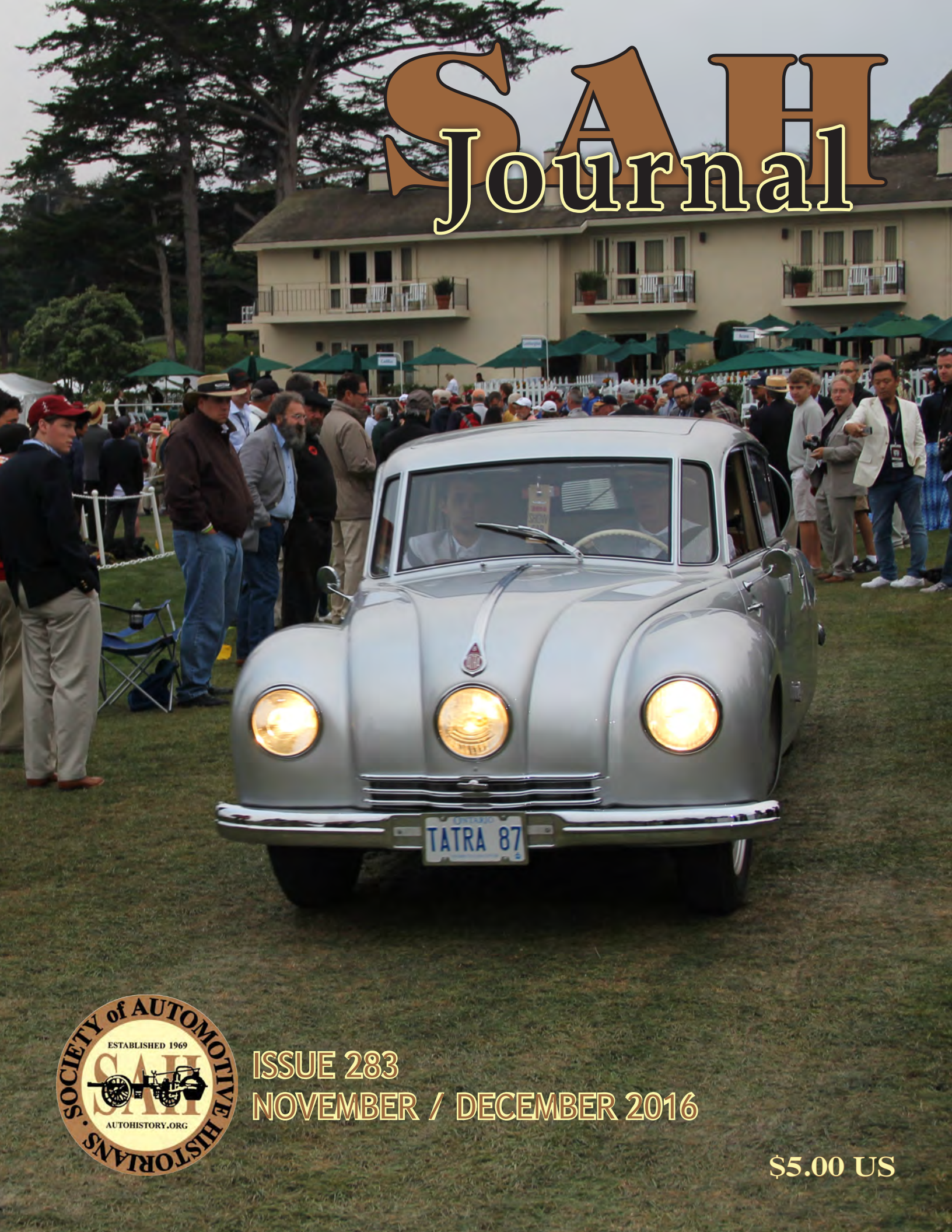


SAH Journal



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Billboard

SAH Award Nominations and Board Nominations:

details of all the SAH awards and nomination contact info. should be viewed on the website at: autohistory.org/index.php/awards

Here is a summary of all eight awards with their nomination deadlines:

Richard Scharchburg Student Paper Award (June 15th)

Carl Benz Award (April 15th)

E.P. Ingersoll Award (June 15th)

Friend of Automotive History (April 15th)

James J. Bradley Distinguished Service Award (August 1st)

Nicolas-Joseph Cugnot Award, English (April 15th)

Nicolas-Joseph Cugnot Award, Non-English (June 15th)

Richard and Grace Brigham Award (April 15th)

The SAH Nominating Committee is seeking

nominations for positions on the board for the year 2020. We are also seeking candidates for the Secretary's position. Please address all nominations to the chair, John Heitmann, at jheitmann1@udayton.edu.

Final Sale of Automobile Quarterly Back Issues:

Have you ever wondered what happened to all the unsold back issues of *Automobile Quarterly* since the publisher ceased operations in 2012? SAH has tracked them down: visit autohistory.org and there you will see what is still available and where you can obtain these back issues. The SAH has been offered a part of the proceeds from this sale, so your purchase also helps support the SAH. After reviewing the website, any questions could be directed to Louis Fourie at: l4ie@telus.net.

Wanted: I am interested in photos, history and any information on the Mercury Body Speedster, produced in Louisville, Kentucky, from 1921 to 1926. Thank you. *E. Jarvis Erickson*, Box 2245, Lynnwood, WA 98036. modeltbug@aol.com or +1.425.776.2804.

Front cover: Related to our story on pages 7-12, here's a Tatra that appeared at the 2014 Pebble Beach Concours d'Élégance. It's a 1969 Tatra T603 Type II Aerodynamic Saloon, owned by Frank Kolinek, Toronto, Ontario. The program description stated: "The Tatra T603 is the modern descendant of the original T77, with a body design that evolved from the aerodynamic styling begun in the early 1930s. The more modern T603 was the first Tatra to have an all-new air-cooled 2.5-liter OHV V8, rack and pinion steering, independent suspension with hydraulic shock absorbers in the back, and struts and coil springs up front. The T603 has a steering column-mounted shifter mated to a 4-speed manual transmission. Built from 1956 until 1975, the production of the T603 included three generations, retrospectively named Type I, II and III. As with other Eastern Bloc limousines, these cars tended to be used around the clock. Various communist governments used T603s as official sedans, often sharing them between government agencies, so very high annual mileages of over 60,000 or more were not uncommon."

Back cover: Related to our story on pages 7-12, here's a period Tatra 77 ad promoting the car's "nový osmiválec"—which translates as: the new V8 engine. (Source: aerotatra.czweb.org/t77.htm)

Submission Deadlines:

Deadline:	12/1	2/1	4/1	6/1	8/1	10/1
Issue:	Jan/Feb	Mar/Apr	May/June	Jul/Aug	Sep/Oct	Nov/Dec
Mailed:	1/31	3/31	5/31	7/31	9/30	11/30

Note: the SAH Journal is a bimonthly publication (printed 6 times a year) and there is a two-month horizon for submitted material before it is mailed (e.g., material submitted by February 1st appears in the Mar/Apr issue and is mailed on or before 3/31.) All letters, manuscripts, and advertisement submissions and inquiries go to the editor.

