

The official newsletter of

**Revs Institute
Volunteers**

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**Thanks to
this month's
contributors:**

- Chip Halverson
- Whitney Herod
- Mace Wolf
- Joe Ryan
- Tom Dussault
- Morris Cooper
- Dave Klym
- Tim Bair
- Anna McDowell

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TAPPET CLATTER

Volume 27.2

October 2021



Chairman's Notes

Chip Halverson

As we move into our busy season at Revs Institute, there are a number of exciting things to report.

First, I am excited to announce that Friday, November 19th, we will hold our first in person Members' Meeting in over 19 months. Whitney has organized a catered lunch to kick off the meeting so we can all spend some time together and enjoy what I think will be a very interesting program.

Lodge McKee, one our longest serving volunteers, will present the first installment of the history of Revs Institute. Many guests ask questions how Revs Institute evolved into its current state. I for one, welcome learning the complete story for my own interest and my interactions with guests.

Scott George, Curator of Collections and another long-time, major presence at Revs Institute, will then discuss what was a very busy schedule for the collection to a number of significant venues - and some very major awards.

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Chairman's Notes...continued

(Continued from page 1)

Finally, we'll learn about future events and initiatives in store for Volunteers and Revs Institute. We may also hear from our new CEO, Mace Wolf, as well. If you plan to attend the November meeting, please RSVP by signing up on VicNet.

Your Board of Directors and Committees are very busy across the spectrum in recruitment, training, communications, research and ways to improve what we do. Both the Board and Committee Meetings are open to all members. For those of you who are new to the organization, I encourage you to attend one or more meetings to gain insight into how the organization functions and what our direction and goals are.

Finally, we all do this as volunteers. While we put in significant amounts of time in training and doing the work of the volunteer organization, this should be a fun experience. In everything we do, we should always work towards that benefit.

All the best!

Chip Halverson

GM's Sports Car Racing Manager to Speak at Volunteers' Zoom Meeting

Since we are not all back to Florida, the October 20th Volunteers' meeting will be over a Zoom computer link at 4:00 pm. The guest will be **Laura Wontrop Klauser**, General Motors Sports Car Racing Programs Manager. Ms. Klauser, formerly program manager of GM's Cadillac Dpi-V.R program in International Motor Sports Association racing, brought two manufacturer's titles, four Michelin Endurance Cup championships, 18 wins and four consecutive Rolex 24 wins at Daytona to Cadillac.

Appointed in January of 2021, Ms. Klauser now is now responsible for all IMSA racing. This includes the very successful Corvette, Camaro and Cadillac programs in IMSA sports car racing.

Zoom instruction information will be sent out prior to the meeting. The link will be sent in an email prior to October 20th. You don't want to miss this meeting!



Chevrolet Photo

A New Face at Revs Institute

By Eric Jensen

Revs Institute has a new leader at the helm. His name is Mace Wolf. Mace is the new CEO and managing director of the museum. Understanding the importance of the volunteers to the Revs Institute, he graciously allowed some time in his busy day to be interviewed for the *Tappet Clatter*.

Mace Wolf grew up in northeastern Ohio, home to many automotive parts suppliers. Cars were a central part of growing up in this region so the foundation is hard to escape. Assembly plants in Lordstown and Avon Lake, tire companies in Akron, and parts plants in Akron and Sandusky.



An engineering education led to the founding of a software company. The sale of that company freed Mace to do independent consulting for the Collier family for over ten years. Exposure to Mr. Collier, his love of cars, and his immense knowledge base apparently rubbed off on Mr. Wolf so when the Revs Institute job became available, he applied. Being a four time and current Porsche owner didn't hurt, I'm sure. Mace's current model is a 2017 991.2 with a manual transmission, for you Porschephiles.

The challenge facing Mace is elevating the profile of Revs Institute domestically and internationally amongst the public and other institutions. That can be accomplished by creating a major online presence that reaches worldwide. Volunteers can see the growth of that presence on various social media platforms. Photo and video content is vital to that growth so we will see more cameras used to capture content to present to social media.

To that topic, Revs Institute is looking for a video editor for the growing amount of material being collected. If you know of a qualified applicant that might be interested, please send along their contact information to Whitney Herod and she will pass it along.

Enhanced library search and identification technology can also elevate Revs Institute's profile for our researchers and library partners. Software using image recognition to identify people and cars in individual digitized pictures would vastly improve the search for relevant photographs. (A function this editor would greatly appreciate!) Additional projects to improve foreign translation technology as well as using artificial intelligence to summarize articles and manage metadata are in the works. Exciting technology to better educate the public.

When asked about the museum expansion, Mace expressed that it was still in the plans but was tied up in discussions with Collier County. This author translated that to "red tape."

Mace wanted to express how important the volunteers were to the museum's Past Present and Future. Several volunteers have already met and spoken to Mace as he has not been confined to his office. He is looking forward to meeting and getting to know all of the volunteers. Let us welcome Mace Wolf to Revs Institute and support him in his mission.

Your Membership Committee

By Tom Dussault

The Membership Committee; John Balconi, Dr. Bob DiRenzo, Larry Gleeson, Phil Panos, Ralph Papa, Joe Ryan, Tom Saracco, and I have been busy during the past month. Our members have been instrumental in identifying issues to resolve as well as working together to create a solid plan going forward. Our number one goal is to attract and recruit excellent new volunteers to support the museum. We seek to recruit a diverse group of new members including women and young people. Volunteers are crucial to the continuing vitality and success of Revs Institute and new volunteers of varied background, age and experiences have already proven to enhance the quality of our volunteer team.



