





Spring 2018

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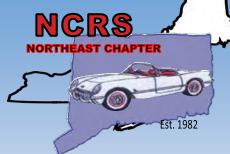
#### NATIONAL CORVETTE RESTORERS SOCIETY - NORTHEAST CHAPTER

### Northeast News

Edited and Published by Acting Newsletter Editor, Angelo Finateri.
Position is open, please contact Mike Lombardi if interested.
Until further notice, please send all articles or information for the Northeast News to angelofinateri@gmail.com

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### 2018 Officers - Northeast Chapter

- ♦ Chairman: Michael Lombardi (203) 525-3501(fuelie64 99@yahoo.com)
- Vice Chairman: Joe Santiso (203) 980 1576 (<u>isantiso@comcast.net</u>)
- ♦ Secretary: Robert Rohloff (203) 393-3028 (<a href="mailto:robrohlo@aol.com">robrohlo@aol.com</a>)
- ♦ Membership Chairman: Joe Tansey (203) 910-9911 (btansey@charter.net)
- Newsletter Editor(Acting): Angelo Finateri (518) 527-2936

(angelofinateri@gmail.com

- ♦ Events Chairman: Position Open, contact Mike Lombardi if interested
- ♦ Webmaster and Chapter Flight Award Administrator:

Joe Santiso (203) 980-1576 (jsantiso@comcast.net)

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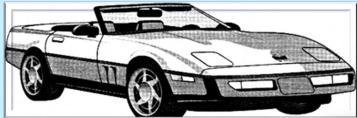
### Thoughts From the Chairman



Well our Spring judging meet is over and thanks to everyone who attended. The weather did not cooperate as well as expected, but thanks to JR Amantea for his facility, we had all the cars inside. We have some interesting events planned for this year, one being our road tour ( see information in this newsletter), our judging school and technical school. I would like to thank all the people who sent there name's in for the two spaces for Corvette Carlisle. The winners were Drew Papson and Joe Santiso. NCRS and the Northeast Chapter have come a long way since I joined way back when, and we will continue to move forward. We will be going to a on line registration system and pay pal. The membership has grown and

we always look for new members. I'm working on a Christmas Brunch and we are trying something new with the Christmas social event. When the location and details of the Christmas Brunch are finalized, the membership will be notified by email. I hope everyone enjoys this issue of our newsletter, Angelo Finateri has done a very nice job on it. Keep the classified section coming, everyone is looking for parts or cars. In closing a big thanks to every member of the Northeast Chapter, without you we wouldn't be here.

Mike Lombardi, Northeast Chairman (fuelie64\_99@yahoo.com)





Northeast Chapter c/o Michael Lombardi 58 Meadowcrest Lane Watertown, CT 06795-2407 Northeast Chapter Website: http://www.ncrsnec.com

#### <u>Thoughts From the Vice Chairman</u>



January 2018 got off to a great start with the NCRS and Mecum events in Florida and we ended the month of April on a high note with our Northeast Chapter Judging Meet on April 29 at GT Motorcars, LLC in Wallingford, Connecticut. Thanks to all the NCRS members that organized, judged, tabulated, and supported the April meet. A total of 6 cars were judged and all received a Top Flight award. In addition, Drew Papsun was awarded a Sportsman for his new 2017 Corvette. Many thanks to the Amanteas for allowing the use of their facility for inside judging with the extra benefit to view all the different makes of high-end performance cars they have located at thier facility.

We are currently planning our next Chapter event, a Road Tour, on July 8<sup>th</sup>, to the Club Corvette of Connecticut Car Show that is held annually at the Moroso

Performance facility in Guilford. Rob Rohloff is organizing the Road Tour that will depart from GT Motorcars in Wallingford early that day. The route will be on the 2-lane roads from Wallingford to Guilford. Look for more information and a forthcoming flyer for this event in our Newsletter and on our Website. <a href="www.ncrsnec.com">www.ncrsnec.com</a>.

Coming up quick is Corvettes at Carlisle on August 23-26<sup>th</sup>. Be sure to visit our Northeast Chapter spaces at J125 - J126. We will have our tent and chapter banner on display to provide shelter for our members and visitors from what is usually very hot weather.

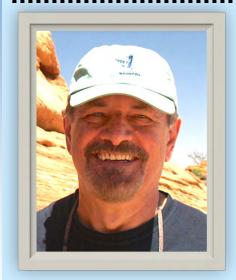
We have, in the planning stages, our Chapter Judging School and Membership Meeting for September 8<sup>th</sup>. We are also preparing for a Technical Seminar in early October. Mike Lombardi is working hard on trying to organize an end of year social event. We look forward to hearing from our Members with any ideas and recommendations that you may have for events that we can hold throughout the year.

