



CORVAIR

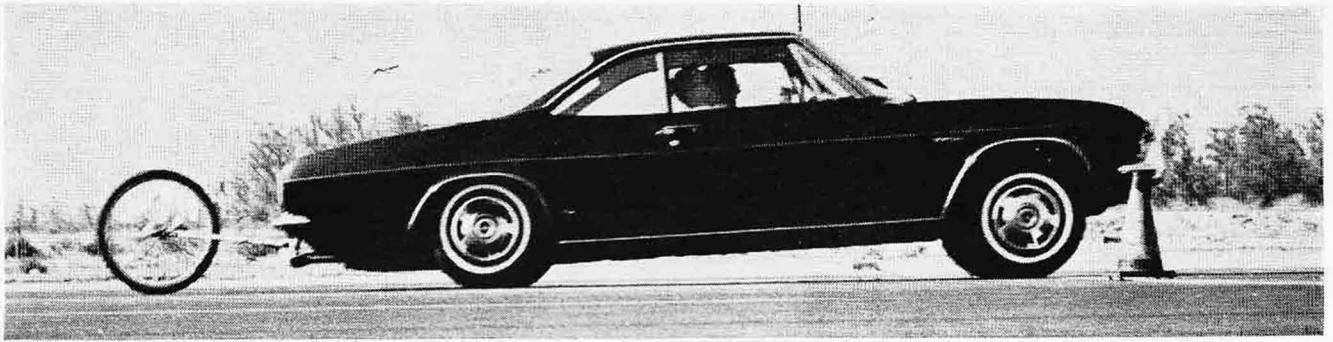


Corvair's design breakthrough sets a milestone



CORSA **ROAD TEST**

in performance handling combined with comfort, space, economy, and price



REVVING THE ENGINE, THEN POPPING THE CLUTCH PRODUCED NECK-SNAPPING ACCELERATION OFF THE LINE, WITH VERY LITTLE WHEELSPIN.

by John Ethridge, *Technical Editor*

THE NEW CORSA reigns as Corvair's top-line offering for 1965. It marks the spot formerly held by the Monza (which now occupies second place). The Corsa is GM's answer to American demands for a low-priced Europeanish performance/economy car — but with a touch of luxury and more seating capacity and luggage space than you normally find in imported cars. This may sound like a large order to fill, and it is, but we were amazed at how well such conflicting requirements were carried out on one set of wheels.

Our test Corsa was ordered with the 180-hp turbocharged engine and four-speed transmission (in place of the standard 140-hp Turbo-Air and three-speed box). With the exception of air conditioning, the car had all the high-cost options plus the usual, numerous low-cost accessories.

Our car's interior was tastefully and luxuriously finished. The Corsa provides comfortable seating for two, plus occasional seating for two more adults for short jaunts. In a car like the Corsa, which is capable of developing high cornering forces, we feel the front seats should give more side support to the back and shoulders. In fact, the seats can best be described as being individual (rather than bucket).

The optional telescoping steering wheel on the test car, together with seat adjustment, will provide a comfortable position for all sizes of drivers. Over-six-footers will find they have to lean forward to reach third gear when they have the seat moved back to accommodate their long legs.

In-town driving was very pleasant. The light, reasonably quick and precise steering, together with a small turning circle, is a boon to the city driver for parking and maneuvering through traffic. In driving the car on wet streets, which we were anxious to try, we found the car free of the handling vices normally associated with rear-engined designs under these conditions.

Gas mileage can have some wide variations, depending on how you drive the car. Around town, our average was just under 15 mpg. On a 100-mile trip that included freeways, small towns, and some mountain driving — all within posted speed limits — the average was 22 mpg.

The exhaust-driven supercharger, which incidentally makes no audible noise above the cooling fan's, didn't become effective on the test car until we reached a rather high rpm. Our 50-70-mph times were two full seconds faster than our 40-60-mph times.

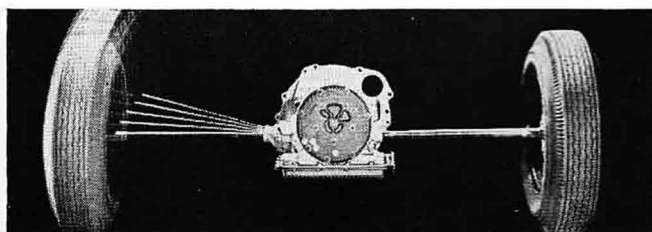
The Corsa's new, larger brakes really work, giving short stopping distances. Under panic braking, the rear wheels tended to lock first, but the car was always controllable, with little tendency to pull to one side. Moderately hard braking in the mountains produced no detectable fade.

Before we get into a discussion of the 1965 Corvair's performance handling — with its obvious appeal to enthusiasts — it may be well to point out the fact that the car's improvement in this area hasn't reduced utility or general acceptability one bit.

