

CHEVROLET BOOKLETS
CAR

1966
#3

THE STING RAY BY CHEVROLET

Features and Options and all that's new





Shown on front cover: Corvette Sting Ray Sport Coupe in Rally Red.

Shown above: Corvette Sting Ray Convertible in Silver Pearl.

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TWO BRAND-NEW 427-CU.-IN. TURBO-JET V8s CAP CORVETTE'S QUARTET OF ENGINES

A unique hood graces certain of the 1966 Corvettes. Under it lies 427 cubic inches in either of Corvette's two new V8s that can be ordered for 1966. The top-output engine is a 425-hp version with 11.0:1 compression ratio, a very large four-barrel carburetor, extremely free-breathing intake manifold passages and a special camshaft with mechanical valve lifters. With this combine, the big 427-incher puts out in a true sports car manner.

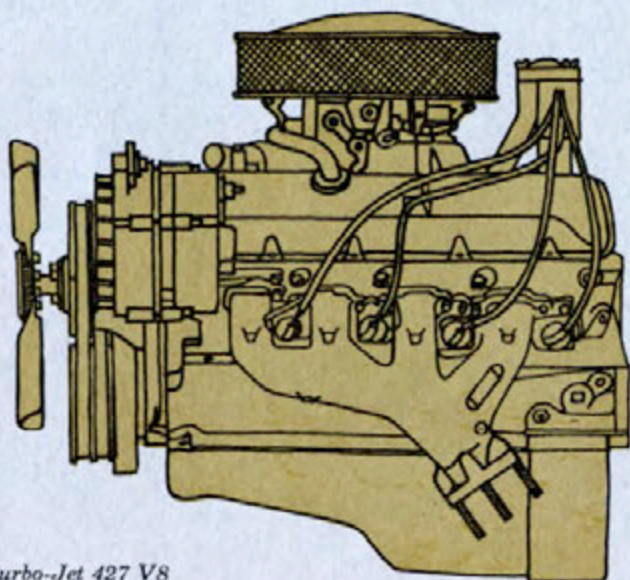
The milder version uses hydraulic lifters, a different four-barrel carburetor and 10.25:1 compression. It develops 390 horsepower from the 427 cubic inches and gives it to you in a way that's deceptively quiet.

The engines' official names are 425-hp Turbo-Jet 427 and 390-hp Turbo-Jet 427, respectively. Both V8s use a 4.25" bore and 3.76" stroke. For more crankshaft rigidity, both engines come with extra-wide-base main bearing caps. In the 425-hp version, the caps are held to the block by four bolts; in the 390-hp rating, they're secured by two. In combination with strong bearing bulkheads, the crank is clamped more firmly and given greater support in each of its five main bearings.

In the 425-hp Turbo-Jet V8, a special hardening process at all main and connecting rod bearing journals gives the crank extra fatigue resistance. In both Turbo-Jet V8s, main and connecting rod bearing material and design promote greater durability. Crankshaft journals and bearings are larger than in other Corvette engines.

Cylinder heads on these 427s breathe very freely. Here's why the fuel-air mixture flows in but quick: *big* valves. Intakes have diameters of 2.190" (425-hp) or 2.065" (390-hp). Exhausts are 1.720" across on both engines. And the cams really lift. In the 425-hp V8, total intake and exhaust lift is .5197", while in the 390-hp type, intake lift is .4614" and exhaust lift is .4800". Intake valves are tipped toward the intake manifold passage; exhausts are canted away from intakes toward the exhaust ports. This design results in an unrestricted inlet port of fairly uniform cross section; also, in more direct exhaust ports with greater radius (for more gradual direction change) and unrestricted uniform cross section throughout the length. Overall, the combination of big valves, high lift, unshrouding, individual intake and exhaust ports plus other refinements increases the volume of combustibles that can be drawn down the barrels on each intake stroke. (Exhausting is improved, too.)

Combustion chambers are modified wedge type; the fire is started from centrally located spark plugs and thermal efficiency inside is increased by reducing the ratio of chamber surface to chamber volume. In other words, the products of combustion work more on the piston to push it down than to heat up the surrounding walls. Finally, special intake and exhaust valve guide inserts are used for optimum sealing and durability, while hardened steel pushrod guideplates



Turbo-Jet 427 V8

located at the pushrod upper ends keep the rocker arms and pushrods in close alignment at all engine speeds.

