January 2022

Straight Talk

Publication of the Red River Chapter of the Solid Axle Corvette Club

Chapter Sec./Treas. JoAnn Brumit, hosted our group and President Bill Preston ran the meeting, while Lee Brumit talked about the Corvettes in their collection and their recent trip to Bowling Green to pick up the 2022.

Brumit's new 2022 Corvette that they just brought home from Bowling Green last week.

Their 1958 Yellow Vette nestled in a back corner.

Their 1961 Black and Silver Vette was bought in pieces. Lee bought a Red 1962 in order to have a pattern for putting this one together. He's sold the 62 now and only has these two Solid Axle Vettes.

The Annual Meeting of the Red River Chapter of the Solid Axle Corvette Club was held Saturday, November 20, 2021 at Lee and JoAnn Brumit's garage, 3701 Marquis Dr. #101, Garland, Texas. Bill Preston called the meeting to order and JoAnn Brumit gave the Treasurer's report. Bill announced that Red River Chapter would not collect chapter dues again this year, since there weren't many expenses this year. JoAnn collected the national dues from members and will forward them to Lucy Badenhoop.

Denise Iverson, Don Eckhart, Dennis Conte, Bill and Diane Preston had attended the National SACC Convention in August in Carlisle, PA. Don and Dennis reported on the trip driving their C1s to Pennsylvania and back to Texas with members from California. They made several stops on the way there at Hot Springs, Arkansas, Lee Baum Fiberglass Fabricators in Evansville, Indiana, and the Indy 500 Museum in Indianapolis. On the way back they drove the Tail of the Dragon highway in Tennessee and stopped at the NCM in Bowling Green. The full story of their trip will appear later in this newsletter. Prestons flew and had a totally different experience.

President Bill Preston announced his resignation after serving three years. He called for nominations from the floor. Don Eckhart was nominated and declined the nomination. Don then nominated Dennis Conte who was elected by acclaimation. Tom Hubbert volunteered to

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The C1s begin to arrive and it immediately turns into a "wrench" on Dennis Conte's 1961

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Jim Pagana and Tom Hubbert visit among the Solid Axle Corvettes that were brought out during the beautiful weather for the meeting. Left to Right: Jim Pagana's Maroon 1962, Tom Hubbert's Red 1962, Walter Adams' Black 1965 (his 1959 is in California), Matt & Darlene Tidwell's White/Silver 1961.

Dennis Conte and Don Eckhart tell the group about their trip to the National Solid Axle Corvette Convention in Carlisle, Pennsylvania.

serve as a Texas Vice President and was also elected by acclaimation.

Lee Brumit talked to the group about many of the Corvettes that were on display all over the garage. He told us about the recent trip he and JoAnn had made to Bowling Green to pick up the red 2022 that was being prominently displayed. Many of his Vettes have been judged by NCRS and Bloomington Gold. He answered questions and gave us a lot of info on his cars.

Our thanks to everyone at Brumit's garage who went to the effort to move the cars out for us to look at and enjoy, Diego, Tom, Lee and JoAnn.

In addition to those already mentioned, attending were: Darlene & Matt Tidwell, Tom Lainson, Walter Adams, Richard & Gail Gore, Jim Pagana, Tom Entrekin and John Spencer.

Don Eckhart and Denise Iverson arrive at the meeting in their 1958.

Richard Gore looks over the Vettes at the meeting: Don Eckhart's Red/White FI '58, Dennis Conte's Jewel Blue/White 61, and Tom Lainson's Red/White '61

President's Message

My name is Dennis Conte and for those who don't know me, I have been a member of the SACC Red River Chapter since it was started. I accepted the office of President in order to keep the Chapter going.

I own a 1961 mostly original Jewel Blue Corvette with White Coves which is my pride and joy.

I look forward to doing some fun things for the Chapter in the coming year and welcome any thoughts and suggesting for the Club.

I have driven my 1961 to the last two National SACC Conventions and had a great time at both. I hope more of our members get a chance to attend one of them.

I want to wish every one a Merry Christmas and Happy New year and look forward to what lies ahead for our chapter in 2022.

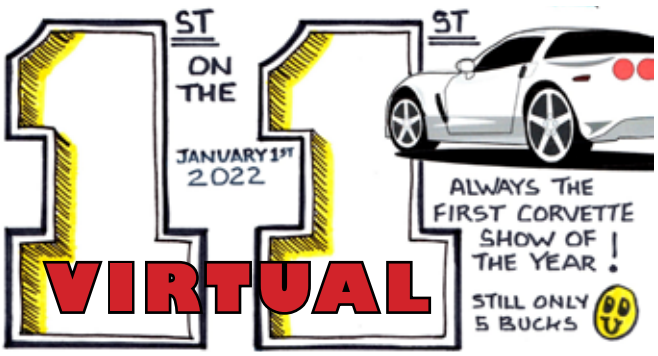
Sincerely,

Dennis Conte

President, SACC, Red River Chapter

New Member

Chris McNair
Abilene, TX
Red/White 1961



by Don Brittin

New Year's Day I entered a virtual car show put on by Texhoma Corvettes. I represented The Red River Solid Axle Corvette Club. It is always on January 1 each year and called the First on the First Corvette Show. It is a fund raiser and a good excuse for a gathering. Rather than risk a nose to nose meet they decided to go virtual again this year because of the Covid upsurge. Also the weather forecast was iffy for New Years Day. The charity supported by the show is the Pottsboro Kids Club.

There were 38 really nice Corvettes entered. They will be posted on the website over the next few days. You can see them all at the club website:<http://www.texomaarea-corvettes.com/>

I am grateful to have my 1960 recognized as the #1 number favorite in the virtual show.

The picture was taken Christmas Day at Lake of the Arbuckles, Murray County, OK.

Thanks to the club and to Paul and all for their work on this show every year for 13 years.

Renewal Notice--Dues Are Due

National and Chapter Memberships
Expired December 31, 2021
(unless you've paid for multiple years)

Red River Chapter collects National SACC dues of $45. We then forward all National dues and have record that all our members are also National members.

Please pay as soon as possible, so we can forward your National dues before they send you a notice.

Send to: **JoAnn Brumit, SACC Treasurer**
KARLEE KLASSIC AUTOS,
3701 Marquis Dr., Suite 101, Garland, Texas 75042

If you have sent in your own National dues, please let JoAnn know, so she can record it.
JABrumit@nuzink.com

1962 Corvette Restoration

Paul & Mary Wolter

Arlington, TX

Having purchased a project 1962 Corvette 20 years ago thinking that I would have had it completely restored at after 6 years was positive thinking that got sidetracked numerous times by other higher priority projects and corvette events (Corvette Club of Texas involvements, Costa Rica trip, interesting NCRS and CCT road trips, car shows, etc.), plus work, family, NASCAR events, charitable volunteering, church, class reunion, etc. After my retirement in 2010 from Lockheed Martin Missiles and Fire Control as a Weapons System Project Manger, the restoration of our '62 Corvette was "going to be" at the top of my priority list of things to do. After retirement there were many events that moved the Corvette restoration "way down" (near the bottom) on the list. Plus, about 40 things soon got added to the list, ahead of the Corvette restoration task. And being retired, there is always "tomorrow" or "later" that you can start a task. I did small things on the Corvette as time permitted like removing the engine, rebuilding the Borg-Warner 4-speed transmission (thanks for the professional assistance from CCT member Ray Kimminau) and other small tasks, but I needed to start some serious continuous major work on the Vette.

