

The 'Glass Gazette

September 2006



Dealer Sponsor:
Koons Chevrolet
Tyson's Corner, VA



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THE PRESIDENT'S CORNER

By: George Kerns

Can you smell it! Stand outside, close your eyes, tilt your head back and take a big sniff! Fall is in the air! What a month! I was invited to St. Louis for the NCCC national Governor's meetings and to present to the National Competition committee the criteria of our Teen Driving School and Cone Killers' car control clinics. It was perfect timing because the article came out in Blue Bars at the same time! Needless to say, the Northern Virginia Corvette Club is the talk of the country right now! NCCC was very impressed with how our club is giving back to the community and members from other clubs want to come out to see how we put on these types of events with success! This is something that everyone involved with needs to be proud of because NVCC is the pioneer for NCCC for events of this caliber! At the meetings I was approached by at least 50 people from different clubs both thanking and congratulating our club on a job well done and my email has gone completely crazy over this! We are currently trying to get two dates for next year to hold these Teen Driving Schools. If you were unable to get involved with the last one I encourage you to come out to one, or both of these. You will most definitely leave with a great feeling!

While in St. Louis I was also approached by Mike Weil. For those of you who don't know Mike, he is our President of the Eastern Region for NCCC. We started talking about an event that he has been trying to put together for the last several years and asked if we might be interested in helping out. The event would benefit the Eastern Region and all the clubs supporting it. It would be similar to a three day convention in that it would have rallies, a car show, economy runs, high speed and low speed events, driving schools, cruises, etc. This event is still in the same place as it has been for the last couple of years, in the talking stages. Needless to say this type of event would truly be a feather in NVCC's cap! As you can see, an event like this would have something for everyone.

Spook is right around the corner and the buzz is in the air! It looks as though we have quite a few new participants this year and everyone is getting their cars ready. Some of the more serious competitors have already got their cars squirreled away in their garages working on them to get that tenth of a second out of it! Last year we saw a classic battle between Mike Geyer and Mike Sarver! Will it be those two again, or will someone come in and take them off their pedestal? Only time will tell. If you are not participating in this event and would like to come out to help, or just watch please do so. This is truly a great CLUB event and is a total blast all weekend!!! It all starts on Friday night at the luxurious Town House Motor Lodge with hospitality and tech inspections!

In closing I would like to mention that at the October Business meeting we will start nominations for all officers at the upcoming November elections. Over the last couple of years the number of people voting has fallen off somewhat and I hope everyone gets the chance to come out to the next couple of meetings to participate in the elections.

Well boys and girls, that's all the time I have for today so remember if it's too fast, you're too old!

Take care,
George

The folks working hard for you

NVCC Council Members

President	George Kerns	703-753-3277	whiskeytahoe@aol.com
Vice President	Chuck Pellerin	703-242-2619	chuck-p@cox.net
Treasurer	Marsha Batchellor	703-481-0601	mbatchel@wtf.com
Secretary	Wanda Robinson	703-620-0248	redvette1@cox.net
Officer At Large	Anne Costolanski	703-867-3603	acostola@usatoday.com

Committee Chairpersons

Autocross	Mike Higgins	571-426-3040	higginsm@mitre.org
Concour	Laurie Kistner	703-631-7117	lilredcorvette94@yahoo.com
Historian	Richard Mars	703-425-6118	richardmars@starpower.net
Membership	Helen Mihelarakis	703-330-1853	Tishffx911@aol.com
Newsletter	Anne Costolanski	703-867-3603	acostola@usatoday.com
NCCC Governor	Andrej Balanc	703-220-8228	urtoslo@adelphia.net
NCM Ambassador	Don Patrick	202-234-2820	thepatricks@starpower.net
Social	Laurie Kistner	703-631-7117	lilredcorvette94@yahoo.com
Spooktacular	Andrej Balanc	703-220-8228	urtoslo@adelphia.net
Web Master	Brad Sneade	571-203-0508	bsneade@gmail.com

Some pics of the Dr. McCagh's corvettes ...



From our Veep

By: Chuck Pellerin

If the opportunity comes up again next year for you to participate in the National Road AutoSport Summer Sizzler, be sure to go. Last summer, Michael Rierson approached the club with an invitation to participate in the event. It is basically a two day autocross, held at the Cumberland Airport. But it is an autocross with a difference. First, if you are not an autocrosser, there are plenty of other things to do. There are great roads, through the mountains, with beautiful scenery for cruising. Or you can drive to Frank Lloyd Wright's house, "Falling Water", in Pennsylvania to tour one of his most famous buildings. You can play golf or tour the Historic District in Cumberland, go hiking or just explore the many small towns in the area. Finally, there is one GREAT picnic on Saturday night.

