. 15, 16, 17) Most doors received photo-etched handles. Following the appropriate reference photos, the hinges were changed to either the riveted or welded version. Each door also had two holes drilled in the top edge, where the soft side windows were mounted.





Folding canvas top - (figs. 18, 19) A variety of parts were used for the various folding frames found in this book. There are five hooks along the back edge, and four on each side, used for securing the bottom edge of the canvas when the top was raised. These hooks were added from fine wire or short bits of stretched sprue. One Kübel (the auxiliary starter vehicle) features side windows.

Rear reflector - Rear reflectors, where appropriate, were made using the Eduard etched arm fit with a red GREIF lens.

Interior:

Fuel cock - (fig. 20) This item is missing from all the injection kits. Each was made by drilling a hole in the bottom of the fuel tank and adding a small watch screw, a curved guard from lead foil and copper wire for the handle.

Choke - (fig. 21) Each choke knob was made from stretched sprue that was quickly kissed against a candle flame to flare out the end. These were inserted in a small hole drilled to the right of the gearshift lever.

Dimmer switch - (fig. 22) The foot-operated headlight dimmer switch was made from punched sheet plastic with a switch added from plastic rod. The dimmer switch is located under the driver's left foot, on the firewall behind the clutch pedal.

Dashboard brackets - (fig. 14) These welded triangular brackets are found on each end of the Kübelwagen dashboard. You won't find them on injection kits, but you will in many photo-etched detail sets. (Dragon includes the etched part.)

Map box - (fig. 22) Also missing from the injection kits is the small map/stowage box on the sidewall by the driver's left knee. Again, a common photo-etch addition.

Wiper motor cables - (fig. 14) Whether using one or two wiper motors, each motor was drilled and a small wire added following the appropriate reference photo for that vehicle.

Front seats - (figs. 23, 24) Two canvas strips, which held the seat cushion to the seat frame, were added to the back of the seats using putty or lead foil. Two side struts for each seat were made from lead foil, along with the brackets that secured the seat frame to the floor with etched wingnuts added.

Further details specific to the individual models are outlined in each feature.

Kübelwagen Type 82 (1943 version)

KdF: 2, Kfz: 1

Type: 82

Kar or K: 820

Wartime Production: 37,320 total*

Postwar Model: 21 Postwar Production: 520

Other Designation: Kübel; Kübelsitzwagen, Kübelwagen 4-turig/offen



Primary Kits:

Tamiya 35213 - Kübelwagen Type 82

Decal Star D024 - Lowered Canvas Top

As Tamiya's Kübelwagen #35213 is the most prevalent kit in today's market, this model was used to show a standard vehicle with super detailing. The Tamiya kit reflects a mid 1943 Kübelwagen, with crossbars between the tow hooks; no taillight; forward horn; turn signal indicators mounted on towers; internal wiper cable; short spokes on the spare mount; bolted rear cross member; long ribs on the engine cover and stowage lid; late exhaust and wide guard; riveted door hinges; and late headlights with external wiring. The shortened spokes on the spare tire mount were introduced with chassis #14001 and the smaller Schwimmwagen dashboard was installed beginning with chassis #25001; thus, 11,000 vehicles (a healthy one-fifth of the total) were manufactured in the style of the Tamiya kit. This was actually the last model constructed for this book, as lessons learned on the other 20 projects were all incorporated herein.

There are now numerous etch detail sets available for Kübelwagens, all of which take a different approach to the vehicle. Aber's detail set came along after much of the overall project was underway, joining Eduard, Royal Model, VP and Show Modelling. The most consistent inconsistency in these sets lies in the dashboard brackets, windshield hooks for the canvas top and latches for the engine cover and stowage lid. Other fixtures and brackets are fairly standard in all sets. Early on, I decided against two features: multi-part etch frames for the canvas top (generally fussy) and etch replacement handles for the engine cover and stowage compartment lid (difficult to remove and not really worth the trouble). Kit manufacturers and designers, like restorationists, are often dealing with incomplete records, partial photographs and vehicles that have passed through numerous hands in the past 60 years—many of which have been pieced back together from available parts. Fully restored Kübelwagens must often sport auxiliary lights and components to conform to local ordinances, sometimes making it difficult to discern the original configuration of the vehicle. Our hats are off to those who diligently pursue history through vehicle restoration.

This Tamiya kit follows the level of detail outlined in the introduction. Numerous details were replaced with etch parts. Unique items include the Aber brackets to secure the front seats to the floor pan, Royal Model ignition key and key ring and Aber rifle brackets with a pair of Tamiya rifles added.

* This quantity does not include the Workshop, Radio Car, Fernsprechkraftwagen, or Meßtruppenkraftwagen, which account for an additional 13,468 Kübelwagens.

1. Tamiya's Kübelwagen treated to a dose of Aber and Eduard. 2. Tamiya turn signal towers were modified by removing the signal, flattening the rod with flatnose pliers, and adding Eduard turn signals plus two punched rivets. 3. Standard upgrades to the front end, including Eduard license plate and windshield clamps, Aber shore bracket, and wire for the fuel cap, horn, and tow hook rings. 4. The rear of the Kübelwagen as it appeared from January to November 1943, with crossbar



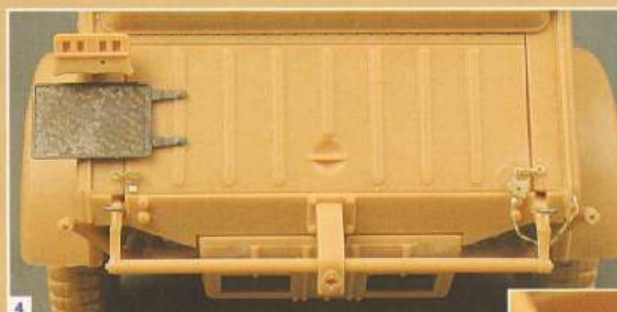
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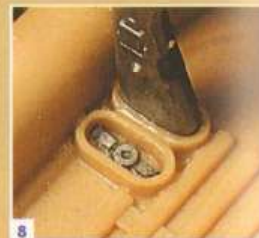
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6



7



8

between the tow hooks and full-length ribs on the engine cover. 5. The Decal Star resin top provides the proper overlap and includes the straps for securing the top to the rear of the Kübelwagen. The resin part had shrunk somewhat, so a section was removed and the putty seen here is to fill the resulting gap. 6. The slotted brackets on each end of the dash are from Aber. Royal Model includes the ignition key in their update set. 7. A pair of Tamiya rifles in the Aber brackets. 8. The new Eduard set (35355) is the first to provide the bumpers for the rifle butt brackets.



Kübelwagen with Auxiliary Tank Starter

KdF: 2, Kfz: 1

Type: 82 with PTO Starter Drive Type 198

Kar or K: 820

Other Designation: Anwerfgetriebe



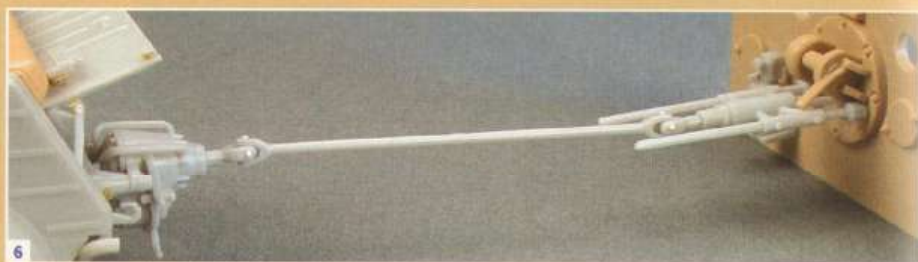
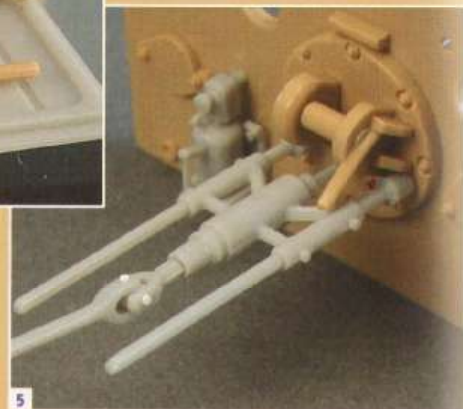
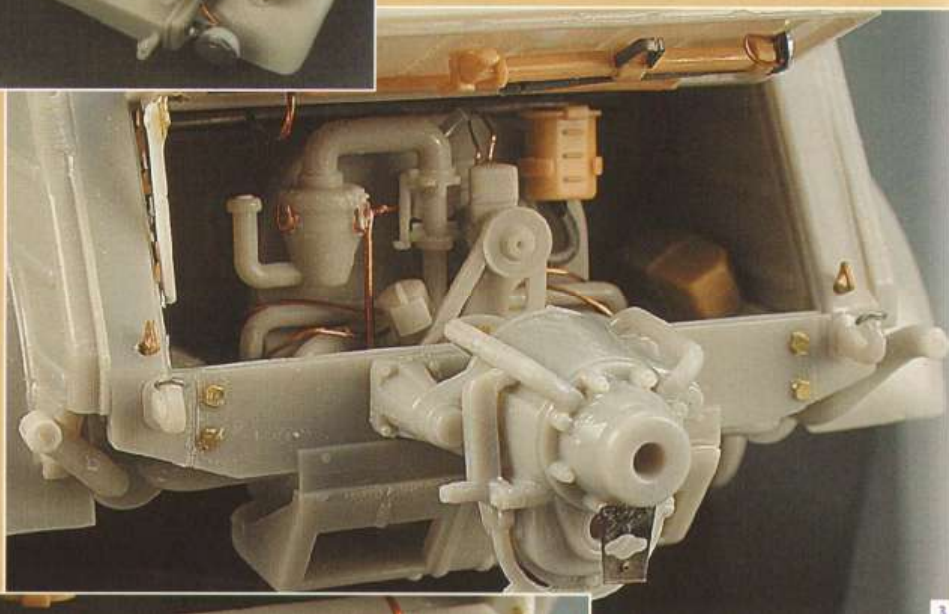
Primary Kit:
Dragon 9051 - Kübelwagen with Cold
Weather Starter and Mechanics

Overview: The Type 198 starter was an ingenious device designed to crank cold engines in the freezing climates of the Eastern Front. A large bracket was attached to the rear of the Kübelwagen. The starter motor and its fixtures were all carried in place of the backseat. A variety of attachments were carried to assist different vehicles, including the Opel Blitz, Panther and Tiger. This was such an effective arrangement that postwar production continued until the late 1940s.

Vehicle particulars: Early 1945 Kübelwagen, with painted license plates; no taillight; forward horn; no turn signals; short spokes on spare mount; bolted rear cross member; short ribs on engine cover and stowage lid; late exhaust and wide guard; staggered welded door hinges and late headlights with external wiring.

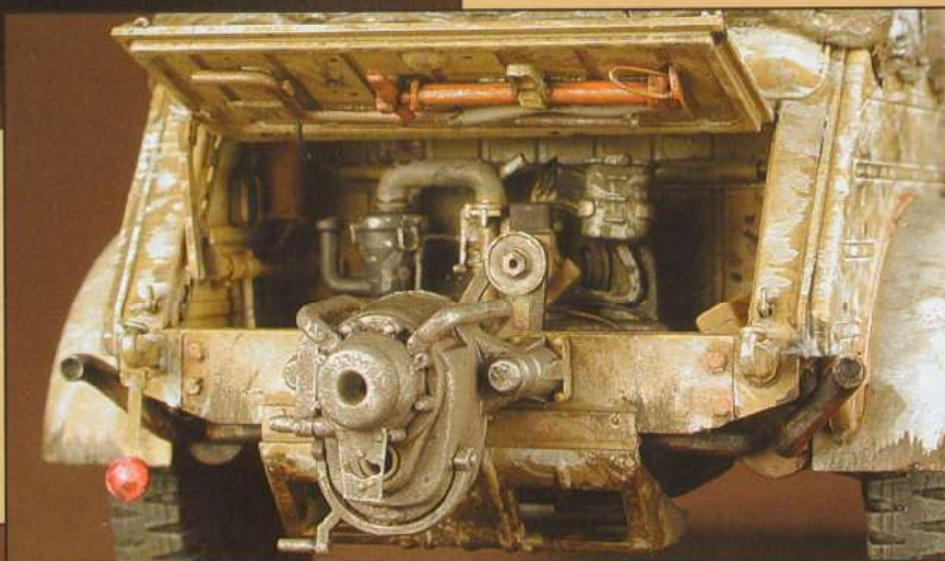
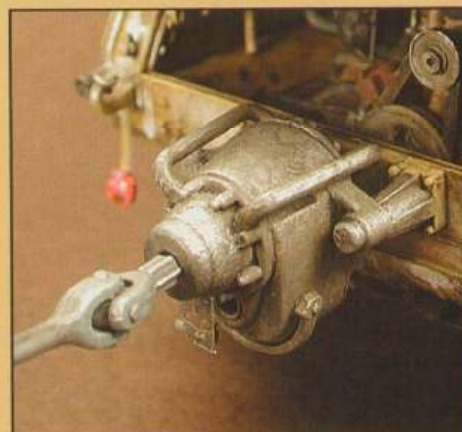
Special features: All dimples were removed from the front quarter panels. The fuel spout was modified to represent the Schwimmwagen spout seen on many late Kübelwagens. The kit's wiper cable outlet in front of the windshield was removed and the wiper motors were wired internally. A Tamiya windshield was modified to a late war version with split panes, one wiper and squared upper interior corners. The side windows were detailed with lead foil strips and the plastic panes were 'dirtied up' with finger smears and a bit of lacquer thinner to give them a softer, more opaque look. The rear window was replaced with a piece of plastic bag and modified to accommodate the Tamiya scoop. Seams in the top were made from sprue and the lower edges were modified with putty to properly accommodate the tie downs. The engine was wired up and further detailed with Tamiya parts and tools. The starter motor is first rate right out of the box and required little detailing. For demonstration purposes, the back end of a Tamiya Panther was used, with the crank port modified to accommodate the starter.

1. To achieve the late-war style, the spare mount spokes were shortened. 2. The Dragon kit was fitted with a Tamiya windshield. Modifications include split panes, one wiper and squared upper inside corners. Elephant wing nuts and an Eduard mirror were added. 3. The Dragon engine was wired up and further detailed with the addition of Tamiya tools and parts. The prop bar supporting the engine cover was scratchbuilt. Of particular note is the early style cone-shaped oil bath air filter (olbadluftfilter). The oval can at the upper right of the engine (attached to the fan shroud) is a cold-weather engine primer installed on most cars on the Eastern Front. Cold weather starting in freezing temperatures was exacerbated by poor quality petrol. Thus, the engine was primed with precious high-grade petrol using this oval can and the small canister attached to the intake manifold. Combined with a special three-way cock on the carburetor, it was a dangerous exercise and if not closely monitored the can could back flow and set the engine afire. More than a few Kübelwagens met their fate in this manner. 4. Tamiya's starter crank handle and tire pump detailed with spare parts. 5, 6. Dragon's starter crank. The bolt heads on the u-joints were punched from sheet plastic. The unit was test fit on the Panther during the construction phase. To hook up the Type 198, the tank's starter cover has to be removed. Dragon thoughtfully provides replacement parts for the Panther and Jagdtiger, along with the torch. The torch was attached to the coolant drain to help prevent freezing.





Imperial War Museum



Kübelwagen Fire Wagon

KdF: 2, Kfz: 1

Type: 82

Kar or K: 822

Postwar Model: 25

Other Designation: Feuerwehrwagen mit Hochdruck-wasserpumpe



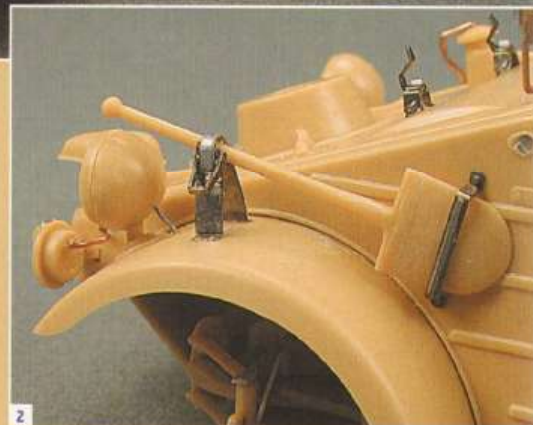
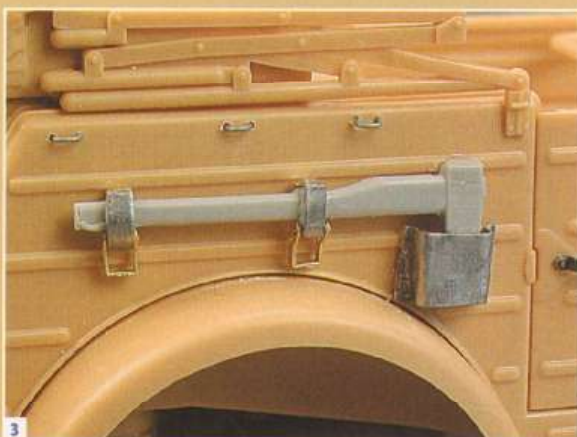
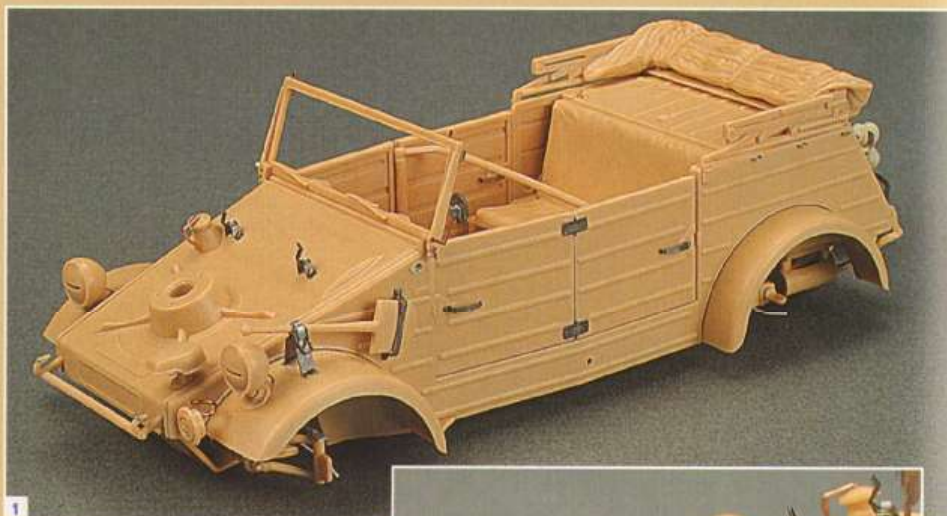
Primary Kit:

Tamiya 35213 - Kübelwagen Type 82

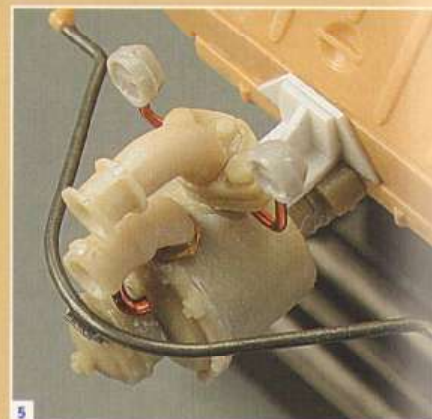
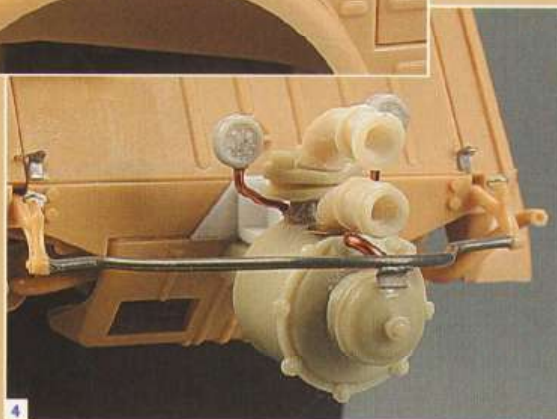
Overview: Another creative use of the Kübelwagen was as a fire wagon. An auxiliary motor was attached to the rear end, meshing with the starter. The vehicle then served as a pumper, drawing water from a hydrant or open source into the auxiliary motor and immediately back out at high pressure.