The Vette was purchased by a Houston couple in 1971 and remained parked in their garage until we purchased it 32 years later and I trailered it to Arlington. When they purchased the car, the husband had only driven it around the block, and his wife had never ridden in the car. They had intentions of doing a body-off restoration and proceeded to incorrectly strip most of the paint off the body the first year that they owned it. They purchased a new main wiring harness, padded dash and several other parts from a local Chevrolet dealership, so I was grateful to get that with the purchase of the car.

After completing a previous body-off restoration on a 1958 Corvette basket case (that received Editor's Choice at a Super Chevy Show) I had maintained that I would "never" take on another body-off restoration because of all

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the time and cost required to perform a body-off restoration. Well, my position changed when I got the '62 home and inspected it. I determined that because of the condition, correctness and it being a 340hp car, it deserved a body-off restoration. Another factor was that I graduated from High School in 1962 plus this was the last year of the C1 body style and fixed exposed headlights, until they re-appeared on the C6 Corvette in 2005.

After storing the car and rebuilding and restoring some the components over the years like the transmission, windshield assembly, heater assembly, door panels, seats and media blasting and painting a lot of miscellaneous parts I enrolled in the Automotive Refinishing Class offered at the Fort Worth Tarrant County College in 2013 to put the restoration into a faster track for completion. Anyone aged 65 or older receives a significant tuition reduction, which is an incentive in addition to being able to work on your project in a heated and air-conditioned work area that provides primer booths, a wet sanding area, professional heated downdraft paint booth, discounted paint and supplies, special tools and experienced instructors.

I removed the body from the chassis and restored them both at the college. The body, in addition to having some damage that required repair, also had numerous factory low spots that required filling to achieve straight body lines. I performed all the body work, painting of the body and all its parts with the correct Sateen Silver that was offered to 1961 and 1962 Corvette purchasers. I guide-coated and block sanded the body three times prior to applying PPG DP90 black sealer, followed by Sherwin Williams base coat then finally three clear coats. The body and painted finish is a higher quality than produced by General Motors factory in St. Louis.

After lightly wet sanding the paint with 2000 grit paper, I buffed and polished the body. I then spent several years reassembling the Corvette.

Our son, who owns the Race Shop in Fort Worth and specializes working on drag race and street cars rebuilt the 327 340hp engine. I helped with the disassembly, cleaning parts, installing new pistons, solid lifter camshaft, correct fuel pump, etc. The engine required line-boring, which was accomplished by Reher-Morrison in Arlington.

I completed the restoration of the 62 Vette in May 2021 and have driven it only locally. I performed all the restoration process except for installation of the black soft top on the frame and the professional re-assembly of the engine. I restored, rebuilt and recovered the seats.

I drove and entered it in the October 2021 Cowtown All-Corvette show in Fort Worth. Normally there are only 4 or 5 C1 Corvettes in this annual event This year that were 9 C1 Corvettes and 130 to 140 Corvettes in the show. There were a lot of Corvettes in each model year with the exception of the C4 and C5s. I received the 1st place award for the C1 category and received the "Best Paint Award.

Owner-Restored Interior

I was not completely satisfied with the new dash pad because the color didn't exactly match the grab bar color. I ordered and installed another dash pad and grab bar. Guess what…they are still slightly different in color. I installed all new wiring harnesses, door panels, carpeting, fuel tank and of course weatherstripping. It took about a year for the door weatherstripping to compress which allowed to doors to be closed much easier.

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WOLTER--Continued from page 5

One issue I encountered was when I installed the distributor shielding it shorted out the against the ignition coil capacitor and when I started the engine it melted the insulation off the wiring going to the starter resulting in a lot of smoke. That was another one of my "lessons learned" during the restoration process.

Owner-Restored Engine Compartment

Best Paint, (Paul Wolter, left) Best Interior and Best Engine Award Recipients Cowtown Vettes 2021 Annual Corvette Show

Editor's Note:
I would like to run an article about your Solid Axle Corvette in the next issue.
Contact Diane Preston
cdiane1957@aol.com

Out and About Searching for Old Vettes & their Owners

Alex Viola Memorial Car Show, November 7, Keller City Hall

Randy Mitchen's Black/Silver 1957 from North Richland Hills, TX

Gordon Koterba's Red/White 1960 from Paradise, TX

Danny Barboza's Red/White 1961 from Lake Dallas, TX

Bethany Gale's White 1962 from Cleburn, TX

Don Siebert with his Black/Silver 1956 from Dallas, TX

Lori Teran's Red 1961

Beatin' the Heat

by John Hinckley - 2009 Inductee Corvette Hall of Fame

John Hinckley's career with General Motors started in 1964 as Production Foreman at the Willow Run plant in Ypsilanti, MI. Two years later he was promoted and transferred to the Chevrolet Pilot Line Plant in Flint, MI as Senior Process Engineer of Passenger Cars.

John spent time at various Chevrolet plants from 1966 to 1969 and participated in the build out of the 1967 Corvette and launch of the 1968 model at St. Louis. Through the years John held various roles, transferring to many different GM plants and in doing so developed three patents that improved quality and reduced cost.

In 1985 John was recruited by Chrysler where he remained until retiring in 2001. John has purchased and restored many Corvettes, earning Top Flight awards for his work and later becoming a NCRS 200-Level Master Judge. John is also a Veteran Bloomington Gold Restoration Workshop instructor and Bloomington Gold Midyear Certification Judge.

He has written numerous technical articles for internal General Motors and Chrysler publications, SAE papers and has had many articles published in NCRS Corvette Restorer and Corvette Enthusiast magazines. John passed away June 21, 2021.

Overheating problems are common among Solid Axle Corvettes. If we understand how this Corvette cooling system is designed, how it works, and the solutions to common cooling problems, we can dispel some of the myths, hype, and misinformation out there and enjoy warm-weather cruising in our old Vettes.

Your engine creates a LOT of heat as the air/fuel mixture burns in the combustion chamber, but less than half of it performs useful work (pushing the pistons down). The rest of that heat is wasted and goes directly through the block and head castings into the cooling system. Let's follow the coolant through the components and see how the system works, than we'll cover how each of the components work, and discuss diagnosis and real-world solutions to problems.

The Cooling System.

