

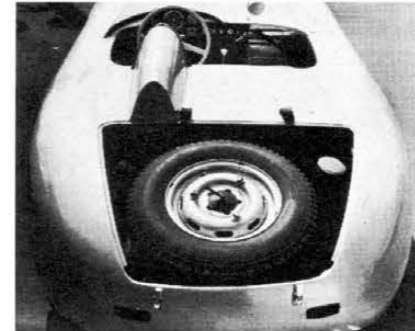
## cover car



# The Screamers' KISSIN' COUSIN



SCI's tester, Russ Kelly, gets a cockpit check from owner Chuck Porter before moving onto track.



Dunlop Extra Super Sport spare is carried in aft compartment in compliance with FIA code.



Dash panel, seats, and placement of gauges are Porter's design. Wheel and shift are stock Merc.



Kelly drifts the Stuttgart imitation through the esses at Willow Springs.



At San Diego, Chuck Porter placed second in class to one of Enzo's potent 3 litre Monzas.

WHEN THE CARS pulled onto the starting grid for the main event at the Pomona circuit recently, eyes popped all through the pits. There, apparently, lined up with an assortment of Ferraris, D-Jaguars and backyard bombs, was a Mercedes 300 SLR.

Actually, of course, it was nothing of the sort, for the factory retired those astonishing racers from active competition many months ago. What the drivers and mechanics were gaping at was the Mercedes 300 SLS (the second S for "Scrap"), a Special making its debut out of Chuck Porter's body shop in Hollywood.

The marked resemblance to the 300 SLR is more than mere coincidence. Porter designed the car from his own shop walls, which are adorned with European race posters picturing the silver screamers. The only deliberate deviations are a higher front end—to provide clearance above the stock radiator—and the switching of the headlights from the fenders to the grill opening.

The story of the Mercedes 300 SLS is every bit as striking as its appearance. It all began when a 300 SL went out of control, flipped on its lid, skidded 1300 feet and burned. The driver came out of it feeling not much worse than the insurance company when they had to 'total' the car.

It cracked, broke or burned nearly everything listed in the stock inventory. And the remains were all bundled up in a package that measured about three feet at the top of the 'gull wing' doors, which point was about three inches lower than the hood line at the time.

For six months the car sat in a wrecking yard collecting rust and corrosion. At that point, Porter, a body shop owner, entered the picture. This looked exactly like what he had been searching for—the basis for a really potent special at a price he could afford. A few days and \$500 later, he dragged the car away. And "dragged" is the right word; one side of the frame touched the ground and pieces trailed out behind it.

Porter considered the situation from all angles and came to the conclusion reached by many car lovers before him—

