Northern Lights

The Ohio Region
Classic Car Club of America

FALL 2018

Treasure or Trouble?
1935 Lincoln K Club Sedan

2018 Stan Hywet Results
Tech: Upgrade Your Fuel System

Thoughts from a New Member
A Lifetime of Collecting

Board of Managers, Ohio Region

Al Truelson
Director, Awards Chairman
3616 Erhart Rd. Litchfield, OH 44253
216-299-0576
allantruelson@gmail.com

Norm Cangey
Membership Chairman
21355 Hillsdale Ave. Fairview Park, OH 44126
440-333-8921
clockcangey61@att.net

Rich Fink
Secretary, Club Photographer
19130 Brookfield Dr. Chagrin Falls, OH 44023
440-384-3086
richfink@gmail.com

Bob Girardi
Club Historian
324 Substation Rd. Brunswick Hills, OH 44212
440-823-9151
bgirardi@juno.com

Andy Hussar
Club Projects
2150 Kenyon Ave. S.W. Massillon, OH 44647
330-575-3421
ahuss15@yahoo.com

Kathleen "Kat" Fink
Membership co-Chair
19130 Brookfield Dr. Chagrin Falls, OH 44023
440-384-3086

Bob Brown
Equipment Chairman
Stan Hywet Head Judge
635 Eastwood Rd. Hinckley, OH 44233
330-278-4318

David Heinrichs
Asst. Director, Head Judge
Stan Hywet Inner Circle
25716 Osborne Rd. Columbia Station, OH 44028
440-668-3763
HeinrichsVintageCarShop@gmail.com

Diane Truelson
Treasurer
3616 Erhart Rd. Litchfield, OH 44253
440-552-9360
dianetruelson@gmail.com

Margus Sweigard
Stan Hywet Assistant Coordinator
Editor, "High Beam"
2800 Hemlock Dr. Willoughby, OH 44094
440-942-1647
margussweigard@gmail.com

George Strom
Stan Hywet Inner Circle
646 Washington Ave. Elyria, OH 44035
440-322-6608

Allan Warner
3354 Allard Rd. Medina, OH 44256
330-239-1406
allan.warner@yahoo.com

Joan Kamper
Sunshine
9225 Lindbergh Blvd. Olmsted Falls, OH 44138
440-234-5659
Sunshine@ORCCCA.com

Josie Adams
3766 Everett Rd. Richfield, OH 44286
330-524-2653
josieadams1@icloud.com

Much appreciated Assistants to the Board
Melanie Harwood, *Stan Hywet Coordinator & Registrar*
Matt Harwood, *Editor, "Northern Lights" magazine*

The Northern Lights is the official publication of the Ohio Region Classic Car Club of America. It is published quarterly(ish).
Northern Lights is printed and mailed by Engler Printing, 808 W. State Street, Freemont, OH 43420.

Club News & Calendar

Message from the Director

2018 was successful for the Ohio Region, and we need to aim to make 2019 even better. It seems that participation levels are up, we're seeing new faces at events, new cars at shows, and our roster seems to be holding pretty steady at about 160 members—that's better than a lot of regions that see double-digit drops in membership from year-to-year. Whatever we're doing right, let's keep doing it!

We registered 450 cars for the Stan Hywet show in 2018, and there's sufficient demand that we're opening it up to 500 cars for 2019. We've got a good feel for the layout on the grounds to accommodate the extra cars and there are always eager attendees who are turned away in June that we can now accommodate. It will give us the space to add new classes such as the new Preservation Class that will [finally] showcase unrestored, original cars built prior to 1970. Add in the fact that the club uses the registration money to fund our activities year round, and those extra cars can really make a difference for all of us. These changes can only help the club and help the show as we continue to make it the best old car event in Ohio.

ORCCCA also had more than 15 member-sponsored events in 2018, ranging from a judging seminar last January to the Clambake in October. In between we had day tours, car shows, theater parties, bonfires, and a dozen other events that didn't need anything but fellow club members to be a success. Of course, the events that involve driving our Classics always attract plenty of participants, but no matter who you are or what time of year it is, there's probably an ORCCCA event coming up that you can attend. Better yet, why not plan one yourself? Get involved and call on fellow members to give you a hand—you will likely find they are enthusiastic and ready to get involved!

There's also a new website on the way—please watch for it in the next few months and *use it!*

The strength of the Ohio Region continues to be a showcase of all that is great about our hobby and the club. Let's all do what we can to make 2019 an even bigger success than 2018!

Al Truelson
Director, ORCCCA

2019 Event Calendar

January 26	Sweigard Bonfire, Willoughby, OH *(Margus & Vicki Sweigard)*
February 16	Tech Seminar, *Harwood Motors*
March TBD	Theater Party, *Joan Virostek*
April 5	Cuyahoga Valley Railroad Dinner, *Melanie Harwood*
May 26	Garden Tour, *David & Jane Schultz*

National Dues are $70, payable to Classic Car Club of America, P.O. Box 346160, Chicago, IL 60634. Regional dues are $25 single or $30 including spouse. One must be a national member to be a regional member and all payments are managed by the CCCA National Headquarters in Chicago. Visit www.ClassicCarClub.org for more information or contact Norm Cangey, *Ohio Region Membership Chairman.*

EDITOR'S LETTER

Matt Harwood, *Editor-In-Chief*

In my job, I get to sample hundreds of cars each year, and as shocking as this may seem, they *all* have issues that an owner has decided to just live with rather than fix properly. Yes, even *your* car. You've cut a corner and hoped nobody noticed, haven't you?

This isn't an indictment of owners or the sales process, just a window into the problems of moving a vintage automobile from one caretaker to another. Very few old cars are perfect, and it has been my experience that many sellers (and buyers, as a matter of fact) focus primarily on cosmetics, with mechanical fitness often being a distant second. When the time comes to sell the car, the temptation is always there to cut corners and just let the next guy worry about it. After all, it's pretty—*isn't that enough?*

Well, no, it's really not.

More than 600 cars have passed through our hands since Melanie and I opened Harwood Motors in 2014, and that has given me a very good window into what people find "acceptable." None of the cars we've sold were perfect, but virtually every single one had old repairs that were simply sub-standard. But hey, the car works, so what's the big deal?

I'm not talking about judging at a show—lord knows there are plenty of 100-point cars out there that don't run very well. I'm talking about making a car right in ways that may not be entirely related to scoring points on the show field.

The stature of the cars in the CCCA practically demands that you strive to make them as good as they can possibly be. This doesn't mean sending it to Brian Joseph to change spark plugs, but it does mean that using hardware store parts and "good enough" solutions is a mistake. On page 22 of this issue you'll find a comprehensive installation guide for an electric fuel pump on a Full Classic. I undertook this project because some other mechanic (probably decades' worth of mechanics) had already been in there doing work just to get it running again. On an individual level, none of those repairs was a problem, but collectively they were a recipe for disaster—the car left me stranded four of the first six times I drove it.

You don't need to be an expert to know right from wrong, and even if you don't know exactly *how* the factory might have done something, I'm quite certain that you understand the concept of quality workmanship. Sometimes it boils down to simply taking the time to think about a job before digging in. Sometimes it means choosing the right parts for a period-correct solution. And sometimes it's a combination of factors that will not only improve your car's reliability, but also its value.

How often have you started to repair something on your Classic only to find that some previous owner or mechanic buggered it up so badly that you had to spend extra time and money just to get back to zero? ***Don't be that guy for some future owner.*** It's our policy at Harwood Motors to always do repairs to the best of our ability, even if it costs more. I don't ever want a person to buy a car from us and find repair work that makes him tear his hair out. I want him to stand back and admire it, thinking, "Well *those* guys certainly knew what they were doing."

Most of the time, doing it right isn't much more difficult or expensive, either. In the aforementioned fuel pump installation, I used cloth-covered wires for a correct look even though none of the wires are visible at a glance. I used a period-correct NOS relay, even though it, too, would be hidden. I did use some new fittings, but wherever possible I recycled the originals. Before I turned a single bolt, I had a plan and drew a sketch of how to route the fuel lines, plus a wiring diagram. I had all the parts on hand before I even started. I had a clear vision for the finished product. It took more than two days to ensure that it was as good as I could possibly make it. The result? A bulletproof fuel system that will last as long as the rest of the car and looks like art.

Or I could have just used some rubber fuel line and some hose clamps. *The car would run exactly the same.*

Too often we're able to do slipshod work and just live with it because there's no consequence. Temporary repairs often become permanent simply because they keep working. Some jobs are hidden, so it's easy not to care about using the right parts. Modern hardware is easier to get, so we use Home Depot bolts instead of finding correct ones. Ultimately, all this is self-defeating because it hurts the car's reliability and it hurts its value.

