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AN ENTIRELY NEW VW  
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# WHY NOT A GHIA-KARMANN SEDAN?

*Musings about the next car from Wolfsburg*

**P**REDICTIONS of things to come can be categorized into three general areas: 1) those based on semi-reliable leaks; 2) those based on common sense speculation; and 3) guesses. Leaks or rumors start in many ways; some are unavoidable (because they are correct), others mischievous and even malicious (especially those started by jealous competitors). In any event, people will talk, and no matter what security precautions are taken, it is inevitable that some leaks will occur, whether they be out of Detroit, Coventry or Wolfsburg.

This article comes under the general heading 2, above, based on common sense and an intimate knowledge of how top brass thinks and acts. While the current Volkswagen director, Dr. Heinz Nordhoff, regularly denies any plans for a new model, counter rumors from Germany persist. (One should also note that the Ghia-Karmann *was* introduced, despite official denials of anything new.) We do not, however, believe the stories of a new and larger VW being under development. This makes no sense at all from an economical manufacturing standpoint. VW has steadily increased production capacity (now over 550,000 per year, including commercial cars); yet they have never caught up with world demand. They have no facilities for building a larger companion car and it is doubtful that they have the necessary capital.

If, and note we say *if*, VW decides a new model will be needed in a few years, a logical plan of action is simple enough. The present chassis could continue and the Ghia-designed coupe could be enlarged to seat five. This would require only a few new stampings in the rear cab area. The current beetle bodies would continue and the only change on the production lines would be that an occasional G-K sedan body would be dropped on, as with G-K coupes.

It is, perhaps, not well known that the G-K coupes are completely and adequately tooled for low-cost, high-volume production. Price is the manufacturer's privilege and prerogative, and a higher mark-up on the new G-K sedan would be good business sense. Consumer reaction to the G-K coupes has been excellent (witness the price asked and paid) and at one swoop VW could hedge their market. If at any time the demand for beetles fell off, they could reduce the price of the G-K models to restore demand and keep their factories and people working full time.

So, we can confidently predict that the basic and traditional VW platform chassis will be continued with only detail changes. Wheelbase will remain 94.5 inches and the tubular backbone, "frameless" structure will be retained for all models.

For the American market, rumors persist that there will be some important mechanical changes in the engine, gearbox and brakes. The engine is too small to satisfy the demands of many Americans. Its justly famous durability comes about because it develops a low output for its size and because it turns over relatively slowly, even at its top level-road speed of around 70 miles per hour. These are the very features which, however desirable, also contribute to poor passing ability and an inevitable fate of continuous

lugging from those drivers who do not have the sensitivity to shift down to a lower gear at the proper time.

The engine/crankcase assembly now has room for a displacement increase of up to 1500 cubic centimeters, and it is generally believed that the new export version will be enlarged to about 1390 cc. This would be equivalent to a size increase of 16.7%, and the present 36 brake horsepower would automatically go to 42. However, the larger cylinder bore would permit larger valves, so something close to 50 bhp could confidently be expected. This gain, plus a much needed change in gear ratio (from 3.61 over all to about 4.00 in 4th), would give highway passing ability more in keeping with modern traffic requirements. Acceleration time from 50 to 70 mph should be just about halved, for example.

Top speed, despite an increase of about 39% in bhp, would not go up very much. The present VW production speedometers are ridiculously optimistic (consistently over 12% fast by our tests) and we suggest the new car would not quite equal an honest 80 mph under impartial test, on a level road, with no wind.

The VW gearbox, though delightful to the enthusiast who has been brought up on a diet of sports cars, leaves much to be desired for the average consumer. The biggest service headache for VW dealers is undoubtedly the stripped 1st speed gear which comes about when unskilled drivers try to engage this gear when the car is still rolling. A second headache comes from the elderly lady who says she knows how to shift gears—she always starts in 2nd and, once underway, chugs along at 20 mph in 4th. She also finds engaging reverse almost impossible. Inevitably, she complains about clutch life.

