

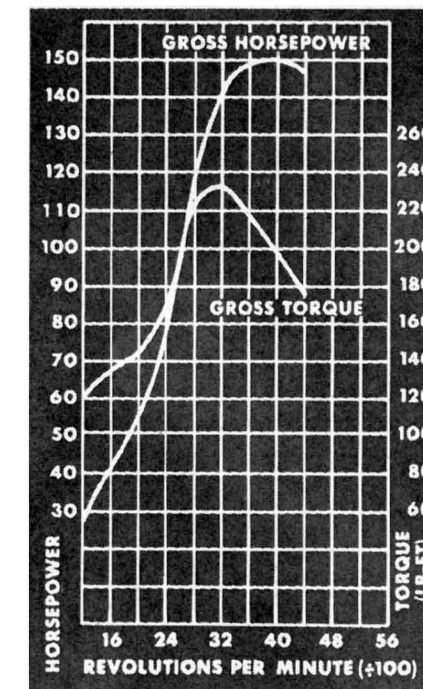
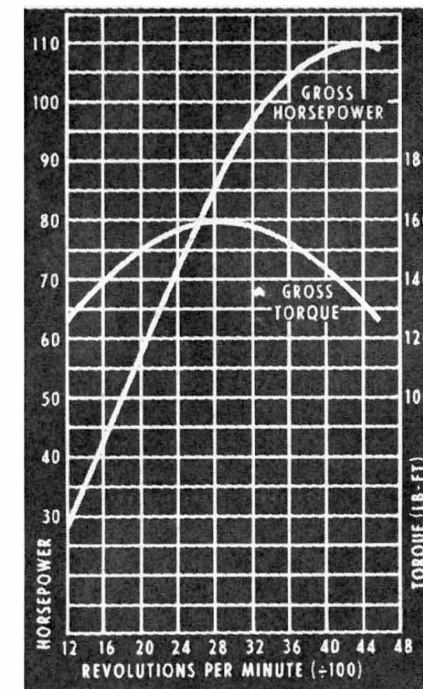
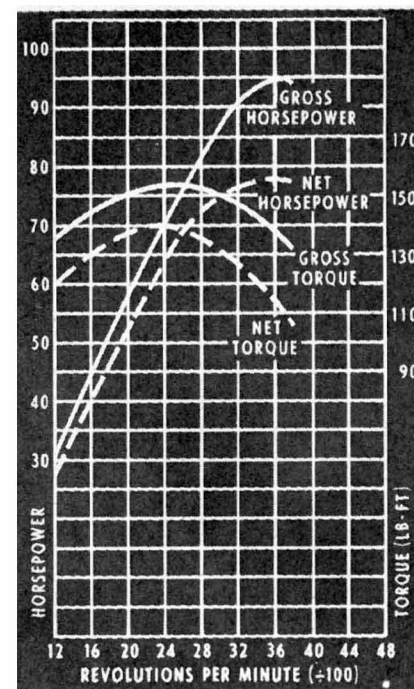
CAR LIFE ROAD TEST



1964 CORVAIR

Monza 4-speed, 110-bhp

*More horsepower and an improved suspension
make the Monza an even more enjoyable car*



HORSEPOWER AND TORQUE curves for the three engines offered to 1964 Corvair buyers. From left, the curves are: 95-bhp standard, the 110-bhp Super Turbo-Air, Turbocharger; all have 164-cu. in. displacement.

LIKE THE WEATHER that everyone just talks about, few people have ever done anything about air-cooled engines. However, a little over four years ago, Chevrolet did do something about it—by introducing the radical air-cooled Corvair. The success story of this car is emphasized by the fact that more than 1.25 million Corvairs have been built and sold.

A little background on the air-cooled story came out recently in a book by retired GM president Alfred P. Sloan, Jr., "My Years with General Motors." Here Sloan implies that the failure of the ill-fated Chevrolet copper-finned, air-cooled model of 1922 never would have happened except for the fact that overall corporate policy was not yet well organized. (The car was announced and pilot production was underway when it was suddenly

dropped.) Yet, in 1959, Chevrolet's then general manager, E. N. Cole, did get corporate approval for his air-cooled car, the compact Corvair, and when Cole writes his memoirs the complete background story on this car may well be one of the highlights of his career.

The success of the Corvair is not due to any one factor; its compact size appeals, its appearance is very good (and the stylists, fortunately, have left it alone) and the air-cooled engine has proved itself practical, reliable and exceptionally long-lived. (One staff-owned Corvair has 90,000 miles on it with no major engine work.) Furthermore, while a buyers' service insists that the Corvair is not a "family car," the fact remains that this respected organization highly recommends the Volkswagen, which is 8% smaller than

the Corvair in box volume. The Corvair is a very comfortable car, in sedan form, for a family of four. Taken in that perspective it is, then, a practical economical family conveyance.

