

Volume 47, Number 1

January 2022



VALLEY FORGE REGION CADILLAC / LASALLE CLUB



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 Last page from Holiday Magazine March 1961

BOARD OF DIRECTORS

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 Ron Hux
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 Gary Anderson [1983-7]
 George Cavanaugh [1988-9]
 Jack Hotz [1990-1]
 Don Miller [1992-3]
 Bill Edmunds [1994-5]
 Jack Hotz [1996-9]
 Toni Rothman [2000-01]
 Rob Robison [2002-03]
 Mike Barruzza [2004-05]
 Marty Watkins [2006-09]
 Cliff Woodbury [2010-2011]
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In This Issue

Mike's Missives (President's message)	1
Calendar	2
VFR Meeting News & Website Statistics	3
Attention All VFR Members: SPAM & PHISHING EMAILS ALERT	4
Have No Regrets By Robert Schles	5
The 2021 VFR Holiday Banquet	8
1 Of 4! 1939 Cadillac V16 Convertible Sedan <i>[Barn Finds]</i>	11
CLC National News	13
Betty's 100th Birthday Bash	14
Improve Classic Car Braking <i>[Hemmings]</i>	15
Cadillac 100 Years Then And Now	20
The 1961 Coup deVille Ad	21





Director's Message

Greetings. Happy New Year to everyone. I hope your holiday festivities were enjoyable. Our family kept things simple again this year. We are all looking forward to a better 2022.

It is indeed a New Year. Starting with a "new" *The Goddess* monthly newsletter! We welcome and thank Robert Schles as our new Editor! Rob plans to involve *you*, our VFR members, to contribute information and articles in each issue. VFR members enjoy reading about other members' experiences with their Cadillacs & LaSalles... road trips, driving tours, shows, repairs, restorations, how you found your car or that elusive part. To submit an article for publication in *The Goddess*, email a draft to Rob at least one month in advance of the publication date. He will work with you edit your article for grammar, punctuation, spelling, conciseness, and word-count.

Another change to *The Goddess* starting this year is that it will be published every *other* month rather than monthly. This gives Rob and contributors more time to find and write interesting, informative, educational, and compelling articles and content. Don't worry; we will keep VFR members informed of events, happenings, and developments each month with email updates, similar to the emails that the Raritan River Region sends each month.

Another change we plan for *The Goddess* is to include classified ads in the newsletter, as well as on the VFR website. These will be free for VFR members; non-VFR members who would like to place a classified ad will be charged a nominal fee.

The VFR Board of Directors starts a new two-year term this month. Having received *no* nominations for candidates, as current members of the Board have each agreed to serve another two-year term, I made a motion to approve the current members of the Board to serve another two-year term at the December 21st monthly meeting held via Zoom. This motion was approved by a majority of the board at the meeting and by proxy. We will elect/appoint officers at the January 18th monthly meeting.

We will also discuss activities for 2022, which (we hope) will include one or two dealer shows, one or two social cruise-ins and picnics, banquets, brunches, and VFR's return to Lahaska in the fall. We also plan to organize joint activities with neighboring regions, which went very well last year. Please join us on January 18th at the Desmond Hotel to share ideas and to get involved. As I mention each month, we are always looking for new ideas of social and Club activities to host. If you have an idea, let me know by email or phone. Anything we do next year requires assistance from you, our members. We need help with organizing events, collecting & tracking registrations & payments, coordinating food, activities, and judging at shows. Contact me and let me know your willingness to help and in what capacity, so we can plan such activities based on the help we will have. We cannot commit to an event like a dealer judged show if we do not



have adequate volunteer help. If you are interested and able to help in any capacity, please contact me as soon as possible.

If you cannot attend the monthly meeting in person, or if weather/road conditions cause the in-person meeting to be cancelled, we will continue to stream the monthly meeting live via Zoom. The Zoom Meeting information can be found on the VFR Meeting page.

Updates to Regional & Inter-Regional Events:

January's monthly meeting will be held in-person and *virtually*, via Zoom on Tuesday, January 18th at 7:30pm.

The Potomac Region invites everyone to attend a **FREE** buffet dinner (cash bar available) at the **Antique Automobile Club of America (AACAA) Museum** in Hershey, PA on **Sunday, January 16, 2022**, from 5:30 PM to 8:30 PM to celebrate the 100th birthday of the great American icon, Betty White (see attached flyer). The dinner is sponsored by CLC Potomac Region member Nick Ferrantino of Houston, TX, who donated Betty's 1977 Cadillac Seville to the AACAA Museum where it is on permanent display. The car was given to Betty new by her late husband, *Password* host Allen Lunden. She named it "Parakeet" and now the car is affectionately called "Betty." **RSVP is REQUIRED by end of day Friday, January 7, 2022, to Christopher Winter via email at cchwinter@cavtel.net**

A table outlining car events in and around the region is on the next page and is updated each month. Consult respective websites, Facebook pages and organizers for updates on shows and events hosted by other regions, clubs, and organizations. Let the Club know of any local events in your area by forwarding information to *The Goddess* Editor Robert Schles, and posting on the VFR-CLC Facebook page: <https://www.facebook.com/CadillacandLaSalleClubValleyForge>

Thank you all for your comments, suggestions, and continued support. Keep your CLC family in your thoughts along with your immediate family. Please stay *well!*

Your Director, *Michael Stinson*



Entries below should be regarded as tentative given the fluid situation concerning assemblies and the COVID-19 virus. Watch for e-mail updates, and check relevant websites as dates approach for possible postponement or cancellations.

