

The official newsletter
of: Revs Institute
Volunteers

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*Thank You to
this month's
contributors:*

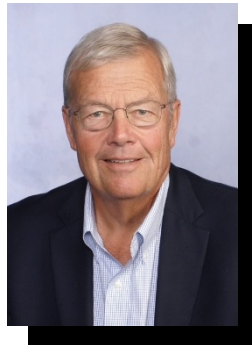
- James Lanoway
- Brian Lanoway
- Lauren Goodman
- Joe Ryan
- Chip Halverson
- Tom Dussault
- Max Trullenque

TAPPET CLATTER



Volume 29.1

Sept 2023



Chairman's Notes

By Chip Halverson

Writing this letter at the end of August is a sure sign that the summer is ending and we are beginning an exciting new season at Revs Institute.

Our collection was also well traveled this summer. One of the highlights was seeing Pedro Vela drive Le Monstre around the famous La Sarthe track during the pre-race festivities at Le Mans.

We were well represented recently at Monterey Car Weeks. In the races at Laguna Seca, which were on YouTube live streaming, I watched as Gunnar Jeanette demolished the field in the Can Am race driving the 917 PA. Incredible display given that many of the McLarens he raced against had over 200 more horsepower than the Porsche. More on the races and Concours to follow.

Lots of planning is underway by the staff and all the committees for the upcoming season. You will be hearing more on this shortly. A few days ago, Patty and I traveled behind the "cheddar curtain" to Wisconsin to meet with Bill and Karen Vincent. Bill and I worked on speakers for our member meetings. I think you will find the programs interesting and entertaining.

(Continued on page 2)

Chairman's Notes... continued

(Continued from page 1)

Thanks to all of you who staffed the stations and tours during the summer. I think I can speak for the seasonal volunteers, we are excited about returning and giving you some relief.

Lastly, Revs Institute remains the highest rated attraction in Naples according to Trip Advisor. By us holding ourselves and each other to the highest standards, we can continue that.

Thanks, from all of us,

Chip Halverson

Events Calendar

Event	Date	Info or contact
Volunteer Summer BBQ	Sept. 21 @ 11:30 am	Sign up on VicNet
Suncoast Region PCA	Oct. 6 @ 1:30 pm	Sign up on VicNet
Fred Burton Charity Rally	Oct. 7 @ 1:30 pm	Sign up on VicNet
Membership Committee Meeting	Oct. 10 @ 1:15 pm	Sign up on VicNet
Valencia Bonita Activity Club	Oct. 13 @ 10:30 am	Sign up on VicNet
Women of the 239	Oct. 20 @ 12:30 pm	Sign up on VicNet
SuperCar Saturday	Oct. 21 @ 1:30 pm	Sign up on VicNet
Cars and Coffee	Nov. 4 @ 8:00 am	Contact Whitney
Hello Florida	Nov. 8 @ 1:30 pm	Sign up on VicNet
Horseless Carriage Club	Nov. 11 @ 10:30 am	Sign up on VicNet

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

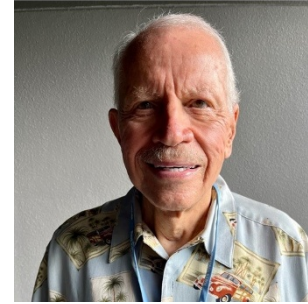
New Volunteers By Tom Dussault



Karl Ghorayeb

Joined Summer 2023

Karl Ghorayeb is the son of longtime volunteer and docent Mark Ghorayeb. He is an outstanding student at Naples High School and his interests are math, science and technology. Almost as important, Karl knows how to handle a Porsche manual gearbox. We are very happy to have Karl as a Volunteer. Larry Gleeson is Karl's mentor as he learns the collection.



Jerry Winslow

Joined Summer 2023

Gerry Winslow moved to Naples after 60 years in the automotive industry in Michigan. He has an impressive and varied résumé as a professional engineer, as well as the founder of three companies. He was involved with the first 15 mph collision survival testing. Gerry holds 15 patents and has authored over 200 technical papers. He spent 10 years as senior project engineer at General Motors working on advanced designs for a number of GM lines. He it's also involved with the VFW and Marine Corps League. Gerry's mentors are Phil Panos and Joe Ryan.



Casey Shepherd

Joined Summer 2023

Casey Shepherd is entering his junior year as a history major at FGCU. Since moving here from New Jersey, he has visited Revs Institute on a number of occasions. During a recent visit, Casey spoke to Dr. Bob Derenzo about volunteer opportunities and soon submitted his application. Casey teaches ethical fishing practices at the "Kid's Fishing Camps" on Sanibel. He raced go karts as a youngster and is an avid follower of all kinds of motorsports. Although a student, he requested to be put on a training track for station guide, and has John Wharton as his mentor.



Fernando Pedrosa

Joined Summer 2023

Fernando Pedrosa recently toured Revs Institute with the Collier County Sheriff's Office Leadership Academy. Fernando is entering his senior year at Palmetto Ridge High School where are his favorite subjects are math and science and has his sights set on to becoming mechanical engineer. He is an active volunteer in the Naples community. Fernando is fluent in Spanish as he was born in Cuba and moved to United States at the age of ten.

REVS
INSTITUTE
 **SUMMER**
BBO

SPECIAL MEDIA TEAM VIDEO PRESENTATION

BURGERS

HOT DOGS

AND MORE!

WEAR A HAWAIIAN SHIRT FOR ENTRY INTO PRIZE RAFFLE!

THURSDAY, SEPTEMBER 21

REVS INSTITUTE INSIDE LOBBY

11:30 AM - 2:00 PM

TAPPET TRIVIA

By Joe Ryan

Do you remember back to our May 2023 Tappet Trivia column? We posted this trivia question without an answer.

