



INTAKE MANIFESTO

Official Publication of the Arizona Chapter, NCRS

Spring 2025 Issue



CHAIRMAN'S MESSAGE GARRY MION

What a great start we have had to the 2025. For the first time in a number of years we had more driver events than judging/technical events. In January we held a Technical Session, hosted and presented by Gary Craig at his home in Mesa. The topic was Vintage Air Conditioning Systems, and the purpose was to educate our members on the procedures and tools used in working with these systems. Gary has provided a great write-up of his tech session which you can read later in the newsletter.

Following up the tech session was a February driver and tour organized by Chris and Angela Gazzano. The destination was Goldfield Ghost Town in Apache Junction. This recreation of a real town 1890's working gold mining town was a real treat for those who attended. We started with a train ride, then headed down a mine shaft, and concluded our trip with a good old-fashioned western showdown in the town square. After our time in Goldfield we headed back down the road to the Hitching Post Saloon for lunch. Our thanks to Chris and Angela for pulling this driver together.

Although the Goldfield driver would be a tough event to follow, Chris Gazzano and Jimmy Sheehan got together and came up with an event that set attendance numbers not seen in a long time. It all started at the home of Jimmy and Val Sheehan, where we were treated to an open garage tour consisting of a fabulous collection of cars and memorabilia. They were fantastic hosts, providing logoed cookie snacks and drinks and lots of seating. Following the tour, Chris and Angela Gazzano organized a road trip out to Bartlett Lake which concluded with lunch at the Cove Restaurant. There were over 80 people at the garage tour, 25 cars on the road trip, and over 60 people at the lunch. Wow—now that's a fantastic turnout. Can't thank Jimmy, Val, Chris and Angela enough for this very memorable activity. See lots of pictures [here](#).

The planned February Concours in the Hills car show in Fountain Hills was rained out and rescheduled for April 19th.

The Arizona NCRS Regional is now less than a month away. Registrations, both people and cars, have picked up the past few weeks and coming close to exceeding our initial goals set back in 2023. There is still much to do, but things are finally coming into focus. Event registration closes on April 6th, and hotel booking must be completed by April 8th. I hope to see you there.

The NCRS Annual Board of Directors meeting was on March 20th. Mike Ingam was appointed President and Tony Stein was appointed Vice-President. The National Judging Chairman position, recently vacated by Dave Brigham due to family needs, was filled by Joe Scafidi. Joe was the '63-'64 National Team Leader prior to accepting this role. Andy Cabral will take over as the '63-'64 NTL. Both Joe and Andy will begin their new roles starting this week at the Carolina's Regional.

JUDGING CHAIRMAN REPORT GARY CRAIG

Upcoming Judging / Technical Session Events

June 21 - Chapter Judging School: Understanding NCRS Bowtie Judging

On June 21, the Arizona Chapter will hold a judging school at Kevin DeWitte's garage regarding Understanding NCRS Bowtie Judging. We should have two cars for display of this topic, one: Kevin DeWitte's 1971 LT1 which received a 4 Star Bowtie at the 2023 NCRS Nationals at French Lick and is striving for the 5th Star Bowtie plus Kevin's 1978 which is striving for Bowtie signoff at our Arizona Regional and subsequent Bowtie judging at the NCRS Nationals in Las Vegas. These are two great cars to show all of our judges the process for getting your car approved for Bowtie judging as well as going over the Bowtie judging process that happens at Regionals & Nationals. This Bowtie judging is a bit different than our regular Flight judging that we normally do and many owners do not know the process it takes to bring a car out for Bowtie. A flyer will be sent to the members at the beginning of June so look out for that flyer and put down on your calendar June 21 for a great judging school.

July 12 - Chapter Judging School: Post Flight Judging Next Steps

The Arizona Chapter will hold a judging school at Garry Mion's garage. With the Regional behind us, members may be asking "So what's next?" In this class we'll be discussing how to evaluate the judging sheet deductions results along with the judges comments using real examples. Expect to see a more detailed flyer in June.