14-16 Jan 2022	Allentown, PA	AutoMania. See https://www.hemmings.com/events/detail?listing_id=59771
25-30 Jan 2022	Irving, TX	CLC Winter Board Meeting
28 Jan 2022	Carlisle, PA	Winter Carlisle Auto Expo. See https://www.hemmings.com/events/detail?listing_id=59772
24-26 Feb 2022	Philadelphia, PA	AACA National Meetings
25 March 2022	Westminster, MD	52nd Annual Maryland Parts and Swap Meet. See
15 April 2022	Morgantown, PA	Indoor/Outdoor Auto Parts Swap Meet and Car Corral at Classic Auto Mall https://www.hemmings.com/events/detail?listing_id=59687
20 April 2022	Carlisle, PA	Spring Carlisle. See https://www.hemmings.com/events/detail?listing_id=59774
21-25 June 2022	LOMBARD. IL	CLC GRAND NATIONAL 2022 CHICAGO HTTPS://WWW.CADILLACLASALLECLUB.ORG/EVENTS/EVENTDETAILS.ASPX?ID=1515121&GROUP=

SAVE THE DATES!

CLC National Driving Tour 2022 When: Sunday, 10/30 to Friday, 11/4

Virginia Beach, VA - Outer Banks, NC - Wilmington, NC - Myrtle Beach, NC - Charleston, SC

Contact: Dave Rubin david@DavidBRubin.com 914-980-6776

More information will be featured in a future issue of *The Goddess*



RECURRING EVENTS

3rd Tuesday, each month	Malvern, PA	Valley Forge Region monthly meeting: combination in-person and virtual meeting via Zoom until further notice.
3rd Thursday, each month	South Plainfield, NJ	Raritan Region monthly meeting; St. Stephen's Church banquet hall; 609 Lane Ave.; 7:30 PM
3rd Thursday, each month	Harrisburg, PA	Central PA monthly meeting; Gilligan's Bar & Grille; 987 Eisenhower Boulevard; 7:30 PM



VFR DECEMBER MEETING NEWS

Last month, Michael Stinson had a possible Covid exposure. Out of caution, the December meeting was held virtually via Zoom on December 22nd. The agenda covered the approval of the VFR Board of Directors. Those board members present approved the uncontested election via Zoom with 3 approving via email. Congratulations to all winning board members! During the January meeting, offices for the club will be elected by the Board. Be sure to attend this very important meeting on January 18th at the Desmond Hotel. As always, all VFR club meetings are available via Zoom from the following link:

Join Zoom Meeting

<https://us02web.zoom.us/j/71438914122?pwd=UDZDQUUgOFRtYVRSZmdacDNaa0JDQT09>

Meeting ID: 714 3891 4122

Passcode: VFRmonthly

One tap mobile dial-in:

+13017158592,,71438914122#,,,,*2569716791# US (Washington DC)

+13126266799,,71438914122#,,,,*2569716791# US (Chicago)

Dial-in by your location (audio only):

+1 301 715 8592 US (Washington DC)

+1 312 626 6799 US (Chicago)

VFR Website Statistics (courtesy Jeff Hansen):

Mid-November to mid-December (11/14 to 12/18 - 35 days): 95 website visitors (or 2.71 per day). This compares to 98 visitors (3.5 per day) over the previous period (mid-October to mid-November, 28 days in length).

Top countries where our visitors are from: USA (71), China (13), Netherlands (7), and South Korea and Nigeria with 2 visitors each.

10 most popular pages:

- | | |
|--------------------------|------------------------------|
| 1. Home page | 6. President's Message |
| 2. The Goddess | 7. Classifieds |
| 3. Current News | 8. Online Calendar of Events |
| 4. Our Friends | 9. Our Cars |
| 5. Membership (Join Us!) | 10. Officers info |

Treasurer's Report (courtesy John Wood) Nov 2021

INCOME		EXPENSES	
		BANQUET SUPPLIES	\$241.21
Membership	\$955	BANQUET AWARDS	\$125.00
TOTAL	\$955	TOTAL	\$366.21
NET FOR NOVEMBER	\$589		

ATTENTION ALL VFR MEMBERS: SPAM & PHISHING EMAILS

A new year means a new season of phishing, spamming emails, Facebook posts and text messages. Each year, VFR Board members receive a few unsolicited, unexpected emails, allegedly from other VFR or National Board members using names and/or email addresses of members available on public sources (VFR /CLC website, Facebook profiles, groups, etc). The messages typically asks you to contact them about a needed "favor", or an urgent request to purchase gift cards. Please know that neither the VFR nor the National CLC Board would EVER make such a request of other board or Club members via email. If you receive such an unexpected email, Facebook or Twitter message, you can check the email address to verify it is from the Club member in the "from" line. Then, CALL that member to advise their name, email address, and/or FB profile may have been hacked. Then disregard the email and report as SPAM / PHISHING. **NEVER** click on any links that may be included in the message.

Be safe, be Happy, and be healthy. And BE CAREFUL. Happy New Year.

