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CORVETTE

*Sports Car
Equipment
Guide*

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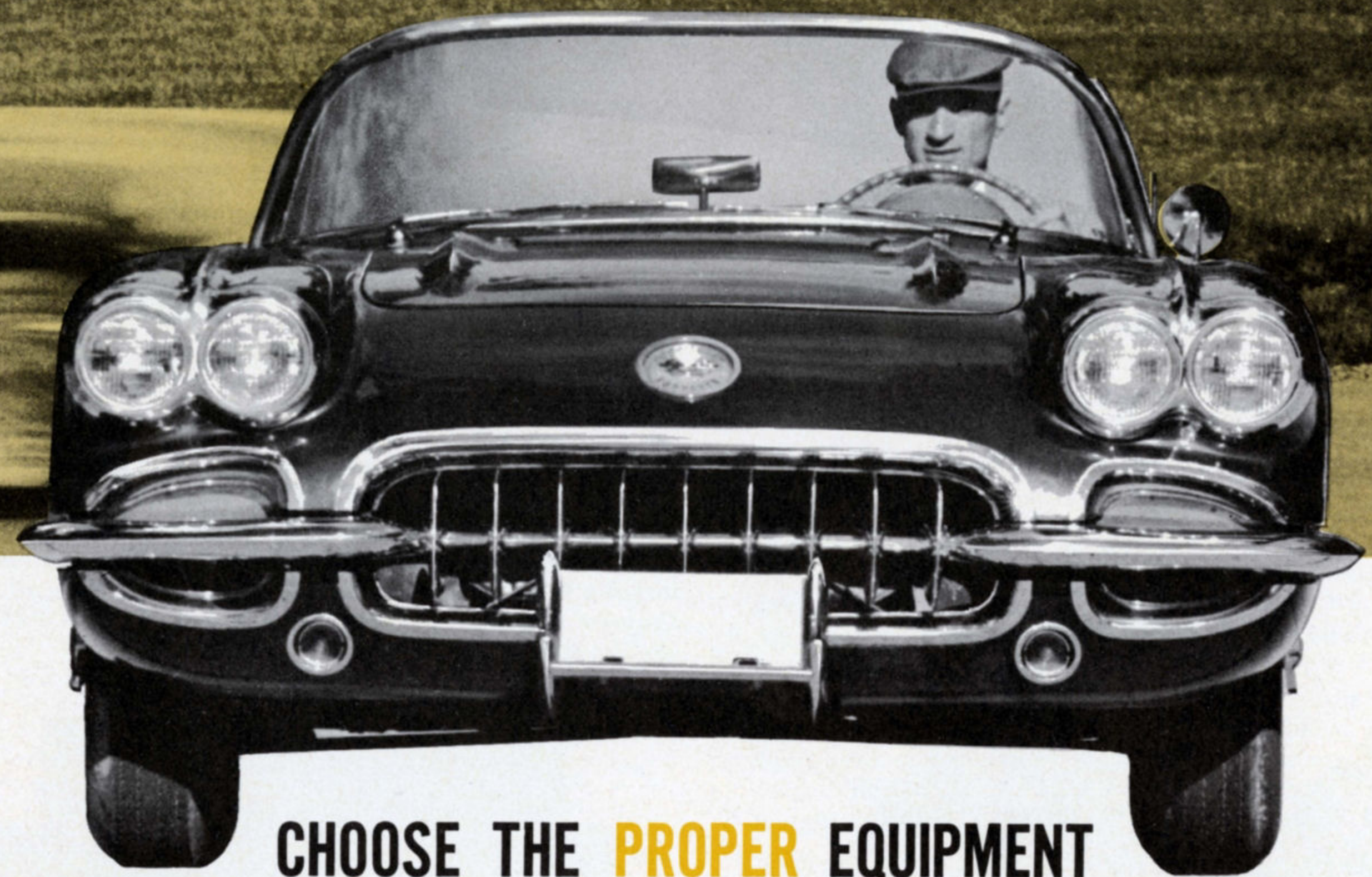
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CHOOSE THE PROPER EQUIPMENT

To many, participation in competitive sports car events is the purest form of automotive sport. A true sports car is a highly versatile machine—capable not only of normal transportation, but also of championship performance. Because sports car events are also a measure of a driver's skill and judgment, they create widespread interest, with a strong appeal for both participants and spectators.

Most sports car events are governed by recognized sanctioning groups that determine the type of participation. Classes have been established to permit equitable competition between sports cars of varying size and power, based on cylinder capacity or piston displacement. In addition, sports cars are specifically classed as either Production or Modified. While regulations of different sanctioning organizations vary, a Production Class sports car generally is permitted very little deviation from original equipment—usually defined as equipment available from the factory as a Regular Production Option (R.P.O.) or Limited Production Option (L.P.O.). Modified Class sports cars usually include major modifications in mechanical components as well as drastic structural changes.

Because of the expense of major modifications and relatively fewer events for modified sports cars, most Corvette owners prefer to participate in Production Class events—and this is the class in which Corvette has enjoyed spectacular success.

The Corvette Sports Car Equipment Guide has been prepared to assist Corvette enthusiasts in the selection of equipment for specific purposes, and to advise of techniques that promote greater safety and enjoyment in the highest traditions of the sport.

Note: While this Guide refers primarily to 1959 Corvette models, 1956, 1957, and 1958 models have many similar components. Details of the options also apply to earlier Corvettes except where noted. Tune-up specifications for 1956 through 1959 appear on page 15.

As America's sports car, Corvette is recognized for performance throughout the world. By careful selection of optional equipment engineered for specialized requirements, almost any degree of performance can be built into a Corvette. These specialized equipment items are available as Regular Production Options (R.P.O.). Sanctioning organizations often require certain equipment for particular events. In the case of rallies or gymkhanas, the proper Corvette equipment usually depends on personal preference. Maximum performance options are frequently desirable, but not essential.

For other types of competitive events where severe maneuvers and sustained higher speeds are involved, equipment is more highly specialized. If you expect to compete successfully with the world's top Production Class sports cars, your Corvette obviously must include the finest equipment available.

When you have determined the type of events in which you intend to participate, carefully select the appropriate factory options, and be sure these options are correctly specified on the order for the new Corvette. All 1959 Corvette optional equipment in this Guide is described with the correct option number.

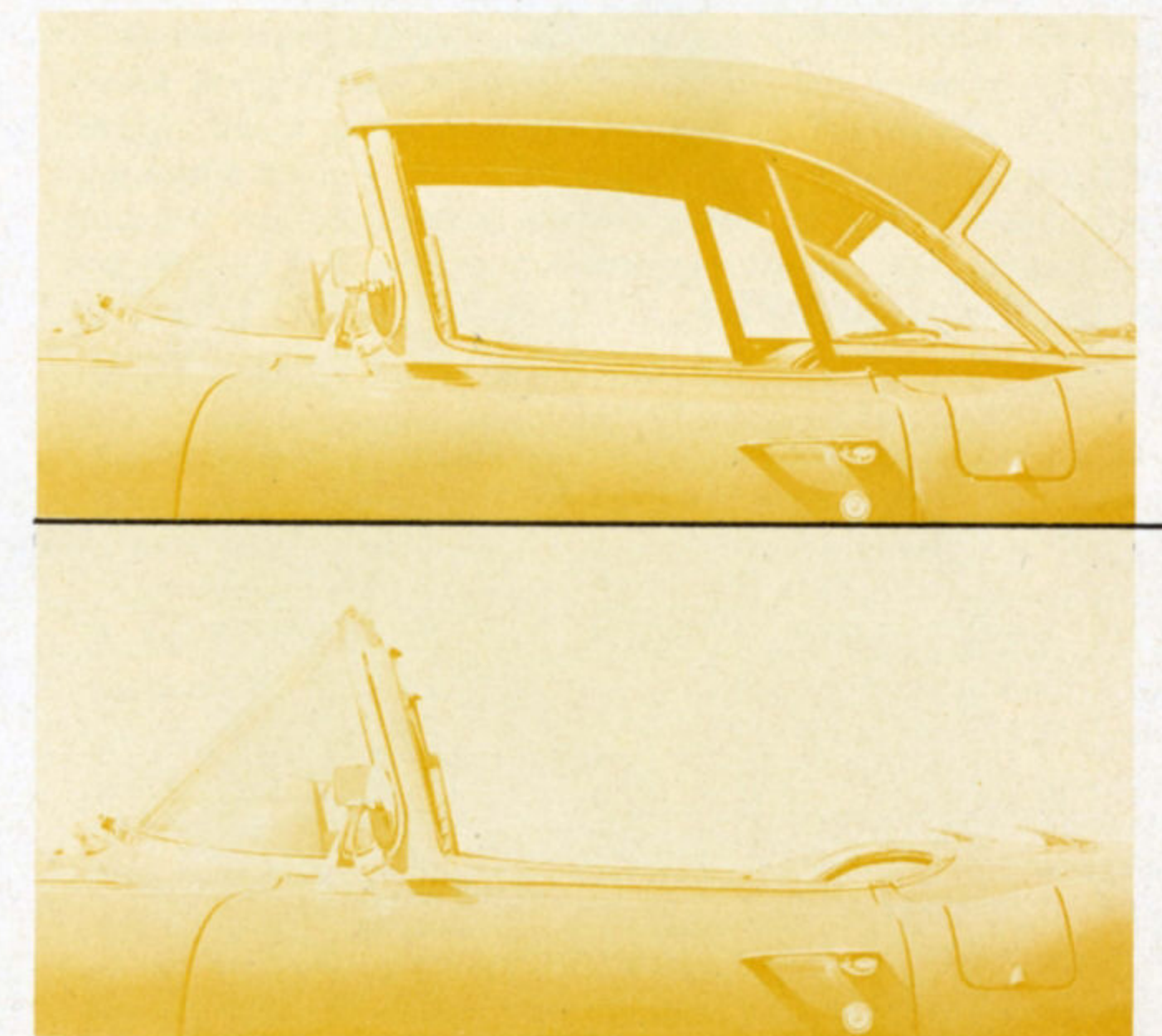
1959 CORVETTE OPTIONS

Body Equipment

Choice of top is a matter of individual preference. Some events may be run with the top removed, while others may require it in place. If you prefer a convertible top, choose either the manually operated folding or optional power-operated fabric top. The removable hardtop is preferred by many experts because it offers greater visibility area and is quieter at higher road speeds. It is available in place of the manual fabric top at no extra cost, or as an optional companion to either the manual or power-operated folding top. Dual tops are considerably lower priced when specified on the new Corvette order than if a second top is added after delivery.

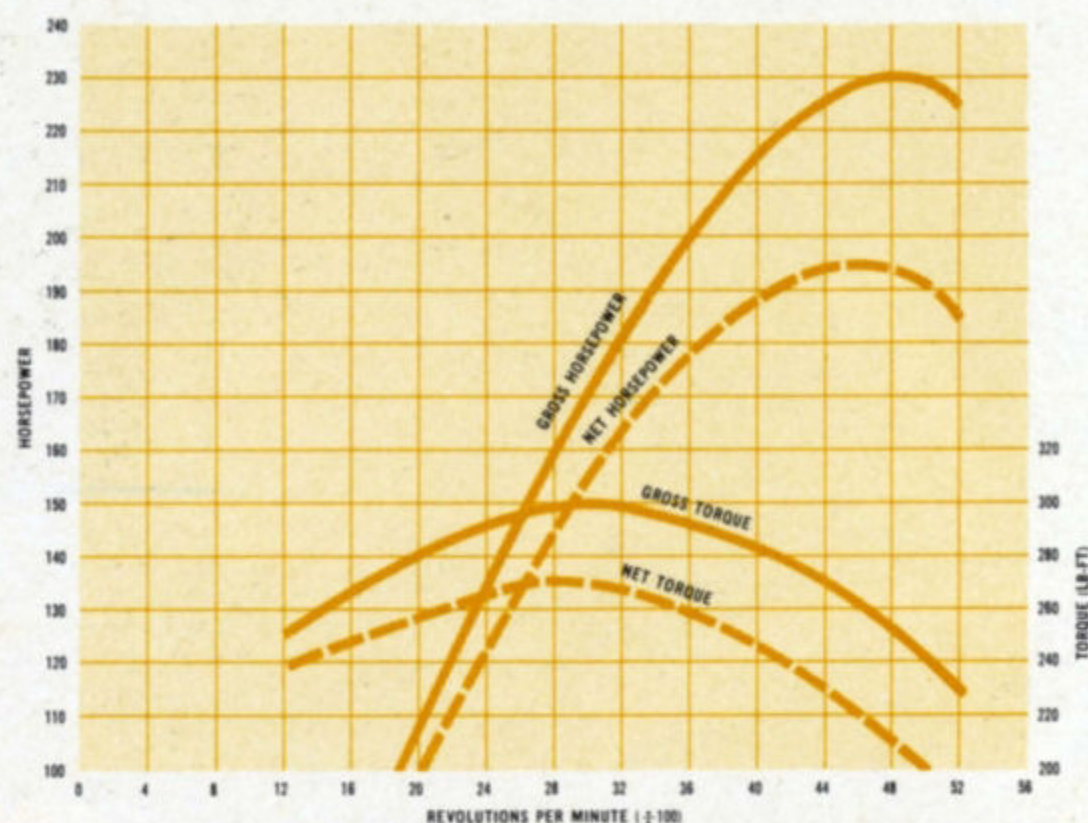
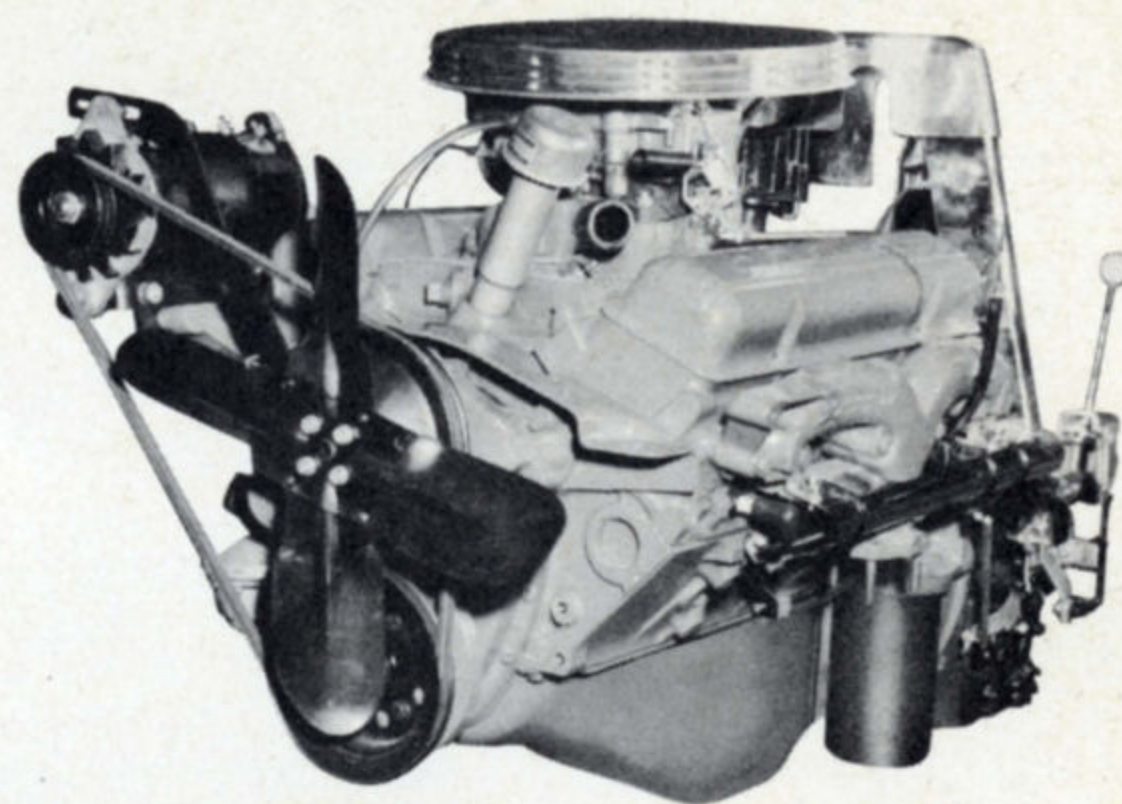
R.P.O. 419 is the option number for all basic top choices, and a specific description of desired top equipment must appear on the order. For power operation of the folding top, R.P.O. 473 (Power Operation for Folding Top) must also be specified.

Exterior colors are almost entirely a personal choice, and seven solid colors or seven two-tone combinations are available on a '59 Corvette. Some drivers feel that lighter tones tend to lower interior temperatures on hot, sunny days.



