

MGW Flat Stick Shifter

They are available in black, blue, silver or red.

The MGW Flat Stick Shifter is now available for the C7 Corvette (including Grand Sport and Z06.) The patented design utilizes state of the art materials and designs offering both a short throw with ease of shifting all gears. Includes the full lower box and alignment tool, not just the upper base.



- Shifter assembly is completely machined from aircraft grade aluminum and all billet components are hard coat anodized for a lifetime of service. All steel components are aircraft grade stainless steel.
- Shifter has integral dust and noise boot to eliminate tranny noise and keep shifter internals clean.
- Shifter assembly is complete and only uses the OEM shift rod and shift ball cup. A key component available on their website not found on most other aftermarket shifters are excellent video's.

In addition there is this detailed install PDF.

George at MGW recommends watching the C6 video as it includes all install elements from start to finish. These are 4, all available at this URL:

<https://www.mgwshifters.com/shifters/corvettes/71>

C6 But Useful as it is Similar to the C7 with the Latest Info; 19 minutes

C7 Removal Console; 9 minutes

C7 Install of Lower Shifter Box; 14 minutes:

C7 Install of Shifter, Supplied Noise and Heat Insulation Material; 13 minutes:

Why Did I Install the MGW Flat Stick Shifter?

Installed the same cue ball size shift knob on my Grand Sport that I had put on my 2014 C7.

On the Grand Sport had two problems:

1. First the aluminum rig came loose from the leather shift boot and
2. Second the screw holding the OEM knob sheared from the screw head!

After about a year was hearing a rattle in the shifter and suspected it was the aluminum base on the aftermarket knob versus the plastic base on the OEM knob. However, since managing the screw head shearing by having the knob attached with only a few screw threads and gluing the aluminum ring to the leather, I was reluctant to remove the knob.



A number of forum posts have praised the MGW shifter. Looking at their install videos was impressed with the design. Forum comments are very positive. Called George at MGW and was very impressed with his knowledge. Mentioned the rattle and he said he has had other reports of the cue ball knob causing vibration and noise between the shift arm and knob!

Liked the appearance of their new “Flat Stick” and the fact that it came with a rubber grommet that would replace the aluminum OEM grommet. However, it comes with a 2-inch shift ball and I have been used to a full cue ball size 2 ¼ inches that fits my fat hand! George said no problem, order without the knob and get one from EPCO, they make many types as well as custom knobs:

[\(http://www.epcoshiftknobs.com/\)](http://www.epcoshiftknobs.com/)

Bought both!

This is a PDF of my install. Most pics were taken from MGW videos with my written commentary from the video info and my own install.

George suggests watching the C6 video as it's the latest, but I found all valuable.

BOTTOM LINE: Shifts Great- No Noise-Very Precise!

23% Reduced Stroke from OEM with No Vibration

Documented Shorter Stroke



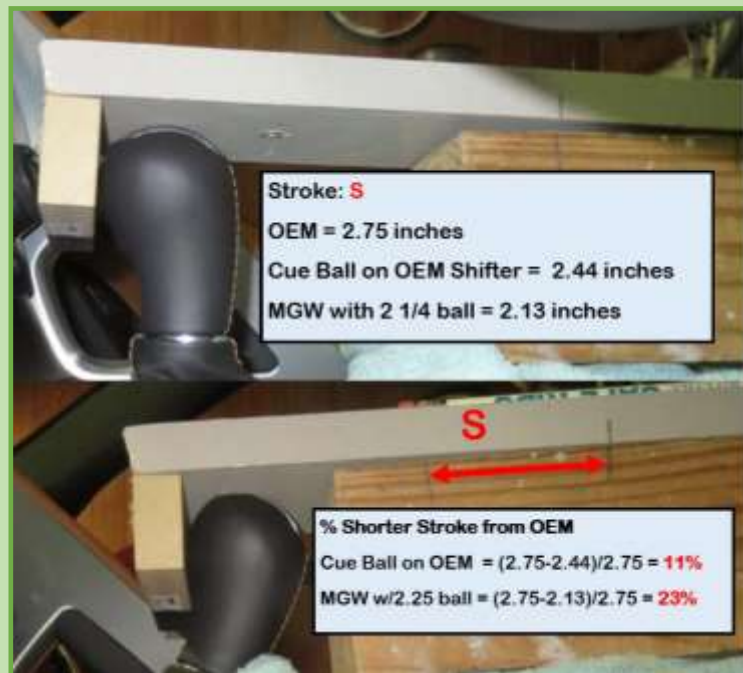
When installing the simple cue ball replacement knob it reduced the stroke since the mounting screw versus the height of the knob was less.

