

CAR LIFE

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TESTING: A PAIR OF GERMAN
GRAND TOURING MACHINES
BMW CS 2000 COUPE
BMW R69S CYCLE
AND THE 1968 RIVIERA

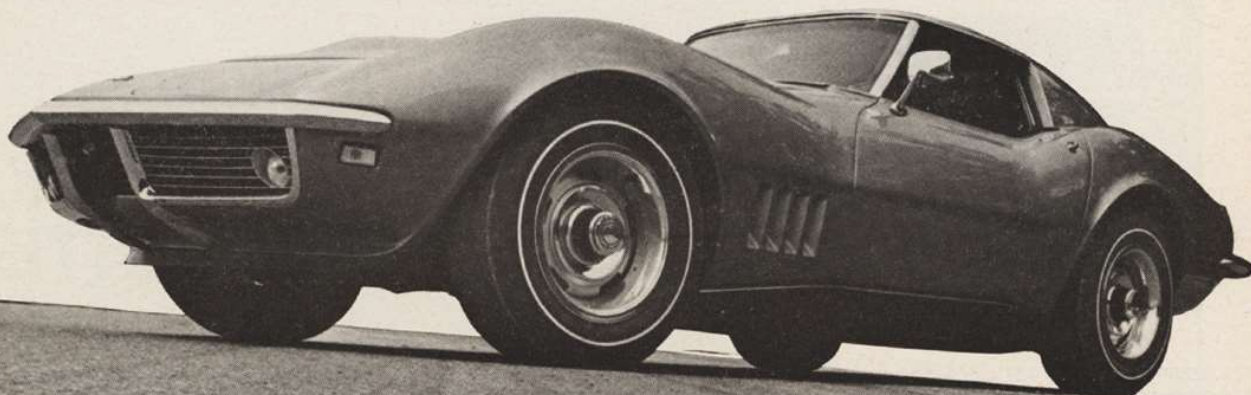


CORVETTES

From 1954 to 1968

the history, the cult & a tech analysis





THE EXCITEMENT GENERATOR:

CORVETTE

**LONG, LOW, WIDE, SLEEK, THIS 1968
SPORT COUPE IS ENDOWED WITH SMOOTH FEROCITY . . .**

PHOTOGRAPHY BY CHAN BUSH

THE 1968 CORVETTE is an exciting automobile. Exciting to look at, exciting to drive, exciting to own. Underneath, the new Corvette is the 1963 Sting Ray, but that doesn't show. All-new appearance is provided by the new bodyshell. Longer, lower, wider and sleeker, the new fiberglass envelope should cause a stampede among American sports car purchasers in 1968. The 1968 Corvette coupe features removable roof panels and rear window, which permits open roadster-style driving enjoyment while at least vestigial rollover protection

and superior body rigidity are retained.

Hidden headlights, windshield wipers and door handles combine to further a 1-piece, clean-contoured overall appearance. Huge, wide tires and wheels give the new Corvette a wide, ground-hugging stance, a smooth ferocity that is matched by road performance.

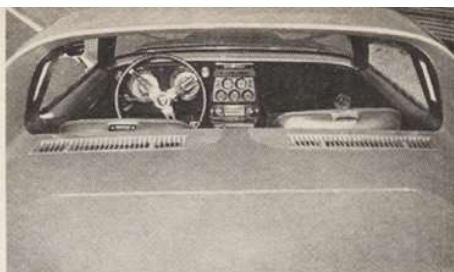
The 1968 Corvette looks aerodynamically superior to previous models. A spoiler under the nose section effectively kills high speed lift, while the "duck tail" rear section promises re-

duced drag and improved top speed traction. In actual practice, the new body is not a significant aerodynamic improvement over Sting Ray models, according to Zora Arkus-Duntov, "father" of the Corvette and chief Corvette chassis engineer.

Chassis changes for 1968 are confined to detail refinements dictated largely by the adoption of 15 x 7 in. rims and optional F70-15 tires. The new rolling stock provides Corvette with much needed traction and cornering adhesion. The power available in Corvette engine compartments is sub-



ALL THE current fashion trends are here: Coke bottle shape, Kamm rear treatment with spoiler, and inset rear window.



REMOVABLE rear window gives open-air driving with wind protection.

