

Jaguar Jottings

AUGUST 2012

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Ottawa
1986  Club

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Events This Month

11th Aug - Summer drive

12th Aug - Cornwall Olde Car Club Autorama

19th Aug - Boot n Bonnet Club show

25th Aug - Club Picnic

Membership Dues

Dues are \$50. Our excellent benefits plan includes membership in OJC as well as the Jaguar Club of North America, the *Jaguar Jottings* monthly newsletter and JCNA's bi-monthly magazine, *Jaguar Journal*.

Make your cheque for \$50.00 payable to: **Ottawa Jaguar Club**. And mail it to the Membership Director Karen Wilson. Please do not mail cash.

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Jaguar Jottings

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Jaguar Jottings is an official publication of the Ottawa Jaguar Club. Eleven issues are produced February to December for the information of its members. We welcome your participation. Deadline for contributions is the 20th of each month. All rights reserved. Reproduction and /or modifications are prohibited without prior written approval. Visit us at www.ottawajaguarclub.com.

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President's Musings

Never thought I'd say it but at this point in the unrelenting sunshine and heat of Summer 2012, we could almost do with a spot of rain! I said "almost" as I personally love the sun and blue skies for motoring, although no doubt I'll pay for it later with high-priced veggies from our beleaguered farmers.

The conditions were never more evident than at last weekend's **ABCD (All British Car Day)**. With the usual lush green grass of Britannia Beach given over to the golden hue of fresh-mowed hay, the event this year was unofficially re-titled "**ABC Desert Classic**". Nevertheless, near 200 of Britain's finest automobiles (plus one confused Lamborghini owner) assembled under brilliant sunshine. I'll leave further details to the report elsewhere in the Jottings but I wanted to pass on a few personal observations.

ABCD is the event I look forward to most each year. While an ardent (..okay fanatical..) Jaguar fan, there are many other "Made in Britain" products that I covet for my imaginary, unlimited garage. In bygone years, I progressed through a memorable succession of Minis (the original ones) and Spridgets before coming upon the E-type I still own. I always wanted a Lotus Elan, a Morgan +4 and a Mini Cooper S 1275 so it's a real treat to see lovingly cared for examples of these and others at Britannia each year. That said, the most interesting comment I overheard this year came from a middle-aged owner of a Bug-Eye Sprite in nice but not concours condition (including fuzzy seat covers) who remarked that he continues to own the car "because I just love driving it". That in essence is British car ownership. While the general discussion at ABCD may reflect the travails of keeping these often exasperating, wheeled conveyances

mobile, I can almost guarantee that they drive with a broad grin on his/her face, when they manage to get all the rotating bits operating in harmony. I for one value the reliability of the family Honda in the middle of January but it has all the driving enjoyment of a dump truck on castors. As long as that remains so, there will be a Jag (or two) in my garage.

Another aspect of ABCD I really enjoy is discussing cars with fellow enthusiasts and visitors. Not surprisingly it's mostly "Jaguar-centric" often focused on "the E-type that got away" a neighbor's Jag adventures but most often about where to get good repair and servicing. These days, we live in a DIY society (check out Rona and Home Depot ads) so many of the older Jags have seen a succession of ambitious, wrench-wielding owners with little more than a positive "can do" attitude. While many achieve acceptable results, at some point there's no replacing the experience and knowledge of a qualified mechanic in solving elusive problems, often the product of an accumulation of well-meaning but misguided efforts. There are also those with no illusions of technical prowess simply looking for a faithful caregiver for their Jag. Without the expertise, the originality and successful operation of these cars will disappear over time.

The issue was raised often enough at ABCD that it becomes alarmingly apparent there are few really knowledgeable, trained mechanics in the local area that can still repair and service the older British cars (Jags in particular which are more complex than their Triumph and BMC equivalents). Further, those still around are (to be polite) no longer in "the full bloom of youth" and few if any are passing on their skills to apparently disinterested youngsters

more inclined to want to plug a car into a computer to solve problems. So what's the solution? Other than end-running the federal immigration policy and strong-arming a container-load of Brit mechanics to move to Ottawa, we have to make do with what we have...encourage the skilled few to stay in business by giving them business, mine the club for the assistance of the several very knowledgeable restorers (they will help if you ask) and take the time to learn some of the basic skills to keep your beast running. Without a proactive approach, I shudder to think what ABCD 2032 may look like.....

