

**POPULAR**

OCTOBER/1964

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# **IMPORTED CARS**

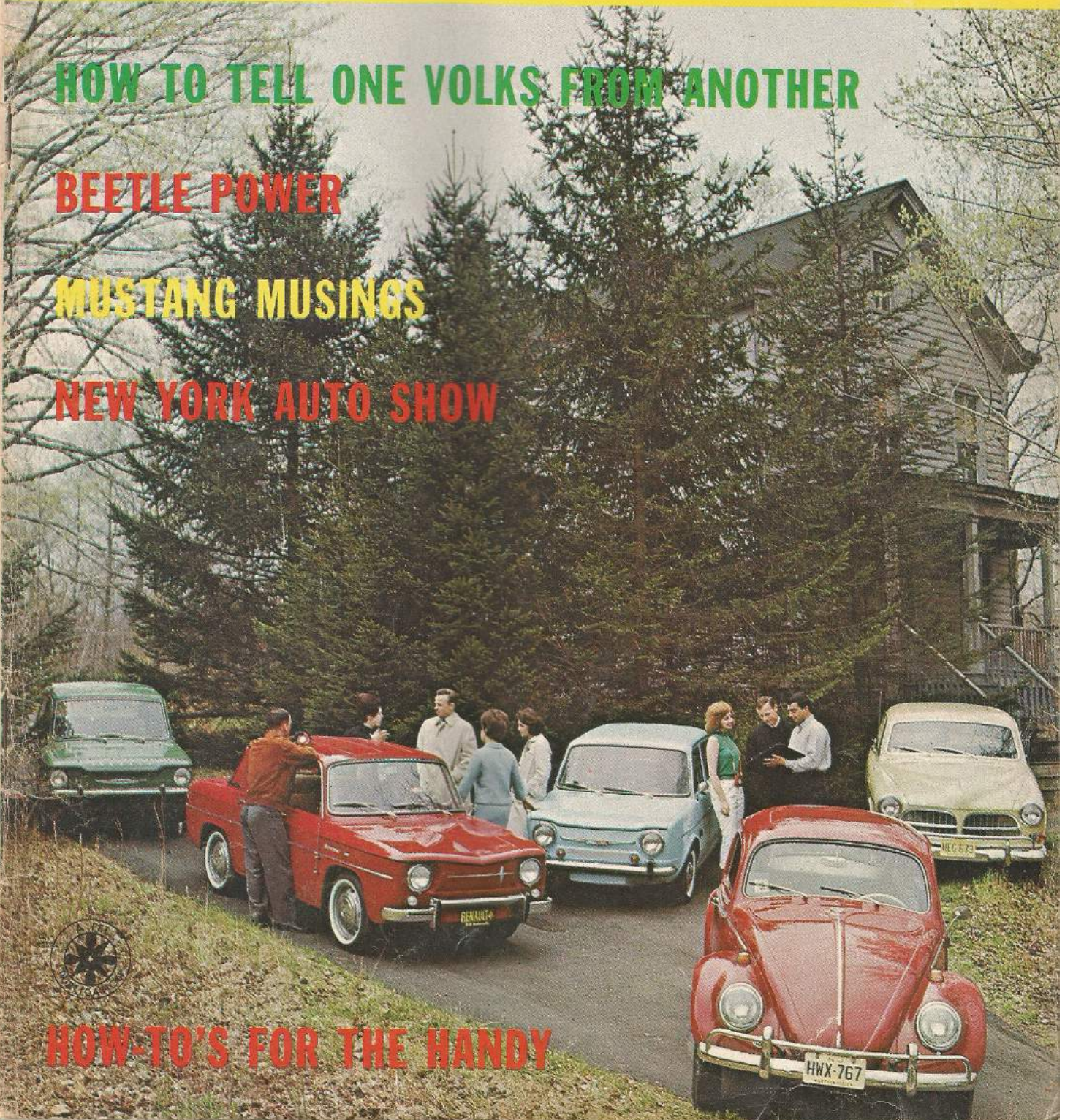
FEATURING VOLKSWAGEN, VOLVO, RENAULT, MG, TRIUMPH, SIMCA

**HOW TO TELL ONE VOLKS FROM ANOTHER**

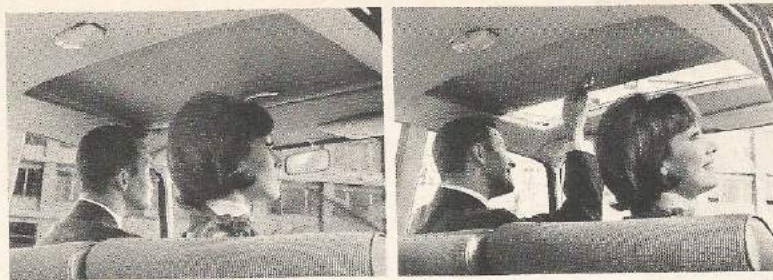
**BEETLE POWER**

**MUSTANG MUSINGS**

**NEW YORK AUTO SHOW**



**HOW-TO'S FOR THE HANDY**



Wait till the sun shines...



Come rain and Peugeot's sliding sunroof shuts up tight and dry. Come shine and you have the free feeling of open sky and cooling breezes.

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(Say Pooj-oh)

PEUGEOT 403



PEUGEOT 404



PEUGEOT 404 STATION WAGON



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San Francisco 22, Calif.

# POPULAR IMPORTED CARS



COVER: Accenting the theme of our Cover Logo, some of the extremely popular imported cars are deliberately presented in the photo. Stories on these cars (Volkswagen, Renault, Simca, Sunbeam Imp and Volvo) will appear frequently within these pages. Our thanks to the companies mentioned above for helping with this initial cover and to HEUER for the use of their timers. (Photo by Irv Dolin.)

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FEATURING VOLKSWAGEN, VOLVO, RENAULT, MG, TRIUMPH, SIMCA



► The mechanics of putting out a magazine like this are such that this editorial page appearing way up front was the last thing written before we went to press. Perhaps it was just as well because the compilation of this, our first issue, slanted toward an audience we've grown to know intimately over the past few years, turned out to be a series of far out adventures.

We can think of no better way of telling you what we propose to do with "your" new magazine than to let you know some of the things that happened in its preparation. First of all, the photo at the head of the column serves two purposes: it introduces the car which will appear within these pages again and again because many of the new products and "How-to's" you will read about in future issues were tried out on it. It also serves to introduce our ad representative, Miss Gay Praml, who, during the past few hectic months, did a little of everything, including modeling for the cover, tossing off press releases, running errands, plain typing—well, you name it and she probably did it to help get the magazine out. And this in addition to participating in a couple of beauty contests on the side!

Now, she's not the only one on our staff, of course. There's Miss Lisa Henri, who can cover a road race, interview and photograph the people you like to read about, sleep curled up on a hard bench in a smoker on a train so she can aid in covering a visit to an automobile plant in Canada, and she can road

test cars. . . . We'd like to tell you about that . . .

For our second issue we thought we'd like to bring you a woman's view of the new automatic Alpine and promptly got the car for Miss Henri. She picked it up on a Friday night and it was stolen that very

night! We went through a whole bit the next day trying to trace it in the wilds of Manhattan when, sure enough, the police apprehended two teenagers still driving it on the west side of town. They had caged money from their parents, ostensibly to go to the movies, and had bought gas for "their" car. They had driven it practically all Friday night, parked it, then retrieved it the next day, and, after washing it, proceeded to cruise the town again.

So, when the police notified us that the car had been recovered without a scratch, Lisa marched into the police station, right up to the two youngsters, looked at them sternly and asked, "Well, how did you like the car? How did it handle? Was it easy to drive?"

Result? A road test by two car thieves!

Miss Henri did the Marlboro story in this issue, including the photographs. We're running the photo of her in the P1800 Volvo which she used to drive to Marlboro to make up for teasing her about the unfortunate incident with the Alpine.

The other photographs of Gay Praml, we hasten to assure you, are posed. We did *not* make her polish the test car! She is, however, using our new Kozak cloth on it and we



Miss Lisa Henri road tests a P1800S. Her comment: "The Volvo's a great car if you don't mind being stared at! Of all the comments we overheard, our favorite came from two ladies who'd just gotten off a chartered bus at one of the Thruway rest areas. Taking her companion by the arm, one lady pointed and said, 'Now see, Mildred, THERE'S an attractive little car.' We had the 1800S for transportation down to Marlboro and back to New York, which is all expressway and the car goes faster than the speed limit allowed. But it's a dream to drive, even in Maryland's back woods." Photo by Bert Andrews.



Gay Praml, our East Coast "Ad Rep" and this month's cover girl, shown by our test car and under cherry blossoms, at that! Actually, there are some men involved in getting this magazine out but they were all back at the office when we shot this photograph. This type of thing is called "product evaluation," the product being the Kozak cloth which works well for us. We just hate to wash a car no matter how small it is!

mention this because this cloth is pretty much all we ever use on the car. In the other photo she points to a new set of horns we've installed on the Morgan. They are distributed by Small Car Essentials, Willowdale, Ontario, and really sound off when you press the button! We think they'd be a good replacement for the horn on the current Sunbeam Imp and some of the others.

While we're talking products, and before we're deluged with inquiries, the headrests on the Morgan are Colgan and are supplied by EMPI. The gauges in the engine-turned panel on the dash are Fisher Products' (Long Island, City, N.Y.) In-

door-outdoor Thermometer and their clock which Rover uses as standard equipment. But we'll tell you all about the instrumentation on our test car in the next issue. The Chargicator, under Gay's left thumb, in the lead photo has been on the car for over two years now and is about as close a watchdog on the battery as you can possibly get. We're pleased to have the distributor as an advertiser in this issue.

There is another device we've installed on the Morgan which we'd like to mention. It is called, "Cruise-Lok" and works to maintain your highway cruising speed without your constant foot-pressure on the



More product evaluation! These dual trumpet horns give out with a real loud blast but with a quite pleasant sound. They are good if you're thinking in terms of replacing the original equipment on your current Volkswagen.

accelerator pedal. You just go along at, say, fifty miles an hour, touch the brake lightly and the device locks the accelerator at that speed. It's all mechanical linkage and most simple to install. We've found it excellent for warming up the car in the morning while we're having one last cup of coffee and even for tuning the car. We've also driven other cars with this device installed (from VWs to Jaguars) and it works like a charm on all of them. It sells for \$9.95 and many users report a definite increase in gas mileage. We're checking this aspect out now for further reports. It's manufactured by the L. G. Arpin Co., 340 Mountain Ave., North Caldwell, New Jersey.

But back to the girls!

In our art department, we have Miss Ann Koedt, whose creative ideas helped immensely to make the magazine what it is. Unfortunately, she may not be with us too much longer what with other commitments which preceded our scream for help. She will probably reappear from time to time on the cover if you think she'd do well in that area . . .

Speaking of covers, we wanted our first picture to sort of back up the Logo and show some of the most Popular Imported Cars. If you think this is easy, try to get five cars and fifteen people to a suitable location all at once and on a clear day! Irv Dolin, whom you all know as a top

(Continued on Page 68)

# SPECIALIZING IN VOLKSWAGEN NUTS & BOLTS

*By Johnny Callender*

Since this is the first issue of PIC, we can't answer questions from readers. However, the following are the most typical and interesting questions asked of VW Dealers and beetle authorities.

If readers will submit their questions to Nuts & Bolts, Popular Imported Cars 47 Halsey St., Newark, N. J., we will do our best to answer the most interesting ones in this column.

**QUESTION:** How heavy a trailer can a VW pull? I understand you are not supposed to attach the trailer to the bumper. Is this true?  
**ANSWER:** Advice from Volkswagen on the subject is rather negative since they don't recommend pulling trailers at all. However, if you do, keep the weight down to 1100 pounds if the trailer has brakes of its own, 880 if it doesn't. The figures for the wagons and trucks with the 1200 engine are the same, and for the 1500, 1650 and 1100 respectively.

Quiet right. Don't attach trailers to the bumper, but rather to the rear torsion bar housings via a special hitch usually found at Volkswagen dealers. Another type hitch grabs onto the engine mounting yolk which is also ok.

**QUESTION:** Is it true that the 1500 S sedan requires high test gas?

**ANSWER:** Yep, it's true. The S model is the one with twin carburetors, 8.5:1 compression ratio and 66 horsepower. If your combustion chambers are clean, you get a high grade of low test gas and you retard the spark, you might get by, but it's not a good idea. See if it pings which is a sign you should

switch to high test, or something at least 95 octane. As a point of interest, the 36 hp sedan and wagon with 6.6:1 c.r. required 76 octane, as do the 40 horse, 7:1 c.r. sedan. The 40 hp wagon with 7:1 takes 86 oct., and the 1500, 50 hp wagon also needs 86. The normal 1500 sedan with 7.8:1 c.r. and 55 hp drinks 86 octane too.

**QUESTION:** What are the valve gaps on the various model VWs?

**ANSWER:** The old 36 hp engines whose gap opens up as the engine warms up gets .004 inch, the 40 hp, which closes down gets .008 inch, and the 1500 engines use .012 inch. Figures refer to both intake and exhaust and all are set cold.  
**QUESTION:** What's so good about the metric system?

**ANSWER:** So good is that it's faster, and because everything is a decimal multiple, there's less chance for mistakes, though the system itself is no more accurate per se. Linear measurements start off with the millimeter (mm) which is equal to .03937" (.04 for quick figuring), and then goes to the centimeter (cm) which is 10 times the value of a mm or .3937", and then to the meter whose value is 1000 mm or 100 cm or 39.37". One thousand meters equals one kilometer which, if you want it in inches is 39370.

In weights there's the gram (gr.) and 1000 times the gram, the kilogram (kg.) which equals 2.2 pounds.

In capacity there's the milliliter (very close to a cc) and 1000 times the ml, the liter. In volume there's the cubic centimeter (cc). The cc and the ml are so close they're used interchangeably and the cc is applied to engine displacement together with the liter. Thus the VW engine displacement is 1192 cc or 1.1 liter; in the U.S. we wouldn't mix systems like this and refer to an engine's displacement as a 1 quart or 32 oz. engine but rather so many cubic inches.

In automobilism, the commonly used metric measurements are the mm, m, km., gr., kg., cc., l.; thus, for some reason, the VW wheelbase would be referred to as 2400 mm not 2.4 meters which is the closer metric measurement. But then we wouldn't use yards to describe wheelbase but feet, even though yards are the largest American unit that fits into the wheelbase. Centimeters, for instance are left to tailors and carpenters, and milliliters to scientist.

Ever stop to think that our dollar system is basically metric?

**QUESTION:** Can Volkswagen light bulbs be replaced with domestic equivalents?

**ANSWER:** Yep. As follows:

Station Wagons and Trucks  
Headlights—#6006, Type 2 sealed beam  
Front Parking Lights—#81  
Front Turn Signal & Blinker—#1129  
Tail, Turn and Stop Light—#1154  
License—#81

Sedans

Headlights—#6006, Type 2 Sealed Beam  
Front Parking Lights—#81  
Front Turn Signal—#1129  
Tail & Stop Light (bottom bulb)—#1154  
Rear Turn Signal (top bulb)—#1129

License—#81

Karmann Ghias

Headlights—#6006, Type 2 Sealed Beam  
Front Turn Signal & Parking Light—#1154  
Rear Turn Signal (top bulb)—1129  
Brake Light (center bulb)—#1129  
Tail Light (bottom bulb)—#81  
License—#81

**QUESTION:** What are the red lines for on my speedometer?

**ANSWER:** They're the maximum shift points for each gear which generally should not be exceeded for the life of the engine. Going beyond them now and then by say 5 miles per hour, at least 3rd gear, isn't going to hurt, but they're there to tell new owners when to shift to the next higher gear. Unfortunately the minimum shift points aren't delineated to prevent lugging, which is harder to detect than overrevving, and much more likely to happen with lazy American drivers used to bigger engines. The chief gear lugging occurs in is high and the minimum here should be about 28 mph on level road, vehicle empty. Adjust it upwards for going up hill or with passengers.

**QUESTION:** Should my red and green dashboard warning lights go on when my engine is idling?

**ANSWER:** As long as they go out when you're driving, don't worry about them. Whenever you turn the ignition on, before starting the engine, take notice that they go on, as a check on circuits and bulbs.

**QUESTION:** The picture in my instruction manual shows only four lobes on the camshaft. Four cylinders times two valves should equal

(Continued on Page 70)

# How To Tell One Volks From Another

BY JED JORDAN

## How to tell what



YEAR

it is

It's easy to identify a Volkswagen—there's no real skill required. But to tell what year it is—that's another story.

It wasn't until 1955 that a "model year," beginning on August 1, was established at Wolfsburg. Before that, cars were built according to calendar year. A 1953 VW was one that was manufactured between January 1, 1953 and December 31.

To make age identification harder, many exterior changes as well as inside improvements weren't made at the beginning of the calendar or model year at all, but midway in a particular year's production run. The absence of the Wolfsburg crest on the front hood of the 1963 model is the only outside change that sets a '63 apart from a '62. Yet this change wasn't made until November—three months after 1963 production began on August 1. The older the VW the harder the spotting becomes.

Keep in mind that the features we show in pictures and list are characteristic improvements in a given model year and that the only sure-fire method of identification is to check the chassis number of the car in question, and compare it with the numbers listed.

Here are the changes in the newest Volkswagen—the 1964 model—as well as in models since 1949:

1964



Chassis Numbers:

5,677,119—



1. Sliding steel sunroof replaces the fabric fold-back sunroof.
2. Horn actuated by two thumb buttons, formerly by half-ring.
3. Larger Karmann-Ghia-like license plate light. (January 1964)
4. Aerated vinyl material replaces non-porous leatherette seat upholstery.

# How to Tell One Volks From Another

1949



Chassis numbers:  
91,922—138,554

1. License plate indentation on rear deck dropped
2. Inside pull cable release for front hood; formerly locking handle on hood
3. Solex carburetor introduced as standard equipment
4. Dashboard redesigned
5. Starting crank-hole dropped

1950



Chassis numbers:  
138,555—220,471

1. Hydraulic brakes introduced; formerly mechanical brakes
2. Ash tray introduced on dashboard and on right rear quarter panel
3. Noise mufflers for heating ducts added
4. Automatic air cooling by thermostatically controlled throttle ring
5. Fuel mixture heating device (heat riser) introduced.

1951



Chassis numbers:  
220,472—313,829



1. Chrome garnish moulding added to windshield
2. Wolfsburg crest added to front hood above hood handle
3. Vent flaps added to front-quarter body panels

1952



Chassis numbers:  
313,830—428,156



1. Glass vent windows added, formerly vent wings in front-quarter body panels
2. Heating control by rotary knob; formerly pull-knob
3. "T" type rear hood handle introduced, formerly loop-type
4. Two brake and tail lights; formerly one brake and stoplight in center of rear hood
5. Window crank makes  $3\frac{1}{2}$  turns; formerly  $10\frac{1}{2}$  turns
6. Glove compartment gets door; formerly open bin
7. Turn signal control moved to steering wheel from dashboard
8. 5.60 X 15 inch tires replace 5.00 X 16 tires
9. 2nd, 3rd and 4th gears synchronized; formerly crashbox

1953



Chassis numbers:  
428,157—575,414



1. Oval, one-piece rear window replaces split window
2. Lock button added to vent window handles
3. Brake fluid reservoir relocated behind spare tire; formerly at master cylinder.

1954



Chassis numbers:  
575,415—722,934

1. Starter now incorporated with ignition switch; formerly separate button on dashboard
2. Bigger, more powerful engine, hp increased from 30 hp (1131 cc) to 36 hp (1192 cc). 5.8:1 to 6.6:1 comp. ratio
3. Oil bath air cleaner introduced; formerly felt element filter
4. Break-in driving requirement dropped for engine
5. Automatic three-way courtesy light added
6. Top window in tail light housing dropped

1955



Chassis numbers:  
722,935—929,745

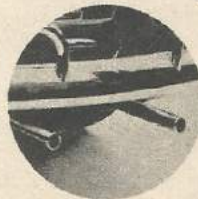


1. Flashing directional indicators mounted low on front fenders replace the semaphore turn indicators.

1956



Chassis numbers:  
929,746—1,246,618



1. Chromed dual tail pipes added; formerly single tail pipe
2. Tail light housings moved 2" higher on fenders
3. Bumper overrider "bows" added
4. Sunroof made of plastic fabric; formerly cloth fabric
5. Steering wheel diameter spoke (horizontal) moved lower, off-center
6. Heater knob moved forward; formerly located in back of front seats
7. Front seat backs now adjustable, formerly non-adjustable
8. Redesigned gas tank yields larger luggage space



**1957**



Chassis numbers:  
1,246,619—1,600,439

1. Tubeless tires replace tube type tires
2. Adjustable striker plates fitted to doors
3. Front heater outlets moved back to within 12 inches of door for better heat distribution

**1961**



Chassis numbers:  
3,192,507—4,010,994



1. Sunvisor and grab handle provided for passenger's side
2. Increased horsepower; from 36 to 40 hp
3. Automatic choke and preheater introduced
4. Transmission synchronized in all forward speeds
5. Flatter gas tank yields increased luggage space.
6. "Quick-check" transparent brake fluid reservoir
7. Push-on connectors fitted throughout electrical system
8. Pump-type windshield washer
9. Non-repeat starter switch
10. Key slot in doors changed from vertical to horizontal

**1958**



Chassis numbers:  
1,600,440—2,007,615



1. Brake drums and shoes widened for faster, surer stops
2. Rear window and windshield enlarged
3. Front turn signal lights moved to top of fender
4. Radio grill moved left, in front of driver
5. Accelerator pedal introduced, formerly a roller

**1962**



Chassis numbers:  
4,010,995—4,846,835



1. Spring-loaded hood
2. Large tail lights
3. Sliding covers on heat outlets
4. Compressed air windshield washer
5. Seat belt mounting points added
6. Gas gauge; formerly reserve fuel tap
7. Worm and roller steering improves handling; formerly worm and sector
8. Permanently lubricated tie rod ends

**1959**



Chassis numbers:  
2,007,616—2,528,667

1. Stronger clutch springs
2. Improved fan belt design
3. Frame reinforced for greater strength

**1963**



Chassis numbers:  
4,846,836—5,677,118

1. Leatherette headliner introduced
2. Wolfsburg hood crest dropped
3. Folding handle for sunroof added
4. Foam insulated floors
5. Fresh air heating
6. Nylon window guides

**1960**



Chassis numbers:  
2,528,668—3,192,506



1. Steering wheel "dished" for safety
2. Door handles became grab-handles with pushbuttons; were formerly pull-out lever type
3. Padded sunvisor; formerly transparent plastic
4. Anti-sway bar added for improved cornering, handling
5. Generator output increased from 160 to 180 watts
6. Steering damper added for improved handling
7. Foot rest added for front seat passenger
8. Seat back contoured for greater comfort, reduced driver fatigue

#### Where to Locate Chassis Numbers

Chassis numbers for the Volkswagen sedan are located in two places on the car's body: (1) Under the back seat, stamped on the frame tunnel, and (2) behind the spare tire in the trunk.

▶ The Volkswagen engine produces 40 horsepower at 3900 revolutions per minute of the engine's crankshaft, according to the Society of Automotive Engineer's method of rating. The German DIN (German Industrial Norm) system of measuring and certifying standards labels it at 34 horsepower, at 3600 rpm, but no matter what you call it, the performance is the same. At 2400 rpm it produces 65 foot pounds of torque.

Perhaps these terms should be explained. Torque is a twisting force about an axis, and can exist whether there is rotation about the axis or not. It is merely a force — if you push against the side of a house with all your might, the

house won't move, but you're exerting force. If you turn a screwdriver, you are exerting torque, whether or not the screw moves.

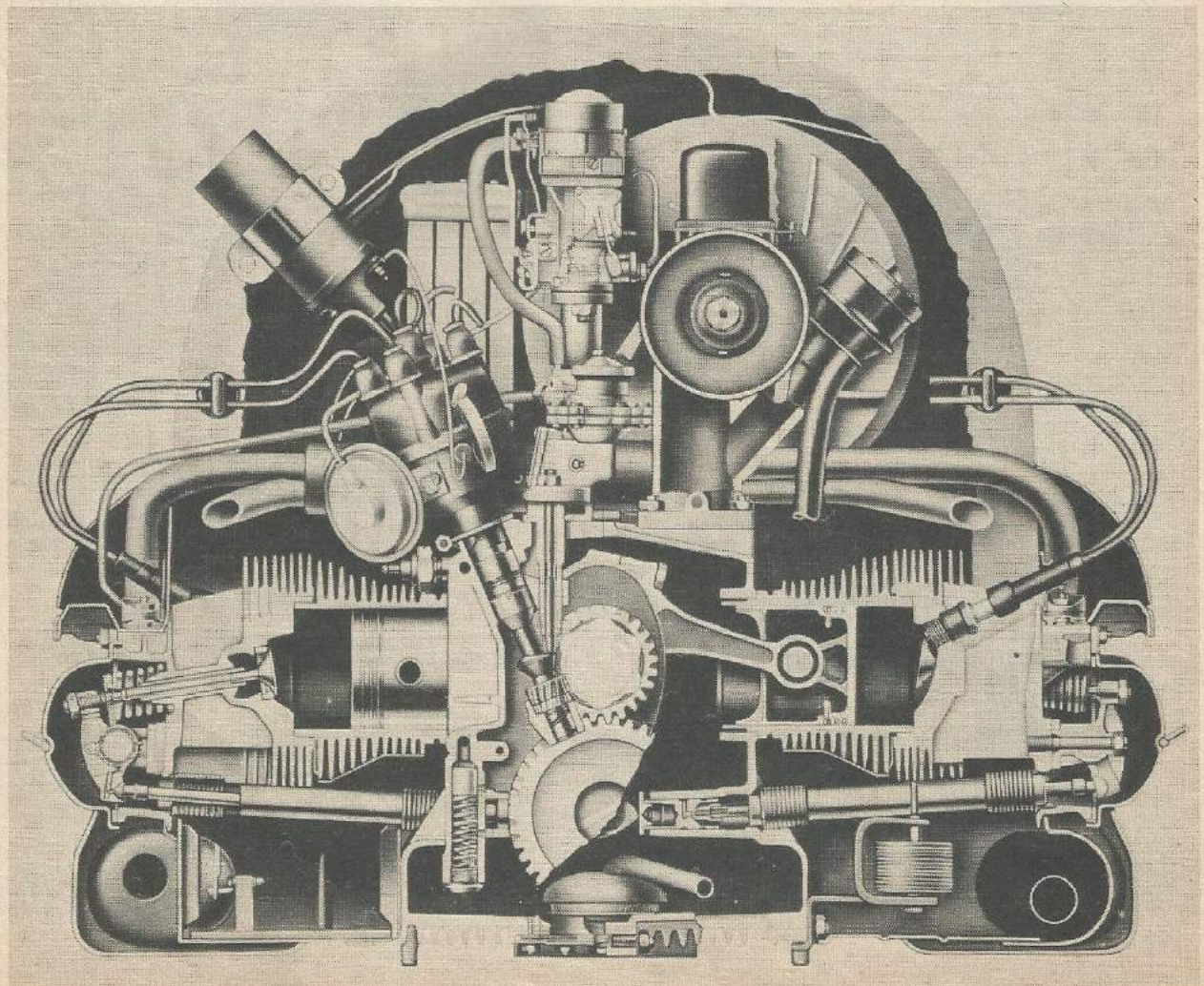
In the engine, the force exerted by the burning, expanding gas on the heads of the pistons pushes the pistons down. The cranks on the crankshaft translate this linear motion into rotary motion of the crankshaft and we have movement, and therefore work.

Horsepower is a measure of the rate of doing work. Work can be defined as moving a mass through a distance and when you time this action, you have horsepower. If you hold a hundred pound bag of cement over your head all day, you will be tired, but you will have

done no work because there was no movement. Lifting the bag to a height of six feet is work however, and if you know how long it took to get it there you can measure the hp involved. If you move the same bag to the same height, but take longer to do it, you will have done the same amount of work, but used less horsepower; if you do less work by either lifting a lighter bag or lifting it through a smaller distance, though you take the same amount of time, you are using less hp. The same applies to engine hp. It is a function of both torque and rpm.

When man first delved into rating work speed, he used the horse as a basis. One healthy, av-

# beetle power



verage size horse, (whatever that is), can lift 33,000 pounds in one minute or 550 feet in one second, using a system of pulleys. A one horsepower engine can therefore exert 33,000 foot pounds of torque per minute, or 550 ft.lb. per second. The foot pound is the measure of a one pound force about an axis with a crank or lever arm one foot long, and either the length of the arm or the amount of force can be varied to produce different foot poundages. Since the VW engine doesn't have a stroke (the length of the lever arm or crank) one foot long, but much less (2.520 inches),

the force must be greater to cause the torque of 65 foot pounds.

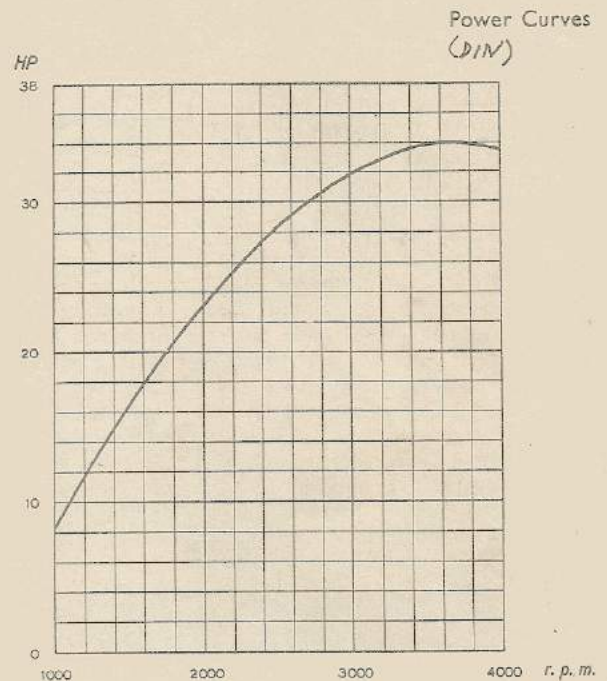
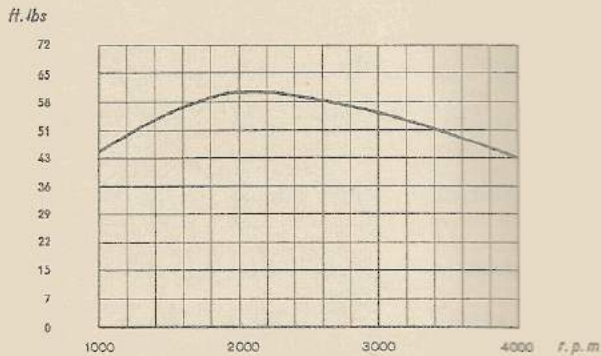
The formula for horsepower that derives from its definition  $HP = \frac{\text{Torque} \times \text{RPM}}{5250}$  better illustrates the relationship between the basic requisits, torque and rpm.

If you look at the torque curve of the VW engine, you will notice that it rises from zero rpm, and reaches a maximum at 2400. At this rpm, regardless of what gear the transmission is in, the engine produces its maximum torque, provided the engine is under maximum load. As the rpm's increase,

torque tapers off. The amount of maximum torque and the speed it occurs at depend on many factors, but most important, the amount of fuel that can be burned per stroke. At this torque peak rpm, the engine reaches its maximum volumetric efficiency (v.e.) or ability to draw in fuel-air mixture. Because of the size, shape and general configurations of carburetor, manifolds, valves, cylinder head, camshaft, piston and cylinder, etc., v.e. is diminished at rpm's higher or lower than 2400 rpm in the VW.

However, if you look at the horsepower curve, you will see

*By Henry Jay*



that the horsepower peaks at 3900 rpm, and that at 2400 rpm, the horsepower is still increasing. Between 2400 and 3900, the force and therefore the amount of work is decreasing, but the rate it is being accomplished at is increasing more than the amount is dropping off. To put it another way, between these two figures, rpm is increasing faster than torque is dropping. At the horsepower peak, rpm increases the same amount that work decreases. As the rpm increases above 3900, torque drops off very fast and horsepower is forced to drop too. The reasons torque drops are: a) the progressively diminishing v.e., and, b) the increasing power absorbed by the

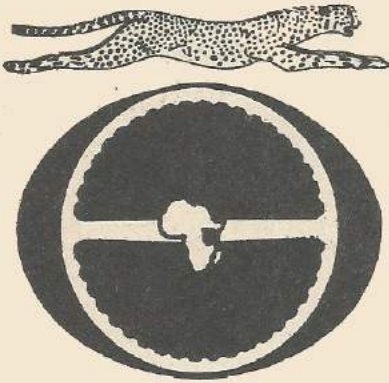
reciprocating and rotating masses.

The tire size, differential ratio and transmission ration are such that 3900 rpm is reached on level ground at a speed of 72 mph in high gear. However, this does not mean that every time the engine turns at 3900 rpm, full horsepower is produced. If for instance, you rev the engine to 3900 rpm with the transmission in neutral, nowhere near peak horsepower will be produced because the throttle will only be slightly cracked open, and only a small amount of gas-air mixture will be drawn into the cylinders, and full torque, therefore is not produced. For full rated horsepower to be produced, full load besides peak

rpm are required.

Notice that the specifications 40 hp @ 3900 rpm and 65 ft. lb @ 2400 do not give all the figures you might want to know, that is, the torque at 3900 and the horsepower at 2400 rpm. These can be figured by plugging the formula, remembering that these are SAE figures which are not as realistic as the DIN measurements because they're calculated without accessories such as fan, generator, muffler, etc. In actual practice, an engine is placed on a dynamometer, its torque and rpm are read off a scale at full rpm range, variables such as temperature and humidity are allowed for, and then the results are plugged into the formula. ●

# EAST AFRICAN



► Last Easter over 250 men and more than 100 cars of 20 different makes were pitted against time, terrain, torrential rain and terrifying animals in a 3118 mile, four day endurance contest known as the East African Safari. It might have been called a rally, but then rallies are run on roads. This harrowing African jounce through the back country trails had but 350 miles of macadam roads and the course crossed the equator several times. It was more a merciless torture of cars rather than a test of the rallying skill of the fearless drivers.

The entrants started to arrive in Nairobi, Kenya, up to three months in advance for the preparation and practice. Some say

Natives leave their huts to watch the whining white bird skim the ground through their settlement. It was the second placing Swedish Saab GT of Eric Carlsson down to 80 mph to pass natives.

the Japanese teams were on hand for almost a year. Many cars were virtually worn out or wrecked in practice sessions. Factory Teams, such as the sole U.S. entrant Mercury-Comet had 14 Bill Stroppe-prepared 271 horsepower cars to cover 9 entries. Still only 6 started.

Of the 94 cars that were fit to start after the gruelling practice only 21 finished. The outright winner was an English Ford Cortina GT driven by Nairobi Ford dealer P. J. Hughes and co-driver W. Young, also of Kenya. They racked

up 63 penalty points. Hot on their trail was the Swedish Saab GT of the indomitable Eric Carlsson and co-driver G. Palm with 78 penalty points. In third spot was another Cortina GT of M. Armstrong and C. Bates. A Mercedes Benz 220 SEb, piloted by the Mrs. Lucille Cardwell and Jill Lead copped fourth prize while the English Ford Zodiac of Messrs. Preston and Snyder placed 5th.

This, the 12th annual Safari, as in previous years, consisted of a northern and southern loop with the start, approximate midpoint and finish in the highland city of Nairobi (5500 ft.) in Kenya. Approximately 39 hours were allowed for 1435 mile circuitous northern leg that brought the contestants to Kampala, the capital city of Uganda territory, and then back to Nairobi.

After a rest period of approximately up to 12 hours in Nairobi the surviving cars set out on the southern loop that bought them into Tanganyika and its capital, Dar-es-Salaam. It was foolhardy to attempt the southern loop in cars that were less than 95% perfect, as this section was a real car wrecker.

While the organization of some 900 voluntary officials was superb communications left something to be desired. Air observation, amateur radio operators, phone and telegraph were used to keep Nairobi officials in touch with the progress. One veteran thought the thousands of Tom-Tom drums in the villages would have been more



C. G. Forsmark and B. Coleman with their Saab 96 Sport prior to start of Safari.

# SAFARI '64

BY EMMET GREENE



effective.

As in other international rallies the cars were divided into six classes (A through F) according to engine displacement, and a drawing decided the order of class starting positions. The 14 cars in class C (1301-1600cc) with the winning Ford Cortina were first away and were followed by the 22 class A cars (up to 1000 cc). This group included the redoubtable Saab of Eric Carlson who copped 2nd place. Successive classes were 23 D cars (1601-2000 cc) including Peugeots and Volvos; the class E cars (2001-3000 cc) including Mercedes. Next off were 5 of the 9 all powerful Comets entered in Class F (over 3000 cc). The 16 tail enders in class B (1001 to 1300 cc) included four privately entered Volkswagens. Only one class B car finished, the honored veteran Volkswagen that beat them all in 1962. The driver tells of his harrowing drive in an accompanying interview by a Nairobi newspaper.

The cars started out in Nairobi at 6 P. M. at 3 minute intervals. An elevated ramp at the start was used for the benefit of the swarm of spectators out for this, the biggest event of the year. The lead car, a privately entered Hillman Super Minx was crewed by Akbar Nanji, Sultan Nazerally and Kurban Bhaloo. Akbar said: "We don't expect to stay in front for long, but we do hope to finish." The Sultan too, with rally as the suffix of his name, also had the true rally spirit, as it was heroic just to finish this Safari.

East Africa's rally champions Armstrong and Bates were the quietly confident crew of the second car, vanguard of Ford of England's team of 6 Cortina GT cars. These much fancied, specially prepared cars are hotted up versions of the standard Cortina have 1500 cc engines and are capable of 100 mph in the lowlands and 87 mph upland. Driver of Cortina #3 thought the car wrecking Tambach escarpment stretch, that lay ahead was "over rated." Other drivers in the early line-up did not agree, as R. Robson in #6 Austin A55 said that in practice on the Tambach "we encountered rocks as big as our wheels."

As the next group, the smallest engined class approached and left the starting ramp a Swedish Saab 3-cylinder car was swamped by well-wishers and cameramen. It was one of the two car team entered by the Saab factory. At the wheel of this the 17th car was Mrs. Pat Moss-Carlsson. "I'm al-

ready in the lead" she told her husband Eric Carlsson who started 11 cars behind her. After she had departed he said "I hope she does stay in front of me... if not it will mean she is in trouble",

In this his third try in the Safari, Carlsson said exactly what he said at the start in 1962 and 1963. "... let it rain all it wants. Who cares?" In those years he hurled his three cylinder car into an incredibly clear cut lead until he collapsed his front suspension in 1962 and hit an Aardvark (an ant-eating pig or bear) in 1963.

As the last car #98, a Volkswagen, left the ramp it was preceded by a 200 mile long caravan of careening and jouncing competitions going like hell. Tense radio operators awaited word of rally progress from other "hams" along the route. Kakamega came through: "Its pouring here". A closer point had reported the same thing. Not a car had gotten through on time, over the eight mile stretch



The Ford Cortina GT of third placing Crew (Mike Armstrong and Chris Bates) slaloming around a sharpe right in one of the dry sections of the northern loop of the course. At this point they were in the lead.