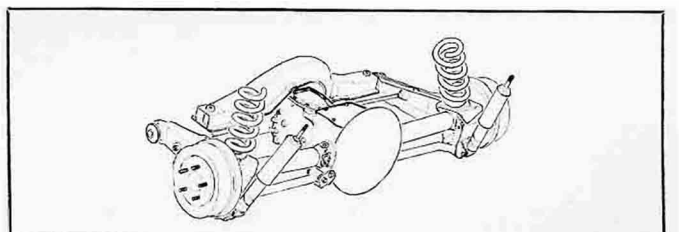
Under cornering, steering was perfectly neutral until we



ZIGZAGGING THROUGH PYLONS AT 40 MPH GAVE VERY LITTLE BODY LEAN, PROVED AN EASY TRIUMPH FOR CORSA'S LIGHT, QUICK STEERING.



Corvair's old swing-axle setup (1960-64) had U-joint at the inboard end of halfshaft only. Camber compensator was added in 1962. This old system gave a good deal of jacking effect.



For 1965, all Corvairs have fully independent rear suspension, with a second joint at outer end of halfshaft. There's also a control arm—one piece of equipment missing in old design.



PHOTOS BY PAT BROLIER, BOB MCVAY



Corsa was very stable at high speeds. Driving twisting backmountain roads turned out to be a one-handed affair. Even un-

paved and gravel surfaces didn't leave any doubt that Corsa has the superior handling of a car bred for performance driving.

reached a rather substantial speed. Then we noticed a mild understeer that increased with speed. At this point, in anything but the tightest of turns, the car was moving at a truly ridiculous velocity. There wasn't enough excess power available to induce power-controlled oversteer on dry surfaces. (The Corsa would need a considerable increase in power to do this, because of the excellent bite of the rear wheels.)

What accounts for the uncanny good handling of the 1965 Corvair? A physical description of the new suspension was given in our October, 1964 issue. To understand the improved function of the new setup, let's first take a look at Corvair's old swing-axle arrangement that's widely used for independent rear suspensions on production cars. It's what was used on all earlier Corvairs.

Swing axles have several things to recommend themselves as opposed to solid rear axles. Among the most important are low unsprung weight and independent action, with reasonably good geometry of the outside wheel under body roll. But the Achilles' heel of swing axles is camber change associated with a jacking effect. This happens when you corner hard. Forces under these conditions tend to make the car

rise, and, since the axle droops, the outside wheel tends to fold under the car, causing the tail end to swing out in a sudden and sometimes catastrophic manner.

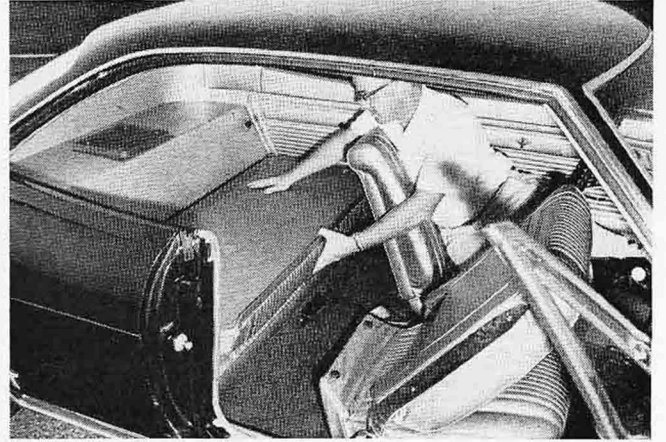
Various remedies have been used with swing axles to get rid of this: camber compensators and low-pivot, single-joint designs. While these are definite improvements, none is 100% successful. This fact caused Corvair chassis engineers to look elsewhere for a solution to the problem.

The new Corvair still has a tendency to heist its tail when cornering hard—due to the same jacking effect (lessened somewhat by a lower roll center). But camber change is minimal with the extra joint and control arm. This is to say that the wheels (especially the outside one) maintain a nearly constant angular relationship to the ground, in this case negative camber, throughout the range of wheel travel and body roll. Since, in the case of the Corvair, the rear wheels carry most of the weight and also push the car forward, what happens to them on rough roads, cornering, or a combination is the major factor in the way the car handles. The nearly constant camber held by the new setup is what's led to its being called a-fully independent rear suspension.

