MIAMI VALLEY CHAPTER

VETTE GAZETTE

Volume 6 Issue 4

December 2008

Inside this issue:

Editor's Note

In this issue, I have forgone the usual feature article in lieu of a number of technical articles that chapter members have written. Special thanks to Jeff Bernhardt, Terry Buchanan, Nick Kammer, Larry Linder, Kurt Meier and Matt Stansbury for their Tech Articles.....Terry Brim

Chairman's Corner with Larry Linder

We have almost finished a great year. The joint sponsor ship of the cruise in was a success. The Girl Scouts did a fantastic job in raising money for their troop.

The elections are over and I am Chairman for another year. After this year I will formally retire as Chairman but will stay active in the chapter in other ways. I you would like to try your hand on the rudder you have almost a year to decide - Contact Jerry Michaels.

At the November member ship meeting we had a "White Elephant Swap Meet" and guess what I won. A 68 rear muffler bracket - a little rusty but all there. Guaranteed to be an original part.

The "Price is Right" was a blast - It was fun to watch the guys try to remember what the price of a 67 435/427 was in 92 was. The price of a 63 ZO6 in 78 - top dollar was $12,000. Can you remember when.

We have a new board member - Merle Hoover took over Greg's job as treasurer. We all welcome Merle as our new treasurer.

Greg did an outstanding job and will be hard act to follow.

We are on our way to getting a Top Fight Chapter award this year all we need is time to finish a couple of tech articles to be published in the Vette-Gazette.

Founders day is coming up in February and we have some interesting things to do beside feed your face and listen to stale jokes. More prizes and more fun.

You all come and join us for a good time.

The judging meet is coming up and we have only 7 months to get our cars ready for judging. The application is in this issue of drive line.

We are planning more

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58-60 Gas Door Compartment by Jeff Bernhardt

There has been some discussion and / or confusion as to what is, and what is not painted inside the gas door compartments of '58 - '60 Corvettes. This discussion usually comes about on the judging field, when it's far too late for the car owner to do anything about it. This can lead to frustration, denial, and comments about the genealogical origin of the judge. Granted, the line item is only a few points, but every point counts when you're going for Duntov.

Once you understand what the car looked like as it came into the paint booth at the factory, it's easy to mimic that look for the car you're restoring. Since there aren't enough factory pictures to cover every facet of the assembly process, we have gathered much information from very original cars that have been disassembled. While deviations from the norm exist, we have to set a standard for what is to be considered typical factory production. Based on original cars that have been disassembled, we know that the gas tank cover was painted after it was installed in the soft top compartment - the area behind the seats. We know that the screws were securing the cover, because they too were painted. We know this because an unpainted "shadow" is present under the mounting lip of the gas tank cover once it's removed from unrestored cars. If the gas tank cover was installed and screwed down prior to paint, we can gather that the gas tank itself was probably beneath the cover, properly installed as per the assembly instruction manual, or AIM. Otherwise, the cover would have to be removed from the car so the gas tank could later be installed, which would call for someone of authority to be removed from their position at the factory.

So we know that the gas tank was installed along with the gas tank cover and screws while these Corvettes enjoyed their ride down the paint line. But what else was installed? Once the gas tank is "buttoned up", you can't get to the sending unit to hook up the wiring. So, therefore, the wiring harness had to be in place with the brown and black wires connected to the sending unit of the gas tank. Had to. Otherwise, the gas tank cover would again have to come off so the wiring could be connected, and Mr. Authority at the factory would once again be canned. So, we've got a gas tank, a sending unit, a wiring harness, a gas tank cover and the cover screws - all installed before primer ever touched the bare fiberglass. Anything else?

The first enclosed picture shows us what else. These are shots of an unrestored, original paint '58 Corvette. The bare fiberglass "shadows" show us that the gas door rubber bumpers were installed at the bottom of the gas door compartment before paint. Be sure the car you're judging has these installed correctly, with the "shelf" of the bumper in the up position - and that they are painted. The ring around the smaller hole in the upper right tells us that the grommet was in place that protects the rubber gas tank vent hose. The small square-ish area beneath this grommet hole shows us the vent hose clip was in place too. To protect Mr. Authority's job, we can therefore assume that the vent hose was sticking out of the grommet and secured with the clip prior to the painting of the car, otherwise the clip would have to be taken loose and.....well, you know. But how about

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58-60 Gas Door Compartment *(con't)* *Jeff Bernhardt*

Continued from page 2

the large hole in the middle, the one that the gas tank neck sticks through? These have been seen both ways, with or without the grommet installed during the painting process. The gas tank neck was, however, in place in all cases. It had a mask placed over it to protect it from paint, but the grommet may or may not have been installed over the neck. This operation usually happened after paint. Just a side note: The painted rubber bumpers usually left marks on the inside surface of the gas door when the door was closed after the compartment was painted. Look for this, as well as the paint in the compartment to be flat or dull, not at all glossy like the exterior paint of the car.

