

THE OFFICIAL PUBLICATION of THE BRITISH MOTOR CLUB of SOUTHERN NEW JERSEY

September / October 2019 VOL. 29 ISSUE 05

















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"Offside/Nearside" is the bi-monthly newsletter of the British Motor Club of Southern New Jersey (BMC), which was founded in 1992 to encourage the ownership, operation and preservation of British cars.

Membership is open to all owners of automobiles manufactured in Great Britain prior to 1996 and all owners of motorcycles manufactured in Great Britain prior to 1979.

The dues of \$15.00 per year, includes a subscription to "Offside/Nearside". BMC is affiliated with the following organizations: MG Owners Club (MGOC); North American MGB Register (NAMGBR); North American MGA Register (NAMGAR); Vintage Triumph Register (VTR); Triumph Register of America (TRA).

BMC Meetings

BMC Meetings are generally held on the third Wednesday of each month in alternating locations to best reach our membership base:

Odd numbered months (January, March, May, July, September):

Seven Stars Diner 1890 Hurffville Rd, Sewell, NJ 08080

Even numbered months (February, April, June, August, October) Uno Pizzeria & Grill, 2803 NJ 73, Maple Shade NJ 08052

Meetings are not planned for November or December due to holiday scheduling conflicts. Meetings typically begin at 7pm, with food service beginning at 6pm. Dates and times are subject to change, which will be communicated by email to club members.

NEWSLETTER CONTRIBUTIONS

OFF SIDE / NEAR SIDE is YOUR Newsletter.

The Editors are always looking for new material.

No material / No Newsletter. Simple as that. Please submit British car related copy and especially personal experiences in your LBC for us to use in one of our six annual Newsletters.

Project articles with pictures are really good.

PLEASE SEND NEWSLETTER CONTRIBUTIONS TO THE EDITOR:

Joe Marchione: editor@bmcsnj.org

Note: If you are emailing please leave a message on 609-272-9743 phone number so I'm sure to get it.

Thanks—Joe Marchione

PLEASE SEND FOR SALE, WANTED or FREE REQUESTS TO:

Ed Gaubert: mggarage@comcast.net

Although we hope that these things are common sense, BMCSNJ has adopted the following policies and practices with respect to club sponsored events.

Membership meetings are sometimes held in restaurants that serve alcoholic beverages. We expect that members who choose to consume alcohol at these meetings will do so responsibly.

BMCSNJ supports safe and responsible enjoyment of British automobiles and motorcycles. All events sponsored by BMCSNJ are alcohol and drug free. Consumption or distribution of alcohol or controlled substances is expressly prohibited. All driving events are conducted in accordance with motor vehicle laws at all times.

This does not really represent a change to our prior policy or practice, it just documents it. If you have not been to one of our events before, come out and join us. You will be glad that you did.

>>>> DISCLAIMER!!! <<<<<

Readers are warned that any attempt at mechanical or other modifications described herein is at their own risk. Good car mechanics results in pleasure; poor car mechanics results in, at best, a personal rebuild. The opinions expressed in the articles of this newsletter are not necessarily those of BMC, the editors or advertisers. The editors take responsibility for any editorial mistakes or errors.

Labor Day is here and that means that summer is over, but the best car driving time of the year has arrived! Nothing compares to a nice crisp and clear fall day for driving with the top down or windows open, kicking up leaves in your rear view mirror. But life is a balance and Sir Fig Newton said that, "For each action, there is an equal and opposite reaction." The reaction is in the form of a swarm of giant black and yellow beasts that invade the roadways with the purpose of slowing us all to a crawl, testing the limits of an old car's cooling system and yes, delivering our kids safely to school. The school bus is about as revered in the car collector hobby as the pothole. Mom, please don't talk to the bus driver, it just holds everyone up and, trust me, the bus driver knows how to get to the school and your kid won't get special treatment. So, be prepared if you decide to take your "old" car to work on a beautiful September or October morning.

On the same subject, I must say that in a world where people seem to care less and less about one another, I must commend one youngster that I saw on my way to work in the Spring, who each morning was standing ready with his backpack on and lunchbox in hand with Mom on the front porch. When the bus stops he bolted to door and jumped aboard. No special instructions and nice wave out the side window. I wish they would all do that and hope he is still on the route this year to inspire others! Kudos to Mom and Dad!

I hope that everyone has enjoyed the club events over the summer. Meeting attendance has remained in OK range despite the incredible coincidence of hurricane like thunderstorms. We've taken on water at the last two meetings at UNO as we awaited an evacuation order that never came.

For those of you who attended any of this year's meetings, you know that we have ended the last five meetings with a trivia contest in some form or another. Out of five contests, three have been won by Jim Tornetta, one had no winner as the puzzle wasn't solved and one by Charlie Hoffman! We need some help at the next meeting to knock Jim off his trivial throne.

We have set up some more guest speakers on topics that would interest the group. Our next meeting (Sep 18 in Sewell) will include a Q&A about modern paints by Azko Nobel. October will showcase Condon & Skelley Collector and Heacock Insurance. Bring your questions, get your answers from a person and not a gecko, emu or Flo!

Our website is working fine and stay tuned for more content as we continue to add features. The Facebook page is open to all current members (and spouses) and is helping to share information and offer help to each other as expected.

The British Car Owners Ice Cream Social was a great success despite scorching temperatures. I was impressed by the quantity and quality of the cars that made the trip on that hot night. It is easy to see who has confidence in their cars. Thanks again to Rob Walsh for putting this event on for the 25th Year! The August 10th Tour of South Jersey saw a perfect day with over 30 cars making the trip! Great job on the Route and event by Tracy Westergard. Our Yearly Club Show in connection with the Artisans Faire in Greenwich is set for September 28.

Our Yearly Club Show in connection with the Artisans Faire in Greenwich is set for September 28. There will also be a Fall Foliage Tour on Saturday October 19!

I am still looking for volunteers to do a Pop Cruise. Like I said before, all you have to do is pick the place and show up and eat ice cream. I think we can all handle that. Let me know if you can volunteer! Now is the time for suggestions for next year. If you have an idea, please let me know!

We have some great weekend weather coming up, so get that car out and go for a ride!



Treasurer/Registrar's Report September / October 2019

Money Is No Object

by Steve Ferrante

So when the markets get nervous, investors run from stocks and invest in gold because gold is still a universal currency needed and revered the world over. But, gold is not nearly as fun as a collector car. So, if you think that you need to pull out of stocks, you should buy an old car. If you twist the numbers, you can make anything a good "deal", but unless you bought an AC Cobra or an E-Type Jag in the late 70's for the price of a good refrigerator now, then chances are, your "investment" doesn't look so good on paper. Compared to gold, we all lose. A new Etype in 1960 was around \$6,000. At \$35/oz., you could have bought 171 ounces of gold. The Jag may be worth \$100,000 today but the gold would be worth a quarter of a million. Then again, who said anything about paper? Some investments should be made for your wellbeing, happiness or just for fun. It's worth just as much, if not more. Cheers!

Our current paid membership count stands at 162 and our treasury continues to stand on solid ground thanks to prudent use of funds and a great volunteer effort.

If you want to use PayPal for dues payments please use the **members@bmcsni.org** email address. Dues for anyone joining in 2019 will remain at \$15/year and, of course, they can still be paid by check mailed to my home address at:

Steve Ferrante - Treasurer BMC of SNJ 90 Strawberry Drive Shamong, NJ 08088



The Workshop

By Whitworth Goodspanner, MBE

Seat Belt Solution:

I found a much needed set of seatbelts on a parts car recently. But these "used to be" black belts had turned yellow-green from sun exposure. Although there are professional seatbelt restorers, mine were merely faded so I decided to try a home remedy. I bought a package of black RIT dye for about \$1.50 and boiled the belts on the stove. My wife wasn't too pleased when I turned her new wooden spoon black (!) but the belts came out like new. The process even cleaned the chrome pieces. If your belts are a basic color, you can spruce them up for pennies.

Foiled:

Use heavy duty aluminum foil to mask parts when you're doing some under-the-hood painting and yet disassembly is not part of the detailing project. Just squeeze it tightly over the parts you want to protect—it's great for hoses, wiring harnesses and any number of hard to cover components. The foil doesn't need tape; it stays where you put it; and it doesn't spread dust or particles like newspaper can. Use caution though; aluminum conducts electricity, so disconnect the battery before working with foil.

Aluminum Backstop:

When you use your MIG welder to plug or patch holes in a piece of sheet metal, try holding a piece of aluminum behind the hole. This supports the molten puddle, making welding clean and easy. And since aluminum is nonferrous, it won't fuse to the ferrous metal panels you're repairing. Use aluminum of 1/2 to 3/4 inch thickness because this will act as a heat sink, helping control warpage and distortion.

Remove your head:
To loosen a stubborn cylinder head, try this simple trick. Remove all cylinder head bolts while leaving the spark plugs in place. Then engage the starter a few times, but just tap it, don't' turn it. The compression of the motor should easily break the gasket seal.

The Editor Writes

Joe Marchione

SPARES

As most members of an antique British car club, I have an old car. A 60 year old car, and as expected parts can be an issue.

- A. It is an unusual car. More of an issue.
- B. There ain't a whole lot still around. Even more of an issue.
- C. It's a <u>British</u> car. Ah, now you say well that's not an issue. There's a strong network of suppliers, even for specific marques and...well...there's Moss?

