

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

September / October 2024 VOL. 34 ISSUE 04















Also In This Issue:

RESCUE Squad --Directions to NEW WEB SITE SWAP SHOP !!!



BRITISH MOTOR CLUB of SOUTHERN NEW JERSEY



<u>"Offside/Nearside"</u> 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 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) Tony Roni's Tap Room, 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

<u>Note:</u> 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:

Steve Ferrante president@bmcsnj.org

All Classified submissions should be written in the exact form you wish to have published, with specific information and contact info

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.

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The official BMCSNJ website can be accessed at:

WWW.BMCSNJ.ORG

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SECRETARY'S SATCHEL

September / October 2024 by Tom Evans

August 15, 2024

Considering the age of our cars, I find it amazing that there is still such an interest and a population of these LBCs that there is also quite a pool of parts and repair suppliers available. We do miss Pete Cosmides' Motor Car Garage as a really local resource for expert repairs but we are grateful that Pete has been heading up the BMCSNJ "Rescue Squad," Anyone in the Club with a minor-to-mid repair can request assistance for our able members to solve a problem and lend a hand. The current resources we also have in the are of parts is also amazing. Moss Motors seems to be the go-to source for most of our members and with the purchase of Victoria British in Kansas by Moss and the unfortunate fire at Roadster Factory it has consolidated sources. There are also British Parts Northwest, British Miles (Morrisville, PA) and a few make specific providers. For my Triumph and Land Rover parts I always first relied on Rimmer Brothers in the UK and GT6 parts from SpitBits in Lincoln, CA. After dealing with Rimmer since the '90s I got to know some of the staff and it was even better when Linda and I met them at the Lancaster Classic Car Show in Birmingham UK. It is always great to put faces to the names you have communicated with; Andy Munday (Sales and Marketing Manager), Graham Rimmer (one of the "brothers") and Kelvin from shipping. Now that Radial Equity Partners have purchased both Rimmer and Moss it will remain to be seen if this consolidation and expansion will be good for our industry, I'm sure it will. LBC am byth! (LBCs forever!)

The attendance at the monthly meetings has increased and are a point of enjoyment for those joining together to see friends, meet new members and swap stories. The work of the Rescue Squad has increased the sharing and comradery by successful repairs for several members to date. As mentioned above, if you have an issue with your LBC and would like some help contact Pete Cosmides, his contact information is in this issue of Off Side/Near Side under "Board of Directors" in the front. See some of their work and all the helpers in this issue.

Also see in this issue of Off Side/Near Side how well attended and enjoyed our regular events have been. Recount Smithville, Ice Cream Social, Summer Tour and Cruise to Twin Kiss Drive -in. Coming up is an opportunity to join the Austin-Healy Club in Ocean City on the Boardwalk, The British Invasion in Delaware with our sister motor club in Delaware, our annual show in Greenwich in concert with their Craft Faire, our Club Swap Meet hosted by Mike Eck in Glassboro and our Tour of the Shore. Come out and enjoy!

See y	ou or	า the	roac	١.

Happy Motoring

Treasurer/Registrar's Report

September / October 2024

Money Is No Object



Dear Members,

The weather gods have smiled upon us so far this year and all our planned events were held as scheduled. Participation has been excellent!

September and October will be busy as well with both club and non-club events scheduled.

Our annual club car show will be held at the Greenwich Craft Faire in Greenwich, NJ on Saturday, September 28th, from 10:00AM to 2:00PM. The Fall Tour of the Shore is on October 12th at 10 am and the BMC of SNJ Swap Meet and Barbecue is on October 19th at 10 am.

Attendance at our monthly meetings continues to be well above last year's average as well. We hope all are enjoying the sessions and will spread the word to other members.

Financially, the club continues to have a very favorable balance sheet and cash account. Expenses over the last quarter have been primarily for events and software license renewals.

Our membership increased to 176 over the last two months. All but one member renewed their membership during the last renewal cycle, and we have added four new members. Please continue your effective word of mouth marketing!

Club dues remain at \$15/year (free if you volunteer to host an event). You receive six newsletters per year, access to our Facebook page and unlimited use of club supplied resources! Just a reminder that the Facebook page is for paying members and spouses only.

If you want to renew or if your membership has inadvertently lapsed, please send your payment using one of two methods:

- PayPal: sign on to www.PayPal.com and send your dues to "members@bmcsnj.org".
- Check: made payable to "British Motor Club of Southern NJ" and mailed to:

Brian Deam

900 Riverton Road

Moorestown, NJ 08057

Welcome to our four new members continued on next page.



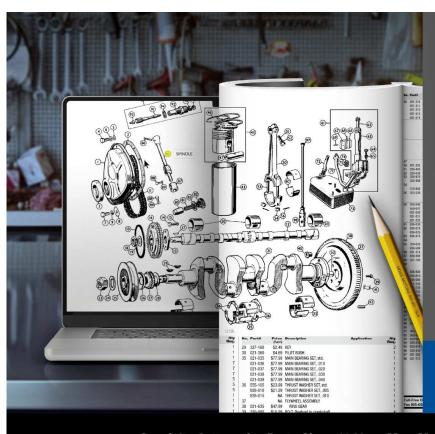
Treasurer/Registrar's Report September / October 2024 Money Is No Object



by Brian Deam

Welcome to our new and returning members: Name Town Car Don O'Connor Barnegat 1978 MGB Steve Yoworsky Barrington 1976 TR6 Harry Kitzmiller Bridgeton 1968 MGB Chris Lillja Lawrenceville 1966 TR4A / 1973 Norton Commando			
Name	Town	Car	
Don O'Connor	Barnegat	1978 MGB	
Steve Yoworsky	Barrington	1976 TR6	
Harry Kitzmiller	Bridgeton	1968 MGB	
	Lawrenceville	1966 TR4A / 1973 Norton Commando	





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Attention BMC of SNJ Members!

I am happy to announce a new benefit available to the club!

The BMC of SNJ RESCUE SQUAD



Perhaps your British car is languishing in your garage due to a mechanical roadblock that you have encountered that has prevented you from enjoying your car.

We have harnessed the collective talent of several club members and are instituting a program that we call "BMC of SNJ Rescue Squad." Our goal is to provide volunteers to help you get your car back on the road. Short of routine maintenance and full restorations, we can help if you have a problem you can't overcome by sending a group of volunteers to your home garage and help you through the process.

Maybe you have a clutch or brake system that needs to be bled and you're struggling with the process. Or, perhaps your turn signals stopped working and you can't wind your way through the electrical diagram to make the repair. Maybe your car ran when parked and doesn't want to start now. Let us know and we will do all we can to arrange for the help you need.

This will provide some fun, social interaction and productive garage time for all parties involved. Refreshments are optional!

One of our original BMC members, Pete Cosmides has offered to get this program off the ground.

So, if you need some help, please contact Pete and he will determine if we can be of assistance. Pete can be reached by email at tundramgb@hotmail.com

By the way, if you want to get involved with the Rescue Squad, you can let Pete know that as well. You don't need to be an expert, but perhaps you have mastered certain mechanical aspects that will come in handy to others under the right circumstances.

Steve Ferrante



BMC of SNJ Rescue Squad report; September / October 2024

By Pete Cosmides

Club member Bruce Kinter of Laurel Springs reached out to me for some help with his 1974 MGB which he recently had painted at a local Maaco shop. Bruce was concerned that some of his wiring, battery and alternator may have been damaged when Maaco had the car. He was unable to start it and some of the lights were not working.

Our Rescue Squad volunteers Ed Gaubert, Steve Ferrante, Andrew Bares, Hank Lipson, Mike Eck, Ira Eckstein and I met at Bruces home. After enjoying some donuts and coffee we set out to determine that first and foremost the battery was dead, with only 3 volts showing. Luckily Ira had brought his MGB and a battery swap ensued to get us to some level of a baseline. With the battery swapped the car started right up and the alternator output was checked and showed 13.4 volts. Quick and easy, we are half way there.

Now the non-working lights were the result of some corroded wiring connectors, which is always the first place to look. Anticipating this, I had brought along my supply of wire bullet ends, connectors and my special crimping tool. It turned out to be a combination of bad connectors, dirty bulb contacts and a dirty hazard switch connection. The turn signal wiring circuit goes through the hazard switch on the later cars. When this switch is not used very often the connections develop corrosion and result in non-working turn signals.

