VETTECETERA



Northern California Chapter's Newsletter for the Corvette Enthusiast

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Chairman's Message – "Timing is Everything" By Jeff Blakeslee

In talking with other car enthusiasts over the years I have realized that it is very common for ignition timing to be poorly understood, or at least some aspect of it. Most folks understand initial timing and can use a standard timing light to set this to factory specs. But often the roll of the vacuum advance and the centrifugal advance is not fully understood, and the tools to check these functions may not be at hand.

June 2025

Ignition timing is a simple concept; it is the relationship between when a spark plug is fired and the position of the piston. And of course, all measurements are relative to the piston at top dead center (TDC) on its compression stroke. But in practice it's a bit more complex than that.



In a theoretical world, air and fuel in a combustion chamber burn instantaneously as the spark plug ignites them, propelling the piston downward in the cylinder and producing thrust. But in the real world, that isn't quite how things work because the fuel mixture takes time to burn.

As RPM increases and the piston travels faster, there is less time for the fuel to burn, so we need to give the ignition a head start. This is where the centrifugal advance comes in. As the RPM increases, weights in the centrifugal advance system fly outward and act on a lever that advances the timing. This advances the timing progressively with RPM until the centrifugal advance system reaches its maximum advance. If the timing did not advance with engine speed, the thrust from the fuel exploding would happen late, either while the piston is descending or even after the exhaust valve opens and the engine would be very inefficient.

Now, what the heck does the vacuum advance do? In the simplest terms, it advances the timing at times when the engine is producing high vacuum. This corresponds to low or partthrottle conditions like idling or cruising down the highway. A lean fuel mixture (like you get at highway cruise) burns slowly and the added advance from the vacuum system allows the engine to achieve as complete a burn as possible during the power stroke and maximize engine efficiency. However, the moment you hit the gas, the engine vacuum falls and the timing is retarded by the vacuum advance system. This keeps the engine from pinging and avoids potential damage. There are other benefits to the vacuum advance system. For instance, it makes the car easier to start. Once the car is started and idling, the vacuum system is adding 12-15 degrees of advance, but when cranking the engine, the vacuum is very low so no advance is added. This more retarded timing lets the engine crank over easier.

So, let's take a look at the timing of a stock 300 HP 327. This engine should have an initial advance of 8 degrees before top dead center (BTDC). Remember, initial timing is done with the vacuum advance disconnected, and at curb idle, so neither the vacuum advance nor centrifugal advance is affecting the timing. To perform this operation, you disconnect the vacuum advance (vacuum hose) and plug it at the carburetor side. This will retard the timing about 12-15 degrees and the idle speed will drop. Now you must set the idle up to the specified idle speed, in this case 600 RPM. Now with your timing light you set the initial timing to 8 deg BTDC. Then, reconnect the vacuum advance and readjust (lower) the idle speed to 600 RPM. Are you done... maybe, but maybe not.

Let's go further and make sure the vacuum advance and centrifugal advance are working properly. We don't have time here to discuss modifying these systems, rather we will verify that they are working as per the manufacturer's specifications. For this task you will need either a timing tape around your harmonic balancer that lets you look at the timing with more advance, or you need a dialback timing light. Most of us NCRS'ers don't want a timing tape glued to our harmonic balancer, so let's focus on the dial back timing light. If you have never owned one, what this tool does is allow you to adjust the timing strobe so that whatever timing advance you set on the dial-back feature will appear to be on the zero mark (TDC) of the timing tab. Once you have owned one of these you will never go back!

Next let's get our terminology straight. Most technicians (and manuals) consider "Total Timing Advance" to be the sum of the initial timing (that you set) plus the maximum centrifugal advance, with the vacuum advance disconnected. I have always found this confusing because the vacuum advance is significant in certain conditions. But because those conditions are variable, the vacuum advance is left out of the Total Advance equation. I think of it this way: Total Timing Advance is what you would see with your foot to the floor once the centrifugal advance is all in. In this condition vacuum would be low and there would be little if any contribution from the vacuum advance. We will also look at Total Advance plus Vacuum advance – which is the real Total Possible Advance!