(Thank you Moss – with the slight problem of British car vs Chinese knock-off parts – hmmm, oh well).

But, this is not about availability, it's about being available on the road when you most need them. Now some things I've always tried to keep in the boot: fuses (or one 50 Amp fuse! Ha), a hose clamp or two, maybe a couple bulbs, tools, hopefully correctly sized. But one night Pat and I were on our way back from a fun day and a good meal when I noticed the headlights getting dimmer and dimmer and dimmmmmer. Oh man. I know that look. 1964, night at the shore, a dead bug-eye off the side of Ocean Drive. Nothing charging, except the tow truck that dragged the bug and me to the local Sunoco station. Fortunately this night, with lots of luck, we actually made it back to the B & B where I traced the problem to a faulty voltage regulator. Hmmm, what to do? Unbelievably, being the lazy dog I am, I had forgotten to remove a box of old parts and junk I had picked up at a parts jumble some weeks before, and sitting right there on top of the pile was an old but functional (as it turned out) voltage regulator. I was so proud of myself for being lazy and forgetful and L.U.C.K.Y.! Weekend saved.

So luckily dodging that bullet I'm thinking I should be covering more bases here if this happens again. I need to be more prepared. What to pack...well...another voltage regulator? Maybe. A can of oil? Certainly. A generator? Hum. A fuel pump? Hummm! Hoses, clamps, belts, bolts (various sizes), nuts (various sizes)? Hold on there, I'll need Pat following me around in the SUV pulling a trailer. (You never know.) Well, **that's** not going to

happen. One - it's impractical, two - it's stupid and three - Pat refuses to drive a car with a trailer attached!

So what I need is a list. A comprehensive, yet realistic list of the best items to throw (place neatly, preferably in a proper kit) in the boot, to keep me on the road and off the (horrors) tow truck.

I need some help here so I am soliciting advice from our much more experienced and mechanically talented car club members. Please, for me and others who may have been in similar situations and also looking for advice, write in and offer your suggestions for a well-stocked kit of some items that may save your seat on some road trip interrupted. What to pack for a long road trip, a tour, or just in general.

Send in your suggestions to me at editor@bmcsnj.org and I'll post your insights for us all to consider. Add a story about a time you were saved by a part or one time you wish you'd had a part or tool in your boot. We would all appreciate the advice.

SEEKING MEMBER CONTRIBUTIONS

I am soliciting member articles about their <u>Austin</u> <u>Healey Sprites / MG Midgets</u> combined for the November / December 2019 newsletter.

The Sprite will be the newsletter feature ride for Nov./ Dec. so please consider sending in something about your Sprite. Could be how you found it, how you brought it back from the dead, how you love it—anything will do. Or just send a picture of you and your car! Doesn't have to be a big deal.

If you're interested please send any material to your Editor, ME, at editor@bmcsnj.org. I'm asking now because our cutoff date for member articles is one month before the month of the newsletter. So for the November letter please get anything to me by October first.

Thanks, Joe Marchione



SECRETARY'S SATCHEL

September / October, 2019

Tom Evans

Christmas in July!?! When did all of that start? In the past I've seen special events using the theme for special emphasis but it has become like pumpkin spice, everyone's using it! Hallmark movies, car dealerships, soon it will be all year! Retail is rushing things. We tried to get a beach umbrella in August and all of them, it seemed, were already back at the warehouse or had been on sale at 50% off since May when, apparently, summer had already ended. Halloween decorations were out but I needed shade at the beach. When Christmas does arrive, we will be inundated with Valentine's Day cards, roses and chocolates. If it weren't for the Motortrend channel I'd go insane. There is one bright spot this fall - Rugby! The World Cup is being held in Japan this year through September and October, set the DVR and enjoy several great fixtures. We are currently trying to plan a trip in November back to the UK to fulfill another wish of attending the NEC Classic Car Show in Birmingham. We were also hoping to see Wales play in Cardiff but World Cup play has changed the schedules for this year. We will, however, get to see "The Old Firm," the Mountain Ash Rugby Football Club, play on their home pitch in Mountain Ash Wales, my dad's home town.

On July 20th the BMCSNJ Ice Cream Social was held at the Five Points Custard stand in East Vineland, NJ. The event was under the direction of Rob Walsh and in consideration of heat that melted your ice cream cone as they passed it through the custard stand window several cars attended. On August 10th the annual Tour of South Jersey took off on a new route, designed by Tracy Westergard, through Salem County and was well attended even with the August heat, and we will tour again with a different route in October for a fall photo tour. The Club members always have an open invitation from Jim Tornetta to the SCCA autocross event at Bader Field in Atlantic City. Several members have attended and driven and thoroughly enjoyed the experience, first timers get special treatment. See these and other events in this issue of Off Side/Near Side and on our webpage bmcsnj.org. Join in the conversation on our Facebook page and pitch in at the events.

We're looking forward to the long drive from Cherry Hill to Greenwich again for the BMCSNJ Annual Show on September 28th.

Regular monthly meetings are held on the third Wednesday of each month alternating between Uno Grill in Maple Shade (even number months) and Seven Stars Diner in Sewell (odd number months), see the calendar for the location each month. September (Sewell) meeting we will hear from Akzo Nobel Coatings about painting classic cars, October (Maple Shade) will feature representatives from Condon Skelly and Heacock Insurance. See you there and on the Road!

Happy Motoring

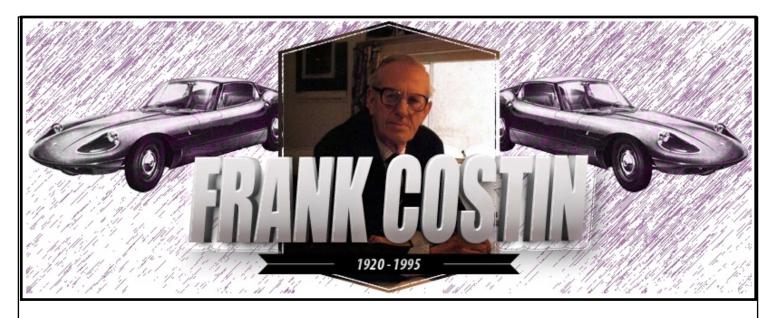


Welcome New Members!

Mark Cryza Glassboro, NJ
1973 MGB

Dan Hoffner Bridgeton, NJ
1957 Triumph TR3A
1976 MGB

Bruce Menkowicz Ambler, PA
1967 Morgan +4
1953 Jaguar XK120
1966 Austin-Healey 3000 MkIII



Frank Costin's name will be forever linked with the sleek green body that graced the Vanwall cars entered in grands prix in the 1950s by the millionaire industrialist Tony Vandervell. Costin's work on that car's distinctive aerodynamics was seminal, yet was but part of his story.

But first, who's Frank Costin?

I'm sure many of our fellow British car enthusiasts are wondering, "Frank Who" (?) and what relevance does he have to British motor cars?

Frank Albert Costin was born on the 8th of June 1920 in London. He was the first of four children. He was always very close to his brother Mike. Frank was a gifted versatile engineer, thinker and industrial designer specializing in aerodynamics. He was also a cultivated man and competent musician and composer. As a young man he was a talented swimmer, enjoyed flying, gliding, sailing and with friends built a glider called Condor in 1949. Costin's aircraft experience following World War 2 included working with Supermarine, Percival and de Havilland. He started early working as an aircraft fitter but soon found promotion. By 1951 he was Flight Test Engineer in charge of the Experimental Dept. at De Havilland and promoted in 1953 to Engineer in Charge Aerodynamic Flight Test Dept.; Chester. Consequently, Costin gained a great understanding of airflow management.

Hummm OkSo about British motor cars ??

And in the Beginning. Chapman, Lotus and the Mk.6, 7, and 8

Working at De Havilland on high-speed flight, Frank was unimpressed with the technology of early fifties motorsport, but his brother Mike was extremely enthusiastic about motor racing and tried persistently to get Frank interested in these racing machines as well. One Sunday Mike finally persuaded Frank to accompany him to a race at the Goodwood circuit. Observing these races Frank was very concerned for the safety of the drivers of these terrifically fast, yet terribly unstable cars. The courage of the drivers impressed him but not the technology of their vehicles. About a year later Mike called insisting Frank take an afternoon off to meet a racing car designer Mike was working with, Colin Chapman, who was in the process of designing a new "aerodynamic" bodied racing machine, the Lotus Mk 8. Mike had been introduced to the genius of the Lotus chief Colin Chapman, and had himself left DeHavilland to work with him in motorsport. Mike told Frank after all, a couple engineers should find something to chat about of mutual interest. Frank agreed to meet, yet warned Mike that he was still not terribly interested in this motor racing business. Frank Costin did not believe a man was a true engineer unless he designed things and then built them from scratch and here was Chapman, who was doing just that, but it was the word "aerodynamic" that really hooked him.

They met at the Lotus shops, where the chassis for the Mark 6, a new sports car for the 1954 season, had just been completed. The Lotus 6, was a petite piece of mechanical gossamer, and about as aerodynamic as a barn door but Mike was very excited because the design was reputed to be the ultimate in weight saving. Frank, having no automobile experience or yardstick by which to compare, picked up one end of the chassis, felt it and said, "Yeah, well I suppose it will be alright when you get a bit of the weight off." Chapman was not at all amused by the comment and went off to another part of the garage and the atmosphere became quite chilly.