Photos Courtesy of Anna McDowell

In light of those goals, we have been working to establish a continuing partnership/relationship with Florida Gulf Coast University. Whitney Herod and I recently participated in the Florida Gulf Coast University Service Job Fair. This is a five hour long event during which over 500 FGCU students had the opportunity to meet with representatives of dozens of not-for-profit organizations participating in the fair. FGCU students have an absolute requirement to complete at least 80 hours of service work to qualify for graduation. We thought that Revs Institute would be an attractive opportunity for many of the students and that has proved to be true. We interviewed many FGCU students, have identified a dozen very promising recruits to date and anticipate more to come.

We are also teaming with the FGCU Car Club. The club has chosen Revs Institute as their choice for club members to complete the service work requirement. We are planning to welcome FGCU Car Club members with a club “drive-in” event at the museum.

We most recently presented our Orientation Program to 13 new volunteers. This group included FGCU students as well as more traditional volunteers. They will soon complete the Intro Class and begin their volunteer roles.

The plan is to utilize FGCU students, in light of their service hour requirements, initially, as Museum Stewards. This title encompasses a number of varied opportunities. Their initial responsibility is gallery security; the safeguarding of the cars and exhibits. They will have an opportunity, based on their interests and availability, to perform other roles.

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Your Membership Committee

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Although this is very much a work in progress, our committee is learning as we go along. We envision these roles to include:

- **Research Fact Checker:** Supporting Adopt-a-Car by reviewing and conducting the vetting of articles. This work can be done from a remote location.
- **Tappet Clatter Support:** An opportunity for a student working towards a BA in Journalism, Literature or English to edit or write articles and conduct research on supplied topics through the library, WorldCat and beyond and to assist with final editing of the publication. This is another opportunity to work from home.
- **Foreign Language Translator:** A third opportunity for remote work translating documents to enhance the understanding and satisfaction of our guests.
- **Library Science:** There will be opportunities for some of our volunteers to perform a variety of roles in our research library.

The Chairs of Membership and Training Committees meet monthly to plan and prepare for the on-boarding of these many new volunteers. The monthly meetings have allowed us to share ideas and plan for recruitment, handoff, and future training.

Our excellent committee members, with the continuing help of Revs Institute Volunteers, look forward to identifying and recruiting enthusiastic and committed volunteers for Revs Institute.

TAPPET TRIVIA

By Joe Ryan

This section is devoted to questions about the Miles Collier Collections cars or cars of the same period. Some of the questions might be a bit obscure or tricky. Test your collection knowledge and *have fun!*

1. True or False: President Roosevelt was driven to the Capital to give his famous day of infamy speech on Monday December 8, 1941 in Al Capone's bullet-proof car.
2. When and where was the first written speeding ticket issued?
3. True or False, Did King Alfonso XIII Race his 1912 Hispano-Suiza 15T Alfonso XIII?
4. What was the first production car both with a V-12 engine and the first in the American industry to use aluminum pistons?

The answers are posted later in the issue.

Historic Race Circuits Honors Bill Wuesthoff

By Chip Halverson

In July of this year the Historic Race Circuits organization held their annual dinner event in Elkhart Lake, Wisconsin over the weekend of the July vintage race at Road America. Bill Wuesthoff (our fellow Revs volunteer) was the honoree for the completely sold out event. A book about Bill's life *Bill Wuesthoff: Smooth and Fast, Nuff Said*, written by Robert Birmingham was released at the event. What follows is a very brief look at Bill's incredible life as a family man, racer and businessman.

Bill was born just north of Milwaukee, Wisconsin on a farm in what is now the City of Mequon. His interest in cars started at an early age when he purchased a 1915 Model T Ford for \$20. Like all good racers he set about lightening it by removing fenders, doors and the windshield. Too young to have a driver's license, he raced it about the family farm.

Automobiles figured most prominently across all dimensions of Bill's life. His father owned numerous imported sports cars and was an early member of the SCCA Milwaukee Region. With Bill's interest in cars, it was natural that he pursued a career in the industry.

After college Bill sold sports cars for an early Milwaukee dealer until 1955 when he, his dad, and several other gentlemen, opened Concours Motors to sell and service Volkswagens, Mercedes, Porsche and Jaguar. The acceptance of foreign cars in the US was growing rapidly as were the distributor and dealership relationships. That lineup was short lived as Mercedes, Porsche and Jaguar were jettisoned when Volkswagen AG demanded Concours do so or lose that franchise. VW sales began to skyrocket across America and the loss of the other three

franchises was hardly missed. That all changed starting in 1966 when Mercedes returned, followed by Porsche, later BMW, Mazda, SAAB, and for a short time Sterling. Under Bill's leadership Concours Motors prospered and in 2016, he and his sons Karl and Lee sold the substantially larger company and retired.