Starting at the water pump, coolant enters from the radiator outlet and is pumped into both sides of the front of the block; it travels through the water jackets around the cylinder walls and absorbs heat from that area. It then moves upward through holes in the block deck into the cylinder heads and absorbs heat from the roof of the combustion chamber and from the exhaust port walls and flows forward to the crossover passage at the front of the intake manifold.

As coolant exits the front of the heads and flows into the crossover passage from both sides, it encounters the thermostat. If the engine hasn't warmed up yet, the closed thermostat stops coolant flow until the coolant has absorbed enough heat to open the thermostat. If the engine has already warmed up and the coolant is hot, it flows through the calibrated opening in the thermostat and proceeds into the upper radiator hose.

The coolant (now at 180-190 F) enters the radiator and flows through the tubes. The tubes have fins soldered or brazed to their outer surfaces, and air passing over the surface of the fins and outside of the tubes carries off the heat from the coolant that's transferred through the walls of the tubes. At the exit of the radiator, the coolant temperature is about 30-40 degrees lower than when it entered and flows into the water pump inlet ready for another trip through the engine.

The cooling system is a closed system; the coolant expands as it absorbs engine heat, and the radiator cap maintains pressure in the system (which raises the boiling point of the coolant). If system pressure exceeds the rating of the cap, an internal valve opens and vents pressure (and possibly some coolant) through the overflow hose until system pressure drops below the cap's rating.

Cooling Basics

There are three basics involved in the cooling system; the fluid (coolant) that circulates to carry heat from the engine to the radiator, the heat exchanger (radiator) whose job it is to transfer that heat from the coolant to the air, and the air flowing through the radiator core that picks up the heat and carries it off. The two most critical elements here are the heat transfer capability of the radiator and the volume of airflow through it, and 90% of cooling problems involve either one or both of them. Let's take a look at the individual components of the cooling system and see what they do (and what they don't do).

Coolant

Your Corvette was designed to use a 50-50 mix of ethylene glycol-based coolant/anti-freeze (the green stuff). The anti-freeze component doesn't wear out over time, but the additive package (primarily anti-corrosion elements) does. It gets weaker as it does its job, and if it isn't renewed regularly, scale and corrosion will begin to build up in the radiator tubes, which will drastically reduce the radiator's heat transfer efficiency. The build up of scale and corrosion acts as an insulator inside the tubes, reducing the rate of heat transfer from the coolant to the air. It's a good idea to drain, flush and replace coolant mix every two or three years to maintain the effectiveness of the anti-corrosion inhibitor package. The 50-50 mix of coolant also provides boil-over protection, as that mix, with a 15# radiator cap, raises the coolant's boiling point to 265 degrees to prevent puking coolant out the overflow hose during heat-soak after shutdown when the water pump is no longer circulating coolant through the radiator.

Using just water as a coolant is a bad idea, even if you live in the Deep South; you lose the anti-corrosion protection as well as some of the boil-over protection. Cures for

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cooling problems don't come in bottles either; that may help the symptoms temporarily, but they don't address the real root causes--radiator heat transfer capability and airflow management. The red and purple miracles in a bottle are simply surfacants that minimize formation of steam bubbles at the hot casting surfaces contacted by the coolant and are intended only for use with water, not with antifreeze coolant.

Since the OEMs no longer use the traditional green stuff and have switched to more modern coolants, the green stuff is getting harder to find; the modern Zerex GO-5 HOAT coolant or equivalent will work fine in our older Corvettes. Avoid using the Dexcool formulation; there are issues with that formulation leaching the lead out of soldered joints, which can weaken our soldered heater cores and copper/brass radiators.

Radiator

There are two types of radiators in Corvettes--the stacked-plate aluminum Harrison design with a separate expansion tank and the conventional copper/brass type with no expansion tank. The Harrison stacked-plate aluminum design is **by far** the most efficient, as it has the most fin-to-tube contact area, which is how the heat is transferred to the air. Copper/brass conventional radiators need larger cores, as they have less fin-to-tube contact area due to having narrower tubes and they're heavier. Another key difference is that aluminum radiators can't be repaired, and they're expensive to replace; copper/brass radiators can be repaired or re-cored using the original side tanks, and they're less expensive to replace.

A radiator's biggest enemy is internal corrosion. Internal scale formation and corrosion caused by the reaction of dissimilar metals in the cooling system and by worn-out anti-corrosion inhibitors in the coolant causes both structural failure (leaks) and drastic reduction of heat transfer capability due to the insulation formed by the built-up deposits inside the tubes. Radiators don't age well; nobody ever expected them to last more than ten years to begin with, and without regular coolant changes, it doesn't take long for scale to build up and reduce their efficiency. Regular cooling system maintenance is the best recipe to keep a radiator working, but once scale and corrosion has built up, there isn't much you can do to remove it; eventually it's new radiator time.

A typical 10-year-old radiator that hasn't seen regular coolant changes has lost anywhere from 20% to 40% of its heat transfer capability, although it may look good. Don't be fooled by a flow test at a radiator shop; all that tells is that the radiator isn't plugged or severely restricted; it can't measure the radiator's heat transfer capability, which is what really counts. When the time finally comes to replace your radiator, don't be tempted to buy on price; buy a **quality** radiator that at least matches the cooling capability of the original.

Expansion Tank

Conventional copper/brass radiators with fill openings have side tanks that serve as reservoirs to accommodate coolant expansion; that's why the Full Cold mark is several inches below the filler neck--to allow for expansion of hot coolant. The Harrison stacked-plate aluminum radiator has no side tanks; it's all core from end to end, so it needs an external reservoir to provide a fill point and to accommodate coolant expansion. The companion Harrison aluminum tank has the cap/fill point, an inlet from the top of the radiator to provide a path to the tank for expanded coolant, an overflow hose from the filler neck, and the bottom of the tank has a fitting connected with a tee to the return hose from the heater core to the water pump inlet fitting so the tank is connected to the coolant circulation system and functions as a reservoir. These are trouble-free unless the relatively thin aluminum has been attacked by corrosion (which is why they use a unique 307 or RC-26 filler cap with no plain steel exposed to the coolant).

Note that the expansion tank is stamped **Fill 1/2 when cold** on the inboard end. If you fill it all the way or top it off when cold, there's no room for expansion of hot coolant, and coolant will puke out through the overflow hose until enough air space is created in the system to accommodate expansion.

Water Pump

The water pump just circulates the coolant; its speed

The extremely efficient Hatrrison stacked-plate aluminum radiator basic design was used from 1960-1972, and all versions are reproduced by Dewitts.

A typical look-alike copper/brass replacement radiator; note the rounded/stamped end tanks. These have about 30% less cooling capacity than the original Harrison aluminum radiator.

The Harrison aluminum expansion tank with the inlet and overflow at the top and the outlet at the bottom. Only fill half full when cold or it may puke coolant out the overflow during hot-soak.