Events

With our membership now crossed 90 (members, not age...), I very much look forward to two upcoming events this month ideally suited to meeting the newbies as well as the usual suspects:

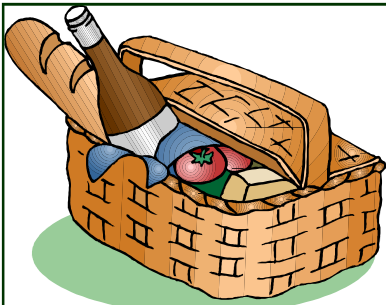
11th August—Summer Drive &

25th August—Club Picnic

Come on out to enjoy the remnants of the summer motoring season. Details are elsewhere in the Jottings as well as online at www.ottawajaguarclub.com in due course.

Cheers and happy, safe motoring,

Rob Dunlop



OJC Summer Picnic

Enjoy a drive to the Country!!

Saturday, August 25th
(Rain date August 26th)

From Noon to Whenever
at The Robertsons,
252 Timberwood Drive, Carleton Place, ON

Bring a picnic lunch and a chair or two

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Guide Dogs for the Blind: Annual British Sponsorship Day

For several years the Ottawa Jaguar Club has been invited to join the Canadian Guide Dogs for the Blind National Training Centre in Manotick to celebrate British Sponsorship Day. They invite their friends to join them in a British setting with a light lunch and some live music. Initially our numbers were about 20 however that has been dwindling so the invitation was opened to all the British Car Clubs. The cars are of great interest to the invited guests and really set the scene. This year saw Triumphs and a Bentley in addition to the Jaguars from the Club. It costs thousands of dollars to train a guide dog and this event not only offers us the opportunity to socialize at a breakfast in advance and have a short drive but to offer an attraction that brings out the sponsors.



Mike O'Brien



Fuels: Gasoline and Diesel

David Kenny gets technical about fuels

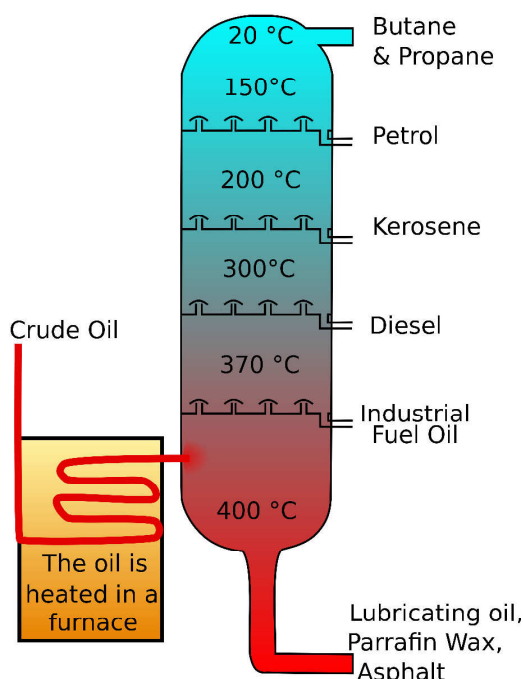
Earlier this year when we visited Rob Staruch's, he made a comment about a car he was called out to that did not start after sitting all winter. Fuel taken from the car, which had less than 80% of a full tank and no fuel additives, did not ignite with a match after being spilled on the floor.

In fact a match can be inserted directly into the liquid with no ignition. This is simply because all the lighter aromatic vaporising fractions have boiled off. The more empty the tank, the easier it is for the boil-off to occur as the tank pressure will be less than the vapour pressure.

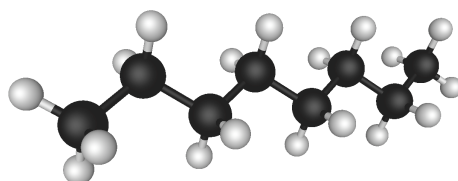
An analysis of typical gasoline shows that after weathering, 9 of the 61 constituents have disappeared. Another aspect of gasoline deterioration is that a number of the original constituents oxidize over time, forming even less volatile compounds. Some of these 9 constituents that have disappeared are due to oxidation to other compounds.

Fuel stabilisers like Stabil have compounds that prevent this oxidation from occurring and thus preserve enough volatility in the fuel for starting. Other compounds in the stabiliser dissolve the varnishes and sludges that form in the small nozzle passages in carburettors. Another way of promoting starting after a long period of non-operation is to simply add fresh fuel.