Vehicle particulars: Late 1943 Kübelwagen, with crossbars between tow hooks; no taillight; forward horn; no turn signals; internal wiper cable; short spokes on spare mount; bolted rear cross member; short ribs on engine cover and stowage lid; late exhaust and wide guard; riveted door hinges and late headlights with external wiring.

Special features: An expedition into the spares box produced enough parts to construct the pump. Fifteen assorted bits were modified from resin, wire and plastic tubing. The bumper mount was fashioned from sheet plastic. An axle was mounted over the left rear bumper equipped with brackets pieced together from ABER and lead foil. Two dimples were punched from sheet plastic and added to the right front quarter panel. A clip and bracket are seen over the engine cover for hose storage. A Christmas ornament hook was just right to form the curved rear guard between the tow hooks. The two gauges on the pump were devised from small headlights, painted white and the markings were drawn on with a lead pencil. They were then filled with Testors Clear Parts Cement.



1. The front end, with the 'standard' upgrade details. 2. Details of the headlight wiring, shored brackets and windshield latches. The attachment of the tie rod can also be seen for the left front wheel. 3. The axle was added in compliance with the reference photo and is an unusual feature for a Kübelwagen. Also evident are the loops for the canvas top. 4, 5. Two angles of the scratchbuilt water pump. The entire motor was made from spare parts. The curved rear bumper was formed from a Christmas ornament hook. 6. Detail of the left-hand hose clamp. Also note the small hole drilled in the flap of the Norek light, necessary for all Dragon and Tamiya Kübelwagens. 7. On the left side of the windshield are two additional items. The post on top is for an integral clamp inside the canvas top, while the small bracket secures the front windows via a strap. Note the loops across the bottom of the windshield frame for securing the canvas windshield cover. An Eduard mirror was added on a brass rod arm and an Elephant wing nut attached to the frame below. 8. Interior details include the dash brackets and wiring for the wiper cable motors.





Kübelwagen Railcar

KdF: 2, Kfz: 1

Type: 82 with Type 124 rail equipment

Kar or K: 820

Other Designations: mit Schienenlaufeinrichtung; Schienengängig



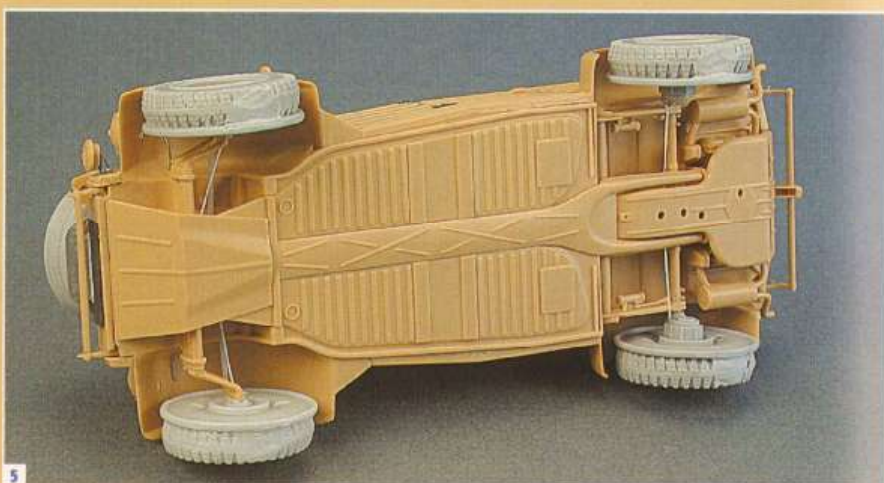
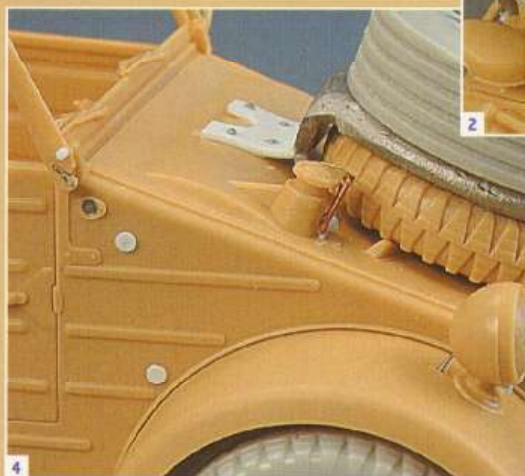
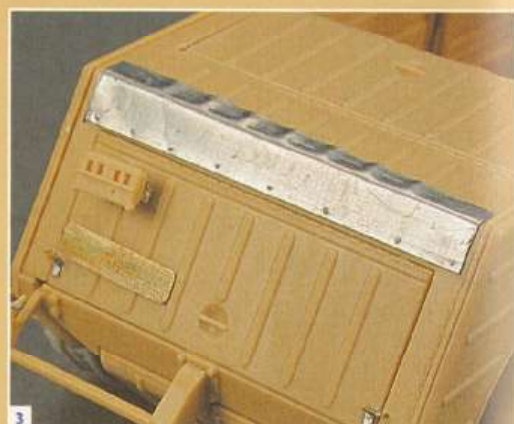
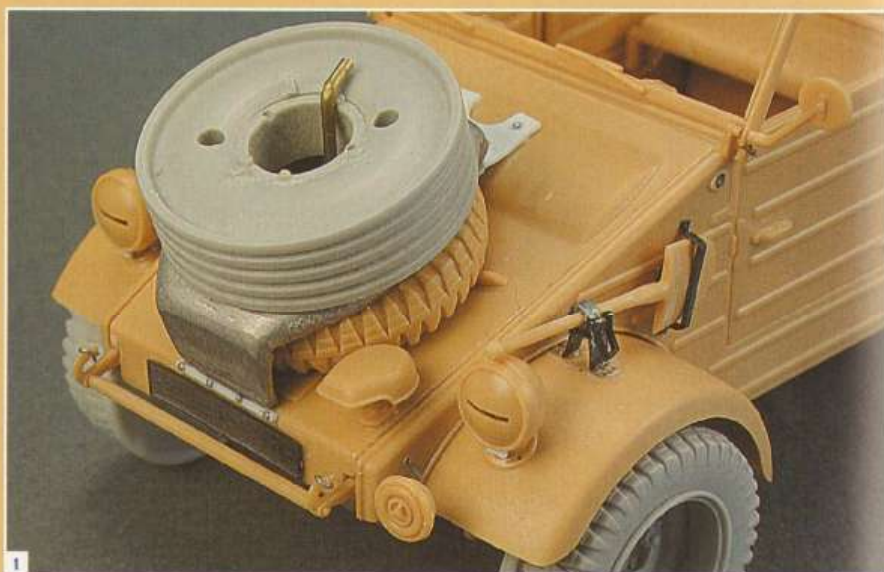
Primary Kits:

Tamiya 35213 - Kübelwagen Type 82
MR Modellbau 3568 - Schienenrader

Overview: Consider rain, mud, and snow, and traveling in inclement weather on crowded roads. Consider getting there quickly. Consider railroad inspectors and getting important documents from one station to the next. Thus the Kübelwagen railcar was born. The Germans again demonstrated their ingenuity by reversing off-road Schwimmwagen wheels and bolting steel disks to the inside. And off you go. A special mount was added over the spare tire to carry the disks, using several different designs.

Vehicle particulars: Mid 1943 Kübelwagen, with crossbars between tow hooks; no taillight; forward horn; no turn signals; internal wiper cable; short spokes on spare mount; bolted rear cross member; long ribs on engine cover and stowage lid; late exhaust and wide guard; riveted door hinges; and late headlights with external wiring.

Special features: Though this vehicle features the long ribs on the engine cover and stowage lid, the rear license plate is clearly bolted directly onto the rear without protruding over the left side. A rectangular plate from Elephant was just right. Also evident are the dimples on the right side, which were punched from sheet plastic. The air scoop is unusual and appears to be cut from sheet metal; it was thus fashioned from lead foil and burnished into place. This Kübelwagen features an unusual hinged fuel spout and a shorter shovel bracket, both of which were scratchbuilt. The windshield latches were eliminated. Decal Star's canvas top was used (seen in the finished photos), even though it is the earlier version featuring two crossbars instead of three. MR's conversion kit represents an alternate bracket that straddles the spare tire sideways. To replicate the hinged version shown in the reference photos, the

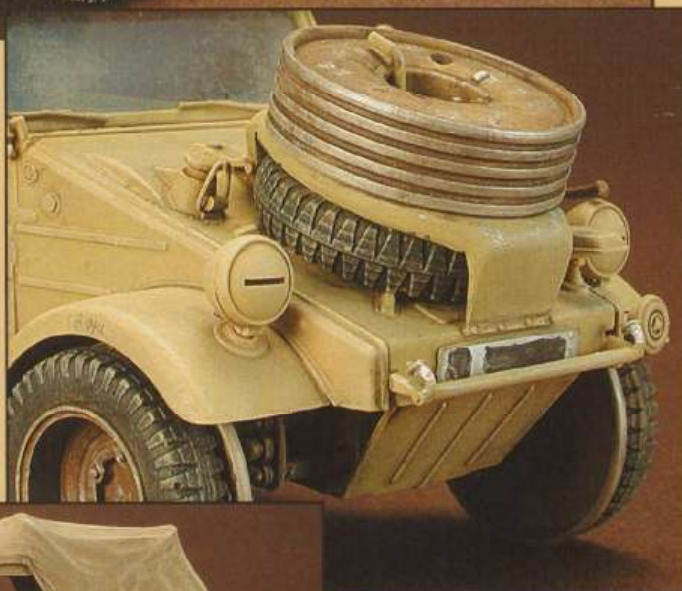


metal bracket was cut down and modified with sheet plastic, punched rivets and plastic rod for the hinge. The tire tool protruding from the spare is a bit of curved brass tube. The vehicle is shown with disks attached to the wheels and five additional disks mounted on the spare, all of which are MR parts. Rail versions of the Schwimmwagen (Type 156) and Beetle (Type 157) were also studied, but only the Kübelwagen was actually employed in the railcar capacity.

1. Changes to the front end included modified brackets for the shovel and MR rail disks. 2. The large hinged bracket was made from sheet plastic, punched rivets and plastic rod for the hinge. 3. The customized air scoop and Elephant license plate. 4. Two dimples were added to the right front quarter panel. The unusual hinged fuel spout was made from bits of spare parts. Without the turn signal towers, holes were filled on both sides using plastic rod. 5. Front end tie rods, plus brake lines for all four wheels.



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Kübelwagen Type 82 Tropfen

KdF: 2, Kfz: 1

Type: 82

Kar or K: 820

Other Designations: Type 82 Trop; Kübel im Desertausrüstung

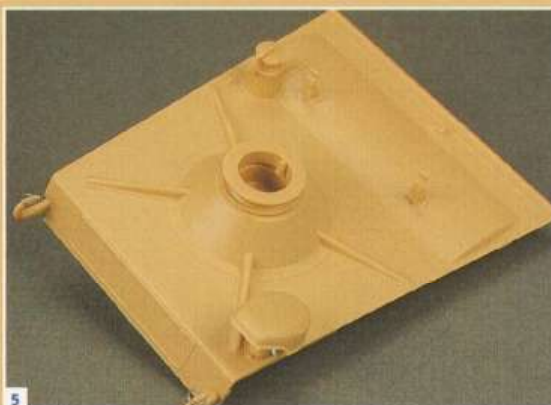


Primary Kits:
Tamiya 36202 - Kübelwagen Type 82
Africa-Corps (1/16th scale)

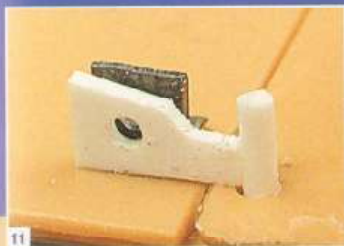
Overview: 'Tropic' Kübelwagens used by the Deutsche Afrika Korps bore several differences from their mainland counterparts. Other than the easily identifiable Continental sand tires, DAK Kübelwagens were generally issued canvas covers for the windshield and headlights, along with a protective sleeve for the distributor. It was in North Africa that the air scoop was invented, along with the cylindrical air filter, and this replaced the oil bath filter on many vehicles. Less visible were the rubber seal for the dipstick; an auxiliary filter in the fuel cock (fuel line condensation was a major problem in the desert) and additional rubber seals on the front axle. A popular photo shows the 5,000th Kübelwagen leaving the assembly line wearing sand tires, and this chassis has been identified as November 1941. This also marks the introduction of lengthened rear fenders. Plentiful photos taken in North Africa show Kübelwagens with short rear fenders—thus a considerable number of the first 5,000 units went to North Africa. By November 1942, Rommel's forces had retreated from the continent and the Afrika Korps marched into the history books.

Vehicle particulars: Summer 1942 Kübelwagen, with protruding rear license plate; jack holes; no crossbars on tow hooks; forward horn; turn signal towers; long spokes on the spare mount; long ribs on engine cover and stowage lid; scoop; late exhaust and wide guard; riveted door hinges and mid headlights with internal wiring.

The jack holes in the rocker panel identify this Kübelwagen as being no earlier than June 42 manufacture. In the production changes timeline the next notable change is the shortening of the spare tire mount spokes in December, but the Afrika Korps had left Africa a month earlier. The 1/16th Tamiya kit is therefore of the final design to see service in Africa, between June and November 1942. There are two noticeable anomalies, however, left over from the kit's first incarnation as an R/C model. First, there are bolts on the rear cross member, which weren't introduced until January 43. But cross member bolts debuted at the same time as crossbars between the tow hooks (chassis #15371) and there are no crossbars here. Additionally, factory vehicles with cross member bolts already had the shorter spare mount spokes as of chassis #14001. So if



1. The new horn bracket. 2. Rear side of the horn. 3. The map box next to the driver was scratchbuilt from sheet plastic. 4. Seen here is the spring for the accelerator; dimmer switch; the VP/Kirin hybrid jerrycan with its retaining strap, and the heightened wall above. 5. The tow hooks were drilled and each received a wire loop. Holes for the windshield clamps were filled in and the clamps were thinned down. 6. The underside of the hood reveals the scratchbuilt first aid box and its bracket, made from lead foil. 7. The fuel cock was detailed with a handle from copper wire, a guard from brass strip and lead foil, and vinyl tubing for the fuel line. 8. The gauge decal was positioned behind the clear lens during construction and later filled with removable blue-tack putty for painting purposes. The new ignition switch, the key and key ring are also visible. 9. The battery box was scratchbuilt from sheet plastic and lead foil. The tip on the short wall around the transmission tunnel was enhanced with strip plastic and resin bolt heads. 10. The kit shovel bracket was carved off the shovel handle and a new bracket was scratchbuilt from brass strip, lead foil, punched plastic rivets and wire. The shovel was slightly relocated, so a new upper dimple was punched for the shovel blade bracket. Also note the tissue headlight covers.



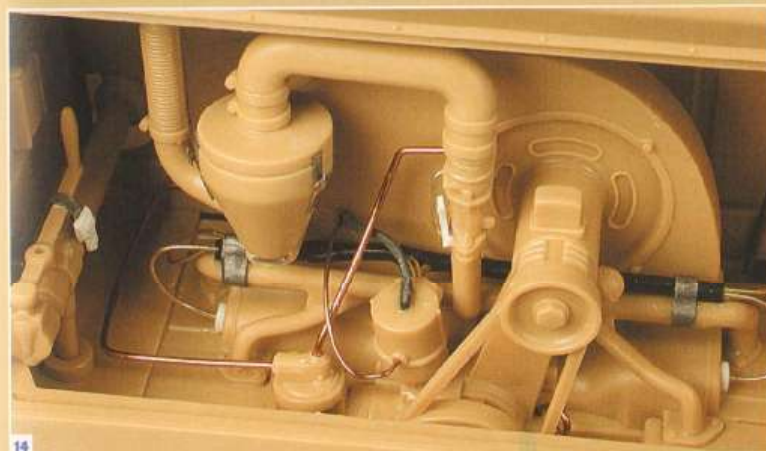
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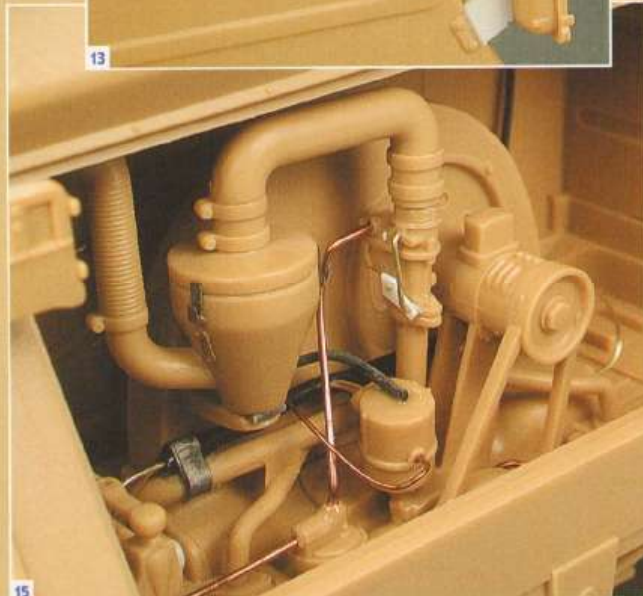
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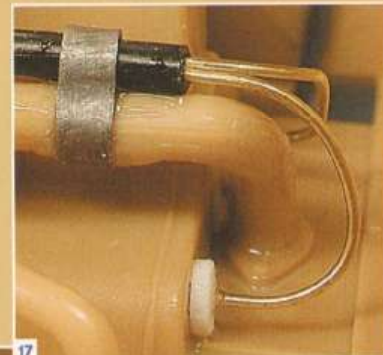
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11. Four of these latches were made from sheet plastic and plastic rod, with lead foil stoppers. 12. The insides of the folding canvas top frame were detailed with punched plastic rivets. 13. The canvas top was enhanced with Apoxie-Sculpt and 'fastened' to the hooks with lead foil straps. The scratchbuilt bracket for the rear Notek light is also seen. 14. Engine detailing included spark plug and distributor wiring, carburetor details, fuel lines and a new strap for the jack. 15. A pair of 1/35 clamps with lead foil hooks was added to the oil bath filter housing. 16. The engine cover on the finished model will be open, so these latches were positioned accordingly. 17. A closer look at the spark plug wires on the right side. 18. The oil bath filter. Some filters did not have the intake hose leading to the left wall, but were capped where the ribbed hose meets the filter. 19. A close-up of the rear Notek bracket. 20. On the inside of the engine cover, the tire pump and starter crank received new brackets. Grandt Line bolts mark where the license plate bracket is bolted on.

