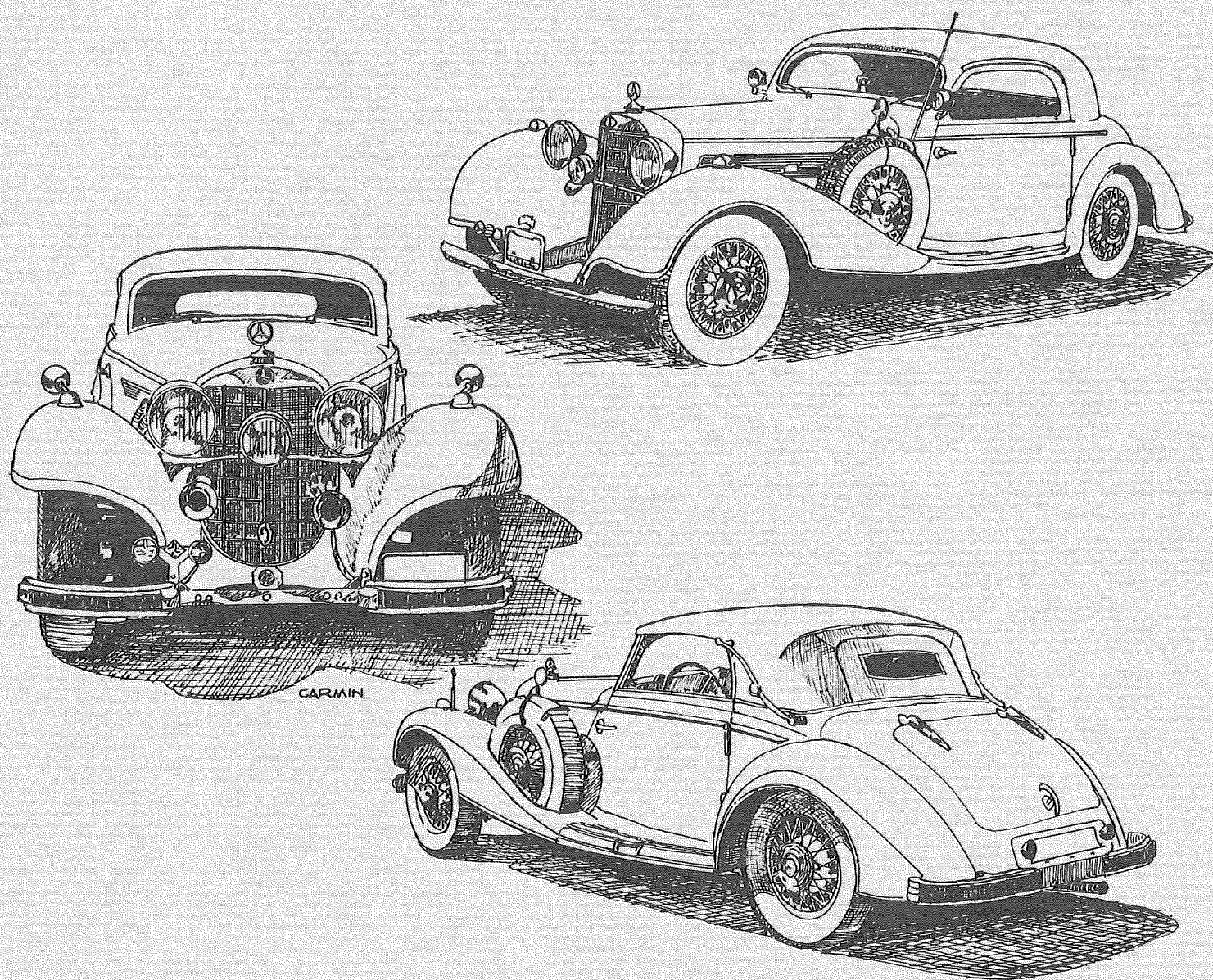


THE BUMPER GUARDIAN

SPRING - SUMMER 1975



THE BUMPER GUARDIAN

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EDITOR Bernard A. Carmin
REGIONAL EDITOR Alan W. McEwan
ART EDITOR Bernard A. Carmin

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The Classic Car Club of America is a non-profit organization incorporated under the laws of the State of New York. The Club seeks to further the restoration and preservation of distinctive motor cars produced in the period from 1925 through 1942, to provide a channel of communication for those interested in such cars, and to bring together in good fellowship all who own or admire these finest examples of automotive craftsmanship. The sole requirement for membership is a demonstrable interest in a Classic Car or Cars. Application for membership should be sent to John C. Dennis, Membership Chairman, Pacific Northwest Region, P. O. Box 171 Mercer Island, Washington 98040. National dues are \$13 for Active Members and \$15 for Affiliate Members, Associate Membership dues, limited to the spouse of an Active Member, are \$2. Regional dues are \$7.50 annually.

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THE MIGHTY MERCEDES

Following is the history of the 1936 540K shown in front view, on the cover, which belongs to Gene Klineburger.

The history of the other two 540K's shown on the cover is not available at this time. The Cabriolet is a 1938 540K belonging to James W. Dupar, and the other is a 1939 540K Coupe belonging to Siegfried Linke.