We still have a need for an Events Chairman and Newsletter Editor, so if you would like to help out and fill a position, please let us know. The membership would greatly appreciate your participation.

Enjoy the great weather, and see you and our next event!

Sincerely,
Joe Santiso
Vice Chairman – NCRS Northeast Chapter
Northeast Chapter Flight Award Administrator

### Treasurer's Report Rich Ferraro - Treasurer



Opening balance 2018 was \$934.98. Year to date revenue of \$1,555.04, less disbursements of \$556.26, leaves a gain of \$998.78 for the 3 months ending 3/30/18.

Thanks to all the members who have responded early to the dues request, as our balance continues to grow past Jan.1 opening balance. I'm optimistic for 2018.

Membership application is available on our website <a href="https://www.ncrsnec.com">https://www.ncrsnec.com</a> (all members please book mark this site), it can be filled in on their computer and printed out and mailed (USPS) or emailed to:

Richard Ferraro, 54 Roast Meat Hill Road, Killingworth CT 06419-1431



## Secretary's Report

richard.ferraro@frontier.com

#### Robert Rohloff — Secretary Minutes – Northeast Chapter Chairman's Meeting – Feb 17, 2018

The Northeast Chapter held its Chairman's meeting and general planning session on February 17, 2018. Discussion and actions are:

- Judging Meet
- ⇒All set for April 29<sup>th,</sup> everything is on plan
- ⇒Have 6 corvettes signed up for judging so far, would like 4 to 5 more, especially a C1
- ⇒Looking for judges from other chapters to help



(Continued)

### Robert Rohloff - Secretary

Minutes – Northeast Chapter Chairman's Meeting – Feb 17, 2018

- Carlisle 2018
- ⇒ Spaces will be given to 2 members for \$50 each determined by a drawing of names self- submitted
- $\Rightarrow$  To be eligible for the drawing members must meet
- requirements, such as: providing tent, chairs, cooler, etc.
- ⇒ Mike Lombardi to send out an email to all NEC members
- Holiday Party
- ⇒ The holiday party for 2018 will be a Sunday brunch, location will be in the Southington/ Cheshire area
- ⇒ Date is set for December 2, 2018
- ⇒ Send suggestion for the location to Mike Lombardi
- Northeast Chapter NCRS Charity
- ⇒ 50/50 raffle to be held at the Judging Meet
- ⇒ Half the money raised to go to a NCRS matching charity
- ⇒ Toy drive at the Holiday Party
- Dues
- ⇒ As of 2/17, 47 NEC members have paid their dues
- ⇒ Expect 15 more by the 2/28 cutoff date and final membership estimated at 70
- ⇒ After April 20, only NEC paid members can attend NEC social events
- Road Tour
- ⇒ There will be a road tour on July 8<sup>th</sup> to Moroso's in Branford for the Club Corvette car show
- ⇒ Meeting locations TBD
- ⇒ NEC will have a tent with refreshments set up for any NEC member (showing or spectator)
- ⇒ This will also be a membership drive
- ⇒ Rob Rohloff and Ron Goldberg are working the details
- Sponsors
- ⇒ Northeast Chapter is seeking a Corporate sponsor
- ⇒ NEC to provide free advertisement and membership for sponsor
- ⇒ Mike Lombardi is working on seeking a Corporate sponsor

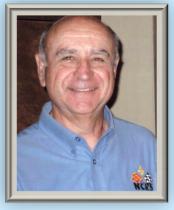


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### Robert Rohloff – Secretary

Minutes – Northeast Chapter Chairman's Meeting – Feb 17, 2018

- Newsletter
- ⇒ Will expand advertisement section
- ⇒ Would like to keep newsletter to 10 to 15 pages
- Judging School
- ⇒ A Power Point presentation by Angelo Finateri will be scheduled for September 8
- General Membership Meeting
- ⇒ To be held in conjunction with judging school
- Regional
- ⇒ The Adirondack Chapter is doing preliminary work for a Regional in the Saratoga area
- ⇒ They have invited the NEC to be a joint partner
- ⇒ Preliminary talks have begun



#### NEWSLETTER EDITOR COMMENTS

It was exciting to see the many NEC members who supported our recent Spring Chapter Meet, as well as, the Judges who traveled from four different states and represented four different NCRS chapters. Thank you so much to all the participants: Judges, Car Owners, Tabulators, J. R. Amantea, for the use of his facility, and Jim Sabia, for sponsoring the Chapter Judges luncheon.