# SAFARI



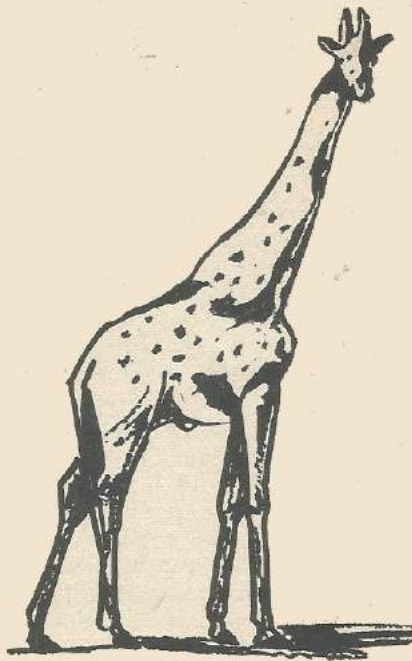
of mud and ruts between Elemen-teita an Mau Narok . . . cars were missing and dropping out.

A 5 A. M. message from Kaka-mega revealed the Safari's first pat-tern. Five Cortinas, two Comets, two Mercedes and Carlsson's Saab were in a battle royal. Leader Armstrong's #2 Cortina had lost 3 points (or minutes) and the second #3 Cortina was 60 seconds off 4 points. The #80 Comet in the hands of native drivers, the Singh brothers, were 5 minutes off sched-ule. Carlsson's Saab, 6 minutes off, was tied with two Cortinas for fourth place. Another minute be-hind there was a three-way tie between a Cortina, Mercedes and Comet. It was close indeed as a mere 5 minutes separated the first 10 cars and the Safari was really ON. They were sloshing and skid-ding along at peak "revs". Who would "blow-up" first? They had not yet reached such dreaded sec-tions as Mbulu!

After Kakamega the "team posi-tions" were obviously Cortina, Mercedes and Comet. The pace was telling as more cars started drop-ping out. Startling news came through. It told that the lone Hill-man #1 with three Asians, includ-ing Sultan Nazarally aboard, had been "licking" the "big shots" for the first 200 miles. They were lead-ing the field at Londiani and were just 60 seconds off schedule. Alas!, a broken crankshaft pulley over-heated their engine. They retired in Kakamega with memories of a wild ride . . . like the charge at Balaklava.

Londiani was also the end for a Volvo that clobbered an embank-ment. Some real "goo" around Mau Narok disabled a factory Volvo, a DKW and a Japanese Contessa with burnt-out clutches. An NSU was out with gearbox trouble. An- other routine radio report told of three cars having rolled over, one choosing "de market" place of one of the towns.

A Comet with U.S. drivers Neu-mayer and Bailey was said to have "disappeared" as the officials at Kampala waited 6 hours for it to "show". In all, 12 cars were out by Kampala and some crews with dents and shattered glass told of



## VETERAN VOLKS COMES

TAKES CLASS PRIZE

Kenya coffee planter Tommy Fjasted scored an outright win in the 1962 running of this Safari in a Volkswagen. This year he was slated to drive for the all powerful and lavishly equipped U.S.A. Comet team. However, after completing a practice run of the 1435 mile northern leg, he was told he would not get a place on the team . . . and this was only a day before the entry lists closed. Desperate for a ride he approached the local VW dealer to inquire about the winning car, he drove two years ago. Yes, it was still around, in fact it was the shop "hack" or utility car, and he could have it for \$840 if he wanted it. He took it home and spent about \$80 on mechanical preparation, and when it rolled up to the starting line it had more than 24,000 miles on the speedometer. Heroic was the fact that it was the only car, of 16 in its class, that finished.

The starting positions are estab-lished by a drawing, possibly out of a drum. Fjasted was interviewed by the local paper "The East African Standard", and his adventures are best told in his own words.

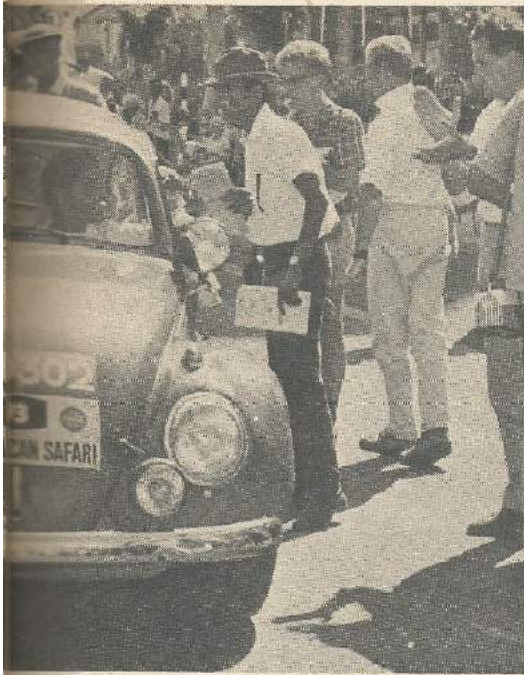
"When I saw the draw I knew I didn't have a hope of an outright win, and decided to concentrate on finishing. The first part of the Safari was easy, but I made my first mistake around Tinderet, when I shot over a bridge into a muddy "S" bend, fin-ished on a bank with all four wheels

in the air. It took five minutes to get off, but I made up a bit on the next stretch, where the VW sailed through the mud, past eight bogged cars. It was easy going to Kampala and back to Kitale. Then came the Tambach. This was real Volkswagen country, and we hurtled down, but around Subukia we lost time in thick mist not met by earlier cars. Then through to Nairobi, where the VW had a 15-minute service—a wash and an oil and grease was all that was needed, and off on the southern leg.

"The road from Ngara Nanyuki to Usa was rougher than last year, but for the VW it was straightforward go-ing. The Mbulu section was wet, and we lost time, 30 cars in front of us having churned up on the road. On this stretch we passed nine cars. We lost more time in the mist on the stretch through Pienaar's Heights, where, at around 5 a.m. we could not do more than 20 m.p.h.

"From Mpwapwa to Panrambil we had no trouble, though it was like driving in melted chocolate, the evil smelling black cotton soil oozing down the windows. Seventy miles before Dases Salaam two Africans threw stones at us, and one smashed our windshield, cutting myself and co-driver Jasani about the face. In Dar we changed the windshield in exactly one minute 45 seconds.

"After Dar we splurged through



## THROUGH AGAIN!

AS ONLY FINISHER.

quite a bit of mud. Then we came to a spot where six cars were stranded at a broken bridge. This was disaster. We set to work chopping down a forest, to repair it. Then a Peugeot got across, but the bridge broke again and the Comet plunged into the river. All 12 drivers there helped to lift the Comet out and across, and then, with the aid of a nylon rope, we used the terrific acceleration of the Comet to catapult all the other waiting cars over, like a dentist yanking teeth.

"We were the last car across, having lost a lot of time, but unfortunately the bridge collapsed behind us, leaving five more cars stranded. We were then the last car in the field. Further on we found the leading cars stopped again—waiting for a swollen river to go down. They were given 'dead time' for this, but it didn't hold us up, and the VW literally swam across in 4 ft. of water, with the headlights completely submerged, and the river washing round the windows.

"Two following cars 'drowned' in the river, and so far as I know, they are still there. The rest of the journey back to Nairobi was uneventful."

This was Fjastad's 9th Safari. Asked what he now intended to do with his faithful VW, he said: "I have a seven-year-old son who is very keen on driving. We'll probably use it round the farm for a few years, and then put it in again, as a father-son team."

natives having indulged in well aimed rock throwing.

The leaders then ran into some fine, dry and dusty conditions in the Amudat-Tambach area. The first ten were really pushing and holding their positions while Pat-Moss Carlsson pounded her Saab into the fray. She moved into 11th spot with but 9 penalty points. The Volkswagen of Tommy Fjasted was also getting into stride as he was among a group 10 cars that were between 10 and 15 minutes off schedule.

Two of the Comets ran into trouble in this area. One that was laying third overall, found the going rough and developed suspension trouble that delayed it over two hours or 138 points. A team official explained that the Comets were being driven too hard for their suspensions. He pointed out that hitting an 18 inch pothole at 110 mph with a 4000 lb. car was much worse than hitting at 80 mph with a 2000 lb car. (Those naughty "leadfoots").

In short the Tambach area lived up to its reputation as every car lost points. However the Saabs' of both Erik and Pat Carlsson moved up to challenge the low flying squadron of the four Cortinas in the lead. Three Mercedes were in hot pursuit.

The first cars started to arrive in Nakuru around 7:30 p.m. and the crews said the northern leg had been tough and that torrential

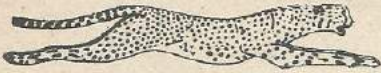
rains made it even harder. Here they learned what the night had in store for them. Monsoon conditions existed beyond Nanyuki. It was then a mad dash to gain time in hand. They barrelled around MT Kenya and flew through Nanyuki. Then, as predicted, they hit the mud or "swamp" at Kangondi.... just 100 miles from the half-way point at Nairobi. A leading Mercedes broke its axle in the swamp, a Citroen spun out and hit a bridge. Two cars including Pat Moss—Carlsson's Saab lost 25 minutes hunting up a Land Rover (4 wheel-drive) to get them unstuck. Three other cars were hopelessly delayed.

At around 3:15 A.M. the leaders started reaching Nairobi to collapse into bed for some rest. Cortinas were first and second. Somehow, to the amazement of all, Erik Carlsson brought his Saab through the quagmire into third position. He said he was taking it "comfortably" this year. This was a classic "understatement" for he was but two points (120 seconds) behind the leader and his wife had moved her Saab up to 7th spot. All the other top ranking cars were Cortinas except for Mercedes in 6th, 8th and 10th and a Ford Zodiac 9th. The first half of the Safari had been tough and 32 of the 94 starters had been eliminated. Only 62 remained to mount the starting ramp some 12 hours later at 4 P.M. No repairs were allowed as the cars were impounded.



Here are last year's winners, Z. Nowicki and P. Cliff, in their Peugeot 404 on the starting ramp in Nairobi. This year they placed 12th. Six of the 13 Peugeot starters finished this year's grueling grind.

# SAFARI



Just before the restart the leading driver was asked if he planned to continue driving as fast as he had been. He quipped "With Carlsson just behind us, we have to". Pat Carlsson kidded the Ford team manager with "I think half an hour in the mud will do you Cortinas good . . . it will do Erik and I some good".

After the restart the drivers were allowed 25 minutes to get to the Embagasi control. Actually it could be covered in 7 to 10 minutes so

tense crews might let him through. Speculation ran high. Could the cars stand up in this more difficult car breaking southern loop? Were the Peugeots waiting for the mad and frantic pace to hit the leaders? An MG 1100 went out with engine trouble near Kajiado. The route near the Usa river was sticky and no one got through without losing a point. The 2nd Cortina dropped two points to the Saab's one, thus making a tie for second place, both with 21. Mike Armstrong's Cortina got through Arusha with 20 points.

Now the battle was really on and no reports were coming into Safari HQ in Nairobi. Hour after hour went by. Tanganyika police were not coming through with the promised radio coverage. Tankanyika

all rally was 40 out and 54 running. Every car left had doubled its penalty points but the lead was unchanged and Carlsson had dropped back to third, 10 points behind the 2nd Cortina.

Armstrong whose Cortina had led for 2000 miles lost 6 minutes and his team mate the 2nd Cortina got into the lead. Another Peugeot and a Volkswagen dropped out.

Crowds awaited the arrival of the contestants in the rain drenched Dar-es-Salaam stadium. They cheered the arrivals, and the biggest ovations were given Carlsson and a local driver in a Peugeot who was catching up with the fast boys. The lead positions were Hughes-Young Cortina 54, Armstrong Cortina 57, Carlsson-Palm Saab 62. There were three reported stone



Winners Hughes and Young guide their Ford Cortina GT along a fairly dry section of the swampy roads on the southern leg.

this allowed the crews about 15 minutes to change oil, tires or make repairs. One car, a factory Volvo took an hour and 20 minutes so they must have had some major work to do.

When the last car had left Nairobi reports from the Tanganyika territory to the south, told of varying weather conditions with heavy rain around Dar-es-Salaam, Mbulu, dreaded by drivers, was said to be passable-wet-very rough but passable. A reconnaissance was sent ahead to check and this section was left on the route card. Nairobi officials then settled down for another long night's vigil. Some cars had to get through, as otherwise it would not be a rally.

Carlsson in his Saab was inching up on the two Cortinas, and the slightest slip on the part of those

telephone engineers struggled to get news through by phone. Then much to the amazement of the officials 60 of the 62 cars were reported to have gotten through Mbulu. All cars lost points, but who was leading? One Cortina that was 4th in Nairobi lost 86 points and dropped to 10th. Beyond Mbulu the roads were still pretty bad. It was not fit for man nor beast. Crews of two missing cars, drop outs no less, were reported last seen "drinking beer in a Dodma pub."

Cars were breaking up. One of the car Japanese Datsun team was time-barred at Mpwapwa and they had been running by the "book". One of the 13 Peugeots, previously "ran out of road" and thus broke the 100% record. Eight of the 62 Nairobi starters were out around Mpwapwa and the toll of the over-



T. Wakabayashi and J. Esnouf in their Datsun Bluebird.



throwing incidents during the night in which crews were only slightly injured.

Carlsson said he found the Tanganyika stage much the same as last year. Then in explaining his earlier loss of 2nd place and 10 points he made a fantastic statement: "We were stuck at Mbulu and found it impossible to lift it out, so we rolled it over and got it out that way." Only a huge man like Carlsson would think of barrel-rolling a car out of swampy mud. He then added: "It was the first time I rolled my car on purpose." Later, when asked to "roll it over," and do it again for cameramen, he explained that the trick was suggested by his co-driver Gunnar Palm.

"Dar" was the end for 9 disabled or time-barred cars. One Volvo crew had just put a "gone to bed" sign on their car. As the cars left the stadium their trailing sprays of water made them look like speed boats. They were off into the torrential downpour and on to Mombasa. In the wild low lying county ahead they were to meet drifts on the roads that were virtual torrents. Cars had passed the Kifulu control but none were reaching Mlandizi 17 miles further. Communications were impossible and tension ran high.

Two Cortinas and a Peugeot finally got through. They explained that the Kivuli control office kept them in "dead time" until the flood subsided a little. Despite this all lost heavily on points and there was slim chance of even three quarters of the remaining cars getting through at all. An emergency control was set up at Makeza some 20 miles ahead. Those successful in reaching there were given an extra 240 points grace or four hours to row through. Actually all were supposed to make Nairobi within 4 hours of schedule or be disqualified. The Kivuli Mlandize section was "neutralized." After Mlandize the Hughes Cortina barrelled on to Mombassa just one minute behind schedule.

Communications were terrible and little was heard of what was going on. While the extra grace of 240 points saved the day for many cars three were unable to row through fast enough to get the benefits.

It was after midnight before things could be reckoned or sorted out in Mombasa. The Hughes Cortina (63 pts.) was first and after a long wait Carlsson's Saab (74

*(Continued on Page 69)*



Eric Carlsson slings his Saab GT over what passes as a road in the African bush country. He and his wife put up a fierce battle with the six-car Ford Cortina team. She and Pat Moss-Carlsson placed ninth.



Axle deep mud fails to slow the slogging Peugeot of Kenya drivers Lionnett and Smith. They placed fourteenth in the wild African melee.

#### OVERALL WINNERS

1. Ford Cortina GT—63 pts. (P. Hughes, W. Young)
2. Saab GT—74 pts. (E. Carlsson, G. Palm)
3. Cortina GT—78 pts (M. Armstrong — E. Bates)
4. Mercedes-Benz SEB—151 pts. (Mrs. L. Caldwell—J. Lead)
5. Ford Zodiac, 6. Peugeot, 7. Mercedes, 8. Peugeot, 9. Saab, 10. Peugeot, 11. Cortina, 12. Peugeot, 13. Ford Zodiac, 14. Peugeot, 15. Cortina, 16. Volkswagen, 17. Peugeot, 18. Comet, 19. Saab, 20. Cedric (Jap), 21. Comet.

# NEW YORK AUTO SHOW



Mr. Frank Coggins  
Editor  
POPULAR IMPORTED CARS  
New York, New York

Dear Frank.

I want to thank you for assigning me the job of covering the eighth annual International Automobile Show at the New York Coliseum which ran from April 4 to April 12.

Frank, I may never be the same!

For one thing, you didn't tell me I'd have to fight with more than half a million people to get close to the cars. That's a heap of humanity, my friend, no matter how you

stack it.

At one point, I struggled through some fifty people to get close to what I thought was the new Sunbeam Tiger. I wanted to get a look at this new \$3,500 hybrid, a Rootes Alpine with a 164 horsepower Ford V-8 engine. After wrestling with the 50 show-goers, I finally reached the center of attention: a lovely young lady in a tiger outfit that left little to the imagination. I promise you, some day I'll go back and see what kind of lines the Alpine Tiger has!

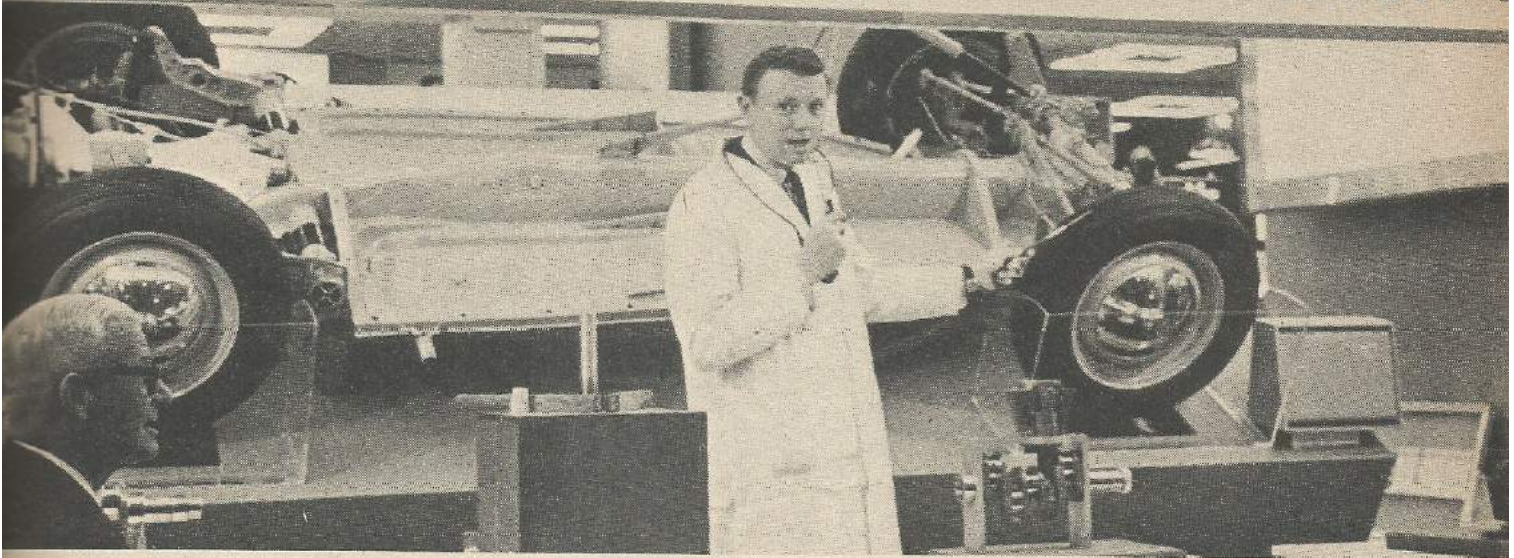
The same problem haunted me throughout the show. Renault had on display some seven different

models of cars. Now you're aware of the popular new "fastback" styling that Detroit seems to have tumbled for? Well, Renault went them one better:

- They had a young lady with what can only be called a "fastback" figure, standing next to a car I am told was a Sierra GT-1100 sports car. It (the car) had a fiberglass body with steel tube chassis (the car) and a low-cut bodice (the girl).

- They also had a young lady who was there to show off the Renault R-8, a four-door sedan of small but interesting proportions. The young lady, of not-quite-so-

# VOLKSWAGEN DEMONSTRATION



small-but much-more-interesting proportions, actually took a bubble bath right at the show. Her styling was described by Renault as "clean back," but I heard a few comments that weren't quite so clean.

• Another young lady came close to "horseback" styling — Lady Godiva version, that is. She tried a side-saddle approach to a Renault Dauphine with automatic transmission, to emphasize the horsepower (the pun is Renault's) of this little French car. I don't know whether the English looked at Lady Godiva, but I'm sure half a million people looked long and hard at this scantily-clad girl.

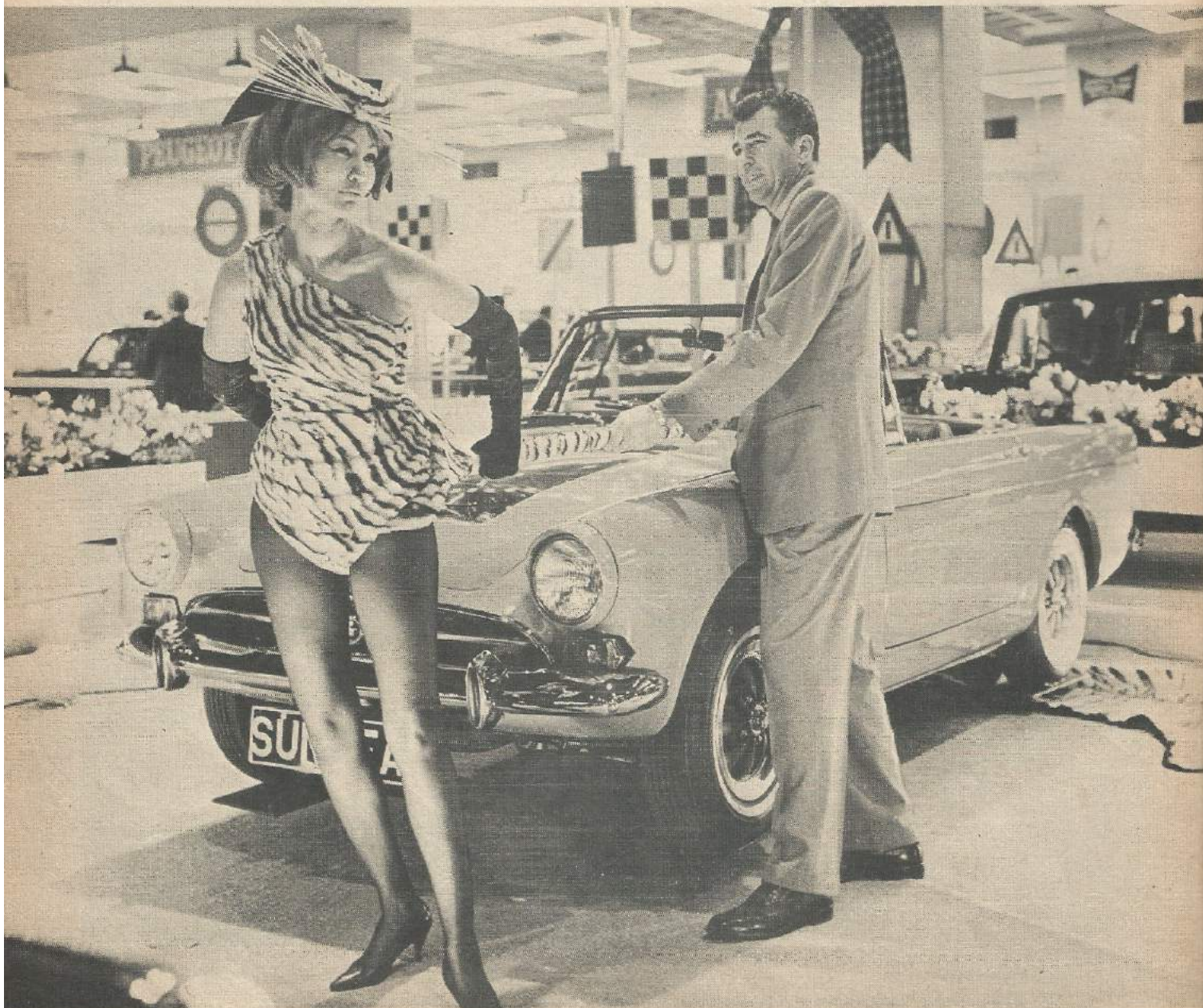
Frank, I did manage to tear myself away from the feminine accoutrements long enough to take a look at the Renault R-4 "Parisienne," a front-engine town wagon with five doors. It has five doors, is about five feet wide and just about as high, has 17 cubic feet of luggage space and gets about 40 miles to a gallon.

The Parisienne is an improved version of the R-4 introduced in France three years ago; it now has a bigger 845 cc. engine which delivers 32 horsepower and has a top speed of 68 mph. It isn't available in this country now, but if Detroit keeps making those "compacts" bigger and larger and heavier and more expensive, Renault will probably sell it in the U.S. If they can't sell it any other way, Renault can always dwell on the fact that this unusual car has two different bases! The left wheelbase is 94.3 inches and a right wheelbase of 96.1 inches. I was about to ask a Renault salesman why, but an-



other young lady was posing under (that's right, Frank, *under*) a Renault Caravelle, and that distracted me immediately.

When I managed to extract myself from the Renault booth, I worked my way down to the Volkswagen exhibit on the ground floor. They had the usual line of VW's on display: 1200 sedans, sun-roofs and convertibles, Karmann-Ghia coupes and convertibles, station wagons, Campers, etc. They also had a demonstration booth, where two men (men?) explained how the VW suspension system irons out the bumps in the road, how well balanced the VW crankshaft is, and so forth. Frank, I waited for two hours, but Volkswagen never brought out the dancing girls.





Don't think for a moment, though, that the VW exhibit was staid. Not at all. They had a tourist delivery booth where VW salesmen were taking orders for VW's to be delivered overseas. I wondered why they were so busy until I heard one of the salesmen talk about "those European women."

Next I went back upstairs to the British Motor Corporation display on the main floor. Right away, I was up to my elbows in models again—and I don't mean the automotive variety. BMC had young ladies all over the place, all in white dresses and all ready and willing to show off the MG's, Austin-Healeys, Sprites, Mini's, etc.,

on display. They didn't have quite the elan (and that's a Lotus story of another color) of the Renault girls, but they did have a charm and warmth that made you feel welcome.

At one side of BMC's booth, they displayed the Morris Cooper S which won first over-all in the Monte Carlo Rally and also the



MGB which won the Grand Touring category. There weren't any women around these two cars, so it was reasonably possible to get close enough to see them. It's quite an achievement for such a little car to win such a big event, and BMC has good reason to be proud.

I want to depart from the cars for a moment, Frank, to say something else. You didn't tell me that the auto show was spread out over four different floors, and that I would have to trek around to see some 500 different cars from nine different countries. You didn't explain that 60 of these cars were premiere vehicles, on display for the first time, or were experimental cars, special show cars or racing cars. They were all over the place, and it took endless amounts of shoe leather and hoofing to see them all.

For example, Craig Breedlove's world land speed record-breaker, "Spirit of America," a gigantic vehicle that was designed by a man with a dream who made it come true. This unusual car sat in the lobby of the Coliseum where

everyone coming in could see it, and Frank, it may not have been a small and imported but it inspired me.

Or, take the Peugeot 404 convertible, a really beautiful car. It's made by the French, so you might expect a few young ladies to be draped around it, but it was displayed in a roped-off area with no feminine pulchritude to distract from the car. It has a well-designed in-line four-cylinder engine, water-cooled, mounted in front, putting out 72 horsepower and still delivering close to 30 miles per gallon. I can only guess (not having driven one) that it has more-than-adequate power, since the car weighs only 2381 pounds.

At this point, Frank, I can't possibly describe all of the interesting imports in this great show. But I can cover some of the highlights.

The Rover 2000. It's spectacular. Top speed over 100 mph, yet 30 miles to a gallon, and great styling. Clean, distinctive, and appealing. At \$4,000 New York Port of Entry it's a steal.

Simca. If you've had any doubts

about the regular Simca 1000, sneak a look at the Simca 1000 coupe styled by Bertone. It has lines as sleek as any Parisian fashion model, but still zips off to 87 miles an hour top speed from a relatively small 52-horsepower engine.

Triumph. Good looking girls, good looking cars. I liked the Triumph 1200 with its restyled grille and added horsepower. I also like the new removable hardtop for the Spitfire.

DKW. Three new models on display—a two-door sedan (called F-11), the same car with a slightly more powerful engine (called F-12), and a sporty roadster. Didn't see any girls.

The Imp. An interesting car. Lots of interior room for such a small sedan. Should offer extremely economical operation, which is only natural since it's built in Scotland. Young lady nearby decked out in Scotch plaids. She looked out-of-place, being fully clothed.

English Ford. I've always liked the Cortina, but this new Grand Touring version has a snappier en-





gine and a four-speed box. Should do well. Didn't see any girls.

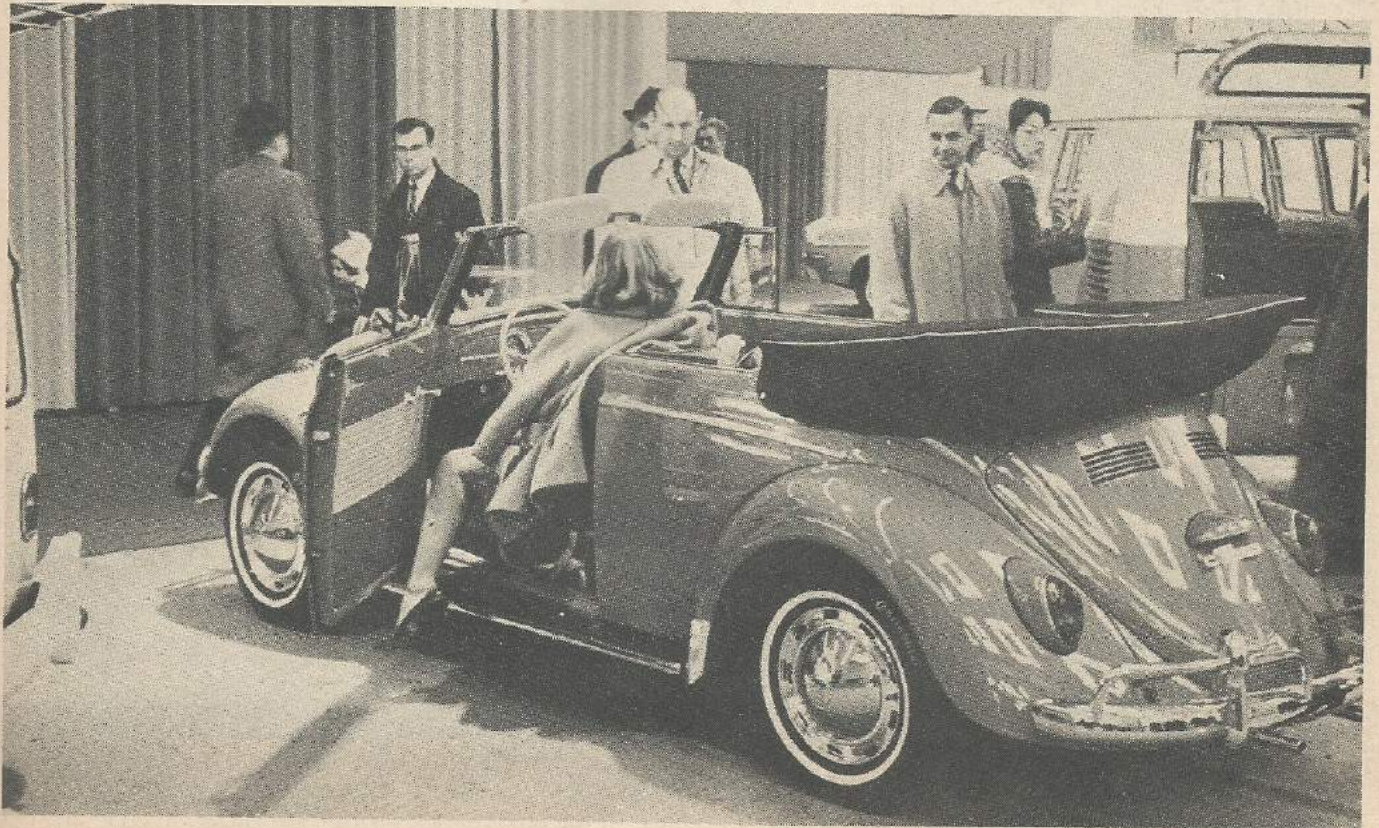
There were a lot of American cars on display, Frank, but I didn't pay them much attention. Most of 'em are too big, and they're all so similiar that you can hardly tell them apart from half a block away. If any readers of POPULAR IM-

PORTED CARS want my opinion of any American cars at the show, ask them to write me. I won't answer any of their letters, but my daughter collects stamps.

So that about sums up the eighth annual International Automobile Show. There were all kinds of exciting cars and almost as many ex-

citing young ladies. You sent me to look at the cars, and I tried. Next year, I'm going to see if I can get an assignment to cover the show for PLAYBOY. Then my conscience won't bother me if I don't look at the cars at all.

Your girl-watching reporter,  
AL OUTCALT





# FORMULA VEE AT MARLBORO

By Lisa Henri

► The first national competition of SCCA's 1964 season was run early in April on the tight little 1.7 mile circuit of Upper Marlboro, Maryland. For the big car drivers, it meant points toward the national driver's championship. For Formula Vee, points notwithstanding, it was fun and games both on the track and in the pits.

The race week-end, designated "The President's Cup", was a three day affair, with practice and two sedan races scheduled for Friday, April 10. We arrived Saturday morning and learned that practice was uneventful and the sedan races had not been run. No explanation offered.

Saturday was devoted solely to practice, qualifying times, car repairing and waiting. There were nineteen Formula Vees on the entry list, and we prowled the pits looking for them. It wasn't an easy task. The pit at Marlboro is actually the infield of the oval stock car track, and there's no such thing as a pit assignment. Tiny Vees were side by side with high powered exotic machinery, and both were wedged in around tow cars, pit crews, girls in tight pants, mobile comfort stations and hot dog stands.

Our old friend, Sherm Decker, of MG fame, was looking woefully

at his much raced and won Formcar. Having rung up the third best qualifying time in practice, Sherm threw a rod and faced Sunday as a spectator. Mike Rothchild, drinking milk from a thermos for his ulcer, was busy changing tires on his dark blue Beach. The smaller Goodyear Blue Streaks paid off the next time out when Mike cut three

seconds off his previous practice time.

Herb Wetanson was deep in conversation with his mechanic Jerry McCarthy, who was engrossed in "playing with the carbureator" of the Formcar they'd finished building at six o'clock the night before.

Eight races were scheduled for Sunday, starting at 10 a.m. Each



Pretty Pinkie Rollo of Arlington, Va. gets ready to roll in her Triumph Spitfire reminding everyone that other marques running in addition to the Volkswagens.

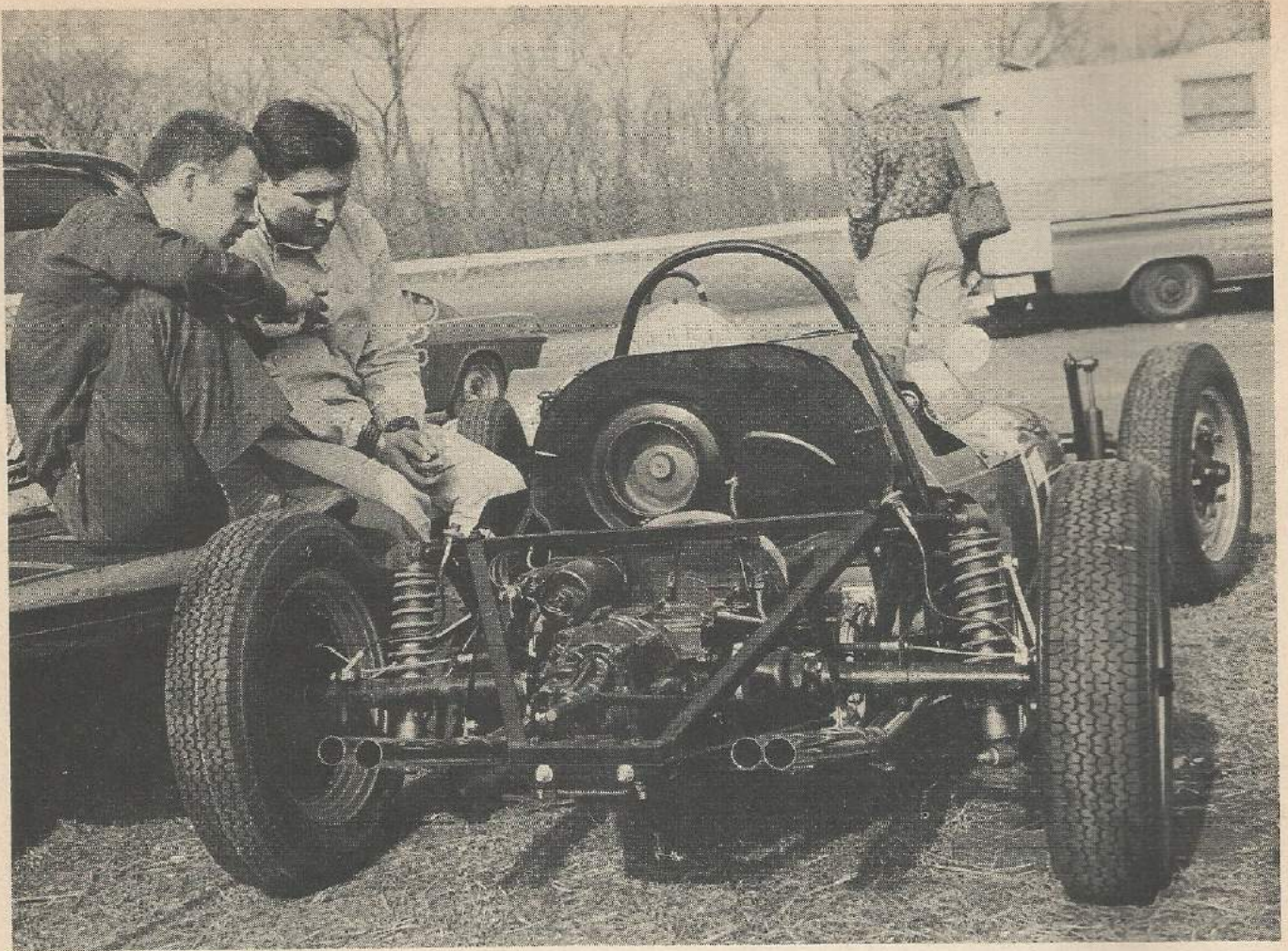




LEFT: There were a number of Saab's in the GP-HM race, including the Saab Special of John Jacobson, Wilmington, Del. But it was a pretty sad Saab after eighteen laps and John scored a DNF. BELOW. A quiet conversation between Charlie Kolb, Formula Vee winner in Nassau last December and Bill Duckworth. Kolb drove a Lotus Ford at Marlboro and took third in the Modified race.

