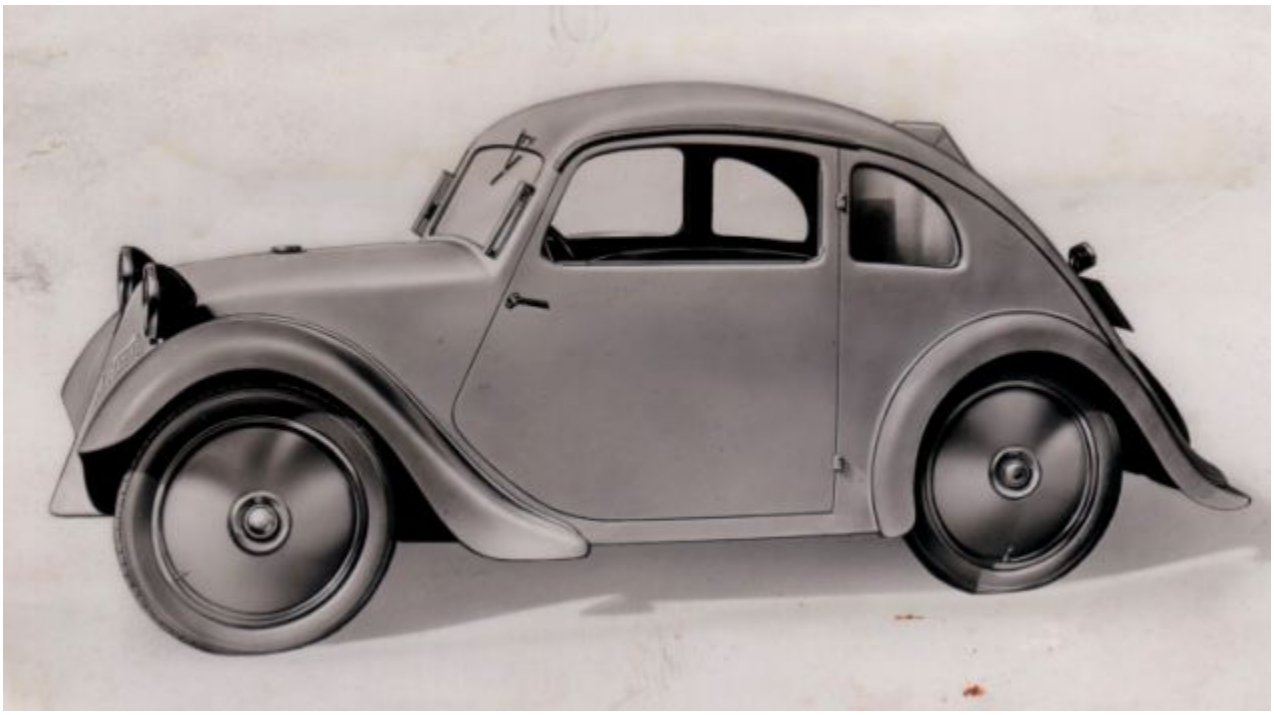
Adolf Hitler stole the idea for the iconic Volkswagen Beetle from a Jewish engineer and had him written out of history, a historian has sensationally claimed.

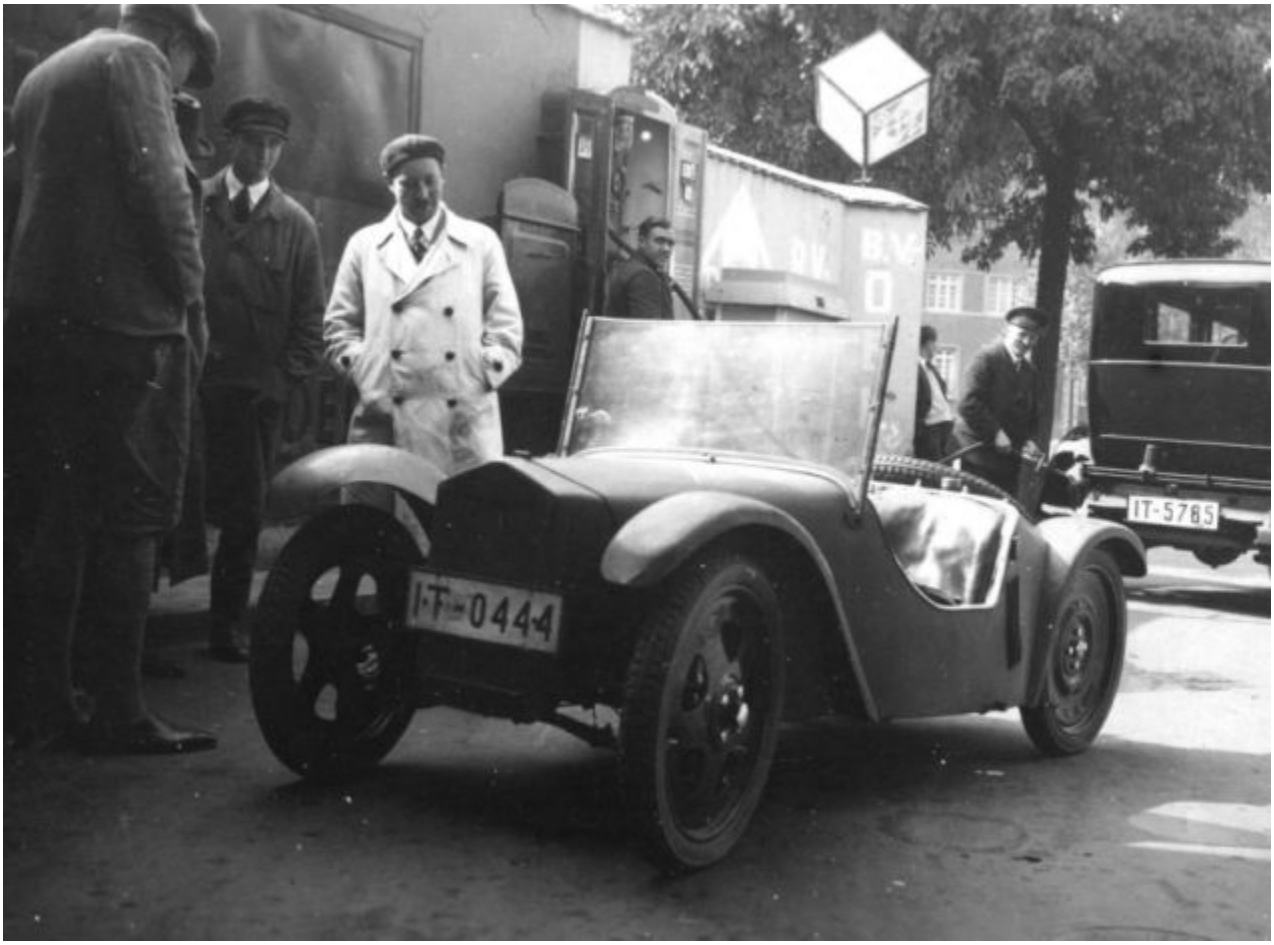
The Nazi leader has always been given credit for sketching out the early concept for the car in a meeting with car designer Ferdinand Porsche in 1935.