Dr Michael McCagh hosts the party at his 270 acre farm/estate. The people are friendly and the food is good! Hamburgers, chicken, hotdogs, salads, corn on the cob boiled over an open fire, and all the crab you can pick. Oh, did I mention the beer? The best part though is his car collection. He has over 40 Corvettes and many of them are national award winners. The buildings are open and you have all evening to check them out. I took a few pictures but there were soooooo many cars parked in the garages that I found it hard to format the pictures to make the cars look as impressive as they really are. You have to see them to believe them.

The NVCC had 11 members there to enjoy it. Michael Rierson came out for Friday evening just to make sure that we were settled in at the Bed and Breakfast (more about that later) but he had to go home the next morning. Mike and Tracy Hunter ran the autocross and Tom and Geri Shae (new members) played golf and attended the picnic. Randy and Amy Urick, Wanda and Zoel Robinson and Karen and I opted for the drive to Falling Water and the picnic. We had a wonderful time.

Continued on page 4

It's a Rallye!!!

Rallye #3 – the 3rd Not-so-Annual George Washington Rallye & Poker Run by Alice Arielly & Jack Hufnagle

As befits a George Washington Rallye, we met in the parking lot of Mount Vernon early Sunday morning, July 23rd. In the early bird picture, behind Jack and Alice are (l-r) Don Ellenberger, Carolyn Offutt & Barbara Foor, Steve & Helen Mihelarakis, and George & Kim Joca.



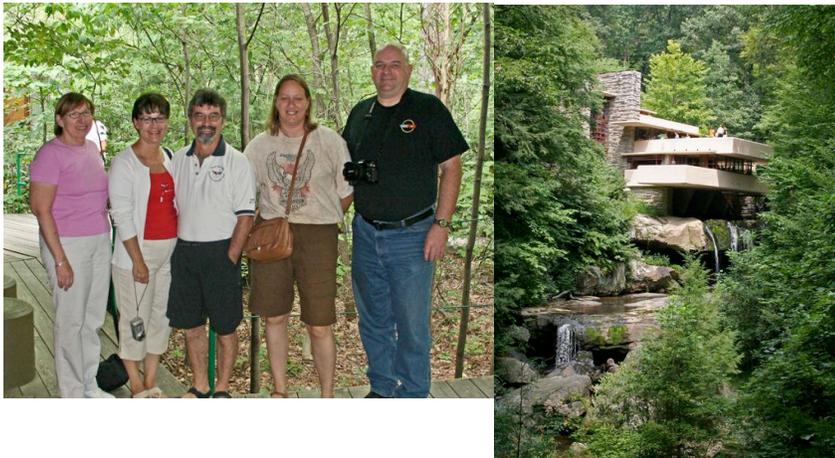
We had 7 rallyers and 3 cruisers. Everyone saw the lovely Potomac River homes that none of us will ever be able to afford, lots of lighthouses, reminders of the Texas Rose, the Mount Vernon Country Club, George Washington's Grist Mill, Woodlawn – the home that George Washington gave his nephew as a wedding gift (nice guy!), and ended up at the lovely Cedar Knoll Inn, on George Washington Parkway, with a lovely view of the Potomac. Thanks to everyone's patience with adding up numbers and searching for Scavenger Hunt items (note to Mike – Thomas Jefferson is on the nickel, not George Washington – and if you can identify your nickel, you can have it back!). Thanks to everyone that came out. High Poker hand went to Mark Bergstrom & Barb Shaw. Low Poker hand went to Steve & Helen Mihelarakis. Each couple received \$45. Here are the rallye results:

Place	Driver	Navigator	Score
1 st	Fred Wendling	Chris Wendling	148
2 nd	Mark Bergstrom	Barb Shaw	147 + 1 mile
3 rd	Carolyn Offutt	Barbara Foor	147 + 2 miles
4 th	Steve Mihelarakis	Helen Mihelarakis	138
5 th	George Joca	Kim Joca	135
6 th	Michael Hunter	Tracy Reineman	131
7 th	Cassidy Nolen	Nicole Nolen	118
Cruise	Don Ellenberger		
Cruise	Chris Zschirnt		
Cruise	Chuck Pellerin	Karen Pellerin	