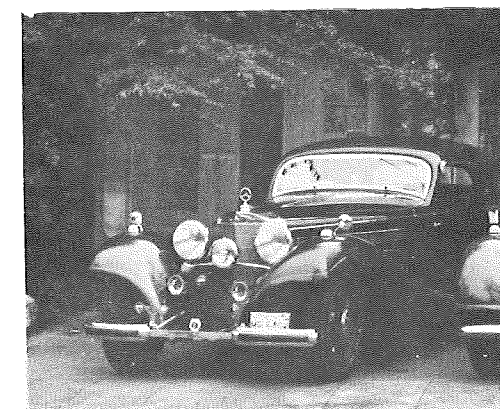
THE 1936 RIGHT HAND DRIVE MERCEDES 540 K by Gene Klineburger

One usually goes to the frozen Arctic Ocean in the dead of winter to get furs, study the Eskimos, or hunt polar bears, or so I thought when I headed up there in 1963 and again in '65. This was the last place I expected to find the classic auto that I had been looking for for quite some time. Not that I found one buried in a snow bank, although I did find an old '25 Packard so buried in a small village on the shore, far from any highways.

Anyhow, in 1965 I went to Kotzebue, Alaska, located some 50 miles north of the Arctic Circle, to hunt polar bear and also help other hunters care for and ship their prize pelts to the tanning and taxidermy firm of Jonas Brothers of Seattle, which I am associated with, for processing.

Soon after successfully completing my hunt, the skies clouded over and a blizzard proceeded to set in, making flying out over the frozen ocean impossible for several days. During these frequent periods of inactivity, many card games, cocktail parties and bull sessions take place among the hunters, guides, and townspeople.

It was during one of these sessions that I mentioned having a nice 300 Mercedes plus a couple of Antique Autos. One of the hunters who had come from Quebec, Canada, said he had two Mercedes - both 540K's. This, of course, got my interest up and I grilled him in detail about them. He said he would not part with either of them. I told him when, and if, he did want to sell one to let me know.



About six months after returning home I received a picture of one of the cars, a 1938 Convertible Coupe, with a letter saying the car had been sold, but he still had the hard top coupe. He kept the hard top as it was in a little better condition and more rare than the convertible.

In March of 1968 I went to Kotzebue again and was surprised to see Mr. Gisbert VonBoch in town for another hunt. We quickly got into another huddle and talked of "The Car" which he had a color picture of. I knew I had to have that car. Fate gave me a helping hand, as Mr. VonBoch, a German living in Canada, told me his ceramics company was sending him to Argentina to run a plant there. He was going to try to take the Mercedes Benz with him, but if he could not I would be the first to have an opportunity to purchase it.

We both had successful polar bear hunts and went our separate ways.

When I got home a letter was waiting saying he was unable to get the car to Argentina, so it could be mine upon payment of the agreed price. A deposit check went to Quebec by return mail to hold the car until I could decide the best way to get the car to Seattle.

After investigating various methods of having the car hauled down, I decided it would have to be driven. Mr. Von-Boch assured me it would make the 3500 mile trip in good condition. An acquaintance, Bud Gould, went to Quebec, took a 30-minute check ride and training course, and headed southwest.

The car attracted an immense amount of attention everywhere along the route. It also used more gas and oil than it should, and a few of the electrical accessories like the windshield wipers didn't work. All in all, for a car that had been on blocks a good bit of its life and hadn't made a long trip in years, it did very nobly.

With a 5.4 liter straight eight, hooked to a four speed transmission and having a supercharger for added boost in case of emergency, the car had no trouble whatsoever keeping up with modern traffic. Even though many of the cars were thirty years younger, the 540 passed a lot more cars than it was passed by. Not even a flat tire was experienced.

Another car enthusiast, Bill Young, and I flew to Missoula, Montana to meet Bud and drive the last part of the trip to Seattle. Bud met us at the airport in "The Car" and drove us to his home to spend the night. For some reason I

wasn't sleepy, though. Early next morning we were on our way, as we were anxious to see how the car performed. We were more than pleased with its outstanding abilities on the open road.

The last week of July, I was in Germany and toured the modern assembly plant at Sindelfinger, which was 90% destroyed during the last war. Then I visited the museum and plant in Stuttgart, where I saw a very impressive display of cars and machinery encompassing the many years Daimler and Benz have been in business. The people there were very helpful and were able to tell me the name of the Englishman, Mr. Martin Turner, who first owned my car, plus a lot of other information on the 540K series of cars. Due to the fact that the car was made for English use it has right-hand drive, very unusual for a Mercedes.

In Bill Young's scrap book I spotted a car identical to mine. The picture was taken in London some years ago, so very likely it is the same car. In another book on the history of the Mercedes, "Three Pointed Star", identification was positive as I could read the English plates which are still attached to the car.

This car is unrestored, but had aged well and has many satisfying miles left in it. My wife, son and I have put quite a few hundred miles on the car since getting it home and enjoy every minute of it.

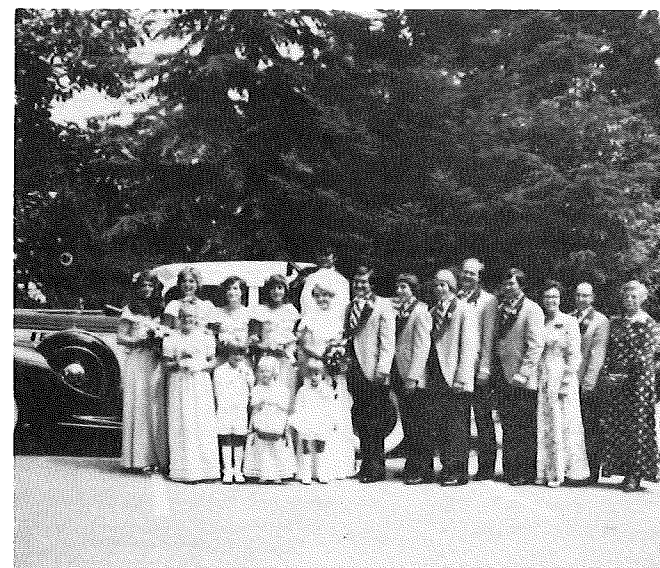
As a point of interest, there is a book called "The Mighty Mercedes" by Michael Frostick and my 540K is listed under there and it shows the

original owner as having been a Mr. De-Bernales of London, England. The car was delivered to the showroom in November of 1936 and licensed in January of 1937, making it one of the early 540K's because they were also making the 500 in 1936. The book shows 67 540K's having been sold in England, which is quite interesting to think that that many German cars would be sold in England in the mid and late 30's.