I am excited to learn that the NEC is moving toward On-Line Registration (OLR). OLR will make it easier for chapter members to register

for judging, technical, and social events. It will also facilitate the chairman of these events in planning and organizing the activity. If the NEC partners with another Chapter to sponsor a Regional Event in the future, OLR is a <u>must</u> requirement.

I hope you enjoy this newsletter. I am always open to suggestions for improving the newsletter. The Northeast News is the main source of communication between chapter members and for reporting judging and social event participation. I have accepted this position on an "Acting / Temporary" basis, so this position is open and seeking a permanent volunteer. The newsletter editor is also a member of the chapter BOD. (Continued on page 8)



#### Upcoming Chapter, Regional, and National Events

<u>Date</u>	<u>Activity</u> <u>Location</u>		
April 29	Chapter Judging Meet GT Motor Sports, Wallingt		
April 29	Charity (50/50 Raffle) GT Motor Sports, Walling		
<u>TBD</u>	<u>Technical Session</u> <u>TBD (CT/MA boro</u>		
<u>May 16 – 19</u>	Arizona Regional	Scottsdale, Arizona	
<u>May 18</u>	Adirondack Chapter Meet	Cohoes, NY	
<u>June 7 – 9</u>	Michigan Regional	<u>Dearborn Michigan</u>	
July 8	Road Tour	Corvette Show, Moroso, Brandford	
<u>July 15 – 20</u>	NCRS National Convention	<u>LasVegas, Nevada</u>	
<u>August 23, 24</u>	NCRS Display	<u>Carlisle, PA</u>	
September 8	Membership Meeting	GT Motor Sports, Wallingford, CT	
September 8	Judging School	GT Motor Sports, Wallingford, CT	
<u>September 20 – 22</u>	Mid-Atlantic Regional	Altoona, Pennsylvania	
<u>October 25 – 27</u>	Texas Regional Frisco, Texa		
December 2	Holiday Party (Social)	TBD (Southington Area)	
December 2	Toy Drive (Charity)	<u>TBD</u>	

#### NEWSLETTER EDITOR COMMENTS (continued from page 7)

Of course, the success of the newsletter depends on input from its chapter membership. We will need articles written/donated from chapter members. Articles could be technical, i.e., fixing or repairing a corvette part, a social activity, i.e., road tour, wine tour, car show, etc., another activity you attended at a neighboring chapter event. Please include a write up and pictures when possible.

You can contact me with articles etc., at angelofinateri@gmail.com or on my cell at 518-527-2936.

### Observations from the Florida Regional

Obviously sunshine is never a bad thing in the dead of a Northeast winter, although it rained and was cool each day I was there. There was strong showing from many east coast members and vendors. The swap meet, like many these days, are pretty picked over, as much of the best items are put on E-Bay. Lone Star, Bairs, Corvette America, and Al Knock and a hand full of other vendors were there selling parts.



Overall, I had a great time, mostly because of the people. Sadly, there was not a lot of cars to be judged, but I do believe the Florida Chapter did a nice job. The judging

field looked much different than what we see in the Northeast, as there was only a handful of midyears and C1's on the judging field, but to my surprise, there was a strong showing of C3's and a couple C4's. As you can see in upcoming events, we are heading back to Lakeland Florida, and we can only hope that they can find a way to attract more cars and people.

The Following Northeast Members Attended:

Dave Smith Angelo Finateri

Ed and Bev Collins Andy Cabral

Jay Tansey James Sabia

Sal Carbone Mike Lombardi

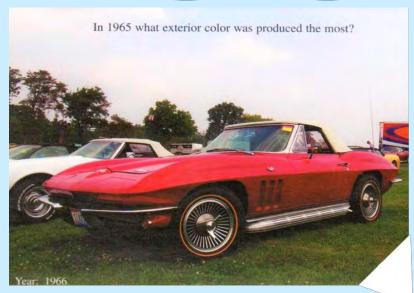
Dave Brigham

Respectfully Submitted, Michael Lombardi – NCRS Northeast Chapter Chairman





### Corvette Trivia

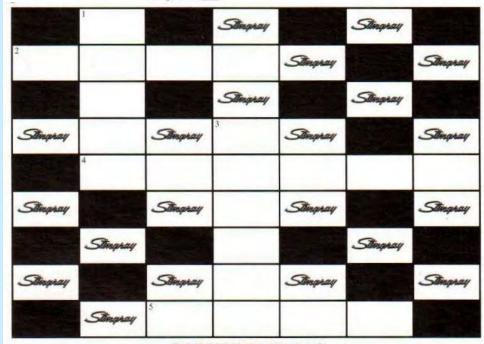


#### ACROSS

- 2. Pad
- 4. Ignition \_\_\_
- 5. Quarter

#### DOWN

- 1. Door \_
- 3. Rearview \_\_\_



CORVETTE PARTS

## **NCRS**

Northeast Chapter Road Tour

To

Moroso's, Goose Lane, Guilford, CT

For

Club Corvette of CT's Corvette Show

On

July 8, 2018 (rain date July 15)
Meet at GT Motorcars, Wallingford, CT By 9:00 AM
We will drive as a group from GT Motorcars to Moroso's