CORVETTE

stantial, with a 427-cid/435-bhp engine optional in all models. Sting Rays were incapable of transmitting this sort of power to the ground, unless body or chassis modifications were performed to permit larger tires to be fitted. One significant advantage of the 1968 Corvette body and, unfortunately, the only real functional advantage, is the new fender contour that will allow really huge tires to be accommodated.

THE NEW wide section tires required changes in rear suspension geometry. Wide tires are much more sensitive to camber change, losing large amounts of traction if not held perpendicular to the pavement surface. Thus, 1968 Corvette rear suspension has been modified to provide a more desirable camber pattern through jounce and rebound.

Front springs have been altered to complement rear suspension changes, and insure nearly neutral handling under all conditions. Spring travel, criticized on Sting Ray models, remains the same. Conversation with top Chevrolet chassis engineers revealed that jounce travel is not limited by basic Corvette suspension design, but is strictly a function of available ground clearance. With 2-passenger load, the Corvette exhaust system clears the ground by a scant 4.5 in. Obviously, much more than 3.5 in. of jounce travel is out of the question, unless an owner enjoys exhaust pipe and muffler replacement. Limited free jounce travel is the price paid for a low automobile, and experience has shown Chevrolet that the present compromise is satisfactory for American sports car purchasers.

How do the 1968 chassis modifications operate in actual driving? Superbly! Handling means many things to many people: To some, controllability is the prime criterion. To others, the ultimate is cornering power. To still others, response and agility are paramount. For all of these drivers, the 1968 Corvette is very acceptable.

The test car, driven by this writer at the GM Proving Ground, Milford, Mich., was a 1968 Corvette Coupe, equipped with 427-cid/400-bhp engine, Turbo Hydra-Matic transmission and power steering. The circuit on which driving impressions were gained was a succession of 70-90 mph bends in either direction, with banked, flat, and reverse camber sections to check handling under all conditions.

Of all the terms that might be used to describe driving a high-performance sports car, the Corvette emphasizes the word controllability. The writer is a throttle-steerer. That is, once a high-speed drift has been established, the car is aimed through curves with judicious application of the accelerator pedal. In the Corvette, this truly is an enjoyable operation. Plenty of power is available to promote power-oversteer whenever desired. This enables selection of any reasonable line through a corner. The new wide tires provide a high degree of adhesion, and very high cornering speeds are possible before any slide or drift is encountered.

IT HAS already been stated that Chevrolet tried to maintain neutral steering characteristics for the 1968 Corvette. This definitely has been accomplished. A ride with Arkus-Duntov was revealing in that he drove the car very rapidly through the curves on neutral throttle, in a slightly understeering attitude. With this driving technique, the 1968 Corvette swept smoothly through the corners almost "on rails," displaying no tendency to go anywhere except where it was pointed. Closing the throttle in a high-speed bend created no real loss of control. The car simply moved smoothly into an understeering attitude while losing speed. The ability to achieve power-oversteer in high-speed curves is significant, particularly for competition purposes, because it affords the driver the opportunity to alter vehicle direction any time it becomes neces-

sary, such as in passing a slower car.

A drift angle from slight to extreme can be established in the 1968 Corvette. More important, these vehicle slip angles can be held without great difficulty. Controllability in abundance and forgiving handling at any speed are characteristics which mean real safety, the Arkus-Duntov brand of safety. Zora is quite firm in his stand on the current vehicle safety issue. He reinforces a long-standing *CAR LIFE* opinion that all of the padding, recessed control knobs and similar trivia are minuscule factors in a rational consideration of automotive safety. It is far more reasonable to design cars that can be effectively controlled by the driver, with response and basic handling characteristics that aid in avoidance, rather than survival, of accidents. The Corvette chassis is obviously designed by men who know what good handling is, and how to obtain it.

Driver confidence remains intact throughout the most vigorous driving, aided greatly by the Corvette's braking system. The 4-wheel disc brake system introduced in 1965 is retained for 1968, and continues to perform in exemplary fashion. Brake effort is reasonable, light without being overly sensitive. Fade resistance was adequate for test driving conditions, but these conditions were not at all severe. Directional stability during heavy braking from high speed was almost perfect.

THE TEST car's power steering was an outstanding example of how good power assisted steering can be. Of the linkage booster type, Corvette power steering retains a high degree of road feel and returnability. Effort is reasonable, not of the feather-touch variety currently favored for domestic passenger cars. At no time during the test period was the power assist "beaten," that is, steering wheel movement did not exceed the capacity of the booster system. Corvette power steering is an excellent compromise between road



RETRACTABLE HEADLIGHTS are carried over from Sting Ray, but are not out to leading edge of body as before.



