

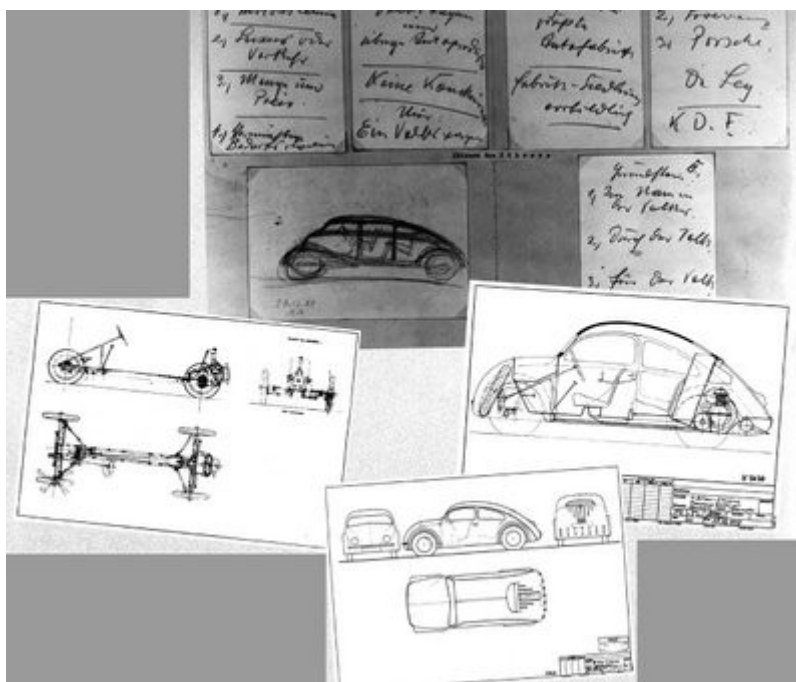
# The best visual Volkswagen Beetle History



*The very first Volkswagen type 1 ever produced.*

## Volkswagen Beetle

The Volkswagen Type 1 is an economy car produced by the German auto maker Volkswagen (VW) from 1938 until 2003. The car was originally known as Käfer, the German word for "beetle," from which the popular English nickname originates. It was not until August 1967 that the Volkswagen corporation itself began using the name Beetle in marketing materials in the US.



*1933-1934 VW design*

*drawings*

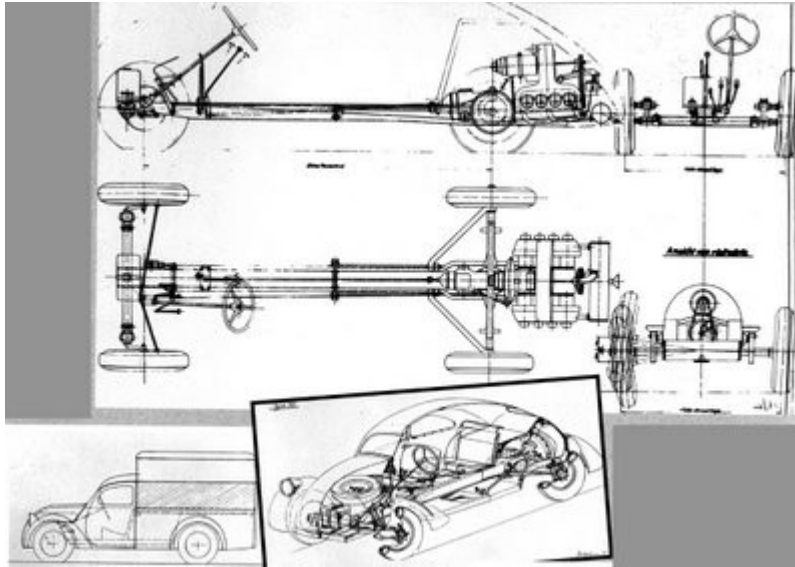
In Britain, VW never used the name Beetle officially. It had only been known as either the "Type I" or as the 1100, 1200, 1300, 1500, or 1600 which had been the names under which the vehicle was marketed in Europe; the numbers denoted the vehicle's approximate engine size in cubic centimetres. In 1998, many years after the original model had been dropped from the lineup in most of the world (production continued in Mexico until 2003), VW introduced the "New Beetle" (built on a Volkswagen Golf Mk4 platform) which bore a cosmetic resemblance to the original.



*1934 VW Porsche-NSU*

Its peculiar styling, underpowered motor, rough ride, and high noise levels compared to modern vehicles might have made it a market failure. In its day, though, it was more comfortable and powerful than most European small cars, and ultimately the longest-running and most-produced automobile of a single design (a record that will not take long to be beaten by its younger "cousin" the Type-2 Bus or Kombi, which is still in production in Brazil, with the same basic characteristics of the first series). It remained a top seller in the US, even as rear-wheel drive conventional subcompacts were refined, and eventually replaced by front-wheel drive models. The Beetle car was the benchmark for both generations of American compact cars such as the Chevrolet Corvair, and subcompact cars such as the Ford Pinto and Chevrolet Vega.

In the international poll for the award of the world's most influential car of the twentieth century the Beetle came fourth after the Ford Model T, the Mini, and the Citroën DS.



1934 VW Type 60 design

*drawings*

## History

### "The People's Car"

Starting in 1931, Ferdinand Porsche and Zündapp developed the "Auto für Jedermann" (car for everyman). This was the first time the name "Volkswagen" was used. Porsche already preferred the flat-4 cylinder engine, but Zündapp used a watercooled 5-cylinder radial engine. In 1932, three prototypes were running. All of those cars were lost during the war, the last in a bombing raid over Stuttgart in 1945.



*Advertisement from c.1939 says "Five marks a week you must put aside - If in your own car you want to ride!"*

In 1933, Adolf Hitler gave the order to Ferdinand Porsche to develop a "Volkswagen" (the name means "people's car" in German, in which it is pronounced ['folksvagen]), a basic vehicle that should be capable of transporting two adults and three children at a speed of 100 km/h (62 mph). The People's Car would be made available to citizens of the Third Reich through a savings scheme at 990 Reichsmark, about the price of a small motorcycle at the time (an average income being around 32RM/week).



*Porsche Typ 12, 1931/32 by Zündapp Nürnberg*

Erwin Komenda, Porsche's chief designer, was responsible for the design and styling of the car. Production only became financially viable, however, when it was backed by the Third Reich. War broke out before the large-scale production of the "People's Car" could commence, and manufacturing capacity was shifted to producing military vehicles. Production of civilian VW automobiles did not start until after the post-war occupation began.



*1937 VW Kdf wagen*

## **The military Beetle and production up to 1945**

Initially called the Porsche 60 by Ferdinand Porsche, it was officially named the KdF-Wagen when the project was launched. The name refers to Kraft durch Freude (Strength Through Joy), the official leisure organization in the Third Reich. It was later known as the Type 1, but became more commonly known as the Beetle after World War II.



*Volkswagen Käfer (Beetle)*

*Type 82*

Prototypes appeared from 1931 onwards; the first prototypes were produced by Zündapp in Nürnberg, Germany, the Porsche Type 12. Next prototype series (Porsche Typ 32) was built in 1933 by NSU, another motorcycle company.



*Photo by Michel Weber* 1937 VW Kdf wagen

*prototype replica.*

In October 1935 the first Type 60 was ready. 1935 the testing of the "V 3" started. The "VW30" Prototypes awaited further testing in 1937. All cars already had the distinctive round shape and the air-cooled, rear-mounted engine, except for the Type 12, Zündapp preferred a 5-cylinder radial watercooled engine.



*1937 VW Kdf wagen  
prototype replica.*

The factory had only produced a handful of cars by the time war started in 1939. Consequently, the first volume-produced versions of the car's chassis were military vehicles, the Kübelwagen Typ 82 (approx. 52,000 built) and the amphibious Schwimmwagen Typ 166 (approx. 14,000 built).



*1937 VW Kdf wagen  
prototype replica.*

The car was designed to be as simple as possible mechanically, so that there was less to go wrong; the aircooled 985 cc 25 horsepower (19 kW) motors proved especially effective in actions of the German Afrika Korps in Africa's desert heat. This was due to the built-in oil-cooler, and the superior performance of the flat-4 engine configuration. The innovative suspension design used compact torsion bars instead of coil or leaf springs.



1939 VW Kdf wagen advert

The city of Stadt des Kdf-Wagens was created in Lower Saxony in 1938 for the benefit of the workers at the factory.



1939 VW Kdf wagen cabriolet

A handful of civilian-specific Beetles were produced, primarily for the Nazi elite, in the years 1940–1945, but production figures were small. In response to gasoline shortages, a few wartime "Holzbrenner" Beetles were fueled by wood pyrolysis gas producers under the hood. In addition to the Kübelwagen, Schwimmwagen, and handful of others, the factory managed another wartime vehicle: the Kommandeurwagen; a Beetle body mounted on the Kübelwagen chassis.





*KdF-Wagen.*

*1939 VW Kubelwagen +*

A total of 669 Kommandeurwagens were produced until 1945, when all production was halted due to heavy damage sustained in Allied air raids on the factory. Much of the essential equipment had already been moved to underground bunkers for protection, allowing production to resume quickly once hostilities had ended.