SAH Journal

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THE SOCIETY OF AUTOMOTIVE HISTORIANS, INC.
An Affiliate of the American Historical Association



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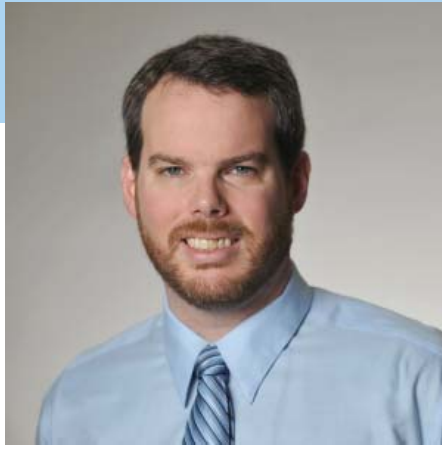
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President's Perspective

Happy New Year! Like many of you in northern climates, my last few months' activities have centered on snow removal and dressing in layers. I am proud to own a 1968 Montgomery-Wards Garden-Mark snow blower as my primary snow removal equipment. This fine piece of machinery was purchased new by my father and passed on to me a few years ago when, in his words, "it got too heavy for your mother to use." I'm pretty sure he was joking, but, in all honesty, I could see it would have been difficult for Mom, especially after her knee replacements.

When I took possession of the snow blower, my research instinct kicked in. The Montgomery-Wards brand was manufactured by Gilson of Plymouth, Wisconsin, which was acquired by Toro in 1988. I came across a wonderful website, gilsonsnowblowers.com, with company history and parts and service information. Mine is a model 478A with a Foote reversing transmission and a Briggs and Stratton six horsepower engine (which still starts on the second pull, by the way).



It's hard to fathom that Hershey was just a few months ago. I'd like to extend sincere thanks to all who make the SAH's Hershey presence possible—*John Marino* for his coordination of the meeting space and banquet events, and *Pat Bisson*, *Louis Fourie* and their crew for handling tent logistics, and *Vince Wright* for organizing the SAH's book signing. As always, Hershey was a great time to make new friends and renew old acquaintances, as well as a tremendous resource to promote the SAH.

Another long-standing custom at Hershey is the SAH's fall board meeting. Many

points of business were conducted during the whirlwind 3½-hour meeting, including the announcement of board election results. Congratulations are due to *Don Keefe*, *Bob Barr*, and *Matt Short*, for their election to the SAH board. On behalf of the SAH, thank you, gentlemen, for your willingness to serve! Additionally, *Susan Davis*, chair of the Nominating Committee, announced her retirement from that position. Thank you, Susan, for your years of steadfast service! I am also pleased to announce that Past President *John Heitmann* has agreed to serve as Nominating Committee chair.

Lastly, a word on membership: for 2017, I ask each of you to recruit a new member to SAH. Membership is the lifeblood of any organization, and the SAH is no exception. As mentioned in the previous President's Message, the SAH's Digital Membership is active. This \$20 membership option is a great tool for recruitment and perfect for any gift-giving occasion. You receive all the benefits of SAH membership along with emailed copies of our publications, the *SAH Journal* and the *Automotive History Review*. Let's grow the SAH's membership in the New Year!

Best wishes for 2017!

—*Andrew Beckman*

AUTHOR EXPOSURE

Some new initiatives are planned for the SAH website to give our authors some exposure. Authors are encouraged to participate in three possible ways.

Unpublished Manuscripts

Some authors may have found the challenges to get a manuscript published simply too daunting. Yet they have devoted much enthusiasm to their project. This is where SAH can help. Consider sharing your writings with our members in the "Members only" section of the website.

We are particularly seeking the memoirs of automotive industry insiders. In some cases the writers may have passed away and their writings may be in the hands of descendants. If you are aware of such instances, please contact our web-editor.

Currently we have two such memoirs on the website and you are encouraged to read them under the MEMBERS ONLY tab.

Ford in My Family by Ed Ruesing
A Car Guy Bean Counter Reminisces
by *Patrick Bisson*

Hurdles to Publishing

When creating the index of articles from the *SAH Journal* your web-editor identified a specific category called "Author Hints and Resources." This was on the assumption that one reason for joining the SAH could be to gain insight on how to get your material published. Times change and the number of publishers catering to automotive history has shrunk. Now we are into self-publishing.

Authors who have successfully published books in this new environment are encouraged to share their stories. Besides giving you a chance to provide details of what worked and what didn't for others to learn from, it also provides exposure of what makes your material worthy of publishing. Any such contributions will be kept in the "members only" section of the website.

Listing of Books by Make with Links to Author and Detailed Support

We are planning to provide a listing of books from SAH authors that are currently in print listed by vehicle make. Alongside each make will be a link to the author where further details about the book will be found. This might include a description of the book, a table of contents, any reviews and awards

and a source for where to make a purchase.

This free service to our SAH authors will be open to the public and should over time provide an ideal shopping source. At a later time we will explore motorsport categories to allow a similar listing to the make categories above. Any authors keen to participate are encouraged to contact our web-editor *Louis F. Fourie* at L4ie@telus.net.

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Keynote speaker was Roy Klinger of the Pennsylvania College of Technology Automobile Restoration Program, featuring a presentation by students of the program. From left to right: SAH vice president Edward Garten, students Andrew Hoyer, Jan Brugmann, Alex Koser, and Professor Roy Klinger.

THE ANNUAL SAH AWARDS PRESENTATION HERSHEY, PENNSYLVANIA

The 48th Annual Meeting of Members & Gala Awards Banquet took place on a rainy Friday, October 7th at the Hershey Country Club during the AACA Eastern Regional Fall Meet (October 5-8), otherwise known as "Hershey" to enthusiasts. The highlight of the evening was the awards presentation. Here are the awards, descriptions and the 2016 recipients:

Richard P. Sarchburg Student Paper Award

Race Men: African American Participation in Automobile Racing, 1910-1991

by Alison Kreitzer, University of Delaware.

The Student Paper Award recognizes the best paper by a thesis-level student at an educational institution. The award is accompanied by a cash prize and publication of the paper by the Society. The award was first presented in 2001. It was renamed in 2008 in memory of SAH director, officer and professor Richard P. Sarchburg.



Edwin Benson presents the Richard P. Sarchburg Student Paper Award.

Carl Benz Award

1967-70 Cadillac Eldorado: Applying a Personal Touch

by Terry V. Boyce, published in *Collectible Automobile* (June, 2015).

The Benz Award recognizes the periodical article or series published during the previous calendar year which exhibits the most original research and outstanding writing in automotive history. The award is named for Carl Benz, who built the first vehicle propelled by an internal combustion engine. Benz's three-wheeled vehicle was built in 1885 in Mannheim, Germany. The Benz Award was first presented in 1982. From 1972 until 1981, awards for periodical articles were made as part of the Cugnot Award.

Award of Distinction:

Record Collector: The Story of a Special 1958 Chrysler 300D

by Andy Mikonis, published in *Collectible Automobile* (June, 2015).



Dennis David presents the Carl Benz Award for Don Deefe, who was unable to attend.

Nicolas-Joseph Cugnot Award

The Cugnot Award is presented for the book published during the previous calendar year which represents the most outstanding writing and original research in automotive history. The award is named for Nicolas-Joseph Cugnot, a French Army officer who is generally acknowledged to have built the first self-propelled vehicle. His steam-powered fardier, built in 1769, was designed to be an artillery tractor; its likeness appears on the Society's emblem. The Cugnot Award was first presented in 1972, and the award for books written in a language other than English was first presented in the year 2000. The Award of Distinction in each category recognizes works of exceptional merit.