RETRACTABLE windshield wiper arms are concealed by sliding panel.



TO open, fingers push aside spring-loaded flap, thumb pushes button.

TECHNICAL SPECIFICATIONS

1968 Chevrolet Corvette Coupe

Dimensions

Wheelbase, in.	98.0
Track, f/r, in.	58.3/59.0
Overall length, in.	182.1
width	69.2
height	47.8
Front seat hip room, in.	2 x 24
shoulder room	46.9
head room	36.2
pedal-seatback, max.	43.0
Door opening width, in.	n.a.
Ground clearance, in.	4.5

Prices

List, FOB factory	n.a.
Equipped as tested	n.a.
Options included: 400 bhp, 427 cid engine, Turbo Hydra-Matic transmission, power steering, radio, F70-15 tires.	

Capacities

No. of passengers	2
Fuel tank, gal.	20
Crankcase, qt.	5
Transmission/dif., pt.	8/3.7
Radiator coolant, qt.	22

Chassis/Suspension

Frame type: Ladder, 5 crossmembers.	
Front suspension type: Independent by s.l.a., coil springs, telescopic shock absorbers.	
ride rate at wheel, lb./in.	n.a.
antiroll bar dia., in.	0.875
Rear suspension type: Independent, trailing arm, single lower control arm, fixed-length axle shaft, transverse multileaf spring, telescopic shock absorbers, 0.562-in. antiroll bar.	
ride rate at wheel, lb./in.	n.a.
Steering system: Recirculating ball-nut gear, linkage-booster power assist, parallelogram linkage behind front wheels.	
overall ratio	17.6:1
turns, lock to lock	2.92
turning circle, ft. curb-curb	39.9
Curb weight, lb.	n.a.
Test weight	n.a.
Distribution (driver), % f/r	n.a.

Brakes

Type: Two-line hydraulic, 4-wheel vented disc brakes.	
Front rotor, dia. x width, in.	11.75 x 1.25
Rear rotor, dia. x width	11.75 x 1.25
total swept area, sq. in.	461.2
Power assist: Integral, vacuum.	
line psi at 100 lb. pedal	576

Wheels/Tires

Wheel rim size	15 x 7JK
optional size	none
stud no./circle dia, in.	5/4.75
Tires: Goodyear Speedway Wide Tread.	
size	F70-15
normal inflation, psi f/r	24/24
Capacity @ psi	n.a.

Engine

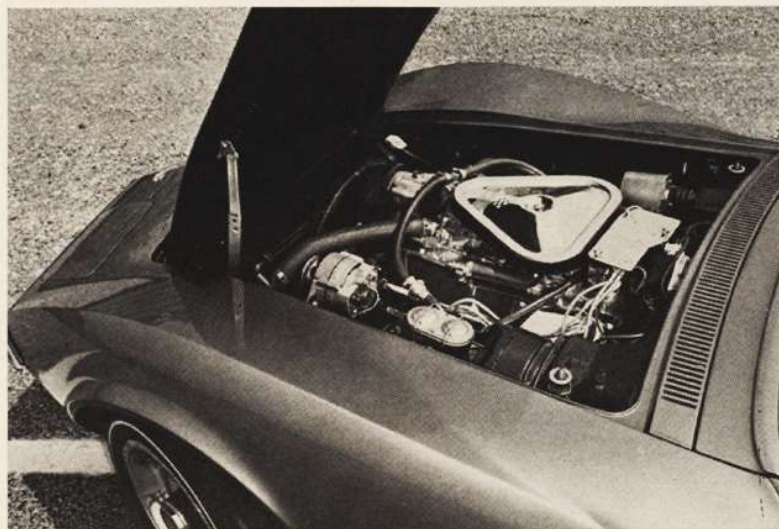
Type, no. of cyl.	ohv 90° V-8
Bore x stroke, in.	4.25 x 3.76
Displacement, cu. in.	426.776
Compression ratio	10.25:1
Fuel required	premium
Rated bhp @ rpm	400 @ 5400
Rated torque @ rpm	460 @ 3600
Carburetion: Holley 3x2.	
throttle dia., pri./sec.	1.50/1.75
Valve train: Hydraulic lifters, pushrods and overhead rocker arms, cam timing.	
deg., int./exh.	40-80/88-32
duration, int./exh.	300/300
Exhaust system: Dual, reverse flow mufflers.	
pipe dia., exh./tail	2.50/2.62
Normal oil press. @ rpm	.50 @ 2000
Electrical supply, V./amp.	12/37
Battery, plates/amp. hr.	78/62