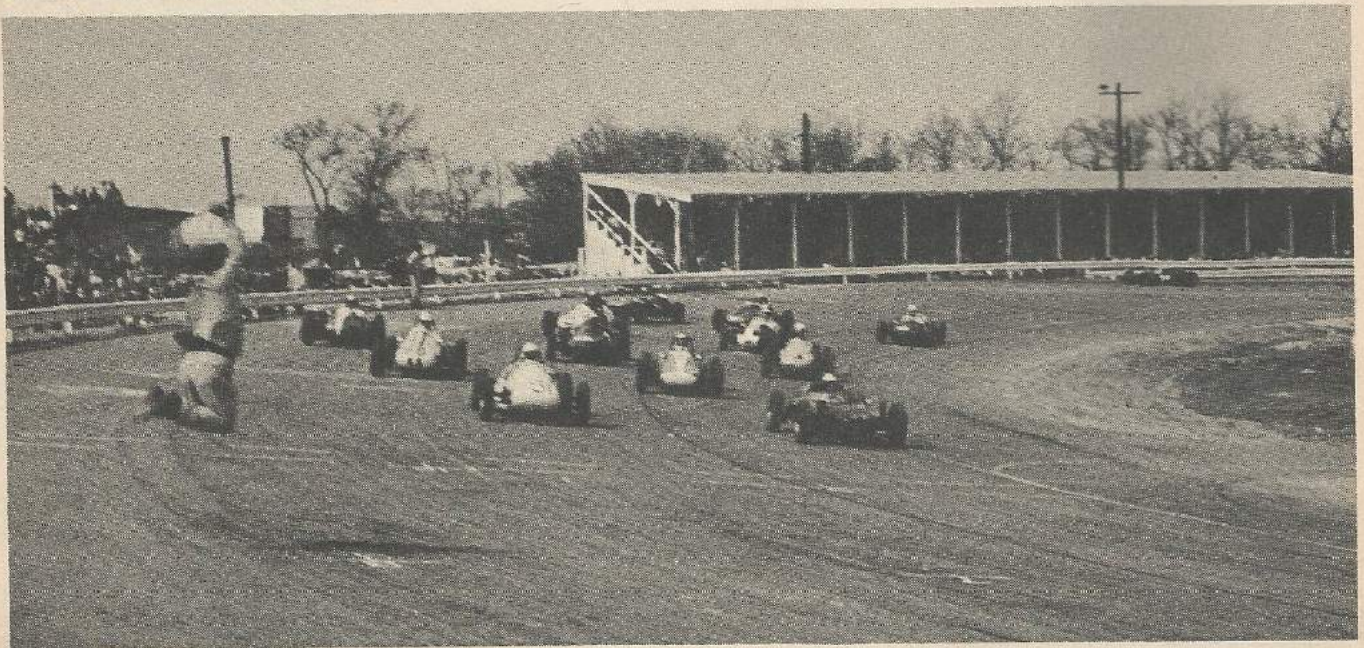


Eenie, meenie, minie, moe—Three little Formcars all in a row. Left to right, the cars belong to: Dr. Ed Shantz, Bill Duckworth and Whit Tharin.

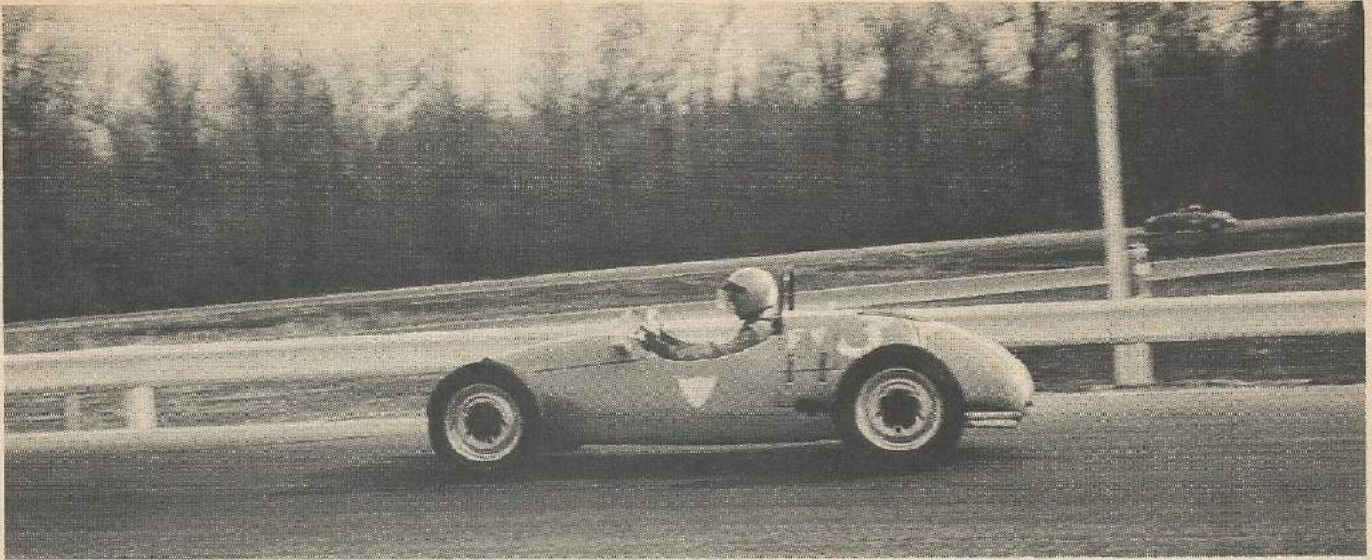


## **VEE AT MARLBORO**

Mechanic Jerry McCarthy, New Haven (left) discusses a not-quite-perfect carburetor on newly built Formcar with Driver-Owner Herb Wetanson.



Lavender suited Hoppin' Tex Hopkins leaps in the air to signal the beginning of the Formula Vee and Junior race. The Juniors left the false grid about thirty seconds before the Vees were flagged away.



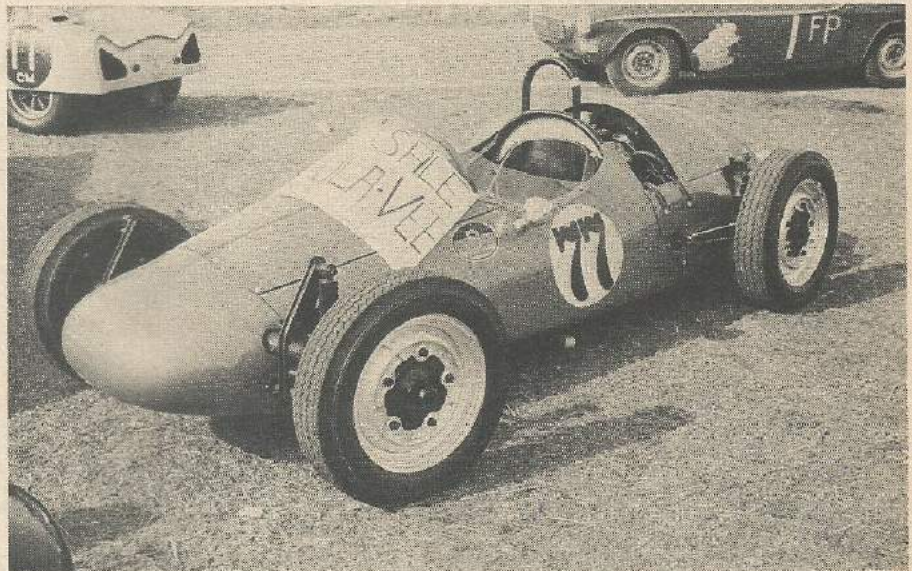
Bob Johnson, Baltimore, Md., took guard of honor spot in his pretty blue and white Formcar.

race would be forty-five minutes long.

The fifth race was at 2 p.m. and a double row of Formula Junior's headed the grid. Then came a cluster of 18 Formula Vee's, looking very like diminutive versions of the Jrs. Pole position for the V's went to Jim McDaniel of Arlington, Va. in an Autodynamic, whose qualifying time was 1:47.7. Next to him sat James Miller of Orangeburg, N. Y. in a white Formcar. Way back in the back row sat Mike Rothchild, looking deceptively harmless.

Lavendar suited Tex Hopkins leaped in the air, the green flag swished down and the clock started ticking off the seconds. McDaniel was first around, followed by White Tharin of Allendale, S. C. in a Formcar, already being overtaken by Miller's #51. We looked for Dr. Ed Schantz, but he was deep in a sandbank before he ever reached the first turn. "I moved up so fast at the start, I thought sure I'd be in the top three by the 2nd lap. Then I miscalculated".

Ken Butler of Rancocas Woods, N. J. went off and back on the track in cloud of dust, Chuck Reed of Brecksuik, Ohio journeyed into the pits briefly and the race was under way. Miller took the lead somewhere around the fourth lap, followed closely by McDaniel. George Bull of Elliott City, Md. and Bill Duckworth of Orlando, Fla., both in Formcars, were a close twosome, but fell back when Rothchild and Butler came roaring into the forefront. Herb Wetanson came bobbling through a corner in his gleaming black Formcar and sent up another dustcloud



Wetanson, Woodmere, N. Y., brought two cars to the track but at the end of the meet, this one was still for sale. Herb and Jerry built five Formcars over the winter and explained, "We needed something to do."

### FORMULA VEE RESULTS (RACE 5)

Class FL, FJr, FV						
O/A	Car #	Driver	Car	Class	Laps	Time
1	59	Pierre Mion	F. Fr., Cooper	FJ1	28	46:04
2	5	Mike Taylor	F. Fr., Cooper	FJ2	28	47:10
3	85	Dave Sharp	F. Jr., Flva	FJ3	28	47:33
4	13	Wm. Blankenship	F. Jr., Cooper	FJ4	27	
5	51	James S. Miller	F. V., Formcar	FV1	26	
6	39	Jim McDaniel	Autodynamics V, VW	FV2	26	
7	2	Michael Rothschild	F. V., Formcar	FV3	26	- Milburn, N. J.
8	16	Whit Tharin	F. V., Formcar	FV4	26	
9	12	Ken Butler	F. V., Formcar	FV5	25	
10	71	George N. Bull	F. V., Formcar	FV6	25	
11	77	Herb Wetanson	F. V., Formcar	FV7	24	
12	96	Chuck Reed	F. V., Formcar	FV8	23	
13	33	Robert Johnson	F. V., Formcar	FV9	21	
DNF	0	Bill Duckworth	F. V., Formcar		18	
	86	Jack Lyles	F. Jr., Cooper		14	
	83	Ludwig Pflager	F. V., Formcar		3	
	21	Ed Stanley	FL, Lotus		3	
	97	Edgar Shantz	F. V., Formcar		0	

Best observed lap 1:36 car # 59

# VEE AT MARLBORO

before he got back on the track.

It was a very busy race! From our vantage point, we had the sometimes startling view of cars speeding along in three different directions—along the straight, back through the loop and around the hairpin.

Miller, Tharin and McDaniel led the pack, slowly becoming a trio in front of the other cars. Then Rothchild started moving up, and Miller got further and further in front.

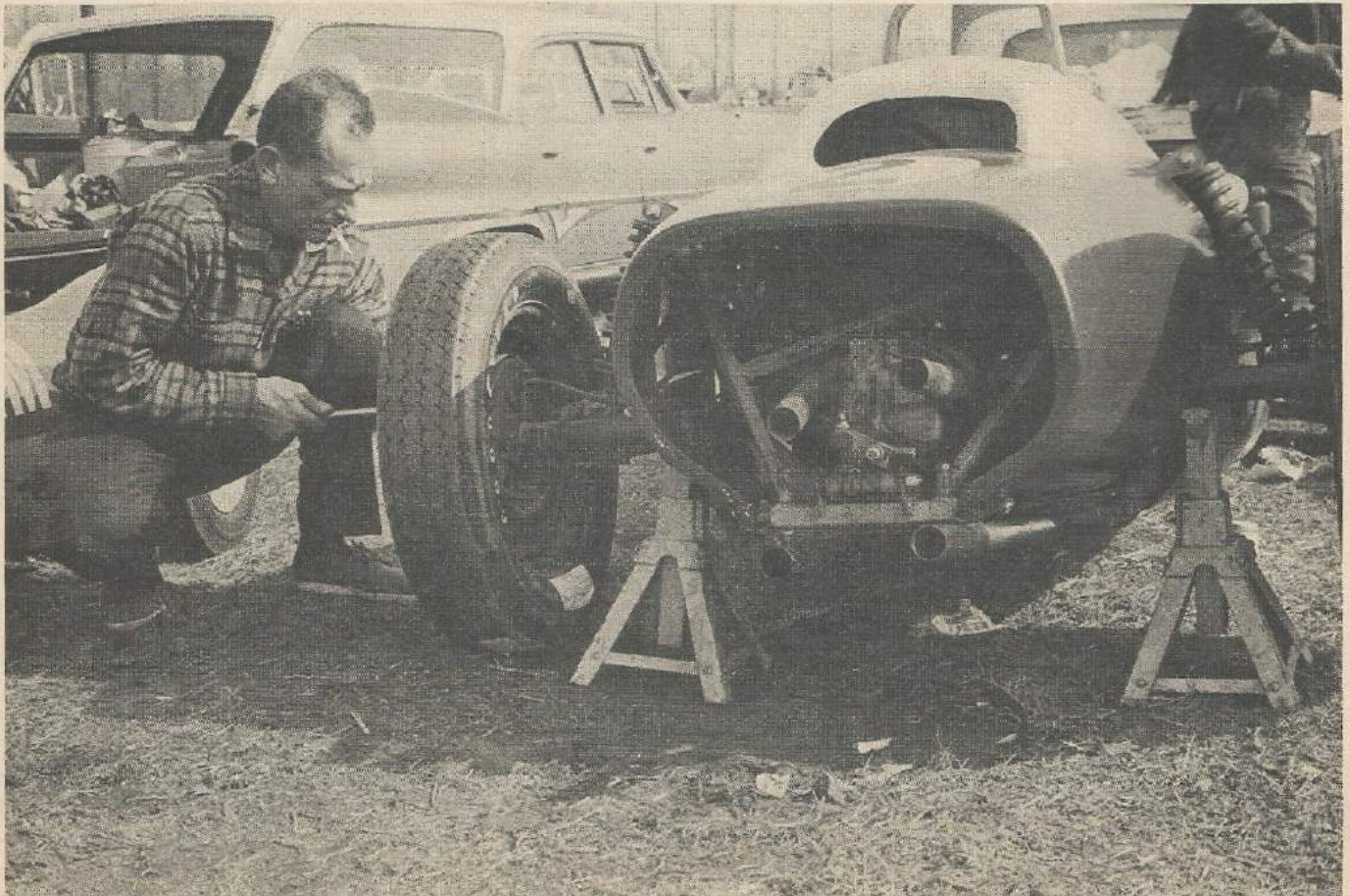
Whoops there's another one off. Bob Johnson of Baltimore, then Tharin, went into the dirt and McDaniel moved into second, followed doggedly by Rothchild. That boy does persist!

Somewhere on the straight, Mike overtook McDaniel. Miller was still out in front, having lapped an obviously ill Junior. Ken Butler, in fifth place, looked as tho



The most cheerful face in the pits belonged to "The Sea Horse", a Virginia steed with Foreign Car Repair, 8600 Hampton Road painted boldly on its side, but with no city added. We never did find out.

Mike Rothchild, of Millburn, N. J., changes to smaller tires on his Beach. Mike came in sixth at Nassau in the Vee, raced a TVR at Sebring but "didn't do too well." He hoped, then to race at Le Mans, once again.



he was having mucho trouble with the steering.

The leap frog game between Rothchild and McDaniel became more intense, and 2nd and 3rd places switched rapidly back and forth. Mike would be ahead on the short S/F straight, then into the hairpin they'd both go, only to come out in reverse, with McDaniel in front.

With about three minutes to go, our neck was swiveling like a Forest Hills tennis match spectator, watching for Tex to unfurl the checkered flag and keeping an eye on Mike and Jim. The dicing continued, the checkered was up in the air, and the suspense increased. Around the bend they went, seemingly side by side. The flag

came down, giving the expected first place to Miller, and 2nd place to... Jim McDaniel. If the flag had fallen at another place on the circuit, it could have been Mike in 2nd place. Such is motor racing. We felt it was the grandest dice of the day. (When the trophies were awarded that evening, Mike and Jim did indeed receive a special award for "the most exciting dice of the day.")

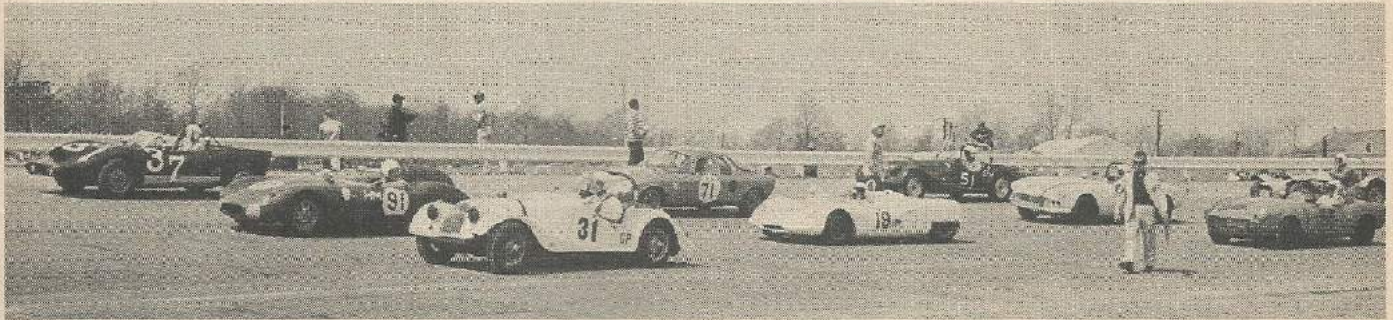
The feature race, for C, D, E, F, & G Modified was won by Ed Lowther in a Genie Ford. Four seconds behind was Tom O'Brien in a Ferrari. The Lotus-Ford of Charlie Kolb came in third. The Corvette race (A & B Production) was won by Charlie Hayes in a Ford Cobra. Very in fashion this year, Cobras

took second and third. They're very gregarious.

Bob Tullis in a TR-4 captured the C & D production race, which was hotly contested by Bruce Jennings, who placed second in his trusty Porsche. Exactly one second separated them at the finish. David Clark was third in a Lotus.

Donna Mae Mims had a brand new MGB for her first drive in Class D. She lost the brakes on her third lap and finished an unhappy sixth in class.

The Formula Junior victory went to Pierre Mion in a Cooper. Han Zeireis won Class E with a Porsche, and John Gordon in an Osca was first in the GP/HM race. The H Production race went to Carl Truitt in a Sprite. ●



ABOVE: On the grid for the GP-HM race which was won by John Gordon of Rockaway, N. J. His Osca is in the center of the first row.

BELOW: Women have known for a long, long time, but it's only since Formula Vee that men have learned the feeling of an extremely tight girdle!





# PARISIENNE

## RENAULT R-4



### BY EMMET GREENE

►Undoubtedly one of the most unusual cars in production today, the Renault R-4 Parisienne is an interesting and complete "turnabout" for Europe's second largest producer of rear-engined, rear drive cars. For it is a front-engined, front wheel drive.

"No decision as to the U.S. price of distribution has been made yet." Renault's president Vincent Grob said. "Our survey may determine that some features may require modifications for American motorists, but in its present form its East Coast Port of Entry price would probably be under \$1,500.

Just 12 feet long, nearly five feet wide and five feet high, the Parisienne has two doors on each side plus a rear door, will hold 17 cubic feet of luggage and get up to 40 miles to the gallon.

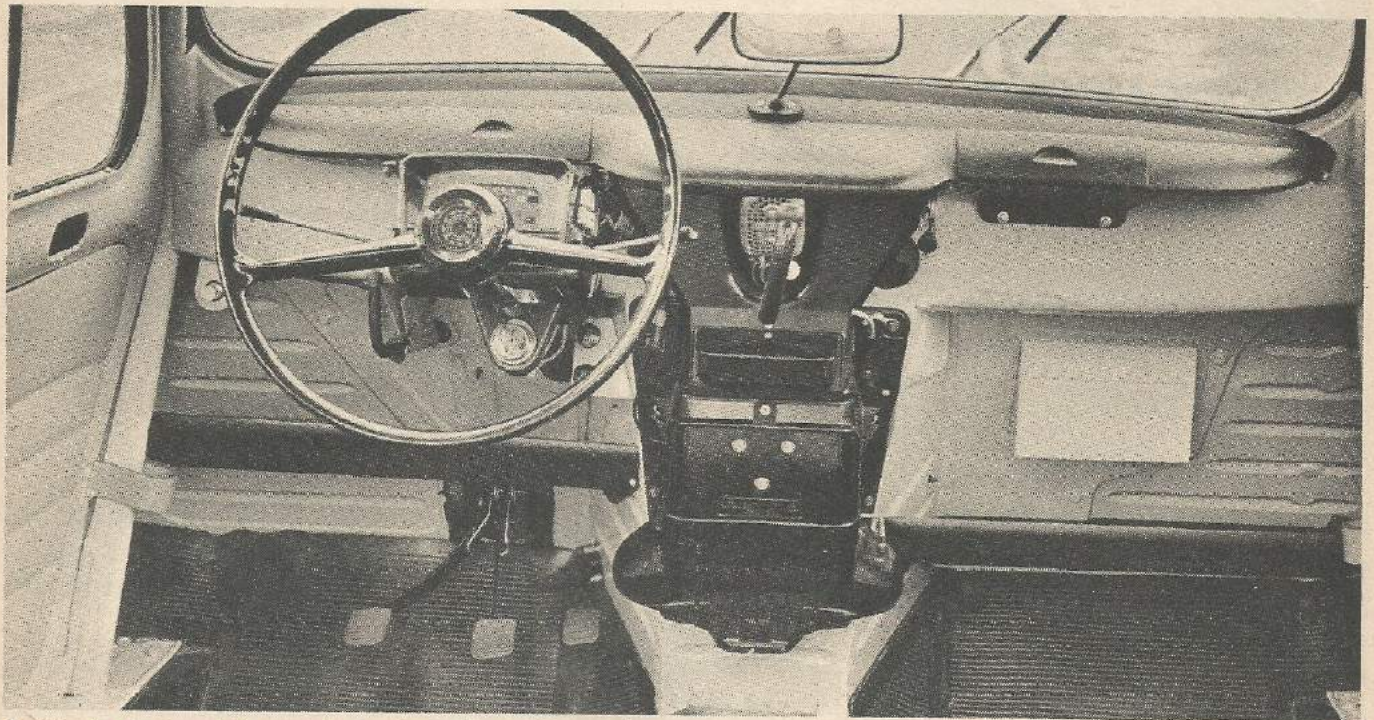
The 32-horsepower, 1322 lb, town wagon is an improved 1964 version of the R-4 introduced in France three years ago. The new Parisienne model has more comfortable seats, a bigger 845 cc. engine and a higher 68 mile-per-hour top speed than the original model.

Perhaps the most novel feature immediately apparent is the standard three-speed synchromesh gear shift lever located in the center of the dash panel. Another less noticeable innovation is a left-side wheelbase of 94.3 inches — 1.8 inches

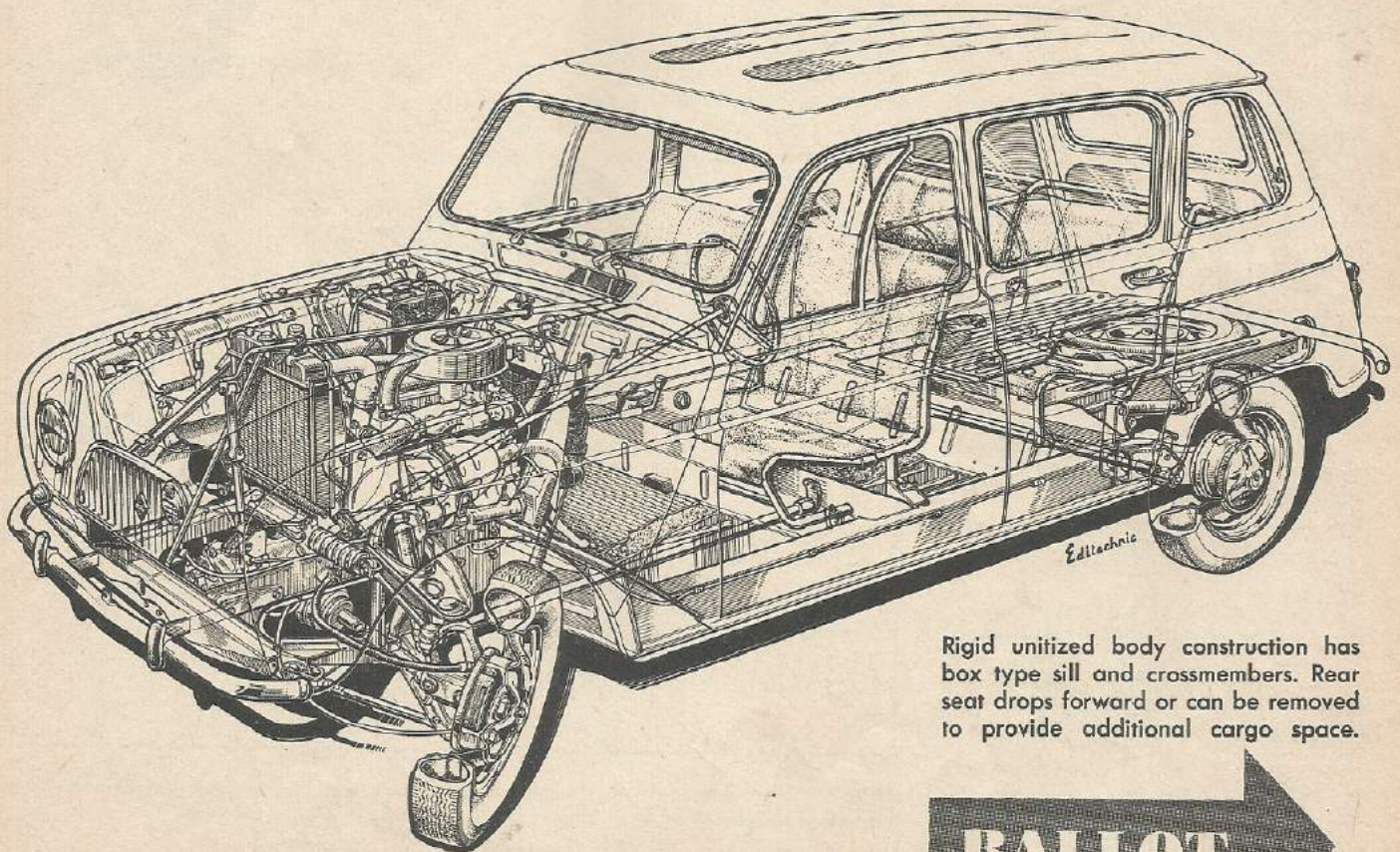


Interior finish is best described as simple. Comfortable hammock type seats provide extra storage space underneath of them.

# TOWN WAGON



Originally designed for rural rough road conditions, the interior is utilitarian. Gearshift lever extends out of the dashboard below the rear view mirror.



Rigid unitized body construction has box type sill and crossmembers. Rear seat drops forward or can be removed to provide additional cargo space.

**BALLOT**



## PARISIENNE

shorter than the right-side wheelbase.

The double wheelbase is used because of the four-wheel independent torsion bar suspension system which gives a smooth ride even under off-highway conditions permitted by the 7.5 inch road clearance.

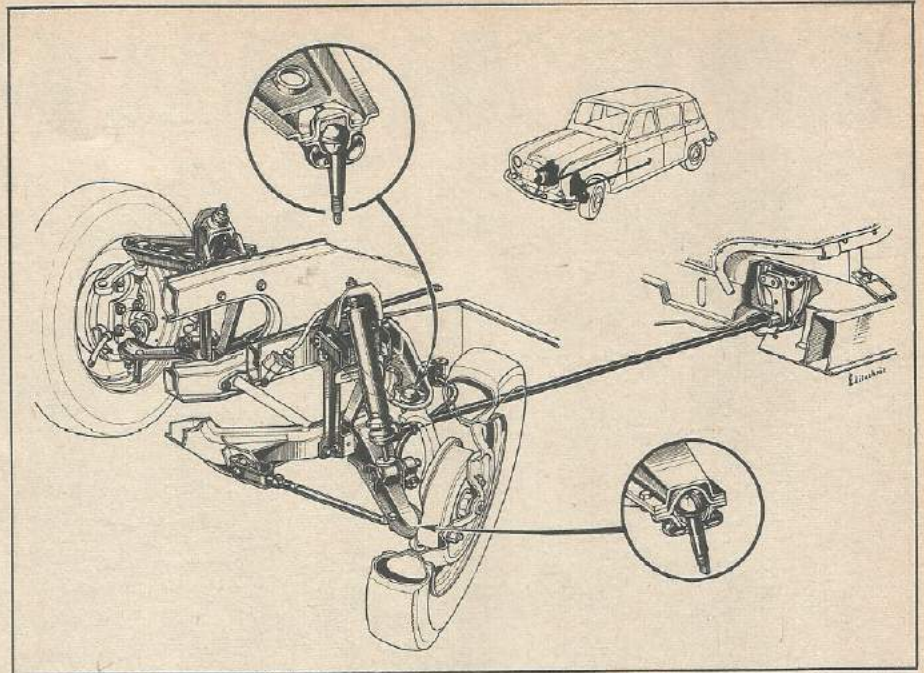
From the outside a highly distinguishing feature in addition to the size and shape of the Parisienne is the wicker or tartan decal design which received a highly favorable response from 100 women selected by Renault and the French magazine "Elle" which sponsored a 48-hour driving reaction test of the Parisienne last summer.

Originally designed as an off-highway utility vehicle which combines the comfort and convenience of a station wagon with the all-terrain ruggedness of a jeep, the R-4 has found increasing favor as a "town wagon," as well.

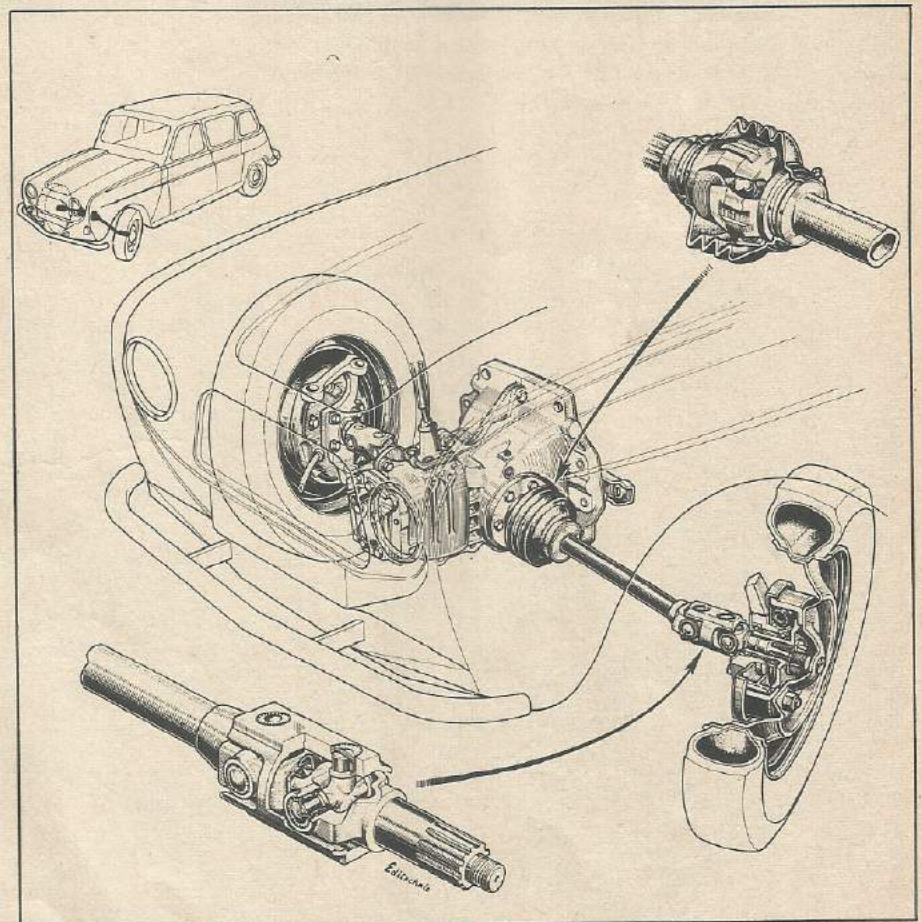
Its compact size coupled with its big cargo-passenger-carrying capacity make it an ideal automobile for both country-estate and in-city travel.

Other features of the Parisienne include factory-sealed cooling system, permanent lubrication and extremely sturdy-yet-soft four-wheel independent torsion bar suspension.

The Parisienne's front-mounted engine is connected to the front wheels via a shaft with two constant-speed universal joints. The four-cylinder powerplant is the same as the one currently used in the Renault Dauphine Automatic. It develops a maximum torque of 44.12 ft. lbs. @ 2300 rpm. and its maximum 32 horsepower at 4700 rpm., with an 8:1 compression ratio which permits using regular grade fuel. ●

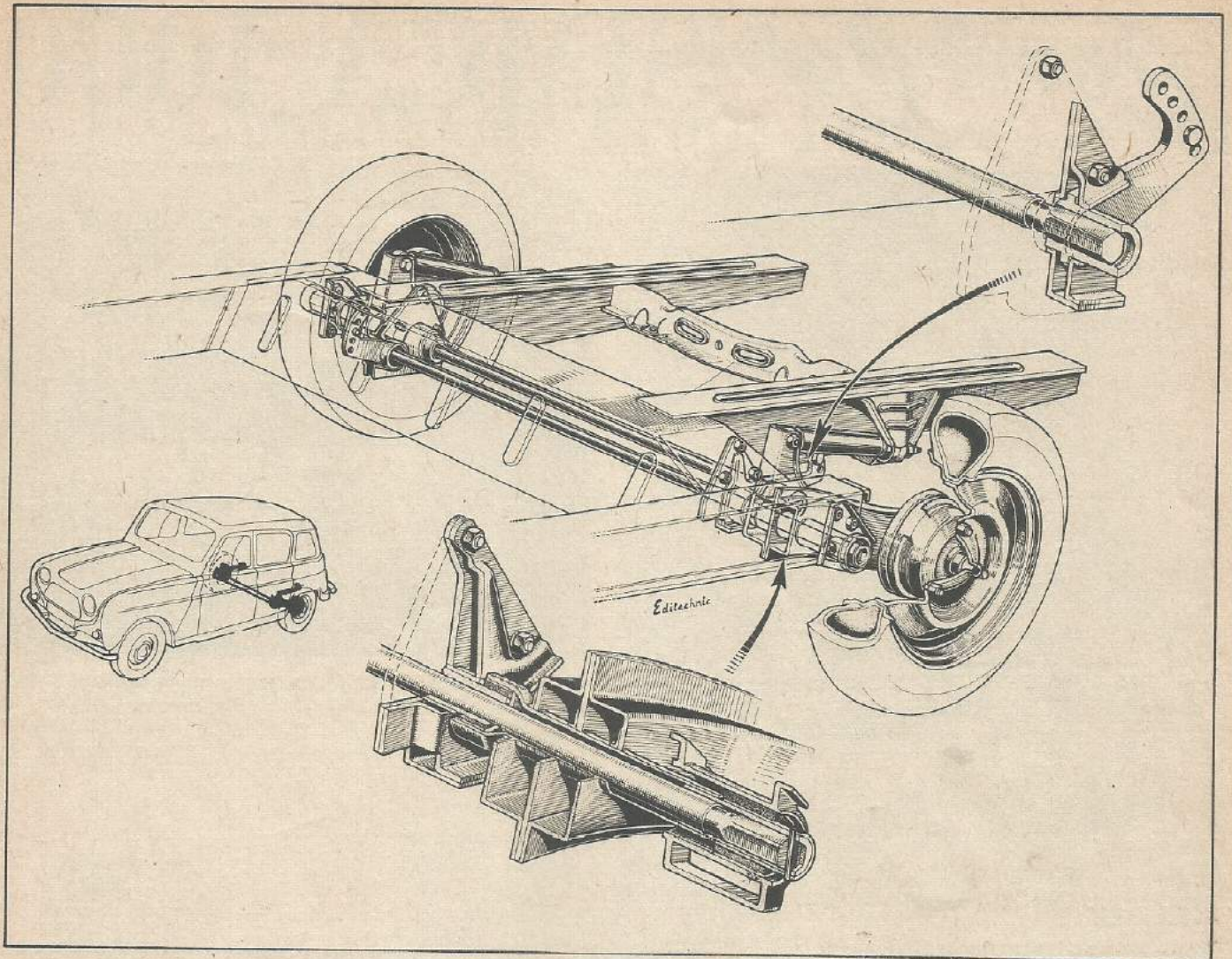


Front suspension is by longitudinal torsion bars that are adjustable at the rear anchor points. Upper and lower control arms have ball joint mounts for steering spindles.



With the front wheel drive, the gearbox is forward of the engine. Constant velocity universal joints are used at inner and outer ends of driving axles.





Dual transverse torsion bars are used for rear wheel suspension. The right wheel is 1.8 inches further back than the left. Torsion bars are adjustable for loading height and shock absorbers are mounted longitudinally.

### CAST YOUR VOTE NOW!

Based on the article, illustrations and price of the Renault "Town Wagon" I VOTE, YES  NO , THAT IT SHOULD OR SHOULD NOT BE MADE AVAILABLE IN THE U. S.

1. It would be suitable, for all around use , Hunters & Fishermen , Farmers , Tradesmen , Rural Mail carriers , Appeal to women .

Other uses: .....

2. I currently own (car or cars) .....

3. I am in the market for an Imported car, Yes , No .

4. I would like to see the following type of articles in Popular Imported Cars.....

Name ..... Age .....

Address (optional) ..... Occupation .....

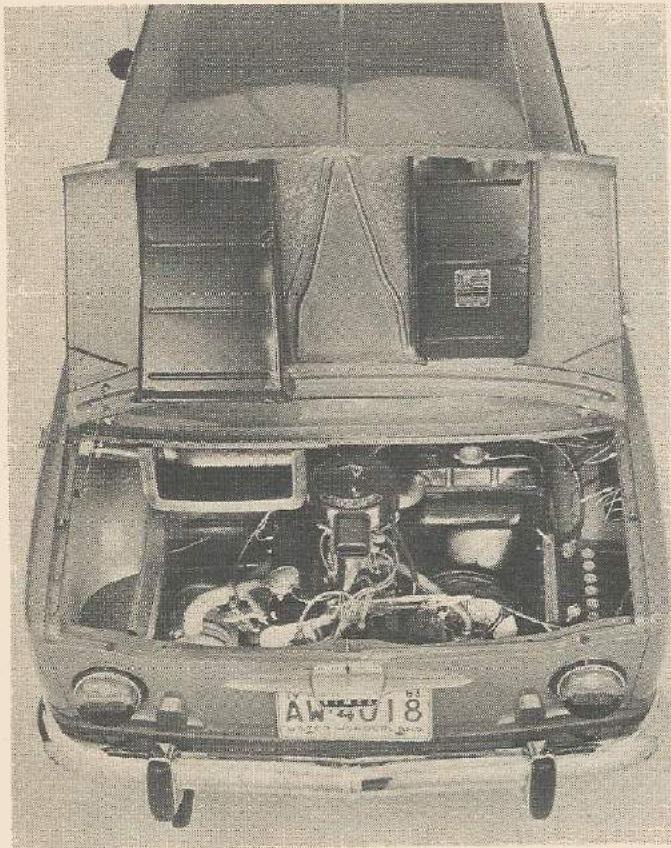
City ..... State .....