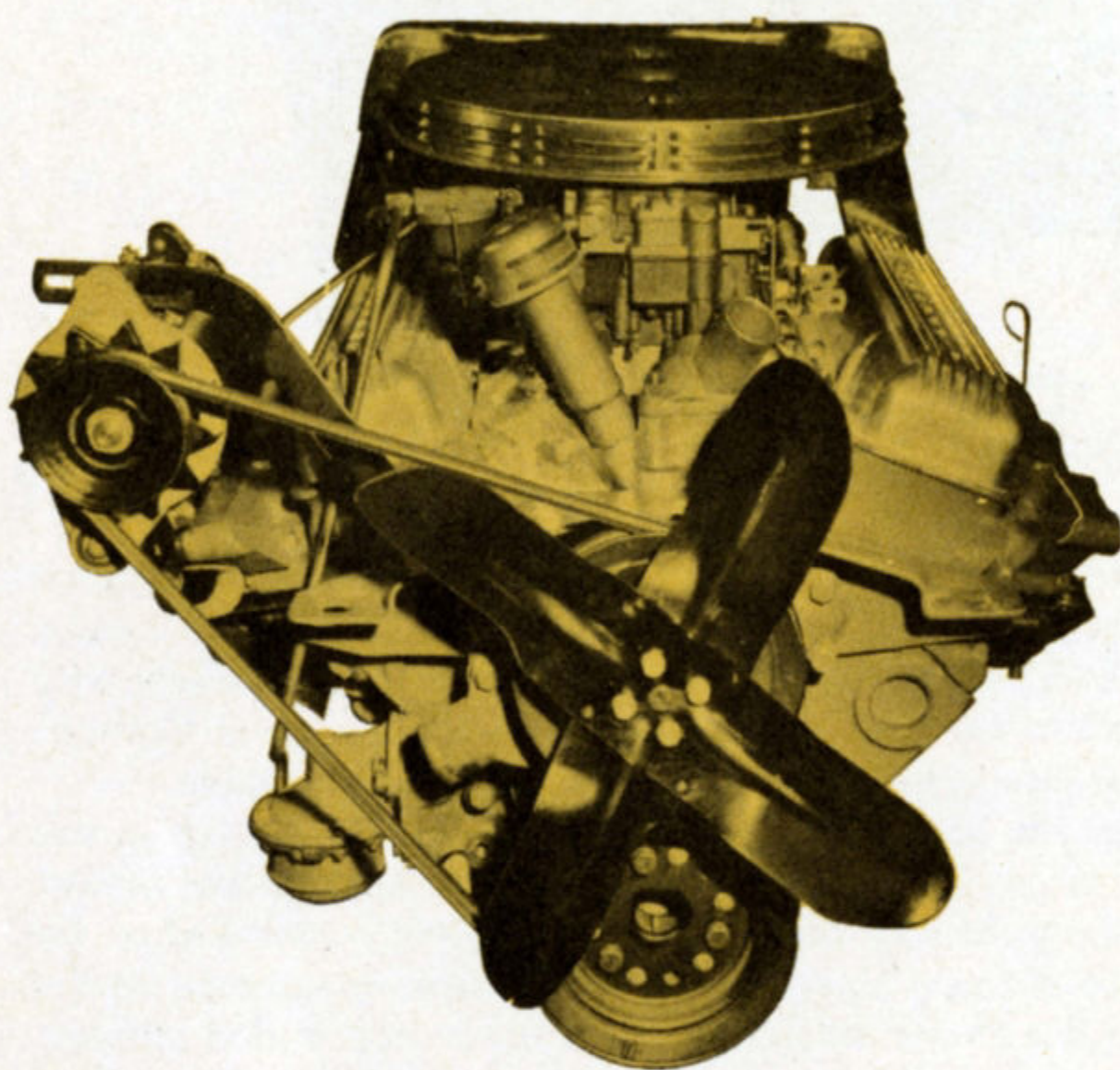
1959 CORVETTE OPTIONS

Engines



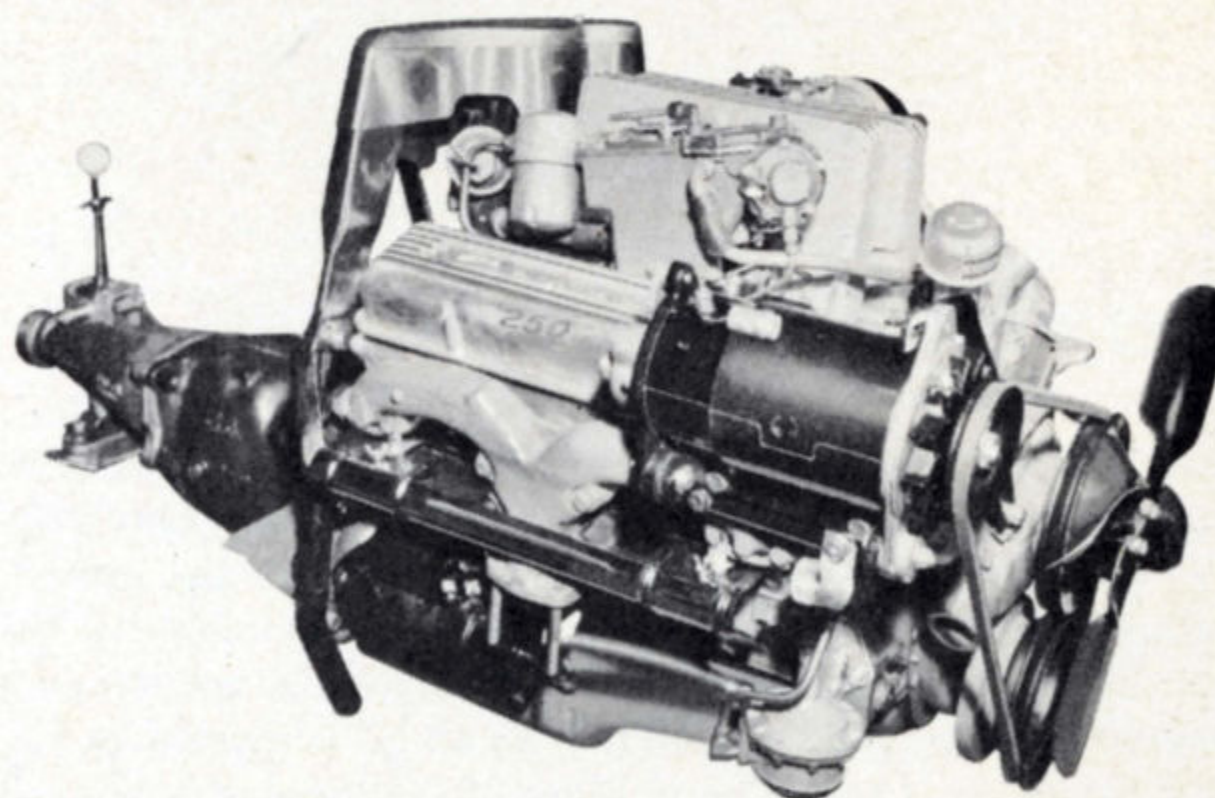
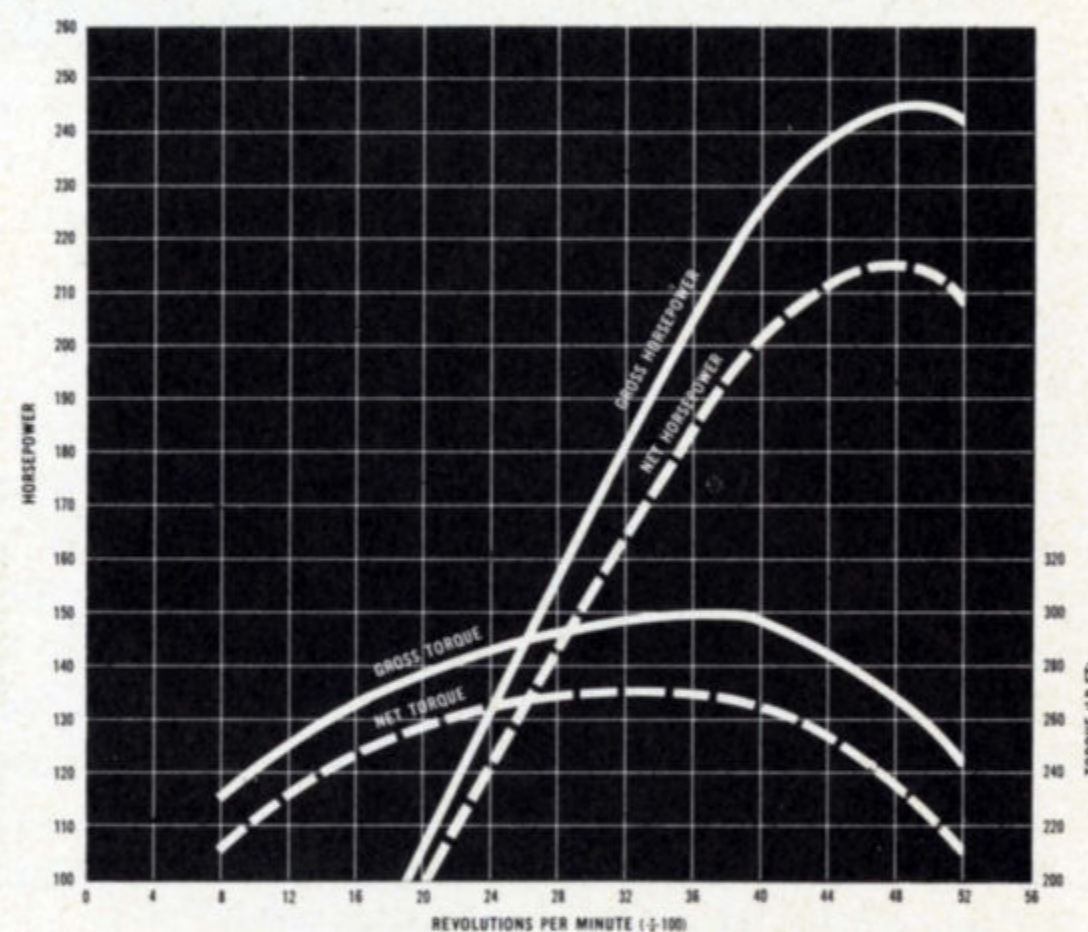
230-Horsepower Corvette V8 (STANDARD ENGINE)

Corvette's standard V8 is quiet, smooth, and dependable. Excellent low-end torque produces impressive acceleration. Hydraulic valve lifters, centrifugal-vacuum spark advance and generator-driven tachometer are featured. Standard equipment includes full-flow oil filter and dual exhausts, as on all 1959 Corvette engines. Specialized performance option R.P.O. 684 not available with this engine.



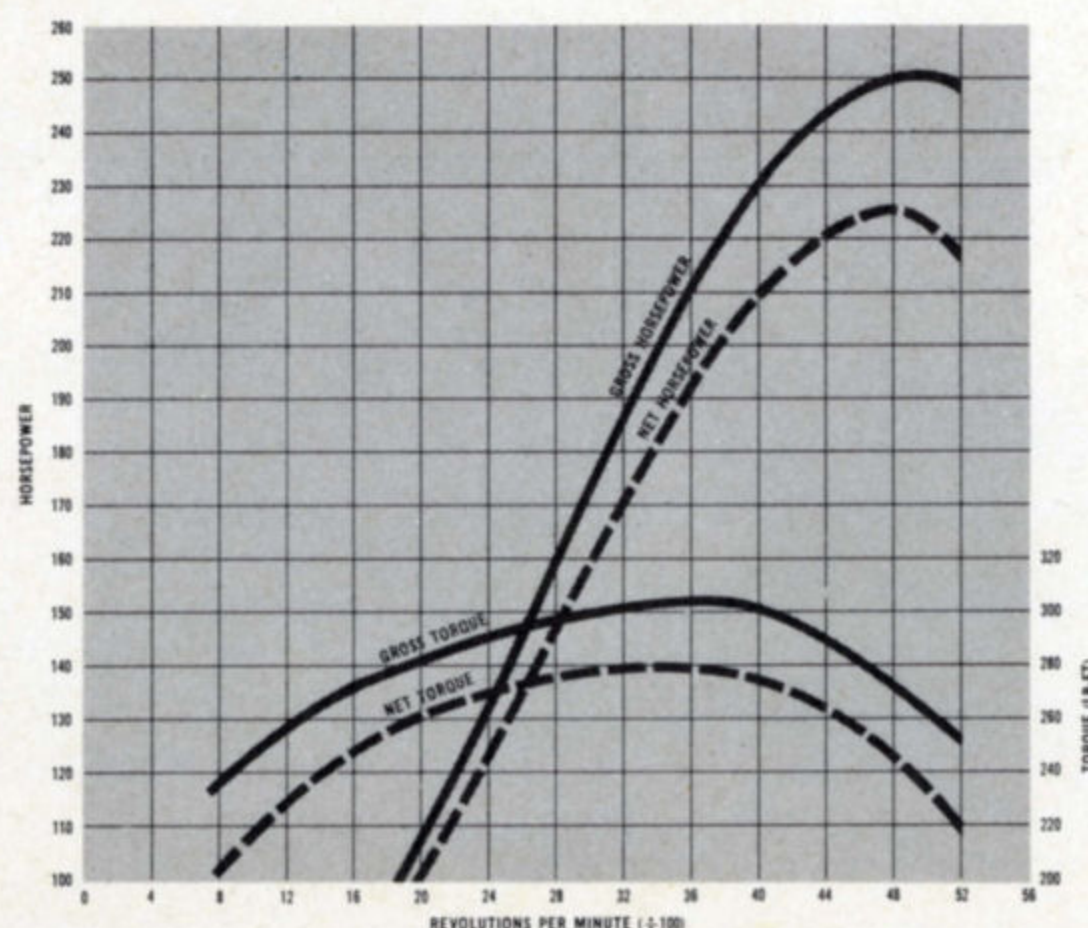
245-Horsepower Corvette V8 WITH TWIN 4-BARREL CARBURETION R.P.O. 469

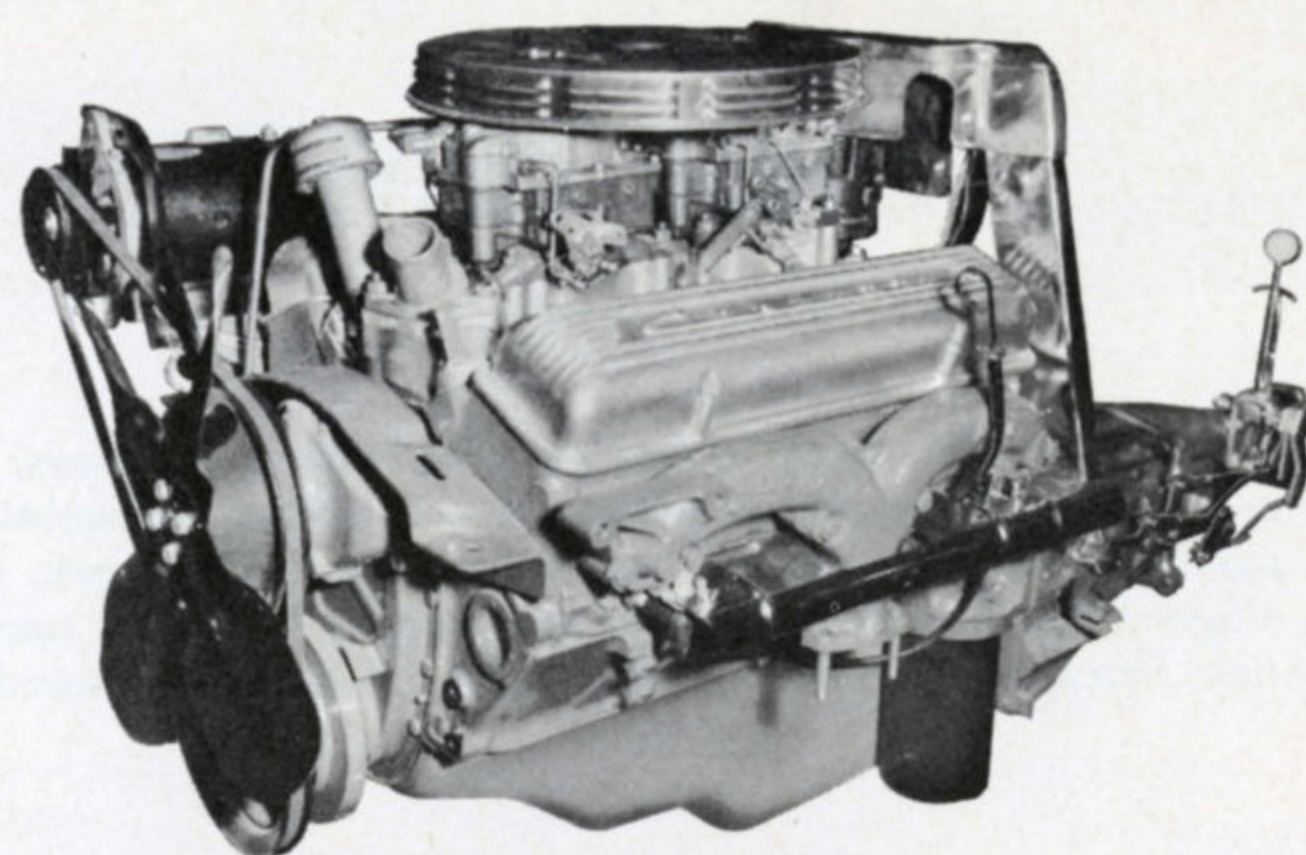
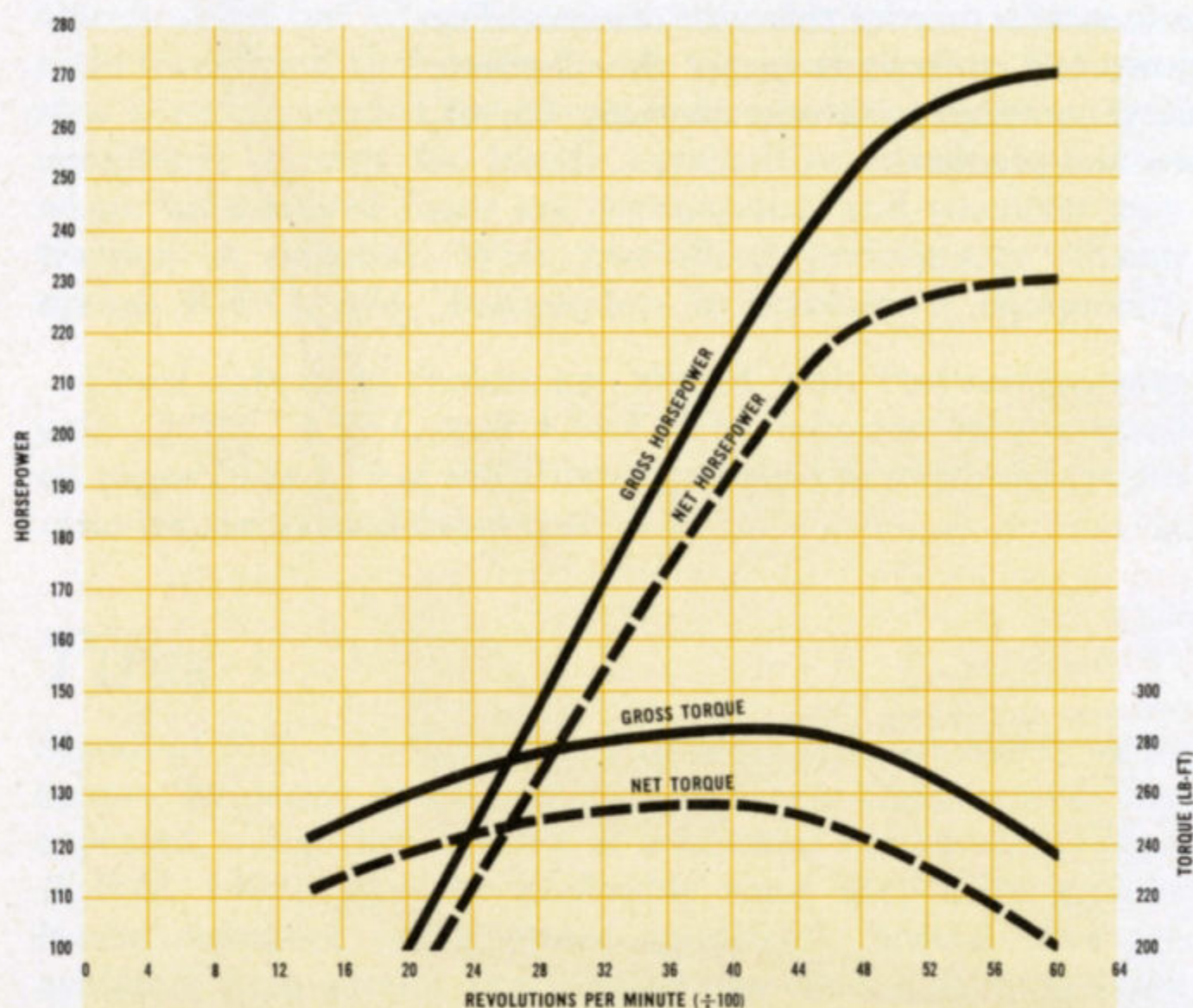
This engine is basically similar to the 270-horsepower engine, but with hydraulic valve lifters and a more moderate camshaft. The horsepower and torque curves show that highest horsepower is developed in the middle and upper speed ranges, offering extra power at minimum extra cost. Finned aluminum rocker covers and generator-driven tachometer are standard equipment. Specialized performance option R.P.O. 684 not available with this engine.



250-Horsepower Corvette V8 WITH RAMJET FUEL INJECTION R.P.O. 579

Here is an engine with appeal to drivers who like a powerplant that has the impressive response of fuel injection with around-town docility. Hydraulic valve lifters, a moderate camshaft, and centrifugal-vacuum spark advance give this engine a wide range of performance matched by few other sports car engines for overall quiet, quick response, and exhilarating performance. Finned aluminum rocker covers, generator-driven tachometer, and paper element air cleaner are included. Specialized performance option R.P.O. 684 not available with this engine.