*Beetle Type 87 Leichte Kavallerie.*

*1942 VolksWagen 4WD*

## **Conflict with Tatra**

Much of the Beetle's design was inspired by the advanced Tatra cars of Hans Ledwinka, particularly the T97. This car also had a streamlined body and a rear-mounted 4 cylinder horizontally-opposed air-cooled engine. The Tatra V570, a prototype for a smaller car, also shows quite a resemblance to the later Volkswagens. According to the book *Car Wars*, Adolf Hitler called the Tatra 'the kind of car I want for my highways'. In the same book, it is said that Ferdinand Porsche admitted 'to have looked over Ledwinka's shoulders' while designing the Volkswagen. Tatra launched a lawsuit, but this was stopped when Germany invaded Czechoslovakia. At the same time, Tatra was forced to stop producing the T97. The matter was re-opened after WW2 and in 1961 Volkswagen paid Tatra 3,000,000 Deutsche Marks in compensation. These damages meant that Volkswagen had little money for the development of new models and the Beetle's production life was necessarily

extended. Tatra ceased producing passenger cars in 1950, then resumed again in 1954 as a manufacturer of large luxurious cars and limousines under various Communist governments in Czechoslovakia. Even its last limousines showed similarities to the Beetle, as they were rear-engined and air cooled. Tatra is now a truck manufacturer.



1942 VolksWagen Beetle

*Holzbrenner with alternative fuel Wood Stove.*

## Post-war production and boom

In occupied Germany, the Allies followed the Morgenthau plan to remove all German war potential by complete or partial pastoralization. As part of this, in the Industrial plans for Germany, the rules for which industry Germany was to be allowed to retain were set out. German car production was set at a maximum of 10% of the 1936 car production numbers.



1942 VolksWagen Beetle

*Holzbrenner with alternative fuel Wood Stove.*

The Volkswagen factory at Wolfsburg was handed over by the Americans to British control in 1945; it was to be dismantled and shipped to Britain. Thankfully for Volkswagen, no British car manufacturer was interested in the factory; "the vehicle does not meet the fundamental technical requirement of a motor-car ... it is quite unattractive to the average buyer ... To build the car commercially would be a

completely uneconomic enterprise." The factory survived by producing cars for the British Army instead. Allied dismantling policy changed in late 1946 to mid 1947, although heavy industry continued to be dismantled until 1951. In March 1947 Herbert Hoover helped change policy by stating

"There is the illusion that the New Germany left after the annexations can be reduced to a 'pastoral state'. It cannot be done unless we exterminate or move 25,000,000 people out of it."



1945 VW Beetle assembly line.

The re-opening of the factory is largely accredited to British Army officer Major Ivan Hirst (1916–2000). Hirst was ordered to take control of the heavily bombed factory, which the Americans had captured. His first task was to remove an unexploded bomb which had fallen through the roof and lodged itself between some pieces of irreplaceable production equipment; if the bomb had exploded, the Beetle's fate would have been sealed. Hirst persuaded the British military to order 20,000 of the cars, and by 1946 the factory was producing 1,000 cars a month. During this period the car and its town changed their Nazi-era names to Volkswagen (people's car) and Wolfsburg, respectively. The first 1,785 Beetles were made in a factory near Wolfsburg in 1945.



1946 VW Beetle Cabriolet  
*Landau Prototype.*

Following the Army-led restart of production, Heinz Nordhoff was appointed director of the Volkswagen factory, under whom production increased dramatically over the following decade, with the one-millionth car coming off the assembly line by 1955. During this Post-war period, the Beetle had superior performance in its category with a top speed of 115 km/h (71 mph) and 0-100 km/h (0-60 mph) in 27.5 seconds on 7.6 l/100 km (31mpg) for the standard 25 kilowatts (34 hp) engine. This was far superior to the Citroën 2CV and Morris Minor, and even competitive with more modern small cars like the Mini of the 1960s and later.



*1946 VW Beetle Cabriolet*

*Prototype.*

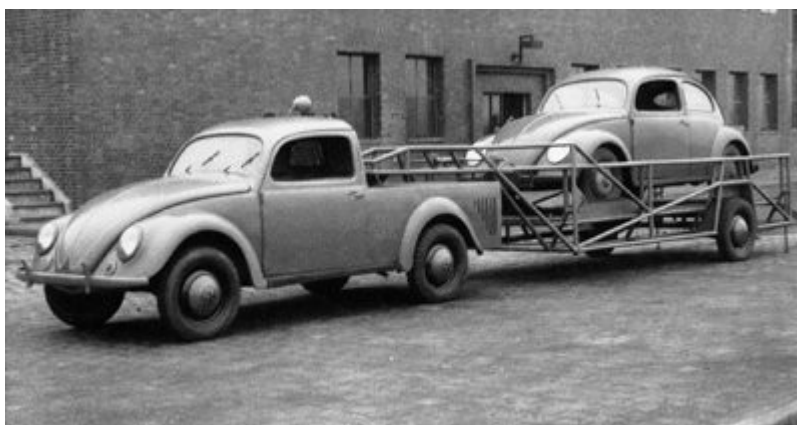
The engine fired up immediately without a choke. It had tolerable road-handling and was economical to maintain. Although a small car, the engine has great elasticity and gave the feeling of better output than its small nominal size. However, the opinion of people in the United States was not as flattering due to the characteristic differences between the American car market and European car market at the time. Henry Ford II once described the car as 'A little box'.



*1946 VW Beetle Cabriolet*

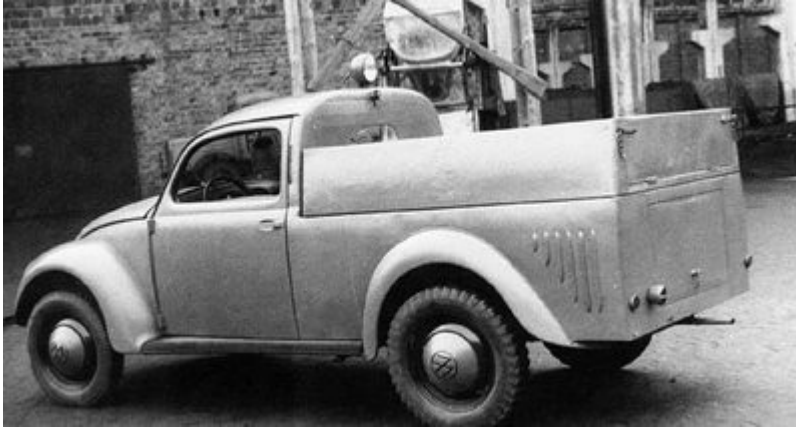
*Prototype.*

During the 1950s, the car was modified progressively: the obvious visual changes mostly concerned the windows. In March 1953, the small oval two piece rear window was replaced by a slightly larger single piece oval rear window. More dramatically, in August 1957 a much larger full width rear window replaced the oval one. 1964 saw the introduction of a widened cover for the light over the rear licence plate. Towards the end of 1964, the height of the side windows and windscreen was slightly increased giving the cabin a less pinched look: this coincided with the introduction of a very slightly curved windscreen, though the curve was barely noticeable. The same body appeared during 1966, with a 1300 cc engine in place of the 1200 cc engine: it was only in the 1973 model Super Beetle that the beetle acquired an obviously curved windscreen. The flat windshield remained on the standard beetle.



*1946 VW Beetle Pickup.*

During the 1960s and early 1970s, innovative advertising campaigns and a reputation for reliability and sturdiness helped production figures to surpass the levels of the previous record holder, the Ford Model T, when Beetle No. 15,007,034 was produced on 17 February 1972. By 1973, total production was over 16 million, and by 23 June 1992, there had been over 21 million produced.



*1946 VW Beetle Pickup.*

The Beetle is the world's best-selling car design; though more units of the Toyota Corolla brand have been sold, there have been many total redesigns of the Corolla, each amounting to a new car design with the same name.



*1946 VW Beetle Roadster*

*Roadster.*

## **Diesel**

In 1951, Volkswagen prototyped a 1.3 litre diesel engine. Volkswagen made only 2 air-cooled boxer diesel engines that were not turbocharged, and installed one engine in a Type 1 and another in a Type 2. Just for fun, the diesel Beetle was time tested on the Nürburgring and achieved 0-100 km/h (0-60 mph) in one minute.



*1946 VW Beetle Radclyffe  
Roadster Twin Carb Engine.*

## **Introduction to the UK**

The first Volkswagen Beetle in the UK was sold in June 1953, in Sheffield, by Jack Gilder. He had been fascinated by both the design and engineering of the Beetle when he came across one in Belgium during the war. He applied for the franchise as soon as the opportunity presented itself and became Volkswagen's representation in the North of England.



*1946 VW Beetle Test Car.*

## **VW Beetle 1967**

The Volkswagen Beetle underwent significant changes for the 1967 model. While the car appeared similar to earlier models, much of the drivetrain was noticeably upgraded. Some of the changes to the Beetle included a bigger engine for the second year in a row. Horsepower had been increased to 37 kilowatts (50 hp) the previous year, and for 1967 it was increased even more, to 40 kilowatts (54 hp).