#### Options once you get there:

- ⇒ Enter your corvette in the show to be judged. Win a nice trophy (\$25)
- ⇒ Park with the other corvettes in the show field, but not judged (\$25)
- ⇒ Park in the corvette only parking outside the show field with a \$5 spectator fee
- ⇒ There will be a tent, table and chairs set up for Northeast Chapter members only.

#### Remember to:

- ⇒ Wear a NCRS shirt or hat
- ⇒ If you enter the show, note you are a NEC NCRS member in the club affiliation section of the entre form

Questions? - email Rob Rohloff - robrohloff@aol.com



### 26<sup>th</sup> ANNUAL CORVETTE SHOW & SWAP MEET

**JULY 8, 2018** 

# Moroso Performance Products, Guilford, CT Exit 59 (Goose Lane) off I-95

Rain date: Sunday July 15, 2018 www.clubcorvettect.com (for rain information)

## 2018 Club Corvette's adopted charity is Connecticut Food Bank

REGISTRATION	\$25.00	REGISTRATION & CLEANUP
PRE-REGISTRATION*	\$20.00	8:30-12:00 NOON
GENERAL ADMISSION	\$ 5.00	
CHILDREN UNDER 12	FREE	JUDGING begins at 12 Noon
VENDOR SWAP SPOT Prizes	\$25.00	Over \$4000.00 in Trophies &
CORVETTES FOR SALE	\$20.00	

#### **BEST-OF-THE-BEST**

7 BEST OF SHOW CLASSES (C1, C2, C3, C4, C5, C6, C7)
MOROSO PERFORMANCE AWARD - BEST OF SUPERSTREET
WEATHER BOSS AWARD - BEST OF STREET

2018 Celebrity Judge - Gil Simmons, WTNH Channel 8 Meteorologist

\*PRE-REGISTRATION FORM WITH CHECK MUST BE RECEIVED BY July 1st

MAKE CHECK PAYABLE TO: CLUB CORVETTE OF CT

MAIL TO: MICHAEL D'AVINO



### NORTHEAST SPRING CHAPTER MEET

### NORTHEAST Spring Chapter Meet Judges

	North Reading,	
Andy Cabral	MA	
Angelo Finateri	Fort Johnson, NY	Newsletter Editor / Team Leader
Angelo Milazzo	Greenwich, CT	Judging Chairman
Bill Bachlechner	Trumbull, CT	
Bill Meess	Chatham, NY	
Bob Berloni	East Hampton, CT	
Bob Boutot	Wolcott, CT	
Bob Dickson	Plantsville, CT	
Bob Markowski	East Haven, CT	
Dave Smith	Southington, CT	
Drew Papsun	Norwalk, CT	
Ed Johnson	Bridgewater, MA	
Fred Sarbello	Danbury, CT	
Greg Picconi	Merrick, NY	National Team Leader 1953-1955
Hank DeMartio	Huntington, NY	
J R Amantea	Meriden, CT	
James Weir	Cohoes, NY	

Jay Tansey	Southbury, CT	Membership
Jim Sabia	Wappenger Falls, NY	
Joe Opatovsky	Ronkakamo, NY	
Joe Santiso	Oxford, CT	Vice Chairman &
John Jabour	Sayville, NY	
Kent Johnson	Glastonbury, CT	
Leif Larsen	Scotia, NY	
Mark Tulley	Carle Place, NY	NCRS Region
Mike Lombardi	Watertown, CT	Chairman / Team Leader
Mike Maciog	Derby, CT	
Rich Barack	Short Hills, NJ	
Rich Ferraro	Killingworth, CT	Treasurer
Rich Morgante	Armonk, NY	
Rob Rolhoff	Bethany, CT	Secretary
Rob Rosen- blatt	Sharon, MA	
Ron Bunnell	Fitchburg, , MA	
Ron Goduti	North Haven, CT	

