

## **1951 Porsche Sauter 356 Roadster Overview**

The 1951 Porsche Sauter 356 Roadster is a unique vehicle, built on chassis number 10359, originally a standard 1300-cc cabriolet. Commissioned by Stuttgart industrialist Heinrich Sauter, the car was constructed in collaboration with Hans Klenk Karosserie to create a lightweight, race-ready roadster. Below is a detailed summary of its history, design, racing record, and notable stories associated with Sauter and the car.

### **History**

Heinrich Sauter, a former Luftwaffe fighter pilot born in October 1929, transitioned to motorsport after World War II. He commissioned the one-off 356 Roadster to compete in European races, leveraging his industrial expertise and connections with Porsche engineers. The car was raced actively in 1951 and 1952, achieving six class wins in various European events. In 1953, it was upgraded with a 1500-cc twin-carburetor engine and raced by driver Francois Picard, securing additional class victories. The vehicle was then sold to California attorney Sam Mullin, who competed with it until a crash at Pebble Beach in 1954. The car remained out of public view until 1982, when historian Ray Knight rediscovered and restored it. It was displayed at the Petersen Automotive Museum in 2018 as part of the Porsche Effect exhibit in the Mullin Grand Salon, alongside other significant Porsche models such as the Type 64 and a 1956 550 Spyder.

### **Design**

The Sauter 356 Roadster was designed for racing efficiency. Its steel body was lowered by three inches compared to standard 356 models to improve aerodynamics and handling. Key features include:

- Lightweight construction, estimated at under 1,600 pounds.
- Suicide doors to facilitate quick driver entry during Le Mans-style starts.
- Lowered hood vents for heat dissipation.



IMG\_6238.jpg

Open with ZIP Extractor

- Suicide doors to facilitate quick driver entry during Le Mans-style starts.
- Louvered hood vents for heat dissipation.
- Streamlined fenders with magnesium wheels.
- Minimalist interior, omitting non-essential components such as bumpers and chrome trim.

The design prioritized weight reduction and performance, resembling a precursor to later Porsche models like the 550 Spyder, though it was not an official factory project. The car's unique styling and engineering made it a standout in its era.

#### Racing Record

- 1951: Sauter tested the car in practice heats around Stuttgart, including Solitude, focusing on resolving early mechanical issues such as steering alignment due to the suicide doors.
- 1952: The car competed in multiple European races, primarily in Germany and France, securing six class wins in 1300-cc categories. Notable results include a third-in-class finish at the Solitude race, outperforming modified Volkswagen-based specials; a first-in-class at Hockenheim's spring event; and competitive runs at Spa-Francorchamps rallies, despite challenges with a sticky carburetor in wet conditions. An overheating engine led to a DNF at the Mille Miglia, and a clutch failure sidelined it at Nürburgring.

Sorry for the delay in getting this message and package out to you.

I'm enclosing some pictures, apparently shot by Petersen Museum photo staff, first studio photos ever taken of the car, showed up on the web and my son helped me download them, hope I did not inappropriately pirate them.

Enclosed receipts for airline and hotel costs, as you requested.

Recognizing your brief Kentucky history, I am sending you a handmade (by me) Shaker box with some confection from a local historic candy store.

I want to thank you again for sharing this event with Yvonne and I. Emotionally touching the memories of acquiring, restoring and establishing the history of the Sauter was wonderful. Recalling personal conversations/meetings along the way with Stan Mullin, Heinrich Sauter, Jack Armstrong, Betty Jo Turner, Helmut Bott, Wolfgang Porsche, Bill Crabtree and a multitude of knowledgeable Porsche history buffs. The opportunity to help establish the history of other early cars (12360, 12371, 80002), the privilege of building engine for 12360 and 80002 as well as the Sauter. Those cars are both now in the Porsche museum, owned by Porsche family members. It was all a fun/challenging/rewarding journey.

Reading the placard by the Sauter at the show, I was struck (as I think you were) with the challenge of succinctly telling why the car is special. It ties in to so many early Porsche stories. I took some notes on the plane flight home and typed up a list. But as you probably know from your marketing background, that list may be for us history wonks/nerds. The Sauter has become famous on it's own, independent of all the details that made it so. It is now back to the American roots, in LA, home of Stan Mullin.

A couple of thoughts/experience on safe transportation. While there are safe chassis ways to strap it down (trailing arms in front, axle tubes in back) they are difficult to access. There are no safe hooks etc (from tow hook safe to winch into transporter, but not safe for dynamic loads of towing). I and most early Porsche people have evolved to securing with web straps/loops over each tire or using lug nut tie downs (Automotion 65-2386027).

I remain available for historic help for you and/or your archivist, by phone or in person visit.

Thanks again and stay in touch.