*1946 VW Beetle in red.*

On US models, the output of the electrical generator was increased from 180 to 360 watts, and upgraded from a 6-volt to a 12-volt system. The clutch disc also increased in size, and changes were made to the flywheel, braking system, and rear axle. New standard equipment included two-speed windscreen wipers, reversing lights, a driver's armrest on the door, locking buttons on the doors, sealed-beam headlights, and a driver's side exterior mirror.



*1948 VW hebmuller 18a.*

In February 1967, inventor Don P. Dixon of San Antonio, Texas filed and was ultimately granted a patent for the first air conditioning unit specifically designed for the Beetle, which were soon offered by US dealerships.





1949 VW Hebmuller Beetle

*Cabriolet Type-14A Advert.*

The 1967 model weighed 840 kg (1852 lb), which was a typical weight for a European car at this time. Top speed was 130 km/h (81 mph).



1949 VW Hebmuller Beetle

*Cabriolet Type-14A.*

## **The Super Beetle and final evolution**

In 1971, while production of the "standard" Beetle continued, a Type 1 variant called the Super Beetle, produced from model year 1971 to 1979 (1302s from 1971 to 1972, and 1303s from 1973 onwards), offered MacPherson strut front suspension, which required a significant redesign of the front end. This resulted not only in a better turning radius (despite having a 20 mm (3/4 in) longer wheelbase), but because of the replacement of the bulky dual parallel torsion bar beams which had intruded upward into a large area within the trunk, and the stretched "nose" of the vehicle which permitted the relocation of the spare tire from a near vertical to a low horizontal position, this opened up approximately double the usable luggage space in the front compartment. Air pressure was used from the spare tire to pressurize the windshield washer canister, as an electric pump was not used to deploy windshield washer fluid

for windshield cleaning.



*1949 Split window VW*

*Beetle*

1972 Super Beetles had a slightly larger rear window, larger front brakes, and four rows of vents (vice two rows previously) on the engine deck lid. The tail lights now incorporated reversing lights. The "four spoke" steering wheel and steering column were re-engineered to the "energy absorbing" design for better crash safety. A socket for the VW Dealer Diagnosis was fitted inside the engine compartment.



*1949 VW dash and interior.*

In 1973, the introduction of a more aerodynamically curved windscreen pushed it forward and away from the passengers, purportedly due to US Department of Transportation safety requirements. This allowed for a redesigned, "padded" dashboard (all pre-73 Beetles had virtually no horizontal dash area). A 2-speed heater fan, higher rear mudguards, and larger tail lights (nicknamed 'elephant's feet') were added. The changes to the heater/windshield wiper housing and curved windshield

resulted in slight redesign of the front hood, making the 1971 and 1972 Super Beetle hoods unique.



1950 VW-Hebmuller Beetle

*Roadster.*

For 1974 the previous flat steel bumper mounting brackets were replaced with tubular "self restoring energy absorbing" attachments, effectively shock absorbers for the bumpers. The steering knuckle and consequently the lower attach point of the strut was redesigned to improve handling and stability in the event of a tire blowout. This makes the struts from pre-74 Supers not interchangeable with 1974-79 makes.



1950 VW Beetle Assembly

*Line.*

1975 brought the replacement of carburetors with Air Flow Control (AFC) Fuel Injection on U. S. and Canadian Beetles, a derivative of the more complex Bosch fuel injection system used in the Volkswagen Type III. The fuel injected engine also received a new muffler and the option of an upstream catalytic converter required on some models (e.g. California), necessitating a bulge in the rear apron sheet metal directly under the rear bumper, and replacing the distinctive dual "pea shooter" pipes with a single offset tailpipe, all of which make the fuel injected models easy to identify at a glance. Other changes were rack and pinion steering vs. the traditional worm and roller gearbox, and a larger license plate lamp housing below the engine lid. The front turn indicators were moved from the top of the fenders into the bumper

bars on European models, a portend of the "Euro look" style years later by Beetle restorers.



*VW Standard, 1950*

In 1976, the hard top Super Beetle and 1300 were discontinued (though convertibles remained Super Beetles through 1979) and replaced with an 'improved' standard Beetle with 1600 cc engine, IRS rear suspension, front disc brakes, blinkers in the front bumpers, elephant's foot tail lights and rubber inserts in the bumper bars. The "Auto-stick" transmission was dropped. 1976-on Super Beetles saw no significant engineering changes, only a few cosmetic touches and new paint options, including the "Champagne Edition" models (white on white was one example) to the final 1979 "Epiloge Edition" black on black, in salute to the first beetles ever produced from 1930s.



*1951 VW Beetle*

## **The Beetle Cabriolet**

The Beetle Cabriolet began production in 1949 by Karmann in Osnabrück. It was in 1948 when Wilhelm Karmann bought a VW Beetle limousine and converted it into a

four-seated convertible. After its successful presentation at VW in Wolfsburg, series production started in 1949. After a number of stylistic and technical alterations made to the Karmann Cabriolet (corresponding to the many changes VW made to the Beetle throughout its history), the last of 331,847 cabriolets came off the conveyor belt on 10 January 1980.



*1952 VW Hebmüller Beetle*

*Type-18A Polizei Cabriolet.*

## **Decline and fall**

Though extremely successful in the 1960s, the Beetle was faced with stiff competition from more modern designs. The Japanese had refined rear-wheel-drive, water-cooled, front-engine small cars to where they sold well in the North American market, and Americans introduced their own similarly sized rear-wheel-drive Ford Pinto, Chevrolet Vega, and AMC Gremlin in the 1970s. The superminis in Europe adopted even more efficient transverse-engine front-wheel-drive layouts, and sales began dropping off in the mid 1970s. There had been several unsuccessful attempts to replace the Beetle throughout the 1960s; the Type 3, Type 4, and the NSU-based K70 were all failures. The over-reliance on the Beetle meant that Volkswagen was in financial crisis by 1974. It needed German government funding to produce the Beetle's replacement. Only when production lines at Wolfsburg switched to the new watercooled, front-engined, front-wheel drive Golf designed by Giorgetto Giugiaro in 1974, (sold in North America as the "Rabbit") did Volkswagen produce a car as successful as the Beetle. The Golf would be periodically redesigned over its lifetime with only a few components carried over between models, while the Beetle used only minor refinements of its original design.



*1961 Beetle in Seattle with sunroof in restored condition... Headlights have clear covers.*

The Golf did not kill Beetle production, which continued in smaller numbers at other German factories until 19 January 1978, when mainstream production shifted to Brazil and Mexico, markets where low operating cost was more important. It is important to note that the Beetle Cabriolet was still produced for the North American market in Germany until 10 January 1980. The last Beetle was produced in Puebla, Mexico, in mid-2003. The final batch of 3,000 Beetles were sold as 2004 models and badged as the Última Edición, with whitewall tires, a host of previously-discontinued chrome trim, and the choice of two special paint colors taken from the New Beetle. Production in Brazil ended in 1986, then restarted in 1993 and continued until 1996. Volkswagen sold Beetle sedans in the United States until August 1977 (the Beetle convertible a.k.a. Cabriolet was sold until January 1980) and in Europe until 1985, with private companies continuing to import cars produced in Mexico even after production of the beetle had ended.



*1961 VW Beetle rear view. Narrow licence plate light cover, wide rear window, simple tail lens, bumper over-ride guards.*

The Beetle outlasted most other automobiles which had copied the rear air-cooled engine layout such as those by Subaru, Fiat, Renault, General Motors and Tatra's limousines, which ended production in 1999. Porsche's sport coupes which were originally based on Volkswagen parts and platforms continue to use the classic rear engine layout (but water-cooled and moved forwards) in the Porsche 911 series, which remains competitive in the 2000s.



*Violet 1966 beetle*

## **The Beetle in other countries**

Other countries produced Beetles from CKD (complete knockdown kits): Ireland, Thailand, Indonesia, South Africa, Australia, and Nigeria have assembled Beetles under license from VW.



*Beetle 1968 restored*

Beetles produced in Mexico and Brazil had several differences:

Brazilian production started in 1950 with parts imported from Germany. In 1959 the cars were 100% made in Brazil. The car was made until 1986. In 1993 production started again but only continued till 1996. The Brazilian version retained the 1958-1964 body style (Europe and U.S. version) with the thick door pillars and small quarter glass; this body style was also produced in Mexico until 1971. Around 1973, Brazilian Beetles were updated with the 1968+ sheetmetal, bumpers, and 4-lug rims; although the 5-stud rims and "bugeye" headlights were produced as late as 1972 (the base VW 1200 was similar to the 1964 European/U.S. 1200). Brazilian CKD kits (complete knock down) were shipped to Nigeria between 1975-1987 where Beetles were locally produced. The Brazilian-produced versions have been sold in neighboring South American nations bordering Brazil, including Argentina and Peru.