Thanks and Regards,

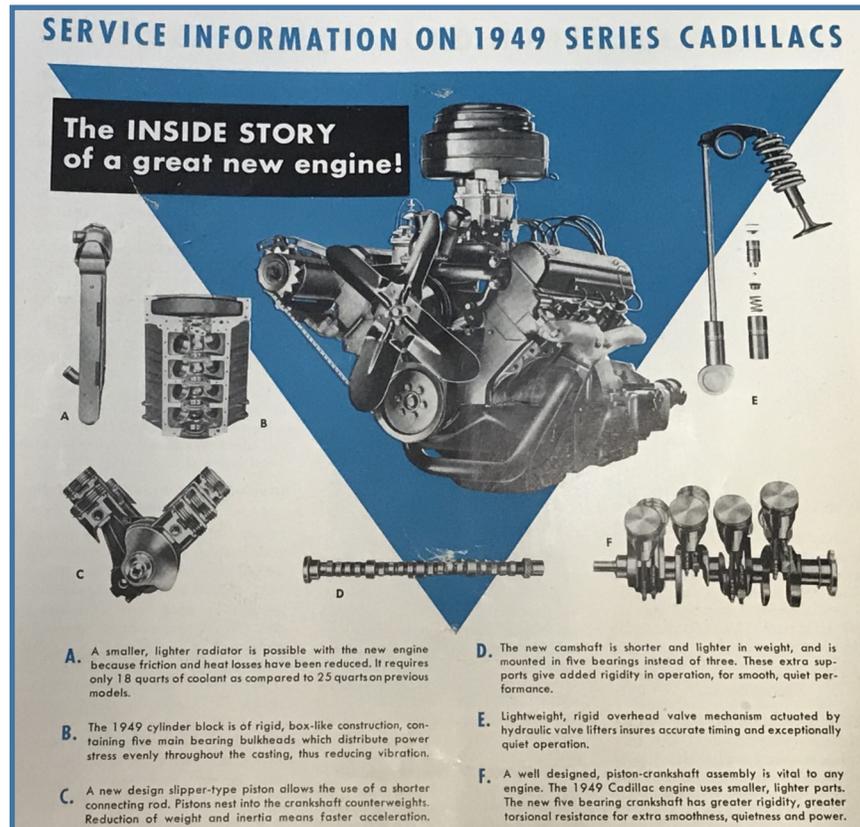
Michael

From *The Cadillac
Serviceman*

Nov.-Dec. 1948

SERVICE INFORMATION ON 1949 SERIES CADILLACS

**The INSIDE STORY
of a great new engine!**



A. A smaller, lighter radiator is possible with the new engine because friction and heat losses have been reduced. It requires only 18 quarts of coolant as compared to 25 quarts on previous models.

B. The 1949 cylinder block is of rigid, box-like construction, containing five main bearing bulkheads which distribute power stress evenly throughout the casting, thus reducing vibration.

C. A new design slipper-type piston allows the use of a shorter connecting rod. Pistons nest into the crankshaft counterweights. Reduction of weight and inertia means faster acceleration.

D. The new camshaft is shorter and lighter in weight, and is mounted in five bearings instead of three. These extra supports give added rigidity in operation, for smooth, quiet performance.

E. Lightweight, rigid overhead valve mechanism actuated by hydraulic valve lifters insures accurate timing and exceptionally quiet operation.

F. A well designed, piston-crankshaft assembly is vital to any engine. The 1949 Cadillac engine uses smaller, lighter parts. The new five bearing crankshaft has greater rigidity, greater torsional resistance for extra smoothness, quietness and power.

Editor's Note: As the new editor of YOUR club's newsletter you'll be seeing changes as I get more comfortable with the publication and I'll need YOUR HELP. One change is to start a new feature each month called simply "Spotlight". The idea is to have an article written by one of the clubs' members. It doesn't have to even be about Cadillacs. Maybe you have a hobby, a story, a unique experience, read an article to share or anything else you think your fellow club members might find interesting. You don't have to be a writer either Michael or I will help you. I'll kick off the new feature by telling you my story.

Have No Regrets

By Robert Schles



In the spring of 1988 my brother Allen at the age of 37 was diagnosed with cancer. While visiting him in the hospital we had a conversation which unknown to me at the time was to change my life. Allen told me of his regrets. He wished he had spent less time working and more time with his young family, of traveling the world, while thinking of missed opportunities in his life. In the fall of that year Allen passed away due in part to complications from surgery.