#### CHAPTER MEET AWARDS

AWARD	NAME	YEAR	TOWN/VILLAGE/CITY
Top Flight	James Sabia	1965	Wappengers Falls, NY
Top Flight	Joseph Tansey	1967	Southbury, CT
Top Flight	Joseph Verrillo	1965	Stillwater, NY
Top Flight	Joseph Verrillo	1963	Stillwater, NY
Top Flight	Joseph Verrillo	1963	Stillwater, NY
Top Flight	Joseph Verrillo	1967	Stillwater, NY
Sportsman	Drew Papsun	2017	Norwalk, CT

### NORTHEAST SPRING CHAPTER MEET

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### NORTHEAST SPRING CHAPTER MEET

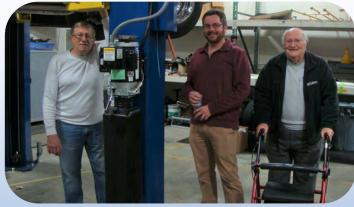
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#### **NORTHEAST CHAPTER of NCRS**

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#### 2018 DUES NOTICE

\$35.00 Due by February 28, 2018

Late fee of \$10.00 after February 28, 2018

FOR RENEWAL AND/OR NEW MEMBERS PLEASE PRINT:
NAME
ADDRESS
CITY STATE ZIP
PHONE (
E-MAIL ADDRESS
NATIONAL NCRS # (ON DRIVELINE ADDRESS LABEL)
CHECK ONE:
RENEWAL NEW MEMBER
IF YOU ARE IN THE NCRS JUDGING PROGRAM, PLEASE INDICATE YOUR JUDGING LEVEL? (EXAMPLE: XX.X)
DUES FOR 2018 WILL BE THIRTY-FIVE (\$35.00) DOLLARS. IT'S IMPORTANT THAT YOU FILL OUT THE ABOVE FORM WHETHER YOU REMIT AT THE NEXT MEETING OR BY MAIL. THE ABOVE INFORMATION WILL KEEP OUR MAILING LIST CURRENT AND OUR DUES-PAID RECORDS ACCURATE. WE WILLALSO BE ABLE TO E-MAIL YOU NOTICES FOR MEETS, EVENTS AND QUARTERLY NEWSLETTERS. THANK YOU FOR YOUR SUPPORT. MAKE CHECKS PAYABLE TO NEC- NCRS
NORTHEAST CHAPTER / BOARD OF DIRECTORS
MAIL TO:
Richard Ferraro

54 Roast Meat Hill Road Killingworth CT 06419-1431

(860) 663-2754 richard.ferraro@frontier.com

If you know someone interested in joining our NCRS Chapter, give them this application. Tell them they first have to join the National NCRS.To do this, go to www.NCRS.org.

# Replacing Retainer Cups in a C2/C3 Rear Leaf Spring and T-Arms with the Spring/T-arms Installed on the Car

By Gary Beaupre and Lee Brock

A previous article in the Vettecetera contained a description of a simple hand-operated system for swaging retainer cups into the leaf spring and trailing arms (T-arms) that are part of the rear suspension on C2/C3 cars. In this companion article we illustrate a safe technique (developed and photographed by L.B.) for performing the swaging operation with the rear spring and T-arms still installed on the car.

One reason for replacing the retainer cups is that after 30 or 40 years in service they can become rusty and pitted since they are made from carbon steel that was neither plated nor painted. In many cases, restoring original cups is a lost cause. A second reason for replacing the retainer cups is that the currently available GM service replacement part (GM part # 3910701) is configured differently from the retainer cups that were originally used on model years '63 thru '66 and sporadically during the first few months of the '67 model year. As a result, is it common to find that a mid-year car with a restored rear suspension will have the incorrect, service replacement parts installed and knowledgeable chassis judges will make a points deduction when finding these incorrect retainer cups on '63-'66 Corvettes. The cup replacement process described in this article was conceived of and tested on a '65 that was having the incorrect service replacement cups replaced with modified cups that approximate the original cups used during production of all '63-'66 Corvettes.

From the outset we want to emphasize that the most important consideration in this entire presentation is safety. The replacement of the retainer cups, which is typically done one side at a time, necessitates the removal of the large bolt that links the end of the leaf spring to the associated T-arm. When removing that link bolt a substantial force must be applied to the end of the spring to remove any tension on the link bolt and to maintain the spring in its deformed, nearly flat configuration. With the technique we describe here, the force to keep the spring in the deformed state is provided by the weight of the car.

