

## TECHNICAL HIGHLIGHTS

# MODERNIZING *Earlier* CORVETTES

As most Corvette owners know, there's nothing to compare with a smart clean Corvette—tuned to perfection. Corvette owners know too that, unlike spring fashions, Corvette's style stays new year after year. New mechanical changes each year, however, have improved Corvette's performance, versatility, or road sense. And often, the owner would like to improve his earlier Corvette by adding later-model equipment. Some conversions are highly practical, while others are hardly worth the time, effort, and money involved.

Before undertaking any type of conversion, it's necessary to determine what the end result will be. Modification of a car to make it go faster might hinder low-end performance to the point where driving in traffic is a chore. Be sure of your ground before any modification or addition is made. The following items are selected as typical, and primarily concern post-1955 Corvettes.

While procedures for actual removal and installation of various components are not covered in detail here, certain recommendations are made that may help you decide whether or not a conversion is practical. Where conversion is possible, removal and installation procedures are outlined in Chevrolet Shop Manuals.

## TRANSMISSIONS

### 4-Speed Synchro-Mesh

Installation of the '59 4-speed gearbox in Corvettes with 3-speed transmissions is a popular conversion. There are no special problems involved because both 3- and 4-speed transmissions fit in the same space. The shift pattern

plate on the floor tunnel also must be replaced.

### Powerglide

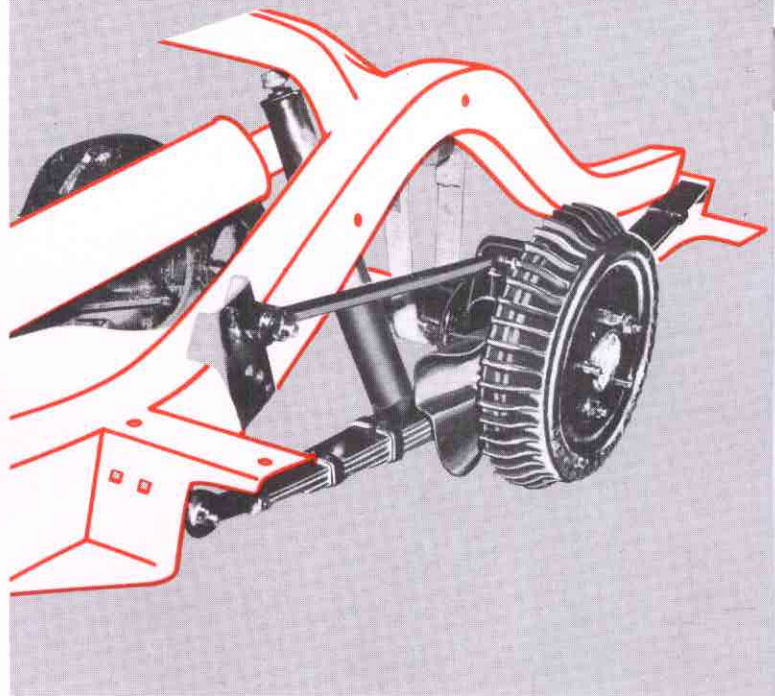
Conversion of Powerglide to a manual transmission or vice versa involves much more than a mere transfer of transmissions. A conversion of this type is not recommended and is not covered in any Chevrolet Shop Manual.

### Radius Rod Rear Suspension

In production, '59 Corvettes are equipped with radius rod rear suspension. Replacement parts are available individually, but no complete kit for earlier Corvettes is offered. The location in production is accomplished with special fixtures, jigs, and equipment—and welding of the brackets to the frame and rear axle housing cannot be approximated successfully. In addition to possible misalignment, there's a strong possibility of warping the axle housing if welding is attempted by the novice.

### 1959 Corvette Shock Absorbers

The new shock absorbers that are standard equipment on '59 Corvettes can be installed on all earlier Corvettes. These new shock absorbers contribute measurably to improved handling under prolonged severe operation because of nitrogen-filled plastic sleeve that effectively prevents aeration of shock fluid.



## CAMSHAFT AND VALVE LIFTERS

### Camshaft

Standard Corvette engines use a regular camshaft that gives a smooth idle, excellent low-end torque, and excellent valve train life. Engines designated as "SR" or "Solid Lifter Camshaft" use a special high-performance camshaft that gives better high-end performance. However, the special camshaft engines tend to be noisier and idle more roughly. If a super smooth, quiet idle is what you're after, the regular-type camshaft is the probable choice. Conversion to or from a high-performance camshaft should depend largely on the type of driving that you do. The camshaft installation procedure is covered in the shop manual. You must be sure the rear bearing journal of the new camshaft matches the old journal. Mechanical valve lifters must be used with the high-performance camshaft.

### Valve Lifters

Corvette engines with regular camshafts, except most 1956 models, have hydraulic valve lifters. Hydraulic valve lifters are designed to operate quietly and need no periodic adjustment. At very high engine speeds (in excess of approximately 5500 r.p.m.) engines with hydraulic valve lifters may have valve float. Where engine speeds are frequently in excess of 5500 r.p.m., and valve float does occur, a solid lifter (high-performance) camshaft should be used. Hydraulic valve lifters must always be used with a regular camshaft—mechanical lifters with solid lifter camshaft. *Any deviation from this recommendation causes either excessive or insufficient valve overlap and performance or durability will be adversely affected.*

## CARBURETION-FUEL INJECTION

### 4-Barrel to 2 x 4-Barrel or vice versa

Most drivers agree that for all-around versatility and ease of maintenance, the standard 4-barrel carburetion is very satisfactory—low-end performance is exceptionally good. However, for those owners who do a great deal of highway driving or who regularly engage in competitive events, where elevated speeds are common, the 2 x 4-barrel carburetion installation has better breathing for increased acceleration and higher top speed.

Unless the driver feels that his high-speed or low-end performance leaves something to be desired, a conversion to either 4-barrel or 2 x 4-barrel is impractical. Engine components that must be changed or altered include carburetors, intake manifold, accelerator linkage, air cleaner, and distributor calibration.

### Conversion to or from Ramjet Fuel Injection

Here's an area that's best left to the expert that has a thorough knowledge of Corvette engines, fuel injection, and induction systems. There is no official publication that could be used as a guide for a conversion of this type—no endorsement is given to any publication that might recommend such a conversion.

### 24-Gallon Gasoline Tank

This tank, available as L.P.O. 1625A in original manufacture, is offered as a service item—part no. 3772977. The hardtop must be used because the 24-gallon tank protrudes into the top compartment allowing insufficient space for the folding top mechanism.

### Other Chassis Equipment

Most items of regular and special Corvette chassis equipment can be installed on 1956-1959 models.