

# High Plains Shifter

Newsletter of the NCRS Rocky Mountain Chapter [www.ncsrmc.org](http://www.ncsrmc.org)  
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## Chairman's Report

By Rick Reiff

We are now off and rolling into 2010 and have had two great technical sessions to start off the year. The first one was regarding how to check for proper operation of alternators, which started appearing on the Corvette in 1963. For those of you that were not able to attend this was a hands-on session where we each had the opportunity to take apart an alternator and check the diodes for proper operation. Along with this Jack Humphrey, our resident electrical engineer, explained how an alternator works and we thank him and Jim Lennartz for leading a great tech session, where I think everyone learned something new. I know I did and this is one of the great benefits of Chapter membership.

During the January technical session I polled the members as to what technical session topics they would like to see. From that exercise we received great feedback and have a list of areas where members are interested in learning more. The February technical session was from that list and again was a great session put on by Jim Lennartz and Jack Humphrey. The topic was how to bench test gauges for proper operation. This session was at Bozarth Chevrolet. Areas covered included checking the transistor in Corvette radios, which started showing up the 1958 model year. We also learned how to check the temperature gauge, the associated temperature sending unit, the amp meter (which is really based on reading the voltage drop on a calibrated section of wire, not reading true current), and fuel gauge operation. Another great session by Jack and Jim and on behalf of RMC I want to thank them for putting in the time necessary to provide an interesting and informative session. Who knows what's on tap for the next session, but stay tuned for more details.

Next up is the Chapter Judging Meet, where it looks like we have a good turnout again this year. More details can be found in this issue of the High Planes Shifter or on the Chapter website. For April we have the annual meeting and board elections. You will find a copy of the ballot in this edition of the newsletter and can print it out and mail it to Jack Humphrey at: 25381 Ridge Way, Golden, CO 80401 or bring it to the annual meeting in April. *[The ballot is on the web site as a separate link, ED]* You can also print/scan to Jack: [JackHumphreyH@comcast.net](mailto:JackHumphreyH@comcast.net) The positions and

nominees that will be voted on during the Annual Meeting (in April) are:

Chairman – Rick Reiff

Secretary – Max Biggs

Membership – Bob Montgomery

Newsletter Editor – Dennis Dalton

That's it for now. Spring is knocking on the door and it looks like the March meet will be a good one.

Rick Reiff  
Chairman

### **Vice Chairman's Report**

By John Marsico

It is hard to believe I am writing a message to appear in the March/April *High Plains Shifter*. I wonder where January and February have gone. Time certainly does pass quickly.

This report is my first as your new Vice Chairman. I want to begin by thanking Bob Montgomery for the great job he has done these past few years. I know I have my work cut out for me.

The biggest issue I want to bring to your attention is the upcoming 9News Health Fair. The 9 Health Fair is the official charity for our chapter and is Colorado's largest volunteer-driven, non-profit health fair program that serves 100,000 people at 170 statewide 9Health Fair locations each year. This year the date for the event is April 17 through April 25. As we get closer to the event, I will be asking for at least 6 members to volunteer to staff the Health Fair's information telephone line at Channel 9's downtown location. If spending a couple of hours one evening only downtown answering the hot line sounds interesting to you, please contact me and I will get you on the list. My email address is [jmarsico@frii.com](mailto:jmarsico@frii.com) or you can call at 303-421-6973.

I also encourage you to email or call if you have ideas, thoughts or suggestions for our chapter that you would like me to bring to the attention of the board of directors.

See you at our annual judging meet.

John Marsico  
[jmarsico@frii.com](mailto:jmarsico@frii.com)

### **Editor's Corner**

By Dennis Dalton

That Pannel Sposeta Have a Screw in There!

