



 GRAND SPORT

1996 Corvette

1996 Grand Sport Corvette Buyers Guide

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So you want to purchase a 1996 Grand Sport Corvette (GS) do you? You have excellent taste! There are 1000 great reasons to buy a GS! We are wholeheartedly biased but the GS is the best looking, rarest, coolest and most sought after of all of the C4 Corvettes. As step one, we would suggest educating yourself on this wonderful Corvette by joining the Official Grand Sport Registry (GSR), a GM-licensed automotive enthusiast organization dedicated to the 1963 and 1996 Grand Sports and all LT4 powered Corvettes. Read about all the benefits of membership at www.grandsportregistry.com/join.htm. Membership fees are very reasonable and allow you access to helpful information for a GS buyer such as Regular Production Order (RPO) codes, delivering dealer information, build dates, warranty service reports, recall eligibility, previous known owners and other information all by VIN number. Membership also earns you a discount from national Corvette parts and accessory vendors as well as from the online GSR Store, full of unique GS goodies. Additionally, the GSR is the foremost authority on anything GS and has a great bunch of folks passionate about this car with a wealth of knowledge of it. You need not have to own a GS to join, either. All it takes is a deep appreciation for the marque and Zora's legend... a legend reborn in the GSR!

This write up contains tips and suggestions on how to buy a GS and is simply a guide and by no means 100% inclusive of the important points of buying a GS or any car for that matter. In other words if you buy a lemon, don't

blame us! Just as you would do when considering the purchase of any used car, make sure you ask the seller all the pertinent used car questions and ask him/her for service records so you can see how the car was maintained. Inquire of the owner as a prosecuting attorney would a defendant to help determine in what manner the car has been driven, why they are selling and hopefully you can judge whether the owner is being up front with you or not. Your detailed inspection should reveal if he or she is or isn't.

In addition, if you are serious about buying a particular GS, we suggest spending the money to have an experienced Corvette mechanic or independent inspection service (such as AutoCritic) do an assessment on the vehicle as well as buying a CarFax report to see if there are any skeletons in the GS's garage..... With that being said, here we go!

VIN & Matching Numbers

There are fake Grand Sports out there so beware! However, it is easy to spot them since GS's have a unique VIN number. A true 1996 GS will have a VIN that falls between 1G1YY2251T5600001 and 1G1YY2251T5601000. Note the "T56" in the 10th thru 12th positions in the VIN which is unique to 1996 Corvette Grand Sports. Also note the last 4 digits which are the sequence number or what we simply call the "GS #" ranging from 0001 to 1000. When GS owners meet for the first time, that's usually the first





question... "So, what GS # do you own?"

If originality appeals to you and you want to determine if a GS has all of its original components there are a few numbers you can check. What would a Corvette buying article be without talking about matching numbers? There are books about C4 matching numbers that go into painful detail, but here is a start....

Original ZF6 transmissions will have the vehicle VIN stamped vertically near the driver's side tail section of the transmission. It is a small stamping and hard to see and you will likely need a flashlight to view. Additionally, a replacement transmission installed by GM would likely be indicated as such on the transmission tag on the passenger side of the ZF6.

The engine block also has a VIN stamping on the flange edge of the block, rear section on the driver's side near the bellhousing mating surface. However, it cannot easily be viewed with the engine still in the car as it is very tight to the firewall back there. As an alternative, to verify that the engine is an LT4 and at least ascertain the date it was produced, there is a stamping on the passenger front side of the block below and to the right of the ignition coil, near the power steering reservoir. It is on a horizontal lip of the block and can be seen with a flashlight and without disassembly of any components. The stamping will be something like "V0000ZXD". V stands for Flint, MI production plant, and the 0000 is the date of production not including the year (ex. 1021 would be 10-21-95 and 0520 would be 5-20-96 based on 1996 production model year runs) and ZXD is the suffix code for LT4. The date of this stamping should be just prior to the build date of the GS; which is available to members on the GSR web site. Also, if you pull the oil fill cap and shine a light inside you will see "LT4" stamped inside.

Options

There are were only a handful of options available with the 1996 GS as most were included as standard equipment in the RPO Z16 (GS Package). A complete listing and detailed discussion of GS options may be found online at http://www.grandsportregistry.com/96_specs.htm#OPTIONS. These options are really personal preference and one can't go wrong with any of them.

The main options that you will need to be concerned

with are the body style (coupe or convertible), interior or color (black or red/black), and suspension (FE1 base, Z51 [coupe only], or F45). Standard equipment includes the one-year only 330HP LT4 engine, ZF 6-speed manual transmission, electronic a/c, leather sport seats, Bose stereo, and the various GS-specific accoutrements.