Micro Van - Shortened VW van for marketing purposes

While Bill was busy building a very successful business he found time to pursue his passion for racing. In 1955 he bought an MG-TD for \$500. After much work to make it race ready he took it to compete on an airport circuit in eastern Iowa. After a major off-course excursion and a stern talking to by the Chief Steward, Bill went on to win both of his heat races. Later that year he raced a VW 113 (an early Beetle) in the first race on the newly constructed 4-mile Road America circuit near Elkhart Lake, Wisconsin.



Bill's stripped down Model T with the windshield replaced by a storm window, part of the effort to reduce weight

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HSC Honors Bill Wuesthoff...continued

(Continued from page 6)

In 1956 he selected an Alfa Romeo 1300cc Giulietta that proved to be a winner but soon after was drafted into the military. Before being assigned to Germany, he married Carol Gustafson who, after a while, joined Bill at Darmstadt. Never leaving his passion for cars far behind, Bill took the opportunity of being in Germany to further develop his interest in Porsches. It wasn't long before he purchased a red Super 1600 Speedster.

He campaigned the car with great success in hill climbs, trials, and several race events including twice at Nürburgring against the likes of Stirling Moss, Phil Hill, Jack Brabham, Graham Hill and countless other European stars.

In 1959 with his military service behind him, he purchased an Alfa Romeo Veloce and returned to the track. A year later, the Alfa was replaced with a Porsche 718 RS60, a purpose-built race car that would prove to be highly competitive.



Bill purchased this 1958 red 1600 Super Speedster to compete while in Europe

PORSCHE
 K. G. P. PORSCHE K.-G. - STUTTGART-ZUFFENHAUSEN - PORSCHE-STRASSE - TELEFON 8 91 41

RECHNUNG
 INVOICE
 FACTURE

66 084/66
 A. Copie (Bei Zahlung bitte eingeben)

Stuttgart, 9.6.1960.
 Zeichen No. Stelle: 20.

Genäß unseren Lieferungs- und Zahlungsbedingungen liefern wir Ihnen hier Grossa resp. Fab. deutscher Hofen.
 In accordance with our sales and delivery terms we have shipped to you five German motor resp. fab. German part.
 Vous recevez suivant nos conditions de livraison et de paiement franco frontiere allemande resp. fab part allemande.

Quelle:		Bestimmungsart:		Destination:		Lieu de destination:	
Fahrzeug:	Engin:	Fahrer:	Achse:	Kennzeichen:	Quantität:	Exemplar:	Exemplar:
Chassis	No. de chassis	No. de moteur	Chassis	No. de Commande	No. de Commande	No. de Commande	Total/Total
-WAGEN							
1 PORSCHE-CAR (S) Typen 356 A2							
-VOITURE (S)							
718 060	70 90 254	allvermetalllic	artif./leather	customer	Wuesthoff	1 9,000.-	

Dr. Ing. h. c. F. Porsche K.-G.

The invoice for the RS60 in 1960 for \$9000

In March of 1960, before he took delivery of the RS60, he joined Jim Jeffords and Fred Gamble at Sebring as part of the six car Camoradi Racing team. Together the three co-drove two Corvettes. Others racing for Camoradi included Stirling Moss with Dan Gurney in a Maserati Tipo61 and Carroll Shelby with Masten Gregory in another Tipo61. The team also included the female duo of Denise McCluggage and Pinkie Windridge in an OSCA 187S.

Bill raced the RS60 in F Modified class for the first time during the Road America June Sprints. Drift editor Pierre Perrin said at the time "While all the big machines were merrily keeping spectators aroused, there was a small silver Porsche RS 60 circling around with quiet regularity. Bill Wuesthoff was out for his first ride and he was FAST". He

finished sixth overall and first in class. Finishing ahead of Bill that day were Augie Pabst, Gaston Andrey, Dick Thompson, Roger Penske, and Hap Sharp; A who's who of sports car racing in the era.

In September 1960, Bill and his long-time, good friend Augie Pabst finished second in the Road America 500 in Luigi Chinetti's North American Racing team Ferrari V12 3.0-liter Testa Rossa. Other entrants that day included Jim Hall, Bob Holbert, Roger Penske and John Fitch.

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HSC Honors Bill Wuesthoff...continued

(Continued from page 7)

During the season Dick Van Der Feen of *Competition Press* wrote, “It is difficult to exaggerate the stunning impression Bill Wuesthoff has made this year on experienced observers. After well-above-average success with a Healy and a standard Alfa a few seasons ago, Wuesthoff went off to military service. Last year he returned to the local scene, handily trumping the field in his super Alfa. This year he took delivery of a 1,500 cc RS60 Porsche and immediately he was much more than a good production car driver. Wuesthoff has moved into the top rung.”

Bill's 1960 season finished in late summer at Meadowdale International Raceway, but not as expected. His reliable RS60 surprised him with a worrisome noise during a qualifying session and a decision was made to head for home. Also having a bad day was Harry Heuer who flipped his Isis Formula Junior during qualifying and as a result was not cleared to race the MeisterBrauser Scarab in Sunday's feature. With that he invited Bill to drive the Scarab. Although without benefit of ever having been behind the wheel of anything as powerful, after familiarizing himself as the race progressed, Bill moved to the front to take the checkered flag as overall winner.



1962 at Riverside with Bill at the wheel of the Scarab

During 1961 Bill raced the RS60 with very good results including an overall win over Harry Heuer's much more powerful Scarab at the June event at the Wisconsin State Fair Park.