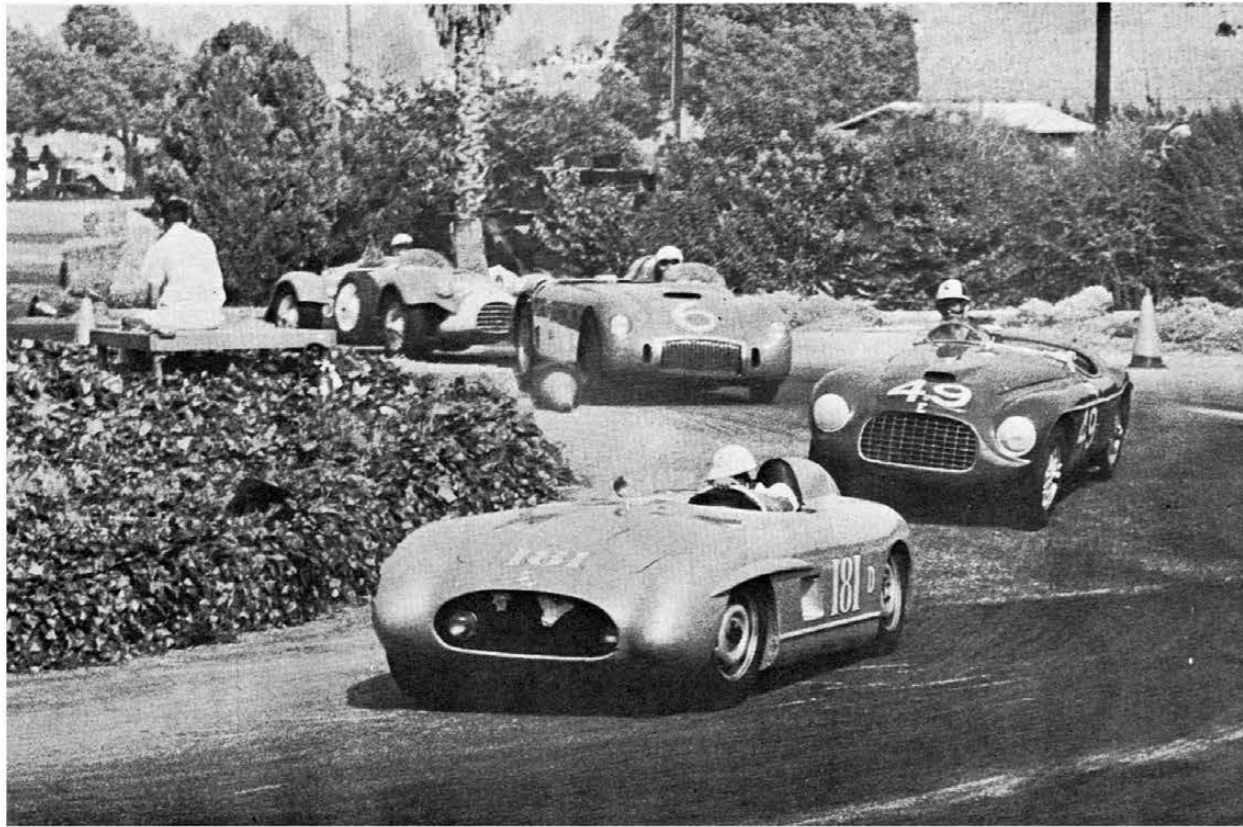
there isn't much you can do to a Merc to improve it mechanically. Consequently, he decided to restore the chassis and engine as new and concentrate on cutting the weight down by building a new super light open body resembling as closely as possible the factory SLR.

When the work began, he probably entertained doubts as to whether the \$500 buy had been such a bargain after all. Many hours of work with a torch were required to remove the body. When the body was removed, it revealed a mass of broken and bent tubes that little resembled the neat geometric pattern that was covered at Stuttgart. In addition, fire damage had been more extensive than Porter had first realized. Few of the smaller aluminum castings could be salvaged. Unfortunately, this included expensive brake drums and the fuel injection pump.

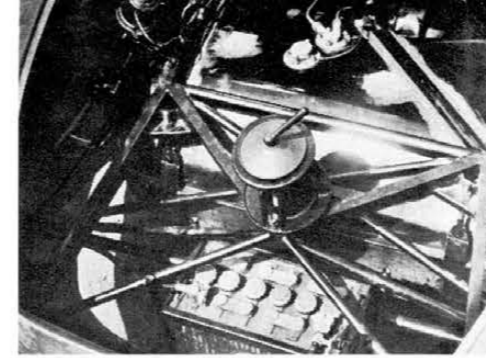
Rolling up his sleeves and recruiting his friends, Porter began what is probably one of the fastest jobs of Special building on record. Only by extensive use of the frame rack was it possible to pull the chassis frame back into enough shape so that bent tubes that were beyond repair could be replaced. By working eight and ten hours a night after his shop closed, the damaged parts were either repaired or replaced by the end of the week and the rebuilding began. When the chassis was ready for wheels, Porter made his first departure from stock by fitting magnesium wheels.

In addition to the fuel injection pump, a major casualty, the engine suffered from having been left in the open for six months with a damaged cam cover. However, by careful cleaning, most of the original parts could be used in reassembly. The only improvement on this engine, almost new at the time of the accident, was the installation of the factory's optional competition cam.