I was looking through some of my books on Corvettes and came across "Corvette Restoration, State of the Art" by Michael Antonick published by Micheal Bruce Associates, Inc. 1981. I didn't check, but it is probably still offered for sale in the back of the Driveline. The book covers the restoration of an original 1965 coupe by Dave Burroughs. I had forgotten that Dave was the main force behind the National Corvette Certification Board which became Bloomington Concourse judging in 1978. His mantra was "The way it was... not the way we wished it was". This got me to thinking as I (we) always run across a precipice or maybe just a crack in the sidewalk, when restoring (or preserving) our cars. What to do with this part, replace it or save it. Was this really the way they put this together or did somebody before me switch this around. How will it be judged. Will I lost points keeping it original..if we're sure it is. We have all been cautioned (or at least I have) to leave it alone.

If you own an original car, meaning you bought it new, your decisions may be fairly simple, maybe. On the other hand, there are many things that happened to these older cars that happened at the factory and didn't happen to yours. If you bought it from someone else, and you are not the original owner, knowledge and experience is your only guide. That is where the judging system and being involved in that system is one of the best deals around for someone wishing to learn about every abnormality GM employees could cook up. That is what makes this hobby interesting.



Having just finished assembling the rolling chassis on my 66 I began in earnest to examine my interior pieces. The cardboard side panels behind the seats on my coupe were on my bench and I noticed something weird. Now this is one of those decisions where I believe that these are original even though anything could have happened in the five years before I bought this car. I noticed there was no hole or screw put through the cardboard where it is attached at the bottom (you can see an indentation where it should have been). There is a bracket down there for a screw. The back reveals the embossed area where the screw should come through. I don't know for sure, but I was told that the reproduction panels do not bother with this recess. (who would?)



This got me to thinking about Dave's mantra: "The way it was..not the way we wished it was." Easy answer, I'm not putting a hole (and a screw) in there. A mere crack in the sidewalk. Go ahead, tell me: " hey pal that panel sposta..."

## Membership Report

By Bob Montgomery

Our 2010 membership renewals are winding down. Response has been very good and as of February 22<sup>nd</sup> we stand at 115 members including 5 new members that have joined since December 2009.

The newest members to join the chapter are:  
 Sam Atwood, Denver Co, 1966 427/425 Coupe  
 Marvin and Susan Courtney, Evergreen CO, 1958 Roadster  
 David and Ethel MyFord, Aurora, CO, 1965 327/300 Coupe  
 Tom and Diane Di Rito, Highlands Ranch, CO, 1995 ZR1 coupe, 2004 Commemorative Edition and a 2008 Coupe  
 Welcome to the chapter!

At the last tech session one of our new members asked for names of other chapter members with similar cars to his so he can connect with them. As I went through our database writing reports that would meet that need and discovered that I often don't get information when members sell or buy a different Corvette! For instance there is a member that had a 1965 that has been sold and replaced with a 67 but I don't have the new information. There are at least 5 similar cases I am aware of. If you have changed or added Corvettes to your stable I ask that you drop me an email so I can update the database accordingly. All I need is the year, type (roadster or coupe, cubic inches/HP and any options you would like to list.

If you would like a copy of the chapter 2010 membership roster, just drop me an email and I can send you an Acrobat PDF file to you or we will have hard copies at future chapter events.

On the Top Flight Chapter Award front, congratulations to the Rocky Mountain Chapter! With your outstanding support of the chapter in 2009, RMC will be awarded the 2009 Top Flight Chapter Award at the 2010 National event in Charlotte, NC in July. Every time you attend a chapter event, drive your Corvette to an event, participate in a judging school or meet, write a technical article for this newsletter we can apply your activity to the award. Thanks for your outstanding support of the chapter!

Thanks!

Bob Montgomery  
[milehiview@yahoo.com](mailto:milehiview@yahoo.com)

## RMC Judging Chairman Report

By Jack Humphrey

In the first quarter we conducted our Holiday Party at Vernon Randall's home using his spacious work shop and aircraft hanger as the venue. For those who missed the event, little more can be said beyond Wow! It was a spectacular setting.

We conducted two Technical Sessions with the spotlight on me last week. I did a show and tell on who to bench test various electrical items:

- (1) Radio
- (2) Oil Pressure Gauge
- (3) Temp Gauge
- (4) Battery Gauge
- (5) Fuel Gauge
- (6) Turn Signal Flasher
- (7) Horn Relay

We used the club's laptop and projector to run a short PowerPoint presentation providing theory of operation and then switch to the particular hands on session for each item. I connected a hi def web camera to the laptop to project the step by step connection of each item allowing all to see the bench action.