*Slightly modified interior of  
a 1969 Mexican VW Bug.*

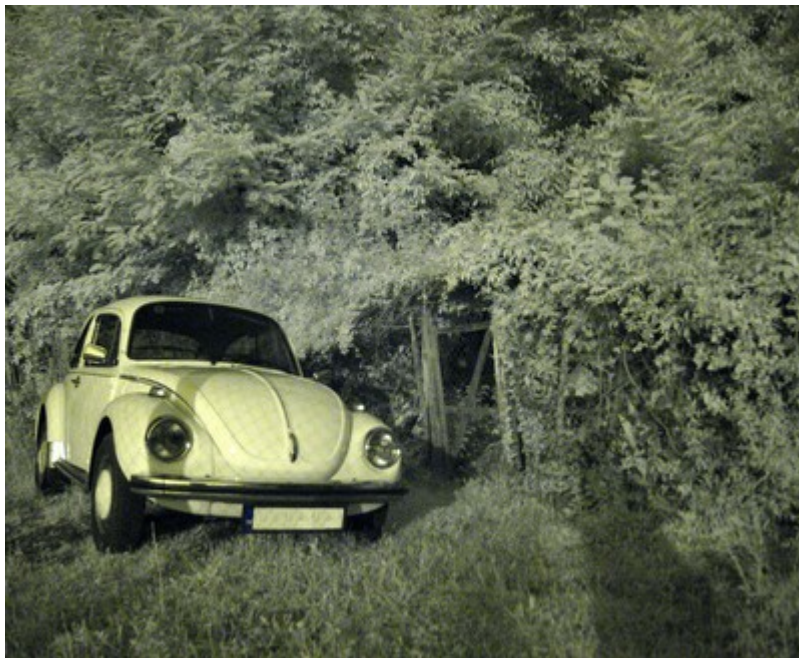
The Brazilian VW Bug have four different sized engines: 1200 cc, 1300 cc, 1500 cc, and, finally, 1600 cc. In the 1970s, Volkswagen made the SP-2 (derived from the VW Beetle chassis and powertrain) that used an air-cooled 1700 cc VW engine that was a regular 1600 cc engine with its engine displacement increased by the usage of large diameter cylinders. In Brazil the VW Bug never received electronic fuel injection (the air-cooled flat four engine from the Beetle received this, but to equip solely the VW Kombi later models), but, instead, retained single or double-single carburetion throughout its entire life, although the carburetion specs differs from engines of different years and specs.





*VW 1300 (1972) with an aftermarket rain shield over the engine hatch air vents.*

The production of the air-cooled engine finally ended in 2006, after more than 60 years. It was last used in the Brazilian version of the VW Bus, called the "Kombi", and was replaced by a 1.4-liter water-cooled engine with a front-mounted cooling system.



*A Volkswagen Beetle 1303S from Turkey, 1973, using an infrared filter.*

Beetles produced in Mexico (since 1964) have the larger windshield, rear window, door and quarter glass between 1971-2003; and the rear window from the 1965-71 German built models was used on the Mexican models from 1971 to 1985, when it was replaced with the larger rear window used on 1972 and later German built Beetles. This version, after the mid-1970s, saw little change with the incorporation of electronic ignition in 1988, an anti-theft alarm system in 1990, a catalytic converter in 1991, as well as electronic fuel injection, hydraulic valve lifters, and a spin-on oil filter in 1993. The front turn signals were located in the bumper instead of the Beetle's traditional placement on top of the front fenders from the mid 1970s on, as they had

been on German Beetles sold in Europe of the same time period.



*VW Beetle modified in 70s*

*California Look style*

Independent importers continued to supply several major countries, including Germany, France, and the UK until the end of production in 2003. Devoted fans of the car even discovered a way to circumvent United States safety regulations by placing more recently manufactured Mexican Beetles on the floorpans of earlier, US-registered cars. The Mexican Beetle (along with its Brazilian counterpart) was on the US DOT's (Department of Transportation) hot list of gray market imports after 1978 as the vehicle did not meet safety regulations. A U.S. citizen who drives a Mexican Beetle across the US-Mexico border into the US is likely to end up with the vehicle seized by the US government.



*1980s-era VW Beetle with*

*Mexican plates*

In the Southwest United States (Arizona, California, New Mexico, Texas), Mexican Beetles (and some Brazilian T2c Transporters) are a fairly common sight since Mexican nationals can legally operate the vehicle in the United States, provided the

cars remain registered in Mexico.



The end of production in Mexico can be attributed primarily to Mexican political measures: the Beetles no longer met emissions standards for Mexico City, in which the ubiquitous Beetles were used as taxicabs; and the government outlawed their use as taxicabs because of rising crime rates, requiring only four-door vehicles be used. In addition, Volkswagen (now Germany's largest automaker) has been attempting to cultivate a more upscale, premium brand image, and the humble Beetle, with its US\$7000 base price, clashed with this identity, as seen in the Touareg and Phaeton luxury vehicles. Finally, consumers had begun showing a preference for more modern cars such as the Volkswagen Pointer and Volkswagen Lupo.



## **Beetles In Australia**

Official importation of the Volkswagen Beetle into Australia began in 1953 with local assembly operations commencing the following year. Volkswagen Australia was formed in 1957 and by 1960 locally produced panels were being used for the first

time. Australian content had reached almost 95% by 1967 however declining sales saw the company revert to using imported components the following year. In 1976 Volkswagen ceased Australian assembly operations, their factory in Clayton, Victoria was sold to Nissan Australia and all Volkswagens were once again fully imported.



Many Australian or "Australasian" Beetles had accessories or modifications made for the Australian road.



0072848 VOLKSWAGEN FACTORY, 1938.  
Credit: ullstein bild / The Granger Collection, New York

There was also an Australian-built vehicle based on the Type 1 known as the Volkswagen Country Buggy.



## Beetle customization

The Beetle is popular with customizers throughout the world, not only because it is cheap and easy to work on, but because its iconic looks can be personalised and the flat four motor is so tunable. Its very ubiquity makes even subtle changes noticeable.



*1952\_VW\_Franz Papier.*

## Exterior

There are many popular Beetle styles, from a 'Cal Looker' to a Rat rod. They vary between themselves, but are very similar in many ways. Also, the California Look has changed during the 30+ years of its lifespan. The most typical way to customise the exterior is to change the wheels and lower the suspension of the car. The favorite wheels are period-style EMPI 5- or 8-spokes, Speedwell BRMs, or Porsche factory rims like Fuchs from the classic 911. One of the original California Look modifications is to replace or remove the bumpers and trim, either to give a cleaner look or to reduce the curb weight; if bumpers are removed, pushbars are common. The stock bumpers are usually chromed or polished, sometimes painted or powder coated. There are many clubs dedicated to 'Cal Look', including the DKP ('Der

Kleiner Panzers', or in English, 'The little Tanks') in the USA, which was one of the first clubs dedicated to true 'Cal Look' cars. There are also currently many big 'Cal Look' VW clubs based in Europe, including the DAS (Das Autobahn Scrapers) in Belgium, the DFL (Der Fieser Luftkühlers) in Germany and the JG54 Grünherz (Greenhearts) in the UK.



*VW Beetle VM 1303 (1973),*

*from Madrid*

For a 'Resto Cal' look, a roof rack and similar accessories can be added. There are many other aftermarket parts that can be added to the Beetle, including wing mirrors, chrome wipers, stone guards, mud flaps, and badges. Rear light and front indicator lenses can also be changed.



*VW 1303 Cabriolet, 1978*

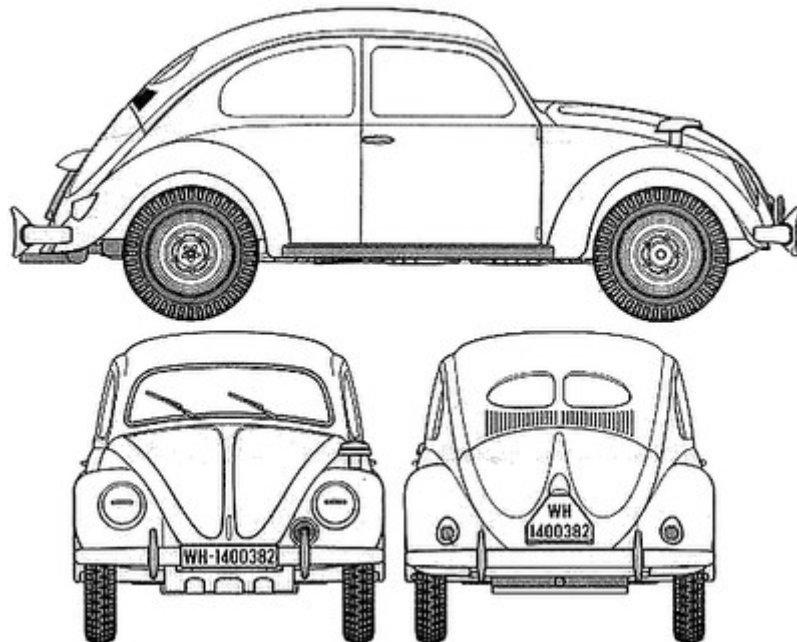
For a more custom look, smoothing and shaving the body (removing trim and other parts) is done, including door handles, badges and driprails, and replacing taillights and front indicators with smaller, simpler units. Frenching (tunnelling) headlights, frequent in non-VW customs and rods, is not common, but dramatic lowering is, and unusual hood and trunk hinging are commonplace. Another exterior modification that is seen occasionally is for the roof to be chopped and lowered just like other non beetle hot rods and customs, giving a meaner, lower and sleeker appearance.