English Language:

Squire: the Man, The Cars, the Heritage by Jonathan Wood, published by Classic Motor Cars, Ltd.

www.squirebook.co.uk (No ISBN)

Mercer Magic: Roebings, Kusers, The Mercer Automobile Company and America's First Sports Car, by Clifford W. Zink, published by Roebing Museum.

ISBN: 978-0692542354

[Reviews for both the above books were published in SAH Journal #278.]



Douglas Leighton (right) with Mercer Magic author Clifford Zink (center) and Tim Kuser (left) to whom the book is dedicated. His grandfather, John Kuser, was Mercer's treasurer. (The Squire book will be awarded in Paris.)

Award of Distinction:

Power Without Glory: Racing the Big Twin Cooper by Terry Wright, published by Loose Fillings Sydney.

ISBN: 978-0994366108

Language other than English:

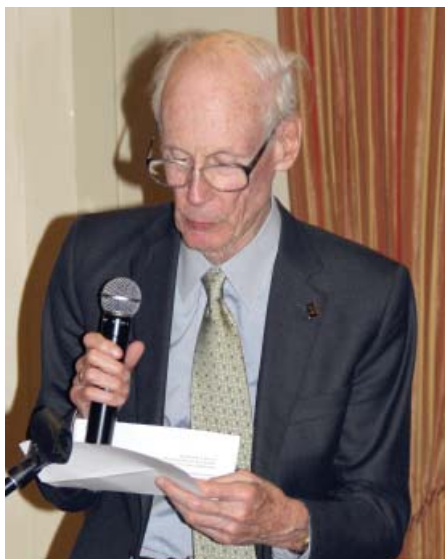
Iran Royal Garage, by Borzou Sepasi, self published in Farsi. (No ISBN)

This book tells the story of the adoption of the automobile by the Iranian royal family at the time when paved roads and even railroads were virtually non-existent in a country of vast distances. The Shah and his entourage became aware of the motor vehicle in 1900 on a trip to Russia, purchased a Gardner-Serpollet in Paris, engaged French chauffeurs and attempted to drive it home. The car lasted but a few days and was drawn the rest of the way by horses. In Tehran it created a sensation.

For many years the royal house purchased the most expensive cars on the Parisian market, Rolls-Royce, Pierce Arrow, Hispano, Mercedes and Bugatti, many of them unique one-off models, together with fleets of American cars for government officials. Mohammed Reza Shah Pahlavi, the last royal ruler, was drawn to European supercars; he was the first shah to learn to drive and a dashing member of the jet set. Many of the cars from this final period have survived in the Tehran Car Museum.

Mr. Sepasi's research spans sixteen years with sources from public records and private reminiscences. Dealing as it does with the life of the royal family it has not been permitted to be published in Iran. It is his intention to follow this work with volumes on the royal cars of other middle-eastern countries. This original study of a facet of automotive history throws light on a significant series of events. It is our first award to a book from Iran.

—Arthur Jones



Arthur Jones announces the Cugnot Award—Language other than English, which will be awarded in Paris.

Award of Distinction:

Wiesmann: Power & Passion by Niels Hamann, published in German by Delius Klasing Vlg GmbH
ISBN: 978-3667103697

The Wiesmann sports car was manufactured by the Martin and Friedhelm Wiesmann brothers in southern Germany from 1993 to 2013. It was based on the BMW-M drive train in 6 cylinder, V8 and V10 versions but with a unique suspension and roadster and coupe bodies in the flowing style of the nineteen fifties somewhat reminiscent of the Jaguars of the period. We may interpret the car as an attempt to return BMW to a true sports form although it was not intended for competition. Sold principally in Germany, Austria and Switzerland it was never certified for sale in the United States. An elaborate production and display center was completed in 2008 but costs for the vehicle, especially with the introduction of the V-engined models, was high and the business became insolvent in 2013 after an output of 1599 cars.

Niels Hamann's book is very complete covering design, production and distribution, and will certainly be the last word on the marque. Too bad we will never see any of these speedsters on the roads of North America.

—Arthur Jones

James J. Bradley Distinguished Service Award

National Automobile Museum (The Harrah Collection), Reno, Nevada.

Award presented to a deserving library or archive, or to an individual within such an organization, for the preservation of historic materials relating to motor vehicles of the world. It is named in memory of James J. Bradley, noted curator of the National Automotive History Collection at the Detroit Public Library. The Bradley Award was first presented in 1982.

The following from automuseum.org/about-us —Ed. The mission of the National Automobile Museum (The Harrah Collection) is to collect and preserve the automobile for future generations, with an emphasis on vehicles collected by William Fisk "Bill" Harrah, to tell the story of the impact of

the automobile on American society, and to perpetuate the legacy of Mr. Harrah as a renowned collector.



Ed Garten presents the James J. Bradley Distinguished Service Award, which was accepted by Jay Hubbard (right), the Automotive Collections Manager for the National Automobile Museum.

Richard and Grace Brigham Award
DeSoto Adventures, published by the National DeSoto Club, Geoff Overley, editor.

The Brigham Award is presented to the periodical which exhibits the best overall treatment of automotive history over all issues published during the previous calendar year. A publication may receive the Brigham Award only once in a five-year period. Mrs. Brigham and her late husband, both founding members of the Society, started the Society's newsletter, now SAH Journal, and magazine, Automotive History Review. The Brigham Award was first presented in 1990.



SAH president Andrew Beckman (left) and Pat Bisson (center) present the Richard and Grace Brigham Award, which was accepted by Les Pesavento (right), president of the National DeSoto Club.

E.P. Ingersoll Award

Not awarded for 2016.

The Ingersoll Award recognizes excellence in presentation of automotive history in other

than print media. E.P. Ingersoll was editor and proprietor of *The Horseless Age*, the first motoring magazine in the United States, and was instrumental in organizing the first vehicle trade organization. The *Ingersoll Award* was first presented in 1992.

Friend of Automotive History Award Susan S. Davis

A person who has exhibited outstanding service in, and made outstanding contributions to, the field of automotive history may be named a *Friend of Automotive History*. This award is not limited to members of the Society. It was first presented in 1983.

A native of Maine, Susan Davis served as SAH president from 2009 to 2011. From



Andrew Beckman presents the *Friend of Automotive History Award* to Susan Davis.

1986 to 2006 she was the founding director, president and chief executive officer of the Stanley Museum of Kingfield, Maine, and served for four years as executive director of the Maine Narrow Gauge Railroad Co. and Museum in Portland. There are a great many more accomplishments that she made over a period of over 30 years in support of automotive history.

Roy Klinger, of the Pennsylvania College of Technology Automobile Restoration Program, was the evening's featured speaker. Students Jan Brugmann, Alex Koser, and Andrew Moyer of the college, gave an entertaining and informative presentation resulting from interviews of families associated with a former Kaiser-Frazer dealer.