Every time you open the hood, strive to do the job as well as you possibly can. Plan your job, take the time, and use the right stuff. Your car (and future owners) will thank you for it!

NEW MEMBER WELCOME!

MEET THE SHEPHERDS

By Bill Shepherd

Bill and Katie Shepherd's 1941 Cadillac 63 sedan (foreground) and 1949 Cadillac 62 Sedan (non-Classic)

On November 4th of this year, wife Kathryn (a.k.a. Katie) and I attended our first ORCCCA meeting. We had a good time, and enjoyed meeting other members. I had been a CCCA member in the past, but my lack then of a Full Classic car made my stay in the CCCA a short one. I rejoined this year (2018), including the ORCCCA, as I had finally obtained a qualifying car, in the form of a 1941 Cadillac Series 63 four-door sedan, which is shown in the accompanying photo.

The Cadillac arrived in March, and my goal was to take it to the ORCCCA Grand Classic in July, but the car needed a couple of things, in my estimation, to be ready. In reviewing the pictures in *"The Classic Car"* it seems I certainly missed a great show; I wish I had been there. The only show the '41 attended this year was the Taylor Cadillac Dealership show where out of 50 or so Cadillacs, it took Best of Show. Not bad for its first time out!

For those of you with some tenure in ORCCCA, you may recognize our 1941 Cadillac as that of the late and former CCCA member Clair J. Murphy of Caldwell, Ohio. I first met C.J. in the late 1990s at a car show in Toledo hosted by the local Cadillac-LaSalle Club. He brought an immaculate low mileage 1956 Cadillac Sedan DeVille, which I chased for 15 years or so. I finally made a deal with C.J. to purchase that car about four months before his passing around five years ago; I completed the deal with his son Jay. At the beginning of this year, I purchased the 1941 Cadillac from Jay. Jay is more into Corvettes, so he was willing to part with the '41.

While I am new to the ORCCCA region, I am not new to the old car hobby. I belong to a number of clubs, and for the past five years I have been the Director of the Northwest Ohio Region of the Cadillac-LaSalle Club. I also have served at the National level in the CLC as a Technician for 1954 – 1956 Cadillacs, and I founded the CLC Chapter dedicated to 1954 through 1956 Cadillacs where I served as its Director and Newsletter Editor for the Chapter's first seven years.

I hope I can make a positive contribution to the ORCCCA. Katie and I live in the Toledo suburb of Maumee, Ohio a mere five minutes from one of the Turnpike exits. We hope that we can get a CCCA event organized in our area of Northwest Ohio.

We look forward to seeing all of you again very soon.

(Editor's note: Welcome Bill and Katie! Thank you for getting involved right away. Your contributions are very much appreciated and we all look forward to getting to know you in the coming months.)

EVENT: STAN HYWET FATHER'S DAY CAR SHOW

A ROARING SUCCESS!

Despite the threat of rain and brutal heat, the 2018 show hit on all sixteen cylinders

Photos By Rich Fink














2018 Inner Circle Full Classics 1915-1924

Extended Snyder family was on hand to present the first annual ***William L. Snyder Memorial Award***

2018 Stan Hywet Father's Day Car Show Judging Results

Class	First Place	Second Place	Third Place
01 Full Classics 1915-1932	J. Rowe, 1928 Pierce-Arrow	A. Warner, 1930 Cadillac	R. Mizicko, 1931 Lincoln
02 Full Classics 1933-1939	D. Johnson, 1938 Cadillac	M. Kochilla, 1937 Packard	N/A
03 Full Classics 1940-1948	P. Tobin, 1941 Buick 91	J. Gentner, 1941 Cadillac 62	E. Rosenthal, 1946 Cadillac
04 Century Cars, 1917 and older	P. Schlacter, 1912 Mitchell	N/A	N/A
05 Model T Ford	*No cars judged*	*No cars judged*	*No cars judged*
06 Model A Ford	G. Barber, 1929 Ford	K. Sypolt, 1931 Ford Tudor	D. Plate, 1931 Ford
07 Commercial & Military	D. Wilhelm, 1937 REO pickup	W. Kaskey, 1934 Ford Model B	D. Rhodes, 1953 Chevrolet 3100
08 Corvettes 1953-1967	R. Angel, 1957 Corvette	R. Matthews, 1964 Corvette	K. Jelley, 1964 Corvette
09 Corvettes 1968-1993	D. Webber, 1969 Corvette	R. Miller, 1974 Corvette	D. Nestor, 1976 Corvette
10 Chevrolet 1946-1960	D. Cermak, 1957 Bel Air	D. Wilk, 1957 Bel Air	R. Beresh, 1955 Bel Air
11 Chevrolet 1961-1993	A. Carli, 1966 Nova	C. Lustritz, 1977 Monte Carlo	R. Salmon, 1967 Malibu
12 Chevrolet Corvair	J. Demoss, 1963 Corvair Monza	J. Cartell, 1961 Corvair	E. Harkless, 1961 Monza 900
13 Ford Thunderbird	G. Bartasavich, 1957 Thunderbird	B. Mulh, Sr., 1979 Thunderbird	N. Digeronimo, 1956 Thunderbird
14 Ford Mustang	**(tie)** R. Knotts, 1965 Mustang **(tie)** D. Mather, 1966 Shelby	J. Ferek, 1965 Mustang	J. Louis, 1966 Mustang
15 Sports Cars through 1958	D. Ferlan, 1956 Porsche 356	N/A	N/A
16 Sports cars 1959-1972	*No cars judged*	*No cars judged*	*No cars judged*
17 Sports cars 1973-1993	**(tie)** R. Mehl, 1983 Porsche 944 **(tie)** D. Uhler, 1989 Isuzu Impulse	S. Smith, 1985 Pontiac Fiero	M. Pizzute, 1981 Fiat Spider
18 Production 1916-1932	M. Muzla, 1931 Chevrolet	B. Atkinson, 1926 Buick 47	R. Sterner, 1932 Plymouth PB
19 Produciton 1933-1950	**(tie)** R. Tashjian, 1933 Ford **(tie)** D. Tschantz, 1940 Ford	D. Myers, Jr., 1940 Ford Tudor	K. Holland, 1935 Ford
20 Production 1951-1955	D. Seybold, 1953 Buick Skylark	J. Slayton, 1955 Chrysler	T. Ciccarelli, 1955 Packard
21 Production 1956-1960	T. Priebe, 1957 Buick 76-C	B. Schumann, 1957 Pontiac	F. Graszl, 1956 Oldsmobile 88
22 Production 1961-1965	R. Blowers, 1961 Pontiac Ventura	J. Stearns, Jr., 1965 Pontiac	R. Bourne, 1964 Studebaker Avanti
23 Production 1966-1968	D. Smith, 1967 Plymouth GTX	T. Duve, 1968 Plymouth Fury	J. Moran, 1966 Cadillac DeVille
24 Production 1969-1972	D. Smith, 1971 Plymouth Cuda	B. Mulh, Jr., 1972 Ford Torino	A. Maroon, 1969 Pontiac Firebird
25 Production 1973-1979	G. Uhler, 1974 Pontiac GTO	M. Lammlein, 1973 Buick Riviera	D. Montgomery, 1976 Trans Am
26 Production 1980-1993	W. Schmidt, 1990 GMC Safari	W. Daiuto, 1988 Lincoln	J. Lewandowski, 1993 Cadillac
27A Muscle Cars 1964-1967	J. Booker, 1964 Plymouth	S. Baker, 1967 Oldsmobile 442	V. Vigluicci, 1966 Chevelle SS396
27B Muscle Cars 1968-1972	T. Schoonover, 1968 Camaro	F. Leffler, 1969 Camaro	J. Cannon, 1968 Shelby GT500KR
28 Microcars	*No cars judged*	*No cars judged*	*No cars judged*
SPCL-A: British Invasion 1900-1949	R. Chernicky, 1953 Triumph TR2	J. Rindfuss, 1955 Sunbeam Alpine	S. Sikut, 1959 Austin Healey Sprite
SPCL-B: British Invasion 1950-1959	J. Egert, 1966 Jaguar XKE OTS	C. Loper, 1962 Jaguar XKE OTS	W. Kinney, 1963 Triumph TR4
SPCL-C British Invasion 1960-1993	T. Cybulski, 1971 Triumph TR6	J. Mowry, 1979 MGB	L. Nesbitt, 1977 Triumph Spitfire

Jack Trefney Memorial Award	Bob Myers, 1928 Ford Model A
John Addams Memorial Award	Harold Wright, 1976 Cadillac Coupe DeVille
Participants' Choice Award	James McCanlis, 1909 Pierce-Arrow
Judges' Choice Award	Chuck Loper, 1962 Jaguar XKE OTS
William L. Snyder Memorial Award	Joseph Rowe, 1928 Pierce-Arrow Landau Sedan

The British Invasion!