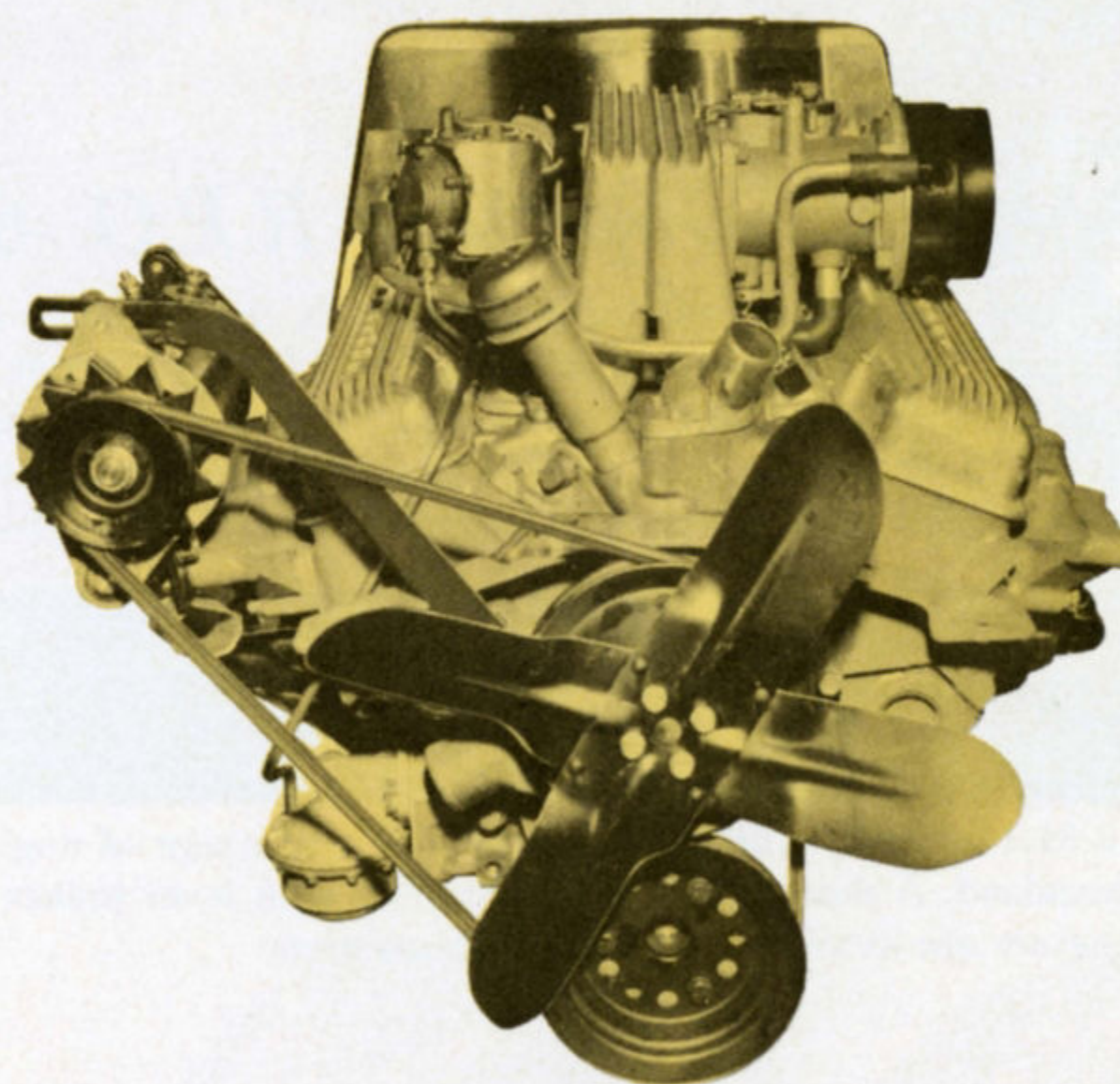




270-Horsepower Corvette V8

WITH TWIN 4-BARREL CARBURETION R.P.O. 469C

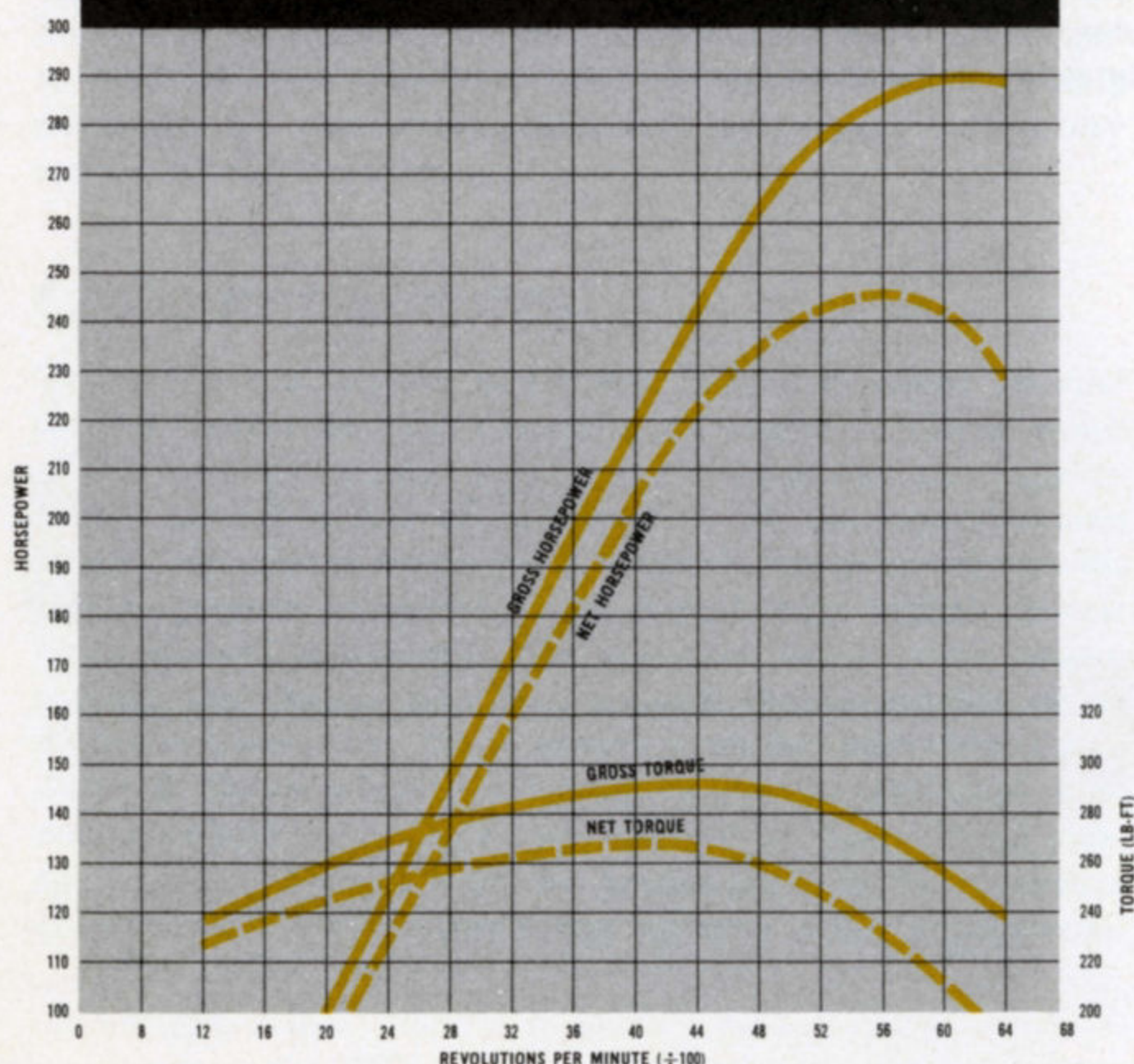
This highest horsepower carbureted Corvette V8 produces high-speed performance equivalent to the finest offered by most European sports car manufacturers, and is considered second only to the 290-horsepower Corvette V8. With its relatively lower initial cost, it represents an outstanding performance value. Develops 270 gross horsepower at 6000 r.p.m. with 9.5:1 compression ratio. Includes special camshaft, high-speed valve system with mechanical valve lifters, and other basic features of the R.P.O. 579D. Finned aluminum rocker covers, notched pistons, generator-driven tachometer, and straight-through type mufflers are included with this engine.



290-Horsepower Corvette V8

WITH RAMJET FUEL INJECTION R.P.O. 579D

For maximum sports car performance, here is one of the very finest engines ever built. Develops 290 gross horsepower at 6200 r.p.m., with peak torque at high engine speeds. Ramjet Fuel Injection system produces instantaneous response unmatched by any conventional carburetion system. Compression ratio rated 10.5:1. Features special camshaft, high-speed valve system with light alloy valves, high-tension valve springs, and mechanical valve lifters. Distributor has full centrifugal spark advance and dual breaker points. Tachometer is distributor driven. Special alloy main and connecting rod bearings contribute to the exceptional durability of this short stroke, top efficiency V8. Finned aluminum rocker covers, domed pistons, special paper element air cleaner, and straight-through type mufflers are included.



1959 CORVETTE OPTIONS

Transmissions

The average rally course is laid out over existing roadways, and often includes some back roads, hills, bends and corners. The standard 3-Speed Synchro-Mesh transmission is quite satisfactory for this type of event. For maximum driving pleasure and wide-range performance, most sports car enthusiasts prefer the Corvette 4-Speed Synchro-Mesh. Typical road courses for highly competitive events usually include sweeping curves, tight hairpins, and reverse S's that make a 4-speed box most desirable—and practical.

4-Speed Synchro-Mesh R.P.O. 685

Considered a must by most top-flight drivers, the Corvette close-ratio 4-Speed Synchro-Mesh is one of the finest sports car transmissions ever offered. All forward speeds are fully synchronized, including first gear. Gear ratios are: 2.2:1 first, 1.66:1 second, 1.31:1 third, 1:1 fourth, and 2.26:1 reverse. A positive reverse-gear lockout on the shift lever, introduced in 1959, prevents the possibility of an inadvertent shift into reverse gear during fast shifting. The convenient shift lever is mounted on the floor tunnel. Available with all five 1959 Corvette V8 engines.

3-Speed Synchro-Mesh

The Corvette standard 3-speed transmission has close ratios of 2.21:1 first, 1.32:1 second, 1:1 high or top gear and 2.51:1 reverse. These ratios take full advantage of engine power. Shifts to second and third gears are synchronized. A short-reach, floor-mounted shift lever makes shifting quick and convenient. All five Corvette V8 engines are available with this transmission.

Powerglide R.P.O. 313

While most sports car enthusiasts require a manual-shift transmission, Powerglide is often preferred by drivers who demand the convenience of automatic driving in a high-performing Corvette. Excellent for touring or around-town traffic, Powerglide is available with 230-, 245-, or 250-h.p. engines and standard rear axle with 3.55:1 ratio only.

Rear Axle

The standard 1959 Corvette rear axle has a conventional differential and 3.70:1 gear ratio with either 3-Speed or 4-Speed Synchro-Mesh transmissions—3.55:1 with Powerglide. Optional Positraction rear axle (R.P.O. 675) delivers power to both wheels unless one wheel loses traction, when power is immediately transferred to the wheel with the most traction. Positraction is recommended for all types of sports car driving. It is considered a must for highly competitive events, in rallies where unimproved roads are encountered, and wherever sure traction is essential. With specialized performance chassis option R.P.O. 684, Positraction is mandatory equipment.

Three axle ratio choices are offered with Positraction rear axle—3.70:1, 4.11:1, and 4.56:1. The information presented on pages 20 and 21 of this Guide can help you select the proper ratio for specialized events.

Tires

Standard 6.70 x 15 Tyrex cord tubeless tires are highly satisfactory for many sports car events. When higher speeds are expected, nylon tires, offered as a Limited Production Option (L.P.O. 1408), may be preferable since they have greater bruise resistance under severe conditions. Special tires are available from several tire suppliers in various sizes, and are designed for highly competitive events. If larger size special tires are used, be sure there is no interference with body or chassis components. Tubes are recommended for all tires when events necessitate frequent or severe cornering.

Wheels R.P.O. 276

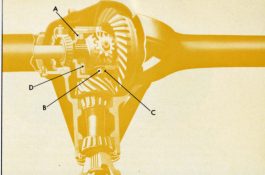
Optional 15 x 5.50K wheels are designed with a wider rim base that increases tire cross-section and adds extra stability. These wheels accommodate standard size tires, and are a must when the use of special oversize tires is anticipated. Hub caps are included with these wheels instead of full wheel covers.

Standard Brakes

All Corvette brakes are hydraulically actuated, self energizing, servo type with 11" diameter cast iron drums. Standard Corvette brake linings are high quality organic materials bonded to the shoes for excellent durability. Drums are flanged to help keep out dirt and water. These brakes are entirely adequate for normal stopping and give long, satisfactory service in average driving.

Optional Brakes

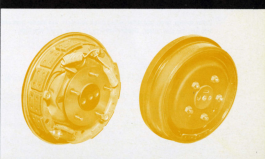
To maintain maximum safety and durability under unusual driving conditions, 1959 Corvettes are available with a choice of two optional brake types. For the most extreme requirements, special brakes are included in the specialized chassis R.P.O. 684 described on pages 8 and 9. For severe duty with regular chassis equipment, new R.P.O. 686 brakes include sintered-metallic facings, heat-resistant brake shoe return springs, and drums honed to a finish similar to that of an engine cylinder wall. These brakes, available with either 3- or 4-Speed Synchro-Mesh transmission, offer exceptional fade resistance and are not adversely affected by water. Pedal pressure is relatively high when the brakes are cold, but decreases considerably as the brakes warm up after a few applications.



With Positraction, power is transferred from the ring gear to the differential case A. Driving force moves cross pins B, up ramps of cam surfaces C, applying multiple disc clutches D. Axle locks for normal straight-ahead driving. Power remains equally divided between axle shafts until traction varies at either wheel, then the wheel with the most traction gets the greatest driving force.



Optional nylon cord tire (L.P.O. 1408) installed on optional wide base 15 x 5.50 K wheel (R.P.O. 276).



R.P.O. 686 segmented sintered-metallic linings and special finish brake drum. Shoes and drums are same width as standard brakes. Metallic linings are virtually unaffected by moisture.

CORVETTE OPTIONS

Special Chassis Equipment

A sports car of championship caliber must possess many superior qualities. Speed is less important than a proper balance of performance characteristics. Suspension must be firm for crisp handling and rugged to withstand unusual road shock and maneuvers. Steering must be quick and precise for positive control at all times. Brakes must be powerful, dependable, and resist fade under the most severe conditions. The Corvette specialized performance chassis option R.P.O. 684 is specifi-

cally engineered for the extreme requirements encountered in the most highly competitive events, and details of some of these chassis features are illustrated in this section. If you plan to compete in events of this type, R.P.O. 684 is highly recommended. In addition, certain special equipment may be required by individual sanctioning organizations. Check the regulations of the organization in which you plan to participate to be sure your Corvette meets all Production Class requirements.

Front Suspension

Other than brakes, the front suspension components can be subjected to more abuse and stresses than any other part of the running gear during road events. The R.P.O. 684 front suspension is very rugged with stiffer front coil springs—gives better cornering control and better overall handling.

Stabilizer Bar

The heavy-duty stabilizer included in R.P.O. 684 is designed to help equalize front end stresses during severe right and left turns. Because of its larger and heavier construction, this special stabilizer offers extra resistance to lean on turns.

Rear Suspension

Rear leaf springs included in R.P.O. 684 are designed with five leaves instead of four as on standard springs. The addi-

tional stiffness contributes to improved stability and handling on typical road courses.

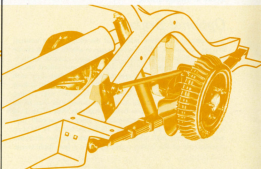
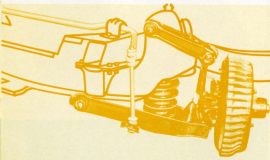
All 1959 Corvettes are equipped with the new radius rod rear suspension, featuring pivoted control arms that join the rear axle housing to the frame. The radius rods form parallelograms with the forward section of each rear spring as the wheels move up and down and prevent excessive spring windup which is the major cause of wheel hop during hard acceleration and braking. By restricting wheel hop, the rear end of the car remains under better control, and stability on all types of irregular or washboard road surfaces is greatly increased.

Shock Absorbers

Larger and stiffer-valved shock absorbers that are part of R.P.O. 684 are engineered specifically for severe duty. Because of the greater control that these shocks afford, no additional shock absorbers are necessary.

Stiffer springs, larger and stiffer-valved shock absorbers, and heavier front end stabilizer bar give crisper, steadier handling for higher speed operation.

Radius rods extend from top of axle housing to frame side member. Parallelogram action counteracts spring windup and helps keep rear wheels on road.



Heavy-Duty Brakes

The special brake system included in R.P.O. 684 is engineered to the specific requirements of sports cars, with many features not included in regular production. Both front and rear brakes are standard 11-inch diameter, but are substantially wider than regular Corvette brakes. Large finned drums dissipate heat rapidly, and help maintain exceptional braking power. Special heat resistant ceramic-metallic brake facings practically eliminate brake fade. In fact, this type facing actually produces a higher pedal after severe brake application, and requires greater initial clearance than conventional lining.

For ordinary driving between meets, it is possible to substitute conventional linings and shoes that have less pedal effort, are smoother acting, and quieter in normal traffic. For front brakes, use Oldsmobile brake shoes, part number 566060 and Chevrolet brake shoes, part number 3752920, for the rear. These substitute linings replace the ceramic-metallic type linings without any special modification. For special events, ceramic-metallic linings can be quickly reinstalled.

Brake Ventilation

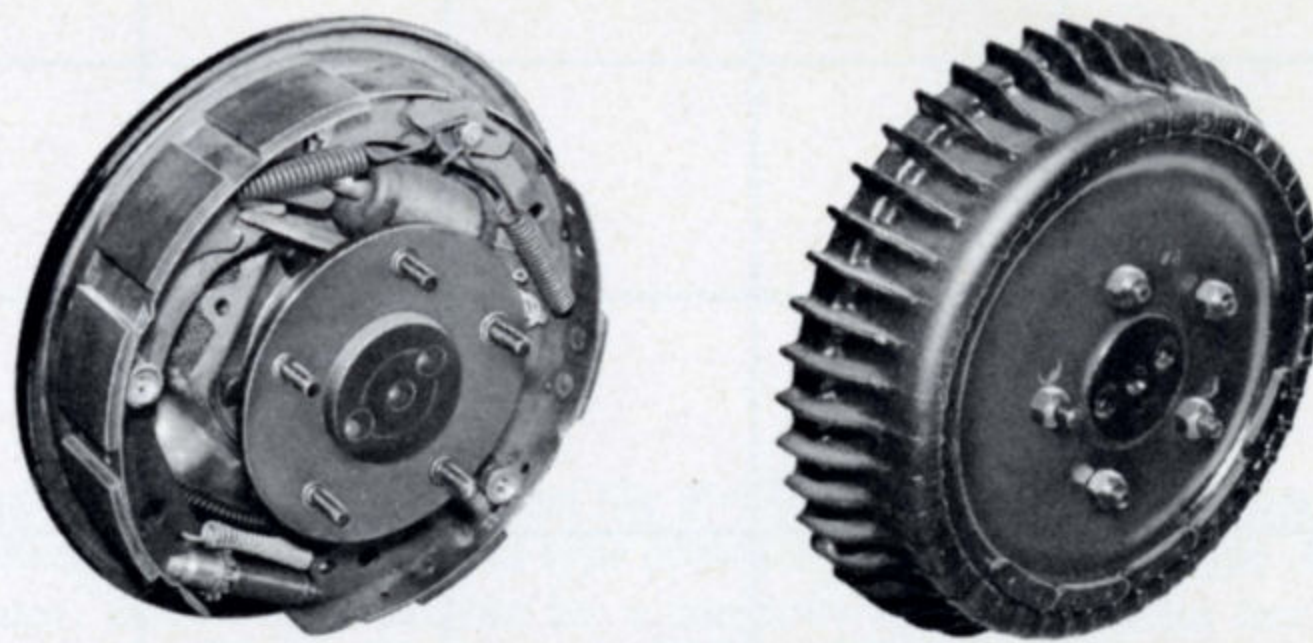
To help keep Corvette R.P.O. 684 ceramic-metallic brakes as cool as possible at all times, each brake flange plate has screened ventilation openings. Air scoops attached to the inside of each brake flange plate help force the flow of cooling air through the brakes.