The technique involves the use of a floor jack and three jack stands to support and stabilize the car and the various rear suspension parts. The other essential items include: 1) a piece of 5/8" thick plywood, approximately 2' wide by 5' long; 2) a twelve-inch long piece of 4"x4" fence post stock; 3) a twelve-inch long piece of 2"x4" wall stud; and 4) one or two, twelve-inch long, 1"x2" wood cleats. These wooden pieces are assembled as is shown in Fig. 1.

Fig. 1 Plywood and blocking system in position to allow removal and replacement of the retainer cups on the passenger's side. The sequence of steps leading up to the stage shown in this figure is explained in detail in the text.

In brief, the 4x4 piece is securely attached via nails, screws, or bolts to one end of the plywood. This 4x4 piece serves as blocking and will be



positioned against the inboard surface of the rear tire on the driver's side of the car, presuming the retainer cups to be replaced first are the ones on the passenger's side. The piece of 2x4 is attached via nails/screws/bolts to the plywood along with the 1"x2"x12" cleats at a location approximately 3 feet from the first 2x4 block. The exact location of this second 2x4 blocking piece and cleats will be a function of the geometry and size of the jack stand that will be used to support the end of the leaf spring that is being worked on.

Begin by applying the parking brake and placing chocks securely in front of and behind one or both tires on the driver's side of the car (not shown in Fig. 1).

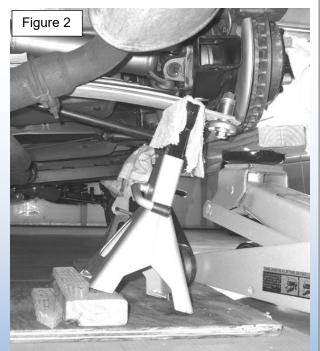
Next, use a floor jack under the side frame rail roughly at the center of the door to raise the passenger's side of the car. Continue jacking until the rear tire is approximately 8" to 10" off the ground (the reason for this extra height will become clear later). Now place one jack stand under the side frame rail just in front of the rear tire. Lower the floor jack slightly until the weight of the car is supported by the jack stand, but leave the floor jack in place. Remove the rear wheel.

Next, position the plywood with attached blocking as shown in Fig. 1. Then, place a jack stand (four, not three-legged) under the passenger's side end of the leaf spring with two legs of the jack stand on top of the 2x4 with the legs pushed up snug against the 1x2 cleat and the other two jack stand legs on the plywood (see Fig. 2). This 2x4 blocking and cleats must be securely attached using nails, screws, or bolts.

Fig. 2 Close-up photo showing the position of the jack stand under the end of the leaf spring.

Note that the vertical axis of the jack stand is close to perpendicular to the arch of the spring. This photo shows the stage of the process after removal of the link bolt, with the new retainer cup in place and with the swaging tooling in place ready to perform the swaging step.

The top of the jack stand should be 2" to 3" inboard of the leaf spring retainer cup. The purpose of the 2x4 block is to angle the jack stand so that the force between the jack stand and the spring is close to perpendicular to the local tangent to the arch of the spring. The purpose of the 1x2 cleat screwed to the top of the 2x4 block is to prevent the jack stand from shifting in the direction of the driver's side. The second 1x2 cleat secured to the plywood just to the left of the 2x4 block in Fig. 2 is for added security. Next raise the floor jack until the jack stand under the frame rail is unloaded and remove that jack stand. Then carefully lower the floor jack until the weight of the car rests securely on the jack stand under the end of the leaf



spring. After this is done, and for safety reasons, place additional jack stands under the front and rear ends of the passenger's side frame rail. You'll need to use shims to ensure that there is a minimal gap between the undersurface of the frame rail and the tops of the two jack stands. Note, however, that these two jack stands should not support any of the weight of the car. At this point the weight of the roughly half the car should be supported solely by the jack

stand under the leaf spring. At this point we have to emphasize that it is the stability of that single jack stand under the end of the leaf spring that is critical to the safety of the entire process that follows. If you have any doubts whatsoever about the integrity or stability of that jack stand those doubts should be addressed before proceeding.

The floor jack can now be repositioned under the rear brake rotor (or brake drum) with a piece of wood placed between the jack plate and the rotor to prevent possible damage to the rotor. The floor jack should then be raised until the T-arm is raised slightly, but not to the extent that any tension is created in the link bolt. The lack of any tension in the link bolt is essential before attempting to remove the bolt. Since loosening of the link bolt may require the application of a substantial force or torque, especially if it is rusty, it would be wise at this point to give a good tug on various parts of the suspension and body to reassure yourself that the spring and car are stably supported and that some inevitable shaking is not going to disrupt anything.