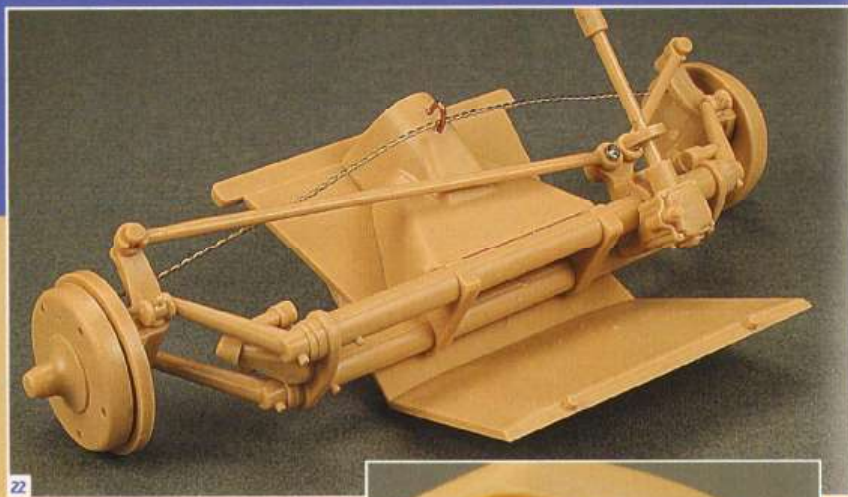
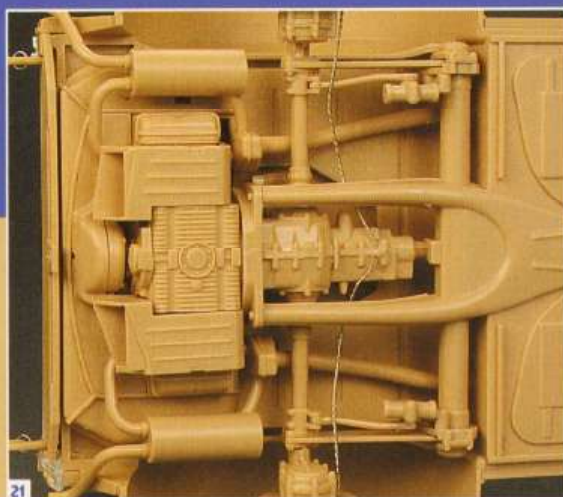
it's North Africa you want, shave off those bolts to put the vehicle back in 1942. Secondly, the kit includes an oval can which mounts on the engine fan shroud at the 2:00 position. This is a cold weather starter device developed on the Russian front to prime the engine in freezing temperatures. It was eventually installed on all European Kubelwagens, but restoration authorities agree unanimously that the starter wasn't used on DAK Kubels. That part was set aside and the bracket was shaved off the fan shroud.

The kit: I'm delighted to say that this is the best-engineered model I've ever seen. Everything fits perfectly and the design is simply magnificent.

Tamiya's Kubelwagen includes their earlier Rommel figure and a driver with optional head, plus an assortment of personal gear from the other figure kits. If you struggled with the Kirin and VP resin kits, this will change the way you view larger scale armor, and hopefully, Tamiya will continue this series.

Special features: The kit was built in numerous sub-assemblies while additional detailing was added. Primary sources included an original March 1943 Kubelwagen manual and the *Wings & Wheels* book on the Kubelwagen (see page 80). The engine was assembled and installed with wiring in mind. Distributor wires to the coil and spark plugs were

added, along with a dipstick, carburetor details, and latches for the oil bath filter housing. The jack, starter crank and tire pump all received bracket details. A small priming bottle is molded to the left wall of the engine compartment and its needle was carved off and replaced with stretched sprue. An oil can is stored in the upper left rear corner and this item was set aside for painting. (See the *Wings & Wheels* source, pages 18 through 21.) The entire front end was assembled as a unit and braided brass wire was used for brake lines on all four wheels. Holes were drilled in all four tow hooks and wire loops added. The choke and valve stems were added in the same manner as the 1/35th models, but



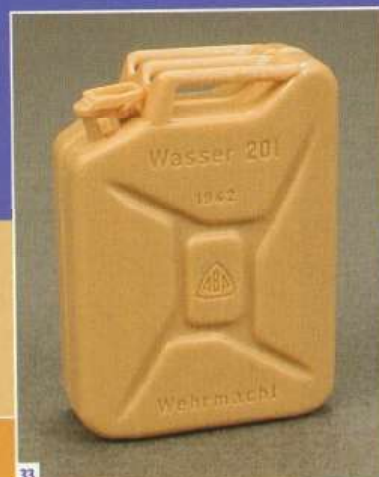
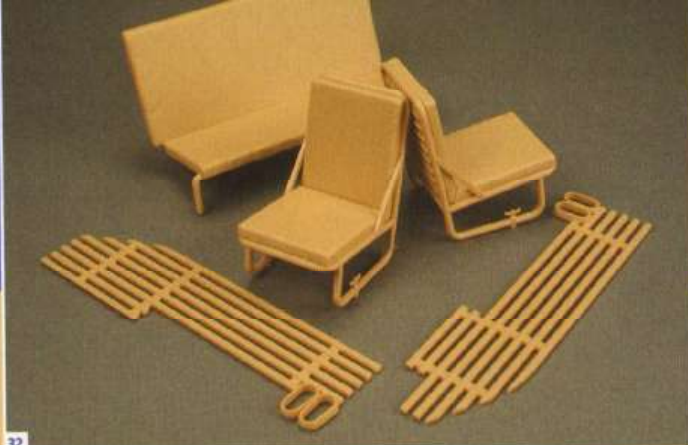
lights was made from sheet plastic. The dimmer switch and map box were scratchbuilt from plastic, along with the first aid box above the steering column. The cavity for this box was formed from lead foil, and foil and strip brass were used to create the fuel cock guard. Vinyl tube forms the fuel line itself. A combination Kirin/VP jerry can was added in the proper cavity above the transmission tunnel and a strap was created from lead foil and woven copper electrical strip. The wall above the driver's feet was then extended upward with sheet plastic.

The kit includes two speedometer options; one with raised details and the other a plain face with a decal. I opted for the decal and installed it behind the clear gauge lens. An ignition key and key ring were added as well. The side brackets for the dash were made from plastic and the proper holes were drilled in the tops of the doors to accommodate the collapsible side windows. Like the 1/35th kits, this big 'un lacks the two corner latches found on the engine cover and stowage lid—these were fashioned from plastic sheet and rod with foil stoppers. The kit shovel bracket was removed from the tool and replaced with a scratchbuilt version. The windshield was detailed by replacing the molded hooks for the cover with three made from wire and the two lockdown clamps were thinned down. The upper brackets for securing the side windows are present, but had to be opened up. The folded arms for the canvas top were detailed on the inside with punched plastic rivets and the top itself was extended with Apoxie-Sculpt, then secured with lead foil straps to the new wire hooks around the rear edge of the vehicle. The rifle brackets were removed and replaced with scratchbuilt versions. Headlight covers were fashioned from tissue soaked in diluted white glue with the slits cut out after drying. The headlights were wired beneath the fenders and front fender brackets were also added underneath. The wall beneath the rear seat was augmented with sheet plastic. The battery box was scratchbuilt and wired into position.



21. These braided brake cables would actually run forward to the brake handle. Here, holes were drilled in the transmission to hold the wires in place. The exhaust guard will cover this. Tamiya did an exceptional job on the engine pan and exhaust. 22. The front suspension, steering column and forward guard panel were all completed as a subassembly for painting. The front brake cables were made from a single piece of braided wire and the hook was added so the cables will follow the wheels if they are turned to the left or right. This arrangement will disappear when the front end is mounted on the vehicle. Note the screwed assembly of the tie rods. 23. Underside of the front right fender, showing the headlight wiring and fender bracket. 24. Valve stem made from brass tube and rod. 25. Just for grins, a couple of the valve stems have caps made from the tips of 1/35 resin tank ammo. 26. Sheet plastic was used to make the flanged lock nut found on many Notek lights. 27. Wire was used for the canvas cover hooks on the windshield, as well as the wiper motor wiring. 28.

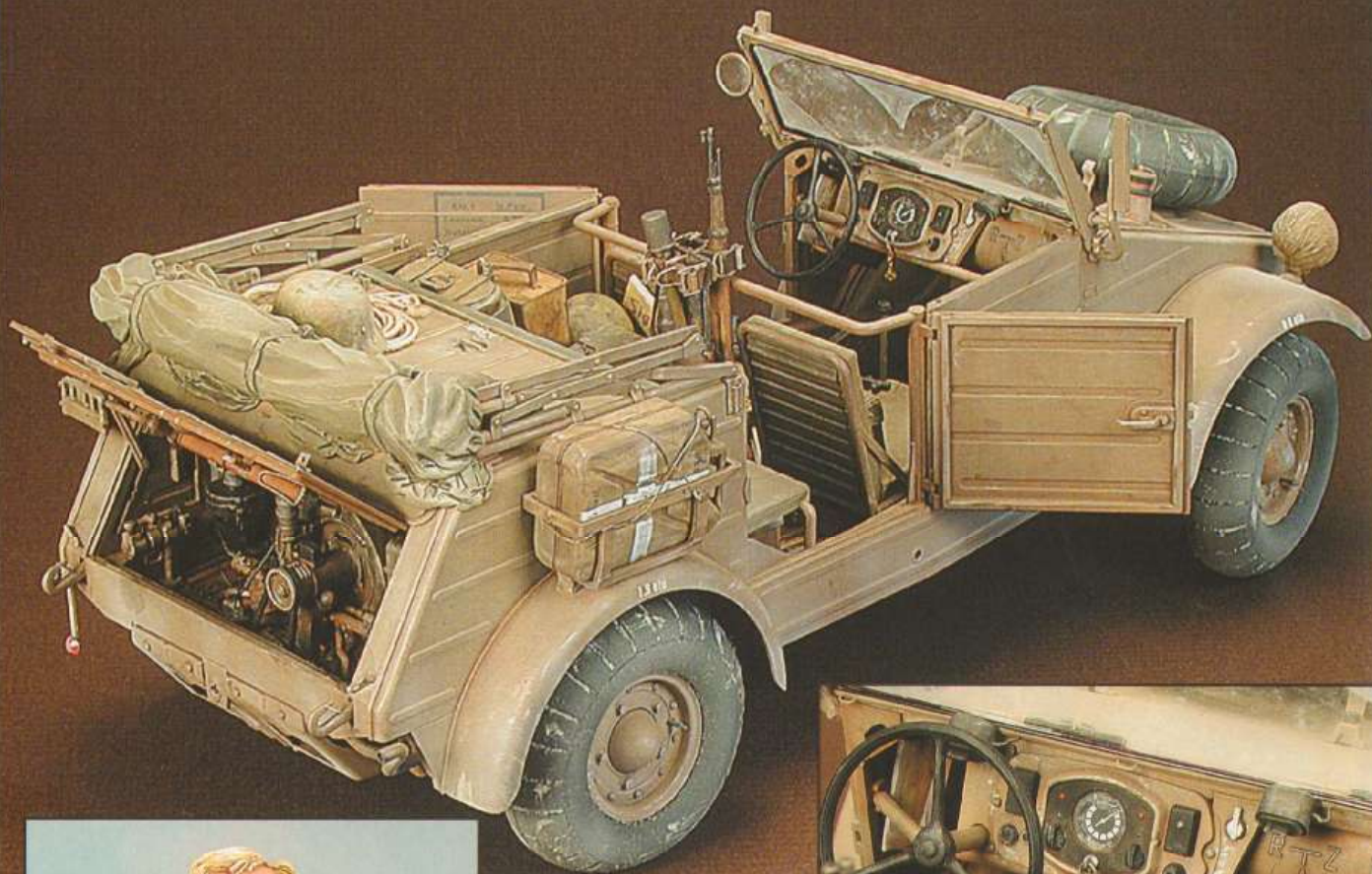
Tamiya includes a jerrycan rack, mounted here on the right rear fender. Putty was used to create weld beads at the joints and punched foil bolts were added as well. 29. The pressed metal toolbox, stowed in the right side of the engine compartment, has a hollow side and was filled in with sheet plastic. 30. Bolts on the rear cross member appeared in January 1943 and are out of place on this vehicle. Crossbars between the tow hooks debuted at the same time and these bars were eliminated in January 1945; thus a Kübelwagen with bolts and no bars would indicate a manufacture date of January 1945 or later. Consequently, the four bolt heads were shaved off.



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31. Before—the handhold bar and rifle brackets out of the box. 32. Big parts! Seats and wooden floor slats with the lower rifle brackets integrated. 33. What a beauty—Tamiya's 1/16th water can. 34. This oval can is a cold weather starter device developed on the Eastern Front and did not appear on tropical vehicles. 35. Resin buckles with strap ends were added to the folded canvas top. 36, 37. Don't forget the latches! The two door jambs were modified and the latches were made from styrene. 38. Hold-down straps for the seat bases were made from lead foil. 39. After—my extensively scratch built rifle brackets. 40. The figure is a mixture of Kirin, VP and Tamiya. Above left: This Kübel has turn signal towers but no jack holes, dating it as a spring 1942 model. The rear soldier wears a Zeltbahn poncho while the forward man wears the canvas motorcyclist's coat developed for tropical use. Left: An interesting photo showing that Kübelwagens were hardly immune to enemy fire. This 1941 model still has its spotlight.



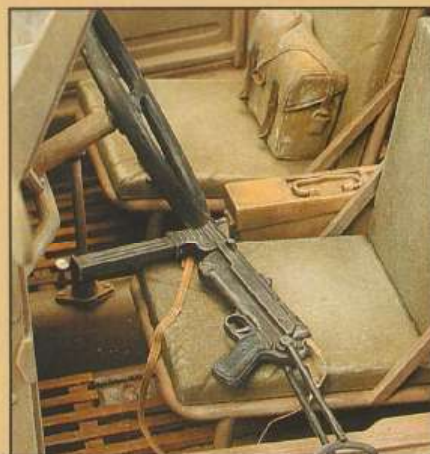
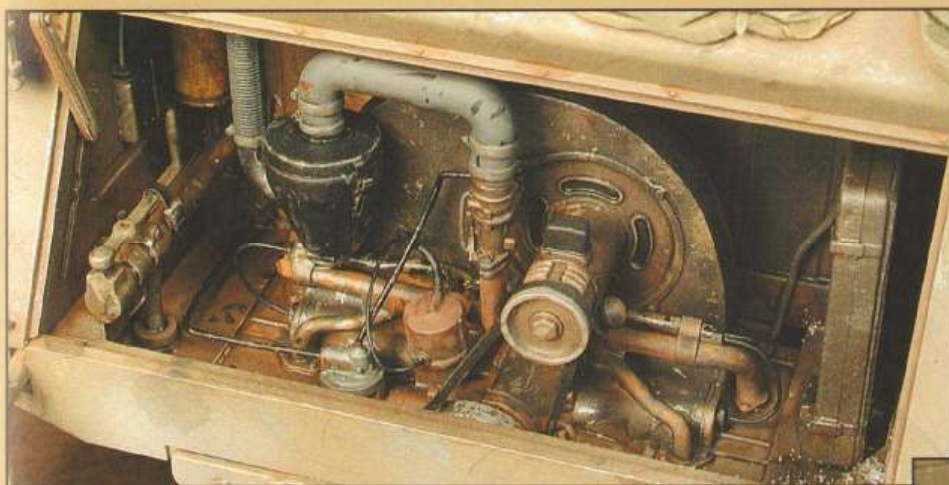
In March '42, the new Afrika Braun paint was introduced (RAL 8020), a dark sand color. This summer '42 version would have therefore been painted before shipping. A mix of Tamiya and VP gear was added (including a few British items). Tamiya's license plate decals were applied and the tire pressure markings plus DAK logos were taken from VP's Kübel sheet. Note the key chain and choke knob. The desert heat ages vehicles quickly and this Kübel was weathered accordingly.





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Left: The Kübelwagen shown here has mudflaps and short rear fenders. Fenders were lengthened in November 1941, so this vehicle is of early manufacture. Note the round taillight on the right and the narrow exhaust guard. Of particular interest is the engine—the black cone-shaped device is the oil bath filter, and the cold weather starter can is clearly absent from the fan housing. Above: Ya gotta eat, right? Though an earlier version than the Tamiya kit, this photo provides an excellent perspective of a heavily laden Kübelwagen in desert conditions. Note the U.S. style shovel.



Kübelwagen Ambulance

KdF: 2, Kfz: 1

Type: 82

Kar or K: 820

Other Designations: 2-sitz Verwundetentransporter;
Krankentransportwagen



Primary Kits:

Dragon 9042 - DAK Kübelwagen

Dragon 6137 - Kübelwagen Ambulance Conversion Kit

Overview: "Necessity is the mother of invention."

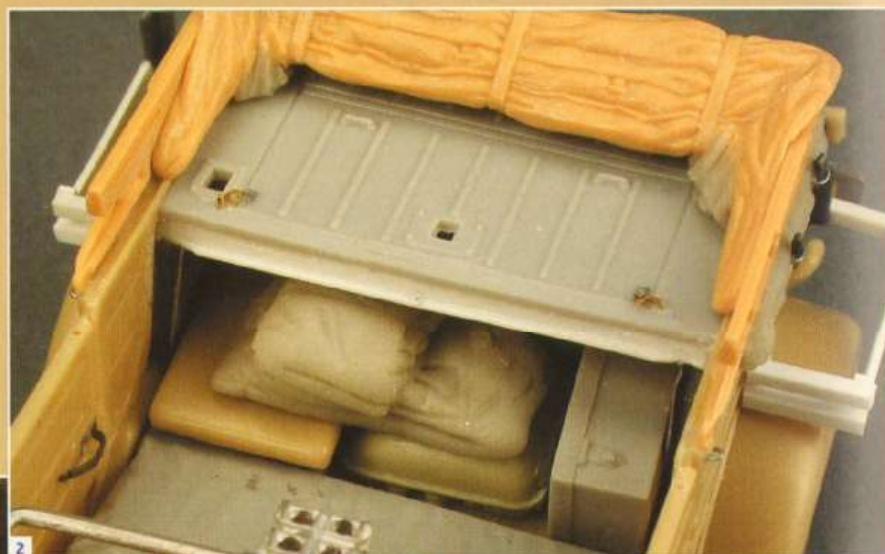
With German forces engaged on several fronts, the need for medical transport quickly arose. Any standard Kübelwagen could be converted to an ambulance in a matter of hours. This was not a factory variant, but a special field conversion made with parts ordered from a medical supply service. To support a stretcher, a special bracket was mounted on the right hinge post and a new support rose from the transmission tunnel to the handhold bar. Holes had to be cut in the stowage lid to accommodate new brackets for the rear of the stretcher. The front passenger seat was stashed in the stowage compartment and the back of the rear seat was placed on two jerrycans in the passenger area, thus forming a padded L-shape for wounded soldiers. A folded stretcher could be lashed to two new brackets on the stowage lid.

Vehicle particulars: Early 1942 Kübelwagen, with protruding rear license plate; taillight; forward horn; turn signal towers; long spokes on the spare mount; welded rear cross member; long ribs on engine cover and stowage lid; no scoop; late exhaust and wide guard; riveted door hinges; and mid headlights with internal wiring.