I think this approach was novel. It gave the audience a chance to actually see what was happening even if you sat in the back of the room.

### Judging Meet

I'm looking over the meet registration report for next month's Flight Judging session at Bozarth Chevrolet. We're on for Sunday, March 21<sup>st</sup>!

Currently, we have a medium sized field of Flight cars with the count at eleven. In the straight axle area, we have three '57 cars and one '58. The mid-year turn out is even more popular consisting of two '63 cars, two '65 Corvettes and one '66.

It looked like we'd be concentrating exclusively on C1/C2 cars, but that changed. Recent entries brought us a '76 Shark and a '95 C5 to round out the meet. So, we've got a full plate of work ahead.

Complimenting the field of Flight Cars, we have four Sportsman entries, one Mark of Excellence/Bowtie display car and two general display Corvettes. That puts the total car count at eighteen.

Participation from RMC members in signing up for the meet has been MUCH better than past years! Currently, 35 have sent in their registrations volunteering to judge and tabulate. THANKS!

As you know, the Rocky Mountain Chapter is somewhat unique in that we do not charge individual members to attend our meet and participate in the judging process. But, the free registration is limited to those who apply early and there is a late registration fee of \$15 for those who register after the March 1<sup>st</sup> cutoff which is only days away...

There's still room for additional participants, especially those who wish to give us a hand with the judging effort! So, I look forward to seeing many of you next month at Bozarth Chevrolet. I'm doing a 'no snow' dance and hoping the weatherman will give us another warm, sunny day like we enjoyed last year!

## Activities

By Eckhard Pobuda

Hello members.

Get ready for the March 21 Chapter Judging Event at ED BOZARTH CHEVROLET on south Havana. This is a fine opportunity to find out that your windshield washer valve on your prize 66 Vette is not working to factory specs ( you were thinking of going to a Regional with it, where you not?). To enter your car or to be a judge at this event, it is important to your wallet to register. There will be late fees: Fill out the form on page 106 of the Driveline, issue 191, or in an emergency, contact your judging chairman.

April 17 will bring a General Meeting and election of board members at Corvette City, 11:00 AM, an opportunity to voice your opinion on how to continue the management of our local chapter.

I would welcome your ideas for a road trip later in the Spring.

Enjoy you car,  
Eck

## A 69 Fuelie Shark

By Jim Hilton

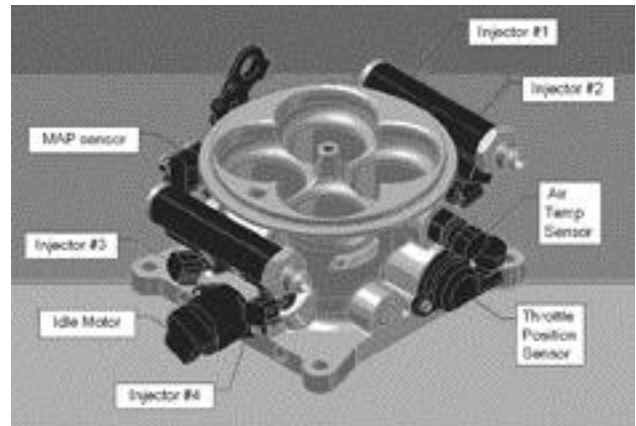
I don't know about you guys, but I love driving my Corvettes. I've Flighted two mid-years, which was fun, but with my current 1969 convertible big block I wanted a performance oriented, drivable Shark while keeping the stock appearance. The current engine is a Corvette 454 bored 60 over; 11:1 compression; milled heads; ported; hotter roller cam, forged steel crank and MDS ignition. Although the 750 carburetor ran well under the right conditions it died and choked in the morning; the throttle response was only satisfactory and at higher elevation I got valve float. I was looking for more performance and drivability without breaking the bank. Since, I was dreaming lets try to get better than 9 mpg too.