The link bolt can now be removed. If the bolt and nut have never been apart and if they are obviously rusty, it can be next to impossible to loosen the link bolt nut and this might be the time to use a reciprocating saw or high-speed cutoff tool to cut the bolt in half and replace the items with new hardware. Once the bolt has been removed, the retainer cup at the end of the leaf spring and the retainer cup at the aft end of the T- arm can be removed using a hammer and chisel or an air chisel to peel up the swaged flange that secures each retainer cup in place.

Once the old retainer cups have been removed, the new retainer cups can be inserted and the swaging steps performed. A sketch of the swaging tooling is shown in Fig. 3.

In Fig. 4 we show a close-up photo of the swaging system in place, ready to perform step 1 of the swaging process. The swaging is performed in three steps. First, the steel swage with the smaller radius nose is used, followed by the steel swage with the larger radius nose, followed lastly by the flat steel swage. During each of the three steps the central bolt is tightened until no more deformation of the retainer flange is seen. Note that in Fig. 4 the box wrench used to hold the upper nut of the swaqing tooling is positioned against a 2x4 placed under the rotor. The forward end of the 2x4 (not shown) abuts against the kick up area of the car frame. This setup allows the swaging to be performed by one person. Most people will find that it takes two hands and a breaker bar (not shown) to tighten the swaging bolt dur-

ing each of the three tightening steps of the swaging

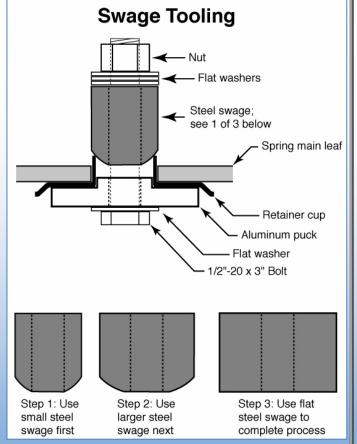


Figure 3. Sketch of Swaging Tool

#### process.

The swaging tooling is available on a 10-day loan basis in exchange for \$20 to cover the cost of postage and depreciation. If interested, please contact the first author via e-mail. Any questions related to the jacking and blocking system should be directed to the second author.

Gary Beaupre Lee Brock

garybeaupre@comcast.net | Imbrock@sbcglobal.net

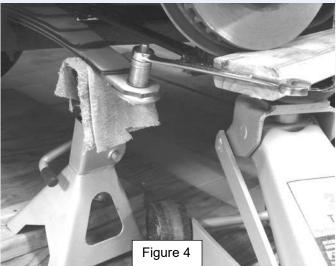


Fig. 4 Photo showing the swaging tooling in place to perform step one of the swaging process for the retainer cup at the end of the leaf spring. The entire swaging process of all four retainer cups can easily be done by one person in a few hours.

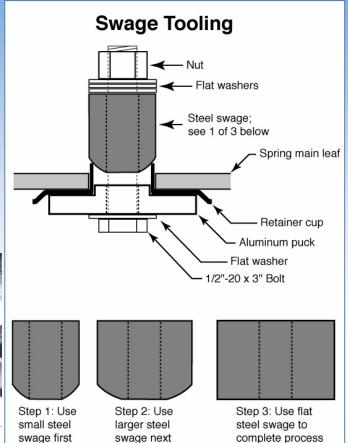


Figure 3. Sketch of Swaging Tool

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# 2020 Corvette

On the eighth day, God created Mid-Engined Corvette. Certain Mesoamerican cultures offered the still-beating hearts of human sacrifices to Mid-Engined Corvette. Medieval Europeans believed that Mid-Engined





Corvette's horn could cure all maladies. It is said that Kublai Khan kept in his personal zoo at Xanadu a Mid-Engined Corvette of exceptional splendor. The phrase "mid-engined Corvette" means "goat sucker" in Spanish, owing to the thing's propensity to drink the blood of livestock. Inside the briefcase from Pulp Fiction? Mid-Engined Corvette.

Like the recent front-engined Corvettes, the mid-engined one will remain an attainable sports car with supercar performance. Surely some bits of carbon fiber and magnesium will be stirred into the mix, but Chevy will construct the mid-engined car's spaceframe primarily from aluminum.

# 2020 Corvette (CONTINUED)

And as in the past, its body will be made largely of fiberglass panels.

To contain costs, Chevy will launch the new car with an updated version of the pushrod LT1 engine that powers today's C7 Corvettes. We expect the mid- engined Corvette, or C8, to be a bit heavier than the current car's roughly 3500 pounds, but it will compensate for that with about 500 horsepower from the LT1. And thanks to the increased traction of a rearward weight bias and a quick-shifting transaxle, it'll be quicker than the C7.