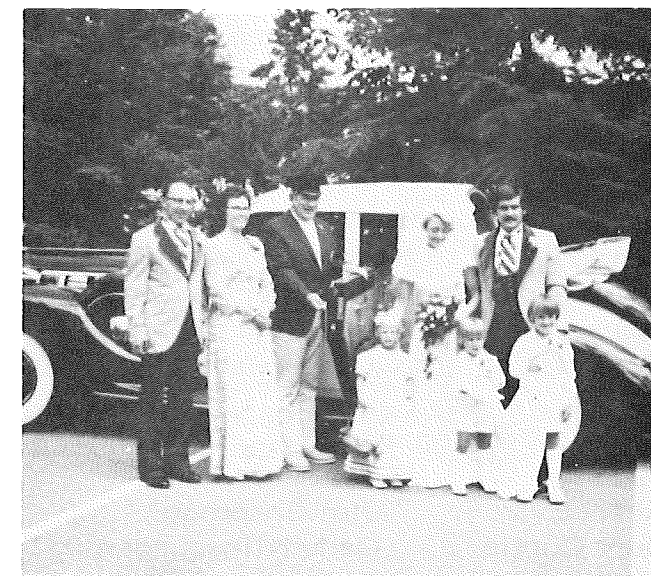
There is another book called "The Three Pointed Star" by Scott Moncrieff, John Nixon and Clarence Paget in which there is a photograph of the car in the picture section between page 224 and 225. This picture was taken in England a number of years ago, and incidentally, the caption under it is incorrect in some respects. It is amazing how many writers write books and are deemed authorities on things that they know nothing about and have incorrect information in.

A CLASSIC WEDDING

On Saturday, July 19, the CCCA - PNWR participated in the Bellevue wedding of John and Connie Snider.



Phil Schwartz drove the bride and groom in his 1939 V-12 Packard Touring Cabriolet, followed by Bob Le Coque (1941 Cadillac Formal Sedan), John McDermott (1931 La Salle Convertible Coupe) and Tom Armstrong (Norm Herstein's 1938 Packard Touring Sedan) with the entire Wedding Party. It was a fun outing complete with chauffeur's uniforms, Thompson sub-machine guns, and a "complimentary" donation to our club. The cars



played a significant role in the official wedding pictures and another segment of PNWR's Godfather III was filmed!!!



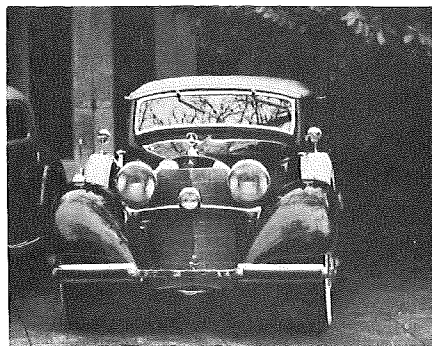
JUDGING SCHOOL GETS HIGH POINTS

On Wednesday, July 16, the Hersteins (Joan & Norm) hosted a judging school at their beautiful Snohomish home.

Norm conducted the school, complete with a professional recording of the CCCA Judging Rules, plus his special instructions, guidelines, etc. Those attending were divided into groups and actual judging was made on Norm's '38 Packard and Tom Armstrong's '48 Lincoln ... followed by comparisons of scores, questions, answers and critiques. The objective was to achieve uniformity in our judging methods and to introduce judging to any inexperienced members .. and thanks to Norm's excellent presentation, our objective was reached!

Those attending were:

Al McEvan	Jim Chapman
Burt Curtis	Gene Klineburger
Bob LeCoque	Siegfried Linke
Pete Manello	Ted Barber
Tom, Susan & Brad Armstrong	
Don "Corleone" Gerard	
John and Gail McDermott	
Dick Hooper	
and J. C. The Cat	



THE SUPERCHARGED 540K MERCEDES-BENZ

by Siegfried Linke

The imposing Teutonic looks of the models K, S, SS and SSK, Mercedes-Benz were augmented by the sound of their superchargers. Superchargers have always been synonymous with Mercedes-Benz and Mercedes-Benz racing history. And the appearance of these cars was enhanced with the visible evidence of the supercharger with its chrome pipes projecting from the side of the hood.

Daimler was the first to use the supercharger, adopting it on his 4 cylinder 1-1/2 and 2 liter cars in December, 1923. Other manufacturers had attempted to use the supercharger years before without success. The supercharger was of the Roots type with a very fine clearance between the two rotors and the cylinder walls. These figure-eight-shaped rotors were geared together and operated at 2 2/10 times engine speed, and they were the first practical superchargers that blew through the carburetor as former ones had all sucked gas through the carburetor. Their use, however, failed miserably on the sleeve-valve motors, because extreme heat generated froze the sleeve valves. The adoption of the supercharger started with the model K and continued up to and including the SSK and SSKL. Then, a smaller type was fitted to the 380K, 500K and 540K. After the 540K was discontinued in the year 1941, super-

chargers were then used only as racing equipment and not standard on stock cars.