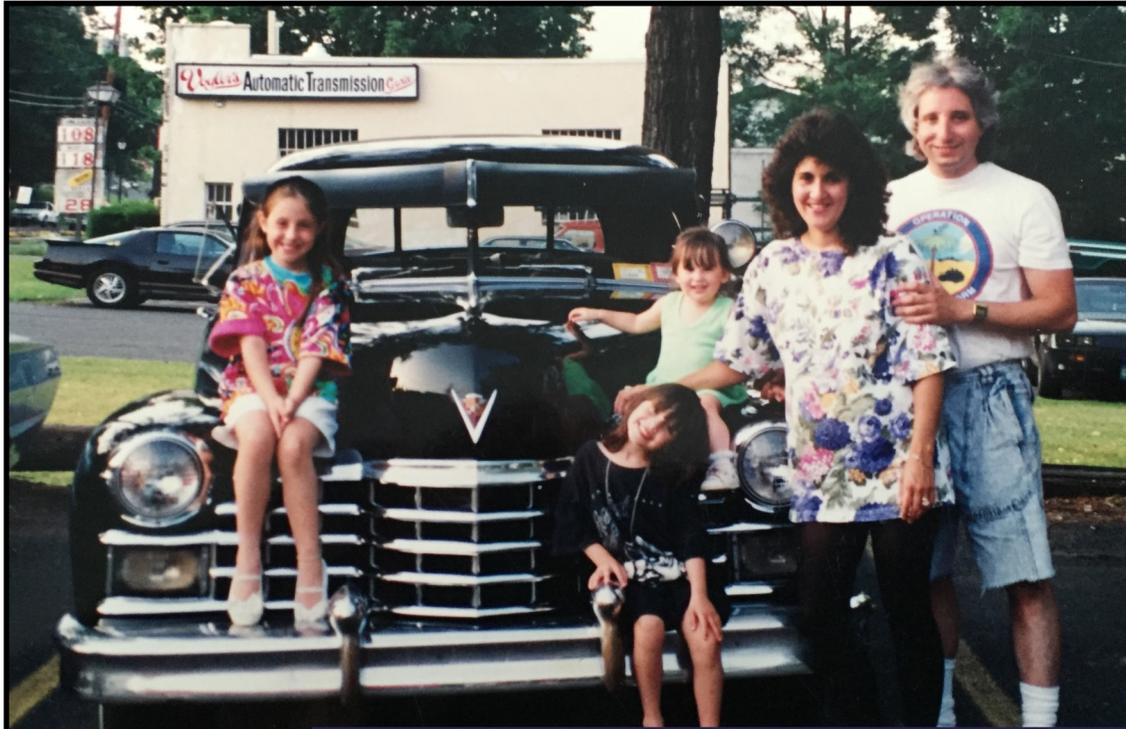
After his passing I revealed to my wife Sarah, some of the things I wished I had done. One was to own an antique car. She said without hesitation we should get one. I didn't think it was possible because at the time we were living on a modest income with two young daughters and many bills to pay. With Sarah's encouragement I started to looking for antique car. I had no idea what I wanted but just the thought of looking was exciting. This was in the olden days before internet so I did what most people did to learn about a subject, I went to the library. The library had a limited selection on antique cars so then I went to my local magazine store. Remember magazine stores? While browsing the car section I found Hemmings Motor News! Hemmings, a brown covered, inch thick monthly magazine dedicated to the world of old cars, trucks, motorcycles and related matters. I couldn't believe what I was reading on the cover "The bible of the collector car hobby since 1954". Now with Hemmings in hand I started my search!

Looking through Hemmings there were many classic vehicles that I would love to have. I drooled over the Corvettes, Lincolns, Cadillacs and many others but unfortunately any decent vehicles were way over my limited budget. In the local newspaper I found a 1939 Ford for sale only a few miles from my house which I went to see. After a brief test drive I was unsure if I wanted a car that old, especially one with mechanical brakes. The search went on with nothing striking my fancy that was within budget. I was getting discouraged. One day Sarah arrived home after visiting her grandfather in Middletown, NY. She told me about an old car she saw parked alongside of the road with a For Sale sign on it. She handed me the phone number and suggested I call. When I asked what kind of car it was, she said she wasn't sure but it was a black car. After a few days went by Sarah asked me if I called the number, I said no because I didn't know what car I was calling about. With Sarah's encouragement again I placed the call.

The gentlemen on the other end of the phone said it was a 1947 Cadillac. He owned the car for about 20 years, was the second owner and had to sell it because he needed to make room in his barn. I was so excited I forgot to ask the condition of the car but quickly made arrangements to see it.



After a very short test drive in a very small parking lot in March of 1989 I bought the car. The next day with new license plates and registration in hand I drove the car home. On that drive home I found out only one wheel out of the four had a functioning brake, the tires were rotted and needed replacing, the car shook badly over 45 mph, the radiator leaked and only 6 of the 8 cylinders were firing and many more items needed to be addressed. Had I made a mistake buying this car? The reality of owning an old car now sunk in; they need to be properly maintained. The good thing about the car, it was garaged its entire life with no sign of rust anywhere and the car had an original interior in-near perfect condition. A list was made, a long list, of items to address. I worked on my own modern cars but had no idea how to fix a car this old. I needed information on how to do the repairs on the car, not just any car but a Cadillac from the 1940s. That is when I joined the Cadillac & LaSalle Club and learned through the club and members just what to do. I addressed each item one by one spending many nights in our garage. The following year our family grew a little larger with the addition of our third daughter. That year I installed seatbelts in the car to hold the car seats for the girls.



July 1991

Over the years the five of us would frequent the many cars shows in the area. As the kids grew older, they stopped going to the car shows with Sarah and I but they always enjoyed a ride in the Cadillac to the local Dairy Queen for ice cream.



March 2016

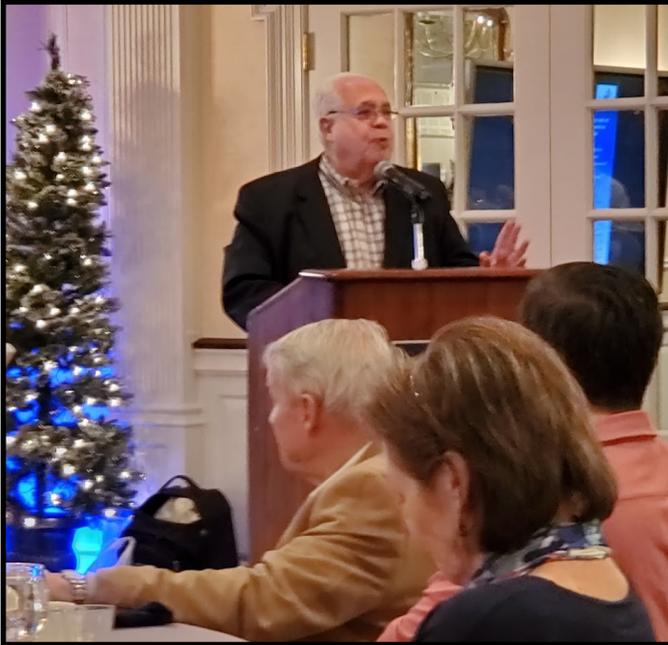
Sarah and I have now owned the 1947 Cadillac for over 30 years. Because of buying that car, we have many great family memories, made lots of new friends and have no regrets.