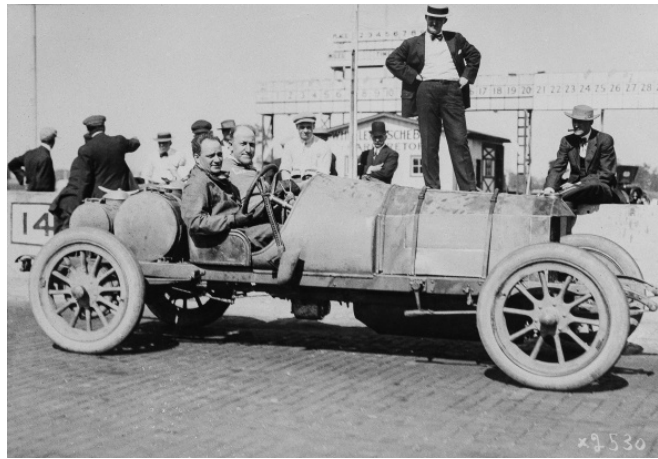
Q: Lewis Strang Won the pole starting position for the first Indianapolis 500. What kind of car, and what company manufactured the car that sat on the pole of the 1st Indianapolis 500 in May, 1911?

The answer is; The pole sitting car was an automobile built by the J. I. Case Threshing Machine Company of Racine, Wisconsin, to be driven by Lewis Strang.

Grid positions were determined by the date on the official entry forms.

J.I. Case was the first to file an entry and was granted Pole Position.

By May 1st, 1911, the final day for entry filing, a total of some 46 cars had been entered to compete.



*Lewis Strang in the 1911 J. I. Case entry #1
Courtesy of Revs Institute
Bruce R. Craig Photograph Collection*



J.I. Case entered three cars in 1911. Lewis Strang in Case number 1, Joe Jagersberger in Case number 8 and Will Jones in Case number 9. None did very well in the race as all retired with mechanical problems.

Ray Harroun won the first 500 driving a Marmon Wasp with an average speed of 74.6 mph.

The first person to send the correct answer to Joe Ryan would win a \$20 gift certificate to the Revs Institute Gift Shop. While we had several Volunteers send the correct answer, the first one was sent in by Doug Johnson (left). Congratulations to Doug and thanks for playing!

This month's trivia questions follow on the next page.

TAPPET RIVIA

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 (very) obscure or (impossibly) tricky. Test your knowledge and *have fun!*

The Revs Gallery showcases racing cars from a very early 1902 Moors to the 1988 Arrows F1 car. Sometimes we joke that the first race happened the day the second automobile was finished. The trivia questions this month come from just that topic.

1. **Question:** What car model won the first-ever automobile race in America?
2. **Question:** Who was the winning driver of the first car race in America?
3. **Question:** Where and when was the very first car race held?
4. **Question:** What automobile manufacturer built the first car across the finish line and what type of car was it?
5. **Question:** Who was the driver who drove the winning car of the first race?
6. **Question:** Who won First Prize for that event?

The answers appear later in this issue

Model T Taillight Lens Colors ***By Eric Jensen***

The 1909 Ford Model T in the Automobility Gallery has an odd detail sometimes questioned by guests. The tail light lantern.

Why does the taillight lantern contain a red, clear and blue lens?

Since the car does not have an electrical system to drive electric lights, the lamp is fueled by kerosene. The clear lens to the passenger's side illuminates the license. The rear facing red lens is the tail light. The blue lens is a marker light for safe passing.



Why blue? This fact took a bit of digging to uncover. The kerosene flame is yellow so the blue lens makes the visible light green because blue and yellow make green. The green light shows the safe side to pass the car.

Kerosene lamps were used on ships as well as railroad signals. Ships showed the red and green lights to show which side was which in low light conditions. The red being to the left and the green to the right as facing forward. Kerosene railway or ship signal lights will also have red and blue lenses to signal red or green light to an oncoming train.

The 100th 24 Hours of Le Mans

By Eric Jensen

The Revs Institute was invited to participate in the festivities surrounding the 100th anniversary of the first running of the 24 Hours of Le Mans sports car race. The race was first run in 1923. The 1950 Cadillac Le Monstre was shipped overseas to France for the event held June 10th to the 11th.

The 24 Hours of Le Mans is the oldest endurance race for sporting automobiles. It is also among the most prestigious automobile races in the world alongside the Indianapolis 500 and the Grand Prix of Monaco. The three races form the "triple crown" of auto racing.

The race was created at the initiative of three members of the Automobile Club de l'Ouest (founded in 1906), Georges Durand, Charles Faroux and Emile Coquile. Critical of the durability claims of automobile manufacturers of the day, the idea was to create a different kind of Grand Prix that tested the strength and reliability by racing for 24 hours.



Le Monstre ready for shipment

The rules of competition were created to fit the goal of the race. The cars would be presented as they would be sold to a customer. Cars must have touring bodywork (4 seats) and include mudguards, footrests, flashlights, headlights, tops, horns and also a rear-view mirror. A starter hand crank must be carried in the toolset for every car fitted with an electric starter. Each seat not occupied by a driver or riding mechanic would be required to carry 132 lbs of ballast under the seat.



Pedro Vela pre-race pacing the circuit

The colors of the cars will be those fixed by the Automobile Club de France and are: France - Blue, Italy - Red, Belgium - Yellow, England - Green, USA - White and Blue band.

The first race was held May 26 and 27, 1923 with 33 cars entered in the race, dominated by French manufacturers. The track was a 10.72 mile long circuit run substantially on public roads near the city of Le Mans France which also provided the race's name.