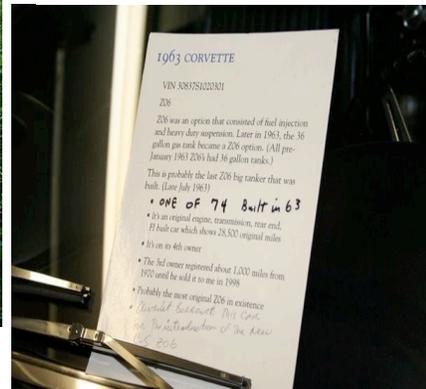
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One of the nicer parts of the weekend was meeting Dave and Donna Reusing, the proprietors of the Town Hill B&B. Donna insists that it is a bed and breakfast. But it has 20 rooms (some with private baths) and it seems more like a country inn to me. Back to Dave and Donna. I can't ever remember staying anywhere where I felt more welcome (Sorry Mom!). They really went out of their way to make our stay comfortable. Oh, and Donna is a great cook. I highly recommend them if you are looking for a nice place for a "get away" weekend. Their web site is www.townhillbnb.com.



And finally, my thanks to Michael for going through all of the trouble to set up the weekend for the club.



FROM THE DEN OF THE GREY WOLF

MANY THANKS TO THE CONE KILLERS

I want to thank all those drivers who participated in our Corvette Club Cone Killers' Car Control Clinic, for knockin' down all those cones. As you know we collected a quarter a cone for every cone killed, and you all outdid yourselves!

Due to the number of cones killed we collected about \$50.00 and if my math is correct, that racks up to 200 cones! WOW, the volunteers who were picking up after you sure got a lot of cardio! As we all agreed at the end of the day, the spoils were donated to Capital Hospice, a very worthy cause!

200 cones? Guys, those cones represented real objects, so we killed quite a few dogs, fire hydrants, cats, mothers-in-law, mothers with baby carriages and anything else you all could think of! As much fun as we had in razzing one another about killing all those cones, this is serious stuff!

What does this tell us? I guess none of us are as good a driver as we think we are. Goin' fast does not a good driver make! There is a Hell of a lot more to driving than that. I guess you all know what I'm getting at; come on out and do some real driving with us next year. Learn how to handle your car, learn what your car is telling you and above all, be an ambassador of driver improvement.

I strongly suggest that if you have never done a High Speed event before, you attend our next "Cone Killers", date TBA. Learn how to control your car before you go fast!

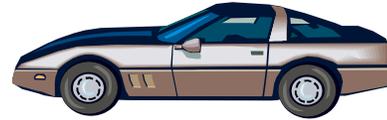
Remember, A meteorite hitting your car is an Accident, anything else is Driver Error!

Miriam Schottland, Chief Instructor

Koons Chevrolet launches new website!

Koons is pleased to announce the official launch of CorvetteForum1.com. We are eager to get the site going and build the best community for Corvette enthusiasts. Each current member is asked to please pass an invite along to any Corvette driver they know and urge them to create an account. Contests, prizes, and much more will be announced so keep an eye out for it!

Social Speaking ...



NVCC Social Calendar October 2006

By: Laurie Kistner

Saturday, October 7th - Dulles Day Family Festival, featuring the 7th Annual Car Show (for any and all cars, trucks & motorcycles) to benefit Special Olympics Virginia. This is one of the charities our club supports.

When: 11:00 A.M. to 4:00 P.M. The gate will open at 9:00 A.M. for registration. Fax entries can pay at the check-in desk.

Where: At the Federal Express cargo building located at Dulles International Airport.

New for 2006: Top 30 & Best in Class trophies will be awarded. Dash plaques to the first 100 registrations received.

To register, complete and mail, fax or e-mail your information to:

Officer Joe Carroll

MWAA PD

Reagan National Airport

MA-311

Washington, DC 20001

Fax: (703) 417-8586

E-mail: joseph.carroll.iv@mwa.com

For more information, call Officer Carroll at (703) 417-8570

Vehicle entries will be \$10.00 each. Make checks payable to: Special Olympics - Virginia

Other activities include: 14th Annual Plane Pull, military and civil aircraft displays, music, games for kids, and much more. <http://www.planepull.com>

Car/Entrant info needed:

Make:

Model:

Year:

Category:

Classic ___ Street Rod ___ Truck ___ Motorcycle ___
Import ___

Name:

Address:

Phone Number:

E-Mail:

Sunday, October 8th - Back by

Continued on next page

Tri-State Power Cruise - Lunch at Coolfront, ice cream at Cumberland, and then more ice cream in Boonsboro. Three states, VA, WV, and MD in six hours with over 250 miles of some good corvette roads. See page 7 for more info.

