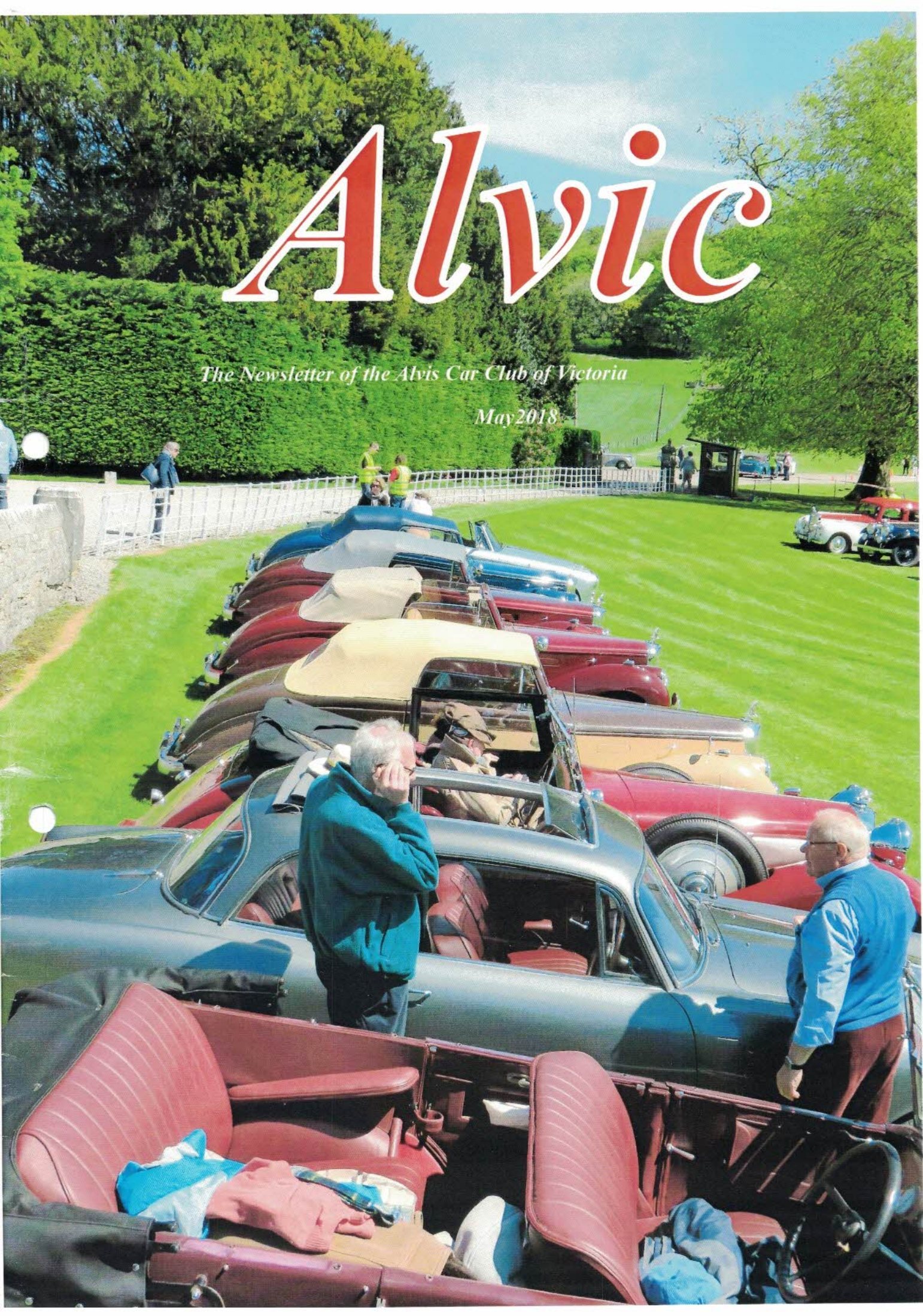


# Alvic

*The Newsletter of the Alvis Car Club of Victoria*

*May 2018*





*International Alvis Day—Leighton Hall Sunday 13 May*





## Alvis Car Club of Victoria (Inc)

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CLUB ROOMS: - rear of 'ALVISTA' 21 Edgar St, Glen Iris  
(MELWAYS 59 F8)

Meetings—third Friday of each month [except DEC/JAN] at 8.00pm.