The winner of the race would be the car that travelled the longest distance rather than the fastest time to the end of a fixed distance race, such as the 500 miles of the Indy 500. This distinction would create several contentious wins. There would be minimum lap counts based on engine size to be classified as a finisher.

(Continued on page 8)

Photos Courtesy of Revs Institute

The 100th 24 Hours of Le Mans...continued

(Continued from page 7)

This rule would cause the first American car entry, a Chrysler Six Series B70 in 1925, to not be classified at the end of the race even though it completed 117 laps. This was two laps less than the minimum 119 laps for cars with engines greater than three liters up to five liters.

At the end of 24 hours, 30 of the 33 cars finished this first endurance contest. The winner of this French race was a French car; a Chenard-Walcker Type U3 15VC Sport completing 128 laps for a total of 1372 miles on French Michelin tires. A 3 liter Bentley finished in 4th place. The second contest in 1924 saw an English Bentley finishing first on English Dunlop tires. The first of 5 wins with 4 consecutive wins from 1927 to 1930.

The race has been run, with a few exceptions, each year since. Races were suspended in 1936 because of French trade union strikes and from 1940 to 1948 for the war. So 2023 was the 100th anniversary of this race and gathered many notable racing cars that participated in those races over the years. Cars like Briggs Cunningham's 1950 Cadillac Le Monstre shown to the right being driven by Revs Institute Curator Scott George doing celebration laps around the circuit.



This 100th anniversary running of the race saw a 58 year drought broken. After domination by Ford from 1966 to 1969 and then Porsche in 1970 and 1971, the Ferrari 499 P Hypercar was victorious for the first time since 1965.



Ferrari 250 LM similar to the 1965 winner



The 2023 winner, the Ferrari 499 P Hypercar

Monterey Historics

By Eric Jensen

The Rolex Monterey Motorsports Reunion is an annual event held at the Laguna Seca Raceway in Monterey California. This event is a showcase of historic racing cars competing against each other in a respectful manner. The “no contact” rules do not take away the competition nor the fun.

The event was established in 1974 as part of Monterey Car Week which includes the Pebble Beach Concours. The Monterey Historics Pre-Reunion event is held the weekend prior and run by the Historic Sports car Racing group, also at Laguna Seca Raceway.

This event most always includes an entry or two from the Miles Collier Collections at the Revs Institute. 2023 was no exception. At the Pre-Historics, professional race driver Gunnar Jeanette piloted the 1969 917 PA (*above*) to a second place in race 1 to Chris Springer's 1972 McLaren M8F. Race 2 saw Gunnar run to first place from starting 9th, beating Alex McCallister driving a 1971 McLaren M8F. Gunnar making great use of the PA's handling to make up for its power deficit to 800+ horsepower Chevrolet powered McLarens in the Can Am class.



The Rolex Monterey Motorsports Reunion held the next weekend saw reverse of the previous results for the 917 PA. Race 1 had Gunnar steadily pulling away from the rest of the Group 7 field to finish far ahead in first place on Friday. Saturday showed more strength from the big Chevy putting Gunnar into a close 2nd place.

The white Mini not on display (*above*) we sometimes see in the shop, was also sent to Monterey to race in the Corkscrew Hillclimb. This is an event run up the famous Laguna Seca Corkscrew turn *backwards*. First run in 2022, that first event was won by Gunnar Jeanette in the 1971 Porsche 908/3. The Mini did not fare quite as well.

Both days of the Reunion event was live-streamed on YouTube. The video links are to the right. Click on the picture to link.

Photos Courtesy of Revs Institute



Day 1, August 18



Day 2, August 19

Pedro Vela Wins the Phil Remington Award

Three cheers for our own Pedro Vela! The organizers of this year's Rolex Monterey Motorsports Reunion recognized him with the Phil Remington Award given to a mechanic who demonstrates exceptional skill. The Reunion committee was particularly impressed when Pedro changed all 24 spark plugs in the 1969 Porsche 917 PA in under two hours - a task that takes most technicians double that time! Pedro went above and beyond at Monterey (*right*).

This award is named for Phil Remington, an amazing talent and person. Phil was Lance Reventlow's Chief Engineer building Scarab race cars and Carroll Shelby's Chief Engineer in his California shop. Phil also worked for both Holman and Moody and Dan Gurney's All American Racers. The *Ford vs Ferrari* movie provides a good background of that portion of his career.

From our Curator, Scott George;



"The award was a big surprise to Pedro but we were all there with him including Mr. Collier and it was a special moment when he was called up. I told him he had to be there by 5:30 and he thought he was being interviewed. This came from the team at Laguna Seca, and not us."

You might remember that Dave Klym from our team won this award at the 2018 Reunion (left). Maintaining, preserving, and bringing these historic cars to events is a massive team effort, and we are so gratified to see our team members receive recognition."

Also from Scott George;

"For those who do not follow our social media there is some great messages, stories, video, and images they are missing out on. Although, at some point soon, these posts will also be easier to find using only our website."

Revs Institute can be located on Facebook [here](#)

Revs Institute can be located on Instagram [here](#)

Photos Courtesy of Revs Institute

From all the Volunteers, Congratulations Pedro! Well deserved!



Pebble Beach 2023

By Eric Jensen

The Pebble Beach Concours d'Elegance is an annual automotive event held since 1950 on the Pebble Beach Golf Links in Pebble Beach, California. It is the most prestigious car show in the world. It is no surprise that the Revs Institute would be well represented with one or two automobiles from the Miles Collier Collections. This year in attendance were the 1929 Mercedes-Benz SSK Sport Model and the 1937 Delahaye Type 135MS Special Roadster (shown right and below being loaded for travel to California).