I thought there had to be new technology in the market to give better throttle response; start-up and ideal like my C6, well at least close; easily configurable for different driving conditions; cleaner to operate; boost the horse power by 5-10 HP; boost the gas mileage 5-10 mpg; reliable; a person with some automotive experience could install the system and Oh ya keep in a budget of about \$2500.00 for the entire conversion whatever that was to be.

Turbo-charging was out as well as Supercharging. I ran across an article in Hot Rod magazine that discussed, in length, a new bolt-on EFI (Electronic Fuel Injection) system from FAST (Fuel-Air-Spark-Technologies) called "EZ-EFI" that appeared to meet all my criteria. Hot Rod thought it was the best, simplest to install and most reliable unit on the market. Fuel Injection was the answer for my conversion, but which system? The direct port injection (FI nozzle at each cylinder) outfits from Holley, Edelbrock, FAST and Accel looked appealing. However, the two factors that turned me in another direction were cost and a laptop was required to program the electronic control unit (ECU). I called a couple of custom shops that had installed the "EZ-EFI" system on Corvettes and they gave the system thumbs up. I spoke with a Chevy owner that had installed an EZ-EFI unit on his Camaro big block. He liked the unit, had got a bump of about 5 mpg and about 8-10 HP more over the previous carburetor unit. I decided on the EZ-EFI unit. The cost was \$2137.00 from Summit Racing.

The FAST system implements a fuel strategy called "Load Indexed Speed Density". This type of fuel delivery is not new, but FAST does a great job in its version of the implementation. Such a strategy uses the manifold pressure, air temperature and engine speed along with other considerations to calibrate the correct amount of fuel to inject. Over time the FAST ECU builds look-up tables for various driving conditions (like low to high altitude; wide open throttle to idle; driving in traffic as opposed to on the highway). Additionally, one could tweak the fuel delivery to leaner (Increases mpg on a road trip) via the easy to use, I said easy to use small hand held computer (only has 3 buttons and a LCD screen). You never have to look at the hand held once the car goes through its initial set-up, but the unit is modest enough to be fun while providing useful data without being frustrating.

The FAST "EZ-EFI" system is composed of a throttle body (kinda looks like a Holly 4150/4160 carburetor) which fits any 4150 manifold. The throttle body has four fuel injectors; throttle position sensor; air temperature sensor; MAP sensor (manifold absolute pressure); idle air control motor; fuel rails and a "pre-squirt" jet. Besides the throttle body the package includes: wire harness; the ECU; hand held computer with connection cables; RPM module; water temperature sensor; Oxygen sensor; electric fuel pump; pre-filter; fuel pressure regulator; all hoses; fittings and a good manual with the electrical schematic.



(fig. 1 FAST Throttle Body)

As far as installation it's not quite as easy as the FAST video depicts, but it is pretty straight forward. The EZ-EFI requires a fuel return line. I put a return line in using  $\frac{1}{4}$ " aluminum tubing from On Track (\$30). I did not have a place for a return line in my original fuel tank so I removed the tank and replaced it with a '69 tank with a fuel return vent (\$285). The FAST system needs a 12v On/Run and Crank source not off the coil or horn relay. There is an IGN plug in the fuse box that worked great for this requirement. FAST requires a tachometer signal (remember the fuel strategy). I have an MSD ignition system, which has a tachometer output, but if you do not have something like the MSD unit then you can use the supplied RPM module to achieve the require tachometer input. The O2 sensor needs to be screwed into the O2 sensor bung, which is welded into the exhaust system. I wanted to modify my exhaust anyway so this was a great time to do it. EZ-EFI suggests a direct connection of power from the battery to the ECU. On the Shark the battery is behind the driver's seat. I ran 12 gauge wires off the battery, underneath the car via the transmission tunnel to the ECU.