Mike decided it was time to take his brother to dinner. Not a great beginning.

A fundamental principle of aerodynamics is that there is a correlation between resistance speed and power. In the early Lotus trial cars with their low speed there was little requirement for drag reduction however this changed when circuit racing was entered. When Chapman decided to compete in international level racing, he realized that to be successful both handling and aerodynamics would have to be superior to the opposition. In addition, his earlier

open wheel cars were prohibited by the regulations.

Great care in design and execution were required as streamlined bodies also increased weight and required additional breaking and cooling as a result of the additional speeds they achieved.

Chapman had commissioned another engineer to design a supposedly low-drag body for the new car. Receiving a small model of the design, he was initially disappointed with the results so Mike Costin asked if he could let his elder brother see if he would be interested in assisting with improving the aerodynamic design. Chapman agreed to have Frank take a look. Of course, once Frank saw the model he was immediately obsessed by the challenge. He had been presented with an engineering problem quite different to that which he was used to but on learning of the speed potential for the new car, he had deep second thoughts. To him the idea of sending a man out to do 130 mph below an altitude of 20 ft. was bad enough, but to control so light a vehicle in a straight line and corners was <u>sheer lunacy!!</u> (editor: funny to think of what his reaction would be today of modern F1 machines racing at 200 + mph !!) Neutral stability would not be a problem if Costin was designing an aircraft but his first automobile caused, in his words, a "rather long think". Being extremely fearful of putting a driver into a marginally stable machine, he elected to be fail-safe and to use fins.

Using the model brother Mike had sent him, Frank made calculations concerning airflow and applied Plasticene so that the contours of the model could be changed quickly. He increased certain areas with the Plasticene and hacked away others to achieve the aerodynamic flow he desired. He had built a turntable for the model and by flowing air over the model from a small wind machine he had constructed he found that among other changes these tall tail fins would hold the car steady no matter what degree of angle was chosen. As it turned out, *surprisingly tall fins!* Nothing like it had ever been seen before. In fact, when Chapman saw what Frank had done to his model he was

shocked. He told Mike that this was crazy. No one would ever buy one. But then he happened to see the latest Porsche sweptback racing machines on the cover of an auto magazine and thought better of Frank's design.*(Our club member Fred Schuchard is friends with an ex British test pilot David who was a young man when the Mk 8 with these amazing fins first hit the racing circuits. He told us that he and his friends thought the Mk8 was a rocket ship.



Some space vehicle from Saturn. They just loved it, and It went like stink and ate up everything in its path!)

Costin conducted scientific tests to compare the actual performance with his theoretical calculations. The experiments involved a pressure head and additional readings were recorded on instruments comprising altimeters, air speed indicators and vertical speed indicators. During these tests, Costin actually strapped himself to the car and had Chapman drive him around the circuit at speed so that he could directly observe the cotton tufts that showed airflow !!!



The result was the Lotus Mark Eight, which set new standards for performance and stability in the field, and set Costin on a path to become one of the most sought after automotive aerodynamicists. He would go on to form a company that created the Marcos marque.

Costin and Chapman

As mentioned earlier Costin and Chapman had a bit of a rocky first meeting but as they began to work together they found that they had much more in common than not. Like Chapman, Frank enjoyed flying and sailing and, like Chapman, he had a streak of non-conformity whilst aspiring to academic excellence. Frank preferred applied engineering where he could engage both hands, mind, and have total responsibility.

Costin's ideas were extremely forward thinking particularly in the area of petrol / fuel efficiency extracted through aerodynamic design. These goals were in many ways parallel to Chapman's who was acutely aware of the significance of aerodynamics in F1. Costin and Chapman were not the first to realize this but they applied critical analysis and were committed protagonists.

During the time Frank worked with Lotus he was responsible for a number of innovative and slippery designs. Following the Mk.8, he went on to improve the design with the introduction of the Mk.9. For Costin, working with Chapman on the Mk.9 provided a quantum leap forward in his auto-

motive experience. He began to feel very secure in what he was doing and looked to areas on the car where he'd employed overkill in the interest of stability. (ed*: Those crazy fins for example). Frank learned for one that to a degree a sophisticated suspension system could compensate for an aerodynamic compromise.



The Lotus Mk.11 (1956)

In 1956, came the svelte Lotus 11, a creation so refined that Costin's attentions went even as far as the driver's seat height: airflow tests established whether a driver's head was low enough for lam-



inar flow to be maintained over the headrest fairing, or high enough to cause turbulent flow. Sometimes it was critical to within half an inch of helmet movement, but Costin was a precise man, and the Lotus 11 was a precision instrument: it did well in major events, notably Le Mans and Sebring and, in time, became the Lotus 15.

The Eleven was a logical development of the Mk.VIII & IX. There was a new space frame and the swing axle was lowered. Chapman insured the lowest and most practical frontal area was

achieved by canting the Coventry Climax engine over. This could be carried through to the scuttle. One of the dramatic aerodynamic changes in the eleven was to reduce those huge rear fins. He did although maintain vestigial fins at the rear making them much lower but more bulbous in order to hold in check even more turbulence at the rear wheels by covering nearly two thirds their diameter. – just in case the Chapman suspension didn't work as well as hoped.

The Monza World Record Car had further aerodynamic enhancements including a totally enclosed canopy over the cockpit and special attention to panel joints.

The Lotus Eleven was an instant and incredible success. In its second outing Colin Chapman captured a lap record and beat Sterling Moss and Mike Hawthorn in the process! A week later another win – and LAP RECORD!!



From their introduction, Lotus Elevens were dominant in nearly every class they could race in. They particularly earned fame for endurance racing at LeMans and Sebring. At the 1956 24 Hours of Le Mans, a Lotus Eleven finished first in class and seventh overall. Lotus returned in 1957 with more cars. The 1100cc Lotus Elevens finished first, second and fourth in class (ninth, thirteenth and sixteenth overall). Also in that race, a special 700cc Lotus Eleven finished first in class and fourteenth overall while securing the "Index of Performance" trophy. Elevens were equally successful in the sprint races of sports car clubs around the world.

By the end of production at about 250 cars, the Eleven had become the Lotus with the most wins ever and may still hold that record. With that kind of beginning Le Mans appeared to be a piece of cake. Three Elevens were prepared, two 1100cc and one 1500cc. Unfortunately the Le Mans organizers (being French and not enthusiastic at having a "British" car have some kind of advantage) decreed that <u>no metal tonneau covers could be used</u> and Costin's "Le Mans cockpit" which included said metal cover for better aerodynamics was out. Even so, the 1100 cc car took first in class and a fantastic 7th. Overall. The Autocar Road Test of Nov.1956 recorded the following data 1100cc engine. Max speed: 111.75mph. / 0-60mph: 10.9 sec.

For the following Le Mans, Frank outwitted the organizers by developing an inflatable air bag that when fit in the passenger side of the car flush with the bodywork, acted as a smooth surface to maintain the aerodynamics first achieved with the original metal one.

So much for that French monkey wrench! And by the way: Le Mans speeds at Mulsane: 1500cc: 128.2mph / 1100cc: 119.44mph

*Editor note: Click on the link below to view a video of the Lotus 11. It's a "YouTube" video so be aware that a small ad will be seen first, but you can avoid that by clicking on the countdown block on the lower right of the video picture.

https://www.youtube.com/watch?time continue=6&v=I8hkk7Qbryc

The Lotus Elite Type 14 (1957)

The Elite was born as Chapman's attempt to enter a new league of production sports car. This was probably driven by considerations of financial security, cash flow for the GP racing program, a response to a new 1300 CT category of racing and a genuine desire to evolve into a more sophisticated and advanced car production.

Chapman set the main parameters and criteria, mechanical specification and suspension.



The body design resulted from an interchange of ideas and practicality between Colin Chapman, John Frayling, Peter Cambridge, Ron Hickman and Peter Kirwan-Taylor. Significantly and ambitiously, the chassis and body were to be monocoque construction made entirely of <u>fiberglass</u>! It is most interesting that because it's a monocoque, there is no steel frame beneath a shell. The monocoque *IS* the chassis / frame—everything. This caused the Elite to not only be extremely light but



also extremely strong. If you have ever built one of those Revel, or Monogram plastic model cars you can see how the various pieces of the Elite were molded out of fiberglass and then just glued together! Sounds simple, but in reality was very labor intense and although the Elite was a beautiful and extremely successful racing car, Chapman estimated that it cost him 100 pounds more to produce per car than he could sell them for. Because of this only about 1000 of the Elites were made between 1959 and 1962.

Aerodynamic refinements that Costin introduced were probably more considerable than admitted

and included: A reverse camber line "invisible center line". Refined front end nose detail to improve penetration. Refined wing line. Side screen flush with posts. Insistence on continuous under tray. There is some evidence that Costin also suggested the partial Kamm tail.

On completion Costin projected that the Elite's CD would be near 0.30.In 1962 at MIRA it was measured at 0.336. Frank Costin made a significant contribution to Lotus at a time when the application of his scientific principles allied to Chapman's chassis and suspension design helped compensate for the less powerful engines available to Lotus.



And Many More

Frank had a "gift for acute observation, quick analysis and remarkable understanding" The world champion Vanwall Formula 1 and the land speed record-breaking Speedwell Sprites (Moss Motoring, Spring 1997) were also Costin shapes. Unlike many of his predecessors, Costin endowed his automobile bodies with an attribute essential to their success—aerodynamically induced high-speed stability. Unaided by "tucked-on" devices, his cars were known for both their remarkably high top speeds compared to automobiles with similar engine displacement, and their indifference to cross winds or ground effects.