The Concours is the final event of Monterey Car Week that includes track events at Laguna Seca Raceway. This year it was held August 19th. It is a prestigious invitation only event whose proceeds raised over \$35 million for charity over its 72 year history.



The participants are limited to around 200 cars. To display a car at Pebble Beach is an honor but that car can only be displayed once every 10 years! Cars can be pre or post war cars, restored or preserved. Since each show has themes for the invited cars, planning for future years can be quite involved since many cars may be eligible for a number of classes. Various classes vie for best-in-class individual awards but the desire for many a collector is Best in Show.

Described as a "tie-breaker" event, there is also a tour named the Pebble Beach Tour d'Elegance on Thursday of the week. The tour runs from Pebble Beach to Big Sur and back. The Tour gives spectators a chance to see these historic cars perform as they were designed in a parade of moving art. This year both the Mercedes-Benz SSK and the Delahaye 135MS participated. There is a linked video to the start of the tour later in this article. Scott George, our Curator, said the SSK took an additional 3-day tour after the Concours from Pebble Beach up through Sonoma, Napa Valley and surrounding areas and "performed great."

Photos Courtesy of Revs Institute

(Continued on page 12)

Pebble Beach 2023...continued

(Continued from page 11)

The show results are below;

Mercedes-Benz SS and SSK Class

The Miles Collier Collections 1929 Mercedes-Benz 710 SSK Sport Model took 2nd place in Class I2. A 1928 Mercedes-Benz 710 SSK Sport Two Seater took 3rd place. A 1930 Mercedes-Benz 710 SS Special Roadster SS took best in class.

E1 Figoni Centennial 1923-1937 Class

The Miles Collier Collections 1937 Delahaye 135 MS Figoni et Falaschi Special Roadster placed 3rd. A 1933 Alfa Romeo 6C 1750 Grand Sport Figoni Coupe placed 2nd and a 1937 Talbot-Lago T150 C-SS Figoni et Falaschi Teardrop Coupe won best in class.

The Best in Show is chosen from the winners of their respective classes. There was reportedly little consensus as to which car would win.

After many delays, Best In Show went to a stunning 1937 Mercedes-Benz 540K Special Roadster once owned by the Shah of Afghanistan now owned by Jim Patterson of Kentucky. It was the third time Jim Patterson took Best in Show and the tenth win for a Mercedes-Benz (above).



Video of the Pebble Beach Tour d'Elegance. The SSK and Delahaye appear starting at 16:37



Video of the Pebble Beach Concours d'Elegance. Awards. The Delahaye and the SSK appear starting at 1:15:00

Photos from the Pebble Beach Tour 2023



Photos Courtesy of Revs Institute

1961 Alfa Romeo Giulietta SZ

By Brian Lanoway

There is a new car in the Milles Collier Collections displayed in the Revs Institute. You may have seen it floating around the workshop before the summer closure. It now resides in the Vitesse Gallery within the group of Grand Touring cars. The announcement and a description follows (*ed*).



We're pleased to give our Volunteers a preview of the newest addition to the Vitesse gallery, a 1961 Alfa Romeo Giulietta SZ (Sprint Zagato). This donation, a gift of Barron G. Collier II, sits between the Giulietta Sprint Veloce and the Ferrari Superamerica. [The Ferrari has been moved closer to the gallery entrance, positioned much as the Lamborghini once was.] The side-by-side placement of the two Giuliettas further highlights the incredible Zagato body.

Below is the text that will appear on the label (we are forever grateful to Brian Lanoway for his superb research and writing!) and a mockup of the wall mural. As a bonus, included are some fantastic images with interesting history, please enjoy! - Lauren Goodman

If not for a serious accident, it is unlikely that the SZ would exist, let alone conquer small displacement GT racing in the early 1960s.

After crashing their Giulietta Sprint Veloce in the 1956 Mille Miglia, the Leto Di Priolo



brothers asked Zagato to create a new, ultra-light body for their ruined car. The resulting Zagato body weighed 320 pounds less and was so competitive, it drew racing customers away from Alfa Romeo. Alfa eventually commissioned Zagato to create a production version, the even more radical Alfa Romeo Giulietta SZ, or *Sprint Zagato*.

Designed by Ercole Spada, the SZ body was cloaked with hand-formed aluminum panels attached to a web of thin steel rods. Essentially a low production volume race car, each example took over 300 hours to build.

*Photos Courtesy of Revs Institute
And the Eric della Faille Collection*

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1961 Alfa Romeo Giulietta SZ...continued

(Continued from page 14)

It is likely no two are exactly alike. When tuned by specialists such as Virgilio Conrero, its 1290 cc Alfa engine could produce an astonishing 127 hp at 7400 rpm, enough to propel the Alfa SZ to an easy 125 mph.

Unveiled at the 1960 Geneva Motor Show and available for purchase from any Alfa Romeo agent, the SZ was first offered with the Coda Tonda, or round tail, body. Weight was eliminated everywhere: no bumpers, plastic side windows, and a spartan interior. With fast Veloce running gear, the combination proved unbeatable. A version with a Kamm back, the Coda Tronca, was also raced extensively. The SZ dominated every race and hill-climb it entered, winning the International GT Championship for the 1.3-liter class in 1962 and 1963. The display car was restored in 2006 and, though it does not have a race history, it is a fine example of a bold Zagato design that heralded the Alfa Romeo TZ.

