Buying Right - C3

Shopping for a third-generation Corvette? These tips will help steer you in the right direction.

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The third-generation Corvette represents one of the best values extant for an entry-level enthusiast whose dream is to own a classic version of America's Sports Car. In addition to its handsome "Shark" styling and wealth of equipment options, the longest production run of Corvette's seven generations offers buyers an engaging driving experience in the spirit of its legendary forebears.

If you're in the market for a C3, the tips that follow will help you differentiate between an authentic, well-preserved example and a neglected beater. Used in tandem with our regular C3 market reports, these guidelines should ensure that you end up with a reasonably priced third-gen Corvette you can use and enjoy for years to come.

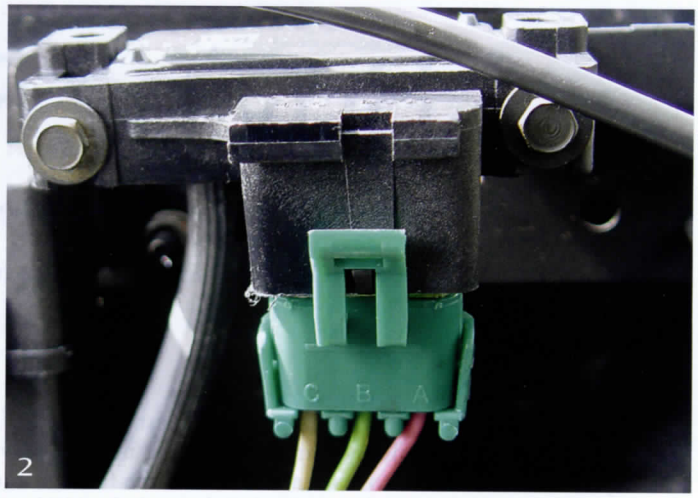
Drivetrain

If you're searching for a "matching-number" car, you'll need to inspect the engine of any potential buy to ensure that the "VIN derivative" number code it carries matches the last five digits of the car's VIN tag. The engine number may be found on a "pad" near the front of the passenger-side head, beneath the A/C bracket. Note that you may need to clean away years of accumulated grease and dirt in order to see it. If you're not comfortable doing this, be sure to bring along a knowledgeable friend who is. When it comes to investment-grade Corvettes, the presence of the original engine (and, preferably, transmission) is critical.

As for the engines themselves, the lengthy C3 production run encompassed everything from low-compression 350s all the way up to the race-tuned L88. But while it may be tempting to buy the highest-performing engine you can afford, it's important to keep in mind that more horsepower typically means greater maintenance requirements and poorer drivability. Accordingly, if you're looking for a car to use on a regular basis, don't rule out the lower-output models built from 1972 onward. These cars tend to be more efficient than their predecessors, and they have the additional benefit of being able to operate on unleaded fuel. Just keep in mind that the crude emissions devices employed at the time are prone to vacuum leaks that may mimic fuel-starvation issues. Bring along a vacuum gauge to help diagnose such problems, which typically aren't all that difficult or expensive to rectify.

Another issue that is specific to 1982 models has to do with that edition's Computer Command Control (CCC) system. Although CCC is designed to provide more-precise fuel and air metering than is possible with a carburetor, many '82 Corvettes were delivered with an ill-fitting MAP sensor that caused stumbling on acceleration. Though it's likely that any such problems have been corrected in the past 35 years, it doesn't hurt to ask for documentation.

Other than that, C3-engine issues largely mirror those of any other overhead-valve V-8. Be sure to take a thorough test drive, and have any prospective buys checked out by a qualified mechanic.



Exterior

PAINT - C3s built at the St. Louis assembly plant received acrylic lacquer paint that did not stand up well to the depredations of time. (A more modern enamel base-coat/clear-coat application process was introduced when production moved to Bowling Green, Kentucky, partway through 1981.) That said, you shouldn't automatically dismiss a nice, low-mileage, pre-'81 car whose paint looks a bit rough. Silver paint, in particular, was notorious for taking on a blotched and faded appearance after a few years of sitting in the sun, and yet the mechanics beneath could still be quite sound.

BODY PANELS - A good, basic body-panel inspection method is to walk around the car and feel the inside fender lip at all four corners. Expect to find a smooth, uniform surface. Cracks, globs of fiberglass or otherwise non-uniform lips suggest that the car was hit at some point. Exceptions are the 1978 and '79 models, whose lips were ground flat on the inside top to allow the new Goodyear P-series tires to turn without rubbing.

BODY SEAMS - The body-panel seams on these cars tended to be overly wide and irregular when new (especially on St. Louis–built examples), and age has done little to help the situation. Cars with excessively large gaps between panels should be avoided, but don't expect modern levels of uniformity from any C3.

HEADLAMP OPERATION - Problems with these cars' "pop up" headlamps are almost always vacuum related. On the C3, a series of vacuum-operated actuators, relays and hoses raise the lamps, and one or more of these components may fail over time. Effecting repairs here requires more patience than technical skill, but even a novice with a few basic diagnostic tools should be capable of doing so. This also goes for the vacuum-operated windshield-wiper cover on 1968-'72 models.