SEND BALLOT TO:

Frank W. Coggins, Editor  
POPULAR IMPORTED CARS  
47 Halsey Street  
Newark 2, N. J.

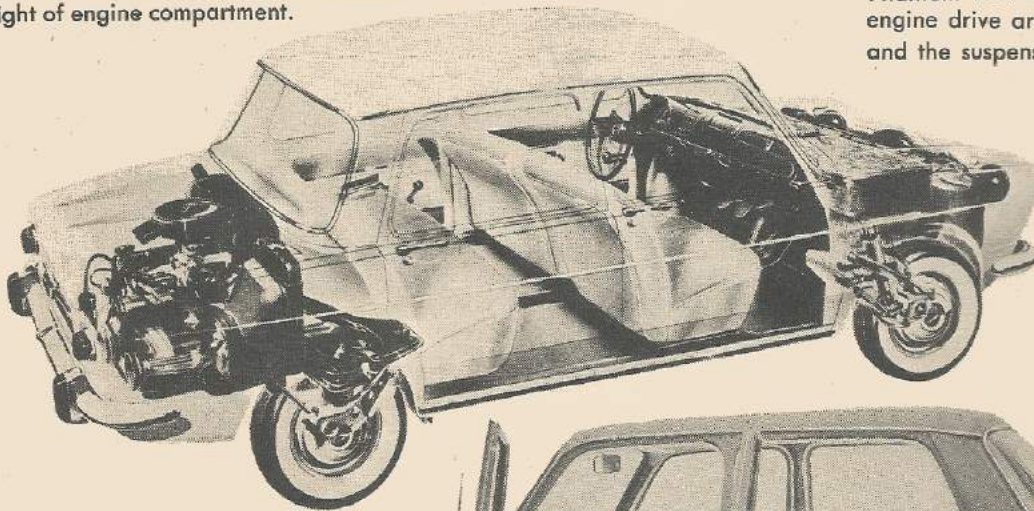
# Cover Car SIMCA 1000



View of engine compartment showing cooling duct arrangement on left of deck lid and radiator and fan shroud at right of engine compartment.



A trim Simca 1000 in its native habitat — Paris.



Phantom view of Simca 1000 shows engine drive arrangement and the suspension elements.



Wide opening doors ease entry and exit.

# Chrysler's Roomy Rear Engined Small Car From France

► Launched in the U.S. market in 1963, after being on sale in France for over a year, the Simca 1000 boasts of independent suspension on all four wheels, unitized body construction and a water cooled, rear mounted 50 horsepower 4-cylinder engine. The four door sedan has an 87½ inch wheelbase and measures 149.2 inches overall. Overall workmanship and finish is good and the \$1595 price (East Coast port of entry) includes heater and defroster, vinyl upholstery and a host of other items as standard equipment.

Interior roominess, accessibility through the four doors and all around visibility are among the cars appealing features. Clutch and brake pedals are of the suspended or pendant type and the clutch is hydraulically operated. The positive acting gearshift lever is located on the central control

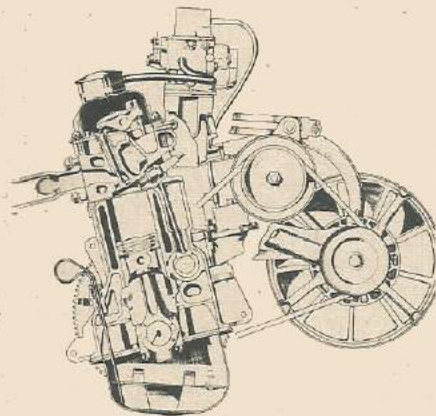
posite sides of the aluminum cylinder head. Flexible engine mounts (coil springs and rubber) contribute to the very smooth running characteristics of the power plant. Prior to its U. S. debut the horsepower was increased to 50. Changes included boosting the compression ratio to 8.2 to 1, re-designing the intake manifold and revising both carburetion and ignition. Another interesting feature of the engine is a disk like centrifugal oil filter or separator that is part of the fan drive pulley on the crankshaft. It is serviced, dismantled and cleaned every 4000 miles or 6 months.

A hydraulically operated clutch transmits the drive to a four speed gearbox equipped with Porsche synchromesh on all four speeds. Shifts are positive and quick. The ratios are well spaced and top speed is about 75 mph. Fuel con-

sumption is in the 27 to 35 mpg bracket.

The radiator, mounted in the forward right side of the engine compartment, is cooled by air drawn in through louvers on the right side of the rear deck lid. A duct carries the air across to the radiator in much the same manner as the Fiat 600.

The riding characteristics is one of the notable features of the 1000. The suspension layout might be compared with the Fiat 600. In front there are conventional A arms or wishbones and a transverse leaf spring forms the lower control links. The spring is held by two widely spaced rubber insulated saddle mounts which allow free movement of the spring center section and contributes to the soft ride. Tubular type shock absorbers are used.



Engine Cross-section. Water-cooled rear engine puts out 50 horsepower, features a trans-axle drive.

tunnel. Behind it, between the individual front seats, are the choke control and hand brake lever. The steering is light and positive, and just 3.2 turns swing the wheels from full right to full left. The required turning circle is a mere 30 ft.

After extensive endurance testing many detail refinements were made before the car was placed on the U. S. market and sold under Chrysler's standard 5 year/50,000 mile warranty.

The modern design engine is tilted 15 degrees to the left and the crankshaft is carried on five main bearings. The four intake and four exhaust ports are on op-

## CHRYSLER PLAYS CHESS

► Chrysler has been making some interesting moves to garner a larger share of the world's expanding market for motor vehicles. Last spring London's "Financial Times" said that America's third largest car manufacturer was looking for expansion areas particularly in England and Germany. The Times further reported that I. J. Minetti, the company's vice president stated that it would be difficult to acquire a major English company "without arousing strong nationalistic objections". However, he felt that Chrysler's policies were flexible enough to permit a joint venture.

Other moves were also made in Europe. In Greece they bought out Farco A. G., producers of an all purpose jeep-like vehicle known as the FARMOBILE. Last May they acquired an interest in the Spanish Barreiros Co. (producers diesel engines and trucks.)

More intriguing was the quest of Simca, the largest non-government owned vehicle producer in France. This concern came under the Chrysler wing in 1963 when it was announced that the Detroit firm has acquired 64% of the stock in S.I.M.C.A. (Societe Industrielle de Mechanique et Carrosserie Automobile).

Back in 1958 Chrysler took over distribution of Simca in the U.S. Simca was established in France in 1934 and produced cars under a licensing arrangement with the Italian Fiat auto-

mobile company. In 1954 Simca acquired the French subsidiary of the Ford Motor Co. and the rights to manufacture the now discontinued V8 engined Vedette models. Ford retained 15% interest in Simca.

Chrysler, prior to taking over U.S. distribution, purchased Ford's 15% interest plus an additional 10% from an unnamed Swiss group. After that move the division of stock was as follows: Simca directors and the French public 50%, Chrysler 25%, Fiat 10%, a Swiss group 10% and 5% was posted for trading on the New York and San Francisco stock markets. The current distribution of the remaining 36% of the stock is not known but Fiat probably still retains an interest.

Possibly the most dramatic marketing move on Chrysler's part was made in February 1964 when they announced that their famous 5/year/50,000 warranty was also applicable to the Simca. This warranty covers defects in material and workmanship of such parts as engine, head and internal parts, water pump, intake manifold, transaxle and rear wheel bearings. Both parts and labor charges are covered and warranty is transferable if the car is sold. The owner is required to have routine services (every three months or 4,000 miles) carried out at a Simca or Chrysler dealership. ●

# ROAD TEST

# SIMCA BERTONE

BY ALEX MARKOVICH

**IT'S SPORTY, GOOD-LOOKING AND  
COMFORTABLE—ALL ON A BUDGET**

▶ It looks like it should go at least 175. It's only capable of half that speed, but that doesn't make the Simca Bertone coupe any less likeable.

It's basically a Simca 1000 with two extra horses (via increased compression), a cockpit that's conducive to gracious living, and a shape as sleek as a buttered carrot. All you need is a racing number on each door and the sideburn types with Hollywood mufflers will want no part of you at the stoplights.

It's a beautifully civilized car. Ride is excellent. Springing is fairly soft, but the shocks give good ride control on all kinds of roads.

Front bucket seats are bountifully padded, and adjust to fit anyone from three to nine feet tall. Seat backs also adjust for rake, and can be reclined completely—but this leaves one's head hanging backward without any support. Not very comfortable.

Rear legroom is practically nonexistent. The seat will accommodate two small, well-brainwashed

children or one mother-in-law. The seat backs fold down to form a rigid platform for luggage.

Interior hardware and upholstery are beautifully finished, except for the side windows, which didn't want to stay in their channels. The dash is well-padded except for a sharp, hard edge, which unfortunately faces the passenger. There are door pockets and a closed glove box to hold the usual automotive clutter.

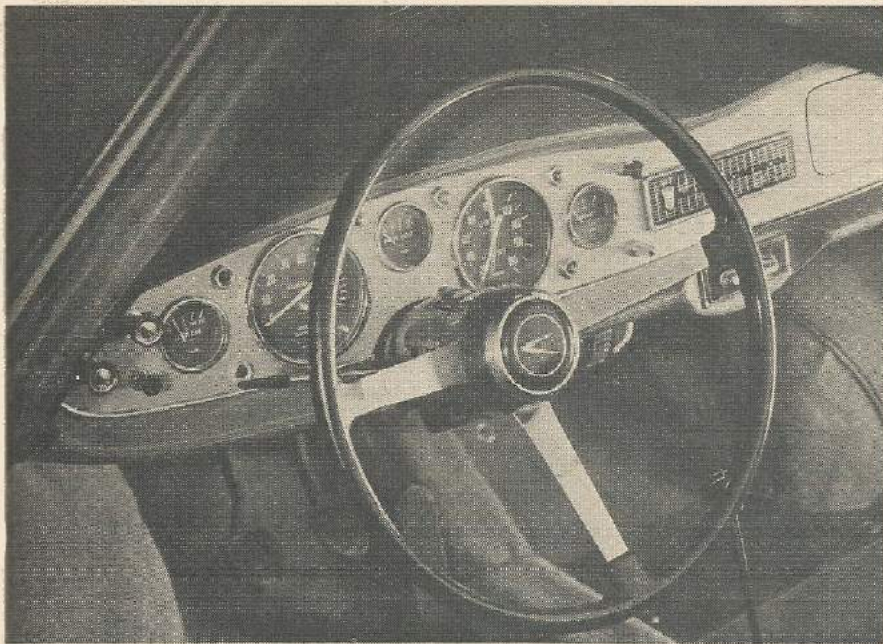
A stalk sprouting from the steering column controls headlights and is handy for flashing your high beams to Sunday drivers. If this doesn't work, there's a polite, soft-spoken town horn. As a last resort, there's a rude, strident "open-road" horn. The French are well aware that the loudness of a horn should be inversely proportional to the size of the car.

Sharing the steering column with the flasher is a rather vague turn-signal stalk. One never quite knows whether or not it's engaged without looking at the dash pilot.

The real beauty of the Simca is in its handling. Front suspension



This sleek, luxurious sports coupe is latest addition to Simca line. Longer, lower and more powerful than the sedan, it has disc brakes all around and boasts a rated speed of eighty-seven miles per hour. Large glass area offers excellent visibility.

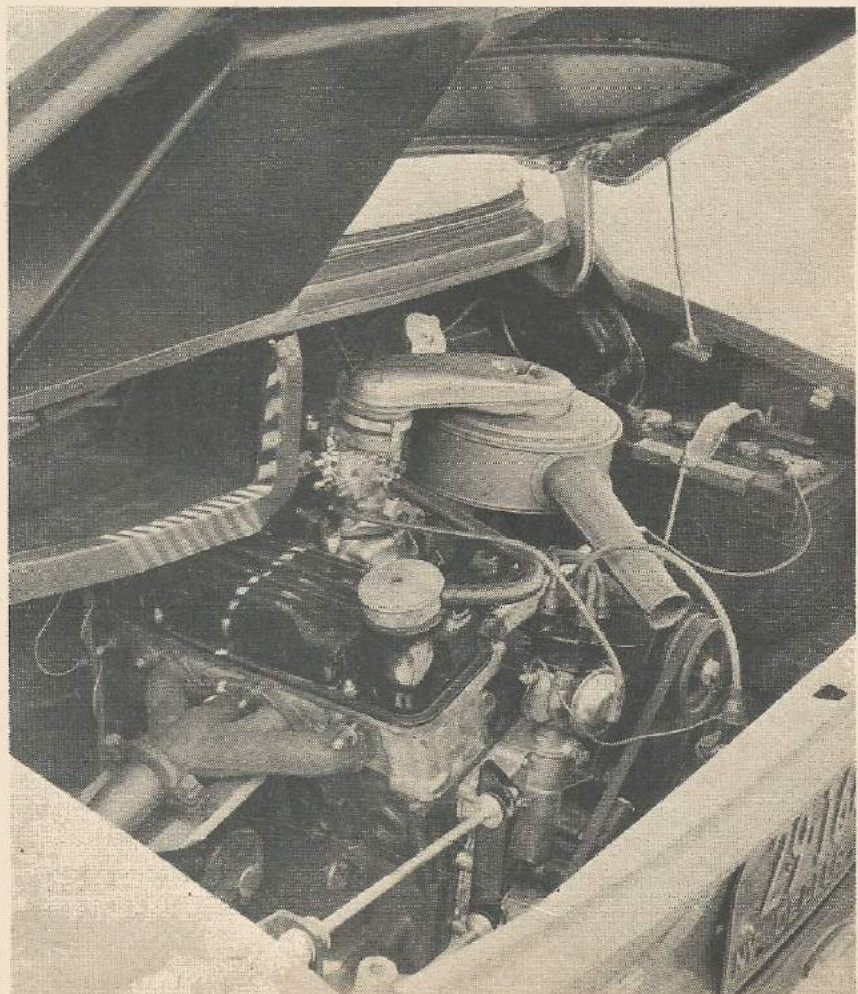


All gauges are quite legible and easily seen through the spokes of the steering wheel. The ones in our test car were labeled in French and marked in kilometers and in degrees Centigrade, but this will be changed on models sold here. A 7,000 rpm tachometer is standard equipment on the Betone. The speedometer was about ten percent optimistic at the equivalent of 60 mph.

Open the louvered rear bonnet and you find the cast-iron four-cylinder engine with an aluminum head. The bore and stroke are 2.68 and 2.56 inches. The 9:1 compression ratio calls for premium gasoline. Everything is easily accessible except the spark plugs. Even with the air cleaner removed you need a socket wrench with twelve extensions to get at them.



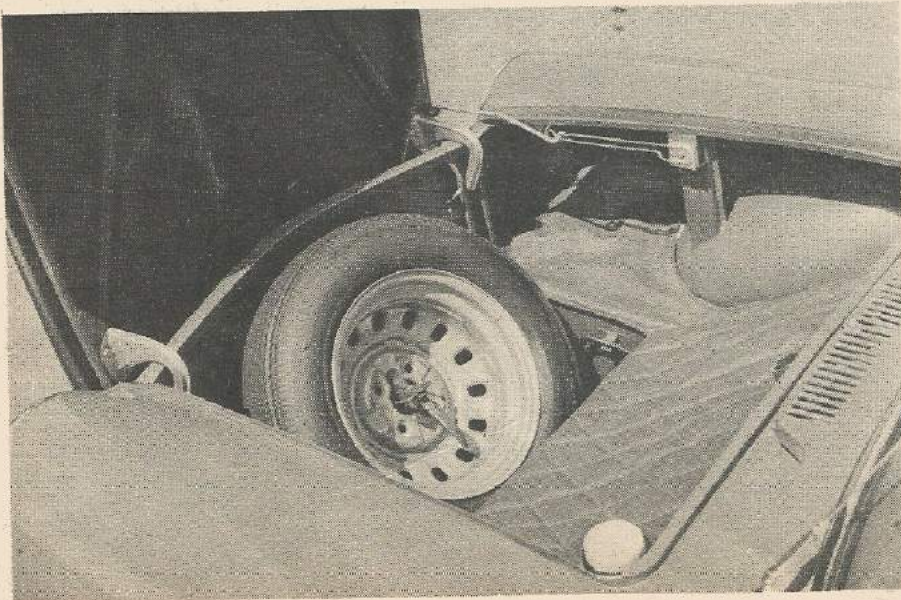
Drilled disc wheels are 13-inch.



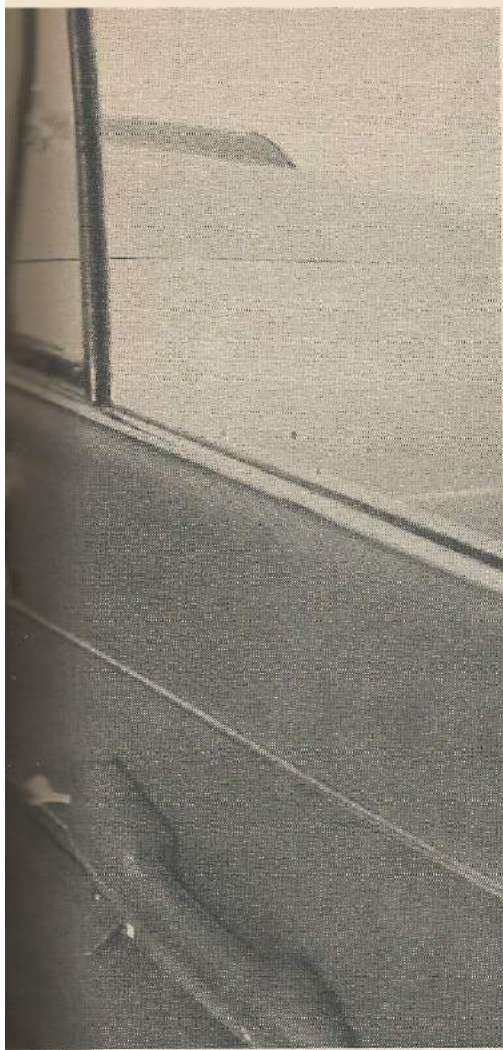
## SIMCA BERTONE



Lavish interior and reclining bucket seats are features of the Bertone coupe. Rear seat folds forward to provide additional luggage space. Rake of the seat backs is adjusted with a small handle. Doors open wide, but the low roof line and sharply slanted windshield make entry and exit difficult. Headroom is less than generous—but then, there's no excuse for anyone over five-feet-eight.



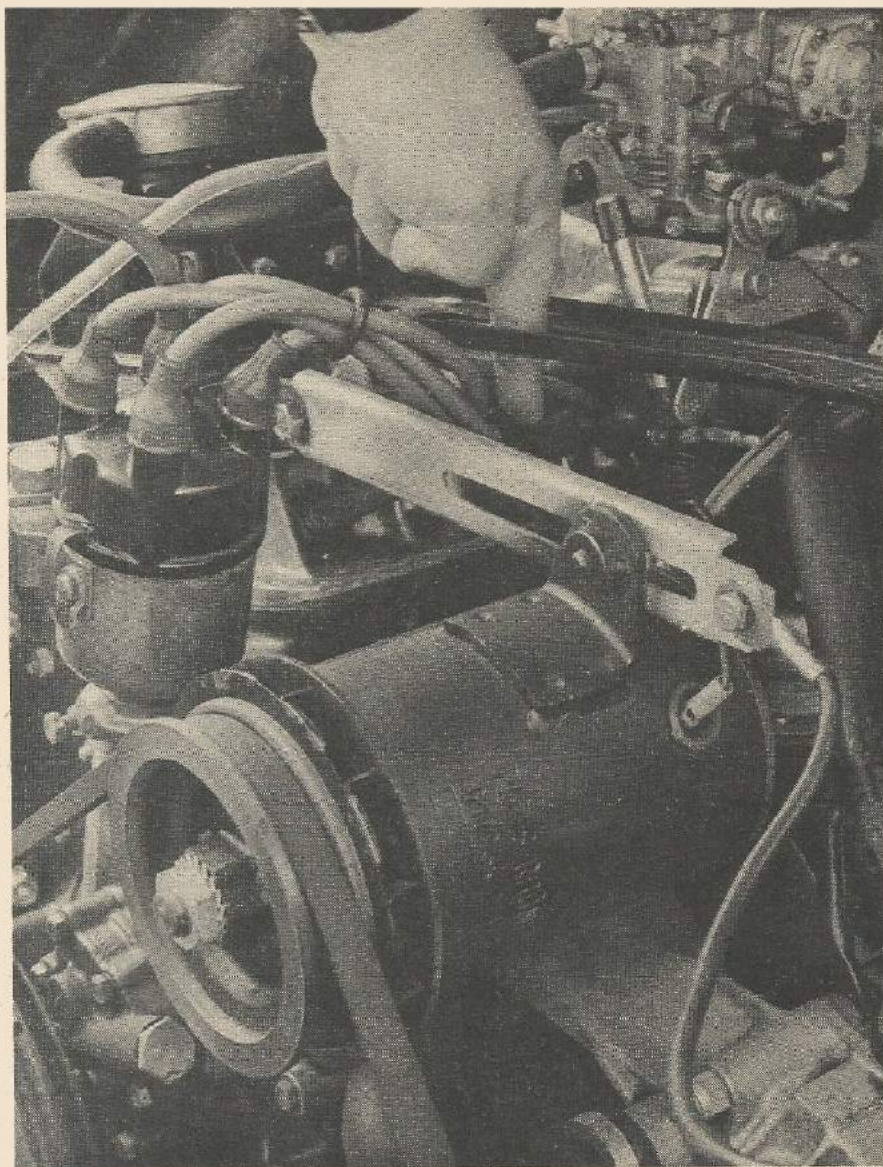
Quilted padding in the large front trunk looks good in addition to protecting luggage. Spare tire is released by raising the handle. Trunk lid is unlocked and locked under the dash and is spring-loaded to stay up when raised.



consists of a transverse leaf spring and antisway bar. The swing-axle rear suspension is similar in design to that of the Corvair, but far superior in practice. It exhibits none of the Corvair's tendency to tuck in the outside wheel on a corner—which results in a vicious and sudden oversteer. The Simca does oversteer when pushed hard, but the rear end breaks away gently in a perfectly controllable drift. Cornering ability is high indeed, and only a clod could overcook it. The coupe's lower body lines greatly reduce crosswind sensitivity (for which the Simca 1000 is notorious).

The sophisticated OHV four-cylinder engine cranks out a respectable 52 hp. from its 944 ccs (57.6 cubic inches). Though the power peak is at 5,400 r.p.m., the engine doesn't sound at all distressed at well over 6,000. It does, however, poop out at the lower end. For any kind of acceleration, revs must be kept well over 2,500.

Performance is adequate. With careful manipulation of throttle and clutch to prevent bogging



Finger points to the almost inaccessible position of the spark plug.

when coming off the line, it takes 18.2 seconds to hit 60 m.p.h. Acceleration from 40 to 60 takes 10.5 seconds. Top speed is 88—not quite ideal for running moonshine, but plenty for the fastest superhighways. The car cruises quietly and seemingly effortlessly, though it takes 1,000 r.p.m. for each 14.9 m.p.h. 26 to 31 m.p.g.

The Liliputian carburetor and milquetoast camshaft are fair prey to hop-up artists. With the right equipment—sure to be available eventually—it should be easy to add 30 hp. without sacrificing reliability.

The gearbox is a thing of beauty. Shift travel is short and crisp, and the synchronizers can't be beaten even with the most brutal speed shifts. Ratios are: 3.55; 2.12; 1.41; 0.96. Reverse is 3.44.

Clutch action is light and very gentle, but there was some slippage in our test car during fast takeoffs. It's impossible to spin the wheels on dry ground, even by revving the engine to 5,000 and popping the clutch—a practice, we hasten to add, that the manufacturer would surely frown on.

Brakes are discs all around. They're noisy (as are most discs), but they just won't fade. After half a dozen panic stops from 60, they still did their job with a minimum of pedal pressure and with no grabbing.

As of this writing, price is yet to be announced. But it should be well under \$3,000—which makes the car competitive with the SAAB GT and somewhat more expensive than the Karman-Ghia, which it outperforms handily. ●

► We made our first acquaintance with the Rover 2000 on a grey misty afternoon just after the first six of them had been unloaded from a plane and gassed up. An impromptu race course was set up with rubber pylons and each group of visiting journalists proceeded to drive it through a zig-zag course. We settled down in a comfortable bucket seat gunned the engine, zoomed down the road, and turned the slowest time of the day. The next few tries were considerably more successful, but we never did equal the times posted by Rob Lyall, a bearded six foot suspen-

sion engineer from Rover who had come along with the cars to tell us a bit about their capabilities. This is not by way of trying to tell you that a Rover 2000 is a race car, but we have yet to see a four door sedan of roomy proportions that is as softly sprung and comfortable to ride, and yet that is so completely "on rails" when rounding a curve.

The suspension smoothness of the 2000 becomes even more evident when you take it over a series of tar strips and road joints to which the car simply doesn't react. Generally, the side of a black top

road, where it joins the shoulders becomes a little jagged with age, is excellent for bringing out traces of wheel fight—as one wheel goes over the bumps, it quickly shows up any tendency to keep wanting to change direction — but here again, the car continued on its intended path and could still be steered with finger tips, and this without the benefits of powersteering. We might also add that this is accomplished with just 3¾ turns lock to lock, certainly quick enough for a 2700 pound sedan.

It is possible to break the rear loose while cornering the 2000, if

# ROAD TEST

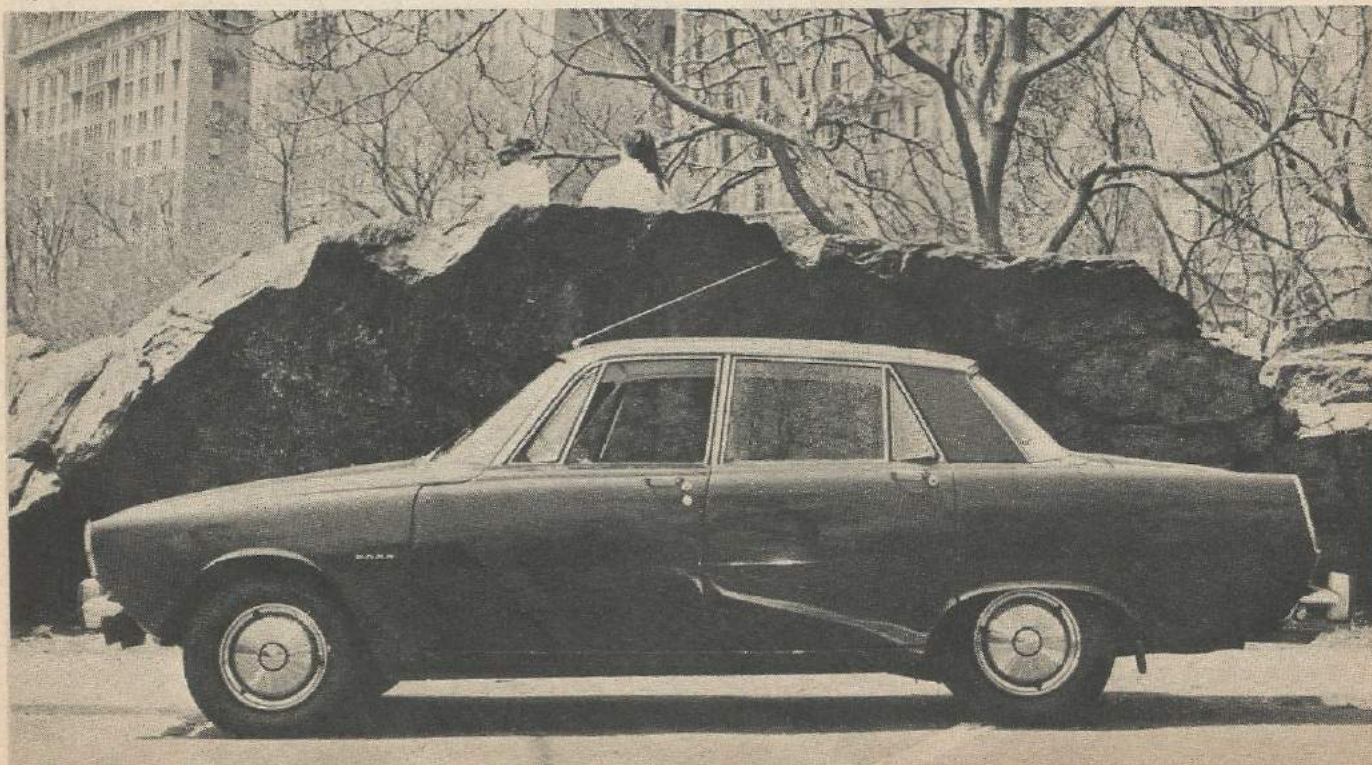
# ROVER 2000

By Alex Walordy

Excellent panel fit of the 2000 is due to a unique body construction method. The entire underbody structure is first welded together as a unit, then all panel mounting bolt holes are drilled and tapped on a special jig, which insures unerring and identical location for all bodies. Similarly, all panels

are also drilled on matching fixtures, so at assembly time everything fits to a "T."

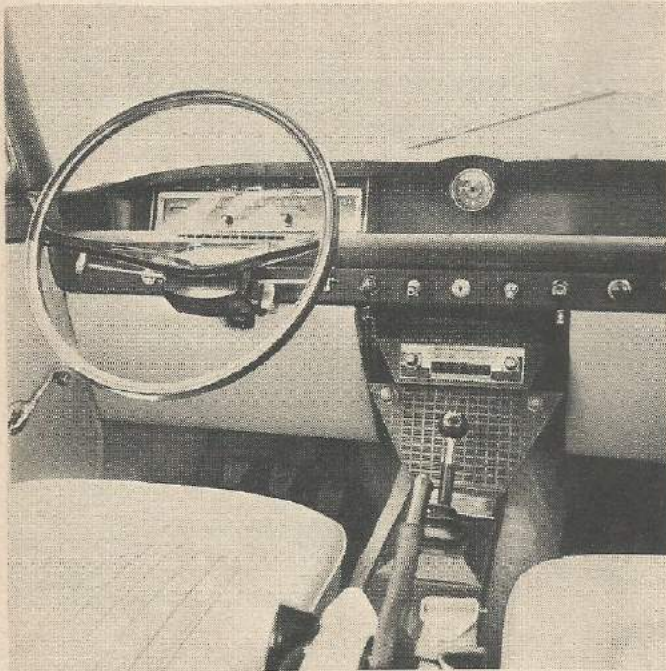
The windshield and back light are held in position by small jacks, and sealed off by a rubber molding.







Interior is quite plush, even by Rover standards. The backs of the bucket seats are adjustable to any position, and can be tilted all the way to meet with the rear seats if you want to take a rest. A friction pad lock holds the seat against all gyrations of the heftiest drivers. The fore and aft seat adjustments seem to have been created with tall Englishmen in mind, and if you like to drive with your arms stretched out, the room is there.



The dash of the 2000 is simple and functional, but holds some surprises. For instance, those large knee pads are really king-sized glove compartments which swing out at the flick of a button and hold a remarkable amount of trivia. What appears to be a leather covered dash is in reality a very clever plastic injection molding finished down to the last leather grain mark.

Instruments and buttons are coded with appropriate Indian signs and the normally useless space above the transmission is taken by a very acceptable radio. Pedal spacing is superior to that of most British makes. Visibility is good and the slope of the hood makes it easy to judge distance and "feel" the road.



The trunk is a fairly roomy affair with as much care to interior details as the inside of the car. The spare has a neat cover, complete with a handle for lifting it. A navaughyde drape conceals all the tools, neatly clipped to a board so they will not rattle; there is even a tire pump. 2000 owners will soon find out that the trunk is so weather proofed that you can't slam the lid shut. Instead, it must be closed gently and locks with fingertip pressure, apparently giving trapped air inside a chance to escape.

### PHOTOS CONTINUE

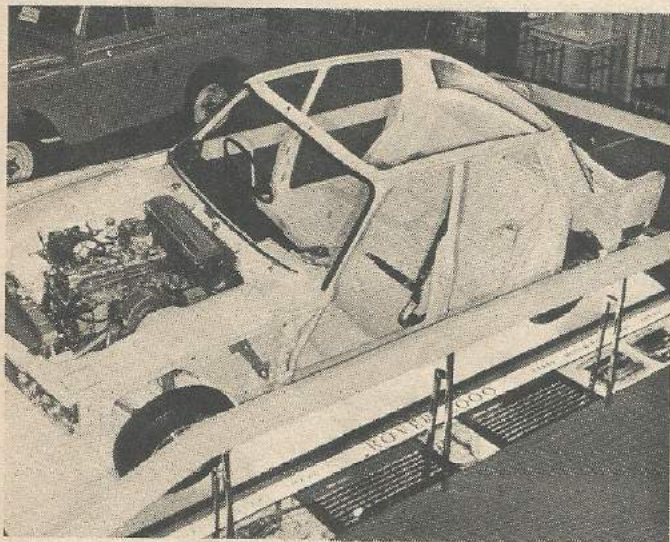
you work at it, or deliberately edge over to the sandy part of the road shoulder, but otherwise it just takes anything you can dish out and stays on its assigned track. The four speed all synchro transmission is built to American rather than English standards. We drove one with just a few miles on it, and all speeds could be engaged as quickly as you wanted, without a chance of cheating the synchros. Braking is faultless, and fade free, as you would expect from a properly engineered four disc braked car. Brake distribution is tailored so that the front will lock up before the rear, which is certainly the safest way of doing things, even if we can hear some dyed in the wool race experts saying that you can set up a car better by braking the rear loose first (how often would you want to do it with YOUR tires?).

The Rover has so many unique engineering features, and differs so much from the conventional approach that we thought it best to tell its story in pictures. ●

# ROVER 2000



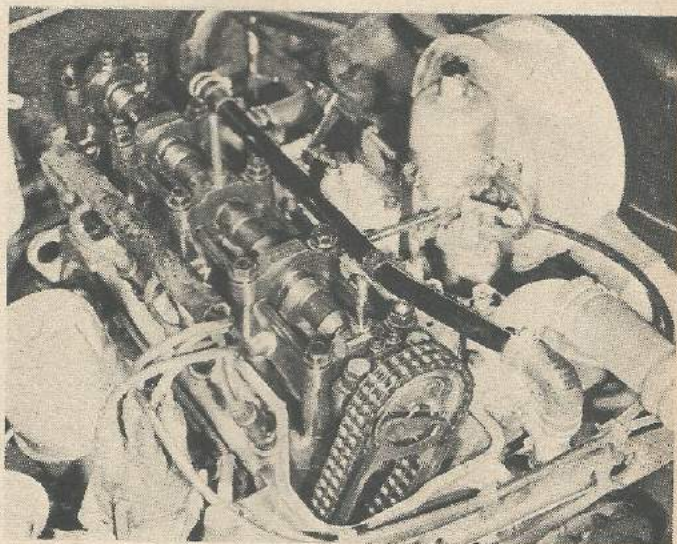
Pirelli Cinturata belted tires provide an uncanny holding power, whether the road is wet or dry. The suspension has a very long travel, eight inches front and rear, and is quite soft, so rough roads seem to have no effect on handling. A curve with a little hump in it usually breaks the rear loose and results in a side hop on any normal car, but not on the Rover, which just seems to take these irregularities right in stride.



The front suspension is designed so that all loads are taken up by the cowl structure. The wide base of the inside front fenders structure effectively eliminates all traces of sheet metal shake on the roughest roads. The floor pan and door sills form a structural tray which is cross braced at the cowl, under the seats, and at the trunk. Additional strength is derived from the roof structure. It is, therefore, no wonder that the Rover 2000 benefits from unusual beaming and torsional stiffness. In the event of a crash of more serious nature, the 2000 offers the protection of two crumblable structures, one at the front and the other at the trunk, which would cushion the shock to the much more rigid center structure occupied by the passengers.

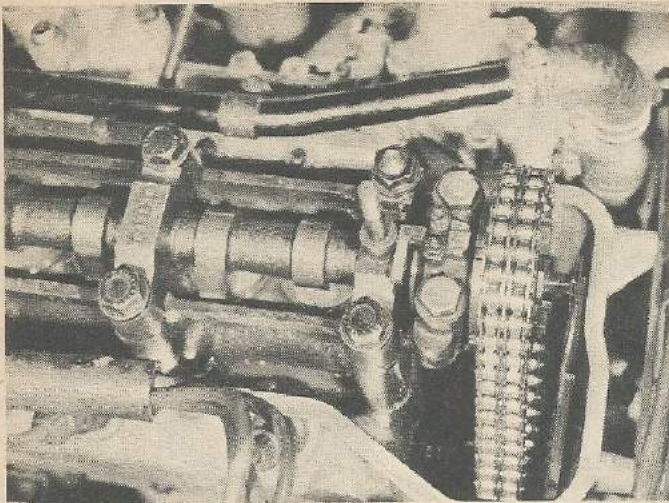


All outside body panels, with the exception of the roof, are replaceable separately on a bolt on basis, which is certainly beneficial in keeping repairs to a minimum. Accessories are easily reached and serviced. An overhead cam engine is much more fool proof than the pushrod version, because there are fewer parts, less wear points, and virtually nothing to get out of adjustment.

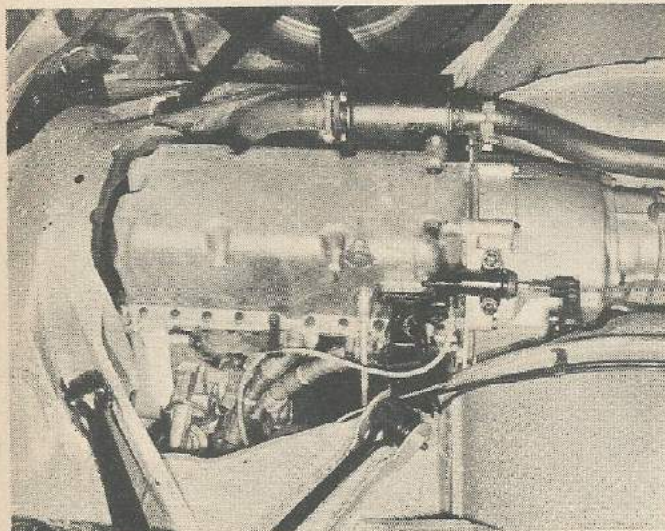


The cylinder block of the Rover 2000 is rather unusual in that the water jacket walls are separate sheet metal stampings which bolt to the block itself. The advantage is an open casting that can be more accurately controlled, with much simpler coring, and more even cylinder wall thickness, hence less chance of distortion.