While the F45 suspension option was the most expensive (\$1695) when the car was new, it does not appreciably add any more to the value over a base or Z51 suspension car. While the F45 adjustable suspension has proven to be quite durable and no significant negative repair history exists, you should be aware of the potential expense of repairing or replacing F45 components (shock absorbers alone cost \$400+) should the need ever arise. The FE1 base suspension is quite capable without being too soft and the Z51 suspension is not that harsh compared to earlier C4's. They are all good but based on demand and ease of resale, Z51 is probably the most desirable of the three suspension choices.

Both Bose AM/FM/CD/Cassette (RPO U1F) and AM/FM/Cassette only (RPO UUF) were available entertainment options. While the latter is much rarer (only 48 cars so equipped), the former is the far more popular choice.

The following table lists all factory options available for 1996 Corvettes, including the GS.

Total 1996 Production = 21,536 (17,167 Coupes, 4,369 Convertibles)

RPO	Description	Retail	Quantity
1YY07	Base Corvette Sport Coupe	\$37,225	17,167
1YY67	Base Corvette Convertible	\$45,060	4,369
AG1	Power Driver Seat *	\$305	19,798
AG2	Power Passenger Seat *	\$305	17,060
AQ9	Sport Seats *	\$625	12,016
CC2	Auxiliary Hard Top - Convertible **	\$1995	429
C2L	Dual Removable Roof Panels **	\$950	3,983
Z4S	Removable Roof Panel Blue Tint **	\$650	6,626
Z6S	Removable Roof Panel Bronze Tint **	\$650	2,492
F45	Selective Real Time Damping	\$1695	2,896
G92	Performance Axle Ratio **	\$50	9,801
LT4	350ci 330hp Engine *	\$1450	6,359
MN6	Six Speed Manual Transmission *	00	6,359
N84	Spare Tire Delete	-100	986
UJ6	Low Tire Pressure Warning Indicator	\$325	6,865
U1F	Stereo System Delco-Bose with CD	\$396	17,037
WY5	Extended Mobility Tires	\$70	4,945
Z15	Collectors Edition **	\$1250	5,412
Z16	Grand Sport Package (\$2880 Conv)	\$3250	1,000
Z51	Performance Handling Package	\$350	1869

* Indicates standard equipment with Z16 Grand Sport.
 ** Indicates not available with Z16 Grand Sport.





The following describes how many 1996 Grand Sports were produced with the major option combinations.

1000 Total Grand Sports

810 Grand Sport Coupes

- 593 Coupes with black interior
- 197 Coupes with black interior and FE1 base suspension
- 206 Coupes with Black Interior and F45 Suspension
- 190 Coupes with Black Interior and Z51 Suspension

217 Coupes with Red/Black Interior

- 40 Coupes with Red/Black Interior and FE1 Base Suspension
- 91 Coupes with Red/Black Interior and F45 Suspension
- 86 Coupes with Red/Black Interior and Z51 Suspension

190 Grand Sport Convertibles

137 Convertibles with Black Interior

- 76 Convertibles with Black Interior and F45 Suspension
- 61 Convertibles with Black Interior and FE1 Base Suspension
- 53 Convertibles with Red/Black Interior
- 42 Convertibles with Red/Black Interior and F45 Suspension
- 11 Convertibles with Red/Black Interior and FE1 Base Suspension

Note: GSR Members also have access to the GSR VIN/RPO Database which allows you to easily search on any combination of Regular Production Options (RPO) across all 1,000 Grand Sports, even to the extent of telling you how many other GS's, if any, were built exactly like the one you are researching. Very cool stuff!

Pricing

Spend some time researching current pricing on GS's as prices do tend to fluctuate and vary widely depending upon coupe or convertible, mileage, interior color, modifications and general condition. As with any Corvette, the fall or winter is generally a better time to buy than in the spring or summer. Corvette monthly magazines usually have detailed pricing articles at some point during each year. NADAguides.com has special interest car pricing available and for a fee, publications such as Black Book, CPI Value Guide and Hemmings Motor News Price Guide are sources of pricing information. Also, internet sites such as the GSR, eBay, traderonline.com, corvettetrader.com, vettefinders.com, hemmings.com, rogerscorvette.com and a host of others are very good sources to find GS's for sale as well as pricing data. The GSR also maintains a listing of all known GS's advertised for sale, along with mileage and asking (or "Buy It Now") price, giving you an idea of current average GS values.