Once I got the unit installed I turned on the ignition and entered the initial system parameters (Engine CI, Idle Speed, Throttle positions, Fuel pressure and Number of cylinders). Now I was told by the handheld to start the car - OK will it blow up or run great? I turned the key (no throttle pumping) WHAM the engine came to life on the first try and run great. So far the mpg is up a bit; throttle response is unreal night and day; starts and idles at 800 rpm without any pumping and the spark plugs are the perfect color. When I'm able to drive my '69 Fuelie more (it hates snow) the "EZ-EFI" ECU will learn more and give better performance. But even if I stay were I am I'm a happy camper, my goals have been met. The "EZ-EFI" addition is a great way to enhance any Corvette without compromising that classic "Corvette Look".

## Merchandise

By Wayne Pendley

### REGIONAL

Hats	\$16.00
Shirt	\$20.00
Polo Shirt	\$40.00
Hat Pin	\$3.00

### CHAPTER

Grey T Shirt Short Sleeve	\$15.00
Grey T Shirt Long Sleeve	\$18.00
Denim Shirt Short Sleeve	\$31.00
Denim Shirt Long Sleeve	\$35.00
T Shirt with Pocket – Black	\$15.00
Polo Shirt Short Sleeve	
White & Blue	\$30.00
Polo Shirt Long Sleeve	\$35.00
Grey Sweat Shirt	\$20.00
Chambrey Shirt	\$30.00 XL \$32.00
Shopcoat	\$35.00
Black Apron	\$16.00
Hat Black / Stone	\$15.00
Hat Charcoal / Blue	\$15.00
Hat Blue / White	\$15.00
Hat 2-tone brushed twill	\$13.00
Challenger Jacket	\$50.00
Hat Pin Chapter	\$3.00
Knife	\$3.00
Window Sticker	\$3.00

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## Membership Items for Sale

### Jan2010

For Sale: 1970 Corvette parts. Rochester carb 7040204. engine block 3963512 (casting date J289, heads 3964290 casting date K269 & L49, intake manifold 3955287 casting date B970, seat frames, front suspension & rear suspension and differential, frame, rear body panels. R & L fenders, deck, T tops, R & L doors, R & L side glass, rear glass & frame, wheels (5) date, brake calipers, rotors, power steering valve, cylinder, relay rod & pitman arm.

1961 rear springs rebuilt w/new liners and straps. p/n 3751438 date 285E0 \$475.00. Call Dennis NCRS 6885 PH:(303) 748-8235, e-mail

Call Dennis NCRS 6885 PH: (303) 748-8235, e-mail:

[Dennis@rockymountaincorvette.com](mailto:Dennis@rockymountaincorvette.com)

### Jan2010

Wanted to buy, sell, swap: Corvette memorabilia – books, magazines; GM dealer albums, promotional models, postcards, mailers, posters, ads, etc. Need Automobile Quarterly publications including 30 Years of Great Advertising.

Weldon Montgomery #3295 303- 530-1372

### Jan2010

C4 Cover including storage bag, used very little.  
Jerry Bayer 303-324-0503

### March2010

Dannmar 7000# 4 post lift, 3 years old, assembled and ready to use. Includes drip pans, jack plate and caster kit. Excellent condition. New cost \$2175. Asking \$1,475 or best offer. Full details as:  
[http://www.asedeals.com/garage\\_lift\\_d-7.html](http://www.asedeals.com/garage_lift_d-7.html) Call Bob Montgomery, 303-324-8082

Membership in the NCRS is open to persons interested in the restoration, preservation and history of the Corvette produced by the Chevrolet Motor Division of General Motors Corporation from 1953 through 1982. NCRS is not affiliated with Chevrolet or General Motors.

Membership in the Rocky Mountain Chapter of the NCRS is open to all members of the NCRS National organization. Dues are \$30.00 for the first year, and are \$20.00 per year for renewal. First year dues entitle the new member to a Chapter ball cap and membership nametag.

Advertising in the Rocky Mountain Chapter Newsletter is free to all active members, for all Corvette related

items or Corvettes for sale. Commercial advertising rates for the Newsletter are \$15.00 for a business card, \$25.00 for a ¼ page, \$40.00 for a ½ page and \$60.00 for a full page. All rates are quoted for 6 issues or one-year printing. Contact the editor for further information. All editorial material can be sent to the editor.

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