The second photo shows the original screws with external-tooth lockwashers that secured the gas door to the car. Note the square, aggressive configuration of the teeth. These aren't the wimpy teeth of the replacement lockwashers you find today. Again, it's only a few points, but be aggressive on the judging field, assert yourself in your position of authority, and ignore the comments about your ancestry!

MIAMI VALLEY CHAPTER

Contrasting the 1968 and 1969 Corvette Exterior
by Terry Buchanan

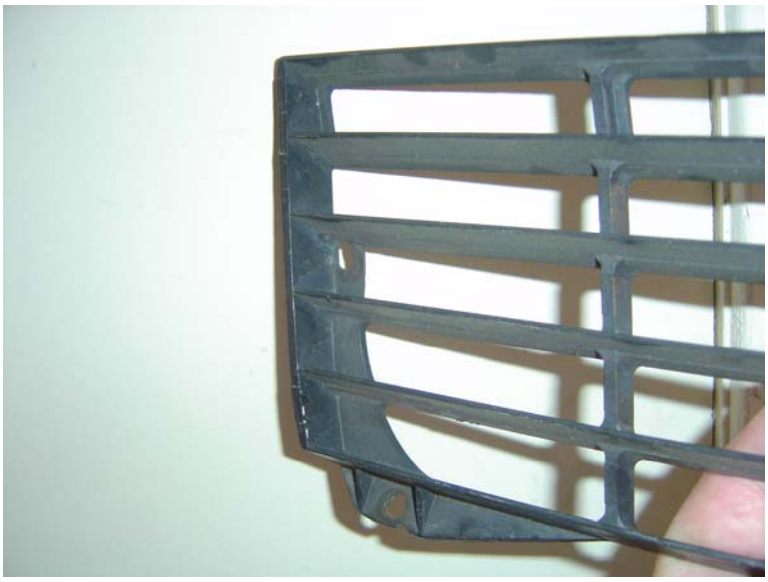
Part 1 Front Grills

In 1968 General Motors introduced a totally redesigned exterior for the Corvette. This new design was suppose to happen one year earlier but design problems put the proposed newly designed model, back a year. I will be focusing on the exterior differences of the 1968 and 1969 models. They look very similar from a distance but they are very different close up.

Let take our focus to the front plastic grills of the 1968 and 1969 Corvette. The front grill system has 3 parts. There are two side grills which house the front turn signal light indicators and a center grill just behind the license plate. This center grill does not get much attention as it is usually not seen if the license plate and bracket are installed. The two side grills is where we see the contrast between the 1968 and 1969 grills. The basic shape and size are the same but the design has just a small variation.

If you look closely on the horizontal bar edges

of the 1968 grill, the horizontal edges stick out about a half inch from its vertical support on each end as shown in Figure 1. This design proved to be weak and prone to bend and deform near the attachment screws. The 1969 grill was redesigned to be stronger and to prevent deforming.



This was accomplished by making the horizontals bars terminate into a beefed up vertical attachment where the horizontal bars did not extend .

beyond the verticals as shown in Figure 2. This was not a big change but the only way to spot a 1968 grill from a 1969. Reproductions of the front grills favor the 1969 style with 1968 styles becoming increasingly more difficult to find as they were a one year only style and are not being reproduced

C5 Tech Session By Nick Kammer

The following information was given in a presentation at this past Corvette's at Carlisle show in August. His website is http://corvettemechanic.com/ .

To access trouble codes push and hold down button #4 on your DIC then push button #1 4 times to get codes to display.

Column lock issues on older C5's primarily prior to '02. Previous recall campaign has expired. Need to have 12.5 volts at battery or there will be an increased chance of steering column lock up. Possible fix is to disconnect negative battery cable and then reconnect. Just make certain you've got 12.5 volts at the battery.

To calibrate voltage when replacing battery: Need tech 2. Use 1998 specs regardless of the year of car. IPC re-calibration.

Check volts at battery while engine is running. Enter volts in Tech 2 to match. Press enter. Done. Voltage reading at DIC should be .1 volt max difference.

Recommends changing clutch and brake fluid every 24 months or 24,000 miles whichever comes first. GM p/n 88958860 fluid recommended.

Always check fluid level with a flashlight shown through the side of the reservoir. Do not remove cap to check as that will allow humid air to enter contaminating the fluid further.