Serial No. 10126-00069

Four-cylinder in-line engine
double overhead camshafts
1290 cc, 127 bhp at 7400 rpm
(Conrero & C. Torino)

Wheelbase: 88.5 inches

Weight: 1880 pounds



First Racing Cars with an Inverted Wing

By James Lanoway

*Oh! I have slipped the surly bonds of earth
And danced the skies on laughter-silvered wings....
....And, while with silent lifting mind I've trod
The high unsurpassed sanctity of space,
Put out my hand and touched the face of God.*

John Gillespie Magee

Imagine instead of flying “high in the sunlit silence” that you are flying so low to the ground that you can almost touch Mother Earth, and that your increasing speed safely keeps you in the warm embrace of her arms, no matter whether your course is straight or curved. An inverted wing on a racing car is a wonderful thing, blessing it with greater velocity and competitive edge but with much-improved security and safety. In a previous article in *Tappet Clatter* (How Aerodynamics came to Formula One, May 2020) this author wrote about the appearance of spoilers and inverted wings on Formula One cars and raised the question of which competition car of any type first raced at an event with an inverted wing generating downforce. Further research has revealed several candidates, with the results being somewhat unexpected. None of the candidates are well known worldwide and the apparent earliest was over a decade before Chris Amon’s winged Ferrari 312 appeared at Spa in 1968.

Six years before that ground-breaking Formula One event at Spa, an Indy roadster appeared at the Indianapolis 500 qualifying with a large inverted wing mounted over the engine in front of the cockpit. The car was a Watson-Offy roadster (*right*), the same Ken-Paul Special that won the 1960 event, and was entered by Smokey Yunick. The



sponsor was by Simoniz Vista car-wax, owned by Smokey’s friend Kenny Rich, and the driver was former 1960 Indy winner Jim Rathmann.

Smokey, with his trademark cowboy hat and pipe, was well known in NASCAR and Indy car circles, starting as a mechanic and engine builder, then moving up to crew chief before becoming a team owner. He was famous for creative solutions for any sort of advantage over his competitors that would put him into the winner’s circle. Sometimes his solutions may have not been strictly against the written regulations, but they certainly were against the spirit of the rules.

(Continued on page 17)

First Racing Cars with a Wing...continued

(Continued from page 16)

Rumours abounded about basketball bladders in fuel tanks (inflated during tech inspection, deflated during pre-race fill-up), multi-gallon fuel hoses between the carb and fuel tank, acid-dipped bodies, thinned glass, narrowed drip-rails, raised floors, raked front ends, and entire bodies shifted rearward on the wheelbase. Smokey was always looking for that extra competitive edge in any race so a wing on a car was right up his alley.

The wing was mounted to the chassis with tubular struts and appeared to have been fabricated to high standards. Notable were large clear acrylic endplates, wing-sides drilled for lightness, a high chord ratio and large camber. It was a combined effort by Bruce Crower, a member of Smokey's winning Indy 1960 crew and owner of Crower Cams, and apparently by someone from Convair Aircraft in San Diego. The wing certainly worked, increasing cornering speeds from 120 to an eyebrow-raising 146 mph but it had far too much drag and crippled the car with similar straightway speed.

Fearing engine failure from the drag, the wing was removed from the car even though it probably could have qualified at the back of the field. Rathmann went on to qualify the wingless car in 23rd and in the race, he finished a distant ninth. Smokey reportedly was not impressed with Rathmann's lack of enthusiasm for testing the wing and with his performance during the event. Smokey gave up on winged Indy cars but Crower went on to build a wing for Don Garlits' top-fuel dragster; Swamp Rat V (*below*).

That wing had less width, very little camber, a mounting that allowed its angle of attack to be adjusted, and with it they won the 1963 NHRA Winternationals. Many people today say that Yunick's winged Indy roadster was a failure because it was running a wing more suitable to sprint car racing, where the tracks have only 2



corners and short straights. Was Yunick's and Crower's winged Indy car inspired by watching a winged sprint car somewhere in the past? Or, did they witness another winged car running elsewhere recently?

One possibility was the then-current holder of the world closed-course lap record of 181.561 mph, set at Daytona International Speedway in 1961 by another winged car.

(Continued on page 18)

First Racing Cars with a Wing...continued

(Continued from page 17)

This car was also an Indy roadster, ultimately called the Mad Dog IV (*right*), but it had *two* wings and a vertical stabilizer fin as well. It was the winner of a \$10,000 prize (about \$200,000 today) offered by Speedway owner Bill France to achieve the world's closed-course lap record and to break 180 mph as well, at his facility. The previous record of 177.045 mph was set by Tony Bettenhausen in a Kurtis-Novis at Monza's oval circuit during the *Race of Two Worlds* in 1957.



France decided to offer the prize due to two fatalities involving the USAC 100 race for Indy cars at his Speedway in early 1959. France was looking for some way to counter all the bad publicity about his new speedway so he decided to offer a prize for the first to lap at 180 mph.

This challenge was taken up by many, but was finally achieved by the unlikely and the improbable; car owner Bob Osiecki and drag racer Art Malone. Osiecki was a speed shop and drag strip owner who had dabbled in the 1956 Grand National stock car series as an owner. Art Malone started as a dirt track driver, then moved into top fuel drag racing, driving Swamp Rat I for his childhood friend Don Garlits.

Osiecki's record attempt car was a 1958 Kurtis Kraft Indy roadster. Osiecki bought the car and did what his drag strip-owning background told him; he shoehorned in a 460 Chrysler Hemi with 15:1 pistons and a fuel-injected Isky supercharger running on alcohol. With the high sustained speeds involved and no shortage of power, Osiecki had to scramble to find tires from the Race Of Two Worlds events of 1957 and 58.