Changes in the Corvair for 1964 are highlighted by a larger engine with piston displacement increased 13%. The original concept was an 80-bhp, 80-mph car that would perform on a par with the big 6-cyl. sedan and give about 25 mpg. The super de luxe Monza model, however, showed that buyers would pay extra for plush interiors and more performance. The original "1960½" Monza had a 95-bhp variation on the same size engine (140 cu. in.). The 1961 Corvair offered 145-cu. in. engines, with 98 bhp as an option (later increased to 102 bhp) and for "1962½" a 150-bhp turbosupercharged Spyder option.



SCOTT MALCOLM PHOTOS

With engine size now increased to 164 cu. in. for '64 by increasing the stroke from 2.60 to 2.94 in., the standard engine now has 95 bhp and the optional Super-Turbo-Air unit is rated at 110 bhp. This latter is an increase of only 7.7%, but more importantly, the torque curve has been boosted by 19.4%. This is much more significant and simply means that climbing a long mountain grade of 9% formerly required use of 3rd gear whereas the 1964 Corvair (with 4-speed transmission) can do it in high gear and at a speed of 70 mph, approximately 10 mph faster. It is also noteworthy that the 1964 car develops its peak torque and pulling power at 55 mph in high gear as compared to 62 mph formerly (with optional high-performance, non-supercharged engine).

For this test we asked for the 110-

CORVAIR

bhp option with 4-speed all-synchromesh transmission. However, the car turned out to be a convertible, giving test results which are fractionally below what could be obtained from the lighter coupe or 4-door sedan. The actual weights at the curb for the 3 Monza models are:

Convertible	2640 lb.
Sedan	2555 lb.
Coupe	2530 lb.

We have driven enough Corvairs to sense the improvement, even before obtaining the actual test data. In actual figures the story looks like this:

	1963	1964
Test weight, lb.	2840	2940
Axle ratio	3.27	3.27
0-60, sec.	15.5	14.0
SS 1/4, sec.	20.5	19.5
SS 1/4, mph	67	70
Top speed	94	98

A portion of this improved acceleration must be accorded to the revised gear ratios in the 1964 Corvair 4-speed unit. Formerly, the 2nd gear ratio left something to be desired and a long gap from 2nd to 3rd. Now both 1st and 2nd have been moved up closer

to third (which is unchanged) so that the speeds for shift points change as follows:

	1963	1964
3rd gear ratio	1.44	1.44
mph @ 5000 rpm	75	75
2nd gear ratio	2.35	2.18
mph @ 5000 rpm	46	49
1st gear ratio	3.65	3.20
mph @ 5000 rpm	29	33

An important change in the 110-bhp engine is a new camshaft with slightly more lift and less duration. This, of course, explains why both peak power and peak torque points come at a lower rpm than before. Theoretically, the '64 engine should be a little more tractable at low speeds, but we could detect no pronounced difference; the problem of bumbling and jerkiness below 30 mph in high gear persists. However, the 4-speed transmission is there to be used and 25-mph zones can be negotiated easily in 3rd gear.

Speaking of the transmission, it is notably quiet, perhaps even quieter than before. There is a peculiar low

whistling sound from the gears when first starting out, as well as the typical trouble with getting into 2nd gear without clashing. But once the gear oil is thoroughly warm, the transmission is very good indeed.

Corvair brakes have been improved for 1964 by a new seal design and the rear drums have 40 radial fins added. This emphasis on the rear brakes is opposite to conventional car practice, because the Corvair carries up to 65% of its total weight at the rear when fully loaded. Thus the rear brakes do more work than those in front. Our tests showed that fade resistance has improved and elimination of dirt and water entry is claimed to give the linings a longer life. However, while the brakes are passable, the rate of deceleration is not outstanding and owners who live in mountain areas would be well advised to remove the wheel trim discs to improve anti-fade characteristics.

There are a number of important

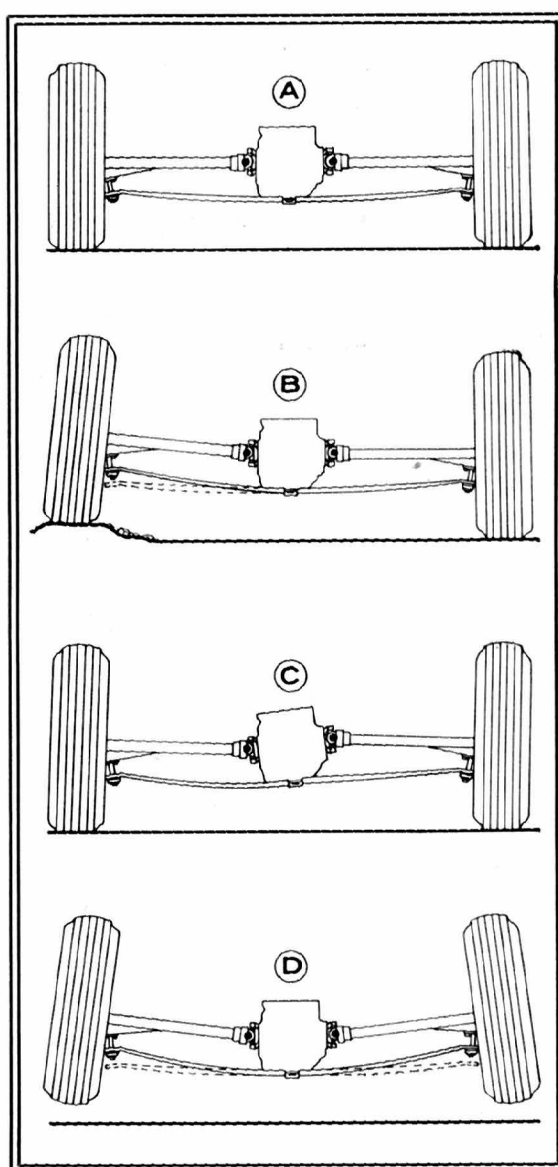
changes in the suspension and the handling qualities are somewhat improved. The car seems much less susceptible to wind wander and it corners with less roll and no tendency to hop at the rear.