Revised differential fluid GM p/n 8886264 Dexron LS (lifetime fluid). Possible fix for differential/trans creaking sound.

Do not change oil until the remaining oil life is at 10% showing on the monitor. No need to change sooner.

Manual trans fluid GM p/n 88861800. Change every 30,000 miles.

NCRS
MIAMI VALLEY CHAPTER

A Time Gone Bye Terry Brim

WAITING FOR YOUR PICTURES OF A TIME GONE BYE….I NEED YOUR INPUTS TO MAKE THIS PART OF THE VETTE GAZETTE A SUCCESS!!

Anatomy of CSV Cranking Signal Valve 58 - 64 E. Rochester Fuel Injection by Larry Linder

Anatomy of CSV

Cranking Signal Valve 58 - 64 E. Rochester Fuel Injection.

Starting a FI equipped car is different. You can't pump the accelerator pump because it is not used on the fuel injections. To start a cold engine you need to have a rich mixture because of poor evaporation characteristics of cold gasoline.

1957:

The enrichment was via small electrical solenoid located under the front fuel meter cover. You depressed the accelerator pedal and the micro switch engaged the solenoid. You could also manually set the solenoid by pressing the plunger upward. To unload the engine you depressed the accelerator all the way and this dropped the solenoid causing the mixture to go lean with the throttle valve open. These early units also had a start fuel bypass line applying fuel pump pressure directly to the output of the high pressure pump.

1958 - 1964E:

The enrichment was accomplished by a cranking signal valve (CSV).

The vacuum signal generated at the idle needle and air meter venturi is minimum or non existent. The cranking signal valve's mission in life is to cause the fuel / air ratio to be enriched for an easy light off during an engine start. The air / fuel ratio is controlled by the enrichment diaphragm. The CRS valve allows the spring in the enrichment diaphragm to be kept at the full enrichment position. This causes the air / fuel ratio to be somewhere in the 13.5 : 1 range depending on where you power stop is set.

1964L - 1965:

The CSV was dropped in favor of a start bypass solenoid under the plenum. When the ignition switch in the "START" position, the starter solenoid switch provided power to the solenoid causing it to open, and allow engine mounted fuel pump pressure to be applied to the bottom of the distribution manifold (spider). A micro switch on the throttle lever allowed you to open the solenoid removing the excess fuel to unload the engine.

The first design of the CRS was pretty crude and out of a box of 100 that I tested all 100 were bad. Figure. 1 is an NOS CRS valve box.

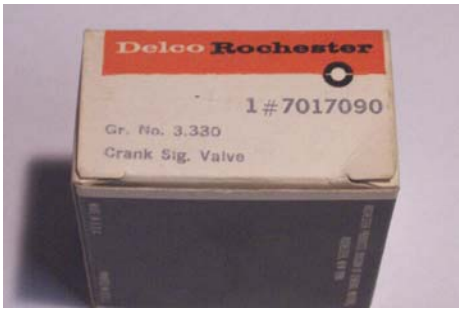


Figure 1

The second design of the CRS valve is a better quality product with the same PN. Figure 2 contains a disassembled original and

Figure 2

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Anatomy of CSV Cranking Signal Valve 58 - 64 E. Rochester Fuel Injection (con't) by Larry Linder

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Figure 3 an NOS second design. The major difference is the materials used for the valve.

Figure 3

How it works:

The CRS ports the manifold vacuum to the enrichment diaphragm causing the enrichment diaphragm to move the ratio lever (mechanical multiplier) enriching the fuel demand. Once the engine starts manifold vacuum is applied to the CRS port from the manifold vacuum. There is a bleed hole in the cover of the CRS (0.015) that slowly bleeds off any pressure on the back side of the diaphragm. Figure 2 bottom at 7 O'clock. Once the engine

starts the engine vacuum closes the CRS vacuum port and the enrichment returns to be controlled by the choke vacuum bypass. Figure 2 12 O'clock high is the internal diaphragm and the disk that seals off the manifold vacuum. Figure 2 4 O'clock shows the internal orifice that is covered by a screen. The failure is the black phenolic disk attached to the diaphragm - it does not seat correctly over the center tube. Figure 3 shows a second design with the screen covering the orifice and the steel tube that connects to the enrichment diaphragm in 58 - 61.

CRS Location:

One the early cars 58 and some 59 models had the CRS mounted in the plenum on the side high pressure pump side forward. In 1960 the CRS was mounted on the side of the plenum in between the plenum and high pressure pump body.