HISTORY: A LIFETIME OF PASSION

THANKS FOR THE MEMORIES

It's easy to own a large collection of spectacular Full Classics—*just don't own them all at once!*

By David Schultz

I'm not sure what it means, but lately I've been thinking about the vintage cars I owned over the years. Today I'm known by many Classic car friends as a "Lincoln guy," but that wasn't always the case, although I will admit that I have always admired Classic prewar Lincolns.

I can't remember a time when I wasn't interested in vintage cars. As a youngster I bought the Floyd Clymer reprinted handbooks plus the usual automobile books of the 1950s and 60s. I joined the Classic Car Club of America in 1965 after attending my first Grand Classic at the Dearborn Inn in 1964. My grandfather Schultz took me to the Old Car Festival at Greenfield Village and on Sundays we would visit roadside car museums that once existed in Michigan.

At the age of 19 I acquired my first car, a 1929 Ford Tudor sedan. I used it for regular transportation until it became impractical. When I graduated from Michigan State University the real world kicked in. My road to acquiring Classic cars became a slow one, limited chiefly by finances and my nomadic existence as a newspaperman.

1926 Willys-Knight 66 Great Six sedan. Price new: $2600

The first great car I owned was a 1926 Willys-Knight Great Six sedan. I was now working in New York City and living in northern New Jersey. I'd always had an interest in sleeve valve motors and heard about this car stored in a saw mill in eastern Pennsylvania since 1933. It showed 6,000 miles and was one of the finest original cars I've ever seen. The interior was flawless and the exterior excellent. Big problem, however: the motor was seized. The owner said it should be an easy fix and if it turned out to be something more he would refund part of the purchase price.

The problem was significant. Sleeve valve motors have an overhead water jacket and this car's gasket had leaked and antifreeze had seeped into one of the cylinders, in effect, super-glueing the sleeves together. A sleeve valve expert helped me remove the sleeve assembly and, amazingly, I found a replacement set at Hershey. We had the car on the road in a few weeks and the seller even sent me a check! What a gentleman! I enjoyed the car but didn't like the high gear ratio—*too slow.* I sold it and still regret it.

1941 Packard 160 1903 Touring Sedan. Price new: $2009

I bought a well-cared for 1941 Packard Super Eight 160 sedan that proved to be a fine touring car. We took it on a long summer trip through New England. Very dependable car. I remember asking my dentist to duplicate the damaged plastic radio buttons (they were pinkish). Later, these were reproduced. Shortly after I sold the car I heard it had been in an accident.

Then we moved to Ohio and I acquired a 1933 Packard Super Eight club sedan. I always admired that body style—the close-coupled design—after seeing a 1931 Lincoln Town Sedan at my first Grand Classic in 1964 *(more about that car later).* The Packard came from northern Wisconsin and I remember how sluggish it felt when I first drove it. The owner and I negotiated for months before he agreed

1933 Packard Super 8 1004 Club Sedan. Price new: $2975

to my offer, based on my suspicion that a complete engine rebuild was necessary. I was right and sent him a copy of the rebuild invoice as proof. We enjoyed the Packard for several years. It featured a Philco radio with tuner mounted on the steering column and other radio equipment mounted on the firewall and under the front passenger seat.

The Packard was sold to buy a car I'd always wanted—a Cord, specifically a 1936 810 Beverly sedan. The early 810 Beverly is what's known as an "armchair Beverly" because it features four individual seats. By late 1936 Cord had substituted a large folding armrest for the individual seats. The less expensive Westchester model had bench seats.

1936 Cord 810 Beverly. Price new: $2095

I probably learned more about mechanics from working on the Cord than any car I ever owned, chiefly because there was more to repair. I remember a fellow car enthusiast telling me at the time, "David, a Cord is a mechanic's car," and he was right. When everything was in working order it was a delight to drive; 65 mph at 1,800 RPM. But whenever I heard a noise, it was *sphincter-tightener.* I drove it to Auburn twice for the annual ACD Homecoming and it was a blue ribbon winner at Meadowbrook.

Raising a young family and just launching my business career dictated that I would own one Classic car at a time, so when a 1923 Locomobile 48 Series VIII Sportif came along, the Cord had to go. Reluctantly, I sold it. I'd buy it back in heartbeat, problems and all.

The Locomobile was an original, unrestored car. It was as different from the Cord as one could get. The nearly nine liter motor and chassis had been designed in 1912. It was a truck—overbuilt, and luxurious—but a truck nevertheless. I loved it. It was enjoyable to drive once I mastered the non-synchronized transmission. We displayed it at several concours d'elegance and received a Best Unrestored Car award at Pebble Beach.

I added 5,000 miles to the 18,000 original miles on the car but began to notice that even careful use was taking a toll on this all-original car, particularly to the top and upholstery. I decided it was really a museum car. I was approached by someone with a fair offer and I sold it. Today, it resides in a collection where its originality and authenticity are appreciated—and it's occasionally driven.

While the Locomobile was in the garage, an opportunity developed for me to buy a car I'd been after for nearly 25 years—my 1931 Lincoln Town Sedan. I'd spotted the car in 1964 at a Grand Classic at the Dearborn Inn. It was then owned by the late Sam Dibble, known as "Mr. Grand Classic" in the CCCA Michigan Region. He'd bought it in the 1950s from the late Wally Donoghue, who had bought it sight unseen a few years earlier as a potential parts car for his 1931 Dietrich convertible sedan. The Town Sedan was anything but—it was a fine original car.

1931 Lincoln Town Sedan, one of 195 built. Price new: $4900

I kept after Sam to sell me the car. We exchanged many enjoyable letters over the years and, finally, Sam agreed to sell it. I'm certain that during that time Sam had vetted me to determine if I was a worthy owner of the car. This Lincoln has been our "go to" Classic. We've put thousands of enjoyable miles on it. Sam would be pleased.

continued on page 12

Memories (continued)

About the time the Locomobile left and the Lincoln arrived I had an opportunity to acquire yet another car I'd always admired—a 1934 Chrysler Imperial Airflow CV sedan. It was in Colorado. I bought it sight unseen and it turned out to be a good car. It was everything Chrysler claimed in 1934. It was an excellent riding car with plenty of horsepower. The automatic overdrive performed nicely.

1934 Chrysler Imperial Airflow CV. Price new: $1625

My wife, who had never liked the Cord's design, thought the Airflow was, without question, the ugliest car she'd ever seen. I must admit that influenced my decision to sell it (of course, today, she has grown to admire the 1934 Airflow design and sees it for what it was—and is). The Airflow now resides in a modest collection of vintage Chryslers.

1937 Lincoln Willoughby Sport Sedan. 1 of 13. Price new: $7000

Then another Lincoln surfaced, one whose design I had long admired—a 1937 Lincoln K Willoughby Sport Sedan. The car belonged to an LOC member who recently died and the car had a reputation as a dependable driver. This was one of Lincoln's most expensive offerings in 1937; the interior was truly spectacular. As I learned after I bought it, the car had received a much-needed complete restoration by a previous owner. Unfortunately, he longer I owned it the more problems I found and after spending more than I wanted on necessary repairs I decided to cut my losses and sent it to a more appreciative owner.

1936 Pierce-Arrow 1601 Deluxe Eight Sedan. Price new: $3195

I appreciate original, unrestored cars and about that time I spotted a 1936 Pierce Arrow 1601 sedan in Hemmings Motor News that was in that condition. It belonged to a grandson of an AACA founder, Earle Eckel, who kept meticulous maintenance records. It had a beautiful interior but the paint was tired. After a complete service it was ready for testing so I drove it to the CCCA Museum Experience. It was a wonderful road car, thanks, in part, to its original overdrive, and cruised at 60-65 mph. Hard to believe Pierce-Arrow was in deep financial difficulty when this car was produced.

When I learned of a young couple in the Pierce-Arrow Society that was seeking a car like mine I decided that they should have it. I reflected on my early years in the hobby and decided this was the right thing to do. But that Pierce-Arrow was a runner!

I rarely consider buying cars at auction, but when a 1922 Lincoln sport phaeton came up for sale in Washington state I decided to pursue it. It tuned out to be a decent car but the auction company could have been more forthcoming with some essential information. When it arrived it was a good car and we enjoyed touring with it. For an early 20s car it was a rocketship and its two-wheel brakes were quite adequate (my Locomobile also had two-wheel brakes

1922 Lincoln Sport Phaeton, one of the last Leland-built Lincolns

and they were fine—maintenance and adjustment are the keys!).