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relative to the crank-shaft and its impeller design were carefully arrived at by the engineers who developed it to move the correct volume of coolant at the proper velocity through the calibrated restriction of the thermostat to serve the needs of the cooling system under all operating conditions. Its shaft rides in sealed bearings; there hasn't been any need for water pump lubricant for decades. When the bearings deteriorate, you can feel both radial and axial slop in the shaft, and that will start to tear up the seals. That becomes obvious when you see coolant dripping from the weep hole in the bottom of the snout portion of the casting.

Stock water pumps work just fine; there's no need for high flow or race pumps unless you like their appearance. NASCAR race pumps are uniquely designed so they won't cavitate at 9,000 rpm while moving coolant that has to absorb the heat from constant wide-open throttle from an 800-hp engine. You don't need that on the street, and race-pump impellers are much less efficient at normal street operating rpm than the impeller in a stock factory pump. If the pump leaks, either have it rebuilt or replace it. Water pumps are hardly ever the cause of a cooling problem, unless they're really ancient and the impeller blades have corroded away.

Thermostat

This is probably the most misunderstood component in the cooling system; thermostats have absolutely **nothing** to do with controlling maximum engine operating temperature... period. What **does** one do? At cold start, it blocks the flow of coolant out of the engine until the trapped coolant reaches the thermostat's rated temperature, at which point it opens and permits coolant to begin circulating. This aids in rapid warm-up, which reduces cylinder bore and piston ring wear by bringing the engine up to operating temperature relatively quickly. Once it's open, it modulates the flow of coolant through its calibrated restriction so coolant temperture never drops below its rated opening point, assuming the cooling system is efficient enough to cool the engine down to that level. During the winter, the thermostat modulates flow to ensure that the coolant stays at or above its rating point for optimal heater/defroster operation. In most cars, it's essentially wide open all the time, and only the heat transfer efficiency of the radiator and the airflow through the radiator determine the engine's maximum operating temperature.

If you have a 180 degree thermostat and the engine operates at 220 degrees, changing to a 160 degree thermostat won't change the operating temperature one bit; you need more radiator, more airflow, or both, to reduce operating temperature. If you have an extremely efficient cooling system with more heat rejection capability than the engine needs (runs a 180 degrees with a 180 degree thermostat), changing to a 160 degree thermostat may result in reducing the operating temperature to 160 degrees, but this is rare except in cold weather. Furthermore, 160 degrees is too cold; OEM testing has proven that the rate of cylinder bore and piston ring wear at 160 degrees is double the wear rate at 180 degrees. And a coolant temperature of 160 degrees won't let the oil in the pan get hot enough to boil off condensed moisture and blow-by contaminants, which then remain in suspension and accelerate the formation of acidic sludge. 160 degree thermostats were specified in the 1930s for the old alcohol-based anti-freezes, which would boil off and evaporate at 185 degrees; there's no other reason for them.

Balanced-Flow thermostats like Robertshaw makes (also sold by Mr. Gasket with their name on them) are calibrated much more accurately than conventional parts-store thermostats and will maintain a constant coolant temperature with little or no detectable cycling. Although most thermostats are very reliable, they fail closed, which can cause a lot of engine damage in a big hurry, if you don't spot the sudden temperature rise.

Radiator Cap

The radiator cap simply seals the cooling system, and it has a two-way pressure-vacuum valve to maintain a given pressure in the system (typically 15 psi) after the system warms up and the coolant expands (which vents through the overflow hose nipple in the filler neck when that pressure is exceeded). The vacuum side of the valve allows air (or coolant if it is a 1973 or later with a coolant recovery bottle) to flow back into the radiator as a vacuum is created when the system cools down.

The radiator cap, like the thermostat, has absolutely **nothing** to do with maximum operating temperature...

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The stock Corvette water pump was designed and developed to meet the needs of the cooling system; you don't need a race water pump.

5

A conventional thermostat on the left and a balanced-flow type on the right; the balanced-flow type is more accurately calibrated.

6

The radiator cap, which maintains system pressure, vents overflow and admits air on cool down. Most auto parts stores can verify its seal and pressure calibration.

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period. If you have a cooling problem and replace a 15# cap with a 22# cap, the operating temperature won't change one bit. What **will** change is the temperature at which the coolant will boil (and puke out through the overflow hose), as the coolant's boiling point increases with increased system pressure. There's another coolant lesson here-- a 50/50 antifreeze/water mix at 15 psi boils at 265 degrees, while a water-only coolant at 15 psi boils at about 250 degrees. The 50/50 mix provides another 15 degrees of boil over protection.

If you're not sure the cap is sealing properly or venting at the proper pressure, most auto parts stores have a cap tester to verify its operation.

Lower Radiator Hose

The upper radiator hose is always under pressure, but the lower hose lives at the intake (suction) side of the water pump, and under some operating conditions (acceleration, sustained high rpm) is under a partial vacuum. That's why the original lower radiator hoses had an internal coiled steel wire reinforcement to keep the hose from collapsing and restricting flow back into the water pump. Over time, this coil corrodes (and sometimes disappears completely); it won't be obvious visually with the engine idling, as pump inlet suction is minimal at idle. Squeeze the hose with your hand; if it collapses, the reinforcement is history, and the hose should be replaced. This is frequently a contributor to abnormally-elevated highway-speed operating temperature. Curent OEM and reproduction lower hoses are made from improved materials, and generally don't have (or need) the internal wire reinforcement.

Fan Shroud and Seals

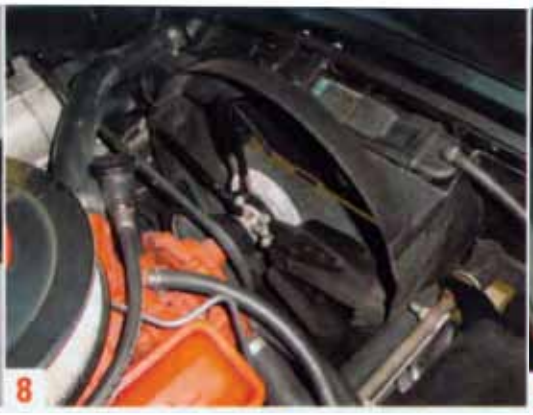
Managing airflow through and across the entire surface of the radiator core is the fan shroud's job especially at idle and at low speed in traffic (in combination with the fan). The shroud must be the correct part to fit the radiator configuration, and the gaps between the two should be sealed with foam strips or rubber flaps so the fan forces all incoming airflow through the radiator core, not around it. The radiator itself should also be sealed to the radiator support for the same reason, and most original A/C installations included these seals. Many configurations also have a rubber flap or foam seal between the top of the radiator support and the hood inner panel; this eliminates that gap when the hood is closed and does two things. It closes off another path for outside airflow to go over (instead of through) the radiator, and it stops the phenomenon where hot under hood air is drawn over the top of the radiator support and gets recirculated through the radiator again. You only want cooler outside air flowing through the radiator, not hotter under hood air.