Ok, so you have set your initial timing as discussed earlier. Now disconnect the vacuum advance again, plug the vacuum hose, and set the RPM to specified (600 in this case). The 300 HP 327 manual indicates that the centrifugal advance should be 0 deg at 700 RPM, 11 deg at 1600 RPM and 24 deg at 4600 RPM. My dial-back timing light also reads out RPM, which makes this next step much easier. Set the engine RPM to 700 and verify that the timing still reads 8 deg BTDC. Next, set the dial-back feature of your timing light to 19 degrees BTDC. This is the sum of the initial 8 deg and 11 deg expected advance at 1600 RPM. Now rev the engine to 1600 RPM and check that timing reads on the 0 mark of the timing tab, which indicates 19 deg advance with the dial-back setting you have entered. Now set the dial-back feature of your timing light to 32 deg BTDC. This is the sum of the 8 deg initial and the 24 deg expected advance at 4600 RPM. Again, rev the engine to 4600 RPM and check that the timing appears on the 0 deg mark of the timing tab, which indicates a total timing of 32 deg BTDC with the setting you have entered. If you don't see the timing mark on 0 deg, you can adjust the dial back feature in either direction until your timing mark does appear on 0 deg, and that dial-back number then indicates your actual advance.

We can do a similar test for the vacuum advance system. The 300 HP 327 manual indicates the vacuum canister will add 0 deg of advance at 11" HG manifold vacuum and 15 deg at 15.5" HG. So, assuming your engine makes at least 15.5" HG idle, the test is easy. Set your dial-back timing light to 23 deg BTDC. This is the sum of 8 deg initial and the expected vacuum advance of 15 deg. Also note that the advance is linear, and about 1 deg of advance for every 1" HG, so if your engine makes less vacuum, you can calculate what the advance should be. 15 degrees is the maximum advance, so if your engine makes more vacuum than 15.5" HG, you should still expect only 15 deg of advance. Now plug the vacuum advance back in and set the idle back to 600 RPM. Using your timing light with the dial-back feature set to 23 deg, the timing mark should appear on 0 deg.

One last interesting test is to look at the total advance with the vacuum advance connected. In a zero-load condition, at 4600 RPM, you can expect a (Total + Vacuum) advance equal to the sum of the initial advance, the maximum centrifugal advance, and the maximum vacuum advance. So set your timing light to 47 deg (8 + 24 + 15). Rev the engine to 4600 RPM and check that the timing mark is 0 on the timing tab. Again, you can adjust the dialback feature as needed to line up the 0 deg mark on the timing tab, then read your dial back setting to see your total advance.

It is common for these numbers to be off by one or two degrees, but you are looking for them to be very close. If you don't have one, go get a dial-back timing light and have some fun. There is nothing like doing it yourself to get a full understanding of the process.

NCC Board Meeting Minutes – May 13, 2025

No Board meeting was conducted on May 13, 2025.

NCC Meeting Minutes – May 13, 2025

Vice Chairman Sharyl Ingham called the Meeting to order at 7:00 pm in Jeff Blakeslee's absence. She greeted 26 members and requested introductions, including the city where you live and the Corvette(s) you own. Her question of the evening was "Do you have a pet peeve?" Replies included bad driving, inconsiderate neighbors, local politics, black out windows, and for John Tidwell it was a Penn Valley bear!

Secretary Report:

The April meeting minutes as submitted by Sandy Houck were previously approved by the Board via email.

Treasurer's Report:

Chris Moore reported there were no financial issues. Sharyl suggested that he have a report in June when Jeff is conducting the meeting.

Membership Report:

Sharyl reported that we have 106 members since one member who did not renew their NCRS dues. The deal is that if the NCRS dues is not current/lapsed, the member cannot belong to a chapter.

NCRS President/Region IX Director:

Mike Ingham reported that the NCRS Board approved hiring a new webmaster. It is Alex Fraundorf taking over from John Waggoner. Alex was referred to NCRS by our own Bob Grauer. The new Judging Chair Joe Scafidi has now overseen two Regional Meets. Due to a software problem, automatic membership renewal has temporarily been cancelled.

Old Business:

Sharyl reported that the NCC members were well represented at the Arizona Regional Meet. Sharyl asked for specific comments from Dave Domenichini, a new member, that received a Top Flight Award for his '90 ZR-1 and also received the longest driven ribbon and Ken Albers reported on the 11th hour preparations that he had to do to prepare Marci's car for her achieving the Performance Verification Award.