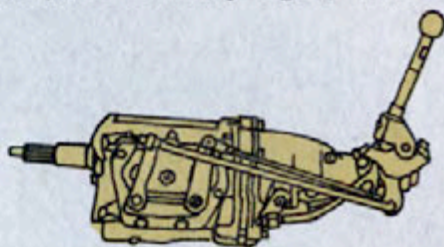
Some more worthy items: Pistons are impact-extruded on the 425-hp Turbo-Jet 427 for high strength. Pin bosses are moved inboard, strengthening the solid-dome piston and giving additional piston pin rigidity. Special barrel-contoured top compression ring with a molybdenum insert and chrome-plated second compression and oil rings conform closely to cylinder walls for better oil control and compression sealing. Both 427-cubic-inch V8s inhale through induction systems matched to engine needs.

Under the more familiar Corvette hood is one of two 327-cubic-inch V8s —with 300 hp or 350 hp— certainly *not* pallid. First off, the 300-hp engine is now standard equipment . . . with 327-cu.-in. displacement, a healthy four-barrel carburetor, big intake-valve cylinder heads and 2½" diameter dual exhaust system. Second, when the 350-hp version is specified, the carburetor is larger, a different camshaft is used and the compression ratio is boosted (from 10.5:1 on the 300-hp) to 11.0:1. Exhausting is large and easy breathing. Both engines use hydraulic valve lifters for smoothness and quiet operation. Oil requirements for the 300-hp V8 are five quarts including filter; each of the other three engines utilizes six quarts including filter.

A new automatic choke on every engine is more responsive to engine temperature during operation. All '66 engines continue to use efficient overhead valves with an independent operating mechanism for each valve and

short inlet and exhaust ports. Full dual exhausts are supplied with every engine. A controlled-pressure lubrication system with replaceable oil filter takes care of oiling chores.

Coupling the output from Corvette's engines to the differential lets you get creative. For instance, 3-Speed transmission, fully synchronized in all forward gears, is now standard with the 300-hp engine. A 4-Speed with 2.52:1 ratio 1st gear may be ordered with the 300-, 350- or 390-hp engine; a 2.20:1



4-Speed manual transmission

1st gear 4-Speed may be specified with the 350-, 390- or 425-hp V8.

A heavy-duty 4-Speed may be ordered for highly specialized use with the 425-hp Turbo-Jet 427 V8. (However, the heavy-duty 4-Speed is designed for ultra durability; its high noise level makes it generally unsuitable for street use.) All 4-Speeds are fully synchronized in forward gears.

Leisure lovers, don't feel left out. Let juice do the work for you in the fluid form of Powerglide automatic, available with the 300-hp engine.

You'll find many extra-cost Options and Custom Features to fit your new Corvette mentioned or illustrated in this catalog. All are listed on page 14.

1966 CORVETTE POWER TEAM CHART							
Engine Bore & Stroke	Horsepower & Torque at RPM	Carburetion & Induction System	Comp. Ratio	Cam & Lifters	Transmission	Axle Ratios	
						Standard	Positraction
STANDARD ENGINE							
327-cu.-in. V8 4.00 x 3.25 in.	300 @ 5000	4-Barrel High-Flow Air Cleaner	10.5:1	General Purpose Hydraulic	3-Speed 2.54:1 first	3.36:1	3.08:1 3.36:1
	360 @ 3200				4-Speed 2.52:1 first	3.36:1	3.08:1 3.36:1
					Powerglide	3.36:1	3.36:1
EXTRA-COST OPTIONAL ENGINES							
327-cu.-in. V8 4.00 x 3.25 in.	350 @ 5800	4-Barrel	11.0:1	High Performance	4-Speed 2.52:1 first	3.36:1	3.36:1 3.55:1
	360 @ 3600	High-Flow Air Cleaner		Hydraulic	4-Speed 2.20:1 first	3.70:1	3.70:1 4.11:1
427-cu.-in. V8 4.25 x 3.76 in.	390 @ 5200	4-Barrel	10.25:1	High Performance	4-Speed 2.52:1 first	Positraction only 3.08:1	3.36:1
	460 @ 3600	High-Flow Air Cleaner		Hydraulic	4-Speed 2.20:1 first	Posit. only 3.36:1	3.08:1 3.70:1
427-cu.-in. V8 4.25 x 3.76 in.	425 @ 5600	Large 4-Barrel High-Flow Air Cleaner	11.0:1	Special Performance	4-Speed 2.20:1 first	Posit. only 3.55:1	3.36:1 3.70:1 4.11:1
	460 @ 4000			Mechanical	Heavy-Duty 4-Speed† 2.20:1 first	Specify from list at right	3.08:1 3.36:1 3.55:1 3.70:1 4.11:1 4.56:1