The spring of 1962 found Bill at Sebring driving a 1,500 cc Porsche RS61 with Bruce Jennings and car owner and Chicago Porsche dealer, Frank Rand. They finished an incredible third overall behind Jo Bonnier with Lucien Bianchi in a Ferrari 250 Testa Rossa, and Phil Hill with Olivier Gendebien in a Ferrari 250 GT.

Bill started the 1963 season driving his RS60, now upgraded to 1,700cc. He had wins at Indianapolis Raceway Park and other overall and class wins. Later that year circumstances converged to position Bill for what was perhaps his most notable win.

The RS60 and similar cars from its era were being challenged by newer cars that were lighter and faster. Legendary designer Frank Nichols at Elva was adding larger engines to his successful Elva. The name was derived from the French term “*Elle Va*” which translates to “*She goes*”... with the implied “*fast*.”

His American distributor Carl Haas (who went on to be a major supplier of race cars and parts, and later co-owned, with Paul Newman, the Newman-Haas Racing Team) heard of Elvas being raced successfully in Europe with Porsche power. Haas sought approval from Porsche Racing Director, Huschke von Hanstein, who along with Ferry Porsche and Ferdinand Porsche approved the project.

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HSC Honors Bill Wuesthoff...continued

(Continued from page 8)

With Frank Nichols' approval, the Elva Mk7 Porsche was shipped to the US with a 1,700cc Porsche engine and RS60 gearbox. All in, the car weighed 975 pounds, substantially less than the current competition.

The car was entered in the 1963 Road America 500 in September. In a pre-race interview Carroll Shelby thought his three Cobras were well positioned to win. He focused his comments about his competition on the Ferrari driven by Roger Penske with Augie Pabst and other large displacement cars including the Briggs Cunningham's E-Types. After Shelby's comments, the reporter pointed out the much smaller Elva Porsche almost as a curiosity.

Carl Haas was to drive the Elva with Bill but their size differences made that impossible. Because of the late entry of the Elva, there were no other quality relief drivers available so he elected to drive the entire 500 miles. Due to the high heat and humidity forecast for race day, a plan was formulated for a relief driver. Bill arranged for his close friend, Augie Pabst, to stand ready to relieve him at mid-race. Augie was racing John Mecom's Ferrari 250 GTO but he would finish his stint by mid-race and be available to relieve Bill. In a move unlikely to happen today, John Mecom, owner of the Pabst/Penske Ferrari, let Augie drive for a competitor.

Shelby's Cobra team dominated, but as the race progressed would need multiple stops for fuel and a lengthy stop to replace brake pads. The lightweight Elva achieved much better fuel mileage with less wear on the tires and brakes. On lap 86 Bill pitted feeling the heat. Augie took over and drove the remainder of the 125 lap race. In true David versus Goliath fashion, the Elva, with Augie at the wheel, took the win by half a straight over Ken Miles in the Cobra. It was the first time an under 2-liter car won that race.



Photo Courtesy of Revs Institute

For the 1964 season Bill's long-time friend Eddie Weschler purchased an Elva Porsche with the Robert Bosch Corporation as primary sponsor. After the previous year's Road America 500 win, Elva Porsches became the go-to car. The result was a substantial number competing for the United State Road Racing Championship. Joe Buzzetta, also racing under the Bosch Banner, east coast veteran Charlie Hayes, and Ollie Schmidt had entries. Schmidt as a matter of fact, entered six. In addition, Bill's friend Eddie Weschler purchased a Porsche 904 GTS to compete on separate GT race weekends. Bill and Joe Buzzetta won at Bridgehampton in the 904 to give Porsche enough points to win 1964 GT World Championship.

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HSC Honors Bill Wuesthoff...continued

(Continued from page 9)

At the end of the 1964 season, Bill retired from racing to focus on his family and his growing business. An extraordinary racing career by any measure, Bill was able to compete successfully in a wide variety of cars against many of the best drivers of the era.

He remained involved in racing as a long time director of Road America, even serving for a time as the President. To this day he is an active volunteer at the Revs Institute sharing his vast knowledge with his fellow volunteers and museum guests.



1964, Bill and Joe Buzzetta won at Bridgehampton in this 904

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Note From the Author: I would like to offer my sincere appreciation Bob Birmingham, who authored the book *Bill Wuesthoff: Smooth and Fast, Nuff Said!*. This article relied heavily on the content of the book. Bob was generous with his time and in granting permission to use many of the photos and captions. Finally, thanks to Bill for sharing the history of his racing career and the many stories that are a part of it.

Events Calendar

Event	Date	Info or contact
Cars as Canvas Exhibit	Sept 30 to Dec 30	View on 3rd Floor
Intro Class - Stewards & Station Guides	Sept 10 @ 10:00 am	Sign up on VicNet
Gator MOG Owners Club	Oct 9 @ 10:00 am	Sign up on VicNet
Temple Shalom Men's Club Private Tour	Oct 13 @ 1:30 pm	Sign up on VicNet
Volunteers BOD Meeting	Oct 20 @ 10:30 am	Sign up on VicNet
International Jaguar Club Private Tour	Oct 20, 1:00 pm	Sign up on VicNet
Volunteers Zoom Meeting	Oct 20, 4:00 pm	wherod@revsinstitute.org
Members Meeting and Luncheon	Nov 19, 11:30 pm	Sign up by Oct 20

For a full list of daily tour groups and events, go to the 'Calendar of Events' on VicNet.