Ray Knight

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*Hope you  
shoulder is doing well  
keep up the exercises  
Ray*



Following are important "Bullet Notes" concerning this amazing Porsche:

- \* This is the 2nd Porsche Roadster produced, the 1st was "Porsche # 1, owned by the Porsche Factory.
- \* This is the 1st Porsche Roadster ever raced
- \* The ONLY Porsche ever built with "suicide doors"
- \* This car was designed by Erwin Komenda, following the advice of Max Hoffman, who had insisted that Porsche build a series of roadsters for sale in the USA. The production of the body was carried out by Hans Klenk, who became further famous as the driver of the MB 300SLR "Buzzard Car" and others.
- \* This Porsche was the prototype for the highly desirable "Porsche America Roadster." Sixteen of these cars were built and were the direct forerunner of the "Speedster", the car conceived by Max Hoffman.
- \* America Roadsters rarely change hands, however one recent sale from Paterak Restorations in New Jersey to Peter Porsche for \$4M is recorded.
- \* After it's delivery to Sauter, the car was immediately driven to the Nurburgring and tested personally by Dr. Ferry Porsche, and by the engineers of the Factory.
- \* The car is first officially raced at the Eifel Races at the Nurburgring, June 3, 1951. Much interesting history is documented at this race. The car is further race (at least) in 1952 Freiburg-Schauinsland, and again at the Liege-Rome-Liege Rally.
- \* Next, the car is "tweaked" at the factory and loaned to noted race driver, Francois Picard for the 1952 season, where he racked up at minimum 6 First in Class wins including Monaco (le prix de Monte Carlo), Monthlery, Agadi, Bordeaux, Marrakesh, Val de Cuech and Hyeres, as well as participation in the Morocco Rally. Many famous articles were written on this car, now dubbed "The Little Tank" as it helped catapult Porsche into the international racing spotlight.
- \* By now, the highly coveted America Roadster was in full swing, and the first of the "pre-A Speedsters were being designed, based on the design, construction and test results of the Sauter Roadster.
- \* The car was returned to the factory where it remained until it was purchased by California Attorney and Racer, Stan Mullin, who shipped the car to California and raced the car in many outings during the 1954 Season, including Riverside, Moffet Field, Reno, Santa Barbara, Long Beach, Bakersfield, March Field and it's final recorded race, none other than Pebble Beach.
- \* The car was retired and "lost", becoming a "mystery car" until being found in Indiana in 1982. The car was loving and painstakingly restored by an avid Porsche Historian, only after overwhelming research including personal interviews of every living person having had anything whatsoever to do with it's concept, creation, race campaign etc., including H. Sauter himself.
- \* It must be noted that original to the car is the entire chassis, original Factory Data Plate, Factory chassis stamp, virtually all of it's body panels, fenders, doors, hood, deck lid, gas tank, windshield, aluminum tonneau deck, all bracings, hinges etc. Also installed in the car is the original transmission and gearbox. The original engine was broken in it's first outing at the Nurburgring in 1951, and many new "test" engines were used in the car from 1951-1954. The engine currently installed in the car is a correct 1500cc engine, as was first installed and stamped "30244", to match the original.



Sauter Porsche Roadster – 1951 – 1035

### Historic Significance Touch Points.

Sauter background

Hans Klenk – story Mercedes gullwing Panamerica (Kling/Klenk) tie

Prof Mantzell, rubber damped wheels, financing

Hoffman input (Paris meeting Sept 1950) and New York meeting

Factory drawings (Erwin Kommenda – Oct 25, 1950 - #356.00.320)

Dates/multiple inputs/drawing and European view support precursor/prototype AR

First racing use of new larger 1500 engine

Picard/Sauter relationship (post war French/German dynamic)

European racing hx – Liege/Rome/Liege, Nurburgring, French Grand Prix Monaco, Marrakesh

Return to factory – 1952 – license plate (factory plates) – factory claimed it's victories (52 AD)

Stan Mullin – brought to USA, Calif

Among first Porsches in Southern California

Stan Mullin – attorney for Scarab, helped organize Cal Club, led to SCCA,

Prominent sports organization attorney

Racing SoCal 51-54 - driving shared with Jack Armstrong

Last race Pebble Beach 1954 – then retired

Junk yard saga – Bill Crabtree – Odd Door Porsche article -54 to 82

Acquired by Ray Knight – restoration saga 1982-1986

Monterey Vintage races – 1986 and 1998

Multiple concours and articles (USA and European publications)

New owners returned it to southern California roots

Porsche Effect - Petersen

1. Sauter says it was his idea  
(enclosed type of interview)  
but Hoffman meeting Sept 50  
& drawings Oct 50 suggest  
actually Hoffman's idea

2. started with chassis (1035A)  
not completed car, used  
factory stampings (nose, fenders,  
bumpers, cond, tail, dash)  
modified to house doors  
fabricated)

3. used prototype factory

4. 1500 engine, acknowledged  
in quotes from Ferry  
Porsche

5. 1st Kommenda drawing

356-00-320

Oct 25, 1950

obviously origin of  
Sauter  
body design

6. Dec 1951 meeting @  
Porsche people, John Fitch,  
& Coby Whitmore

1 interviewed  
John Fitch, he  
recalls presenting some  
body options, embarrassing  
rejected, none had  
anything to do with  
AR dropped before

⑦ I helped document  
the McAfee car (was  
in junkyard & VW guys  
being used to push cars  
around. factory now  
has it, I built the  
engine for it

⑧ the 1st AR, the steel  
one, from drawings  
356-00-202 July 52

(p 88)

So the debate goes on.  
cheeky & feisty better than  
insignificant bastard, but let's keep  
facts on table

Ed Knight



# THE SAUTER PORSCHE

One of the most famous and successful racing Porches of its time will be on the green during this year's Concours. This Porsche is the second Porsche Roadster produced, the first was "Porsche # 1" which is owned by the factory. It moves into first place in the history books as it was the first Porsche Roadster ever raced and the only one built with suicide doors. It is the prototype for the highly desirable Porsche American Roadster. There were only sixteen built and it is the direct forerunner of the Speedster, the car conceived by Max Hoffman.

