



INSIDE THIS ISSUE:

*Chairman's Column**Wildwood Reg. Wrap Up**Fuel Pump Rebuild (TA)**Ontario Regional Images**Beach Bums Show***Mark Rudnick, Chairman****Ed Di Napoli, Vice Chairman****Rich Vaughan, Treasurer****Howard Welch, Secretary****Bruce Crookham, Judging**

Chairman

Bob Zimmerman, Newsletter

Editor

Gary Tresch, Clothing Coord.**BUSINESS MEETINGS**

Hightstown Elks Club
110 Hickory Tavern Road
Hightstown, N.J.

3rd Monday of the month at
8:00 p.m.

SUMMERTIME IN NEW JERSEY

Chairman's Column

By Mark Rudnick

Well our 2011 4th Garden State NCRS Regional has come and gone. I believe our chapter members can be very proud of the excellent Regional event the Central New Jersey Chapter hosted at the Wildwoods Convention Center. I know that many of our fellow NCRS members truly appreciated the opportunity to return to Wildwood for this Regional. We had a very successful Regional here in 2004 and I believe this year's event met everyone's expectations. The Wildwoods Convention Center is a very special venue, one in which New Jersey can be justly proud. Not only did the Wildwoods Convention Center offer us a beautiful facility; but, equally important the Convention Center staff have from day one been accommodating and supportive. We can't thank them enough for how nice they treated us. It's refreshing to deal with an or-

ganization which truly appreciates the business you bring them. I guess it's one of the benefits of doing business in South Jersey.

The 2011 Garden State NCRS Regional is the fourth Regional the Central New Jersey Chapter has hosted since 2001. I think it's quite an accomplishment for a chapter incorporated in 1995, with a membership of approximately 60-65 members, of which perhaps 30 would be considered active. Aside from the hard work of show chairman Ed DiNapoli and the Regional Planning committee, it was our chapter members and their spouses who came out to offer assistance at the event, which made this a successful and enjoyable experience for all. I can't thank all who participated in this regional enough for your contribution. We really couldn't have done this event without your help. I personally feel privileged to be involved with such a fine group of people

who share my passion for the Corvette. This event once again brought to life the NCRS slogan: "Great Cars and Great Friends".

I had the pleasure of attending the Ontario Regional earlier this month. It was an excellent regional with many fine Corvettes presented for judging. The event was held at Fleetwood Farms, a lovely venue in the London Ontario countryside. Fleetwood Farms owner and host of the event, Steve Plunkett, treated the attendees to a viewing of his personal collection of vintage Cadillacs, unquestionably the finest collection of Cadillacs in the world. What a nice added attraction to an NCRS Regional. Meeting up with some of our Chapter members, who made the trip north to assist with judging, was indeed a pleasure. It's always fun seeing old friends and meeting new ones at an NCRS event.

(Continued on Page 2)

4TH GARDEN STATE REGIONAL WILDWOOD, NJ

By: Ed DiNapoli
CONGRATULATIONS CNJ NCRS on successfully hosting a terrific regional event that will become the standard for our chapter. This regional was not only held in one of the best facilities on New Jersey

for a judging event, with its well lit natural light, but it offered a clean cooperative environment overlooking the Jersey shore. How do you do better than that? The benefits of this venue must have been recognized in our advertising as the response was reflected

in our attendance of 120 cars and 575 people. From my records this will have been the largest of the four regional meets this chapter has organized and larger than some of the National events.

(Continued on Page 2)

Chairman's Column (continued from Page 1)

For those who will be attending the NCRS National Convention in Novi, Michigan in July, I wish you the very best in achieving the awards you are seeking and most importantly enjoying yourself and having a wonderful time.

That's it from me for now,

Mark.

Wildwood Regional (Continued from page 1)

But, what does it take to put on such an event? I can tell you that all the organization in the world is worthless without the proper people to execute the plan. The orchestration of the unloading of 60 plus trailers in the multiple parking areas prior to the operations check, while the registration was in process, was a work of art. As was the main floor of the convention center with the staging, photographs and ultimate placement of all the Corvettes in their proper positions for flight judging. When you got to the heart of the event on Friday and Saturday, where the judging, tabulation and Advanced Judging school were taking place, it was a beautiful thing to watch.