It should be noted that the rarer (red/black interior) or more expensive (convertible) options will always garner a higher price for a particular GS given all other factors remain constant. As of this writing, expect to pay \$5000 or more for a red/black interior coupe as opposed to a black interior coupe. A GS convertible with the red/black interior option is quite rare given only 53 were built with this combination. As such, these examples have been known to bring stratospheric prices when combined with very low

mileage. If this is what you are looking for, be prepared for the resultant sticker shock when and if you find one for sale. Very low mileage examples can bring over \$100K!

The GS is a limited edition, after all, so do not be surprised to find that a Grand Sport is typically MUCH more expensive than a similarly equipped regular production 1996 Corvette. Is it worth the extra money? That is a question that only you (and your wallet) can answer, but our canned response to this oft asked question is...

"Well, one thing's for sure... they ain't making any more of 'em!"

Truth be told, the 1996 GS has enjoyed a phenomenal resale value, actually increasing in recent years and often surpassing that of the limited production and much more expensive, when new, legendary ZR-1. Even we can't fully explain why this has been the case, but the enthusiasm and passion GS owners show has played a big part!

Mileage

As with any used Corvette, a lower mileage GS will definitely demand a premium as compared to a higher mileage one. However, if you are buying a "garage queen." make sure that the owner has at least properly exercised his or her time capsule. A car that is not started and brought to operating temperature on occasion will likely exhibit seal problems and could end up costing you a ton of dough in repair bills. If you are looking at such a museum piece, make sure that you get proof that it was professionally maintained and in the future do the car a favor and drive it!

You need to ask yourself how you intend to enjoy the car. Will your passion be driving it as much as possible (as God and GM engineers intended) or do you only intend to trailer it to the occasional show and keep mileage accumulation to a bare minimum? If you plan on driving the car a lot, then you should be more tolerant of a few additional miles and perhaps somewhat less than pristine condition in consideration of a lower price.

Modifications

Many Corvette owners love to modify their cars either for performance or for aesthetics. As a potential buyer you will need to determine from the seller what modifications if any have been made to a particular GS. In addition, you will need to decide if the modifications add to or subtract from the value of the car. Generally they do not add a lot of value and depending on the mod may actually subtract from the value if they are not reversible and the original parts are not available. It is likely that the GS will continue to be popular with collectors and the factory original ones will tend to be the most valuable years from now. However, all of this may be moot as you will need to decide if factory originality is important to you or not. My feeling is that it is your car so modify it or not, whatever makes you happy. In buying a modified GS





you simply need to be comfortable with the modifications that have already been made. If you plan on putting in a lumpier cam, 4.10 gears, stroking it to a 383 and adding a supercharger, buy a GS that already has these modifications done. It will save you loads of money as opposed to buying an unmodified car and paying for these same modifications later. Either way, just enjoy the GS how YOU choose!

Buying long distance and transporting home

With the limited number of GS's produced, there is a good possibility that you will not find one for sale in your own back yard. If this is the case for you, we recommend that you thoroughly research the car as best you can prior to making the determination as to if it fits your specifications and warrants a first hand look. Telephone the buyer to grill him or her with all the questions you can in advance. Also, email is a great mechanism to send questions and get them answered. With the advent of the digital camera, one can easily get very detailed pictures to review and the seller should be willing to provide as many photos as desired. If after the phone interviews and email responses the car still interests you, make sure that you get through email or on a cd detailed pictures of the entire car from various angles, inside, outside and the engine compartment. Also ask the owner to send close ups of any known blemishes on the car so there are no surprises. If the car passes and you are seriously interested, ask the seller if the car is worth a trip out for you. See if he or she is willing to pay your return flight (or gas) home if the car is not what has been represented.

Prior to a long distance inspection, you need to think about logistics if you decide to buy the car unless the trip is planned as an inspection only trip. Price and payment terms should be discussed with the seller in advance. If you have done your homework properly, you should be able to agree upon a price for the vehicle pending your inspection. If the car passes, you will pay the agreed amount. If not, walk away or negotiate. For payment terms, we would suggest a cashier's check for most of the agreed price and possibly cash or some other agreed tender for a portion if you feel that further negotiations will occur. Or as an alternative to this, professional vehicle inspectors can be hired for a fee and likely will provide you with a detailed inspection report and appraisal.

If you are going to drive the car home, check with both your state of residence and the seller's state of residence for temporary transit licensing requirements. If you will have the car transported to your home, make sure you find a reputable hauler to do the work for you. Do your homework on this, ask around, check references, etc. You don't want your GS stuck somewhere for weeks on end or worse yet damaged because you went with Fast Eddie's Transport and saved a few bucks! See the GSR FAQ section for a list of transporters that GSR members have recommended based on personal experience.