This car was originally owned by Heinrich Sauter, a wealthy young industrialist and heir to a tooling manufacturer with ties to the Porsche family. Like many former fighter pilots, he became a gentleman racer in the postwar years. He raced a few different cars but found them heavy and underpowered. He wanted a lighter car with more power and an ability to cut through the air more efficiently... a pilot's mindset for sure.

Sauter and Hans Klenk Karosserie (fast fact: Karosserie means a craftsman who makes the bodies of motor vehicles) worked closely with the Porsche factory to build this car. For Porsche, a sports car company in its infancy, a wealthy buyer willing to spend money on the development of a race-ready roadster was a win-win proposition.

At the end of the car's first racing season in 1951 Porsche purchased the car from Sauter. The Sauter roadster was then campaigned in 1952 by Francois Picard who racked up six wins at Agadir, Bordeaux, Hyeres, Marrakesh, Montlhery and Val de Cuech and placed in le prix de Monte Carlo Monaco.

After the 1952 Season the Sauter was returned to the Porsche factory where it sat for many years until it was discovered by an American who brought it across the pond. The American, Stan Mullin, a California attorney and racer, raced the car in many outings during the 1954 season.

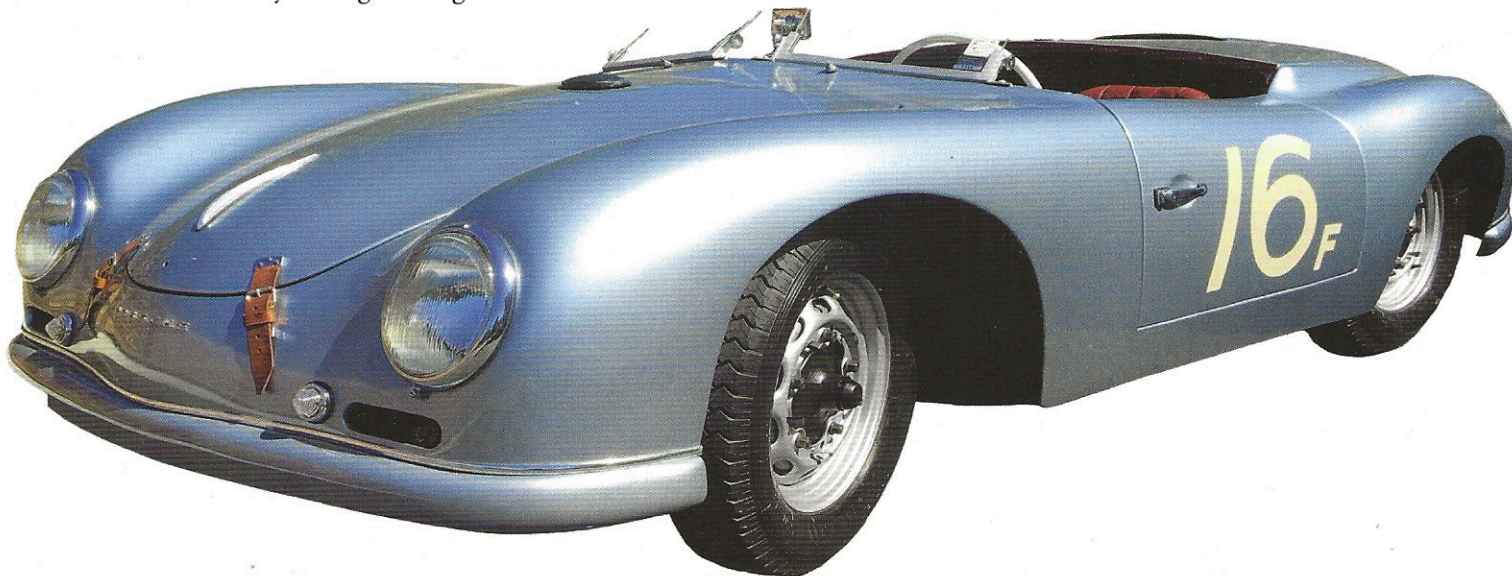
The car was then retired and lost, becoming a mystery car as it was moved from one storage yard to another between 1954-1981 suffering a long, steady decline. At some point in its post-racing life the car endured a fire that destroyed much of its interior and trim.

In 1982 the car was found in Crabtree's Junkyard in New Castle, Indiana, by PCA member Ray Knight. Negotiations to buy the car were challenging—but not for the usual reasons of haggling over money. Crabtree, whose demeanor was true to his name, did not know much about the car but he had a keen insight into establishing its value.