Friday & Saturday, October 13th and 14th – Corvettes at Ocean City, sponsored by the Free State Corvette Club. Please see www.freestatecorvette.com for complete registration and event details. **YOU MUST FILL OUT THE REGISTRATION FORM ON THEIR SITE TO PARTICIPATE.** There is something for everyone, including fun and judged shows, rallies, with the highlight of the weekend being the boardwalk parade of corvettes. Event benefits Spina Bifida.

Saturday, October 14th - I need volunteers to step up for the TC Williams High School Homecoming parade on Saturday morning, 10/14. They would prefer convertibles, but coupes would be OK. Unfortunately hardtops won't work for carrying the kids, but are welcome to just ride in the parade (no limits on the number of vehicles in attendance). So if you can't make Ocean City, consider helping out for a few hours locally! Details as the event draws near.

Thanks for all your help... Joe "JD3" Daly (jidthree@cox.net)

Sunday, October 22nd – Our “sister” club, the Northern Virginia Mustang Club, has invited us to their 4th Annual Picnic and Show. Details as follows:

Time/schedule: 9am-12pm registration, 12pm-3pm lunch served/voting, 4pm-5pm awards.

Place: Algonkian Park Shelter #1, 47001 Fairway Drive, Sterling, VA.

Directions: Take Route 28 North to the Route 625/Church Road exit. Take a LEFT onto Cascades Parkway and follow into the park. Follow park signs to picnic shelter #1.

Contacts: Ceece Coburn (540) 937-7751 Home or (703) 346-8151 Cell, Ebby Short (703) 200-6803 Cell or (703) 331-0930 Home

Car Show Coordinator: Dan Sloan, email: URBitn@aol.com

Format: Top 30 will receive trophies (popular vote format), plus best paint, best engine, and best in show.

(Not mandatory but requested): Please bring a dish or dessert, if you have that special recipe, make it and bring it, if you can, for all to sample. The NVMC will be providing burgers & dogs, soda, chips, plates, utensils, condiments, etc. **NO ALCOHOL** allowed.

Wednesday, October 25th – It's that time of year again for the Vienna Halloween Parade! Always a good time. We have won 1st place at this event in the past and have had as many as 30 cars - lets see if we can top that this year! This year's theme will be "Vienna Tradition Through the Decades". Several people have asked if we are decorating our cars - that

is entirely up to you! Costumes are also optional. Any additional people are welcome to attend to help carry the club banner.

More details as the date draws closer... Joe "JD3" Daly (jidthree@cox.net)

Saturday, October 28th - Corvette Forum's Jim Strathearn and the Shenandoah Valley Corvette Club are again sponsoring this year's Fall Skyline Drive Cruise on Saturday, October 28th, 2006.

For those who remember past Skyline Cruises, we always have a blast! Fall Skyline attendance was 150 'vettes!!! This is also a charity cruise.

Registration fee: \$10.00 per car or a new, unwrapped toy (no stuffed animals please), collectable on the day of the cruise. All registration proceeds to benefit Toys for Tots. Also, you must pay a park fee (good for 7 consecutive days) which is \$15.00 or you may purchase an annual pass...for more information see http://www.nps.gov/fees_passes.htm.

We will meet at the Newgate Shopping Center parking lot (corner of Routes 28 and 29 in Centreville) at 7:30 AM, drivers' meeting at 7:45 AM, leaving at 8 AM SHARP! We should arrive at the Front Royal Chevy dealership at around 9:00 AM, where those organizing the cruise will begin distributing goodie bags and door prizes. Representatives from the local Toys for Tots group will be there collecting the new, unwrapped toys and donations. They will also have coffee and donuts for us.

At 10:30 AM we will caravan to the Shenandoah National Park with a police escort so that we can enter the Skyline Drive as a group. Cruise to a scenic overlook and socialize, take pictures, etc. After leaving the overlook, we will caravan down to Brookside Restaurant for lunch. After lunch, we will re-enter the park and reassemble at the Stony Man overlook. From there, we will caravan to the Big Meadows visitor center. The cruise usually ends here, but this is subject to change.

Please register on the club website, on the forum post or e-mail me at lilredcorvette94@yahoo.com if you wish to join the Centreville caravan to the cruise starting location.