That resulted in an 11% shorter stock. Good but not like the shorter stroke in shifter designed for that purpose.

Most of the shorter stroke shifters use a simple method of changing the fulcrum location so a shorter knob movement will result in a longer movement

of the shaft that controls the transmission.

We made actual measurements of the stroke using the fixture pic right. As shown, compared to the OEM knob the cue ball knob that replaced it reduced stroke 11% while the MGW shifter with a 2 ¼ inch cue ball knob decreased stroke 23%.



Vibration

In addition, the vibration was much less even when holding the shifter at the bottom through the leather boot. With the Cue Ball knob on the OEM shifter it vibrated, which caused an objectional buzz noise especially at the natural frequency of the system!



The billet aluminum MGW shifter and the isolated shifter shaft bushings (green arrows pic left) are no doubt a major benefit.



Installing MGW

Flat Stick

Shifter

With

EPCO

2 1/4 inch OD

Cue Ball

Shift Knob

Purchased Separately

As mentioned, can't beat watching the MGW Video's before the install. If you have an iPad watch while installing! I did pausing as needed.

Start at their home page: <https://www.mgwshifters.com/>

But there are 4 and the 1st is repeated for putting it back together! That is 47 minutes.

You can read this and watch more carefully in areas that are less than clear.

The pics are mostly taken from the MGW video's with words I added.

Attention C7 Owners!

The C7s require a slightly modified install versus what's presented in the video. Please read the note below before proceeding. Click watch video below to play the video.

PLEASE NOTE: At the three minute mark in the video, we instruct you to remove the trim panel by starting from the front and working your way to the back. To avoid damaging the trim panel hook clip on the C7s, you must start from the **BACK**, carefully working your way to the front. **DO NOT** remove the C7 trim by starting from the front! Doing so will damage the clip!



WHAT'S IN MGW BOX: Dynamat max sound deadener. Dynaliner heat insulation. Black Flat Stick Top Section. Two pieces Bottom Section bushings and Blue Loctite. Gasket, Bolts, Alignment Tool (makes it easy and perfect.) 3/16 inch TEE wrench. Flat Stick with Boot Grommet and wrench. 1/8 inch Allen wrench for locking main body screws.

Tools Needed for C7 Install



Small screw driver. A 3/16 TEE handle Hex and 1/8 inch Allen wrench included in kit. 1/4 inch drive ratchet and small extension. 10 mm deep and 7 mm sockets. Brand new single Edge razor blade NOT USED. Torx wrenches: T40, T25 (to remove OEM shift knob) & T15. Some small plastic Trim Tools are useful. Scissors needed to trim top of shifter boot.



1st Remove console lid with #15 Torx



There are two recesses and two pins that fit together to accurately position the lid. When reinstalling, don't overtighten it's just pressboard