Fans and Clutches

The fan's job is to pull as much air as possible through the radiator core at idle and in low-speed traffic and to present minimum airflow restriction to ram-air through the radiator at highway speeds. Factory fans are very carefully designed for maximum efficiency (and minimum noise, which is why the blade positions are staggered) and designed to provide maximum efficiency when the tips of the blades are half-in/half-out of the rear edge of the shroud, with approximately one-half-inch clearance from the blade tips to the shroud. The radiator/shroud/fan combination on each Corvette is the result of a lot of tedious hot-weather development work by the engineers who designed it. The original system is tough to improve on, assuming that all the components of the cooling system are functioning properly and haven't been butchered, altered, removed, substituted, or back-yard-catalog-engineered to improve them. These cars didn't overheat under normal conditions when they were new, and they shouldn't now, if the system is still composed of the correctly-configured components.

The job of the thermo-modulated fan clutch is to move as much air as possible at high coolant temperatures and to relax at high rpm and normal operating temperatures for reduced noise levels when maximum cooling isn't required. The temperature-sensitive bi-metallic element on the front of the clutch (a coil on Eaton Clutches, a plate on Schwitzer clutches) reacts to the temperature of the air exiting the radiator and actuates an internal valve that controls the flow of the fluid that determines the degree of lockup.

Original lower radiator hoses had this coiled steel wire reinforcement to prevent collapse. Modern hoses are made from better materials and generally don't need the wire to keep them open.



The fan, clutch, radiator and shroud are an engineered system; keep them as originally configured to maintain your Corvette's cooling airflow management.

The thermo-modulated Corvette fan clutch is key to idle and low-speed airflow and far more efficient than any flex-fan.They can be rebuilt when not working properly.

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Most of them essentially disengage over 3500 rpm, and in the C2/early C3 days they were calibrated to tighten up and engage fully at about 190 degrees and at around 210 degrees in later C3s. Remember that when you buy a current Eaton or Schwitzer replacement, most have the later calibration and won't be quite as effective as the original clutch when it was new. Several people in the hobby can rebuild an original fan clutch to the original calibration, if that's important to you.

What about flex-fans! GM never used them. Flex-fans aren't as efficient at moving air as the factory fans. They present more of a ram airflow restriction at highway speeds than a factory fan when the flexible blades flatten out, and some of them have a bad reputation for shedding blades due to metal fatigue at the blade-to-hub attachments. The factory fan and clutch is a much better all-around system than a flex-fan. GM wouldn't have spent the money for an expensive thermo-modulated fan clutch if they thought a cheap flex-fan would do the job just as well.

What about aftermarket electric fans? Unless you get a really well-engineered dual-fan set up with a full shroud that covers the entire face of the radiator core (with pressure-relief flaps for added ram airflow at highway speed), they're a poor substitute for the factory fan setup. They don't move anywhere near the volume of air the fan/clutch system does, and they place a major electrical current draw (30-40 amps) on the system at the worst time--when the alternator is at its lowest speed. The typical single round aftermarket fans that attach directly to the radiator core only draw air through the portion of the core that's enclosed within the diameter of the fan blades. The other 50% of the face of the radiator core gets no airflow at all, but the factory shroud ensures that air is drawn through every square inch of the core, all the way to the corners.

C3 Front Air Dams

The primary difference between the C1/C2 and C3 cooling systems is the source of outside air for the radiator. C1/C2s have the traditional direct airflow through the grille into the radiator. C3s were the first generation of bottom-breather, where most of the airflow into the radiator is deflected from below through holes in the lower front bumper/facia area with the help of plastic air dam panels. These fragile pieces are frequently on the losing end of contact with speed bumps, drive way entries, and parking lot blocks. This doesn't affect cooling much at idle and in low-speed traffic, but loss of those panels will have a major effect on highway-speed cooling due to lack of adequate ram airflow through the radiator. Keep an eye on them and ensure they're in place and securely attached so they can do their job at freeway speeds.

Temperature Gauge and Sending Unit

Corvettes use an electric temperature gauge, driven by a sending unit in the intake manifold or cylinder head. The sending unit sensing element is directly exposed to the coolant leaving the engine and contains a thermistor (temperature-sensitive variable resistor). 12 volts is supplied to the gauge, which is then connected through a wire to the terminal on the sending unit. At the sending unit, the 12 volts go through the thermistor element to ground through the threads on the sending unit. The varying resistance of the thermistor (with coolant temperature) causes deflection of the gauge needle to indicate the coolant temperature.

When the sender and gauge were made, they were calibrated to a standard value so they worked together to provide a reasonably accurate indication, but they are not laboratory-standard precision instruments. Age, dust, dirt and moisture affect the gauge movement and its electrical components, and the sending units also deteriorate with the years. Replacement sending units are not accurately calibrated to match the gauge, and almost all of them cause the gauge to read 20-40 degrees too high, although the Wells TU-5 (at AutoZone) has proven to be much closer to original calibration than any of the other replacements. Several hobby vendors now have replacement senders that are advertised as being properly calibrated.

Before you dive into solving a cooling problem, make sure you really have one. **Step #1** is to either buy an infra-red temperature gun or go to a shop that has one and shoot the upper radiator hose just above the thermostat housing with the engine at full operating temperature. Compare that reading with what the gauge shows at the same time so you

10

The gauge you hate to look at if your cooling system isn't up to snuff; verify its accuracy with an infra-red gun so you know what it's really telling you.


11

The original AC temp sending unit on the left, and a Wells TU5 replacement on the right; calibration of replacements is always suspect; check the gauge reading against an infra-red gun shot of the upper radiator hose.


12

The Raytek MT-4 infra-red temperature gun is the best cooling system diagnostic tool you can buy of verifying coolant and component temperatures.

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know what the gauge is really telling you.

Ignition Timing

What in the world does ignition timing have to do with cooling problems? **Plenty.** I've gone into the detail of the murky and little understood world of ignition timing and vacuum advance in other articles, but suffice to say that inadequate spark advance at idle is a **major** contributor to idle and low-speed cooling problems, especially on engines equipped with A.I.R. (Air Injection Reactor) systems and ported vacuum for the distributor vacuum advance diaphragm. These engines (and some without A.I.R. as well) had intentionally-retarded spark at idle, which significantly increased exhaust gas temperature, most of which was then transferred through the exhaust port walls into the coolant in the cylinder heads.

Without going into gory detail, the cure for this is to connect the distributor vacuum advance to full manifold vacuum and re-adjust idle speed and mixture screws to reduce exhaust gas temperature and stabilize the idle with the vacuum advance fully-deployed. You'll also need an advance can calibrated so it's fully-deployed with at least 2" Hg. less vacuum than the engine develops at idle (available at NAPA).