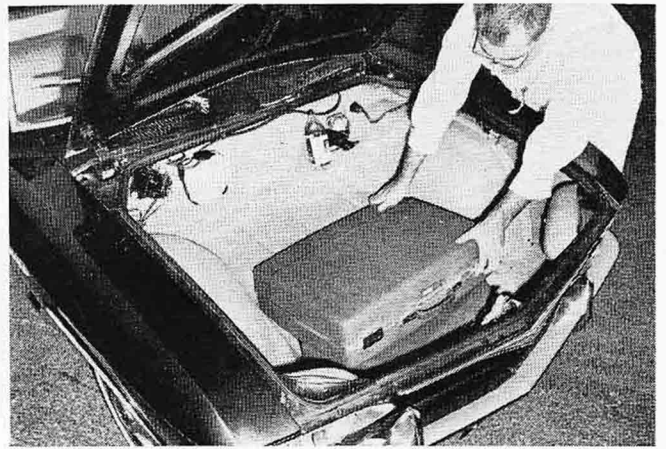
Of course, Corvair engineers didn't stop at the rear sus-



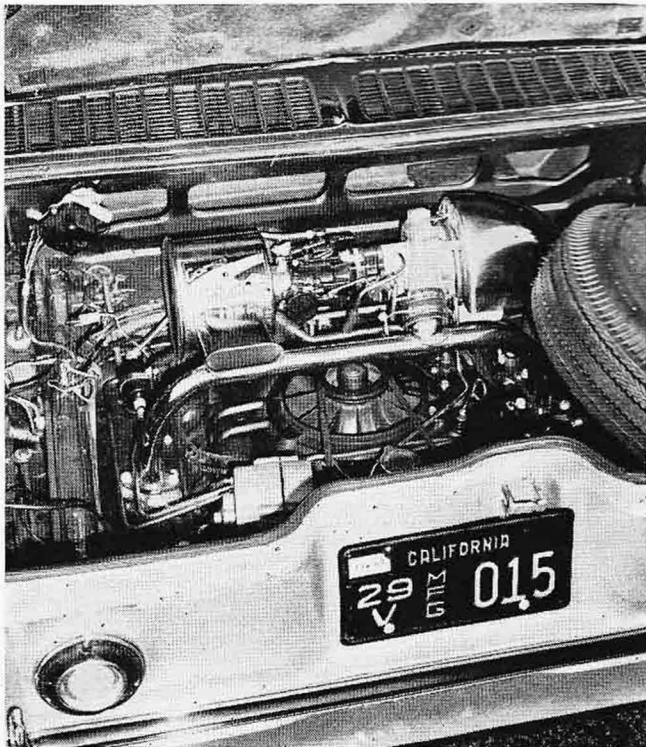
Telescoping steering wheel can be adjusted to any position in a three-inch range. Cog at horn button loosens and tightens it.



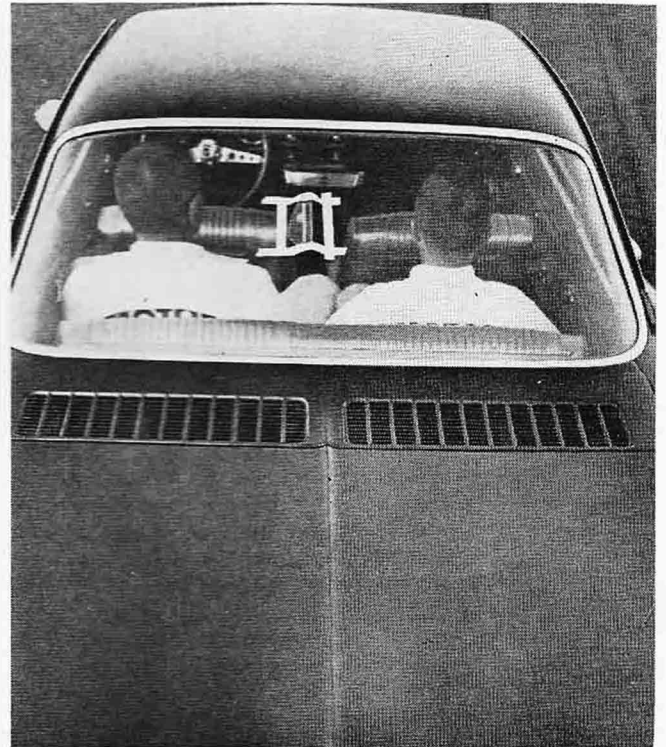
Rear seat folds down, provides room for items too bulky to be carried in front trunk. Seat-back cover seems a bit flimsy.



Spacious luggage compartment under hood can be gotten to from sides as well as front, holds very reasonable amount of goods.



Engine compartment layout remains virtually unchanged from last year. Extra horses come from different carb and blower.



Corsa's tinted rear window proved effective in controlling the interior temperature at back seat: 10° difference inside and out.



STEERING SENSITIVITY STAYED ABOUT CONSTANT THROUGHOUT SPEED RANGE, AND CORSA WAS VERY STABLE RIGHT UP TO ITS TOP LIMIT.