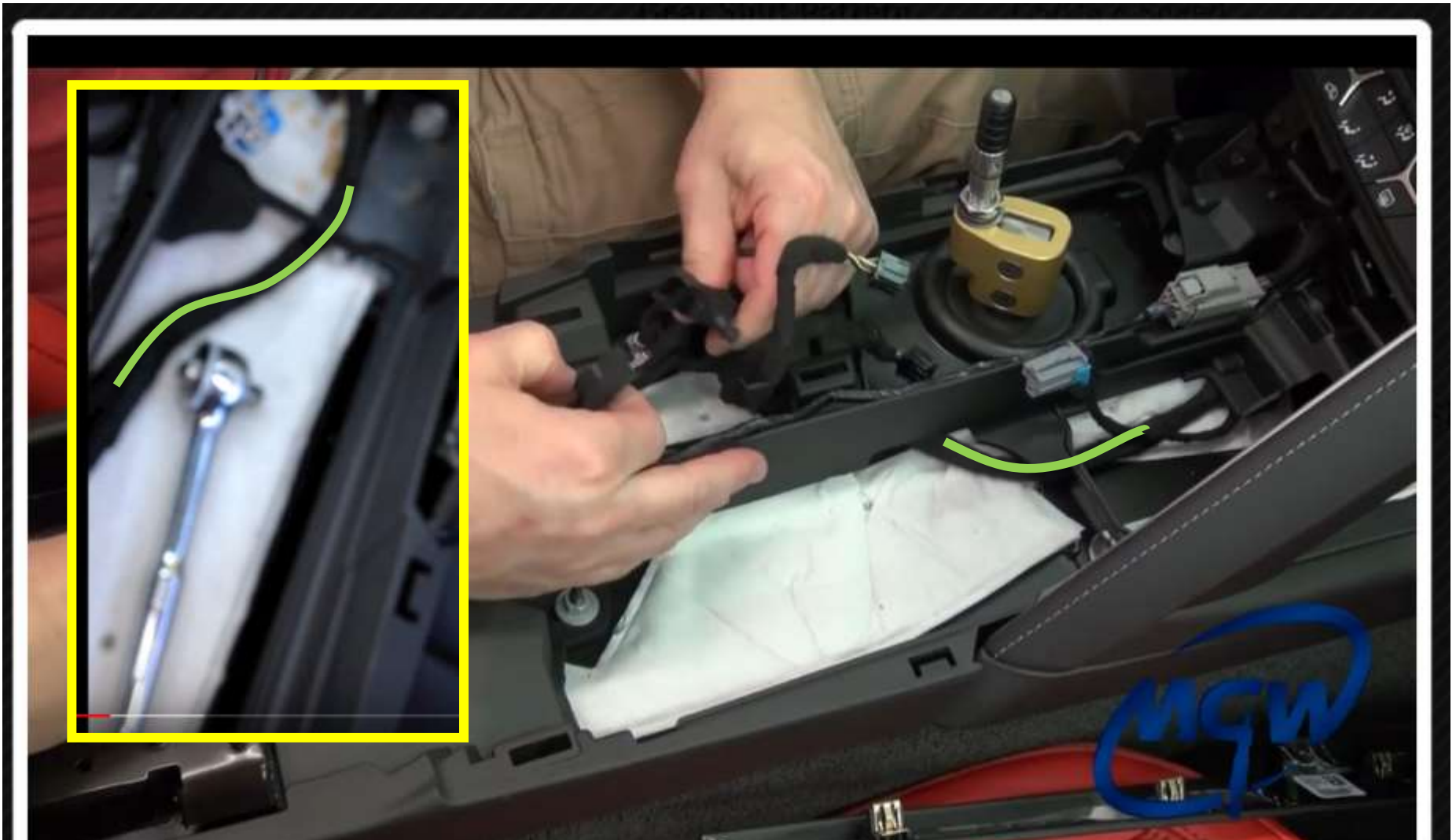
Remove Side Trim **STARTING FROM BACK *NOT* FROM FRONT AS SHOWN IN VIDEO.** The last clip in the front needs to be pulled back to get it unclipped from the slot it fits in (yellow circle.) If you start in the front it could break.