Osiecki's first driver of this beast was NASCAR driver Brian Naylor who only got the car up to 157 mph. Next up, veteran NASCAR driver Larry Frank got up to 166 mph before spinning out into a long slide. He told Osiecki that the car was inherently unstable and then left in a huff after finding out the spin was caused by seized torsion-bar bushings.

To counter this instability, Osiecki decided to install a vertical stabilizer on the car's tail and then he did something unexpected; he shipped the car to Georgia Tech and had the engineering students there test a scale model of the car in the wind tunnel. The students installed on the model two inverted wings (with medium chord ratio and minimal camber) on either side between the cockpit and engine and studied their optimal angle of attack.

(Continued on page 19)

First Racing Cars with a Wing...continued

(Continued from page 18)

Osiecki built full-size versions of the wings and installed them on the car, which he now called Mad Dog IV.

Osiecki could hardly wait to return to the track with his strange machine but the first results were disappointing: NASCAR great Elzie "Buck" Baker could only get it up to 160 mph before quitting. Frustrated but undaunted, Osiecki returned to his drag racing roots again and approached the fearless Art Malone.

Malone agreed to give it a go and on fresh tires on Aug 5th, 1961, he got up to 177.479 mph, which finally beat Bettenhausen's world closed-course record. However, that \$10,000 prize still beckoned, lying unclaimed. On the next day, the transmission seized during a run and Malone slid 600 feet in the same area as Frank, fortunately without hitting anything. After regrouping, Malone got back on it August 21st and finally, on the 28th he hit pay dirt with a lap of 181.561 mph in front of only 350 paying spectators. Bill France happily paid out the \$10,000 to Osiecki (Malone got \$2500) and was elated that he now could boast that his Daytona Speedway was the fastest race track in the world.

If Smokey Yunick possibly caught the wing madness from Mad Dog IV, where did the engineering students at Georgia Tech get theirs from? Maybe, with no evidence to say so, one of the students was a small track fan from Ohio. In that case, he would have seen Jim Cushman racing with a wing on top of his super-modified car # 910.

A super-modified car is a cross between a hot-rod and a small-track sprint car; instead of a streamlined race car body, it often had some partial body panels from old cars along with owner fabricated sheet metal. Combined with a V8 engine, its lap time was higher than the sprint cars but less than "Stock" cars at the same track.

Cushman of Lansing, Michigan showed up in 1958 at the paved 1/3 mile Columbus Motor Speedway with a large wing mounted to the roll cage and with two large vertical stabilizers on the rear body of his super-modified *(left)*. The wing had a high chord ratio but only modest camber and large end-plates bore the car's name ("Aero Dynamic" Special) on one side and a sponsor's name (Indianola Pure Oil) on the other. The wing was fabricated by Gene Miller who said that the idea for the wing came from his brother Floyd, both being gearheads.



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First Racing Cars with a Wing...continued

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Unfortunately, the source of Floyd's "aero dynamic" inspiration apparently has been lost to time. Cushman was known as Gentleman Jim due to his affable nature and always-present smile. His car was typical of super-modifieds of the era, with a hefty roll cage, side nerf bars to prevent wheel over-rides, taller rear wheels than fronts, shaved tires, a Corvette 265 V8 with dual Carter WCFB 4-barrel carbs. Cushman raced multiple times with the wing and tail fins until vertical stabilizers were banned by the Ohio Stock Car Promotors Association on July 1, 1959. Not to be deterred, Cushman removed the vertical fins and still posted wins, proving his winning ways were not affected. Soon other competitors noticed Cushman's success and by the middle of 1959 half the field had sprouted wings. The wings themselves were never banned by the organizers and they went on to become a staple of small track racing throughout the Midwest from that time forward.

Previous to this, in May 1956, on the other side of the Atlantic, scrutineers at the Nürburgring 1000 km had stood dumfounded around a Porsche 550 RS Spyder (*below*) entered by two Swiss privateers, not sure of what to make of the sight before their eyes. There was nothing unusual about the car itself, in fact it was not even the new 550A model with its new lighter space frame and rear suspension (see Revs Institute's 550A). What was causing their consternation was a large wing over the cockpit mounted on two struts near the car's center of gravity.

They may not have noticed that the wing was "upside down" and they certainly did not notice its high chord ratio and very low camber. The wing's two vertical struts were directly mounted and braced to the frame in the cockpit. Hinges towards the front



Wouter Mellisen Photo

of the wing allowed it to tilt upon the struts to ease cockpit access. The scrutineers would have noticed a lever in the cockpit attached to a cable that adjusted the wing's angle of attack, but it is doubtful that they would have understood that the angle was decreased on the straights to reduce drag and increased in the corners to increase downforce. It is also probable that they noticed the wing's endplates but most likely they did not understand their purpose of increasing the wing's efficiency.

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First Racing Cars with a Wing...continued

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The driver of the car was German-born Swiss Michael May and the car was co-owned by his cousin Peter (Pierre). At an early age, Michael had shown a passion for engineering. He enrolled in engineering at the Swiss Federal Institute of Technology and at the age of 21 convinced his cousin Peter to co-purchase the Porsche 550 RS, chassis # 550-0031. Michael had started out in motorcycle racing but decided to move into four-wheel racing with the concoction growing in his mind about how to gain a competitive edge. Michael and Peter decided to enter the Nürburgring 1000 km race with their 550 RS, but with the concept of an inverted wing for increased cornering speed. Once the wing was fabricated and installed along with a licence plate, the two of them drove the car on public roads to the Nürburgring race.