—R. Verdés

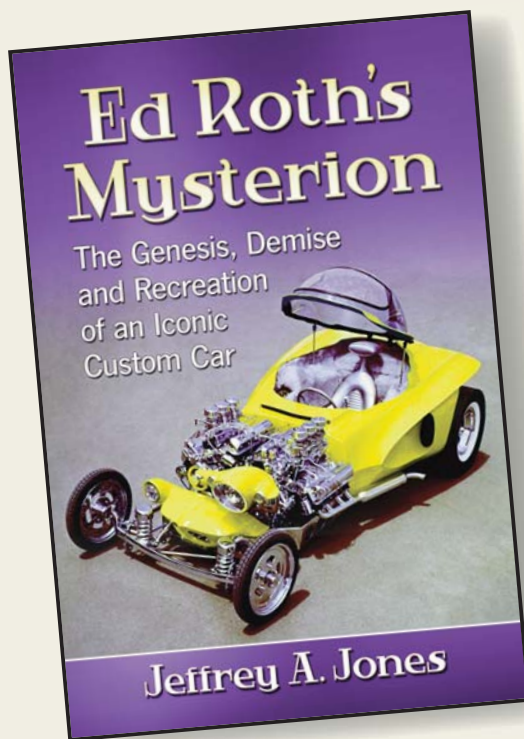
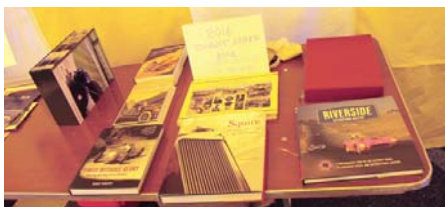
ON THE ORANGE FIELD



The SAH's tent on the Orange field at Hershey is an annual pilgrimage for members. Once again, Tom Cotter's barnfind 1952 Cunningham C-3 Vignale caught lots of attention. Thanks to all the authors that supported the book signing event, and all who "work" the tent each year to make it a success.



"Welcome to Paul's Place" - the plaque in honor of Paul Lashbrook and his tireless support of the SAH and its annual gathering at Hershey. Pictured below are all the Cugnot Award entries, with the two winning books in the center.



Ed "Big Daddy" Roth's 1963 Mysterion show car — showcasing two Ford big-block V-8s in an outrageous asymmetrical body — was his masterpiece and the story of its brief existence is legendary. Yet much about Roth's magnum opus is clouded in conflicting and erroneous reports.

Combining history and shop class, this book reveals Mysterion in full. Drawing on interviews, magazine articles, previously unpublished photos, models and other sources, the author pieces together the true story of the car, while documenting his own bolt-by-bolt recreation.

\$35 softcover (7 × 10)
385 photos (22 in color), appendix, bibliography, index
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Fig. 4.

HISTORICAL RESEARCH AND FORENSIC EVALUATION INFORMS THE RESTORATION OF A 1934 TATRA T77 (PART I: THE BODY)

Editor's Note: The discipline of automotive restoration continues to evolve, and perspectives of that evolution are detailed in the recent book, The Stewardship of Historically Important Automobiles (ISBN: 978-0988273306, see SAH Journal #261, p10), and here we add to that perspective. The author, David Cooper, is the owner of Cooper Technica, Inc., with restoration workshops in Chicago, Illinois, and Lyon, France. His first article on restoration methods appeared in the SAH Journal issues #275 and #276. This article (also presented in two parts) was adapted from his presentation at the October 2016 Historic Vehicle Association (HVA) Conference on Preservation of Automotive Heritage, convened in Allentown, Pennsylvania. An extended version will be in the author's forthcoming book, The Art of Restoration, to be published by Coachbuilt Press. Part II, to be published in the next issue, will focus on the Tatra 77's chassis.

At Cooper Technica, before we turn a wrench, we begin with an analysis of a car's context, history, provenance, design, technical specifications, and original construction methods and materials. Armed with this knowledge and understanding, we can

weigh the best approach to a responsible restoration.

The History & Design of the Tatra T77

Currently, we are restoring a 1934 Tatra T77 (chassis 23014). Fig. 2. Tatra was an old Czechoslovakian company that began in 1850 (operating as Ignatz Schustala & Comp. —Ed.) with the manufacture of horse drawn carriages; it then manufactured railroad cars, adding automobiles in 1897. Czechoslovakia



Fig. 2.

was formed just after World War I from the dissolution of the Austro-Hungarian Empire. This region was particularly known for the ingenuity of its engineering and manufacturing. Between WWI and WWII,

Czechoslovakia was among the ten largest industrialized economies in the world. Before the war Prague was considered by many to be the Paris of the East, a center of the Art Nouveau and Art Deco movements. The Czechs were known for exports of high quality furniture, glassware, arms and military equipment, machinery, transportation, photography and, of course, beer. Fifty years behind the Iron Curtain after World War II seriously eroded the country's skills and talents.

Between the wars, Tatra was known for its technically advanced, but conservatively styled mid-range cars, specializing in air-cooled engines, sold primarily in Eastern Europe. When the Great Depression hit Czechoslovakia, Tatra took the bold approach of building a radically new car that would extend their market into Western Europe. Their brilliant chief engineer, Hans Ledwinka, was given a rare opportunity in the automotive world to create the ultimate touring car from a clean sheet of paper, meaning he did not have to start by using any previous designs. Fig. 3.

In the early 1930s, many designers, including Ledwinka, believed that streamlining, or aerodynamics along with



Fig. 3.

technological advancements, permitted the construction of high-speed luxury travel by private automobile. Fig. 4. The goal was an efficient and elegant 100-mph touring car that was safe, comfortable, and quiet. While there were many designers at the time trying out new ideas and building aerodynamic concept cars, Tatra was one of the first to realize a streamlined car in serial production, incorporating a three-part panoramic front window, fully independent suspension, hemispherical combustion chambers, and a dry sump engine.

Fig. 5. The engineering team used a wind tunnel and worked closely with an early aerodynamicist, Paul Jaray, and studied the ideas of designer John Tjaarda, to develop



Fig. 5.

the new car's streamlined shape. The car featured a rear-mounted air-cooled V8 engine. Fig. 6. Two large fans cooled each cylinder bank. They drew air from the two scoops on the roof as well as air from the negative

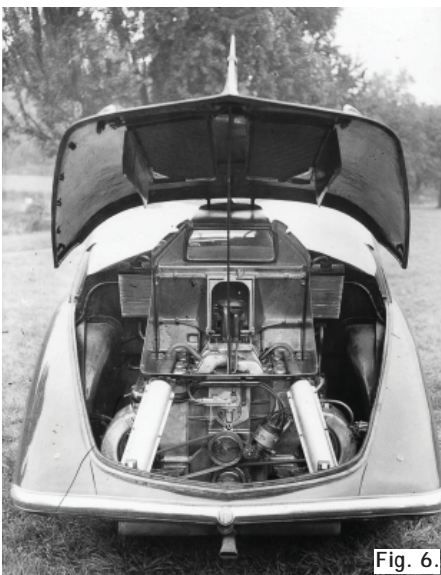


Fig. 6.

pressure area underneath the car. The advantages of having the engine mounted in the rear were (1) aerodynamic efficiency; (2) to reduce noise, fumes, and heat from entering the passenger compartment; (3) allow for a flat floor due to the elimination of the driveshaft; and (4) service accessibility, as the entire drivetrain could be removed from the car quickly and easily.

The air-cooled engine did not need a front radiator. Fig. 7. This allowed Tatra to design a low curved shape for the front of the car to achieve the best drag coefficient.



Fig. 7.

This was a bold design move because, in the United States, Franklin, also known for their air-cooled engines, was forced to add a fake radiator because people were reluctant to buy something so different. The Chrysler Airflow, introduced at the same time, also



Fig. 8.

had a radical shape that was hard to sell. Fig. 8. Ironically, Ledwinka's cousin Joseph, who worked for the Edward G. Budd Manufacturing Company, the Airflow coachbuilder, helped design the Chrysler's Art Deco front

hood, which echoed the curved front shape of the T77.