Crabtree knew the Porsche had been owned by a family of riverboat operators out of Mississippi who parlayed their wealth into a fortune by selling fruitcakes during World War II—great gifts for servicemen because they were easy to ship and didn't spoil.

Once a deal was reached there was enough information provided by Crabtree to Knight to begin his journey into the car's origins and eventually restoring the car. The car was painstakingly restored after overwhelming research, including personal interviews with every living person having had anything whatsoever to do with its concept, creation, racing, etc. The list of people interviewed included Heinrich Sauter, Hans Klenk, Coby Whitmore, John Fitch, Stan Mullin and others who helped him establish the Sauter roadster's place in Porsche History.

The Sauter Porsche is fortunate Ray Knight found it. One has to wonder what might have happened to the car had he lost those negotiations with a crabby salvage operator. Phil White is fortunate to now be the owner of this piece of Porsche history, having purchased it in early 2017. He proudly shares it with us today at the 2023 Niello Concours at Serrano.





6/13/2018

I found this "excellence" magazine in the store last wk -

2 pictures & 2 articles re: The Roadster. Ludvigsen sticks with fox decades old opinion arguing against the styling input from outside. my read of the data is the design comes from factory in the winter 1950 design drawings by Komenda (factory designer).

I am also sending original tape from my interview w/ Heinrich Sauter, 11/23/1966 in Entenmas. transcript should be in the material I already sent. Please try to keep the tapes with the car.

Hope your shoulder is doing well

With warm  
regards

Ray Knight



# Taking in "The Porsche Effect"

The Petersen Museum puts some of Porsche's finest machines on exhibit.

STORY AND PHOTOS BY STEVE NATALE

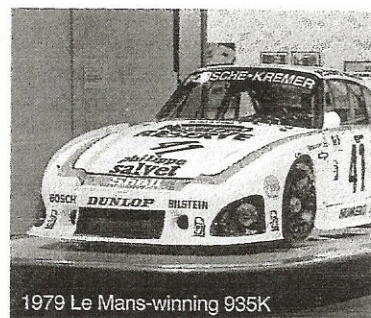
For a car enthusiast, no trip to Southern California is complete without a visit to the Petersen Automotive Museum in Los Angeles. And if you are a Porsche fan, now is time to see the Petersen's latest exhibit, "The Porsche Effect." Opened in February of this year, the show features a carefully selected collection of iconic Porsche cars, all historically significant and beautifully presented in the Mullin Grand Salon. Porsche Cars North America partnered with the museum to make this a reality.

"Within my responsibility I have at Porsche, none is greater than the commitment of looking after our great brand," said Klaus Zellmer, President and CEO of Porsche Cars North America. "With that, of course, comes the compulsion to support and honor our rich heritage. When the Petersen Museum first suggested we work together on what has become 'The Porsche Effect,' I immediately saw the mutual benefits to both. We are looking

forward to sharing the story of Porsche through rare and seldom seen artifacts and display elements, in addition to some of the most iconic cars of all time."

"At the Petersen, we always seek out compelling new ways to engage our guests and pique their interests," said Petersen Executive Director Terry L. Karges. "Because Porsche is so embedded in the Southern California landscape, we were thrilled to partner with the legendary automaker to create an experience that is truly remarkable and dedicated to the many Porsche lovers in the Southland."

The Porsche Effect takes visitors on a journey through the history of the Porsche company and the innovative machines they have created for the street and the track. Rare historical artifacts and cars culled from the Petersen, the Porsche Museum in Germany and private collections from around the world, make this exhibit exceptional in virtually every way.



