

Improving The C7 and Grand Sport Cup Holder



Thought the C7 contoured water bottle might fit sufficiently tight to be held securely by the cup holder. In fact it did in a 0.9 lateral g force exit ramp turn. Thought that was the answer versus what had to be done with the '08 C6 where a separate water bottle holder was installed - see below.

By adding some Velcro strips to the bottom of the purchased C7 Corvette bottle (just to reduce the gap) along with some small

round felt pads placed higher in the cup recess, made the water bottle a snug fit. All was fine until, with the bottle full of water and the top valve unfortunately left open, I had to stop very suddely to avoid an oncoming car on a narrow road. I was only traveling about 25 MP but the rapid deacceleration caused the bottle to tilt forward, also tilting the plastic separator *Insert!* Water was spilled all over - something had to be done!

Screw It or Glue It:

Could try something like the "Travel Buddy" water bottle holder used in the C6 - picture right. However, the C7 passenger grab handle would make access to the bottle difficult. Perhaps the problem is the separator *Insert* not being well secured. Tried a simple approach to secure the insert by drilling a hole for a screw so it couldn't tilt. The geometry and the long unsupported screw section, unfortunately didn't help.

Finally decided to glue the *Insert* in place!

The following is a picture overview of what was done. It has worked very well for Have hit well over a 1 "g" stop and over 1 "g" lateral acceleration with a full bottle staying in place! A simpler idea of gluing the thin wall insert was developed and implement in the 2014 for over a year with excellent performance. When the 2014 was sold the same approach was used for the new 2017 Grand Sport

The following is a picture/text overview of what was done.

Photo Sequence

A thought occurred while responding to a "Terrible C7 Cup Holder" forum Thread of a possible way to improve what has already worked for 2 years; gluing the cup insert to the base with silicone.

Something occurred that made me think perhaps it wasn't the "base" to which the insert was glued I saw the "base" move when trying to tilt the insert. So I took a chance and pulled up the insert that had been "siliconed" to the "base" and has performed fine! Found there was a rubber insert, 5/64 inches thick, over the real "base!" Now I can gain that depth and a secure attachment!



Bought the newly advertised "liquid plastic adhesive" that sets with a UV light. The one purchased is called RapidFix and was purchased from Amazon for ~\$19. It has a quality UV light and 10 ml bottle of plastic adhesive.

Have used it several times to join the pieces that would be difficult without clamping and in such a short time. Much better than Super Glue.

A fillet of liquid plastic was placed along the bottom of the insert (of both sides) and up the driver's side edge. The passenger edge (as it was when using silicone) was not glued so the cover could be closed, which it still can.

This is a pic of the insert while the UV light was used to harden the plastic. It glows!

Not surprising, from my prior use the bond is immediate and the insert is even firmer than with silicone, since it is flexible and we had to use a ~3/16 inch layer.

Held securely and now the cup is 5/64 inches deeper!



The problem found initially is that the cup *Insert* is not very secure. It is subject to tilting forward with little force. Certainly a full water bottle in an abrupt stop will exert the force needed to have it tilt and tip the bottle. Note the raised edges (red arrows) that caused the bottle to tip over. This occurs with only moderate force.



WHAT DIDN'T WORK!

The first try to secure the *Insert* was to drill a hole through the plastic *Insert*, into the plastic bracket permanently attached to the driver's side wall. This bracket clips the insert only to the driver's side and the remainder is just cantilevered to the passenger side. Not very secure.



This is a view of a screw inserted into the plastic support to which the *Insert* connects. Unfortunately the unsupported length of the screw allowed the assembly to flex so it was not the ridged assembly it was hoped would be achieved. All support was also coming from one end of the *Insert*.

It is good to know what doesn't work and the screw in one idea that didn't accomplish the task!

If screws didn't work, how about glue! Looking at the bottom of the *Insert* you can see it has very thin edges. There is little surface area to provide contact for the glue.

However for the Grand Sport one additional step was used compared to that shown in detail for the 2014 C7. The finished results follow with details:





The Grans Sport worked about the same as the 2014.

The 5/64-inch rubber bottom was removed, it just pulls out, making the cup holder deeper and providing a surface that can be glued.

