The President's Page - Bob Helt, "AIR INJECTION REACTOR (AIR) CARBURETORS" - June Meeting Minutes - Check you battery Voltage - Letter from the Editor

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Vegas Vairs
Chapter 891 of CORSA

Vegas Vairs meets monthly at
6:30PM on the second Wednesday
of the month at Denny’s near
Charleston and Fremont.

Annual membership dues are $20
and are due by February of each
year. Dues may be paid at the
monthly meeting or mailed to the
address below:

Vegas Vairs
PO Box 621925
Las Vegas, NV 89162-1925

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Contributions to Vegas Vairs Vision
are ALWAYS WELCOME! If you
wish to submit articles, ads, photos,
etc., email me at
michael@cassera.net or mail your
contribution to the address below:

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By the time you read this message, several of you will have returned from another big Corvair event, The International Corvair Convention in Ventura, California. I hope those of you who attended had a great time, saw some beautiful Corvairs and took some of the tours they offered in that area. Ingrid and I wish we would have been able to attend, especially since it is so relatively close this year. It takes 3-4 years before we will see another one on this side of the country. Besides, there are also such good bargains to be had at the vendors and outdoor swap meet!!

We will have returned from our trip to Tacoma, Washington and since we haven’t left yet (as of this writing) I can’t tell you about the wonderful time I’m sure we will have and the terrific weather we will be in. I talked to my brother by phone the other day and when it was 114 degrees on our patio it was in the 60’s on his. Geez! Why can’t we have nice weather like that?

If we did, however, the population in the area I live would look like Las Vegas and the Las Vegas population would look like Los Angeles. Guess we have to endure some hot weather to keep the population down some, don’t we?

I’ll quit rambling and let you know that since I subbed for Sallie as secretary as well as being the conductor, aka President, of the meeting, you can read those minutes to find out the sum total of what I know, well much of it anyway.

Corvair wise, I did spend some time and money doing a complete tuneup on the 66 Monza 140. The carbs, all four of them, hadn’t been rebuilt in 5-6 years and since I don’t drive it on a daily basis and sometimes don’t for weeks at a time, I ashamed to admit, it was time for it to get some TLC.

I purchased an Ignitor 1 from Clarks, rebuilt the carbs, installed new plugs, distributor cap and rotor and now it runs even better then ever! Also, after injecting several cans of 134A the air conditioning is putting out nice cold air. Just in time for the heat wave we are experiencing. It is such a good feeling to do all those things and then have the pleasure of driving such a wonderful little car. Ooops! I forgot to tell you, I occasionally put some AV gas, which is 101 octane, in the tank. So, I drove down to the Terrible Herbst in Bullhead City and put in five gallons of it at $5.999 per gallon. Maybe that 104 additive is better after all, hmmm.

Stay in out of the heat, drive the cars when you can and I hope to see you at the July meeting. I’m not sure because we aren’t sure when we will return from our trip. Of course we are driving a Chevy up to Tacoma, it just won’t be a Corvair and certainly won’t be the motorhome.

Stay cool !!!
Vic
AIR INJECTION REACTOR (AIR) CARBURETORS
By Bob Helt

The carburetors used on the Air Injection Reactor (AIR) Corvair engines were different from those used on the other Corvair engines. While carburetors can be swapped from AIR to non-AIR engines (and vice versa) and function pretty well, the AIR carburetors were specially calibrated to provide the desired air/fuel ratios to meet emissions regulations. These regulations first took effect starting in the 1966 model year, when all Corvairs delivered in California, except those with turbochargers or air-conditioning were required to have the Air Injection Reactor system. (1966 was the last year for the turbo engine and thus was given dispensation. The A/C Corvairs were given a one-year reprieve, too, apparently since the testing of both A/C with AIR was not yet complete.) But for 1967, all Corvairs delivered in California required the AIR system and for the following years (1968-69), all Corvairs produced had the AIR system.

Knowing that the California emissions regulations were to take effect for 1966, Chevrolet had the Rochester Carburetor division recalibrate the 1966 Corvair carburetors intended for the AIR engines. There were three major changes made. First, the main jet size was reduced two sizes from 0.051” to 0.049”. Next, an additional air-bleed hole was added to the idle/off-idle circuit. This air bleed was located in the barrel about 1/2” above the off-idle transition slot. The effect of this new air bleed was to provide better mixture control under transitional changes. This bleed is bi-directional and can either flow fuel into the barrel or air into the fuel circuit, as needed.

Both of these changes were also included in the non-AIR carburetors, too, except that the main jet was only reduced one step for these carburetors.