The story is often told of the Duesenberg drivers who thought they were champions of the highway and drove along in their contented bliss until they heard the shrill screams of a Mercedes-Benz following them and then pulled to one side of the road.

The supercharger could not be used for an extended time because the extreme heat generated could easily melt the manifold off the motor. In 2 minutes of steady use, the manifold becomes red hot, and if the supercharger is allowed to stay on longer, it will turn white and melt.

Many of the racing drivers who raced the models S, SS, and SSK were taunted by rival cars to use the supercharger to pass them and encouraged them to use it extensively, hoping that by this use they would damage their motors. Racing teams were admonished against the extensive use of the supercharger, only to use it for short, quick bursts of speed, thereby insuring success.

Many European cars used superchargers, and a few of them adopted the header exhaust pipe arrangement used by Mercedes-Benz. Also, a few American cars, including the famous Duesenberg and Cord, used them.

The sound made by the superchargers was different on the K, S, and SS models than on the later 380, 500 and 500K. I believe, of all the weird, high-sounding screeches, the 540K outscrambled all of its predecessors.

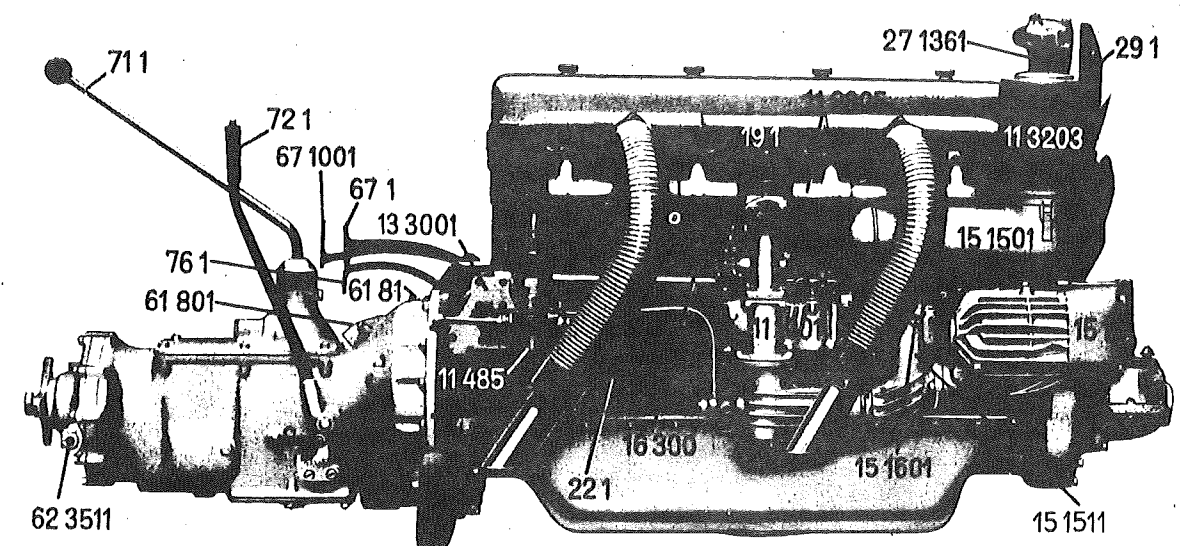


Fig. 3. Nearside view of the engine

- | | | |
|----------------------------|--|--|
| 11 485 = Petrol filter | 15 1511 = Air induction pipe | 61 831 = Peep hole cover |
| 11 1001 = Carburettor | 15 1601 = Air throttle | 62 3511 = Connection for the speedometer |
| 11 2305 = Induction pipe | 16 300 = Linkage of the supercharger | 67 1 = Clutch pedal |
| 11 3203 = Air filter | 19 1 = Exhaust pipe | 67 1001 = Brake pedal |
| 13 3001 = Petrol feed pump | 22 1 = Starter | 71 1 = Gear shift lever |
| 15 1 = Supercharger | 27 1361 = Cooling water governor | 72 1 = Hand brake lever |
| 15 1501 = Noise damper | 29 1 = Fan | 76 1 = Accelerator pedal |
| | 61 81 = Screw on top of the fly wheel mark | |

Also, on the later 3 cars, which were built from '32 to '41 starting with the 380K and succeeded by the 500K and 540K, the application of the supercharger was vastly different than on the former cars.

I could never find out why the supercharger operated when the car was cold. I dismantled my 540K motor and found that the only thing that kept the clutch drive operating the supercharger when the motor was cold was that the viscosity of the oil between the clutch plates allowed them to stick together; and when the oil warmed up, the plates separated and the motor operated without the supercharger. However, on the latter 3 cars, the application of supercharger at high speeds was exactly the same as the early models; namely by flooring the accelerator, the supercharger came into action.

Many experiments were made before the Roots supercharger was adopted. The superchargers are not satisfactory at low speed as the motor must be revved up before the supercharger is brought into play.

England brought out several supercharged motors, the 1 1/2 and 2 liter jobs, known as the 12/40 and the 16/50. They were very expensive cars. Mercedes-Benz also experimented on several of their 12 cylinder cars by using a two-stage supercharger, which was designed primarily for racing and never used in the production cars.