Drive Train

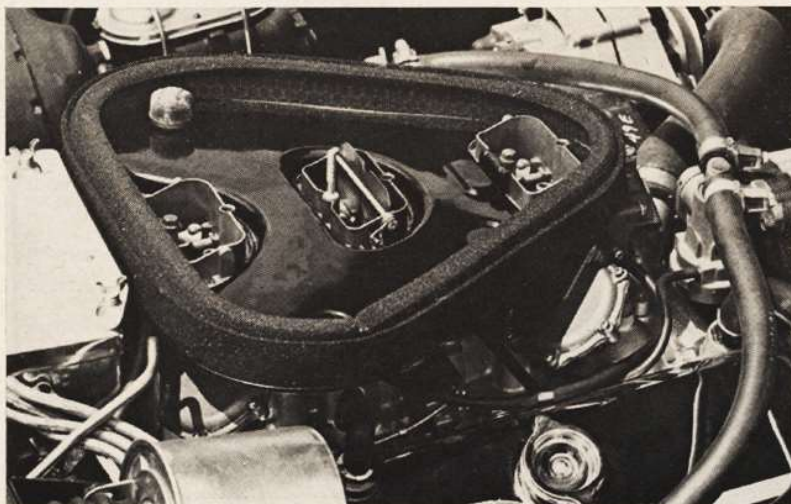
Transmission type: Three-speed automatic with torque converter.	
Gear ratio 4th () overall	
3rd (1.00:1)	3.08:1
2nd (1.48:1)	4.56:1
1st (2.48:1)	7.54:1
1st x t.c. stall (2.04:1)	15.58:1
Shift lever location: Console.	
Differential type: Hypoid, semifloating, chassis-mounted, limited slip.	
axle ratio	3.08:1



CORVETTE INTERIORS have always had a "sports-car-of-the-future" look and the '68 is no exception. Tradition is followed.



BUT IT'S what's up front that counts and hardly anybody can count more than the Corvette in this compartment. It goes.



LURKING BENEATH the chrome air cleaner in the photo above are three 2-throat Holley carburetors on the 427-cid/400-bhp V-8.

CORVETTE

feel, fast ratio steering and acceptable effort at low or high speed. Purists may decry the use of power steering on a high-performance sports car, but the assistance was appreciated in maneuvering the 3400-lb. Corvette.

If there is valid criticism of Corvette handling, it is a direct function of the bulk of the car. There is a nimbleness, a quality of agility found in the best small high-performance sports cars that is noticeably absent from the Corvette. Perhaps the total mass of the vehicle precludes nimble handling. A lower polar moment of inertia would improve steering response.

Rumors of a mid-engined Corvette have been heard for the past three years. This layout, using the 350-cid small-block Chevrolet V-8, could give the Corvette a degree of agility, response and performance akin to sports racing cars. Such a concept is exciting food for thought, but unlikely to be seen for a few years.

BASIC STYLING of the 1968 Corvette bears distinct similarity to the 1964 Ferrari GTO coupe. Unlike Ferrari, Corvette stylists appear compelled to adorn the basic shape with a plethora of scoops, vents, ridges and sculptured shapes. It should be noted, however, that the 1968 Corvette is less cluttered than Sting Ray models. The new body is longer, wider and slightly heavier, but has less usable interior space than Sting Ray coupes.

To the dismay of previous Sting Ray owners, the 1968 Corvette still does not incorporate an external decklid. Actually, component location in the rear of the body precludes the usefulness of such an access opening, since a decklid would merely provide a good look at the fuel tank and rear suspension. It would seem that Corvette designers could design a large, 3400-lb. sports car with adequate luggage capacity for extended touring by two passengers. Several top European GT coupes provide such accommodations in vehicles appreciably smaller and lighter than the Corvette.

Summing up initial impressions of the 1968 Corvette can be done simply by referring readers to the initial paragraph of this article. There is one personal objection that must be mentioned. The 1968 Corvette represents a tremendous value in the field of high-performance automobiles, and is an extremely desirable piece of sporting transportation. The objection lies in rational examination of bank account. No matter how the funds are allocated, this writer just cannot afford one of these Excitement machines. ■

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