The third change is of significance and one that we will explore in some detail. It was only implemented in the AIR carburetors. This change added a factory-set adjustable air-bleed valve to a small shelf in the throat just above the venturi cluster (see the photos). This new valve added additional air to further lean the fuel mixture going to both the idle and off-idle systems. The effect was to reduce the richness of the idle mixture, which in turn reduced the mixture range of the idle mixture screw and forced the idle mixture screw to be adjusted approximately 3 turns out from a gentle seating, from the previous 1-1/2 turns. In addition, the fuel mixture going to the off-idle transition slot was leaned out, thus controlling the mixture available for part-throttle and low-speed operation. Since this new air bleed had an adjustable valve, the Rochester factory was able to accurately set the desired mixture ratio going to these two circuits. Different engine/transmission combinations required slightly different settings. But once set, it was intended to be permanently set and not changed or readjusted in the field.

From what we have been able to determine, there were three versions of this adjustable valve, all serving the same function but differing in appearance. Air flows to the valve via the slot on either side of the head.

The first is a brass valve with a head about 1/4” in diameter and with a screwdriver slot visible when installed. It has a threaded outside diameter to fit the hole. We will call this a Type 1 valve.

A Type 1 valve.
The second type of valve is also brass and just a smaller version of the Type 1 valve, being about 3/16" in diameter. It is not pictured here.

The Type 3 valve is different in appearance being apparently made from aluminum and anodized black. It, too, is about 3/16" in diameter with a threaded outside and a hollow inside. At the bottom of this hollow center is a very small screwdriver slot. This required a jewelers screwdriver to fit the slot; not generally a tool in a mechanic's toolbox. It would appear that this screwdriver slot was hidden from view to hide the fact that it was adjustable, to prevent it from being changed or readjusted in the field.

In addition, some of these type 3 valves had a small disk placed in the hollow center to further discourage readjustment. The hole in the center of the disk is NOT an air bleed, but is there to allow a hook-type tool to be able to remove the disk. This disk is intended to be a tamper-proof cap installed over the valve as shown in the following photos.

A Type 3 valve with a tamper-proof cap installed. The hole in the cap is not an air bleed but allows removal with a hook-type tool.

The obvious reason for the tamper-proof cap over the valve was to prevent anyone who might not have the knowledge or specialized equipment from tampering with, or readjusting, this bleed. After cessation of Corvair production, this type of carburetor (with the cap) was specified as the official replacement carburetor for a whole host of both AIR and non-AIR Corvairs of all years.

To further complicate matters, the AIR carburetors all started production for 1966 with the Power Enrichment System (PES) in place and operational. But around February 1966, the PES was removed from the AIR carburetors installed on the 95-hp engines (probably since these engines didn’t develop enough power to need the PES) but was retained on the 110-hp and 140-hp engines. For 1967 and later years, the PES was removed from all AIR carburetors.

It would be logical to think that for 1966-67, the type of valve used might be based on the use of a PES but no correlation has been found. In fact for these two years it appeared that all three types of valves were used interchangeably, with, maybe, a higher use of the type 3 valve on Powerglide engines.
Another view of a tamper-proof cap over the air bleed valve.

But as Corvair production was being terminated, dealers-sold replacement AIR carburetors for 1968-69 Corvairs, starting in around 1968, all had the variable-type valve covered with a tamper-proof cap.

Replacements for the 1966-67 California AIR carburetors continued to be of a type delivered on those engines. The reason for this is not known, since the California emissions requirements were adopted by the Federal Government for use in 1968-69. Probably, the problems in certifying the 1968-69 carburetors with California for use on their 1966-67 cars were more daunting than just keeping the old carburetors available as replacements.

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**Check Your Battery Voltage**
by Steve Goodman, Rocky Mountain Corsa

Some of our Corvairs tend to sit for a while, which is rough on batteries. Using a digital voltmeter, you can easily check the condition of your battery and also the charging system.

Let’s start with the battery. It may surprise you to know that a 12-volt battery is not a healthy working piece if it shows only 11 volts. Look at the table below and see how quickly a battery goes from a full charge and 100% working condition to ‘discharged’ and unable to turn your starter.