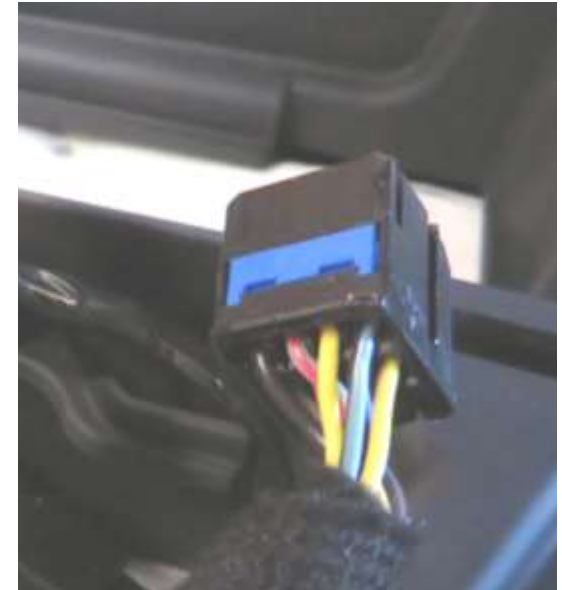
Start by lifting (hard) from left rear corner, then right rear. Could remove the triangular piece on the front left (I did, it just pulls off with small clips.)



Remove back plugs to get access to the plug in front for the power receptacle



Disconnect plugs. As all are different, no need to label but remember routing when reinstalling. See inset, that wire (marked with a green line in pic) fits under top plastic section.



Following the video, you'll see several connectors that must be separated. All have a latch that must be pushed in. However GM decided to make most of them different! The center one above had a gray arm that fit in a slot with an open window to access. Look carefully with a flashlight and you will see what to push!



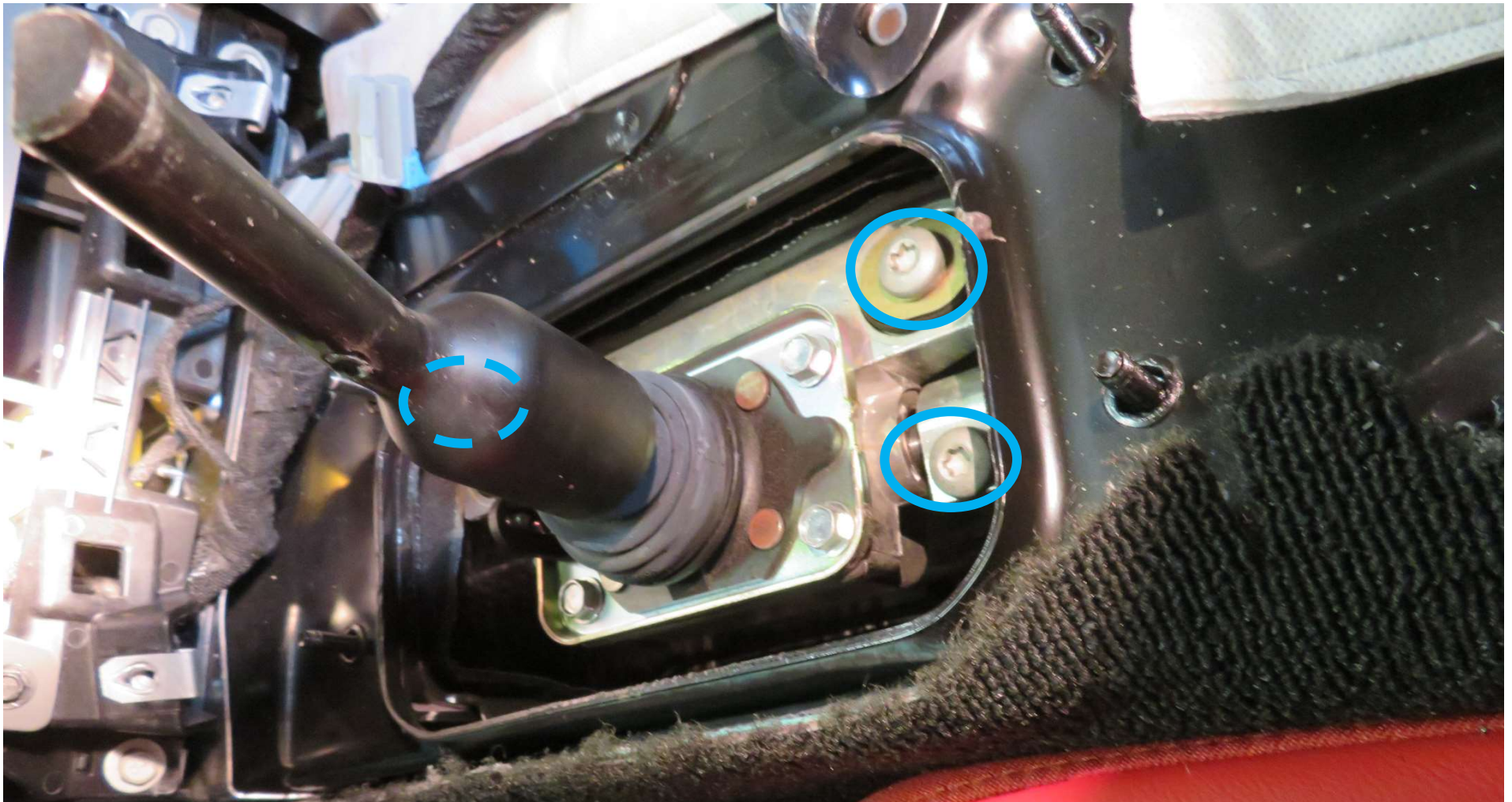
Use the small Allen wrench to act as lever to press plug release. I also found a small screwdriver worked "once you found where to push!"