Gasoline is a mixture of complex hydrocarbons with as many as 500 possible constituents. This does not mean there are 500 constituents in gasoline, but the constituents can originate from a suite of 500 possibilities. It is obtained in the refining of oil by distillation i.e. by heating the liquid until a given fraction is "boiled" off at a given temperature and then distilled by cooling. So-called straight run gasoline is obtained from about 25% of a barrel of crude oil in this way.



A typical analysis of gasoline shows 61 different hydrocarbon constituents ranging from the alkanes like dimethylhexane and ethylpentane (the hex and pent are the Greek words for six and five and refer to the number of carbon atoms), which make up 30 of the constituents and are single bond carbon to hydrogen atoms with the simplest alkane being methane with 4 hydrogen atoms bonded to a single carbon. The other end of the range are alkene compounds like toluene and benzene, which are double carbon to hydrogen bonded, ethane being the simplest alkene with 2 carbon atoms bonded to 6 hydrogen in a weak system. These alkenes constitute the other 31. Many of these alkanes and alkenes have low boiling temperatures like the alkane butane at -0.5 deg. C and which are aromatic. These compounds yield the vaporisation needed to start a car engine at low



temperatures. In other words a hydrocarbon fuel will not ignite unless it forms a vapour.

One of the principle additives to gasoline is to inhibit knock or pre-combustion, which occurs before the piston reaches top dead center and reduces power as well as possibly damaging the engine. Before the 1920's the only way to avoid this was to limit the compression ratio of the engine and thereby the corresponding increase in pressure and temperature which occur in air as it is compressed. Usually compression ratios were limited to 4 to 5, vs. today's 8 and the 10 of the 1960's. The drop back to 8 today is the result of the initially lower anti-knock capability of the alcohols replacing tetraethyl lead and the need to meet the antipollution regulations introduced from the late 60's. However today numbers as high as 10 have been reintroduced and some manufacturers are looking at ratios as high as 13, which is getting into diesel territory.

Thermodynamically the higher the compression ratio the higher the thermal efficiency of the process i.e. more of the heat of combustion becomes pressure and therefore torque, which combined with speed yields power. This also leads to lower exhaust temperature as less heat energy is left over after combustion. To permit higher compression ratios, tetra-ethyl lead was formulated in the 20's which was found to inhibit knocking and by the 60's it had reached its highest performance. In the 70's this compound was found to cause cancer and the refiners found that certain aromatic hydrocarbons like methanol and ethanol would equally inhibit knocking as ethanol has an octane ('oct refers to the number of carbon atoms and is the root of the Greek and Latin words for eight) rating of 130 vs. regular gasoline at 86. In the 80's tetra-ethyl

lead was eliminated from gasoline.

The octane rating formally defines the ability of the fuel to withstand pre-ignition. This is done by establishing that the alkane octane, which is the major constituent of gasoline, through its isomer isooctane has a preignition rating of 100. Now an isomer, from the Greek 'isos' meaning 'same' and 'meros' meaning 'part', is a variant of a given hydrocarbon, which has the same chemical formula (C_8H_{18} for octane) but a different molecular structure with the atom bonds connected differently and exhibiting different physical properties such as boiling point, ignition point, aroma, density, etc. This also means that some alkanes like octane can be a liquid when the molecule is formed from a linear chain of atoms and the octane in gasoline is just this (a chain of 8 carbon atoms surrounded by 18 hydrogen atoms). On the other extreme it can be a wax, when the molecule is formed into interlocking hexagonal groups of carbon cores surrounded by hydrogen atoms. At the other, 0, end of the scale is heptane, which has 7 carbon atoms vs. octane's 8. These values mean 100 % octane and 0% heptane at 100 vs. 100% heptane and 0% octane at a rating of 0. These are defined in special lab test engines running under certain defined conditions to establish the onset of preignition or ping and is referred to as a research octane number or RON. Another test which has evolved similarly uses a road engine running under its own test conditions to establish something similar and its ratings are referred to as MON. In North America the result is combined by averaging the two systems as an AKI index. When deciding which rating to use in your vehicle, make sure that you understand the manufacturer's definition and compare this with what you see displayed on the pump. Generally for regular performance cars something in the range of 86 to 88 is acceptable and for higher performance 91 and for ultra high performance 94. The

94 is what I use in my E Type with the 4.2 L. engine manufactured as 9:1 compression ratio (although having had to trim the head and block, it is now more like 10:1).