Less appreciated was Costin's brilliance in the realm of structural design, particularly his timber monocoque chassis for automobiles. Wood had long been used for semi-structural purposes in forming car bodies, but he was the first to use the material to enclose both the occupants and to handle drive train, engine, and suspension loads.

As with his aerodynamic techniques, the technology for high-strength wooden structures was nothing new, and, like Costin himself, had come from the aircraft industry. What made his work so extraordinary was that no one in the automotive world had approached either in a systematic way. It was left to Frank Costin to develop them to their logical conclusions.

Vanwall (1956)

Guy Anthony (Tony) Vandervell was the son of Charles Vandervell, founder of CAV, later Lucas CAV. He made his fortune from the production of Thin-Wall bearings, under license from the American inventor, by his company Vandervell Products. Having raced both motorcycles and cars a number of times in his younger days, soon after the end of World War II he acquired a Ferrari 125, powered by a 1.5-litre Colombo engine, which was altered by his mechanics and competed as the Thinwall Special, reflecting Vandervell's business empire.

Vanwall's first World Championship victory was in the 1957 British Grand Prix. Moss took two further victories that season, laying a foundation for the team's zenith year: 1958.

In 1956 when Vandervell became really serious about challenging the might of Ferrari and Maserati

in the grand prix arena he commissioned Colin Chapman, Frank Costin and Harry Weslake on the engineering side. Chapman suggested that Costin create its bulbous yet dramatic shape that came to epitomize the grand prix car for every schoolboy of the era.

In the hands of stars such as Stirling Moss and Tony Brooks, and the rising newcomer Stuart Lewis-Evans, the Vanwalls achieved Vandervell's well- documented desire to "beat the bloody red cars", and

though Mike Hawthorn won Britain's first driving championship in 1958 in a Ferrari, Moss, Brooks and Lewis-Evans helped Vanwall to win the newly inaugurated Constructors' World Championship. Thereby was Britain set firmly on the road to the supremacy it enjoyed in grand prix motor racing throughout the 1960s.



The Le Mans Maserati (1957)

Not all of Costin's projects succeeded; when in 1957 Maserati badly misinterpreted his brutal but elegant coup body design for their Le Mans car, its dismal performance was nothing compared to Costin's rage. (Editor: See "HAMMER TIME" in this issue).



Despite such episodes, he never lost his enthusiasm for aerodynamic research, which had its expression in a wide variety of vehicles. There were Jaguar- powered racing sports cars, the wooden Protos Formula Two car, the radical 1971 March 711 grand prix car, or his own road-going sports two-seater, the Costin Amigo. Frank was also responsible for the Speedwell GT and a streamlined record Sprite car design.

Marcos (1959)

In 1959 Frank met Jem Marsh and together they founded Marcos Sports Car. At first, they had an idea of designing a spaceframe chassis but Frank reckoned that a spaceframe, as used on the Lotus Mk 7, would be too expensive because of the necessity to tool up both body and chassis. Weatherproofing also raised problems. Costin decided to



use sheet material for the body and chassis; a monocoque that would take the loads out through the skin almost exactly like the Lotus Elite. After studying many types of materials considering cost, engineering potential and ease of fabrication he came to the realization what was called for was a wooden glider on wheels! The idea came from Frank's aircraft experience. Many famous British aircraft such as the Spitfire used plywood as a light and strong material to build their airframes.

The Marcos Xylon

The first car of this type was the Xylon which was (and still is) better known as the 'Ugly Duckling', due to its uncompromising appearance. Frank was an aerodynamicist first and foremost and cared little for style. Built purely as a racecar to compete in 750 Motor Club events, the car was unusual for its wooden chassis, but this gave it a very light weight and in the hands of Jackie Stewart, Jem Marsh and many others, it achieved outstanding success. Style didn't win races!



The Luton Gullwing and Spyder

When brothers Dennis Adams and Peter Adams started working with Marcos they realized that to make a good living out of building Marcos cars would require something with a wider appeal than the Xylon, successful though it was as a racecar.



The first step was to redesign the bodywork of the Xylon to be a little sleeker and this car was known as the Luton Gullwing (because, by now the cars were being built in Luton).

A total of nine, aimed at 750 Motor Club events, were built in 1959 and 1960. For production the body was made less radical but initially retained the gullwing doors. It was powered by a choice of <u>Ford</u> engines varying from 997 cc to 1498 cc and had Standard 10 and Triumph Herald steering and suspension components. Thirty-nine were made up to 1963.



In 1961 the brothers along with Jem Marsh introduced several changes to the original design. The chassis was fabricated from laminated 3 mm thin sheets of marine plywood, giving the cars a strong monocoque and low weight (the GT was internationally homologated with 475 kg), so they performed well in sportscar competition. Most early Marcos models competed in national and international events.

The Costin Amigo 1968

The Costin Amigo was a lightweight sports car built in the United Kingdom in the 1970s. It was designed by Frank Costin and built in Little Staughton, Bedfordshire.

After a decade and a half of designing primarily racing cars, Costin decided to lay out plans for his ultimate Gran Tourismo. He reckoned there should be



some interest in a GT, which incorporated the most advanced engineering principles, and luckily he had the financial backing to build a small number of these cars to test the market.

Costin called his car the Amigo and the most startling aspect of its specification was the timber monocoque chassis. The skin consisted of marine plywood and spruce. The internal bulkhead, local reinforcement for suspension pickups, and the like were constructed of non-marine plywood and parana pine. All bonds were made with a synthetic resin adhesive called Aerolite, which, because of its excellent gap-filling properties, required minimal clamping pressure to set.

The chassis featured built-in seats, which were multi-curved sheets of plywood. The steering wheel and pedal group (including a left footrest) slid forward and back on a carriage that was spring loaded towards the rear. Operation was by means of a pull knob on the dash.

The front-hinged bonnet and coupe top were constructed of fiberglass. A thin fiberglass veneer was also applied to all of the exterior wood surfaces of the body and doors in order to produce a smooth enough surface for accepting a top-quality paint job.

The Amigo's body shape was designed with all of the usual Costin aerodynamic elements. The frontal aspect was elliptical in shape, and the rear of the Amigo was cut off but was creased to provide both visual relief for what would have been a large flat expanse, and to impart its own measure of rigidity. The roofline was tapered to facilitate airflow to the rear, and the windscreen was bonded in place flush with the bodywork.



The under tray was fully enclosed save for the opening for the differential, gearbox, and sump drains. The exhaust system ran inside the structure and exited through holes in the lower bodywork, just forward of the rear wheels. An air duct aft of the right front wheel fed air to a plenum in the scuttle, which provided additional air to the cockpit. Ventilation was by means of sliding windows, light aircraft style, in the plexiglass side windows.

Its 2-litre engine and running gear came from the Vauxhall

VX 4/90, but its plywood monocoque frame and aerodynamic fiberglass body gave it a top speed of 137 mph (220 km/h), and a quoted 0-60 time of 7.2 sec. Only eight of the cars were ever sold.

And many many more

It is impossible for me to include all the amazing, successful and "weird" cars and projects Frank Costin designed but believe me, there were many (and many were very weird!!!) Frank Costin was a good applied engineer and extrapolated technologies in particular materials and aerodynamic principles from aircraft where he started his career. Costin's ideas were extremely forward thinking particularly in the area of petrol / fuel efficiency



extracted through aerodynamic design. His concepts and principles live on and in many respects have been copied or inspirational in many modern day city car designs.

Readers will also be aware of the significance of aerodynamics in current FI.

His ability to make racing cars slice through the air better than their competitors became almost legendary, and efforts to copy his techniques took on, sometimes, humorous results. For instance, at one particular race meeting, one of Costin's designs, a coupe, had developed a problem with exhaust fumes leaking into the cabin. In order to protect the driver, Costin had his men tape up the body seams forward of the firewall. By the time the race began, half the field had their body seams taped over in what they thought had to be the latest Costin demon tweak!

The competition paid this kind of attention because Costin's designs often incorporated minute details which contributed their own critical element to the reduction of aerodynamic drag. Some of the most successful racers of modern times owed their slippery shapes to Costin's hand.

He was quoted as saying, "Applied aerodynamics is a combination of knowing physical laws, a great deal of experience and the right feel."



















Frank Costin / Maserati / Le Mans / Sterling Moss / and a whole lot-O-Hammering !!

For race-goers a disappointing change came to the sport in 1957. The FIA decreed that beginning the following year there was going to be a three- litre limit on engine capacity for international events. The decision eliminated, for a while at least, the exciting and popular big-engined sports racing cars. It was the end of the line for Maserati 4.5 litre (four cam V8) developed to produce a reported 400 bhp and to power their famous 450-S Spyders. Probably the fastest two-seat racing car of the era, the 450-S suffered the same reputation of its smaller brother, the 300-S, which was either to win or break.

Maserati held high hopes for 1957; the company would have liked nothing better than to capture the sports car championship. They planned to have something very special for LeMans. Maserati had taken keen notice of the significant advances in race-car aerodynamics and decided to try something along these lines. Stirling Moss was under contract to drive the 24- hour race and was asked if there was anyone he knew that could do the job. Indeed he did, the man was Frank Costin.