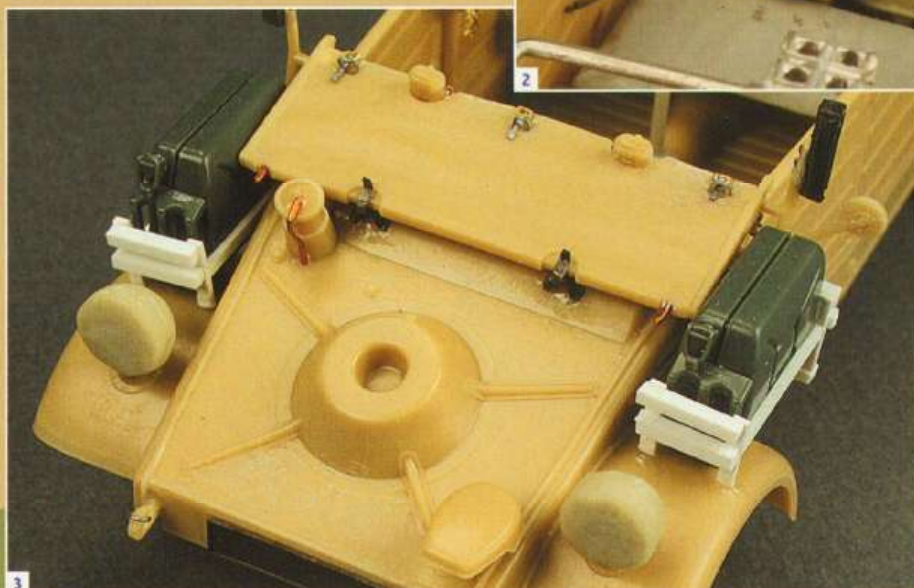
Special features: The kit windshield with cover was fully detailed. Four jerrycan holders were scratchbuilt. The two rear holders are empty, as these cans are now inside the vehicle supporting the makeshift bench stretcher. The Dragon ambulance conversion provides a new stowage lid with integral rear seat; to make the proper configuration, the rear of the seat had to be removed. (The MR update has the correct lid, but is designed for the Tamiya kit.) Both parts of the new back seat were taken from the MR update, along with the handhold bar. The firewall was taken from the Tamiya kit and modified to fit and the front passenger seat was stashed inside the stowage compartment along with medical gear. The folded top is from the Tamiya kit, modified with putty. The medical banner was cut from lead foil and sprayed with white primer. A Red Cross decal was then trimmed and attached.



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3



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In focus: Windshield cover



Feist collection



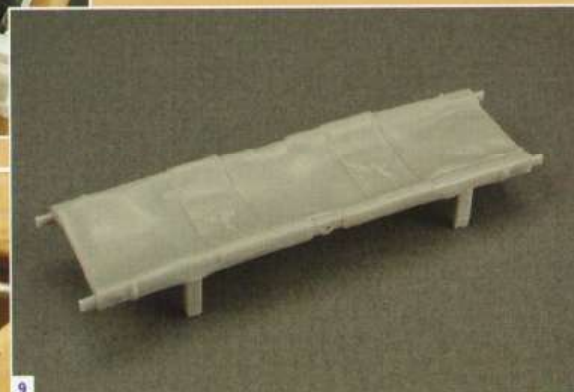
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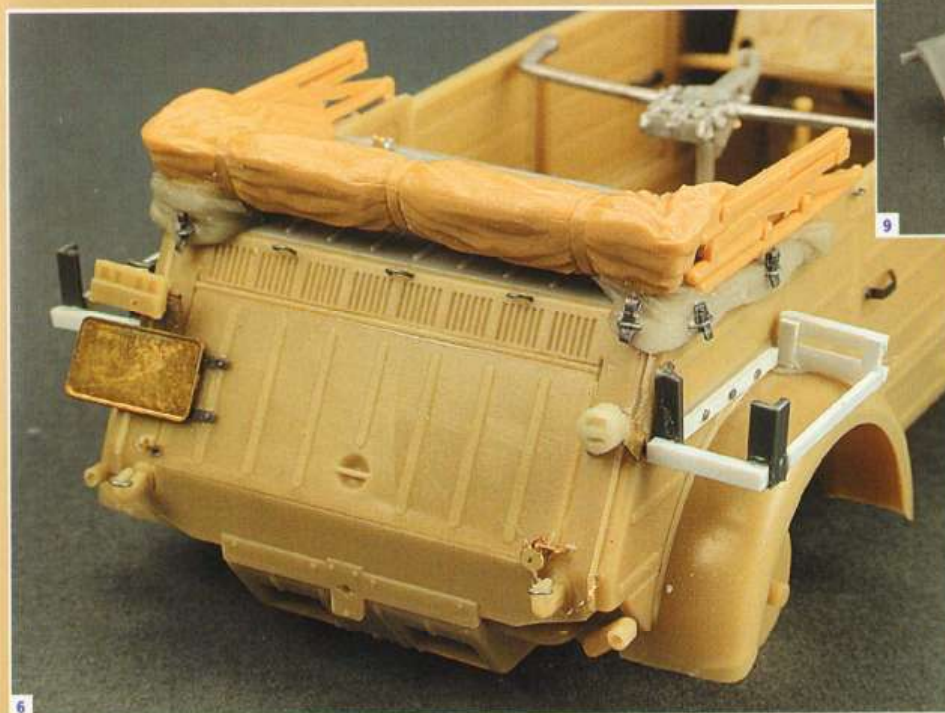
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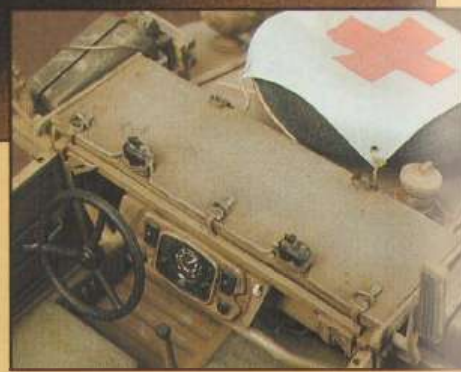
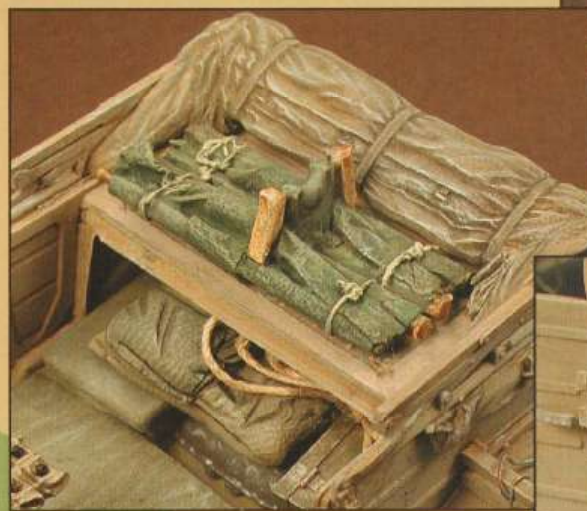
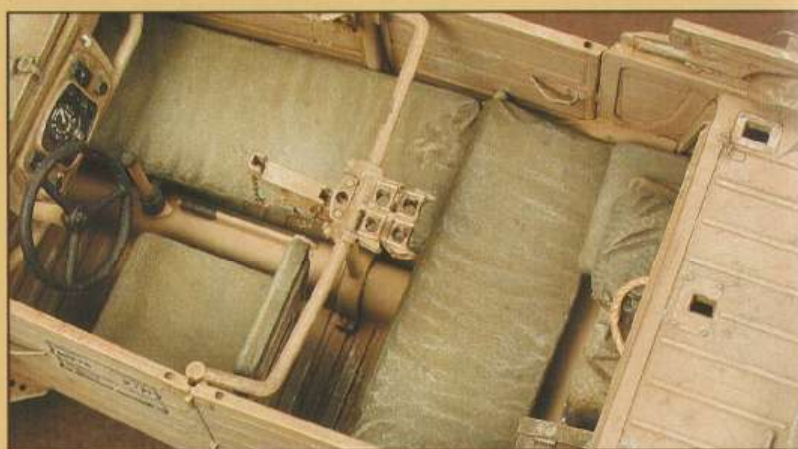


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1. Following the reference photo, jerrycan holders were scratchbuilt for the fenders, accommodating Tamiya cans. 2. Dragon's ambulance update provides the storage lid with the new stretcher brackets, but the rear seat has to be cut away. The seat bottom is from MR. The storage compartment now houses the front passenger seat, blankets from putty, a VP respirator and medical box from MR. 3. The covered headlights are from VP. The windshield cover was reworked with brackets and straps. 4. A combination of Dragon and MR parts, plus ABER chain, to make the center stretcher support. 5. Detailing view from the interior. 6. The back end isn't visible in the reference photo, but studying Kübelwagen development gives a good idea how it should look. The license plate is from one of the numerous Elephant sets. 7. The back of the rear seat from MR, mounted on a pair of Tamiya jerry cans. 8. The folded stretcher option, from the MR update. 9. Dragon's stretcher, with modified handles and rests.



Bundesarchiv



Kübelwagen Workshop

KdF: 2, Kfz: 2/40

Type: 821

Kar or K: 821

Wartime Production: 2,324

Other Designation: kleiner Instandsetzungskraftwagen



Primary Kits:

Tamiya 35213 - Kübelwagen Type 82

Aires 3015 - Kübelwagen Workshop Vehicle

Overview: The Kübelwagen field workshop vehicle bears the distinction of being one of the few Kübel variants with a known production quantity. Over 2,300 workshop vehicles were produced throughout the war, but photographs are rare. To broaden the variety of production features, the reference photo was not exactly reproduced, as it shows an early 1941 Kübelwagen with short rear fenders, external wiper cable and no jack holes. These vehicles left the factory as three-seaters with the metal Zusatzkasten cabinet installed. Particular unit needs quickly dictated the type of repair equipment that would be carried. In this instance, the single rear seat has been replaced with a battery box. Four tool drawers were accessed through the right rear door, while a second tool cabinet was mounted inside the stowage compartment. The stowage lid served as the top for this cabinet and a workbench with folding legs was stored in the narrow space behind. The workbench could be attached to special brackets over the right rear fender.

Vehicle particulars: Mid 1943 Kübelwagen, with Schwimmwagen-style dashboard; crossbars between tow hooks; no taillight; forward horn; no turn signals; internal wiper cable; short spokes on spare mount; bolted rear cross member; long ribs on engine cover and stowage lid; late exhaust and wide guard; riveted door hinges and late headlights with external wiring.

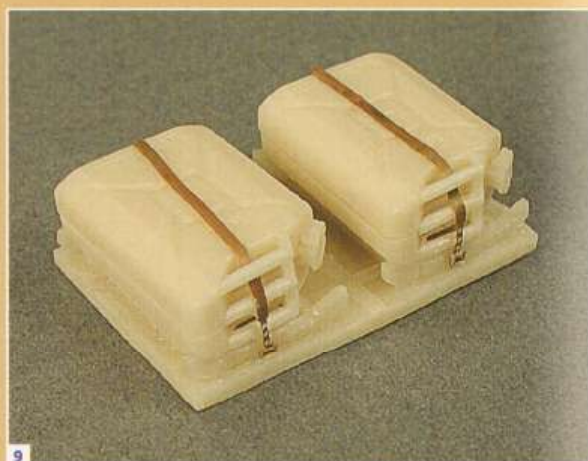
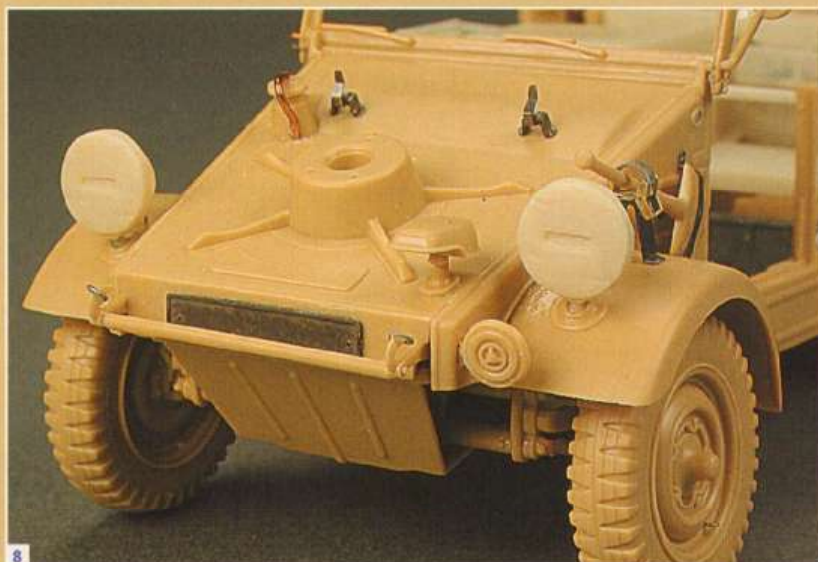
Special features: The Aires workshop conversion is an absolute joy, flawlessly cast in resin. The eight tool drawers can be opened or closed and a variety of photo-etched tools are included. These were combined with other assorted tools and items to fill the empty top compartments and workbench. This is the only Kübelwagen in the book that features the smaller Schwimmwagen dashboard, installed in all factory units as of August 1943. To create this effect, the upper bar and steering column brace were removed from the Tamiya part and combined with Dragon's lower bar. The gauge is the etch and acetate combo from Eduard's latest Kübel update, filled out with sheet plastic and lead foil. The covered headlights are from the Royal Model update, and the prop on the stowage cover was scratchbuilt. Etch details are a combination of Eduard and Royal Model parts. Legs for the workbench were cut from plastic rod and the vise is from Tamiya's Kübelwagen engine set. Aires



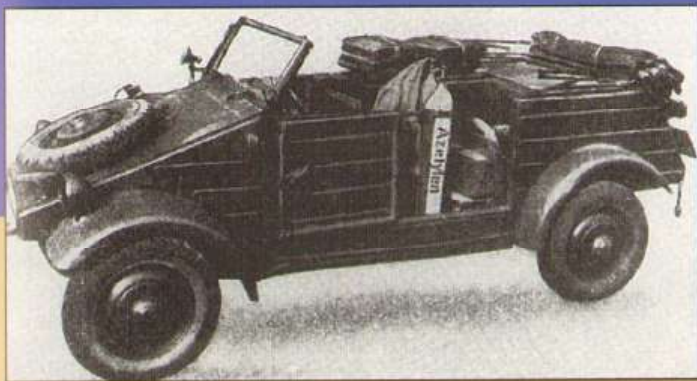
includes the longer segment of the truncated handhold bar, but the short segment on the passenger side was added from spare parts. This vehicle also shows the fuel cock in the reserve position. A jerrycan was added in the cubbyhole beneath the dash before the hood was installed.



1. One kleiner Instandsetzungskraftwagen with everything on it, please. The Aires conversion also provides an optional folded table, which fits in the rear of the stowage compartment. 2. Eduard's latest Kübelwagen detail set (35355) provides the Schwimmwagen dash option. Although half of all Kübels featured this smaller dash, this is the only model in the book so equipped. Plastic and lead foil were used to create the rest of the box. 3. The bench was detailed with plastic rod legs, a Tamiya vise, and assorted goodies. 4. The stowage compartment lid formed the top of the tool cabinet. Aires cleverly left the trays and drawers empty in this rear cabinet so they could be filled at will. The mesh cage over the bottles is in place here. The prop for the lid was added from strip plastic and spare etch.



5. This vehicle shows the style of moving the license plate and Notek light onto the engine cover before the ribs were officially shortened. Note the etched brackets for attaching the workbench over the right rear fender. 6. With the cage removed the resin bottles and batteries are visible. 7. More extras were crammed under the battery tray, which took the place of the rear seat. 8. The front end, featuring Royal Model's resin headlights with covers. 9. The jerry can rack from Aires, which sits atop the side cabinet. 10. Aires includes these acetylene bottles as a one-piece casting, with etched strap. 11. Drawers for both cabinets can be positioned opened or closed. The Aires side cabinet has the tools already inside. Gotta love it.



Bundesarchiv



Kübelwagen Radio Car

KdF: 2, Kfz: 2

Type: 821

Kar or K: 821 (or 827 command version)

Wartime Production: 3,326

Postwar Model: 22

Other Designation: Funkkraftwagen

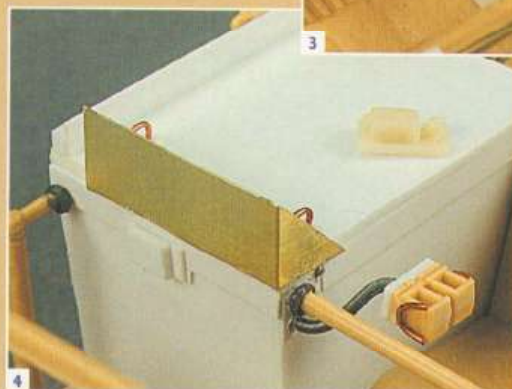


Primary Kits:
Tamiya 35213 - Kübelwagen Type 82

Overview: As early as 1939, the concept of a light radio car was meshed with Kübelwagen development. The Type 821 was one of the few factory variations of the vehicle. A special one-passenger seat, wider than the front bucket seats, was installed behind the driver. In the right rear, a metal cabinet (Zusatzkasten) was installed. For the radio car, different plates were mounted on the cabinet to accommodate different radios. A large antenna was affixed to the left or right rear quarter panel and a reinforced plate was mounted inside to support the antenna. A customized handhold bar held two rifle brackets. The right rear door received a padlock for securing the radio and receiver inside the cabinet. The entire vehicle was electronically shielded to support and protect the radio operation. The electrical system was upgraded and an antenna-shielding device was mounted on top of the stowage compartment.

Vehicle particulars: Late 1942 Kübelwagen, with protruding rear license plate; no tail-light; forward horn; turn signal towers; shortened spokes on the spare mount; welded rear cross member; long ribs on engine cover and stowage lid; late exhaust and wide guard; riveted door hinges; forward wiper cable outlet; and early headlights with internal wiring. This vehicle also sports the scoop developed in North Africa, though it was not an official factory item until early 1943.

Special features: The radio car was produced through 1944 and this vehicle is a later Kübel than that shown in the reference photo. Backdating the Tamiya kit included adding dimples on the right, modifying the rear cross member to the welded version and adding the forward wiper cable outlet in front of the windshield. The Torn.Fud2 radio and two receivers are from VP. The metal cabinet was scratchbuilt from sheet plastic and spare etc. The shielding device was pieced together from spare parts and the handhold bar and rifle brackets were modified to the Type 821 style. A small spring and lock assembly was added to the right rear door. The antenna base was assembled from a dozen spare parts, with Minimecca wire added for the actual antenna. The covered resin spare tire comes from the VP detail set. Modified head phones are from a Tamiya Tiger.



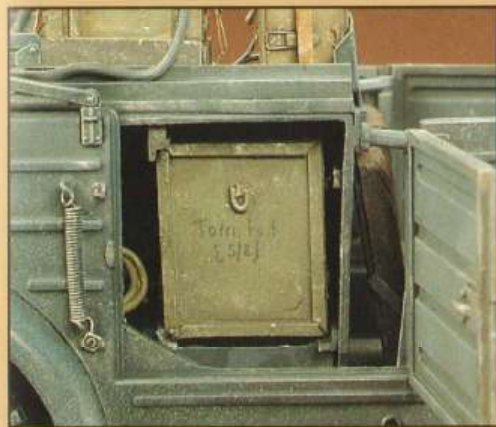
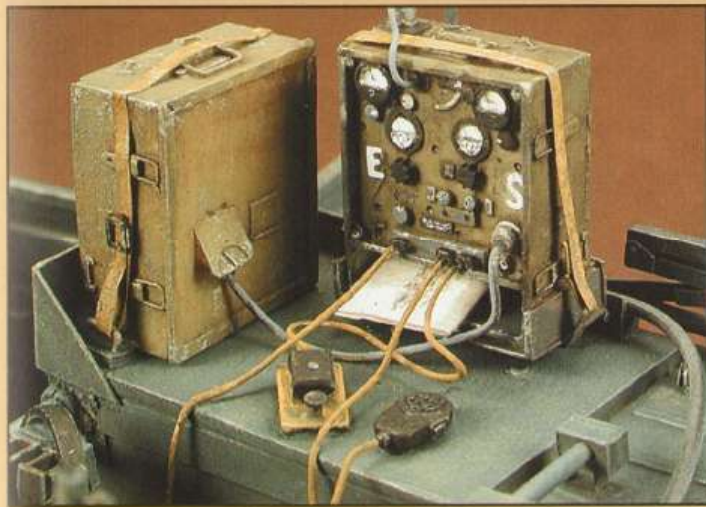
1. This late model Kübelwagen radio car features turn signal towers and a pair of dimples added to the right quarter panel.