*1990s-era VW Beetle (seen  
in the Houston, TX area)*

## Interior

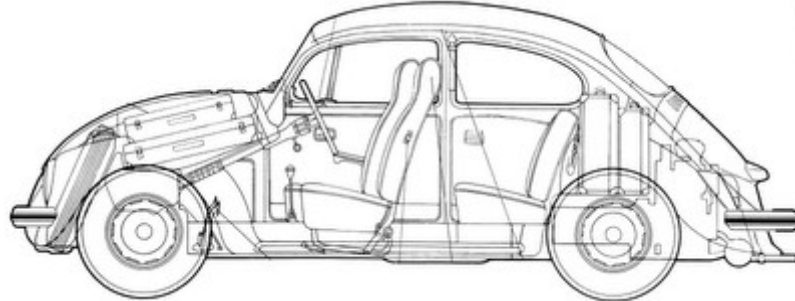
Many Beetle owners try to keep their Beetle interior stock. Others will fit a sound system, which usually consists of a head unit and possibly some speakers and a subwoofer (usually mounted in the front of the car). Aftermarket steering wheels can be added along with auxiliary gauges. For a true race look, the interior can be stripped and a full roll cage installed, along with bucket seats and race harnesses.



## KitCars

The VW Type 1 chassis, being easily separated from its original body without

removal of engine, transmission, or suspension, has provided the basis for countless custom re-bodyings, usually of fiberglass and usually replicating other, less humble vehicles. Mercedes, MG and Porsche replicas are among the popular choices. These "kit cars", although derided by many for their lack of authenticity, provide to their owners a much cheaper, often more-reliable means of enjoying a dream vehicle.



## Power

Because most parts of the flat-4 engine other than the crankcase are bolted on, they are easily exchanged with larger or more high-performance items. The standard VW engine has been modified from 1600 cc (the largest factory-produced Type 1 engine) to configurations well over 2400 cc using larger piston/cylinder kits, turbochargers, and other performance-enhancing parts. A variety of other powerplants, including the VW Type 4 (also used in the 914) 2-liter flat four, Chevy Corvair and Porsche 911 flat sixes have been used. Even the turbocharged flat 4s from Subaru or Alfa Romeo have been used as well. Kits for installing Rover V8 engines have also been available.

These variants tend to be mated to the stronger Type 2 (Bus, Combi) transmission.

Dual carb setups are very common on Beetles (especially the 1600 cc dual port engine) as well as EFI. Also a wide range of exhaust systems are available. 4-into-1 headers are very popular, and are often used with a stinger, glasspack, or more modern "quiet pack" mufflers. The world record for fastest and quickest four cylinder 1/4 mile drag vehicle is held by a type 1 based engine built and maintained by vwparadise of San Marcos California. Its official run is 6.60 @ 203.94 MPH quarter-mile although unofficially the quickest & fastest has been a 6.53 at 209.98 MPH.





## **Beetles in motorsport**

### **Drag racing**

The Beetle is widely used in drag racing; its rearward (RR) weight distribution keeps the weight over the rear wheels maximizing grip off the starting line. The car's weight is reduced for a full competition drag beetle, further improving the grip and also the power to weight ratio. Combined with the beetle's RR layout, wheelies can be achieved easily, but time "in the air" worsens 1/4 mile time due to drag. To prevent this, "wheelie bars" are added.



## Formula Vee

The Beetle is also used as the basis for the Formula Vee open-wheel racing category —specifically, the front suspension crossmember assembly (the shock absorber mounts are sometimes removed, depending on regulations in the class), and the engine and transaxle assembly (usually the earlier swing-axle type, not the later double-jointed axle). The beetle components are used because of their availability, low cost and durability. The front suspension geometry and rear suspension geometry (almost always used with a z-bar on the rear) lend the cars a benign handling character, ideal for beginners.



## **Uniroyal Fun Cup**

VW Beetle style bodies are fitted to space frame racing chassis and are used in the Uniroyal Fun Cup, which includes the longest continuous motor-race in the world, the 25 Hours of Spa. It is an affordable entry-level series that gentleman drivers race.



## **Rally and Rallycross**

Especially the Austrian sole distributor Porsche Salzburg ( now Porsche Austria)

seriously entered the VW in local and European contests in the 60's and early '70s. Starting with the VW 1500 in the mid '60s the peak of their racing performance was achieved with the VW 1302S and VW 1303S ( known as the Salzburg Rally Beetle) from '71 to '73. The vehicles were entered in such famous races as TAP(Portugal),

Austrian Alpine, Elba,Acropolis etc. Drivers were top performers such as Tony Fall(GB), Guenter Janger(AUT),Harry Källström(S),Achim Warmbold(D), Franz Wurz(A)etc. The engines were maxed out 1600's delivering 125 hp (93 kW) later on mated to a Porsche 914 5-speed. Victories were achieved in '73 on Elba for overall and class, Acropolis for class ( 5th overall), Austrian championship '72, '73 January Rallye for overall and class. Rally of 1000 minutes for overall 2nd (1st in class) The fuel crisis along with the arrival of the Golf(Rabbit) put an end to the unofficially by VW supported rally days in '74. All vehicles either used for training or actual racing were sold off to privatiers and keep racing with noticeable results until the early '80s.



## **Trans Am**

Beetles were used in Trans-Am in the two liter class from 1966-67 and again in 1972.



*2000 VW New Beetle*

## **New Beetle**

At the 1994 North American International Auto Show, Volkswagen unveiled the J Mays-penned "Concept 1", a concept car with futuristic styling deliberately reminiscent of the original Beetle's rounded shape. Strong public reaction convinced the company to move the car into production, and in 1998, 20 years after the last original Beetle was sold in the United States, Volkswagen launched the New Beetle, designed by Mays and Freeman Thomas at the company's California design studio.



New Beetles are manufactured at VW's Puebla, Mexico assembly plant where the last line of factory-built air-cooled Beetles were removed from production.



The New Beetle, with its (water-cooled) engine at the front of the car driving the front

wheels, is related to the original only in name, general shape and some styling cues.



In an attempt to stem a trade in grey market imports into the UK, in 1998 VW made available a limited number of New Beetles to those who had signed up to a web campaign a few years earlier. These, officially the first New Beetles in the UK, were available in full UK spec (albeit only in left-hand drive), and started to arrive in the UK in April 1999. Right-hand drive versions arrived at the beginning of 2000, and have sold fairly well.



*The final original beetle*

*(No. 21,529,464)*

## **Phase-out of the original Beetle**

By 2003 Beetle annual production had fallen to 30,000 from a peak of 1.3 million in 1971. On 30 July 2003, the final original VW Beetle (No. 21,529,464) was produced at Puebla, Mexico, some 65 years after its original launch, and an unprecedented 58-year production run since 1945, the year VW recognizes as the first year of non-Nazi funded production. VW announced this step in June, citing decreasing demand. The

last car was immediately shipped off to the company's museum in Wolfsburg, Germany. In true Mexican fashion, a mariachi band serenaded the last car. There was also in Mexico an advertising campaign as a goodbye for the Beetle. For example, in one of the ads was a very small parking space on the street, and many big cars tried to park in it, but could not. After a while, a sign appears in that parking space saying: "Es increíble que un auto tan pequeño deje un vacío tan grande" (It is incredible that a car so small can leave such a large void). Another depicted the rear end of a 1954 Beetle (year in which Volkswagen first established in Mexico) in the left side of the ad, reading "Había una vez..." (Once upon a time...) and the last 2003 Beetle in the right side, reading "Fin" (The end). There were other ads with the same nostalgic tone.



*The millionth VW Beetle, all chrome parts are loaded with edged glass beads*

Engine: Fuel injected (Bosch Digifant) 4 Cyl horizontally opposed, 1584cc, 50hp, 98.1 Nm (72.3 lb-ft) @ 2200rpm, 3-way catalytic converter  
Rated fuel mileage: 32.5 US mpg  
Max cruising speed: 130kph (81mph)  
Brakes: front disc, rear drum  
Passengers: Five  
Tank: 40 L (10.57 gallons)  
Colors: Aquarius blue, Harvestmoon beige.



This engine has been used in [Gyrocopter](#) and is one of the best ever.

*VW Beetle engine, front view. With cooling casing and fan removed*

## **Alternative uses for VW Beetle engines**

The aircooled 4-cylinder horizontally opposed cylinder or "flat four" Beetle engines have been used for other purposes as well. Especially interesting is its use as an experimental aircraft engine. This type of Beetle engine deployment started in the sixties. A number of companies still produce aero engines that are VW Beetle engine derivatives: Limbach, Hapi, Revmaster and others. Kitplanes or plans, notably the Volksplane, owner-built experimental aircraft were specifically designed to utilise these engines.