His idea for the Volkswagen - or 'people's car' - is seen by many as one of the only worthwhile achievements of the genocidal dictator.

Bug's life: Josef Ganz and his design, which Adolf Hitler saw at a car show in 1933, not long before he made his sketches for Ferdinand Porsche



Gorgeous curves: One of Ganz's early drawings, which have been left buried in the past for many years



'People's car': Mr Ganz with one of his designs that author Paul Schilperoord says led up to the development of the Volkswagen

But Paul Schilperoord's book, The Extraordinary Life of Josef Ganz - the Jewish engineer behind Hitler's Volkswagen, may change that forever.

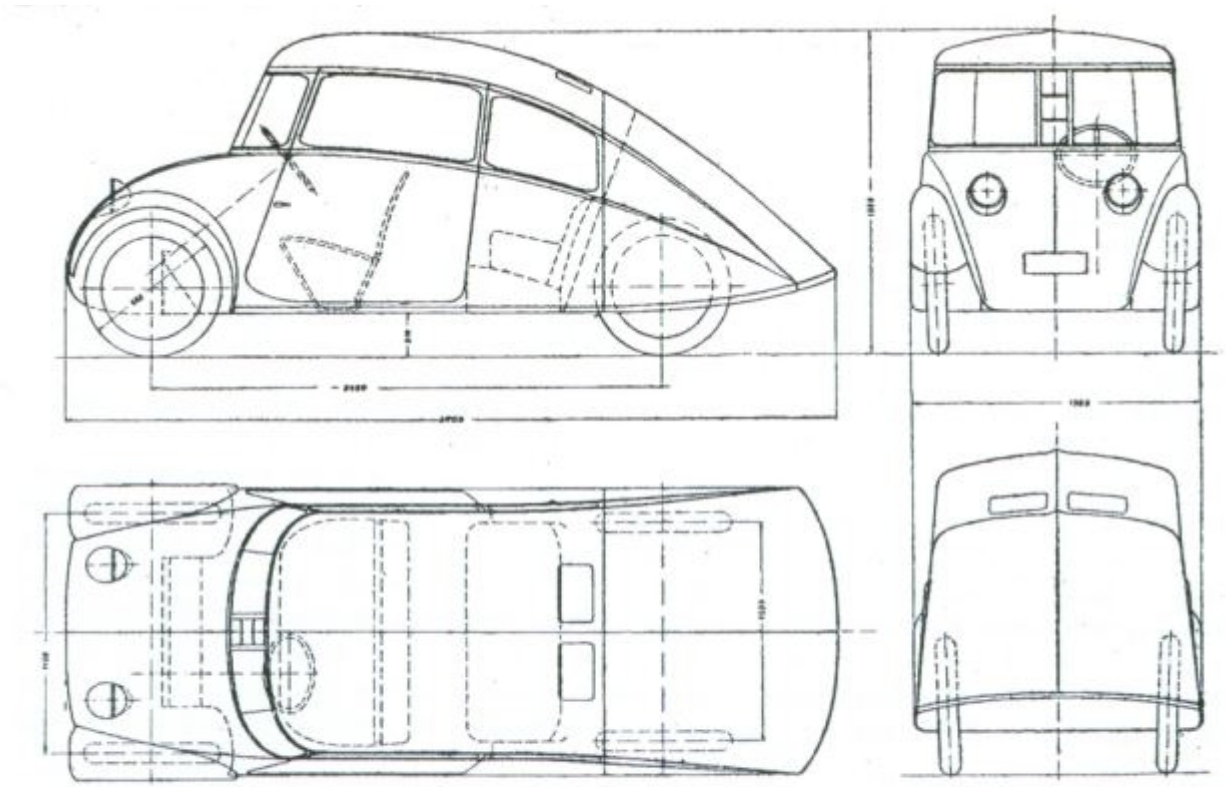
Hitler stipulated that the vehicle would have four seats, an air-cooled engine and cost no more than 1,000 Reichsmarks - the exact price that Mr Ganz said the car would cost.

Three years before Hitler described 'his idea' to Mr Porsche in a Berlin hotel, Mr Ganz was driving a car he had designed called the Maikaefer, or May Bug.

The lightweight, low-riding vehicle looked very like the Beetle that was later developed by Mr Porsche, who is still considered the foremost car designer in German history.