1962 and later units the CRS is mounted in the enrichment diaphragm cover and a tube going to the manifold for the vacuum source.

Problems:

The CRS have a variety of problems and are usually caused by the valve sticking closed in this case the engine will not start. If the CRS is stuck open (diaphragm broken) the engine will run dead rich. Figure 4 top left show the in

Figure 4

side of the CRS and the valve seat. The third problem is that it leaks in- consistently. This makes it almost impossible to set up the power stop and economy stop correctly. A stable consistent idle is almost impossible to be had.

The second design is a real improvement as the valve and diaphragm were make of better materials. Figure 3 shows the dichromate finish on the NOS service parts that are the second design.

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Anatomy of CSV Cranking Signal Valve 58 - 64 E. Rochester Fuel Injection (con't) by Larry Linder

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Figure 5 is the top view of a NOS Second design. Notice

Figure 5

the bleed hole at 4 O'clock.

The service units are indistinguishable from the original parts physically.

Personal Experience:

NOS CRS valves are a crap shoot. Out of 100 orig. valves still in factory boxes, tests revealed that 100 were leaky and would not hold a vacuum. Of the 2nd design valves all 25 all tested good. If you find any make sure you check the operation by applying a vacuum to the threaded end with your finger closing the hose tube. If it doesn't hold a vacuum it is worth about $5 as a core. Check to make sure the small bleed orifice is not plugged. See figure 2.

Some bright person checked the bleed hole with a small wire and pierced the diaphragm ruining a number of 1st design units.

Remember you can never pay too much but you can buy too soon.

Chairman's Corner *(con't)*

Continued from page 1

judging schools so check out the event on the web site.

Thanks to Terri and Terry Buchanan for building and keeping our web site the best.

Ever read dear Abby in the paper? We have our version and its called "ASK DON" the link is posted on the MVC web site.

Challenge the members with your questions. I have a few wooden Nickels that are stamped "Rochester Products FI". They are not that rare but if you have a "fuel car" it might be nice to have one. Look me up and I will get you one.

Merry Christmas and a Happy New Year.

Enjoy your cars and drive carefully.

Regards

Larry

The Corvette's Been Judged Now What!

By Matt Stansbury and Kurt Meier

I joined the NCRS several years ago and became friends with Matt Stansbury who founded the Queen City Chapter and served as its Chair for many years. On a bus trip to the National Corvette Museum, jointly sponsored by the Fort Thomas Corvette Club and the Queen City Chapter, I talked with Matt about how to buy an early Corvette. When I located the 1954 Corvette that I finally bought from M.L. Young, an NCRS early member, Ron Whitaker and Matt told me that it would be a good project.

I finalized the deal with M.L. on December 22, 1999, and told M.L. that I was going to drive the car back to Cincinnati on one cold winter night, he said, 'Young man, you're going to get that car to Cincinnati on a roll-off.

As an interesting aside, I finalized the deal with M.L. on December 22, 1999, and told M.L. that I was going to drive the car back to Cincinnati on one cold winter night, he said, 'Young man, you're going to get that car to Cincinnati on a roll-off. It's a cold ride and you could break down. And something bad could happen to the Corvette.' M.L. is still working every day up in Laurelville, OH.

I learned from M.L. that my Corvette was on the field at the first NCRS meet in Wapakoneta, OH. He showed me pictures of the Corvette proudly displayed there.

Joe Bruder rebuilt the motor and transmission and generally cleaned up the engine compartment back to judging standards. I had the car judged at a local meet and it

landed a second flight. I planned to use those judging notes to generally get the car back to standards without doing a body-on restoration because my intention was to continue to occasionally drive the Corvette.

The National Corvette Museum held a "MOTORAMA" IN June, 2002, and my Corvette represented its respective year and I drove from Cincinnati to Flint, MI, to St. Louis to Bowling Green as a kick-off to the 50th Corvette anniversary. As a result of that historic trip, my Corvette was featured in Vette Views, Corvette Fever, America's Sports Car, Vette, Cars and Parts Corvette. It even won a drag race between my '54 and Al Hill's '53.

Matt and I both recognized that the condition of the Corvette exhibited a lot of sins, most of which could be addressed with some mechanical involvement and a lot of tender loving care. We both recently 'judged' the car and joined our problem points into a final punch list. So Matt's work exemplifies how to make a pretty solid old Corvette

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The Corvette's Been Judged Now What! *(con't)*

By Matt Stansbury and Kurt Meier

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presentable without a full-blown restoration. As Kurt mentioned, most of the problems can and will be handled during the hands-on part of this story.