I believe everyone will agree that superchargers are synonymous with Mercedes-Benz, and when one thinks of the huge supercharged racing giants of the past, they think of the

scream of the supercharger as it passed its rivals either on the track or on the road.

The Mercedes-Benz 500 and 540K were known for their beauty and performance on the street and not on the racetrack. The 540K's, when introduced in 1936, replaced the 500K although there was much similarity between the two models in body design. They are hard to tell apart.

The 540 had a bigger displacement engine and therefore developed more horsepower. Total production of supercharged Mercedes-Benz from 1934 to 1941 was 853 cars.

356	500K	('34-'36)
485	540K	('36-'40)
16	770	('38-'41)

To drive one of these cars is an experience all by itself. When you get behind the wheel you can feel the power just waiting to be used. You look over the long hood and see the heat dissipating from the radiator. (If you ever see a 540K, do not touch the radiator). When I drive my car at a speed of 50 mph, on the freeway, the engine is very quiet and is turning only 1500 RPM. When it comes to passing, the power is there when needed. By pressing the gas pedal past the first stage the supercharger is engaged, and there is instantly 50 more HP available. It feels much like driving a modern car with automatic transmission when you hit the kickdown.

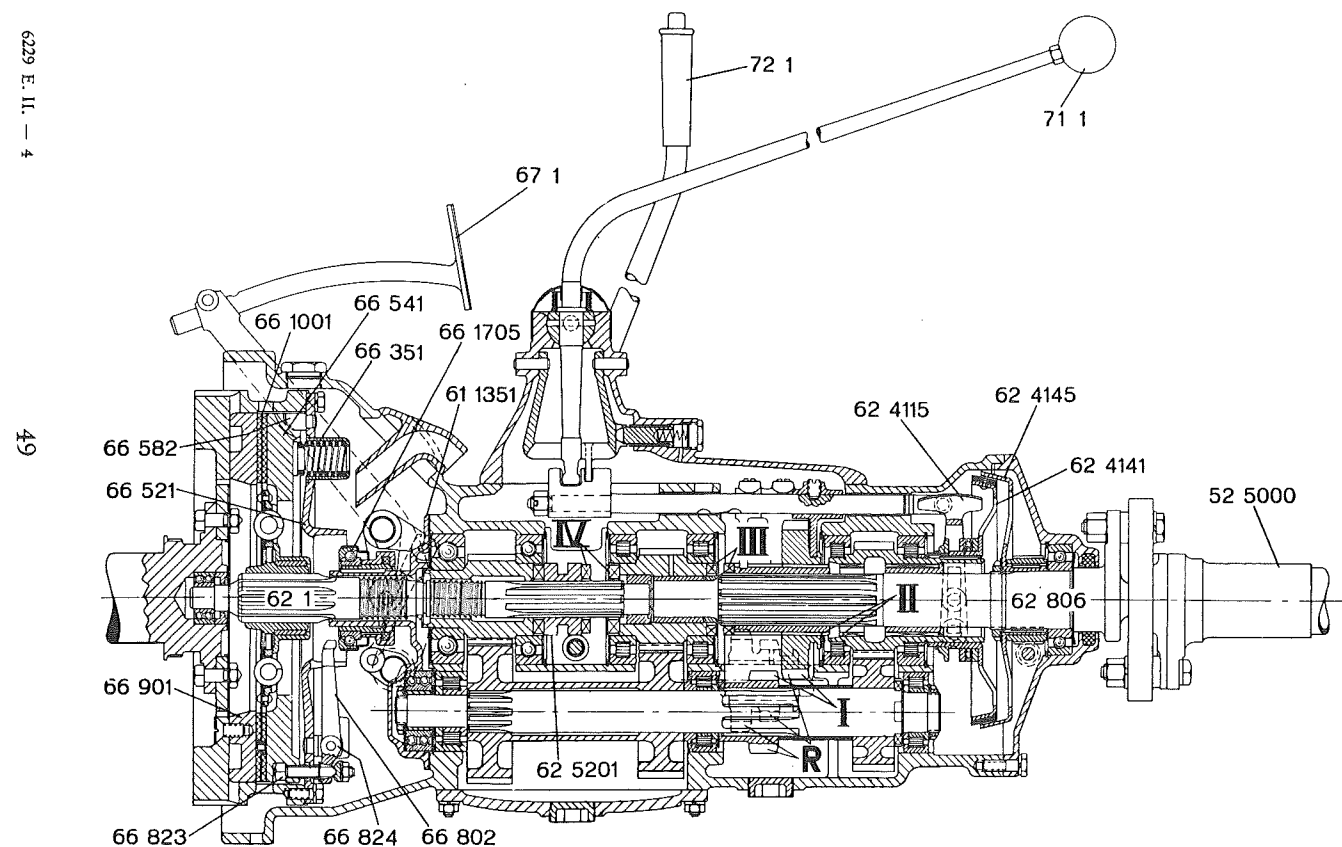


Fig. 19. Clutch and gear box

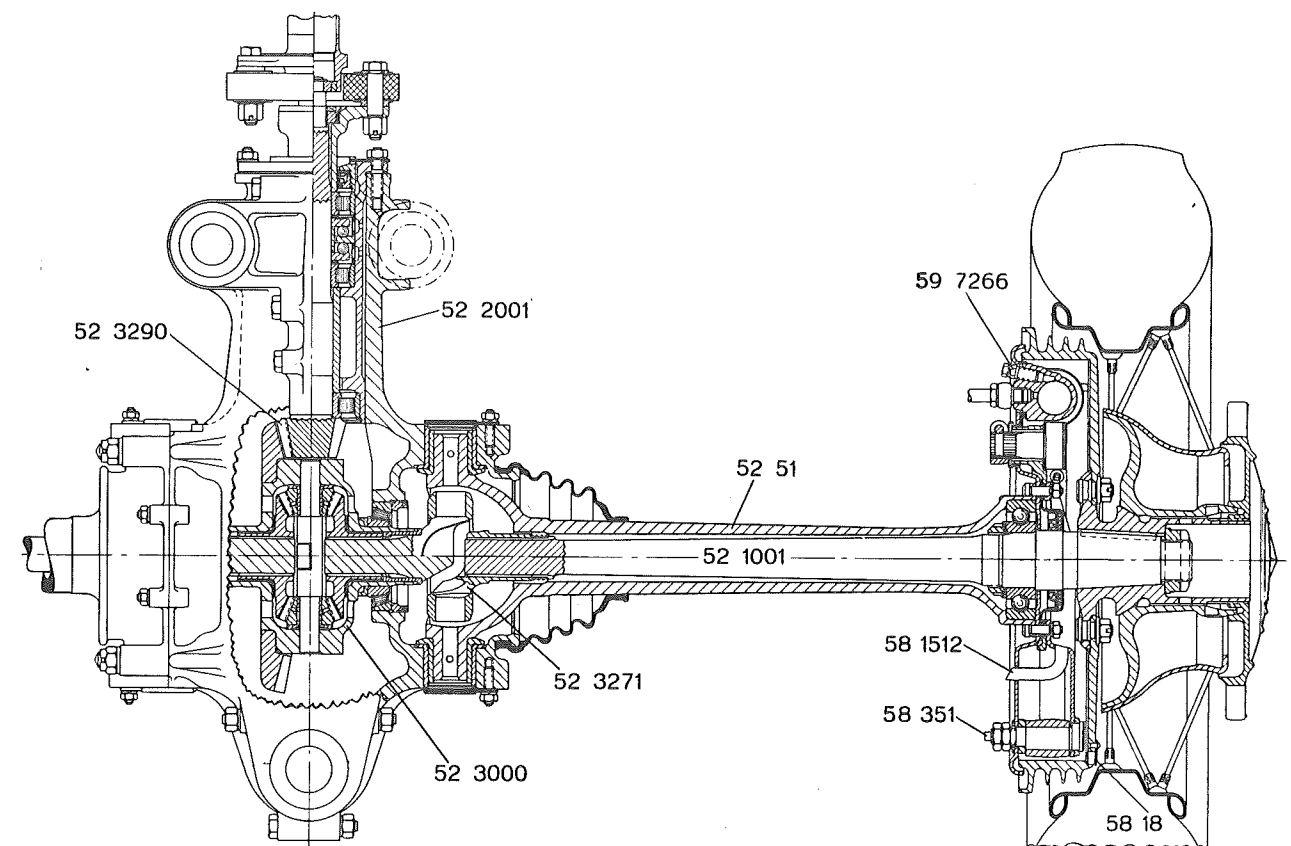


Fig. 20. Back axle drive

The supercharger is never engaged when running on the Petrol reserve!! On engaging the supercharger a small cylinder positioned on the extreme left side to the generator will be subjected to pressure through the pipeline which effects a displacement of the piston in the cylinder towards the front and times the ignition for retardation. On touring cars, which are not fitted with this automatic ignition timing device, the hand lever on the steering wheel must be moved into its upper position on retardation of the ignition as soon as the supercharger is engaged to prevent irregular working of the spark plugs.

The supercharger is located in front on the side of the engine, and forms, together with the drive, the clutch and the stop brake, a self-contained unit which is mounted in a completely assembled unit. It serves the purpose to temporarily furnish air to

the carburetor under high pressure in order to increase the weight of the charge and thereby the power output of the engine. The supercharger is comprised of a casing fitted with cooling fins and is enclosed with a noise-dampening device which forms an integral part of the casing in which rotate two horizontally arranged supercharger blades so arranged that one of the blades drives the other by the aid of a spur gear set that has been keyed to their shafts. The supercharger sucks air through the filter and the noise dampener and then forces it through the carburetor, where it is mixed with the atomized fuel in a degree depending on the automatic adjustment of the carburetor, to be forced on to the cylinders by way of the engine suction pipe line.