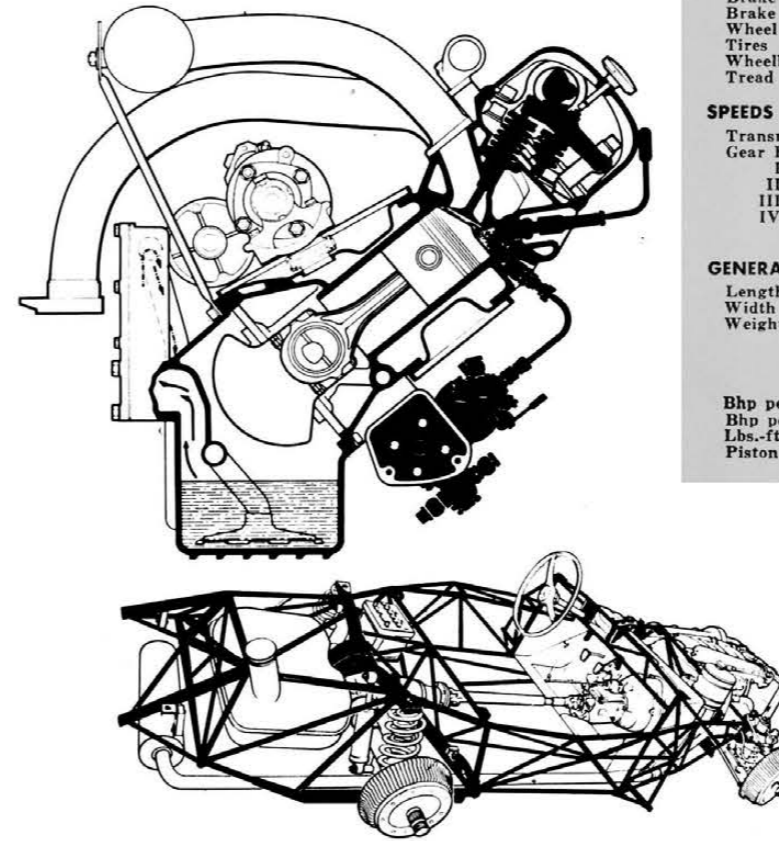
With the car ready for a body, Porter purchased \$500 worth of .064 aluminum, took his plans to Jack Sutton, noted California body builder who formed the compound bends, then carted the bundle back to his shop to tackle the job of final



The 300 SLS coming through one of the tightest turns at Pomona. In spite of difficulty with the fuel injection timing which left the car embarrassingly short of revs, Porter finished eighth overall, and recorded 3rd in class.



ABOVE: Removed spare uncovers tank, high boost fuel pump (left), battery, and part of rear suspension. BELOW: Drawing of 300 SL engine. Damaged parts included injection pump, cam cover, and intake tubes.



**SPECIFICATIONS**

**ENGINE:**

Type	In-line six
Horsepower	240 bhp @ 6100
Torque, lbs.-ft.	217 @ 4800
Bore, stroke	3.35 x 3.46 ins. (85 x 88 mm)
Displacement	182.8 cu. ins. (2996 cc)
Bore-stroke ratio	1/1.04
Compression ratio	8.55/1
Valve train	Parallel valves, single overhead camshaft, chain driven
Fuel System	Robert Bosch direct, timed fuel injection
Ignition	Robert Bosch battery & coil ignition
Lubrication	Dry sump

**CHASSIS:**

Front suspension	Independent with coil springs, forged, unequal length wishbones
Rear suspension	Independent with two-pivot swing axle, coil springs, hypoid bevel gears
Shock absorbers	Double-acting hydraulics, front & rear
Steering	Daimler-Benz recirculating ball type, hydraulically damped
Steering wheel turns	1.7 from lock to lock
Turning diameter	38 feet
Brake drum dimensions	Width 3.54 ins., Diameter 10.23 ins.
Brake lining area	258 sq. ins.
Wheel studs	Five, .55 ins. diameter
Tires	6.50 x 15 Dunlop
Wheelbase	94.5 ins.
Tread	54.5 ins. Front, 56.5 ins. Rear