Several years ago at the AACA Fall Hershey meet I learned from fellow CCCA member Steve Snyder of California that he was brokering a 1930 Lincoln Judkins coupe. As he was describing it, I knew I had to have the car. I knew its provenance and with Steve's fine reputation I bought it sight-unseen. It had been "rescued" by long-time Lincoln enthusiast Jack Passey and sold to a fellow Lincoln lover, who restored it about 45 years ago.

It had since been in storage long enough for moths to damage the interior and the radiator shell to tarnish. As my friend, Dave Brownell, used to say, "It only needs a shave and a haircut." After a thorough mechanical freshening it was ready for the road. Since then, there have been a few hiccups, but it has made two trips to the Old Car Festival at Greenfield Village. The restoration remains good enough that it was invited to Pebble Beach in 2013 for a Coachbuilt Lincoln class. Like the Town Sedan, it's a perfect car for me—good for show and, more importantly, for touring.

1930 Lincoln Judkins Coupe. 1 of 40. Price new: $5000

The summer I was preparing the Judkins coupe for Pebble Beach I received a call from a fellow Lincoln Owners Club member in New England who was selling his father's Lincolns, including a 1931 Lincoln Dietrich convertible sedan that had been in storage for nearly 40 years. I'd always admired that body style, so I had to pursue the car. It is now in my garage.

The car required a complete mechanical freshening-up, which included a complete engine and carburetor rebuild. In the 1960s it received fresh paint and a new top, which are still in good order. The original interior is quite usable. I've driven it to the CCCA Museum and Greenfield Village in Michigan and it was on a 1,700-mile CCCA New England CARavan in 2017. It's another proven runner.

Along the way, I also owned some non-Classics, including a 1921 Hudson Super Six sport phaeton, in recognition of my grandfather Schultz's stint as a trimmer with the Hudson Motor Car Company in the early 20s.

1931 Lincoln Dietrich Convertible Sedan. Price new: $6800

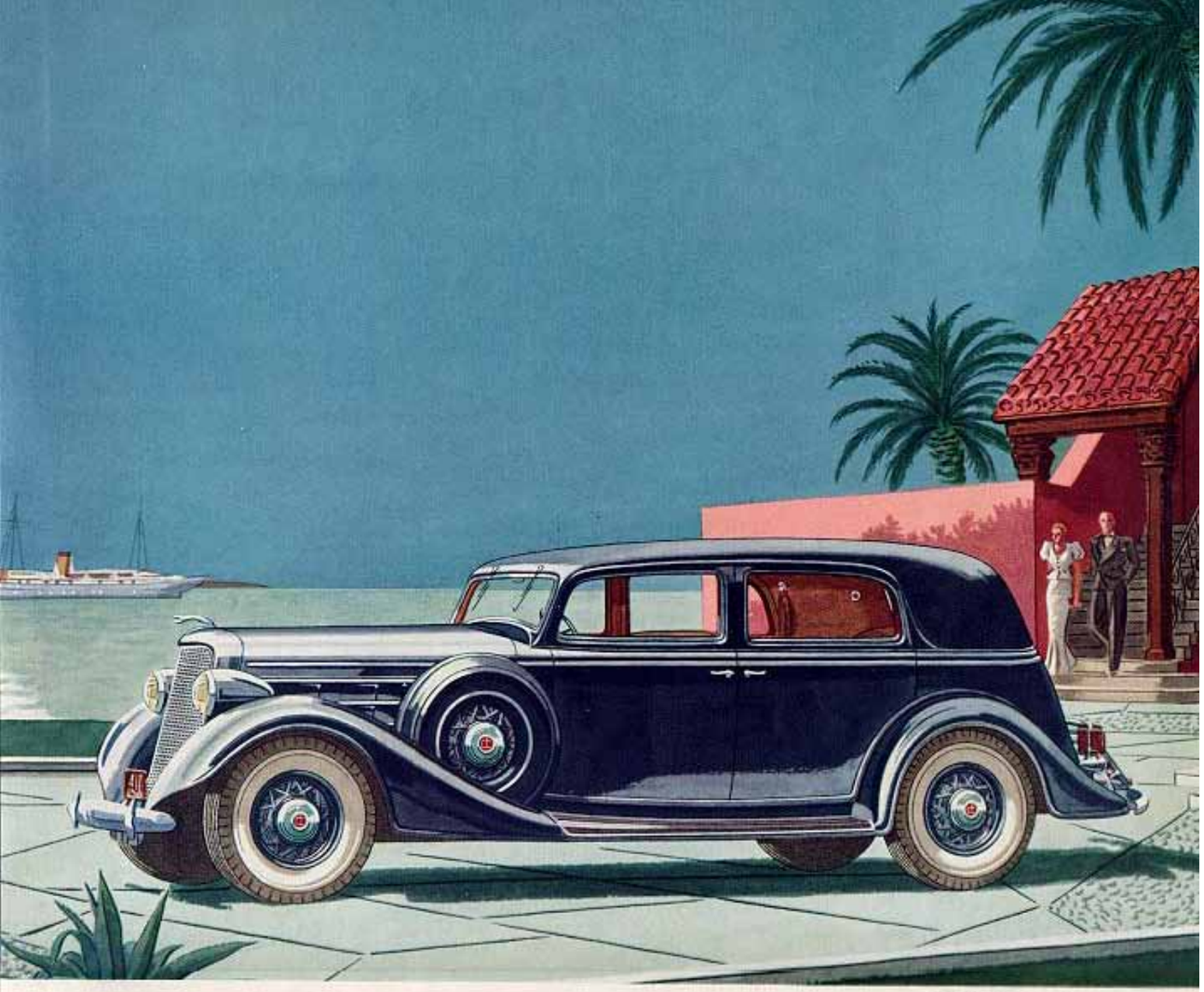
I enjoyed the Hudson, but my wheelhouse is the great Classics of the 1920s and 30s.

Today, our garage contains three Lincolns: the 1930 Judkins coupe, the 1931 Town Sedan and the 1931 Dietrich convertible sedan. Many years ago I developed a fondness for Lincolns and decided it was more practical to focus on one marque and one era. It has proved to be a good decision. Along the way, I've become active in the Lincoln Owners Club and the Lincoln Motor Car Foundation, which oversaw construction of the Lincoln Motor Car Heritage Museum & Research Center in Hickory Corners, Mich.

The prewar Lincoln fraternity is small one. Base price of the Lincoln until 1932 was $4,600, (higher than most Classics) and they didn't sell in numbers like Packard and Cadillac. Lincoln owners are, for the most part, willing to assist each other with parts and services. And, although (like many of you) I'm always looking, there will always be a Lincoln—*or two*—in my garage.

###

David Schultz is currently chairman of the Lincoln Motor Car Foundation and president of the Lincoln Owners Club as well as a CCCA past president.



THE FIVE-PASSENGER TWO-WINDOW SEDAN

THE LINCOLN

Like an urbane and traveled guest, the Lincoln is supremely at home among people who live well. Year after year, it earns their esteem in town and countryside. And, year after year, the Lincoln advances steadily in beauty and engineering excellence. Thus the new Lincoln is a more desirable car to own even than its predecessors. . . . Lincoln engineers have built their finest power-plant in the present powerful V-12 cylinder engine. But in this new car, the engine is placed further forward in the frame. Because of this new designing, there is greater room, as well as greater comfort, in the new Lincoln. The weight of rear-seat passengers is poised ahead of the axle, rather than directly over it. . . . Seen across a southern landscape, or weaving swiftly through city traffic, the Lincoln appears, and is, more beautiful than ever before. Here the best in modern design unites gracefully with traditional beauty which is Lincoln's own. Elegance in every detail is a forecast of the agility and the stamina of the Lincoln on the road. Eighteen standard and custom-built body types.

FEATURE: 1935 LINCOLN K CLUB SEDAN

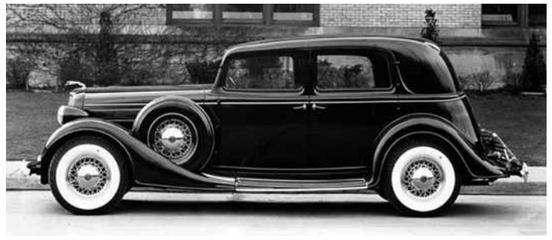
MS. PARDEE'S LINCOLN

Is beauty only skin deep? This Lincoln's long journey towards reliability would test anybody's resolve

By Matt Harwood

There's certainly a mystique to large, multi-cylinder luxury cars from the '30s—it's why we're all in this club, isn't it? From a very early age, I understood that eight cylinders were fairly ordinary (even my mother's Ford *station wagon* had a V8) but anything with twelve or even *sixteen* cylinders was special. These were machines that should not have existed, designed during an era when they thought economic prosperity would last forever yet sold during a time when it was obvious it would not. For those who could still afford them, America's finest automakers were building cars of unparalleled quality and design. In short, if you were the kind of person who still insisted on the very best, Lincoln, Packard, Cadillac, Pierce-Arrow, and a half-dozen others were happy to oblige.