†Not recommended for general driving.

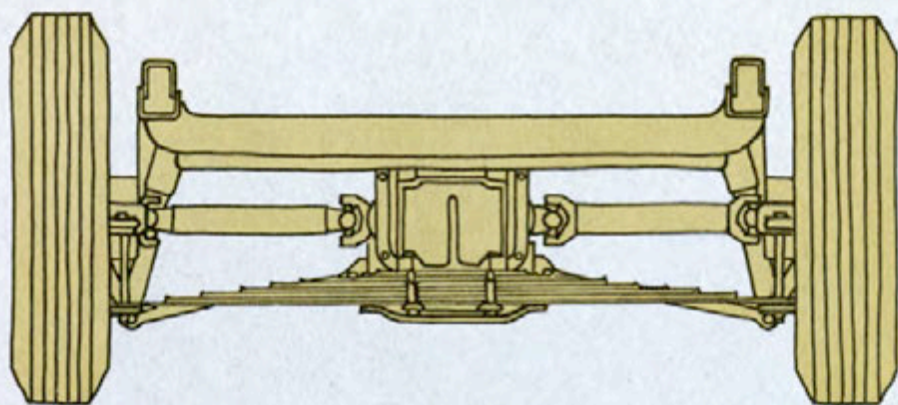




CORVETTE

Corvette

**THE BIG DISC BRAKES . . .
 ALL-INDEPENDENT SUSPENSION . . .
 ACCURATE STEERING AND STRONG FRAME . . .
 ALL COUPLE YOU TO PRECISE DRIVING**



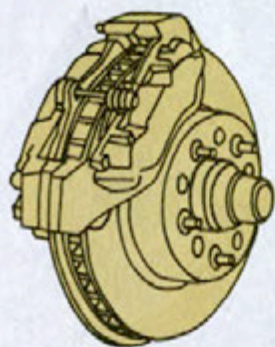
Corvette's famous independent rear suspension

Corvette's big Sport-Master disc brakes deliver nearly unbelievable stopping power. These binders are hydraulic caliper-type units with 11.75" cast-iron discs, front and rear. In addition to natural air flow around the outside surfaces, integrally cast internal cooling fins force air between the surfaces of the discs. Result? Cooler brakes for fade resistance. Four caliper units, one at each wheel (they work like a pair of pliers), supply the squeeze through 86.3 square inches of woven asbestos linings. Braking action occurs at the ratio of about 65% at front wheels, 35% at rears, due to weight transfer from rear to front during braking. For parking purposes, brake shoes with riveted linings are operated mechanically on the rear wheels. A small drum is machined from the inside of each rear disc brake unit, and accommodates the parking brake assembly.

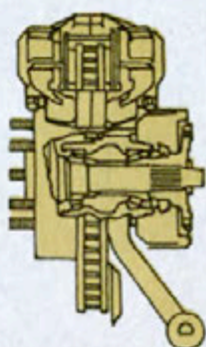
Corvette gives you a feeling of control through precise balance and

rhythm. Key to this control is the all-independent suspension. In the front, variable-rate coil springs soak up small shocks and bumps; over big bumps, the springs maintain taut control. Anti-dive geometry is built into the upper control arm, and a front 0.750" dia. stabilizer bar, rubber-bushed, gives the '66 Corvette a ride equally suited to casual boulevarding or to more ambitious countryside demands.