Directions to the NVCC caravan start point are as follows: From 66 Westbound, take Exit 53A to Route 28 South and then take the Route 29 South Exit, immediately turning right into the parking lot. There is a Sunoco gas station, Joann's Fabrics, Trader Joe's, and a Fast Eddie's in this plaza.

Coming soon...

Corvettes at Biltmore – Nov. 17th – 19th

Highlighted events

NVCC Rallye #5 October 15, 2006

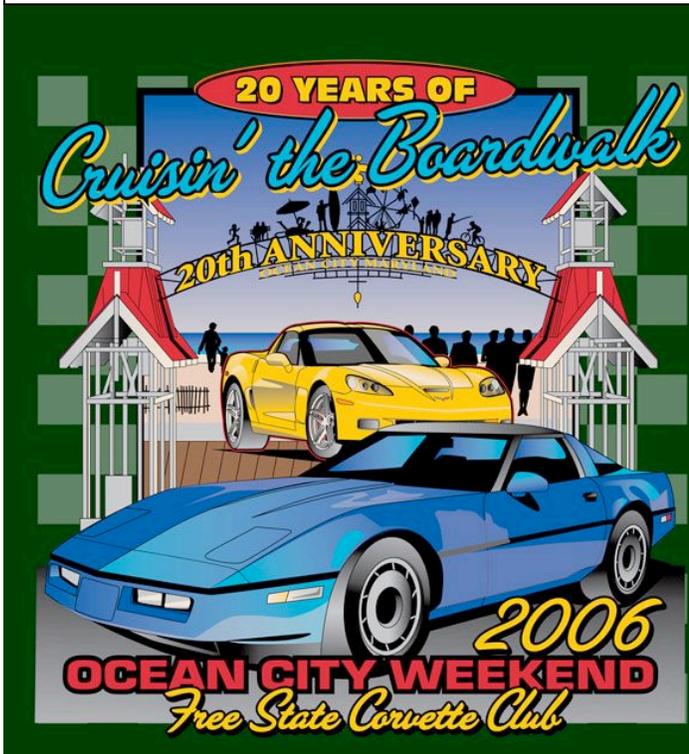
October 15th will be your last chance to enjoy an NVCC rallye this year. Rallye #4 had beautiful weather and Rallye #5 will have even better. October, with its crisp air and fall colors, is the perfect time to be out in the country. The cars will gather in the Stone Ridge Village Center parking lot at the corner of Stone Springs Blvd & Highway 50 in Stone Ridge, VA. This is at the intersection of highway 50 and Stone Springs Blvd., highway 50 approximately 6.2 miles west of 28 or 4.5 miles east of Gilbert's Corner. As usual, the rallye will start with a 10:15 AM - 10:45 AM Registration, a 10:45 AM Drivers Meeting and at 11:00 AM the first car will leave. You have two ways to participate...You can rallye or you can just cruise the route and enjoy the ride. The Rallye costs \$10/car. The Cruise Option cost \$5/car. And, if you feel lucky, you can get in on the optional poker run for an additional \$10/car. Jerry Myers is your rallye master and you can reach him at either 703-573-6850 or jmmsubtle@juno.com.

Cruise the back roads (and some highways)
in search of the perfect cone!

October 8, 2006 10:00 am to 5:00 pm
Tri-State Power Ice Cream Cruise



Scenery in Cumberland, MD



Lunch at Coolfont

Ice Cream ...

... then Ice Cream ...

... then more Ice Cream!

Meet at the IHOP on Rt. 7 in Sterling at
9:45am

Drivers Meeting at 10am

RSVP to Andrej Balanc by October 5
703-220-8228

urtoslo@adelphia.net or use the events tab
at www.nvcorvetteclub.com

MINUTES FROM LAST MONTH'S MEETING ...

Northern Virginia Corvette Club General Business Meeting August 22, 2006

Meeting brought to order at 7:35 pm.

George Kerns, President welcomed everyone to the GBM. Introductions made by all.

Newsletter - Anne Costolanski

- Everyone congratulated Anne for the great newsletter she managed to put together on short notice.
- The newsletter will be available on line very shortly.

Officer-at-Large - Anne Costolanski

- No report at this time.

Treasurer - Marsha Batchellor

- Provided an update on the Club finances.

Rallye - Chuck Pellerin

- Sept. 17th, Steve Mihelarakis, Rallye Master
- Oct. 15th, Gerry Myers, Rallye Master
- On another note, the Cumberland Weekend organized by Mike Rierson was a great weekend and a lot of fun. Autocross, Cruises, Picnic, Golf or whatever you chose to do was there. The picnic on Saturday was hosted by a local Doctor that has quite a collection of cars.