Exterior

A GS looks great on the outside with its Admiral Blue paint, large Arctic White skunk stripe down the middle and red hashmarks on the left front fender. You will want to examine the exterior in bright sunlight or under fluorescent light as this makes it easier to find surface imperfections. Here are some things to look for:

- The Admiral Blue color shows slight clearcoat scratches easily. Do not be too concerned about these unless they are very deep (can be caught by a fingernail), as such light surface imperfections can often be removed by a professional detailer but will factor into the offering price from you.
- Be concerned more about rock chips and deep scratches through the clear coat. Especially pay attention to the front of the car – the bumper and hood take the brunt of rock chip damage.
- Look for paint discoloration, spotty areas, etc. for signs of paint damage or oxidation. Look for signs of cracking as fiberglass does not dent, it cracks.
- Also look at the rocker panels and the low sections of the doors just ahead of the wheel wells for paint chips and damage – this area tends to get sandblasted.
- Check for overspray on and around body panels to see if a section has been repainted or not.
- Very slight color variations between panels occurs at the factory so don't be surprised by this. Significant color differences are rare, however, and may be indicative of previous repair.
- The skunk stripe is painted on (Arctic White) but the blue/white pinstripes on the edges are a two-color decal. Make sure that these are not missing or damaged as GM no longer stocks individual replacement stripe components. Fortunately, complete aftermarket GS stripe kits are now available through the GSR Store (with discounts available to GSR Members).
- The weather stripping on these cars is not very durable





and is very costly to repair. Look for cracks, rips and tears and keep in mind that GM replacements for most individual weather strip pieces start at around \$100 and there are eight different pieces on a coupe! Check the pieces at the base of the windshield and the coupe hatchback glass as these are often the first to go.

- Look at the front air dam spoiler and metal bumper guards near it. These tend to get scraped up rather easily in and out of any driveway. Replacement spoilers are inexpensive at about \$40 aftermarket and \$80 or so for GM replacement components.
- Check all window glass for signs of damage. The windshield takes the most abuse and could be pitted on a higher mileage car.
- Check for cracks and any signs of fiberglass repair on the backside of body panels
- Look at the alignment of body panels to verify that they look correct; they should be pretty uniform throughout the car but by no means Mercedes precise. It is still a C4, after all.
- And in case you didn't know, only GS coupes came with the rear fender flares to cover those massive tires.

Interior

The GS cockpit has the look and feel of a fighter plane and is very comfortable once you get inside it. It is not the easiest interior to climb in and out of but you will soon get used to the drill. Many owners joke that they don't get "in" their GS, they put it "on." Even so, once in place in the drivers seat you feel like a driver, not just someone along for the ride. Here are some tips when examining the car's interior:

- The doors and door panels take a lot of abuse. Make sure the doors open and close easily and without excessive force, the panels are not loose or have excess wear on the panels and door jambs.
- Check the condition of the seats, the first area to go is usually the side bolsters and the seat bottoms, particular-



ly on the driver's side. The leather on the factory original seats is actually pretty thin and not that durable. Factory original seat cover replacements are no longer available from GM. Fortunately for us, very high quality reproduction seat covers, in either black or red, are now available through select after market resellers (GSR Members get a discount, of course).

- Check operation of the seat back release and inspect the back side of the seats for damage. The plastic bezel around the seat back release in the back of each headrest are prone to breakage. OEM replacement bezels are over \$30 each although aftermarket pieces are now available for less cost.
- Check the steering wheel for vertical play. If the wheel moves up and down more than a little bit, the car exhibits a somewhat common problem that requires a fairly extensive repair to fix. A prior owner might have used the steering wheel as a push off point to get out of the car and the mounting bolts inside are probably damaged. Also make sure that the tilt wheel functions properly.
- Pull up the floor mats and look at the carpet for signs of wear or fading. Look closely at the door sills; these tend to take the most abuse. Check in the passenger foot well area for signs of water or coolant. If you find any, the heater core or weather stripping is probably shot and will require replacement. Pull up the seat bottoms and look for signs of any water or other damage. Adjust the driver's seat forward and look to see that the jack handle wrench is present. There is a lot of carpet on a C4 coupe so check the condition in the rear hatch area as well.
- Check the rear storage compartment behind the passenger seat for the removable tray, jack and lug nut sockets. There should be TWO lug nut sockets... one regular and one keyed to match the locking lug nuts (one on each wheel) installed on the car. On the underside of the rear storage compartment lid there should be a sticker that lists all of the vehicle RPO codes.
- Check the center console lid for signs of cracking as this is a common malady on C4's and replacements cost \$200 or more. For coupes make sure the targa top wrench is present inside the console and while here, check operation of the rear hatch release and make sure the light inside the console comes on. Also check operation of the hatch release button located on the rear inner edge of the driver's door. Check to see if a complete owners manual package is also in place (replacement owner's manual packets with VHS video are available through Helm, Inc).
- Look at the dash and instrument lens covers for condition and cracking, scratches, etc.
- Inspect the trim throughout the interior, especially in the rear hatch area for signs of cracks, scratches or damage. Look to see that all interior screws are present.
- On coupes, check the operation and general condition





of the rear hatch shade.