Steering Linkage

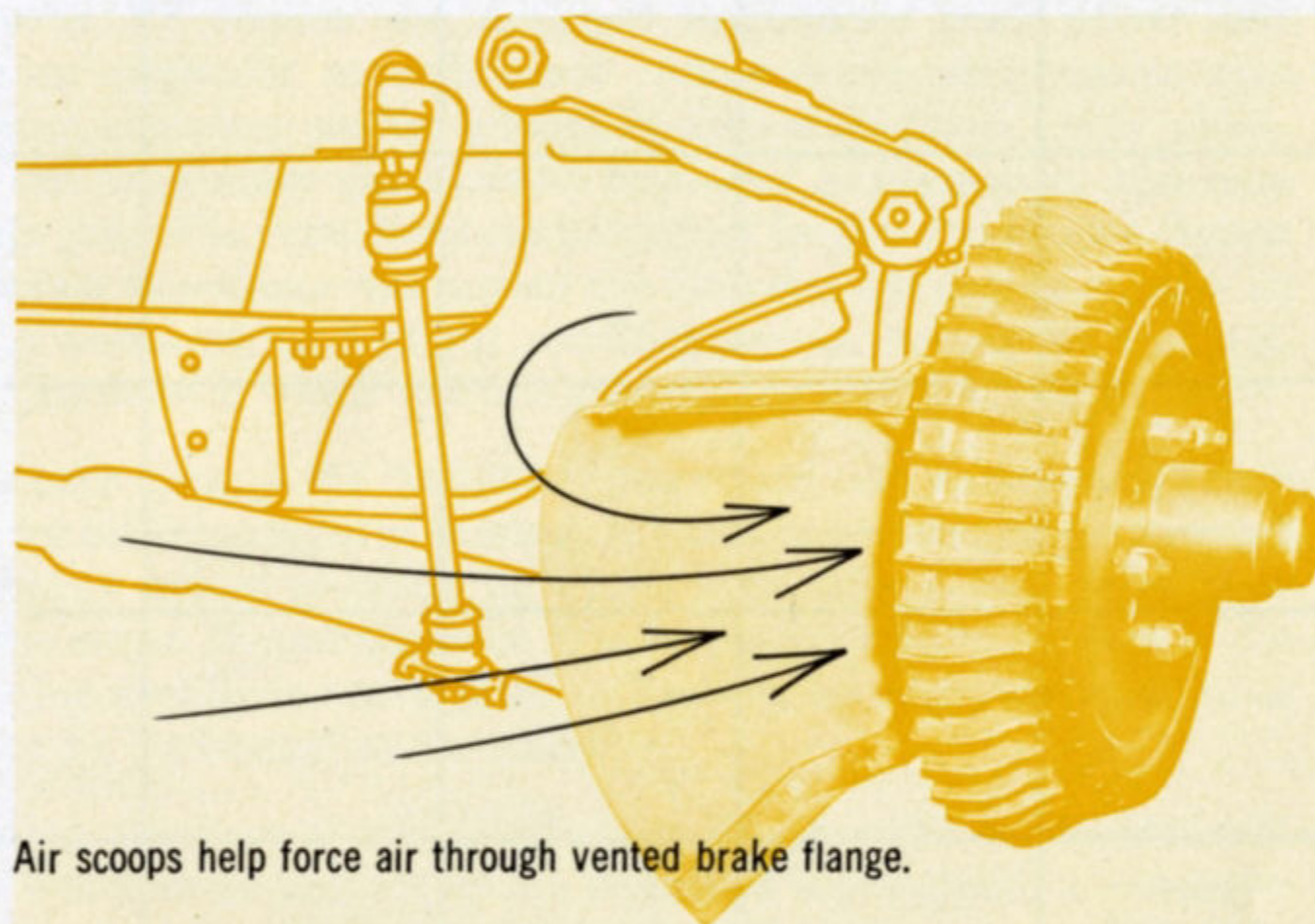
Handling is crisper and more precise with the special idler arm extension that is part of R.P.O. 684. This gives a quicker steering ratio of 16.3:1, changed from 21:1.

24-Gallon Gasoline Tank (L.P.O. 1625A)

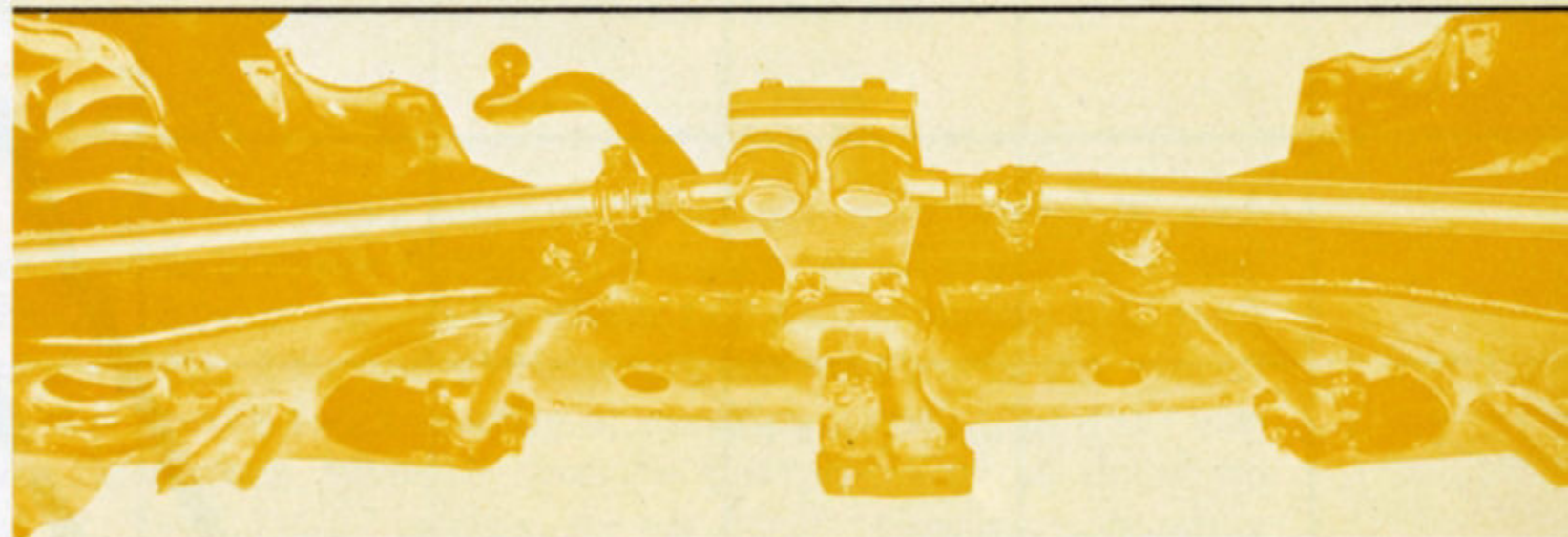
Special fiber glass fuel tank offers greater mileage without refueling. Replaces standard tank. Only the removable hard-top (R.P.O. 419, page 3) can be used with this tank.



Deep finned cast iron drums and segmented ceramic-metallic linings offer virtually fade-free braking for the most competitive events.



Air scoops help force air through vented brake flange.



Extension on center idler changes steering ratio from 21:1 to 16.3:1.

OTHER OPTIONAL EQUIPMENT

To many sports car enthusiasts, equipment that does not increase performance or roadability is undesirable if it adds to the overall car weight. However, many of these options contribute to safe driving and comfort and are well worthwhile.

Windshield Washer (F.O.A. 109)

The windshield must be kept clean for safe operation. Washers are required by law in many states.

Heater and Defroster (F.O.A. 101)

While a heater is not essential in warmer weather, the defroster unit can prevent a fogged windshield in rainy weather.

Windshield Sunshades (R.P.O. 261)

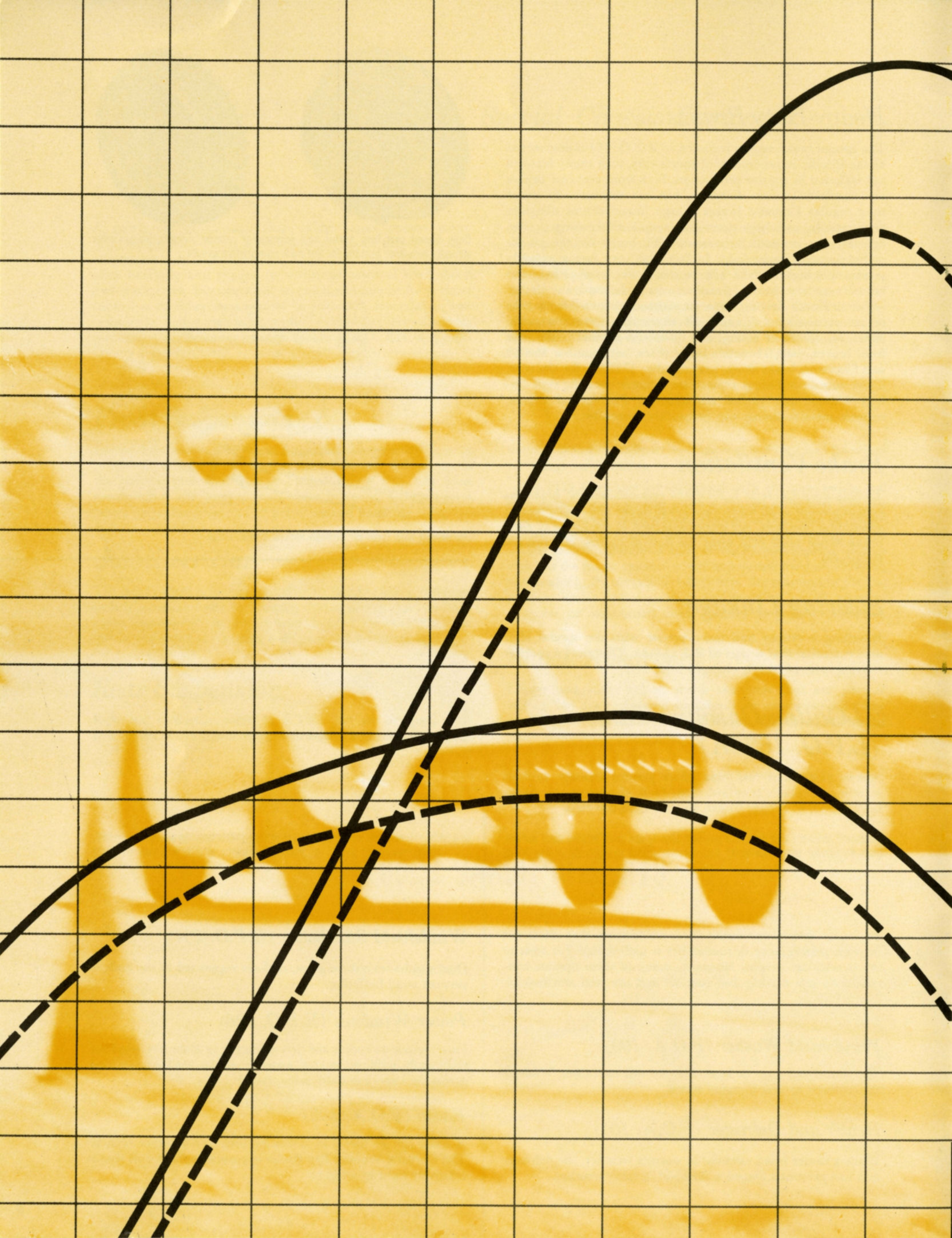
Dual sunshades reduce glare, and are supported at the ends to prevent wind buffeting.

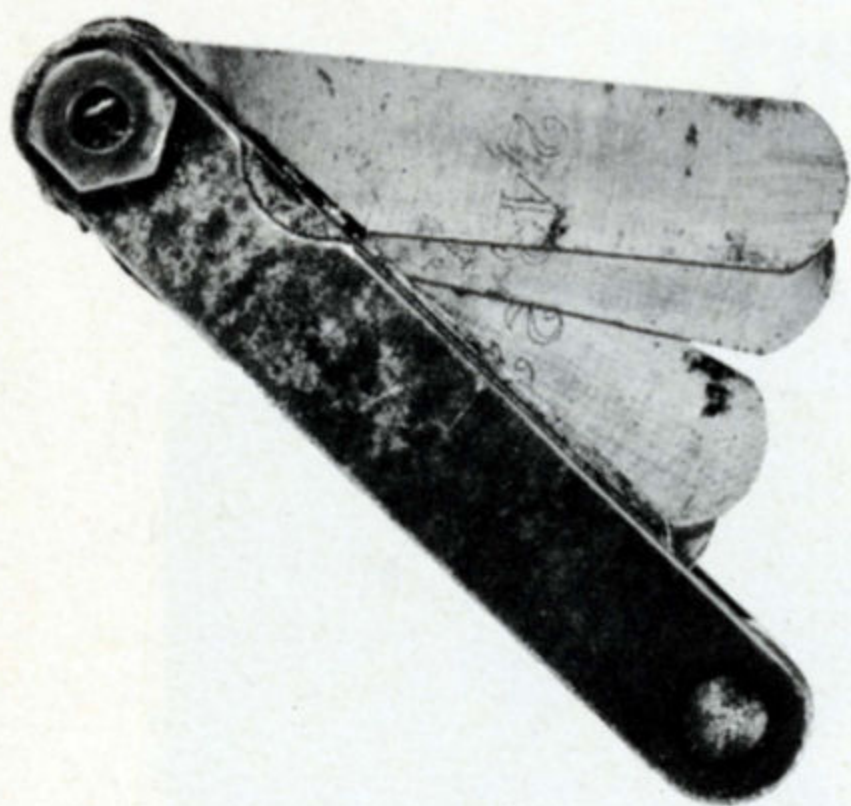
Power Windows (R.P.O. 426)

Power windows enable the driver to raise or lower the windows electrically without looking away from the road or reaching across the car—a definite safety factor.

Radio (F.O.A. 102)

A radio can be useful in rallies for time and weather reports. The Corvette Wonder Bar Radio is a transistorized unit that is relatively light in weight.





TUNING

Proper tuning of your Corvette V8 pays big dividends both in performance and engine efficiency. No matter what type of driving you do or what type of event you enter, there's no substitute for a correctly tuned engine for best possible performance. Be cautious of tuning "secrets"—it is possible to overtune an engine. Never deviate from specified Chevrolet settings unless you are absolutely certain that you can improve performance.

1959 Corvette V8 engines are designed to produce peak power and performance as originally manufactured. While some performance specialists advocate complete engine rebuilding for competition, costly modification can fail to produce significantly improved performance, and may also disqualify your Corvette from participation in the Production Sports Car Class. Actual experience has proved the Corvette V8 engine capable of championship performance without modification—a tribute to the high standards of precision to which this fine powerplant is engineered and built.

Tuning for each event is the customary procedure, and some settings may vary slightly for different types of driving. It's best to perform major tune-up operations shortly before entering an event, especially if you drive your Corvette to the event. If your Corvette is to be transported to the area of the meet, the engine usually is tuned prior to loading, leaving only small final adjustments to be performed at the course.

In succeeding portions of this Guide, specific procedures are outlined. The order in which these procedures are described is principally a reminder to make every adjustment that will improve performance.

Compression

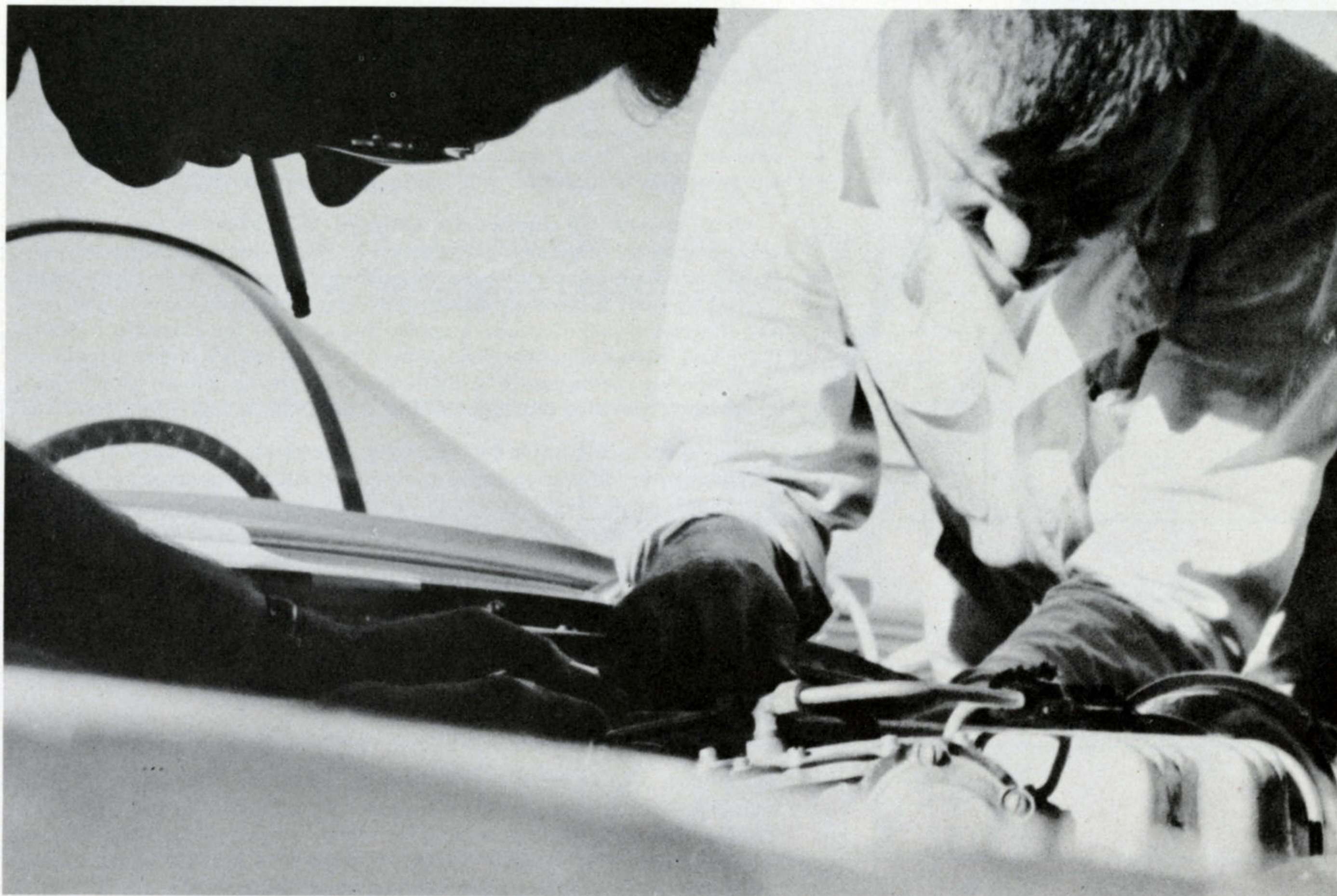
As the first step of every major tune-up, check the compression of each cylinder. Compression pressure should be 160 p.s.i. on all except 270- and 290-h.p. and 1957 283-h.p. engines for which 140 p.s.i. is normal (140 p.s.i. is normal for the 270-, 283- and 290-h.p. engines because of the greater valve overlap that gives a lower reading at cranking speed). The 1959 and 1958 Corvette Operations Manuals describe this procedure in detail on pages 50 and 51. For 1956-57 models, see pp. 38-39 of the corresponding Operations Manual. A variation of more than 20 p.s.i. between cylinders or a reading 20 p.s.i. from specified pressures on an accurate gauge may indicate some malfunction, and corrective measures should be taken. Consult the procedures outlined in Corvette Operations Manual or Chevrolet Shop Manual.