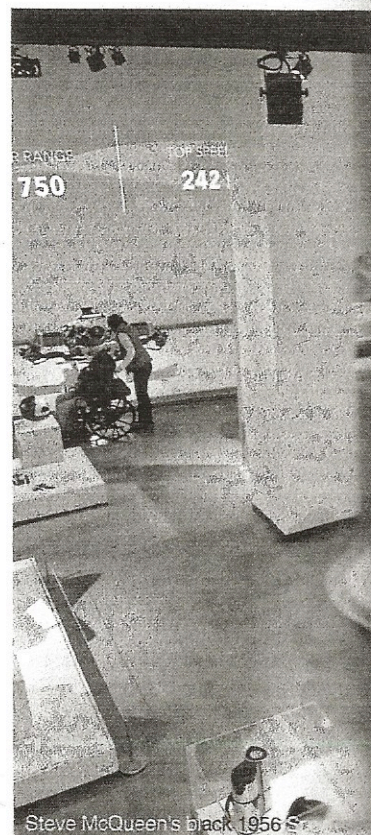
1979 Le Mans-winning 935K



1987 Porsche 928 H50 Concept



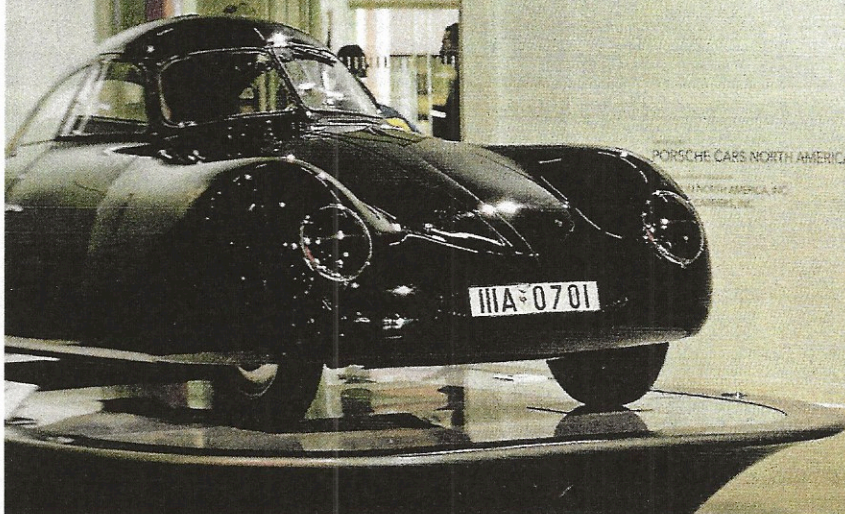
1955 356 Continental Cabriolet



Steve McQueen's black 1956 S



# THE PORSCHE EFFECT



IMPORTED BY  
PORSCHE CARS NORTH AMERICA

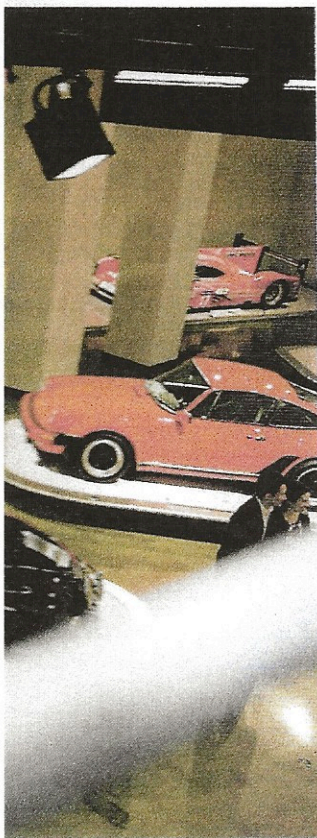
1000 NORTH AMERICA, INC.  
CANNON, ILL.

III A-0701

Out of the rubble of World War II, Porsche emerged to shape the rolling streets of the post-war world. During the 1950s, the company's focus shifted from military to civilian vehicles, and the Porsche brand became synonymous with the passion of its founder to create the perfect sports car. Today, the company's reputation for engineering excellence and performance is a testament to its enduring legacy.

Today's Porsche is a testament to the company's commitment to excellence. The company's focus on engineering excellence and performance is a testament to its enduring legacy. The company's focus on engineering excellence and performance is a testament to its enduring legacy.

1939 Type 64 Berlin-Rome race car



1969 917K



A pair of GT1s



1951 Sauter 356 Roadster



# Porsche's Most Enigmatic Model

The first Porsche to be built expressly for racing was the America Roadster, of which sixteen were produced in 1952-53. One of the most charismatic of all Porsches, this elusive model set a pattern for the Speedsters to come.

STORY BY KARL LUDVIGSEN  
PHOTOS BY PORSCHE AND LUDVIGSEN PARTNERS

THE America Roadsters rank among the most ephemeral autos ever to bear the Porsche name. They were never formally cataloged by the company and were utterly unpublicized in Europe. When *Auto motor und sport* asked about one they saw and photographed on the Autobahn in July 1952, they were told that it was a style for export only—and not much more. From its birth, the America Roadster was an enigma to the world.

## 1956 Sauter

A hint of things to come was a spunky little roadster that broke cover in the spring of 1951. It was built not by Porsche but by Hans Klenk's small workshop in