Newsletter Deadline - first Friday of the month.

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## 2018 COMING EVENTS

- MAY 18** **GENERAL MEETING** - Stan Bone will be our guest speaker for May, talking on his complete restoration (from many boxes of bits) of a 1910 Fabrique Nationale (FN), for which he has won multiple awards.
- 20** **NATIONAL MOTORING HERITAGE DAY**  
**RUN TO & LUNCH AT THE TOOBORAC HOTEL** (Organised by the Langs)  
PLEASE NOTE THIS SUPERCEDES THE JULY OUTING TO THAT VENUE.  
THOSE WHO HAVE ADVISED THEY ARE COMING SHOULD HAVE THE ROUTE INSTRUCTIONS FOR THE DAY. IF NOT PLZ CONTACT JOHN LANG
- 25-27** **WINTON**
- JUN** **VISIT TO THE MOORABBIN AIRCRAFT MUSEUM**
- AUG 17** **ROB ROY HILL CLIMB**
- SEPT** **WEEKEND AWAY St ARNAUD, WEDDERBURN AREA (McDOUGALLS to organise)**
- OCT 7** **TRYDEL MUSEUM & LUNCH (RICHARD TONKIN TO ORGANISE)**
- 27** **Inter Club visit to the Seymour Railway Heritage Centre**
- DEC 2** **CHRISTMAS PARTY AT THE FERGUSON'S, KINGLAKE**

Front page: International Alvis Day

# PRESIDENT'S REPORT

At last month's meeting we thoroughly enjoyed the presentation by Steve Denner about his unsupported journey from the UK to Australia in his 12/50, Mother Goose. It was an amazing trip and perhaps reflective of the bullet proofness of youth, but also the quality of 12/50 Alvises, even in advanced years. The presentation was very much appreciated by all who were there. We have two more very interesting guest speakers for our May and June meetings. In May, we have Stan Bone as our guest speaker. Previously Stan provided a most interesting talk and slide show on his gold mining experiences and this time he will be talking about the restoration of a veteran FN which was found as rusty remains in the bank of the Campaspe River. Following restoration (all his own work) by Stan, the FN has won numerous awards. Stan is currently restoring another veteran FN, which undoubtedly will reflect his incredible skills. In June we will have Sandy Cameron from the Armstrong Siddeley Club speak about Australian aviation pioneer, Bert Hinkler.

I had a need to visit my Mother in Launceston recently. Whilst there, I called to see Chester and Sally McKaige. Chester is now enjoying driving the well sorted Delage, although the reverse pattern gear change is taking some getting used to. Chester says the Delage is a refined, cruising car, but does not have quite the character of vibrant 3 Litre Bentleys or 12/50 Alvis Ducksbacks. I also met Grahame Vaughan for the first time. Grahame has an eclectic collection of cars, including competition cars, however he is still waiting for the right pre-war Alvis to turn up to add to his stable.

We have a number of members currently in the UK who will be representing our Club at the AOC's International Alvis Weekend, which this time is being held in the Lake District. Attending will be Mark Weller, Sally and Chester McKaige, Noeline and Alan McKinnon and Dale and Judy Anderson. Chester and Sally will be following this weekend on an organised visit to the Isle of Man whilst Noeline and Alan will continue driving a loaned Alvis to the border country and then onto the Shetland Islands. The opportunity will be taken to further promote our 2019 Down Under Centenary Tour and the following National Alvis Rally, being run by NSW. Whilst on the subject of our 2019 National Tour, the routes and preparations have been finalised. We would like to have as many club members as possible join us on this event, even if you can join us only for part of the tour. Please contact Dale and Maritta Parsell, Alan and Noeline McKinnon or Mark Weller to register your interest.

Our Club is contributing to the National Motoring Heritage Day on Sunday 20<sup>th</sup> May with a run to the Tooborac Pub for lunch. This pub is very popular and supplies excellent fare. This day provides a great opportunity to demonstrate to the public and the authorities the extent and importance of the historic vehicle movement. Besides, you get the opportunity to exercise your Alvis and dine well. Thanks to John and Margaret Lang for organising this run and please let John know if you intend

joining us, so that he can provide numbers to the pub.

The following weekend is Historic Winton. This weekend always provides great historical vehicle racing and displays. Whilst it is not an official Club event it is well worthwhile attending and there is always a good chance you will see some 12/50s circulating. This year Frances and I are taking 3 motorcycles for display and perhaps an opportunity to do a lap of the circuit.