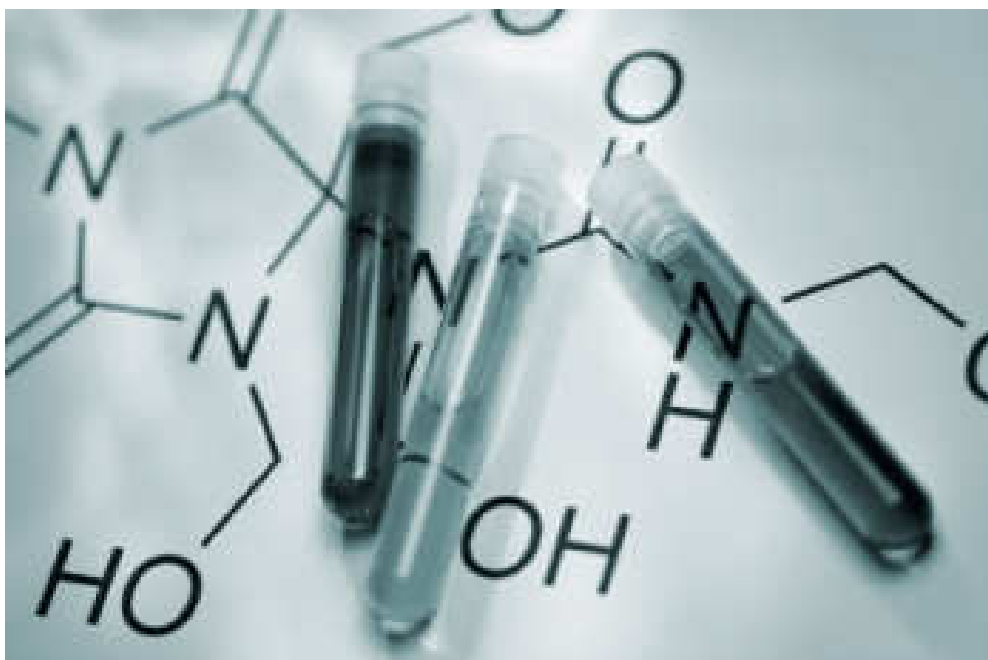
Burning fuel of higher octane than the manufacturer's specification is sheer waste and does nothing for the engine. Doing the opposite is not advised as it causes modern engines controlled by computer and a microphone "ping" sensor to delay ignition to the point where the fuel efficiency drops and will increase the operating cost. Fortunately this computerised delayed ignition protects the engine.

Ethanol additives have the effect of higher heat release and therefore power (pure ethanol would give a 5% increase in power), higher latent heat (the heat required to vaporise) which results in more internal cooling of the cylinders, higher vaporisation temperature, cleaner burning i.e. less or no carbon monoxide, exhaust release of formaldehyde and ozone and higher exhaust temperature up to a 60 deg. C increment with 10% ethanol (which could be an issue for the exhaust catalytic converters). Another aspect of alcohols like ethanol is that they hold oxygen atoms in their bond structure so that they are not pure hydrocarbons. This

means that in their combustion process the bonded oxygen is used up in the combustion and reduces the need for air to balance the reaction equation. The net result is that the air to fuel ratio is reduced relative to a pure hydrocarbon like octane and for a carburettor equipped engine the fuel jet area would need to be reduced. Similarly for a manifold fuel injection system as in modern cars the computer would need adjustment to spray less fuel relative to the air flow. A negative aspect to alcohol is its affinity for water in the tank and throughout the fuel system needing stainless steel components.

Other major gasoline additives are the detergents like alkylamines and alkyl phosphates (alkyls are triple carbon bond molecules with a certain level of instability in that they bond readily with other elements due to loose internal bonds and are good for eliminating carbon) at 50 to 100ppm. This is similar to the action of soap or peroxide with a loose oxygen atom looking to bond itself to something such as dirt or carbon and thus oxidise the offending material.

Finally oxygen is added to gasolines through oxygenators like MTBE and ETBE and ethanol, which also hold oxygen as well as carbon and hydrogen in its internal atom bonds.



Up to 2% oxygen by weight is required in California to reduce smog through the reduction in carbon monoxide in the combustion. MTBE is being phased out due to its contamination of groundwater. ETBE (ethyltertbutyl ether) is derived from ethanol and isobutylene and yields superior air quality benefits than ethanol.