The crank is a five main bearing forging. Considerable attention was paid to bearing oiling. Only one drilling extends from each main to a corresponding rod journal and no drillings are used from the more heavily loaded center main. The drillings are kept short to minimize the effects of centrifugal force on the oil columns. The oil outlets at the rod journals lead the direction of crank travel and the peak load area.

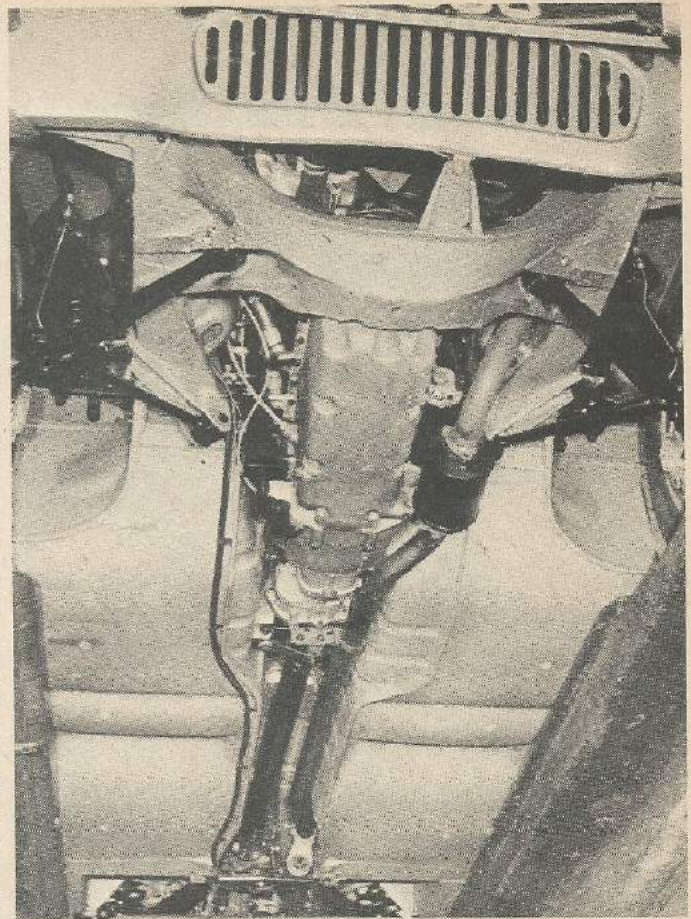


A primary chain connects the crank to an idler shaft which runs the oil pump, fuel pump and distributor. A secondary chain drives the overhead cam. Rubbing blocks support the tension side of each chain while slack is taken up by hydraulically actuated blocks. The cylinder head itself is an aluminum casting with steel inserts and cast iron valve guides. Ports and the lower portion of the intake manifold are cast integrally with the head. Usually, an integrally cast intake manifold is something of a problem because casting imperfections mar the air-flow flow. However, on the 2000, the top of the manifold is in the form of a removable cover, so that imperfections can be ground out in production and anyone wishing to improve performance at a later date through fine tuning can reach the ports. Some local exhaust preheating as well as a small amount of heat transfer from the coolant provide warm up heat and help improve cold start performance.



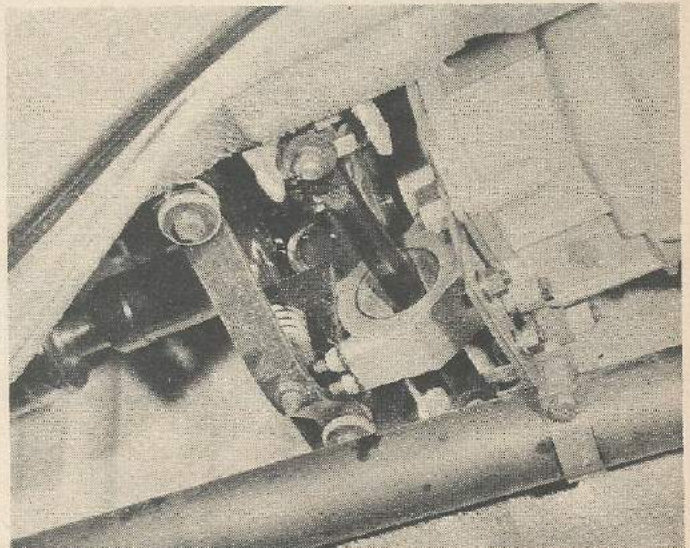
The engine block skirts end at the main bearing centerline, for lightness. However, some of the beam stiffness is regained through the use of a rigid cast aluminum oil pan. The rear of the pan ties into bell housing, so that the engine transmission assembly also benefits from a gain in rigidity. The pan receives protection from the front cross member and if you don't use the car in lieu of a Land Rover in crossing big boulders the pan will outlast the car.

The oil pump is mounted high at the side of the engine, and driven by the accessory train. This necessitates two large flex pipe connections, one to the suction side and the other to deliver the oil under pressure to the main oil gallery.



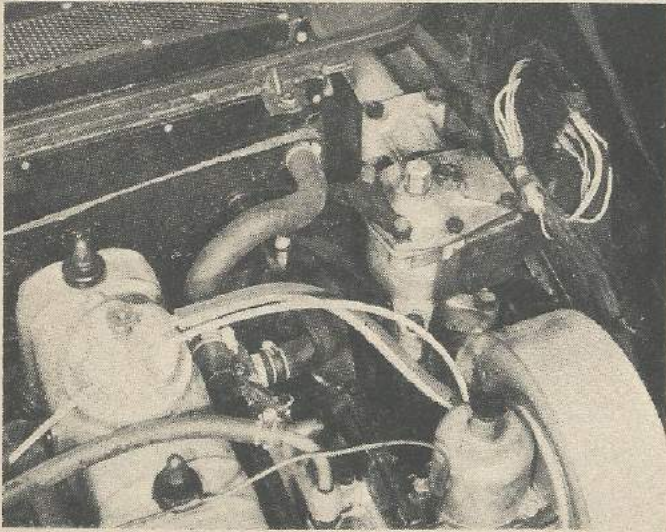
There is only one grease fitting on the entire chassis: it is located at the sliding spline of the front universal joint. There is very little sliding motion at this point, since both the engine and the differential are mounted on the chassis through flexible rubber mounts. The design does ease disassembly and service.

**PHOTOS CONTINUE** →

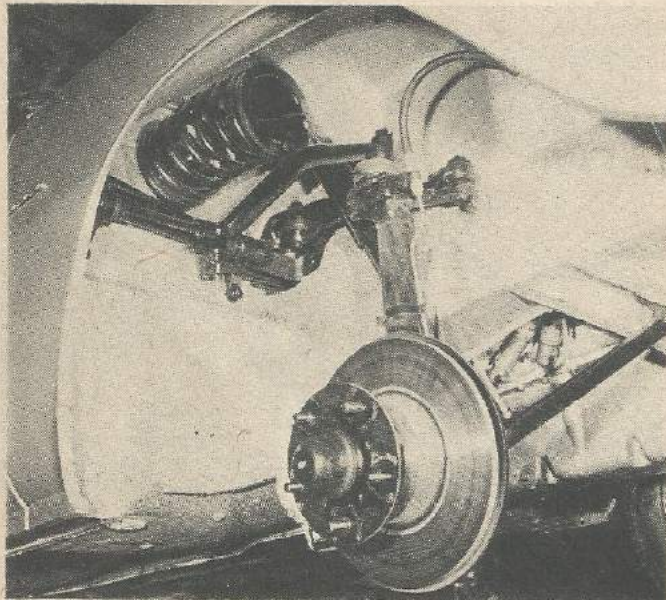


The engine is supported by a pair of large mounts which are placed very close to the center of gravity of the engine transmission assembly. Thus, the loads at the rear mount are quite small and vibrations are damped out by a small coil spring and some rubber pads. Larger motions of the engine are snubbed out by a hollow rubber bushing through which passes a tie rod that bridges the tunnel.

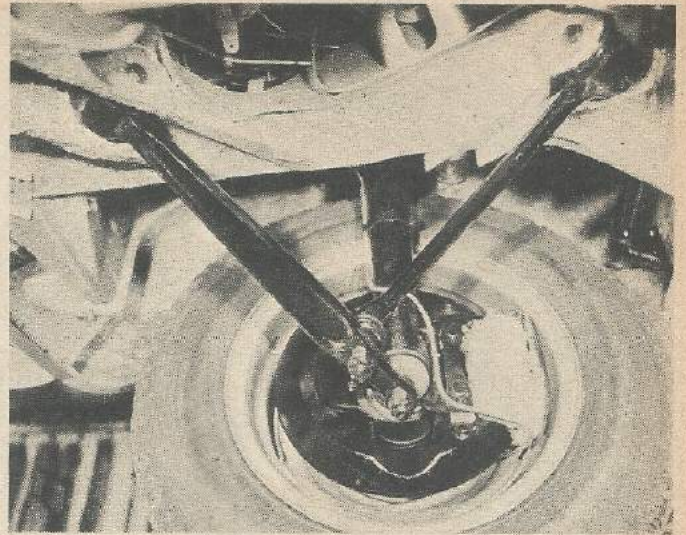
# ROVER 2000



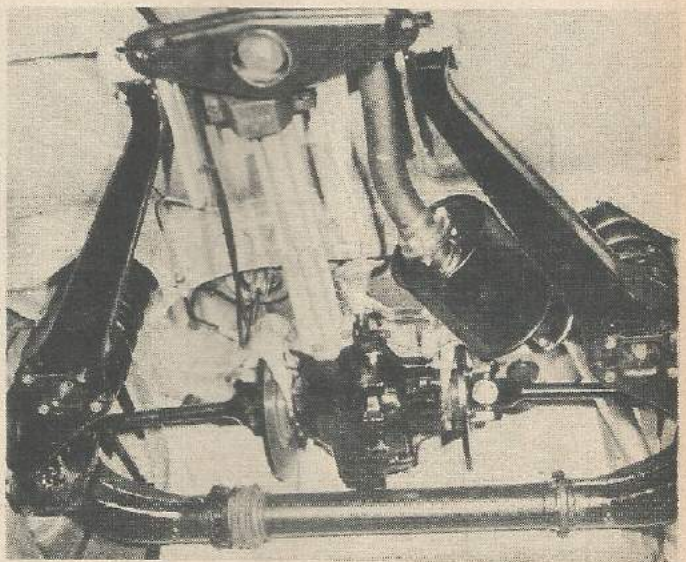
The steering gear is a lightweight worm and roller assembly mounted next to the fire wall. It is connected through a single universal joint to a short steering post that can be swung up or down to adjust lap clearance. The idler arm is positioned symmetrically to the steering gear, at the opposite side of the fire wall. Steering and idler arm are connected by a drag link which runs behind the engine and is, therefore, in an extremely protected position.



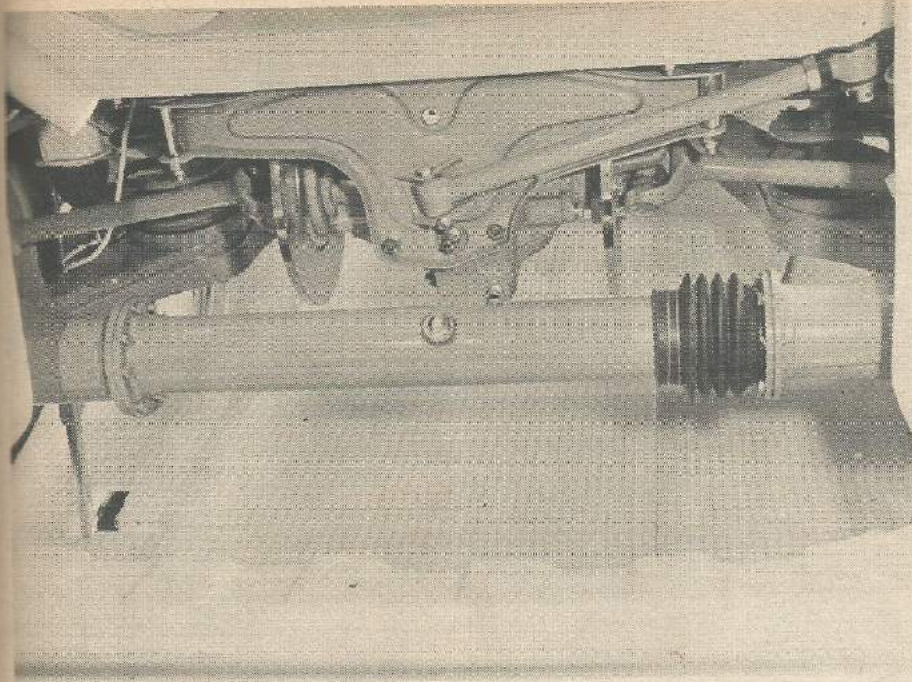
The Rover 2000 has taken an extremely practical but unconventional solution for their front end design. Suspension loads are taken by the cowl structure, relieving the front sheet metal of structural loads and providing a substantial gain in room at the sides of the engine. The spring is placed horizontally, and insulated from the suspension and fire wall by rubber pads. The compression stops provide a very progressive entry. Caster increases as the suspension goes into compression and this results in a brake antidive effect. Note how the tie rod parallels the motions of the upper control arms. Dunlop disc brakes are protected by splash shields at the front.



The lower control arm consists of a pair of arms with Metalastic bushings at the inboard ends. Because of the deliberately unaligned location of the bushings a tie rod end must be used at the outboard end, where these arms join. Use of rubber in the junction points eliminates lubrication points, but even more important, it reduces friction and provides compliance in the fore and aft plane. Thus, a front wheel crossing a bump can recede with impact. A similar effect of fore and aft compliance is also provided in the rear suspension. As a result, when the car crosses tar strip joints in the road, or travels over a broken macadam surface, you see these disturbances, but you just can't feel them.



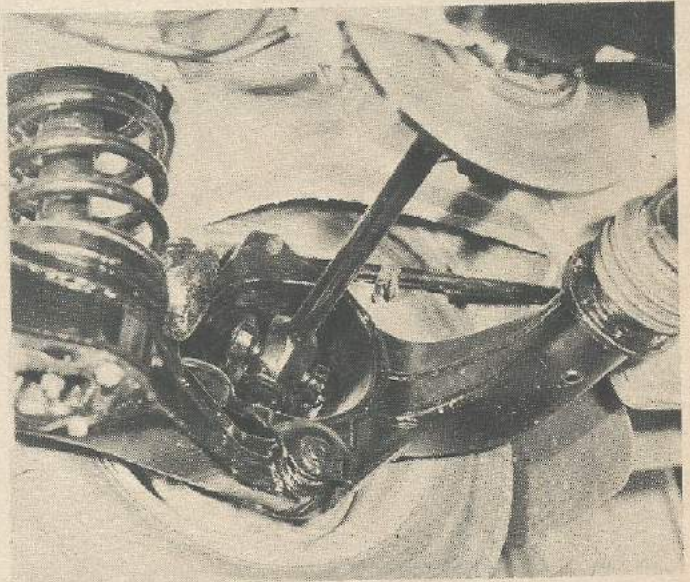
Why an independent rear suspension for the Rover? Because it reduces unsprung weight, allows engine torque reactions be taken up within the chassis, and makes it possible to move the disc brakes inboard for better cooling and a further reduction of unsprung weight. Rover engineering decided to stay away from a swing axle suspension, because of considerable and unfavorable camber changes. Instead, they settled on a De-Dion rear, which allows the camber to remain constant, regardless of body lean. On the other hand, they also wanted to avoid the need for sliding yokes at the rear universals because of their unpredictable friction effects. For instance, under full engine torque they would have a high friction rate and under light coasting condition, this friction value might drop to near zero.



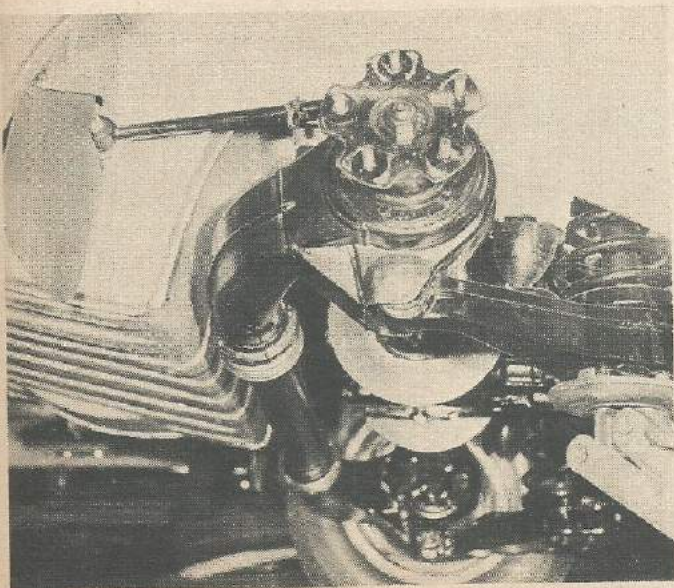
The axle shafts take up all of the cornering load and relay it to the differential housing. The housing is, in turn, supported on the chassis at rather widely spaced points, and soft rubber mounts are used to filter out drive line noises. To prevent excessive lateral motions, which might upset the steering geometry, a small Panhard rod connects the differential to the chassis and relays cornering forces. Thus, you see how two venerable designs of De-Dion and Panhard have been modernized to relieve all of their inherent problems, and combined into an ultra modern suspension. Reverent comment by a pair of Detroit engineers on glancing at this unit:

"Why they put more money into the rear end than we do in the whole car. . . ."

The bellows in the tube protect the telescoping joint against entry of dirt. The center section is made up of a pair of concentric tubes that slide on widely spaced bushings and work in an oil bath. The outer tube connects to the left suspension arm and the other one to the right suspension. When one wheel goes into bump and the other into rebound, there is no torsional reaction from the De-Dion tube since the concentric tubes cannot only slide but also pivot within respect to each other.

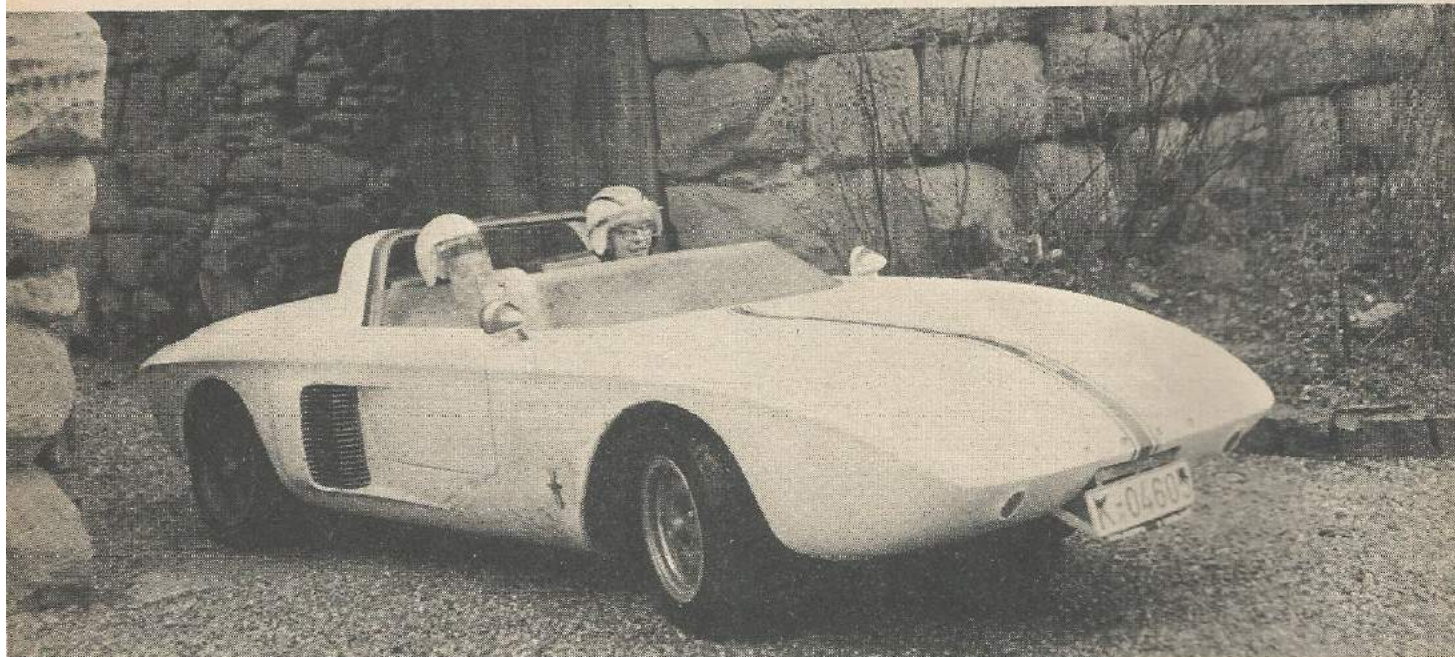


A welded structure forms the outer portion of the De-Dion tube and supports the bearings for the axle stub shaft. Additional room is gained for the axle shafts by housing the universals in an open bell shaped structure. The axle shafts are located in the fore and aft plane by a modified Watts linkage so that the axle shaft goes up and down in an almost straight line. The forward link also carries the spring and shock absorber and is pivoted to the welded housing. The rear link pivots on a metalastic joint and connects to the chassis. As in the front suspension, the compression bumpers do provide a gradual increase in spring rate, well before they carry out an actual snubbing action.



# MUSTANG MUSINGS

A European Looks at Ford's Newest "Sporty" Offering



BY SLONIGER

► What makes an automobile "foreign" or "American" these days? You can't go entirely by the place where it was put together. Take the Ford Mustang I. Built ostensibly in the United States it uses so many major components and design tricks from the old world it is more European than some of those continental products aimed at the American market. In the long run, it must be feel or mood which gives a car an accent.

On those grounds the Mustang is all European, prototype or not, and it's a pity they quit with a series of one because this is a dream.

The basis of the Mustang is a German Ford V 4 engine/gearbox set, simply moved straight back from driving the sedan's front wheels to powering the Mustang's rear ones. Didn't even have to turn it around. Come to think about it, that may make the car an American since the package was originally intended for the Cardinal project.

Ford wisely turned to their English branch for the brakes, using discs in front, and rear drums since the Taunus has managed to avoid that necessity. The frame and body

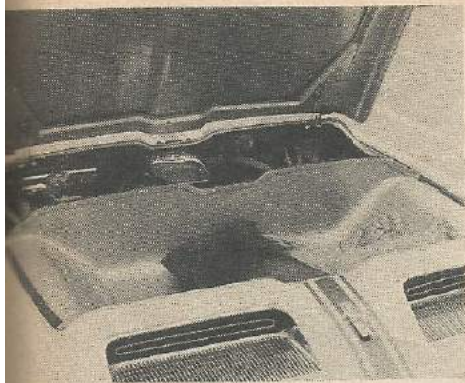
don't come directly from any car but they owe their all in theory to current European race practice, particularly in the all-wishbone independent suspension system and tubular body cage.

As it stands the Mustang could be neither road nor track machine, with no rain protection, minimal ground clearance and a police-catching muffler mitigating against

the road and a very mild state of tune ruling out 1.5 liter racng.

The Ford engineers admitted toying with various hard-top cum windshield sets for road use, and a muffler is easy to add, while the engine is barely lifted over the normal TS sedan standard of 55 DIN hp. The Mustang gets along on 65 while they claim an easy 105 with competition cam and carbs

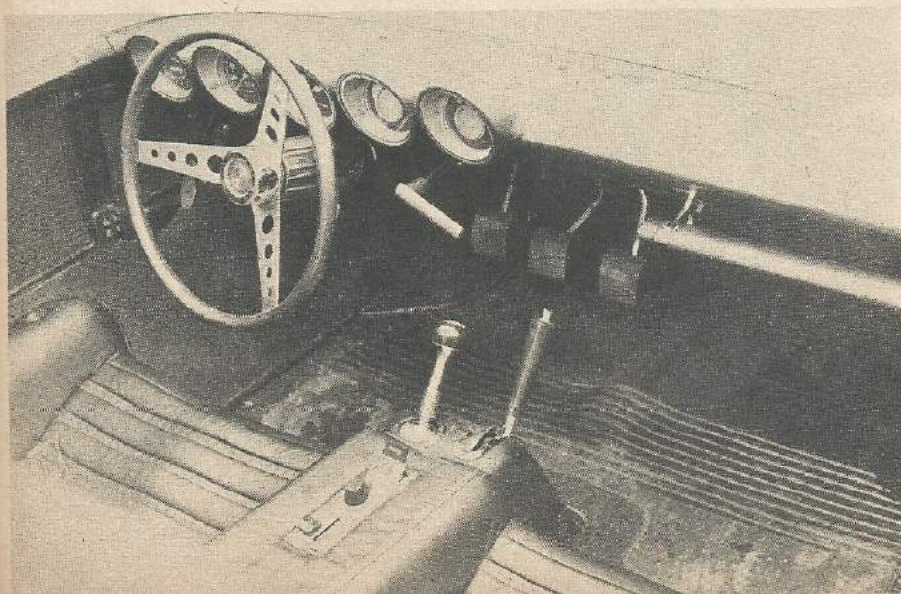




for a start. Since the very sleek lightweight does an easy 110 mph right now on only 65 hp it isn't hard to see what Ford might have done for us all by thinking a little further down these lines.

I have a hunch the Mustang I, not to be confused with that baby Thunderbird they marketed to trade on the name, might have been the model to really put America in the small, classic, fun-car game. But of course my name isn't Henry Ford so the Mustang I will remain a very pleasant memory—perhaps the only time I'll have a car in the family garage that has no twin.

Driving the Mustang is largely a matter of ducking a rain that feels like tattooing with a blunt needle at 100 mph and better, and sitting in a puddle. Even on wet cobbles the car sticks like another



coat of tar on the road and when it does slide a little, it is only slightly tail-waggy. Instrument layout is more auto show that practical and the wheel is too close to your chest, like all Fords, but the moveable pedal system works perfectly for all sizes. The tunnel shift is a marvel, the engine willing but tame.

Curves come up awfully fast in the rain with no mass pushing against the wind to slow you down, but the only real danger was other drivers paying more attention to us than to the road. Oh yes, one major advantage in traffic; you can look under trucks. ●

# DRIVING IN EUROPE

BY CHARLES GELLIS

► More Americans will motor in Europe this coming year than ever before. If you are to be one of these fortunate people, do not be led astray by the maps of this most engaging continent. Compared with the U. S., driving distances in Europe seem to be very small, but there are endless causes for delay and, although the distance from one country's border to another may be small it takes time to cover it. One reason is the variety and range of roads which make the driving interesting, fast, but can tax the skill of the best drivers in the most expensive touring machines. Nevertheless, if you don't break the speed limits and want to stay alive, it will take three days to cover the slightly more than 500 miles from the flat windswept lowlands of Holland, across the rapid autobahns of Germany, to get to the beautiful and exciting switchbacks of Switzerland and southern France.

On two separate occasions over the past three years, I have had the pleasant experience of driving two different rented European cars, a VW and an Opel. I took these machines over a great variety of roads and I found the driving unmatched by any I have done elsewhere for sheer exhilaration. By our standards the roads are often narrow and not very straight, but remember that European cars were designed for these roads. American cars, designed for wide concrete strips that forge straight ahead for many miles, just seem out of place, except on the autobahns.

Roads in Europe are being improved to keep up with the larger number of autos now in use; new bridges, tunnels, and highways have been completed since my visit last year. Italy's famous Autostrada (superhighway) from Milan to Naples is almost complete, with just a small link from Florence to Rome still in progress. These direct routes make for time-saving, rapid travel, but haste has its disadvantages too. Of course, improvement means new road construction and new road construction means UMLEITUNG (detour, to you). The umleitung is an inconvenience which you will have to face, even though it turns roads already inadequate for the larger number of autos now in use into a nightmare.



Amsterdam trolleys and bicycles are real car 'busters', not to mention the frightening possibility of falling into one of the canals.



Strasbourg, France—Parking and driving here is somewhat congested even for the small wheelbase automobiles.

As you wait with the rain trickling in through your sun-roof or bump over the ruts, keep smiling and repeating "next time it will be finished—I hope."

It is not the purpose of this short article to present the European driving scene as one displaying only lovely countrysides, grandiose views and picturesque castles. Dr. Jekyll has a Mr. Hyde side to his

character too, remember. The European economy is more prosperous than ever, and this means an unprecedented increase of automobiles on the streets and highways. More Europeans will be driving their own cars—and for the first time too. Unfortunately they are no better drivers, even if more daring, than Americans, and this can make touring the continent by rent-



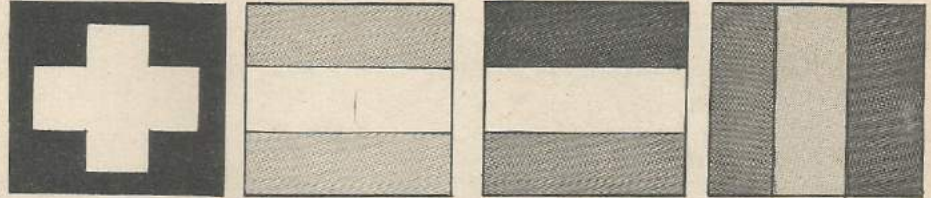
ed car a tiring and even a dangerous experience.

Many Americans try to vie with the European on his home ground—the large cities. Traffic in Paris, Rome, Amsterdam, or any other large European city make American city traffic look tame by comparison. These older cities were never meant to take the onslaught of vehicular traffic they are now bearing. The distraught motorist must therefore dodge trolleys, bicycles, motorcycles, scooters, and myriad small bug-like cars as well as pedestrians. The wise tourist traveling by rented car who plans to stay several days in one or more large cities between driving jaunts would profit by leaving the car in a garage near his hotel and seeing the city by foot or by local transport. It is easier in the long run, and far less taxing on the nervous system. Plan to arrive in any large city at a time when traffic is not at its peak. Remember that not everyone is on vacation even though you are. Leave your car parked and *locked!* Do your touring by foot.

Once out of the large city or town, driving can become fun. Plan to take in the many secondary



Ponte Vecchio Bridge, Florence — A true free-for-all!



Just outside Nancy, France — Rain is the order of the day during July and August.

# DRIVING IN EUROPE



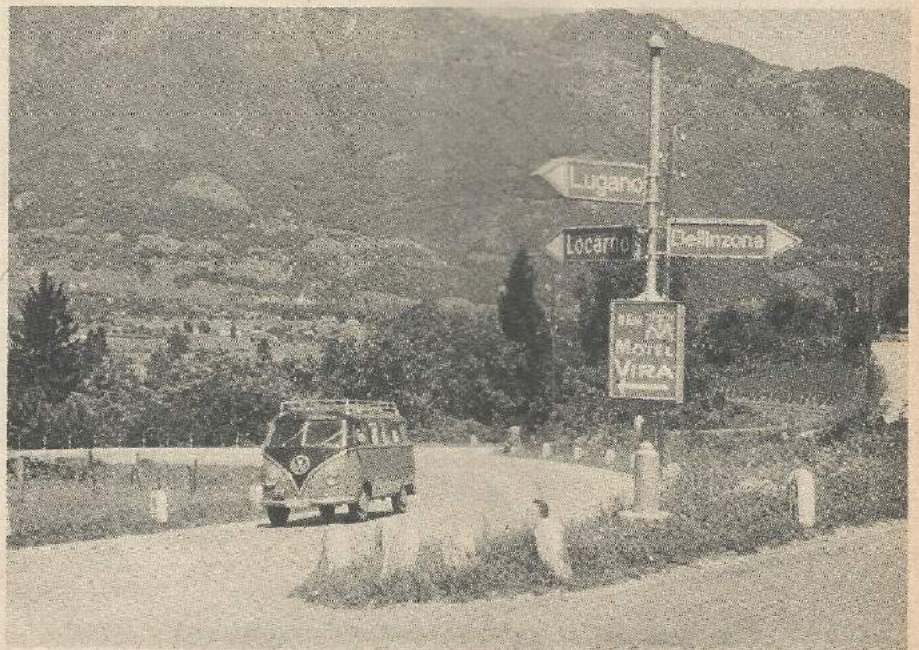
Switchbacks near St. Gotthard Pass, Switzerland.

roads; your fun will increase. There is less traffic on these roads, and they will allow you to explore the real Europe which is often missed by the average tourist. On secondary roads, by and large, hotels do not offer American-type accomodation, but they can be quite comfortable.

The network of autobahns in Germany is unmatched by any other country on the continent for complexity, size, and distance. When they were first built, over 30 years ago, there were less than 2 million automobiles in the area now known as West Germany. Today, with more than 5 times the number of vehicles, these roads are so much like our own expressways that my wife couldn't help remarking, "It's just like the Thruway, except everyone speaks German." However, if you have to cover ground in a hurry, the autobahns make for expediency. For the most part the driving is dull, and the careless driver may well soon find himself off the road and wrapped around a pole. Fortunately the autobahns are provided with many interesting rest stops

where one can eat (if he remembers to bring along some sandwiches), get a bit of shut-eye, or just rest and stretch. Many modern

restaurants and hotels are being built to accomodate the flow of traffic, but the ones I visited were very crowded and busy, although



The foothills of the Alps on Italian side of Switzerland.

the food was good and not very expensive. It is amazing how similar these are to the ones we have taken for granted in the U.S.

One of the big dangers on these autobahns is the tremendous variety of traffic. The long lanes of heavy trucks going uphill are not the slowest vehicles as they are in America, and you will often see these ponderous monstrosities attempting to pass some miniature vehicular which has neither high top speed nor acceleration. European drivers use their lights rather than the horn to signal their desire to pass. One has to make use of the rear view mirror constantly to check on fast porsches or Mercedes which overtake you on the long uphill climbs that are frequent on the southern stretches of the autobahn.

The roads which provide the most excitement and fun are to be found south of Munich and run into the Tyrol and Italian Dolomites. These roads are narrow and always very winding. The views are breathtaking, and every turn in the road offers a new sight.



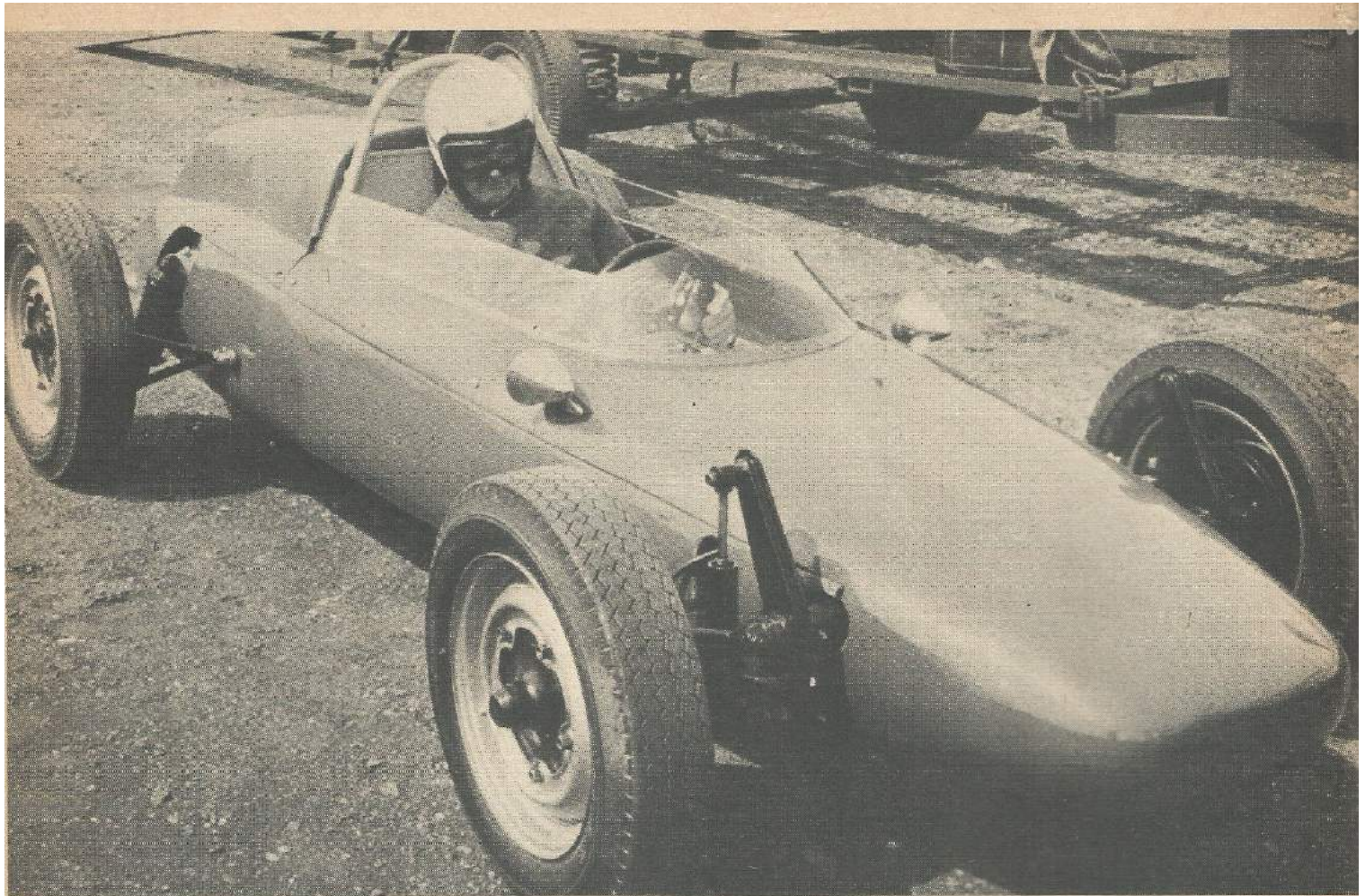
Policeman squats on his heels to direct a lost tourist in Lucerne, Switzerland.

These roads make driving an art or a sport once again. Equally exciting but of necessity to be taken at a slower pace, are the drives up

and down the Swiss Alps. Nothing can match the steepness of the roads and the number of hairpins, (Continued on Page 70)



Autobahn in Germany. Speed is unrestricted on the greater portion of these beautiful highways and, with the large number of new drivers in Germany, the accident rate is one of the highest in the whole world.



Joe Dodge gets the "feel" of the new Formula Vee before taking it out on the track. He lapped in the 70's without taxing the engine.

# AUTODYNAMICS FORMULA VEE

BY JOHN PETERSON

► The concept of a simple, low cost, easy-to-maintain racing class has been the topic of many discussions over the years. Last year another new approach was attempted—an open wheel, single passenger VW-based class of racing vehicle, called Formula Vee, started to show up at tracks around the country. At first there were a lot of skeptics as to the future of a group of racers with only VW power behind them. After their first outing at Watkins Glen last June

where they put on a fine show and after talking to their enthusiastic owners and drivers it was apparent that here was a vehicle that was going to put FUN back into racing and at a modest cost. Could this be the long awaited "poor man's racing class"? Would it be accepted? Could the Formula be regulated so that it would not soon become another "Formula Junior" that had so recently priced itself out of its original concept by allowing more and more expensive mod-

ifications in the quest for greater speed?