Conceived in Haste

It was only three months before LeMans when Costin received a call from Moss's business manager, Ken Gregory. LeMans had become Costin's favorite race and the opportunity to design the body-work on a big Maserati for Moss was definitely a coup. With a car like the Maserati, an overall win at one of the most prestigious races in the world appeared to be within his grasp. After the financial agreement was set Costin went to London to pick up the drawings of the engine, chassis and suspension layouts. Upon reviewing them he received his first of many disappointments. They were almost completely lacking in critical dimensions, precisely the details he needed for his calculations so Gregory was sent back to Italy to obtain the necessary information. Eventually the specifications arrived and with them the news that Zagato would build the body, but construction needed to begin in four weeks. A month of burning the midnight oil was precious little time to work with but he was committed so he set to work in earnest. With additional information and the specifications from Maserati, Costin computed his sums and laid out the body shape in full scale. The car emerged squat, bulbous and purposeful, yet the front of the car was very reminiscent of the diminutive Lotus, including the elliptical air intake. Another feature it shared was a fully enclosed belly pan, but the roof, of course, was something new and it extended almost straight back to the tail. Costin designed intake ducts to cool the driver and to provide air for the carburetors. He also ducted the radiator so that air was exhausted into the wheel wells. The V8 called for enormous exhaust pipes which presented a problem of heat transfer into the cockpit. Frank designed them to fit inside a secondary pipe with an air wall of 3/8 inch separation. This secondary

pipe was ducted so that a constant flow of air passed along the length of the pipe, thereby producing a thermal insulator from the driver. These pipes were then tucked neatly inside the sill boxes to exhaust ahead of the rear wheels. To minimize turbulence Costin designed a flush fitting wind screen which was held in place by a sheet alloy surround. The glass was to be sealed with a plastic filler. When the drawings were finally completed Frank rolled them into a large bundle. He called Ken Gregory and arranged to meet with him at London's Heathrow airport where Gregory would immediately deliver them to Zagato.



7empo di Martello or Hamma' Time !!!

About three weeks later Costin was called to oversee Zagato's construction of the LeMans coupe. He managed to get some time off from DeHavilland. When he arrived at the Zagato's shops he was surprised by the noise of the place. There wasn't a shaping wheel in sight, metal forming was accomplished by dozens of smiling Italians wielding hammers. But the shock to his ears was nothing compared to what he saw on the wall.

Zagato had laid out the car's full-scale side view on a plywood sheet but Costin's lines had been altered. The exhaust pipe ducting was gone and some fillets were changed but worst of all they had raised the roof and the windscreen with it. Why? Because none of us could possibly see out of it replied the Zagato head fabricator. It seems that Mazerati could not entirely accept the idea of an English design being built by an Italian firm so they allowed Zagato to change it as they liked. "You have no soul," they said, "only Italians have the feeling for designing really fast cars."

Try as he might, Costin could not make them understand the aerodynamic losses in the changes they had made. They could not understand how 2 ½ inches in added height could affect the speed. Costin's frustration culminated in an exchange of sharp words in which he called Zagato "a bunch of burps who would actually build a car slower than it could be." As angry as Frank had become, he still decided to stay and make the best of the rest of his week. Unfortunately, he grew more disheartened by the day. Each panel went through stages defined by the age of the worker and the size of his hammer. The older, more experienced men had the largest mallets and did the initial forming to obtain the overall contours. The younger apprentices used small hammers to smooth out the bumps and undulations caused by the first operation. When the shape was finally about right it was marked by countless dimples and waves. To get surface ready for paint they would lather the whole thing up with body filler and sand it smooth. To no one's amusement, Costin remarked that Zagato were really building filler cars with metal centers. Only a few panels were completed by the time Costin returned to England. To quote him, the car was still a "pig's breakfast" but there was nothing more he could do. He had never experienced so little understanding or so much reluctance to follow his instructions and as a result, Costin would never again undertake the design of an Italian car.

Race Day Le Mans 1957

When Frank arrived at LeMans on race day the first person to greet him was Colin Chapman. After an exchange of "how is it going?" Chapman grinned from ear to ear and said, "you better go over and see your sieve." "What do you mean, sieve?" inquired Costin. "Well, it has all more holes in it than a sieve and you'd



better go have a look." Chapman was apparently tickled to death and thought what Maserati had done was extraordinarily funny. It was absolutely diabolical. The windscreen had brown gunge (for lack of a more technical term) which was oozing out around the windshield and had formed tendrils which crept back over the red roof and body work. It looked like something out of a low budget horror movie. Chapman was right. The Maserati mechanics had cut holes here, there and everywhere. Moss came over, obviously distraught, and informed Costin "they'd got the engine underbonnet air piped onto his feet and the radiator ducting was bodged so hot air was going into the carburetor intakes which the engine didn't like." It was a mess. Zagato had paid no attention to his

drawing at all and besides fitting an air scoop with too small an opening, it was way off the site of maximum air pressure. The radiator cap access hole was uncovered and allowed the radiator air to go straight up the bonnet and into the carburetor air scoop. This combination resulted in the engine only pulling 6,200 rpm instead of its expected 7,000. The exhaust pipes weren't in their tubes and only an outside cover had been attached which conducted its heat right into the cockpit. No matter, the covers were to fall off and be run over in practice anyway. Zagato hastily cut an air scoop to cool the interior, again, it was in a low pressure region downstream of the engine so of course it only funneled hot air to the driver.

Costin had taken great pains to specify an aircraft windscreen wiper. Zagato, however, had taken no notice of that either and fitted a regular automobile wiper assembly probably from a Fiat. On a practice lap near the end of Mulsanne it broke off and flew away. Moss shot into his pit and said, "I really don't care anymore what falls off, it's too bloody hot to drive anyway." Costin shrugged when he saw the fuel filter sticking up like a flag

pole, but the final straw came when he looked underneath the car and saw chassis tubes. It was completely open and there was no under-body enclosure at all except a hastily pop-riveted sheet smack under the driver. Unable to stomach any more, he walked away swearing. Costin's meticulous attention to every detail had been completely misunderstood and almost totally ignored. Even the perpetually enthusiastic Harry Schell, who was to co-drive with Moss, couldn't cheer him. "You shouldn't get too drunk you know, it might be alright." Costin took Schell's advice and only got a little drunk.

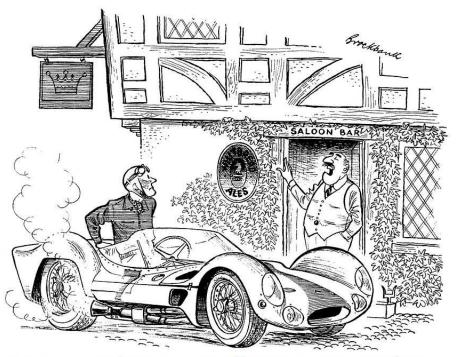


The Maserati was, nonetheless, tremendously fast and held second place until the rear axle failed. This was not a happy story for Frank Costin but there is still a twinkle in his eye, "Had it been done right and proper the monster would have walked away from everything else.

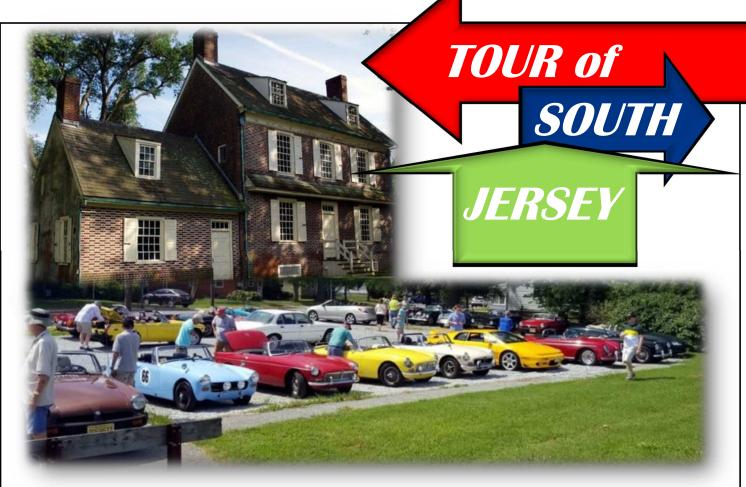


Hell, the coupe would have done 200 mph."
It is interesting that even with all of its defects the 1957 LeMans Maserati with its storied history has become a serious, highly desire racing classic worth millions!

Editor: Thanks to *Flying on Four Wheels* by Dennis Ortenburger



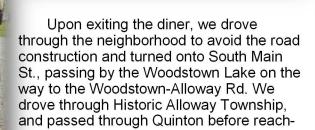
" I'm sure my directors won't allow me to serve *anything* to a chap driving a thing like that "



On Saturday morning, August 10, 2019, members gathered at the Woodstown Diner in Woodstown, NJ four our annual Tour of South Jersey. The weather was absolutely beautiful. In a year that has been fraught with severe storms and intense heatwaves, the Gods smiled upon us on this day, giving us what was probably the most beautiful day of the year. We had 31 cars participate in the Tour, many participants bringing guests and spouses, bringing the total to around 50 people. There were also several club members who were unable to participate in the Tour for various reasons, but did come out to meet everyone at the Diner. You guys are awesome. This was the largest turn out I've

seen for the Tour in my years with the club.