The scrutineers decided to allow May to proceed with running the car with the wing in practice. The organizers had decided beforehand to line the cars up at the start according to practice time, so it was important for everyone to set some good times. There were three practice sessions and throughout the second one, it rained continually. This is where May's winged Spyder excelled and soon he was out-pacing the two new Porsche works 550As.

This caught the attention of Porsche team boss Huschke Von Hanstein, who lodged a protest with the organizers, saying that the wing was unsafe and a danger to other drivers and spectators if it ever separated from May's car. The organizers, not wishing to offend their most important compatriot entrant, agreed and promptly banned the wing on May's car. Wingless, he could not qualify even in the top 25 and his race was also dismal. He retired with transmission problems and finished an official 41st.

Michael and Peter undaunted then entered the car with the wing re-installed at the Supercortemaggiore 1000km at Monza in June 1956 but faced a similar outcome; the wing did not pass scrutineering and they were told to remove it for the race. Now very discouraged, Michael May returned home and never entered the winged car in another event.

Many people have theorized that Michael May got the wing idea from the 1928 Opel RAK-2 rocket-powered car mentioned in this author's previous article. Another more likely inspiration was a land speed record car that never ran in anger: the Mercedes T-80 a 6-wheeled streamliner powered by a 3000 hp 44.5 litre Daimler-Benz inverted V12 based on the Messerschmitt fighter engine. This car was designed by Ferdinand Porsche and featured two stubby inverted wings on its sides that were tested in the Zeppelin wind tunnel. It was to be driven by Hans Stuck on the autobahn in late 1939 or early 1940 to claim the land speed record for Germany.

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First Racing Cars with a Wing...continued

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The outbreak of war on September 1, 1939, stopped their plans. Placed in storage in Aug 1940, its engine was returned to the Luftwaffe and the car hid out during the war in Kärnten, Austria. Discovered by the Allied Forces in 1945, it was eventually returned to Mercedes-Benz where it now resides in their museum *(right)*.



Michael himself though went on to achieve a very prominent career in the automotive world as an engineer and his racing career also was of some note. He managed to clinch the 1959

European Formula Junior championship while finishing his engineering degree the same year and then raced in two Formula One Grand Prix for the German-based Team Colonia in 1961. He worked at Mercedes in their fuel injection department, helping to improve that of the 300SL. Then he worked at Porsche where he improved the output of their Kugelfischer fuel-injected Fuhrmann engines by 10 to 20 HP before moving to Ferrari in 1963-64 to help improve their Bosch direct fuel injection. He formed Turbo May GmbH in 1969 and assisted BMW and Opel to develop their turbocharged engines. May is famous for extending the production lifespan of Jaguar's V12 engine by developing its 1980s Fireball HE head with high swirl and much-improved fuel economy, saving it from premature extinction.

Although Michael May appears to have been the first driver to enter a race car with an inverted wing at a close-circuit race, it must be pointed out that he only practised with the wing, and actually he was never allowed to race with it. So, this disqualifies him from being the first known driver to *race* with an inverted wing generating downforce.

Consequently, the laurels should be passed to the first driver to do so successfully and to win with it as well, that man with the infectious smile known as Gentleman Jim Cushman. Moreover, May's effort was soon forgotten and only remembered decades later, while Cushman's effort was the start of an enduring trend in his type of auto racing. Time will only tell if another earlier candidate for the title of first to race with an inverted wing will emerge untangled from the cobwebs of the past.

TAPPET TECH

Racing Tires, Slicks to Treads to Slicks

By Eric Jensen

As we walk through the Revs Gallery viewing the march of history, one very obvious evolution is tire technology. All cars have tires. All tires need to be replaced periodically because of wear or damage.

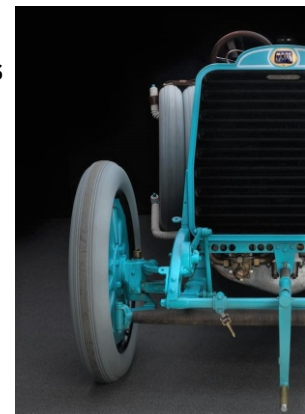
While street cars require durable tires with long life and good performance over a wide variety of conditions, racing cars only want performance in specific conditions. While a good street car may see a 30,000 to 50,000 mile tire life, a racing tire's life is measured in minutes! While a street tire must perform in the dry or rain and maybe even snow, there are racing tires that ONLY operate in the dry and others that ONLY operate in the rain. Which brings us to "slicks", the racing tires with no tread.

This research was started to answer the simple question; Why did some race cars have tread on the tires and some did not? It is a common question of visitors to the Revs Gallery as they progress from the treadless tires on the 1908 Mors (*right*) to the slick tires on the Miller board track racer to the treaded tires on the 1927 Delage (*below*).

Turns out the answer is not so simple.



At first glance, tread may be seen as what allows a tire to "grip" the road. That would be incorrect. The tire grips because the rubber touching the rough asphalt or concrete surface conforms to the roughness. The rubber "keys" into the surface. An example would be when a car "lays rubber" by spinning the tires. The black stripes are formed by shearing the rubber off that conformed to the surface.



If we bring rain (or dirt, or gravel, or snow) into the picture, we need some way to channel water away from the tire surface so the tire can conform to the road. Tread channels that water away so the tire does not "float" on the water - so called "hydroplaning". Tread gives grip on loose or wet surfaces essential to a safe street tire.

Another element of traction is adhesion. When the tire gets a little warm the tread becomes a bit "sticky." That stickiness aids traction.

This isn't normally noticed by most drivers because most street tires don't exhibit much of this.