Summary

The coolant carries the engine's heat to the radiator, which rejects it to the air passing through it. If the radiator can't reject the heat to the air passing through it as fast as the coolant delivers it, you've got a cooling problem. Ninety percent of the time, the problem is either the radiator or airflow management. Check each component, isolate the root cause and repair or replace it. If you add more motor (which makes more heat), add more radiator. Most low-speed cooling problems are related to airflow management and/or ignition timing, and most highway-speed cooling problems are related to the radiator or restricted air or coolant flow; the solutions come in boxes, not bottles.

Keep your Corvette cooling system in top shape and you can watch the scenery while cruising instead of the temperature gauge.

This article was written in 2013 and some products may no longer be available.

13

For optimum idle and low-speed cooling, a vacuum-advance unit must be calibrated to idle vacuum level and connected to a full manifold vacuum source, not to ported vacuum.

14

Basic tune up tools are essential to set dwell, set and map timing and advance curve, and adjust idle mixture.

15

Setting correct initial timing and ensuring that vacuum advance unit is fully deployed at idle are essential for maximum idle and low-speed cooling performance.

Red River Chapter is recognized by the Solid Axle Corvette Club. SACC is a non-profit organization and membership is open to anyone who has an interest in 1953-1962 Corvettes. The Editor and Officers of Red River Chapter have made every effort to ensure that *Straight Talk* contains no inaccuracies, omissions or errors and is non-offensive and non-political and disclaim liability for any that may occur. Technical articles are many times based on personal experiences and preferences and are intended only as guidelines or helpful information for club members.

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1958 Charcoal Corvette out of our collection.
Very nice car. Asking $85,000. Mike. 954-594-2492

We Flew to the Convention

SACC tent and parking area at Carlisle on Saturday. Vettes as far as you can see. Dennis Conte's Jewel Blue '61 is on the left and Don Eckhart's Red '58 is on the right.

by Diane Preston

Bill and I were REALLY looking forward to the 2020 SACC Convention scheduled during Corvettes at Carlisle! It didn't happen, of course, because of Covid19. But we were thrilled when they decided to keep the 2021 Convention in the East Region at Carlisle. We had attended the 2017 Convention there and wanted to go back again.

We had a totally different experience at this year's Convention than Don, Denise and Dennis from our Chapter had, because we flew instead of driving a 64-year-old Corvette 1,384 miles each way. It cost $79 to fly Southwest each way, plus we had to rent a car, which was pricey due to the car shortage. I think that's still cheaper than driving and paying for all that gas, hotels and food for six days on the road... But what fun would the Convention be if everyone flew?

We drove straight from the Baltimore airport to Hershey, Pennsylvania to go to the Antique Auto Club Museum. We were there in 2017 and could only hear them building the new Tucker exhibit... torture. David Cammack's huge Tucker Collection is on permanent loan, and it was worth the four-year wait for us to go back and see it. We've been Tucker fans for a long time... even before our grandson was named for its inventor, Preston Tucker.

We had already seen the permanent exhibits, so we spent most of our four-hour visit with the Tucker exhibit. In addition to three Tuckers there were prototype engines, dealership literature and contracts, prototype drawings and much, much more. They expect more items to be donated from collectors and the Tucker family, since this is such a fantastic place to keep it all together... permanently. If you don't know about the Tucker Automobile, there's a movie... "Tucker: The Man and His Dream".

We could have gone to nearby Hershey Park, but we did that last time and ate too much candy. So, we headed west to Mechanicsburg and the Convention host hotel. There were a few old Vettes and their owners already there the day before the official beginning of the Convention. We went to dinner with a bunch of members from Detroit and

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had a great evening.

Wednesday was the day for the Board meeting in the morning and the meeting with all of the Chapter Reps in the afternoon. We learned then that President Larry Spillman had been put in Covid quarantine at the last minute and the Board members and other volunteers had taken over responsibility for running the Convention. Everything ended up going very well from our point of view, but we know that it was a BIG job to keep the boat afloat. And they pulled it off! That evening's reception and buffet was conveniently catered at the Fairfield. By then most everyone had arrived... including our road warriors from Texas.

Bill and I really enjoyed the chartered bus tour of the nearby Gettysburg Battle Field and Museum offered as a side trip on the Convention schedule. The tour guide was great and took us to some significant spots within the battlefield. I'm really glad we had a chance to do that.

Our certified Gettysburg guide gave us a great tour of the Gettysburg battlefield.

A parade of beautiful C1 Corvettes drove to the Country Club for our banquet.

That evening was our Convention banquet at the Carlisle Country Club. As usual there were Silent and Live Auction items. Also our guest speaker was Lance Miller, son of the founder of Carlisle Events.

Friday was the first day of Corvettes at Carlisle! Most of the Solid Axles toured out there together. Bill and I stayed at the hotel to try to help Dennis Conte with an alternator problem that had developed on Thursday after he arrived. We went to a lot of parts places and talked to a lot of car guys. Eventually we ran down an alternator shop in Harrisburg that could, hopefully, repair Dennis' Vintage tach-drive alternator. NO LUCK. After spending several hours there he couldn't fix it. Dennis bought a regular alternator to get him home and then the challenge was to rig a bracket to mount it.

The SACC tent and all the C1s are parked right inside the main entrance to the Carlisle Fairgrounds. Dennis Conte's Jewel Blue/White 61 can't be missed!

We missed the tech sessions that were held out at the SACC tent and display area at Carlisle on Friday. These sessions are always great. But it was beastly hot and humid out there Friday and maybe it was a good thing we spent most of the day in our air conditioned rental car with Dennis visiting automotive stores... we could have had heat stroke.

We did spend all day Saturday at Corvettes at Carlisle. The 1954-62 Corvettes that were parked in our SACC display area were an awesome sight! I think there were 45 of them! Bill and I walked the large vendor area that is mostly Corvette related "stuff". All the "pros" had booths there too, like Clocks by Roger, John DeGregory Fuel Injection specialist and many more. The size of the swap meet pales in comparison to Pate Swap Meet here at TMS, but remember... this is just Corvette stuff!

Don and Denise did stay behind and help get Dennis' 1961 equipped with the new alternator on Saturday morning. Everyone ended up at Carlisle before too long. I spent most of the day in the shade of the SACC tent visiting with people, helping sell shirts, hats, jackets, and enrolling new club members. Our biggest club membership enrollment is at this event each year.

Going to car club conventions has been our annual summer trip since 2004. We love going to them. We've gotten to see a lot of the country. They usually have interesting side trips, that an individual frequently cannot visit, like private car collections and shop tours. Sometimes we drive and sometimes we fly... depends on how far it is and whether Southwest Airlines flies there. Our daughter working for SWA qualifies us for free flights... space available, after stand by passengers and almost every other person in the world. It's a lot like playing chess.

Attending Conventions also builds a network of friends with a common interest from all over the country. That's how we first met Don Eckhart at the Seattle Convention in 2015. He and Bill hit it off due to their common interest in keeping their Rochester Fuel Injection units running. He would even come to Texas to visit us... and his girlfriend, Denise. He liked us so well that he moved here.