VFR and the Delaware Valley Region of the Classic Car Club of America (DVR-CCCA) co-hosted the annual Holiday Brunch at the Desmond Hotel on Sunday, December 12th. Some attendees brought collector cars, including Jerry Parnes, who drove Mary's 1953 Series 62 Convertible, Brian Rachlin, who brought a 2008 DTS Biarritz, Mike Zimmerman, who brought his CTS Coupe and Richard Sills who brought his much-loved and driven DeVille Concours. Earl Rutter brought his latest "mid-life crisis toy", a 2000 Corvette Convertible with only 38,000 original miles. We enjoyed the cars and fair weather before heading inside to eat.

Don Miller did an excellent job as Master of Ceremonies, as well as organizing the brunch. The food and service from the Desmond were both terrific. The fellowship was a great way to end the season and another trying year. Thank you Don!





Richard Sills shared current happenings at the AACA Museum, and thoughts about the hobby. He completes a fifteen-year term as a member of the Museum's Board of Directors and President for the last two years on December 31st. Among many things Richard has learned during his tenure is what visitors to the museum come to see. Frequently, visitors walk past early cars of great rarity and value, and make a bee-line to cars of the '70s and '80s because those are cars with which they have a personal connection – cars they once owned, drove, or wished they could have had when they were young.

A take-away from this is that as experienced members of our clubs and the hobby, we need to keep an open mind about other, newer car marques, styles, eras, and genres (categories) that may not be to our personal liking. All of our cars were at one time considered "just a used car" in the prevailing view of hobbyists. The owner of a newer or modified car loves his/her car as much we do our own. He/she may have put hundreds if not thousands of hours of labor, love (and dollars) to bring the car to show-worthy (or at least drivable) condition. Encouraging younger enthusiasts who may have newer, differing tastes to display their later model cars is critical to the continued growth of our hobby, and our clubs.

1 Of 4! 1939 Cadillac V16 Convertible Sedan

By Mike Stephens From Barn Finds Website <https://barnfinds.com/>



Cadillac surprised the car-buying public in 1938 when it introduced a new and innovative 16 cylinder engine. It featured side valve heads and was lighter and more powerful than its V16 predecessor, plus it was shorter and fit into a standard V8 chassis. In spite of all the good things the new V16 had going for it, Cadillac produced only a very small number of cars equipped with this engine, and in 1939 only made 4 cars with the body style of the vehicle being offered for sale here. If you'd like to own one of these 4 examples with the V16, this 1939 Cadillac Convertible Sedan might be your once-in-a-lifetime opportunity to make that dream a reality. Located in Kissimmee, Florida, it can be seen [here on Hemmings](#) and will be up for auction between January 6-16, 2022. Barn Finds would like to thank reader Larry D. for yet another great tip.

Of the 4 sedans produced in 1939 with the V16, this car is the third car, which is said to have been previously owned by an Air Force Colonel who drove it to the space center in Cocoa Beach.



The stickers documenting this are still affixed to the glass. The first 2 cars purportedly went to the White House in Washington and were used by President Roosevelt, with documentation said to be provided.

The 431 cubic inch V16 fits nicely under the hood, and the car is stated to have only traveled 9,300 miles since it rolled off the assembly line. The car has new brakes and has had a new gas tank installed, although no mention of how well it runs or drives or if any other recent mechanical work has been performed. The paint



is definitely showing its age, however, the body looks to be solid and the convertible top appears to be in surprisingly good condition.

Things are looking pretty good on the inside as well, and there is a roll-up glass divider to offer privacy between the

front and rear passengers if desired. The car appears to be near if not all complete, and I can appreciate its originality and unrestored state especially given the rarity. It's only original once as they say, although I certainly couldn't blame the next owner if they chose to do a restoration.





Given this Cadillac's rarity, low mileage, and originality, it's hard to even speculate what this vehicle may end up selling for. What are your thoughts?