Lincoln's 12-cylinder engine arrived in 1932, a transition year for Lincoln where the Leland 384 cubic inch V8 was still available (called the KA) while an all-new 447 cubic inch V12 (the KB) was intended to challenge Packard's new Twin Six and both the V12 and V16 engines from Cadillac. For 1933, Lincoln dropped the V8 and the KA adopted a 382 cubic inch V12 while the KB remained largely unchanged. In 1934, the KB's expensive "fork and blade" V12 was discontinued, replaced by an enlarged version of the 382-inch V12 displacing 414 cubic inches and making the same 150 horsepower as the previous 447-inch unit. That 414 V12 would become the lone powerplant in K-Series Lincolns for the remainder of the 1930s.



1935 Lincoln factory photo.

There are anecdotes suggesting that Edsel Ford kept two sets of books for Lincoln, one to show his father, Henry, and one that told the truth: *Ford lost money on every single Lincoln they built.* Nevertheless, Edsel remained committed to the high-end luxury market and in 1935, when this handsome club sedan was built, Lincoln offered no fewer than 18 body styles, including semi-custom "catalog bodies" from LeBaron, Brunn, Willoughby, and Judkins. The least expensive 1935 Lincoln sedan cost $4200 (a V8 Ford sedan, in comparison, was $575), giving us some indication of the quality that went into these cars.

In 1935, Lincoln nomenclature was simplified to just the Model K on either a 136- or a 145-inch wheelbase and powered by the 414 cubic inch V12 engine. Styling

continued on page 18

1935 Lincoln Model K Club Sedan

Owners: The Harwood Family

He piled upon the whale's white hump the sum of all the general rage and hate felt by his whole race from Adam down; and then, as if his chest had been a mortar, he burst his hot heart's shell upon it.

-Herman Melville, "Moby Dick"

Ms. Pardee (continued)

was streamlined, including smaller headlights, slender bumpers, and lower roof lines. Functionally, the engine was moved forward to expand cabin space, the body was moved forward a whopping *eleven* inches to improve the ride, the engine now sat in five rubber mounts instead of four, and the rear axle had an anti-sway stabilizer bar. Other details included the radiator cap moving under the hood (although the traditional greyhound hood ornament remained), a mesh grille without shutters, and 17-inch wheels on all models. Power brakes were standard and an AM radio was a new option in a redesigned dashboard.

Imposing front-end view with dramatic fenders, mesh grille, and streamlined bumper. Sidemounted spares were optional; fog lights added by owner.

Our featured 1935 Lincoln is what most people would call a club sedan, but in Lincoln parlance, it is a Five Passenger Two-Window Sedan, Style Number 543. The bodywork is aluminum, including the doors and tops of the hood, while the fenders and hood sides are steel, making this massive car somewhat lighter than its competition. Built on the 136-inch chassis, only 170 of these handsome cars were built out of a total of 1,411 1935 Model Ks. No matter how you look at it, this is a rare car. In fact, I can find no other references or even a photo of another one anywhere on the internet, and I'm pretty good with Google.

This club sedan originally shipped on February 18, 1935 to Edith Pardee of Harwich Port, Cape Cod, daughter of a coal baron from Hazelton, Pennsylvania. It was finished in Paris Gray with a gray interior and six wire wheels. She apparently used it to travel between Cape Cod and Pennsylvania to visit Lafayette College, which was founded by her father. Ms. Pardee passed away in 1946 at the age of 83 and it appears that her Lincoln remained in Cape Cod until the 1950s.

Sometime in the mid-50s, it was acquired by Daniel

Make no mistake, even the "smaller" Lincoln is a BIG car.

Baird Wesson II, great-grandson of one of the founders of Smith & Wesson firearms. Under Wesson's ownership, it was mostly stored in a warehouse behind the Roosevelt Avenue Smith & Wesson factory in Springfield, Rhode Island where Wesson family members kept personal property. Daniel Wesson left Smith & Wesson to found Dan Wesson Arms in 1968, and around that time, the Lincoln was sold to Nelson B. Pease who collected the car personally from the Smith & Wesson warehouse. Pease didn't keep it for long, and passed it to John Brill of Westfield, Rhode Island, under whose ownership it was repainted its current shade of Ascot Maroon, a correct 1935 Lincoln color. It remained with the Brill family for nearly five decades. Given the outstanding condition of the original interior and condition of the now 50-year-old paint, there can be no doubt that this car has always been loved, if not maintained (more on this in a moment).

I spotted this car for sale with another dealer on the AACA (Antique Automobile Club of America) website in spring 2018. A big, handsome 12-cylinder club sedan with such a reasonable price tag was too much to resist, so after several conversations with the seller, I purchased it and had it shipped to our shop. I was still unsure whether my intent was to keep it or sell it, but either way, I wanted it. I understood that it was not a perfect car and that it would need some TLC, but the sorting process is one of my favorite parts of owning an old car simply because it's

414 cubic inch V12—a lot of work to get to this point!

so rewarding. Fix one thing, the car gets better. Fix another, and it gets better still. Pretty soon you have a car that can be driven anywhere. But the patience to get there is often hard to find and this Lincoln tested us every step of the way.

The Lincoln arrived in late June and like a kid on Christmas morning, I excitedly ran out to unwrap my new present. It started easily in the trailer, which was a good introduction, and I backed it out into the sun to find that it was cosmetically every bit as nice as I had hoped—that just doesn't happen very often in this business. Without thinking, I headed out onto the road to give it a test drive. Of course, I completely neglected to take a few important things: my cell phone, my wallet, and a license plate, all of which I'd need in the next few minutes.

Traditional greyhound hood ornament

First problem: *the speedometer doesn't work.* On the plus side, that giant V12 is ***STRONG*** and pulls the big sedan around with genuine authority. To avoid local traffic, I jogged over to a nearby industrial park and let the big engine unwind a little bit. The seller had warned me that the ancient Denman tires were somewhat octagon-shaped, but as the car accelerated through the gears they started to feel better. Cruising at what my right foot felt was about 42 or 44 MPH, I passed a local sheriff in his cruiser, who immediately banked a U-turn and hit his lights. *Uh oh!*

Pulling into a parking lot, I explained to a remarkably understanding deputy that this was my first drive and I didn't know if the car would re-start and that it was close to overheating. Oh, and I also forgot my driver's license. He followed me back to our shop where I produced my license and insurance papers. He let me off with a kind warning and then spent some time looking around the showroom, laughing that he'd never pulled over a 1935 Lincoln before!

Oh, and the deputy said his radar showed me zipping along at 58 MPH. His advice? *Fix the speedometer.*

Over the next few weeks, we would start to sort the various maladies that plague the car, including fixing that hot start problem (clean grounds, big new 00-gauge battery cables, and *two* Optima batteries—there's just no

way this thing *can't* start with 1600 amps kicking it). We also rebuilt the water pump and generator, installed a new voltage regulator, cleaned out the cooling system, sent the gas tank out to be cleaned and restored, installed all-new fuel lines and an electric fuel pump (*see page 22*), rebuilt the mechanical fuel pump and carburetor, rebuilt the distributor, installed new hoses, new spark plugs, two new coils, new points and condensers, found correct spark plug wire conduits, patched some holes in the exhaust system, repainted the headlight buckets, and installed a modern temperature gauge hidden in the glove box, just to keep a better eye on things. I also secured the metal sidemount covers, which had a tendency to rotate around the spare tires as we drove. Cosmetically, I felt that the front of the car was a little plain, so I added a set of fog lights.

Spacious rear seat with blind quarters for privacy.

Inside, the 2-window sedan is almost identical to the more popular 3-window 5-passenger sedan aside from the blind quarters, with this car still carrying entirely original gray broadcloth upholstery. The front seat is a split bench with individual adjustments for driver and passenger via lovely polished aluminum handles, and all the garnish moldings are beautiful parquet-like wood veneers which are still in fantastic condition. The driver's seat has a small tear that looks relatively recent but is otherwise unmarked and the back seat looks almost new. The carpets are a little

continued on page 20

Ms. Pardee (continued)

tired, particularly the heel pad for the driver, but that's a small complaint. The giant steering wheel is quite plain and made of steel; Lincoln seemed to favor conservative practicality despite the car's outrageous sticker price. The instrument panel consists of two round gauge housings, one for the speedometer and the other for the auxiliary gauges, including the clock. The fuel and temperature gauges are both liquid-filled hydrostatic type, and as is typical, the gas gauge isn't working. Ventilation is very good, with both a cowl vent and a crank-out windshield, plus front door

Handsome and modern instrument panel.

glass that slides rearward at the top of its travel. There's an accessory under-dash heater and a floor-mounted heater for the rear seat, which was standard equipment. Lincoln wanted to emphasize the body's aluminum construction, so those stripes on the dash, the accelerator pedal, and all the dash knobs are also made of the lightweight metal. There's a moderately-sized trunk in back plus a trunk rack if you need more capacity.