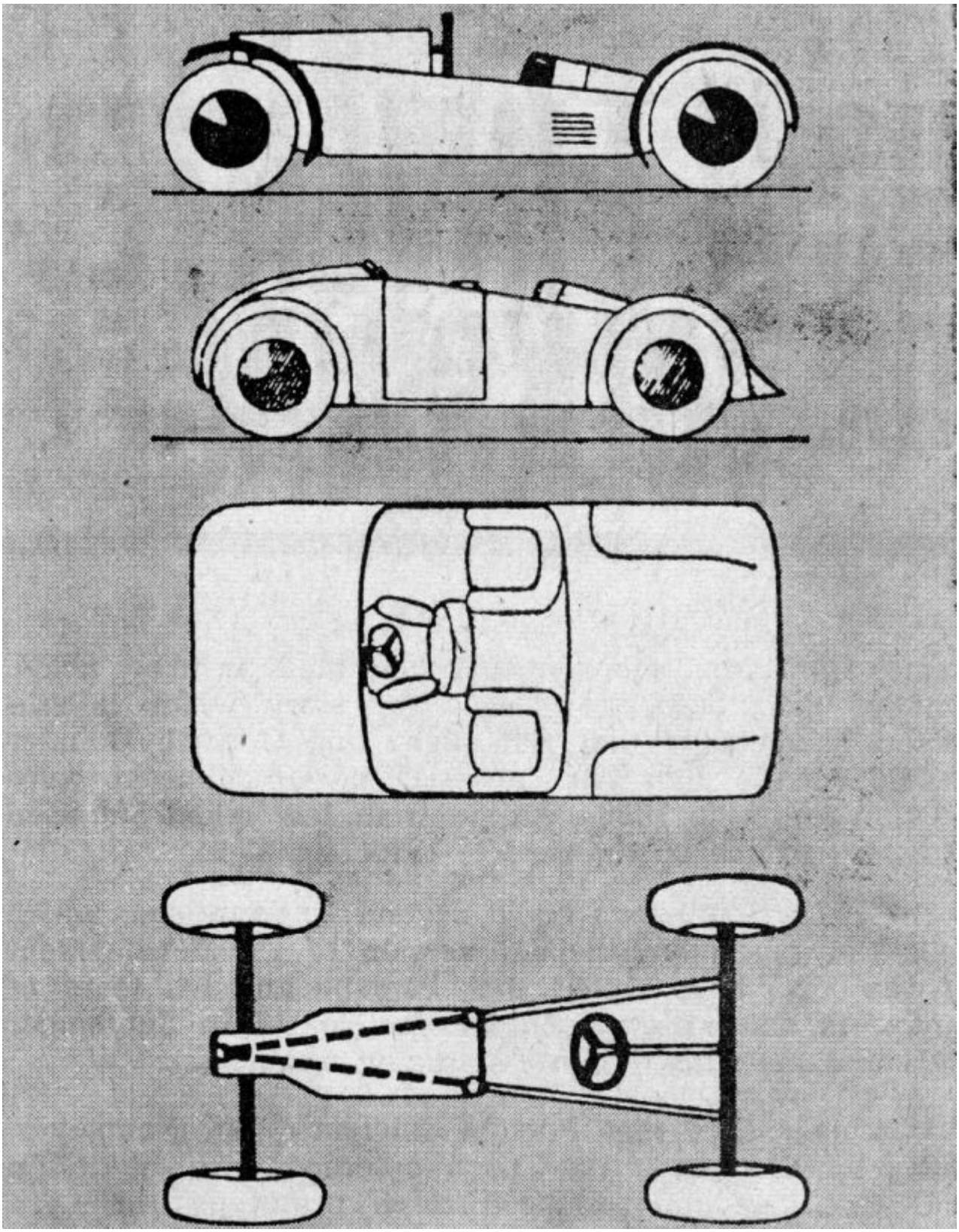
Jewish inventor Mr Ganz had been exploring the idea for an affordable car since 1928 and made many drawings of a Beetle-like vehicle.

Mr Ganz's car was fitted with a tubular backbone chassis, a rear-mounted engine and independent suspension with swing axles, and it has a streamlined Beetle-like body



Bauvorschlag für einen viersitzigen Gebrauchswagen von Dipl.-Ing. Ganz. Radstand 2450, Spur vorn 1150, hinten 1050, Gesamtlänge 3700, größte Breite 1385, Gesamthöhe 1550, Bodenfreiheit 210 mm. Jaray-Stromlinienkörper-Vollschwingachser mit querliegendem Heckmotor.

Lightweight and low-cost: Mr Ganz's earliest sketches for his idea came in 1923



'Inspiration': More of the evidence from Mr Ganz's extensive drawings, which were apparently written out of history

'Lies': Hitler's sketches for the Volkswagen were previously considered one of his rare successes

Hitler saw the May Bug at a car show in 1933 and made sketches.

Within days of the meeting between Hitler and Mr Porsche in 1935, Mr Ganz's car magazine was shut down and he was in trouble with the Gestapo.

The journalist and inventor left for Switzerland and died in Australia in 1967.

He is not mentioned in VW's first corporate history or in the Story of Volkswagen exhibition in Wolfsburg.

'So many things were the same in Hitler's sketches,' said Mr Schilperoord.

'Hitler definitely saw his prototype and I'm quite sure he must have read Ganz's magazine.

'It's quite clear Ganz had a big influence on how the idea was developed by the Nazis.

'Ferdinand Porsche drove Ganz's prototype in 1931. I found a lot of evidence that all similar rear engines in the 1930s can be traced back to Ganz.

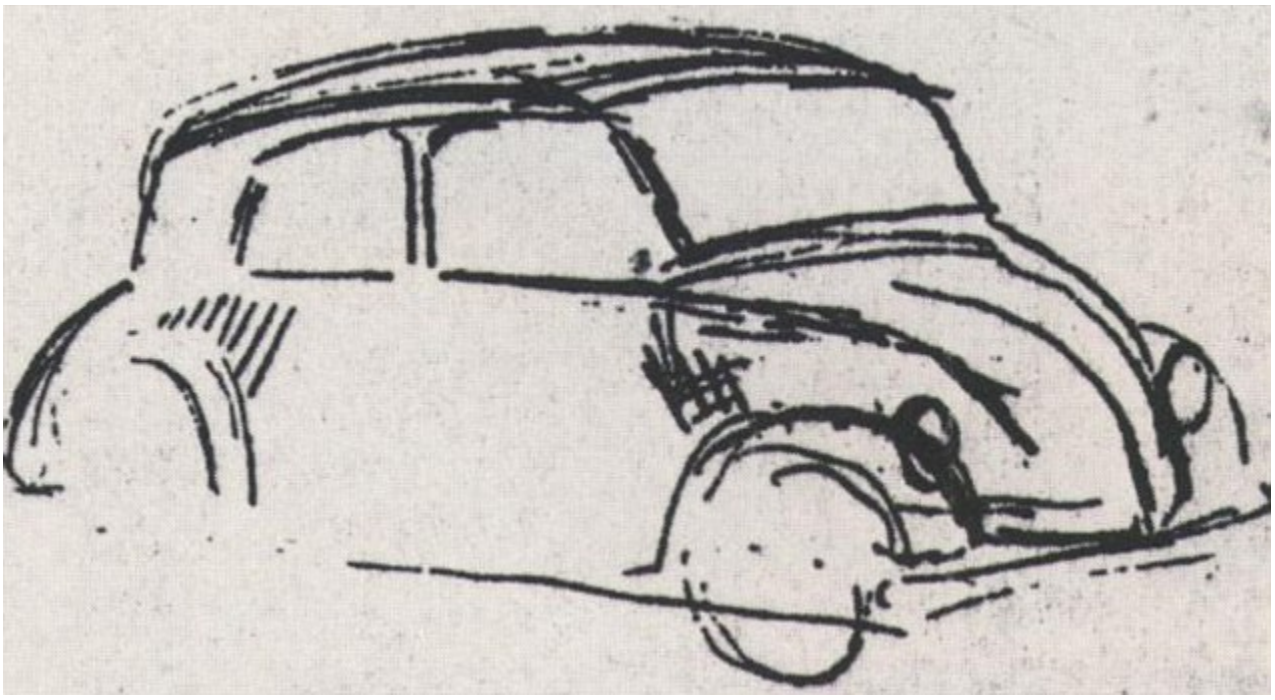
'Even the price was the same. Porsche said doing this for 1,000 Reichsmarks was not possible but was forced to make it happen by the Nazis.'