**SPEEDS AVAILABLE IN GEARS:**

Transmission Gear Ratios	Approximate Speeds with Optional Final Drive Ratios - MPH			
I-3.34 to 1	4.09 to 1	3.64 to 1	3.42 to 1	3.25 to 1
II-1.97 to 1	34	39	42	44
III-1.385 to 1	59	67	71	75
IV-1.00 to 1	84	96	101	107
	127	145	155	161

**GENERAL:**

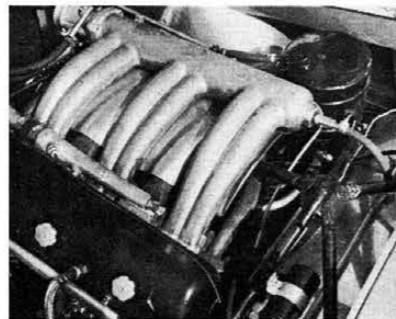
Length	16 ft. 10 ins. (178 ins.)
Width	5 ft. 10.5 ins. (70.5 ins.)
Weight	2557 lbs., dry, 2855 lbs. ready to go with full fuel tank (34.5 gals.)

**RATING FACTORS**

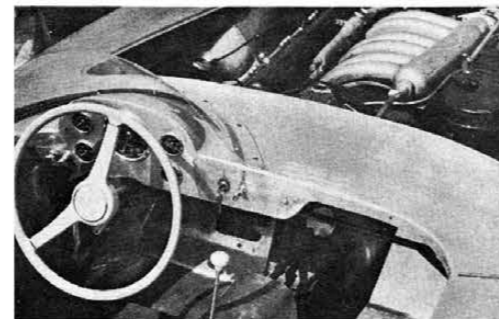
Bhp per cu. in.	Racing cam	1.31
Bhp per sq. in. piston area	Racing cam	4.54
Lbs.-ft. torque per cu. in.	Racing cam	1.19
Piston speed @ 6400 rpm		3575 ft. per min.



Reventlow, Porter, and Kelly (in car). The fast, aluminum bodied 300 SL was brought in as a comparison to the SLS.



Mercedes 300 SL engine after restoration. There is virtually no trace this engine was once a melted mess of metal.



Steering wheel is stock 300 SL as are instruments and stick shift. Note floor step for leg comfort.

shaping and fitting the skin to the renovated discard.

This kind of a car taking shape in a body shop located in Hollywood couldn't escape a lot of attention. Mysterious rumors started; the most popular reported that Porter had a pipeline to the Mercedes factory which was supplying him with full information so that he could bring the engine up to 300 SLR specifications. This tale was apparently widely believed by people who find it difficult to count above six. At any rate, the bench racers kicked the car around quite a bit and their arguments about whether it would go or not usually deadlocked at the it-will, it-won't stage.

Most of the conflicting reports on the performance possibilities of this car can be settled by simple arithmetic. A good slightly modified 300 SL fuel injection engine will pull 240 BHP on an engine dyno. Chuck Porter's SLS weighs 1750 pounds. Add another 250 for fuel, oil and driver and you come up with around eight pounds per horsepower. A modest

acquaintance with the rear suspension of gull wing Mercs assures you that the swing axle will efficiently translate into acceleration a high percentage of the torque coming off the back of the gearbox. So here in the tricky world of automobile arithmetic is a car that should perform creditably... but how about the two most important variables—the ability of the driver and the handling characteristics of the car on the course?

Porter has the often-heard answer for the first question, "If I can't drive it, I'll find someone who can." This is, of course, a loaded statement, but Porter is believable when he says it. For the second of the big questions, Porter invited SCI to determine the answer at Willow Springs.