- Remove the roof panel (coupe) or put down the convertible top and check operation and look for signs of wear throughout. If unfamiliar with operation of either, have the owner show you how. On coupes put the top in the rear storage area to make sure everything seats properly and the hatch closes correctly. On convertibles look for signs of wear and overall condition and fitment of the convertible top.
- There are a bunch of comfort and convenience features on these cars, check the operation of each to verify that they work: interior lighting, vanity mirror lighting on both sunvisor mirrors, rear view mirror map lights, rear defogger, side view mirror controls, seat lumbar adjustments (verify that the bladders stay inflated), power seat adjustments, radio, CD, cassette player, power antenna, power windows, power locks, etc., etc.
- Turn the key to the ignition on position to verify that all of the idiot lights on the Digital Information Center (DIC) are illuminated for a few seconds. There are 14 different warning lights on the DIC. The only place on the DIC that does not illuminate is in the top row at the center; no light is contained here. An unscrupulous seller might pull a bulb to hide a potential problem such as a Service Engine Soon condition.
- Verify operation of the LCD display and analog gauges – average MPG, volts, temperature, etc. There are a lot of electronics on these cars, so check to see that they are all working as repairs are expensive. Have the owner show you the operation if you are unsure of it.
- Check the operation of the Passive Keyless Entry (PKE) key fob. The car should automatically unlock when you approach it with the fob and automatically lock and beep the horn once when you walk away from the car (unless this function has been programmed out – check the owner's manual for instructions on how to do so). New replacement PKE's are around \$125 or more. If the buttons on the PKE do not function, most likely the PKE battery needs replacing at around \$5.
- Check the operation of the alarm. Leave a window open and walk away with the key fob to arm the system. Return without the fob and reach through the window and pull the interior door handle. The alarm should sound. Unlock the door with the key to stop the alarm.
- Turn on the headlamps, verify that both headlights rotate smoothly into the up position and verify operation of the brights, parking lights, fog lamps, turn signals, tail lamps, dimmer, etc.
- Verify the operation of the parking brake. Have the owner show you how it works if you are unsure. Fully engaged, the parking brake should keep the car from rolling in neutral while parked on a moderately steep hill.
- Check operation of the horn. The horn is a known weak spot and prone to failure on all 94–96 Corvettes and the GS is no exception.
- Check the condition of the sunvisors. The flexible, outboard portion of both sunvisors has the tendency to break down over time causing the dreaded “floppy” sunvisor syndrome. Both original (costly) and after-market (more reasonable) replacements are readily available.
- Check the condition of the dash pad, particularly the far left and right edges that meet the windshield. These sections of the dash should lie flat, yet they are prone to curling upwards with age, particularly with cars from the Southern states subject to intense summertime heat.
- Check the condition of the console surrounding the shifter and cigar lighter/cup holder door. The console is covered in a rubbery material known as “Dulso” and is prone to nicks and scratches with age. These cannot be readily repaired and replacement consoles are quite expensive.

Suspension, chassis, wheels and underside

Familiarize yourself with the different suspension options available with the GS. The black wheels and special brake calipers that come with the GS really set it apart.

- Check the shocks for signs of leaking. According to Bilstein (base and Z51), a slight film is normal. If you see a drip, this is not good. Replacements are available from Bilstein or you can have the existing shocks rebuilt by them. Either way for all 4 it is about \$300. F45 shocks and shock actuators are significantly more expensive at about \$400 each per wheel so pay even closer attention to these.
- Look at the tread depth of the tires and keep in mind that replacement tires can be an expensive proposition, often costing in excess of \$1,200 for a set of four. Original Goodyear GS-C tires are no longer in production and becoming increasingly difficult to find. If you are planning on driving the GS and it still has its original GS-C tires, you might consider putting them in storage and purchasing aftermarket replacements (visit the GSR for latest suggestions). Also keep in mind that the GS-C tire has a tendency to get very hard with age, particularly if the car sits for long periods.
- Uneven tread wear might indicate a bad alignment or a suspension problem. Check into this if uneven wear is noted.
- Don't be surprised if the rear tires have less tread than the front tires. This is a common problem with GS's and indicates that the owner found the ASR (Acceleration Slip Regulation) button on the left side of the instrument panel and disabled it a time or two.....
- Check the front and rear fiberglass monospring for signs of delamination.
- Observe the suspension bushings for signs of cracking or damage. A damaged or worn bushing will cause handling problems and require a lot of labor to replace.