2. Exterior view of the scratchbuilt Zusatzkasten cabinet, with the detailed receiver inside. 3. The cabinet top features short retaining walls. The transmitting key is already glued in place. 4. Kübelwagens featuring the Zusatzkasten also had reworked handhold bars and special rifle brackets. 5. The large scratchbuilt antenna pieced together from spare parts. 6, 7. The Torn.Fud2 radio and two receivers are from VP set #249. The radio platform was scratchbuilt and all units were detailed on the back with plastic strip.





Bundesarchiv



Kübelwagen Siren Car

KdF: 2, Kfz: 1

Type: 822

Kar or K: 822

Other Designation: Sirenenwagen



Primary Kits:

Tamiya 35213 - Kübelwagen Type 82

MR Modellbau 3570 - Rader 5.25-16 mit Radkappen

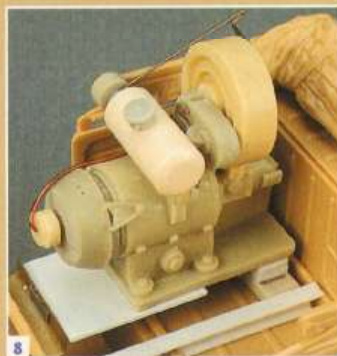
Overview: While air raid sirens were mounted on the roofs of buildings in urban areas, no such system was plausible in rural Germany. Sirens were therefore mounted in various vehicles, including the Kübelwagen. The sirens had their own engines and required removal of the back seat and the crossbar behind it. The stowage compartment lid was also removed. The siren was bolted into the Kübelwagen on a platform behind the front passenger, who served as the siren operator.

Vehicle particulars: Late 1941 Kübelwagen, with protruding rear license plate; taillight; side horn; turn signals mounted on windshield; long spokes on the spare mount; welded rear cross member; long ribs on engine cover and stowage lid; no scoop; no jack holes; early exhaust and narrow guard; riveted door hinges; and early headlights with internal wiring.

Special features: This is the final configuration of the Kübelwagen before major revisions began in 1942-43. To backdate the Tamiya kit, the jack holes were filled in, the shovel was mounted on the right side, the turn indicators were affixed to the windshield and the exhaust system and engine guard were cut down and reworked. The Tamiya Type 82 features the shortened spokes on the spare mount, so the 'hood' was exchanged for a Dragon version with longer spokes and the wiper cable outlet. (The Tamiya DAK hood also has the lengthened spokes, but not the cable outlet.) The covered headlights are from the Warriors update. The siren and its engine were scratchbuilt using spare parts. The platform was cut from plastic and brass sheet. The spotlight was taken from an Italeri Kübelwagen and fitted with a new mount and a cover punched from lead foil. The MR set has just the right wheels to match those shown in the reference photo. The reference photo also shows the stowage cover removed, but its latches remain in place.



1. Details of this earlier version include shovel on the right and turn signals mounted on the windshield. Dragon's hood, which features long spokes and the wiper cable outlet, was mated to the Tamiya kit. 2. The Italeri Kübelwagen provided the spotlight, which was reworked and given a cover from lead foil. 3. The control panel for the siren was mounted behind the front passenger seat. This was entirely scratch-built from brass sheet and punched details. 4. Backdating the Tamiya kit included reworking the rear end. The exhaust guard was trimmed down and the subsequent gaps in the bumper were filled in. 5. The mufflers were reconfigured to the earlier perpendicular style. Heating plastic rod over a candle created new exhaust pipes. 6. The siren was scratchbuilt from spare parts. Though the reference photo is limited, a good representation was achieved. Four layers of spare etch detail forms the siren itself. The control arm was made from a watch lever and fine brass wire. 7. This view is available in the reference photo, with the siren facing the rear of the vehicle. Over 30 different parts were used to construct the siren. 8. The siren installed, fit between the cross brace and

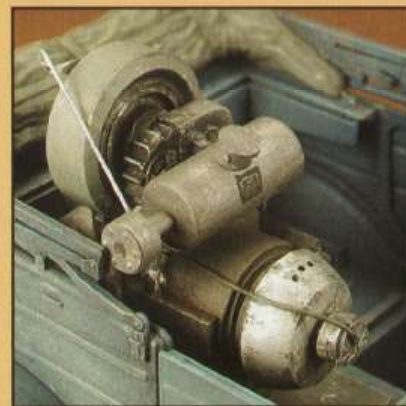
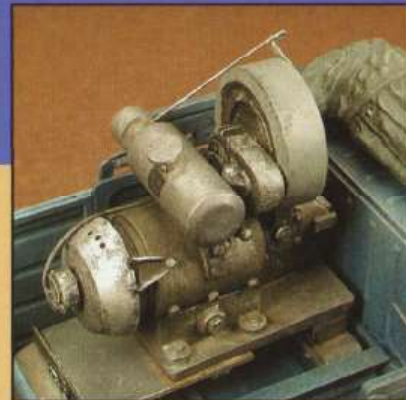


the control panel. 9. MR wheels with Tamiya hubs installed. The nipple hubcaps match those in the reference photo. 10. Details of the side mounted horn, mirror and turn indicator.





Bundesarchiv



Kübelwagen Dummy Tank

KdF: 2, Kfz: 1

Type: 823

Kar or K: 823

Other Designation: Panzertrappe

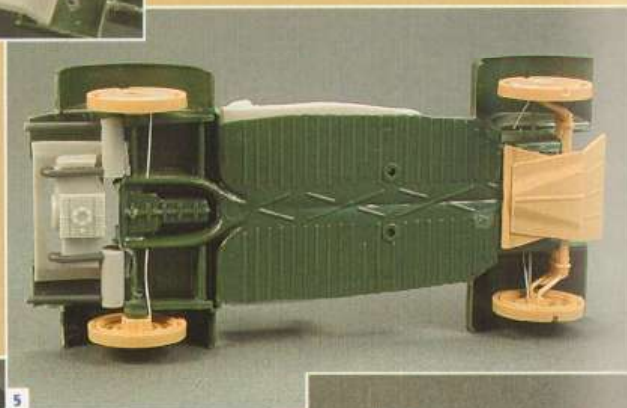


Primary Kits:
ADV/Azimut 35127 - Panzertrappe
Italeri 312 - Kübelwagen

Overview: The most unusual employment of the Kübelwagen was as a dummy tank (Panzertrappe). This vehicle is often confused with 'Rommel's Dummy,' the canvas and wood mock tank created in North Africa to thwart Allied aerial surveillance. With all available tanks needed for combat service, the Type 823 was developed by the OKW in 1940 for training at panzer warfare schools. Tank cadets were able to learn the basics of tactical formation and assault in this retrooled Kübelwagen, which mounted an operational turret and an MG34 on a modified Kubel body. The vehicle was accessed through a large hatch in the rear and a smoke discharger was deployed forward of the driver. At least two varieties have been identified; one with welded doors and one with complete new sides made of the same ribbed metal as the Kübelwagen. Faux 'tracks' could be mounted along the fenders—with the tracks removed, the vehicle served as a training scout car.

Vehicle particulars: Although the Panzertrappes shown in reference photos reveal little of the underlying Kübelwagen, enough details are visible to date the vehicles as the 1940 design. They feature long spokes on the spare mount; long ribs on the engine cover; early exhaust and narrow guard; shovel on the right side and short rear fenders.

Special features: The ADV/Azimut conversion was designed for the Italeri Kübelwagen. The large one-piece body won't fit the Tamiya or Dragon kits, so the Italeri chassis was used and its many shortcomings came to light. Azimut used the Italeri 'hood' in its resin design—though the Italeri Kubel is a very early design, it features short spokes on the spare mount. These were removed and replaced with plastic strip. The Italeri kit also has a bogus rear end and no exhaust, so the engine pan and rear cross member were taken from a Dragon kit. The exhaust was reconfigured using plastic tube. The rear fenders were sawed off in the back to represent the early, shorter style. Numerous Tamiya parts were added, including the front suspension and guard, hubs, tow hooks, Notek light, fuel spout, horn, dash, steering wheel, and driver seat. The shovel bracket, turn signals, rear light mounts, and license plates came from Eduard. One rear photo of the Panzertrappe shows a rear step welded to the engine cover and this was scratchbuilt. This photo also shows a bar step welded between the rear tow hooks, not to be mistaken for the crossbars introduced in 1943.



1. Azimut's Panzertrappe mounted on the Italeri chassis with Tamiya and Dragon modifications. Azimut's solid turret got a Tamiya MG barrel from the parts box. 2. To create the early muffler configuration, the mufflers were turned parallel to the rear axle and new pipes were made from plastic tubing. 3. Azimut's body features the Italeri hood, which has late short spokes. These were removed and earlier long spokes for the spare were made from plastic strip. 4. The unusual rear step between the tow hooks was a precursor to the standard bar introduced in 1943 and was created by modifying Tamiya parts. The resin crossmember was removed and replaced with a Dragon component. 5. The Italeri floorpan was extensively modified with Tamiya wheels, front suspension, and guard, plus mufflers and an engine pan from Dragon. 6. Azimut provides an elevated floor plate, gunner's seat and ammo box. The driver's seat, foot pedals, gearshift, and brake lever were all taken from a Tamiya Kübelwagen. 7. Before and after—modifying Tamiya's exhaust guard to the earlier, narrow version.



Lutz Feist



Kübelwagen Barrel Carrier

KdF: 2, Kfz: 1

Type: 82

Kar or K: 820

Other Designation: 2-Faßwagen

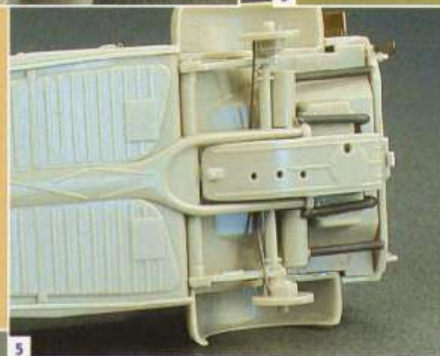
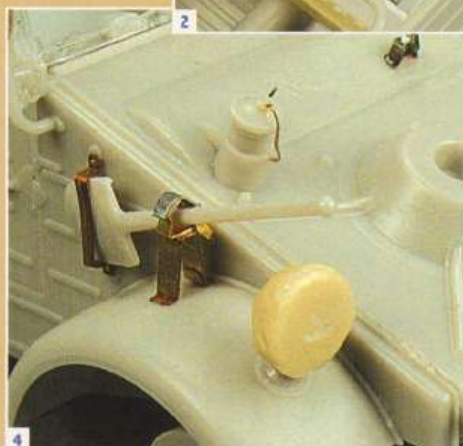


Primary Kit:
Dragon 9034 - Kübelwagen Type 82 with Crew

Overview: One of the Kübelwagen's more interesting tests was as a barrel carrier. Removal of the backseat and the stowage compartment lid allowed room for the construction of an angled frame that would accommodate two 200-litre barrels. Could it handle the load? Empty, the Kübelwagen weighed 668 kg (1,470 pounds) and was designed for a payload (four men plus gear) of 507 kg (1,115 pounds). Using 8 pounds for a gallon of liquid, 400 liters of fuel (106 gallons) weighs 848 pounds, leaving 267 pounds for the driver and any other load. Feasible, perhaps; practical, not likely. There is no indication that the Faßwagen ever got much use, but it does demonstrate once again the versatility of the Kübelwagen and the willingness to put it to any test.

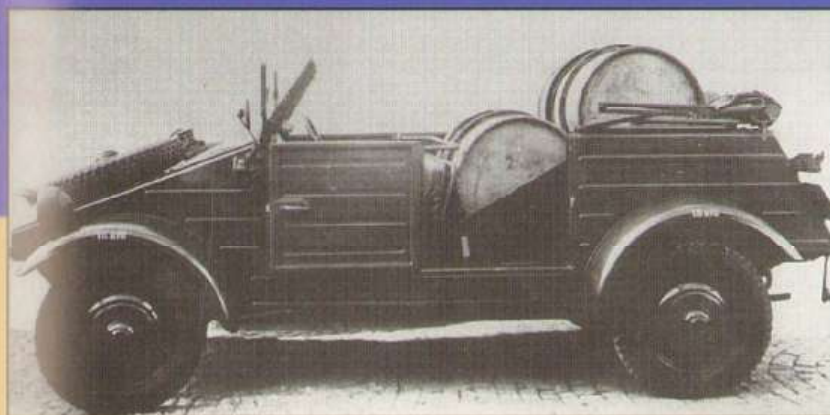
Vehicle particulars: Early 1942 Kübelwagen, with protruding rear license plate; taillight; side horn; shovel on right side; no scoop; no left side dimples; turn signals mounted on towers; long spokes on spare mount; welded rear cross member; long ribs on engine cover and stowage lid; early exhaust and narrow guard; riveted door hinges and early headlights with internal wiring.

Special features: The rear fenders were cut to create the early short style, which only reached the bottom edge of the rear quarter panels. The exhaust pipes were cut and the mufflers reconfigured to create the earlier pattern. Likewise, the rear guard plate was cut down to create the early narrow version. The two holes for the jack were filled in. As on the Hasegawa/Dragon model, the wiper cable outlet is visible in front of the windshield. The backseat and stowage lid were cut out and the barrel frame was scratchbuilt from sheet plastic and bits of resin. This assembly was designed to accommodate a pair of resin fuel drums from VP. The etched frame for the top (included in the Dragon kits) received a new folded top made from Apoxie-Sculpt.



1. The barrel carrier variant, retro-detailed to create the early style Kübelwagen. 2. The Dragon kit has no rifle brackets and here they weren't needed. Here's a look at the scratchbuilt frame for the two barrels. 3. The barrel frame viewed from the rear. 4. This early vehicle features the shovel on the right front fender. 5. The reworked exhaust, turning the mufflers parallel to the rear axle. The rear skid guard was trimmed down to the narrow early style. 6. Details of the Eduard left turn signal mounted on the kit tower, plus the horn relocated beneath. 7. Details of the windshield modifications, wiper cables and dash brackets. The Dragon windshields are full detailed with the proper wingnuts and require careful masking for painting.





Imperial War Museum



Jerrycan racks

Underneath the hood, Kubelwagens had a cavity for storing one jerrycan, accessible only from the interior. Jerrycan racks weren't factory installed, but were all field modifications. Here are several different examples.



All shots: Bundesarchiv

Kübelwagen Pickup Truck

KdF: 2, Kfz: 1

Type: 82

Kar or K: 825

Postwar Model: 27

Other Designation: Offener Lieferwagen mit Aufbau



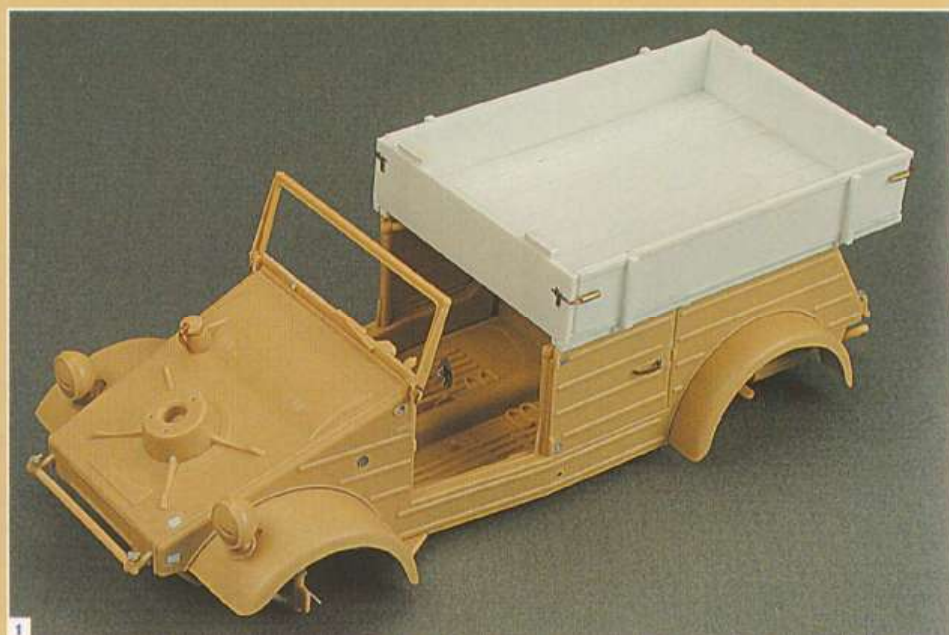
Primary Kits:

Tamiya 35213 - Kübelwagen Type 82

Overview: By May 1945 the Kübelwagen was again pressed into service in an unusual role. Both factory units and field modifications produced a light delivery vehicle used in transporting supplies and clearing rubble in what had just become postwar Germany. A simple metal or wooden bed was mounted behind the front seat and the ubiquitous Kübelwagen served another purpose. Taller sides with bow frames and canvas tops were also created. Although factory charts prove its manufacture, photos are virtually nonexistent.

Vehicle particulars: Early 1944 Kübelwagen, with crossbars between tow hooks; no taillight, horn, or turn signals; internal wiper cable; short spokes on spare mount; bolted rear cross member; short ribs on engine cover and stowage lid; late exhaust and wide guard; no dimples on right side; welded staggered door hinges and late headlights with external wiring.

Special features: Wartime shortages and postwar production resulted in many anomalies in the Kübelwagen family. This model is stripped of all external fixtures, including windshield latches and one of the wipers. The pickup bed was scratchbuilt from sheet and strip plastic and latches for the folding sides were made from wire and plastic tubing. This vehicle has the added feature of a hard top, probably cut from spare Beetle panels; the model's roof was trimmed down from the roof of an Italeri Kübel, sanded smooth and filled along the rear edge.



1. Like many late war and post war vehicles, there are many features missing: horn, Notek light, wipers, windshield latches and shovel were all eliminated. 2. The license plate is from Eduard. Latches on the four corners of the bed were made from wire, plastic tubing and lead foil. 3. This hard top kept the load from shifting onto the driver's head and was cut down from an Italeri Kübelwagen. Holes for the Tamiya turn signal towers were filled in with plastic rod. 4. The right wiper was removed and a cap placed in its place, punched from sheet plastic. Elephant wing nuts were added on the windshield frame and the swivel posts were cut from plastic rod. 5. The bed was scratchbuilt from sheet and strip plastic.





In focus: floorpan



Bundesarchiv

In focus: passenger's perspective



Bundesarchiv

Kübelwagen Box Van

KdF: 2, Kfz: 1

Type: 88

Kar or K: 826

Postwar Model: 28, Postwar Production: 219

Other Designations: Kastenlieferwagen; Kastenwagen (Reichspost); Krankenwagen (ambulance); Geschlossener Lieferwagen



Primary Kits:

Tamiya 35213 - Kübelwagen Type 82

Czechmaster 3010 - VW Kastenwagen Conversion Set

Overview: Most photographic records show this vehicle as a postwar development, but there is considerable documentation to suggest that it appeared in late 1944. It was, for example, given a wartime Type Number (88) in the Porsche records. The rear and sidewalls were cut down to mount a sheet metal box with twin doors in the rear. As the engine cover was thus rendered inoperable, a hatch was placed in the floor of the box to access the engine. The box van served several roles, including postal delivery, ambulance and delivery truck.

Vehicle particulars: Late 1944 Kübelwagen, with crossbars eliminated between tow hooks; no shovel, Notek light, turn signals, or windshield latches; internal wiper cable; short spokes on spare mount; bolted rear cross member; short ribs on engine cover; late exhaust and wide guard; no dimples on right side; welded staggered door hinges and late headlights with external wiring.