New Business:

NCC members will attend the Novato Nostalgia Days on October 11. The previously planned NCC Mini Meet planned for that date is rescheduled to October 4. It will be at Bob Grauer's business lot in San Leandro and include three '57 cars to be judged. Sharyl suggested a Road Tour to or from Novato on October 11 but as Ken mentioned that may be a bit difficult to do. More discussion to follow on a Road Tour opportunity.

Technical Discussion Board:

Rick Gower asked about any updated judging manuals. Mike Ingham and John Tidwell replied that those for 1963-64, 1970-72 have been issued and those for 1958-60, and 1961-62 are in the works.

Rick noted that one of Bill Mitchell's projects, a Corvette SS, sold at auction for \$2.5 M. Finally, he encouraged us to look at the NCRS Discussion Board which has lots of information and event photos.

Open Discussion:

Mick Swezey commented about his '53 race car. A picture was in the November Driveline. In 1962, at his first SCCA race in Reno he won first place in B Production beating a '59 car.

Adjournment:

Sharyl said she looks forward to seeing us at the Las Vegas Convention, then adjourned the meeting at 7:52 pm.

The next Zoom meeting will be on Tuesday, June 10 at 6:30 pm for the Board Meeting and 7:00 pm for the General Meeting

Respectfully submitted, Sandy Houck, NCC Secretary

Food For Thought

<mark>By Sharyl Ingham</mark>

Did you know that NCC has its own TDB? Back in December the NCC NCRS text group was formed. Since then, it has been used many times. We reached out to inquire about the families in southern California during the fires, and how to help with financial assistance, to announce new acquisitions, ask about where to get items repaired/restored, find out where there are car meets within the area, what is happening on bring a trailer. I find it fascinating and educational in some ways that y'all are partaking in it knowing this is a great idea for keeping in contact with one another. The month seems to be whizzing by with all the Chapters conducting and completing their spring meets. We all are trying to be mindful and keep our calendars current so we can support our regions; Central California, Southern California, Arizona, Southern Arizona and Southern Nevada Meets. It is a matter of planning and hopefully you won't cancel at the last minute because that is costly for those of us that travel to those areas. We are in this together.

I am delighted that so many of you are joining the Zoom meetings. This is time well spent where you will get information from the NCRS board as well as our sister chapters. Our chairman is really trying to get the members involved sharing their projects online and it is such a treat to hear their enthusiasm. Special thanks to our members Dave and Jo Houlihan from Wichita, KS and Bob Bohm from Alaska, that are very faithful and dedicated to attend our fun and informative meetings! So please try to join us sometime soon. (If Mickey Swezey is in attendance he shares some of his racing stories.)

Let me plant the seed. June is the perfect month for planning those outings with the family and friends, especially to encourage the fathers to master the grill on Father's Day, the third Sunday of the month, June 15th, and incidentally whenever the family gets together, let them show off their grilling skills! Other noteworthy days in June start off with D-Day, June 6th; Flag Day, June 14th; Juneteenth, June 19th; and the First Day of Summer, June 20th.

Please join with me is extending congratulations and well wishes to all those members that have birthdays this month, starting with Cathy Bergmann, June 2nd; Michael Reichard, June 4th; Doug Wathor, June 5th; Mary Mullins, June 8th; Wayne Yurtin, June 11th; Beth Bartow and John Tidwell sharing birthdays and NCC 47th anniversary, June 12th; Tony Mullins, June 16th; Jerry Palmer, June 21st; Mike Hachigian, June 23rd; John Kirkpatrick, June 25th; Dave Houlihan, June 26th; and Melissa Bornstein, June 27th.

I want to thank those of you who have responded to the NCRS Convention Committee's solicitation of sponsorships for the Judges and Tabulators Meals. For those of you that have had a car judged you know what I am referring to when I say these people are dedicated people that make their reservations to attend any event to help judge and tabulate your cars. I have had a car judged and this is such a small way of showing appreciation by buying them a meal for their time! This is money well spent.

Always be kind to one another!

See you on Zoom on June 10th!