*Volvo B18/B20 engine fitted to VW Beetle for racing.*

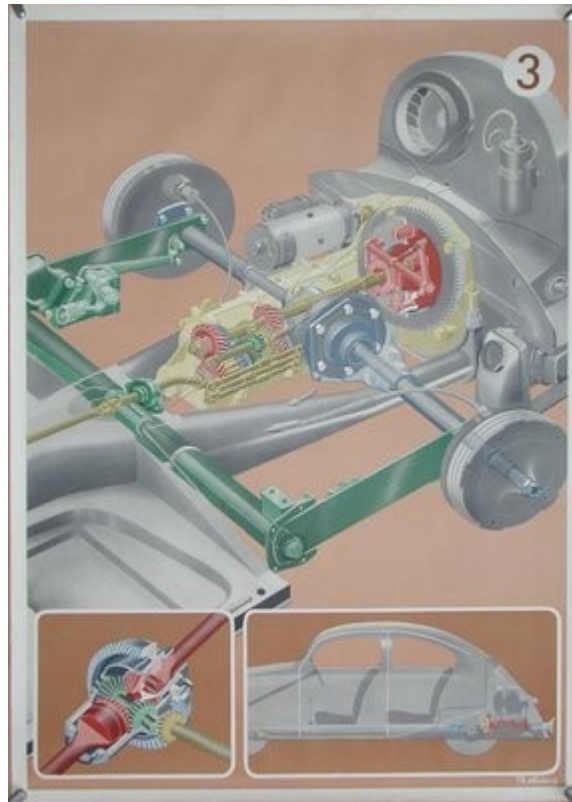
Up until 2001, Beetle engines were also used to run several of the ski lifts at the Thredbo ski resort in NSW, Australia.



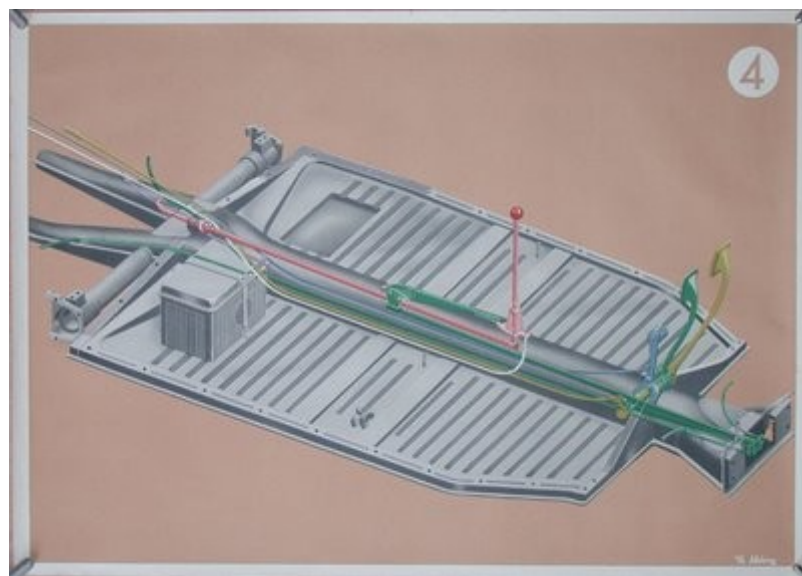
In Australian remote opal-mining communities, VW motors are used as air compressors for air-powered equipment. Two cylinders on one side are used as a motor while the other side of the head is modified to produce a flow of compressed air. The opal fields are very dry and hot, so an air-cooled compressor has an advantage over a liquid cooled one. The Dunn-Right Corporation of Anderson, SC offers a conversion kit.



In Europe, Beetle engines were used to power mobile water-pumps used by the fire-department. These pumps came in the 1950s, and some are still in use today. The rotating Mercedes-Benz emblem atop the Europa-Center in Berlin, Germany, is driven by a Beetle engine.[citation needed] The Zamboni HD ice resurfacing machine was powered by a LPG-powered Beetle engine. Zamboni was the world's leader in LPG conversions for the Beetle engine.



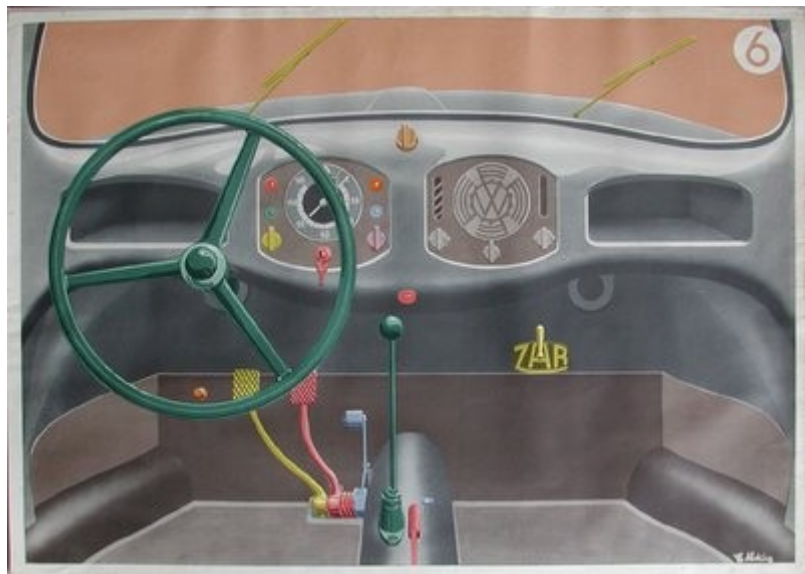
The Amazonas, a Brazilian-built motorcycle manufactured from 1978 to 1990, used a modified 1600 cc Beetle engine and gearbox. With a dry weight that could top 350 kg (800 pounds), the Amazonas was billed as the world's biggest (heaviest) production motorcycle. The VW transmission's reverse gear, rare in a two-wheeled vehicle, was a useful feature in such a heavy motorcycle. There was later the Kahena with similar construction.



Many three-wheel motorbikes, known as "trikes", have been built with Beetle engines. The engines as well as the manual transmission and some suspension components are also commonly used in construction of dune buggies and sandrails.

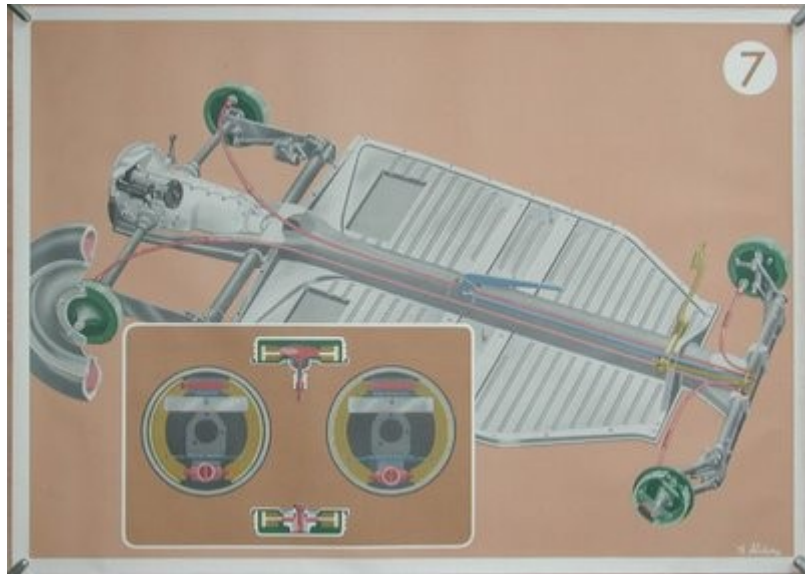


In the United States, many farmers are still using the AGCO Corporation "SPRA-COUCPE" for fertilizer and pesticide spraying, which were manufactured with VW aircooled engines from 1960s until the mid 1990's.



## Media references, pop culture

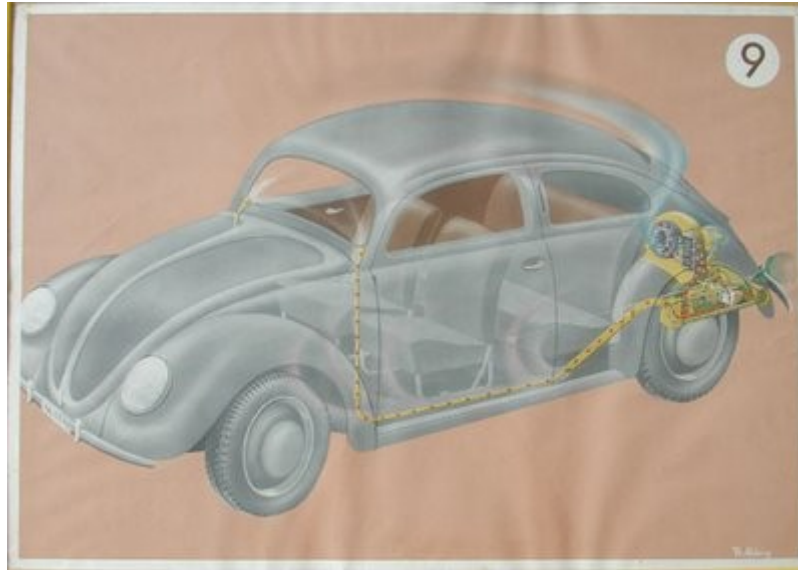
Like its contemporaries, the Mini and the Citroën 2CV, the Beetle has been regarded as something of a "cult" car since its 1960s association with the hippie movement and surf culture; and the obvious attributes of its unique and quirky design. (For example, the Beetle could float on water thanks to its sealed floor pans and overall tight construction.) Much like their Type 2 counterparts, Beetles were psychedelically painted and considered an ancestor of art cars. One of the logos used by the Houston Art Car Klub incorporated a Beetle with a cowboy hat.