Special features: The fuel spout was reworked and extended to reflect the larger spout shown in the reference photo. Swiveling front tow hooks were liberated from a Tamiya Schwimmwagen. As Notek lights were not installed on the rear of many postwar vehicles, a round taillight was installed on the left. The right wiper was removed. The box itself is a conversion item from Czechmaster, consisting of injection panels with separate doors. The rear end and sidewalls were all measured and cut to accommodate the box before the Kübelwagen was assembled. With the shortened engine cover now unusable, the small corner latches were not installed. The canvas top and side windows were modified from Dragon parts.

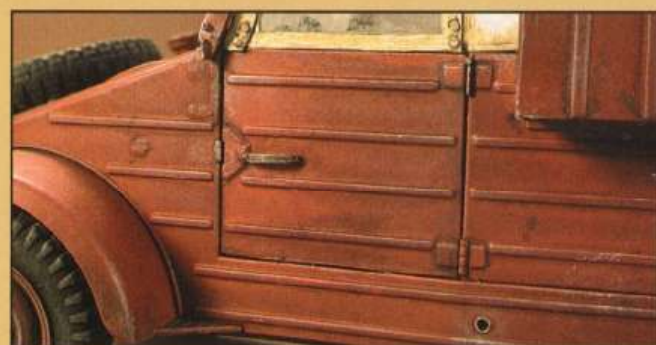


1. Tamiya Type 82 with the Czechmaster conversion installed. A dividing wall was added from sheet plastic behind the driver's compartment. 2. As seen in the reference photo, this vehicle sports swiveling front tow hooks, which were taken from a Tamiya Schwimmwagen. The fuel spout was enhanced to better represent the larger late war version. Also visible on the windshield frame are the Elephant wing nut, new swivel pin and deleted right wiper. 3. The chopped rear end. The engine cover reflects the late war style, with the two

left ribs shortened. In this instance, the short ribs disappeared when the engine cover was cut down. A round taillight was installed on the left side. Though the corner latches were not installed, location points were drilled for them. 4, 5. Two perspectives of the box conversion from Czechmaster. The set consists of three walls, floor, roof, three doors, vacuformed canvas top and optional resin floor with separate engine access hatch. For the ambulance version, a resin stretcher is provided.



Bundesarchiv



In focus: front end repair



Bundesarchiv

In focus: a day at the bodyshop



Bundesarchiv

Kübelwagen with Wood Gas Generator

KdF: 2, Kfz: 1

Type: 239

Kar or K: 820

Wartime Production: 130

Other Designations: mit Holzgas Anlage; Versuchswagen für heimische Kraftstoffe; mit Holzkohlengenerator



Primary Kits:

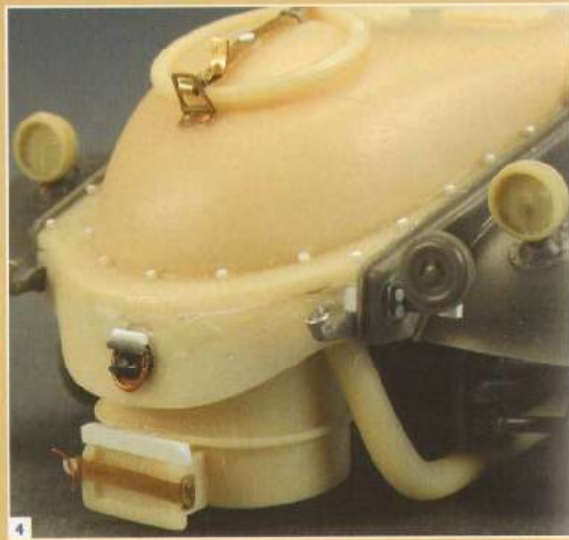
Hasegawa 87991-HB1 - Kübelwagen Type 82

Aires 3011 - Kübelwagen 'Holzgas' conversion

Overview: World War Two Germany was in a fuel crisis. With no domestic petroleum production and only limited reserves in Rumania, fuel was a precious commodity. Any high-grade petroleum was reserved for military use, with virtually none available for civilian consumption. There was, however, plenty of domestic wood. As early as 1940, wood gas generators were created and installed in several designs on large numbers of civilian cars. The generators were normally fitted on the rear of the vehicle, but in the case of the Kübelwagen tests the front end was reconfigured. The entire device was a tricky process requiring patience and expertise. Wood coals were stoked in the bottom of the oven and the fuel wood was placed on top. Gas vapor was trapped in the large nose unit, then ducted to the engine, which had to be started with low-grade petroleum. The starting and operating procedures had to be constantly monitored with a series of air and gas valves. It wasn't a smooth ride, but it worked. The firms of Imbert, Wisco and Zeuch manufactured civilian generators, but Porsche designed the units for the Kübelwagens and military Kapers. Holzgas-equipped vehicles normally had to carry their own supply of wood and coal.

Vehicle particulars: Late 1943 Kübelwagen, with forward horn; no shovel, Notek light, turn signals, or windshield wiper cable; bolted rear cross member; short ribs on engine cover and stowage lid; late exhaust and wide guard; dimples on right side; combination door hinges and late headlights with external wiring.

Special features: A close examination of the reference photo reveals that the driver's door has been replaced; it has welded hinges, while the rear door retains the earlier, riveted version. The Aires conversion was slightly modified to the design shown in the photo. The side duct hose was replaced with soft tubing. Valves were added to the side and front and the strap on the nose hatch was rebuilt. Punched plastic rivets were added around the cooker. The right wiper was removed. The folding top was taken from a Dragon kit and augmented with Apoxie-Sculpt. The headlights are from Royal Model set #077.



1. The Kübelwagen gets a nose job. The Aires conversion kit installed on the Hasegawa kit. The side duct was replaced with soft tubing to match the design of the reference photo. The driver's door hinges were removed and replaced with lead foil to replicate the welded hinges. 2. A folded top from Dragon was augmented with Apoxie-Sculpt and tied in to the hooks. Look carefully where the etch frame for the top meets the body. This missing bracket was made from foil and wire. Its absence is unique to the Hasegawa Kübel. Their DAK kit has it, as do all the Dragon vehicles. 3. The clear Hasegawa/Dragon windshield has the appropriate wing nuts molded on. Posts and hooks for the canvas top and front windows were added, along with the wiper motor cable. 4. Punched plastic rivets were added around the cooker and all latches and fixtures were detailed to match the reference photo. 5. Down under, the ductwork leading from the oven to the settling tank, purifier and engine.



Imperial War Museum

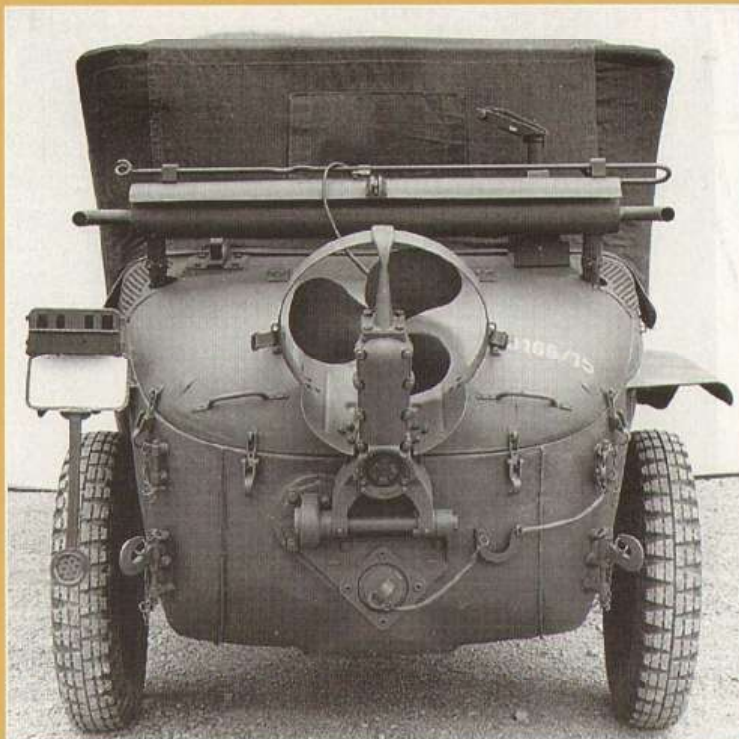


History's Mystery: The Porsche Production Type 166 Schwimmwagen

A source of confusion in the development of the Schwimmwagen is the Porsche production series. The first 125 Type 166 were manufactured in Stuttgart by Porsche from August 1941 to the summer of 1942, before production commenced at the Wolfsburg factory. This series of vehicles displayed numerous changes and, incredibly, five of them are still in existence around the world; #5, #81, #97, #115 and #123. Special thanks must be given to Thomas Zirfas of Germany, who is currently restoring #123 and helped solve this mystery. The Porsche vehicles were highly photographed and widely publicized, but bore distinct differences from the VW series, as follows:

Porsche Series

- Rounded front tubular bumper
- Grab handle on each side curved on the ends and welded to the body
- Two handles and two prop strap hooks on engine cover
- Short depression for folded prop on engine cover
- Oval handle on Hebestange prop rod
- Long spokes on spare tire mount
- Ambi-Budd bodies handmade from six welded panels
- Starter crank and jack stored to the right of the front passenger
- Two rear swiveling tow hooks with pin brackets mounted low on the body. Above each hook is another coupling for testing towing capabilities
- Front Notek light



- Rear Notek light above license plate
- The dashboard featured a warning buzzer on right side, between the speedometer and the blackout light switch, to alert the crew when the V-belt was broken. This was a serious hazard and would cause the engine to overheat.

VW Production Series

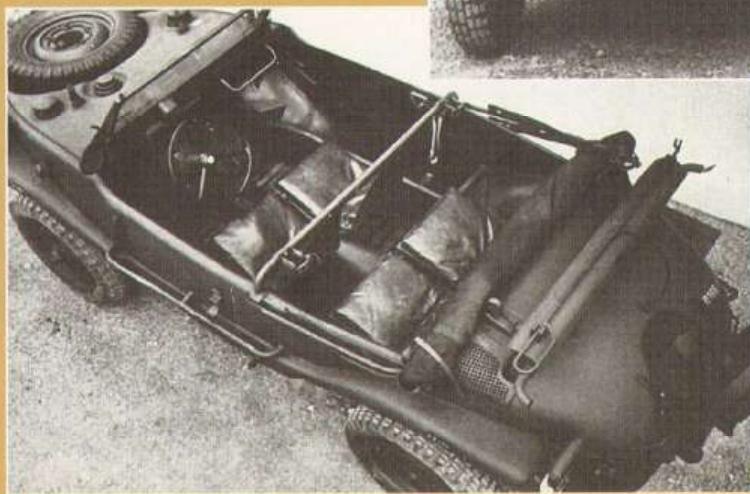
- Angular front bumper with square front
- Grab handle/steps on each side are straight and riveted between the front and rear fenders
- One handle and one prop strap hook on engine cover
- Longer depression for folded prop on engine cover
- Round handle on Hebestange prop rod
- Short spokes on spare tire mount
- Ambi-Budd bodies machine stamped in one piece



- Starter crank and jack stored to the left of the driver
- Two rear swiveling tow hooks with new brackets mounted higher on the body. Beginning with vehicle #705, bars were welded to the body for reinforcement.
- Front Notek light eliminated
- Rear Notek light eliminated and replaced with round taillight (Notek lights commonly burned out in the water. It is worth noting that they were occasionally added in the field.)
- Warning buzzer eliminated

The Schwimmwagen Type 166 underwent many refinements between the Porsche series and the Volkswagen production series. The easiest way to identify Porsche vehicles in wartime photos is by the

rounded front tubular bumper and the rounded side handles welded to the body.



Top: In the rear, the Porsche vehicles featured two grab handles and two strap hooks on the engine cover; a Notek light over the license plate; low tow hooks, often with attachments above for a trailer; a C-shaped bracket for stowing a cap that covered the prop coupling and a smaller depression for the raised prop. (BA). Above: The Porsche Schwimmwagen #0166/15 was a widely publicized vehicle. The Porsche series is identifiable in front by the rounded bumper and Notek light. (BA) Left: The prop rod with its long handle is seen here. Most important are the grab handles on the side; note how they curve inwards to the body, rather than being riveted between the front and rear fenders as seen on VW production vehicles. (BA)

Type 128 Amphibian

KdF: 7, Kfz: 1/20

Type: 128

Kar or K: 2s

Wartime Production: 40 confirmed; 150 possible

Other Designation: grosse Schwimmwagen



Primary Kits:

Dragon 9034 - Kübelwagen Type 82

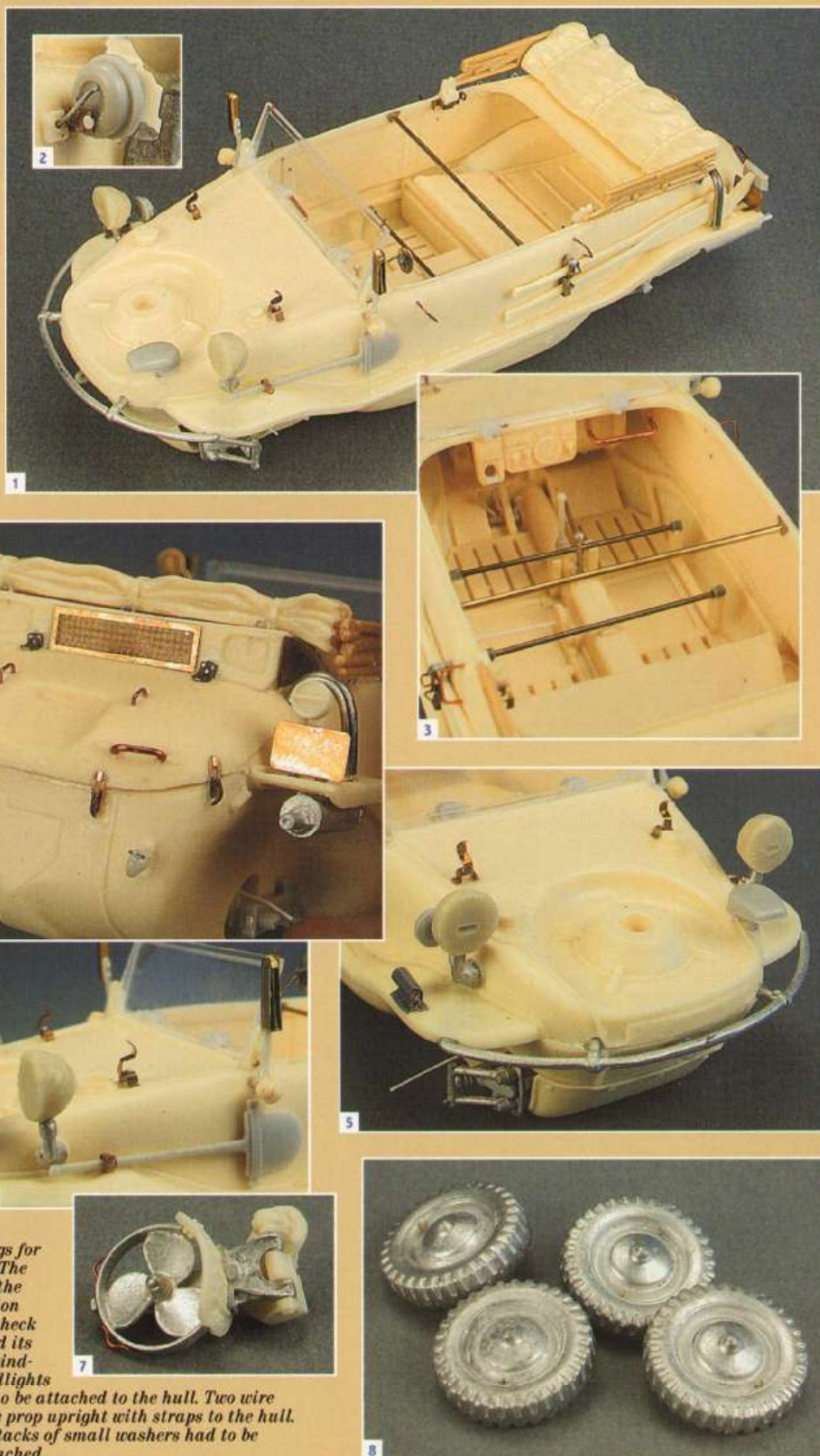
Gum Ka - Type 128

Schmidt 2109 - Rader für VW-Kübel mit spitzer Radkappe

Overview: Following tests of the welded Kübelwagen-body prototype, the Porsche firm produced the first three Type 128 vehicles in the fall of 1940. Testing continued through the spring of 1941. The new design featured a sealed, boat-like body on a four-wheel drive Kübelwagen chassis. (The 4WD Kübelwagen never entered production and this chassis became the basis of the Type 87 Beetle.) Testing continued through the spring of 1941. The Type 128 had a 50-litre fuel capacity and was capable of 80kph on paved roads and 10kph in the water. It retained the Kübelwagen seats, with the front seats mounted on bars that ran the width of the vehicle. Engine vents were located in a curved housing atop the rear of the vehicle and the mufflers were mounted beneath the rear fenders. Several styles were developed, including a propeller with fully enclosed shroud. The Type 128 was officially cancelled in February 1942. Testing and deployment of the vehicle played a major role in the birth of the Type 166 Schwimmwagen.

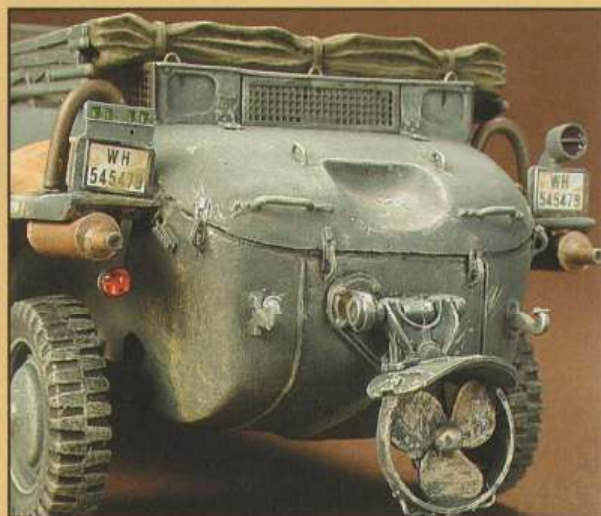
The model: As of this writing, Gum Ka has not found an American importer. The Type 128 kit is a resin model with white metal fixtures and etched parts and requires several minor components of the Dragon Kübelwagen, including the wheels, shovel, Notek lights, wiper motors, windshield, gearshift lever, horn, modified tow hooks and parts of the suspension. To more closely represent the vehicle shown in the reference photo, Schmidt white metal wheels with hubcaps were used. Many of the minor details were enhanced with etch parts from ABER, Eduard and VP. The covered headlights are from the VP Kübelwagen update and the folding frame for the canvas top was taken from a Tamiya Kübelwagen.

1. The Type 128 is the critical link between the Kübelwagen and Schwimmwagen. The wheel-base is the same as the Kübel and the Schwimmwagen's boat-like body was developed here. Unlike the later Type 166, the Type 128 carried two oars. 2. The Dragon horn was detailed with plastic and wire. 3. Kübelwagen front seats are mounted on the two crossbars above the floor. The handhold bar is a much simpler design. 4. The rear end received many additional details, including handles, hooks, latches and rings for the tow hooks. The prop has not yet been attached. 5. The Schwimmwagen roots are clearly seen in the nose of the vehicle. The bracket on the right bumper is an addition made from lead foil and will house the 'dipstick' to check water depth. 6. Dragon's shovel was used and retained its molded bracket on the blade. The turn signals and windshield latches are from Eduard and the covered headlights from VP. 7. The resin and white metal prop waiting to be attached to the hull. Two wire hooks were added to the blade guard for securing the prop upright with straps to the hull. 8. Oldies, but goodies. The Schmidt nipple hubcaps. Stacks of small washers had to be glued inside as filler, then the Dragon hubs were attached.