Ignition Coil Ballast Resistors

By Dave Houlihan

Some judging stuff first. 1953-55 6 Volt systems do not have Ballast Resistors - for reasons discussed shortly. 1955-1967 12 Volt Corvette use Ceramic Ballast Resistors. 1968-1974 Corvette use a length of resistance wire, so no ceramic ballast resistors. 1975-1991 Corvette use 12 Volt High Energy Ignition (HEI) Systems designed for 12 Volt operation. 1964-1969 RPO "K66" - Transistor Ignition System use resistance wire, so no Ceramic Ballast Resistor - AND - no hole drilled in firewall where a ceramic ballast resistor would be attached. 1955-62 Ballast Resistor is judged by Chassis Team. 1963-67 Ballast Resistor is judged by Mechanical Team. Ballast Resistors are typically assigned 3 Originality and 2 Condition points.

Tech Stuff: Material here based on June's Tech Session. Attached Figures 12, 13, and 14 are some reference materials not discussed in June's Tech Session. RPO "K66" Transistor Ignition is only briefly noted here - K66 deserves its own tech session.

Figure 1: A simple ignition circuit. Battery supplies power. With "points" closed that power energizes a coil. Subsequent opening of "points" collapses magnetic field within coil resulting in a large voltage spike. That spike is what gives our spark plug its spark.



Figure 2: An ignition coil cut-away. Within ignition coils there are many more secondary windings than the primary winding. Collapsing magnetic field induces a higher voltage into secondary winding than into primary winding. More energy supplied yields a "hotter" spark.



So, what could go wrong? Heat. An overheated ignition coil has reduced ability to conduct electricity. With use, coils age insulation between primary and secondary windings fails. Less effective insulation causes coil to overheat.

Another way to overheat a coil is supplying more voltage than it was designed to handle. This tech, on Ballast Resistors, concerns controlling 12-volt input into parts not designed to handle 12 volts. i.e. a Band-Aid.

Figure 3: 1953-1955 6-Volt ignition systems were designed to handle 6 Volts. There is no ballast resistor as one was not needed.



Figure 4: Basic 12-volt ignition circuit like what we see on 1955-74 Corvettes. Battery supplies 12 volts. Our Ignition Switch "START" sends 12 volts to our starter solenoid. Solenoid on that starter supplies 12 volts to starter **AND 12 volts directly to our ignition coil**. That 12 volts directly to coil generates a more powerful spark - engine starts easier! Note that once engine starts, Ignition Key goes to its "RUN" position. In "RUN", power is no longer supplied to starter and 12 volts is no longer supplied directly to ignition coil.



12 volt "RUN" power now flows battery to ignition switch to **ballast resistor** to coil. That resistor typically drops voltage to around 9.5 volts to coil. 12 volts - powerful starting. 9.5 volts adequate for operation.

Figure 5: "Black Dot" GM pn:1931385 and "Blue Stripe" GM pn:1957154. Typical ceramic ballast resistors. Note that "385" has much lower resistance than "154". "385" is going to generate a MUCH hotter spark. As you likely suspect, "Black Dot" was used on higher performance Corvettes. Question: did "385" overheat ignition coils?



Ignitions / fuel delivery /engine build / exhaust / drivetrain were designed as systems.

Chevrolet built a car to meet a certain performance specification. Our attempts to improve what GM engineers did may ... Engineers designed those coil/ballast resistor combinations to work together - something to consider when replacing components.

Figures 12, 13, and 14 Are resource material you may find useful. Figure 12 is a listing of 1955 to 1974 Application of Ignition Coils. Figure 13 is a listing of Ballast Resistor Ohm Ratings - GM and aftermarket. Figure 14 is a 1963 Technical Service Bulletin concerning Distributor Point Burning in Corvettes during cold weather operation. This material was found on Corvette Forum at:

https://www.corvetteforum.com/forums/c1and-c2-corvettes/3921828-ballastresistor.html

Figure 6: Generic Assembly Manual illustration of Ceramic Ballast Resistor attachment to Corvette firewall.



Figures 7, 8, and 9 respectively are 1955-57 Ignition Wiring Diagram, 1958-62 Ignition Wiring Diagram, and 1963-67 ignition Wiring Diagram. All years had "RUN" voltage supplied to ceramic ballast resistor in order to drop voltage.

1955-57 12-Volt "START" voltage is supplied directly from Ignition Starter Switch directly to Ignition Coil.



1958-62 12-Volt "START" voltage is supplied from Solenoid to "after voltage drop" side of Ceramic Ballast Resistor.