People doing their assigned duties, solving problems, directing people who needed instruction, and just making everything work properly. Pictures could not do justice to the intensity of what was happening. I would like to list the names of everyone who worked on this regional but the list would be much too long for this article. I will, however, list the members of the Regional Committee; Phil Babaro, Jack Brown, Bruce Crookham, Howard Welch, Bob Zimmerman, Bob Kuhn, John and Evie Mulhern, Mark Rudnick and Rich Vaughan. Everyone did a wonderful job identifying their team members and collectively, all members worked hard to make this a successful regional event. So, once again, I offer my thanks and congratulations on an overwhelming successful regional event.



Display Cars with Atlantic Ocean in Background



Excellent Natural Lighting



C-3's Were Well Represented



Welcome Reception

Metro Long Island Spring Chapter Event, May 1, 2011



C-4's were also well represented



As were Grand Sports



CNJ Chapter's Bruce Crookham and Mark Rudnick going over judging duties with Drew Papsun.

Editor's Forum

By: Bob Zimmerman



NCRS President Vito Cimilluca getting the results of his Mechanical judging from Jim Loughlin

In the last issue of the Central New Jersey Chapter Newsletter I commented about the number of chapter members who had submitted technical articles that first appeared here and then due to their relevant content were published in the Restorer Magazine by Vinnie Peters. The list included Pat Fullam, John Datz and yours truly. What I neglected to mention was that chapter member Joe Ciaravino had written a fabulous tech article on rebuilding mid year fuel pumps. The irony is that his article appeared in the same issue of the Restorer as mine did (Summer 2010). After eating several large slices of humble pie I apologized to Joe for my oversight in failing to include him in the list of chapter members who have achieved "fame" among their peers nationally. For the members who may not have had the benefit of reading Joe's excellent article in the Restorer, I have re-printed it here on the following pages. Look for John Datz's article on mid year headlamp motor rebuilds to be featured in this summer's edition of the Restorer.



#1



#2



#3

Identifying and Rebuilding the 6440083 Fuel Pump

By: Joe Ciaravino, Member # 32899

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When I bought my project Corvette in 1999, I considered myself lucky. After all, the carcass had an original steering wheel that was in excellent condition without cracks and with minimal wear, and what appeared to be a fairly new and clean replacement fuel pump, tagged "6440083". Everything else about the car's condition could have evoked your worst nightmare. I knew that I was going whole hog with this, deciding to make a couple of "upgrades" while being faithful to NCRS publications and knowledge base for a high quality restoration. I resolved to make the fuel pump the single exception to my "rebuild everything" rule, by giving it a quick wash and installing it on the rebuilt engine. W-R-O-O-O-N-G!

Upon completion of the project, the engine seemed to run well, considering that I was not racing the car at the time. As time went by, though, on a couple of excursions into the 6500 RPM-plus zone, I noticed what appeared to be a fuel starvation condition. I replaced the fuel filter, put a pressure gauge on the fuel inlet to the Holley 2818, and measured the inlet pressure at 2.5 PSIG at 850 RPM! Measuring again while underway yielded 2 PSIG at 3000 RPM and 1 PSIG at 5000 RPM. The shop manual states that the fuel inlet pressure should be at 6.5-7.5 PSIG at idle. There should be very little drop all the way up to red line.

I removed the pulsator cover and diaphragm, and immediately saw the cause of the problem (**Fig.'s 1 & 2**); one of the two poppet valves staked into the

pump body (the outlet valve) had become dislodged, was interfering with other moving parts, and had damaged the pump casting! So, now that the replacement pump was junk, I set about locating an original 6440083 for my L76.

The 6440083 fuel pump was used for the 1964-65 327 Corvette with SHP, and for all 1966 327 Corvettes before being replaced by the sealed type pump in 1967. This is a unique piece, in that the upper section (diaphragm housing) is cast from magnesium, rather than the cheaper and heavier pot metal alloys which contain variable amounts of aluminum, tin, cadmium, lead, copper and zinc. Indeed the difference in weight can easily be felt by hefting a replacement in one hand and the real McCoy in the other!