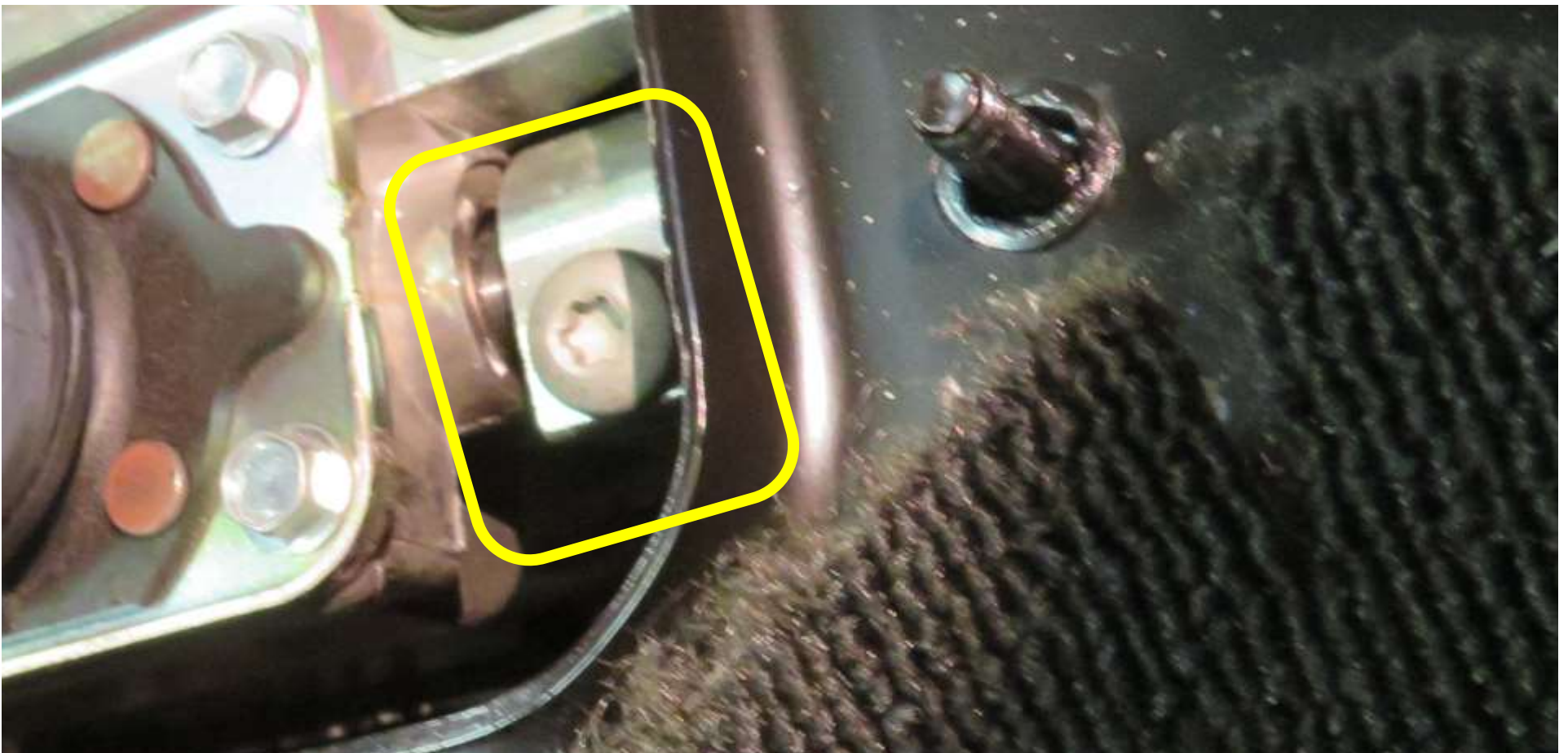
Remove 6 nuts holding console. Two rear (shown.) Two center (staggered.) Two front. Use plastic trim tool to remove the rear cover for the back two nuts.