From FIAT to SIMCA to Chrysler to Peugeot to Lee Iacocca and Chrysler Again Part One

By Morris Cooper

In 1929 import duties in France had become exorbitant, making it extremely difficult for FIAT to import the parts it needed to continue to manufacture its cars there. To circumvent the law and continue to sell FIAT cars in France, SIMCA was founded in 1934 by an Italian, Enrico Teodoro Pigozzi (who changed his name to Henri Theodore).

SIMCA is "Societe Industrielle de Mecanique et Carrosserie Automobile." A translation would be: Industrial Company of Automotive Mechanical and Coachwork Manufacturing. We don't remember SIMCA, but in its prime in the 1960s, SIMCA was France's second-largest car manufacturer, behind Renault, but well ahead of both Peugeot and Citroën.

SIMCA's factory was the only car manufacturer not destroyed by German bombing during the war. In post-war France there were many rumors and much animosity regarding Pigozzi's close connection with the Agnelli family of FIAT and the Italian Fascists, believing that the Germans had deliberately not bombed the SIMCA factory as a favor to their Italian allies.

Through some serious political maneuvering, Pigozzi was narrowly able to avoid the post-war nationalization that occurred at Renault. By 1954, SIMCA had grown and purchased an unprofitable plant outside Paris from Ford of France. As part of that deal, Ford had an option to buy 15% of SIMCA, but Henry Ford II never took up the option. Instead, the shares in SIMCA were sold to Chrysler. Ford was later quoted as having regretted his decision.

Carlo Abarth's old engineering friend and partner in Cisitalia, Rudi Hruska, had become one of SIMCA's chief engineers. SIMCA was looking to enhance its performance image and in 1962



1962 Abarth SIMCA 1300
Courtesy of Revs Institute, Al Consentino
Photograph Collection

Abarth was invited as a promotional partner to produce a GT car using SIMCA 1000 sedan components as its base; A car that was essentially an oversized four-door version of the FIAT 600.

Abarth used the chassis design, floor pan, transmission, and suspension of the SIMCA and added his newly designed Abarth 1300 cc rear engine. Abarth was reputed to insist that the name of the car was Abarth SIMCA and not the other way around. The car was hugely successful, beating the ALFA Guilietta in the 1962 racing season.



1934 SIMCA 5
By Joost J. Bakker from Ijmuiden,
the Netherlands

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From FIAT to SIMCA ... *continued*

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Abarth's 1963 racing season had an unbelievable 635 wins, of which 90 were scored by the Abarth SIMCA 1300 alone. The car won the European Hill Climb Championship, defeating the factory Porsche 904, the Ford Shelby Cobra, and the Ferrari Dino 206 SP. The definitive and final model was the 2000, intended as a GT contender for 1964. Its great weakness, never rectified, was its gearbox which could simply not contain the engine's power and torque. The 2000 was the last model built as part of the Abarth collaboration, just before Chrysler stepped in to cancel the deal.



*SIMCA 1100 S, 1970 Nurburgring 84 hr
Courtesy of Revs Institute, Kurt Wörner Photo*

Chrysler acquired 63% majority ownership of SIMCA a year after the successful SIMCA 1000 sedan was launched. Soon after, SIMCA's founder Pigozzi died and Chrysler increased its stake in SIMCA to 77%. In 1970 SIMCA ceased to exist when Chrysler owned 99.3%, and SIMCA became known as Chrysler France.

General Motors had been successful in its overseas operations with Opel, Vauxhall, Bedford and Holden. Ford had a wide reach across Europe. In contrast, Chrysler had little to show for its efforts outside North America. Chrysler had failed in its 1962 attempt to acquire an interest in U.K. based Leyland. Instead, it purchased 30% of the Rootes Group in 1964. Although SIMCA had been consistently profitable since inception, the ailing Rootes Group proved to be the downfall of Chrysler Europe.

Back home, Chrysler was in serious financial trouble and facing bankruptcy. Its new CEO Lee Iacocca had no interest in the European market when he was at Ford, and he did not change his views after moving over to Chrysler.



1979 SIMCA Horizon

In 1978 Iacocca wasted no time in selling Chrysler Europe to Peugeot for a nominal \$1.00 and the assumption of its debt. To survive, Chrysler sold its highly profitable military and marine divisions, its Airtemp air conditioner business, its operations in Australia, and anything else it could sell to raise cash and survive long enough to get its new cars out the door.

Ironically, it would be variations of SIMCA's successful front-wheel drive designs and platforms that would save Chrysler - the Dodge Omni and the Plymouth

Horizon - which morphed into the K-car, and then ultimately into the baby-boomer car of choice in the 1980s, the minivan.

.....The Story Continues Next Month.....

Cars as Canvas Exhibit

Live Restoration of the 1919 Ballot

Something new in the museum is a Cars as Canvas exhibit on temporary display on the third floor opposite the entry to the Revs Gallery.