I tapped the vast knowledge base on the Technical Discussion Board and received some vital information from Bill Clupper on how to identify an original pump. Most of us know about the "AC" cast into the top of the pump plunger housing and the 40083 with a two-character alpha code stamped into the mount flange. There are however three characteristics on original fuel pumps and service replacements not present on even the best reproduction piece. These are double-stepped lever pin boss (**fig. 3**), the crows foot reinforcements at the forward sector of the base of the plunger rod housing



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#7

where it meets the diaphragm case (**Fig. 4**) and the unique "X" and staked markings of the original lever retainer pins (**Fig. 3, 5 & 6**). There are other identifiers present such as the "S" marks on the pulsator cover-to-body and body-to-diaphragm housing screws (**Fig 7**), the cotton-reinforced neoprene rubber diaphragm (**Fig. 8**), and the alpha code stamped into the mount flange (**Fig. 3**), but of course these can be added at any time and in no way identify an original. (Alpha codes are another subject unto itself, and some vital information may be found on the NCRS Technical Discussion Board under the following threads: "Internally Cast Fuel Pump Date Code" and "Fuel Pump Date Code?" David Liukkonen." Both appeared in late February and early March 2010.)



#8

Armed with the knowledge gleaned from the TDB, I located a virgin pump from NCRS member Gary Seymour in Towanda, PA. I also wanted to use a high quality rebuild kit, and I found that with Hal Houghton, owner of the Classic Preservation Coalition (www.classicpreservation.com). His kit differs from all others in that it requires a press off and re-use of the original diaphragm stem, thrust washer, and diaphragm retention saucers (**Fig.'s 9 & 10**). You will not find the heavy cotton reinforcement within his replacement pump diaphragm, nor will you find it on any other. What you will find is an opaque nylon mesh, which is much more durable than the original cotton. Yes, it is noticeable during judging, but that's the price we have to pay for modern durability and compatibility.



#9

Some have said that the C.P.C. rubber components are more durable than the others from some of the larger parts houses. The original stem and link are case hardened and are longer wearing than the replacement parts found in many of the other kits. The downside to using this kit is that one must disassemble the original stem from the saucers,

thrust washer and diaphragm and reassemble. The care taken during this process is absolutely critical. No sweat though, because if you'd rather not do this yourself, Hal will do it if you ship him the diaphragm/rod assembly. He also offers a full rebuild service at an excellent price if that's what floats your boat.

During disassembly, retain all original parts for re-use, except for the two poppet valves and gaskets, main diaphragm, pulsator cover seal/diaphragm, stem seal, rocker arm pin bushing and engine mount flange gasket. Take note of orientation of everything as you proceed, especially the orientation of the body to the diaphragm/stem housing. Remove the pulsator cover screws, cover and diaphragm. Remove the ten body attaching screws and remove body from upper casting. **YOU WILL REUSE THE ORIGINAL ROCKER PIN IF YOU HAVE ONE.** If the pump has been rebuilt before, then chances are that it already has the newer style retainer with the cotter pin. Cautiously squeeze the distorted end of the of the original pins together as much as possible. Using a Dremel tool, carefully remove only enough material from the deformed end so that the pin can be driven out of the pin boss. It may be necessary to use a small cutoff wheel on the Dremel in order to slice through the retaining washer to facilitate removal. If you do so you will be able to fabricate a duplicate of the original from a small flat washer. Drive the two staked poppet valves out of the pump body using 5/8" deep socket while supporting the underside on a flat surface. Be sure to remove the old gaskets.

One of the more difficult steps is the removal of the rocker arm/bushing/rocker arm link/diaphragm/stem assembly from the upper housing once you have driven out the retainer pin. Pull outward on the rocker arm/bushing/



#10



#11



#12



#13

link while pushing down on the diaphragm/stem assembly. This will disengage the hook in the end of the link from the slot in the upper section of the diaphragm stem. If you have trouble with this after a few attempts, then put it down for a while. Go inside the house and kick the dog. Have a coupla brewskis and return to trying to drive the diaphragm stem seal out of the housing.