Fig. 9. Tatra designed a chassis that allowed a low center of gravity. It was built from a central rectangular tube formed of sheet metal with outriggers to hold the body,

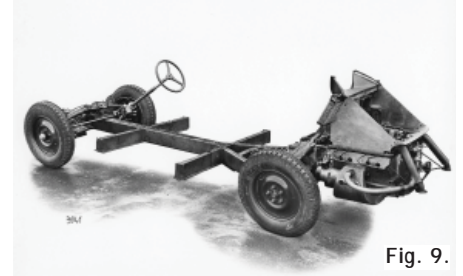


Fig. 9.

evolving into a Y shape at the rear to hold the eight-cylinder engine. Fig. 10. Tatra pioneered the use of lightweight Elektron, an aluminum/magnesium alloy, for the engine, transmission, suspension and body. This material is still used today for airplanes and space equipment. The weight bias of the rear engine gave superior traction over the tires and better handling. The disadvantage was that the handling turned treacherous if the cornering limits were exceeded.

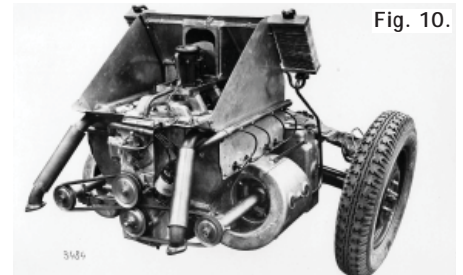


Fig. 10.

Fig. 11. [p. 9] The innovations in the T77 made a strong impact around the world, especially in France when the car was introduced at the 1934 Paris Salon. The car was not beautiful in the way we find the 1936 Bugatti Atlantic beautiful. However, the engineering elegance of the design led directly to the Volkswagen Beetle, the Porsche 356 and 911, and the Tucker Torpedo. Tatra's ideas influenced most car designers, and helped inspire the great streamlined cars of the 1930s.

The T77 achieved Tatra's sales objectives with sales of 257 examples in two series from 1934 to 1938. This was impressive during the height of the depression, and contrasted favorably with luxury production by the important French manufacturers. Today, perhaps twenty-eight T77s are known to survive. Having built six prototypes to test and finalize the design, Tatra began series production in June 1934. Our T77 was the sixth production car built.



Fig. 11.

Fig. 12. Our early production car differs from the later cars. For example, subsequent to the production of our car, Tatra redesigned the front and rear bumpers for manufacturing simplicity and cost reduction. Though



both bumpers were missing on our car, the original mounting holes were still evident. Our attention to those holes led us to discover the variations in the Tatra bumpers. Otherwise, we might have made the mistake of restoring our car with bumpers of the later type.

Is it appropriate to re-create the original bumpers when they are missing?

Our car may be the only extant example with the early bumpers. I contend that the

importance of this car as representative of a specific moment in the development of the T77 justifies remaking the original bumpers. The car deserves to be seen as it was. This is a form of preservation.

Restoring the Body

Fig. 13. The T77 was a coachbuilt car, even though the body was constructed by Tatra itself, rather than by a separate coachbuilder. Coachbuilt cars were constructed with a wood body skeleton made mostly



of ash, which was wrapped with sheet metal—in this case both aluminum and steel. Typically in this era, manufacturers of the finest automobiles made only the chassis and power train. The chassis was structural,

and the body was an elegant way to keep the weather off the driver and passengers. Everything visible, the custom-designed hand-built body and interior, was the art of the coachbuilder. It was rare in top end cars for the manufacturer to build the body. In the case of the T77, it was essential, as the body itself was structural. The design shape was particular to the very identity of the car. The T77 body was one of the first steps toward modern postwar unibody construction, where the body is the structure and there is no separate chassis.

On the T77, a heavy wooden longitudinal member at the base of the body on both sides attaches it to the outriggers. Fig. 14. In the front and rear, the body attaches to sheet metal frameworks that include the wheel arches, called space frames. In the middle,





Fig. 15.

between the outriggers on either side, cast Elektron door posts (Fig. 15.) stretch vertically to connect the longitudinal member to the roof, providing a structural mounting point for the front and rear door hinges. Because the back of the front seat joins the two door posts, the center of the body is rigid enough to eliminate a closed roof, making possible the large open sunroof. Fig. 16. This body design—effectively forming three boxes—was rigid yet extremely light, adding to the car's performance.



Fig. 16.

Fig. 17. Most of the surviving T77 cars have recreated bodies. Our car is one of the few that still has its original body, and the sheet metal is in fairly good condition. Further, our car had been fitted with a full sliding sunroof, although it had been removed. Fig. 18. As a restorer, it is my



Fig. 17.

responsibility to save this body. However, the wood structure that supported the body was very badly deteriorated. Parts had rotted away and broken off. In the 1980s, the second owner made expedient repairs by splicing wood sections with new wood attached in various ways to what remained of the original wood. This way of patching the wood compromises the structural integrity of the body. Most of the original wood, in my opinion, could not be preserved.



Fig. 18.

We rebuilt the wood structure just as it was originally, and then fitted the original steel and aluminum body panels. As restorers, we had to make a choice to save the sheet metal by rebuilding all of the wood structure. This is a counter-intuitive approach, similar to a tailor building a body to fit an existing suit. Originally the sheet metal was designed to fit the wood. To refit the body to new wood, we needed to create a precise, dimensionally accurate structure.

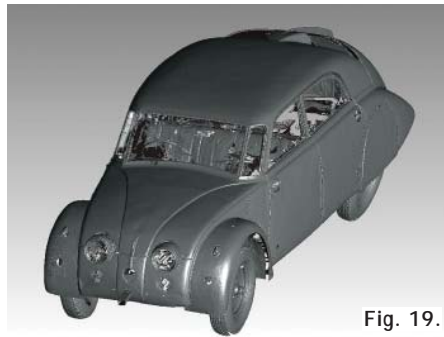


Fig. 19.

Fig. 19. The first step was to laser scan the car as it was when we received it. This generated a complete 3D photo of the car that included all dimensions. Fig. 20. 21. 22.

Next, we carefully unpeeled the body sheet metal, taking care to preserve it. Fig. 23. Sheet metal was wrapped around the



Fig. 20.



Fig. 21.



Fig. 22.



Fig. 23.

structural wood members and nailed in place. Fig. 24. Since the laser scan revealed where the original sunroof had been, we were able to carefully remove the steel panel installed over the sunroof opening. Fig. 25.

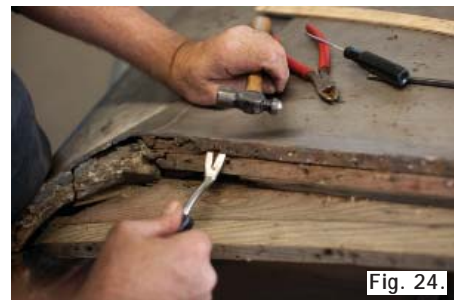


Fig. 24.