It is always gratifying to hear of Club members helping out other members. As mentioned last month Geoff Ross's 12/50 experienced some engine issues on the Yarra Valley weekend away. In the past month Peter Miller made a couple of visits to Geoff's home to investigate the problems. I am pleased to report that with a change to colder spark plugs, an adjustment of ignition timing and the replacement of a broken inlet valve spring, the 12/50 is now in fine fettle and running very well. Many thanks go to Peter for his interest and assistance with Geoff's car.

In previous reports I have talked about the excellent submission to the Federal Government on Luxury Car Tax (LCT) being levied on imported classic cars, prepared by Doug Young, from Queensland. Whilst it appears that not a lot of notice is taken by the relevant ministers, all would appear not to be lost. There were two parts to the levy of LCT on classic cars: the first was for those Australian resident vehicles which were sent overseas to specialists for significant restoration work. They were subject to LCT, based on their revised value when re-entering Australia. It appears that in this Federal Budget the charge on these vehicles will no longer be levied. However at this stage the Government has ignored the second part of the submission which called for the abolition of the LCT on historic vehicles, over 25 years old, which exceed the threshold value limit. The levy of LCT has in effect worked as a one way valve, allowing important historic vehicles to leave Australia, whilst preventing importation of replacement stock. However it does seem, not withstanding the Budget deadline, that a committee will again consider this part of Doug's submission over the next few months. Let us hope that good sense prevails. In the mean time it appears that the Government has no intention of doing away with Luxury Car Tax on the importation of new vehicles which exceed the current threshold value.

Another contentious issue relevant to our vehicles is asbestos. The potential for historic vehicles to contain asbestos in various components such as brake and clutch linings and gaskets is causing concern when purchasing overseas and importing such vehicles, or when sending an Australian resident vehicle overseas for an event and then subsequently bringing it back into the country. The Maserati Club tried to address this issue with the Government when planning to hold an international rally in Australia. All did not work out well for the event held last March and some of the visiting vehicles were denied entry. The Maserati Club has subsequently sought

clarification and an explanation from the authorities. It is hoped that a sensible position can be reached for permanent and temporary classic vehicle imports. I will keep you informed as information is made available.

I mentioned last month that a well sorted 12/50 is available in Melbourne. I was hoping that by word of mouth we could find a new appreciative owner and home for it. It is likely to be offered on the open market via advertisement in a month's time, if not sold prior. It would be good to have it remain in our Club or at least in

Australia. Please contact me if you are interested, or if you know of someone who is interested and is potentially a new member for our Club.

For the monthly meeting this coming Friday night, if you are able to come to dinner at the Malvernvale Hotel prior to the meeting, please let me know by Wednesday evening so that I can reserve enough places.

Andrew McDougall

## JOTTINGS

*from the Sydney Morning Herald*

### Age-old deficiency

IT'S about time the authorities did something about older drivers on our roads.

For far too long older drivers have caused havoc as they hog the left lane, stick to the speed limits (even the road work limits) and stop at stop signs, causing great inconvenience and often preventing others from doing whatever they like.

Another major concern is that by avoiding fines and demerit points, they are not doing their bit for the revenue of our state, and are therefore placing a further burden on younger drivers.

Until older drivers can prove that they are proficient at weaving in and out of traffic, driving while texting, tailgating, using drugs or doing burnouts, they must be banned from holding a licence.

**Doug Money, Oak Park**

You may well ask where the mass Alvis event photographs came from.

The Alvis Owner Club (UK) has just celebrated its annual International Alvis Week End and representing the ACCV are the McKinnons, McKaiges, Andersons and Mark Weller. Very many thanks to Noeline, Chester and Mark for photographs. A special thanks to Peter Horrobin an AOC member who provided many other photos.

The photos suggest upward of a hundred cars present.

At this point there is no text so you can enjoy a "PicFest" of some of the cars present.

..... ed

### MARKET WATCH

1935 SD SP20 Vanvooren DHC. Artcurial (France), very good, older restoration, historically interesting. \$366,480.

1961 TD21 Series 1 saloon, partially restored. Brightwells. \$17,600.

1961 TD21 Series 2 saloon, major restoration required. Historics. \$4000.

Richard Tonkin

Marg Hetherington is under going surgery this week and we wish her a quick recovery and back in our ranks very soon.