#14

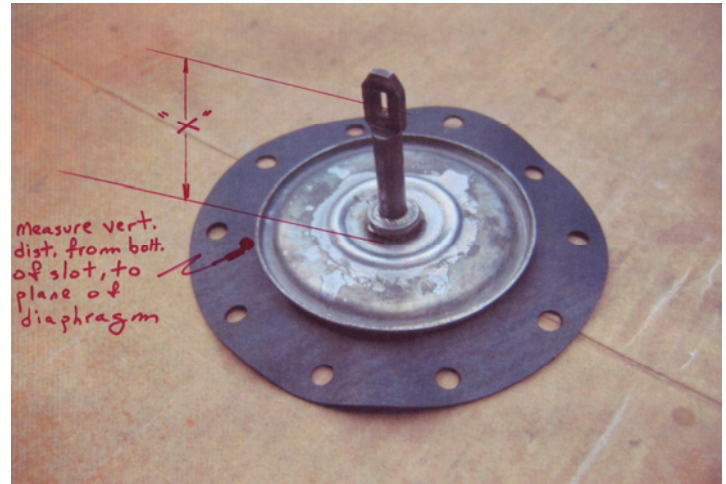
Use a wire wheel on internal parts that will be reused, such as springs, rod, rocker etc. Dress the link hook surfaces flat with a file. Wash all parts in a solvent such as gasoline, lacquer thinner, benzene or Stoddard solvent. Be sure to clear the two diaphragm vent holes in the upper section with a small drill bit or needle file. Use a toothbrush to remove heavy deposits. Blow dry with compressed air. There were two types of pulsator covers used for this model pump— the cast pot metal and a cadmium-plated/dichromate washed stamped steel. The stamped steel type requires washing, surfacing and finally either plating or painting with artificial cad-dichromate finishes.



#15

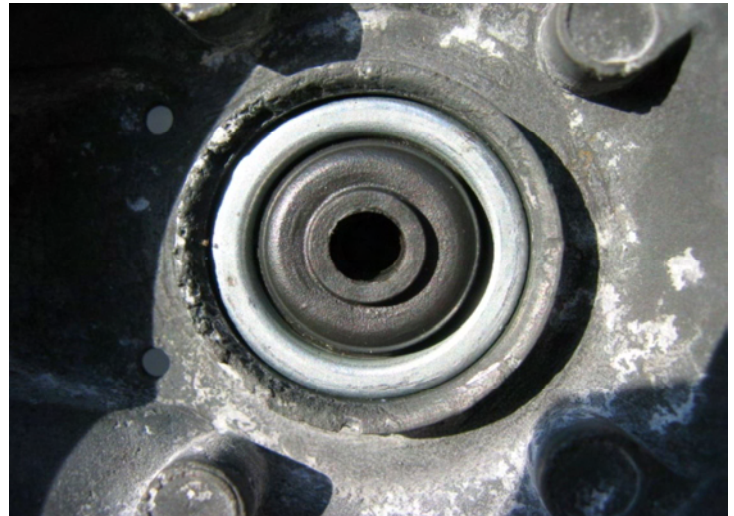
The pot metal main body section, the magnesium upper section, and the pulsator cover (if pot metal) require special handling after they have been washed except for applying the wire wheel. A clean unprotected magnesium surface develops an ugly, gray-white, powdery patina of magnesium oxide. If you prefer not to have this return to the upper section, then you should wash it in a diluted solution of muriatic acid, along with the body and cover (if cast). **DO NOT IMMERSER ALUMINUM PARTS INTO MURIATIC ACID.** Follow directions on acid container. Wearing eye protection, long sleeves, and rubber gloves, gently cleanse with a stiff bristle brush or toothbrush. Do not leave parts immersed for more than a few minutes at a time. If effervescence is notable,

then further dilute solution. This treatment blends and removes any surface mottling and leaves behind a handsome, gray-black finish similar to zinc phosphate. If left clean and unprotected, it does not degrade and prevents reappearance of the white magnesium oxide. Wash with soapy water, rinse and blow dry with compressed air.