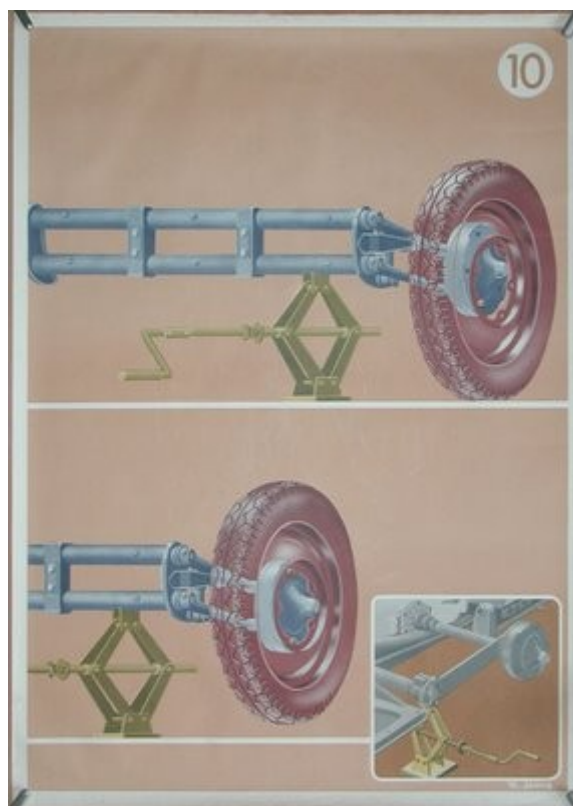
The Beetle has made numerous appearances in Hollywood films, most notably The Love Bug comedy series (Disney) from 1968 to 2005, starring as "Herbie", a pearl-white, fabric-sunroofed 1963 Beetle—racing number 53.



The Arrival (1996, science fiction) featured a few Mexican Beetles in the film (in one scene Charlie Sheen's character hides in the notoriously cramped trunk of a Beetle). In Woody Allen's Sleeper (1973), a Volkswagen is still able to start after having been abandoned in a cave for 200 years. ("They really built these things, didn't they?") In the comedy hit What's Up, Doc? (1972), Ryan O'Neal's and Barbra Streisand's characters, after a climactic car chase, end up floating in San Francisco Bay in their Beetle (see note on construction, previous paragraph).



In all but one instance of the cartoon show *The Real Ghostbusters* the Ghostbusters secretary Janine Melnitz owned a Beetle convertible. First seen as a red car in the second season episode "Beneath These Streets" it became pink in all future appearances. The Kenner made toy line for the show also included a licensed yellow Beetle convertible that transformed into a ghost. The Toy was called the "Highway Haunter" and seated 2 figures and came with a removable "engine" in the rear that had a ghost designed on the opposite side.



Also made famous is the Autobot Bumblebee, a canary yellow Beetle in the toy, comic and cartoon line *The Transformers*. The Throttlebot, Legends and Generation 2 toy line versions of Bumblebee also transformed from robot to VW Beetle, though the

Throttlebot-type was called Goldbug as it was a golden 1975 Super Beetle. (Note, too, that the G2 toy was painted anodized gold in color.) In other countries, 'Bumblebee the Beetle' has been released in various colors. For the 2007 Transformers film director Michael Bay decided that Bumblebee would not become a Beetle to avoid comparisons with Herbie, nevertheless the Beetle made a cameo appearance in the live-action movie next to the Autobot's new form the Chevrolet Camaro.




**If Ted Kennedy drove a Volkswagen, he'd be President today.**

By Ted Koppel and Anne Mearns

**It floats.**  
The way our body is built, we'd be surprised if it didn't.  
The sheet of flat steel that goes underneath every Volkswagen keeps out water, no matter how deep and cold and what nasty things that can eat away at the underside of a car. So it's water-tight at the bottom.

**And everybody knows it's easier to put the stop on a Volkswagen after you've rolled about the window a little. That's because it's aerodynamically designed on top.**  
If it were a boat, we could call it the Water Bug.  
But it's not a boat, it's a car.  
And, like Mary in Kismet, it's only

**99 and 44/100 percent pure.**  
So it won't sink if you're a little long.  
Poor Teddie.  
If he'd been smart enough to buy a Volkswagen, he never would have gotten into hot water.



*National Lampoon's fake Volkswagen Beetle print ad mocking Ted Kennedy's Chappaquiddick incident.*

During the early 1970s, the Beetle was used for advertisements where graphic art ads were decaled on newly-sold Volkswagens. A marketing consultant (Charlie E. Bird) in the Los Angeles area came up with the "Beetleboard" concept. Both standard and Super Beetles were used, until the original Beetle ceased production in Europe in 1978. This trend was resurrected after the New Beetle entered production.



*Flower Covered Beetle in  
the greenhouse of Montreal Botanical Gardens*

The Volkswagen Beetle has built a large fan base among off-road types in the form of the Baja Bug. Today, there are many online clubs and communities that keep Beetle aficionados on touch.



Even the sighting of a Volkswagen Beetle is cause for violent fun in the car-sighting game known as "Slug-Bug" or Punch Buggy.

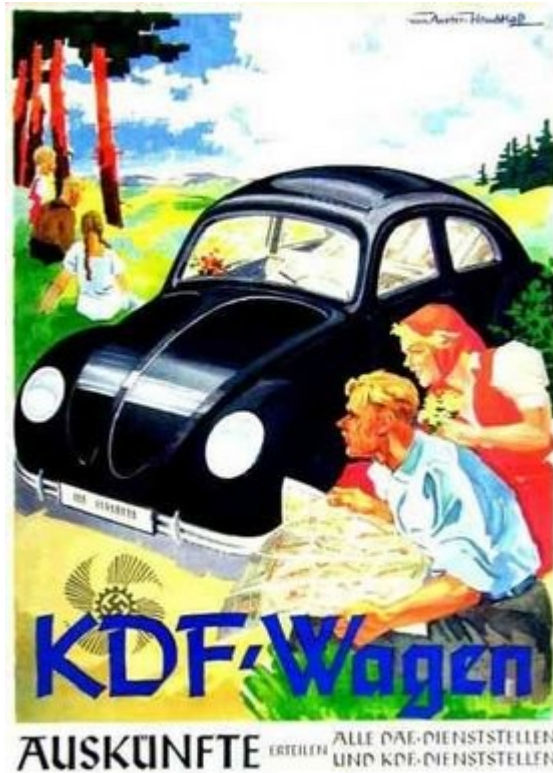




The Beetle is also one of the most commonly reproduced cars as a toy or model of all sizes. Hot Wheels and Matchbox produced many near stock and outrageously styled and customized drag racing and modified dune buggy beetles. Most manufacturers of toy cars have included a Beetle in their line at one time or another.



A Beetle appears on the cover of The Beatles' iconic album Abbey Road. The Volkswagen Beetle parked next to the zebra crossing belonged to one of the people living in the apartment across from the recording studio. After the album came out, the number plate was stolen repeatedly from the car. In 1986, the car was sold at an auction for \$23,000 and is currently on display at the Volkswagen museum in Wolfsburg, Germany.



In the book series "The Dresden Files" by Jim Butcher, the lead character Harry Dresden drives a pieced together VW Bug named the "Blue Beetle."



The famous "Think Small" Beetle ad campaign of the early 1960s is referenced in Mad Men as a potential threat to traditional advertising.



The Fremont Troll sculpture, under a bridge in Fremont, Washington has an actual VW Beetle clutched in his hand.



In the 1968 movie comedy *Bye Bye Braverman* and the 1964 novel upon which it is based, *To an Early Grave*, a cramped Beetle is used as the vehicle by a quartet of Jewish literary intellectuals traveling from Greenwich Village to Brooklyn to attend the funeral of a deceased member of their circle, and its Nazi heritage is repeatedly a subject of discussion.



In 2008, Volkswagen launched a series of commercials set to a talk show theme with a black Beetle named Max (voiced by Bronson Pinchot speaking with a German accent) as the show's host. Featured guests included supermodel Heidi Klum, basketball coach Bob Knight, Napster creator Shawn Fanning, former Space Shuttle commander Richard A. Searfoss and actor David Hasselhoff. Another one was used to introduce the Volkswagen Tiguan crossover vehicle.