Colin & Sonia Wilson who have been looking for a TD21 to purchase are on their way overseas to work for 12 months and the car purchase will have to wait. Look forward to catching up on their return.

Spoke recently to John Gove who is about to leave for overseas. His Speed 20 project is progressing slowly with an optimistic completion early next year.

### SUPPER

## *The Bosanquets*

*The Editor would like to thank all contributors, text and photographs to this month's ALVIC*



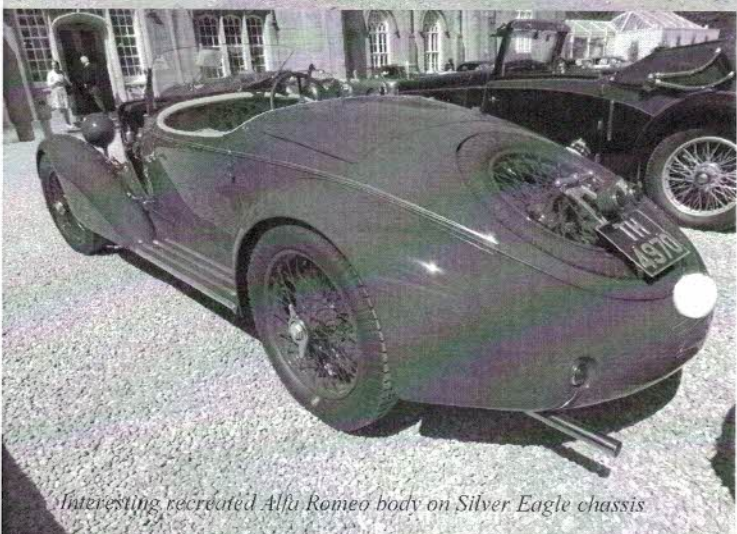
*Mike & Jan Bakers 4.3 litre V&P Tourer*



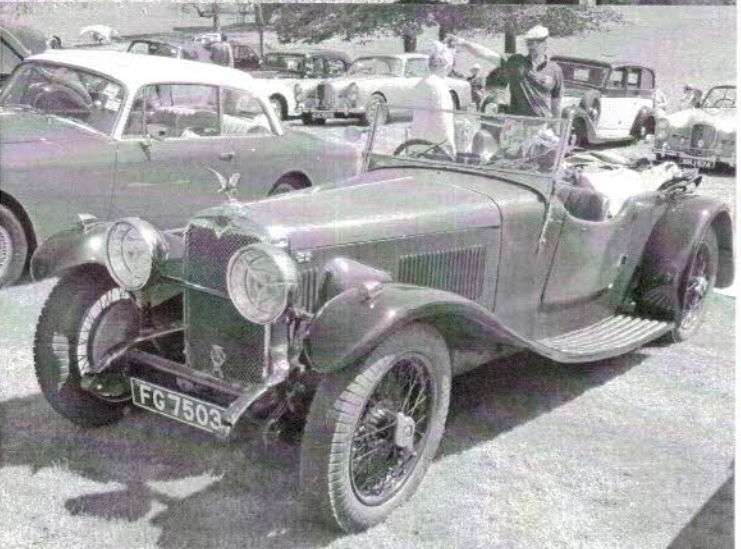
*The ex-Chris Storrar SA Speed 20 V&P recently restored by Steve Horne*