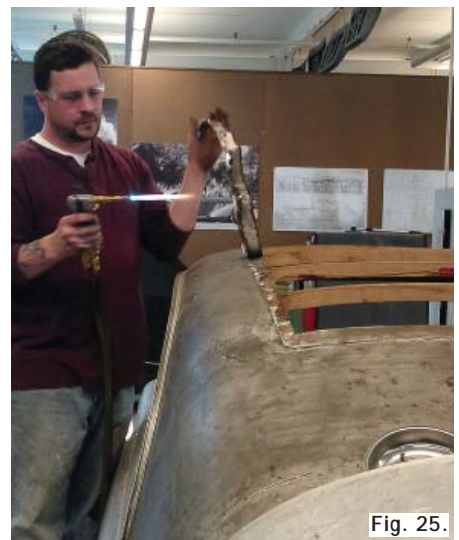


Fig. 25.



Fig. 28.



Fig. 26.

Fig. 26. Once the wood was exposed, we were able to laser scan it. Fig. 27. Like everything else on the T77, the wood skeleton is sophisticated and complex, providing support for the body where needed and using the inner wheel arches as structural members. This structure was much lighter



Fig. 27.

than the contemporary wood structures of other coachbuilders. An original photo from the Tatra archives shows the wood structure mounted on the chassis. This photo helped us restore the wood as original. Fig. 28. Once the body was removed, the wood was so rotted that it required temporary steel patches to hold it together.

We then engineered a steel platform to support the wood skeleton in the same way as it was held by the chassis. Fig. 29. 30. The separate platform allowed us to restore the wood and the chassis simultaneously, knowing that they will fit together correctly after restoration. Fig. 31.

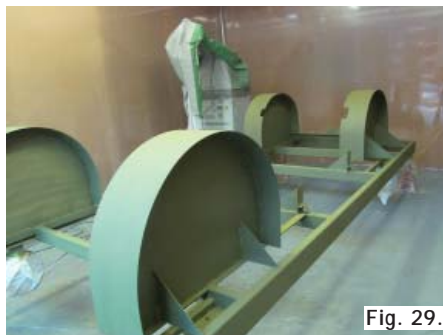


Fig. 29.



Fig. 31.



Fig. 32.

of the wood and created patterns for each individual piece of wood. Fig. 33. 34. 35.

Fig. 32. Using the digital information from the scans, including a laser scan of the steel platform, we made a design study



Fig. 30.



Fig. 33.



Fig. 34.



Fig. 35.

We created a drawing to show the different planes of the body design. Fig. 36.

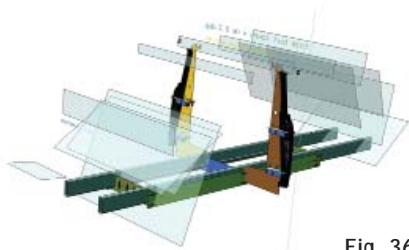


Fig. 36.

To assemble the wood we designed an internal steel framework that would support the new wood in its proper location during construction. Fig. 37. 38. The framework

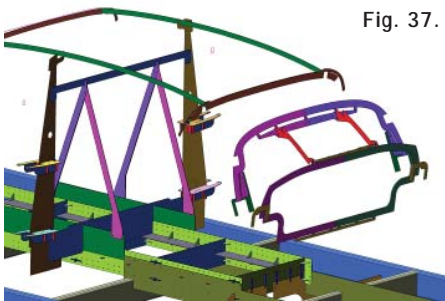


Fig. 37.

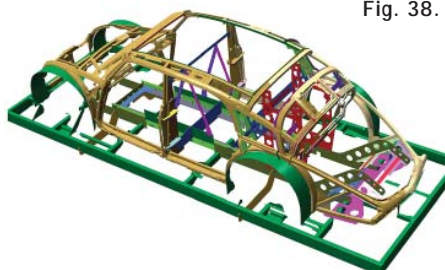


Fig. 38.

was made of laser cut steel components assembled together on the platform. Fig. 39. Using this internal framework, with the original wood as a comparison, we rebuilt the



Fig. 39.

body structure to within 2 mm of the original dimensions. Fig. 40. We started reconstructing the wood with the wheel arches and then the rear section. In the rear, the body surrounds the engine. Like a Porsche 356



Fig. 40.

or 911, the engine is cantilevered from the front and does not touch the rear body. Fig. 41. In the front section, we reconstructed wood that was rotted or damaged. Fig. 42.



Fig. 41.



Fig. 42.

The area around the front windshield was especially difficult, as it locates the 3-part windshield frame. Fig. 43. We were able to save and incorporate original wood in several areas, including the doors. Fig. 44. Once the



Fig. 43.



Fig. 44.

wood skeleton was completed, we were ready to reinstall the original sheet metal. Fig. 45. 46. 47.

Restoring the unique chassis of the T77 will be covered in part II.

—David Cooper



Fig. 45.

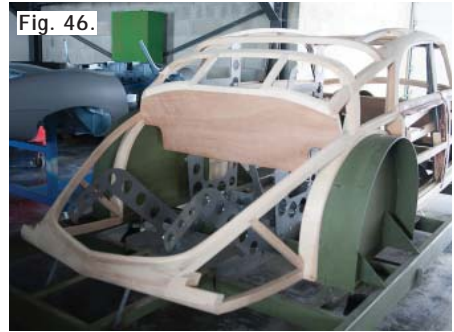


Fig. 46.



Fig. 47.

Photo Credits:

Fig. 2: Omnia, November 1934: Revue pratique de l'Automobile

Fig. 3-7, 9-11, 13, 16, 27: Courtesy of Technical Museum Tatra, Koprivnice, Czech Republic

Fig. 8, 12, 14, 15, 17-26, 28-47 © David Cooper, 2016

Book Reviews

Cuba's Car Culture: Celebrating the Island's Automotive Love Affair

by Tom Cotter and Bill Warner, foreword by Sir Stirling Moss

Motorbooks (Oct. 2016)

quartoknows.com/Motorbooks/ 800-458-0454

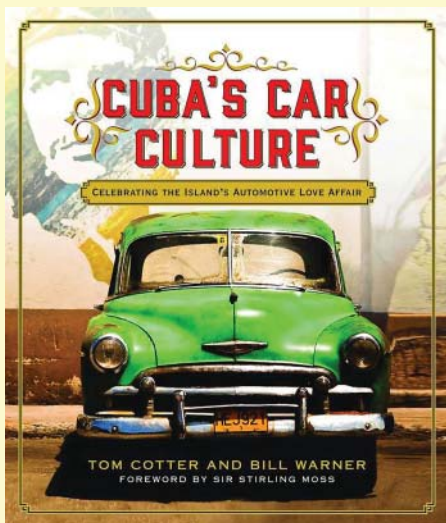
192 pages, 9.8" x 11.2" hardcover

38 b/w and 160 color photos

Price: \$35

ISBN-10: 0760350264

ISBN-13: 978-0760350263



Bill Warner is internationally known as the founder and president of the Amelia Island Concours d'Elégance, which celebrates its 22nd anniversary in March 2017. The show field always contains a unique assemblage of some of the grandest automobiles and race cars. He's also quite the automobile aficionado and historian, and most recently co-authored a book that captures a special chapter of automotive history.

Working with well-known author Tom Cotter, Bill has written *Cuba's Car Culture: Celebrating the Island's Automotive Love Affair*. Cotter is best known for his series of "barn-find" books, including *The Cobra in the Barn: Great Stories of Automotive Archaeology*, and others.

With 20-20 hindsight, the timing of their book couldn't have been better. Cuba is opening up to travel by U.S. citizens and

long-time dictator Fidel Castro died only recently.