Meanwhile, Porsche's image is at stake, with some critics claiming he was a war criminal.

But although VW admits to producing military parts and using slave labour, Porsche was never tried for war crimes.

But VW puts the doubt over the car's origins down to the fact that many people at the time were talking about the concept of a small and low-priced car.

It claims that through Hitler, Mr Porsche found the funding that Mr Ganz lacked and was able to make something real out of what was a popular idea.



'Stolen': The sketch that Adolf Hitler was said to have given to Ferdinand Porsche in 1934

Popular design: Early Beetles in front of Berlin's Brandenburg Gate in 1938

Tatra V570

Manufacturer	TATRA, a. s.
Production	1931 initial prototype 1933 second prototype
Designer	Erich Ledwinka, Erich Übelacker, Hans Ledwinka, Paul Jaray
Class	Subcompact Economy car
Layout	RR layout
Engine	854 cc air-cooled boxer
Transmission	4-speed manual
Wheelbase	2,320 mm (91.3 in
Length	3,800 mm (149.6 in
Width	1,400 mm (55.1 in
Height	1,440 mm (56.7 in)
Successor	Tatra T97

The **Tatra V570** was a prototype early 1930s car developed by a team led by Hans Ledwinka and Paul Jaray. The aim the construction team was to develop a cheap people's car with an aerodynamic body. However the company's management decided that the revolutionary ideas introduced in the prototype should be introduced in large luxurious cars, and therefore the team abandoned the project of small cars in favour of the Tatra T77, the world's first serially produced aerodynamic car. The project of a small car was later continued and led to introduction of the Tatra T97. The second V570 was built in 1933, two years before the first Volkswagen, which bears a strong resemblance to the Tatra - was misappropriated by Hitler and Dr. Porsche in circumstances about which the German company remains intensely sensitive.

History

the early 1930s Tatra engineers, under the direction of Hans Ledwinka's son Erich and design engineer Erich Übelacker, started work on the development of a small people's car with rear-mounted engine in a backbone frame. Ledwinka believed that a rear-mounted engine RR layout would bring with it several big advantages – i.e. reducing the efficiency loss, noise and vibration of the driveshaft of the FR layout. No driveshaft meant there would be a flat floor with no need for central floor tunnel so that the passengers seating position would be lower and well forward of the rear axle, which would lead to a lower centre of gravity, more

favourable inter-axle weight distribution, and lower overall height. Mounting the engine in the rear would mean shortening the front part of the body to make a longer tail possible, which was consistent with the laws of aerodynamics. Also, engine noise would not disturb the passengers and would not be heard when driving at a speed of over 50 km/h. Air-cooling would be simpler and more effective at coping with the extremes of temperatures during the depths of winter and height of summer, than water cooling systems of the time, considering the climate in Central-Europe. As the company was considering starting to manufacturing aeroplanes, it got experience with laws of aerodynamics and decided to apply them for the prospective car.

Tatra V570 first prototype

Tatra V570 final design

Tatra V570 final design

First prototype

The initial proposal of the concept was presented by Tatra designer Erich Übelacker, who previously worked on the Tatra 57 car. However, at the time Übelacker's proposal was strongly criticised by Ledwinka. When he was facing the prospect of leaving the company, he finally presented the project with aerodynamic car body with a teardrop rear, which would be used to accommodate the whole drive-line of the car. Paul Jaray, the noted Zeppelin designer, produced a prototype aerodynamic body for the Tatra 57. Übelacker was a mercurial young engineer with great imagination and a lot of enthusiasm - however he lacked the perseverance needed to bring his ideas to fruition, and that is when Ledwinka stepped in to finish the work which might otherwise have come to nothing. The new design

was initially tried under a body which was not aerodynamic (the first V570 prototype).[1] Two pieces of the first V570 were made in 1931.

Second prototype

The work on the second prototype's aerodynamic body started. The second prototype was based on patents using streamlining principles of Paul Jaray. It was very similar to the first prototype, but this time it was equipped with an aerodynamic body.[5] The lower part was following the lines of an aeroplane wing, while the upper part was supposed to be like a second wing added on top. The rear mudguards were incorporated into the body and the rear wheels were covered. The remnants of front mudguards became part of the front bonnet. The running boards were abandoned and accessories (i.e. door handles) were recessed into the body. The floor was flat and enclosed. The front window was inclined at a 45° angle.

The positioning of the engine at the rear and its cooling became a difficult task, which is demonstrated by the large number of patents considering the airflow to the rear engine compartment which Tatra registered at the time. The initial prototype had an engine derived from the Tatra 57 two-seater.

The final design had four seats. The engine was a two-cylinder air-cooled boxer 854 cc with a power rating of 18 HP at 3500 RPM. The engine, gear-box and half-axles were of unitary construction. The simple two door body had a timber frame. Although it was made purely to test different design ideas, it had good handling and could easily reach speeds of 80 km/h.

The responsibility for final construction was given to Hans Ledwinka's son Erich.

Serial production was considered, however the Tatra 57's outstanding commercial success precluded it, the principles of V570 were later used in the Tatra T77 and Tatra T97 designs.

The car was later sold and its owner used it daily for 30 years, before it was handed back to Tatra factory museum.

Tatra 97

Manufacturer TATRA, a. s.

Production	• 1936–1939 • 508 produced
Designer	Hans Ledwinka, Erich Ledwinka, Erich Übelacker
Class	Mid-size car
Body style	limousine
Layout	RR layout
Engine	1.8L *Tatra 97* F4
Transmission	4-speed manual
Wheelbase	2,600 mm (102.4 in)
Length	4,270 mm (168.1 in)
Width	1,610 mm (63.4 in
Height	1,450 mm (57.1 in)
Curb weight	1,150 kg (2,540 lb)
Predecessor	Tatra V570 Tatra T77a
Successor	Tatra 600

Tatra 97 in Kopřivnice

The **Type 97** is a mid-class saloon car from Czechoslovak car-maker Tatra. It was produced for a short time in the pre-war period, from 1936 to 1939.