It was my goal to have the car ready for the ORCCCA Grand Classic in July, but we struggled every step of the way. Each time we fixed one part, the part next to it broke. I drove it six times and it came home on a flatbed four of them and I grew to hate this car with a white-hot intensity. Nevertheless, by the time of the Grand Classic, I had some confidence in the car; we made it all of about eleven miles before the car gave up due to what I mistakenly believed was vapor lock. We tried limping it along for a while but it was clear that more serious problems were afoot (I later discovered the fuel lines were clogged—this was before we restored the gas tank). We called a flatbed (*again*) and had it towed back to the shop. There, we jumped in our 1941 Buick Limited limousine and rocketed to Salem at 10:30 PM for the show the next morning. The Buick, of course, didn't miss a beat; can the Lincoln ever be as good?

Since then, we've invested a great deal of time, money, and *emotional equity* in the Lincoln. It remains a very handsome car and on those rare occasions we've been able to drive it (it successfully participated in the Clambake tour), it has proven to be a fantastic road car that's a lot of fun to drive. The V12 is powerful, with seemingly endless reserves of torque that make shifting on any uphill climb completely superfluous. It cruises at 55-60 MPH without seeming to work very hard [obviously] and the power-assisted brakes, while still mechanical, are shockingly effective. Yes, those ancient tires are spoiling the fun a bit, but we'll cross that bridge another day. I absolutely love the sound of the giant V12 accelerating through the gears, a wonderful turbine-like whirring that sounds expensive. And it really is fast for the mid-30s—despite its size, the aluminum construction means it's lighter than most of its peers. I'm optimistic that we've cured the overheating and fuel issues, although now that the cold weather is here, it's obviously difficult to evaluate. At anything under 65 degrees ambient, it's apparently immune to overheating, but as we all know, 65 degrees in the fall isn't the same as 85 degrees in the summer.

The Lincoln's future with us isn't yet written, but despite my love/hate relationship with it, the quality of the car is tangible. I find it handsome enough that I turn around and admire it as I walk away. And there is most certainly a special feeling when you are driving a 12-cylinder motorcar. Maybe that will ultimately make all the headaches worthwhile.

SPECIFICATIONS

Year:	1935
Make:	Lincoln
Model:	Model K 2-Window Sedan
Original Price:	$4495
Engine:	414 cubic inch V12
Horsepower:	150
Torque:	320 lb.-ft. *(estimated)*
Transmission:	3-speed manual
Final Drive:	4.69:1
Wheelbase:	136 inches
Curb Weight:	4747 pounds
Brakes:	Mechanical 4-wheel drum
Wheels:	17-inch wire wheels
Tires:	7.50-17 Denman

Edsel B. Ford

The Quiet Genius

Edsel Ford's story has been told so often that many enthusiasts think they know it by heart. Born and raised to assume the throne of the Ford empire, hobbled by his domineering father, his life tragically cut short. There's a persistent image of him living in his father's massive shadow, trying—*but never quite succeeding*—to change Henry's ways.

But there's far more to Edsel Ford than his Cain-and-Abel struggle for identity with his father.

By the time he was 26 years old, with only a high school education, Edsel was the President of Ford Motor Company. Unfortunately, his true talents were squandered on the bureaucratic tedium of running a business, particularly when Henry would overrule his decisions in pursuit of ever-greater efficiencies in his factories. But the aquisition of Lincoln in 1922 allowed Edsel's true talents to grow, if not blossom.

With impeccable taste and a natural instinct for design, color, and style, Edsel recognized Lincoln as an opportunity that he would not get at the helm of Ford Motor Company: *the chance to build beautiful cars.*

As president of Lincoln, he was able to pursue his passion and create Ford's first design studio. He enlisted the talents of men like John Tjaarda (designer of the streamlined Zephyr) and Bob Gregorie (father of the Continental). Edsel's gentle influence can be seen throughout the Ford line, from the Model A to the introduction of Mercury to the spectacular coachbuilt Lincolns of the 1930s. He recognized that talent could come from without as well as within, so he cultivated relationships with coachbuilders like LeBaron, Judkins,Willoughby, and others, drawing on each firm's strengths. For example, in 1932, Willoughby designed Lincoln's limousines, Brunn the cabriolets, Deitrich the coupes and convertible sedans, Judkins the berlines and formal coupes, and Murphy the roadsters and phaetons.

And it was in the field of design that Henry respected Edsel most: his talent was mysterious and wondrous to Henry, and he chose not to interfere, trusting his son's artistic instincts, if not his business acumen.

By choice, Edsel remained in the background, allowing his designers to take credit, and few knew of his passion, although he was a well-known patron of the arts. His talents touched virtually every single vehicle produced in a Ford-owned factory, but his name would appear on none of the design sketches, none of the blueprints, only on the blue ovals on their noses.

Edsel died in 1943 at the age of 49, likely of stomach cancer exacerbated by what we would today refer to as acid reflux. Ultimately, he passed away after getting sick from drinking unpasteurized milk in an attempt to soothe his pain.

It's fascinating to speculate on what Ford Motor Company might have become had Edsel survived to take its helm in earnest. Sadly, it wasn't until after he was gone that his father seemed to truly recognize Edsel's remarkable talents.

-Matt Harwood

TECH: ELECTRIC FUEL PUMP INSTALLATION

IT'S A GAS!

An auxiliary electric fuel pump can solve common old car issues

By Matt Harwood

Play with vintage automobiles long enough and you'll encounter the two primary reasons people install electric fuel pumps: hard starting and vapor lock. Most Full Classics use either a vacuum tank or a mechanical fuel pump to deliver fuel, and for the most part, these systems tend to be quite reliable. So why add a second fuel pump, which adds complexity to a fairly simple system?

Some might suggest that an electric fuel pump is a crutch and if your car was properly sorted with all the equipment in proper spec, you wouldn't have problems. There might be a grain of truth to that, but the real issue is today's fuel; no matter how perfectly tuned your car might be, it was simply not designed to operate on modern gas. When most of our vintage cars were new, fuels were far less volatile and often needed heat (sometimes a lot of it) to fully atomize for combustion. That's why exhaust manifolds are often tucked in close to the induction system and why many old cars have some kind of exhaust recirculation system to keep the carburetor hot year 'round. Today's fuels have a far lower boiling point (in the range of 160-180 degrees) and those heating mechanisms can become your carburetor's worst enemy.

Hard starts are familiar to us all. You get in, turn the key, hit the starter, and the engine grinds and grinds and grinds and just doesn't want to start. After an interminable wait, it sputters and finally catches. Meanwhile, you've burned through a lot of battery power and put a lot of stress on the starter motor and engine internals, which are moving but don't yet have oil. What can you do to improve starting performance? Prime the carburetor.

Another example: Say your car is running well. It's a warm day and you're cruising effortlessly at 45 or 50 MPH. Everything feels great, the engine is purring, and troubles aren't even on the horizon. Then you slow down for traffic or stop for a red light and… cough-cough-cough. The engine loses power, starts to sputter a bit, the carburetor pops, and you start looking for a place to pull over. Thirty seconds later, if you manage to keep the engine running and the car moving, everything magically returns to normal as if nothing happened. Nevertheless, you spend the rest of the drive rattled and concerned. What the heck happened?

Vapor lock.

Electric fuel pumps are a great way to address both issues. They are not necessarily a cure-all, but they can greatly reduce the symptoms and add peace of mind when you drive your car in the real world.

Priming

If you want your car to start quicker, you need to feed it sooner. If it's been sitting for more than a week, the carburetor is probably going to be dry. The 1/4 cup or so of fuel in the carburetor bowl will evaporate after three or four days of inactivity—that's a lot of gas in not a lot of time, isn't it? Nevertheless, this is precisely why your car takes so long to start after it has been sitting for a while. At cranking speeds, the mechanical pump moves very little fuel and has to pull it all the way from the back of the car and refill the carburetor bowl before it will even think about firing.