POWER ANTENNA - A power antenna was offered in 1978 and immediately became a popular option with buyers. Failures can be a nuisance, however, since radio operation is dependent on an extended antenna mast. A quick inspection can reveal if the fix is relatively easy, or if the motor is shot. If the motor works, you should be able to hear it attempt-

1. C3 base engines like this 1971 350/270 tend to be admirably robust, but some later models are equipped with emissions-control equipment that is prone to vacuum leaks.

2. Many 1982 Cross Fire Injection engines were delivered with an ill-fitting MAP sensor that proved troublesome for owners.

3. Bowling Green–built Corvettes featured a new paint process and improved body-panel fit.

4. Gaps and seams typically were uneven on Corvettes shipped from the St. Louis plant, with some cars being worse than others.

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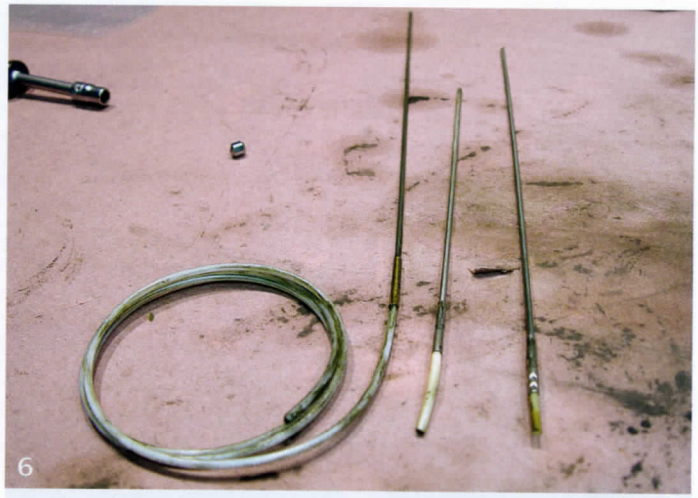

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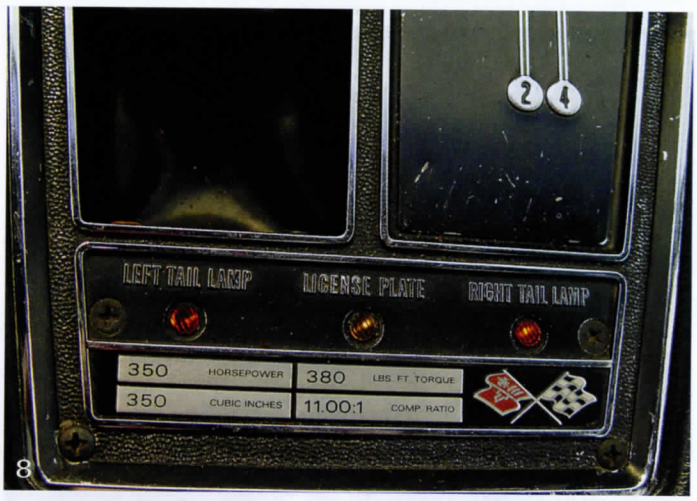

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5. Droopy headlamps usually indicate a vacuum leak from a hose, relay or actuator. Use a vacuum pump and gauge to test system, and replace or rebuild components as needed.

6. The plastic coil that makes the power antenna go up can age, get brittle and snap. The coils themselves are inexpensive, but full antenna-replacement assemblies run from around $175 to $200.

7. The glove box returned with the 1978 model. More importantly, the redesigned dash allowed owners to access tach/speedo and console systems without removing the entire dash.

8. The fiber-optic light-monitoring system was base equipment on 1968-'71 models. It's not cheap to replace, but the car will run just fine without it.

ing to deploy or retract the mast. This likely means that only the plastic coil is broken and needs replacement.

RUBBER BUMPERS - In response to new federal safety regulations, front rubber bumpers replaced the previous chromed-metal units for 1973; the rear unit transitioned to rubber the following year. Chevy initially had trouble finding a paint formula that would adhere to the bumpers' rubber-composite covers, and as a result the covers were painted separately from the body panels from 1973 through '75. This led to many instances of mismatched paint, which may still be visible on original-finish cars. Note also that the original bumper covers tended to get wavy as they aged.

Interior

From 1968 through '77, the Corvette's interior remained essentially the same, albeit with minor changes and upgrades that can make it difficult to track down precisely the right replacement parts. A major interior redesign arrived for the model's 25th anniversary in '78, bringing with it numerous comfort and convenience upgrades. Perhaps more noteworthy, it's possible on these later models to access the car's speedometer/tachometer cluster for repairs without tearing the dash apart.

CLOCKS - The mechanical clocks used in Corvettes until 1981 are prone to failure. Fortunately, there are a number of specialty shops that repair these units or rebuild them using quartz movements. The cost typically runs around $200, so be sure to factor this expense into your negotiations.