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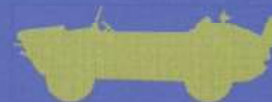
Porsche Schwimmwagen Type 166/1 Prototype

KdF: 7, Kfz: 1/20

Type: 166

Kar or K: 2s

Wartime Production: First in a series of 125 vehicles built by Porsche

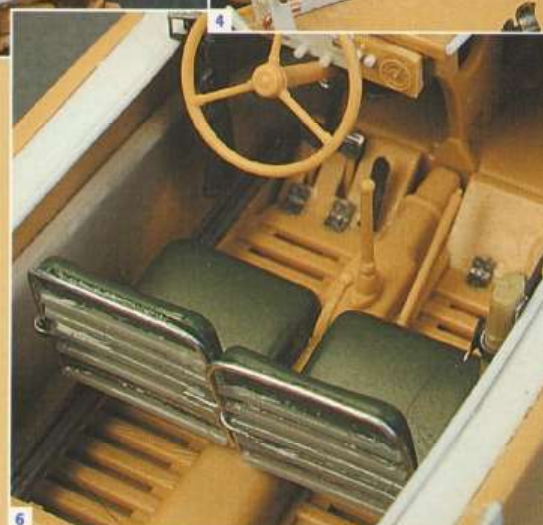
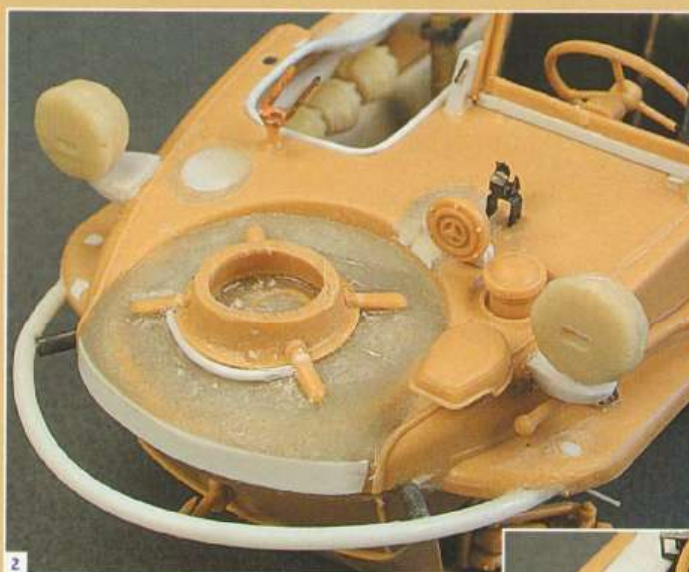


Primary Kits:

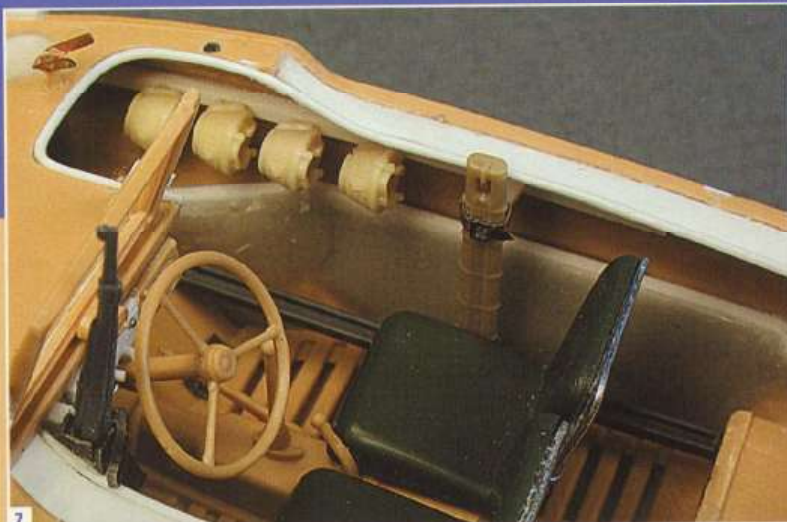
Tamiya 35224 - Schwimmwagen Type 166

Overview: Tests of the long Type 128 Amphibian determined that the length of the chassis caused stability problems in the body, so a shorter solution had to be found. In August 1941, the first vehicle was presented for Hitler's inspection at the "Wolfschanze" in Rastenburg/Ostpreußen. Himmler, Jodl and SS General Wolff were also on hand. The Type 166/1 featured four Kübelwagen bucket seats; a forward cupola for the MG34 machine gun; air intake and exhaust derived from the Type 128; rounded front bumper; a windshield for the driver only; no depression for the raised prop; a very shallow depression for the spare tire; a single fuel spout and Continental balloon tires. It is also the only wartime Schwimmwagen known to have come equipped with two taillights. At this stage, it had no fittings for a top. Approval was given and the Porsche firm began their production of the first 125 Schwimmwagens with several alterations. Among other changes, the air intake and exhaust were reconfigured, the MG cupola disappeared, and the sidestep connecting the front and rear fenders was replaced with a bar. Thus, the Type 166 Schwimmwagen was born.

The model: To start the conversion, low interior walls were added between the wheel wells using Apoxie-Sculpt. The MG cupola was carefully marked and cut out. The rim around the passenger area was widened with plastic strip and a new lip fashioned from fine plastic rod. The air intakes, prop depression and spare tire depression were all filled with Apoxie-Sculpt. Plastruct right angle strip was used to create the beams running from front to rear, supporting the front seats. The rounded front bumper and mufflers were created from plastic tubing. The protruding headlight mounts were carved from plastic and fit with covered VP headlights. The right fuel spout was filled in, along with the Zentral-schmierpumpe on the hood, which was developed later. The windshield frame was cut at one end and enough of the



1. The reworked Tamiya Type 166, backdated to the original prototype vehicle. Plastic strip, sheet and rod was used to modify the hull, including the sidesteps, rim of the passenger area, front bumper and mufflers. 2. The 166/1 featured a shallow depression for the spare tire mount, so the front end was filled in with Apoxie-Sculpt. A new nose was created with plastic strip. The Notek light was taken from a Tamiya Kübelwagen and the covered headlights are from VP. 3. The single windshield latch is from Eduard. The horn has been relocated. 4, 5. The reworked windshield with scratchbuilt brackets. 6. Italeri Kübelwagen seats were used and extensively detailed.



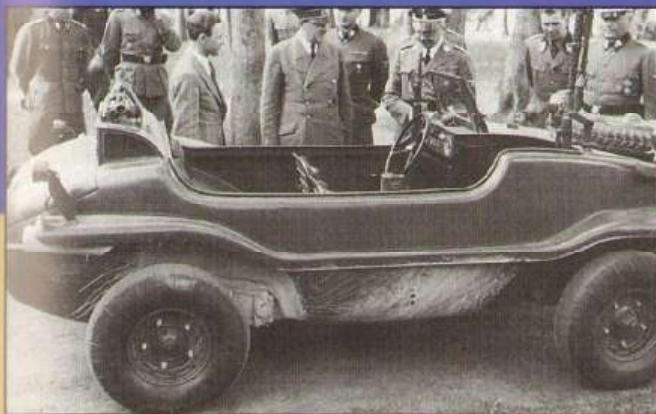
horizontal frame removed to create the shortened version. The dashboard was scratched together using the original Tamiya speedometer and bits of plastic and wire. The ignition key is a 'car guy' photo-etched item from Detail Master. The MG34 and ammo drums are from VP. The small steps connecting the front and rear fenders were created with plastic strip. The spare barrel canister and MG tripod were taken from a Tamiya Sd.Kfz. 251/ID. The air intake housing behind the rear seat was created using lead foil, plastic sheet and strip and mesh from the parts box. Various hooks, latches and brackets



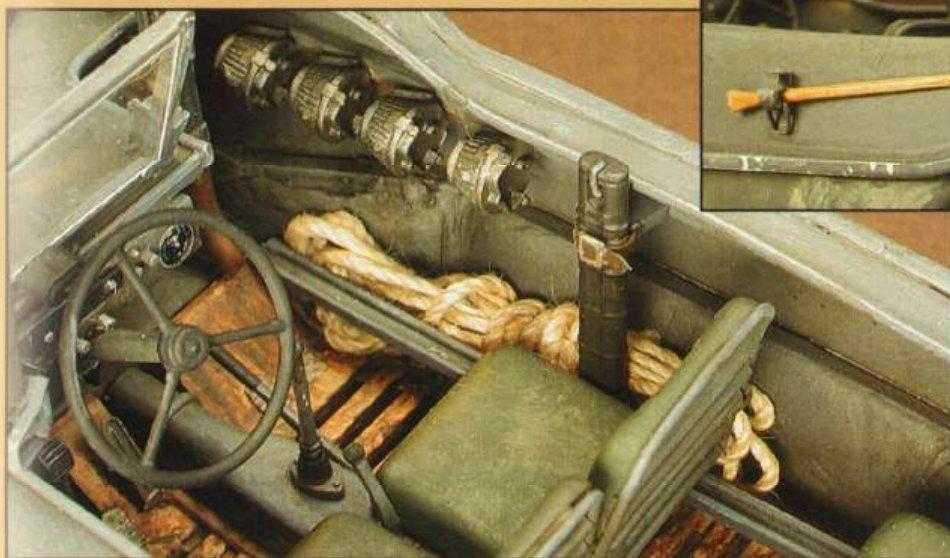
were all liberated from other detail sets. I intended to use four of Tamiya's Kübelwagen bucket seats, but the new narrow compartment wouldn't accommodate them. Fortunately the Italeri Kübelwagen seats were slightly smaller, but required extensive detailing. The balloon tires in the reference photos lack the distinctive conical hubcap; unfortunately no one has ever produced this style in scale. The wheels from the Tamiya DAK Kübelwagen were used instead, with modifications made to the front hubs to fit the Schwimmwagen. Of particular note is the spare tire in the reference photo. For the model, this standard Kübelwagen tire with hubcap was taken from the MR Modellbau set #3570.

7. The new MG cupola in front of the passenger. The MG mount is from Eduard with a new post made from plastic rod. The low sidewalls inside the 166/1 were created with Apoxie-Sculpt and plastic strip. The MG34 ammo drums are from VP. The spare barrel canister is from Tamiya's 251/ID. 8. The two taillight mounts were scratchbuilt from Evergreen channel. The lights are from VP and the license plates were cut from brass sheet. 9. The new back end. The depression for the raised prop was filled in with Apoxie-Sculpt. Brass tubing was used for the exhaust pipes. 10. Tamiya's MG tripod lashed into position on the air intake housing. Lead foil strips and ABER buckles were used to create the tripod straps. The tripod rests inside a machine gun mount on the right side. The reference photos unfortunately do not show the complete firewall; but the separate bucket seats in the back lead to the conclusion that a cooling fan intake is located between them. This screen got much larger in the production vehicles. 11. The Tamiya Schwimmwagen propeller was dolled up with Eduard parts and punched foil bolt heads. 12. Just as they should be, Tamiya's rear hubs for the Kübelwagen and Schwimmwagen are identical. The Schwimmwagen front hubs required a filler of strip plastic to mate them to the Kübel tires.





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Schwimmwagen Type 166

KdF: 7, Kfz: 1/20

Type: 166

Kar or K: 2s

Wartime Production: 14,283

Postwar Model: 70, Postwar Production: 6

Other Designations: Kradschutzenwagen; Schwimmfahiger Gelände-Wagen; Schwimmer



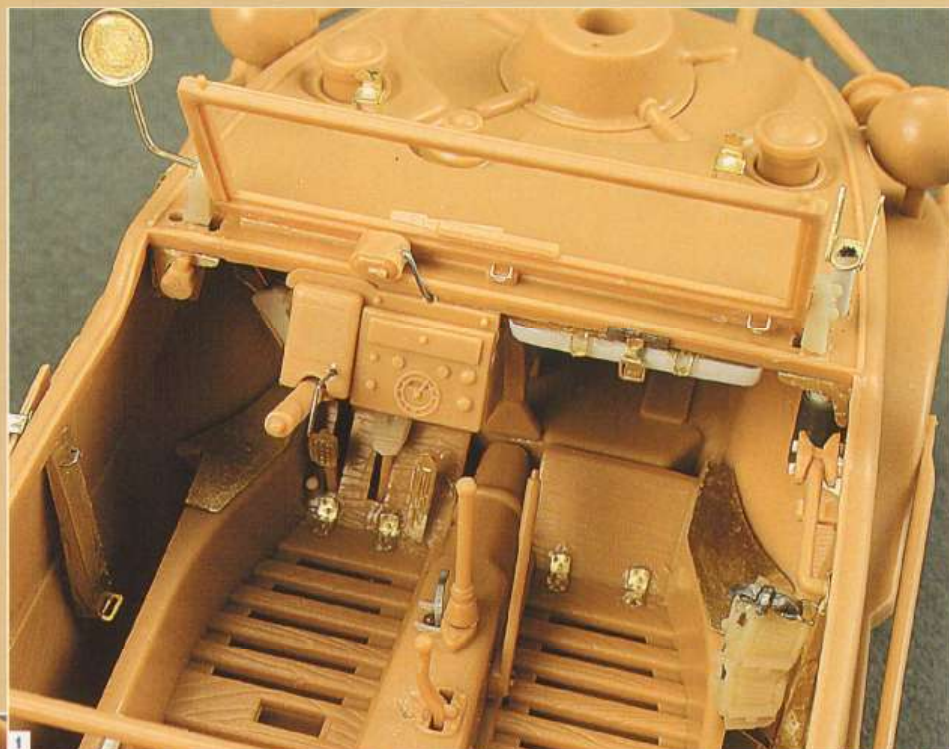
Primary Kits:

Tamiya 35224 - Schwimmwagen Type 166

New Connection WHEEL

Following the numerous modifications incorporated into the Porsche series of Schwimmwagens, the VW production series was incredibly standardized. The most notable changes were the engine cover latches (either two or four), repositioning of the jack and handle from the right interior to the left, and the addition of reinforcement bars to the rear tow hooks. Tamiya's Schwimmwagen #35224 set a new standard in the small vehicle kit market and unlike their Kubelwagen, includes a complete engine.

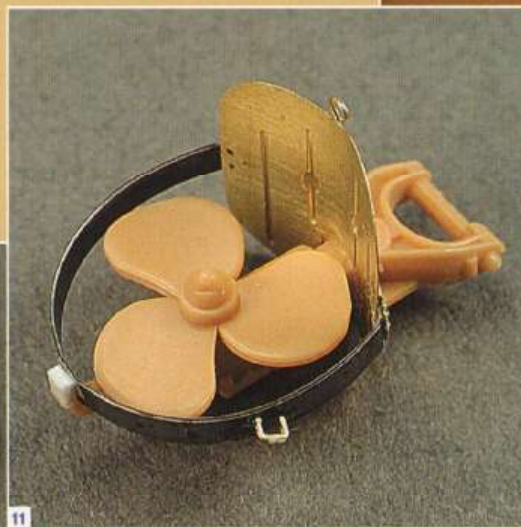
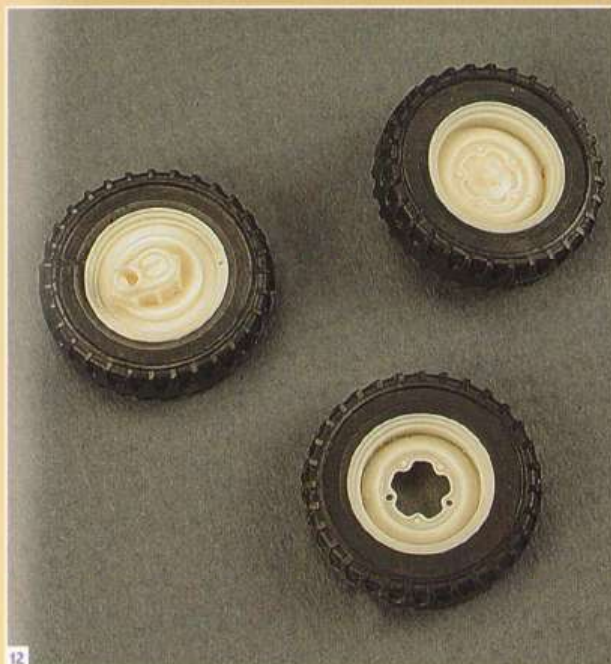
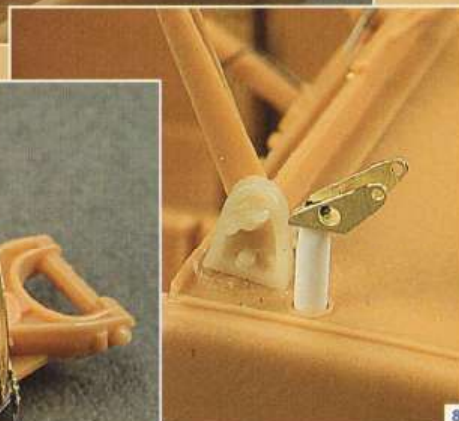
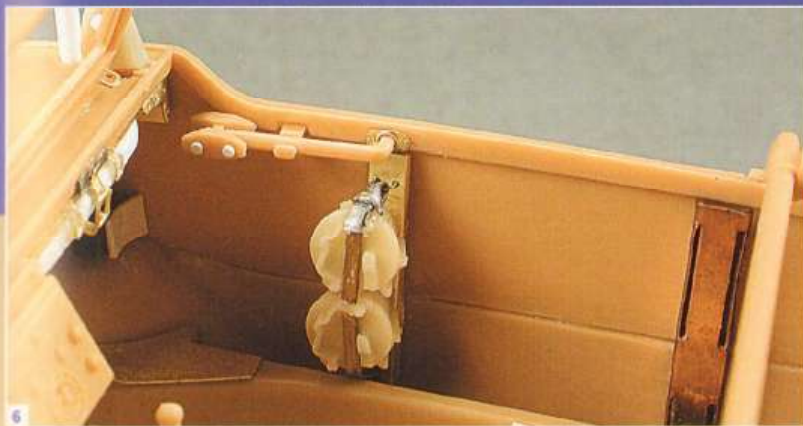
Dozens of etch and resin items were added to increase the level of detail. The most notable detail changes were the addition of four vertical struts to the body interior; addition of the fuel cock handle, auxiliary fuel pump, and Zentralschmierpumpe to the steering column; and extending the MG mount to the floor of the vehicle. The impressive black resin wheels from New Connection were used in place of the kit wheels. The MG34, spare barrel and ammo drums are from VP. Brake lines were added to all four wheels using very fine Plastruct rod. The Hebestange prop rod was replaced with one fashioned from copper wire and fastened to its hook with insulating wire. The jack and handle were relocated to the left interior and all seats were treated with new brackets.



Combat experience proved that the four-wheel drive Schwimmwagen was an amazing off-road vehicle but with little practical use in the water. Thus, the last few hundred units were manufactured without propellers and only a simple plate welded in its place. Schwimmwagens remain a popular vehicle among restorationists, but relatively few still exist in comparison to the Kubelwagen.

1. Interior details include the addition of hinges to the forward sections of the wooden floor slats. The flat toolbox beneath the dash was replaced with sheet plastic and etched parts. A hole was drilled in the steering column support to accommodate a fuel cock handle made from brass wire. The jack can just be seen in its new position beneath the left side of the dashboard. 2. Aber screens were used for the three engine compartment vents. Eduard provides the proper brackets for securing the front edge of the rear seats. 3. The license plate, shovel bracket, windshield clamps, and MG mount are all from Aber. 4. The Hebestange rod attached to the top of the muffler housing was made from copper wire. Also note the safety lead, made from fine wire. Aber's license plate was used along with a resin taillight from VP.