<table>
<thead>
<tr>
<th>VOLT READING</th>
<th>% of battery charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.70 volts</td>
<td>100%</td>
</tr>
<tr>
<td>12.58 volts</td>
<td>90%</td>
</tr>
<tr>
<td>12.40 volts</td>
<td>75%</td>
</tr>
<tr>
<td>12.20 volts</td>
<td>50%</td>
</tr>
<tr>
<td>12.08 volts</td>
<td>35%</td>
</tr>
<tr>
<td>12.00 volts</td>
<td>25%</td>
</tr>
<tr>
<td>11.94 volts</td>
<td>10%</td>
</tr>
<tr>
<td>11.90 volts</td>
<td>discharged</td>
</tr>
</tbody>
</table>

Sometimes a battery showing in the low 12 volt range will have the energy to run lights, honk the horn, and play the radio, but not enough energy to make the starter work. The starter requires maximum voltage and amperage because the load placed upon the starter that is required to turn the engine over is very high - it’s the single biggest challenge your battery faces.

Recognizing the load the starter places on the electrical system, it only makes sense to have every connection clean and tight. The place to start of course is the battery terminal clamps. Past that, the ground connections to the frame and engine and the connections at the solenoid are all things to check.

Now a quick check for your alternator: With the engine off, read the voltage of your battery. Start the engine and check the voltage again. Typically, voltage running will be around 13.3 volts, while the static reading will be in the 12+ range. That indicates the charging system is working. Incidentally, if you don’t have a voltmeter handy and still want to check your alternator, just hold a small screwdriver blade or similar to the armature shaft bearing on the end frame opposite the pulley. If the blade is magnetized and drawn to the bearing case, then the alternator is at least putting out something!

— March 2008 The Denvair News
18 members and guests were in attendance

Vic opened the meeting at approx. 7:05 pm with a welcoming of guests:
Richard Polgenow, member of S.C.C. and friend of Marty Katz, Sunjata Kieta (aka Tiger or Doc) who had purchased Richard Watts car. Frank Billotti, Jr. who tonight became a Vegas Vair member.

Vic discussed the letter he received from Patrick Hurt, Golf and Sales Manager for The Eureka Casino/Hotel in Mesquite asking us to put on a car show either in the summer or early fall. He discussed a joint show with Rudy Scheindt who is President of the Bonneville Club in Salt Lake City, Utah since they had previously run shows in the spring at this Hotel.

After some discussion Rudy and Vic decided the time was not right for a car show and The Bonneville Club is still in the consideration stage of what type event, if any, they will have for the spring of 2009. Therefore Vic is to respond to Mr. Hurt that we are not interested at this time.

Vince Calabrese, who is rejoining the club, reported on a Summer Cruise Night presented by the Hustlers’ of Las Vegas. It takes place at the Loose Caboose on June 28th

Some discussion took place regarding the International Convention in Ventura, Ca. and several members plan to attend.

Vic commented on the Nevada Car Club Council and reported that Don Holt will attend the June meeting and report back next month about the activities and purpose of this group.

Other events were discussed including the M.E.C.C.A. Auto Show in Mesquite, Nv on June 27-29th. Friday Cruise Night on June 20th and Fathers Day Car Show on June 21st both at Findlay Chevrolet.

Vic reported that we still want to have a “special meeting” at Paul Greens
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Contact Michael Cassera to find out how
Upcoming Events

July 9       Club Meeting
July 18     Inland Hobbs Material Handling "Friday Cruise Night" 4250 Bell Ave 6pm-9pm (702) 873-1382
August 13   Club Meeting
August 15   "Friday Cruise Night"
September 10 Club Meeting
September 19 "Friday Cruise Night"
October 17  Henderson Chevrolet "Open House & Cruise Night" 240 N. Gibson 6pm-9pm (702) 558-2432
November 21 "Friday Cruise Night"
December 20 "Christmas Toy Run" Children's Get-Together

For Sale

1965 CORVAIR CORSA TURBO

Crocus Yellow Turbo for sale. I have had it for several years and had much mechanical work done by Marty. Turbo rebuilt, Carburator replaced, New springs and shocks. Corvair Motorsports quick steering box. Clutch replaced. Electric Fuel Pump. New Motor Mounts. Other miscellaneous electrical work. Front right fender is ok but could use work. Have a replacement fender with car. $6000 Contact Michael Cassera. 480-4404 or michael@cassera.net

BOOKS AVAILABLE

--THE CLASSIC CORVAIR. A technical maintenance and upgrade manual. 300 pp. $35+$5 S&H.
--CORVAIR SECRETS. Little known design and operational facts. 130 pp. $25+$4 S&H.
--HOW TO IDENTIFY AND REBUILD CORVAIR ROCHESTER CARBURETORS. Comprehensive carburetor information. 90 pp. $20+$3 S&H.