Secretary - Wanda Robinson

- No report at this time.
- Provided information to the membership regarding the Team Racing and the upcoming Autocross some of the team will be attending on Aug. 27th. The autocross events that the Team register for are open to anyone that wishes to attend.

NCCC Governor - Andrej Balanc

- NCCC is looking for a couple people to work their booth at Carlisle on the August 25/26th weekend.
- See Andrej if you wish to purchase raffle tickets for a set of tires.
- Sept. 10th is the 4th Annual Porsche / Corvette Challenge @ Ripken Stadium. The top 8 Porsche and Corvettes will run for 'king of the hill'.

Spooktacular - Andrej Balanc

- Spook scheduled for Sept. 30 - Oct. 1.
- High Speed Autocross - Must have a High Speed License to run.
- Still need some workers to sign up, please see Andrej.
- Andrej reminded everyone that the Tri-State Ice Cream Cruise is coming up on Oct. 8. Meet at 10:00am at IHOP in Sterling. The Cruise is about 230 miles and runs through parts of Virginia, West Virginia and Maryland.

President - George Kerns

- George and Erica plan to organize another Dinner Cruise to the Bavarian Chef. Date to be determined.
- Cone Killers Car Clinic - Congratulations to Rita Mars, she won 'Cone Killer of the Day'.
- This event was never intended to be a High Speed Event. There are changes to be made, some of which have been discussed with Regional NCCC members.
- There will be a meeting with the heads, followed by an open meeting with the Club members to discuss all schools we have held and plan to hold in the future.
- Participants in the HPDE, Cone Killers and Teen Driving Schools all have a blast.
- NVCC is considering a 2 day event for next year.
- Mariam suggested that everyone should attend a Cone Killers School.
- Would like to hold another Teen Driving School, venue and date to be determined.

Other Business

- Paul Benish discussed more on the Team Racing, and advised that are team is in 2nd place right now and we need to make sure we have our team members at the last three events to move up in the standings.

Historian - Richard Mars

- Richard tested our knowledge with his trivia questions. Winners and prizes were:
 - Bruce Witkowski - Wheel Cleaner Kit
 - Alice Arielly - Chevrolet Watch
 - Paul Benish - First Aid Kit
 - Cassidy Nolan - First Aid Kit
 - George Kerns - Raffle Ticket
- Richard reminded everyone to sign up for the Free State Weekend Oct. 13 & 14. Proceeds raised that weekend go to Spina Bifida.

President advised everyone to please silence their cell phones.

Social - Laurie Kistner

- Calendar of Events passed out and reviewed.
- Aug 25 / 26 - Corvettes at Carlisle
- Sept. 4th - Labor Day Car Show presented by Custom Cruisers of Northern Virginia
- Sept. 9th - Frederick County CC present Corvettes at Westridge Square.
- Sept. 16th - Annual Haymarket Day Parade.
- Sept. 17th - All Corvette Drag Racing Day and Fun Show
- Sept. 30th - tentative - TC Williams High School Homecoming Parade

Coming in October ...

- Oct. 8th - Tri-State Ice Cream Cruise
- Oct. 13 / 14 - Corvettes at Ocean City
- Oct. 22 - NVMC 4th Annual Picnic / Car Show
- Oct. 28 - Fall Skyline Cruise

Continued on next page

Other Business

- Laurie has NVCC Business Cards available for members to pass out.
- The new Membership Applications forms are printed and ready to use.
- Ed Kasper wanted everyone to know that he had a very satisfying experience with Koons when he purchased his new Corvette.
- George Kerns reminded everyone to see 'Bobby' @ Koons for parts to receive the Club discount.

Raffle - George Kerns

- Mens Chevrolet Watch - Rita Mars
- Oil Change - Bruce Witkowski
- Oil Change - Ed Davis
- First Aid Kit - Joe Holzer
- 50/50 - \$56.00 - George Kerns

Meeting adjourned at 8:50pm.

Wanda Robinson
Secretary



Blue Devil? Sting Ray? Z06.R? Z07? The name game continues...

The forthcoming \$100,000 high-performance Corvette known internally at GM as the "Blue Devil" may go by the name Z06.R or Z07, according to *Automobile* magazine. In early June, *AutoWeek* reported that GM would use the [Sting Ray](#) name for the car, despite a *Motor Trend* [claim](#) that GM was planning a Kappa-platform Chevy by the same name. *Automobile* seems most confident in the Z07 name for the 650 horsepower car. The magazine also reports that GM will try to differentiate the vehicle from the Z06 with carbon fiber body panels and a "huge hood vent."