5. Punched foil and plastic discs were used to dress up the propeller mount. Tow hook rings were added from wire, and the engine cover latches are from Aber. 6. The folded arm is the travel lock for the MG34. The forward right strut received a pair of VP ammo

drums and a lead foil strap. 7. Three Aber hooks were added to the windshield for securing the windshield cover. (The hook on the far left fell off and was later replaced.) Also visible here are the wiper motor cable and a resin doodad added beneath the gauge, representing the Zentralschmierpumpe for lubing the front end prior to water operations. 8. Aber's MG34 mount was dressed up with plastic rod. The windshield brackets were replaced with resin parts from VP. 9. The Aber set actually includes two sets of these screens; apparently the first run did not fit properly, so they thoughtfully include a small fret which fills the bill perfectly. Hooks for securing the canvas top can be seen across the rear edge of the crew compartment, with one more hook found on each side of the vehicle. 10. The left side reveals the left MG bracket and a collar for the vertical exhaust pipe leading to the muffler. 11. The kit propeller dressed up with Eduard and Aber parts. The round loop is for attaching the Hebestange rod, while the squared hook held the leather strap securing the prop in the raised position. 12. New Connection's "special order" Schwimmwagen wheels feature the wide tires in black resin, plus resin hubs. Amazing stuff.



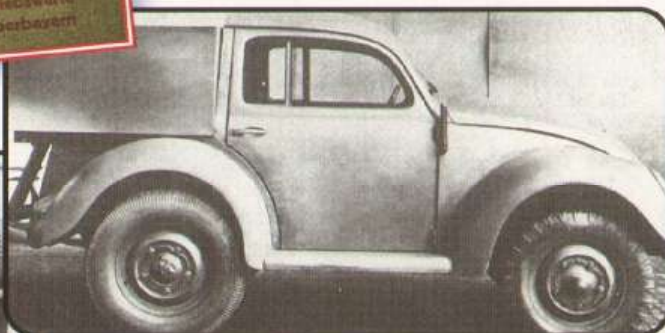
Feist Collection



KdF Kafer Overview



Military versions of the Kafer are easy to distinguish from their civilian brethren. The two horns on each bumper became pointed and were turned outward. Glove compartment doors were eliminated. A starting crank aperture similar to the Kübelwagen was mounted on top of the rear bumper. By the end of the war Kafers, like other KdF vehicles, were streamlined to conserve materials. Bumper horns and rearview mirrors were often eliminated. The flip-out turn indicators, housed in the forward frame of each rear window, was also eliminated; yet many Kafers acquired the Kübelwagen-style turn indicators, usually mounted on the front quarter panels. The padded seats were replaced with the simple frame style found in the Kübelwagen. Even the steering wheel spokes were thinned down. And as a note of interest, when Kafers are seen with their 'hoods and trunks' closed, the handles are in either the 1200 or 600 position. Below are a few other versions developed from the Kafer.



Poster: The People's Car. "If you save five marks a week, you can own your own car!" The program that never materialized. (Feist) Top right: Beetle Type 60. This is the military version of the civilian Beetle. 630 closed and 13 open 'KdF-Wagens' were built during the war years. Most went to party members, state officials and VW staff. The proximity of the wheels to the fenders distinguish this version. In the immediate postwar years, 7,735 Beetles were produced as Model II. (IWM) Left: Type 81 Delivery Van (KdF 8), a.k.a. 'tropic wagon.' (IWM) Above: Postwar Type 100. Immediately after the war some Beetles were 'spared together' to create a short towing tractor mounted on the off road Type 82E chassis. (IWM)



KdF Kafer 2WD Type 82E (92)

KdF: 5, Kfz: 1

Type: 82E (with weapons fixtures, 92SS)

Kar or K: 1

Wartime Production: 688

Postwar Model: 51, Postwar Production: 805

Other Designations: Kafer; Kriegkafer; Geländewagen; known as Type 92 until April 1943

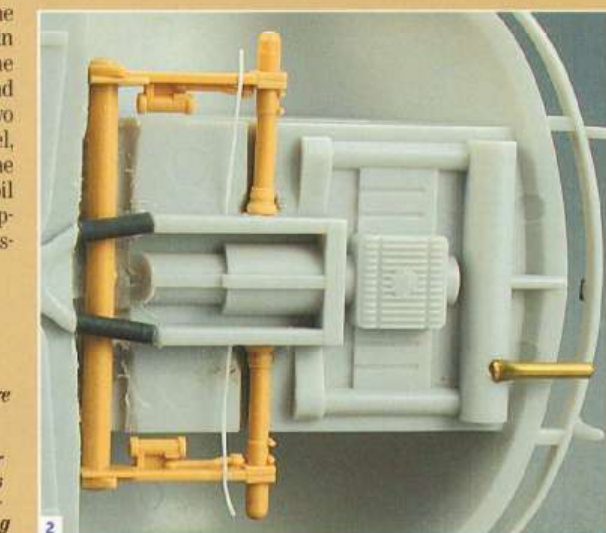
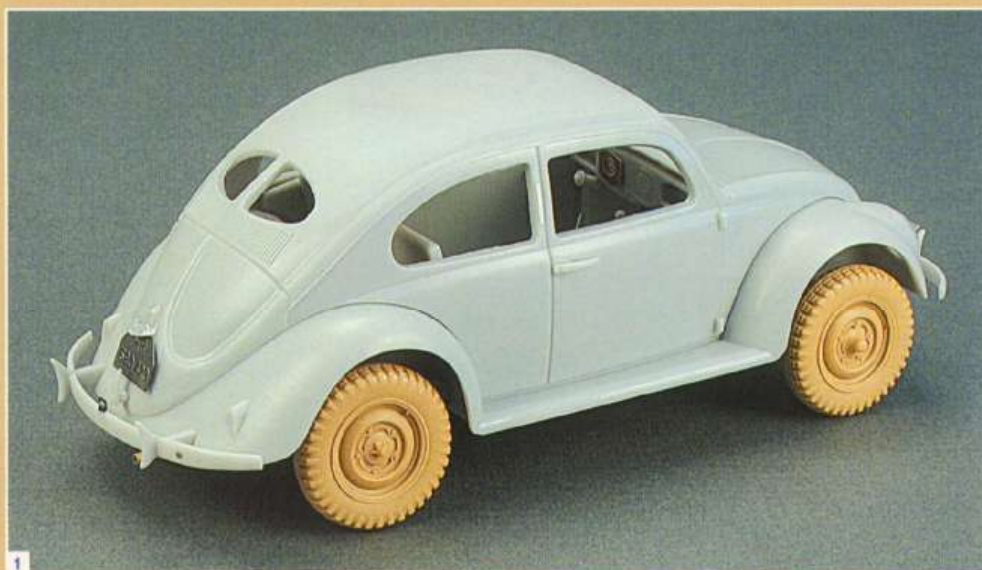


Primary Kits:

Czechmaster 35014 - Volkswagen Typ 82E

Overview: The militarization of the Beetle came by mating its unique body with a Kübelwagen chassis. Thus the military version is visually differentiated from the civilian Type 60 by its higher ground clearance. The Kafer Type 82 was officially designated a 4x2 cross-country car, and though it bore a Type number, it wasn't an official Porsche study. Though fully enclosed and providing more protection from the elements, the vehicle was also cramped and heavily equipped soldiers had a difficult time entering and exiting the vehicle. The Type 92SS was created simply by the addition of weapons brackets for two rifles and one MP40 machine pistol. Postwar production continued through late 1946.

The model: Czechmaster has done a fine job representing the look and feel of the vehicle. The one-piece upper body features closed doors, hood and engine cover. The Eduard detail set for the Type 87 provides a few needed details, including the license plates, dash and gauges, crank bracket for the rear bumper and the folding map board common to all military Kafers. Tie rods and brake lines were added in the same style as the Kübelwagen models. The kit wheels are weak in detail and were replaced with those from the Tamiya Type 82, along with the rear suspension and horn. Brass tubing was used for the tailpipe. Two small knobs were added on the transmission tunnel, representing the choke on the driver side and the heating control on the passenger side. Punched foil rivets were added to the rear bumper and the flip-out turn indicators were added from thin sheet plastic to the rear window frames.

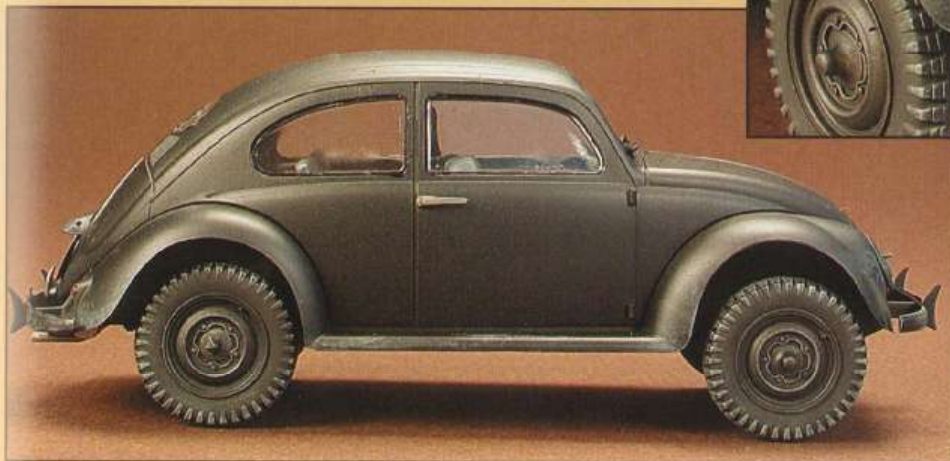


1. The kit wheels were replaced with the highly accurate Tamiya Kübelwagen wheels. 2. The entire rear suspension was carved from the kit and replaced with parts from a Tamiya Kübelwagen. The brake lines are also in place. 3. Eduard's rear license plate (ooh la la) and crank bracket. Brass tubing was used for the tailpipe and punched rivets were added to the rear bumper. The interesting clear light over the license plate is included in all Czechmaster Beetle kits. 4. Flip-out turn indicators were added from thin sheet plastic to the rear window frames. 5. Interior detailing includes the folding map board and dash gauge from Eduard.





Imperial War Museum



KdF Kafer 4WD Type 87

KdF: 7, Kfz: 1

Type: 87 or 877

Kar or K: 827

Wartime Production: 667

Postwar Production: 2

Other Designations: Kommandeurwagen; KdF Trop; Kafer mit rolldach



Primary Kits:

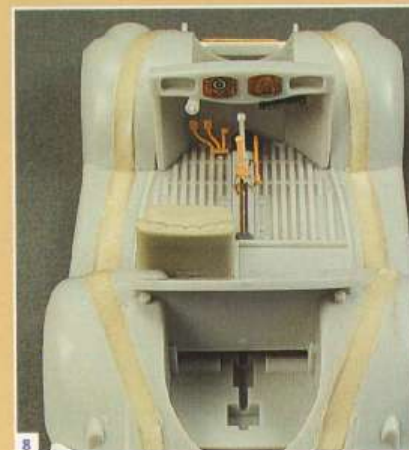
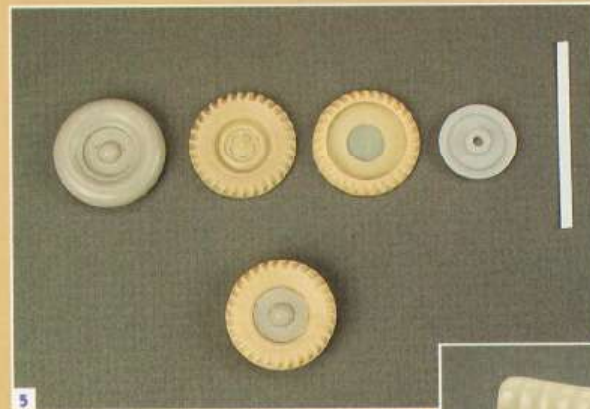
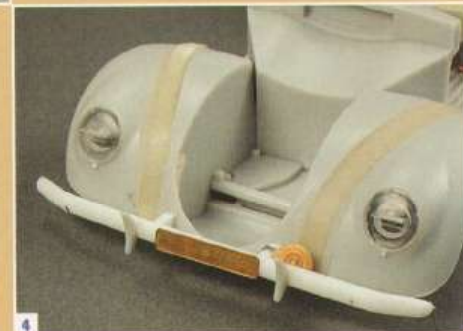
Czechmaster 35013 - Volkswagen Typ 87

Czechmaster 3008 - VW Beetle Typ 92SS Interior Set

Overview: The four-wheel drive Type 87 Kafer was developed in 1941 by mounting the Kafer body on a prototype 4WD Type 86 chassis. This chassis was intended to create a 4WD Kübelwagen, which never materialized. A second gearshift lever and larger transmission tunnel were installed, which necessitated that the handbrake lever be moved to the side of the tunnel. The axles, gears and transmission resembled that of the Schwimmwagen. A second gauge (for temperature) was installed in the dash. To accommodate off road or sand tires, metal strips were attached to the body to widen the fenders. The Type 87 featured a rollback canvas top, a single seat in the back and a platform in the right rear for mounting a radio. Type 87s were generally shipped to the Afrika Korps until the German withdrawal in late 1942. Production continued into 1944. No Type 87s were converted to the Type 92SS variant and this vehicle is often misidentified as a Type 98, another design that never reached production.

The model: The Czechmaster kit is, in essence, a 3-seat, canvas top Type 82E, which did not exist. Many corrections were necessary to produce the 4WD Type 87. The chassis from two kits were cut down, one providing the fenders and one the main frame. Plastic strip was used in between, then coated with Apoxie-Sculpt. (This is a mind-numbing task, but the results were worth it.) The wider body called for wider bumpers, made from Evergreen 25mm half round plastic strip formed over a candle. Two of the Czechmaster conversion sets for the Type 92SS were used to get the three resin seats, along with the extra dash gauge and the rolled top. Tamiya's Kübelwagen provided the pedals and horn, along with the second stick and handbrake for the reworked transmission tunnel. The air deflector above the windshield was made from burnished foil. The Eduard detail set for the Type 87 provided the map board, antenna brackets, radio box details and first aid box. Brake lines were added in the same style as the Kübelwagen models. Brass tubing was used for the tail pipe and the license plates are from Eduard. The reference photo shows large Schwimmwagen tires mounted on Kronprinz desert rims. Mating the kit hubs with VP Schwimmwagen tires created these; the VP hubs were carved out and replaced with hubs carved from Dragon desert tires.

1. The reworked transmission tunnel, featuring the handbrake lever and second gearshift from the Tamiya Kübelwagen, plus plenty of spare parts. 2. The resin rear seat came from CMK's resin update, mounted over an Eduard box. 3. New bumpers were devised from Evergreen Half Round plastic strip. Eduard's crank bracket and the brass tube tailpipe can also be seen. 4. The front fender featuring an Eduard license plate. The Czechmaster Beetle kits provide options for both covered and uncovered headlights. 5. The formula for creating the reference photo tires; Dragon desert tire hubs, VP resin Schwimmwagen tires, plus the hub from the kit. 6. Minimeca stainless steel wire was used for the antenna, mounted on Eduard brackets. 7. Resin seats from the CMK update set are a step up from those provided in the kit. 8. This perspective shows what is entailed in widening those fenders. 9. The deflector forward of the roof opening was made from burnished lead foil.





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KdF Kafer with Wood Gas Generator

KdF: 5, Kfz: 1

Type: 230

Kar or K: 1

Wartime Production: 90 converted for military use

Other Designations: mit Holzgas Anlage; Versuchswagen für heimische Kraftstoffe; mit Holzkohlengenerator

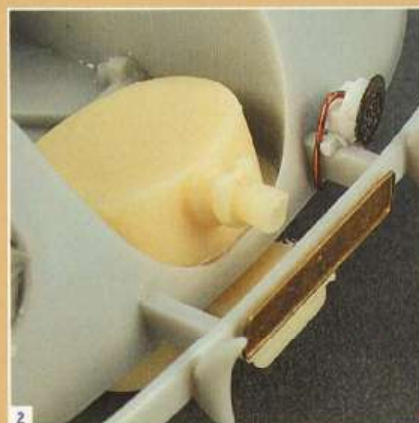


Primary Kit:

Czechmaster 35017 - VW Typ 230/Gas Generator

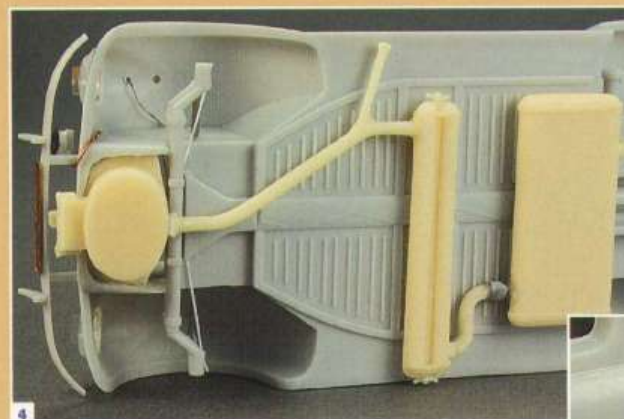
Overview: World War Two Germany was in a fuel crisis. With no domestic petroleum production, and only limited reserves in Rumania, fuel was a precious commodity. Any high-grade petroleum was reserved for military use, with virtually none available for civilian consumption. There was, however, plenty of domestic wood. As early as 1940, wood gas generators were created and installed in several designs on large numbers of civilian cars. The generators were normally fitted on the rear of the vehicle, but several Kafer styles were developed to enlarge the hood and encase the device. This version required that the hood be cut so it could open in front of the windshield, providing access to the fuel tank. The generator was a tricky process requiring patience and expertise. Wood coals were stoked in the bottom of the oven and fuel wood was placed on top. Gas vapor was trapped in the large nose unit, then ducted to the engine, which had to be started with low-grade petroleum. The starting and operating procedures had to be constantly monitored with a series of air and gas valves. It wasn't a smooth ride, but it worked. The firms of Imbert, Wisco and Zeuch manufactured civilian generators, but Porsche designed the units for the Kübelwagens and military Kafers. Holzgas-equipped vehicles normally had to carry their own supply of wood and coal and most Kafers had a roof rack for this purpose.

The model: The Czechmaster kit includes the Type 82E with resin conversion parts. Careful cutting with a Dremel tool produced the required modifications to the nose. The horn face, dash and acetate gauge came from the Eduard Type 87 detail set. Tie rods and brake lines were added in the same style as the Kübelwagen models. The kit wheels are weak in detail and were replaced with those from the Tamiya Type 82. The kit hub is smaller than the inside of the Tamiya wheel, so this gap was filled in with strip plastic. Plastic tubing was used for the tailpipe and license plates are from Elefant. The reference photo reflects a late war Kafer with no factory turn signals and in this case signals have been mounted to the front quarter panels. The Notek light on the left front fender was taken from the Tamiya Panzer IV accessory set. Two small knobs were added on the transmission tunnel, representing the choke on the driver side and the heating control on the passenger side. Punched foil rivets were added to the rear bumper and around the edge of the generator housing. The etched roof rack with its integral tire carrier is provided in the kit, but was reworked to bring the spare tire farther up on the roof.



1. Volkswagen purists are quick to acknowledge that the wood gas generator destroyed the classic lines of the Kafer. 2. Installation of the generator requires considerable reworking of the front end. The Czechmaster kit includes their standard Type 82 Beetle, so instructions are included for cutting out the nose. 3. Eduard's dash panel and acetate

gauge installed. 4. Resin parts are included to construct the ducting system that channeled the wood gas to the engine in the rear. Brake lines and headlight wiring are also visible here. 5. The resin generator installed on the hood, with punched rivets added to the edges. 6. The etched roof rack is included in the kit. This



was reworked to bring the spare tire farther up on the roof. Careful test fitting is required before the final installation, but this part is extremely well engineered. 7. Many Kafers featured Kübelwagen-style turn indicators mounted on the front quarter panels.