INSIDE THIS ISSUE

<i>202 Officers / Sponsors</i>	<i>2</i>
<i>Calendar</i>	<i>3</i>
<i>Board Articles</i>	<i>4</i>
<i>Event Articles</i>	<i>5-8</i>
<i>Member Articles</i>	<i>8-10</i>



2025 AZ Chapter Board
Chairman
Newsletter Editor
Garry Mion



Vice Chairman
Jeff Smith



Judging Chairman
Gary Craig



Treasurer
Paul Morel



Membership
David Peterson



Secretary
Brad Vigesaa



Webmaster
Loren Peterson



Assistant Judging Chairman
Pat Garland



Activities Chairman
Chris Gazzano

NCRS (National Corvette Restorers Society) is a national organization open to all persons interested in the restoration, preservation, history, and enjoyment of Corvettes produced by the Chevrolet Motor Division of the General Motors Corporation. NCRS is not affiliated with Chevrolet or General Motors.

Membership in the Arizona Chapter of the NCRS is open to all members of the NCRS National Organization. Dues are \$36 per year. For membership information, please visit our website at www.arionzancrs.com.

NCRS registered marks used in the Intake Manifesto are NCRS Founders Award®, NCRS Master Judge Award®, NCRS Performance Verification Award®, NCRS Flight Award®, NCRS American Heritage AwardSM, and NCRS Sportsman Award®. All are registered with the United States Department of Commerce and Trademark Office.

The Arizona Chapter is proudly sponsored by the following businesses.
We appreciate all that they do in support of our Chapter.
Please Support Them!



2025 SCHEDULE OF EVENTS

Date	Activity & Registration/Contact Information
January 11	Chapter Technical Session—Servicing A/C on Vintage Vettes Mesa, AZ RSVP by Jan 7
January 15-18	Florida Regional Melbourne, Florida
January 18-26	Barrett Jackson Auction Information
January 19	Arizona Concours Scottsdale Civic Center Information
February 8	Chapter Driver See Details here RSVP by February 1st
February 15	Concours In The Hills Registration closes Jan 17
March 7—8	Southern Arizona 3-pt Chapter Meet Tucson, AZ Information Registration
March 28-29	Southern California 5pt Chapter Meet - Cathedral City, CA Information Registration
March 9	Chapter Garage Tour and Driver Cave Creek
April 3-6	2025 NCRS Carolina's Regional Pendleton, SC
April 11-12	Northern California Spring Chapter Meet Los Gatos, CA Information Registration
May 1-3 2025	2025 Arizona Regional Glendale, Arizona Registration open until April 6th
June 21	Chapter Judging School—Understanding Bowtie Judging Fountain Hills
July 12	Chapter Judging School—Post Flight Judging Next Steps Gilbert, AZ
July 16-19	Kansas City/St. Louis Regional Springfield, Missouri Registration
August TBD	TBD
September 7-11	NCRS National Convention Las Vegas, Nevada
October TBD	TBD
October 23-25	Texas Regional Frisco, Texas
October 31—November 1	Placeholder—Chapter Fall Judging Meet (Alternate dates are November 14-15)
Nov 7-8	Southern California 5pt Chapter Judging Meet Cerritos, CA
December TBD	2025 Annual Meeting and Holiday Brunch Accepting Suggestions—Contact Chris Gazzano

The above list of events are subject to change. Visit the [Chapter](#) & [National](#) Websites for latest details

GET INVOLVED!

THROUGHOUT THE YEAR THE CLUB IS LOOKING TO HOLD TECHNICAL AND SOCIAL ACTIVITIES IN ADDITION TO OUR TRADITIONAL JUDGING ACTIVITIES. IF YOU HAVE AN IDEA YOU THINK OTHER MEMBERS OF THE CLUB WOULD BE INTERESTED IN, PLEASE CONTACT [CHRIS GAZZANO](#) TO DISCUSS IT.

Welcome to NCRS & The Arizona Chapter

Neil Kleine Lake Havasu City

Donald Paunil Casa Grande

Steven Pickering Phoenix

Larry Polhill Glendale

Dan Rowe Scottsdale

William Smith Phoenix

Brad Danis Cave Creek

TREASURER'S REPORT PAUL MOREL



Hello Arizona Members,

Spring has arrived and car season is in full swing. Barrett Jackson and all the other auctions were well attended with thousands of cars and hundreds of thousand spectators. Talk about car overload! Mecum is in town as of this writing with another couple thousand cars.