- Original GS calipers were painted black and the fronts had "Corvette" in raised letters on them. These are the same heavy duty calipers used on the ZR-1. Observe the thickness of the rotor and brake pads.
- Verify the presence of the spare (if applicable) and tire stowage bag (coupe only) in the spare tire carrier. If this is a rare Spare Tire Delete (RPO N84) car, consider yourself lucky as these are rare.
- Check the wheels for evidence of curb rash or scuffing around the outer rim. If not too severe, this can be repaired by an experienced machinist or professional wheel repair center. Check to make sure all black plastic lug nut caps are present and each valve stem has a cap. If any of these are missing, it's an indication the owner doesn't pay much attention to detail. What else did he skip?
- Make sure each wheel has one locking lug nut and that the special security lug nut socket stored inside the car (usually in the stowage compartment behind the passenger seat) matches.

the GSR web site.

- Observe the overall cleanliness of the engine compartment area. A dirty compartment could indicate a car that has not necessarily received the best of care and a clean one might tend to indicate that the car has been loved. Although this might not always be the case if the car was recently detailed just for sale.
- Check the front end for any signs of damage or fiberglass repairs.
- Note the throttle body cover plate emblazoned with the words "Grand Sport." All LT4 equipped Corvettes, Z16 Grand Sport and otherwise, came with this plate from the factory. This is why some less knowledgeable dealers or individuals sometimes erroneously advertise a regular production LT4 Corvette as a Grand Sport. You can thank GM for adding to the confusion!
- Like all Chevrolet small block V8 engines, the LT4 is somewhat prone to oil leaks. The most common one is out of the intake manifold, both front and rear. The manifold is sealed at the ends with RTV rather than gasket material and tends to leak from the factory. Check these areas well, use an inspection mirror for a better view. Other areas to check for oil leaks are the timing chain cover, valve covers, waterpump drive seal, oil pan and front and rear main. Usually the leaks are slight but costly to fix as it generally requires tearing down a lot of the engine to get at the seals.
- Check plug wires for signs of cracking, if you are an originality freak, the original wires are red and will be numbered 1-8 for each cylinder. Replacement GM LT4 wires are red but do not have the numbers on them. Due to the layout of the ignition system, spark plug wire replacement is a costly job at around \$600. Try replacing the wires yourself and you'll soon understand why!
- Look at the condition of the hoses. These cars are designed to run hot and it takes a toll on the hoses. Radiator and heater hoses should be firm and not easily collapsible.
- Check the underside of the radiator for signs of leaking coolant, the side tanks on the factory radiator are constructed of plastic and may be cracked and leaking on a higher mileage car.
- Check the coolant (DexCool orange stuff) in the radiator fill and surge tanks. Verify that it has been changed on a recurring basis and does not look like brown goop. The factory recommendation is to change every 100k but hopefully the owner has done you a favor and changed it every couple of years.
- Using a flashlight, look through the opening of the radiator shroud on the passenger side between the radiator and the air conditioning condenser. It is quite common for road debris and trash to get sucked up into this area blocking air flow and thus causing the engine to overheat. This area should be inspected and cleaned out with a garden hose frequently.

Under the hood

The clamshell hood is one of the coolest features on any C4. Nothing like exposing the entire front end of a vehicle like a race car! Pop the hood and make sure that it opens and lifts with little effort and without interference.

- Review pictures of LT4 engines either on the GSR or elsewhere prior to looking at the car. This will give you a frame of reference as to what the engine compartment should look like and help you determine if anything is missing or not a stock item (if important to you).
- If the GS VIN is between 00012 thru 00363, verify from GM that the roller rocker arm recall campaign has been performed. Read about this in the Tech Tips section of





- Using an inspection mirror, look at the underside of the waterpump. There is a weep hole here and if there is any coolant coming out of this hole then the waterpump is on its way out and will require an expensive repair, probably around \$400 from a dealer. It should be noted that if the waterpump does fail and dumps coolant down the front of the engine it may destroy the optispark distributor and the \$400 repair will become a \$1,200+ repair in short order
- Speaking of the optispark, if you are buying a higher mileage car, verify that it is not running on its original component. Depending on conditions an optispark with 60k on it is probably a rarity.
- Check the battery and cables for signs of leaking or corrosion. If you find some you might want to pull the driver side fender gill to see if this leak has dripped down and caused corrosion on the frame rail. Instructions for removing the gill may be found on the GSR.
- Check the color and condition of all vital fluids. Ask questions of the owner relative to the frequency of fluid changes.
- Look to see if the serpentine belt exhibits signs of fraying.
- Do not be concerned if you see minor visible evidence of overspray or blotches of blue paint under the hood, particularly in the area around the hood latch pins and receptacles. This is very common on factory production cars of this era and should be expected. In fact, you should probably be more leery if you do NOT see any overspray or stray Admiral Blue paint in this area.