FIBER OPTICS - Corvettes built from 1968 through '71 featured a fiber-optics light-monitoring system. Though it's uncommon to find a properly functioning original fiber-optics system these days, there are a number of vendors who offer repair kits. Also note that an inoperable system doesn't impede the operation of the car, making this an optional fix on anything short of a full-on restoration project.

ELECTRONIC CIRCUIT BOARDS - Starting in the mid 1970s, Chevrolet began installing electronic circuit boards to operate the Corvette's tachometer, courtesy-light timer, low-fuel monitor and 30-second headlight/igni-

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tion warning buzzer. If any of these items is nonfunctional, it's likely that its related circuit board has failed. Although today's widely available replacement units are built to a much higher quality standard, accessing the affected area can be a chore.

Chassis

FLUID LEAKS - As with any car, a C3 brake system must be leak free for safe driving. If the Corvette you're examining is not on a lift, use a flashlight to check for cracks and leaks in the hoses running from the brake lines to the backs of the calipers. Also examine the carbon-steel lines themselves. The presence of overspray indicates that the chassis was "touched up" at some point, to repair either accident damage or rust. Heavily corroded lines will need to be replaced, a time-consuming job.

POWER STEERING - Inspect the power-steering control valve and associated linkage. Are these parts wet? If so, the seals are likely failing, and the unit will need to be rebuilt or replaced. The power-steering pump itself may also be the culprit.

TRANSMISSION - Start at the oil filter and use a flashlight to scan back toward the transmission, looking for oil or ATF leaks. Depending on location, the presence of fluid in these areas can suggest a leaking rear main seal, transmission or oil pan. Severe leaks will need to be repaired, with costs ranging from less than $100 (for a new pan gasket) to as much as $1,000 (for a transmission rebuild).

DIFFERENTIAL - Examine the differential case for fluid leaks, paying particular attention to where the driveshaft inserts as well as the rear cover. A leak at the former area suggests that the seal is worn and requires replacement—not an inconsequential job. Replacing the rear-cover gasket, on the other hand, is much simpler (and cheaper).

TIRES - Sellers love to extol the virtues of original tires, but by now such tires on a C3 will be well past their sell-by date. Check the date codes (see caption) and look for cracks, dry rot and tread wear. A number of specialty manufacturers today offer both bias- and radial-ply tires in a variety of C3 sizes and

9. Early circuit boards tend to fail over time, usually due to inadequate copper circuit paths. This unit shows evidence of severely deteriorated paths.

10. Starting in 1971, all tires sold in the U.S. received a three-digit code tied to their date of manufacture. In this case, code 213 means the tire was made during the 21st week of 1983.

11. In 1997, the coding convention changed to a four-digit sequence. This tire's code, 4414, refers to the 44th week of 2014. Note that most manufacturers advise against using any tire that is more than 10 years old, regardless of its condition.

12. It's important to check for frame rust on any potential C3 buys. Frame slots like these make it easy to reach in and feel around for corrosion.

The third-generation Corvette represents one of the best sports-car buys in today's market

13. This driver-side rear "kick-up" shows rust scale along its bottom edge. Though not corroded all the way through (yet), this frame is well on its way.

14. Slightly cracked suspension bushings—like this rear spring-link unit—are common, and don't necessarily need to be addressed right away.

15. The top portion of this front stabilizer-bar bushing is cracked and failing, making this unit a candidate for replacement.

styles. Know the cost of a set for the car(s) you're considering and, if necessary, factor it into your purchase offer.

FRAME RUST - Frame rust can be an issue on any vintage Corvette, and the C3 is no exception. The most problematic area is the rear "kick-up," in front of rear wheels, but the entire chassis is susceptible. Surface rust can typically be removed with a wire brush or sandpaper, but deeper corrosion will require costly repairs.

BIRDCAGE RUST - The "birdcage" is the metal frame that maintains the integrity of the Corvette's cockpit, and it, too, can fall victim to rust. The most accessible area to inspect for deterioration is the windshield surround. Remove the T-top panel and, if necessary, the associated chrome trim. Find a piece of weather stripping that can be lifted and inspect the metal underneath; also check the frame along the windshield side posts. If these methods fail to turn up anything, you can try also try the following methods:

1. Place a white towel on the floor, next to the kick panels. Open and close the door firmly several times, then look to see if rust debris has fallen onto the towel.

2. Locate the drain holes on the bottom frame rail, under the door. Stick your finger in the holes and feel around for rust.

3. Use a quarter to tap metal structures, listening for differences in sound. Noting a difference suggests that you are moving from a structurally sound area to an area where corrosion has set in.

Unless your skill set (or wallet) covers comprehensive automotive restoration, you'll want to pass on a Corvette that has detectable birdcage corrosion.

SUSPENSION - C3 suspensions are pretty robust overall, but time, hard use, deicing salt and other factors can take a toll. Inspect the rubber bushings in the front and rear suspension, looking for drying, cracking and other deterioration. Small cracks are not unusual, but heavily damaged bushings will need to be replaced. This isn't a terribly expensive job, but it does require the use of special tools and, preferably, a lift. ❍