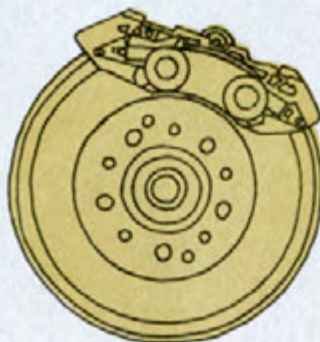
At the rear, Corvette's sophisticated independent suspension takes care of curves and bumps in a thoroughly professional way. Each wheel reacts to bumps individually without affecting the attitude of the other. The final drive assembly is mounted directly to the frame to reduce unsprung weight. Without this extra weight, the rear wheels can (and do) respond to road surface stimuli quickly and smoothly. Each wheel is located by three links—a trailing arm from the frame to the rear wheel hub; a strut rod from the



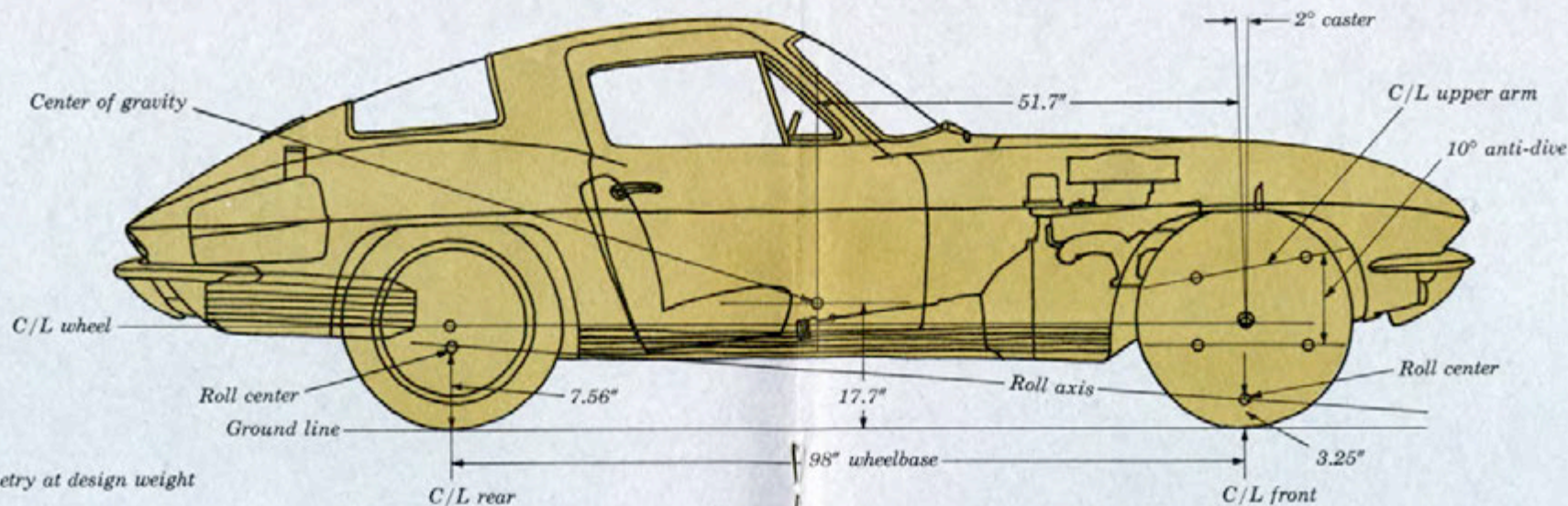
Left front brake unit



Brake linings on sides of discs



Left rear brake unit



Suspension geometry at design weight

lower part of the differential case to the rear wheel hub and the tubular axle shaft (double universal-jointed). The trailing arm transfers acceleration and braking torque loads to the frame, while the combination of the strut rod and axle shaft locates the wheel laterally and allows a minimum of camber and tread change during wheel travel.

Since all braking, accelerating and cornering loads are handled by the rear suspension linkage and transferred directly to the frame, the only function of the nine-leaf variable-rate rear spring is to cushion the ride. Like the front springs, it soaks up small irregularities in its stride while remaining firm to large bumps. Direct-acting, double-action shock absorbers contain freon bags to help maintain proper action during extreme use.