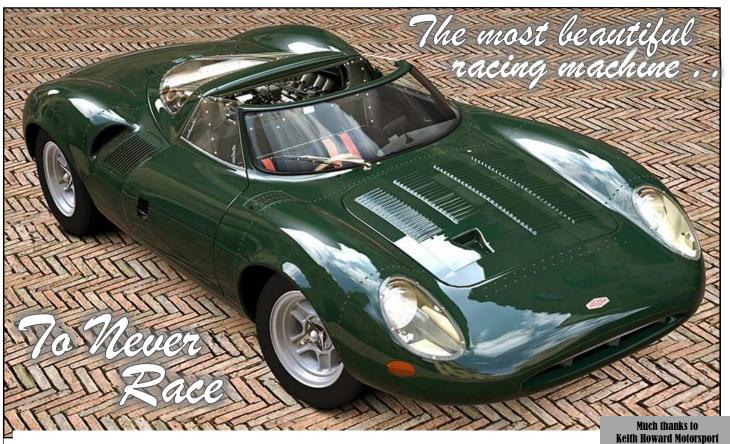
So, the motto for the day was "exercise your hazard switch regularly"

Thanks to the members who came and helped out.

See you out on the road.

Pete Cosmides





THE JAGUAR XJ13

As many have discovered, recapturing past glories in motorsport is no cakewalk. The relentless pace of technological progress is such that just a few years off the treadmill can put you hopelessly behind the game. One marque to have pulled it off is Jaguar.

With five wins in seven years, Jaguar was the most successful manufacturer at Le Mans in the 1950s. Amazingly the engine responsible for these victories was directly derived from the XK six cylinder that also powered the company's range of road going sports cars. From 1958 onward sports racers were limited to a three liter displacement, which left the Jaguar D-Type obsolete. Some privateers attempted to race a three liter version of the straight six engine, but in that configuration it could not match the Aston Martins or Ferraris. In the early 1960s, Jaguar briefly returned to its practice with the development of racing versions of the new E-Type, but again found itself beaten by Ferrari.

The works team withdrew at the end of 1956 and didn't return to La Sarthe until '84, in the lead-up to its emotional win in 1988, emphatic 1-2 finish in '90 and oh-so-near 2-3-4 of the following year. NOTE; Look at the Jag XK 220 LeMans in this issue.

Officially, Jaguar's racing days were over, but behind the scenes a new engine and chassis were on the



drawing boards that were intended to bring Jaguar back to the forefront of endurance racing. A logical development of the XK six cylinder engine would be a V12 and that configuration had been discussed since the mid-1950s within Jaguar. Unlike the XK engine, the V12 was destined to be a racing engine first and then to be introduced in street cars. In the early 1960s the displacement regulations had been relaxed again, so the new V12 could be developed for an upcoming Le Mans engine

November 2003

The fairytale story of Jaguar at Le Mans might well have had another chapter during the 1960s when the XJ13 — Malcolm Sayer's last design for Jaguar, and by common consent one of the most beautiful

racing cars ever built — was developed in secret for a possible return.

The Jaguar XII3

One of the most visually appealing cars of all time.

XJ220

Ok. That being said, and that, in truth the XJ13 is *indeed* one of the most beautiful racing cars ever built, it must be confessed that the XJ13 never turned a wheel in competition. Although a 'new GT prototype' was considered for 1963 or '64, Bill Heynes did not issue a specification for it until 1965 and the only example that Jaguar built didn't run until '66. But, believe it, Jaguar was Not Kidding around!

During testing in early 1966, the XJ13 lapped the MIRA test track at over 161 mph (259 km/ h), establishing a lap record in the hands of racing driver David Hobbs, despite the car still being in the development stages. Secrecy was extremely high. Drive testing of the car without official permissions was in direct violation of Sir William Lyons' edict, a transgression for which Jaguar's test driver Norman Dewis — his official title was Chief Development Test Engineer — famously received a dressing down from the Old Man after an unscheduled run.

The XJ13 project might well have ended after certain circumstances, (ed: the French – sorry) under a dust cover in some corner of a Coventry workshop. But Dewis's enthusiasm for the car was such that Lyons permitted its development to continue, although at weekends only. In



a preguel to what would happen two decades later with the XJ220, (ed: more later in this issue) the project advanced only because of the out-of-hours enthusiasm of the Jaguar personnel who believed in it.

Ultimately it was wasted effort and emotion. A final decision was made not to return to Le Mans (ed: again, those annoying circumstances, ie: the French... officials – again sorry) and

the XJ13 project was laid to rest for keeps. When the car broke cover in 1971 to appear in a film promoting Jaguar's new road-going V12, a faulty wheel failure caused it to crash heavily. Although Norman Dewis escaped serious injury, the car was badly damaged and there must have been those in Jaguar who questioned whether this cul-de-sac in its racing history was worth restoring. But restored it was and upon completion was shown at events as both a static display and in driving form. One of the engines, the better of the two, was destroyed due to over-revving. The other engine was fitted

but the car could now only be driven at slow speeds. (jeez) This engine used a welded piston which hindered the car from its true potential.

Ouch. Scratch one one-of-a-kind ultra rare most beautiful (at one time) car of all time Jaguar prototype. She go boom.

But, the vehicles sad history does not end there; in recent years it fell off a curb and its sump was punctured. After this, the straw that broke the camels back as it were, the car was retired to the museum. Since then, the 'good' engine has been rebuilt, the body repainted, and the chassis repaired as needed. The car now resides in the Jaguar Daimler Heritage Museum in the U.K. It is brought out only for special appearances.



In 2001 an anonymous Japanese collector offered £7m for it but was rebuffed; reportedly it is insured for a similar sum.

Dispassionate? Really??

Setting the car's rarity and beauty to one side, a body of dispassionate opinion holds that the XJ13's fate was exactly what it should have been. That the car might have



been competitive had it raced in 1965 or before, but not by the time it was ready to run in '67. That, not to mince words, it was no GT40 beater.

Dewis passed away in 2019 but late in his life he still drove the car on demonstration runs which put him in a unique position to judge. Because not only did he do the development driving for the XJ13, he also had the opportunity to compare it back-to-back with a GT40 at MIRA in 1966, at the beginning of the



XJ13's year-long leisure-time development program. He was in no doubt as to which was the better car. Despite Jaguar's car being almost totally undeveloped, he always thought it was clearly the better of the two.

Dewis had said, "We were way ahead of the GT40 in many respects, in the performance values alone. The XJ13

was faster accelerating and possibly we'd have seen a higher maximum speed down Mulsanne Straight. We were looking at 200mph-plus. I took it to Bruntingthorpe aerodrome and pulled about 195mph — it was very stable at those speeds, superb. Had we gone to Le Mans I'm sure we would have put up a damn good show."

If he was right, then the XJ13 doesn't deserve to be remembered as a half-hearted effort that delivered too little, too late so much as a car that could, with appropriate support from the bean-counters, have spearheaded a triumphant Coventry return to endurance racing.

Aerodynamics

XJ13's aerodynamics were excellent. Dewis said that he aways believed Malcolm Sayer to be one of the best aerodynamicists ever in this country. "Apart from doing wind tunnel work with him at Farnborough, I learnt a lot wool-tuft testing the cars with him". Dewis remembered, "We used to stop in Nuneaton to buy a big skein of wool and a roll of Sellotape. When we got to MIRA we'd



cut the wool into 4in lengths and stick it all over the car under Malcolm's guidance. He would then be driven in another car alongside, in front of and behind to watch the tufts, and photographs were taken, too. Also, I would record everything I could see from the cockpit. We did this on all the cars. XJ13 was pretty

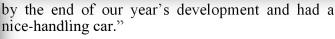


much spot-on straight from the box — it had a very low drag coefficient. But then his shapes were always so good, every time."

Just a few promo shots and then we'll put it away all safe and

As soon as the first prototype of any new Jaguar was built, Dewis took it over until its suspension dynamics were signed off as satisfactory. "I always started carefully, never went straight out and drove a car quickly. The first thing was to go on the 108ft radius steering pad at MIRA. You're only doing 35mph or so round that but you quickly find out the bad habits of a car, its breakaway behavior. If you spin it there, there's no damage done. Whereas if you do that out on the circuit you're likely to bend the car and set back the whole program. Then I'd take the car around the bottom of the banking, where you can get to 100-110mph and find out what the high-speed handling is like. Again it's pretty safe because you've a lot of space. The XJ13 had very rapid oversteer originally—the rear end broke away extremely quickly. But we'd sorted that







Dewis's crash in the XJ13 at MIRA in 1971, while driving the car for a promotional film, was caused by the catastrophic failure of one of its lightweight wheels. "Magnesium alloy wheels were new to us then and what we and the manufacturer didn't realize is that magnesium can corrode internally. The wheels were fresh from the stores — the car had been on the others so long that I'd said to fit new

ones. They looked perfect but even while they were in storage the corrosion was taking hold. When we found the broken pieces of the wheel and took them to the laboratory it was like black coal dust inside. It was a lesson we learnt the hard way."