However, with an electric pump, you can let the pump run for 20 seconds to refill the bowls quickly and easily. When you hit the starter, fuel is already there and *VROOM!* It fires up right away. Once the car is running, turn off the electric pump and the mechanical pump can take over again. But there's another reason to use an electric fuel pump, just in case of…

Vapor Lock

"Vapor lock" is a rather vague term that has come to mean any heat-related issue that causes the fuel to vaporize prematurely, either in the pump, the lines, or the carburetor itself. Diaphragm-style mechanical fuel pumps don't pump vapor very well and vapor can't be pulled through fuel lines like liquid. But an electric fuel pump PUSHES fuel, usually from the back of the car where it's cooler, and it puts a few pounds (3-5 PSI) of pressure in the lines and carburetor, which helps reduce vapor pockets. If you're paying attention, you can often pre-emptively head-off vapor lock before it even starts by activating the pump before you need it—say that situation I mentioned earlier when you're slowing to a stop after an extended high-speed run. Without the electric pump, the engine slows to an idle, but it's still very hot. The mechanical fuel pump slows down and fuel flow drops to almost zero, giving the fuel more time to heat up as it passes slowly through the fuel system. Less fuel is flowing through the carburetor so it gets hotter, too. When you hit the throttle, that pre-heated fuel vaporizes before it even hits the venturis. The engine sputters and chokes; if it stalls, it can be *very* difficult to re-start until it cools off.

Smart use of an electric pump keeps the fuel moving, which can drastically reduce the number of these fuel-related "uh oh" moments on the road.

Electric Fuel Pump Types

There are two widely-available types of fuel pumps available for our 6-volt cars, rotary vane (for example, the Carter P4259) and roller vane (such as the Airtex E8902). While the names are similar, their operation is quite different with the most critical difference being that roller vane pumps are a "pull through" design while rotary vane pumps are not. That means that fuel will flow through a roller vane pump even when it's off, but it will not flow through a rotary vane pump. Roller vane pumps are often quieter, cheaper, and easier to install, but they tend to be less reliable and use fuel as coolant, so if you run out of gas and forget to turn off the pump, it will cook itself in short order.

Fuel pumps: roller vane Airtex E8902 (top) and rotary vane Carter P4259

The photos that accompany this article are of my 1935 Lincoln K as I install a Carter rotary vane pump. Please note that if you are installing a rotary vane pump as shown in this article, you will need a bypass to ensure that fuel flows to the mechanical pump even when the electric pump is off. Don't worry, I'll show you how to do it, and if you're using an Airtex roller vane pump, you do not need any bypass at all—the mechanical pump can pull through a roller vane pump.

Installation: Plumbing

That's the theory part. The practical part is installation, which is straightforward and not terribly challenging to handle in your home garage, although it'll take longer than you think and requires patience and planning. Take the time to plan your job before you start, gather the correct supplies, and work carefully to ensure better results. A fuel system is no place to cut corners!

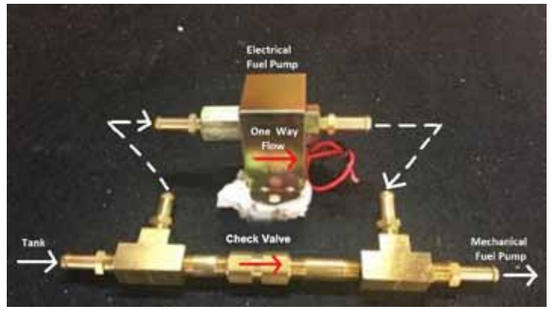
A few tips: electric fuel pumps push better than they pull, so it's best to locate them in the back of the car close to the fuel tank and preferably lower than the tank so that it will self-prime. Use as little rubber hose as possible in your installation—yes, it's tempting to just cut the metal line and shove a piece of hose and a hose clamp over it, but that's hack work at best and a fire waiting to happen at worst. Rubber degrades over time so sooner or later you'll be back under there fixing it, probably at the worst possible moment. Plan ahead. Look carefully at how the fuel lines are routed and follow the factory route as closely as possible, avoiding heat sources and moving parts. The following series of photos shows the installation of an all-new fuel system, including an electric fuel pump. *Follow along!*

1. Fuel line connection at the fuel tank. You will have something similar on your car. Follow the fuel line forward until you find a suitable place for the electric fuel pump to live. Try to get the electric pump as close to the tank as possible and below the level of the fuel tank outlet so it will self-prime. Smaller line is for the fuel gauge.

continued on page 24

Fuel Pump (continued)

2. Ideal location inside the frame where the fuel lines are located and there's plenty of room. Up here, the pump will be protected from road debris, heat, and moving parts. Note original fuel line and gas gauge capillary tube.

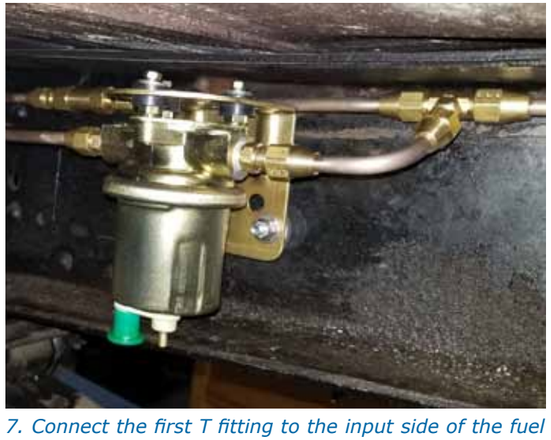


3. A rotary vane pump requires a bypass line and a check valve. The check valve prevents the electric pump's output from circulating backwards, yet permits the mechanical pump to pull directly from the tank.

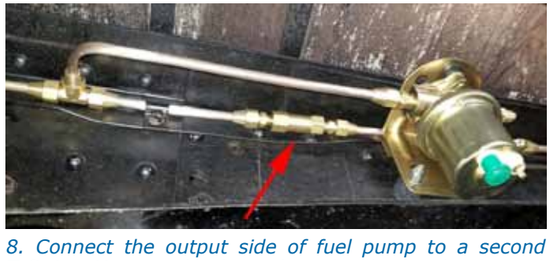
4. Rotary vane pumps are noisy. Using rubber mounting feet can greatly cut down on the noise transmitted into the car (a "Quiet Pack" kit is available, Carter part no. 18-14U, $12.99).

5. Once the pump is mounted, connect it to the fuel tank. I am using 5/16-inch copper/nickel tubing and flare fittings (see "Materials and Supplies" sidebar). No rubber hose. This fuel system should last the life of the car.

6. First joint is a T-fitting that will feed the electric pump. The main line is routed against the frame behind the electric pump, following the path of the original fuel line.



7. Connect the first T fitting to the input side of the fuel pump.



8. Connect the output side of fuel pump to a second T-fitting. You can clearly see how the check valve (arrow) prevents back-flow from the electric pump.

9. Run the line to the mechanical pump up front on the engine. Again, follow the original fuel line's route if possible. I was able to re-use all but one original mounting hole and even reattached the fuel gauge capillary tube in the original clips.

10. This is what I started with—what a mess! The line from the tank was kinked and sat right on top of the water pump. The upper line from the fuel pump to the carburetor was right above the exhaust manifolds and was actually touching the upper radiator hose. Think about the best way to route your lines and get them as far away as possible from heat sources.

11. Routing the line up to the mechanical pump required some relatively complex bends around the frame. To properly locate those complex bends, I made a template using some wire then duplicated it with tubing. Easy!

12. Using templates, both the lower and upper (arrow) fuel lines fit perfectly on the first try. Be sure to avoid hot spots! You'll note I also installed spark plug wire conduits, new oil filter lines, and new vacuum lines while I was at it.

Installation: Wiring

Modern fuel pumps draw between 6 and 10 amps and even our 6-volt cars should have enough electricity to run them without issues. In the simplest installation there are only two wires to connect: power and ground. It is up to you to decide how you want to control the fuel pump. If you want to be able to turn it on and off as needed, you'll need a switch of some sort. Sadly, I killed a temporary Airtex pump on this Lincoln simply because it was so quiet I forgot to turn it off when I parked the car. That's when I came up with the solution using a relay that I'm sharing with you here.

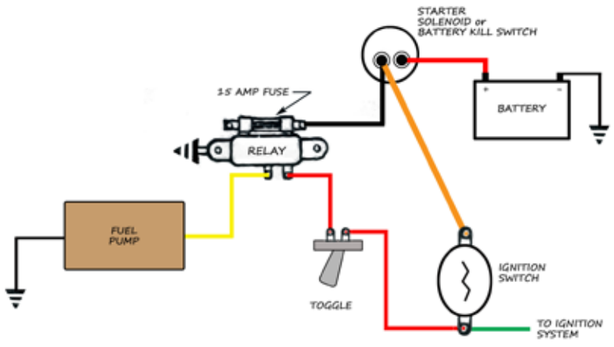
Regardless of how you choose to power the pump, it is important to supply the pump with steady current that doesn't interfere with other systems on the car. I have seen many cars come through our shop with fuel pump installations that use the ignition switch itself as a power source for the fuel pump. At first this seems like a good idea because it will kill power to the pump when you turn off the ignition. However, this is a mistake because it can reduce power to the ignition system and cause all kinds of hard-to-diagnose drivability problems. Using a relay achieves the same result without stealing power from the ignition system.