Diesel fuel is a higher temperature distillate from oil with much less volatility than gasoline and much more carbon in the molecular structure i.e. gasoline has the formula C_8H_{18} vs. diesel's $C_{14}H_{30}$, almost twice as many carbon atoms. The higher heating value (the heat released in combustion including the water vapour heat release in the fuel; the lower heating value excludes the water vapour heat release) is 18% higher for diesel, which means more power and better fuel mileage. As well diesel burns with less production of carbon monoxide but more nitrous oxide due to the higher combustion temperature by 110 degC i.e. 2030degC vs 1920degC). Nitrous oxides are components of smog and modern diesels are set up to minimise this exhaust product. The other major advantage of diesel is its ability to combust at much higher compression ratios up to 20 to 1. Since, at this ratio, the air becomes hot enough to ignite a fine mist of diesel fuel, thus obviates the need for volatility as required in carburettor or manifold injection of gasoline engines, no igniter is required. With this higher compression ratio there is a further increase in thermal efficiency leading to much higher torque, as much as double a gas engine yielding equal power at much lower speed, which is good, as the stress loads on the pistons, con rods crankshaft and bearings are correspondingly much higher than for a gas engine. The higher thermal efficiency also leads to better fuel mileage. Another effect of diesel is lower exhaust temperature due to the extraction of more heat release as torque. For all these reasons diesels can have as much as

30% better fuel economy with a much higher acceleration rate. A sometimes frustrating result of the higher efficiency of diesel, is a significantly lower heat loss through the cooling system and thus slower warm-up on a cold day for the cabin.

David Kenny



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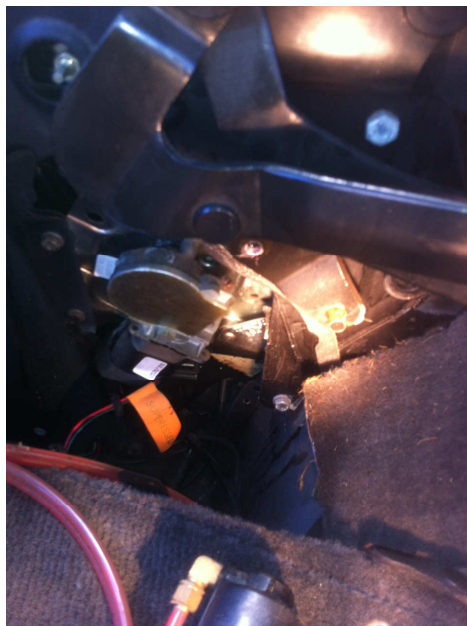
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DIY: XJS Window Regulator

This summer has been the greatest so far to drive my black cat around town and on the highways. Feeling the wind in my hair, sun shining on my skin, feeling free, with no care in the world...what a feeling! As sung by [Irene Carra - Flashdance](#). The one thing stopping me from keeping that feeling was not being able to lower the roof on my car last summer, in fear that the passenger quarter-window would not come back up. I knew it was a matter of time before it would need to be fixed or replaced. I found and purchased a used window regulator at a wreck shop out of Vancouver. I received it late last summer and when I brought the car to have it replaced, I was told that my regulator was still working fine. I left it alone and put the used part back in its box. The summer ended and the car was put to rest for the winter. This spring came along and I drove my car with that same great feeling, until the week of June 20th where it totally gave up on me.

Did you ever have a problem with your window regulator and your mechanic was not around or had never done that job before? Here are 13 not so easy steps how you could do it yourself, to get the same feelings I have this summer. I did it with my brother Andre, I did not have all the necessary tools needed:

- Step 1.** If you don't have a repair manual, check the internet for How-to advice. If that fails...go to next step.
- Step 2.** Start removing screws and bolts until the extraction is completed.
- Step 3.** Remove the leather guard covering the window and regulator.
- Step 4.** Remove plastic cover from the window regulator.
- Step 5.** Remove metal plate from side of frame to access window regulator.
- Step 6.** Remove large bolt holding the roof metal frame.
- Step 7.** Unplug regulator from hydraulic line.



Step 8. Remove a bracket holding the hydraulic piston (this was a two person job as the roof has to be raised just at the right level to gain access with the wrench).