We are looking forward to next year's Convention in the West Region ... we will probably fly, but I know Don and Denise will most certainly drive the 1958!

Technical Help from the Solid Axle Corvette Club

These and other questions and answers available at: solidaxle.org under Technical Help.

To submit a technical question regarding a 1953 to 1962 Corvette, simply e-mail sacctech@solidaxle.org. In the subject box you need to put "sacctech/ (your SACC membership number)". Example: sacctech/1234

Question: Will a 61 speedometer fit a 58 Corvette?
Answer from Chip Werstein, SoCal Chapter Advisor: The 61 speedo will bolt right in to the 58 but I think numbers on the face and the pointer are slightly different.

Question: I purchased a 15" Corvette Central steering wheel hub with bell and rivets. The holes in the steering wheel are smaller than the holes in the hub. And the hub will not go onto the splines on the steering post. Has anyone else had this problem with the aftermarket parts? If so, how was the problem remedied?
Answer from Bill Huffman, Michigan Chapter Pres.: Your first call should be to Corvette Central for technical help with this. Original wheels are riveted to the hub whereas aftermarket steering wheels, both 15" & 17", are are bolted together with special screws & nuts that externally appear similar to originals. All hubs are "keyed" so there is only one orientation that fits the shaft spline.

Question: Is there any way to get the side mirror GLASS out of the housing? It's flopping around. I'm guessing there is some kind of mechanical device in there that needs something done to it. Would love to put a Convex mirror in place but so far no luck finding one that's the 4 1/4"diameter.
Answer from Larry Pearson, SoCal Chapter Advisor: There is nothing behind the mirror glass to make it tight. The factory placed the mirror disc in the housing and then a machine rolled the lip of the housing tight against it. The only way to get the glass out is to break it. You can tighten it up by taking a suction cup and pull the mirror disc to one side and then work clear RTV Silicone sealant into the gap on the other side. When the RTV cures, the mirror disc will stop rattling. You can replace the original disc with a convex mirror if you can find a round convex mirror that is larger than the diameter of the housing and having it cut down by a glass shop to fit in the housing. Use clear RTV Silicone sealant around the back side of the perimeter of the mirror disc, push it into the housing, and it will be secure when the RTV cures. I successfully did this with the original outside mirror for my 1951 Oldsmobile when the glass broke all on its own. The "fix" has been in place for over 30 years now.

For your information, the original glass in your outside mirror is called "Black Glass". On the original factory mirrors the black surface is on the outside surface of the mirror disc and it is easily scratched, and the scratches cannot be removed without damaging the remainder of the black surface. On some service replacement mirrors, the black surface is on the back side of the glass. NCRS judges look for this discrepancy. There is a way to check it, if you are interested.

Question: I have a 62 Vette with brake shoes. The front end was completely rebuilt 4 years ago which included brakes and bearings as well. Yesterday I applied the brakes at a speed of about 40 mph and suddenly the steering wheel began to shimmy. The shimmy was very noticeable. Never occurred before. Drove home and parked it. I feel it is unsafe to drive. Can you give me some advice on this unusual behavior what most likely where to begin looking.
Answer fom Doug Prince, SoCal Advisor: The brake shoes and or drums have become glazed or contaminated by oil or grease and erratic braking is causing the steering wheel to "shimmy". Fixing this problem is not rocket science as you must examine the brake shoes and drums for these problems. Sometimes just cleaning and sanding will be enough to correct the problem, but complete replacement may be the only solution.

Question: I have a '61 Corvette. The nuts inside the door that hold the striker plate have rusted and while trying to get them out they broke off. How can I get in there and place a new striker plate nut component so I can put the striker plate on to shut my door? Any help is appreciated.
Answer from Chip Werstein, SoCal Chapter Advisor: As for as I know, there is only one way to access the striker nut plate which is located inside the door jam (you can barely see it after removing the gas tank cover, but it is not accessable). After removing the rear tires, determine the aprox location of the nut plate in relation to the fender well. Then cut an aprox 5" square hole (could be round I guess) as neatly as possible in the fender well. At that point you'll be able to access the plate. Once replaced you can glass up the hole using the piece you cut out. Perfect glass work is not necessary since that area of the fender well is undercoated. Once the glass work is complete, re-undercoat the area. I have done this several times and it not as

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difficult as it may sound.

Question: I have a 1960 with a 4-speed Muncie. While pulling the engine for a clean up and rebuild I decided to pull the tranny out and clean it up as well. While doing so I noticed that the cross member that the tranny mount is mounted on is spaced down from the x frame members by about 10 3/8 washers. The cross member bolts up to the x frame and does have room to be spaced down but just doesn't seem like something that would be done factory. Before I put it back together I wanted to reach out and see if others are that way as well.

Answer from Larry Pearson, SoCal Chapter Advisor:
In the first place, the Muncie transmission did not exist in 1960. I think it was introduced in late 1963 and was used in all the 1964's and later Mid Year Corvettes and sedans. The 1960 Corvettes with 4-speeds came with iron cased T-10 transmissions with aluminum tail shafts. How a Muncie transmission installs in a 1960 Corvette is unknown to me, or Chevrolet for that matter. In 1962, the T-10 became all aluminum and the rear mount was moved forward, requiring a trapezoid shaped adaptor plate to make it work with the existing cross member and in place of the former mounting bracket. They also used two 1/8 inch thick spacer bars (shims) (one on each side) to slightly lower the rear cross member. Chevrolet never used washers to space the cross member down. I suggest that you stack these spacer bars to lower the cross member as needed to make your Muncie work. Corvette Central sells reproductions of the spacer bars (shims). According to Corvette Central's catalog, the trapezoidal adaptor plate works to mount a Muncie in C1 Corvettes, and maybe you have it.

Answer from Doug Prince, SoCal Chapter Advisor:
Larry is completely correct about the history of the factory transmission mounts prior to 1962. The adaptor and spacers that he mentions will correctly adapt a Muncie transmission to a C1 Corvette as many others in the hobby have done this conversion. When done you would think that Duntov and GM thought about of this conversion as it is so simple to do if you know what goes where. I did it 25 years ago on my 1961.

Question: I recently acquired a 1962 Corvette and am in process of restoration. I have been told by the previous owner that the 62 body is mounted on a 1958 frame. However, in replacing the rear axle bearings (outer) I discovered three unknown conditions.

1. The axle bearings have a single groove around the perimeter for a single o ring ?
2. There is no rear axle seal (garlock type) pressed inside the axle housing?
3. There is a small amount of play (slop) when pushing IN and pulling OUT on the axle shaft when installed and the four retainer bolts/plate is torqued in the housing?

Question? How can I determine the YEAR of manufacter of my housing?

I suspect that someone has installed 1957 (or earlier) axles and bearings in a 1958 axle housing assembly? Is this possible? I understand that the 1957 bearings are more narrow than those used in 1958.