Many sports car engine mechanics test each cylinder head bolt for proper tightness before checking compression. Recommended torque is 60-70 pounds-feet (warm engine). Tighten in increments of 5 pounds-feet, using the proper sequence shown in the Chevrolet Shop Manual or Corvette Operations Manual. If you intend to enter an event where very high engine speeds and correspondingly high combustion chamber pressures will be encountered, it may be advisable to torque cylinder head bolts to as much as 85 pounds-feet to help prevent possible head gasket leakage.

Fuel Requirement

Fuel is very important in competition, and must be properly matched to a high performance sports car engine. At most events, fuel is controlled by the sanctioning organization. Be sure to determine in advance the type and rating of fuel available. The 290-h.p. Corvette V8 with 10.5:1 compression ratio requires 100+ octane (Research method) gasoline for best performance, but it and all other 1959 engines will perform satisfactorily on 98 octane (Research method) fuel. If lower octane fuel must be used, it may be advisable to lower the effective compression ratio slightly by doubling cylinder head gaskets.

TUNING



Valve System

Corvette V8 engines with hydraulic valve lifters do not require valve lash adjustment. Hydraulic lifters automatically maintain proper clearances. Valve timing should be checked carefully. For 1957 through 1959 models, inlet opens 12° 30' B.T.C. and closes 57° 30' A.B.C.—exhaust opens 54° 30' B.B.C. and closes 15° 30' A.T.C.

On all Corvette V8 engines with mechanical valve lifters, strict adherence to standard valve lash will avert serious trouble. Adjust valve lash at idle speed, with engine at stabilized normal operating temperature. Recommended settings for 1957-1959 engines are .012" inlet, .018" exhaust. For all 1956 engines, recommended valve lash settings are .008" inlet, .016" exhaust.

Valve timing on all Corvette V8 engines with special camshaft should be as specified—inlet opens 35° B.T.C. and closes 72° A.B.C.; exhaust opens 76° B.B.C. and closes 31° A.T.C.

On 1956 engines with standard camshaft, inlet opens 21° 30' B.T.C. and closes 62° 30' A.B.C.—exhaust opens 62° 30' B.B.C. and closes 23° 30' A.T.C.

Valve spring tension should be equal on all valves—if it is not, install shims under the weaker valve springs to increase to proper pressure, or replace with new tested springs.

Spark Plugs

Plugs are a popular subject of discussion among sports car experts. Spark plugs are available in many heat ranges and should be selected for a particular type of driving. For example: slow, heavy traffic may require a "hot" plug such as the AC 46; for hard driving in competitive events, "cold" plugs are definitely recommended. Choose AC plug models (or equivalent) on this basis for all Corvette V8 engines.

City driving.....	AC 46
Town & country driving.....	AC 44
Heavy-duty & high speed.....	AC C43 Com.
Specialized high performance events.....	AC C42-1 Com.

Torque plugs to 25 pounds-feet. Normal gap is .033"-.038", but a closer setting may prove better for very long events.

Distributor

All Corvette distributors, including those with dual breaker points and special coil and resistor, are engineered for specific engines and should never be altered from the specifications detailed on page 15 of this Guide. Be sure the shaft, rotor, and cam lobes run straight and true. Check alignment of the breaker points, dwell, and breaker arm spring tension. Distributor cap must seat properly, and high tension ignition cables must be in first-class condition and fit firmly.

TUNING / FUEL INJECTION V8's

Fuel Injection Adjustments

There is no known special adjustment that will measurably improve the maximum performance of a properly calibrated Ramjet Fuel Injection system. However, proper adjustment and maintenance are essential to best performance. Study the system until you know the exact function of each related part. Do not experiment—make only necessary adjustments and perform these with great care. Several service publications cover Ramjet Fuel Injection systems and are available to all Chevrolet Dealers—Chevrolet Fuel Injection Shop Manual (1957), Corvette Service Operations-Chassis, and 1958 and 1959 Chevrolet Shop Manuals.

The system must be kept meticulously clean, but never use tools to clean the tiny fuel injection nozzle orifices—use only air and solvent. Avoid unnecessary disassembly—the air meter is one example. Do not adjust the fast idle screw on the automatic choke, and never move the exposed mixture stop screws on the fuel meter. These stops are preset during manufacture, under carefully calibrated flow conditions. Normally, no readjustment is ever needed. Tool J-7090 Fuel Injection Fuel Flow Calibration Set, described in 1959 Chevrolet Shop Manual, is available to Chevrolet dealers to aid calibration.

Spark Advance

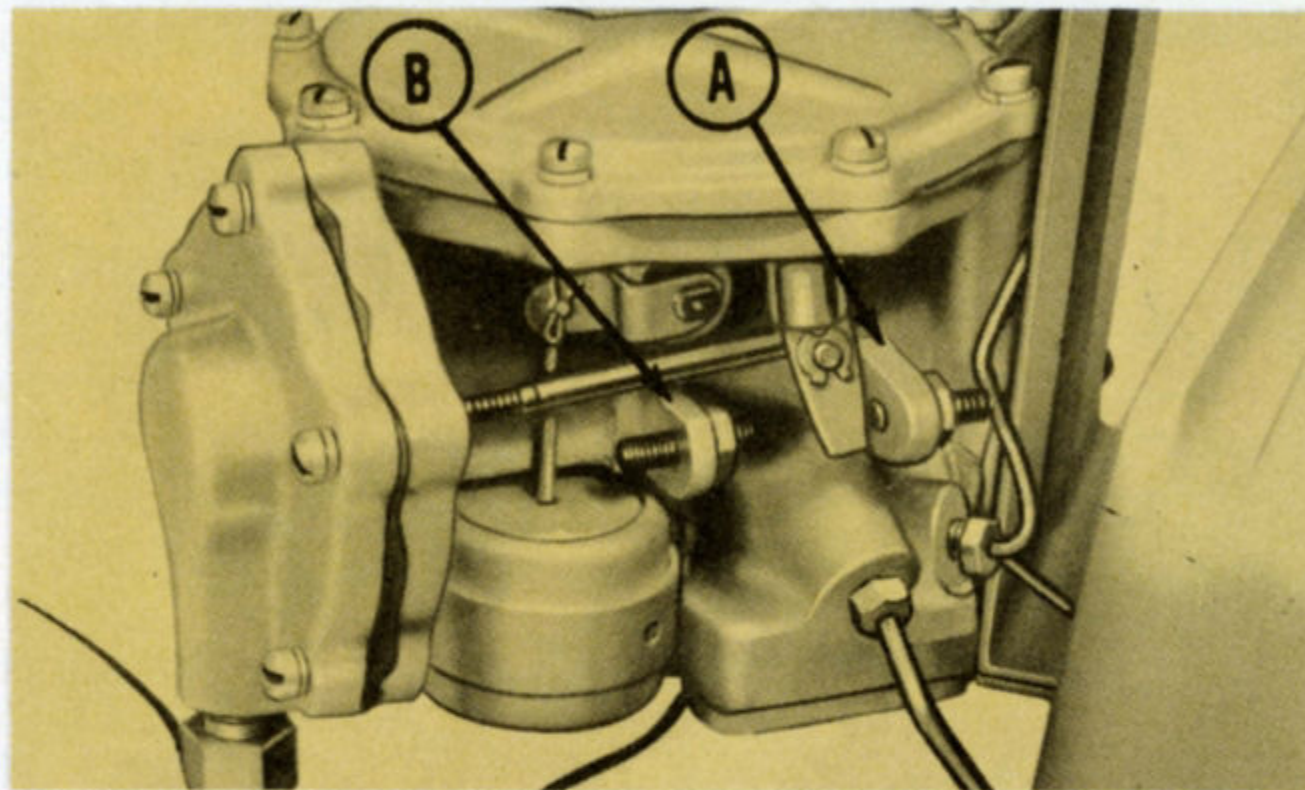
Always check spark advance and initial timing with first-class testing equipment—specifications are on page 15. Never try to road-check spark advance by lugging the engine at low speeds—the Corvette V8 with Ramjet Fuel Injection will not develop audible preignition “ping”. Check distributor setting very thoroughly—detonation caused by excessive advance can produce failure at sustained engine speeds.

Idle Adjustment

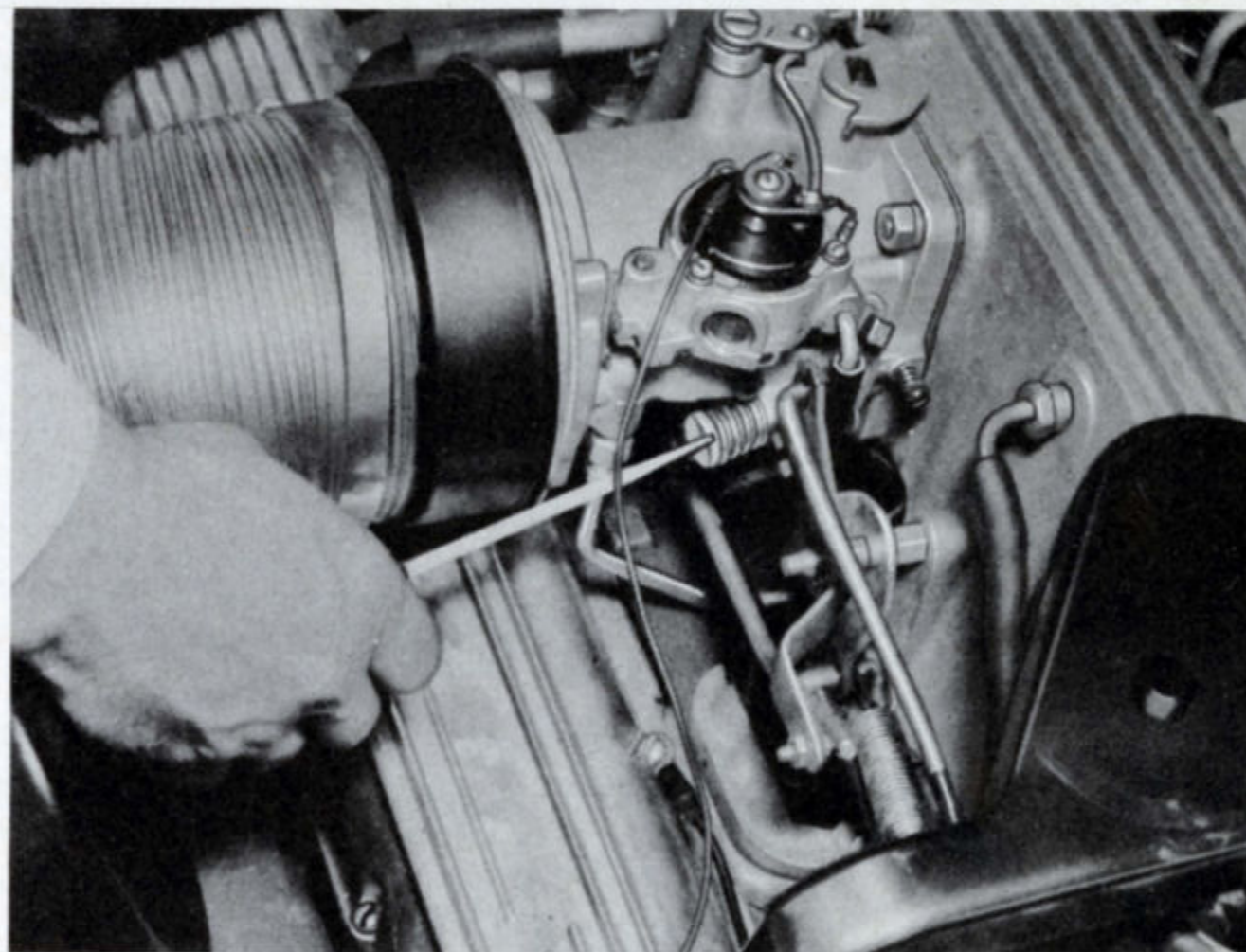
Recommended idle, specified on page 15, should be set with the engine at normal operating temperature, and the engine is designed to operate smoothly at this speed. Adjustment screws are shown in illustration. Before starting the engine, open both screws two turns. Start and warm up the engine, then turn first the air screw, then the fuel screw, as necessary for final adjustment.

Accelerator Linkage Adjustment

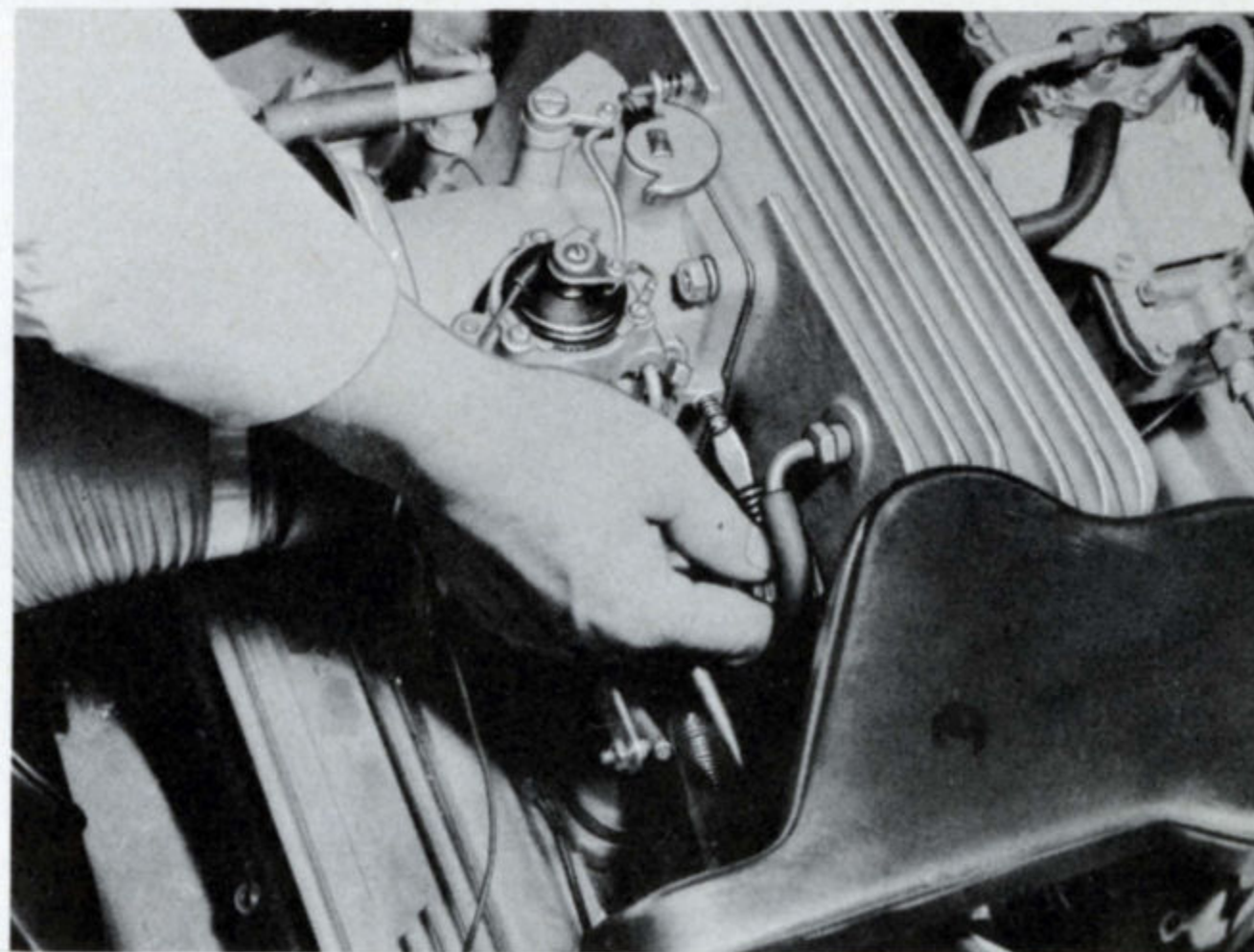
With the floor carpet in place, depress accelerator pedal to the floor. Adjust control rod until the throttle is wide open.



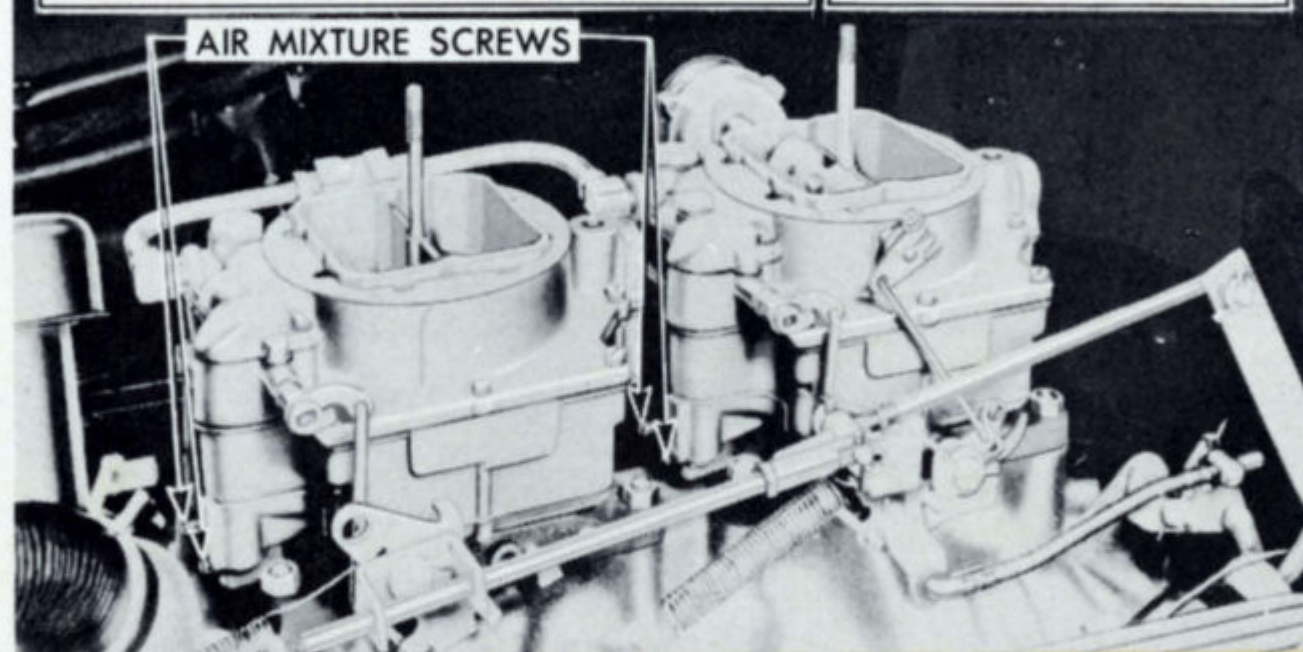
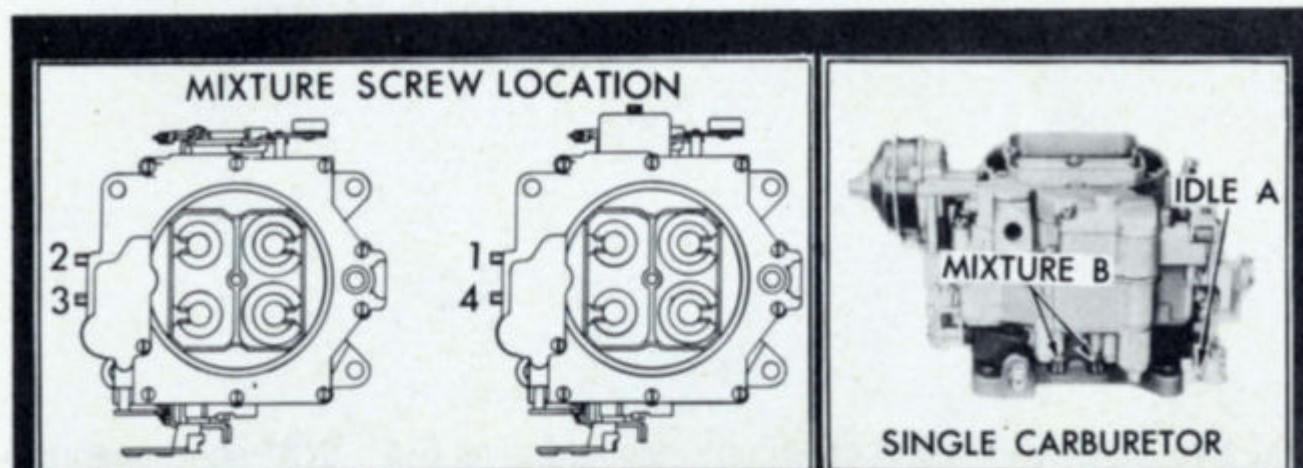
Mixture control stop screws are preset at factory and must not be adjusted without special equipment. Stop “A” is Rich, stop “B” is Lean.