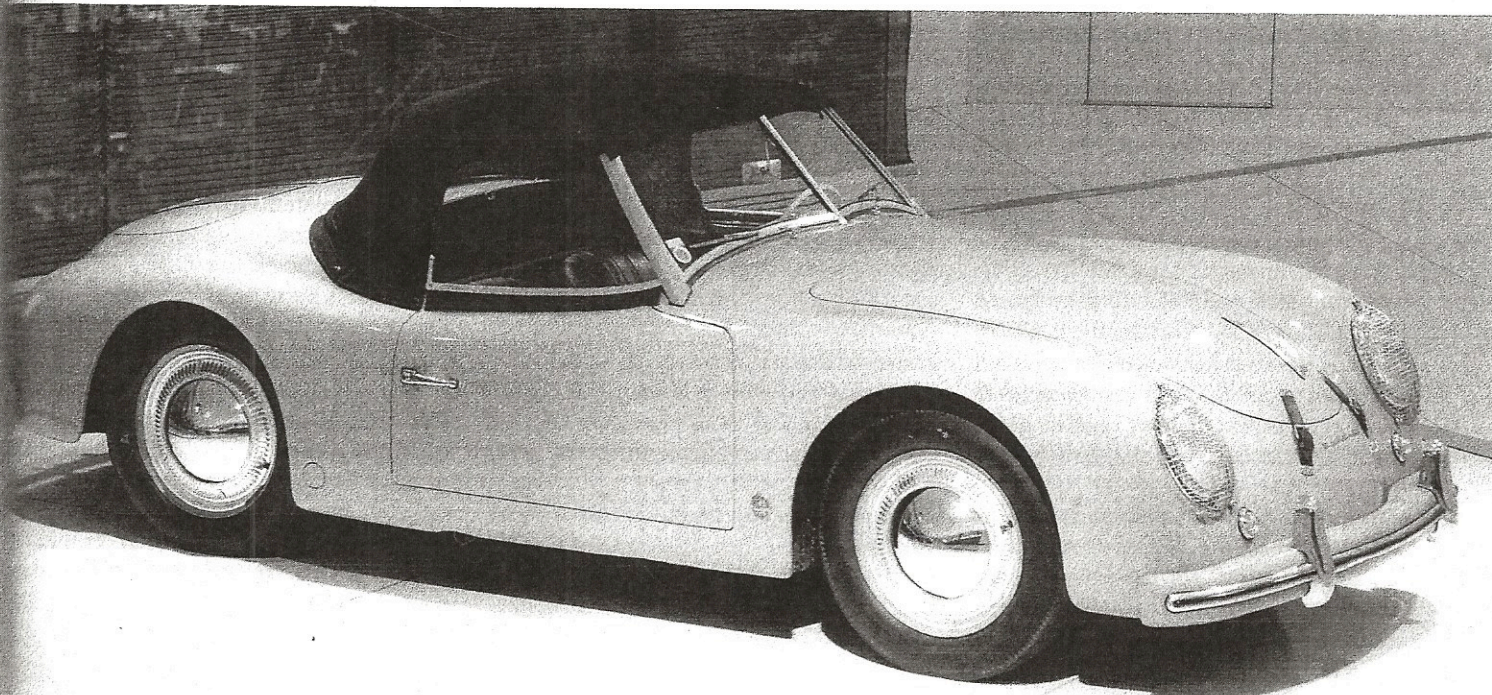
the Stuttgart suburb of Böblingen. A driver as well as a builder, Klenk would form an onomatopoeic team with Karl Kling to race the first Mercedes-Benz 300 SL in 1952, winning the Carrera Panamericana road race in Mexico. Modifying 356 components, Klenk built the Porsche to the order of Stuttgart's Heinrich "Heini" Sauter.

Heir to owners of the Hahn+Kolb Werkzeuge GmbH, a producer of tooling and equipment in nearby Ludwigsburg, Sauter was well placed to realize his auto-racing ambitions. His mounts included a Veritas and a Fiat-based special, followed by a Porsche 1300 coupe. Finding this enjoyable but

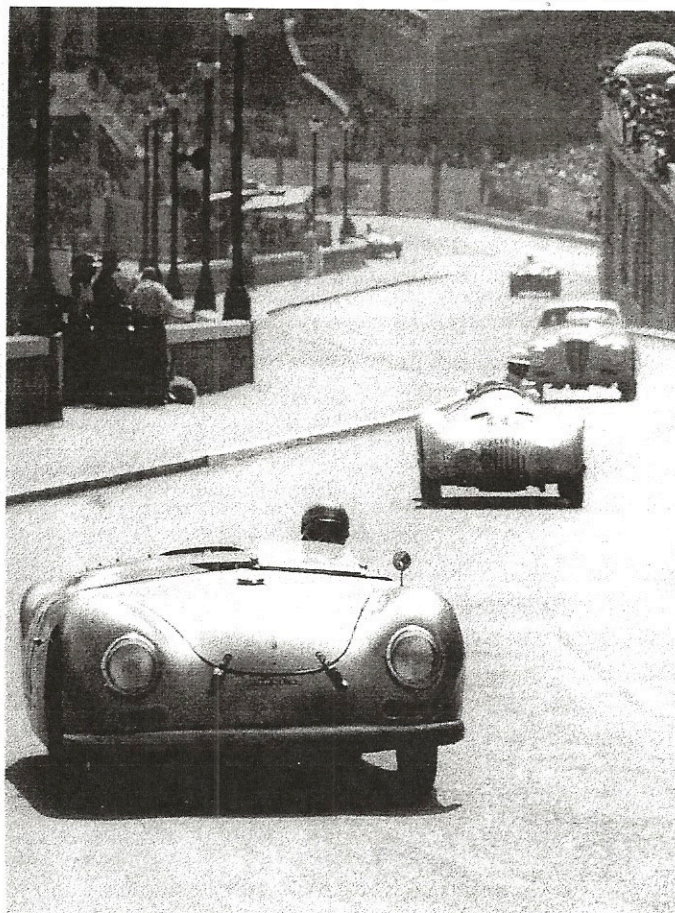
heavy, Sauter envisioned a lighter open version. Huddling with Klenk, who had good contacts at Zuffenhausen, they set to work to modify a 1951 1300 Cabrio into a unique racer.

Sauter attributed to Hans Klenk the design of the car that would result. Spartan and lacking any weather protection, its steel body had a 356-like nose, a low and short rear deck, and doors hinged at the rear, for easier entry and exit, with external door handles at the front. Bumpers were early style, mounted beneath rather than outside the body. Power for Sauter's 1,340-pound two-seater roadster initially came from an engine he enlarged to a near-1.5-liter size.