Step 9. Remove the large rectangular bolt with wrench, of course the washers went flying down the inside frame (Thank Goodness for my brother's magnetic retriever)

Step 10. Remove the roof's hydraulic piston out of the way

Step 11. Remove 5 screws holding the window regulator to the frame.

Step 12. Get the regulator arm off the window track. The whole regulator-motor was difficult to remove from its spot in the frame, so we had to remove the motor part and finally the extraction was complete.

Step 13. Take a beer with lunch or a glass of wine and do the steps in reverse to re-install the new window regulator.

I must say that my brother did most of the work, love him dearly. It was a lot easier to put it back in.

Sometimes it was difficult for us to reach or see without having to get our head way down, so I ended up flat on my stomach across the lug-

gage compartment, which made it easier to work facing up the area. I could have done without the holding bar in the middle of it-quiet uncomfortable. I am glad nobody took pictures of that pose.

At times, I felt we were in an O.R.



doing surgery. Andre was holding a tool while I had to use a second one to get one piece out. What a great way to spend time and catch up with family and learn something new.

Caution: Be careful when re-installing the hydraulic piston, not to tighten the bolt too tight, otherwise both rear windows will not go up. Loosen it up just enough and tada!!

I will take the window regulator to a small engine shop and have it re-conditioned so I can keep it for future use.

Job well done Bro....what a feeling, again to drive with the wind in my hair!

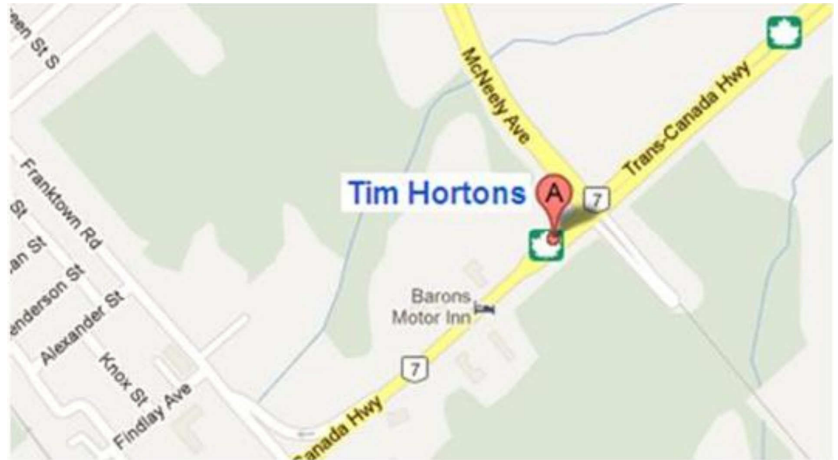
Marie Paule
1989 Jaguar XJS,
AKA "Purebred Feline"

OJC Summer Drive

Aug 11, 2012

The OJC Summer Drive will be held on Saturday, August 11th (rain date Sunday, August 12th), departing from Tim Hortons, at the junction of Hwy 7 and McNeely Ave, Carleton Place at 9:00 a.m. See map to right.

The drive features an almost entirely back roads route from Carleton Place down to Westport, home of Rosie Yumski's Fine Foods and other delights, for a 40 minutes stop before driving on to Rockport for a noon arrival and lunch. After lunch participants have the option of a 1 hour 1,000 Islands Cruise, departing at 2 pm (cost \$20 per person, \$18 per senior) or sightseeing and exploring or just chilling out in Rockport.



Once the boat cruise is over we will leave Rockport (probably around 3:15) for a drive along the 1,000 Islands Parkway before turning off for a back roads drive to Merrickville for a short stop, then on to the drive's end at Ashton, where those interested can join us for a bite to eat at the Brew Pub, around 6 pm.

The elapsed time for the drive is 9 hours of which about 4-4.5 hours will be spent driving –the total distance is about 257 km/159 miles in 4 easy stages on (hopefully) mainly empty roads.

Please let me know if you intend to join this drive by e-mailing me at afgraves@rogers.com



Jaguar Enthusiast's Breakfast

Every Wednesday morning, almost without exception, there is a gathering of members of the Ottawa Jaguar Club and sometimes their partners or guests. The conversation is usually wide-ranging and is often punctuated by Merv Clarke's exhortations to "keep the noise down". In the winter with the absence of the "Snow Birds" the attendance may drop to as few as 6 but summer will gather up to 20. Ladies are most welcome. The venue is Mooney's Bay Bistro in the mini mall next to the Orthodox Church overlooking Mooney's Bay on Riverside drive. There is a map linked to the first entry (in Blue) on the website.