Remove the top rubber cover then the four shifter rubber cover nuts.



Remove the three bolts holding the shifter frame and connecting the shift rod first. Then wiggle the shift level assembly hard to get it to separate and it will come out as will the rod from the shifter that connects to the long shift rod back to the trans.



The device that holds the shifter rod to the long shift rod to the trans (yellow outline) is a simple clamp! The rod coming from the trans is hollow and split at the end. The rod from the shift box fits inside. They lock together only by the bolt shown. But the bolt does not hold them together in a conventional way! The bolt edge fits in a slot in the hollow rod and another in the shifter rod! In a later step the slots **MUST** be aligned before the bolt is inserted .



MGW lower shifter pieces on left (Black) with bushings (green Arrows.) It reuses the OEM lower shifter box shaft and center ball socket (yellow.) It's held with two Phillips screws (red arrows) then just pulls out.



Lay bottom part as shown and put Notch in shaft on left side as shown in pic.



MGW no longer supplies a tube of lube but the ball comes preluded covered by a plastic bag. Just take a small amount from the plastic bag that covers the preluded ball (see insets.) Just a Dab'll Do Ya! LOL



Pic from C6 video. Cut the 5 inch wide Dynamat sound deadener 4 inches long. Cut the remaining piece in two 5 inch wide strips.

MGW C5, C6 and C7 Corvette Lower Shifter Box Installation



MORE VIDEOS

Put 4 inch long piece right in the center where the lower box will go. Place the other two pieces on the side of the torque tube but don't overlap with the center piece.



Place sound deadener as far back as possible with sticky side to driver side. Note: test fit before removing backing as it sticks instantly! Be ready for each piece when inserted as far as possible where needed the backing is removed. I cut into two pieces and butted the cut edges. It was easier to prevent sticking where not wanted!



Norco faces drivers side and slips into GM rod

Put TEE heat insulation in center TEE on outside. Press in.



Install MGW lower shifter box while slipping the shifter box shaft into the split hollow shaft and clamp coming from the transmission. Look in the hole for the shaft notch that was facing the driver. Use a small flashlight .