As we were waiting to line up the cars, many of the diner guests came out to look at all of the classic British vehicles in the parking lot and ask questions. It was an awesome sight to see all of the excitement going on.





ing the beautiful winding roads of Lower Alloways Creek Township, driving through Maskills Mill Pond Wildlife Refuge and also past the Salem River Boat Ramp. We also got to drive over a wooden bridge before hitting some awesomely tight hairpin turns. Along this part of the Tour, you would also see some of the largest Willow Trees north of Georgia.

After exiting Lower Alloways Creek Township, we drove into the little town of Hancock's Bridge. It is here that we made our first stop at the Hancock House Historic Site. If you are not familiar with the Hancock House, here is a bit of the history:

"Revolutionary war massacre site of at least 10 civilians and militia by British Troops (Queen's Rangers, Tories and Hessians). Pattern end Brick home built in 1734 by William & Sarah Hancock. There is no relation to John Hancock, signer of The Delaration of Independence. The winter of 1777 found George Washington and his Army encamped at Valley Forge, Pennsylvania. The British occupied Philadelphia. Both armies needed food and supplies. In February of 1778, General Washington ordered General Anthony Wayne to forage for food, cattle and horses in South Jersey. A month later, Sir General William Howe dispatched 1500 British troops and loyalists under General Charles Mawhood to do the same. Mawhood's foraging activities met with considerable resistance from the Salem County militia and local patriots. Repulsed at the Battle of Quinton's Bridge, a key transportation link to the fertile fields of Cumberland and Salem Counties, the British were frustrated and angry with the people of Salem County for their support of the Continental Army. On March 20, 1778, Mawhood issued the following mandate to his British troops to "spare no one - put all to death - give no quarters's. At approximately five in the morning of March 21, 1778, these orders were carried out. With local Tories (British Loyalists) and

their slaves acting as guides,
Major John Graves Simcoe and
approximately 300 troops attacked the Hancock House where
they knew the local militia was
stationed. Everyone inside was
bayoneted without a shot being
fired. Among the 10 killed and five
wounded, was Judge William
Hancock. He died several days
later."





Of course, it was ironic then that we show up at this site with a hoard of British cars. (some dark humor there, sorry).



It truly was an awesome sight to behold all of these beautifully kept British sportscars pulling into the parking lot one after the other, after the other, after the other. I have posted a video on the club's Facebook page of the cars pulling into the



parking lot. I couldn't get all of them because I had to park my car first, but the video is pretty cool. If you have the sound on, you will hear the scraping of exhaust pipes entering the parking lot. I suppose that was karma.

Upon exiting the Hancock House, we

then took a long cruise through the town of Elsinboro, through tree lined roads which then opened up to section driving through the Salem River and eventually leading to the Port of Salem along the Delaware River.

We then drove through Salem City and into Mannington Township down the scenic Seabrook Rd. and past the Seabrook Farm before turning onto King's Highway in Pilesgrove heading



towards our destination of Lapp's Olympia Dairy Bar on Rt. 40 where everyone enjoyed some food and ice cream.

All told, this was an excellent day and a lot of fun as well as a great success. I hope to see all of you again for the "Bring Your Camera Fall Foliage Tour" in October. The destination for the October Tour will be East Point Lighthouse in Port Norris, NJ.

~Tracy L. Westergard

Do You Know How to Drive? (Haw!)

By Barry Sandman

It was Saturday afternoon, Charleston, South Carolina in the days of my Power and Glory. My Destroyer was in dock for repairs and these were the days you could mosey into the local British Sports Car dealer and ask, where the action was.

"Well, boy, if you don't wander off, a whole passel of cars should be arriving pretty soon," he drawled, then drifted away to sell a TD to somebody. I slipped behind the wheel of a ZB that was on the showroom floor and made believe it was mine.

Soon, true to his word, the cars began to arrive. There were a few TR2s and 3s, a couple of Healy100s and a number of MGs. These were the years when these cars were state of the art sports cars and my mouth was watering! I got out of the 'Z' and stood there, smiling and trying not to look too much like a Yankee. No one paid any attention to me, so I went back in and asked the merchant what was going on?

"Oh, the boys are going to have a little run," he said.

"Gee, I sure would like to go along."

"Come on boy."

We walked out on the lot and he waved to a fellow in a red TD.

"That thar's Wild Bill Dunham. Hey, Bill, will you get this child out of my place? He wants to go along and he's getting fingerprints all over the cars."

Wild Bill looked me over, "Welll, can you drive?" he asked.

"Sure, I can."

"Haw," he said, "git in."

Soon we were being sent off at timed intervals, like in a rally...but there weren't any directions or clues. Bill seemed to know where he was going and roared out of the lot. He paid no attention to speed limits and not much to red lights, for that matter!

"Do ya see anybody behind us?" he bellowed above the sports exhaust.

"No."

"Haw!"

We soon turned off the paved road into a sandy woods where big red circles were nailed to trees. Now Bill put the hammer down. Good Lord, could he drive! We careened down narrow, twisting trails, turning, sliding, drifting, damned near turning over and throwing great clouds of sand and gravel behind. Heel & Toe, revs never less than 4000 – we followed the red circles. I held on for

dear life. There would suddenly be a gigantic tree directly in front of us. Bill would call on thee XPAG for more revs, slam went his heel, bang went the gears, full lock to the left went the steering wheel and suddenly we were going 90 degrees to the left while still rapidly sliding sideways toward the tree! Bill called for more revs from the engine, 5000 plus – Gawd – we didn't hit the tree. "Haw!" said Bill.



Not from story. Just racing TDs

This went on for what seemed like forever when we burst out into a clearing...complete with picnic tables all set up and huge cauldrons of steaming food being prepared by the women folk. We skidded to a stop; somebody looked at a time piece and said, "Damn good time, ya ol' devil". "Haw!"

"Ever eat catfish?"

"What?"

"Catfish son!"

Well, let me tell you, if you never ate catfish stew in the middle of the Carolina woods with a bunch of British car crazies – you hain't lived! They throw catfish, chicken and all kinds of good stuff in the pot; washed down with cold beer...I mean!!

It transpired that Wild Bill was an officer at the local Air Force base and an SCCA driver. He and a bunch of 'Good ol' boys' had rented a house on the beach for their various and sundry orgies and that's where we all took off to.

They drank what called Bourbon & Branch water – mighty good too! After many of the same, Bill bellowed, "Okay, boy, you say you know how to drive?"

"Sure," sez I.

"Haw!"

Bill picked up a pilot's helmet and handed it to me.

"Eh, Bill, why isn't there padding in this helmet?"

It was just an empty shell and it was cracked. The tears welled up in Bill's eyes.

"Son, be proud to wear that hat. A good ol' boy had to eject and you might say things didn't go well for him. We had to cut the padding out...it was terrible messy."

"You're kidding."

"No, not kidding."

"Oh!"

Bill grabbed a towel, shoved it into the helmet shell and plopped it on my head. He propelled me out of the house and stuck me behind the wheel of his red TD. The beach road was long and straight; it was covered with blacktop which fell off on both sides into soft white sand dunes. Unknown to me, about two miles down the road was a very acute turn.

"Fire up," he yelled, "let's go!"

This was my first opportunity to actually drive an MG and I started down the road doing about fifty. "Let's go," Bill was banging on the side of the car.

"Okay, country boy," I thought, "I'll give you a ride!"

Down went my foot, the willing engine kept winding up. The tach was up where it shouldn't have been and I kept my foot DOWN. "Better," yelled Bill.

It was near dusk and hot in the towel stuffed helmet – which only stayed above my line of vision because my glasses held it up.

"Let's go!"

"Jeez, there's a turn up here!"

The turn was on me: I relaxed my foot, the revs started down.

"No! No!" screamed Bill. "Gas, gas, go, go!"

"But!"

"Gas, fer God's sake!"

I put my foot to the floor – we were in the turn.

"Now! Heel! Shift!...Keep the **** revs up!"



The road was covered with a light coat of wind-blown sand. The MG started around the turn, then lost traction. We were traveling sideways towards the dunes at a great rate of knots. It didn't matter what I did with the wheel, we were shooting sideways in a totally uncontrolled drift! I was screaming

incomprehensible mouthings...I think Bill was climbing over the door, trying to remove himself from the immediate surroundings! (That's why MGs have cut down doors!) All hell was breaking loose rather quickly. Suddenly the rear wheels must have hit a sandless spot and took hold. I had incredibly kept the revs up and with a mighty lurch, that beautiful red TD made the turn.

"Good grief!" I said.

"Haw!" said Bill. "Not bad. Okay...let's try it again!"

(Reprinted from BMCSNJ Newsletter Jan./Feb. 1999)



STORMTRACKER WEATHER
WHAT WERE
TRACKING

British Car Owners' Ice Cream Social

July 20th was one of the hottest days of the year in SJ with day time temperatures in the high 90's and a heat index of 100 plus. Around 35 British cars withstood global warming and took to the field at 5 Points Custard for the 25th anniversary of the event.

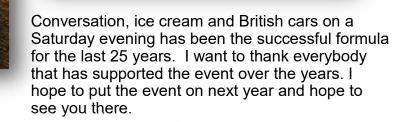




A good mixture of Brit marques were on display throughout the evening. DVJC made a day event of it with several of their members joining us for the evening after spending time at the Millville Arts District, Wheaton Village and 5 Points Inn. Door prizes were handed out late in the evening to lucky winners.