On Corvettes equipped with a Turbo-Jet 427 engine, a larger diameter (0.875" dia.) front stabilizer bar is used, while a special 0.562" dia. stabilizer shaft is added at the rear. The two stabilizers help maintain good handling with either Turbo-Jet V8.

Corvette's precise steering results from a happy combination of excellent vehicle balance and low-friction spherical-joint components. Faster steering provisions are built into the basic system as standard equipment. A telescopic steering column allows drivers

to move the wheel through a range of three inches fore or aft—without getting out of the driver's seat. (The standard steering column is also adjustable with simple tools.) Further, power steering can be ordered for additional ease. Standard steering ratio is 20.2:1; it can be changed to 17.6:1 through a simple front-end adjustment. Power steering comes set from the factory at the faster ratio.

A necessary foundation to tie all suspension and driveline components together is the Sting Ray's frame. It has heft where it's necessary and strength without excess bulk. The five crossmember rails are spaced to facilitate advantageous location of engine, seats, suspension components and fuel tank. Frame design contributes to a low center of gravity and allows placement of major car components for outstanding vehicle handling.

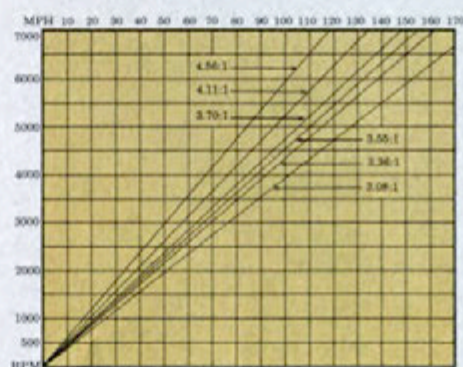
Corvette Sting Ray's final drive assembly is something different among sports cars and certainly unique among American-made cars. We've already said that it's bolted to the frame. Three large rubber biscuits isolate the assembly from direct metal-to-metal contact to reduce noise and vibration transfer to the body from the rear suspension. Mounted to the frame in this manner, the assembly reacts with the body over bumps. Since it moves

with the body and not the wheels, the going's smoother and the engines can put their power on the ground where it belongs. And, "axle-tramp" is gone.

When Positraction is specified, power flows to the rear wheel with greatest traction, especially on muddy, slippery or other irregular surfaces where traction under one wheel is unfavorable. A wide range of axle ratios is available with Positraction, particularly with the 425-hp Turbo-Jet V8. The power team chart on page 4 tells the numbers story; how they affect road speeds is shown below. This ratio chart gives approximate speeds based on engine rpm and rear axle ratio.

MPH X RPM, AVAILABLE AXLE RATIOS

(Figures are estimated without allowance for tire expansion or slippage.)

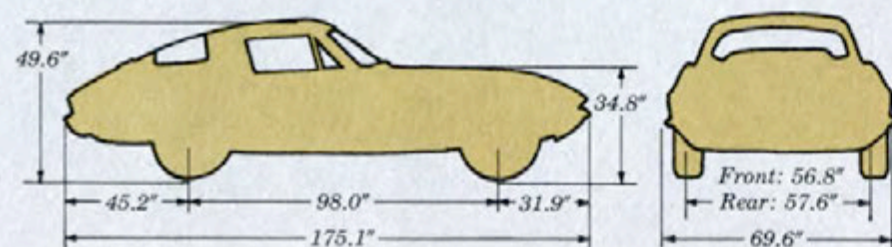


MILES PER HOUR PER 1000 ENGINE RPM IN FINAL DRIVE

(Figures are estimated without allowance for tire expansion or slippage.)

3.08:1 = 25.6	3.36:1 = 23.1	3.55:1 = 22.2
3.70:1 = 21.3	4.11:1 = 19.2	4.56:1 = 17.0

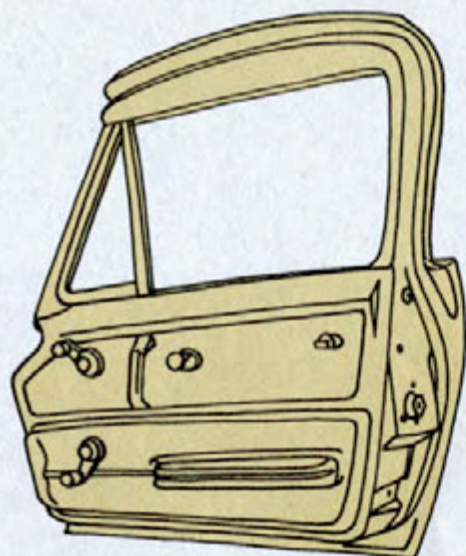
Check the extra-cost Options and Custom Features on page 14. Some are presented in text and illustrations in this catalog.