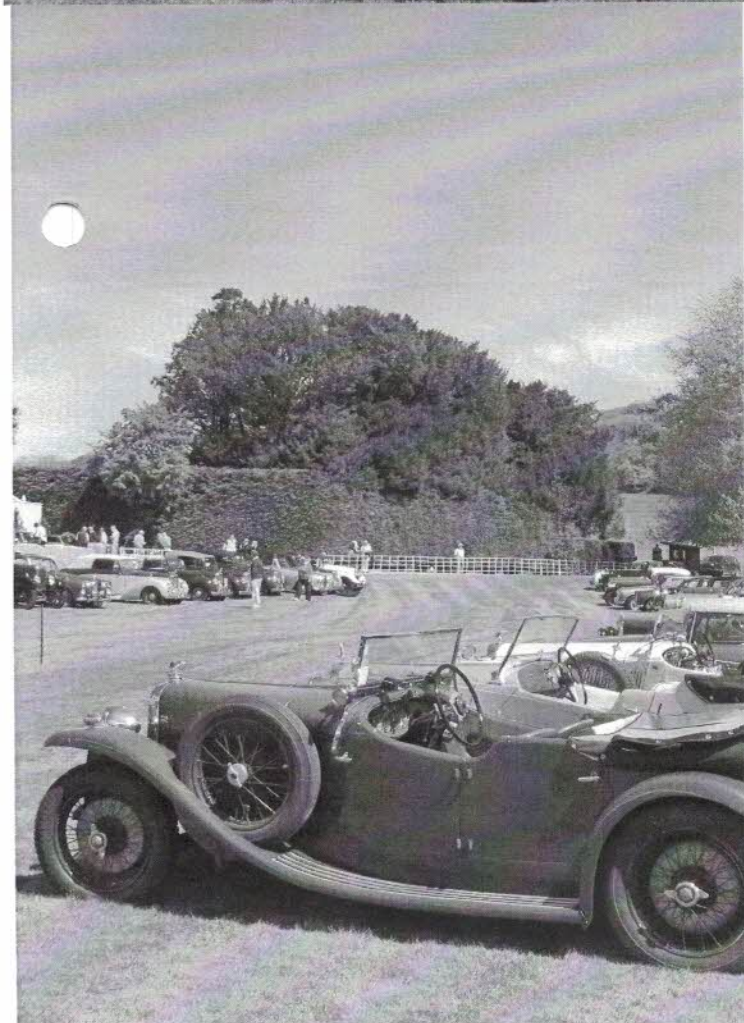
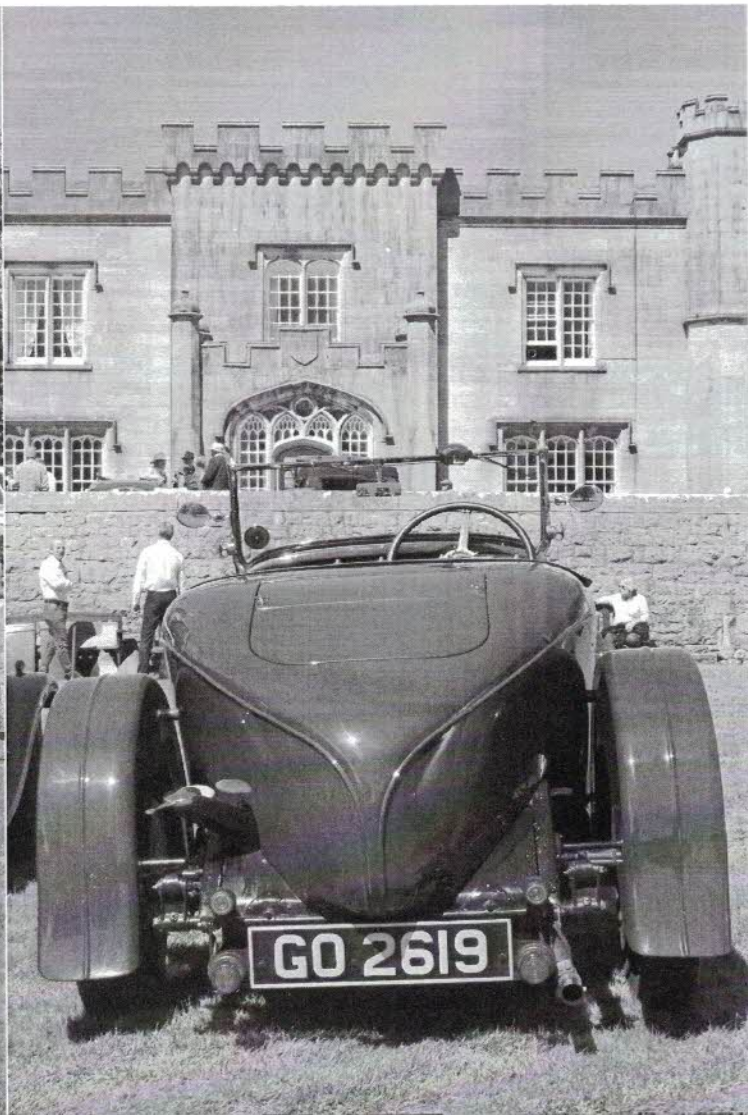
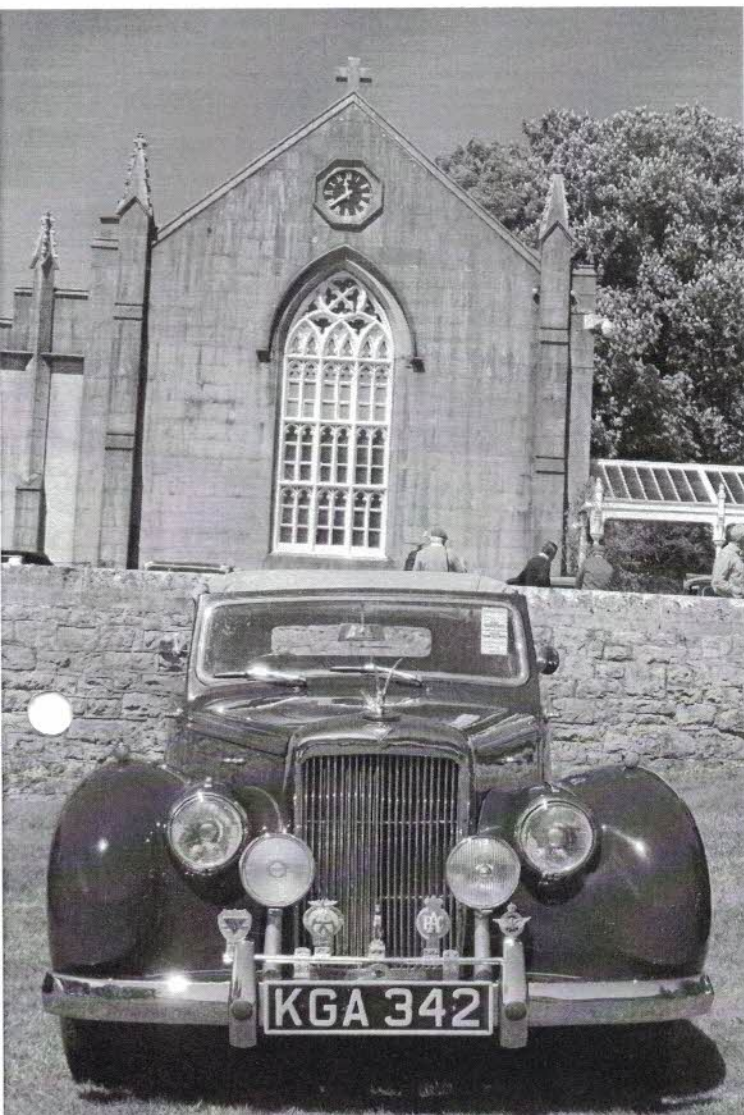