The same UV adhesive used on the 2014 was used. It was made somewhat thicker and although it secured the insert to the bottom it had a slightly tacky surface. Was running out of the first material and thought possibly the UV bulb was getting old (have used the material for over a year on various projects and it always fished very hard.) Bought another kit, tried just the new light and it was still a bit sticky. Applied a small amount of new adhesive just above the prior layer and that section hardened satisfactorily. Looks like I should have applied it in several thinner layers. Use the same approach was when making a large fillet weld when welding -use multiple passes thinner passes!

How to deal with the slightly sticky surface? Went to my old reliable 5 Minute epoxy. Make a batch and quickly painted the adhesive surface with a thin layer of epoxy with a disposable parts bush. It hardened perfectly!

Used a few felt pads as in the 2014 to make the water bottle snug.

Other 2017 Grand Sport & 2014 Stingray PDF's Available:



Some 40 items discuss improvements or information about a 2017 Grand Sport and 2014 Stingray function and/or esthetics. Some are minor and others, like the installing ceramic brake pads, include detailed install information.

Below are the PDF's available. Click on picture (may need Ctrl pressed.) Or just copy and paste the PDF info (Blue type) into your browser. Or email me at GUtrachi@aol.com and state the title desired, shown in Yellow:

Note: GS indicates the info was updated from that available for the C7 Z51 PDFs.

Rusty GS/C7 Muffler

*Why the C7 muffler is rusted and a simply way to make rust turn matte black.
Bottom pic rusted, top pic treated*

http://netwelding.com/Muffler_Rust.pdf



Change GS/C7 Oil

*WHY change your own oil and HOW to do it
Revised, includes C7 Lifting Methods*

http://netwelding.com/Changing_Oil.pdf



C7 Carbon Fiber Side Skirts

*How to install side skirts with jacking information for
DIY's without lifts*

http://netwelding.com/Side_Skirts.pdf



C7 Carbon Fiber Splitter w/End Plates

How to install Splitter & Nylon bra fit

http://netwelding.com/CF_Splitter.pdf



C7 Removing GM Plastic Film

How To Remove The Rocker Panel Film

http://netwelding.com/Rocker_Panel_Film.pdf



GS/C7 Mirror Proximity Alarm

Limit switch alarm warns when passenger mirror is too close to door frame

http://netwelding.com/Mirror_Proximity_Alarm.pdf



Jacking Pads for GS/C7

Jacking Pads must 2 1/2 inch max OD. Made four. Bought 2 1/2 inch OD x 2 inch high pads after installing side skirts; Bought pads right for the GS.

http://netwelding.com/Jacking_pads.pdf



GS/C7 Radar Power

For C7 tapped rear fuse panel. For GS tapped mirror

http://netwelding.com/Radar_Detector_Power.pdf



GS/C7 Belt Rattle

Passenger seat belt rattles against the seat back. The solution, add a shoulder belt pad.

http://netwelding.com/Eliminate_Rattle.pdf



Aluminum C7 Chassis and Weld Repair

The C7 has an all aluminum chassis, made from 117 welded pieces

http://netwelding.com/Aluminum_Chassis.pdf



GS/C7 Ceramic Brake Pads

The Z51 has very dusty brakes. These pads help!

http://netwelding.com/Ceramic_Pads.pdf



GS/C7 License Plate Frame;

Must Meet South Carolina Law

http://netwelding.com/License_Plate_Frame.pdf



Manage GS/C7 Spilled Gas

Protect the side of the Vette when filling up with gas

http://netwelding.com/Manage_Spilled_Gas.pdf



GS/C7 License Plate & Cargo Lights

LED license plate light & cargo area bulbs are brighter and whiter

http://netwelding.com/License_Plate_Light.pdf



GS/C7 Rear Cargo Area

Rear cargo area needs storage device and rear protector

http://netwelding.com/Rear_Cargo_Area.pdf



GS/C7 Door Panel Protector

Black plastic protector added to prevent scuffing of door when exiting

http://netwelding.com/Door_Panel_Protector.pdf



GS/C7 Improved Cup Holder

A solution to the cup holder spilling under hard braking or sharp turns.

http://netwelding.com/Improved_cup_Holder.pdf



GS/C7 Wheel Chatter/Hop

Why sharp, low speed turns with cold tires causes the front tires to chatter/hop.