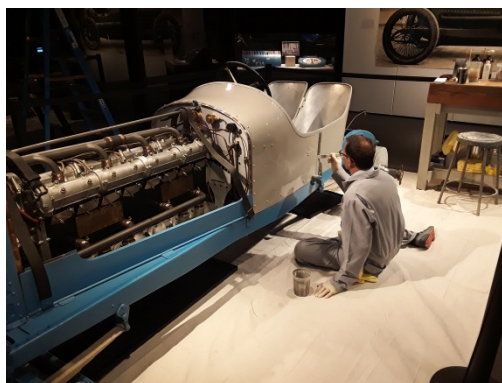
Revs Institute is committed to authentic automobile restoration practices. Our work includes the use of period-correct materials and finishes. Preserving a 100-year-old car, such as the 1919 Ballot that you see here, uses similar methods to those of artisans from the period.

First, the body and chassis are lightly sanded to prepare the surface. Next, a linseed oil-based primer coat is brush-applied to promote adhesion of the colored finish coats to come. Drying time for the base coat is approximately four days.

Following a light sanding, two linseed-based finish coats, with another sanding in between, are applied by hand. The quality of the final finish comes from maintaining a wet paint edge created by long, flowing strokes with a soft synthetic brush. Each paint application requires an additional seven to ten days drying time.



Photos Above Courtesy Revs Institute



Tim Bair Priming - Eric Jensen Photo

Linseed oil comes from the flax plant. Since the inception of easel painting in the 15th century, artists have used linseed oil as a medium for creating paint. In industrial applications, such as automobile painting, linseed oil paints lacked durability and dried unacceptably slowly for high volume, mass production. And that is why, from 1914-1927, Henry Ford's Tin Lizzie was available in any color you wanted so long as it was black, which was arguably the fastest drying color. DuPont introduced nitrocellulose lacquer paints in the early 1920s which dried in minutes, allowing Ford to massively increase Model-T production.



Tim Bair at Work - Eric Jensen Photo

TAPPET TECH

Fuel Injection *Mixing Air and Fuel, Part 2* *By Eric Jensen*

In a previous *Tappet Tech* we explored air-fuel ratios and the carburetor that delivers this mix. There is another way to mix air and fuel. It is called fuel injection. Unlike the carburetor which uses negative air pressure to suck fuel into the airstream during an engine's intake stroke, this mechanism injects fuel under positive pressure into the airstream to mix the two. The first patents for fuel injection for internal combustion engines came as early as 1872.

It must be noted that all diesel engine use some form of fuel injection. Diesel, or compression ignition engines, typically run lean, or with excess air, so their speed and load is adjusted only by how much fuel is injected. Spark ignition engines are regulated by how much air/fuel mixture enters the engine. Precision is not nearly as important with a diesel as it is with a spark ignition engine. The bulk of the early technology development on fuel injection was done for diesel engines.

Early fuel injection systems were developed for aircraft engines. Aircraft often pitch and roll in flight which compromise carburetors designed around the idea that the engine is upright and gravitational forces are always down. Fuel injection provides a more reliable air/fuel supply to keep the engine from stalling.

Manifold injection systems inject fuel into the airstream inside the intake manifold to then pass through the valve during the intake stroke.



GM Rochester V8 Fuel Injection System



Constant Flow Manifold Injection System

This type can be constant flow or timed. The simplest systems, constant flow manifold injection systems were introduced in the 1950s by Bosch, Lucas Industries and Rochester Products Division of General Motors.

The systems ranged from those that varied the amount of fuel with only throttle plate opening to more complicated all-mechanical systems adjusting fuel delivery with vacuum, engine temperature and RPM to achieve the correct air/fuel mixture.

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TAPPET TECH

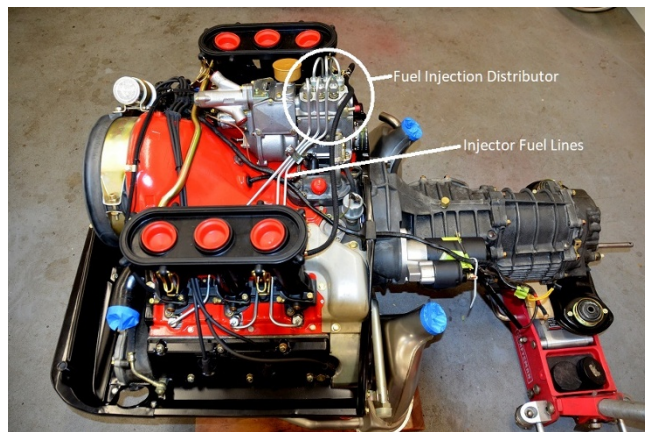
Fuel Injection

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Direct injection systems inject fuel into each cylinder to be mixed by the motion of the piston on the compression stroke. These systems need to be timed to the rotation of the engine, much like ignition spark, to inject the fuel at the correct time. Mercedes pioneered Bosch direct fuel injection on the 1955 300 SL to make 240 horsepower.

Similar timed systems were also used on manifold injection systems.



Bosch MFI on a Porsche flat-6

Other systems used devices that looked like ignition distributors with hoses to pump the exact amount of fuel needed at the exact time of each cylinder's intake stroke. This technology was developed for diesel engines but needed to be more precise, and therefore more complex, for spark ignition engines. A constant-flow version similar to this type of fuel injection was developed by Bosch, called the K-Jetronic system, in the early 1970s.