If the MIRA crash taught Jaguar anything other than metallurgical lessons about magnesium, it was that the XJ13's all-aluminum monocoque formed a tough safety cell in an impact. Although the car rolled end over end and barrel-rolled, the unbelted Dewis escaped without serious injury. "I'd already had a roll-over with a C-type. That was worse because I was pinned underneath that, and couldn't move. I was thinking, any second now there will be a loud 'woof' and that'll be the end of Dewis. The XJ13 crash was a bigger mishap but I was all right tucked in under the scuttle. I just switched off and got down there. The outside of the car looked like it had been in a crusher."



6 x 2= one 12 cylinder eXperimental Jaguar

Codenamed XJ6 (until appropriated by the marketing department, XJ had always stood for eXperimental Jaguar), the 60-degree quad-cam 24-valve V12 had a bore and stroke of 87x70mm to give a swept volume of just under five liters. Compression ratio was 10.4 to 1. Eight units were made, the first of which was originally fitted to XJ13 but later replaced with XJ6/7, the engine still in the car today. The principal difference between them was that X16/1 had chain drive to the cams whereas XJ6/7 had gear drive. There were also small (and largely ineffectual) changes to /7's port angles and it had a 12-cylinder Lucas Opus ignition system rather than the twin six-cylinder units fitted previously. Peak power output was around 500bhp at 7600rpm with 378Ib ft peak torque developed at 6250rpm.

Jaguar had considered manufacturing a Dual Overhead Camshaft (DOHC) V12 engine as far back as 1950, initially for racing purposes, and then developing a Single Overhead Camshaft (SOHC) road-going version, unlike the XK, which was designed as a production engine and later pressed into service for racing. The engine design was essentially two XK 6-cylinder engines on a common crankshaft with an aluminum cylinder block, although there were differences in the inlet porting, valve angles and combustion chamber shape.



Suspension was what we now regard as classic Jaguar — double wishbone from a bolt-on subframe at the front and twin lateral links at the rear, plus long radius arms. The fixed-length driveshafts formed the upper lateral links, just as in the E-type.

Wally Hassan, who moved across to Jaguar from Coventry-Climax in 1966 to develop the V12 for road use, expressed disappointment in his autobiography that the racing version developed only about 100bhp per liter (he was used to achieving 130bhp per liter at Climax) and had poor low- and mid-range torque. George Buck, who worked on the engine, agrees with the

C Type

criticism and explains why: "The angle of the inlet port was basically unsound. It came in from overhead rather than from the side, so instead of a downward curve in the port you had a curve the other way. We never did achieve good flow figures with it. We had to do it like that because we couldn't get the intake manifolds and throttle bodies accommodated any other way — it was a space issue."

The five-speed transaxle was supplied by ZF. Including 41 gallons of fuel and allowing for a trim driver, the XJ13 weighed 2724lb (1235kg) distributed 44 percent front, 56 percent rear. Overall height was 39in, undercutting the GT40, and the center of gravity height mid-laden was **15.06in.**

In the beginning

We know Jaguar's racing program was officially over, but please, just for a little more about this beautiful and powerful car, let's suspend time and take a little trip back to the years before LeMans changed the rules. Back to the early 1960's will do.

As racing regulations became relaxed during the early 1960s, Jaguar saw their chance to return with a V12 engine. The car was drastically different to the prior racing C and D Type cars. It had a mid-engine rear drive layout and a design meant to take advantage of the fast-passed course and sweeping curves of LeMans.



The overall design duties were given to Malcolm Sayer who had been responsi-

ble for designing the C and D-Type race cars of the fifties and sixties. This was another big task, as accomplishments on the racing circuit usually translate into sales for the production-based cars. Poor performance usually does the opposite.

The design structure of a mid-engined prototype was first discussed in 1960 by William Heynes, but it was not until 1965 that construction began, with the first car running by March 1966. The XJ13 has a mid-

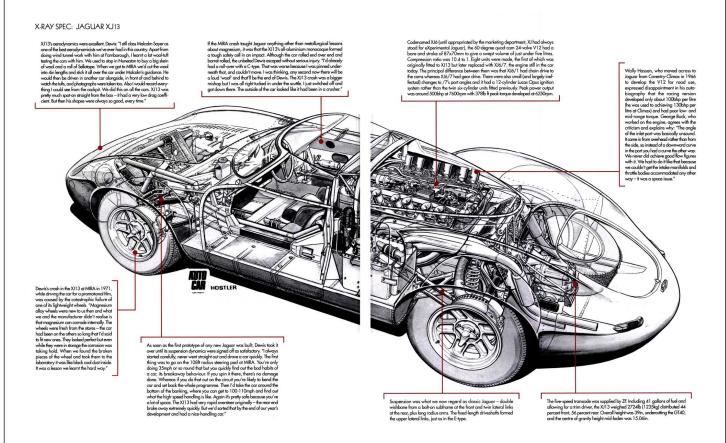


engine format, with the 5.0 liter V12 engine mounted behind the driver. The crew began with a new monocoque chassis with a layout and engine bay similar to the Lotus 25. Just as with the engine, the chassis was formed from aluminum which eliminated the need for steel subframes to carry the suspension. The engine was used as a fully stressed member with the engine and five-speed manual ZF Transaxle driving the rear wheels.

An exquisite creation

The Sayer designed body was created from aluminum and was finished near the close of 1966. When designing the shape of the XJ13's aluminum exterior, Malcolm Sayer, used his Bristol Aeroplane Company background to craft its extremely aerody-

namic lines using techniques borrowed from the aircraft industry. The task of building the car was entrusted by Heynes to Engineer Derick White, Ted Brookes, Mike Kimberley, and Bob Blake in the Browns Lane experimental department's "competition shop"—Blake described by his contemporaries as "An Artist in



Metal". With all the use of aluminum and other weight-saving techniques, the car weighed in at just under 1000 kg.

The front suspension wishbones were similar to that of the E-Type; however, where the E-Type used longitudinal torsion bars, the XJ13 had more conventional coil spring/damper units. The use of driveshafts as upper transverse links at the rear, are again similarities with the E-Type. However, the rest was different, with two long radius arms per side angling back from the central body tub together with a single fabricated transverse lower link.

Heynes and Claude Bailey were given the task of developing a new engine. There were seven prototype engines created with two built to racing specifications and fitted with twin overhead camshafts. The engine was created from aluminum with the six cylinder banks mounted at a 60-degree angle. Experiments were done with carburetion, such as the six twin choke setup, but later replaced in favor of the more advanced Lucas fuel injection system. The carbureted versions produced 445 horsepower in comparison to 500 horsepower with fuel injection. The engine had a displacement size of nearly five liters and could be further tuned to gain a couple hundred more horsepower.

Beauty likes to go Jaaaaaasssssstititititititititititit! (like hell on wheels fast!!)

William Heynes recognized as early as 1964 that a car such as the XJ13 needed an experienced race driver to help develop it. Jack Brabham was approached in this regard, but the challenge was eventually taken up by ex-Jaguar apprentice David Hobbs, who was recruited as the XJ13's main test driver. In 1969, Hobbs was includ-

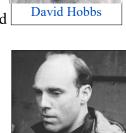


Jack Brabham

ed in a FIA list of 27 drivers who were rated the best in the world. Hobbs achieved an unofficial UK closed lap record with the XJ13 which stood for 32 years. For the XJ13's final test at full racing speed, Hobbs was joined at Silverstone by another racing driver (and ex-Jaguar apprentice) Richard Attwood.

It was brought to the track for its inaugural outing in early 1967. This clandestine outing was to test the vehicle's capabilities and discover its shortcomings. David Hobbs drove the car on the MIRA track and easily broke the track record.

It was now ready for LeMans.



Richard Attwood

The development of the XJ13, although treated seriously by the designers, was never a priority for company management and became less so following the 1966 merger with BMC. The entire project had been done in secret, as the Board of Directors felt it may have a negative effect on the sale of their six-cylinder sports cars.

Look Out! A harsh return to the "Rules, they are a changin" years.

I know that this has been stated a number of times during this article but as we took a trip back in time I might as well say it again because it was the major reason that the XJ13 was never continued as possibly a super car for the Jaguar fans. So one more time, as the XJ13 was being finalized and prepared for serious competition, rule changes were made which immediately made the car *obsolete!!* Ford had de-

veloped the GT40 into the 7.0 liter Mk.II prototype that won Le Mans in 1966, By that time there was a literal flood of dozens of V12 race cars available on the market. Both

Porsche and Ferrari brought 5.0 liter V12 engines to sports car racing as this size was now allowed when the manufacturer produced at least 25 identical "sports cars" up front, even though they were de facto prototypes built to win Le Mans. After Porsche made this expensive gamble in 1969, building 25 Porsche 917s (and later many more), Ferrari sold half of its company to FIAT in order

Porsche 917

to answer with the Ferrari 512S in 1970, of which not all 25 were raced or sold. In addition, Ford upgraded the chassis to the modern

Mk. IV, winner of 1967 Le Mans. Together with the 4.0 liter V12 Ferrari P these sleek







• Frank Raymond Wilton "Lofty" England with Sir William. (24 August 1911, Finchley, Middlesex – 30 May 1995, Austria) was an engineer and motor company manager from Britain. He rose to fame as the manager of the Jaguar Cars sports car racing team in the 1950s, during which time Jaguar cars won the prestigious 24 Hours of Le Mans race on five occasions. After the company's withdrawal from racing, England moved into the mainstream management of Jaguar Cars, later succeeding Sir William Lyons as its chairman and Chief Executive, before retiring in 1974.

cars were so fast that from 1968 onwards the engines of prototypes were limited to 3.0 liter, like in Formula One since 1966.