The Beetle placed at #1 in the Top Gear Book of Crap Cars in 2004. Also, in the African Adventure Special, any presenter whose car broke down would have had to complete the trek across Botswana in a Beetle, reflecting their mutual loathing of the car.



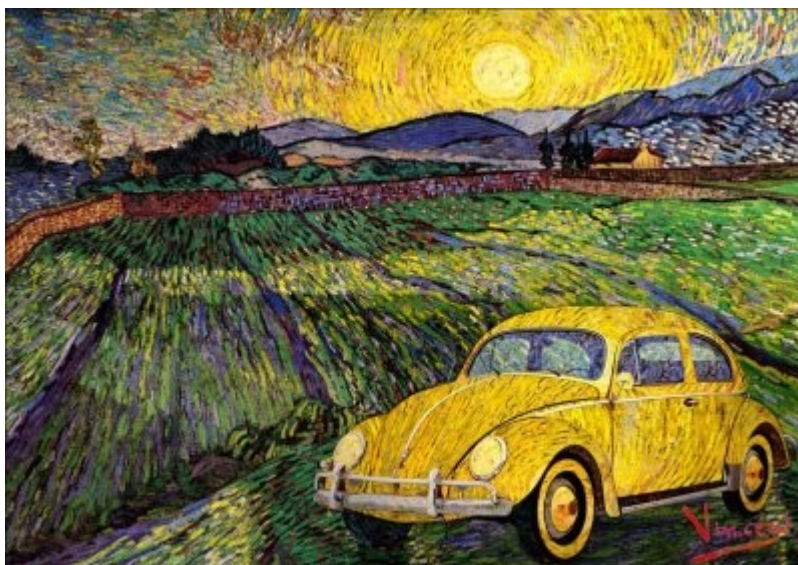
Beetles are sometimes called "Hitler's Revenge", due to how common it was, and how poorly it performed.



In the Japanese Tokusatsu franchise Super Sentai in the series Kyōryū Sentai Zyuranger and its American counterpart in the Power Rangers franchise Mighty Morphin Power Rangers featured a modified beetle. In Zyuranger it was a flying car with its name being unknown and was used by the Apelo Tribe. In Mighty Morphin Power Rangers season 1 it was called the RADBUG developed by Billy Cranston the Blue Ranger he and the other rangers would use the RADBUG when teleportation wasn't available to the Command Center.



In some Volkswagen commercials, they feature a black VW Beetle with a German accent.



*VW-Vincent, 1999,  
ARTwork by Heikenwaelder Hugo*

## **The many names of the Type 1**

The VW Beetle is known under many names in many countries, usually local renderings of the word "beetle". Among these are:

Käfer in Germany, Austria and Switzerland

Жук (Zhuk) (Bug) also in Russia (Former Soviet Union)  
     Volkswagen Sedan  
     Volkswagen Bug  
     Pichirilo in Ecuador  
     Pulga ("Flea") in Colombia  
     Coccinelle (ladybird) or Kever in Belgium  
 Vocho or Vochito in Mexico, Colombia, and Costa Rica (mostly a shortening of  
     "Volkswagen"; Vochito is affective diminutive)  
     Fusca in Brazil and Paraguay  
 Escarabajo in Argentina, Chile, Colombia, Paraguay, Peru, Spain, Uruguay, and  
     Venezuela  
     Peta ("turtle") in Bolivia  
     Folcika in Bosnia and Herzegovina  
     Sedan, then Fusca (popularly, Fusquinha that means Little Fusca) in Brazil  
 Костенурка (Kostenurka) (meaning turtle) or Бръмбар (Brambar) (meaning bug) in  
     Bulgaria  
 Bug, Beetle, Choupette or Coccinelle (ladybug) in Canada  
     Escarabat (means "beetle") in Catalan  
     Poncho in Chile  
     Jiǎ Ké Chóng (means "beetle") in China  
     Buba in Croatia  
     Brouk in Czech Republic  
     Chrobák in Slovak Republic  
     Boblen (the bubble) in Denmark  
     Cepillo ("Brush") in Dominican Republic  
 خنفسة - Pronounced khon-fesa (Beetle in Arabic) in Egypt  
     Põrnikas (means "beetle") in Estonia  
     Kuplavolkkari (kupla meaning bubble) in Finland  
     Coccinelle (ladybug) in France and Haiti  
     Byѓa in the Republic of Macedonia  
     Jin-guei che in Taiwan  
 Σκαθάρι (Scathari meaning beetle) or Σκαραβαίος (Scaraveos meaning Scarab) in  
     Greece  
     Cucaracha or Cucarachita (Cockroach or little cockroach) in Guatemala.  
     Bogár (meaning "bug") in Hungary.  
     Cucarachita (little cockroach) in Honduras.  
     Bjalla in Iceland  
     Kodok (frog) in Indonesia  
     Folex (قورباغه ای) meaning frog in Iran  
     Agroga عكروكة (froggy) in Iraq  
     חיפושית ("Hipushit," beetle) or Bimba in Israel  
 Maggiolino (may bug, cockhafer) or the unofficial name of Maggiolone (can indicate  
     Super Beetle) in Italy  
     Kabuto-mushi (means "drone beetle") in Japan  
     Kifuu in Kenya  
     Vabole in Latvia  
     Vabalas in Lithuania  
     Kura (turtle) in Malaysia  
     Hitlerslæden (The Hitler-sled) in Denmark  
 Sedán, Pulguita (little flea), Vocho or Vochito (sometimes spelled "bocho/bochito") in



México  
 Scoro-Scoro in Namibia  
 Bhyagute Car in Nepal literally: "Frog Car".  
 Kever in the Netherlands  
 Catch Fire in Nigeria  
 Boble (bubble) in Norway and Denmark  
 Foxi or Foxy in Pakistan  
 "Pendong", kotseng kuba (literally, 'hunchback car') / "pagong" (turtle), "Ba-o", turtle  
 in Cebuano dialect "Boks" in the Philippines  
 Garbus (literally, 'Hunchback') in Poland  
 Carocha in Portugal  
 Volky in Puerto Rico  
 Broasca / Broscuță (little frog/froggy) or Buburuza (ladybird) in Romania  
 Фольксваген-жук(Folksvagen-Zhuk) in Russia  
 Буба or Buba in Serbia  
 Volla - Pronounced Folla in South Africa  
 Chrobák in Slovakia  
 Hrošč in Slovenia  
 Volks / Beetle/ ibba (turtle) in Sri Lanka  
 Mgongo wa Chura” (Frog Back) or Mwendo wa Kobe” (Tortoise Speed) in Swahili  
 Bagge (short for skalbagge, beetle), bubbla (bubble) or folka in Sweden and Finland  
 Kobe in Tanzania  
 รถเต่า - Pronounced Rod Tao (turtle car) / ไฟล์คเต่า (Volk Tao) in Thai  
 Kaplumbağa or toşbağa (meaning turtle) or "vosvos" in Turkey.  
 con bo in Vietnam  
 Bhamba datya in Shona - Datya is frog in the vernacular from Zimbabwe  
 Poncho  
 Popoy  
 Pulga  
 Punchbug  
 Tortuga in Panama  
 Escarabajo, Bocho o Rana in Perú  
 Foxi in Pakistan

## Volkswagen Type 1

Manufacturer Volkswagen  
 Also called Volkswagen Beetle,  
 also see list of international names & nicknames for the Type 1  
 Production 1938–2003  
 21,529,464 built  
 (of which 15,444,858 in Germany, incl. 330,251 Cabriolets,[1]  
 and ≈ 3.350.000 in Brazil)  
 Assembly São Bernardo do Campo, Brazil  
 Puebla, Puebla, Mexico  
 Wolfsburg, Germany  
 Hanover, Germany  
 Emden, Germany  
 Ingolstadt, Germany

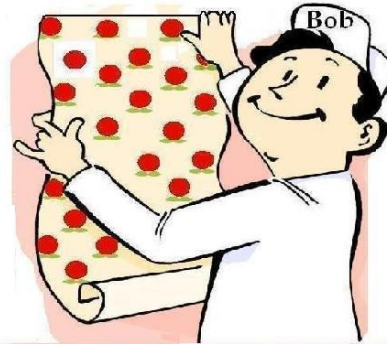
Osnabrück, Germany  
Lagos, Nigeria  
Uitenhage, South Africa  
Brussels, Belgium  
Jakarta, Indonesia,  
Sarajevo, Bosnia and Herzegovina, SFR Yugoslavia  
Manila, Philippines  
Melbourne, Australia  
Auckland, New Zealand  
Successor Volkswagen Golf  
Volkswagen Jetta (Sedan)  
Volkswagen New Beetle  
Class Subcompact  
Economy car  
Body style(s)  
2-door sedan  
2-door convertible  
Layout rear engine,  
rear-wheel drive  
Engine(s) 1.1 L H4  
1.2 L H4  
1.3 L H4  
1.5 L H4  
1.6 L H4  
Transmission(s) 4-speed manual transaxle,  
3-speed clutchless manual ("Autostick")

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