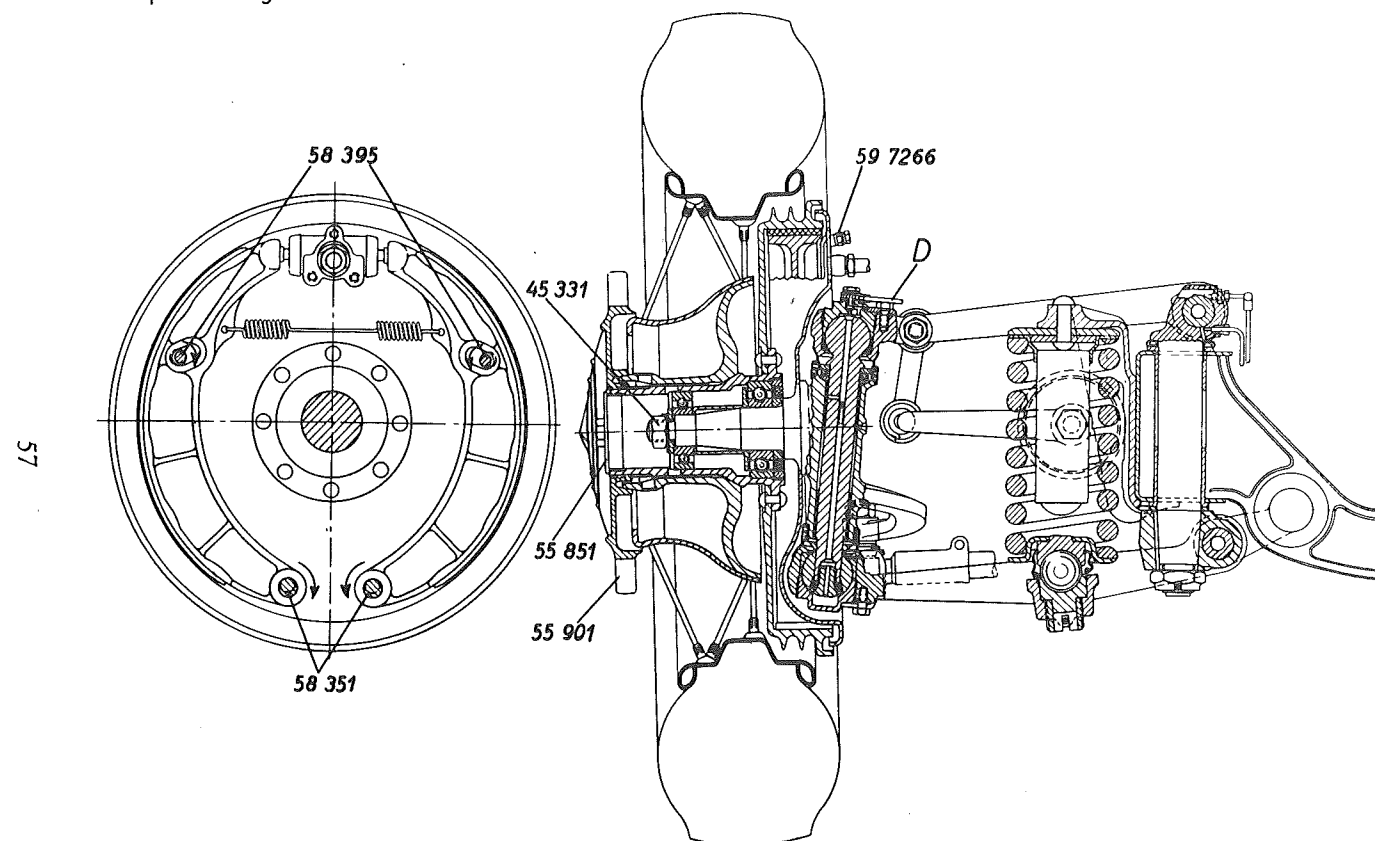


Fig. 22. Independent suspension of the front wheel

The supercharger is engaged by fully depressing the accelerator pedal, which in turn engages the multiple disc clutch that is located on the front end of the crank shaft, and simultaneously brings the pair of bevel wheels that drive the supercharger blades into rapid rotation.

On disengaging the supercharger, a multiple-disc brake of a design similar to the multiple disc clutch, which is located on the same shaft, provides a quick stopping of the rotating masses.

Full gas admission is accomplished by depressing the accelerator pedal over the first stop, which is easily felt, to its position of end travel.

The supercharger must be disengaged as soon as the revolution counter on the dash board passes the figure "3400". Releasing the accelerator pedal must be done rapidly.

The supercharger provides an increase in power output of about 60% with a corresponding increase in acceleration. Unnecessarily engaging the supercharger presents no advantage as this simply leads to an excess of engine speed coupled with an excessive top speed of the car. The primary object of the supercharger is to give the car quick acceleration to the highest admissible top speed; moreover, it is intended to aid in managing hills at high speeds and in high gear, and to avoid the changing back to a lower gear which would otherwise be necessary.

The supercharger must never be engaged for more than one minute and should never be engaged as long as the engine speed is less than 1000 R.P.M.

The accelerator pedal with its fulcrum on the gear box is arranged on the right side of the brake pedal. The rods that lead to the lever on the throttle valve shafts are connected with the upper part of the accelerator pedal and by depressing the accelerator pedal the throttle valves travel within wide limits and by this means varies the fuel and air composition of the explosive mixture. Increase in engine speed is dependent upon the amount of depression or travel of the accelerator pedal and carries a roller which, with the throttle valves being open and on further depressing the accelerator pedal, comes to rest against a catch lever that is rotatably mounted on the engine and causes this to be displaced towards the front. The upper forked end of the catch lever thereupon engages the rods that engage the supercharger and with this latter in its lowermost position comes to lie in a rounded-out part of the catch lever so that the accelerator pedal is relieved of its load to a certain degree. The accelerator pedal, as soon as the pressure upon it is released, as well as the rods, are brought back into their position of full throttle by means of a recoil spring, and the supercharger will again be thrown out of commission.

The supercharger clutch that is mounted on a tubular extension of the crank shaft is comprised of a great number of steel discs, of which one part engages alternately with their teeth the ledges of the taper hub and the other with their teeth the inside edges of a tubular part, which is the clutch drum. The latter carries on its circumference the spur wheel that serves to drive the supercharger. If the accelerator pedal is fully depressed, the rods pull the lever which in turn rotates the forked lever and thereby shifts the clutch

collar. The pulling of the lever thus causes a shifting of the clutch collar in an axial direction towards the crank shaft which causes the clutch discs to be pressed lightly against one another and thereby the clutch drum and the spur wheel of the supercharger to participate in the rotating motion of the crank shaft. The recoil spring causes the lever mechanism to be shifted in the opposite direction as soon as the accelerator pedal has been released and the clutch collar then slides toward the outside, which separates the discs, and the supercharger is thrown out of commission.