Membership Corner



We currently have **123** active members and **24** prospective members.

Prospective Members

Mike Brancato	1973 Red Coupe
Mike Caprarese	2001 Silver Coupe
Harry Corley	2006 Red Coupe
Edwin Davis	2005 Red Coupe
Gary Descombes	1993 Green Coupe
Don Ellenberger	2006 Velocity Yellow Coupe
David Goss	2002 Black Coupe
Joel Gussy	2002 Black Coupe
Mounir Hadiji	1998 Black Coupe
Joel Holzer	2006 Blue Coupe
Walker Jeff	2006 Monterey Red Coupe
Kim & George Joca	2006 Victory Red Coupe
Steve Jones	2005 Daytona Orange Coupe
Ed Kasper	2005 Blue Coupe
Mark Neblett	2004 Black Coupe
Dan Nowak	1978 Black/silver Coupe
Carolyn Offutt	1982 Silver/beige Coupe
John Palmgren	2006 LeMans Blue Coupe
Greg Piper	2006 Silver Coupe
Tom Shea	2006 Monterey Red Convertible
Laszlo Szalkai	2006 Yellow Coupe
Wendy Thurman	2006 Daytona Sunset Orange Coupe
Kris Zschirt	1994 Black Coupe

Prospective Members:

You remain a "prospective" member until you pay your membership dues and return your NCCC form to Helen.

Active Members:

Additional NVCC key rings (\$6 ea), NVCC window decals (\$2 ea) and NVCC windshield banners (\$5 ea) are available to active members. See Helen for details.

National Corvette Museum (NCM) Ambassador Corner

By: Donald Patrick

CURRENT NEWS and ACTIVITIES

On the kinds of batteries we may use:

Flooded or Wet Cells versus AGM and Gel Cells:

The most common kind of battery in use today is the lead acid battery. Using an electrolyte consisting of sulfuric acid, these cells can store impressive amounts of electrical energy in a relatively small space. This energy is stored in chemical form within lead grids mounted inside the battery. The reliance on lead grids and paste explains the great heft of lead-acid batteries.

The battery universe is further divided along the lines of battery construction. Currently, there are three common lead-acid battery technologies: *Flooded or Wet Cells*, *Gel*, and *AGM*.

Flooded or Wet Cells are the most common lead-acid battery-type in use today. They offer the most size and design options and are built for many different uses. In the marine business, they usually are not sealed so the user can replenish any electrolyte the battery vented while charging the battery. Typically, the cells can be accessed via small 1/2" holes in the top casing of the battery.

The plastic container used for flooded cells will have one or more cells molded into it. Each cell will feature a grid of lead plates along with an electrolyte based on sulfuric acid. Since the grid is not supported except at the edges, flooded lead-acid batteries are mechanically the weakest batteries.

Since the container is not sealed, great care has to be taken to ensure that the electrolyte does not come into contact with you (burns!) or seawater (chlorine gas!). The water needs of flooded cells can be reduced via the use of Hydro caps, which facilitate the recombination of Oxygen and Hydrogen during the charging process.

Gel Cells use a thickening agent like fumed silica to immobilize the electrolyte. Thus, if the battery container cracks or is breached, the cell will continue to function. Furthermore, the thickening agent prevents stratification by preventing the movement of electrolyte.

As Gel cells are sealed and cannot be re-filled with electrolyte, controlling the rate of charge is very important or the battery will be ruined in short order.

Furthermore, gel cells use slightly lower charging voltages than flooded cells and thus the set-points for charging equipment have to be adjusted.

Absorbed Glass Mat (AGM) batteries are the latest step in the evolution of lead-acid batteries. Instead of using a gel, an AGM uses a fiberglass like separator to hold the electrolyte in place. The physical bond between the

separator fibers, the lead plates, and the container make AGMs spill-proof and the most vibration and impact resistant lead-acid batteries available today. Even better, AGMs use almost the same voltage set points as flooded cells and thus can be used as drop-in replacements for flooded cells.

Basically, an AGM can do anything a Gel-cell can, only better. However, since they are also sealed, charging has to be controlled carefully or they too can be ruined in short order.