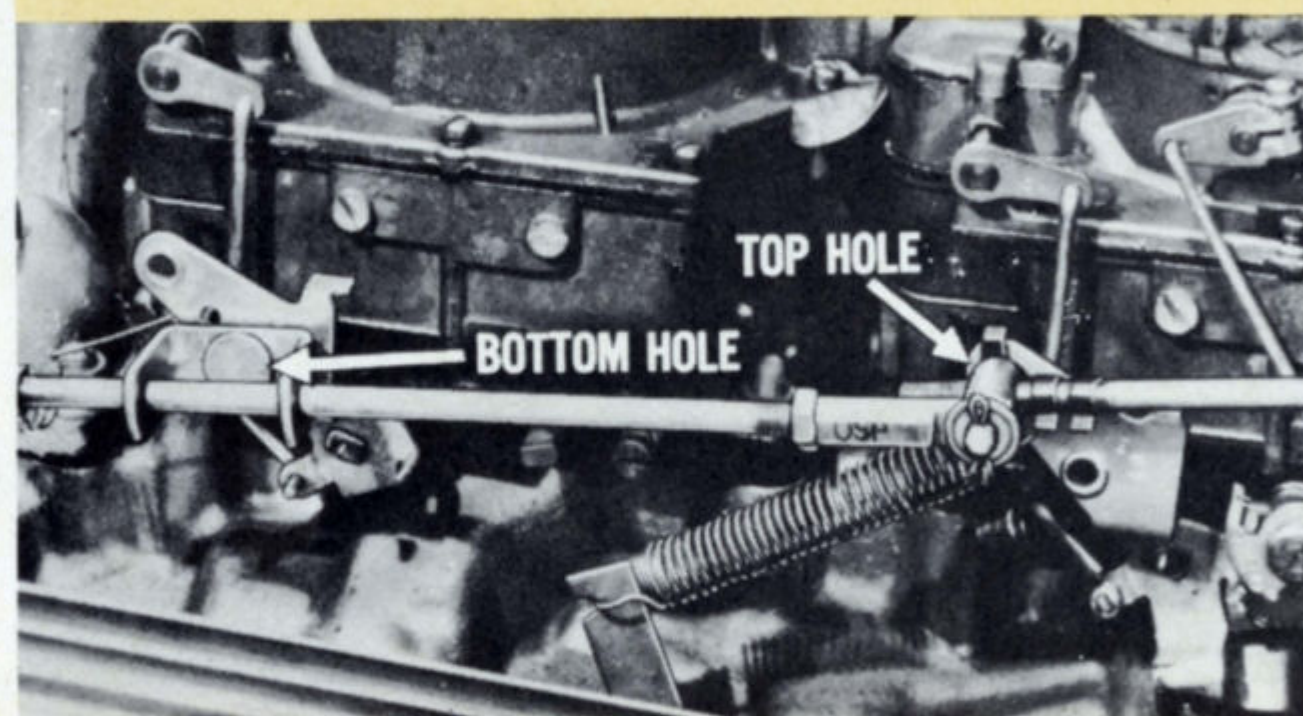
With warm engine, air adjustment screw determines best idle speed.



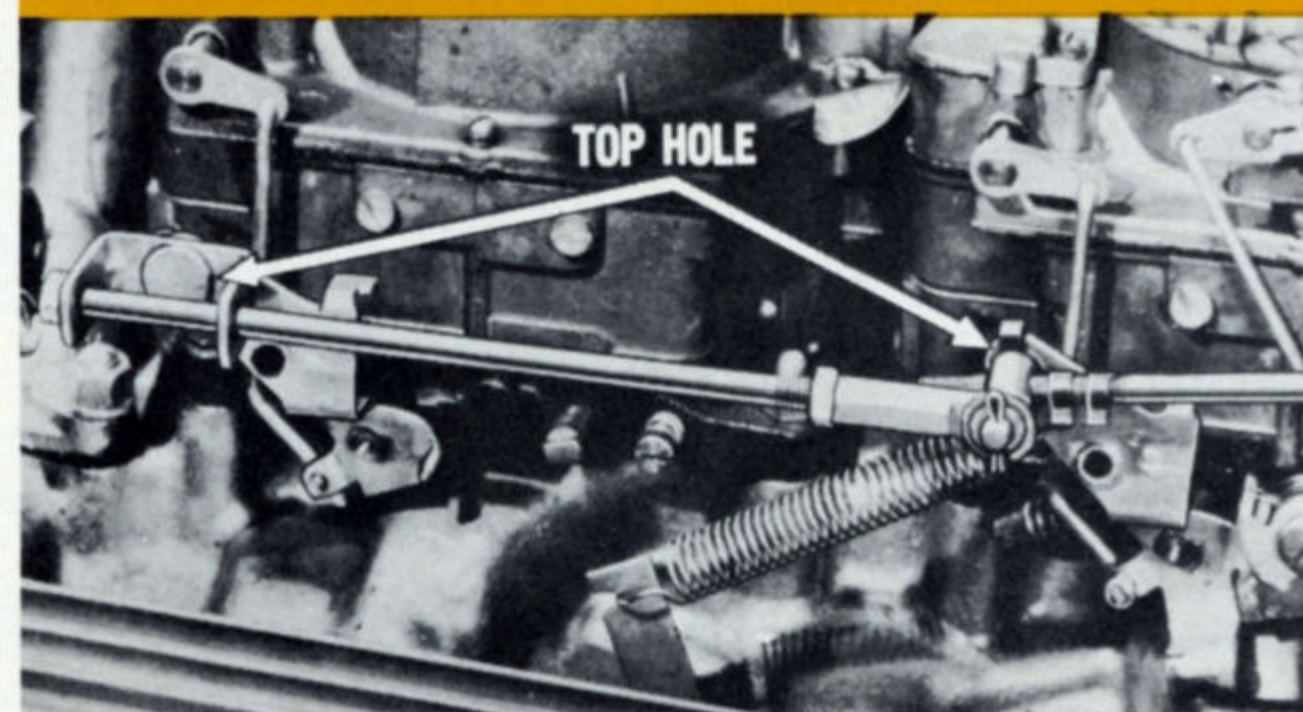
Fuel adjustment screw smooths out idle at proper speed.



Carburetor air mixture and idle screw locations on both 4-barrel and twin 4-barrel carburetors.



Corvette twin 4-barrel carburetion offers a choice of either simultaneous or progressive throttle opening. With linkage positioned as shown above, the front barrels of the rear carburetor open when front carburetor is at half throttle for smoother acceleration. In the lower illustration, the front barrels of both carburetors open simultaneously for maximum power. With either setting, rear barrels of each carburetor open only at higher engine speeds.



Spark Advance

Spark advance and initial timing should be checked with first-class testing equipment and must follow the specifications on page 15. Check distributor setting very thoroughly, because excessive advance can cause detonation and may lead to engine failure at high engine speeds. *Do not attempt to "power time" a Corvette V8 engine—it is not as accurate as instrumented setting.*

Carburetor Adjustments

Before making idle or air-fuel mixture adjustments, engine must be running at stabilized normal operating temperature. Open and close throttle valves several times to make sure they are properly seated, then connect vacuum gauge. For single carburetor engine, adjust throttle lever idle screw A (see illustration) until engine idles at recommended idle speed (see page 15). Adjust each mixture screw B separately for peak vacuum and r.p.m. reading. If necessary, repeat operation until peak vacuum with recommended idle speed is attained. If there is a tendency to stall in traffic, turn each of the four air mixture screws one-quarter turn clockwise for leaner mixture.

On twin 4-barrel carburetors, and with engine stopped, turn in each idle mixture screw (four) until it seats lightly and then open one turn. Start engine and set throttle valve idle screw for recommended idle (see page 15). Beginning with the rear carburetor, adjust all idle mixture screws individually until engine idles as smoothly as possible. Repeat the operation until engine idles smoothly at specified r.p.m. See illustrations for instructions on alternate linkage settings for either simultaneous or progressive throttle opening.

Accelerator Linkage Adjustments

Remove carpet from around accelerator pedal and remove air cleaner(s) and throttle pull back spring(s). With carburetor (rear carburetor with duals) in wide open throttle position, pedal should be $\frac{3}{8}$ " from toe board. To lengthen or shorten accelerator rod, remove spring clip and turn trunnion nut.

Additional adjustment with dual carburetors: With rear carburetor in wide open throttle position, adjust accelerator rod nut on front carburetor until throttle is in wide open position against the stop. When linkage is properly adjusted, front carburetor will just begin to open when rear carburetor is approximately half open.

CORVETTE V8 IGNITION TUNING DATA

	210 H.P.	220 H.P.	225 H.P.
	1956 Standard Engine, 4-Barrel Carburetion, Regular Camshaft*	1957 Standard Engine, 4-Barrel Carburetion, Regular Camshaft	1956 Optional Engine, 2 x 4-Barrel Carburetion, Special Camshaft*
Recommended idle	475 r.p.m.**	475 r.p.m.**	600 r.p.m.***
Distributor part number	1110866, 1110869, 1110878	1110891	1110872, 1110879
Breaker points	Single	Dual	Dual
Advance system	Centrifugal & Vacuum	Full centrifugal	Full centrifugal
Breaker arm spring tension	19-23 oz.	19-23 oz.	19-23 oz.
Point gap	New—.019"; Old—.016"	Set by dwell (should give .014"-.018" point opening) 29° each breaker; 33°±1° total	Set by dwell (should give .014"-.018" point opening) 29° each breaker; 33°±1° total
Cam angle (dwell)	28°—32°		
Spark advance			
Initial setting @ recommended idle	4° BTDC	4° BTDC	4° BTDC
Centrifugal advance†	Start 0° @ 600 r.p.m. Intermediate 14° @ 1500 r.p.m. Maximum 28° @ 3700 r.p.m.	0° @ 600 r.p.m. 14° @ 1500 r.p.m. 28° @ 3700 r.p.m.	0° @ 600 r.p.m. 15° @ 1500 r.p.m. 28° @ 3700 r.p.m.
Vacuum advance	Start 0° @ 8" Hg. Maximum 13.75° @ 15" Hg.	None	None
	230 H.P.	245 H.P.	250 H.P.
	1958-1959 Standard Engine, 4-Barrel Carburetion, Regular Camshaft	1957-1959 Optional Engine, 2 x 4-Barrel Carburetion, Regular Camshaft	1957-1959 Optional Engine, Ramjet Fuel Injection, Regular Camshaft
Recommended idle	475 r.p.m.**	600 r.p.m.***	500 r.p.m.***
Distributor part number	1110946 ('59) 1110890 ('58)	1110891	1110915 ('58-'59) 1110906 ('57 with Powerglide‡)
Breaker points	Single	Dual	Single
Advance system	Centrifugal & Vacuum	Full centrifugal	Centrifugal & Vacuum
Breaker arm spring tension	19-23 oz.	19-23 oz.	19-23 oz.
Point gap	New .019"; Old—.016"	Set by dwell (should give .014"-.018" point opening) 29° each breaker, 33°±1° total	New—.019"; Old—.016"
Cam angle (dwell)	28°—32°		28°—32°
Spark advance			
Initial setting @ recommended idle	4° BTDC	4° BTDC	4° BTDC
Centrifugal advance†	Start 0° @ 600 r.p.m. Intermediate 14° @ 1500 r.p.m. Maximum 28° @ 3700 r.p.m.	0° @ 600 r.p.m. 14° @ 1500 r.p.m. 28° @ 3700 r.p.m.	0° @ 600 r.p.m. 14° @ 1500 r.p.m. 28° @ 3700 r.p.m.
Vacuum advance	Start 0° @ 8" Hg. Maximum 15° @ 15.5" Hg.	None	0° @ 4.75" Hg. 24° @ 13.5" Hg.
	270 H.P.	283 H.P.	290 H.P.
	1957-1959 Optional Engine, 2 x 4-Barrel Carburetion, Special Camshaft*	1957 Optional Engine, Ramjet Fuel Injection, Special Camshaft*	1958-1959 Optional Engine, Ramjet Fuel Injection, Special Camshaft*
Recommended idle	800-850 r.p.m.	700 r.p.m.	700 r.p.m.
Distributor part number	1110891	1110889, 1110905, 1110908	1110914
Breaker points	Dual	Dual	Dual
Advance system	Full centrifugal	Full centrifugal	Full centrifugal
Breaker arm spring tension	19-23 oz.	19-23 oz.	19-23 oz.
Point gap	Set by dwell (should give .014"-.018" point opening)	Set by dwell (should give .014"-.018" point opening)	Set by dwell (should give .014"-.018" point opening)
Cam angle (dwell)	29° each breaker; 33°±1° total	29° each breaker; 33°±1° total	29° each breaker; 33°±1° total
Spark advance			
Initial setting @ recommended idle	7° BTDC	4° BTDC	18° BTDC
Centrifugal advance†	Start 0° @ 600 r.p.m. Intermediate 14° @ 1500 r.p.m. Maximum 28° @ 3700 r.p.m.	0° @ 600 r.p.m. 15° @ 1550 r.p.m. 28° @ 5000 r.p.m.	0° @ 1000 r.p.m. 5° @ 1500 r.p.m. 22° @ 6000 r.p.m.
Vacuum advance	None	None	None

*Mechanical valve lifters

**450 r.p.m. with Powerglide (in "Drive")

***Synchro-Mesh and Powerglide (in "Drive")

†Does not include initial setting—curve is a straight line between specified points

‡1110889, 1110905, full centrifugal distributors, used with Synchro-Mesh in '57 models.

Specifications same as for 283 h.p. engine except recommended idle is 500 r.p.m.

PREPARATION FOR AN EVENT

Well in advance of the last-minute flurry that usually precedes most events, a careful check should be made of your Corvette while there is ample time to make any corrections that are necessary. A very small malfunction or incorrect adjustment may be the difference between success and failure.

Brakes

There is perhaps nothing more important in any type of event than dependable brakes. The entire system should be checked for excessive wear, fluid leaks, or other damage. Any evidence of glazing or charring on conventional brake linings could be the result of severe usage, and should be corrected immediately. With either sintered-metallic (R.P.O. 686) or ceramic-metallic (R.P.O. 684) brake facings, there is much less chance of damage from severe usage or overheating. Check brake fluid—be sure fluid level is no less than $\frac{1}{2}$ " to 1" below opening. Check brake adjustment—a simple adjustment at each wheel is often all that's necessary to compensate for normal lining wear.

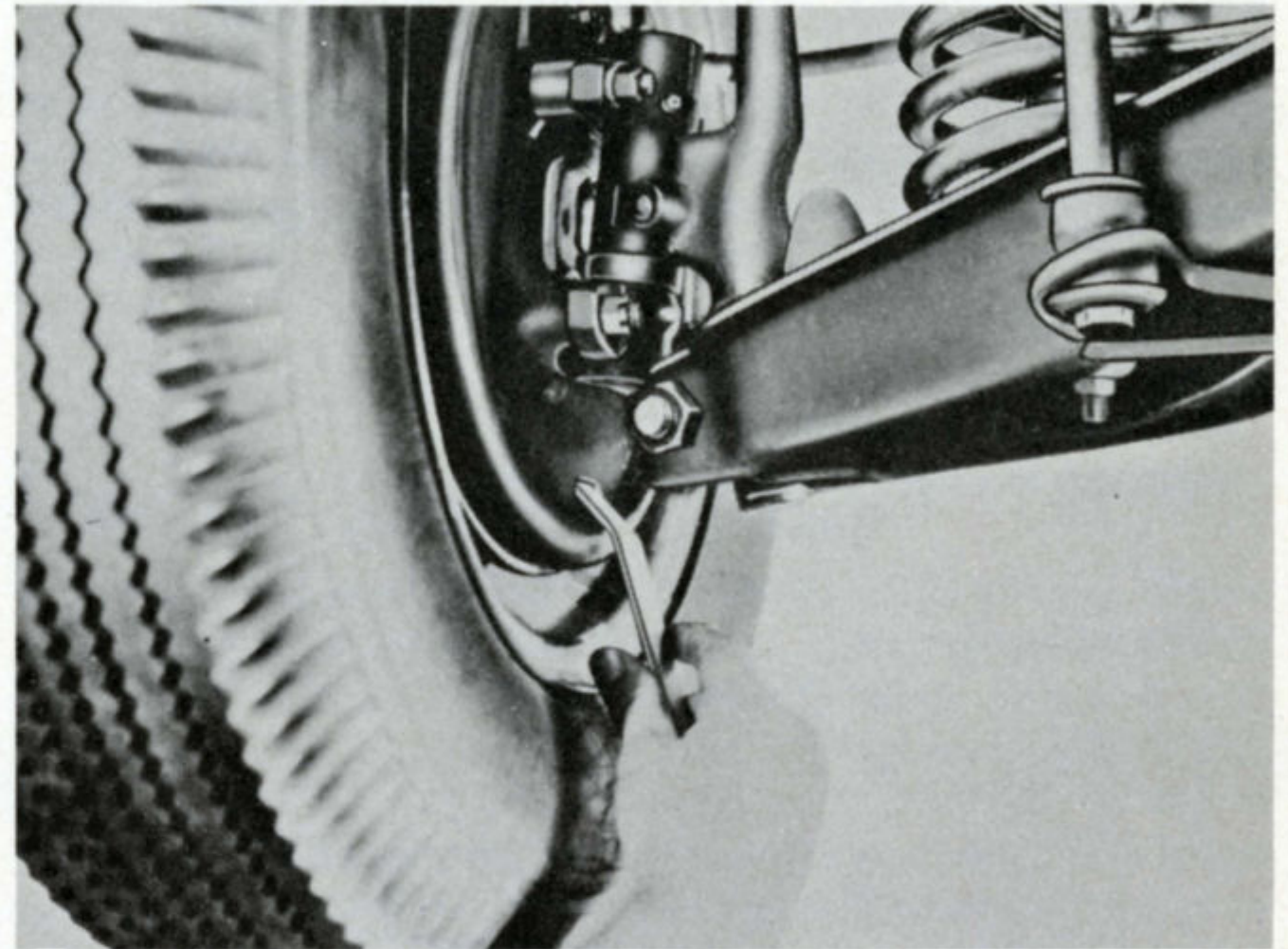
For best performance from brakes, don't overuse them. Quick, intermittent applications are usually more effective than sustained pedal pressure. Prolonged applications create more heat—enough to cause fade in even the best conventional brakes. Lining wear is accelerated by excess heat. In competitive road events, downshift to let the engine share in braking the car, and brakes will last longer. Corvette Operations Manuals have full details on brake care. Here are two adjustment precautions:

Be sure to back off the adjusting wheel the correct number of notches for the type of linings in your Corvette—7 notches for standard or conventional brakes, 12 notches for R.P.O. 686 sintered-metallic linings, 27 to 32 notches for R.P.O. 684 ceramic-metallic linings.