External dimensions

work and body panels are bonded to the strip. Sport coupe body uses six rubber "biscuits" to cushion body from frame at attaching points; the convertible uses eight similar "biscuits."

Sealing and weather stripping remain among the best of any sports car. The wrap-over doors of the sport coupe are given special attention for weather-tightness; and they give an additional benefit—easy entry and exit. Wrap-around bumpers, front and rear, protect the body against casual damage;



Sport coupe wrap-over door

glare-reducing two-speed electric windshield wipers with pushbutton washer help keep vision clear; weather-shielding makes frozen door locks almost a thing of the past and separate locked tire storage keeps interior stowage room at a maximum.

About the most difficult choice to make is between convertible and sport coupe; each booster can praise his favorite's advantages. Your choices beyond that are what color, which engine and transmission, what interior and what optional equipment. The convertible offers either the folding soft top or removable hard top. However, convertible selectees often prefer to order both; the second top at modest extra cost. The soft top stows completely out of sight when it's put down. When up, it protects sun-lovers against inclemencies. Folding top is available in black, white or beige, in combination with any exterior color; hard top matches exterior body color.

Finally, Corvette's sparkling Magic-Mirror acrylic lacquer finish stands up remarkably well against the effects of weather. The paint has high resistance to fading, staining, chipping and chalking. If a body panel is damaged, the paint can be spot-finished, eliminating the necessity of repainting an entire body area.

Overall, the design concept has been fundamentally right since the Sting Ray's inception; changes have been in the nature of improvements on the basic design. Conclusion: To own and drive a 1966 Corvette is one of the most invigorating and exciting experiences in the whole of motordom.

A wide range of extra-cost Options and Custom Features is available for your 1966 Corvette. Look over the list on page 14, and throughout the text and illustrations contained in this catalog.

INSIDE: COMFORT, EXACTING INSTRUMENTATION AND LUSH APPOINTMENTS

Here's an interior that says sports car in an adventuresome way. Opening the door to a '66 reveals new lushly styled seats. Sitting in them is comfort pure and simple. Door pulls are bright metal for added luxury; crank-operated ventipanes assure easy, positive operation. Your feet will rest comfortably on molded deep-twist carpet. Interior colors for 1966 include black, red, bright blue, saddle, silver, green, blue and white/blue; all are keyed to exterior body finish. The expanded vinyl is subtly textured for extra elegance; you may order genuine leather seat trim in most colors.

In the sport coupe, a new vinyl-covered foam headliner helps keep the

interior quieter. Both models have a new shatter-resistant inside rearview mirror. Other posh touches: carpeted cowl side panels, padded sun visors, blended-air heater-defroster with three-speed blower, seat belt retractors, seat belt buckle-clips on the console and

DIMENSIONS (in inches)	Sport Coupe	Con- vertible
Torso	37.0	38.5
Leg	42.7	42.7
Hip	50.9	50.9
Shoulder	48.4	48.4
Entrance room	31.4	30.2





the sport coupe's fully carpeted luggage area

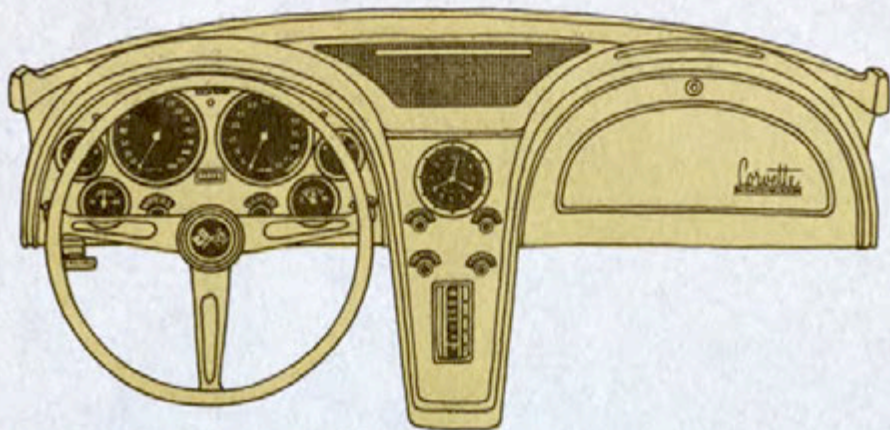
Right: Enthusiast's delight: 4-Speed box