The hobby seems strong, with a shift to customs and resto-mods. The Fountain Hills show is coming April 19 and is always spectacular. You will find every manufacturer represented. Check it out if you have never been, Corvette will be well represented.

We are working towards the finish planning of the regional event in May. Our sponsorship stands at over \$25,000. Thanks to members who have sponsored or brought in sponsorship. We are still short of our goal. With 150 member families I know there is still opportunity to reach our goal. Every dollar helps. Reach out to me if you can help or know a business that can.

Enjoy the spring weather. Happy motoring.

Club checking \$47,490.30

Club money market \$20,107.94

NEWSLETTER EDITOR GARRY MION



The time has come when someone in the Chapter needs to consider stepping up and filling the role of Newsletter Editor for 2026. I have been in the role for too many years to continue doing it past 2025.

Having a Chapter newsletter is a National requirement.

There is no requirement on how the newsletter is produced. I have used both Word and Publisher, Microsoft Office applications, to publish the newsletter. Using another program and/or platform (e.g., MAC) is acceptable. Most programs are able to import files from other programs and maintain a good portion of the formatting., meaning it is not likely necessary to start from scratch if you are using another program than Word or Publisher.

Being a newsletter editor doesn't require you to write articles—those will come from the members of the chapter.

Here are the basic requirements to perform the role:

- Have a computer with internet access
- Be familiar with one or more editing programs. Don't have to be an expert.
- If you don't have editing software, we can help provide you with one
- Ability to cut/paste content from one source (e.g., email) to another
- Utilize the NCRS system (website login) to email the newsletter out to our members

I am happy to discuss the role further and answer any questions. I can host a zoom meeting to show you exactly what I do and how I do it.

Cheers

Garry Mion

chairman@arizonancrs.com

SERVICING AIR CONDITIONING GARY CRAIG

On January 11, the Arizona Chapter held a technical session at our Judging Chairman's garage in Mesa regarding Servicing Air Conditioning Systems on Vintage Corvettes. The technical session went over the various steps on how to recover the air conditioning freon so the system can be opened up and serviced on, how to pressure test to find leaks prior to charging the AC system, how to add freon to charge the AC system using a replacement style mixture instead of the original R12 freon, and how to use the gauges to understand the status of the AC system.



Jim Vranich's 1978 Corvette was needing the R4 compressor reworked to eliminate seal leakage from the typical R4 leak points: the two case o-rings and the front shaft seal. Earlier, Jim and I did the repair of these two leak points on his compressor. After Jim had installed the R4 compressor, it was time to check-out the AC system and provided our Chapter with the opportunity to show our members how to do the AC system checkout and re-charge.

I showed how a recovery machine can pull the freon from the system and store it into a designed recovery tank which could be used to recharge the AC system after repair. So if your car has R12 freon and you need to do some AC system repairs, you should do this recovery process and reuse your very expensive R12 freon, and I will advise if anyone in our Chapter needs to have R12 freon recovered from your system, this could be arranged using his recovery machine and storage tank.

After doing the necessary repairs, typically people just apply a vacuum to the AC system and see if there is any leakage after shutting off the vacuum pump and monitoring the gauges. Sometimes, this vacuum check is misleading in that the fittings may seal when under vacuum but leak when under pressure. I showed how to use a high pressure nitrogen tank with regulator to pressurize the AC system. Another member after this tech session experienced this exact problem: held vacuum but leaked during pressure testing the AC system. On Jim's car, the pressure test did not show any leaks for the short bit of time that we did the pressure test, around 15 minutes. My preference is to do a 24 hour pressure test to check for leaks and we would have found that the Schrader valves in Jim's car were leaking.

Next, came the evacuation of the AC system. I has a very sensitive vacuum gauge that uses for home AC systems that shows the amount of vacuum to a much finer precision than the short scale from 0 to -29.92 inch of mercury that the typical AC gauges have. When the gauges show close to the -29.92 inHG point, it appears that the system is completely evacuated but with the sensitive vacuum gauge that I use, everyone could see that the vacuum pump was still reducing the vacuum level. Once the sensitive vacuum gauge reached a plateau, the vacuum was left on for a while to make sure we are driving any water vapor that is contained within the AC system by being opened up to the atmosphere. Luckily, we live in Arizona where the humidity level is quite low so the chance of getting water in the AC system is minimized.