Suspension

Because of the nature of sports car courses, the suspension must be equal on both sides. Production Class regulations generally permit few if any variations from original equipment offered by the manufacturer. The suspension components included in R.P.O. 684 are specifically engineered to sports car requirements, and should be entirely satisfactory for the most highly competitive events.

Before adjusting brakes, be sure there is no tension on parking brake cable.

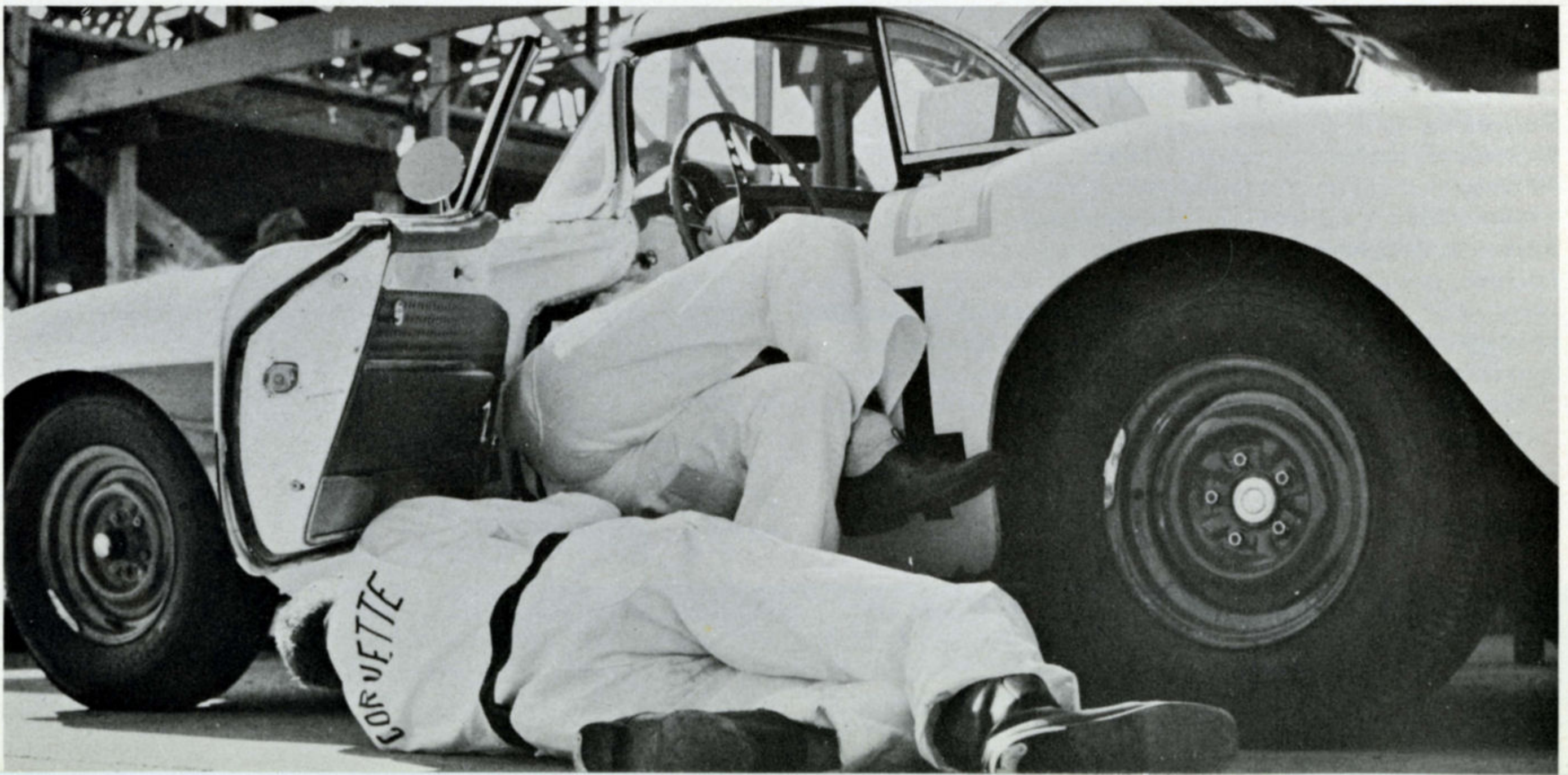


To adjust Corvette brakes, remove small dust cover and insert brake adjusting tool. Moving the brake tool upward moves shoes closer to the drum. To back off shoes, move the adjusting tool downward.

Front End Alignment

Production Class regulations generally require that front end settings conform with manufacturer's specifications. These specifications are:

	1957-1959	1956
Camber	$0^{\circ} \pm 30'$	$30' \pm 30'$
Caster	$2^{\circ} \pm 30'$	$30' \pm 30'$
Kingpin inclination	$3^{\circ} 30'$ to $4^{\circ} 30'$	$3^{\circ} 30'$ to $4^{\circ} 30'$
Toe-in	0 to .125"	0 to .125"



Exhaust System

Although Production Class regulations may vary, some modification of the exhaust system frequently is permitted for special events. Wherever possible, most experts install low-resistance mufflers of the straight-through type (standard with 1959 270- and 290-h.p. Corvette V8's) or completely replace the mufflers with straight pipes. In most cases, these pipes must extend past the driver, where they may either be turned out to each side of the car or continued to the rear.

Clutch Action

The 1959 Corvette clutch can be adjusted to the personal taste of virtually every driver. In addition to regular pedal free-travel adjustment, the '59 Corvette permits a choice of either a quick-acting clutch or more gradual normal engagement. The reduced pedal travel and sharper feel of the quick-acting clutch are generally preferred for competitive events, and many drivers prefer it for all types of driving. In production, Corvette pedal linkage is arranged for normal clutch action. But the linkage can be converted for the quicker clutch action by changing the position of a bracket attached to the clutch pedal lever, and by removing the clutch pedal push rod and turning it over 180° to reverse the bend in it. Pedal free-travel and return spring tension should be checked after the bracket and push rod are repositioned.

Cooling System

A clean cooling system, free of rust and scale will perform quite satisfactorily with pure water, even under high heat conditions. Use of a rust inhibitor is recommended; however, special solutions to increase heat absorption of the coolant should not be necessary. Be sure to check all hose connections—they should be clean and tight as possible. It is advisable to retighten the clamps after the engine has warmed up.

Seat Belts

Seat belts are an important safety factor and are a must in sports car competition. A very satisfactory seat belt is standard equipment in the 1959 Corvette. However, some individuals choose one of the various wide seat belts designed specifically for competitive events. Use of a shoulder harness is largely a matter of personal preference, and is optional in most sanctioning organizations.

Headlights

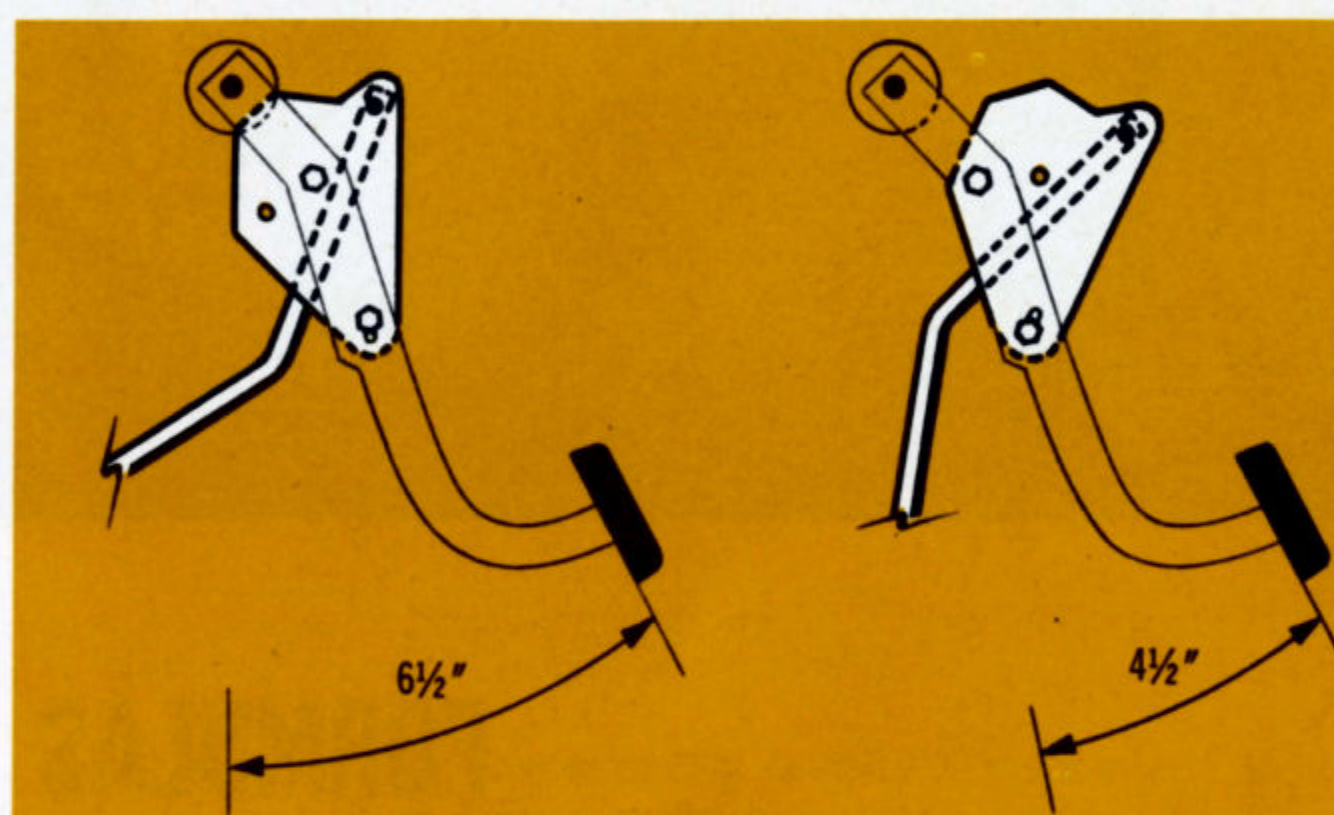
Production Class regulations usually require that headlights remain in proper working order during competitive events. For daylight events, the sealed beam element should be covered with tape to keep glass fragments off the course in case the lens is damaged.

Roll Bar

Installation of a substantial roll bar is strongly encouraged for all Production Class events. If a roll bar is specifically required by a sanctioning organization, detailed specifications usually are available from that organization. Frequently, the bar is designed so that it can be removed for normal driving.

Tire Pressure

Appropriate tire pressures can vary considerably under different conditions, and must be determined by experimenting on the particular course. A change in pressure may make a difference of two or three miles per hour. Cold pressures for individual courses may range from 35-40 to more than 55 pounds. Nitrogen gas is sometimes used instead of air to reduce pressure buildup under high-speed, high-heat conditions.



Normal clutch action with pedal push rod bracket in this position on pedal lever.

Bracket relocated to this position on pedal lever gives quicker clutch action.

Windshield

Many competition courses are very hard on windshields, and stones or debris may severely abrade or even break the glass. Sometimes it is possible to apply sheets of plastic film over the outside of the windshield to help preserve the glass for the duration of the event. Production Class regulations sometimes permit replacing the windshield with a small special windscreen. If used, the special windscreen must be of the non-shattering plastic type.

Double Check:

Windshield Wipers and Washer—Wiper blades should be in new condition and washer reservoir should be full.

Doors, hood, deck lid, and top compartment cover—All catches should work properly and hold securely to withstand the strains of rough roads and wind buffeting.

Fuel Level—In spite of careful preparation, cars often run out of gas right on the course. While it's important to have sufficient fuel, don't carry more fuel than you'll need—it just adds unnecessary weight.

Engine Oil—Have sufficient oil of proper viscosity for the most severe conditions you may encounter.

FORMULAS FOR SUCCESS

There is no substitute for careful planning in any type of sports car event. A properly set up sports car for rally participation means that the car is in top mechanical condition—that all components are functioning properly. Participating drivers and co-drivers should be in good physical condition with enough stamina to execute all maneuvers safely and surely, and to cope with any situation that might arise.

For highly competitive events, even the finest engineered and built sports cars must be carefully set up. Much of the success in these events depends on proper set-up for a specific event. Proper set-up requires skill, ingenuity, and good judgment—qualities that are developed primarily by experience. While the suggestions in this Guide necessarily must be general, they indicate some of the factors to consider when preparing your Corvette for Production Class events.

For most events, a thorough knowledge of proper gear shifting procedures and use of the clutch are important to get the most out of your Corvette. Proper shifting procedures also help minimize wear and stress on driveline components.

While some drivers possess an almost uncanny knack for shifting any kind of gearbox, the vast majority of both experts and novices find that a well-engineered transmission makes shifting far easier and much more precise. Both the 3-Speed and 4-Speed Synchro-Mesh Corvette transmissions will perform satisfactorily for even the inexperienced, but there's nothing like developing a technique. Expert shifting requires many skills—coordination, timing, a reasonable knowledge of what's going on under the gearshift knob, and plenty of practice.

Keep your Corvette Moving

Whether you're accelerating rapidly, or just easing away from a traffic light, keep the car moving smoothly. Try to reach the desired road speed in equal steps, using all forward speeds. Shift smoothly and decisively—and above all, avoid prolonged coasting between gears.

Watch the Tachometer

The Corvette tachometer is far more reliable than even the most expertly tuned ear. For peak acceleration, the tach is invaluable, and can show you the exact point to shift gears. While only experience will determine the ideal r.p.m.-shift point for best performance in your Corvette, always avoid overspeeding the engine. It's interesting to note that some experts upshift well below the redlined engine speed and actually improve acceleration. Be especially careful in the lower gears—engine speed can build up very quickly.

Under certain conditions it is possible to dangerously overspeed the engine in a downshift to a lower gear. This is particularly true during a downshift for added engine braking from elevated road speeds. Don't jump gears—fourth to second, or worse yet, fourth to first—as destructive overspeeding can result before you realize it. Shift down one gear at a time while slowing the car with brakes, and make the shift only when engine speed has dropped below the point at which over-

speeding would occur as the next lower gear is engaged. It's actually much simpler than it sounds, because the maximum downshift point is about the same for any gear on the 4-Speed as well as third to second with the 3-Speed Synchro-Mesh. The actual r.p.m. depends on the engine in your Corvette, as illustrated on the next page.

Double-Clutching

With Synchro-Mesh transmissions, double-clutching is unnecessary under normal driving conditions. Double-clutching in some imported sports cars is essential for fast shifts because of relatively small synchronizing mechanisms. With the Corvette 3-Speed Synchro-Mesh, the only case where double-clutching is required is a downshift from second to non-synchronized first while the car is moving—a definitely risky procedure. Double-clutching is not necessary with the Corvette 4-Speed, because

this Synchro-Mesh transmission is fully synchronized in all forward speeds and downshifting can be accomplished into all lower gears including first without gear-clashing.

For competitive driving, however, many sports car experts advocate double-clutching to reduce stress on the engine and transmission. Double-clutching helps to bring the engine r.p.m. up to the point where it will approximately match the shaft speed of the next lower gear in the transmission. For example, the accepted procedure for double-clutching is this: Back off on the throttle, disengage the clutch, shift into neutral, and engage the clutch. Almost simultaneously, speed up the engine, disengage the clutch, shift into the next lower gear and re-engage the clutch while depressing the throttle. If done properly, the car should not lurch nor should the engine overspeed as the clutch is finally engaged. With practice, this procedure becomes almost second nature and you'll be able to double-clutch faster than other drivers can shift in the normal manner.

1959 Corvette V8's with regular camshaft (230, 245, and 250 horsepower) have red engine speed warning zone beginning at 5300 r.p.m. (1). To shift into a lower gear from this r.p.m. without overspeeding, car must be slowed with brakes until tach indicates approximately 4000-4100 r.p.m. (2) or lower.

Special camshaft 1959 Corvette engines (270 and 290 horsepower) have red engine speed warning zone beginning at 6300 r.p.m. (3) on tachometer. To prevent overspeeding in a downshift from this point, use brakes to slow car until tach indicates approximately 4700-4900 r.p.m. (4) or lower before shifting.



1



2



3

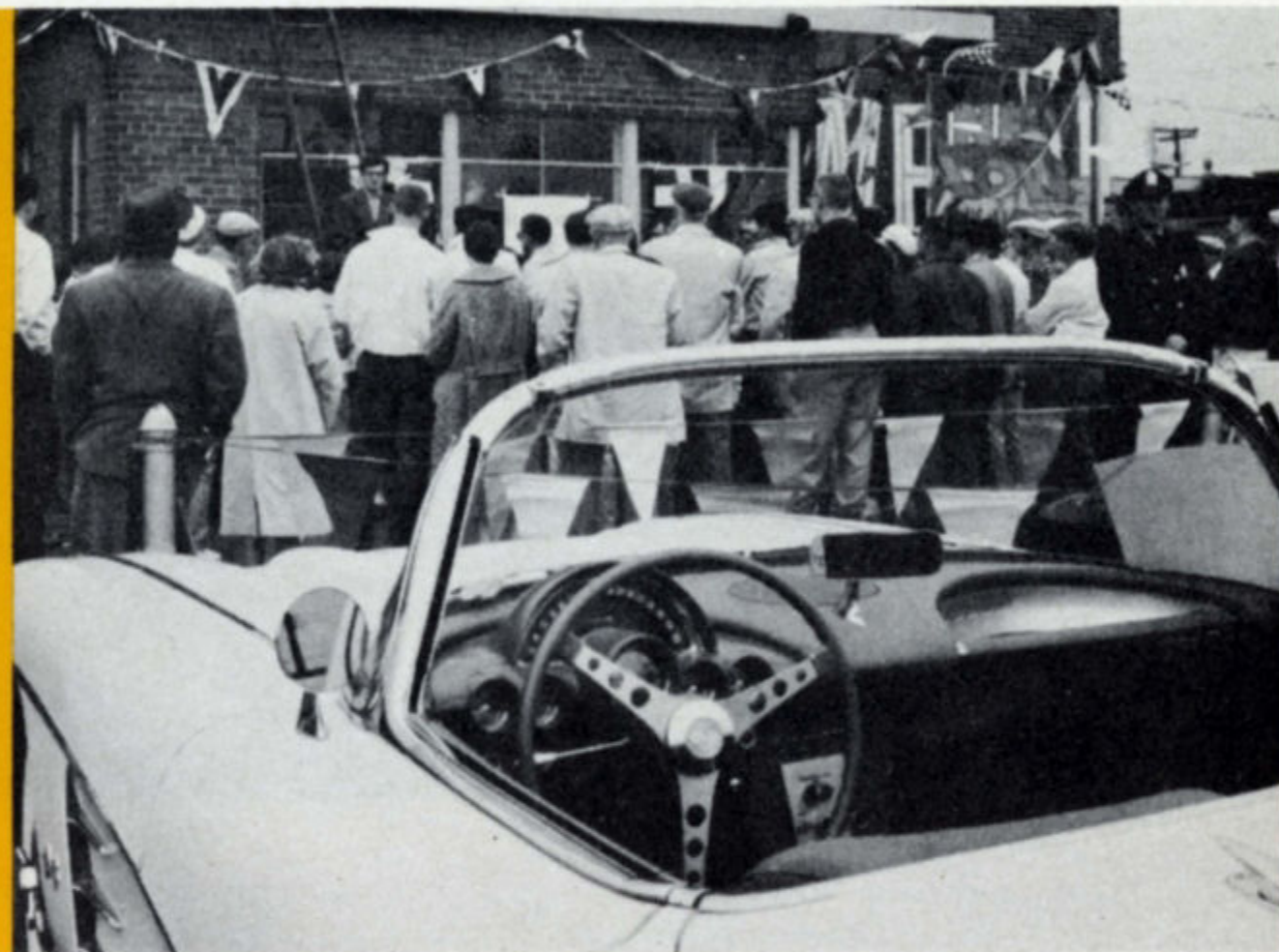


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COURSE SETUP

Course setup is the process of determining the most effective combination of rear axle gear ratio, tire size, and other important factors that result in the best possible performance in a specific event. For this reason, no single setup can be best for all situations. Advance setup for rallies is seldom possible unless the exact course is announced prior to the meet. In most cases, rally or gymkhana participants need only make sure the Corvette is in top mechanical condition.