History

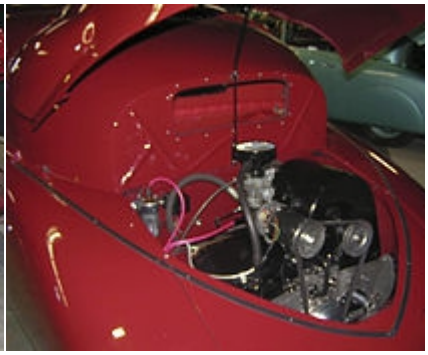
The T97 was designed in 1936 as a smaller alternative to the large T87. Instead of a V8, it was powered by a 1.8-litre flat-four engine. With engine power of 29.4 kilowatts (40.0 PS; 39.4 bhp) the car could achieve top speed of 130 kilometres per hour (81 mph). The design was also simplified, using just two headlights instead of three, a single-piece windscreen, and an overall smaller body. Production of the car was canceled after the Nazis annexed Czechoslovakia in 1938, possibly to avoid comparison with the KdF-Wagen (see below). At that time, 508 cars were built. In 1946, still two years before the Communist party coming to power, the Tatra was nationalized, as the company's owner and top-management were convicted of collaboration with the Nazis. Production of the prewar models resumed, but soon the T97

was dropped in favor of the larger and more modern Tatraplan - a name referring to the car's aircraft inspiration ('éroplan' means aeroplane in colloquial Czech) - which also replaced the T87.

Resemblance to KdF-Wagen / Volkswagen Beetle Both the streamlined design and the technical specifications, especially the air-cooled flat-four engine mounted in the back, give the T97 a striking resemblance to the KdF-Wagen of Volkswagen, which later became the Beetle. It is believed that Porsche used Tatra's designs since he was under huge pressure to design the Volkswagen quickly and cheaply. According to the books *Tatra - The Legacy of Hans Ledwinka* and *Car Wars*, Adolf Hitler said of the Tatra 'this is the car for my roads'.[2][3] Ferdinand Porsche later admitted 'to have looked over Ledwinka's shoulders' while designing the Volkswagen.
Tatra sued Porsche for damages, and Porsche was willing to settle. However, Hitler canceled this, saying he 'would settle the matter.' When Czechoslovakia was invaded by the Nazis, the production of the T97 was immediately halted, and the lawsuit dropped. After the war, Tatra reopened the lawsuit against Volkswagen. In 1965, the matter was settled when Volkswagen paid Tatra 1,000,000 Deutsche Mark in compensation.


T97 interior


T97 rear view


Air-cooled boxer-4 mounted in the rear.


Tatra 97 at the Tampa Bay Automobile Museum

Paul Jaray

Tatra T77 maquette by Paul Jaray, 1933

Paul Jaray (Hungarian: *Pál Járay*, 11 March 1889–22 September 1974) was an engineer, designer, and a pioneer of automotive streamlining.

Life

Jaray, of Hungarian-Jewish descent, was born in Vienna. Jaray studied at *Maschinenbauschule* in Vienna and worked at the Prague Technical University as an assistant to Professor Rudolf Dörfl.

Later he became the chief design engineer for the aircraft building firm Flugzeugbau in Friedrichshafen, designing seaplanes. From 1915 Jaray worked at Luftschiffbau Zeppelin, located in the same town, concentrating on streamlining airships. Jaray designed the airship LZ-120 *Bodensee* on which airships such as the LZ 127 Graf Zeppelin, the LZ 129 Hindenburg and the LZ-130 were later based. Further experiments in LZ's wind tunnel led to his establishment of streamlining principles for car designs. In 1923 he moved permanently to Switzerland, opening an office in Brunnen.

In 1927, Jaray founded the Stromlinien Karosserie Gesellschaft, which presented numerous designs for streamlined car body work. It issued licences to major vehicle manufacturers including Tatra Works in Kopřivnice, Czechoslovakia. Tatra was the only manufacturer that used Jaray's streamlining principles for their car production. Jaray designed his own cars starting with the 1923 Ley and followed on with designs for Chrysler, Mercedes-Benz, Maybach, Apollo, Dixi, Audi, Adler, Jawa, Ford, Steyr and others.

His own 1933 car was built on a Mercedes-Benz chassis with a body by Huber and Bruehwiler of Lucerne. Jaray was also interested in radio and television technology. In 1941 he worked for Farner AG in Grenchen on nosewheel undercarriage design. In 1944 he set up as an independent engineer working on wind-driven power station. He was an author of a large number of technical patents relating to streamlining, air compressors for railway, and devices for handling gases in silencers. Later he lectured at the Eidgenoessische Technische Hochschule (Swiss Federal Institute of Technology), Zurich.

Jaray died in 1974 in St. Gallen.

The Origins of Streamline Design in Cars


ρ Ley T6, 1922.

The interwar period was a time of changes throughout the world. The 1925 Paris exhibition, officially titled “Exposition Internationale des Arts Décoratifs et Industriels Modernes”, marked the starting point of the Art Deco movement. Influencing just about everything that had a design, the Art Deco revolution was first felt in Europe, but it rapidly caught on in the United States as well. Expressing mostly through visual and ornamental arts such as architecture and industrial design, it didn't pass long until it began to be found on cars also, but in another form: the Streamline Style.

From Art Deco to the Streamline Style

Unlike the Art-Deco movement, which was mostly concerned with upward movement and angular geometric shapes, the Streamline was more curved and organic. Both styles were preoccupied with the “movement” induced by the object they were representing, whether it was a static object, such as a building or a refrigerator, or whether it was moveable - such as an airplane, a train or, more importantly for our readers, a car.

Famous industrial designer Norman Bel Geddes wrote in 1932: “An object is streamlined when its exterior surface is so designed that upon passing through a fluid such as water or air the object creates the least disturbance in the fluid.”

The most important work in the study of aerodynamics in the beginning of the century was conducted by Hungarian-born engineer Paul Jaray, who first started by completely redesigning the now-famous Zeppelins from looking like a tube to the streamline shapes we know today. He was born in Vienna in 1889, and after studying mechanical engineering he moved to the town of Zeppelins and Maybachs, Friedrichshafen.

The first streamline cars

Since 1912, he was actively involved in aerodynamics in every shape or form, but beside the dirigibles, his most famous work consists of the revolution he brought to car design. His first working prototype was announced as early as 8 of September 1921 with the request for a patent he made at the Berlin office for inventions.