After evacuation of the AC system, it became time to charge the AC system with the refrigerant. Jim found a replacement refrigerant that uses propane/butane mixture instead of R12. From research, propane/butane refrigerant is used in soft drink machines and other industrial systems so using this on automotive applications could be done. One warning that I gave to Jim, if you smell propane, be sure to open your windows since this propane/butane mixture is flammable. The use of this propane/butane mixture did make the system work differently than the typical R12 freon in that the high pressure level for propane/butane mixture is much reduced from the typical high pressure levels of R12 freon so this makes the compressor work much easier since it does not need to pressurize the high pressure side as high. Additionally, Jim's car POA valve's



low pressure port was not accessible to hook the low pressure line on so I had to use the low pressure port on the compressor back fitting. The concern I had was that the propane/butane refrigerant instructions were to hold the can upside down so the propane/butane liquid would enter into the system instead of disassociating by holding the can upright where the propane/butane mixture would come out of mixture with butane being released first then the propane. The concern stemmed from introducing the liquid refrigerant directly into the compressor inlet instead of a vapor and slugging the compressor. I took more time and introduced small amounts from the can.

After introducing the 4 cans into Jim's car, the AC blew cold, very nice! However, when I disconnected the two lines from the low and high pressure fittings, I noticed that the Schrader valves on both ports were slightly leaking. I put the two caps on the two lines and Jim drove the car home and stated later that the AC blew cold the whole way home. However, we expected the refrigerant to leak out, which it did in a couple of days. So, the following weekend, Jim came back to my garage, got the two Schrader valves replaced, re-evacuated the AC system, recharged the AC system with 3 cans of the propane/butane mixture and Jim left again with a cold blowing AC system. A few weeks later at the driver event to Goldfield Ghost Town and Mine tour, Jim identified that his AC system was still blowing cold so the change of Schrader valves was successful on eliminating leaks.

We had 24 members that came out to see this AC system Technical Session. Everyone had been shown the whole process and I believe got something from this Technical Session. Much coffee, R cake, and donuts were consumed by all and everyone had a good time from what I saw. Many questions and hands-on demonstrations were shown to all.



GOLDFIELD GHOST AND MINING TOUR

CHRIS GAZZANO

Goldfield's, an adventure and history lesson in one place. Nineteen chapter members gathered together for a train ride and informative presentation from the train engineer about the towns history.



Goldfield's is a reconstruction of the 1890's mining town that once existed at the very same location. We toured the mine shafts, (very scary when the lights were turned off) and had an explanation of work life in the Mammoth Gold Mine. Dangerous and scary work!



We watched an Old West street gun fight reenactment, explored the town, had a great time and learned a lot also. We then drove a short distance to the Hitching Post Saloon for lunch that included live and very loud music.



STINGRAY RANCH TOUR AND DRIVER CHRIS GAZZANO

What can be said about being invited to tour Sting Ray Ranch ? The Sheehan's, Valerie and Jimmy were amazing hosts. They allowed us to view their car collection including the rare and beautiful Corvettes and even had hand decorated Corvette cookies for us.



We had a tremendous turn out of chapter and Solid Axel members totaling sixty people. Many members drove their Corvettes to the ranch and commented that they needed to drop them down into four wheel drive in order to navigate the roads. We had a wonderful time and Jimmy said they would like to make this an annual event. Can't wait to see next year's Corvette collection.



We then formed up a caravan of fifteen Corvettes and headed out to Bartlett Lake Marina for lunch. It was a beautiful drive and we were treated to snow covered mountain vistas. We had an impromptu meeting about the upcoming Regional Judging event as we enjoyed good food, a beautiful venue and being with our Corvette enthusiasts friends.

SOUTHERN ARIZONA CHAPTER JUDGING MEET PAT GARLAND

The SoAz Chapter held a 3 point judging event on March 7-8th. The event started with an excellent Judging School put on by Bill Calorico, chapter member and the 1966 National Judging Team Leader on the difference in Operations judging at various judging levels: Flight, Founders, PV, etc. The turnout for the judging school was 10 members! Bill did get a few questions, so it was a good interactive session.