CORVAIR CORSA ROAD TEST *continued*

pension. Both front and rear suspensions have to be coordinated to get good results. To get the stable, basic understeering characteristics, the Corvair's front suspension has to provide most of the roll stiffness. So the Corvair got a very stiff chassis to transmit the roll torque and anti-roll bar at the front to counteract it.

If, by any chance, you're feeling by now that you may have missed a point or two in the foregoing explanation, don't feel too dismayed. One automotive writer, when discussing exactly the same basic setup on a race car, labeled it "a trick suspension... containing too many compromises . . .," solely, we feel, because he didn't understand it.

We noticed that our test car tended to be slightly affected by grooves in the road and by streetcar tracks. It took some steering correction to hold a given direction. This is a common characteristic of all cars with wider tread in the rear. It's no real problem, though, and it's a small price to pay for the extra stability gained by going to the wider rear tread. If you mount some square-shouldered tires (cheater slicks, for instance), you can expect the effect to be magnified.

Now . . . nothing is ever good enough for some people, and they'll be looking for ways to improve an already good thing. Look for Corvairs on the road with larger wheels (the new five-lug pattern will fit other sizes). You can also expect to see a variety of suspension settings tried, because the rear is now adjustable.

Special accessory manufacturers will have a field day with this car, as they've had with previous Corvairs. Even Chevrolet plans to offer a handling kit. The factory's starting the ball rolling by offering four different engines ranging from 95 to 180 hp. We're hesitant to speculate on what can be done with these, but rest assured — you haven't heard the end of it. All of this is precisely what's so endeared the Corvair to enthusiasts. You can own one, tailored to your personal tastes, that's not exactly the same as any other on the road.

The new Corvair, although restyled and redesigned, keeps its character. It's a rare occurrence when such a car can be changed to broaden its appeal and please its established hard-core following at the same time. It still won't lose a single old friend. And, because it's a vastly improved car, it'll gain many new ones.

/MT

CORVAIR CORSA

2-door, 4-passenger coupe

OPTIONS ON CAR TESTED: 180-hp engine, 4-speed manual transmission, radio, telescoping steering wheel, whitewalls, misc. access.

BASE PRICE: \$2519

PRICE AS TESTED: \$3229.90 (plus tax and license)

ODOMETER READING AT START OF TEST: 2257 miles

RECOMMENDED ENGINE RED LINE: 5800 rpm

PERFORMANCE

ACCELERATION (2 aboard)

0-30 mph.....	3.5 secs.
0-45 mph.....	6.7
0-60 mph.....	10.9

PASSING TIMES AND DISTANCES

40-60 mph.....	7.1 secs.	520 ft.
50-70 mph.....	5.0 secs.	439 ft.

Standing start 1/4-mile 18.1 secs. and 79 mph

Speeds in gears @ 6000 rpm

1st	36 mph	3rd	79 mph
2nd	52 mph	4th	114 mph

Speedometer Error on Test Car

Car's speedometer reading	31	47	52	61	70	80
Weston electric speedometer	30	45	50	60	70	80

Observed miles per hour per 1000 rpm in top gear19 mph

Stopping Distances — from 30 mph, 32.25 ft.; from 60 mph, 146.0 ft.

SPECIFICATIONS FROM MANUFACTURER

Engine

Ohv, horizontally opposed 6
 Bore: 3.4375 ins.
 Stroke: 2.94 ins.
 Displacement: 164.0 cu. ins.
 Compression ratio: 8.0:1
 Horsepower: 180 @ 4000 rpm
 Horsepower per cubic inch: 1.1
 Torque: 232 lbs.-ft. @ 3200 rpm
 Carburetion: 1 single-barrel side-draft
 Ignition: 12-volt coil

Gearbox

4-speed manual, all-synchro; floorshift

Differential

Transaxle
 Installed ratio: 3.55:1

Suspension

Front: Independent, coil springs with upper and lower control arms, direct-acting tubular shocks, and anti-roll bar
 Rear: Independent, half-shaft acting as upper control arm, single lower control arm, coil springs, direct-acting, tubular shocks

Driveshaft

None used

Steering

Recirculating ball
 Turning diameter: 35.5 ft.
 Turns lock to lock: 5.2

Wheels and Tires

5-lug, steel disc wheels
 6.50 x 13 tubeless, low-profile whitewall tires

Brakes

Hydraulic, duo-servo, self-adjusting; cast-iron drums
 Front: 9.5-in. dia. x 2.0 ins. wide
 Rear: 9.5-in. dia. x 2.5 ins. wide
 Effective lining area: 168.9 sq. ins.
 Swept drum area: 268.6 sq. ins.

Body and Frame

Unitized
 Wheelbase: 108.0 ins.
 Track: front, 55.0 ins.; rear, 57.2 ins.
 Overall length: 183.3 ins.
 Overall width: 69.7 ins.
 Overall height: 51.3 ins.
 Curb weight: 2540 lbs.