IN CLC NATIONAL NEWS



- ◆ The CLC National Winter Board of Directors Meeting is scheduled for January 27th-29th in Dallas. All CLC members are welcome, and Region Boards are encouraged to appoint a representative to attend. Michael will represent VFR at the national board meeting. If you have any questions or comments you would like brought before the national board, please send them to Michael Stinson via email as soon as possible. He will report on any significant developments and activities in the March issue.
- ◆ The 2022 Grand National meet will take place June 21st-25th at The Westin Chicago Lombard, 70 Yorktown Center, Lombard, IL 60148. Hosted by the West of the Lake (Chicagoland) Region. The room block for the has been released and is available for booking. Meet registration information will be in the January *Self-Starter* and on the CLC National website. Check the CLC website for updates.
A few VFR members would like to organize a two-day driving tour to the GN, stopping in Cleveland and visiting a local point of interest before continuing on to Lombard. If you plan to drive to the GN and are interested in joining the CLC "road trip", please email Robert Schles at therobertschles@gmail.com
- ◆ The annual CLCMRC Fall Festival is scheduled for Sept. 22nd-24th at the CLC Museum & Research Center, Gilmore Museum, Hickory Corners, MI. Save the date and go to the festival website <https://www.cadillacfallfestival.com/> for details and updates. For 2022, the full three-day Cadillac Fall Festival & Concours d'Elegance is back! Please mark your calendars. The Cadillac Fall Festival celebrates Cadillac's commitment to Innovation, Performance, and Design for more than a century. It is much more than a celebration; it is your opportunity to support the Cadillac Museum and other charities.

What to Expect: Thursday - Driving Tour & Bus Tour, **Friday** - Peer Judged Car Show, Gala Reception, Collector Car Rides, and More! **Saturday** - Concours d'Elegance, Awards Show, New Cadillacs Display, plus more to be announced.

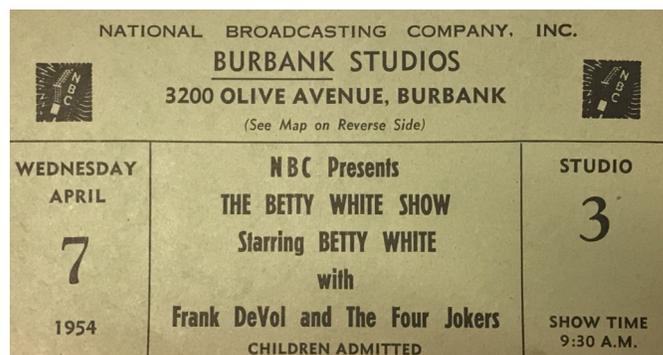


From our friends in the CLC Potomac Region:

Please join us at the Antique Automobile Club of America (AACA) Museum in a remembrance of that great American icon, Betty White.

The day planned originally as a birthday celebration will now honor the veteran actress's life and special connection to the AACA Museum, Inc. Betty's husband, Allen Ludden, purchased a 1977 Cadillac Seville she named "Parakeet" and that the Museum calls "Betty". The car is permanently on display at the AACA Museum in Hershey, Pennsylvania.

Betty White is synonymous with television. Many of us will remember her from her appearances on the Match Game, the Mary Tyler Moore show, Golden Girls, Mama's Family, Saturday Night Live, and many other comedic productions.



Come join fans of Betty White, and "Betty" the car along with friends of the Museum, and lovers of Cadillac Seville's (and many other classic cars) on:

Sunday January 16th, 2022 at 5:30 PM
Antique Automobile Club of America Museum
161 Museum Dr, Hershey, PA 17033

A buffet dinner will be served at no charge to attendees. A cash bar will be available. Join in the fun as attendees will be asked to participate in re-creations of the Match Game, and Password. The event is sponsored by CLC life member Rev. Nick Ferrantino. On Monday January 17, 2022, (which would have been Betty's 100th birthday) a movie tribute to Betty White will play in selected theaters nationwide, that day only. Use this link for more about the movie: <https://consequence.net/2021/12/betty-white-100th-birthday-documentary-trailer-watch/>

**Please RSVP to Christopher Winter via email by end of day, January 7, 2022
cchwinter@cavtel.net**



Improve Classic Car Braking (and Safety) With A Disc Brake and Dual-Circuit System Conversion



By [Jim Smart](#) from January 2022 issue of [Hemmings Classic Car](#)

Photography by Jim

<https://www.hemmings.com/stories/type/feature>

The relationship we have with our classic cars tends to be a love/hate affair. We love the styling and the nostalgia of cool American iron from more than a half-century ago. However, suspension and braking systems are below par when you consider what's sitting on showroom floors today. Drum brakes have their place, and obviously this arrangement is appropriate on a concours-restored show car where originality and show judging are paramount. However, if you drive your classic on a regular basis, maximizing your own safety and the safety of others depends upon getting your braking system up to date.



There was a time when you had to rummage through salvage yards to find a suitable disc brake package. These days, there's a wealth of new disc brake kits for a wide variety of classic cars, from the Model T all the way up through the cars of the mid-20th century. Your decision should be based on what meets your personal needs and tastes. If your classic ride is a completely stock example, all you need are OEM-style front disc brakes, a dual-circuit master cylinder, new brake lines, and rear drum brakes.

If you have a performance-oriented model, or you'd just like a measure of braking performance beyond what the factory offered, the aftermarket may be able to assist. You may be surprised by the breadth of applications covered today, for both front and rear disc brakes.

Particularly important is the decision to convert your single-circuit hydraulic braking system to a dual system, meaning two separate circuits for the hydraulics fore and aft. American cars had single-circuit hydraulic braking systems prior to the 1967 model year, when dual braking systems became federally mandated. A dual-circuit braking system includes a two-chamber master cylinder, split between front and rear systems. The purpose of this is to maintain partial braking should there be a hydraulic system failure somewhere — a single leak should then affect only one circuit, not both as it does with a single-type system. In factory dual-circuit systems there is usually a pressure differential valve of some sort and a warning light to let you know you've lost either system. The pressure differential valve used on many vehicles has an internal "shuttle" valve that must be reentered once the trouble is corrected to turn the warning light out and enable proper bleeding of the system.