The first electronic fuel injection system using electric fuel injectors was developed by Bendix. Offered on 1958 Chrysler products, it was expensive, problematic, and nearly all were removed. The patents were sold to Bosch who developed it into the D-Jetronic system first used on a VW 1600 engine in 1967. The system used engine speed and manifold vacuum to determine how long to pulse the electric fuel valve (or fuel injector) squirting fuel into the intake manifold.

Once integrated circuits became commonplace in the late 1970s, computer-controlled electronic fuel injection systems became more and more common. Inexpensive sensors and powerful microprocessors allowed precise fuel metering that was never before possible. The invention of the exhaust stream oxygen sensor allowed the computer to determine if its fuel calculations were correct and make adjustments if they were not. These "closed-loop" type systems have been standard on all automobiles for over 30 years and motorcycles for about 20 years.

Modern direct injection systems are so fast they can pulse the injector several times each power stroke to create the most efficient or most powerful "burn" as needed in any situation. The reduction in pollutants and the improvement in efficiency is clearly a win for the both enthusiast and the environment.

Remembering Craig Carragan

September 23, 1944 – September 15, 2021

Our longtime volunteer and friend Craig Carragan passed away September 15, after a battle with lung cancer. Craig became a member in May of 2014 and became a valuable asset to our team. You could often find him smiling at Station 1 greeting guests and volunteers alike as they entered the museum.

He was born in Minneola NY during WWII, son of Craig and Carragan Sr and Hope Kilner Carragan. He is survived by his wife Clare, daughter Lisa Kyer and grandson Kolby and son Greg and his wife Michele. His brother Ehrick predeceased him. Craig turned his passion for radio in college into a career in broadcasting, culminating as head of the Connecticut Broadcasters Association.



*Craig and his wife, Clare
Photos Courtesy of Revs Institute*

After college he started as an electrical engineer at Electrolux designing motors. Years later, he used his knowledge and love of mathematics and engineering to start a computer software company back in the infancy days of computers, specializing in lending software for banks. His answer to being told “the pioneers are the ones with arrows in their backs” was to laugh and take his company nationwide.

Fly fishing was a joy and passion he shared with his wife Clare. In his business life, he looked at a problem as an opportunity. One of his proudest accomplishments was the opening of Reflections Boutique at the Harold Leever Cancer Center in Waterbury, Connecticut; a place where cancer patients can get free wigs and head covers. It was a way of giving back to the community. Craig was instrumental in starting the Western Connecticut leadership program which was based on Greater Naples Leadership.

He had a love for all things automotive having spent his summers working at his friend’s family’s Long Island Automotive Museum. He sold exotic sports cars through college and spent time



racing and working on a racing team. Antique car restoration (especially British cars) was a passion. In Naples, he was a volunteer at the Revs Institute. Craig's application for the Revs Institute Volunteers stated; 'I have spent my life around classic and vintage cars starting as a teenager working at the Long Island Automotive Museum. Member of a Can-Am Series racing team owning and collection and restoring British cars.'

He called himself a “3-D marine artist” (model shipbuilder) and enjoyed the fun times and camaraderie with the Naples Ship Modelers Club. Craig loved his “family” at Moorings Park at Grey Oaks and was actively involved in the Resident Council and community and of course backgammon. There will be a celebration of life in Naples, FL at a future date.

TAPPET RIVIA

And now, the answers...

- Question:** True or False: President Roosevelt was driven to the Capital to give his famous day of infamy speech on Monday December 8, 1941 in Al Capone's bullet proof car. **Answer: False** This is a myth made up by a Secret Service Agent Michael F. Reilly. He was interviewed by Simon & Shuster for his book called "Reilly of the White House." President Roosevelt was driven to the Capital in a 1940 Cadillac 4 door sedan. Later the white house leased a true bullet proof car from Ford for \$10.00 per month, because the government would not authorize the purchase of a bullet-proof automobile.
- Question:** When and where was the first written speeding ticket issued? **Answer:** Dayton, Ohio USA in 1904 to a Harry Myers who was traveling at a speed of 12 MPH. The first known speeding violation issued to an automobile driver in the world actually came on January 28, 1896 and was issued to Walter Arnold of East Peckham, Kent, in the UK. Arnold was caught going 8 miles per hour in a 2 mile per hour zone and earned a fine of 1 shilling! In 1899, New York City taxicab driver Jacob German left his mark in history by becoming the first person in the United States to be cited for speeding at 12 mph with an 8 mpg limit while driving an electric taxi known as an Electrobat. German was chased down by a policeman on a bicycle and cited.
- Question:** True or False, Did King Alfonso XIII Race his 1912 Hispano-Suiza 15T Alfonso XIII? **Answer: False** King Alfonso did like to drive his cars fast on roads out in the country.
- Question:** What was the first production car with a V-12 engine and the first production car in the American industry to use aluminum pistons? **Answer:** The 1915 Packard Twin Six. This smooth running V-12 inspired Enzo Ferrari to adopt the V-12 design for his 1948 Ferrari.