On Saturday, Gates opened at 8:30 am. The turnout was decent – 18 people, including Garry Mion and Paul Morel from the Phoenix area. There were two cars to judge: Dana Dellheim's 1966 and David Vanderpot's 1969. Jay Cockrum brought his 2003 Anniversary Edition Convertible out for Sportsman. The event was held at my shop on E. Mossman Rd, between Palo Verde Rd and Country Club Rd. It's centrally located for SoAz members from all locations around Tucson & Phoenix and easy to get to off the Palo Verde Exit of I-10.



Jeff Schaufel's Golden Catering provided the excellent continental breakfast and lunch served on Saturday. Wow! Even if you don't want to judge, it's worth it to come out for the food! Team Leaders for the event were Garry Mion on the 1966 and myself for the 1969. We performed all Operations and Flight Judging on Saturday. Most all of the judges had at least 2 judging assignments, some had three! Folks, we really need more chapter members to participate in our events so that everyone gets an opportunity to judge and enjoy the event!

Joyce Garland, Lead Tabulator, did a great job keeping our team of judges in line and on time. We finish up the meet around 4:00 pm on Saturday.



Congratulations to Dana Dellheim and David Vanderpot who earned Second Flight and Third Flight ribbons, respectively, for their Corvettes. A big thanks to the following members who came out to judge and participate: Bob Bush, Jay Cockrum, Dana Dellheim, Ron Fairs, Bob Jost, Ralph Klestadt, Garry Mion, Paul Morel, Tom Barr, Jeff Schaufel, Craig Schultz, Dave Vanderpot, John Da Crema (Guest), Jim Zylstra, Don Tofft.

A special thanks goes to John Da Crema, a local amateur photographer who attended our event, graciously provided us with the rights to use view his photos of the event by going [here](#).

WORKING WIPERS, 50 YEARS IN THE MAKING DOUG BROWN

I have had issues with the driver side windshield wiper ever since I got the car in 1972. I attempted to change this wiper transmission out when I was 18 with a GM replacement assembly. Of course it did not come with instructions, nor was there internet back then! So how hard could it be? Well after hours on my back under the dash I could not get the cables from the new transmission onto the center drum on the firewall. The cables were far too short to wrap around the center drum. I tried on multiple occasions with no luck. So, what does a kid from Iowa do: tuck the cables under the dash and move to Arizona!



Cables wrap pulley and lock into "claw"

Center Drum mounted under dash on firewall

Fast forward nearly 50 years and I am completing my body off restoration and must re-install the wiper transmissions. I researched several NCRS articles, and I found out there is a "secret" to these wiper assemblies: if you push down on the wiper shaft and pull on the cables, the cables will extend an additional $\frac{3}{4}$ " to allow you to attach them to the center drum.

These articles also included a very helpful image of how the cables are to be routed which I have recreated here. Armed with this

newfound knowledge it was time to finally put this issue to bed!

I was able to easily connect the passenger side transmission, but my nemesis the driver side was continuing to give me issues, the cables were too slack around the center drum. This wiper would only go halfway up the windshield before returning to its resting position. As I was only a week or so from the Chapter Judging event, I needed to move on, and it was left as is.

And of course, I took a deduction on the Operations portion of the Judging for the faulty wiper.

A few weeks after the Judging event it was time to tackle this issue again. The articles I read sounded so straight forward. I talked to Jay Wilcox, of Capital Auto Restorations in Maryland, and he made it sound so simple. As a matter of fact, he told me when he was 15, it was the first repair he had to do to his car, and it took less than 30 minutes! Boy did that make me feel like an idiot!

Unfortunately, these articles did not discuss what to do if you are having problems:

Like: the orientation of the center drum. After many hours of staring at mine and I finally resorted to sketching the pulley system, and I realized the center drum had turned 180 degrees during my restoration.