⌕ *Ley T6, during a test drive.*

“The lower part of the body has the form of a half streamline body and covers the chassis with the wheels, the engine compartment and the passenger compartment. The lower surface is even and runs parallel to the floor space. On this main part a substantially narrower streamline body is set, which is carried by a framework-like construction, which is developed on the chassis for its part,” is how Jaray's short description for the invention sounded.

A year later, after a cooperation with Alfred Ley from "Rud. Ley Maschinenfabrik A.-G.", the world's first aerodynamic car appeared: the Ley T6. Following Jaray's streamline principles, the car could reach speeds in excess of 100 km/h (62 mph) using a four-cylinder 1.5 liter engine with only 20 hp. It was calculated that if a “regular” bodywork had been used, the maximum speed wouldn't have passed the 70 or 75 km/h mark (40-45 mph).

After successful tests with the car, other manufacturers requested or even stole Paul Jaray's revolutionary streamline principles. Reputed car makers like BMW, Hanomag, DKW, Fiat, Hansa, OPEL, Steyr, Mercedes-Benz and Maybach Manufaktur had numerous prototypes or short series-produced models in the following decades. Companies like Chrysler, with their Airflow models, or Peugeot, with the 402, had to pay royalties to Jaray for using his idea in the design of their cars.

After starting his own design consulting company, Stromlinen Karosserie Ges. in Zurich, Paul Jaray started working with a a lot of manufacturers who wanted to use his revolutionary ideas. Sadly, apart from just a few aerodynamic vehicles produced by Maybach, the only series-production cars to utilize his teardrop shape following Jaray's full approval were the rear-engined Tatras from the 1930s.


⌕ *The Ley T6 with Ehepaar Sussmann, the wife of a business partner.*


⌕ *Chrysler test car using Jaray's aerodynamic principles.*


⌕ *Ley racing car from 1923.*

Practice makes perfect

Although he was the originator of the streamline design in automobiles, Paul Jaray's teardrop shape wasn't exactly a total revolution and maybe that is why it wasn't embraced by every manufacturer in the world. Apart from the obvious weirdness the aforementioned shape brought, one of the main disadvantages was the very long tail.

This drawback was completely resolved (in style, we might add) by Dr Wunibald Kamm, whose signature Kammback, or Kamm-tail is still used in some modern cars, like the Toyota Prius, or even the Chevrolet Corvette. The idea was that instead of a long sweeping line to the rear to form the teardrop shape, Kamm cut off the tail at an intermediate point, therefore gaining the benefits of the aerodynamic shape without the inherent size problem.

Now, over 80 years later, it is almost impossible to conceive the fact that for over three decades in the dawn of car production not even one manufacturer in the world had even thought about designing a model with an aerodynamic shape in mind. What else can we say? Goodbye flat windscreens, hello curved shapes!

Chrysler Airflow

Manufacturer	Chrysler
Production	1934–1937
Class	Full-size car
Body style	4-door sedan 2-door sedan
Layout	FR layout
Related	Chrysler Imperial Chrysler Royal DeSoto Airflow
Engine	299 cu in (4,900 cc) cast-iron-block 122 horsepower (91 kW) L-head inline 8-cylinder engine(1934[1]); 323.5 cu in (5,301 cc) cast-iron-block 130 horsepower (97 kW) 250 lb.ft.torque L-head inline 8-cylinder engine(1937)

Transmission	3-speed manual floor shift
Wheelbase	CW Airflow Custom Imperial: 146.5 in (3,721 mm) Airflow Eight: 123.5 in (3,137 mm) CV Airflow Imperial Eight: 128.0 in (3,251 mm) CX Airflow Custom Imperial 137.5 in (3,492 mm)
Successor	Chrysler Windsor

The **Chrysler Airflow** is a full-size car produced by Chrysler from 1934 to 1937. The Airflow was one of the first full-size American production car to use streamlining as a basis for building a sleeker automobile, one less susceptible to air resistance. Chrysler made a significant effort at a fundamental change in automotive design with the Chrysler Airflow, but it was ultimately a huge commercial failure.

Genesis of the Airflow project

The basis for the Chrysler Airflow was rooted in Chrysler Engineering's Carl Breer's curiosity about how forms affected their movement through the environment. According to Chrysler, Breer's quest was started while watching geese travel through the air in a "V" flight pattern. Another source lists Breer as watching military planes on their practice maneuvers, while still other sources attach the genesis of the project to Breer's interest in lighter-than-air airships and how their shapes helped them move through the atmosphere.

Front view of a restored '34 Airflow.

Side view of a '34 Airflow, doors open. Note rear suicide door.

Side view of a '34 Airflow showing open hood cooling vents.

Rear view of a '34 Airflow. Note spare tire mount.

Interior of a '34 Airflow.

Breer, along with fellow Chrysler engineers Fred Zeder and Owen Skelton, began a series of wind tunnel tests, with the cooperation of Orville Wright, to study which forms were the most efficient shape created by nature that could suit an automobile. Chrysler built a wind tunnel at the Highland Park site, and tested at least 50 scale models by April 1930. Their engineers found that then-current two-box automobile design was so aerodynamically inefficient, that it was actually more efficient turned around backwards. Applying what they had learned about shape, the engineers also began looking into ways that a car could be built, which also used monocoque (unibody) construction to both strengthen the construction (the strengthening was used in a publicity reel) of the car while reducing its overall drag, and thus increasing the power-to-drag ratio as the lighter, more streamlined body allowed air to flow around it instead of being caught through upright forms, such as radiator grilles, headlights and windshields.

Traditional automobiles of the day were the typical two-box design, with about 65% of the weight over the rear wheels. When loaded with passengers, the weight distribution tended to become further imbalanced, rising to 75% or more over the rear wheels, resulting in unsafe handling characteristics on slippery roads. Spring rates in the rear of traditional vehicles were, therefore, necessarily higher, and passengers were subjected to a harsher ride.

An innovative suspension system on the new Chrysler Airflow stemmed from the need for superior handling dynamics. The engine was moved forward over the front wheels compared with traditional automobiles of the time, and passengers were all moved forward so that rear seat passengers were seated within the wheelbase, rather than on top of the rear axle. The weight distribution had approximately 54% of the weight over the front wheels, which evened to near 50-50 with passengers, and resulted in more equal spring rates, better handling, and far superior ride quality.

The Airflow debuts

Prior to the Airflow's debut, Chrysler did a publicity stunt in which they reversed the axles and steering gear, which allowed the car to be driven "backwards" throughout Detroit. The stunt caused a near panic, but the marketing department felt that this would send a hint that Chrysler was planning something big. The car that emerged was like no other American production car to date.