It seemed a good idea that since the SLS is little more than stock, with the exception of the lightweight body, that it should be directly compared on the course with a fast 300 SL coupe. It turned out that the fastest coupe on the west coast,

It took a week to straighten and replace the bent and cracked tubes to the original form, shown in drawing.

even though in concours condition, was available. Belonging to Lance Reventlow, it is fitted with a special factory aluminum body, has a number of magnesium castings substituted for the stock aluminum ones and has magnesium wheels. The suspension has received attention in the form of competition springs and shock absorbers. The engine has the racing camshaft and has also had a few hours spent on it by people who know what they're about.

On the trip to the course, the 300 SL proved to be the sort of a road machine you dream about but never even have a chance to use—the finest things in life are very costly indeed.

Fully warm from its run from Los Angeles, the coupe was used to scout the course. A few fast laps brought home forcibly the fact that even if it is "without exception a Gran Turismo machine par excellence", it still isn't a car you can enjoy in closed course competition. When you're in a hurry the acceleration can be called almost frightening but that's



Porter at Pomona. This was the first race after the restoration. At Santa Maria, the 300 SLS ran to an overall first place in one race.

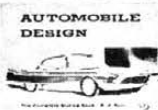
nothing compared to what you might call trying to stop. Since the end of every straight is usually attached to a corner, the ability of the brakes to deliver you there at sometimes risky velocities sets you up beautifully for the Teutonic Sunday punch—this car in a corner will pick you up on your slightest indiscretion and turn you every way but loose.

The habit of coming suddenly and violently unglued is supposed to be a little more subdued with the competition suspension, some drivers even claiming that with it you can actually pick the point you're going to leave the road. These are harsh words, but for all its publicity, the 300 SL is not a racing car and nothing could make it more apparent than a switch from it to Chuck Porter's SLS.

When you drop into the sparsely padded seat of the SLS, you're immediately aware that Porter has magically caught that indefinable feel of a business-like car as well as the looks. All the controls are placed conventionally and comfortably.

(Continued on page 52)

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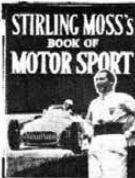


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## 300 SLS

(Continued from page 11)

Most of the instruments are stock, although a speedometer is not fitted. After the ritual of checking the pedals for foot clearance, (you've only got to catch your foot once between brake and throttle pedal to find out how really hard some little things are to explain), a flip of the fuel pump switch, a quick turn and release of the ignition key and about 240 bhp sit idling quietly waiting.

The clutch is surprisingly light in operation but has a healthy bite. The standard first gear is of a fairly low ration and makes light work of getting this car off the mark.

### TRIALS

The first laps were as sedate as an old-fashioned waltz. The coupe had made an indelible impression, but it didn't take long for the obvious ability of the SLS to get through. To put it bluntly, the car handles.

Although some of the characteristics of the coupe are still apparent, they are so to a lesser degree. On entering a fast bend, caution is demanded just as with the coupe because the condition of oversteer is still present. The latitude for an error in judgment just isn't as great as it might be with a car of neutral, or understeering, characteristics. The brakes are excellent and according to Porter, they have never given trouble through fading. Although acceleration below 60 mph is not shattering, above 60 it's pretty stout.

One hundred and twenty-five mph could be reached consistently by the end of the main straight when lapping seriously. The lack of everything it takes to really get out of the chute does not hurt the speed at the end of a quarter mile, 103 once being recorded, but it does reflect itself in the elapsed time. Best elapsed times are in the neighborhood of fourteen seconds for the standing quarter. There is the definite feel of plenty of hp at the rear wheels in cornering that is reassuring and this combined with slight oversteer makes interesting work of Willow's tight corners.

During the afternoon Reventlow and Porter traded cars in a generous manner, with Kelly making sure that he wasn't forgotten (did I hear someone say something about a nice job?)

In this little game of musical chairs, played here with \$10,000 automobiles, each of the drivers found himself to be on the average of ten to twelve seconds per lap faster with the SLS than with the coupe. In view of the high speeds

involved, this is an outstanding testimonial for the handling of Porter's car.