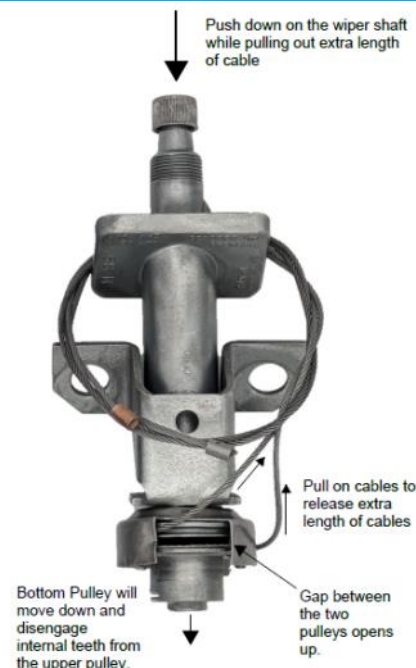
Like: What to do if your cables are short, really short? I measured mine and found they were $\frac{5}{8}$ ", or more, shorter than those noted in one of the restoration articles. Boy, could I have used that extra cable length! My car is a late 62 production, and they must have been scrimping on cabling at the end of the run.

Like: What if your wiper transmission will not hold the extended cable out, once you release the pressure on the wiper shaft? As mine would slip about $\frac{1}{2}$ of a revolution each time I released the pressure on the shaft.

Over the course of several weeks, I made multiple attempts to resolve this issue. I pulled and tugged and pulled on the cables, but I could not get them long enough to connect with the center drum. I repeatedly removed the wiper transmissions and disassembled them to see if I could find an issue. Unfortunately, this resulted in the metal retainer tabs, on the transmission housing, to break off. These tabs keep the pulleys from falling to the floor if the wiper shaft comes out of these pulleys. These tabs also restrict the pulleys from free spinning when you pull on the cables.

I had to fabricate metal collars with retainer tabs and JB Welded them to each of the transmissions. When I fabricated the collar, I located the new retainer tabs slightly further back on the collar. This allowed the pulley to travel slightly further and giving me a little more cable when I pulled on them.

As I work alone most of the time, I did not have the luxury of having someone outside of the car to push down on the shaft, while I pulled out the extra cable length. Thus, I needed to find a way to do everything from under the dash. I finally used a small screwdriver and forced it between the two pulleys of the wiper transmission to keep their teeth from engaging. And using a pair of vise grips to grab the cables and pulling with everything I had; I was finally able to get the cables onto the drum. And I have to say getting the last cable connection must have been an act of divine intervention.



Once the extra length of cable is extended, stop pushing the wiper shaft and the two pulleys will reengage and lock the extended cables in place.



Retainer Tabs



Fabricated Collar with Retainer Tabs J.B. Welded in place

WORKING WIPERS (CON'T)

I repeatedly pulled on the cable as hard as I could with one hand and tried to blindly feel the end of the cable into the drum claw with the other hand. And as I was about to give up again, it just popped into place! I could not believe it!!!! What do they say? "Even a blind squirrel finds an acorn once in a while."

In reading conversation strings on the Corvette Forum, I found numerous members talking about the nightmares with their wiper transmission installations. One person noted that it was the worst part of his restoration except for putting the dash pad on, which I must concur!

CHARGING A CORVETTE AC SYSTEM RON BRENNAN

After attending the NCRS meeting about repairing an A/C system that was judged with no deductions, I found that performance of this system can be more important to the owner than the points.

About 20 members attended this technical session for the Arizona Chapter of the NCRS. Gary Craig presented the tools and procedures necessary to successfully put a vintage A/C unit into service.

Gary stressed that a pressure test of the system is mandatory. A commercial bottle of pure nitrogen is connected through the double (or triple) gauge manifold. Add N₂ to the system until the normal operating pressure is reached. Industry practice is to test for 24 hours. Note the temperature at the start and stop of the test and correct the pressure for any variance in the ambient temperature. Use a mild soap solution or commercial product to locate leaks, then retest.

Next pull a vacuum on the system. The purpose is to remove the maximum quantity of atmospheric gasses and water vapor from the system. The goal is to approach full vacuum reading of 29.92 "Hg or 706 mmHgA. To precisely measure the reading, Gary used a digital gauge in parallel with the analog gauge. The scale was in microns, which added 3 additional digits to the reading in μ mHgA. When the reading stabilized below 3000 microns, Gary started charging the system. With the system blowing cold air, the freon addition was stopped. Fine tuning is to take place in the near future.