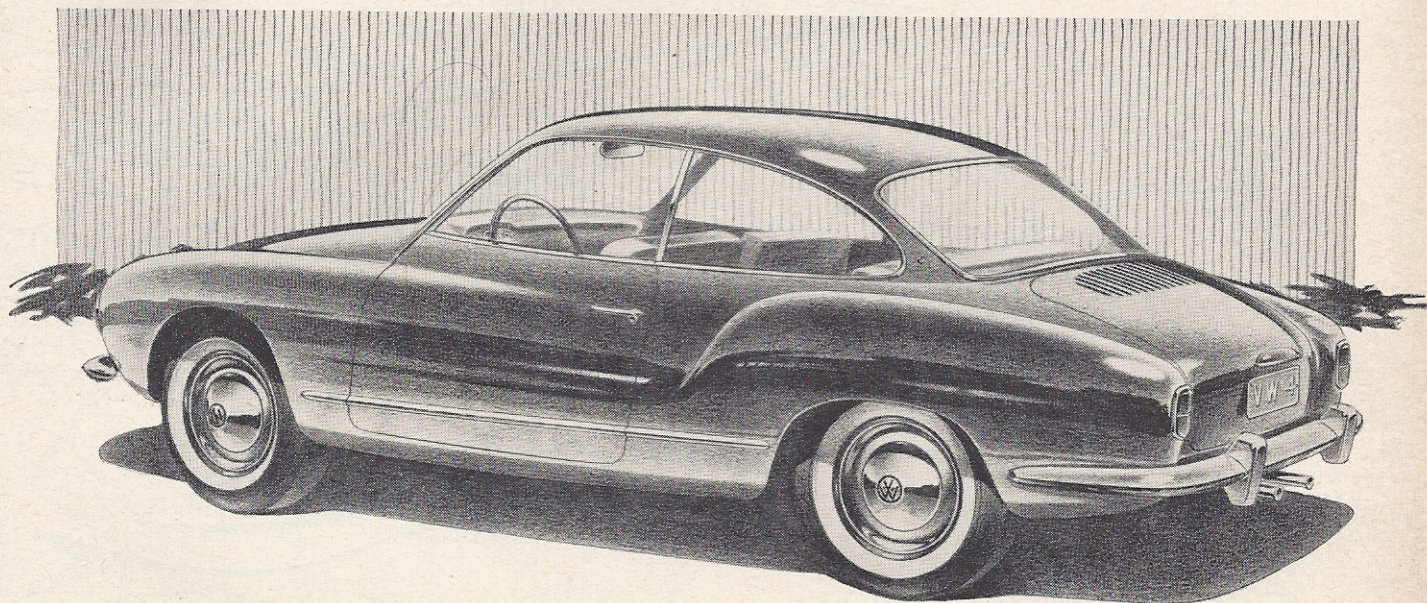
Accordingly, the new export model would very likely have a synchromesh low gear. In addition, we hope that the shift pattern will be that of a standard American 3-speed with reverse. High gear, or 4th, would be engaged much like the well known Borg-Warner overdrive: i.e., releasing the accelerator at any speed over 30 mph would produce an automatic shift from 3rd to 4th. Similarly, a need for more acceleration, signaled by full throttle, would produce a kickdown from 4th to 3rd at any speed below 45 mph. In essence, this desirable scheme would duplicate the American 3-speed with overdrive; yet it would be much simpler and more sensible from an engineering standpoint. It would also eliminate the general objections to the present non-standard shift pattern.

An automatic transmission, despite its obvious desirability for the American market, is not to be available, and is not expected from VW for several years.

As for the third area of needed improvement, VW brakes have come a long way from the early postwar models. Nevertheless, the more recent hydraulic brakes, though adequate, can hardly be described as powerful; in fact, some critics claim that the VW braking power (or lack of it) has been planned deliberately to avoid swapping ends during crash stops. Certainly it is impossible to lock the wheels on dry concrete at 60 mph, and certainly the rear end tends to come

ILLUSTRATION BY STROTHER MAC MINN

*There is not the slightest need for Volkswagen to look afield for a new sedan design. The car shown here is an exact duplicate of a Ghia-Karmann coupe up through the windshield. The roof line has been extended to take advantage of what is now the luggage space behind a too-small rear seat. By tilting our new, deeper seat, room for legs and knees can be found without cutting into the front compartment. Luggage could be carried by folding the seat as in the "beetle."*



around rather easily during unfavorable braking conditions, such as on wet roads.

Brake design, like any other area of automobile engineering, is a compromise, but it appears that the VW could use heavier drums to avoid the prevalent out-of-round condition, and perhaps a bit more proportion of total braking effort applied to the front wheels (to take care of weight transfer during rapid deceleration).

Up to this point, we are fairly sure of our basic predictions—a new body, more power, improved transmission and better brakes. Now we proceed to a new area, admittedly more speculative.

The steering geometry of the Volkswagen is obviously imperfect, both from the fact of its unequal-length tie rods, and from the feel of it in a rough turn. It is likely that we shall see some slight changes in suspension. Wheel travel was increased in 1953, and a further increase would improve the ride. Such a change is feasible particularly after the G-K front anti-roll bar is added. Changes in rear-end geometry (to negative camber, no load) are indicated to improve handling and reduce oversteer.

The problem of engine and gear noise could well be approached by refinements at the source, as well as improved isolation and/or insulation techniques. A change from cable control to a direct linkage for clutch operation would be a welcome reliability advantage that would also make clutch action a little smoother and lighter. And while we are there, a better clutch and a heavier flywheel would be appreciated and useful. A new battery location, preferably in the forward compartment, would also be an improvement, using the new low-loss aluminum cable for a connection (it's cheaper than copper).

The interiors could also stand considerable improvements. One is narrower corner posts, which will come automatically with the G-K cowl and windshield. If the handbrake were moved to a position at the driver's left and the seats widened until they touched in the middle over the tunnel, a third passenger could be tucked in when necessary.

Lack of knee room for rear-seat passengers is a well known complaint against the current VW. A little shifting in this area should allow the seat back to go aft by at least 2 or 3 in. without hiding the gearbox under a permanent center arm rest.

Changes to reduce costs are always in order, and it is well known that Dr. Porsche's early plans for the VW called for a 2-cycle engine. Perhaps at some future date we shall see a real price war, and if that ever happens VW will be able to enter the Common Market of Europe with a real price teaser: the beetle body and a flat-twin, 2-cycle, air-cooled engine of about the present output (36 bhp). Such a car could give the French flivver (the Citroen 2-CV) a good run with a price under \$1000 in Europe. It is quite likely that the rear torsion bars will be dropped eventually. They are very expensive (the front ones are not) and the location inhibits the possibility of relocating the rear seat (lower and farther back). It is also expected that VW will follow Porsche and drop the split gearbox housing; it is a difficult manufacturing and service problem. The crankcase and gearbox are now cast of magnesium alloy, but it is expected that, again like Porsche, these components will ultimately be aluminum.

As a concluding thought, there's at least one detail we sincerely hope will never be allowed to change—those good, solid, 15-in. wheels!