The Watkins Glen success was repeated at tracks all over the country and now there is included in the 1964 SCCA Specifications a section on Formula Vee and there are many scheduled events on the racing calendar. The class had been accepted!

Further evidence of its acceptance is that there are new kits either on the market for delivery or in the final stages of develop-

ment that will be available shortly. The people at Formcars deserve a lot of praise for doing so much in getting the idea rolling, developing first cars and building up the interest. Let's face it, without spectators that other fabricators are entering into the field as this will provide competition between makes (or to the average spectator — body shapes) which will stimulate their interest. Let's face it, without spectator support the Race Promoters will soon look for a more profitable event to fill the grandstands.

The latest design to roll onto the track is the sleek Autodynamics Formula Vee from Marblehead, Mass., the product of four energetic men with a variety of talents and imagination. It is offered in kit form starting at \$950.00 which contains all the basic chassis and body components and instructions necessary to get you started. The next step is to latch on to a wrecked VW for the running gear and suspension, all of which under the Formula specification must be stock VW parts. Some have questioned this requirement but it must be kept this way or else the

Formula will inflate itself out of the "poor man's class" like Formula Junior. This is a class that shows driver skill.

For the driver that hasn't the time or desire to build his own car Autodynamics and their dealers can supply a completed car, ready to race for approximately \$2500.

To take a closer look at this little bomb, we stopped in at Formula Vee of New York in Monsey, N.Y. (an authorized Autodynamics dealer) where Ernie Casis and Joe Dodge were in the process of readying a car for Joe to campaign this season. As per the Formula Vee rules there is just so much that could be done to the stock VW components. The engine received the maximum treatment allowable, polishing the ports, matching the manifold flanges and complete balancing—this with the aid of Ernie's elaborate balancing machine.

They initially selected Goodyear Blue Streak Tires but will try other combinations during the trial period. 5:00/15's are used on the rear and 4:50/15 on the front.

The steering mechanism is modified to 1¾ turns lock to lock and

a 12" steering wheel is supplied with the kit. Ernie is going to try a 14" one to change the sensitivity.

At the first shakedown test on the Lime Rock Track it was apparent that a few simple adjustments were required after a few test laps. The camber on the rear had to be changed and the jets in the carb were replaced.

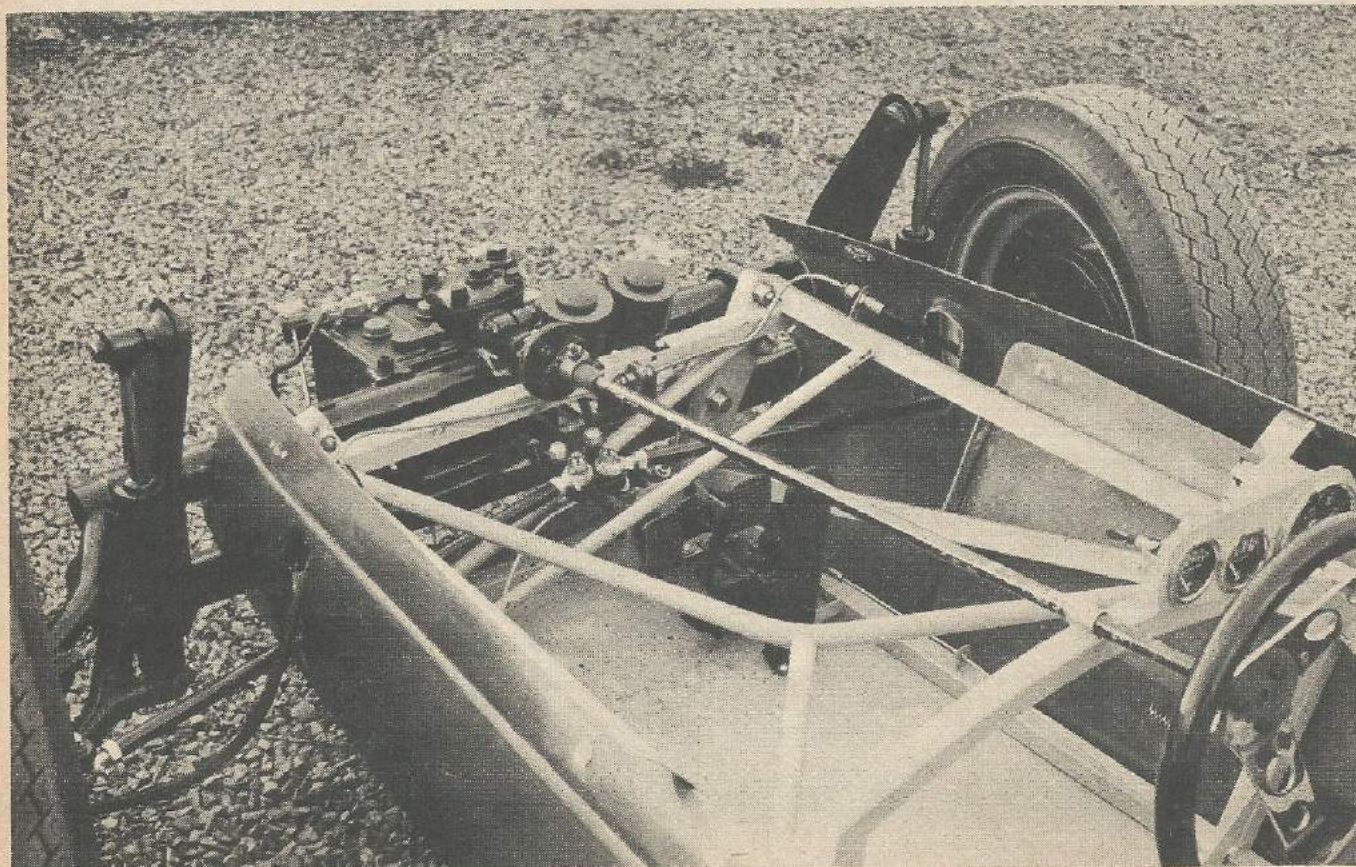
With these adjustments completed Joe Dodge took the car back out on the track and was able to lap in under 1 min. 15 seconds without really pushing the recently assembled engine. That is equal to about 72 M.P.H.—not bad for a start.

Ernie's wife Dede had her turn at the wheel and agreed with Joe that this is a real FUN way to enter competition, they are looking forward to an enjoyable season.

Keep your eyes open for these sleek new entries in the Formula Vee Class, the '64 season shows a lot of promise based on the what we've seen so far. At the first New England Regional Event for '64 at Lime Rock on May 3rd, Roger Barr came in first in class driving one of Autodynamics' beauties. ●

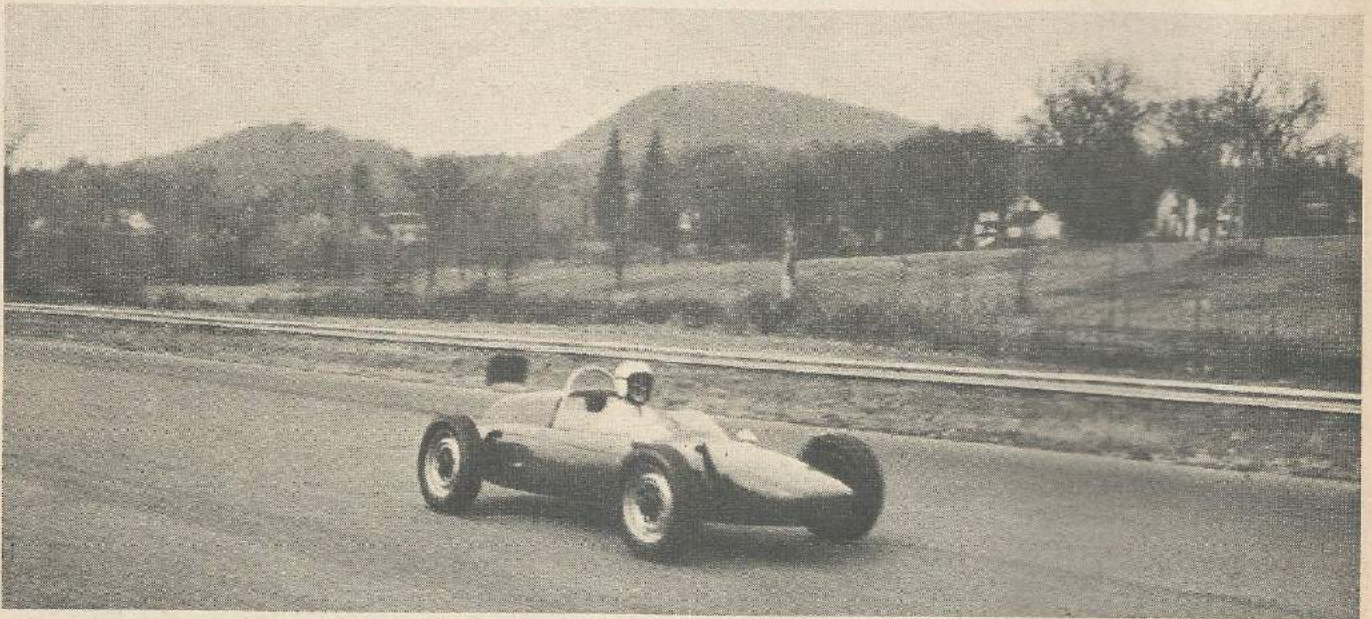
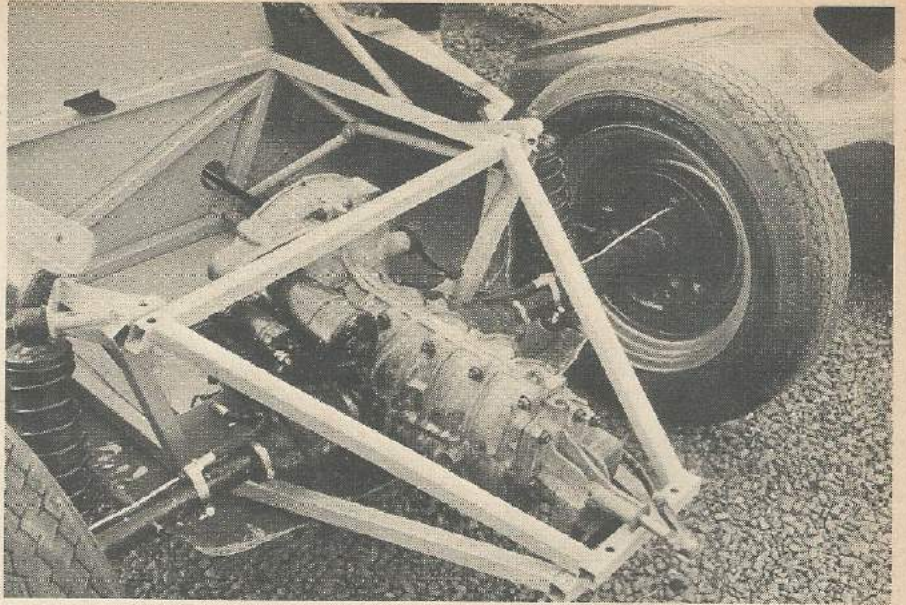
**PHOTOS CONTINUE** ➔

**BELOW:** Close-up of the "feet department" shows steering mechanism and pedal location. Note sturdy 16-gauge square mild steel tubing welded frame. Instrument panel is mounted to the right, includes oil pressure gauge, temperature indicator and tach. Gas tank (on right of chassis) has transparent fiberglass back and you just look right through it to see how much gas is left in the tank.

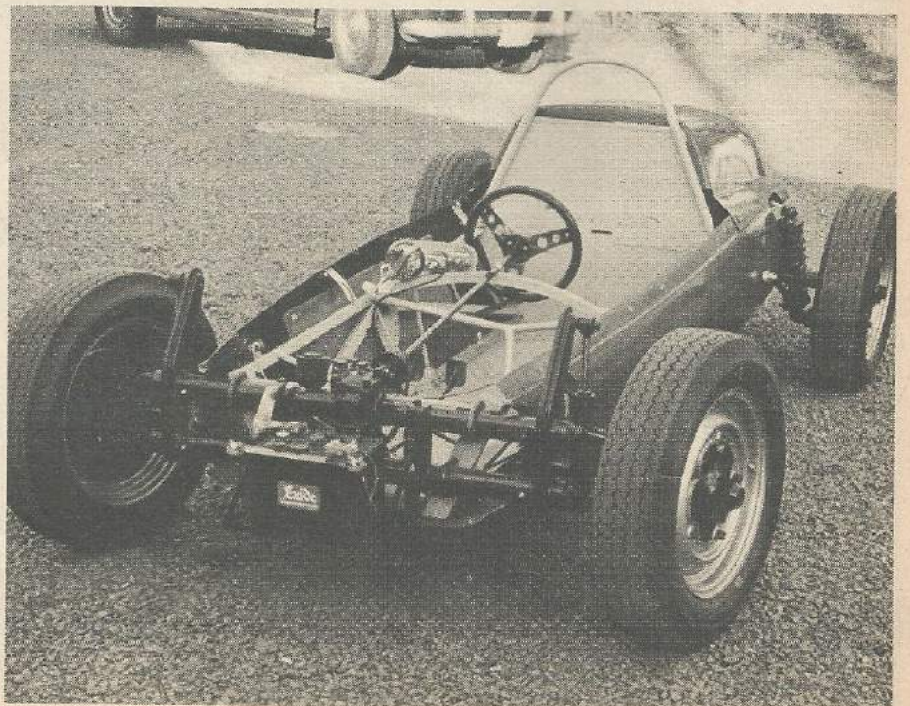


# AUTODYNAMICS

RIGHT: The rear suspension and transaxle assembly before the engine is installed. Note the accessibility for making adjustments.



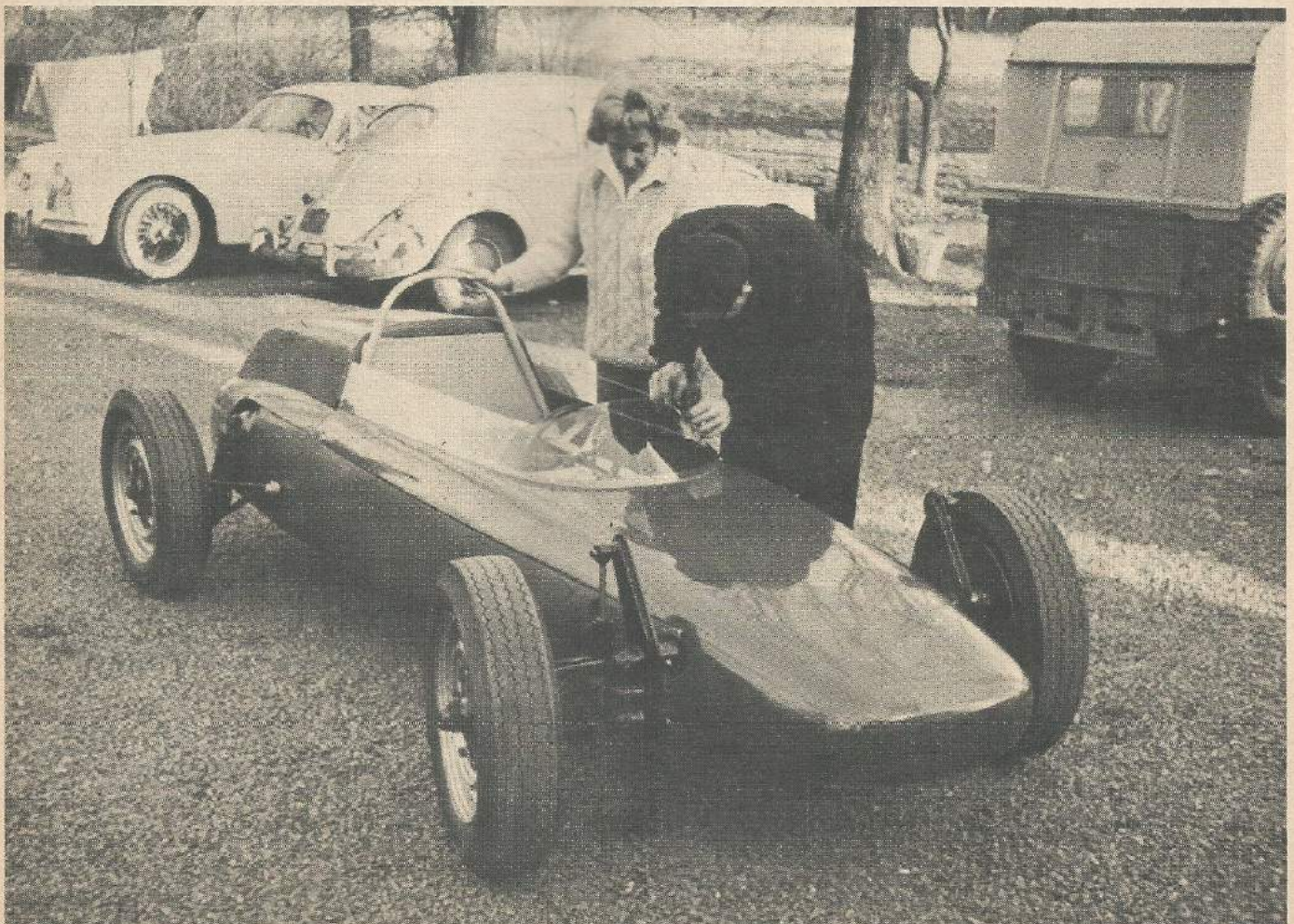
ABOVE: Dede Casis takes their pet around Lime Rock course averaging in the high 60's without pushing the recently assembled engine. RIGHT: The accessibility of the components is shown when the top front cover is removed. Stock front end assembly is one of the requirements written into the Formula Vee specs. The running gear must be stock VW 1200 parts.





Ernie checks over the steering action before fastening on the top body panels. They are made of glass-reinforced polyster resin and can be ordered in a variety of colors.

Windshield of the clean-lined Autodynamics Formula Vee gets an adjustment by Ernie Casis while his wife Dede looks on.



# ...FROM THE BACK SEAT

BY GEORGE GREEN

► I can't for the life of me see why anyone would care about the results of the Mobil Economy Run!

This year's Economy Run, held in early April, was the first one that spanned the continent. A total of 45 cars ran over a 3,243-mile route from Los Angeles to New York. Mobil spends millions of dollars on this affair annually, and thousands of additional dollars are spent publicizing the results.

And they don't mean a dang thing.

For one thing, the driving techniques used by the drivers in this run is anything but comparable to the driving technique you and I use. We don't nurse every last mile out of a gallon of gas. We simply want to go from here to there, in the quickest way possible, using up a reasonable amount of gas. In order for you to get the kind of mileage some of the "winners" got, you'd have to take a special training course in gas-nursing—and the course would cost you more than you could ever save in gasoline.

For another thing, are there really any "winners"? There are eight classes, with five or six cars in each class. The one car that wins its class and gets the highest mileage of all class winners is obviously going to claim he won the whole shebang. But being a "winner" calls for some margin of superiority over the "losers," and here's my quarrel.

The car that won Class A for small engine compacts won by a total of two-tenths of a mile per gallon. The winner of Class C, intermediate size cars with six-cylinder engines, won by only five

one-hundredths of a mile per gallon. The difference between "winning" and "losing" cars is about enough gasoline to get you out of your driveway.

I've got one more beef. Mobil restricts this annual farce to American cars only. We all know why. Let a few Volkswagens or other small imported cars into the Mobil Economy Run, and they'd make a shambles of it. They'd show people what *real* gasoline economy is.

So the next time somebody starts telling you how well his make of car did in the Mobil Economy Run, tell him this cross-country joke is a gigantic waste of time. And you can tell him I said so.

★ ★ ★ ★

There's nothing more sickening than an announcement from an automobile manufacturer that his new models are full of major improvements—when you know that all he really did was to move some chrome around, stick on a few more useless gadgets, and palm off last year's model in a new suit.

That's why British Motor Corporation deserves a pat on the head.



BMC took a look at its two little twins, the MG Midget and the Austin-Healey Sprite, and obviously realized that there were three things which badly needed improvement. They then proceeded to improve them.

First, BMC modified the cylinder head and exhaust manifold to bring the horsepower of the little four-banger up to 59 bhp at 5,750 rpm. While the car had adequate (but not much more than adequate) power before, this increase gives it that little extra zing which a sports car must have. And while upping the power, BMC also made the crankshaft stiffer to reduce vibrations.

Second, BMC revised the rear suspension completely. One of the complaints we've heard quite often



about the Sprite and the Midget is that the ride was much harder than necessary, and this was due primarily to the quarter-elliptic springs in the rear. BMC replaced these with half-elliptic springs, which make both the ride and the steering much smoother.

Third, BMC made two changes to increase driver comfort. One was the addition of roll-up windows, replacing the old sliding plexiglass panels. The other was a redesign of the driver's compartment, which before was a designer's nightmare. A new dashboard layout, new steering wheel and other changes now give the cockpit a neat, clean look.

Both the Midget and the Sprite were great little cars before the changes. Now they're even better. One low bow in the direction of BMC.

★ ★ ★ ★

Next time you leave your small imported car in a public parking lot, take a look at the attendant. Aside from the fact that he probably looks stupid (most of them are, seeing how they jockey cars around), he's probably also smiling. He's happy to see you.

POPULAR IMPORTED CARS



Why should he welcome you? Your car is shorter. He can squeeze four cars the size of yours into the same space he needs for three large American cars. For every three bucks he makes on American cars, he makes four on small foreign cars.

Since this is obviously discrimination and unfair, why don't small car owners do something about it? If every small car owner beefed every time he parked in a public lot, if we wrote letters to the local newspapers and wrote to our Congressmen, we might just stir up enough of a fuss. And if we persuaded just one major chain of parking lots to cut parking rates on small cars by 20%—and urged all our fellow small car owners to patronize him — maybe the rest would follow suit.

It's worth a try.

★★★★

Earlier this year I read a road test of the 1964 Rambler American in CAR & DRIVER magazine. Frankly, I was appalled.

There isn't much question about C&D being an authoritative magazine. Their road tests on sports cars and small imports are very good—informative, frank and complete.

But if the road test of the Rambler American in that issue was typical of CAR & DRIVER'S tests of American passenger sedans, then its editor and publisher, Dave Davis, should grow a bigger mustache to hide behind.

First off, the magazine admitted that its editors began the test of the Rambler fully convinced it was a bad car. Starting from such a biased position, how could the editors offer *any* kind of objective evaluation?

Then C&D got nasty. Some of its editors, the magazine quipped, had to admit that the Rambler wasn't quite as bad as they had thought. But the rest of the editors were delighted, said C&D, to find that their prejudices were backed up by fact.

I'm not going to list all the complaints C&D had with the Rambler, primarily because most of them weren't valid. But I can't pass up two of them. The Rambler American, said C&D, suffers from lack of power and doesn't handle well.

Bosh! The editor who wrote that probably just finished testing a GTO Ferrari. The Rambler wouldn't do zero to 100 in 10 seconds, or corner like the Ferrari. So obviously the Rambler is underpowered and doesn't handle well.

What C&D frequently forgets is that a car should be tested in terms of what it was designed to do. The Rambler was designed, as are many smaller sedans, both imported and domestic, to be a family car. Smooth ride. Fairly soft suspension. Easy steering. Good gasoline mileage.

This is what American Motors tried to build into the Rambler American, and they did a good job. If C&D's editors were trying to say they personally don't like that kind of car, they should have said so—and then gone on to add that as a family car it's a fine compromise between size, economy and performance.

As for CAR & DRIVER as a whole, not counting its road tests of American sedans, it's a great magazine. If you haven't read a copy or two, do so. After you've finished reading POPULAR IMPORTED CARS, of course.

★★★★

Elsewhere in this issue you'll find a report on the New York Automobile Show written by my good friend, Al Outcalt. Al's been covering this show for years, and his only problem is that he frequently gets distracted by the lovely young ladies who pose with the cars.

Al and I were talking about the show (I saw it too) and we agreed on one thing: some of the imported car people really know how to show off their cars, and some know from nothing.

Volkswagen and Renault really understand showmanship. So does BMC, with its array of cars all in



white. The Rootes and the Triumph exhibits were quite striking.

But someone ought to talk to Saab, Skoda and Aston-Martin. The Saab exhibit was stuck off in a

corner, poorly lighted, with little more than a few cars sitting around. There was nothing to catch your eye.

Skoda's display was even worse. They had two cars in an aisle next to the escalators, and if they paid for such a terrible space, they deserve their money back. It just plain looked cheap.

Aston-Martin, along with some other more expensive cars, followed their usual practice: they put the cars out for people to see, and then put barriers up so no one could get near the cars. Couldn't open a door or peer at the engine or sit behind the wheel. The only thing that can make a show-goer madder is to put up a sign which says, "Naughty, naughty. Musn't touch."

I know why they do this: cars can get damaged easily at a show, and these are expensive cars. A little kid with a nail can cause a lot of damage.

But Jaguars are expensive too, yet Jaguar solves the problem simply: it puts one car up on a turntable where people can see it from all sides, but can't touch it. And the other Jaguars are displayed nearby, all accessible to the public. But the Jaguar salesmen keep their eyes open and try to keep kids out of the cars. They probably suffer some damage, but they consider it a small enough price to pay for the good will they get by letting people get a feel of the car.

Jaguar had one other thing going for them. They had by far the most attractive model in the show—and we don't mean an automobile. Now if she came with the car, I'd be a Jaguar owner in nothing flat. ●

The opinions of the writer are his own and not necessarily those of the editor. If you disagree with him, as we do sometimes, don't hesitate to write in and tell him so. We expect some of his material to be extremely controversial, yet we respect his right, as an authority on things automobile, to voice his convictions in an effort to keep our readers abreast of exciting current events.



# HOW-TO'S FOR THE HANDY

## INSTALLING A HEADLAMP FLASHING

BY GEORGE N. FREUND

▶ American drivers who have experienced the thrill of driving on the Autobahns in Germany remember the German drivers flashing their headlamps to signal when they are about to overtake the car in front. At the speeds travelled in Europe, it is very difficult to estimate how fast the overtaking car is driving until it is possibly too late. Suddenly, the speck that was in the rear view mirror becomes the car that is now passing. The warning offered by the flashing of the headlights is far greater than that of the horn which is inaudible at high speeds, and makes us readily aware of the location of the overtaking car.

Most cars that are sold on the continent are equipped with a convenient momentary or spring action switch that is used for the headlamp signal. The Volvo is one of those cars which retains this switch on cars which are shipped to the USA. Since the headlamp signal is ordinarily not used, and is even illegal in some states, the complete circuit is not installed in cars that are shipped to this country.

As later model Volvos already have most of the wiring and terminals installed, it is a simple matter for the amateur mechanic to activate his headlamp signalling circuit. Some models of the 544 Series have the switch installed, but require wiring.

### PRELIMINARY CHECKS

Before beginning the installation, it is best to determine if your car is pre-wired or not. Look beneath the steering column cowl where the turn-signal switch is located. On the switch body, there are four terminals. One of these terminals is located on a copper strip which is ultimately fastened to the turn-signal lever. If a wire (usually grey) is connected to this terminal, the car is wired for the signal device. However, if there is no wire or plug in the terminal,

it will be necessary to install wiring.

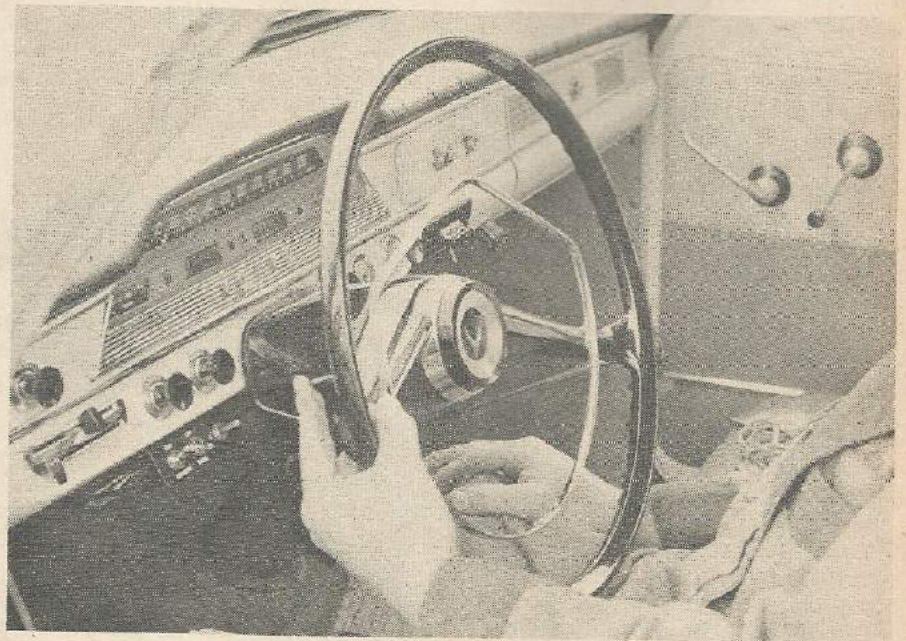
### FOR PRE-WIRED CARS

Most recent 122S models are already wired for the signal device. Incidentally, a wire is already in the harness for a rear speaker too. It is necessary only to add the relay and make a few connections to activate the circuit. Under the hood, examine the harness which leads to the headlights. Around the location of the back-up light relay, there is a piece of friction tape wrapped around the harness which conceals two wires with slip-on terminals. The grey wire is the one that leads to the switch. The black one emerges from the harness near the terminal block on the fire wall.

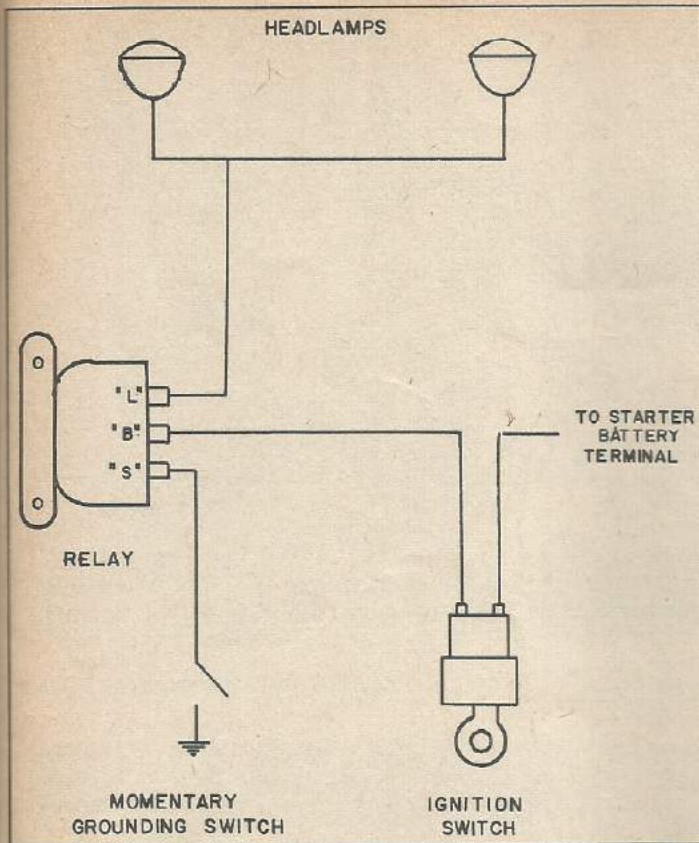
The Swedes do play a bit of trickery on some cars though. They put a line-splice connector in the middle of the grey wire some-

where beneath the dash on certain cars. To see if the wire on your car is continuous, connect a test light to the positive terminal of the battery and to the end of the grey wire which is beneath the hood. If the light lights when the turn-signal lever is pulled toward the steering wheel, then the wire is continuous to the switch. If the lamp does not light, then search beneath the instrument panel for the ends of the two grey wires, and connect them with the red splicer which is already attached to one wire.

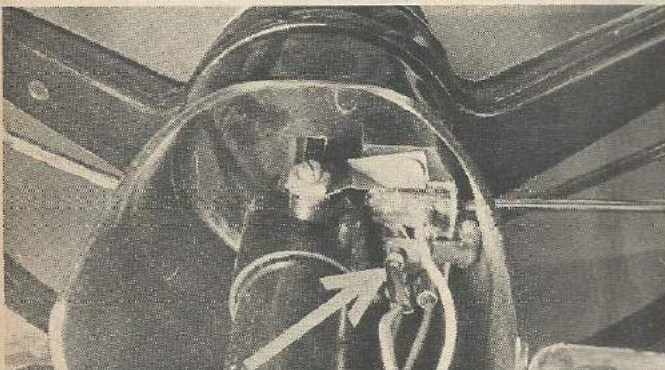
Next, mount a horn relay of the proper voltage conveniently near the wires which were found beneath the hood. If your dealer has the German relays that are original equipment, you may use the screws which are already located in the wheel well. Otherwise, an ordinary horn relay can be mount-



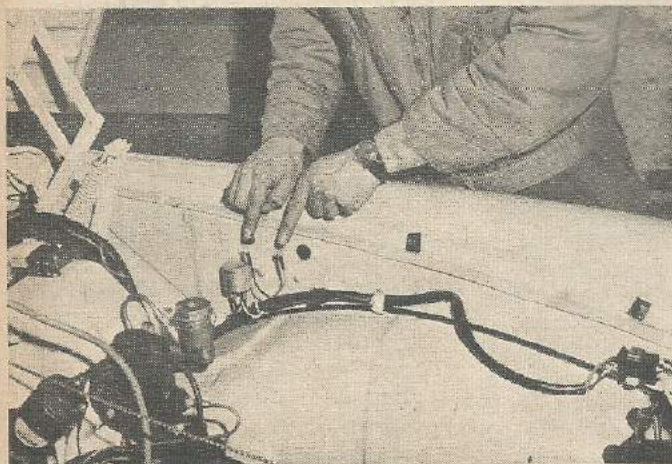
By pulling the directional signal lever toward the steering wheel, a special switch on the Volvo and Karmann-Ghia is activated which can use the headlamps as a signalling device.



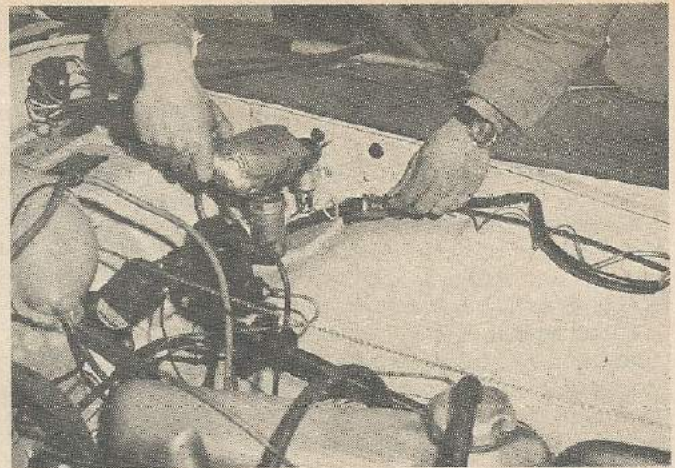
A simple grounding switch can be used with the addition of a relay in the circuit. On the Volvo and Karmann-Ghia, which have switches built into the directional lever, installation's quite simple. Other cars require another switch.



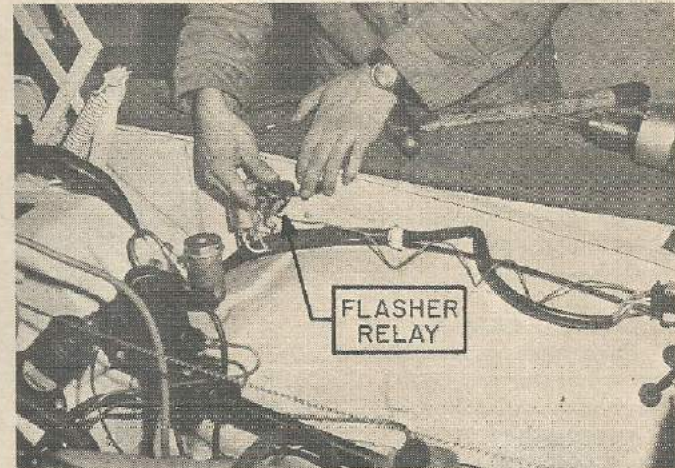
View of a combined directional and headlamp signal switch used on the Volvo. Arrow shows headlamp terminal signal.



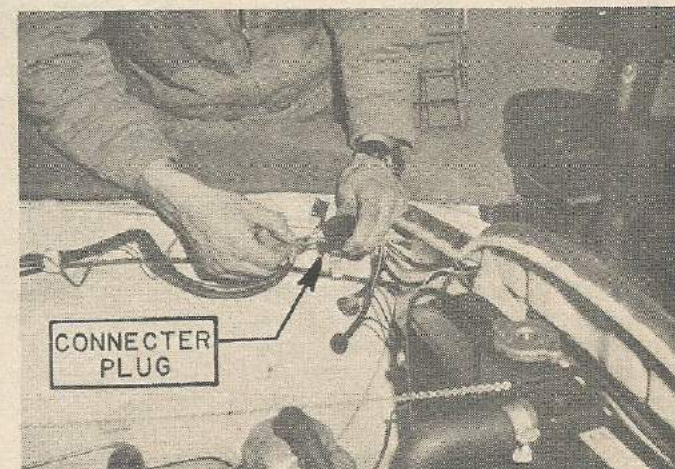
Part of the wiring is already provided on recent model Volvos. The grey wire leads to the switch, the black wire is connected to a 'hot' terminal.



If original equipment relay is not available, any standard horn relay may be used provided holes are drilled for mounting in the fender shield.



A relay is required to complete the headlamp signalling circuit, in conjunction with the standard grounding switch.



After the relay is installed, a wire is connected from the "L" terminal of the relay to the high beam terminal of the headlamp connector.

## How To's For The Handy

ed by drilling holes in the wheel well.

Connect the switch wire and the black power or battery wire to the appropriate terminals on the relay. Next, it will be necessary to run a short length of wire to the plug that connects all of the headlamp wiring. It will be noticed that a red wire controls the headlamps on recent models, and that there is a blank terminal on the rearward portion of this connector plug. A female, slip-on terminal must be crimped to the short length of wire and inserted into the connector plug until it makes contact. Now, connect the other end of the wire to the light terminal of the relay. Older models employ the familiar screw-in terminal blocks and require no wire connector.

Finally, connect the black wire which is already attached to the relay to a "hot" terminal of the fuse panel block on the firewall. Now, climb into the car, and pull the turn-signal switch toward the steering wheel, and watch those high-beams glow.