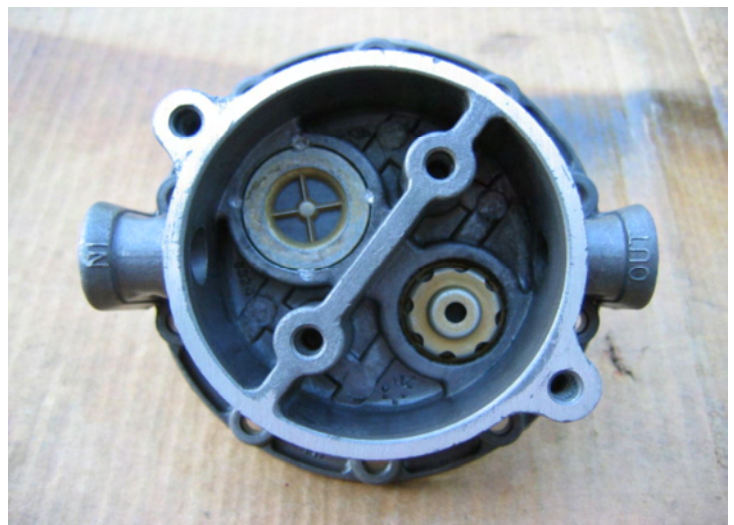
#16

There are five surfaces which must be made perfectly flat (**Fig's 11-15**): the pulsator cover, both sides of the body, and lower and upper flanges of the diaphragm housing. Use a surface plate or a hard flat surface, a full sheet of 320-grit wet/dry paper and WD-40, kerosene, or light machine oil as lubricant. Place the wet abrasive on the surface, hold your work evenly and firmly, and with medium pressure work the parts in a figure-eight pattern until the abrasion pattern appears evenly across all mating surfaces. Rotate the work in your hand every few cycles and keep the abrasive lubricated.

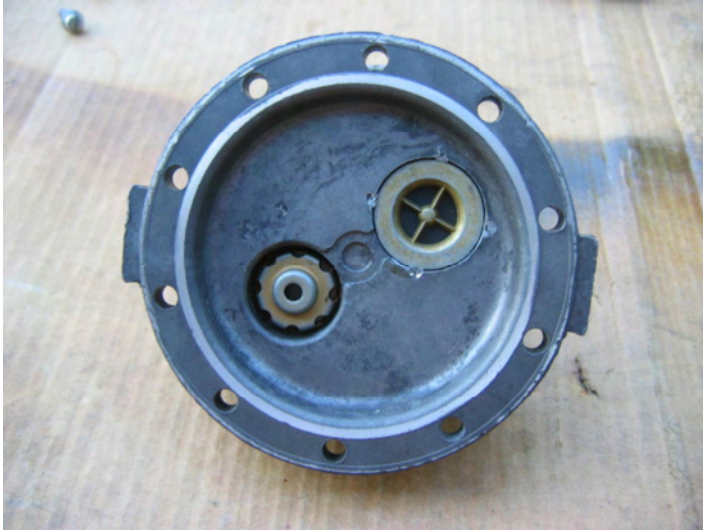


#17

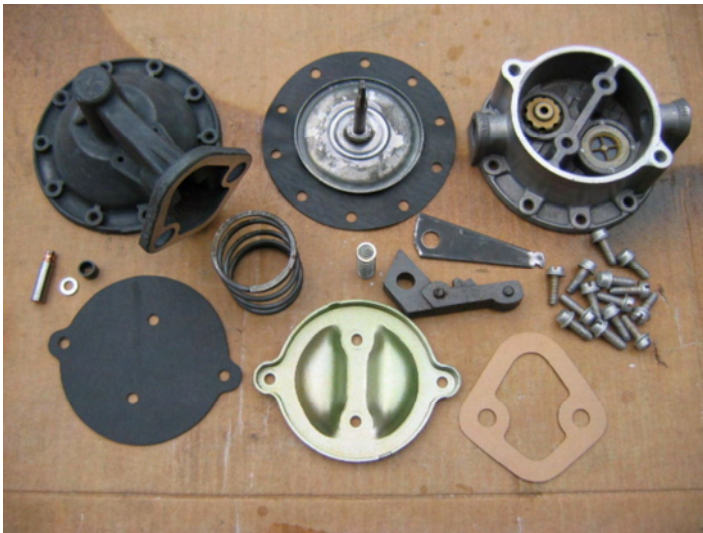
If you decide to restore the diaphragm assembly yourself, then the most critical part of the assembly process is the main diaphragm free height or the distance from the bottom of the stem slot to the plane of the diaphragm when it is relaxed. I cannot emphasize this enough. THIS DISTANCE DETERMINES PRE-LOAD ON THE DIAPHRAGM SPRING, WHICH IN TURN DETERMINES PUMP OUTPUT PRESSURE. Remember, you want the pump pressure to be between 6.5 and 7.5 PSIG at idle. Anything else will lead to fuel starvation and anything more will lead to non-seating of the carburetor float valves. If you use the kit which I recommended, be sure to measure this distance (dimension X, **Fig 16**) before disassembling the diaphragm and duplicate it upon re-assembly. Full instruction for the diaphragm/stem removal and restoration are too lengthy to reprint here but are included with the kit from C.P.C.