Gel and Absorbed Glass Mat batteries are relative newcomers but are rapidly gaining acceptance. There are some very compelling reasons to use VRLAs:

- Gel and Absorbed Glass Mat (AGM) batteries can dispense charge at a higher rate than flooded cells due to their lower Peukerts exponent. Deep-cycle Flooded Cells cannot deliver more than 25% of their rated amp-hour capacity in amps without plummeting Available Capacity.
- Deep-Cycle Flooded cell battery manufacturers recommend a 4 to 1 ratio between battery bank size and the largest load encountered on board.
- AGM and Gel cell manufacturers recommend a ratio of at least 3 to 1, a significant difference for loads such as the engine starter or windlass.
- Virtually no gassing under normal operating conditions: Unlike flooded cells, gel cells and AGMs are hermetically sealed and operate under pressure to recombine the oxygen and hydrogen produced during the charge process back into water. You find VRLAs in the bilges of high-end yachts such as Hinckley, Hans Christian, Island Packet, etc. Every boat benefits from a low center of gravity over the keel (good for righting purposes) and the minimal venting requirements make it possible.
- The ability to put VRLAs in the bilges (they can operate under water should you hole yourself) also lengthens their lives: For every additional 15 degrees of heat over 77 deg F, lead acid battery life (regardless of type) is cut in half (batteries self-destruct with time, you can only slow that process). Chances are, the bilges are the coldest place on board (outside the freezer) and the keel provides protection.
- VRLAs can operate in any orientation (although you may lose some capacity that way) and even if a container is broken, a VRLA will not leak. This is a feature particularly important to blue water sailors who may encounter survival storms - you don't want to coat the inside of your boat with sulfuric acid if you ever get rolled. Proper (heavy duty) battery restraints are a must, regardless of battery type.

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- Gel cells and AGMs require no maintenance once the charging system has been properly set up. No equalization charges (usually), no electrolyte to replenish, no specific gravity checks, no additional safety gear to carry on board in order to protect yourself. If you want to be anal retentive about VRLAs you can load test them. However, proper charge control and protection is much more important with VRLAs because once fried it is impossible to revive them.
- The charge acceptance of AGMs can burn up an alternator. So if you're going to use AGMs on board, ensure you have a high quality charge system from a respected company such as [Ample Power](#), [Balmar](#), [Ferris](#), [Hehr](#), [JackRabbit Marine](#), [SALT](#), etc. Ensure that the alternator receives enough cooling air as a hot alternator will produce less energy than a cool one and last longer to boot. AGMs and to a lesser extent gel cell systems can benefit from using the thermal alternator protection offered by the Balmar [MaxCharge series](#) of regulators, particularly if you expect to bulk charge your system for extended periods of time and don't have good engine compartment ventilation.
- The higher charge efficiency of AGMs allows you to recharge with less energy: Flooded cells convert 15-20% of the electrical energy into heat instead of potential power.
- Gel-cells lose 10-16% but AGMs as little as 4%. The higher charge efficiency of AGMs can contribute to significant savings when it comes to the use of expensive renewable energy sources (wind generators, solar panels, etc.) as your charging system can be 15% smaller (or just charge faster).
- While flooded cells lose up to 1% per day due to self-discharge, VRLAs lose 1-3% *per month*. Why employ a solar charger to trickle charge your battery banks if you don't have to?

- High vibration resistance: The construction of AGMs allows them to be used in environments where other batteries would literally fall to pieces. This is another reason why AGMs see broad use in the aviation and the RV industry.

Thus, there are some significant differences between battery types in terms of features and construction. However, there are also some very important figures to consider when it comes to choosing the right battery: Various capacities, cost, warranty, etc.

[Reprinted from a Team ZR-1 email.]

BACKGROUND

NVCC is one of the founding members of the NCM. Club benefits are:

- Free individual or group admission to the NCM.
- Ten % discount on NCM and Catalog merchandise.
- Free subscription to the magazine "America's Sports Car."
- NVCC plaque in the museum.

If any NVCC members are planning a trip in the vicinity of Bowling Green, Kentucky, a visit to the home of the NCM and the Corvette factory should be in your plans. The NCM card can be borrowed from our President.

For additional information log on to:

<http://www.corvettemuseum.com> or call the NCM at 800-53-VETTE (800-538-3883) or contact Donald Patrick.



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Next General Business Meeting:

Tuesday, September 26th

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Newsletter News

Hello all ...

If you would prefer to receive the newsletter via email, or not at all, please contact me at acostola@usatoday.com and let me know. And don't forget that it is available via our website at www.nvcorvetteclub.com!

Anne Costolanski
Newsletter Editor