Without going into great detail about the suspension changes, it can be stated that the ride is unchanged. What the engineers have done is to increase understeer by adding an anti-roll bar in front and reducing the rear roll couple in a very novel manner. A single leaf spring runs transversely under the differential housing. This spring (see illustrations) carries 40% of the rear end load while coil springs (not shown) carry 60%. Since the coil springs are softer than before, and the center pivot leaf spring contributes nothing as an anti-roll device, the result would normally be more roll in a corner. But, the heavy anti-roll bar in front more than compensates for this with the excellent results mentioned earlier.

All Corvair engines for 1964 incorporate certain improvements originally specified for the Spyder series only. These include chrome alloy steel for the longer stroke crankshaft, heavier section connecting rods, heavy-duty aluminum bearings, stiffer valve springs with dampers, Stellite-faced exhaust valves, better material for intake valves, chromium-plated top compression rings and a harmonic crankshaft vibration damper. These features will obviously improve the already excellent longevity of this engine.

Another new mechanical feature is a cooling fan cast of magnesium alloy instead of being welded up from stamped steel. It weighs only one-third as much as before and thus helps improve fan belt life.

The sum of these rather extensive changes indicates to us that Chevrolet is going all-out to make the Corvair a top-quality compact and, we feel, this has been made possible by the premium-priced Monza's popularity. ■



TRANSVERSE LEAF spring addition to the Corvair's independent rear suspension is fastened to differential case and torque arms (A); under bump conditions (B and D) it resists deflection, while in roll conditions (C) it remains neutral.

CAR LIFE ROAD TEST



1964 CORVAIR Monza Convertible

SPECIFICATIONS

List price	\$2481
Price, as tested	2736
Curb weight, lb.	2640
Test weight	2940
distribution, %	39/61
Tire size	6.50-13
Tire capacity, lb.	3340
Brake swept area	198
Engine type	flat-6, ohv
Bore & stroke	3.44 x 2.94
Displacement, cu in.	164.0
Compression ratio	9.25
Carburetion	2 x 1
Bhp @ rpm	110 @ 4400
equivalent mph	94.4
Torque, lb-ft	160 @ 2600
equivalent mph	55.7

EXTRA-COST OPTIONS

Wire wheel covers, radio, 4-speed transmission, tinted windshield, seat belts, 110-bhp engine, convenience group.

DIMENSIONS

Wheelbase, in.	108.0
Tread, f and r	54.4/55.1
Over-all length, in.	180.0
width	67.0
height	51.1
equivalent vol, cu ft	357
Frontal area, sq ft.	19.0
Ground clearance, in.	5.7
Steering ratio, o/a	25.0
turns, lock to lock	4.75
turning circle, ft	38.2
Hip room, front	2 x 26
Hip room, rear	47.2
Pedal to seat back, max.	39.0
Floor to ground	8.5
Luggage vol, cu ft	10.0
Fuel tank capacity, gal.	14.0

GEAR RATIOS

4th (1.00), overall	3.27
3rd (1.44)	4.71
2nd (2.18)	7.13
1st (3.20)	10.5

PERFORMANCE

Top speed (4550), mph	98
Shifts, rpm @ mph (manual)	
3rd (4900)	73
2nd (5070)	50
1st (5070)	34

ACCELERATION

0-30 mph, sec.	4.6
0-40	6.9
0-50	9.8
0-60	14.0
0-70	19.5
0-80	27.9
0-90	43.0
Standing 1/4 mile, sec	19.5
speed at end, mph	70

FUEL CONSUMPTION

Normal range, mpg	19-22
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SPEEDOMETER ERROR

30 mph, actual	30.2
60 mph	58.2
90 mph	88.5

CALCULATED DATA

Lb/hp (test wt)	26.7
Cu ft/ton mile	90.5
Mph/1000 rpm	21.4
Engine revs/mile	2800
Piston travel, ft/mile	1370
Car Life wear Index	38.4

PULLING POWER

70 mph, (4th) max. gradient, %	9.6
50 (3rd)	14.6
30 (1st)	25.9
Total drag at 60 mph, lb	120