*Stunning 4.3 with original Whittingham & Mitchell body*



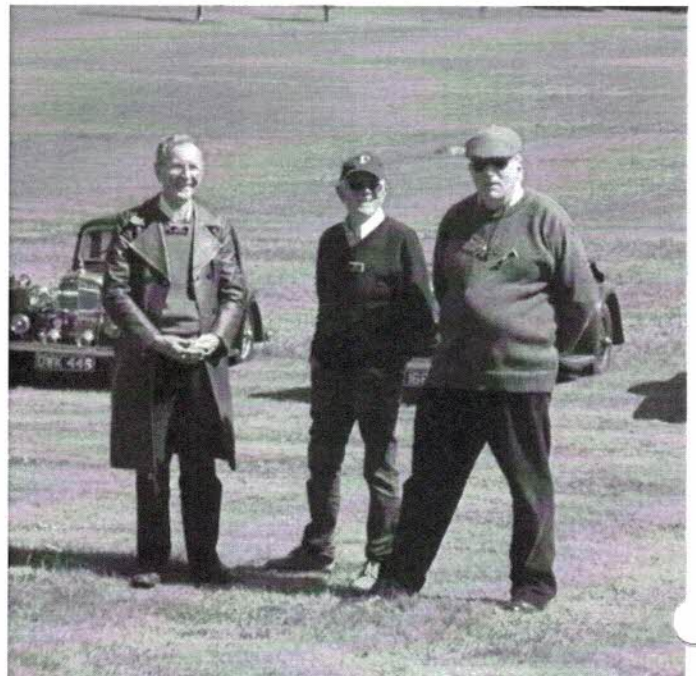
*Interesting recreated Alfa Romeo body on Silver Eagle chassis*