The Airflow, which was heavily influenced by streamlining design movement, was sleek and low compared to other cars on American roads. The car's grille work cascaded forward and downward forming a waterfall look where other makes featured fairly upright radiators. Headlights were semi-flush to areas immediate to the grille. The front fenders enclosed the running surface of the tire tread. In the rear, Airflows encased the rear wheels through the use of fender skirts.

Instead of a flat panel of glass, the windshield comprised two sheets of glass that formed a raked "vee" both side to side, and top to bottom. Passengers were carried in a full steel body (at a time when automakers like General Motors, Ford and even Chrysler itself continued to use wood structural framing members in their car bodies) that rested between the wheels instead of upon them. The front seat was wider than in other cars and the rear seat was deeper. Overall, the car possessed a better power-to-weight ratio, and its structural integrity was stronger than other like models of the day.

The car was introduced months (in January, 1934) before it was put in production, and production peaked at only 6,212 units in May 1934 — very late in the year and barely enough to give every dealer a single Chrysler Airflow. The factory had not accounted for significant manufacturing challenges and expense due to the unusual new Airflow design, which required an unprecedented number and variety of welding techniques. The early Airflows arriving at dealerships suffered from significant problems, mostly the result of faulty manufacturing. According to Fred Breer, son of Chrysler Engineer Carl Breer, the first 2,000 to 3,000 Airflows to leave the factory had major defects, including engines breaking loose from their mountings at 80 mph (130 km/h).

1937 Airflow

Toyota AA, 1936. Influenced by the Chrysler Airflow via DeSoto Airflow.


Volvo PV 36 Carioca

Art

The Airflow was the inspiration for Claes Oldenburg's print/sculpture "Profile Airflow", featuring a lithograph of the car beneath a superimposed aquamarine resin relief. The initial resin in the initial printing faded to an olive green color and was thus recalled by Claes Oldenburg and Gemini G.E.L., the printmaking studio which fabricated "Profile Airflow".

"Profile Airflow" is especially significant because it revolutionized the idea of a print, expanding it to include serialized sculpture.

Lincoln-Zephyr

Manufacturer Lincoln (Ford)

Production 1936–1940

Class	Mid-size luxury car
Body style	4-door sedan 4-door convertible sedan 2-door sedan 2-door coupe 2-door convertible coupe
Related	Lincoln Continental
Engine	267 cu in (4.4 L) L-head 110 hp (82 kW) V12
Transmission	3-speed manual
Wheelbase	122–125 in (3,099–3,175 mm)
Length	202.5–210 in (5,144–5,334 mm)
Height	69 in (1,753 mm)
Successor	Lincoln H-series

The **Lincoln-Zephyr** is a marque that was used for the lower-priced line of mid-size luxury cars in the Lincoln line from 1936 until 1940. Lincoln-Zephyr and Mercury, introduced in 1939, bridged the wide gap between Ford's V-8 De Luxe line and the exclusive Lincoln K-series cars. This served a purpose similar to Cadillac's smaller LaSalle "companion car". The car was conceived by Edsel Ford and designed by Eugene Turenne Gregorie.

Overview

1937 Lincoln-Zephyr V-12 four-door sedan

Introduced on November 2, 1935, as a 1936 model, the Lincoln-Zephyr was extremely modern with a low raked windscreen, integrated fenders, and streamlined aerodynamic design, which influenced the name "zephyr", derived from the Greek word zephyrus, or the god of the west wind. It was one of the first successful streamlined cars after the Chrysler Airflow's market resistance. In fact, the Lincoln-Zephyr actually had a lower coefficient of drag than the Airflow, due in part to the prow-like front end on the Zephyr. The Lincoln-Zephyr succeeded in reigniting sales at Lincoln dealerships in the late 1930s, and from 1941 model year, all Lincolns were Zephyr-based[4] and the Lincoln-Zephyr marque was discontinued. Annual production for any year model was not large, but accounted for a large portion of the Lincoln brand's sales. In its first year, 15,000 were sold, accounting for 80% of Lincoln's total sales.

Production of all American cars halted in 1942 as the country entered World War II, with Lincoln producing the last Lincoln Zephyr on February 10. After the war, most makers restarted production of their prewar lines, and Lincoln was no exception. The Zephyr name, however, was no longer used after 1942, with the cars simply called Lincolns.

Gallery

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  Lincoln-Zephyr V-12 four-door sedan 1936

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  Lincoln-Zephyr V-12 coupe 1937

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  Lincoln-Zephyr V-12 four-door sedan 1938

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  Lincoln-Zephyr V-12 convertible coupe 1938

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  Lincoln-Zephyr V-12 convertible sedan 1938
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  Lincoln-Zephyr V-12 four-door sedan 1939
- 

  Lincoln-Zephyr V-12 convertible coupe 1939
- 

  Lincoln Zephyr club coupe 1942

GM Futurliner

Restored Futurliner #10 in 2007

Built By:	GMC Truck and Fisher Coach & Body.
Number built:	12
Built:	1939
Overhauled:	1953
Retired:	1956
Height:	11 feet 6 inches (3.5 meters)
Width:	7 feet 10 inches (2.4 meters)
Length:	32 feet 10 inches (10 meters)
Wheelbase:	20 feet 8 inches (6.3 meters)
Weight:	30,000 pounds (14 metric tons) (approx)
Powertrain(1940–1946):	4-cylinder diesel/manual transmission
Power Train (1953–1956):	GMC 302ci 6-cylinder /4-speed Hydramatic plus 2-speed manual gearbox
Top Speed:	40 mph (64 km/h) (1940-1946) 50 mph (80 km/h) (1953-1956)

The GM **Futurliners** were a group of custom vehicles, styled in the 1940s by Harley Earl for General Motors, and integral to the company's *Parade of Progress* — a North American traveling exhibition promoting future cars and technologies. Having earlier used eight custom *Streamliners* from 1936-1940, GM sponsored the *Parade of Progress* and the Futurliners from 1940 to 1941 and again from 1953 to 1956.

At 33 feet long, 8 feet wide, more than 11 feet tall, and weighing more than 12 tons, each Futurliner featured heavily stylized Art deco, streamlined bodywork, deep red side and white roof paint, large

articulated chrome side panels, a military-grade 302-cu.in. GMC straight-six gasoline engine and automatic transmission, whitewall tires and a prominent, high-mounted, centrally located driver command position with a panoramic windshield.

12 Futurliners were manufactured, with nine still known to exist as of 2007. In 2014, Futurliner #10 was nominated for inclusion in the National Historic Vehicle Register.