An early-series America Roadster shows its fully open wheelhouses and side curtains.

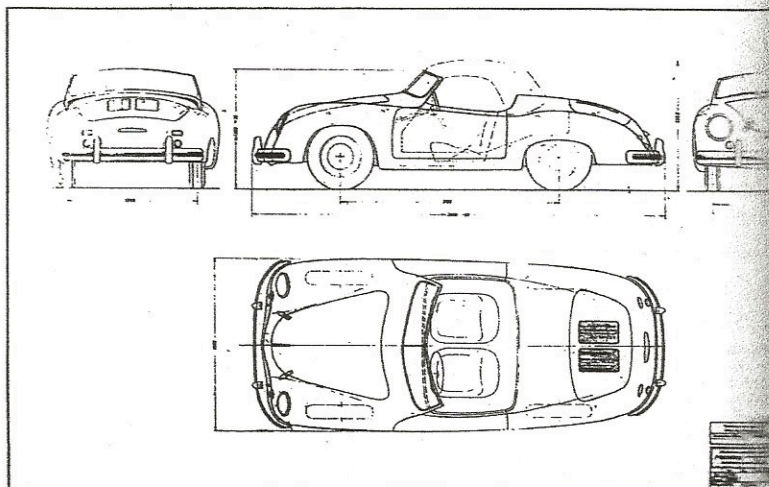






Left: The cheeky Klenk-built Porsche roadster was heading a Gordini and Lancia up the hill at Monaco but failed to finish its race. Below: The Porsche drawing for its Type 540 bodywork on the 356 chassis showed twin air-inlet grilles, which were not on the first cars but added to later production.

Opposite, clockwise from bottom: The new 1500S engine was one of the spurs for the car's creation. Offering an attractive functionality, the Type 540's cockpit was snug enough with its side screens and well-upholstered seats for road use. Concern over engine cooling led to the fitting of twin grilles on the Type 540, making this the first Porsche model to have this distinctive feature.



Heini Sauter had little luck with his white roadster in 1951. He retired in both the 1.5-liter race at the Nürburgring Eifelrennen in June—after leading the first lap—and the Liège-Rome-Liège rally in August. He competed in the Freiburg-Schauinsland Hillclimb, placing seventh. Nevertheless, the factory took an interest in this one-off Porsche, buying it from Sauter at the end of the 1951 season. The company modified it with front-brake cooling apertures under its headlamps and fitted it with an authentic works 1.5-liter Type 528 engine.

In this trim, the unique roadster was sold to French driver François Picard, who painted it blue and raced it to victory at Agadir in Morocco on January 27th, 1952. "Le petit tank," as he called it, ran in a sports-car race at Monaco in June 1952 but completed only three of the 65 laps. Picard raced it at Bordeaux and also in the June 12 Hours of Hyères in which he and co-driver Lucien Bonnet placed fifth overall and second in class. For 1953, Picard moved to Ferraris to which he remained faithful through his retirement from the sport in 1958.

California attorney Stan Mullin became the next owner of "the little tank" thanks to the intervention of car-chaser Jack Armstrong, who discovered it languishing in one of the halls at Zuffenhausen. With

Armstrong as the entrant, Mullin raced it at Santa Barbara, Long Beach, and March Field in 1953 and in 1954 at Bakersfield. That ultimately marked the end of the feisty little roadster's active in-period career.

(The unique Porsche went to ground in America. Before its consignment to Crabtree's Junkyard in New Castle, Indiana, the Sauter Special had been owned by a family of Mississippi riverboat operators. At Crabtree's, the car was discovered in 1982 by enthusiast Ray Knight, who acquired, restored and raced it.)

#### Type 540: 356 America Roadster

Meanwhile, Porsche had been designing, building and selling its own version of the Sauter-Klenk creation. The inspiration for this new model grew from the availability of a full 1.5-liter engine for the 356. Made possible by a special Hirth roller-bearing crankshaft, the new 1,488-cc engine proved itself during 1951 in rallying, racing and a sensational record run at Montlhéry in late September powering a Gmünd aluminum coupe.