British Car Owners' Ice Cream Social









More pics on next page >>>>



ANTHONY DELIA GT6 Sept / Nov 2019 The continuing saga of a GT6+ and an Overdrive that wouldn't

Hi again,

My wife and I were in Margaritaville earlier this evening before having dinner. Our Margaritaville is two lawn chairs located under the mulberry tree on our front lawn. A couple of weeks ago our next door neighbors even joined us. But now it's time to get back to the GT6+ restoration article.

My last article was pretty short because I had run past the deadline for the July issue, but even so, Joe was gracious enough to squeeze it in. Thanks Joe.

This article will be a little more detailed on how I found the problem with the D-type Laycock De Normanville overdrive unit which was offered as an option in the 1970 Triumph GT6+ and also on other Triumphs.

If you recall, in my last article I mentioned how I consulted with my cousin Dave Faulls (retired mechanics teacher) about the problem with the overdrive. He suggested that a part might be missing. After removing some of the components, I did find a missing check valve, basically a small ball bearing. But after installing a new part and running a pressure test, still no go.

I basically did all I could without removing the overdrive unit from the gearbox. Once again the system had to be drained and the overdrive unit separated from the gearbox. Unfortunately during this process I was so involved in finding the problem I only shot a few photos.

I forgot to mention that before I started this job, I did lift the engine, gearbox and overdrive onto a set of homemade work horses using one of the chain hoists in my garage. This made the job much easier. After

draining the gear oil and removing all the nuts and bolts I pulled off the overdrive unit. Once the unit was removed I probably spent a couple of hours looking for the problem hoping that I wouldn't have to dismantle the unit any further. Knowing that the unit requires 550 lbs. of pressure to operate I concentrated pretty much on the plunger. The plunger operates off of a cam which is located on the main shaft. Anytime the main shaft is rotating the plunger will pump oil. If the overdrive is not engaged via a switch on the steering column, the gear oil will simply recirculate inside the unit. The overdrive and gearbox share the same gear oil. When the overdrive switch is turned on, voltage is sent to a solenoid on the overdrive unit which in turn moves the operating lever which activates the operating valve. Once the operating valve shifts to the proper position, the gear oil is than redirected causing the pressure to



increase to 550 lbs. and in turn engaging the overdrive. Overdrive can be used in 3rd and 4th gear. So basically it is a six speed gearbox when everything works. The operation of the unit is a little more involved than what I just explained but I'm just trying to keep it basic.



With the overdrive separated from the gearbox I now started looking for abnormalities. Remember, I have no previous experience with gearboxes or overdrive units. After, I don't know long, I finally noticed something unusual about the plunger. It seemed to be in the down position. It is spring loaded and should have been in the up position. HMMM, what now? I decided to give it a little nudge and sure enough it pops up to its proper position. YEAH BABY!!! This is it. But, before I break out the shot glass and the "Old Grandad" I better run another pressure test. Time for a break, maybe even a siesta.

Reattaching the unit requires a little more effort than the pull-off. Two sets of female splines inside the unit must be aligned and the high side of the cam lobe on the main shaft must be in the upper position to allow the proper clearance for the plunger and unit to slide in place. Didn't have another new paper gasket for the install so I just made one from a brown shopping bag. Works fine as a temporary gasket but will not work as a permanent replacement. Slid the unit in place, bolted it up

and filled it with gear oil. Now, in order to make the plunger work I will have to somehow turn the mainshaft. I used a 1/2 in. Milwaukee Magnum 600 rpm variable speed corded drill with a socket attached to the nut used to hold the rear flange and unit in place. The Milwaukee Magnum doesn't have much speed (not needed for this application) but plenty of torque. It is a nice drill and was made in the United States of America.

Okay, I am ready for the big moment

Everything is hooked up, drill plugged in, finger on the trigger. 5,4,3,2,1 go. Drill running, mainshaft turning, NOOOOO PRESSURE!!!!! and another failed trouble shoot. Not giving up, but calling it a day. Where's that Old Grandad?

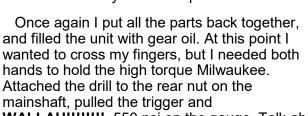


Came back the next day and started over. Drained the gear oil and removed the unit. Checked the plunger and once again it is stuck in the down position. After some thought I decided that the only alternative was to extract the plunger. This required a few of those special Churchill tools, which are basically non existent. After searching for material I finally came up with a contraption to extract the plunger. Only than was I able to see that one of the forks on the plunger was bent. Because of the location of the plunger in the housing I was unable to see the back part of the plunger and therefore was forced to remove it.

When I seen the damage I knew exactly how it got damaged. At the time of the first rebuild of the gearbox at the Pryswara Dealership, the mechanic or whoever tried to put the unit back in place did not

have the high side of the cam lobe in the upper most position. They than had to force the unit in place causing the damage to the plunger. I than checked with a few parts distributors, but plungers were no longer available. So rather than wait to see if one would turn up on ebay I decided to try and straighten out the damaged one. The plunger is basically a shaft with a fork at the top which holds a small bearing, similar to a wheel bearing, only smaller. The bearing runs on the cam located on the mainshaft. When the person at the dealership forced the unit back into position, and cam being in the wrong position, it caused the cam to hit the bearing which forced the back of the fork to spread open and rub against the main casing and in turn caused the

plunger to stick in the down position. The trick now was to try and close the fork back to its original position without breaking it. The first step was to drive out the pin that held the bearing in place and than remove the bearing. After the use of various tools, I did manage to straighten the fork and reinstall the bearing to the point where it could be used to run yet another pressure test.



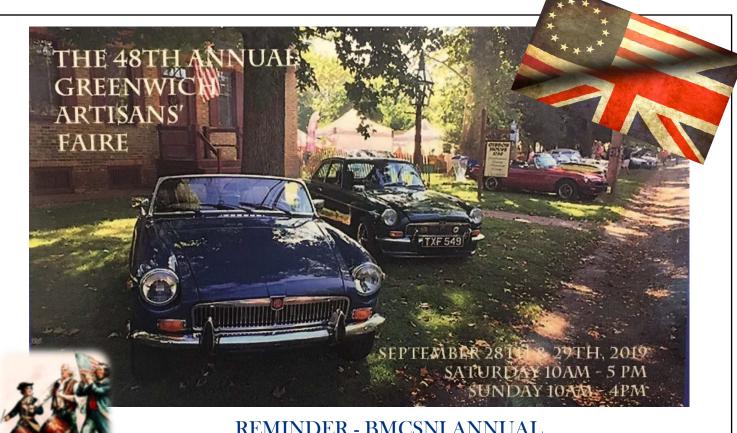
WALLAH!!!!!!!, 550 psi on the gauge. Talk about feeling relieved.



A bench test is a pretty good indicator that everything is okay, but the real test will be when it's back in the car for the road test. I never really felt comfortable with a repaired plunger in the unit, so since the successful bench test I did manage to locate a used front housing which includes the plunger on ebay. I will at some point probably swap out the whole front housing instead of just the plunger. Included in the photos are a couple of photos of the unit I purchased on ebay.

Not sure what part of the restoration will be in the next newsletter. Hope everyone enjoys this one.

Thanks again, Anthony Delia



REMINDER - BMCSNJ ANNUAL SHOW at GREENWICH, NJ COMING UP SOON

Saturday, Sept. 28th

Once again, owners of British cars are warmly invited by the Cumberland County Historical Society, to show them off in Greenwich on Saturday, September 28th. This will make the third year for our annual show at this venue for our club. My, how time flies! As last year, due to an American car show on Sunday the 29th, there will be no rain date for our event.

Also, at the same time and at the same location, the CCHS will be hosting a large Artisans Faire & Market-place. This is a big, fund-raising event for the Historical Society and runs Saturday from 10 AM - 5 PM and Sunday from 10 AM - 4 PM. There will be many interesting, hand-made items and artwork for sale, plus superb food, interesting exhibits of old stuff ("bloody historical pirates" for one). live country music, farm animals, and fun activities for kids and families. Also, Wheaton Arts glass blowers, antique bicycles, and even hand-crafted brooms, no less. And for those who love sailing, trips on the Cohansey River aboard New Jersey's official Tall Ship, the Meerwald, excursions can be taken from nearby Hancock's Harbor Marina throughout the day.

Admission to the Faire is \$5 per person <u>except</u> for British car owners - your admission is \$5 per <u>car</u> - all occupants of your vehicle can visit the Artisans Faire for the cost of a single admission. See below for more details.