Fire it up!

The LT4 is a strong and durable power plant. Even higher mileage GS's should still exhibit strong engines provided that they have been properly maintained. Now, the moment of truth – almost. If you have followed this guide, you have done some serious looking over of this potential GS and now it is time to start it up. But before you drive it you should observe a few more things. Feel the valve covers to make sure they are cold so you can observe how the car starts up cold. Leave the hood up while you start it up.

- The engine should fire just a couple of seconds after turning the key and without touching the accelerator pedal. Don't pump the pedal. After a few seconds the idle should be smooth.
- Have a buddy look for signs of oil smoke through the exhaust upon start up or have the owner turn the key and you do the looking.
- With the car in neutral and the parking brake on, let the engine idle until it reaches operating temperature. During this time, listen for any odd noises and verify the operation of the gauges.
- The valve train of the LT4 is somewhat noisy and is one reason that GM made the valve covers of a composite material rather than aluminum or other metal. How-



- ever, they are not so noisy that you couldn't hear a clicking lifter. The fuel injectors are a bit noisy as well.
- With the engine running, check the operation of the air conditioning and automatic climate control to see if it works properly. Set it to its lowest temperature setting to see if it blows cold A/C, set to the highest temperature setting to see if it blows heat, verify that the different fan speeds work and that the fan blows strong and comes through the appropriate vents. Unfortunately, all 1996 Corvettes are subject to one of two A/C problems. First, failure to be able to raise or lower cabin temperature by pushing on the temperature up/down control buttons on the dash are usually due to a failed A/C Controller Module which costs about \$200 plus labor to replace. Second, air conditioning blowing on the floor or defrost vents only but not through the dash are indications of a bad A/C Program Module. You may find that after a few minutes, air may start to properly flow through the vents as intended, but this is just a sign that the Module is on its way out. Over the coming months this delay will begin to take longer and longer until it eventually fails entirely. The good news is these little gems only take about 30 minutes to change. The bad news is that they are ridiculously expensive at over \$1000 retail





+ labor. And it seems as if age, not mileage, is the determining factor on when, not if, these units will fail. If either of these conditions exist, use this as a bargaining chip in the price or insist the seller pay for the repairs before you take delivery.

- Verify that the outside temperature reading is relatively accurate.
- With the A/C on, verify that both radiator coolant fans are running.
- With the car in gear and the parking brake off, slowly engage the clutch and listen for any signs of chattering or slipping. It should be noted the ZF6 transmission is somewhat noisy (particularly in neutral with the clutch out) but this little bit of annoyance is made up by its overall stoutness.
- Make sure that there is not any trouble in shifting the car into reverse, if there is this might indicate a clutch in need of replacement.
- Ensure the car is on a level surface then put the car in 4th gear and slowly release the clutch pedal to ensure the car inches forward. If the car does not move without a lot of throttle and clutch slippage, this is indicative that the clutch plate is worn and needs replacement.

Drive it!

At last... time to get it on the road!