Video Treats... *click on the picture to view*

*Gérard Larrouse
is reunited with
the Miles Collier
Collections 911 R*



*Sir Stirling Moss
in his Porsche
718 RS61 at
Goodwood*



1958 Alfa Romeo Guilietta Sprint Veloce
 1934 Alfa Romeo 8C 2300
 1967 Alfa Romeo AutoDelta 1600 GTA
 1967 All American Racers Gurney Eagle
 1949 Ardent Alligator
 1901 Benz Dos-a-Dos
 1950 Cadillac Series 61
 1950 Cadillac Series 61 LeMans LeMonstre
 1950 Cisitalia SC
 1961 Citroen 2CV Sahara
 1952 Cunningham C-4R
 1955 Cunningham C-6R
 1963 Elva Porsche
 1970 Fiat Abarth TCR
 1955 Jaguar D-Type
 1974 Jorgensen Eagle
 1967 Lamborghini 350 GT
 1927 Lancia Lambda
 1962 Lotus 23
 1961 Maserati Tipo 60 Birdcage
 1929 Mercedes Benz SSK
 1939 Mercedes Benz W-154
 1935 MG PA PB Leonidis
 1954 Osca Sports-Racer
 1896 Panhard & Levassor
 1951 Porsche 356SL Gmund Coupe
 1956 Porsche 550A Spyder
 1959 Porsche 718 RSK Spyder
 1964 Porsche 904 Carrera GTS Red
 1964 Porsche 904 Carrera GTS Silver
 1968 Porsche 907
 1967 Porsche 910-6
 1964 Porsche 911
 1958 Porsche Carrera Speedster
 1963 Porsche Elva
 1961 Porsche RS-61L Spyder
 1928 Stutz Black Hawk
 1920 Vauxhall 30-98 Type E
 1927 Vauxhall 30-98 Type OE
 1869 Velocipede Bicycle
 1884 Columbia Three-Track Tricycle
 1885 Humber 58" Ordinary Bicycle
 Alfa Romeo GTZ engine
 Cadillac OHV V-8 engine
 Chrysler Hemi engine
 Duesenberg Sprint Car engine
 Ford GT-40 engine
 1965 Ford Indy Car engine
 Ford Turbocharged Indy engine
 Jaguar XK Series engine
 Porsche Type 771 engine
 Porsche Type 901/20 engine
 Porsche Type 901/22 engine
 Porsche Type 908 engine
 Porsche Type 916 engine

New Adopt-A-Car Format

Now that the seasonal volunteers are starting to get work their way down to Florida, perhaps it's time to consider adopting a Collection car. None of the cars listed here have ever been researched by a volunteer.

Although a full Adopt-A-Car report is still our ultimate goal, we have made the research possibilities easier by offering shorter sub-topics that you can investigate, such as:

- the car's pedigree
- the history of the car's manufacturer
- its racing history
- how to drive the car
- the innovations in the car's design
- the processes and materials used to produce the car
- the styling features and colors used
- the car's restoration or re-restoration
- anecdotes about the car's history
- identifying additions to the car's research bibliography

The sub-topic research efforts don't have to be long. A one to three-page effort would do.

Any time spent on your research can be applied to your annual volunteer hours, even if your work is remote.

Even better, for those of you who are willing to take on a full Adopt-A-Car research report, we will do our best to get you a ride in your selected car when it's being exercised.

If you are interested please contact:

Brian Lanoway at blanoway@shaw.ca.
Adopt-A-Car Committee Chair.

Adopt-A-Car Program

Available Adopt-A-Car Automobiles and Engines



Peter Harholdt Photo Courtesy of Revs Institute

Alfa Romeo Guilietta	Mercedes Benz SSK	Engine: Abarth 1000-TC-R
Alfa Romeo 8C 2300	Mercedes Benz W-154	Engine: Alfa Romeo GTZ
Alfa Romeo 1600 GTA	MG PA PB Leonidis	Engine: Cadillac OHV V-8
Gurney Eagle F-1	Osca Sports-Racer	Engine: Chrysler Hemi
Ardent Alligator	Panhard & Levassor	Engine: Duesenberg Sprint Car
Benz Dos-a-Dos	Porsche 356SL Gmund	Engine: Ford GT-40 Transaxle
Cadillac Series 61	Porsche 550A Spyder	Engine: 1965 Ford Indy Car
Cadillac LeMonstre	Porsche 718 RSK Spyder	Engine: Ford Turbo Indy
Cisitalia SC	Porsche 904 Carrera GTS	Engine: Jaguar XK Series
Citroen 2CV Sahara	Porsche 907	Engine: Porsche Type 771
Cunningham C-4R	Porsche 910-6	Engine: Porsche Type 901/20
Cunningham C-6R	Porsche 911	Engine: Porsche Type 901/22
Elva Porsche	Porsche Carrera	Engine: Porsche Type 908
Fiat Abarth TCR	Porsche Elva	Engine: Porsche Type 916
Jaguar D-Type	Porsche RS-61L Spyder	Columbia Three-Track Tricycle
Jorgensen Eagle	Stutz Black Hawk	Humber 58" Ordinary Bicycle
Lamborghini 350 GT	Vauxhall 30-98 Type E	Velocipede Bicycle
Lancia Lambda	Vauxhall 30-98 Type OE	
Lotus 23		
Maserati Tipo 60 Birdcage		

To adopt a car or engine, contact:

Brian Lanoway
Adopt-A-Car Chair
blanoway@shaw.ca

The **Tappet Clatter** is the official newsletter of **Revs Institute Volunteers** of Naples, Florida. Its intended purpose is to inform, entertain and promote camaraderie for our members.

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