Check or MO to: Bob Helt
3016 Pearl Harbor Dr.
Las Vegas, NV 89117

Corvair Ads 1960 - 1969.  A new, just-released, CD-ROM of almost 250 Corvair ads originally published during the 1960's is now available. For Windows 98 and later computers. Available at $14.95 plus S&H. Shipping to the US is $5.00 per order, Canada & Mexico are $6.00 per order, and overseas is $8.00 for the first 2 CDs then $1.00 for each additional. Check, MO, credit card and Paypal all are acceptable.

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RALLY: a sort of timed endurance run, in which competing cars must maintain assigned average speeds (within legal limits) over routes kept secret until just before the start. Rally organizers delight in unearthing thoroughly miserable roads—and foul weather couldn't be more welcome. You've got to have an abiding faith in your car before you even enter this rally. Any flaw in handling or braking, any fault in chassis or electrical system, will be tortured out in a test far tougher than any proving ground crew could devise. A hundred and ninety-one cars started this year's Canadian Winter Rally, 43 of them in Corvair's class. After 1,265 miles of what drivers called "North America's worst roads," nearly fifty had dropped out. But every 1961 Corvair entered came through without mechanical difficulty. And Corvair swept the top five places in its class, licking cars that cost up to twice as much. You can't buy success in international competition like this. You can't luck it out. Corvair did so well because Corvair's steering, traction and durability lived up to our highest hopes. Encouraging, isn't it, knowing that you can buy one U.S. car that can compete with the world's best?

CHEVY CORVAIR
1 2 3 4 5
Sweeps First Five Places, Class IV—9th Canadian Winter Rally

See the new Chevy Corvairs, Chevrolet cars and the new Corvette at your local authorized Chevrolet dealer's
from the Editor

Eighty Dollars. That was my tipping point. It took me eighty dollars to fill the tank on my Jeep Wrangler. It was then I decided it was time to get a new, more fuel efficient car. It was also at this time that I had sold off my motorcycle. It was however not before I had purchased my used Audi A4 with double the mileage of the Jeep. So there we were, just 2 people with five motor vehicles in a tract home in Las Vegas. I was doing daily car juggling to keep the cars we use accessible, but keep parking enforcement from towing away one of the other cars. It is time to simplify my life. It is time for two people to have two motor vehicles. It is one of the reasons I have decided to sell my Corvair.

Another reason is our financial situation. I don't think I will have the money any time soon to do to the car what I want to do to it. I tried the taking it slow method, but unfortunately with these old cars, things just keep popping up. Many of the the items were large price tag items. I've had the turbo rebuilt, replaced the carburetor, replaced the clutch, twice. New springs, new steering box, new shocks. I was in a hit and run that cost me some body work. Body work that I'm not entirely happy with and want to redo.

I'm not complaining, the car has brought me great joy over the years and I've enjoyed having it. Maybe sometime down the road I'll get another one, but for now I can't keep doing what I've been doing so it time to sell the Corvair.

Finally, there is the lack of time. I hate that for the most part the car sits in the garage without any real improvements going on. Part of that is financial, the other part is lack of time. I have too many things going on right now to try and work on the Corvair. I don't see a change in my life in the near future that would make me believe that keeping the Corvair would be the right choice.

Along those lines, I am also resigning as the editor of the Vegas Vairs Vision Newsletter. This edition comes horribly late and for that I apologize. Time is one of the things you can't make more of and I have discovered that you need to choose one thing over the other or everything suffers.

I have enjoyed being your editor but I have done it for three years now and it is time for somebody new to take it over. I think we've made great strides over the years as we've moved the newsletter to a more electronic format. Many of your receive an email only copy of the newsletter as do the clubs we exchange with. There is certainly more work to be done. I am hoping somebody volunteers to take over the newsletter quickly and I would be happy to lend them a hand during the transition. The software I use is freely available and easy to use. It also creates the PDF format we use to email the newsletter to our members. If not, I will continue to be your editor until February. I will not continue past officer elections.

For most of you reading this I'm sure it will be a surprise. It was for me as well. Things come up quickly and you need to adjust quickly. Down the road will I regret the decision to sell the Corvair? Probably. Is it still the right decision? Yes.

See my ad for the Turbo in the for sale section. I think its a fair price. I hope somebody gets as much fun out of it as I have.
HELLO FELLOW CORVAIR ENTHUSIAST!
Did you know there is a Corvair club in Las Vegas? It's called "Vegas Vairs". We meet the second Wednesday of each month at the Denny's restaurant at 2545 E. Fremont St. (at Charleston & Fremont) at 7pm. We'd sure enjoy meeting you and your Corvair at one of our meetings!!! PLEASE COME JOIN US!

Vegas Vairs #891
PO Box 621925
Las Vegas, NV  89162