The Jaguar XJ13 was retired before it ever once circled the track in formal competition. The prototype was put into storage and no further examples were made. Work continued on perfecting the V12 engine for use in production vehicles. By 1971 the engine would enter into production in the third generation of the E-Type.





The JAGUAR XJ220



THE JAGUAR XJ220 WILL FOREVER BE THE CAR THAT WASN'T. WHEREAS REALLY, IT SHOULD BE CELEBRATED FOR BEING THE CAR THAT WAS, AGAINST ALL ODDS.

The **Jaguar XJ220** is a two-seat sports car produced by British luxury car manufacturer Jaguar from 1992 until 1994, in collaboration with the specialist automotive and race engineering company Tom Walkinshaw Racing. The XJ220 recorded a top speed of 217 mph during testing by Jaguar at the Nardo test track in Italy. This made it the fastest production car from 1992 to 1993. (Note: catalytic converters were removed for these trials)



The XJ220 was developed from a V12-engined 4-wheel drive concept car designed by an informal group of Jaguar employees working in their spare time. The group wished to create a modern version of the successful Jaguar 24 Hours of Le Mans racing cars of the 1950s and 1960s that could be entered into FIA Group B competitions. The XJ220 made use of engineering work undertaken for Jaguar's then current racing car family.



Jaguar D Type won Le Mans three times

The initial XJ220 concept car was unveiled to the public at the 1988 British International Motor Show, held in Birmingham, England. Its positive reception prompted Jaguar to Approximately 1,500 deposits of £50,000 each were taken, and deliveries were planned

put the car into production. Approximately 1,500 deposits of £50,000 each were taken, and deliveries were planned for 1992.

Engineering and emissions requirements resulted in significant changes to the specification of the XJ220, most notably the replacement of the Jaguar V12 engine by a turbocharged V6 engine. The changes to the specification and a collapse in the demand of high performance cars brought about by the early 1990s recession resulted in many buyers choosing not to exercise their purchase options. A total of just 275 cars were produced by the time production ended, each with a retail price of £470,000 in 1992, making it one of the most expensive cars at that time.

And it all began with Tom

Racing team owner Tom Walkinshaw approached Jaguar executives with the idea of encouraging the company to enter the XJS into the 1981 European Touring Car Championship.



The partnership succeeded in winning the competition in 1983. Jaguar had started to provide factory support to racing team Group 44 Racing, who were using the Jaguarengined XJR-5 in the IMSA GT Championship, supplying V12 engines from 1983 onwards and supporting a Le Mans entry in 1984. Tom Walkinshaw and Jaguar agreed to enter the FIA Group C World Sportscar Championship and de-



Tom Walkinshaw Ford 1974

XJR 11

veloped the XJR-6, which was powered by the same Jaguar V12 engine used by Group 44 Racing. The car was launched during the 1985 season.

Jaguar and their Director of Engineering, Jim Randle, felt these racing cars were too far removed from the product available to the general public, especially with the rule changes that mandated the replacement of the Jaguar V12 engine in the forthcoming XJR-10 and XJR-11 racing cars. Therefore, a project was initiated to

design and build a car capable of winning Le Mans "in house", just as the C-Type and D-Type had done. The groundwork for the project was undertaken by Randle over Christmas 1987, when he produced a 1:4 scale cardboard model of a potential Group B racing car.



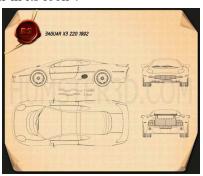
The cardboard model was taken into the Jaguar styling studio and two mock-ups were produced. One was said to be reminiscent of

the Porsche 956, the other took elements of the then current XJ41 project and Malcolm Sayer's work on the stillborn XJ13 racing car. The second design, by Keith Helfet, was chosen as it was "more obviously Jaguar in its look".

XJR 12



The project still had no official support, leaving Randle no option but to put together a team of volunteers to work evenings and weekends on their own time. The team came to be known as "The Saturday Club" and consisted of twelve volunteers. To justify the resources consumed by the project, the XJ220 needed to provide meaningful data to the engineers on handling, aerodynamics - particularly at high speeds - and aluminum structures. These requirements, together with FIA racing regulations and various government regulations governing car design and safety, influenced the overall design and engineering direction of the car.



Professor Jim Randle, former Jaguar Director of Engineering, takes up the story, which starts in the early 1980s.

"Sir John Egan had been tasked with demonstrating Jaguar was still in business and could independently survive. A work level 'bordering on the unbelievable' ensued for every director, selling the Jaguar brand and inventing a believable product plan – which we didn't have... but so good was our deception, BL (British Leyland) believed it!" After six frenetic months Jaguar was privatized in August 1984. "We were then told to make it work."

The XJ220 concept - "Put a frock on it, make it echo the XJ13. Sexy, swoopy and sensuous."

In Randle's interpretation of Sir John's directions, this meant "selling the sizzle became more important than selling the sausage". Jaguar needed to get its pride back. More was needed than just new models like the XJ40.



In stepped Tom Walkinshaw, who convinced the board he could win in ETCC (European Touring Car Cup). With the XJ-S, in 1983, he did. The workforce loved it. Later, he would do the same with Le Mans. But Randle had another idea: produce a road-going supercar designed to race in the fledgling Group B championship being discussed by the FIA (Fédération Internationale de l'Automobile). "I spent Christmas 1987 thinking about what we could do, and ended up with a CAD model, which I still have." (CAD for Randle is, it should be noted, cardboard-aided design...)



astest

AGUAR

"Put a frock on it, and make it echo the XJ13"

This was given to the styling department: "Put a frock on it, make it echo the XJ13" as told by Sir John. Randle also deployed an unwritten understanding with suppliers such as FFD, QCR, Triplex. If they did work, and it worked, they'd get the work. His internal memo requesting volunteers to work on their own time had inspired a crea-



tive spark to ignite the imagination of his Saturday Club of 12. This dedication to the spirit of Jaguar by Randle, and his Saturday Band of engineers, enabled the 220 to join the long line of Jaguar's super cars without overview by the company's bean counters!

The FIA Group B regulations steered the concept towards a mid-engine, all-wheel-drive layout, with a Jaguar V12 engine as the power source. And so, the gestation of a 220mph Jaguar Supercar started.

XJR 13 - Remember me?

The Fastest Production Car in the World!

The name XJ220 was chosen as a continuation of the naming of the **XK120**. It was 40 years after the XK120 did 120mph. That was a development legend, Bill Heynes' car,. Norman Dewis told us, 'honor Bill'." The concept car had a targeted top speed of 220 mph (350 km/h) and Jaguar's famous XK120, like the XJ220, was an aluminum-bodied sports car and when launched was the fastest production car in the world, so the name of Jaguar's newest contender became XJ220.

"It was intentionally complex: four-wheel drive, rear-wheel steer, variable aerodynamics so it could 'drive-to-race', though being a downforce car it would have to lower by a few inches from road guise. The aero was to produce 1,360kg (yes, you read right) of downforce at 220mph – although, what tires could manage such forces? They remained a problem throughout the entire program.

About that V12...

Just one of many clever innovations. "We designed the rear-steer system not for cornering but to put yaw damping in the system. Suspension was relatively conventional but, as it was height-adjustable, we accounted for caster change constraints." The bodywork was 4000-series aluminum, with an FIA roll cage buried within the structure. "It had astounding crash performance."

Keith Helfet did the styling, using the XJ13 as inspiration. Within the constraints of a design "that couldn't be fully oval as we had the constraints of the Group B aero stuff", he aimed to replicate Malcolm Sayer's design language of form being all, getting acceleration into the design, "making it look fast.