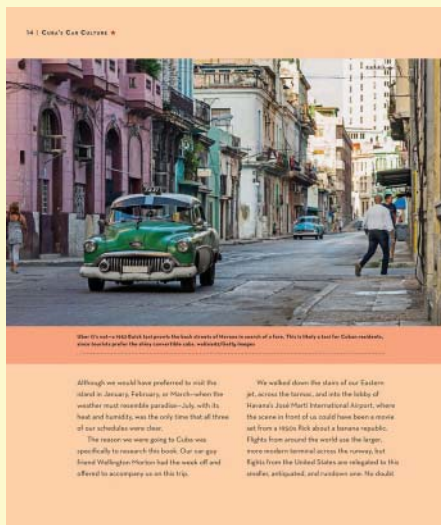
Since the 1959 Castro-led revolution no American autos have been imported into Cuba. The island is a time warp of automobiles from the pre-1959 era. Certainly, these are not true Classic¹ cars, but their story is a special one and it's well told by Cotter and Warner. The twosome visited the island to do their research first hand. They saw cars and they visited with the individuals who've cared for these cars, most of which are now a half-century old.



Cuba's Car Culture: page 8.

The ingenuity of the Cuban mechanics is on display throughout the book. Despite an embargo that also forbade the importing of parts, their ingenuity and resourcefulness have kept these cars on the road far longer than anyone might have imagined.

The book also touches on Cuba's racing heritage, which began in 1903 and reached its zenith in the 1950s with the Cuban Grand Prix, which attracted the top inter-



Cuba's Car Culture: page 14.

national drivers, including Juan Fangio, Phil Hill, Stirling Moss, Alfonso de Portago and Carroll Shelby.

The stories are well told and the photography is excellent—a combination of vintage photos from Bill Warner's collection and photos taken during the visits to the island. Word has it that the book is already in its second printing, so scoop up your copy today.

—David Schultz

¹ Here, the word "Classic" is used by Mr. Schultz in accordance with the Classic Car Club of America's criterion and defined list of marques and models (predominantly limited production automobiles built from 1915 to 1948). While it's outside Mr. Schultz's context, it should be noted that the Museo del Automóvil in Havana does have "Classics"—including a Rolls-Royce Phantom I, and a V16 Cadillac (see SAHJ No. 257).

Editor's Note: this is Mr. Schultz's first review in the SAH Journal. By way of introduction, David Schultz (0697) is a longtime SAH member, and his long auto-enthusiast résumé includes having served as executive director of the Glenmoor Gathering, president of the Classic Car Club of America (CCCA), and he currently serves as chief judge for the Amelia Island Concours d'Elégance.

The Tom Mix Cord: Subtitle: Saga of a Western Film Star's Classic Motorcar

by Bob M. White

MT Publishing Company, Inc (Jun. 2016)

mtpublishing.com/ 888-263-4702

135 pages, 11.25" x 8.75" hardcover

135 color and 98 b/w images, many of them period sepia toned; index, bibliography, and each chapter well footnoted

List Price: \$42.50

ISBN-10: 1938730992

ISBN-13: 978-1938730993



A nearly flawless presentation. Truly beautiful page layouts with equally fine printing and binding. And it is all devoted to one car. What's not to like?

If you've ever examined one of the books a car owner/entrant, such as the Nethercutt Collection prepares for its entry in a top concours, you'll immediately have an accurate vision and understanding of this book. Organized by topics, this book docu-

ments the 1937 812 Cord—serial number 31910H—whose first owner was western star Tom Mix.

Opening segments present abbreviated histories of the Cord companies, Tom Mix, and the car's various owners after Mix to the current one, who also happens to be the book's author. A key chapter—which is equal parts informative and entertaining—is the one that documents in words and images the personalization and alterations Tom Mix made to the car for it is to this “standard” that the vehicle has been restored and is shown (and therefore judged) today.

Tom Mix was arguably the first multimedia star, making well over 100 films. The majority of his films were silent but he did transition to the talkies and also made serials, the in-theatre predecessors to all those western-themed television series. Given the current resurgence of interest in and popularity of those old westerns, this beautiful book will surely find its way to appreciative readers young and old, for, as Mix is quoted on the opening end papers, “The Old West is not a certain place in a certain time...it's a state

of mind. It's whatever you want it to be.”

Mix's career included owning and starring in his own traveling Western show/circus. Then there was *The Tom Mix* radio program sponsored by Ralston Wheat Cereal with its Tom Mix/Ralston Straight Shooters' Club. That show aired from 1933 to 1950, a full decade after Mix's death.

This book also provides another “service”—it is a benchmark for all vintage and historic vehicle car owners. Admittedly, not all vehicles have as extensive or as widely interesting a background, but each can be presented as fully as its history may warrant. This book provides, as said, that benchmark or format.

At the outset your commentator observed the book is *nearly* flawless. That “flaw” likely occurred during editing for everywhere—without exception—that part of the car that is in front of the radiator is spelled as though it were the thing upon which you cook your steak or hamburgers. The word is sans the concluding “e” that it should have had to be properly spelled: grille.

—Helen V Hutchings

The Duesenberg Caper

by Roger Corea

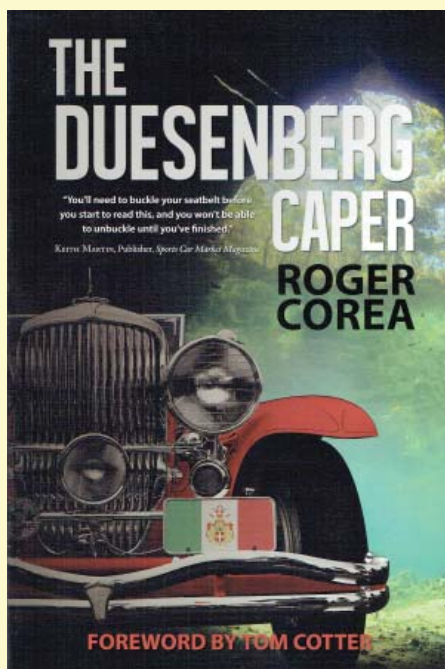
SelectBooks, Inc. (Sept. 2015)

304 pages, 6" x 9" softcover

Price: \$16.95

ISBN-10: 1590793102

ISBN-13: 978-1590793107



There are an endless number of novels that will draw you into the worlds of spies, doctors, lawyers, soldiers, and even

the everyman's challenges. And there are those professions that are far less likely to inspire fiction—like an accountant—unless, of course, he is keeping Al Capone's books or something of similar contrivance, like *The Accountant*—the recent movie starring Ben Affleck. It would be nice to see a pure accountant's story that would both educate the reader and offer a sweet story of a couple that fall in love while amortizing goodwill. Well, maybe. Here, author Roger Corea brings storytelling to the automotive enthusiasts' world. In *The Duesenberg Caper*, the author weaves a story of mystery and intrigue around a lost 1935 Duesenberg SJ first owned by King Victor Emmanuel of Italy (also referred to as “The Midnight Ghost”), along with the various trappings of the automotive enthusiast's world—from driving vintage cars, to the energy and buzz of auctions, and the pageantry of a Concours d'Elégance.