Mike O'Brien



All British Car Day 2012

The sun shone and the cars came in droves. My unofficial count was 194 cars which is close to the all-time record. The centre piece was focused on cars that were 50 years old this year so amidst the new Jaguar and Land Rover were several 1962 MGs. Our thanks to Timothy Whelan at Jaguar Ottawa for supporting ABCD again this year. This event is a huge show and shine event where all entrants (except one interloper Lamborghini) are British. The Ottawa Jaguar Club plays a key role in the planning and logistics of the day. Al Graves and Don Leblanc sit on the multi club planning committee and the following were volunteers on the day: Al Graves, Merv Clarke, Peter Whitworth, Michael Jackson, Lee Harrington, Ed Theoret, Dave Kenny, Don Leblanc and Chuck Robinson. Our thanks go out to Mike Doherty at Global for being a vendor/ sponsor and to Don Harris at Mooney's Bay Bistro for his support.

Mike O'Brien



Marketplace

New V12 Alternator. New/unused Bosch factory-replacement alternator Intended for 1986 XJ12 VDP - likely suitable for most/all XJ12 sedans. Asking price:\$250.00. Contact Rob Laird Tel: 613-820-0666 email: roblaird_ca@yahoo.ca [JJA]



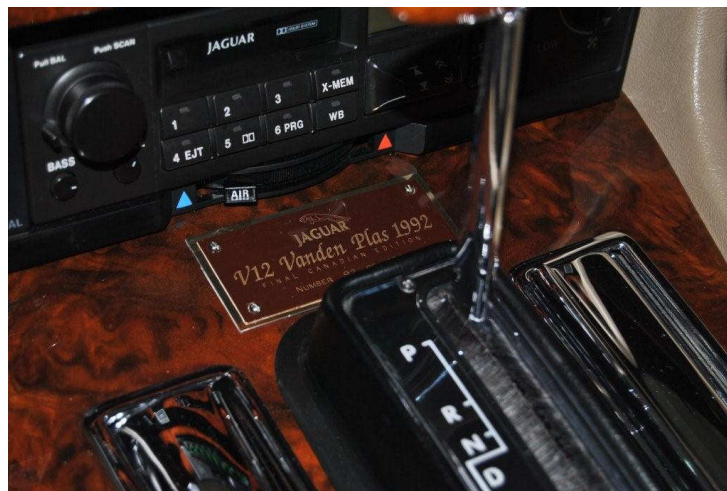
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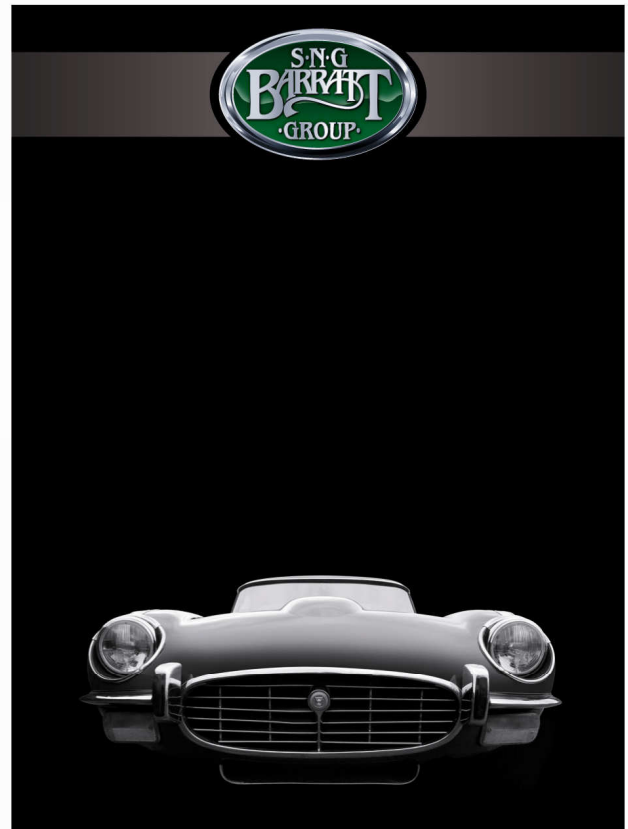
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