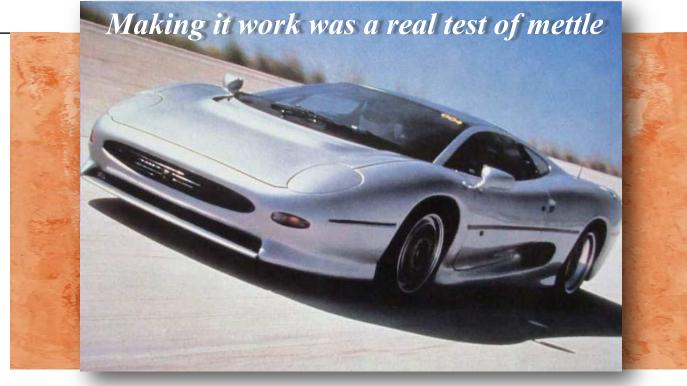




Bill Heynes

Sir John Egan, Jim Randle, Keith Helfet & Sir William Lyons with an early full scale mock up

LINK TURNED



It was an aero-led shape. "I didn't want flame surfacing and feature lines, but shapes that made sense." Jaguar couldn't afford a full-scale model, so everything was done in quarter-scale. It was tested and honed in MIRA's new wind tunnel, and this optimized model became the final car. "It was scary – the thing looked the size of a house. You can't scale the sense of scale! I actually felt guilty, too: we'd made the aluminum body panel beaters' job so hard. Luckily, they disagreed and said it was the highlight of their careers – they'd never been stretched so much."

And so, Professor Jim Randle continues

And so, 10 months after the project started, the 12-strong concept car team wheeled the 220 direct from its press material photoshoot into the 1988 NEC Motor Show at 3am on opening day. "One of the team found six bottles of Champagne. At 6am, we all went home worse for wear." The crowds flocked in, Ferrari became increasingly desperate to draw attention to the F40 parked next door ("They moved the car, then got an attractive lady, who then started taking her clothes off – still nobody turned around."), an extra 90,000 people visited the Birmingham show just to see it – the XJ220 sizzled alright.



Jaguar's marketing department had allocated space on their stand at the motor show for the XJ220 but had not seen the vehicle until its arrival. Jaguar chairman John Eagan and Rodger Putnam, who was in charge of Jaguar's racing activities, were shown the vehicle the week before the motor show and signed off on the concept, allowing its unveiling.



The car received an overwhelmingly positive reception by public and press and a number of wealthy jaguar enthusiasts handed over a large number of blank checks to secure a purchase option should the XJ220 concept go into production.

A Bold Move Indeed, but not without drama of course.

It was a bold Jaguar board that had agreed to green-light the XJ220 production, targeting a 1992 launch just three years hence! And, with no racing intent in mind, it was a focused project engineering team that led to the road car makeup. As was said, the 220 concept car was extremely well received at the 1988 NEC Motor Show, but with the necessary changes made to the 220 in order to bring it to a production ready car there were invariably disappointments by many who placed orders based on the 220 concept car. Undeservedly so, as many reviewers and customers would agree (especially by satisfied buyers who are lucky enough to presently own one of these fantastic cars).

The first customer delivery occurred in June 1992 and production rates averaged one car per day.

The XJ220 was not initially intended to be a production car, but following the reception of the concept and financial interest from serious buyers a feasibility study was carried out by teams from TWR and Jaguar.

The conclusion was that such a car would be technically feasible (subject to engineering changes) and that it would be financially viable. The announcement of a limited production run of Jag 220 to 350 cars was made on December 20 1989. The list price on January 1990 was £290,000 exclusive

of value added tax, options and delivery charges, but by 1992 that had increased considerably owing to indexation of contracts.



Production

The car was assembled in a purpose-built factory at Wykham Mill, Bloxham near Banbury in Oxfordshire. Diana, Princess of Wales officially opened the factory and unveiled the first production XJ220 in October, 1991.

Jaguar was unable to develop the XJ220 in-house as the available engineering



resources were committed to working on the XJ and XJS models. Jaguar and TWR had an existing joint venture, JaguarSport Ltd. formed in 1987 to produce racing cars, so Jaguar's board made the decision that subject to contractual agreement, TWR and JaguarSport would be responsible for the XJ220. JaguarSport formed a new company, Project XJ220 Ltd., specifically to develop and build the car.

Mike Morton

Group B Rally race. What were they *Thinking*?! Look at that guy with the kid on his shoulders!!

Mike Morton would now manage the team responsible for engineering work. Moreton came from Ford Motorsport and was a project manager for the Ford RS200 Group B rally car program. Richard Owen was appointed chief designer and the remainder of the team was made up of Jaguar and TWR staff, including Pete Dodd, the only member of the original group of twelve. The exterior and interior designers who had worked on the XJ220 prototype, Keith Helfet and Nick Hull, rejoined the project when it became clear that more design work would be needed.



Chassis

The production model utilized the same Alcan bonded honeycomb aluminum structure vehicle technology (ASVT) as the concept car for the chassis. The chassis design featured two box section rails which acted as the suspension mounting points and would provide an energy absorbing structure in the event of a frontal impact; these were successfully tested at speeds up to 30 mph (48 km/h). An integral roll cage formed part of the chassis and monocoque, providing additional structural rigidity for the car and allowing the XJ220 to easily pass stringent crash testing.

The exterior retained the aluminum body panels of the XJ220 concept, but for the production cars Abbey Panels of Coventry was contracted to manufacture the body shells. The scissor doors were dropped for the production model and significant redesign work was carried out on the design when the wheelbase and overall length of the car was altered. Geoff Lawson, design director at Jaguar at the time, took a greater interest in the car and insisted the design had to be seen to be as a Jaguar if it

were to be successful in promoting the company. Keith Helfet returned to undertake the necessary redesign work mandated by the change in the wheelbase, which was reduced by 7.9 in.

The suspension fitted to the production model consisted of front and rear independent suspension, double unequal length wishbones, inboard coil springs and anti-roll bars, with Bilstein gas-filled dampers.

The braking system was designed by AP Racing and featured ventilated and cross-drilled discs of 13 in. diameter at the front and 11.8 in. diameter at the rear. The calipers were four-piston aluminum units. JaguarSport designed the handbrake, which has separate calipers acting on the rear brake discs. Feedback from enthusiasts and racing drivers resulted in the decision to drop the anti-lock braking system from the production car.

The braking system was installed without a servo, but a number of owners found the brakes to be difficult to operate when cold and subsequently requested a servo to be fitted.

Steering was 2.5 turns lock to lock power assist rack and pinion steering. The Bridgestone Expedia S.01 asymmetric uni-directional tires were specially developed for the XJ220. Rally alloy wheel specialists Speedline Corse designed the alloy wheels, these are both wider and have a larger diameter on the rear wheels; 17 in. wheels are fitted to the front and 18 in. are fitted at the rear, with 255/55 ZR17 tires at the front and 345/35 ZR18 tires at the rear.

The rear-wheel steering was dropped from the production car. It was heavy, compromise-laden, and unnecessary. So to reduce complexity: it went, as did the height adjustable suspension and active aerodynamic technology. All were sound engineering decisions that created a lighter, faster, more able car than would otherwise have been the case.

Interior

The interior was designed for two passengers and trimmed in leather. Leather trimmed sports seats were fitted together with electric windows and electrically adjustable heated mirrors. The dashboard unusually curves round and carries onto the drivers door, with a secondary instrument binnacle containing four analogue gauges, in-



cluding a clock and voltmeter fitted on the front of the drivers door. Air conditioning and green tinted glazing was also fitted. The luggage space consists of a small boot directly behind and above the rear portion of the engine, also trimmed in leather (ed: of course). The rear lights used on the production XJ220 were sourced from the Rover 200.

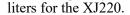
About that V12.... ah

Jaguar's engine designer Walter Hassan had previously developed a 48-valve variant of their V12 engine specifically for motorsport use. It featured a double overhead camshaft layout with four valves per cylinder, compared with the single overhead camshaft and two valves per cylinder of the engine used in the XJ and XJS models at the time. It was further developed with Cosworth and raced in 1986. A road car study found it was definitely powerful, but, as one can believe, uneconomical (ed: as if an owner of a car considered a super car like the XJ220 cared much about economy). As it turned out, the V12 wasn't carried through to the production car (ed: for additional reasons besides economy



explained later), but the concept team was able to steal one of the five original development V12 engines for the concept show car. TWR had manufactured a number of these racing V12 engines during the 1980s and they had been raced competitively, with a 7-liter version of this engine featuring in the Le Mans-winning XJR-9.

While the V12 was still being considered for the 220, one of these engines was shown to be especially useful if it was chosen to be installed in the 220 concept or an actual Jaguar production machine. The benefit would be that the dry sump would lower the vehicle's center of gravity. Not a bad thing. The displacement of the V12 was set at 6.2





And then there was Le Mans

Jaguar's incredible 1988 victory at Le Mans was notable for a number of reasons. It was the brand's first since 1957, and it broke Porsche's seven-year winning streak.