1963-67 12-Volt "START" voltage is supplied from Solenoid directly to Ignition Coil.



Figure 10 is AIM wiring graphic 1964-69 RPO "K66" Transistor Ignition. K66 used resistance wiring - no ceramic Ballast resistor, no hole in firewall.



Figure 11 is 1968-74 Wiring Diagram where no ceramic ballast resistor was used. Voltage drop was accomplished by length of resistance wire. Note early wiring diagrams noted **incorrectly** wire was a "FUSIBLE LINK". Later wiring diagrams noted correctly it was resistance wire - some diagrams noted ohm value.



Band-Aid got removed with 1975's High Energy Ignition (HEI) system designed to operate at 12 volts. HEI use on Corvette from 1975-1991.

So why Ballast Resistors? I expect cost - "... let's just Band-Aid our 6-volt system that works." So why all these wiring changes? I expect cost - save some wire length or assembly time. So why no ceramic resistors in 1968-74. I expect cost - K66 Transistor Ignition (1964) showed you could eliminate cost of ceramic with just resistor wire. Band-Aid current system until transition to High Energy Ignition - anticipated HEI would simplify assembly, reduce maintenance, and improve performance. Please email/call me when you spot errors. Kind of went down a rabbit hole with this one after Bubba's ceramic ballast resistor ignition "Fix" on a 1974.

1955 TO 1974 IGNITION COILS

ORIGINAL GM	APPLICATION	CROSSOVER NUMBERS	
PART NUMBER		STANDARD	NIEHOFF
1115087	63 -64 250/300 HP	UC-12X	DR174
1115091	63 -64 AND 56 -62 WITH CARB	UC-12X	DR174
1115202	65-67 327 W/STD IGN	UC-12X	DR174
1115232	66 390 HP W/STD IGN	N/A	N/A
1115264	67 390-400 W/ STD IGN	UC-12X	N/A
1115287	68-74 ALL BIG BLOCK W/STD IGN	UC-12X	DR174
1115207	65-68 327 W/ 350-375 HP & TI	UC-12X	DR174
1115210	65-66 BIG BLOCK W/TI	UC-12X	DR174
1115231	66 BIG BLOCK W/TI	UC-12X	DR174
1115263	67-72 ALL BIG BLOCK W/TI	UC-12X	DR174
1115272	68-71 ALL SMALL BLOCK W/TI	N/A	N/A

As you can see there were many different coil part numbers from GM. The aftermarket now only Offers one coil for all cars from 1955 to 1974.

Examples:

BRAND	APPLICATION	PART #
AIRTEX	1955 TO 1974	5C1026
STANDARD BRANDS	1955 TO 1974	UC-12X
NIEHOFF	1955 TO 1974	DR174

COIL RESISTANCE VALUES

MAKE	MODEL	PRIMARY	SECONDARY
GM	STD. IGN.	1.2 TO 1.4	6.5K TO 9.5K
GM	TRANS. IGN.	.38 TO .51	8.2K TO 12.4K
AIRTEX	5C1026	1.0 TO 1.7	6.5K TO 14.5K
ACCEL	SUPER STOCK	1.2 TO 1.4	8.9K
ACCEL	SUPER COIL	0.7	11.8K
MALLORY	CANISTER STYLE	1.4	10K
MALLORY	PROMASTER	0.5	ЗК
MSD	BLASTER 3	0.7	4.7K

Fig 12

BALLAST RESISTOR OHM RATINGS

BRAND	PART #	OHMS	
GENERAL MOTORS	1931385	0.3	BLACK DOT
MSD	8214	0.85	
AMERICAN AUTOWIRE	500801 6R1003	1.3 TO 1.4 1.6 TO 1.9	
SUMMIT	G5218	1.6	
MILEAGE PLUS ELEC. GENERAL MOTORS	ICR13513 1957154	1.8 1.8	BLUE STRIPE
			Fig 13

Just a note when searching web for

material: Search engines on forums i.e. Corvette Forum, Corvette Action Center, Digital Corvette, NCRS Tech Board, etc. often are frustrating with results found. You might try a plain Google search. Google et. al. bots seem to scan everywhere, including these forums. Google search engines can often find more material and faster than a forum's own search. May prove useful when you can't find something you know is there.