Andrew Robinson narrates the story 30 years hence, recalling an adventure in Italy that he shared with his wife Ada in 1976. Their vacation turns into a string of mishaps—with all the characters sharing the spotlight with various antique and historic cars—as nefarious events unfold. Eventually, the two got involved in a government operation that aimed to find and seize the king's lost Duesenberg from a Mafioso with

a taste for the finest antique automobiles. The reader will progress through the story in the usual way—weighing the believability of the elements of the story, the characters' behavior along the way—while feeling intrigued and entertained, or not. There were instances where the school teachers, Andrew and Ada, exhibited such poor judgment that their credibility as characters became tenuous. There were further instances where the unfolding plot would spark that tenuous feeling—but reality can often eclipse fiction on issues of credulity, so those are elements that are ultimately best left to the eye of the beholder. Fans of fiction will likely enjoy the arc of the story, and its automotive elements are clearly aimed to charm the classic car enthusiast—and perhaps spark interest in classic cars for the non-enthusiast.

This isn't the first time a fictional story is staged in and around an automotive theme. While no part of the book asserts that this is anything other than a work of fiction, like other similarly constructed stories, the enthusiast reader will likely wonder how close any of the facts and assertions made in the story are to reality. It doesn't help when an occasional detail is missed, like the missing hyphens for every mention of Mercedes-Benz, Hispano-Suiza, and Rolls-Royce. (No small thing for Rolls-Royce enthusiasts who will recall that Claude Johnson, the firm's first managing director credited with such a material contribution to the company's success that he was known as *The Hyphen in Rolls-Royce*, which was also the title of his biography—ISBN 978-0854290178.) There is a natural want to have a section at the end of the book addressing the various assertions in the story against reality, but some could argue that any such section could fracture the believability of the story for the reader.

Since our *Journal* is dedicated to automotive history (spoiler alert for this paragraph), here's an observation of at least one item of record: King Victor Emmanuel never owned a Duesenberg. Many internet inquiries will mention that King Alfonso of Spain and King Emmanuel of Italy both owned Duesenbergs—and that both cars are now lost. According to current records, Alfonso had a Duesenberg (more on that in a future *SAH Journal* issue), but King Emmanuel did not. In *Duesenberg: The Mightiest American Motor Car* (ISBN 978-0911160499), on page 77 of the 1964 edition there's a company list of Duesenberg owners, including one “Victor Emanuel” of

New York and London—a different spelling as first indication of a completely different person. Perhaps this Victor Emanuel's appearance on owners' lists helped cause the confusion. Incidentally, King Emmanuel was indeed a car guy; and there's an interesting short account in the May 5, 1904 edition of *Motor Age* noting that the Automobile Club of Italy named the king honorary president of the club. Lastly, the term "Midnight Ghost" may have been borrowed from the mid-1990s Franklin Mint model of a made-up lost Duesenberg that came complete with a back story that did not include mention of King Emmanuel.

The traditional six by nine inch format of this paperback made it an easy take-along companion, and that's how this book was experienced by your reviewer—while on the road, and as an entertaining to-do while arriving early to an appointment. If fiction is not your cup of tea, this book may be an ideal gift for someone who doesn't understand your attraction to vintage automobiles. If you do enjoy fiction, this is a fun read to escape into a car-guy's fantasy.

—R. Verdés

Byron J. Carter: The Ingenious Inventor Who Founded the Jackson Automobile and Cartercar Companies

by Dean M. Nelson

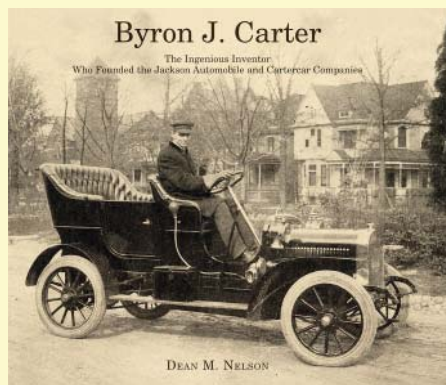
Cyclorium Press; 1st edition (2016)

320 pages, 11.2" x 9.3" hardcover, 250+ images

Price \$59

ISBN-10: 0692576428

ISBN-13: 978-0692576427



The genesis of this book began when a 15-year-old boy pestered his father to buy him a 1900 Jackson automobile. It was quickly established that the car was actually a 1909 model built by Jackson, although not branded as such, but a young *Dean Nelson* had begun his quest to research as much as he could about its creation.



21-year-old Byron Carter of Jackson, Michigan, developed an affinity for steam engines, which powered his printing and rubber stamp business starting in 1884. He was also an early bicycle racer, which he turned into a business in late 1893 partnering with his father. Bicycle assembly and repair furthered Byron's mechanical skills. The first fifth of the book profiles the above endeavours before venturing into automotive fields.

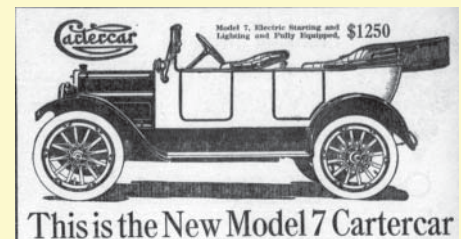
After the frustrations of trying to assemble a gasoline car designed by Charles Brady King and Oliver Bartel, Carter returned to steam for his first prototype built in 1900. Over the next two years he started building steam cars on a very small scale. He also perfected a three-cylinder steam engine but needed capital to realize its potential. In mid-1902 this capital came from George Matthews and Charles Lewis with the creation of the Jackson Automobile Company initially using the brand name Jaxon. In 1903 Jackson also introduced a gasoline auto with a single cylinder engine designed by Carter but in May 1904, he left the company.

Since 1903 Carter had been perfecting his friction-drive transmission which eventually resulted in the formation of the Motorcar Company, first located in Jackson and then moved to Detroit in September 1905 for the manufacture of the Cartercar, which began the next year. A pneumonia attack ended Byron Carter's promising career on April 6, 1908. The author was not able to substantiate any link in the speculation that Carter received injuries from cranking a car, which led to his fatal pneumonia and prompted Henry Leland of Cadillac to introduce the electric self-starter. General Motors bought what had become the Cartercar Company on October 26, 1909 with Durant keen to gain title to the friction-drive transmission patents.

The research that has gone into this book is simply staggering. Besides corporate correspondence and early automotive magazines the author has scoured local

newspapers and government records such as financial reports, census and regulatory filings in an effort to explore every facet of Byron Carter's life. The level of research can be indicated by 833 citations spanning 24 pages of notes. The author shares his reasoning for any of his assumptions in a manner that reflects his legal training, which led to his training to become an attorney.

Another delight of this book is the remarkable period photography that frequently occupies a full page taking advantage of the landscape layout of the book. These photos are in their original un-retouched form so as not to lose any details. This author believes in authenticity. Dean Nelson has gained access to several photographic collections, including those preserved by Carter's descendants, and explored each image in detail.



Detailed descriptions of the photographs frequently duplicate the text but in the case of some patent drawings there is no explanation of their operation and purpose. There are no chapter numbers, likely because some headings are not supported with enough text to fill a page. This does result in some layout situations that have a fair amount of white space. But in all other respects this book is bound to a high standard with thick paper.

The lasting impressions of this book are the incredible research undertaken and the period photographs that complement a very detailed story of Byron Carter's achievement before his untimely death. This book is highly recommended for a reader who appreciates a thorough examination of an early creative automotive pioneer.

—Louis F. Fourie

*Nový
osmiválec*



TATRA 77