The 1988 win also featured one of the coolest sports prototypes of all time, the mighty XJR-9. A car so mighty, even *huge* gearbox trouble in the last half-hour of the race couldn't phase it. (ed: You go Jaguar!! Sorry couldn't help myself). Driver Jan Lammers had to keep the XJR-9 *in fourth gear* for the end of the race as *the gearbox mainshaft broke*! Had he changed gear, he probably would have destroyed the gearbox, handing the lead, and likely the race, to the Porsche 962 of Hans-Joachim Stuck. But while being stuck in fourth would hamper a lot of cars, it *wasn't enough to stop the Jag.* That's thanks to the incredible torque and flexibility of its 7.0-liter V12 the XJR-9 still had plenty of drive, even off the corners.

Back to that "Concept Car" concept

When the concept car development team realized that if they ever wanted the XJ220 to be a real production car that Jaguar could sell in the US as well as the UK, they would not be able to use the V12. The car's two principal competitors, the Ferrari F40 and the Porsche 959 were both powered by compact, lightweight engines. Ferrari used a 2.9-liter (180 cu in) twin-turbocharged V8 engine that was rated at 471 hp whilst Porsche used a 2.9-liter twin-turbocharged flat-six engine rated at 444 hp, resulting in cars that were significantly lighter and smaller than the XJ220 concept.

With all things considered, it was ideal (Again about that V12 ah... wellahhhhhhhhhhhhhhhhhhh

It was decided that the production version of the XJ220 would use a 3,498 cc (3.5 L; 213.5 cu in) twinturbocharged V6 engine, (the Jaguar JRV-6). This engine, which would replace the Jaguar V12 engine, was a heavily redesigned and significantly altered version of the Austin Rover V64V V6 engine, a shortened Rover V8 whose design had since been sold to TWR. It had racing pedigree (in the Group C cars).

It was powerful, it didn't weigh loads, and, but for the V12 promise, it was ideal. The Porsche 959 could get away with a six-pot turbo, so why not Jaguar?

The decision to change the engine was based on engine weight and dimensions, as well as environmental emission considerations. Use of the shorter V6 engine design allowed the wheelbase of the XJ220 to be shortened and its weight to be reduced; the V12 engine was definitively ruled out when it was determined it would have difficulty at simultaneously meeting emissions legislations. (ed: the consumer didn't care but the U.S. did).



TWR purchased the rights to the V64V engine from Austin Rover in 1989 and developed a completely new turbocharged engine, codenamed JV6, under the auspices of Allan Scott, with proportions roughly similar to the V64V, and suitable for sports car racing. As the V64V was originally naturally aspirated, it was necessary to redesign all parts of the engine to accommodate forced induction. A few of the changes included increasing the displacement to 3.5 liters, strengthening the internals and adding two Garrett TO3 turbochargers. The JV6 engine would first be used in the JaguarSport XJR-10 and XJR-11 racing cars; its compact dimensions and low weight made it an ideal candidate for the XJ220. The engine had a 90° bank angle, four valves per cylinder and belt-driven double overhead camshafts.

The XJ220's engine was rated at a power output of 542 hp at 7,200 rpm and torque of 475 lb·ft at 4,500 rpm. It could accelerate from 0–60 mph in 3.6 seconds and could attain a top speed of 212.3 mph. *Road & Track* tested a top speed of 210.5 mph, 0–60 mph acceleration in 4.8 seconds and 12.4 seconds for the standing 1/4 mile.

The V64V engine had the additional benefit of being very economical for such a powerful petrol engine. According to Jaguar it was capable of achieving 27 mpg. In contrast, the Jaguar saloon having the smallest engine of the time, the XJ6 3.2 could only achieve around 20 mpg.

Transmission

All-wheel drive was decided against early in the development process. It was thought rear-wheel drive would be adequate in the majority of situations, that the additional complexity of the four-wheel drive system would hinder the development process and potentially be problematic for the customer. The transaxle featured a viscous coupling limited slip differential to improve traction.



The turbocharged engine required larger air intakes to feed the two intercoolers. Situated between the doors and the rear wheels, the air intakes were larger on the production version of the XJ220 than on the concept car. A number of small design changes for the body were tested in the wind tunnel; the final version had a drag coefficient of Cd=0.36 with downforce of 1,361 kg (3,000 lbs) at 200 mph. (Really) The XJ220 was one of the first road cars to intentionally use underbody airflow and the venturi effect to generate downforce. Additionally, the XJ220 could be ordered with optional BBS wheels for improved brake ventilation and aesthetics.



Overwhelming by many but

Press coverage of the XJ220 concept in 1988 was overwhelmingly positive and contributed to the decision in 1989 to put the XJ220 into limited production. The production version of the car was first shown to the public in October 1991, at the Tokyo Motor Show. The first car was launched for press review in Autumn 1991.

Autocar's Andrew Frankel was the first journalist to road-test the car and reported: "Savage acceleration really is a given here. What's really incredible about the XJ220 is its ability to provide such performance in a way that never, ever intimidates."

Performance Car reviewer John Barker was also impressed with the performance as well as the ride and stability of the car, writing "The V6 has a rumbly, loping note which, in league with a remarkably supple ride, belies the speed we are travelling at. I glance to the speedo and have trouble believing that it is indicating 170 mph." Barker was also impressed with the engineering, saying "this car is catalyzed, fully homologated and has passed the same tests that a Volvo needs before going on sale". The fact is that they are in command of the most accomplished supercar ever made should suffice."

Ergonomics and ride were also praised by Gavin Green in *Car* August 1992: "you sit straight ahead, pedals and four-spoked Nardi wheel beautifully positioned. There's none of the askew nonsense that plagues Italian supercars...forward visibility is panoramic and side vision is good. Rear vision is better than on some other mid-engined monsters."

In a comparison test published in the *Car* March 1994 issue, the testers liked the "sheer blistering pace, looks and a superb cabin" but its size, the doors not opening far enough and handling were criticized: "If there's a more evil device on our roads, I wouldn't like to find it, for the XJ220 suffers from immense initial understeer followed by violent and snappy pendulous oversteer." Most disappointing was the engine, at idle it sounded "like someone's clanking a bucket of rusty nails together". While its rival, the Bugatti EB 110, impressed the testers, the XJ220 disappointed: "The Jaguar is outmoded and lacks soul: it looks like a cynical marketing exercise and feels it in its lack of purity and coherence." (ed: OUCH!)



And in General?

Motoring journalists have been critical of its size, being too big for a two-seater with virtually no luggage space, too wide to fit through traffic restrictors or to drive comfortably on most roads. The very heavy unassisted steering and pedals, underwhelming brakes without ABS, poor directional stability and "terrible visibility" were also disliked. Most criticized was the behavior at low revs, the engine sound was described with words like "a pail of nuts and bolts being poured through a Magimix", rattling clutch, grinding transmission, crackling chassis, rumbling and groaning body contributing to the impression of imminent breakdown. Driving in the city was sheer torture, worsened by the first gear being far too tall for stop-and-go traffic.

And if that wasn't bad enough there was the dreaded reality of, Sales

Sales performance was disappointing. Jaguar had intended to produce up to 350 cars, but production ceased in 1994 with 281 production cars produced, not all of which had been sold; some left-hand drive examples were still available in 1997. The recession combined with the drastic changes to the production version left many of those who placed a deposit unable to complete the purchase. The index linking of contracts exacerbated the issue, and added almost £200,000 to the purchase price between early 1990 and mid-1992. The McLaren F1 suffered from similarly poor sales performance, with just 71 cars sold against McLaren's target of 300. McLaren's F1 program eventually turned a small profit due to the sale and servicing of the 28 GTR racing variants produced.

Jaguar customers attempting to withdraw from their contracted purchases were given the option to buy themselves out of their contracts, but by 1995, the issue had resulted in legal action as buyers claimed the specification changes rendered any contracts void. Jaguar produced evidence clearly demonstrating that the vehicle specification shown in the contract matched the vehicle that was delivered and the presiding judge, John Donaldson, quickly ruled in Jaguar's favor.

The last of the unsold XJ220s were sold for £127,550 plus VAT in 1997. While never officially approved for sale in the United States, the XJ220 was approved under the Show or Display exemption by 2001.

The last XJ220 rolled off the production line in April 1994; the factory was then transferred to Aston Martin and used for the assembly of the Aston Martin DB7 until 2004.

TWR developed a further six road cars called the XJ220-S, featuring one-piece carbon-fiberreinforced polymer front and rear bodywork; the engine was tuned to 700 PS (515 kW; 690 hp). The XJ220-S models did away with the hidden headlamps of the original and instead opted for Perspex covered lights. The S models were essentially roadgoing versions of the XJ220-C race car and as a result featured a much simpler race-orientated interior with Kevlar seats and the removal of the leather trim. [4][81] Colin Goodwin, a writer for Autocar, tested an XJ220-S in June 1995 at Millbrook Proving Ground and set the lap record at an average speed of 180.4 mph (290.3 km/h).