In order to prevent the blades from spinning for an extended time after the clutch has been disengaged, an extra set of disc pairs has been arranged besides the disc pairs of the clutch and has been positioned directly behind the outer ball bearing of the clutch drum. This extra set of disc pairs acts as a brake and causes the supercharger to be stopped instantaneously, once the clutch has been disengaged.

The fourth gear is engaged without the necessity of actuating the clutch, by bringing the ball-headed lever from its position in the third gear laterally into a position to the right and then forward. The accelerator pedal must thereupon be released quite gradually to provide gas after about two seconds; this procedure will engage the fourth gear. To disengage the fourth gear, take the ball-headed lever back from its position, shift it laterally towards KKK, release the accelerator pedal and provide gas again after about half a second in a very cautious manner. When applying the brakes sharply, or when having to stop suddenly, provide gas again for a short

interval after the ball-headed lever has been placed from its position 4 back into its position of third gear, so as to obtain an engine speed which adapts itself to the higher number of revolutions of the cam shaft, whereupon the ball-headed lever can be put back into its idling position without any difficulty.

The actuation of the fourth gear is quite simple, with the engaging and disengaging action proper being accomplished automatically in the gear through a reduction or increase in engine speed by the aid of a special dog clutch. Care must nevertheless be taken, as has already been repeatedly stated, that the normal clutch, which is positioned between the engine and the gear box, is never actuated on engaging or disengaging the fourth speed.

The driver will find out for himself the correct intervals between the depressing and the releasing action of the accelerator pedal for engaging and disengaging the fourth speed, and he will easily feel when the engagement of the dog clutch to its suitable position has taken place.

The dog clutch will fail to engage suitably if the interval between the releasing and the depressing of the accelerator pedal is too short (less than two seconds) when engaging the fourth speed, and in this case, the engine will start to race. All that is necessary if this occurs is to release the accelerator pedal again and to wait for two seconds whereupon the dog clutch will automatically engage. Disengaging the accelerator pedal too quickly on disengaging the fourth

with 2 passengers outside. Due to the numbers, we have to also assume the victoria intended to have either wind wings or quarter windows, hence the 2 doors, 5 passengers, 6 windows API (or passengers inside). It was earlier stated that these cars were to have many innovative and unusual differences from the cars of their day - indeed cars of any day - not the least of which was the uneven number of cylinders in a flat opposed block. A 4-3, a 5-4 and the extremely powerful 6-5. The 9 was to be the backbone of the line. The intended 7 cylinder engine was never built, not even a prototype, as far as we can determine, and the 11 (proposed in early planning sessions as a 13, but local superstition caused the reduction to an 11) was to be the answer to the 12 and 16 cylinder engines of competing companies.

With this type of creative and advanced engineering being done, it was only a matter of time before both the bi-phaser and ventnour valves were conceived. In later articles, the actual workings and performance of the engine will be gone into in detail. We will only say, at this time, that in the case of the ventnour valve the idea to chrome it was strictly a Beasley innovation. A tribute to the attention to detail one has come to expect in a true classic. Is it any wonder then that at swap meets all over the country, and especially at Hershey in the fall, one so often hears the question, "do you happen to have a chrome plated ventnour valve for a 1929 Beasley?" Men who have never even seen a Beasley continue to seek this memento of a lost era. The man who can point with pride to this elusive single part of one great automotive developer's dream, says to the world, "I am a man dedicated, nay maniacal, about the restoration and preservation of the classic car."

But enough of sentiment, back to the construction and design features that made this car unique above others. In an attempt to create a work of art, only the finest materials were used in its construction. Beasley, feeling that metal was crude at best, elected to use wood exclusively. The body of the original sedan was Rosewood a la the famous Espano Suiza of 1927. This, of course, did not present the engineering concern that was created by his decision to also use wood everywhere else in the automobile. The frame itself was not too big a problem (and a nice touch was the hand-carved diamond pattern). The real problem arose with the axles, the differential, and especially the brake drums, which had a tendency to catch fire if the car was stopped suddenly from any speed above 22 miles per hour. For some reason that was the critical speed. The Beasley Co. was still working on an idea for small water casks attached to each wheel when the company went under. Suspension, on the other hand, was a master stroke. No shocks, no springs, but the now famous "wicker wheels." Each wheel unto itself was a work of art, and woven by a little known tribe of Samoan wicker weavers brought to this country at Beasley's insistence and personal expense - lock, stock and village. Remnants of their village, and a few artifacts, can still be found on a site near Monkey's Eyebrow.

The principle, of course, was a simple one. The woven wicker, with its natural flex, would absorb all road shock in the wheel itself and thus was born the first approach to today's accepted and experienced independent suspension.

speed will cause jerking owing to the impact of the clutch teeth against one another, and this must be avoided.

To obtain faultless gear shifting the engine must be set on as slow an idling as possible.

The fourth gear has been provided with the main object being to reduce engine speed and thereby to reduce the wear and tear of the moving engine parts,

rather than to increase the top speed of the car. The fourth gear, for this reason, provides an advantage in drives over even, straight roads.

Engaging the fourth speed thus only yields an advantage when driving at higher speeds. The fourth gear should never be engaged at low speeds (i.e. at speeds below 50 kms. or 30 miles) and never when driving in town or over curved and hilly country.