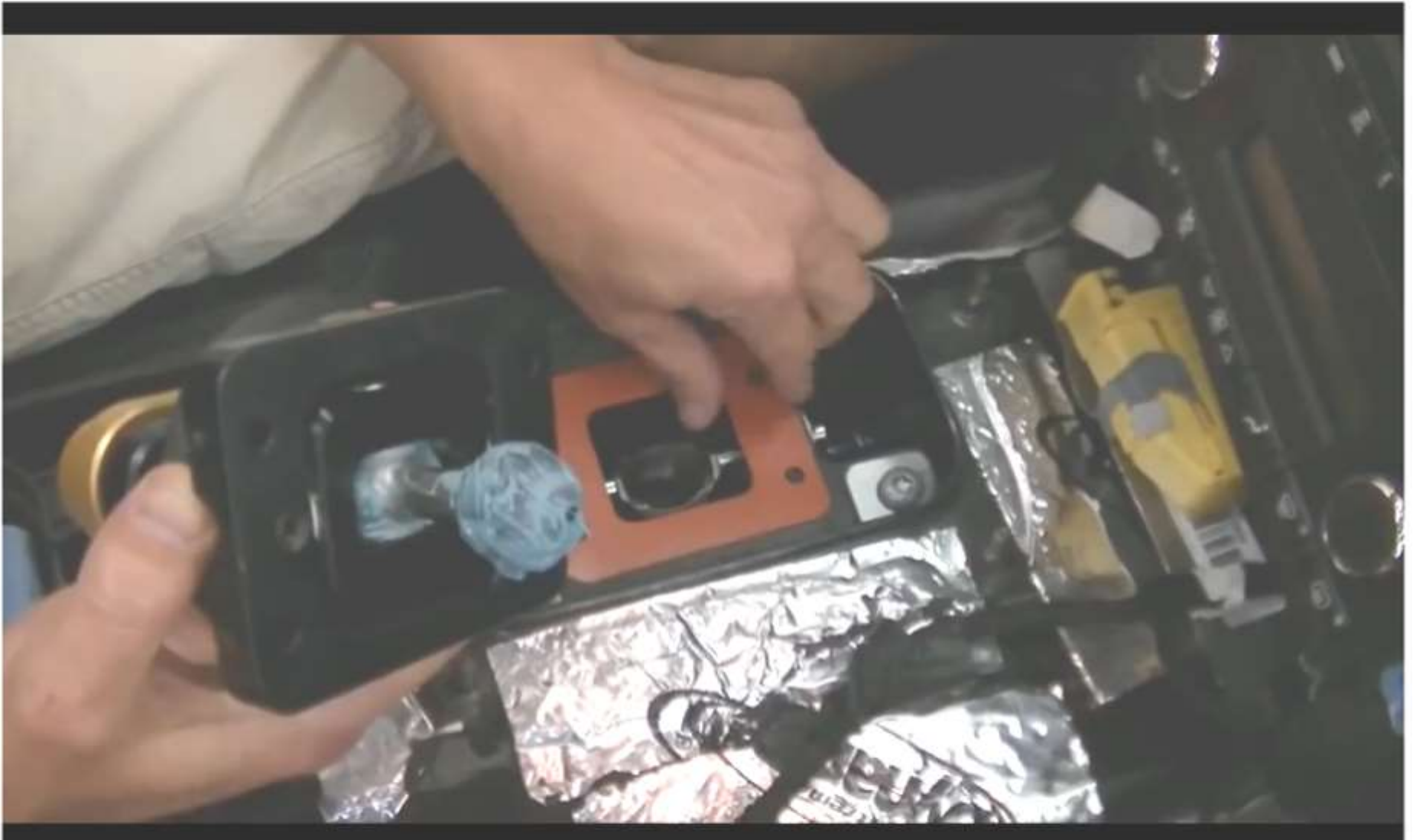
If you leave the trans in neutral and the shifter in neutral the slots should line up.

I had mine in 3rd so pushed the cup rearward into the 3rd gear position and inserted the bolt! Then pushed to neutral before aligning.

Put Blue Loctite on bolts. Insert one bolt in hole in the rod clamp and made very tight but don't strip threads I used a 1/4 inch drive ratchet and a #40 Torx bit so could have overtightened. It's only aluminum so was careful.



An alignment tool is supplied with two screws. With Bolt #1 tight and #'s 2 and #3 loose, the alignment tool will center the shifter cup and shifter box rod. After the alignment tool is bolted in, tighten screws # 2 & 3. Then remove the tool.



Now install gasket and shifter. Face MGW Logo to driver.



Allen screws are used to assure the shifter bolts don't vibrate lose. Be sure to insert a bolt in the holes before installing the shifter and screw Allen bolts until they touch then back off 1 turn. I didn't and a PIA to tighten. Took many turns! Also dropped wrench once! Thank goodness I have a long flexible handle magnetic retriever! Worked first time. Might consider getting one!