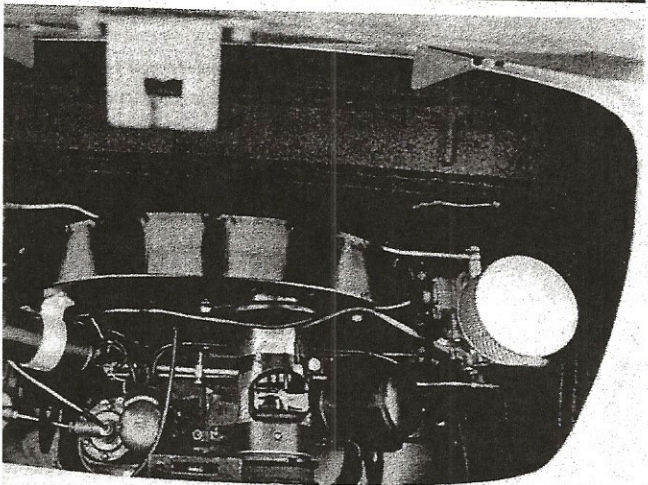
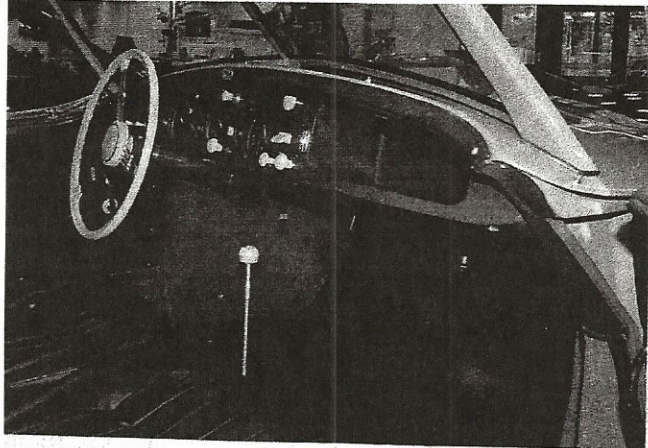
Experimentally giving as much as 72 horsepower at 5,100 rpm on the Zuffenhausen dynamometer, this new engine was manna from heaven for sporting Porsche drivers. It took Porsches to the

top of the 1.5-liter class, one of the most popular both in Europe and America in sports-car racing. As the Type 502 engine it was offered in Porsche cars in September of 1951, changed the following month to the Type 527 with larger carburetors delivering 60 hp at 5,000 rpm.

Customers made it clear to Porsche that they were interested in a sports car that would do justice to this new engine for competition purposes. The appeal from America, where Max Hoffman, the Porsche importer, was sparked by racing-mad distributor in California John von Neumann. As early as October 1950, Erwin Komenda in Porsche's design office completed a drawing of a car with the new engine being readied.

Designed to fit the Type 356 chassis, Komenda's Type 540 body was an open two-seater with a low, shapely body that dipped down alongside the cockpit. Although the drawing showed the 356-type shrouded wheels, as the design evolved in discussions with Heini Sauter, the new model had narrowed flanks that required cut-out openings for the wheels. The integral windscreen, as shown in the drawing gave way to a motorboat-style divided screen that could easily be removed for racing.





nated Type 540, the new body  
er to the conventional post-war  
f what a sports car should look  
y Porsche would gain confirma-  
his new idiom during his visit to  
t in December of 1951. On the  
ng driver John Fitch took him to  
mmercial artist Coby Whitmore,  
ed that "racing cars, illustrating  
at clothes on good-looking  
were his three major interests in  
itmore sketched styles for  
that showed Ferry some alterna-  
s that could suit his sports cars.  
nated to make the America  
body was the Erich Heuer  
iding firm in Weiden, near  
rg. This was a West German off-  
f Dresden's Gläser, which  
in the East Zone. Heuer was  
making cabriolet bodies for  
which were essentially twins to  
r-built models.  
pe 540's frame was that of the  
iolet, which was already rein-  
meet the added rigidity needed  
n car. The body material had to  
um because both Porsche and  
man, who was to take delivery  
them, considered the America  
to be racing cars, not tourers.

To a chassis weight of 849 pounds, the body with its supporting structure added 670 pounds for a total of 1,519 pounds dry. Without its framing, the body skin scaled 406 pounds against 591 for a steel coupe. Weight distribution was 46 percent front, 54 percent rear.

Its cockpit offered few frills, with an open cubbyhole in the simple three-dial dash, hollow doors and side curtains instead of roll-up windows. For competition, the Roadster could easily be stripped. Its split windscreen and light canvas top were designed to be readily removable. Porsche offered aluminum-shelled bucket seats to replace the heavier coupe-type seats with which it was normally delivered. Other racing options were a small aero screen and rubber floor mats. Twin leather straps for the front deck lid—a carryover from the Sauter-Klenk racer—and stone guards for the headlamps gave the cars a sporting accent.

As supplied to Erich Heuer for the Roadsters the new 1,488-cc four had a higher compression ratio of 8.2:1 for a version dubbed the Type 528. With freer-flowing Solex carburetors, this brought power to 70 hp at 5,000 rpm. Peak torque, reached at 3,600 rpm, was 80 lb-ft. Initially, the drum brakes were the stan-

dard 230 mm (9.05 inch) diameter, but soon larger 280 mm (11.0 inch) brakes were available, wider as well at 40 (1.57) rather than 30 mm (1.18 inches).

### To the Track

Early summer of 1952 found the America Roadsters arriving in California. John von Neumann recalled the first impressions for Randy Leffingwell:

"There was one big problem with those cars, the aerodynamics! Huschke von Hanstein, Porsche's baronial jack of all trades, came to California for a visit. Von Hanstein had raced himself, but at that point he was sort of Ferry Porsche's racing director, salesman, public relations man. He, Jack McAfee and I went up to Willow Springs.

"Trying the first Roadsters out," von Neumann continued, "we found that after a few laps they lost power. Those Roadsters had a different shape in the back from the 356s. So they were recirculating the hot air from the engine. After so many laps they were overheating so much they didn't have any power. As Mr. Porsche once said to me about the air-cooled engine, 'The problem is not getting cool air to the engine, it's getting the hot air away!' We would have to change the back end."