A relay is nothing more than a remote switch which allows you to pull power from one source and activate it with another. With this fuel pump installation, the ignition switch will trigger the relay, but primary power for the fuel pump comes directly from the battery. That way the ignition isn't compromised but the system still shuts off with the ignition switch. I also added a toggle switch so I can turn off the fuel pump when it's not needed. I used the same 30-amp Delco headlight relay I used for my 1941 Buick's fog lights (see *Northern Lights*, Spring 2018) because it's ideally suited to this application.

continued on page 26

Fuel Pump (continued)

Here's how the installation looks on paper:



The advantage here is that the relay pulls power directly from the battery or cut-off switch. There's a toggle switch installed between the relay and the ignition switch, which ensures the fuel pump will run only when the ignition is on ***and*** the toggle switch is in the on position. The fuel pump will not run with the ignition off, regardless of toggle switch's position. Best of all, it only takes a few milliamps to trigger the relay so the ignition system is unaffected.

13. I made a bracket for the toggle switch and hid it under the dash where it can be reached easily. Then I installed the relay nearby where it will be safe and dry. Sorry, I don't know what the "R" stands for.

I used cloth-covered wire, running a 12-gauge yellow wire from the relay's output terminal to the fuel pump. I ran a black 12-gauge wire from the main battery cut-off switch to the relay's power input terminal. I installed red 14-gauge wire from the ignition switch's ON side to the toggle switch, then to the relay's trigger terminal. At the fuel pump, it was simply a matter of connecting +6V power from the relay to the + terminal and a small ground wire from the – terminal and to a clean spot on the frame (reverse that if your car is positive ground).

14. Connect power (yellow wire) and ground at the pump.

The final step is simply to turn it on and check all your fittings for leaks. If you do have a leak, you can usually just tighten the flare nut to seal the joint. However, if the fitting or tubing has been crushed or damaged you might have to replace it. Fortunately, that doesn't happen often and if you're careful and use the correct fittings, your chances of success will be much improved.

Supplies & Materials

- **Carter P4259 rotary vane fuel pump**, non-flow-through, 6 volts, 6-8 PSI output, ¼ NPT input/ output, $78.99 @ Summit Racing

OR

- **Airtex E8902 roller vane fuel pump**, flow-through, 6 volts, 4 PSI output, 5/16 hose barb input/output, $37.99 @ Summit Racing
- **Carter "Quiet Pack" mounting kit**, part no. 18-14U, $12.99 @ Summit Racing
- **5/16-inch "Cunifer" copper/nickel tubing**. $106.95 for a 25-foot roll from ***www.cunifer.com***. Cunifer bends easily and is completely impervious to ethanol gas so it will last forever. It doesn't work harden and crack like copper and it is easier to form than brass, which needs to be annealed.
- **T connector for 5/16" tube**, 45 degree flared fitting, 1/2"-20 UN threads, part no. 50635K533, $16.64 @ McMaster-Carr (used for bypass, need 2)
- **Nut for 5/16" tube**, 7/8" long, 45 degree flared fitting, part no. 50635K563, $2.48 each @ McMaster-Carr (standard flare nuts used on every connection, need 12)
- **Adapter for 5/16" tube**, 1/2"-20 x 1/4 NPT male, 45 degree flared fitting, part no. 50635K378, $2.60 each @ McMaster-Carr (adapts NPT threads on fuel pump and check valve to flare fittings, need 4)
- **Quick-opening backflow-prevention valve** for oil and fuel, 1/4 NPTF female, part no. 7775K52, $14.50 each @ McMaster-Carr (check valve, need 1)
- **Delco 30-amp relay** or equivalent (about $35 on eBay)
- **Toggle switch**
- **Misc. wire and terminals**

Working with flare fittings & metal tubing

Flare fittings have many advantages: One, they require no sealant or Teflon tape so they're very clean—critical for a fuel system. Two, they can be assembled and disassembled repeatedly and still seal properly. Three, they're durable and resistant to breakage thanks to the long sleeve nuts that protect the joint itself. Four, they're easy to make yourself with a simple flaring tool. Five, they're rated to 1200 PSI, plenty for an automotive fuel system. And six, they're likely what the manufacturer used when your Classic was built and look correct on a vintage chassis, particularly with the bronze-colored copper/nickel "Cunifer" tubing.

Before flaring your tubing, use a round file or other tool to remove the burr that will be inside the tubing after you cut it. Any extra material inside the tubing will affect the quality of your flare and its ability to seal properly. Use a standard 45-degree flaring tool, which you can buy at any auto parts store and its operation is fairly intuitive. Slide your flare nut onto the tubing with the threads facing the end you are flaring, then secure the tubing in the jig so that it is just barely proud of the surface. Use the die tool to make the conical seat (you did remember to install the nut, right?) then remove it from the jig. I use 1000-grit sandpaper to clean everything up so there are no burrs, then blow it all off with an air gun. Keeping everything clean is critical to good joints and a healthy fuel system.

Invest in a high-quality tubing bender. Not one of those low-quality $5 Home Depot jobs, but a good one that can bend various tubing sizes and multiple radii—it's $35 well spent. A good bender will form the tubing without crushing it and makes for a much neater installation than crude hand-bent curves. Nothing looks better than a set of hard lines with clean, crisp bends that fit properly.

HOBBY: WHAT KIND OF COLLECTOR ARE YOU?

OLD CAR MUSINGS

By Bill Shepherd

The collector car hobby that we all enjoy has a number of different personality types contained within it. Which one(s) of these are you?

The Investor, often reviled as the person who takes the fun out of the hobby, nevertheless serves a useful function. The Investor helps determine the true value of collector cars. Any of the top tier collector car models started life as new cars and rapidly became used cars. Without the investor, collector cars wouldn't have nearly the value they do. The investor loses more times than he wins, and is characterized by the wise saying: "The best way to make a small fortune in collector cars is to start with a large fortune."

The Nostalgist is transported back to a time, be it age 8 or 18, of enjoyable activities and relationships. The Nostalgist doesn't care about the value or popularity of the car that brings back those memories. The Nostalgist recalls the complaint: "He's sitting on my half of the back seat!"

The Historian wishes to preserve or return the collector car to how it came from the factory. The Historian views the automobile as the 20th century expression of modern art. The Historian is often overheard asking: "What's the date code on that part?"

The Mechanic enjoys maintaining and repairing a car that is driven regularly. The Mechanic would agree with the sentiment: "Few things beat an afternoon of wrenching."

The Resurrector wants to bring a vehicle back from the grave. Such cars can be had at a low price, and provide a challenge for the Resurrector. Always an optimist, the Resurrector will tell you: "I'll have it running in a few weeks!"

The Used Car Dealer enjoys surrounding himself with old cars. They may run, or maybe not. They may be in a well maintained garage, or outside in the elements. The Used Car Dealer will tell anyone who asks: "Sorry, it's not for sale."

The Artist thinks of a car as a canvas for his personal expression. The Artist will be skilled in using metal shears and a welder. If you want a restomod, the Artist is your guy. Although he often starts with a car devoid of driveline and other significant parts, the Artist still hears: "You did *what* to a classic car?"

The Traditionalist drives the same car he bought in his youth, or one inherited from a family member. The Traditionalist can undertake any automotive endeavor with the disclaimer: "Daddy would have wanted it that way."

The Comrade is often seen at car shows. The Comrade enjoys sharing his car with like-minded individuals. The Comrade might declare, perhaps under his breath: "Trophies and awards are unimportant…*as long as I get one*."

So which old car type are you ? Maybe you're exclusively one type; maybe you're the combination of a number of these traits. The fact is, there is no "right" or "wrong" way to enjoy the old car hobby. Decide which one(s) you are, pursue your passion, and don't let anyone tell you your interest is misplaced. After all, it's your car.


We dream of roaring engines
of metal, rubber, the smell of exhaust
of a car that does more than A to B
it stirs the soul
It's not some pie-in-the-sky dream
it's the dream we earned
the dream we live
the dream we'll pass on
BECAUSE LIFE'S BETTER IN A CLASSIC
We believe in keeping the dream of classics alive. That's why we do everything we do: insurance and roadside service tailored to classics, classic vehicle valuation tools, *Hagerty Classic Cars* magazine and more. Do you dream of classics? Join us and learn more at Hagerty.com.
800.922.4050 | LOCAL AGENT | HAGERTY.COM
HAGERTY
CLASSIC CAR INSURANCE
Hagerty is a registered trademark of The Hagerty Group, LLC© 2014 The Hagerty Group, LLC.