Seat belts with retractors are standard



Pushbutton AM/FM all-transistor radio





Corvette Sting Ray instrument panel

two-key locking system with an ignition switch that prevents turning to "Accessory" unintentionally.

Behind the seats, an under-the-floor storage compartment hides valuables and stores tire tools as well. The luggage compartment is completely carpeted and encompasses over 10 cubic feet in the sport coupe, unless you specify the 36-gallon fuel tank.

Every true sports car driver wants to know what's going on when he drives. So Corvette's '66 instrument panel tells you what's going on in the engine compartment and on the road in a glance. Twin large-circle instruments house the speedometer and tachometer directly in front of the driver. Inside the speedometer is the odometer. Directly beneath these two instruments is a resettable trip odometer which registers mileage up to 999.9 including tenths. A small knob under the instrument panel affords easy operation.

Flanking the large speedometer and tach are electrically operated fuel level gauge, ammeter, electric coolant temperature gauge and an oil pressure gauge. On Turbo-Jet 427 V8 models, the oil pressure gauge reads to 80 pounds; on other models it reads to 60 pounds. Yellow line and red line areas on the tach correspond to engine selection. Rounding out the instruments are a cigarette lighter, headlight switch and retractor switch (a red signal blinks "Lights" if you turn on the headlights without raising them), hood release, parking brake and four-position ignition switch. Over on the passenger's side, a built-in assist bar is integral with the padded instrument panel; a large locking glove box opens and the door becomes a convenient tray; and heater controls are accessible to both passenger and driver. Finally, when you order a radio the controls are located in the central console. Outside air vent pull handles are located on either side of the steering column directly below the instrument panel.

When the parking brake has been left on and the engine started, a little red light lets you know. It blinks, "Brake." Similarly, if you switch the headlights to high beam, another little red light stares brightly at you. It's nice to feel looked after.

All of the wiring is color-coded for easy maintenance. Radio-equipped cars have bright metal shielding to suppress ignition noise and interference. Accessories are fused except for the headlamps and parking lights. They're controlled by circuit breakers.

A diode-rectified air-cooled Delcotron generator keeps the battery charged and supplies necessary electrical energy. Fully transistorized Delcotron ignition may be specified with 350-hp and 390-hp engines; it's required equipment on the 425-hp V8. The unit replaces conventional points with a magnetic pulse unit. A transistor amplifier builds up higher primary current; the coil delivers higher spark plug voltage at all engine speeds.

A complete list of extra-cost Options and Custom Features is cited on page 14. In addition, some are described in text and shown in illustrations throughout this catalog.



S-wire spring construction, foundation for Corvette's seating comfort

HERE ARE THE KIND OF EXTRA-COST OPTIONS DEMANDED BY ENTHUSIASTS OF LUXURIOUS MOTORING

Once you select your Corvette body style, power team combination and color, you'll want to consider certain extra-cost Options and Custom Features to individualize the car to your personal taste. Some of the following have already been described in the text or illustrated.

- Four-Season air conditioning—used in conjunction with the built-in heater-defroster for year-around climate control inside your Corvette. Not available with the 425-hp Turbo-Jet 427 engine.
- Genuine leather seat trim available in all interior colors except green and white/blue.
- Inside prismatic-type day-night non-glare mirror.
- Soft-Ray tinted glass—windshield or all windows.
- All-transistor AM/FM pushbutton radio, including power-operated rear antenna.
- Folding soft top or removable plastic hard top for convertible.
- Power windows with controls located between the seats.
- Power brakes, including dual-circuit brake master cylinder.
- Power steering with factory-adjusted 17.6:1 overall ratio.
- Telescopic steering column with locking hub in the center of the steering wheel.
- Genuine teakwood rim steering wheel.
- Emergency road kit. Includes fire extinguisher, flares, fuses, tire inflator and repair kit, brilliantly-colored distress flag.
- Thinline whitewall tires or gold-stripe tires. For specific details on tire sizes, appearance features and availability with car models, see your Chevrolet dealer.
- Powerglide automatic transmission.