For highly competitive events, proper setup must be based on the problems presented by the individual course. A course that consists mainly of long straightaways with few curves will require an entirely different setup than one which has many sharp curves and hills. Actual driving trials coupled with computations based on the data in this section will help to determine the right axle ratio and tire combination that will produce shortest lap time.



Cars that participate in rallies often have many maps, charts, and computers in the cockpit. On the other hand, cockpits of cars entering competitive events usually include only necessary instrumentation.

Gear Ratio

The Corvette driver who demands the most versatility with top performance usually specifies Positraction rear axle, and it is mandatory equipment with R.P.O. 684. Three axle ratios are available—3.70:1, 4.11:1, and 4.56:1. Choice of axle ratio must be determined by the nature of the competitive event. The course, engine performance, tire size, and other factors are all important. Higher numerical ratios are generally preferred for courses that are short, or extremely hilly. Lower numerical ratios are more suited to high, sustained speeds encountered in road courses with long open straightaways.

Computing Proper Gear Ratio

Always avoid over-speeding the engine. While Corvette V8's are capable of very high engine speeds, most experts prefer to stay under 5000 r.p.m. for engines with hydraulic valve lifters and 6000 r.p.m. for engines with mechanical lifters. 5500 or 6500 r.p.m. are considered peak, depending on the type of valve lifters. Consequently, you should choose an axle ratio that will not over-speed the engine on the straightaway in top gear, and let the tachometer determine the shift point from a lower transmission gear. Check the tach at the end of the straightaway, and be sure to *brake* car speed down enough to prevent over-speeding the engine on every downshift. Over-running a closed throttle is one of the surest causes of total engine failure.

While every course presents a different problem, it is quite possible to calculate which combination of axle ratio and tire size will produce the best performance. Actual experience on the course is invaluable—a few trial laps can supply most of the facts you need. For the initial setup, or to check or correct an existing installation, the following data should prove useful:

Note: Typical examples are based on 290- or 270-horsepower Corvette V8 engines. Similar calculations for other Corvette engines can be made by observing the lower maximum safe r.p.m.

Road Speed Formula:

$$\text{M.P.H.} = \frac{60 \times \text{engine r.p.m.}}{\text{overall gear ratio} \times \text{wheel rev. per mile}}$$

Gear	Transmission Ratio	Overall Gear Ratio		
		3.70:1 axle	4.11:1 axle	4.56:1 axle
Fourth (Top)	1:1	3.70:1	4.11:1	4.56:1
Third	1.31:1	4.85:1	5.38:1	5.97:1
Second	1.66:1	6.14:1	6.82:1	7.57:1
First (Low)	2.20:1	8.14:1	9.04:1	10.03:1



Wheel Revolutions Per Mile (Disregarding slip and expansion)

Tire/Wheel	Rev. Per Mile
6.50/6.70 x 15-5K or 15-5.5K.....	759* 748**
7.10/7.60 x 15-5.5K.....	738* 727**
*40 lbs. inflation	
**55 lbs. inflation	

Special tires may vary slightly from these figures. To estimate the wheel revolutions per mile of any tire, mark both tire and floor with chalk, then roll the tire (on fully loaded vehicle) one revolution in a straight line. Make another mark on the floor and measure the distance between marks. Divide this distance in inches into 63,360 (the number of inches per mile) for wheel revolutions per mile. For example, if you very accurately measure 84.7" between marks, you would get 748 revolutions per mile using this formula:

Wheel rev. per mile = $\frac{63,360}{\text{Rolling circumference of wheel in inches}}$		
To convert engine r.p.m. from one axle ratio to another:		
From	To	Multiply by
3.70.....	4.11.....	1.111
3.70.....	4.56.....	1.2324
4.11.....	4.56.....	1.1095
4.11.....	3.70.....	0.9002
4.56.....	4.11.....	0.9013
4.56.....	3.70.....	0.8114

Properly used, this information can help you select the proper rear axle ratio for a specific course. Here's one example, based on a 1959 Corvette equipped with 6.50/6.70 x 15 tires inflated to a maximum of 55 pounds and 3.70:1 axle ratio, with 4-Speed Synchro-Mesh transmission, lapping a hilly triangular two-mile course with severe reverse bends at either end of a major straightaway less than one-half mile long . . .

Assume you entered the straightaway at 3000 r.p.m. in first gear and accelerated through the gears, reaching 5800 r.p.m. in third immediately before braking down. Through the reverse bends that follow, engine

speed dropped to 2000 r.p.m. in first as you entered the short backstretch. Low speed acceleration is too sluggish. What axle ratio will cut lap time?

Using the road speed formula on page 20 compute the road speeds for each condition:

Condition "A" M.P.H.—	$\frac{60 \times 3000}{8.14 \times 748} = 29.6$ m.p.h. entering the major straightaway
Condition "B" M.P.H.—	$\frac{60 \times 5800}{4.85 \times 748} = 96.0$ m.p.h. maximum on the straightaway
Condition "C" M.P.H.—	$\frac{60 \times 2000}{8.14 \times 748} = 19.7$ m.p.h. entering the short backstretch

Assume road speed in Conditions "A" and "C" cannot be increased without losing control of the car on the severe bends. This leaves quicker acceleration or higher top speed as possibilities to reduce lap time. Acceleration out of the bends could be improved through increasing engine speed to nearer 4000 r.p.m. by changing axle ratio to either 4.11 or 4.56. Using Condition "A" as an example, estimate the result to changing from 3.70 to 4.11 ratio by multiplying 3000 engine r.p.m. by factor 1.111, which equals 3333 r.p.m. Similarly, for a change from 3.70 to 4.56 ratio, multiply 3000 r.p.m. by factor 1.2324 which equals 3690 r.p.m. Since the 4.56 ratio permits the higher engine r.p.m., it should produce the quickest acceleration out of the bends. On the major straightaway, the increased acceleration should normally permit a shift to top gear. Use the road speed formula to compute speed at 6000 r.p.m. with 4.56 axle ratio:

$$\text{M.P.H.} = \frac{60 \times 6000}{4.56 \times 748}$$

This indicates a potential speed of more than 108 m.p.h. In addition, the 4.56 ratio should permit improved performance on the hills that predominate this course and total lap time should be reduced.

Although this is a hypothetical situation, the method can be used for any course. Simply substitute values, either estimated or observed, until you determine the most logical combination for any situation. If time is available, it's a good idea to double-check your calculations with trial runs on all three rear axle ratios, if they are available. Experience is invaluable to newcomer and expert alike. Remember, it takes top performance to win a highly competitive sports car event.

SPARE PARTS AND EQUIPMENT

If you intend to participate regularly in sports car events, you should plan to have extra parts and any equipment that might be necessary. Most sports car events are comparatively short, and are run without a stop. In very long events, quick pit stops are sometimes required for fuel, oil, or coolant, and it may be advisable to replace one or all four tires with mounted spares. Include other parts through judgment and experience.

Because courses differ considerably, it's wise to have a complete set of all three rear axle ring and pinion gears for a ratio adapted to the particular course. Be sure to have extra gaskets and gear lubricant on hand. Special gear lubricant 3758791 is recommended for Positraction rear axle.

It is also advisable to have extra tools, gaskets, engine oil, and gear lubricants for any disassembly that might be required for inspection of the car.

A typical regulation about inspection is quoted from the

Sports Car Club of America, Inc. *Competition Regulations*: "The Contest Board reserves the right to impound and inspect any car at its own discretion. It will disassemble a car when it sees fit. This work will be done by a competent mechanic, but the owner will be responsible for the checking of this work. If an individual, not acting as a member of the Board, protests a car as not being as represented, he may demand that the car be disassembled, inspected, and reassembled, or he may demand any other test he may desire, provided he is willing to post bond in the amount of the total expense for such disassembly, inspection, and reassembly, or other tests demanded. If the car is found to be as represented, the individual lodging the protest shall forfeit his bond to cover the expenses incurred. If the car is found to be non-standard, or not as represented, the entrant and/or driver of the car will not only stand all expenses, but will be reported to the National Officers of SCCA for such disciplinary action as they may deem appropriate, including expulsion from SCCA for life."

OTHER EQUIPMENT

Other equipment includes almost any item that will be necessary for sports car events. For rallying, a supply of charts and road maps should accompany a complete set of formulas for computing time and distances. A device to attach a writing board to the instrument panel is helpful and recommended. Computers designed for rallyists are helpful in making fast computations. If you are not sure of roadways, or if the rally is run in the winter in northern climates, it is advisable to carry tire chains, sharp sand, and a shovel. Signal flares, lanterns, or hand spotlights can be very useful at night.

In competitive events, other equipment is also a matter of choice. However, safety helmets of approved design are frequently required by sanctioning organizations. Goggles are helpful to protect the eyes when driving with the top down, and are a definite safety factor should the windshield be shattered by flying stones. If the scheduled event will last for some time and no pit stops are anticipated, a small container of drinking water will increase driver comfort. On dirt courses where the dust is often extremely heavy, it is advisable to have a cloth or filter mask that the driver can breathe through.

SPORTSMANSHIP

Sportsmanship is defined by Webster as: "Skill in or devotion to, sports. Especially conduct becoming to a sportsman, involving honest rivalry and graceful acceptance of results." Sportsmanship is more than a simple definition in competitive sports car events—it is also the promotion of safety for participants and spectators as well.

A true sportsman keeps control of his emotions during every event, and refrains from actions that could endanger others. Drivers of slower cars usually show sportsmanship by motioning faster cars past when the way is clear. As a driver tires, he

recognizes the fact and lets good judgment dictate his pace. Sportsmanship also shows up in a driver's attitude toward official rulings at an event.

Protests after an event are not to be construed as unsportsmanlike. Sometimes a driver might feel that official decisions have been in error, and a driver has a right to protest to the sanctioning board.

Above all, do nothing to discredit the sport, and help maintain gentlemanly sports car participation at the highest level.

REGISTRATION

Associations sponsoring or sanctioning sports car competition events have rules and requirements by which car owners, drivers, and mechanics must be guided. In addition, there are often certain standards or mechanical specifications which sports cars must meet to qualify for various events.

Registration and/or licensing of personnel as well as cars entering competitive events also may be required. Formal entry for each event usually is necessary. For complete information, be sure to contact the association sanctioning events in which you plan to enter.

Sanctioning Organizations

Local Corvette Clubs usually have a list of sanctioning organizations. SCCA (Sports Car Club of America) with headquarters at Westport, Connecticut, is one of the largest sanctioning organizations and will often have addresses of other sanctioning organizations on file.

Car Inspection

All sports cars entering sanctioned events must be able to pass a safety inspection before competing. In addition to inspection by technical representatives of the sanctioning organization, a sworn statement of conformity of car to class may be required. Many associations may also reserve the right to impound and inspect any car for compliance as represented. When a sports car is entered for the first time, it is advisable to appear at the course as soon as possible to have the car approved before time trials begin.

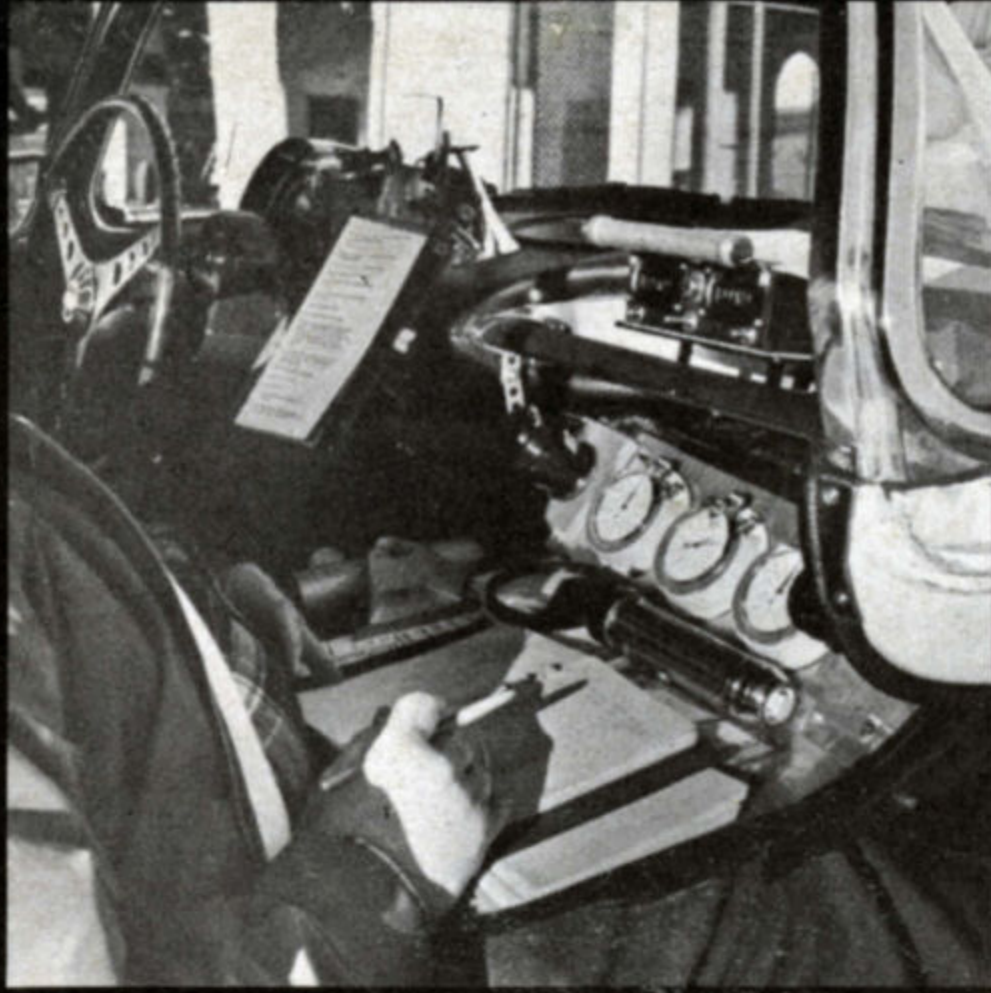
Licensing

Most associations require that all drivers be licensed, for which there is a nominal annual fee. Usual requirements for licensing of a driver call for proof of age (21 years minimum), driving ability, knowledge of regulations, and good physical condition. Licenses are usually granted only after driving trials and physical examination. It is possible that some associations may not permit a licensed driver to compete in events sanctioned by another organization.

No single publication can be expected to completely cover every question that may arise in preparing a Corvette for sports car events. Your principal source of information should be the sanctioning organization in which you plan to participate. If you have a particular problem that cannot be solved locally, or if you have an inquiry applying specifically to the Corvette sports car, your Chevrolet dealer may be able to advise you of practices that have proved successful for others.



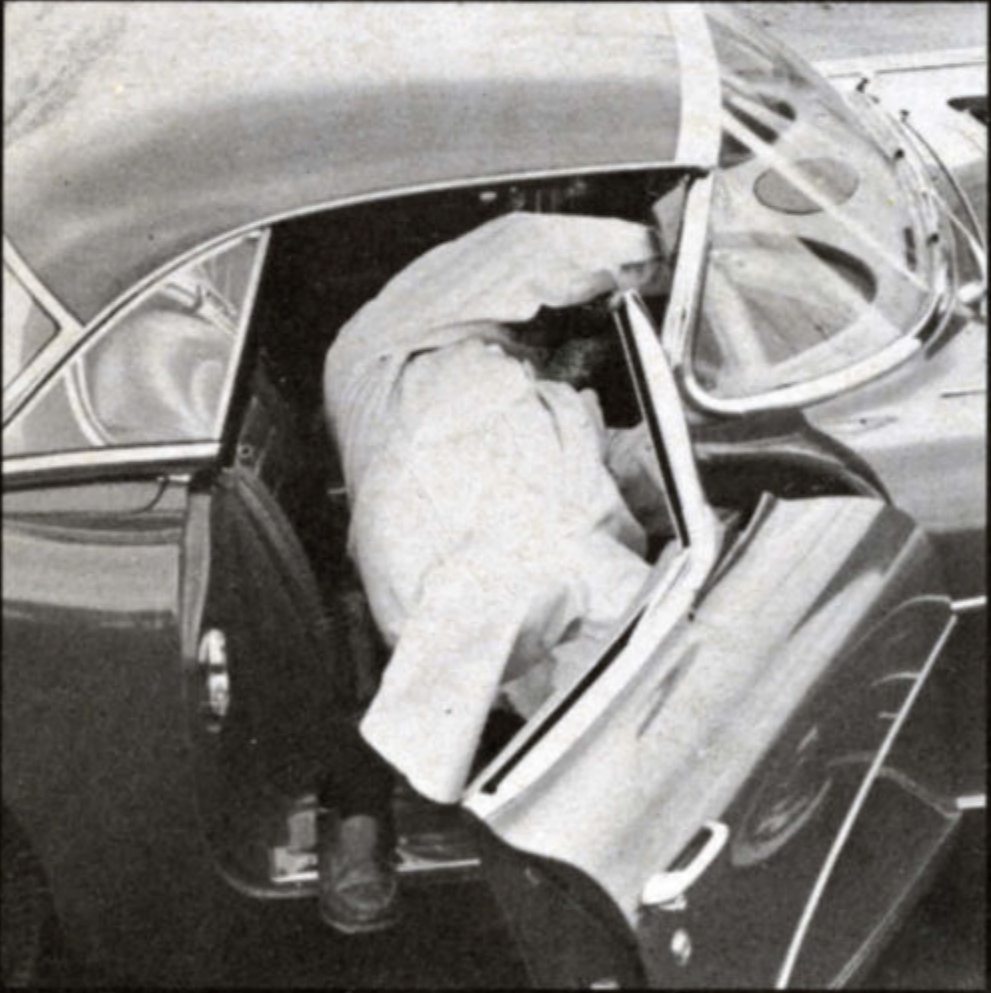
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