After initially trying the car, I remarked to Porter that it handled surprisingly well. It took me awhile to recover from the salty statement that came back from behind Porter's ever-present cigar. In essence it was, "What did you expect?"

Porter's right, it isn't surprising that this special is a potent racing car. It's just surprising that someone didn't think of it sooner.

The 300 SL prototype of 1952 that had all the competition running around in circles was a hot rod built by Uhlenhaut in the Mercedes factory out of stock production components. The stock SL of today is by all indications only a heavier and possibly higher powered version of that startling 1952 competition car.

Porter had the right idea, apparently so simple that it didn't occur to anyone else. Just by building a super light body on the SL, he made himself a reasonable replica of a car that would still not be outclassed today, the Mexico 300 SL.

The record of the car in races to date has been an encouraging one for Porter, whose road racing career began with the completion of the SLS. Although he had a successful career as a midget driver, he wasn't too certain of his ability to adjust to a road circuit.

### SLS's RECORD

The first actual test of the car came at a local drag strip. Speeds of 100 to 105 mph were recorded at the end of the standing quarter. Not too impressive when it's remembered that in overall competition this car runs against the Murphy Buick and the D-Jag, but creditable enough for what Porter calls an engine straight from the junk yard.

In its first race at Pomona, California, the car proved reliable and stable, recording third in class and eighth overall even though difficulty with the fuel injection timing left the car woefully short of revs. At Santa Maria, run under SCCA rules, Porter was accepted in the novice race and ran off and hid from everybody for an overall first place. This quickly graduated him from the classification of novice to senior driver where his entry in the senior main event gained him another first in class. A few weeks later at San Diego, in Saturday's racing, he placed second in class to one of Enzo's very potent three liter Monzas. In the Sunday main event, the reliability of the Merc saw him outlast the Ferrari and he gained another class first when the Monza lost its gearbox.

With five starts, three of them class wins, one second and one third and an overall first in the novice class, with no retirements and with a driver who admits himself to be inexperienced, Porter

has really set a precedent in Specials' Building. There's only one hitch. What else can be done to improve its performance?

The engine is notoriously hard to improve upon. Extensive bench testing and road testing of each SL before it leaves the factory insures that near maximum is being obtained. The camshaft can be changed to advantage and slight alterations in the injection timing can be made with noticeable improvement. Other than this, tuning becomes a series of little dodges, like running twelve quarts of oil instead of fourteen and blanking off the radiator so that the oil temperature is maintained at a high operating level or like changing the distributor rotor from the type with resistor to the type that does not have the resistor.

Little could be done with the compression ratio without really extensive modifications. Stock clearance between exhaust valve and piston on the exhaust stroke is one millimeter, or 39 teenie weenie thousandths of an inch. This should really give SL owners with a heavy foot the fits.

In contradiction to this, the performance of some of the SL's that ran the Mille Miglia would lead you to believe that somebody had monkeyed with them, and not just changed distributor rotors either. If the factory does have further modifications for the SL engine, they will undoubtedly let Porter know about them.

#### CHASSIS

The chassis, suspension, and body need very little modification from a performance standpoint. The installation of competition shock absorbers and springs combined with the low weight and the lowered center of gravity leave little to be desired, although the new low pivot point rear axle might result in higher speeds through the corners and better acceleration out of them. The brakes seem more than adequate. The available axle ratios make it possible to suit almost any course conditions.

Porter has proved pretty well that he has initiative, and you can be sure that the performance of this car will not remain static.

Perhaps this would be a good time to say a word about Porter and other specials' builders. Their cars are fast, terrifically so, compared to what you normally drive. All you have to do is unravel one of these things down off the hill and into the sweeping corner at Willow to feel a stir of admiration for these guys that build and race them.