Drum brakes have long been the mainstay of automotive braking systems. They perform quite well in rear axle positions yet are prone to fade when they get hot. When they get wet, friction is compromised and drum brakes can become

Improve Classic Car Braking (and Safety) With A Disc Brake and Dual-Circuit System Conversion Continued




The humble drum brake is little more than C-shaped shoes/linings within a rotating drum. Because the front brakes do most of the work, the rear drums are there more as a backup for the fronts.

Why opt for disc brakes? Drum brakes are prone to fading under hard use and, when wet, will often become seriously compromised. Disc brakes, on the other hand, are very effective stoppers.

They provide excellent braking force but are also more effective at dissipating heat, enabling them to endure severe use with good resistance to brake fade —the compromise in friction that occurs when the braking components become overheated. Even a front disc/rear drum system, with the split circuitry of a dual system, can offer a substantial improvement in braking performance and safety.

When you're considering a disc brake upgrade, first determine if your car was ever available with disc brakes; if you determine it was not, investigate further to see if a system from a later version of your model offered discs.



Most mainstream classic cars need little more than these cast-iron caliper, OEM-style disc brakes, and having them only in the front is usually a sufficient upgrade for normal driving. This is a Kelsey-Hayes four-piston front disc brake on a classic Mustang.

Improve Classic Car Braking (and Safety) With

A Disc Brake and Dual-Circuit System Conversion Continued

For example, a 1963 Plymouth was not offered with front disc brakes, but the parts from the right 1973 Plymouth could be adapted.

Of course, the aftermarket can simplify that process by providing whatever you might need for a disc conversion in kit form, eliminating the need to search out vintage parts from a salvage yard and the guesswork that can be involved in attempting to merge those items with your car. If you go this route, bear in mind that brake pad friction materials should be chosen based on the kind of driving you're going to do. The daily commute or weekend getaway doesn't call for hard friction materials designed for racing.



For a long time, six-cylinder Falcon, Comet, and Mustang owners couldn't get front disc brakes. Only V-8 cars were available with them, and those models used five-lug wheels as opposed to the four-lug hubs found on six-cylinder models. However, given the intense demand in more recent years from six-cylinder owners, aftermarket companies answered the call with disc brake conversions for the inline-powered models. This

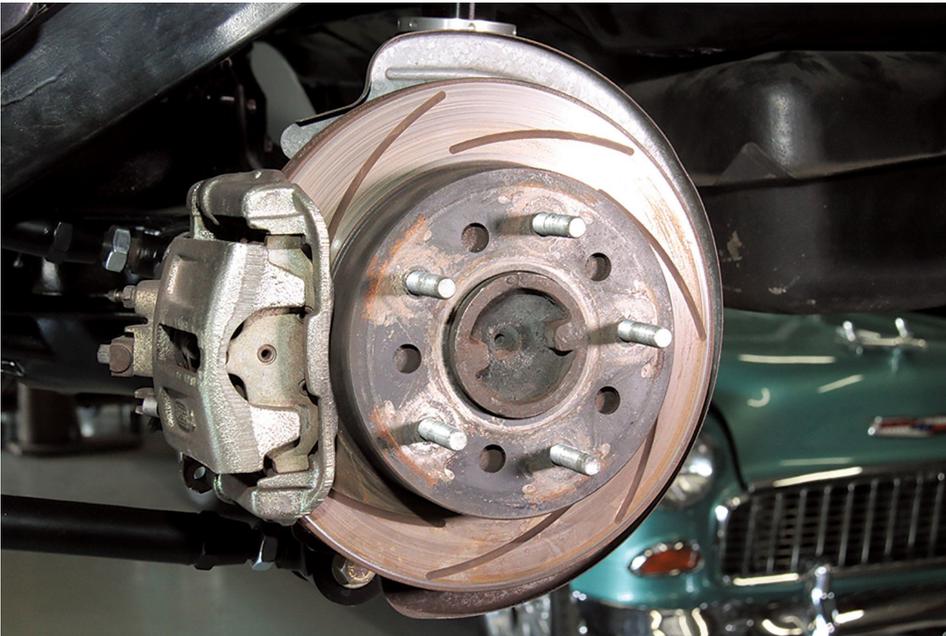
BRAKE FRICTION MATERIALS

Some years ago, asbestos was commonly used in brake shoes and pads, but when the health risks became clear, the material was phased out. When working on a vintage car, use caution with unknown friction materials —the brake shoes on a 50-year-old car may well be old enough to contain asbestos.

These days, we have three basic types of brake friction materials: Non-asbestos organic, semi-metallic, or ceramic for high-performance driving. Non-asbestos organic compounds are the most common type of brake friction material and are made from bonded organic fibers that retain shape by a resin or glue. Organic brake linings are made from a combination of several proven plant-derived fibers. Non-asbestos linings have a small amount of metallic content in them, typically brass to dissipate heat while contributing to abrasiveness (friction) for better stopping.

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Improve Classic Car Braking (and Safety) With A Disc Brake and Dual-Circuit System Conversion Continued

Affordable OEM-style disc brake kits are available for Ford, GM, Chrysler, and AMC classics from SSBC-USA (pictured here), CPP, Brake Performance, and LEED Brakes. They yield a factory-original appearance and will improve braking performance.