Oh, did we not mention the transaxle? (Note that we used the singular form of the word.) There will be only one gearbox, and it won't come with a clutch pedal. Chevy has been working with Tremec on a new eight-speed dual-clutch automatic unit, The driver's involvement in shifting gears will begin and end with the steering-wheel-adjacent shift paddles.

But there's some consolation: That engine bay will also eventually host even more compelling mills. The first to follow the LT1 will be anaturally aspirated 5.5-liter DOHC V-8 with a flat-plane crankshaft capable of a Ferrari 458-like maximum engine speed of 9000 rpm. Sympathy for the transaxle, though, means the engine speed will be limited to several hundred rpm below that. That engine should be good for at least 600 horsepower.

Then, because it is totally unnecessary, Chevy will bolt two turbochargers and two big airto-water intercoolers to the 5.5- liter V-8. The turbo engine will make about 800 owner-maiming horsepower. You will not be surprised to learn that this will be the fastest version around the Niirburgring Nordschleife.

But hang on: What if we told you that within a couple of years Chevy would add a 200-hp electric motor to the mix? The twin-turbo 5.5-liter V-8 will abuse the rear tires while the electric motor, housed in what would typically be a front trunk, will energize the fronts. That's right: This mid-engined front-motor Corvette will have a horse-power rating at or near the four-digit mark.

To cool these nuclear furnaces, the mid-engined Corvette is going to need massive amounts of airflow. So basically, the entire leading plane of the nose will be open to the air and packed full of heat exchangers. The C8will extract engine-compartment heat through vents below the taillights on the rear fascia. Combustion gases will be fed through an exhaust that includes the familiar dual- mode system to maximize airflow and noise generation at high engine loads. There will be two tips per side instead of the four center-mounted pipes on the C7.

In a break from past Corvettes, the mid-engined car will have a couple of active aerodynamic devices. In the rear will be a conventional power-operated spoiler. Up front, the picture is a little more complicated. We hear that Chevy will use the new Corvette 's front-axle-lift system not just to clear speed bumps and steep driveway approaches but also to change the car's angle of attack, shifting the aero center of pressure fore and aft, depending on vehicle speed. And-wonders never cease, the

# 2020 Corvette (CONTINUED)

C8 will use coil springs in place of the old transverse composite leaf springs.

For an unspecified amount of time, the C7 will be built alongside the C8 in Bowling Green, Kentucky. We're guessing Chevy will continue building the old car until the company is ready to start producing the Corvette Hovercraft. - Daniel Pund

Reprinted from May 2018 Car and Driver Magazine.

# Metro-Long Island Chapter Technical Session presented by Al Grenning at Champion Motors

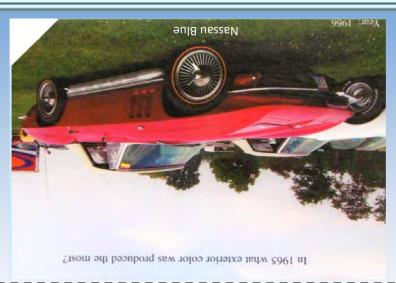
On 3/17/18, the Metro-Long Island Chapter presented a technical seminar with AI Grenning on Tags, Pads, and Documentation. Also present at the seminar was the 1956 SR 2 Corvette. Northeast Chapter members attending the session were Alan Blay, Drew Papsun, and Gary and Joan Zawacki.











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#### For Sale:

 NOS 63-64 rear leaf spring contact Ron Goduti @203-530-0510 or email at <u>RgodutiLT1@yahoo.com</u>

#### For Sale:

- 65 Corvette Alternator#1100693, date 4J2 (Sept. 2 1964) with large pulley and spacer for high horse power cars, needs rebuilding.
- NOS 66 GM gas door #3874528 in box,
- 1963 ONLY gas cap without pressure valve and has small hole, contact Mike Lombardi
   @203-525-3501 email: <a href="mailto:fuelie64\_99@yahoo.com">fuelie64\_99@yahoo.com</a>
- 1963-1969 Corvette Locking Gas Cap. This Is A Real GM Cap Never Installed, In Vintage Box. Key's Are Brigg's & Stratton, Part #985919 Group 3.028 \$299
- 1967 Corvette Air Original Washer Bag. (Real Deal) With Bracket \$350
- 65-66 Corvette Original Day/Night Mirror Good Condition \$65
- 63 Only Corvette Thumb Screw Master Cylinder Cap \$100
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