My differential is a NON-POSI

Answer from Chip Werstein, SoCal Chapter Advisor:

1. Your axle bearings with one grove are non posi bearings.
2. The o ring is the axle seal. I always put some sealer in the housing where the bearing seats against the housing just for insurance. The o ring is sometimes not a totally effective seal.
3. I believe that axles are designed to have a small amount of play.

I have also read that the 56-7 axles and bearings were different from other years and that posi axles are different lenghts than non posi, but I have never paid any attention to that. I have changed rear ends in many Corvettes and early Chevys and never had a problem. If you're worried about it, I would suggest more research.

I believe 57 to 58 axle housings are all the same. 59-62 had the welded brackets for traction bars. All 57 thru 61 have a drain plug. 62's do not.

Question: 1962 Corvette, is the cowl vent screen painted body color, or black?

Answer from Chip Werstein, SoCal Chapter Advisor:
Cowl vent screen is painted body color.

Question: I realize that the top of the vent is painted body color, but the underside of my vent appears to have been painted a flat black. Including the screen. I see no trace of body color in this area. What is correct, all body color, or black and body color?

Answer from Brad Bean, SACC Vice President:
During an earlier repaint, someone may have painted the screen and underside black, so it would "disappear" when open. Or... bug hits chipped away at the original screen paint and it was easier/cheeper to take a spray can and paint it black. However, the correct/original color would have been the same as the car's exterior.

Question: I'm in Australia. I've completed a frame off restoration on my 61 Corvette. I'm stumped with completing replacement soft top. I try to download Al knocks video on replacing the canvas roof twice. Already spent 80 US dollars and don't have DVDs, I would be eternally grateful if someone could help with tech drawings or knowledge .

Answer from Larry Pearson, SoCal Chapter Advisor:
Michael: Whoever you bought the top from should have paper instructions with the top telling you how to install the top fabric. If you have never installed a convertible top before I suggest that you pay an upholstery shop to do it. If you want to do it yourself, it would be very helpful if the old top was still on the frame so you can see how it

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was installed. Or if you have access to another 61 or 62 Corvette so you can see how the top is installed. The 61 and 62 Corvette top frames are different from the earlier frames. The rear bow that latches to the rear deck lid is made of aluminum and the top attaches to it with the rubber weatherstripping and a plastic bead that is forced inside the weatherstripping to retain the top fabric to the rear bow. It is virtually impossible to tell you in words how to install the top fabric on the top frame. Here are the basic steps you must take to install the top without a lot of detail:

1. Install the six side weatherstrips to the top frame using the metal retainers and special weld nuts on the inside.
2. Install the top frame to the car body and adjust the frame up and down and back and forth until it fits the side windows perfectly when the windows are all the way up. The side frames attach to the front header using slotted holes to assist in making the adjustments. The window stops must be properly adjusted so that the side windows go up the proper amount. Not too high or too low. If you have a hard top, use that to adjust the window stops so that the side windows go up the proper amount. The linkage that goes up to the center pivot point on the side frames is used to raise the pivot point so it follows the shape of the side window frames. That is all it does. Do not proceed until the top frame fits the side windows as perfectly as possible. Things will only get worse once the top is installed.
3. Install the top pads to the bows. The top pads position the bows using flat head screws that secure the pads to the three front bows. Measure a properly installed top to determine the spacing of the bows. The bow above the rear window has a tacking strip and the pad is nailed or stapled to this. Don't attach it until step 6. The pads attach to the front header with nails or staples into tacking strips. Don't attach until step 7.
4. Remove the rear bow from the top frame and install the top to it using the rear deck weatherstrip and a plastic bead that is forced inside the weatherstrip to retain the top fabric to the rear bow. Make sure it is accurately centered. Install the two fabric straps that go on each side of the rear window to the rear bow using the metal clamps. These clamps go on the inside of the car, not on the outside under the top fabric. These straps protect the rear window from excess stress that could tear it.
5. Reinstall the rear bow to the top frame and clamp it to the deck lid using the two chrome clamps. You may find it necessary to unlatch the rear bow during the stapling process to make everything tight. Now you have the top fabric attached to the rear bow and things get very difficult from this point if you want to avoid wrinkles. You may have to re-do the job several times to get everything straight and tight and wrinkle free. Don't cut the top fabric and pads to size until everything is right. The top must end up being very tight on the frame or it will "balloon" at speed.
6. The rear window fabric overlaps the top fabric at the rear window bow, which has a tacking strip for attaching the top. The order of attachment is: the rear window straps, then the pads, then the rear window fabric, then the top fabric, and last the "wire-on" binder (step 10).
7. Nail or staple the pads to the front header.
8. Roll the top fabric over the front header and nail it and the small side tabs to the tacking strips under the header. After everything is right, screw the front header weatherstrip to the front header using the metal retainer and the oval head screws.
9. Attach the side flaps to the top frame verticals using 3M weatherstrip adhesive. The vertical weatherstrips have to be removed to do this. Install the small corner weatherstrips that bridge the gap between the top frame and the rear bow weatherstrip before reinstalling the vertical weatherstrips.
10. Using a silicone sealer, attach the "wire-on" binder on to the rear window tacking strip using tacks or staples. It is important that this area be sealed against water leakage to avoid water wicking onto the cloth backing on the top material, causing water stains inside the car. Install the chrome ends to the "wire-on" binder after trimming them to the proper length. Go inside the car and use a pin to locate the existing mounting holes.

Question: I'm a new owner of a 1962 Corvette which has the original Wonderbar radio that does not work. I think this is not an unusual situation, so I hope others may give me the benefit of their experience on how to remove this radio and advice on getting itrepaired.

Answer from Bill Huffman, Michigan Chapter Pres.: Removal is relatively low tech after you have reviewed your 1962 Corvette Assembly Manual (available from Corvette Central or Mid-America). You may have to remove the package tray and pass side console-to-kick panel lower panel get access.

Disconnect the radio power wiring connector (LR), the radio speaker connector (Top) & antenna cable (RR). Then, remove the two radio knob sets & two retainer nuts.

Various cables, wiring, defroster duct & console lower trim may need to be moved aside or disconnected to allow the radio to drop down & pulled out.

Support the bottom of the radio while you remove the 1/2-20 7/16 head screw from the radio/support strap on the passenger side.

Both my Wonderbar radios were repaired at Corvette Clocks by Roger, in Jackson, TN. http://www.corvette-clocks.com/

Please include completed application with your dues renewal

Solid Axle Corvette Club Membership Renewal/Application

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If you **do not** want your name listed in the roster initial here: _____

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Check out the SACC website at http:/www.solid axle.org

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Would you like to serve our chapter as an officer, coordinator, writer, event volunteer, etc?

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What events would you like our chapter to host? (Car Shows, Driving Tours, Tech Clinics, etc.)

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Indicate original, modified, race car or unusual options, etc.

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