INSTALLING RUBBER COVER: This is the ridge where you'll cut with a very sharp razor. Just be careful as when holding in your hand while you cut you get very close to the blade! Wonder how I know!?



Hold razer flat parallel to top/bottom. Cut Slowly.



The rubber fits under the MGW shifter boot all the way around. C6 video showed adding a white cream mechanics hand soap (I think that is what it was, it's what I used.) Makes the install easy.



Make rubber cover snug not super tight as it's a plastic frame.



I added the secondary rubber cover that was removed from the OEM shifter. Just cut a hole in the center to clear the shifter. I did not want it restricting the shift lever movement.

TECH TIPS - INSTALLING FLATSTICK GROMMET



There is an install video for the grommet, not a C7 but it's only 2 minutes:

<https://www.youtube.com/watch?v=hhLDEN6ikLA>

I removed the aluminum C7 ring and trimmed only ~1/4 inch from the leather boot top. Did NOT remove boot from console, left in place. Note I installed with boot still attached to the console cover.

TECH TIPS - INSTALLING FLATSTICK GROMMET



Large grommet end facing down in pic. Nylon tie holding leather in groove between top and bottom edges. Followed the video but found a wider plastic tie worked better as the other slipped off.



Install all parts as you removed them. Be sure to connect all plugs including the forward one for the power plug.



The knob and shaft have a 3/8 X 16 thread. The shaft comes with a collar that is tighten against the bottom of the brass threaded insert in the ESPO shift knob. Finished install works great! No rattle noise and very precise movement. It's definitely a shorter throw but without a perceptible increase in required force.

“48” 2017 Grand Sport & 2014 Stingray PDF's Available:



48 PDFs discuss improvements or information about a 2017 Grand Sport and 2014 Stingray function and/or esthetics. Some are minor and others, like the installing the rear diffuser & MGW shifter, 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: A GS in the title 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

Manual says Jacking Pads 2 1/2 inch max OD.. Have 1 inch, 2 inch pads semi-permanent pads.

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. Includes weld repair info.

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](http://netwelding.com/License_Plate_Frame.pdf)



Manage GS/C7 Spilled Gas & Door Lock

Protect the side of the Vette when filling up with gas. Includes info on preventing door lock failure.

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](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 Rear Diffuser (Fits Any C7)

Rear Carbon Flash Composite Diffuser

http://netwelding.com/Rear_Diffuser.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

Rear view mirror OnStar LED's, 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



GS/C7 Catch Can & Clean Oil Separator

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

http://netwelding.com/Catch_Can.pdf



GS MGW Flat Stick Shifter

The MGW shifter shortens throw and is more precise

http://netwelding.com/MGW_Shifter.pdf



GS/C7 Round Shift Knob

A round shift knob shortens throw on OEM shifter

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

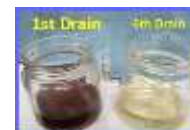
http://netwelding.com/Nylon_Bra.pdf



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 & Apple CARPLAY

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

Scrape Armor Protection for Splitter

http://netwelding.com/Splitter_Protectors.pdf



GS Engine Compartment Mods

Cosmetic Additions in Engine Compartment

http://netwelding.com/Engine_Compartment.pdf



GS Vitesse Throttle Controller: Fits All C7s

Adjustable Throttle-by-Wire Control

http://netwelding.com/Throttle_Control.pdf



Boomy Bass Solution

Use Presets to Adjust Bass etc Tone/Balance

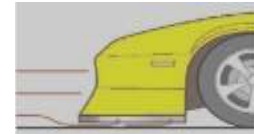
http://netwelding.com/Boomy_Bass



GS Air Dam, Functions

Why Missing from Z51, Some GS & Z06

http://netwelding.com/Air_Dam.pdf



Engineering a ProStreet Rod

How Our '34 ProStreet Rod Was Designed and Built

<http://netwelding.com/Engineering%20Street%20Rod%203-08.pdf>



Motorsports Welding Article

Wrote a 5 Page Article for AWS March 2018 Journal Covers NHRA and NASCAR Chassis Design

http://netwelding.com/Motorsports_Welding_2018.pdf