Here are the particulars:

What - Annual BMCSNJ Car Show

When - Saturday, September 28, 2019, Show hours from 10 AM until 2 PM

Where - On the grounds of the Gibbon House, located at 960 Ye Greate Street, Greenwich, NJ 08323

Contact - Fred Schuchard, frschuch@gmail.com or 856-305-2602

BMCSNJ ANNUAL GREENWICH SHOW

What you should know:

- 1. There will be an early-morning foot race/walk around the village so the entrances to the town will be closed by the State Police until 9:30 AM therefore do NOT arrive beforehand. Please time your arrival between 9:30 and 10 AM.
- 2. Registration fee is \$5 per car payable at registration. This includes passes to the Artisans Faire for ALL occupants of your car. If paying by check, make it payable to "BMCSNJ". The entire proceeds will be donated to CCHS by our club's treasurer at show's end.
- 3. When you arrive, you will be directed to bring your cars behind a barrier of red cones in front of the Gibbon House. Please stop here and await instructions from the BMCSNJ parking crew. The parking crew will be equipped with swimming pool "noodles" which are used to get your attention in a crowded field. Please go directly to registration after you park.
- 4. A registration desk will be centrally located on the field. Please pay the registration fee here, pick up your show passes, ballot forms, and windshield placards at this location.
- 5. There will be 3 awards presented at 2 PM, 1st, 2nd, and 3rd place. These positions will be determined by the popular vote method. Ballots will be issued at registration. There will be a ballot box on the registration desk. Please put your completed ballots in the box before 1:30 PM. Please return to your cars at this time to attend the award presentation and participate in a photo shoot for the newsletter.
- 6. There is no rush to leave the show after the awards presentation. You may feel free to leave your car on the show site while you spend more time at the Faire or walk around the town to see the many historical homes, the Maritime Museum, the Genealogical Library, the Tea Burning Monument, etc.

I encourage all BMCSNJ members to treat this NOT as just a show, but as a family outing. Please do not come alone - make a fun day of it! There's a lot to do and see here. Make the most of it. Please bring wives, kids, grandpa - you get the drift.

There's plenty of good food to be had at the Faire and clean restrooms, all within a few hundred feet of your car. There's a really good waterfront restaurant and bar about 2 miles from the show called the Bait Box. A great place to go for dinner after the show.

For more info about the show location, please go to: https://cchistsoc.org/

Submitted by:

Fred Schuchard Show coordinator BMCSNJ







YOUR AD COULD APPEAR HERE Find a home for those extra parts or that car that you will never get around to restoring. Raise some cash to buy more extra parts or projects that you do not need!! Contact Ed Gaubert: mggarage@comcast.net

Ads will appear for two (2) issues , as space allows

FOR SALE. 2005 MINI Cooper with 22,000 original miles. 1.6 liter NA with Steptronic select automatic transmission. Loaded, leather interior, new battery, maintenance records kept by fastidious senior owner. This was "her toy". Great car. Economical, dependable, and almost new MINI for \$8,000.





FOR SALE. 1976 MGB roadster. 50,000 miles on engine. No rust body with original paint and interior. Asking \$2,500. Local delivery possible. Gary 856-45five-8349.



FOR SALE. MG Related Books. No interest from last newsletter. Maybe the 10\$ prices too high. See new lower, fire sale pricing below. All in very good condition unless otherwise noted:

Maintaining The Breed (John Thornley)	\$ 5
MGA Complete Story (David Styles)	\$ 5
MGB Osprey Series (Wilson McComb)	\$ 5
Original MGA hardcover (Anders Clausager)	\$ 10
MGA 1500 Factory Workshop Manual AKD600 in binder	\$ 20
MGA History & Restoration Guide (Robert Vitrikas)	
(binding broken, pages punched and inserted into	
a loose-leaf binder)	\$ <u>5</u>
Great Marques MG (Chris Harvey)	
(jacket torn at rear, book in very good condition)	\$ <u>5</u>
MGA 1955-1962 (Brooklands Books)	\$ 5
MG Sports Cars (John Heilig)	\$ 5

Prices are firm, but will sell all together for \$50. Free delivery to any club meeting. No shipping. Ed Gaubert mggarage@comcast.net

FOR SALE:

- 1. Metropolitan 1500 engine. Mild MGA different cam & single barrel downdraft carb. Disassembled for easy loading. No carb or distributor, otherwise complete. For rebuild. \$100.
- 2. MG Midget/AH Sprite 1275 cylinder head. 12G1316 with air ports for rebuild. Complete. \$10.
- 3. MG Midget/AH Sprite top bows, header rail & latches. Very good condition. Fits 67-80. NO top. \$15.

Spring cleaning. Maybe other mechanical parts. Carl Schwab, Sewell, NJ. 856-468-4309 or e-mail: carl78b@aol.com

EVEN MORE FOR SALE!!

FOR SALE [See Photo] 1978 MGB convertible project.

You choose to finish as a sleeper V8 stock look; a custom lead sled; or the primered, MadMaxx ratrod style.

The Buick aluminum 215 V8 was running when installed several years ago.

Carb, accessories, tube headers are included.

Period 2speed powerglide automatic connects to MGB rear axle. MGB brakes.

Will need floor work (if and when you decide to swap Land Rover 4speed automatic or 5speed manual.)

Dash and seat frames included

Top bows included

Rims are 14 x 5.5" direct bolt-on wearing 185/70-14 tires.

The "Cobra" metal sheet half-tonneau is easily reversed as it restricts seat legroom.

Bumpers and lights are included in the boxes of parts.

NJ title in my name, eligible QQ registration. Priced at \$3,000. Gary, Bridgeton 1-856-455-834nine





FOR SALE: 1976 TR6

Green with saddle interior.

Driven into garage 20 years ago, then life Happened.

Has been sitting inside untouched for 20 years.

VA title in owner's name.

\$3,000 or best offer.

Call Peter Voorhis 703-737-0379





FOR SALE: 1622 MGA engine

Looking for about \$500.00 .Call me or email for details ,Roy Sperbeck 856-227-3547 r.sperbeck@Comcast.net

WANTED: For Austin Healey 100-4:

Front and rear bulkheads (finders fee paid also) Gauges and horns

Will consider any other miscellaneous parts that you have. For Austin Healey Bugeye MK I Seats, any condition

Paul pis9@yahoo.com

FOR SALE: 1966 Jaguar tire and wire wheel.

Asking \$175. Larry Cavagnaro 856-691-8165 or Icavagnaro@comcast.net



AND! EVEN MORE FOR SALE!!

FOR SALE: Challenger 7000lb post car lift. Good condition, new cables, good motor. I purchased this lift and realized it is not the type that I need (I need one on wheels that I can move). Selling for what I paid for it. Can deliver, still on trailer.

\$1200 or best offer. Bob Sabota 856-629-9480 or rfs1028@verizon.net

WANTED: Bonnet for MGA. Looking for an MGA bonnet in very good condition. Call Pete 856-667-6657 or tundramgb@hotmail.com

WANTED: For Austin Healey 100-4:

Front and rear bulkheads (finders fee paid also) Guages and horns Will consider any other miscellaneous parts that you have. For Austin Healey Bugeye MK I Seats, any condition Paul pis9@yahoo.com

FREE: 1967 Austin Healey 3000 BJ8 parts in a basket plus a couple bumpers.

Cleaning garage. Jeff text me 856-364-0100

TRADE:

Early Tr3 block with pistons, crank, cam. ++++Front plate has been removed for future Tr4 swap. Trade for TR3/4 steel wheels or bottle of decent Scotch. Joe @ 856-812-1881



CALENDAR OF EVENTS

- The information shown below is the most complete available as this newsletter is printed, and will be entered as space allows.
- Questions about BMCSNJ Events should be directed to Tracy Westergard (events@bmcsnj.org)
- Priority will be given to British Car events which do not conflict with events sponsored by BMC or neighboring clubs...

DATE	BMC EVENT	LOCATION	TIME / CONTACT
September 9/18	Membership Meeting	7 Stars Diner, Sewell	7 pm 6pm Dinner
9/28	Greenwich End of Year Show	Ye Greate St., Greenwich, NJ	10am
			frshuch@gmail.com
October 10/16	Membership Meeting	Uno, Maple Shade	7 PM 6pm Dinner
10/19	Fall Foliage Bring Your Camera Driving Tour	Meeting Point:	10am
Rain Date 10/20	Briving real	Andy's Restaurant & Diner 534 Quinton-Salem Rd. (Rt 49) Salem, NJ 08079	events@bmcsnj.org
		Destination: East Point Lighthouse 10 Lighthouse Rd. Heislerville, NJ 08324 (Port Norris)	
		More information can be found on the BMCSNJ Internet website	
November	No Membership Meeting in		* Charles Address of the Contract of the Contr
December	recognition of the holiday season	The state of the s	

CALENDAR OF EVENTS

THE INFORMATION IN THIS EVENTS CALENDAR IS SUBJECT TO CHANGE.
CHANGES WILL BE COMMUNICATED BY EMAIL.

BMC Membership Meetings

BMC Meetings are generally held on the third Wednesday of each month in alternating locations to best reach our membership base:

Odd numbered months (January, March, May, July, September):

Seven Stars Diner 1890 Hurffville Rd, Sewell, NJ 08080

Even numbered months (February, April, June, August, October)

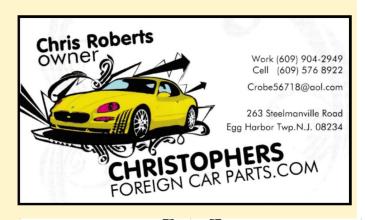
Uno Pizzeria & Grill, 2803 NJ 73, Maple Shade NJ 08052

Meetings are not planned for November or December due to holiday scheduling conflicts. Meetings typically begin at 7pm, with food service beginning at 6pm. Dates and times are subject to change, which will be communicated by email to club members.

BMCSNJ supports safe and responsible enjoyment of British automobiles and motorcycles. All events sponsored by BMCSNJ are alcohol and drug free. Consumption or distribution of alcohol or controlled substances is expressly prohibited. All driving events are conducted in accordance with motor vehicle laws at all times.

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The BMCSNJ Web Site can be found at WWW.BMCSNJ.ORG

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