The first tool we used was the NCRS Judging sheets. After looking these over and the car, we decided to make as many of the changes according to judging sheets as Kurt determined would bring the car to his desired level of originality.

The area that needed the most attention with the largest impact was the interior. It was basically original, but tired. The instruments were largely inoperable and the carpet was beyond use or repair.

The seats and carpet were removed and the interior was cleaned. New carpet was installed and the seat bottoms were taken to a local upholstery shop for repair. It was decided to use the existing seat covers.

The seat frames were repaired and painted. The seats will have new spring sets but the original foam will be enhanced and reused. The goal and driving force behind this repair is to keep the car as "age" consistent. as possible.

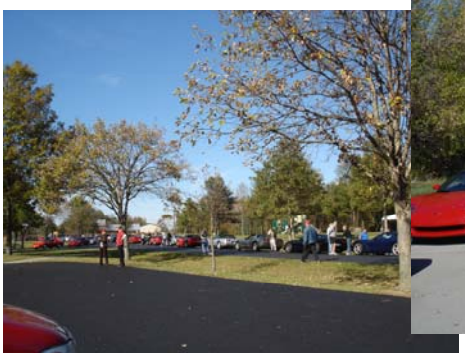
What we are doing is finding parts and repair methods to make the car more consistent and in the spirit of its condition in the 50's. With that said, each owner attempting this type of repair will have to go about it a little differently according to your budget and final goal.

Kurt's final goal is to bring back to the spirit of "54" and enjoy the car, not to make it a museum piece. All areas of the car have been approved this way and should yield a very nice drive able piece of history.

Editors note:

A big thank you to Matt and Kurt for sharing their experience and welcome to the Miami Valley Chapter of NCRS

Jeff Bernhardt's Fall Road Tour



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IRONGATE INC. REALTORS

Members Corner By Nick Kammer

In an effort for us to get to know each other a little better we will feature brief bio's of our fellow members. If you haven't submitted your member profile I would encourage you to do so. You can give as much or as little info as you want. You will find the 'Members Profile' form in our quarterly newsletter accessible at our website.

See page 16 for Members profile form. Fill out and return to Nick Kammer to get your profile published in the next issue of our Vette Gazette

For calendar/upcoming events and for sale items/parts wanted items see the chapter web site:

www.ncrs.org/mvc

WELCOME NEW MEMBERS!

Bob Riesenberg Gary Deaton

William Schottelkette

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First Time

Larry Linder's grandson first time behind the wheel of Larry's 66'

Miami Valley Chapter

Are you having fun yet?

Join us. We ARE having fun and work hard to make it a TOP priority. We are the Miami Valley Chapter of the NCRS. We are NCRS members who in February of 2003 started a local chapter for Dayton area NCRS members and Corvette enthusiasts currently 76 members strong and growing. Most of our members live in Greene, Montgomery, and Warren counties.

To check us out go to our web site www.ncrs.org/mvc and cruise through our event's calendar. Come to one of our meetings to see if it's for you. We are a varied group owning everything from modified Corvette's to Top Flight award winning Corvette's. From C-1's to C-6's we all have one thing in common and that is a passion for the Corvette.

We hope to see you at one of our next meetings held on the 2nd Tuesday evening of every month. We also get together on weekends for cruise-in's and car show caravans throughout the spring, summer, and fall. You are already an NCRS member. Why not join **your** local chapter and get the most out of your membership. Feel free to call me with any questions.

Regards,

Nick Kammer
Membership Chairman
Miami Valley Chapter NCRS
Office: 937-297-3611
Home: 937-848-3022

Miami Valley Chapter

National Corvette Restorers Society

Member Profile

In an effort for us to get to know each other better we will include in our quarterly newsletter 'Vette Gazette' our members profiles. Whatever facts you wish to share with the rest of us are welcome. If you wish to submit a member profile just complete the profile below and send it to the web address listed below. Input on how we can improve our Chapter is also encouraged. If you would like for me to take your information over the phone just call me at 937-297-3611. Otherwise send the profile as an attachment to your return e-mail back to me (see bottom of page).

Name:

Significant others name: _____

Date/place of birth: _____

NCRS #_____(we have this on file but other members may find this an interesting tidbit of information.)

Place of employment or occupation and brief description of what you do

_____
_____.

What other interests/hobbies do you have? _____
_____.

Under the heading 'Complaints take a number, solutions come on in', what do you like about our Chapter and what could be done to improve what we do? _____

_____
_____.

First car ever owned _____.
First Corvette owned _____.
Present Corvette's), classic cars owned _____

Thanks for your input and information.

Forward this profile to Nick Kammer, Membership Chairman
www.nick.kammer@ncmc.com