In addition, you may specify these Options: 350-hp 327-cu.-in. V8, 390-hp Turbo-Jet 427, 4-Speed transmission.

Your dealer can supply you with these additional extra-cost Custom Feature items: compass, fire extinguisher, portable spot lamp, traffic hazard lamp switch (converts all turn signal lamps into flashers), deck lid luggage carrier, luggage hold-down straps, twin contour floor mats, tissue dispenser kit and tool kit.

FOR OFF-ROAD EVENTS, LOOK OVER THIS LIST OF SPECIAL EXTRA-COST OPTIONS

- 425-hp Turbo-Jet 427.
- Heavy-duty 4-Speed manual transmission with 425-hp Turbo-Jet V8; not recommended for normal street driving.
- Heavy-duty disc brakes (with Turbo-Jet V8s only).
- Positraction rear axles in 3.08:1, 3.36:1, 3.55:1, 3.70:1, 4.11:1 and 4.56:1 ratios, depending on power team selected.
- Front and rear special suspension, with Turbo-Jet V8s only.
- Aluminum wheels, quick take-off type, 6" rims.
- Off-road conventional exhaust system.
- Off-road side-mounted exhaust system.
- 36-gallon fuel tank. (Portion of rear compartment area carpet is deleted in both sport coupe and convertible.)
- Delcotron Full-Transistor ignition replacing conventional breaker-point type (for 350-hp 327-cubic-inch and both Turbo-Jet 427 engines).



Smoothly contoured sport coupe roof line

Left: Gold stripe tires, aluminum knock-off wheels and side-mounted exhaust



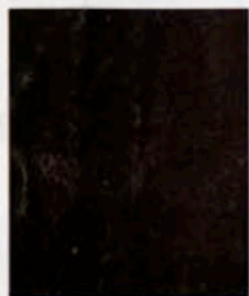
Convertible with hard top

Snug-fitting convertible soft top



COLOR AND FABRIC SELECTOR

EXTERIOR COLORS



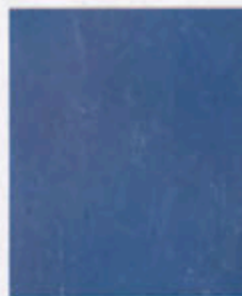
Tuxedo Black



Ermine White



Rally Red



Nassau Blue



Laguna Blue



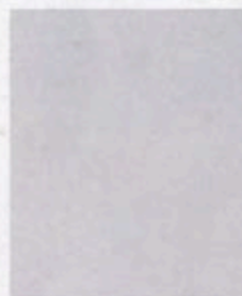
Trophy Blue



Mosport Green



Sunfire Yellow



Silver Pearl



Milano Maroon

INTERIOR VINYLs



Blue



Bright Blue



Black



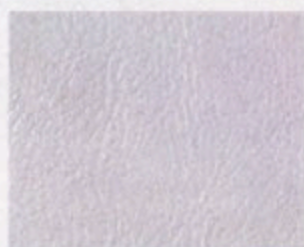
Saddle



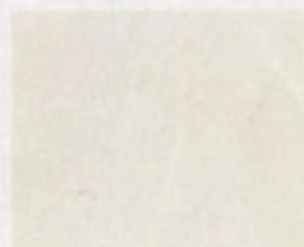
Red



Green



Silver



White/Blue†

*Interiors are color-keyed to exterior colors. All (except green and white/blue) can be ordered in genuine leather seat trim.
†Blue used on instrument panel and carpet.*

All illustrations and specifications in this literature are based on the latest product information available at the time of publication approval. The right is reserved to make changes at any time without notice in prices, colors, materials, equipment, specifications and models, and also to discontinue models. Chevrolet Motor Division, General Motors Corporation, Detroit, Michigan 48202.