Semi-metallic brake linings have a lot more metallic content than non-asbestos. The semi-metallics became more common beginning in the 1980s, as brake technology improved. Because the front disc brakes do 75 percent of the braking, they must be able to handle the abuse and heat. Metallic particles handle heat and are far more resistant to fade than their organic counterparts. The downside of semi-metallics is brake disc and drum wear. There's less time between brake jobs with semi-metallic pads and shoes, yet you will get more effective braking performance with the semi-metallics. It is all in what you want from your brakes.

Last, but not least, are the ceramics, which are most suitable for racing, not necessarily the street. Ceramic brake friction material consists of a mixture of two ingredients: copper and high tech ceramic fibrous materials, which provide rigidity and excellent heat durability/dissipation. Copper dissipates heat very well, and offers flexibility when used in conjunction with iron and steel discs. The beauty of the ceramics is very little brake dust, which can be corrosive and detrimental to the finish on the vehicle's wheels. For the daily driver, ceramics can also be very hard on brake rotors. Plus, they tend to yield a very hard pedal.

Those with muscle cars and restomods have the option of stepping up to a high-performance disc brake system from SSBC-USA, Baer, CPP, or Wilwood, among others. Some of these companies offer performance braking systems that





Improve Classic Car Braking (and Safety) With

A Disc Brake and Dual-Circuit System Conversion Continued

BRAKE FLUIDS

There are three basic types of brake fluid. DOT 3, a mineral-based fluid, has been used in braking systems for decades and is certainly the most common type. Because DOT 3 is hygroscopic, it absorbs moisture from the air. It is also quite corrosive and can damage paint. Fresh DOT 3 right out of the container has a boiling point of 401 degrees Fahrenheit, which makes it effective for most applications. Over time, as DOT 3 absorbs moisture from the air, its effective boiling point can drop as low as 284 degrees F. When brake fluid boils, air bubbles form in the fluid, causing a spongy pedal feel and compromised braking effectiveness.

More recently, DOT 4 brake fluid has become more common in OE applications, especially with European automakers. DOT 4 has a higher boiling point (446 degrees F) than DOT 3. Brake fluid manufacturers include additives with DOT 4 fluid to reduce acid levels that come from moisture being absorbed into the fluid. Although you can mix DOT 3 and DOT 4, this is discouraged. And, because there are different types of DOT 4 brake fluid, you really must know specifically which type you are using before mixing the two.

Moving to DOT 5 fluid is a bigger step, as this is a silicone-based brake fluid with a boiling point of 500 degrees F. It is normally purple in color to differentiate from the typical amber color of DOT 3 and 4. While DOT 5 doesn't absorb water quite like glycol-based brake fluids, it can become foamy, and those tiny air bubbles are more difficult to bleed. Never mix DOT 5 with any other type of brake fluid, including DOT 3 and 4.

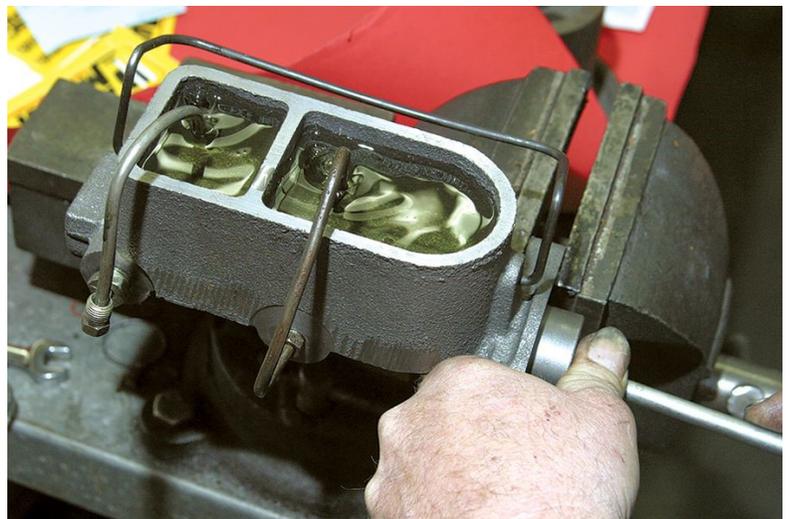
Mineral-based brake hydraulic fluids like DOT 3 and 4 should be flushed and bled every two years to keep the system moisture free. If mineral-based brake fluid gets on your vehicle's paint finish, it will lift and damage the paint. Silicone brake fluid (DOT 5) doesn't absorb moisture and poses no risk to typical automotive paint finishes. However, DOT 5 yields a softer brake pedal, which is unsettling to a lot of drivers. Silicone brake fluid doesn't have to be flushed as often as mineral fluids do.

BRAKE LINES

When you're installing disc brakes, it may be a good time to replace all of the steel brake lines and flex hoses in the interest of safety. Old brake lines can become corroded, leaving them weakened and unsafe, potentially rupturing and resulting in brake failure. There are a number of aftermarket companies that offer prebent brake hardline kits that replicate the factory original lines for a wide variety of vehicles.

Many of these outfits can also custom make brake

lines to match factory parts if a particular application is not in their offerings, but an original line is usually needed to use as a template. You'll typically have the choice between stainless steel or mild steel; stainless is highly corrosion resistant and looks nicer but is a harder material, and therefore, more difficult to work with if you need to make any new bends or flares. Mild steel will succumb to moisture and salt spray in time but is easier to bend and flare. *For more information go to <https://www.hemmings.com/stories/type/feature>*





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