#18



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#21



#22

Install new diaphragm stem oil seal into upper housing (**Fig.'s 14 & 17**) using a thin coating of Permatex 2 as a lubricant and sealer. Tap in with a socket until it bottoms. Staking should not be necessary. Loctite Sleeve Retainer or something similar may be used in place of the Permatex 2. Install the new poppet valves into the body using a socket and put in new gaskets. Apply an even coating of Permatex 2 to both gasket surfaces, tap poppets into place until they bottom firmly against the gaskets and re-stake (**Fig.'s 18 & 19**). Install pulsator cover with new diaphragm and use Permatex 2 on the cover flanges. Re-use original link, main spring, and rocker arm along with new bushing and rebuilt diaphragm/stem assembly as shown in **Fig 20**. apply moly grease or chassis grease to all sliding surfaces, fit hook of link into slot of stem with open end of hook facing up. Insert bushing onto link/rocker arm articulation point. Use the same pulling/ twist ing procedure used for disassembly. This may require you to go back into the house, kick the dog again, and have a coupla more brewskis.

Insert original retainer pin and washer in the same orientation as when you removed it. Place the X marked end onto an anvil or vise, and, using a small coal chisel and hammer, gently deform the pin by spreading the same grooves that you squeezed together upon dis-assembly (**Fig. 21**). Insert small return spring between between rocker arm and upper casting (**Fig. 22**).



#23

Go inside, have a coupla brewskis, and apologize to the dog because your rebuild is completed. Come back to the garage and admire your new pump (**Fig.'s 23-25**).



#24



25



Ontario Regional Images



Coming Events

July 18-23 National Convention, Novi , Michigan

August , No activities planned

September, CNJ Road Tour. Date and details will be forthcoming to the membership via email.

October 6-8 ,California Regional

27-29 Lone Star Regional Frisco, TX

The Meet the Members Section and the Corvette Trivia Section

Will resume in the next issue.

Central New Jersey Chapter Attends the Beach Bums Corvette Show June 2011

By: Howard Welch

The Central New Jersey Chapter was once again invited to attend and man an NCRS information booth at the 8th Annual Beach Bums Corvette Club Show on Long Beach Island Sunday, June 5th 2011. Unlike last year the weather was very cooperative with over-cast skies, but very comfortable. The show had 150+ cars on the field including a number of our chapter member's cars. In addition the Beach Bums Corvette Club celebrating their 10th anniversary as a club had a special display called the Gold Star Display. This special display included a very nice example of a Corvette from each of the six generations. Those selected for the display included four of our CNJ NCRS Chapter members. Congratulations to Frank and Nancy Paschal and their 1958 Corvette, Ed Brennan and his 1967 Corvette, Lynn Earhart aka "Corvette Nanny" with her 1996 Corvette and Al Loeffler's 2007 Corvette. In addition to the Corvettes, there were vendors, a D.J. , a display by the Antique Automobile Museum of New Jersey and our Central New Jersey Chapter of the NCRS.

Our chapter set up an information table to explain the purpose, benefits and activities of the National and local chapter of the

NCRS. We also handed out membership applications for both the National NCRS and the Central New Jersey Chapter. Thanks go out to CNJ chapter members Jim Rosenberger, Ed Brennan, Erich and Elizabeth Meyer, Steve and Linda Ciaccio, Frank and Nancy Paschal, Emily and Frank Thomas, Jim Michlin, Lenny Fiume and Howard and Karen Welch who attended and helped.

We also gave a big thank you to the Beach Bums Corvette Club of Manahawkin for allowing our chapter the opportunity to provide information to their show participants and interested spectators.



Members staffing the information table at the Beach Bums Show