The Jaguar supercar could be due for a revival

Production ceased in 1994, 281 cars into the planned 350 total, with a fizzle. Yes, history is unkind to the XJ220. It was, at 213mph, the fastest car in the world, despite being developed on a shoestring at breakneck speed. The reces-



sion, the no-V12 fallout, the court cases from aggrieved owners, all shadow what is a pretty stunning accomplishment: an automotive minnow turning a race-inspired piece of conceptual engineering brilliance into a roadgoing reality that beat every other supercar on the planet. 20 years on, it's time we celebrated it.

Editor: I concur!!









Lets Make It Official. We need a "Take Your Dog For A Ride In Your LBC" DAY!!

Martin Fiedler says,

Meet Cleopatra, our 2 year old mixed breed medium sized girl. She enjoys rides and having that whole MGB behind-the-seat space to herself.



She was sorry she missed going to the Ice Cream Social. We left her home due to heat concerns.

Editor says:

Ah, She looks so sad. If things are a little cooler next year maybe we can get to see Cleopatra a buy the Queen a dish of Ice Cream. She's certainly Queen of your hearts. (If not Egypt!!)





William 'Bill' Munger Heynes



William 'Bill' Munger Heynes (born31 December 1903 – July 1989), in Leamington Spa, was an English automotive engineer.

In April 1935, after the Rootes Group takeover, he was chosen by William Lyons to join SS Cars Ltd. Initially he worked on the chassis and suspension but was also responsible for increasing the power output

of the modified Standard Motor Compa-

ny engines then being used. He worked on development of an overheadvalve conversion for the Standard 6-cylinder engine. One of the first cars to ever have it installed was the SS Jaquar 100.

Following World War II, SS Cars was renamed Jaguar. Heynes, who was appointed to the main Board of Director as Technical Director and Chief Engineer (1946), had earlier persuaded the

chairman William Lyons that the company

should make its own range of engines. During late war time the XK engine was designed and later developed with a launch in 1948 at the London Motor Show with the new XK120 sports car. The XK engine remained in production in 2.4, 2.8, 3.4, 3.8 and 4.2 models and was a significant design as the mainstay of the company for 35 years.



With Dunlop he was responsible for the Disc Brake joint development in 1952 and later Heyn

Brake joint development in 1952 and later Heynes following racing experience pioneered and introduced the system on all Jaguar cars. The Mk 1 2.4 saloon 1954/55 with monocoque body construction followed the forward design thinking of Heynes and his engineers, post war. This was later in 1961 followed by a world leading independent rear suspension designed by Heynes and developed with R J Knight. This unit remained the standard rear suspension thirty years in E-Type, Mark X, S-Type, 420, XJ6 and XJ12 Series 1, 2 and 3, and XJS.











The Heynes design with Walter Hassan development of torsion bar front suspension was introduced on Mark V 1947 and XK120 1948 and was used on all XK sports cars and Mark VII, VIII and IX saloon cars. A similar design was introduced on all E-Types from 1961 to 1975.

His team of engineers including Harry Weslake (consultant), Walter Hassan and Claude Baily designed the 6-cylinder XK engine, that proved to be the biggest and longest lived success of Jaguar. In 1964 the first V12 engine prototypes were produced and developed and tested. A prototype race car was initiated for Le Mans. A single V12 car XJ13 was completed and tested in 1966 with competitive lap times at Silverstone prior to the project being cancelled. The V12 engine continued to be developed in line with emerging emission regulations for Series 3 E-Type and XJ12 / XJS.

Heynes was Chief Engineer from 1935 until his retirement. As Chief Engineer and Technical Director he was responsible for all Jaguar design / engineering from 1935 up to and including XJS.

Continued on next page.

Heynes designed the XK range of sports cars XK120 XK140 XK150, including full design of the C-Type 1951 followed by his monocoque body design of the D-Type 1954, followed by the E-Type 1961.

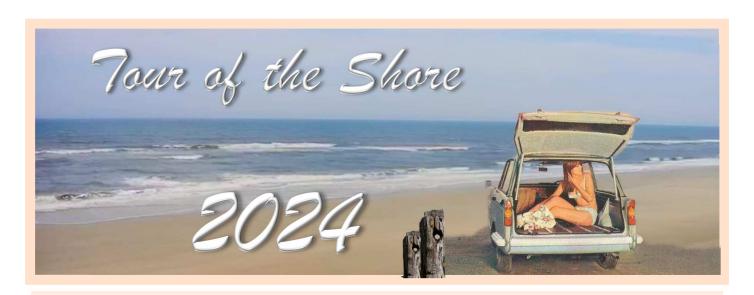
Sir William Lyons was persuaded by William Heynes to enter motor racing in 1950 with XK120 works prepared, privately entered cars at Le Mans; this was followed by winning the Le Mans 24 hour race in 1952 1953 with the C Type and 1955 /56 /57 with his monocoque designed D type. Heynes continued to support private race entrants from the experimental competition section, including Briggs Cunningham in the USA with a single prototype E2A, the forerunner of the E Type, and Lister Jaguar in 1958/59 Le Mans and with the full race lightweight E Type 3.8 in 1962/63/64. A mid engined V12 race prototype XJ13 was designed 1964 and tested until cancellation of this last Heynes engineered race car during the company merger with BMC in July 1966.

Heynes designed the first British monocoque (unitary) saloon 2.4 and 3.4 models 1955, followed by Mk 2 models with 3.8 liter XK engine. The earlier Jaguar saloon cars from 1950 Mk7 Mk8 Mk9 continued in production with 3.4 3.8 engines until 1961. Heynes was responsible for the Mk 10 saloon October 1961, which incorporated new front suspension in conjunction with a new independent rear suspension also designed for the E Type introduced earlier in 1961. Introducing two new models in the same year determines his great engineering and design strength from a small talented engineering team.

Heynes with Sir William Lyons designed and engineered the XJ6 saloon, launched in September 1968. The model was voted best car of the year and laid the foundation for the next seventeen years. The XJ6 success was followed by XJS using similar chassis platform and V12 power units designed and initiated by Heynes before retirement.

Heynes always acknowledged his engineering team which he had directed and built up from 1935 and their contribution to the success of Jaguar.





Plan to join us October 12 th. for our Third



Tour of the Shore!

We plan to meet at the Atlantic County Park at Lake Lenape in Mays Landing at 10:00 am.

From there we will drive through the Southern New Jersey woods until we end our trip in Stone Harbor at the New Jersey Shore.

Many of us have lunched at Fred's Tavern in Stone Harbor.



British Motor Club of Southern New Jersey GRILLE BADGE SALE **ONLY A FEW REMAIN AVAILABLE**





Badges are metal with enameled surface and mount by two studs that screw into the back of the studs shown above.

Cost is \$39.50 each including mounting hardware and shipping.

Payment by check made out to British Motor Club of Southern New Jersey or by Paypal sent to members@bmcsnj.org

I would like _____ grille badge(s) at \$39.50 each = \$____ total.

Name	
Street address	
City, State & Zip Code	
Phone Number	
Email address	

Checks should be sent to:
British Motor Club of Southern NJ
Brian Deam – Treasurer
900 Riverton Rd
Moorestown, NJ 08057







The New BMC of SNJ Marketplace

If you were wondering where the Swap Shop ads went, then read on.....
Beginning this month, we have added a new tab on the website where all For Sale/Wanted ads will be located. It will be a single link on the website that will show all the available listings together. This listing will be updated monthly instead of waiting for two months until the next newsletter arrives!

You can access the new feature by going to:

www.bmcsnj.org

At the top right, click on "More"
Then click on "Marketplace."
Then click on "BMC of SNJ Marketplace – Current Month."

To make this successful, all For Sale / Wanted ads must be submitted to the president@bmcsnj.org email address before the 20th of each month to be included in the next month's listing.

The more information that you provide will increase the chance of a sale, so be sure to include the following at a minimum.

- Your Name.
- Your Phone Number and/or email address.
- Detailed description of what you are selling (it will be copied exactly.)
- Pictures of what you are selling in .jpg format. I can include up to three pictures per ad.
- Price for each item, or list as "free" or "make offer."

Ads that are incomplete will not be included. Ads will run for two consecutive months and will be deleted from the list unless you request that it be extended. I am hoping that this change will make items available to our members sooner and increase your chances of selling your items! As always, I'm willing to hear feedback and looking forward to making this work for all BMC of SNJ members.

Steve Ferrante
BMC of SNJ Board Member

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.