	DETROIT 2	, MICHIGAN
	TECHNICAL SEI Technical Ser	RVICE BULLETIN
UNJECT. DI	STRIBUTOR BREAKER POINT BURN	NING BULLETIN NO. DR #577
19	53 CORVETTE AND 409" ENGINE:	SECTION VI y
to, AL	L CHEVROLET DEALERS	DATE February 27, 1963
To elimi new high 1963, fo	nate distributor point burn er value ignition primary r r all 250 H.P. or 300 H.P. (ing during cold-weather operation, a esistor entered production on February 4, Corvettes and 340 H.P. 409" Passenger Cars.
If prema built pr in place	ture cold-weather point bur ior to the production chang of variable resistor No. 1	ning is encountered on the above models, e, install resistor No. 1957154 (1.8 ohms) 931385 (approx. 0.3 ohms resistance when cold).
Resistor 400 H.P. operatio No. 1931	No. 1957154 may also be us or 425 H.P. 409's, and the n; however, it should be po 385 will provide the best p	ed on 340 H.F. or 360 H.F. Corvettes, Corvair Spyder for temporary winter inted out to the owner that resistor ossible high-speed ignition performance.
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Burma-Shave

DON'T LOSE YOUR HEAD TO GAIN A MINUTE YOU NEED YOUR HEAD YOUR BRAINS ARE IN IT

BURMA-SHAVE 1963

NCC Magnetic Name Badges

We no longer get free shipping when ordering NCC name badges, so the price is now \$20.00 if you need a replacement.

Mass Mailing Clarification

We are utilizing NCRS's Mass Mailing feature to distribute the link to the Vettecetera each month, as well as other NCRS related e-mails from other people. Please do NOT respond to the e-mail, respond to the person who authors the e-mail.

Technical Articles Wanted

If you have been thinking about writing up some restoration project you have completed, please do so and submit it for publication. We can all benefit from one another's learning's. Submit your article as a Word document, and any accompanying pictures as .jpg files.

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Pertinent Information

Send newsletter articles to Mike Ingham by email: <u>michael.ingham248@gmail.com</u> It needs to be received **by the 25th** of the previous month to make publication.

NCC Dues

NCC dues are \$30 per year. Please start paying via PayPal. If needed, a membership form may be found on the last page of the Vettecetera. When you have changes (e.g., email address, Corvettes owned) please send those changes to me via e-mail at: <u>sharylingham@gmail.com</u> Thanks.

Chapter Meetings

Chapter meetings occur on the second Tuesday of each month. Meetings are being held via Zoom, and the Zoom link is distributed to all Chapter members on the preceding Monday.

Car For Sale

2000 Corvette convertible, Bowling Green metallic, tan top and interior, 6-speed manual transmission, all stock. Runs and drives perfectly. Asking \$14K/OBO. Contact Jim Truffa at 831-245-9160 or <u>rjvette@att.net</u>

Parts For Sale

C3 Parts

Side-exhaust pipes for a big block 1969 Corvette. Exhaust pipes have about 90,000 miles on them. They are completely intact with surface rust on the front pipes and minor oxidation on the chambered sections. \$500 Early `69 jack, dated 8M, plus lug wrench, \$200

Contact Mike Ingham at 510-420-0968 or michael.ingham248@gmail.com

C2 Parts

NOS front bumpers for '63-'67. These are GM 3797337 & 3797338; still in their original (although ratty) GM boxes. Even when brand new, C2 bumpers were never perfect show chrome, but these are the real deal. \$1,000 for the pair. I will hand deliver anywhere within the San Francisco, Pleasanton, Morgan Hill triangle. Gary Beaupre 408-250-0370

NOS rear valance panel for '66 and '67 with underbody exhaust. GM 3874799. Embossed "DT 40 1868 70 on" inside surface. Minor shelf wear, but no cracks or damage. Very nice NOS GM part. Local pickup only, within 45-miles of San Jose, CA. \$500 firm. Gary Beaupre 408-250-0370 40083 fuel pump for 327 1964-65 hiperformance, 1966 all. Pump has AC embossing on top of the tower and on the domed bottom cover. Upper pump body is magnesium. The upper body appears to have some type of owner or rebuilder-applied coating that gives it a bit a texture, but it appears to be a nice match to the expected dark hue of magnesium. The base of the tower has the two gussets that the judges look for to assess an authentic production line 40083 pump, unlike service replacements. The flange has the correct 40083 numbers. There is no date code, which is correct for most production line 40083 pumps. Pump was rebuilt because the lower gasket does not have the "tiger stripes" as seen on originals. \$450 firm. Gary Beaupre 408-250-0370

C1 Parts

1956-only 924 windshield wiper motor, restored, runs perfectly, \$400 Two spare tire trunk boards: one original 5-ply, 3/8" thick, with posi and jack instruction labels that are largely illegible; and one repro that is in perfect condition.