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TAPPET TECH

Slicks to Treads to Slicks *...continued*

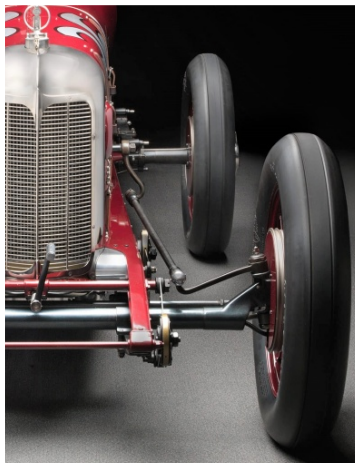
(Continued from page 23)

Race tires, however, are made from much softer rubber. When they come off the racetrack after a session, that heated, soft tread surface will pick up all manner of worn away rubber debris, grass, cigarette butts, and gravel (*right*).

So with that primer on what creates tire's traction, it would seem logical to think that on a given width tire, fewer grooves equals more rubber on the road. More rubber on the road equals more traction. Additionally, softer rubber on the road equals even better traction. That not-so-simple truth eluded some of the best tire engineers in the business for more than two decades.



The first slicks for racing were developed for drag racing by M&H tires in the early 1950s. The rear tires on drag cars were outfitted with slicks covered in very soft rubber for the best traction. Since the cars did not need to turn corners nor drive in the rain, the tires did not have to have tread, durable rubber or much sidewall stiffness. This was a big advantage. The soft rubber wore away very quickly but that is a trade-off racers are willing to accept.



Strangely enough, Firestone's Indy 500 tires from the first race in 1911 used tires that were essentially slicks with only with a couple of grooves as seen on the Miller board track racer (*left*). This carried up into the early 1940s. Treaded tires began to appear on Indy 500 entries after WWII. Firestone created slicks at first, then added tread at the same time drag racers were going to slick tires. How did major road race tire manufacturers come to return to slicks?

One story comes from an interview with Mario Andretti. Author Paul Haney in his book, *The Racing and High Performance Tire*, interviewed Andretti about his work with Firestone testing USAC racing tires. At a tire test at the Indianapolis Motor Speedway in December of 1964, the test tires were all molded as slicks. The tire engineers would hand cut the tread pattern into the tire for testing. This allowed them to groove the next set based on what they learned in the previous set.

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TAPPET TECH

Slicks to Treads to Slicks *...continued*

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There was on set of a particular construction they wanted to test but did not have time to groove them as it was late in the day. So Mario ran the slick tires and set a brand new track record. The engineers thought the grooves in the surface were important to the performance of the tire. The engineers said "Wait until we groove them!" Subsequent tests proved that slicks were better than the grooved tires!

The entry of Firestone and Goodyear into Formula 1 during the mid 1960s kick-started the European manufacturers to test slick tires. Early testing of slick tires in the mid 60's at Dunlop used their soft rain tire design without grooves. Testing showed the tire's braking and traction performance was strong, but cornering grip lacked the necessary progression. Sudden breakaway made the tire too difficult to drive at the limit. Only by adding small surface void features, could the tire's breakaway be acceptable.

Dunlop left F1 at the end of 1969 leaving the first slick-tired F1 car to be equipped with Firestone tires at the Spanish Grand Prix in 1971. Firestone posted a second place with driver Jackie Ickx in a Ferrari following a semi-slick Goodyear on Jackie Stewart's Tyrrell-Ford.

Treaded tires are still used in racing because slicks don't work in the rain. Additionally oval tracks won't race in the rain - too dangerous. Road racers run rain or shine so when rain arrives, super-soft treaded tires are fitted to



IndyCars, sports cars and Formula 1 cars *(right)*.



The soft tread won't survive very long if the rain stops because the very soft rubber overheats. This adds the drama of pit-stops to switch back to slicks at the exact right time hoping the rain won't come back.

We can see the progression from the treadless tires on the Mors to the treaded tires raced on the Delage. We can also see the progression from the narrow tires 1959 Cooper T51 *(left)* and 1967 Gurney Eagle fitted with wide treaded tires to the full racing slicks on the 1975 Indy 500 winning Eagle and 1988 Arrows.

Peter Harholdt Photos, Delage Photo from the Bruce R Craig Collection ,Courtesy of Revs Institute

TAPPET RIVIA

By Joe Ryan

And Now The Answers.....

- Q:** What car model won the first-ever automobile race in America?
Answer: The Duryea! Thursday, November 28, 1895. The race was the Chicago Times Herald race in Chicago. The Duryea also won the Cosmopolitan Road Race in New York City as well as the inaugural London to Brighton Emancipation Run in 1896.
- Q:** Who was the winning driver of the first car race in America?
Answer: Frank Duryea, the co-founder of Duryea Motor Wagon Company along with his brother, Charles.
- Q:** Where and when was the very first car race held?
Answer: A 78-mile course from Paris-Rouen France, on July 22nd, 1894. The race was the creation of Pierre Giffard, editor of *Le Petit Journal*.
- Q:** What automobile manufacturer built the first car across the finish line and what type of car was it? **Answer:** The car was a steam powered De Dion-Bouton. While the first finisher is usually the winner, the car was disqualified for needing both a driver and a stoker (to feed the boiler fire).
- Q:** Who was the driver who drove the winning car of the first race?
Answer: Albert Lemaître driving a 3 horsepower Peugeot with an average speed of 11 mph.
- Q:** Who won First Prize for that event? **Answer:** The First Prize of 5000 Francs was shared between Panhard et Levassor and Peugeot for "*the competitor whose car comes closest to ideal.*" Second Prize went to the De Dion-Bouton. Confusing? Yes! But so was the scoring for the entirety of the event!

Contributions to the column are always welcome.

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		Velocipede Bicycle

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