Reventlow, who has proved himself a pretty heady and competent driver, made a statement that I most heartily agree with after trying the SLS, "It goes!"  
— *Mourning, Kelly*

## IS YOUR VOLKSWAGEN ANEMIC?

**E**VEN the most avid Volkswagen enthusiast will agree that his car could use more power and according to a recent survey, nearly 90% of the VW owners interviewed expressed a wish for more engine power. Although all were pleased with their cars, some said that driving on congested highways could be unsafe.

It's not hard to diagnose an underpowered car. The symptoms; a reluctance to get moving, a sluggishness when the light turns green, the inability to accelerate out of traffic tight spots in city driving, the necessity of keeping one hand on the steering wheel and the other on the gear shift lever, playing tag on the hills (passing everyone going down to gain speed and everyone passing you going up). Here is a typical situation in which an anemic engine can place you. You are traveling behind a large truck on the highway at a conservative speed of 50 m.p.h. You want to pass and see an open stretch in front of the truck. As you pass the truck you see another car approaching from the opposite direction. You step down on the accelerator but there is just not enough power there to pull you ahead and out of danger. To carry it one step further, when you drop back again behind the truck you find the spot occupied by another car. This lack of reserve power and the constant strain under which the engine is operating is transmitted to the driver in the form of tension resulting in fatigue which is the enemy of safe driving.

The best remedy for an underpowered car is to supercharge the engine. The Volkswagen engine is more than rugged enough to take low pressure supercharging without effecting its traditional economy and reliability. Supercharging, unlike engine modification does not change the natural characteristics of the engine nor does it increase the r.p.m. of the engine. The additional horsepower is made available through increased torque. A supercharger by allowing the engine to breathe better and more efficiently permits the engine to do nearly twice as much work with very little additional effort. Practically all trans-continental trucks, busses, locomotives and airliners are supercharged. Those who say that a supercharger has a harmful effect on the engine are mis-informed or are using as comparison high pressure supercharging as used on racing cars. Also of course, a few of the Volkswagen dealers will not recommend it as the car manufacturer does not approve of their selling any accessories other than those manufactured by themselves.

When you install a supercharger on

your Volkswagen you increase the horsepower by nearly 50%. It will give your Volkswagen the extra power you want and need. Instead of having one horsepower available for every 44 lbs. you have one horsepower available for every 26 lbs. of automobile which is the same power to weight ratio as the Ford and Chevrolet six. Instead of requiring 30 seconds to accelerate to 60 m.p.h. you can do it in 15 seconds, zero to 50 m.p.h. in ten seconds. This is the kind of performance you need to pass that truck and to eliminate fatigue from driving an underpowered car. It enables you to keep up with traffic regardless of the size of the hills, you can drive with both hands on the steering wheel and because of the additional power you have a much more flexible vehicle in traffic driving. One of the first things you will notice about driving your supercharged Volkswagen is the feeling of assurance you get from the additional power at your command.

The selection of a supercharger for your Volkswagen is somewhat limited as there are only two made in this country and two in Europe. The Judson however manufactured in Conshohocken, Penna. is acknowledged by automotive engineers everywhere as the standard of quality and performance. A few of the advantages of the Judson are that it requires less horsepower to operate, does not raise the temperature of the charge or fuel reaching the cylinder and is silent in operation. It is a vane type unit and is subject to less wear than other accessories now on the engine. Not only does this company guarantee its product unconditionally but they guarantee at least a 45% increase in horsepower at the rear wheels where it counts the most. The Judson VW Supercharger Installation is giving improved performance and bringing complete satisfaction to thousands of Volkswagen owners throughout the world. Many of these installations have in excess of 60,000 miles of hard usage on them without having ever been removed from the engine.

The mildly stressed Volkswagen engine is a natural for this "bolt on" method of improving performance and as a remedy for overcoming engine anemia. If you are a Volkswagen owner why don't you drop a line to Judson Research and Mfg. Co. in Conshohocken, Pa. and let them send you all the information on their VW Supercharger Installation. Get all the power out of your Volkswagen. Power that you never realized was there, smooth surging power that is always available with a supercharged engine.