1956-1960 soft-top frame w/vinyl top. Frame is in like new condition, vinyl is excellent but has one small tear (~1/4") in passenger rear side, rear window is excellent but does not have "VINYLITE" stamping. \$2900 Contact Mike Ingham at 510-420-0968 or michael.ingham248@gmail.com

Tools For Sale

<u>Auto Rotisserie</u> - Cost \$1,400 plus freight. Used once, sell for \$1,000 with much extra tubing. <u>Gantry Crane</u> – cost \$1,200 plus freight, sell for \$800 with free electric hoist. Contact John Tidwell at 916-201-6061 or <u>sampanjohn@earthlink.net</u>

Manuals Available

Over the years we (NCC) have accumulated a small collection of Corvette factory service manuals and other technical literature in our library, where they continue to collect dust. We have decided to offer these documents to NCC members on a first come-first served basis in the hope that you can put them to better use. If any of the following documents match a Corvette that you own and you would like to have it and are willing to pay the shipping, please contact Mike Ingham. A small donation to the Chapter is welcome.

Year	Title
1962	AIM x2
1953-78	Chassis & Body Parts Catalog x2
1970-72	TIM&JG 6 th Edition
1970-72	TIM&JG 6 th Edition in Sections
1984	Shop & Electrical Manuals
1984-90	Corvette Parts & Illustration Cat.
1984-92	Corvette Parts & Illustration Cat.

Business Card Ads

Business card ads are free for NCC members. Please send your business card to Mike Ingham, 6047 Lawton Avenue, Oakland, CA 94618-1802.



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- NOS keys cut to code
- · Key codes deciphered
- C2 correct bumper nuts
 & washers



•NOS Wheel Weights
Gary Beaupre 408-250-0370
email: gsb1966@comcast.net

émail: gsb1966@comcast.net Website: www.garybeaupre.com



Scottzilla36@yahoo.com

www.DriveAbel.com

Tony Quintana Service Advisor

280 N. Front Street Rio Vista, CA 94571 707.374.6317 / 800.669.1329

> fax 707.374.6184 tquintana@driveabel.com

"Traditional Values Since 1935"

	2025Event Calendar 🐖	
June 10 th	NCC Meeting	Via Zoom
July 8 th	NCC Meeting	Via Zoom
July 17 th – 19 th	Kansas City/St. Louis Regional	Springfield, MO
August 12™	NCC Meeting	Via Zoom
September 7 th - 11 th	NCRS Convention	Las Vegas, NV
October 4 th	NCC Fall Judging Meet - `57s Only	San Leandro, CA
October 11 th	Novato Nostalgia Days	Novato, CA
October 14 th	NCC Meeting	Via Zoom
October 23 rd - 25 th	Texas Regional	Frisco, TX
November 7 th - 8 th	SCC Fall Judging Meet	Cerritos, CA
November 11 th	NCC Meeting & Veterans Day	Via Zoom
December 9 th	NCC Meeting	Via Zoom



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SHARYL INGHAM at 6047 Lawton Avenue, Oakland, CA 94618

ANNUAL DUES: January 1st through December 31st, **\$30; now payable via PayPal through the** NCRS website at: <u>https://www.ncc.ncrs.org/</u> scroll to the bottom black box click on membership click on renew chapter next choose chapter

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Name	Birthdate: Month Day
Spouse	Birthdate: Month Day
Street	Apt.
City	State ZIP
Home Phone	
Cell Phone	

Please list the	Year(s) and	Model(s) c	of your	Corvette(s)
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This information will be published in the Chapter's roster.

_____Name

_____Birthdate

_____ Street Address

_____ City

_____Phone

_____NCRS#

_____E-mail