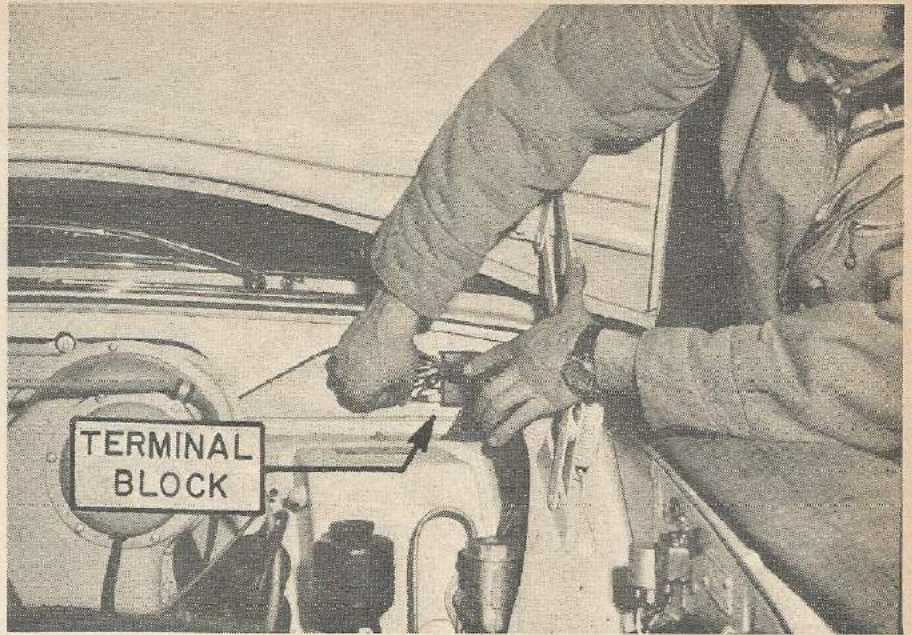
### UN-WIRED CARS

Cars, such as the 544's, that do not have the wiring for the headlamp signal installed, may still use the momentary switch that is provided integrally within the turn-signal switch by simply installing the needed wiring and the relay in order to make the device work.

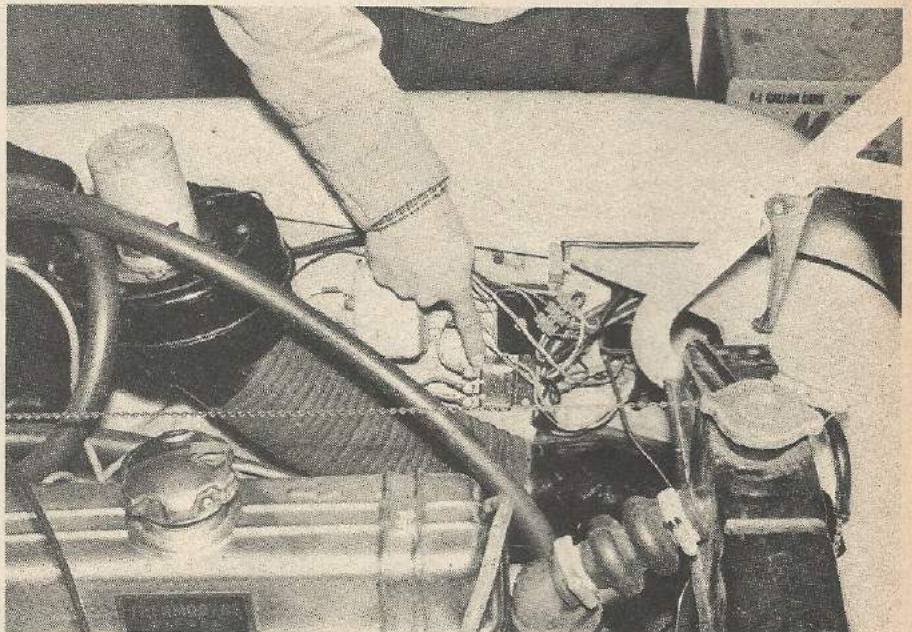
The same principle is involved in both cases. The grounding switch on the steering column activates the relay, which turns on the lights. The wiring diagram shows just how the proper connections should be made.

### INSTALLATION ON THE GHIA

Many of the Karmann-Ghia vehicles which are shipped to this country also have an integral momentary switch incorporated in the turn-signal lever, as do the Volvos. Many of these cars also have the relay installed as well. The relay is located on the splash shield of the left front fender, about adjacent to the spare tire. On pre-wired cars, it is only necessary to install the final connection to the headlamp high-beam terminals. On cars which are not relay-equipped, a relay must be installed



On the 122S, power for relay "B" terminal is obtained from the terminal on the firewall.



On older type 544 Volvos, the relay may be mounted on the splash shield, near the headlamp terminal.

and wired similar to the technique used for the Volvo.

### ON THE BEETLE

Volkswagen sedan vehicles are not all equipped with a multi-functional switch as are the Ghias. However, on later models, having a hollowed-section on the turn-signal lever, an additional switch for the "Licht-huppe" (light horn) may be purchased from some dealers. If it is not possible to obtain this special switch, a spring loaded, or momentary toggle switch can be mounted on the dashboard, and the wiring accomplished as shown in the diagram. If a conventional make-and-break switch

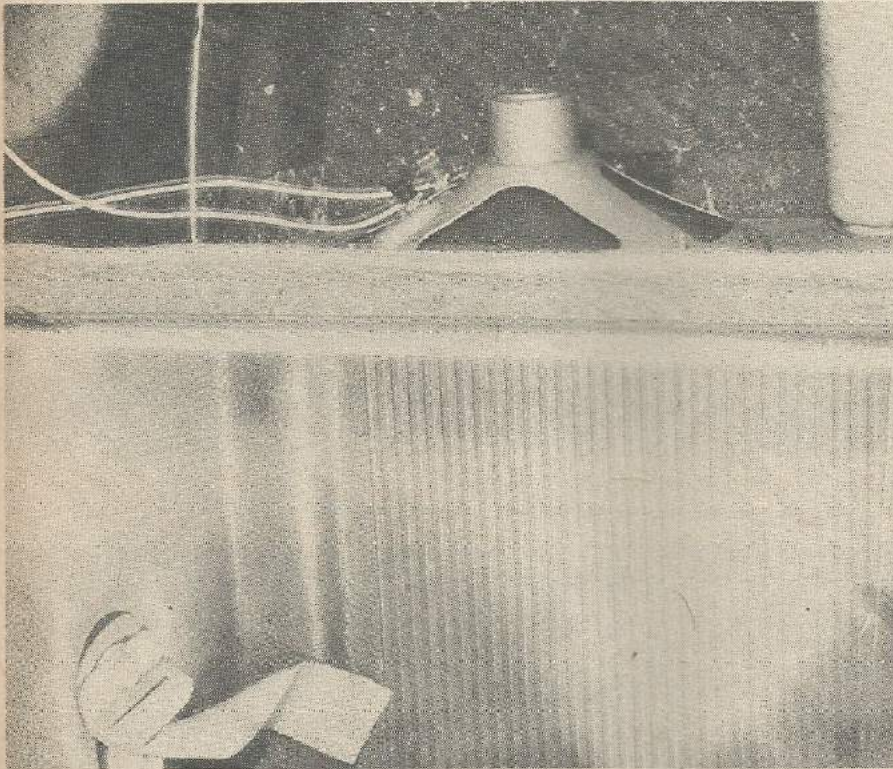
is used, it may not be necessary to use the relay. Instead, power travels from a voltage source, such as an ignition switch, through the flashing switch to the lamps. Be sure the switch has a current rating of 15 amps at 6 volts, or greater.

### USING THE HEADLAMP SIGNAL

The headlamp signal switch is articulated by pulling the switch lever at right angles to the normal plane of motion toward the steering wheel. The spring action of the switch permits the lever to return to its original position as soon as it is released.

## How To's For The Handy

### AN UNDERSEAT REAR SPEAKER



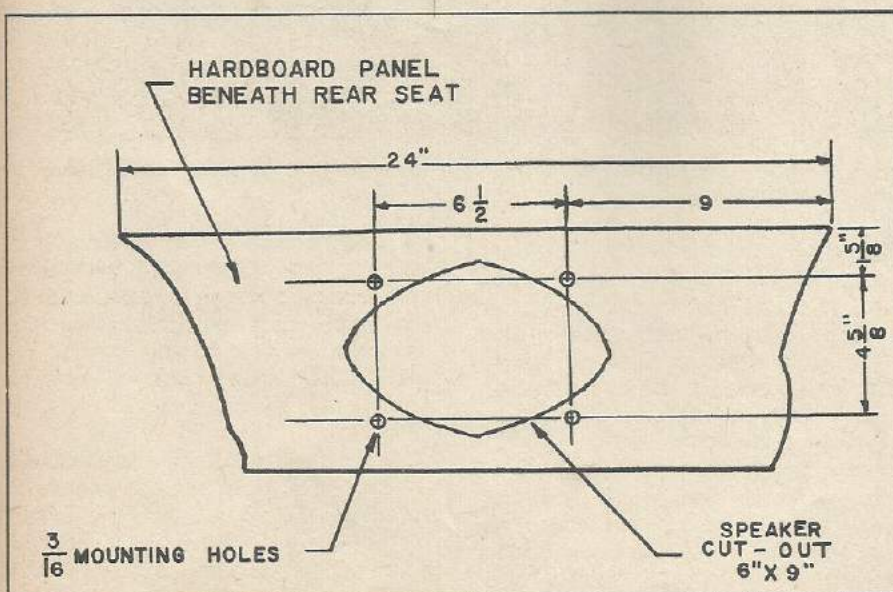
▶ With the advent of FM receivers for automobiles, and with the increasing demand for higher fidelity listening, we feel that most readers would like to have a rear-seat speaker in their car. A rear-seat speaker can be larger, can have better frequency response and can be installed in an "acoustically better" location than an original equipment speaker. Another reason for these installations is that many people don't like their music blaring directly at them from a front-mounted speaker but rather would like a non-distracting, evenly distributed sound from a background source.

The project of installing the rear-seat speaker in a VW is certainly a unique one in that the car does not have a rear deck under which the rear speaker is usually mounted. This can be overcome by mounting the speaker in a box and placing it in the rear luggage compartment—the bigger the box, the better the sound, but the smaller the luggage space. Another solution, the one that we came up with, is to use the existing rear-seat speaker baffle that Volkswagen has unknowingly designed. Under the rear passenger seat, on the opposite side of the battery location, is a perfectly well insulated little compartment in which a speaker may be easily installed. The speaker may be installed on the hardboard panel between the floor and the seat.

#### INSTALLATION

For our speaker installation, we used 6" by 9" speaker that was designated for public address use. In the selection of the speaker, it is not necessary to look for a very high frequency response since in a moving auto it is usually hard to hear 12,000 cycles per second. Look, instead for a speaker with the largest magnet and the sturdiest cone assembly.

As stated previously, the speaker is to be mounted on the hardboard panel. We mounted it about nine inches from the side panel and more or less in the middle of the panel. These dimensions, which are given in one of the illustrations, are not particularly critical as long as the speaker is mounted to clear the rear heater outlet. The speaker's outline should now be transposed lightly onto the panel, and the four mounting holes should be marked. Be careful to cut out only enough of the hardboard panel to leave the cone of the speaker exposed—otherwise there may not



Sketch show locations and dimensions of holes on under-seat hardboard panel for a 6" x 9" speaker.

## How To's For The Handy

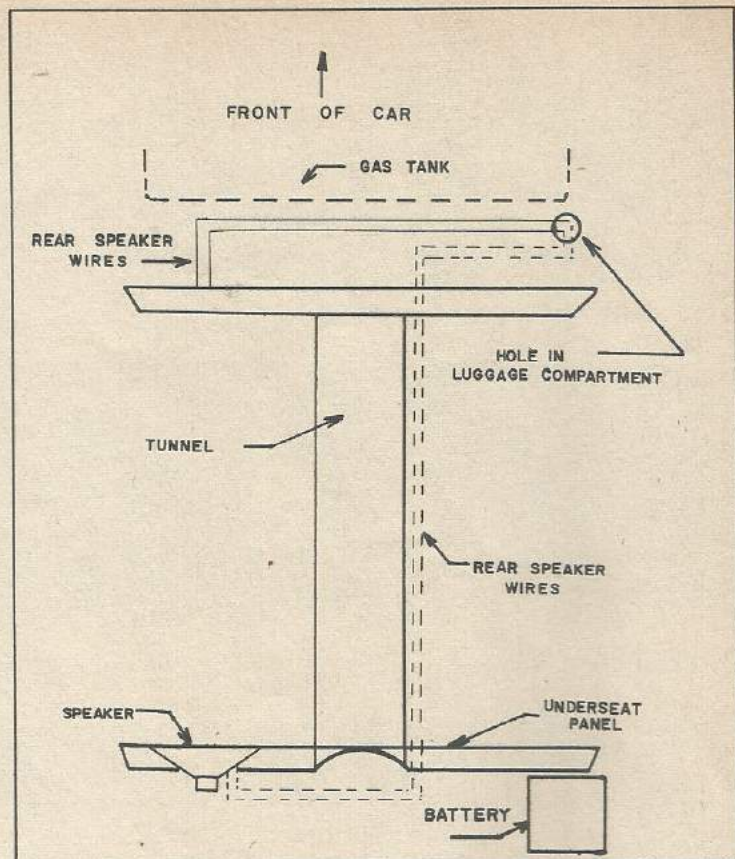
be enough room to put the mounting holes. The actual cutting of the panel can be done with a sharp knife, and the mounting holes can be pushed through with a sharp instrument. Mount the speaker with  $3/16$ " bolts and nuts and if you want to protect the cone use a suitable speaker grille. We painted our grille a medium grey to match the panel.

### WIRING

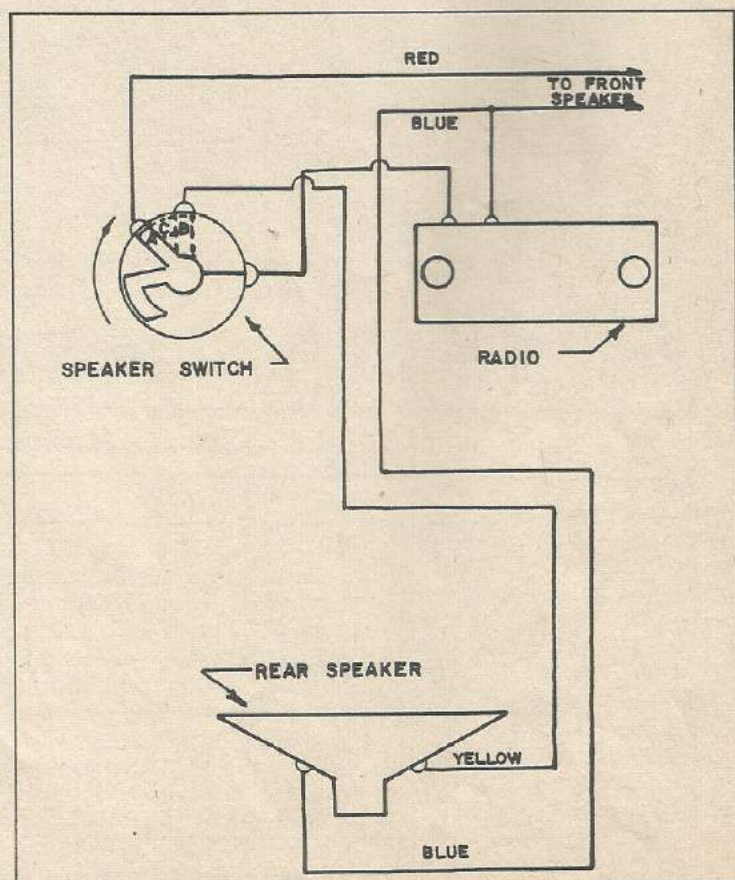
In order to connect the speaker, a wire must now be run from the radio beneath the rear seat. The best way to do this is to run the wire under the floor mats along the tunnel on the passenger side. To get the wire from the speaker switch into the passenger compartment, a hole must be drilled in the bottom of the front luggage compartment. This hole should be placed right next to the gas tank in such a way that when the wire is pushed through this hole it will be hidden by the carpeting on the right side of the passenger compartment. The wire should then be snaked through the carpet and under the floor mat.

In the luggage compartment the wire should be run under the mat to a suitable rear speaker switch. The speaker switch can be mounted under the dashboard, to the left of the steering wheel and about three inches from the front of the dash like ours or in any place that is convenient for the driver. A  $3/8$ " hole is usually required for this type of switch.

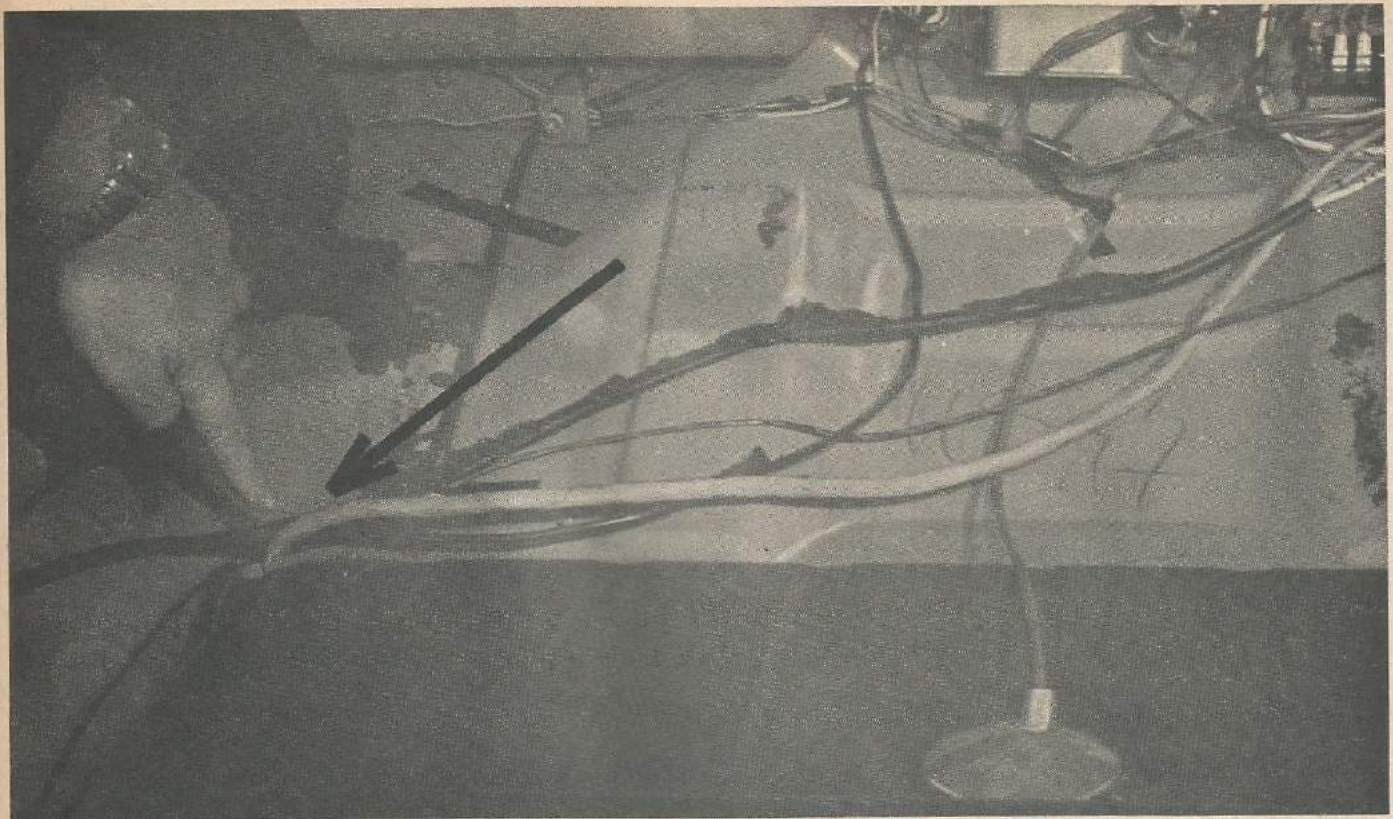
With the installation complete and the wiring in order, you will now find an increase in listening enjoyment provided by the added speaker. There will be a significant boost in bass response due to the volume and insulation of the baffle beneath the rear seat. Rear seat passengers will also appreciate the installation since now they won't have to strain to hear the front speaker—they'll have one of their own.



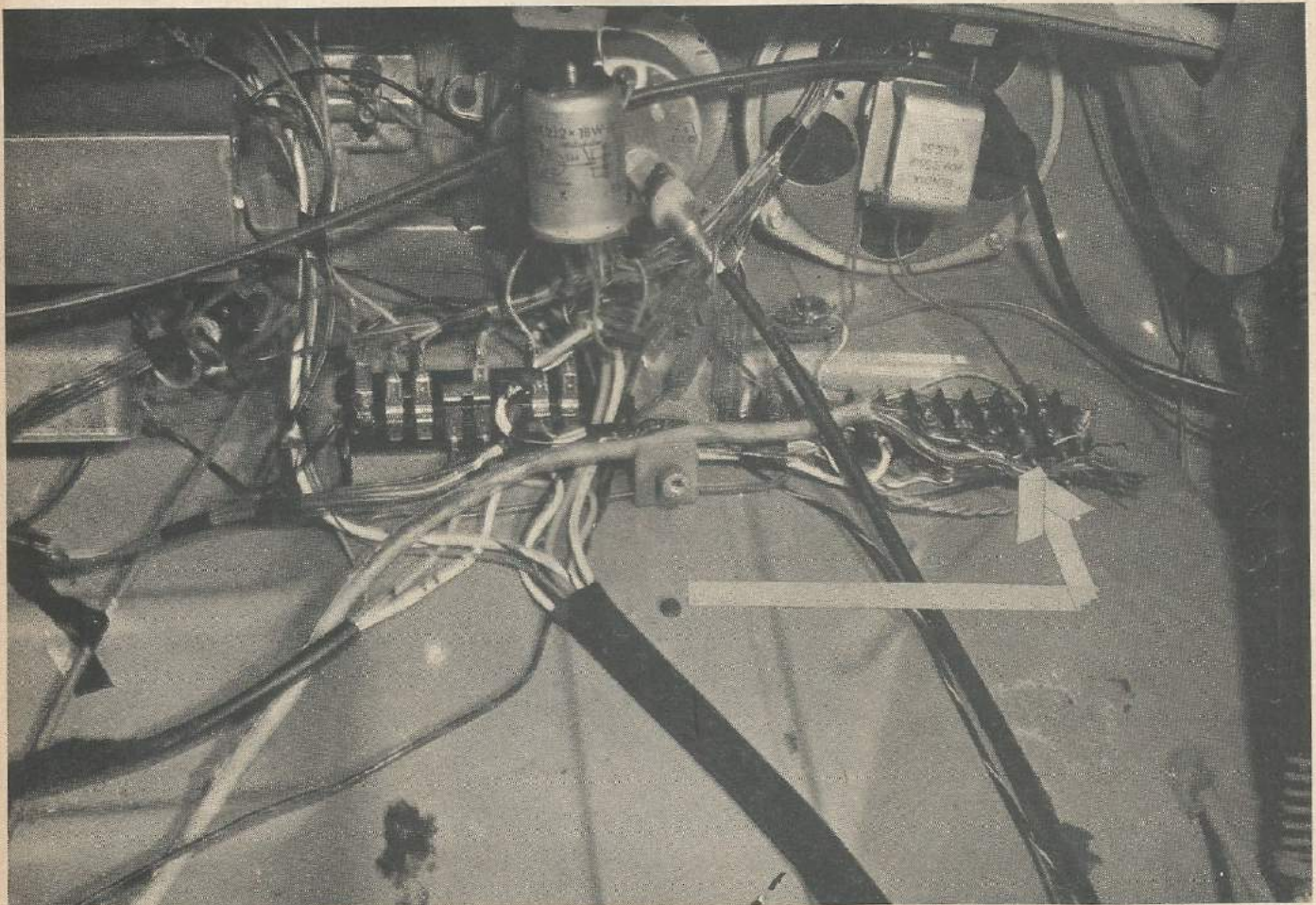
Wiring diagram shows location of wires in car. Dotted lines show wires which are beneath carpeting.



Wiring diagram for speakers and fader switch. Switch positions are: "A" Front speaker only, "B" Rear speaker only, "C" Both speakers.



The wires to be connected to the rear speaker can be passed through the luggage compartment floor near the gasoline tank as shown here.



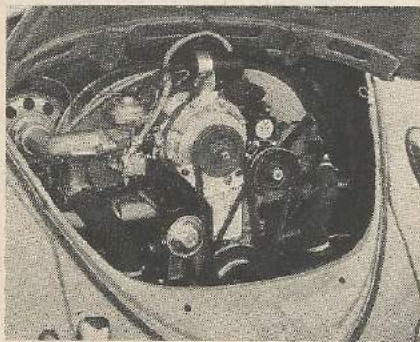
If additional accessories in the rear of the car are anticipated, a cable can be run from the distributing board to rear of car.

# new products

## EMPI Plans Supercharger for Volkswagen

A new high-performance supercharging system for Volkswagens shortly will be marketed by EMPI, the Volkswagen accessories manufacturer and distributor in Riverside, California.

Manufactured by Shorrock of England, a firm which builds blower systems for several other European cars, the Shorrock installation for VW's will feature a quiet-operating, vane-type belt-driven



blower furnishing a pressure boost of six pounds per square inch. Other system components include a Stromberg constant-vacuum carburetor, special intake manifold, and dry-type air filter.

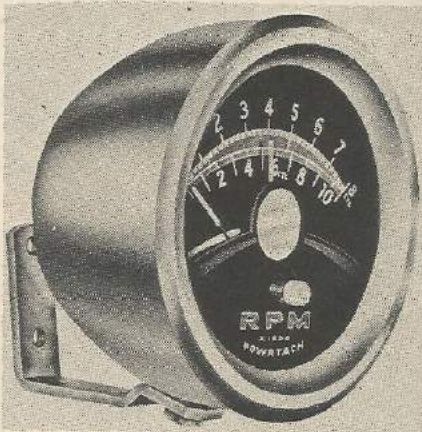
A Volkswagen 1200 sedan equipped with a Shorrock system hit 89 mph in tests conducted by the British Autocar Magazine. EMPI reports 100 m.p.h. top speeds on 1200s equipped with Shorrock systems plus EMPI Stroker Kits.

At Popular Imported Cars' deadline, EMPI had not announced a price on its Shorrock Supercharging System.

## POWRTACH DUAL-SCALE TRANSISTORIZED TACHOMETER

Modern, all-new POWRTACH works equally well on all popular 4, 6 and 8 cylinder cars the manu-

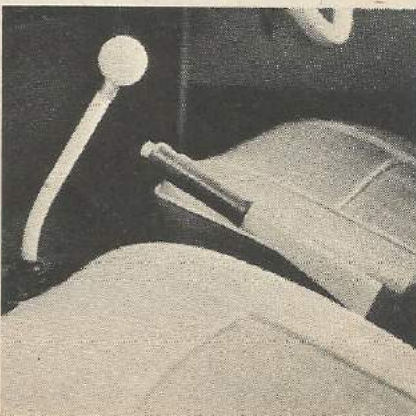
facturer states. Features accurate Dual Scale 8,000 and 10,000 R.P.M. range, new Zener stabilized transistor circuitry. It gives instant needle response, steady readings, no lag, bounce or erratic movement it is said. Rugged D'Arsonval jeweled meter movement sets a new standard of tachometer accu-



racy. Indirect illumination, three dimensional dial, convex lens permit precise readings day or night! Manufactured by Sparkomatic Corporation, Milford, Pa. Price: about \$25.00; available at most auto supply stores.

## NEW "DRESSUP" KIT

Airmotive Engineering Co. of Mount Holly, New Jersey has introduced an attractive 3 piece dress up kit which provides a firm comfortable grip to the brake and



shift levers of the Volkswagen. The kit restores levers to factory new condition and protects painted areas exposed to wear. It consists of a large shift lever ball in white or black at \$1.50, a vinyl plastic non-slip brake grip in red, white, black, copper, silver or gold at \$1.00, a plastic shift lever cover with brass ferrule in frosted white at \$1.00. Complete kit \$3.50 Post-paid. State year and color preference. Airmotive Engineering Co., 22 Hilton Rd., Mount Holly, New Jersey.

## VW OWNERS' GLASSES

Poly Pad Imports, 811 Prospect Avenue, Cleveland, Ohio is introducing a set of six "strictly Volkswagen" drinking glasses in their ad in this issue. The company sent us a set and Gay Praml, our ad representative, who happened to be in the office when they arrived, insisted on trying them out. From



Gay's reaction, we think they will be a gift-giving must for beetle enthusiasts.

The Beetle pics are fired on the glasses in two colors and the company states that they are guaranteed not to chip or peel. Poly Pad Imports is selling glasses for six dollars a set and Miss Praml will have to order a set of her own because we're not giving up ours!

## RESERVE GAS TANK

An easily installed, ("do it yourself") reserve gas tank is now

## VOLKSWAGEN CLUB OF AMERICA

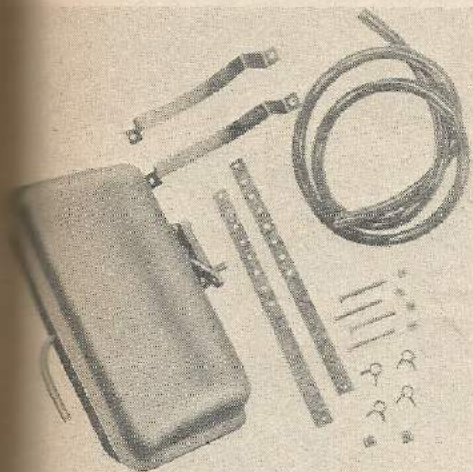
MEMBERS AROUND THE WORLD  
REGIONAL CLUBS  
FROM COAST TO COAST

For information write: VWCA, Dept. P  
Post Office Box 963, Plainfield, New Jersey



available from the Li'l Gasser Company of Los Angeles. Constructed of heavy gauge steel, the one gallon tank has a "space age" teflon valve that works under all climatic conditions.

Out of gas—just reach down, turn the valve — and Li'l Gasser supplies that extra gallon of gas—



to get you off the freeway or to the next gas station the company states. Fill your tank and Li'l Gasser is automatically filled and ready for the next emergency. Made to fit any car, truck, or boat, the unit, priced at \$14.95 comes with all necessary installation hardware. Write for brochure showing complete specifications and simple installation to Li'l Gasser Company, 5220 W. 104th Street, Los Angeles, California.

### EMPI Makes Plans for Booming Future

Record sales during 1963 and early 1964 have prompted EMPI to make extensive plans for a future linked with continued climbing sales. These plans for the future for the Riverside, California, accessories manufacturer and distributor include:

— New product lines. EMPI plans to add a British-made auto accessories line in the near future. The firm will distribute exhaust systems for most foreign cars and power kits for the more popular British machines.

— A new \$250,000 air-conditioned, fire-proof office-warehouse



POPULAR IMPORTED CARS

building. Construction is now under way at 1999 Roberta Street, two blocks from the East-West Freeway in northeast Riverside.

— Development of its own printing department for production of advertising and promotional literature. An offset press now is in operation at EMPI headquarters. Other printing equipment has been ordered. The department will not be fully equipped and staffed until the firm moves to its new plant in the fall.

EMPI's present product line emphasizes Volkswagen and Corvair accessories. A consistent best seller since its introduction a year ago has been the EMPI Sportster fun car, a jeep-like vehicle sold in kit form for use with a VW or Corvair engine.

A heavy budget for advertising and publicity has enabled EMPI to present its product message to hard-core automotive enthusiasts. The ad schedule emphasizes Motor Trend, Road & Track, and Popular Imported Cars magazines. EMPI cars were pictured on three magazine covers during the past year.

A highly successful publicity device was entry of an EMPI-equipped car in the Grand Prix of Volkswagens at the 1963 Nassau (Bahama Island) Speed Week. EMPI retained as its driver, Dan



Gurney, of International and Indianapolis racing fame, who occasionally works on special EMPI research and promotional projects.

Gurney and the EMPI car won and the story of their race received space in Time magazine and most of the racing publications. Champion Spark Plugs also featured the EMPI Nassau winner in its advertising.

### NEW ELECTRIC OIL TEMPERATURE GAUGE OFFERED

Airmotive Engineering Co. of Mount Holly, New Jersey is offering a new and improved all electric oil temperature gauge which differs from other gauges presently on the market in that the extra sensitive sending unit is permanently installed in the crankcase, sub-



Avoid  
**BATTERY  
TROUBLE**  
with the

## CHARGICATOR

- constantly tells you condition of battery, generator and voltage regulator.
- instantly warns—trouble developing.
- draws NO current from the battery.
- easy to read at a glance.
- quickly and easily installed.

Specify 6 or 12 volt model. Price, \$17.45 ppd.

Everything for Sports Cars

**IMPERIAL MOTOR PRODUCTS, Ltd.**  
248-50 Jericho Tpke., Bellerose 26, N. Y.

## CLASSIFIED ADVERTISING

Twenty-five (25¢) per word per insertion, name and address included in word count. Ten (10) word minimum per ad. Cash with order. Please remit to POPULAR IMPORTED CARS, Classified Advertising Dept., 47 Halsey Street, Newark 2, N.J.

### ACCESSORIES

FOREIGN, domestic car radios, AM/FM, AM; speedometers; sales, service. Square Electronics, 156-13 Northern Blvd., Flushing, N.Y. HI 6-2715.



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PC-1

POPULAR

**IMPORTED CARS**

47 HALSEY STREET

NEWARK 2, N. J.

merged in oil, and measures the oil temperature at the most critical point of the engine as it enters the oil pump and main oil distribution system.

The new all electric oil temperature gauge is manufactured in accordance with the highest standards of quality and accuracy, and performs a most important and necessary function in the safe and economical operation of an air cooled engine the company states.

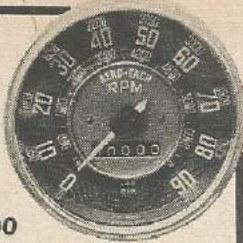
ADD A  
TACHOMETER  
TO YOUR  
SPEEDOMETER

ONLY \$ **1**.00

### AERO TACH

An accurate and attractive tachometer decal offering the advantages of higher priced units. Gives your instrument panel a high priced custom appearance. Inner gold numerals show RPM in 3rd gear, outer silver in high. For all Volkswagens, Corvairs and Dauphines. State make and year \$1.00 PPD. Cash, check or money order to:

AIRMOTIVE ENGINEERING CO.  
22 Hilton Road  
Mount Holly, New Jersey



The unit provides the engine temperature protection offered by all other car manufacturers, adds years of dependable service to the engine and avoids costly repairs.

The highly sensitive sending unit transmits abnormal oil temperature readings to the gauge whenever any of the following unsafe operating conditions exist: A broken or slipping fan belt, low oil pressure, or low oil quantity, a restricted oil cooler or oil screen, a defective or improperly adjusted engine thermostat, late ignition timing or lean fuel mixtures, improperly adjusted valves or piston blow-by. The kit is furnished complete with easy to follow installation instructions, necessary wiring, adapter fittings, light and mounting bracket. For all model Volkswagens \$17.75 Postpaid Airmotive Engineering Co., 22 Hilton Road, Mount Holly, New Jersey.

### KING SIZE AUTO BODY REPAIR KIT INTRODUCED BY WOODHILL CHEMICAL

This new kit includes everything to fix car bodies according to its manufacturer. The fix-it-repair kit features one pint of Black Knight polyester filler, 144 square inches of fiberglass patch, 6 oz. of automotive gray spray primer, 5 1/2



oz. tube of Spot and Glaze Putty, plastic putty knife and a 2 oz. tube of Scratch Remover.

According to Victor Gelb, vice president, sales, "We believe our new repair kit has everything the consumer needs to easily save hundreds of dollars in auto body repair bills."

The Duro-Plastic Auto Body Repair Kit is available in hardware,

automotive and other leading retail outlets at \$6.95.

### EXECUTIVE WASTEPAPER BASKETBALL

Sharpen up your shooting eyes fellows! How's the set-shot of yesterday, the lay-up or the toss from the foul line? Once again, you'll be sinking the "long ones" thanks to this new office boon, "Wastepaper Basketball", according to the manufacturer. So authentic you'll want to keep sneakers handy, this latest bit of physical conditioning equipment is a scaled down version of the real thing — complete with hoop, net and wooden backboard. Can be attached in a jiffy to most standard office wastebaskets for a



tournament or a bit of sneak practice. Gold lettering on the backboard — befitting the position and dignity of the owner — proclaims this to be "Executive Waste-Basket-Ball". Terrific gift for the boss or boss-to-be, whether an old athlete or not. Lots of fun. Each complete set (you furnish your own wastebasket) only \$3.98, postpaid. SNYDER'S, Dept. PIC P. O. Box 9557, Philadelphia 24, Pennsylvania.

### PLASTIC ELECTRICAL TAPE AVAILABLE IN UNIQUE POCKET-SIZED DISPENSER

Johns-Manville Plastic Electrical Tape is now available in a unique pocket-size dispenser that allows new ease and convenience in the application of this widely used aid to home repair and maintenance jobs. The refillable dispenser containing 20-ft. of 3/4-in. wide Dutch Brand tape is a miniature version of that previously available to pro-



has developed  
a brand new,  
high-performance  
ignition system  
FOR COMPETITION ONLY!

This system will retail for \$50  
With a life-of-the-engine guarantee

See our ad next month  
-OR-  
Write for details, NOW!

Available in Limited Quantities

**AUTOTRONICS, INC.**

43 Woodland Drive, Woodcliff Lake N. J.

POPULAR IMPORTED CARS

professional electricians and holding 66-ft. lengths.

The clear plastic dispenser has no moving parts and allows applying and cutting the tape with only one hand . . . a desirable feature when working overhead or in other awkward spots. In addition it protects the tape from dirt and grime in the tool kit.

J-M Dutch Brand Plastic Electrical Tape is an extremely strong, flexible, and close-conforming



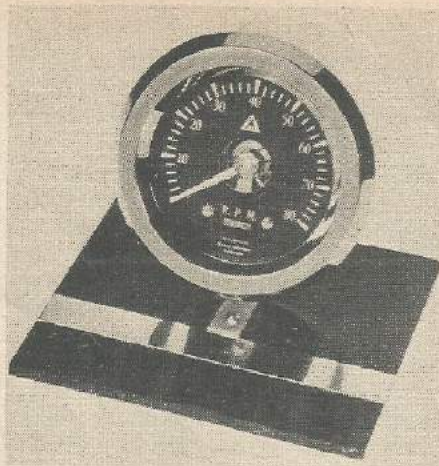
pressure sensitive vinyl tape, with high insulating value. It has excellent adhesion to any clean dry surface and will replace conventional rubber and friction tapes for most electrical repairs. It resists moisture and abrasion, as well as solvents, oils, and acids. In addition, it has a multitude of other applications such as repairing rubber or plastic hoses, taping handles of tools and sporting equipment, patching rubber and plastic toys and containers, and so on.

The dispenser pack has a suggested retail price of 69c. Additional data, including a copy of a useful booklet, How to Select a Pressure-Sensitive Tape, are available free upon request from Johns-Manville, Dutch Brand Division, Box HJW 22, 22 East 40th St., New York 16, N. Y.