THE INFORMATION IN THIS EVENTS CALENDAR IS SUBJECT TO CHANGE.
CHANGES WILL BE COMMUNICATED BY EMAIL.
YOU CAN ALSO CONSULT OUR WEBSITE: https://bmcsnj.org

DATE	BMC EVENT	LOCATION / STATUS
* January 17th.	Membership Meeting Dinner at 6:00PM (member expense) Meeting at 7:00PM	7 Stars Diner Sewell, NJ 6:00-8:30 Mike Eck eckmichael@comcast.net
* February 21st.	Special Membership Meeting @ Simeone Museum celebrating "Best of Britain" the British V-8 6:00PM	Simeone Museum SimeoneMuseum.org Pete Cosmides tundramgb@hotmail.com
Ongoing thru 20th.	Ongoing Austin Healey Display Brought to you by Austin Healey Sports & Touring Club	AACA Museum Hershey, PA
* March 20th.	Membership Meeting Dinner at 6:00PM (member expense) Meeting at 7:00PM	7 Stars Diner, Sewell 6:00-8:30 Gary Warren garswc@yahoo.com
* April 17th.	Membership Meeting Dinner at 6:00PM (member expense) Meeting at 7:00PM	Uno, Maple Shade 2803 NJ Rt 73 South Maple Shade, NJ 6:00-8:30 Ed Gaubert mggarage@comcast.net
* April 20th.	Spring Tour lunch is available at the Laurita Winery 10:30AM	Batsto Village (Rt 542 Hammonton, NJ) to Laurita Winery (Rt 640, New Egypt, NJ) Lunch Available events@bmcsnj.org
April 27th.	K&T Vintage Open House/Swap Meet British Car Parts	K&T Vintage 6584 Ruch Road Bethlehem, PA ktvintagecars.com
May 4th.	The British are ComingAgain Car Show	British Car Club of Delaware Lewes, DE
May 5th.	New Hope Auto Cars and Coffee Event These Cars and Coffee events that they host are almost better than their annual show. They fill up fast with an incredible array of cars and there is no charge. Just show up, coffee and donuts are available.	8:00AM-11:00 The main parking lot fills up by 8:30, the grass field becomes overflow.

DATE	BMC EVENT	LOCATION / STATUS
May 11th.	The First Annual Roadster Rally Open Car Show for all roadsters/convertibles 9:00AM-4:00PM	Ocean City Boardwalk theroadsterrally.com
* May 15th.	Membership Meeting Dinner at 6:00PM (member expense) Meeting at 7:00PM	7 Stars Diner Sewell, NJ 6:00-8:30 Contact Person?
* May 18th.	BMCSNJ Club Picnic	Pakim Pond Picnic Area Brendan Byrne Forest Woodland/Vincentown, NJ
June 1st.	29 th Red Mill British Car Day 10:00AM – 3:00PM	Red Mill Village Museum Clinton, NJ austin-healey-stc.org/redmill.html
June 1st.	Cars & Motorcycles of England 8:30AM – 3:00PM	Hope Lodge Historic Site 553 S. Bethlehem Pike Ft. Washington, PA DVTR.org
June 9th.	30th Annual British Motor Gathering Car Show 10:00AM – 3:00PM	Alfred Fritchman Reservoir Park Hellertown, PA KeystoneBritish.com
* June 19th.	Membership Meeting Dinner at 6:00PM (member expense) Meeting at 7:00PM	Tony Roni's Tap House, Maple Shade 2803 NJ Rt 73 South Maple Shade, NJ 6:00-8:30 Contact Person?
* June 22nd.	Members Memorial Gathering at Smithville to benefit Samaritan Hospice 10:00AM-2:00PM	www.historicsmithville.com Fred DeSantis captain172@comcast.net Rain Date 6/23
June 24th.	Philadelphia Concours d'Elegance A fund-raising event that provides help and hope to children born with rare genetic diseases, and supports research at the Children's Hospital of Philadelphia. Jaguar is the featured marque and thirty or more curated Jaguars will be displayed.	Simeone Museum SimeoneMuseum.org

DATE	BMC EVENT	LOCATION / STATUS
July 7th.	Rebels & Redcoats Auto Show 10:00AM – 2:00PM	Washington Crossing Historic Park 1112 River Road Washington Crossing, PA washingtoncrossingpark.org/events
* July 17th.	Membership Meeting Dinner at 6:00PM (member expense) Meeting at 7:00PM	7 Stars Diner Sewell, NJ 6:00-8:30 Contact Person?
* July 20th.	British Car Owners Ice Cream Social 2:00PM-5:00PM	5 Points Custard E. Landis Ave. (Rt 540) & Tuckahoe Road (Rt 557) Vineland, NJ
August 4th.	New Hope Auto Cars and Coffee Event These Cars and Coffee events that they host are almost better than their annual show. They fill up fast with an incredible array of cars and there is no charge. Just show up, coffee and donuts are available.	8:00AM-11:00 New Hope-Solebury High School 180 W. Bridge Street New Hope, PA newhopeautoshow.com/cars-and- coffee
* August 3rd.	SUMMER 70UR Hosted by Tracy Westergard	Meet at the Woodstown Diner 16 East Main St. Woodstown, NJ 10:00am meeting time, come early if you would like breakfast.
* August 21st	Membership Meeting Dinner at 6:00PM (member expense) Meeting at 7:00PM	Tony Roni's Tap House, Maple Shade 2803 NJ Rt 73 South Maple Shade, NJ 6:00-8:30 Contact Person?
September 9th	Grand Prix Festival of Watkins Glen (MG is the Featured Marque)	grandprixfestival.com
September 15th -18th.	Austin Healey Convention Car Show on the Ocean City Boardwalk	Flanders Hotel Ocean City, NJ www.austin-healey-stc.org

DATE	BMC EVENT	LOCATION / STATUS	
* September 18th.	Membership Meeting Dinner at 6:00PM (member expense) Meeting at 7:00PM	7 Stars Diner Sewell, NJ 6:00-8:30 Contact Person?	
September 21st.	Brits on the Beach	Ocean Grove, NJ PEDC.org/botb	
* September 28th.	BMC of SNJ End of Year Car Show at Greenwich Artisans Faire 10:00AM – 2:00PM	On the grounds of the Gibbon House 960 Ye Greate Street Greenwich, NJ Gary Warren garswc@yahoo.com or 609-247-3499	
October 5th.	Brits at the Village	Peddler's Village Lahaska, PA www.phillymgclub.com/brits-at-the-village	
* October 12th. Rain Date 13th.	Fall Tour of the Shore Lake Lenape to Stone Harbor Oct. 12th.	Meet at Lake Lenape Park at 10:00 am. It's important to go to the "Park" entrance off Atlantic 559 and not the Lake entrance. After meeting in the park well drive to Stone Harbor for Lunch. Contact Person is Joe Marchione 609-412-4414	
* October 16th.	Membership Meeting Dinner at 6:00PM (member expense) Meeting at 7:00PM	Tony Roni's Tap House, Maple Shade 2803 NJ Rt 73 South Maple Shade, NJ 6:00 -8:30 Contact Person?	
* October 19th	BMC of SNJ SWAP MEET and BARBECUE	Hosted by Mike Eck and Becca Payonk, 418 Whig Lane, Glassboro 08028	
Rain Date 26th.		start time of 10:00AM for vendors 11:00 for everyone else	
December	No membership meeting in recogni		

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

CALENDAR OF EVENTS

British Car Event Calendar of the Northeast

With the kind permission of one of our neighboring clubs, the Keystone British Car Club based in the Lehigh Valley, I present to you their very comprehensive calendar of events featuring many British Car Shows and events of interest in the PA/NJ/DE region.

I know many of you have never attended a British Car Show and perhaps you don't quite know what to expect. If your car is not "show quality" that should not preclude you from attending. Not all attendees are trophy hunters and many folks just attend for the camaraderie and the sharing of knowledge that comes with a gathering of like minded British car enthusiasts. It's nice to attend these shows, enter your car and support the surrounding clubs of their efforts. If nothing else, it may garner some reciprocity for attendance at our club's shows and events.

However, I think one important aspect of regularly attending these events is that it gets your car out on the road and away from your local neighborhood comfort zone.

It will push you to clean and maintain your car and engage you with the hobby. I have found that the cars that are used most regularly often give the owners the most pleasure because it gets you to sort out any niggling issues with your car and makes it roadworthy. The more and further you travel, the more confidence you will have in the car for longer trips. In my case, I enjoy the drive to and from some of these events as I will usually choose a scenic route.

So, let's get out there and I hope to see you at some of these area events this season.

Peter Cosmides

Below is a link to a list British car events in the greater Northeast. (And beyond, for national meets and other large events of unique interest.) Also included are classic car events and community car shows of interest to our members

CLICK ON THE LINK BELOW TO ACCESS THE CALENDAR

British Car Calendar | Keystone British Car Club

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FULL AD ON PAGE 25



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