http://netwelding.com/Wheel_Chatter.pdf



C7 Carbon Fiber Grille Bar

Install genuine carbon fiber grille bar overlay

http://netwelding.com/CF_Grille_Bar.pdf



Jacking a GS/C7 Vette

Safely jacking either front only or back & front

http://netwelding.com/Jacking_A_C7.pdf



Deer Whistle Installed on GS/C7

Do they work? Plus Install Info

http://netwelding.com/Deer_Whistle.pdf



Replacing C7 Battery

After using a GM type charger and showing fully charged a voltage low, replaced battery with AGM!

http://netwelding.com/Battery_Issues.pdf



GS/C7 Window Valet

Lower Windows with FOB

Window Valet Helps 2014/2015 Latch Hatch

http://netwelding.com/Hatch_Latch.pdf



GS/C7 Splash Guards

GM offers splash guards for the C7 Corvette. An easy DIY installation. ACS Best Front Guards for GS.

http://netwelding.com/Splash_Guard.pdf



GS/C7 Blind Spot Mirror

Smaller rear and side windows cause C7 blind spots. Small "blind spot mirrors" help

http://netwelding.com/Blind_Spot.pdf



GS/C7 Skid Pad Protector

After the air dam, the aluminum "skid pad" hits driveway ramps etc. Plastic protector helps.

http://netwelding.com/Skid_Pad_Protector.pdf



GS/C7 Wheel Locks

Wheel locks, torqued to required 100 ft-lbs, help protect your expensive wheels from theft.

http://netwelding.com/Wheel_Locks.pdf



GS/C7 OnStar Lights

The OnStar LED's in the rear view mirror, at a quick glance, look like a police car flashing light! This is a fix.

http://netwelding.com/OnStar_Lights.pdf



GS/C7 Skip Shift Eliminator

Skip Shift Eliminator install with suggestions on jacking a C7.

http://netwelding.com/Skip_shift_Eliminator.pdf



C7 Catch Can & Clean Oil Separator

Direct inject engines like the LT1, are particularly subject to "coking." What is Coking and how to reduce the potential?

http://netwelding.com/Catch_Can.pdf



GS/C7 Round Shift Knob

A round shift knob shortens throw.

http://netwelding.com/Shift_Knob.pdf



GS/C7 Stingray Sill Plate

Stingray sill plate replaces original.

http://netwelding.com/Sill_Plate.pdf



GS/C7 Nylon Bra

Nylon Bra Stops Bugs on Front and Grill. Fits with Stage 3 Winglets

http://netwelding.com/Nylon_Bra.pdf



GS/C7 Clutch Fluid Change

Clutch fluid after 3000 miles gets dirty
http://netwelding.com/Clutch_Fluid.pdf



C7 Carbon Fiber Hood Vent

Replaces Plastic Hood Vent
http://netwelding.com/Hood_Vent.pdf



GS/C7 Cold Air Intake

Low Restriction Air Filter & Duct
http://netwelding.com/Cold_Air_Intake.pdf



Garmin GPS for GS Cubby

Garmin Mounts in GS Cubby
http://netwelding.com/GPS_In_Cubby.pdf



GS Splitter Stage 3 Winglet

Stage 3 Winglets Integrate with Spats
http://netwelding.com/Stage_3_Winglets.pdf



GS 2LT to 2.5 LT

Red Upper Dash Pad Like 3LT
http://netwelding.com/Red_Dash_Pad.pdf



Jake Emblem/Decals for GS

Jake Symbols Support GS Racing Image
http://netwelding.com/Jake_Emblems.pdf



GS Splitter Protector

Rugged Plastic Protection for Splitter
http://netwelding.com/Splitter_Protectors.pdf



GS: Vitesse Throttle Controller

Adjustable Throttle-by-Wire Control
http://netwelding.com/Throttle_Control.pdf



May Be Of Interest:

Engineering a ProStreet Rod

*How Our '34 ProStreet Rod Was Designed and Built
8.2 Liter Engine, 4 Wheel Disk Brakes & Coilovers*
<http://netwelding.com/Engineering%20Street%20Rod%203-08.pdf>