#### NEW ILLUMINATED TACH FOR CARS, SPORTS CARS AND TRUCKS

This new Tachometer works on all ignition systems whether conventional, transistor, or magneto ignition the distributor claims. Fully transistorized and self contained so that no sending unit or mechanical connections are required, it is easily installed. New 250-degree black face dial (0 to 8,000 RPM) has white numerals and tapered pointer for easy reading, with linear scale providing pinpoint accuracy it is said. Dial is illuminated from rear through translucent numerals.

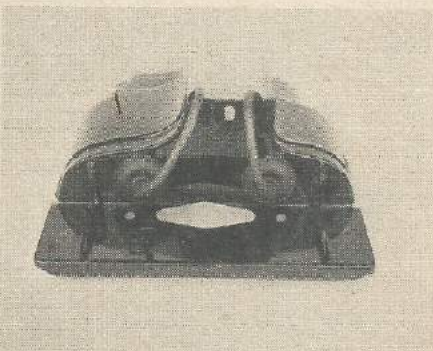
Styled with a chrome-plated die cast housing, 4" chrome bezel face, 2 3/4" body, it can be mounted in, on,



or under dash, or on steering column (requires mounting kit described below.) Designed for both 6 and 8 cylinder engines—all cars and trucks with 12 volt systems, the tachometer retails for \$36.00 Postpaid. For installation on top of dash or on steering column, plastic housing kit, including bracket and clamp, is available, \$4.50 Postpaid. Write J. C. Whitney & Co., 1917 Archer Ave., Dept. PIC, Chicago, Ill. 60616.

#### VW SPARK PLUG AIR SEALS

Airmotive Engineering Co. of Mount Holly, New Jersey has introduced a set of heavy duty neoprene spark plug air seals designed to replace the light original equipment seals which have a tendency to slide up the spark plug connectors, resulting in the loss of cooling and heating air. Periodic inspection and replacement of damaged spark plug air seals is recommended by the car manufacturer since the spark plug openings are located above the cylinder and the loss of cooling air in this area reduces air flow over the cylinders and can cause engine damage due to overheating.



The new heavy duty Heat-Seals contain all heating and cooling air in the system, are guaranteed for the life of the car, and lock in at three points to insure positive engine cooling and improved heater

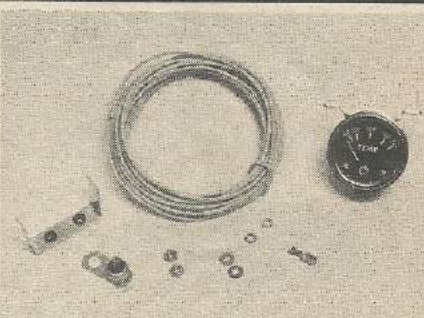


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**HALF  
SAFE**

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## Cylinder Head Temperature Gauge



#### FITS ALL VOLKSWAGENS

Including Transporter and 1500

Guard against costly engine damage from overheating . . . caused by

- Valves Set Too Tight
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- Incorrect Timing
- Slipping or broken fan belt
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The sensitive new Carrara Cylinder Head Temperature Gauge gives instant response to the slightest change in temperature of the cylinder head.

EASY TO INSTALL . . . anyone can do it. Complete with all parts, wiring and instructions.

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HAVE THESE  
FAMOUS MODELS  
YOUR COLLECTION...**



Volkswagen

**IS  
NOT  
COMPLETE!**



Lincoln  
Continental

**LESS THAN A BUCK EACH**

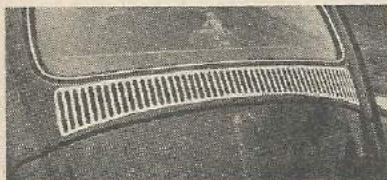


Cord Convertible

*At your favorite Hobby counter!*

**PYRO PLASTICS CORP.**  
PYRO PARK, UNION, N. J.

## CUSTOM STYLED AIR VENT GRILLE



An attractive one piece anodized aluminum air vent grille which adds clean and stylish lines to the rear of the Volkswagen. The decorative grille is polished to a high lustre chrome finish and highlights the Volkswagen rear quarter with a perfect balance of paint and chrome trim. The quality grille is furnished with a special attaching tool and can be installed in five minutes. For all '57 to '64 Volkswagen Sedans and Sun Roofs.

**\$5.95 POSTPAID.**

Cash, check or money order to:

**AIRMOTIVE ENGINEERING CO.**  
22 Hilton Road  
Mount Holly, New Jersey

**JENEWEIN MOTOR CARS**  
900 E. Eliz. Ave., Linden, N. J.  
HUNter 6-6200

**SERVICE . . . . . ABOVE ALL!**

efficiency. Heat-Seals are also supplied with a set of ready to install high quality copper ignition wires designed to replace original equipment carbon core wires. Copper ignition wires eliminate the major cause of ignition breakdown, are noted for top performance and dependability, and are used in all leading competition race cars and aircraft engines the company says. The installation of the copper ignition wires and Heat-Seals kit can be made in ten minutes without the added expense of replacing the carbon core type spark plug connectors. Heat-Seal Kit \$2.00, with copper ignition wire set \$3.95 PPD. For all Volkswagen Sedans, Ghias and Transporters. Airmotive Engineering Co., 22 Hilton Road, Mount Holly, New Jersey. ●

**NOTES** (Continued from Page 5)

And here's Gay back at the office, on a weekend, believe it or not, getting out some correspondence that just couldn't wait.



Miss Ann Koedt in her studio hard at work on layouts for this issue. The enthusiasm for this new magazine is as high here in our offices as it is on the outside and we hope it shows inside the "book."



Taking you behind the scene at the shooting session for this month's cover. Irv Dolin, in soft shoes, is standing just forward of the sun roof on the Peugeot with his face obscured by the Speed Graphic. The man on his left in the overcoat is Emmet Greene who did the excellent story on the East African Safari in this issue as well as the comprehensive evaluation on the Simca 1,000, one of our cover cars.

weekend was a fabulous success, the Peugeot a real joy to drive and here, again, we'll have to save the story for next issue in order to do it properly. We'll be joining the VW people in Atlanta, Ga. shortly and chasing down more information on the still burgeoning Formula Vee. We've got stories on some new cars planned in addition to that gorgeous Peugeot convertible plus a lot of things that you can do to maintain and improve your car's performance or appearance.

Watch for our next issue, then, and we hope you enjoy this one. Actually we did have fun putting it together.

Frank W. Coggins

## HOW TO'S

(Continued from Page 60)

The headlamp signal device is a great driving aid that will be used often. We have found it convenient in signalling cars that are being overtaken, in allowing passing trucks to pull into our lane, in signalling courtesy to other motorists, and in greeting Volvo owners on the road. Most other Volvo owners stare in amazement, wondering how we can flash our headlights on and off so rapidly.

Thus, in addition to adding to our driving safety and convenience, the headlamp flashing signal device will add a bit of individuality to your Volvo as well. ●

## SIMCA 1000

(Continued from Page 35)

In the rear there are semi-trailing diagonally mounted arms with tubular shock absorbers encircled by coil springs. The independent or swing type driving axles do not carry any load other than driving torque. The entire assembly is attached to a sub-frame and is removable with the engine after detaching 6 bolts from the car underbody.

The unitized body gets its principal rigidity from its box section central backbone member and deep box section sills at each side. Extensive use of sound deadening material contributes to the overall quiet operation of the car.

Overall reduction in operating cost was one of the goals of the design. Service requirements (oil changes) have been extended to 4,000 miles and some components only require attention every six months or 8,000 miles. Parts prices (compared with previous Aronde models) have been reduced about 33 1/3%. ●

## SIMCA 1000 (SEDAN) SPECIFICATIONS

**ENGINE**—Water cooled, rear mounted 4-cylinder in line, overhead valve 944 cc. (57.6 cu. in.) displacement with 2.68 in. bore and 2.56 in stroke. 50 BHP @ 5300 rpm., Max. torque 54.2 lb./ft. at 2800 rpm. (42 MPH). Compression ratio 8.2 to 1, 12 volt ignition, centrifugal and vacuum timing control. Mechanical fuel pump feeding from 9.5 gal. tank through Solex 32 PBIC carburetor.

**TRANSMISSION**—Hydraulically operated, single dry plate clutch. Four speed, floor control all-indirect gearbox with geared up 4th and synchromesh on all forward speeds. Porsche type synchronizers.

**BRAKES**—Simplex hydraulic. 9.13 inch cast iron drums front and rear. 84.3 sq. in., 171.5 in swept area. Molded linings.

**SUSPENSION**—Front, independent by lower transverse leaf spring with upper wishbones and tubular shock absorbers. Rear, independent by forward pivoted trailing "A" type radius arms, coil springs and tubular shocks.

**WHEELS AND TIRES**—Pressed steel disk wheels with 5.60 x 12 tires.

**STEERING**—Gemmar cam and roller type, 13 to 1 overall ratio, 3.2 turns from lock to lock.

**DIMENSIONS**—Wheelbase 87.3, overall length 149.2, width 58.2, height 54.8. Curb weight 1609 lbs.

## SAFARI

(Continued from Page 17)

pts.) came through second and the Armstrong (78 pts.) 3rd. Two women (Lucille Cardwell and Lill Lead, brought their Mercedes in 4th with 150 pts.

All the Cortina of Hughes had to do was to hold his lead to Nairobi. He passed through the remaining controls on the button. He did not know that, ahead in Nairobi the officials were considering disqualification of all the Cortinas. They were running with 6 leaf springs in the rear and officials argued that five leaves were standard. Air mailed specifications from London proved the heavy springs were standard export type. This verification arrived but two hours before Hughes brought in his Cortina first at Nairobi.

The other top ranking cars held their point positions as they whizzed along the homestretch to complete the fastest version of the world's toughest rally. American honor was upheld by two teams of native Kenya drivers who brought in our Mercury Comets in 18th and



## BOGE SHOCK ABSORBERS

Famous German made BOGE shock absorbers are recommended by automotive experts to provide improved stability, reduce sway and lean in high speed turns. For top rank performance in gymkhana, slaloms and other competitions as well as a safer more comfortable ride, install BOGE shocks in your VW today.

No. 8400 BOGE front \$12.25 postpaid  
No. 8500 BOGE rear \$12.25



## TUNG-SOL Transistorized Ignition System

A completely new and foolproof transistorized ignition system is presented by TUNG-SOL, one of the leaders in the electronics industry. One unit serves all 6 and 12 volt negative ground vehicles. Features reverse plug so that you can use the transistorized system and within seconds switch to your standard ignition system. Helps boost engine performance, reduce fuel consumption and eliminates engine tune ups. Place your confidence with TUNG-SOL!

No. TI-1 \$39.95 postpaid



## VOLKSWAGEN OWNERS' GLASSES

No proud and true "beetle" fan will pass up this set of 6-strictly Volkswagen-glasses. Each glass pictures the VW 1200 sedan, the convertible, the new VW 1500, the Karmann Ghia, the 1500 station wagon and the Micro Bus. The two-color pictures are fired on glass and guaranteed not to chip or peel. Perfect gift idea; will even be cherished by those who have not yet stepped up to the prestige of owning a VW.

No. G-6 \$6.00 set postpaid

## BUY A BOOK for your BEETLE for a BUCK

Latest and greatest edition of POLY PAD IMPORTS' ACCESSORY GUIDE—contains over 500 exciting imported accessories for all VW models. Free catalog and \$1 certificate included in shipment of your order of \$10 or more; or send \$1 to cover postage and handling and your copy will be forwarded to you immediately. Your dollar applied on first order of \$10 or more. Don't miss out on this updated and revised edition of the "Beetle Book"—mail your \$1, or your order, TODAY!

## Poly Pad Imports

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See Your Dealer or Order Direct  
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## DUAL TRANSISTOR IGNITION SYSTEM FOR

VOLKSWAGEN PORSCHE TRANSPORTER  
NOW MODELS FOR OTHER CARS

PROVEN IN 5,000,000 MILES A MONTH  
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10% GAIN IN POWER AT REAR WHEELS



Hermetically sealed  
Transistor Control Unit  
complete with  
Bosch "Super" coil.



MODEL 6VFR — \$39.95 postpaid  
**GUARANTEED FOR LIFE**  
30 DAY MONEY BACK GUARANTEE

INSTALLS IN 10 MINUTES.

- INCREASES: ACCELERATION—PASSING ABILITY  
FUEL ECONOMY
- EXTENDS: CONTACT POINT LIFE—USEFUL  
PLUG LIFE—TUNE UP INTERVALS
- IMPROVES: COLD WEATHER STARTS—  
RELIABILITY

### TECHNICAL DATA

- Two High voltage heavy duty power transistors
- Silicon diode plus suppression network
- High impact epoxy resin sealed unit

MODEL 6VFR STILL AVAILABLE FOR  
VW, GHIA, TRANSPORTER AND PORSCHE  
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GUARANTEED UNCONDITIONALLY FOR ONE YEAR

WRITE FOR FREE LITERATURE  
SPECIFY MAKE & MODEL CAR  
ORDER FROM

## AUTOTRONICS, INC.

43 Woodland Drive, Woodcliff Lake 2, N. J.

Vacationing?  
On the Road?

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makes driving a pleasure! Polyether foam cushion stops highway fatigue and backache. Adjusts to fit YOU, cushions your neck, head and shoulders. Straps on ANY car in seconds, stays in place. Rich leather-soft vinyl cover, gold trim, in Grey, off-white, red, beige, blue, tan (Order Model V for Volk, Porsche, Renault).

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TOURrest Corp., Dept. PI 7  
5801 N. Federal, Denver, Colo. 80221

21st places. They were enthusiastic about the cars that "were too fast for their suspensions" on the African trails. ●

### DRIVING IN EUROPE

(Continued from Page 51)

or lacets, as the French call them. At the end of a day's drive (and I had not covered more than 75 km total distance) the palms of my hands red from gripping the wheel, my right arm was stiff from shifting, and my legs ached from clutching and braking. I was literally exhausted. But for the first time, I knew what driving was really like. These roads bring out the best in both car and driver. The experience is overwhelming. The views are unbelievable — but who has time for views? My wife invariably nudged me right in the middle of a downhill hairpin on a switchback and shrieked, "Oh! Oh! Look at that!" I had all I could do to keep the car on the road, and she wanted me to look at the scenery!

Here in the Alps the air-cooled motor is your best choice, as overheating is the order of the day on slow but steep unhill climbs where first and second gear only are used. If you get stuck behind a touring bus — you've had it!

To discuss motoring in Europe without mentioning maps is indeed difficult. Without them you might just as well stay in your own backyard. Make it a point to obtain European road maps before leaving and study them at your leisure in order to plan a better driving itinerary. Both Texaco and Esso in the U.S. provide maps for European motoring. For a very small charge you can obtain one for each country on the continent. A capsule of worthwhile information called *Driving Aboard* can be obtained from Texaco. In 45 pages of pocketbook size, it covers everything from Road Documents to Road Directions in seven languages. Next to your passport it may prove to be your most valuable asset (except for money which is even more important than the passport!).

In Europe all the maps you will ever need can be obtained at any major gasoline station. The rental agency may or may not provide the large European Atlas, Hallwag's Europa, with car. It is large and bulky, printed in French, German, and English in adjacent columns with more than 200 pages of maps. The maps are good, particularly if you have a recent edition, but there are some difficulties

in their use since they are cut up into sections by the requirements of page size. In general, I found that the BP maps available at the gas stations were equally or more satisfactory.

Every city of any importance will have a highly detailed street and road map with places of interest. For the equivalent of about 25¢ (except, of course, for large cities like London or Paris) these maps can be purchased in the main railroad station of the city or in a bookshop. These maps are most useful for sightseeing and finding your way back to the hotel after a long day on foot.

Michelin X guides, printed in English as well as French, are available at most large bookshops in New York City and are standard bibles for motorists. They provide highly detailed information on lodging and restaurants in France and Italy — two countries where being without a guide may be disastrous. These guides cost several dollars each, but are indispensable if you are going to be on the road in these countries most of the time. The Michelin road guides are useful too, but Hotel and Restaurant guide is the red-bound book, not the green-bound one, so watch your step.

Armed with maps, guides, and much (no doubt unwanted) advice — do a lot of planning and have a good trip. ●

### NUTS AND BOLTS

(Continued from Page 6)

eight lobes.

ANSWER: There are eight valves but Volkswagen mathematics are such that eight valves divided by four lobes equals two valves per lobe because of the horizontal opposed configuration of the engine. QUESTION: What is the importance of Volkswagen's independent suspension?

ANSWER: Independent suspension allows the unsprung weight of the suspension, the wheels, axles, brakes, etc., to be lighter providing a better sprung/unsprung weight ratio. This helps keep the tires on the ground and makes for a smooth ride. In the VW's rear axle, the differential doesn't bob up and down with the axle, but is part of the transmission and is bolted to the chassis. Thus torque reactions due to acceleration and braking are absorbed by the chassis instead of lifting one of the two rear wheels off the ground and wrapping the springs up. ●

## NEW PRODUCTS

(Continued from Page 68)

### NEW COMPACT TOOLS

Thor Power Tool Company is introducing a new compact electric drill, compact screwdriver and compact die grinder, the smallest size tools in their field and yet capable of delivering up to 250 percent more power than previous compact tools. The new "people size" tools carry 50 percent less weight and 50 percent more motor reliability to compliment the great increase in power and performance it is said.

Model E-110 compact electric drills weigh only 27 ounces, yet are more powerful than drills which outweigh them by many pounds and are much larger in overall size. Other features include the award-winning DuPont



"Zytel" shock-proof, shatter-proof handle, million-cycle switch, and an overall length of 6½ inches. These new compact drills are set at a list price of \$34.95.

The E-111 compact electric screwdriver weighs only 2½ pounds, is reversible, and features an adjustable slip clutch and correct torque maintenance with a list price of \$89.95. A non-reversible pistol grip model E-113 is also available at \$79.75.

The E-112 compact die grinder with its 30,000 rpm will maintain a much higher speed under load than ordinary models. It weighs in at only 1¾ pounds and features Thor's exclusive nylon spindle coupler. It is priced at \$49.95.

This major breakthrough in port-

able power tool engineering was made possible by utilizing recent developments in electronics engineering. The compact electric tools feature a solid permanent magnet stator, a diode-type rectifier, and a new heat-proof armature. The new solid state rectifier changes alternating current into direct current, thus enabling Thor to install what is essentially a DC motor into a tool that is run on AC. This system greatly reduces the total weight and size of the tool due to the smaller "space-age" components of the motor.

The increase in power is accomplished by using a new electric circuit embodying a solid state full-wave rectifier system so that the tool uses all the current available at maximum efficiency. Previous models of compact tools used only half-wave diode. The full-wave diode system makes it possible to deliver the 250 percent increase in power.

For further information write to Thor Power Tool Company, Aurora, Illinois.

### ENGINE HOUR METER WITH NO ELECTRIC CONNECTIONS OFFERED

Engler Instrument Co., long active in the manufacture of registering and recording instruments for equipment control, announces a new addition to their line of Hour Meters.



Engler's new Model V100 Meter registers hours of operation of any machine or vehicle but the V100 meter is actuated by vibration rather than the heretofore conventional type which utilizes an electric source to actuate the meter.

The V100 meter has many applications where there is no electric current available and, of course, installation is greatly simplified in

that no wiring is necessary. For further information contact: Engler Instrument Co., 250 Culver Avenue, Jersey City 5, New Jersey.

### AUTO EMBLEMS

Brand new embroidered auto insignia including the Dodge, Plymouth, Mustang... and many others are now being offered by this company.

Pocket sizes are \$1.00, or six for \$5.00. The back sizes are \$4.00, or two for \$7.50. All are full color

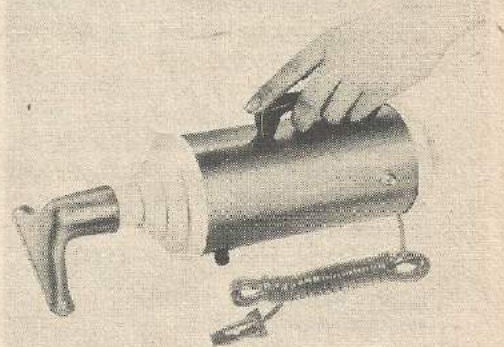


replicas embroidered in colorfast thread on colorfast Twill, according to the manufacturer.

For new catalog, illustrated and showing a complete selection of new items—names, decals, personalized emblems, and jackets. Send 25c to Spot Enterprises, P.O. Box 66, Dept. PIC, Culver City 23, California.

### NEW CAR VACUUM CLEANER PLUGS INTO CIGARETTE LIGHTER

Now you can have a full size portable vacuum cleaner that weighs only 4 lbs., that is compact, easy to use, and stores conveniently in the trunk of your car this manufacturer states. This handy,

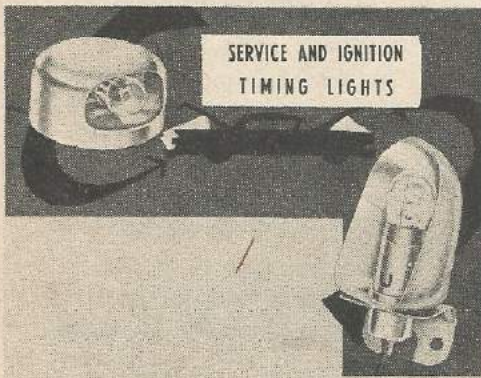


efficient portable cleaner is said to do any job—a full-size vacuum cleaner will do—clean upholstery, carpeting, ash trays, under moldings. Its heavy duty motor generates powerful suction—can be reversed for blowing or spraying. American-made, it features positive locking ends, on-off switch, and uses throw-away paper bags—no dust

bags to empty and comes complete with upholstery brush, 10-ft. U.L. approved cord and adapter plug, two paper bags, plus easy-to-follow instructions, for \$14.95 Postpaid. A convenient 3-piece cleaning attachment kit is also available, consisting of 2-foot long flexible hose, extension tube, and crevice cleaning tool, at \$4.00 Postpaid. Disposable paper bags, six bags to the package: \$1.00 per package, Postpaid. Write J. C. Whitney & Co., 1917 Archer Ave., Dept PIC, Chicago, Ill. 60616.

### HOOD AND TRUNK SERVICE LIGHTS

Airmotive Engineering Co., Mount Holly, New Jersey has introduced a quality set of hood and trunk service lights which provide nighttime convenience and safety that any car owner will appreciate. Mounted under the hood and trunk lids they light automatically when lids are closed. Operated by qual-



ity positive action mercury switches, units are designed to illuminate the entire compartment the company states. Fits all cars, 6 and 12 volts, complete with easy to follow installation instructions, leads and connections. Hood light \$2.50, Trunk light \$3.00.

The Volkswagen kit is furnished with an extra lead equipped with alligator clips to set ignition timing with professional accuracy, at \$1.00. State voltage and make. Airmotive Engineering Co., 22 Hilton Rd., Mount Holly, New Jersey.

### NEW WRINKLE FINISH IN SPRAY CANS

You no longer have to envy that distinctive, textured metallic wrinkle finish that has always required the professional touch. You can do it for yourself!

Worco, the originator of the automotive wrinkle finish process, now introduces their product in 16 oz. spray cans. Whether you are a novice, or not, you can apply it to any surface—Iron, Steel, Alumi-

num, Plastic, Glass, Fiberglass, etc.—and it will last many times longer than any standard paint . . . without peeling.

Worco Wrinkle Finish comes in Jet Black, Mint Green, Sapphire

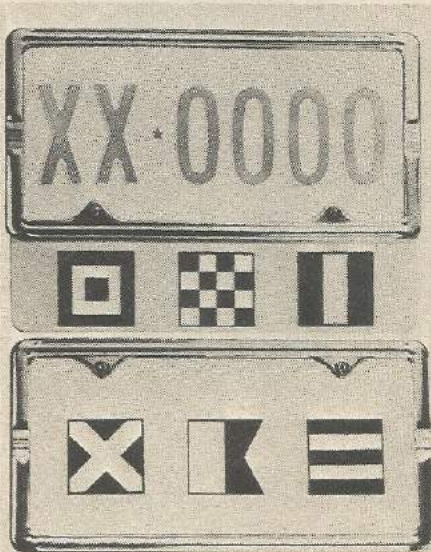


Blue and Satin Grey and is guaranteed (if applied following the simple directions) to retain its original texture and color, to repel grease, gasoline, all engine cleaners, salt water spray and extreme weather conditions.

You can feel it . . . as well as see it! Full price—\$4.95 per 16 oz. can . . . or write for free brochure to: WORCO, 2056 West Slauson Ave., Dept. PIC, Los Angeles 47, California.

### LICENSE FRAME SET FEATURES CAR OWNER'S INITIALS IN SIGNAL FLAGS

Motorists can personalize their cars with a nautical touch using a packaged license frame kit called the International Signal Set. The



kit features car owner's initials in the form of colorful signal flags which are displayed on the front bumper of his car. In addition to three durable self-adhesive vinyl signal flags, the kit includes a

mounting panel and two chrome-plated license frames. The second frame encloses the rear registration plate.

Illustrated instructions show how to mount the set on the car. Kits are available for cars bearing two registration plates or one. (In accompanying illustration, top photo shows mounting arrangement when car has two plates. Bottom photo shows mounting arrangement when car has only one registration plate.)

Made by The Benmatt Organization, Inc., 2850 McKean St., Phila., Pa., the kit, priced at under \$5.00, is available at auto accessory stores.

### NEW LINE OF SPRAY PAINT FOR HOME, AUTO AND HOBBY USE

A new line of aerosol spray paint known as Mr. Spray has been introduced by Aero-Jet Products Corp., Medina, Ohio, manufacturer of pressurized paints and aerosol specialties. The new paints will be marketed as a premium, high-quality line featuring distinctive



multi-color packaging. Features of the Mr. Spray line include fast-drying colors, snap-lock Hi-Hat can caps and a tamperproof inner-seal.

The new line will include standard size, 16 oz. spray packages, Engine Enamels, Decorator and Car Match Colors, Fluorescents, Home & Hobby paints and silicone sprays.

Mr. Spray Car Colors and Home and Hobby Sprays and Fluores-



cents will be jacketed in a three-pack. The 16 oz. line will be packed in a 12-can re-shipper carton. New catalogs, color cards, order forms, car color guides and display merchandisers including a unique new 432-can self feeding car color display will be used to introduce the new Mr. Spray line to the trade and the customer.

According to the manufacturer, the Mr. Spray line will be one of the best packaged, top quality products ever introduced in the rapidly expanding spray paint industry.

For more information, contact Monroe B. Scharff & Co., or Dept. PIC, Aero-Jet Products Corp., Medina, Ohio.

**NEW AIR CONDITIONING IN A CAN COOLS HOT AUTO SEATS**

It is also effective for cooling off hot feet the manufacturer states. When car interiors heat up in summer sun, this air conditioning in a can will cool and refresh by quick-



ly cooling fabrics, leather, plastic, vinyl, metal, canvas, etc. It dries immediately, won't stain clothing or hands and is non-toxic, too we have been informed. 16-ounce aerosol can, \$2.25 Postpaid. Write to J. C. Whitney & Co., 1917 Archer Ave., Dept. PIC, Chicago, Ill. 60616.

**NEW FINISH**

Classic Car Products, Ltd. includes an unconditional money-back guarantee with every can of their product, Classic Car Wax. Your money will be refunded in full if it does not outperform and outlast all other car waxes in protecting your car or boat against damaging effects of sun, dew, salt air, snow, road grime, smog and other surface elements. Your car's hard-as-nails finish will not water spot or fingerprint and will not streak or smear the company states. This complete guarantee is in effect at all Classic Car Products

dealers.

Classic Car Wax can be applied to the entire car at one time . . . in full sun, or in murky weather . . . and the residue may be easily wiped off—all in less than an hour!



Classic Car Wax contains no grease or oil but has a 100% imported Carnauba Wax base with costly diatoms and jeweler's rouge incorporated in its patented formula.

Classic Car Wax is sold in 1 lb. 2 oz. cans at auto dealers, speed shops and service stations at \$5.00 a can. Or, write direct to: Classic Car Products, Ltd., 2616 No. Tamarind Ave., Dept. PK, West Palm Beach, Florida.



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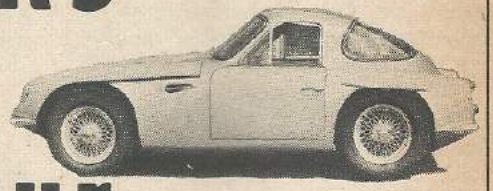
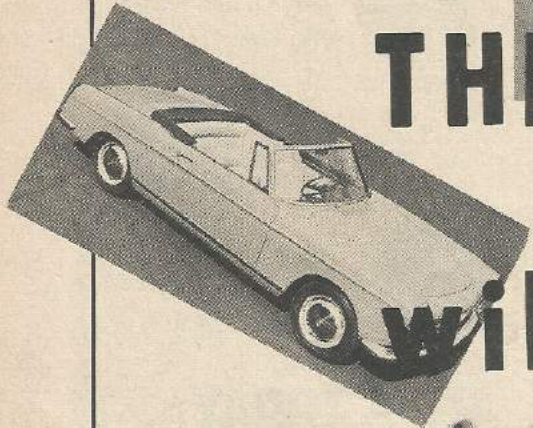
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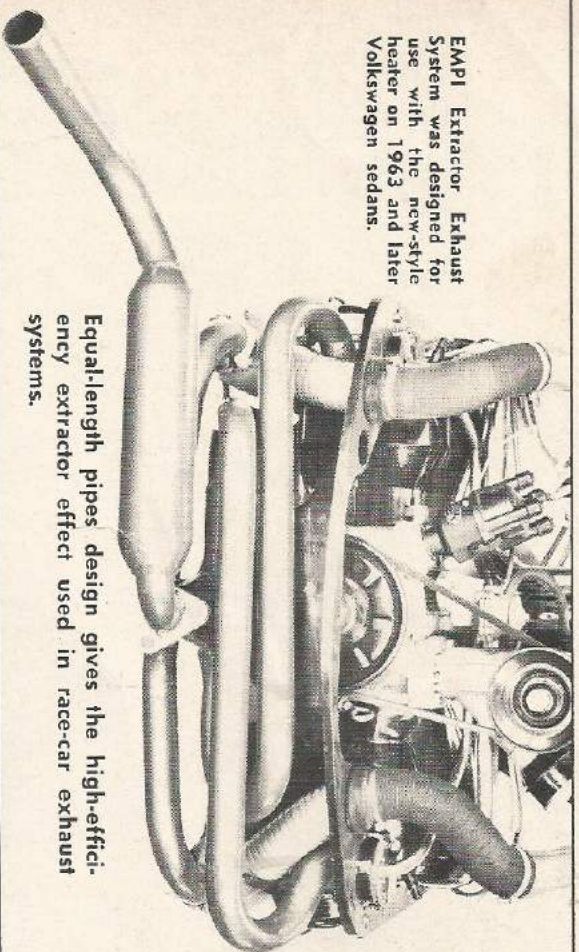
*Steady* *Diet*  
**in**



**POPULAR  
IMPORTED CARS**



**EMPI Extractor Exhaust System** was designed for use with the new-style heater on 1963 and later Volkswagen sedans.



Equal-length pipes design gives the high-efficiency extractor effect used in race-car exhaust systems.

Extractor Principle

## EMPI Exhaust System Boosts VW Power

- **Increases power**—5-7 percent power boost at rear wheels is achieved by EMPI's new exhaust system, which utilizes the equal-length pipes design of race cars to achieve low back-pressure extractor effect.

- **Completely compatible**—works perfectly with heater and heater systems of late-model VWs.

- **Perfect-fit installation**—Compact design is easy to install on all late-model VW passenger cars; leaves no low-hanging pipes to decrease car's ground clearance.

- **Convertible feature**—Use EMPI Extractor Exhaust System with glass-packed muffler in normal activities; switch quickly to "straight-through" Stinger Pipe for racing.

### MANY HOURS of dynamometer and on-the-road testing went into the development of EMPI's Extractor-Type Exhaust System for late-model Volkswagens. Special attention was given to making the system function perfectly with the new heater design of late 1963 and later VWs.

EMPI borrowed from the equal-length headers design of Grand Prix race cars in an effort to obtain high exhaust efficiency. With equal length pipes of critical size and a special glass-packed muffler EMPI achieved a dyno-proven 5-7 percent power gain, with noise held to a legal level. For racing and other maximum-power applications the muffler may be removed and a straight-through Stinger Pipe substituted for still greater power.

No. 177 Extractor-Type Exhaust System for late '63-'64 VW engines \$49.95  
Stinger Pipe for No. 177 system \$ 5.00

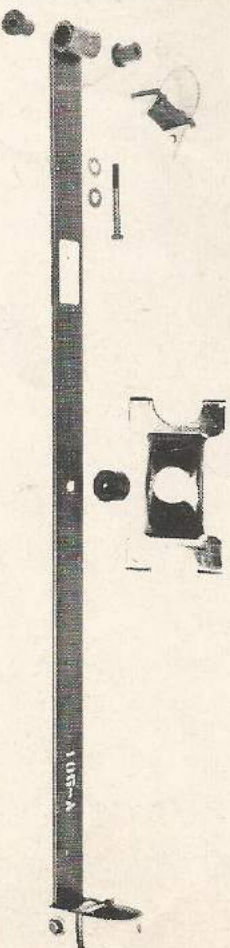
#### Other EMPI Exhaust Systems

No. 175 Extractor-Type Exhaust System for use on 36-hp VW engines \$49.95  
No. 176 Extractor-Type Exhaust System for use on 40-hp VWs thru early '63. \$49.95  
No. 179 Extractor-Type Exhaust System for use on push-rod model Porsches, complete with Stinger Pipe. \$59.95



*Camber Compensator*

Rear Stabilizer



Protected by U.S. Patent No. 2,992,835

Camber Compensator Rear Stabilizer

## Enhances Handling Of Late-Model VWs

- **Better Handling**—EMPI's patented Camber Compensator Rear Stabilizer improves handling of all VWs, facilitates faster cornering with less body lean, minimizes oversteer & wind buffeting. It's endorsed by slalom and race champs.

- **1964 Improvements**—Newest improvements of EMPI stabilizer model No. 105A (for late-model sedans) include use of new formula chrome vanadium for superior performance and added strength, modifications to center and end brackets to facilitate mounting and oil draining.

- **Thousands Sold**—Approximately 100,000 EMPI Stabilizers are now in use.

No. 105A Camber Compensator Rear Stabilizer for 61-64 VW sedans, including 1500s \$119.95

FOR OTHER VWs—Camber Compensator Rear Stabilizers available for VW trucks & station wagons and pre-1961 sedans. State Year & model of your VW. \$119.95

FOR CORVAIRS—Order No. 109 for passenger cars through '63. No. 109T for Greenrunners & trucks thru '63. \$24.95

FOR TRIUMPH SPITFIRES—Order No. 304, approved by SCCA for racing. \$24.95  
FOR PORSCHEs & RENAULTs—Write for prices.

### Complete Volkswagen Accessories Catalog

Send \$1 for EMPI's famous "Motoring Guide" listing hundreds of power, suspension, miscellaneous accessories and tools for VWs. Price includes 12 supplements. \$1 refunded on first order of \$10. Add 25 cents for 1st-class mailing of catalog.

**Corvair Accessories Catalog**—Big new edition now available listing many EMPI-exclusive Corvair accessories. Send 25 cents.

#### Ordering Information

Send full payment with order and EMPI will pay shipping charges to any address within continental U. S. Send 25% deposit on C.O.D. orders.

#### Dealer Inquiries Invited

EMPI Accessories are distributed by:  
Automotive Imports Distributors—7 Washington St. (Route 16), Wellesley Hills, Mass.  
South-Eastern Imported Parts Co., Inc.—415 South 21st St., Birmingham 3, Alabama.



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**BOSCH of GERMANY ignition parts**

Points, bus, up to '61	\$ .85
Points, all others	.95
Condensors, all	.75
Distributor cap, small, all models up to '61	1.29
Same, large, '61 up	1.10
Rotors, small, up to '61	.44
Rotors, large, '61 up	.65
Sparkplugs, W175T1 or W225T1, each	.75
Sparkplug connectors	.30
Rubber grommets	.09
Fuses, 8 or 15 amp, ten for	.24
Coils	6.95
Horns, all up to '61	6.25
Horns, '61 up	6.45

**●●●● MUFFLER HEADQUARTERS**

Any model, any year except late '63 up, sedan, bus & Ghias, heavier, better built than original, NEW LOW PRICE AT JUST...

**\$9.95**

Late '63 sedan, bus, Ghia	12.95
Junction boxes, all models except late '63 up, just	7.95
Muffler gaskets, each	.13
Complete installation kit, all late models	2.90
Repair pipes & clamp	.80
Chrome tailpipes, each	1.99
Sports muffler, with four chrome plated exhaust pipes, through '60	27.95

**SPEEDOMETER CABLES**

Sedan & Ghia	1.75
Bus	2.35

**FUEL PUMP REPAIR KIT**

Sedan up to '61 & bus up to '60	1.50
Same, later models	2.35

**CARBURETOR REPAIR KITS**

Including all gaskets, needle and seat, acc. pump, through '60	2.35
Same, '61 up	3.75

**WIPER BLADES**

Wiper blades, sedan, pair	1.89
Wiper blades, bus, pair	1.79
Wiper blades, Ghia, pair	3.89
Wiper arm & brac. all but Ghia	1.05

**GASKETS, PADS, BOOTS**

Valve cover gaskets, 6 for	.52
Valve cover gaskets, neoprene, a real improvement, all models, pair	.75
Oil strainer gaskets, 6 for	.16
Engine gasket set, 36 HP	2.75
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Rubber boot for rear axle, neoprene w/hardware & clamps	1.60
Rubber pedal pads, each	.15
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**BRAKE LININGS**

Complete set including rivets for sedans up to '58	4.95
Same, '58 up	5.95
All Transporters	8.25

**AMBER TURN INDICATOR lenses**

Sedans, '58 up, pair	1.69
Sedan, '62 up, rear, pair	3.29
Bus, '61 up, front, pair	4.89
Bus, '61 up, rear, pair	7.49

**BEARINGS**

Front wheel bearing, sedan inner	3.45
Same, outer	2.75
Front wheel oil seal	.79
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**SEAT BELTS**

U.S. made, top quality lap type, metal-to-metal release, all popular colors	5.95
(including one pair FREE automatic belt retractor)	
Automatic seat belt retractors, special per pair	1.90
Adaptor plugs, '62 up, pr.	.75

**MISCELLANEOUS**

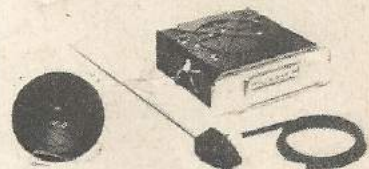
Locking handle for motor compartment lid w/2 keys	3.60
Vent shades, stainless steel, sedans only	5.65
Cigarette lighter, all	3.25
Aluminum slotted wheel rings, nice dress up item, set of 4	8.95

**RUBBER BUMPER GUARDS**

Covers dents, protects bumpers, set of four	
Sedans	4.95
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All transistor, US made to fit your dash, special trim plate, aerial, installation kit and separate speaker	
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