- Pull away slowly as you start out and listen for any unusual noises. As you pull away, you might hear a short motor or clicking noise from the Antilock Braking System (ABS) self test; this is normal. However, you should not hear any clunks, clacks or groans or feel any vibrations. Noises in the rear may indicate wheel bearing or rear end problems.
- As you shift through the gears, you should observe short and firm gear changes without any hesitation or sloppy feeling. The shifts should be fairly easy to make. If a shift requires undue effort, the transmission may have a synchronizer problem. Make sure you try all of the gears including reverse and shift at normal and more spirited speeds. While quite durable, ZF6 transmission repairs are very costly when needed so check it out properly.
- Test for a slipping clutch. While traveling at 50 mph or so and the car in a higher gear like 5th, ease down the accelerator. If the engine RPMs quickly spin up a good amount yet the vehicle speed is not increasing, the clutch is likely slipping and may need replacement.
- If the car has not had the Computer Aided Gear Selection (CAGS) bypassed, while shifting at low RPM out of first gear the computer will force you to shift from first to fourth, bypassing second and third. If you buy the car and find CAGS an annoyance as most of us do, a bypass kit is a \$20 item available through most Corvette supply houses. They are easy to install, make no permanent modifications, and is money well spent to make driving the GS even more pleasurable.
- Make sure the car tracks straight without any pulling to one side. Do this on a flat road without a crown on it. Pulling could indicate uneven tire wear, bad alignment or suspension problems.
- At a low speed turn the wheel back and forth to check the steering response. The car should react instantaneously to the inputs from the steering wheel. Take a corner or two at a spirited pace and verify that the car corners like a go-kart and does not make any unusual noises.
- Do a low speed panic stop to verify operation of the brakes. The car should come to a stop in a controlled manner, the pedal should be firm and the car should track straight without any pulling to the left or right.
- Make sure that the brakes do not pulsate at any stopping speed. This could be an indication of a warped rotor.
- Verify that the body does not seem to float over rough roads. This may be a sign of well worn shocks. Don't confuse this with body flexing. All C4 coupes with the removable top off and C4 convertibles exhibit some degree of body flex.
- Check the operation of the cruise control including the coast, resume and accelerate speed functions.
- Verify the operation of the speedometer, tachometer, and the electronic goodies in the driver's compartment area.
- For emissions purposes, these cars were designed to run hot. A cruising temp around 190 degrees is normal and at idle or in traffic, the cooling fans of an unmodified car will not kick on until temperatures near 230 degrees. If this concerns you, your Engine Control Module (ECM) can be reprogrammed to turn the fans on at a lower temperature setting.
- The car is equipped with dual engine cooling fans. The primary fan should be spinning whenever the engine is running. The secondary fan is temperature controlled but should always come on when the A/C unit is turned on. Check for proper operation.
- Make sure that you take the car up near redline to verify that it pulls like an LT4 should. You should not observe any ping, missing or rpm dips. While GM rated the LT4 at 330HP, our experience backed up by countless dyno runs prove that unmodified LT4 engines in good condition typically generate more in the neighborhood of 350HP. See the GSR site for more info.
- If the car has the optional F45 Selective Real Time Damping suspension option, try the different positions of the console switch (tour, sport, performance) as you drive the car over the same rough section of road. If you have experience with other F45 (or earlier FX3) equipped cars, you may be able to note a slight difference in ride quality. If this is your first experience with F45, chances are you will NOT be able to note any difference. The change is very subtle and you shouldn't be concerned if you can't tell any difference between





the settings... most other people can't either.

- Low Tire Pressure Warning System (LTPWS) is a nice option to have – in theory. However, through time the option can be fairly expensive for a purist to maintain. The sensor bands and sensors themselves are prone to breakage, unique for each wheel, very difficult to find (no GM stock) and very costly if you are lucky enough to locate them. Cars equipped with them originally had a sticker on each wheel rim to notify the tire installer about the sensor. If you have this option, make sure that your tire installer knows what they are doing! If buying a car with this option and you are a purist, make sure that the system works and that the owner has not pulled the LTPWS bulb on the DIC, a common “fix” to a faulty LTPWS system.

If you have access to a lift

- Look for signs of damage underneath. Check the floor pans for signs of scraping or cracks. Check the transmission and rear end for leaks. Also, grab each wheel at the 12:00 and 6:00 position and observe if there is any play in the wheel hub. The factory spec is pretty much 0 play so a quarter inch or so of play could indicate a bad wheel bearing and another costly repair.
- Observe the exhaust system for signs of damage, missing hangers, etc.
- Look for signs of frame damage, corrosion or repairs.

- Look for leaks from the underside of the engine.
- Observe the general condition of suspension components including bushings.

Closing thoughts

Buying a car and especially a Corvette is an emotional experience. It is easy to get swept up by the shine of the paint, the sleek appearance of the body and the roar of the V8. To combat getting a case of the Corvette buyer zombies, we would recommend having an independent individual such as a friend knowledgeable about Corvettes with you to look at the car or have an experienced mechanic or independent inspection service examine the car. This way you get an unbiased opinion from a neutral party. This will take the emotions out of the buying decision and potentially could save you some greenbacks down the road. Carefully inspect the car, but remain courteous to the seller. Remember, you can always just walk away.

Even though only 1,000 GS's were built, on any given day there is actually a fairly good selection of them for sale. The Internet has certainly helped in making GS's and other sought after vehicles much more available to buyers throughout the country. If you are dead set on particular options, mileage, condition and pricing be patient as the right car will eventually be on the selling block. Good luck and enjoy that GS!

And of course... please consider becoming a member of the **Grand Sport Registry**. Come join in the fun! **MAM**