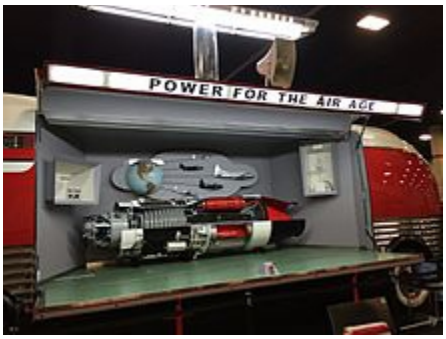
Parade of Progress

Originally manufactured for the 1939 New York World's Fair, the Futurliners were later featured in GM's *Parade of Progress*, a promotional caravan travelling a 150-stop route across the United States and Canada. The Futurliners, along with 32 support vehicles, were driven by 50 college graduates, who also staffed the exhibitions along the route.

Typically arranged at each stop around a large tent and an information kiosk, each Futurliner featured a self-contained stage as well as a prominent deployable light tower, and each vehicle featured a particular subject. The mobile exhibition covered such topics as jet engine technology, agriculture, traffic engineering, stereophonic sound, microwave ovens, television and other innovations

Futurliner number 10 on display with doors open

Front right of Futurliner #3 on display in Salt Lake City, UT



Futurliner #3 on display in Salt Lake City, UT


Cabin of Futurliner #3 on display in Salt Lake City, UT


Rear right Futurliner #3 on display in Salt Lake City, UT

Futurliner Bus #11 sold for a record US$4,000,000 (plus premium) to Arizona-based real estate developer Ron Pratte on January 21, 2006.

Pontiac Streamliner

Manufacturer	Pontiac (General Motors)
Production	1941-1951
Designer	Harley Earl
Class	Full-size
Body style	4-door sedan 2-door coupe 4-door station wagon
Layout	FR layout
Platform	B-body
Transmission	3-speed synchromesh manual

	4-speed Hydra-Matic
Predecessor	Pontiac Streamliner Torpedo
Successor	Pontiac Star Chief

The **Pontiac Streamliner** is a full-sized car that was produced by Pontiac from the 1942 to the 1951 model years.

Early History

1941 Pontiac Streamliner Torpedo Eight coupe (B-body)

Along with Oldsmobile, Pontiac had the distinction of having all three of General Motors' mainstream platforms in 1940, but this would last only one more year. In 1940 Pontiac introduced its first B-bodied car, the Deluxe Series 28 Eight. Also in 1940, Pontiac introduced the Torpedo on the C-body. The new C-body featured cutting-edge "torpedo" styling. Shoulder and hip room was over 5 in (127 mm) wider, running boards were eliminated and the exterior was streamlined and 2–3 in (51–76 mm) lower. When combined with a column mounted shift lever the cars offered true six passenger comfort. These changes had clearly been influenced by the Cadillac Sixty Special.

In 1941 the A-body and B-body were similarly redesigned. Consequently Pontiac renamed its entire line-up "Torpedo", with models ranging from the low-end A-bodied Deluxe Torpedo (with a 119.0 in (3,023 mm) wheelbase), the mid-level B-bodied Streamliner Torpedo (with a 122.0 in (3,099 mm) wheelbase up 2.0 in (51 mm) from the previous year), and the high-end C-bodied Custom Torpedo (with the same 122.0 in (3,099 mm) wheelbase as the previous year).

1942-1948

Model years	1942-1948

Related	Cadillac Series 61 Buick Century Buick Special Oldsmobile Series 70
Engine	• 239 cu in (3.9 L) Flathead I6 • 249 cu in (4.1 L) Silver-Streak I8
Wheelbase	122.0 in (3,099 mm)
Length	All but station wagon: 210.3 in (5,342 mm) Station wagon: 215.8 in (5,481 mm)
Height	65.3 in (1,659 mm)
Curb weight	3,600–4,100 lb (1,600–1,900 kg)

1947 Pontiac Streamliner Station Wagon

Streamliners used the larger B-body and, except for the station wagons, used fastback styling. The 1941 Super models with folding center armrest were known as Chieftains in 1942. All Pontiacs looked lower, heavier and wider. Extension caps on the front doors lengthened the forward fender lines. The hood extended back to the front doors, eliminating the cowl. The grille, bumper and hood were widened and headlamps were further apart. Long horizontal parking lamps sat just above the vertical side grilles. The horseshoe shaped center grille had horizontal bars and a circular emblem in the middle of the upper main surround molding. The word Pontiac appeared on the hood side molding of six-cylinder models, while the moldings of the eight-cylinder cars said Pontiac Eight. After December 15, 1941, wartime "blackout" trim was used. All parts previously chrome plated were finished in Duco Gun Metal Grey.

1948 Pontiac Streamliner Deluxe coupe

1948 Pontiac Streamliner Deluxe coupe

The first postwar Pontiac available (September 13, 1945) was the Streamliner coupe, which remained the sole product for a time. The Chieftain trim level of 1942 was renamed the Deluxe trim level in 1946. Styling highlights of Pontiacs were wraparound bumpers, a massive 14 blade grille, new nameplates and concealed safe-light parking lamps. Streamliners could be identified by straight back Indian moldings on the rear hood ornament chrome beltline moldings and bright moldings on the "speedline" fender ribs. They also had longer front fender crown moldings and were generally larger in size. Streamliner station wagons continued to be the most expensive Pontiac model. A total of 92,731 Streamliners were sold in 1946, accounting for over two thirds of all Pontiacs.

1949-1951

1950 Pontiac Streamliner "Silver-Streak Eight" engine

Model years	1949-1951
Related	Cadillac Series 61 Buick Special Oldsmobile 88 Oldsmobile Series 70
Engine	239 cu in (3.9 L) Flathead I6[2] 249 cu in (4.1 L) Silver-Streak I8[2]268 cu in (4.4 L) Silver-Streak I8[2]
Wheelbase	120.0 in (3,048 mm)[2]

Length	All but station wagons: 202.5 in (5,144 mm)[2] Station wagons:203.8 in (5,177 mm)[2]
Curb weight	3,600–4,000 lb (1,600–1,800 kg)

The 1949 Pontiacs featured low sleek envelope bodies. 1949 was the last year for wood-bodied station wagons, as production shifted to all-metal station wagons with woodgrain trim during the model year.

The 1951 "Silver Anniversary" Pontiacs reflected 25 years of advanced engineering. A wing shaped grille was seen and a Silver Streak theme continued.