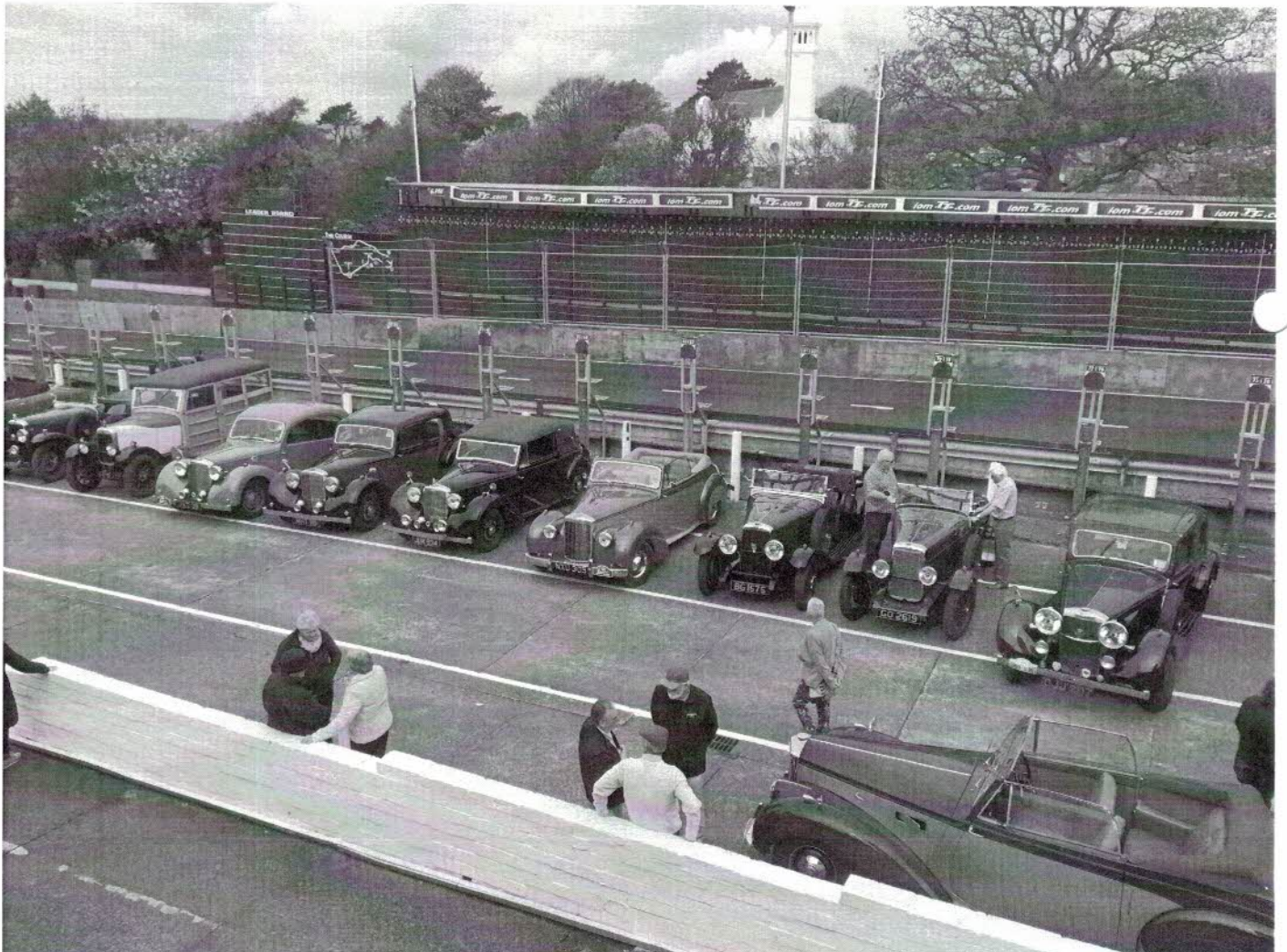


*Mark Weller presenting the Alvic Trophy for Outstanding Work in Preparation for the IAW, to Simon Griffiths*



*Mark Weller, Alan McKinnon & Chester McKaige at IAW*

*Following IAW, as an extension to their visit, many of the participants went to the Isle Of Man.  
Below is the pits for the TT motor cycling circuit*





# WORKSHOP

## IMPORTANT: WATCH HEAT RANGE

### INTRODUCTION

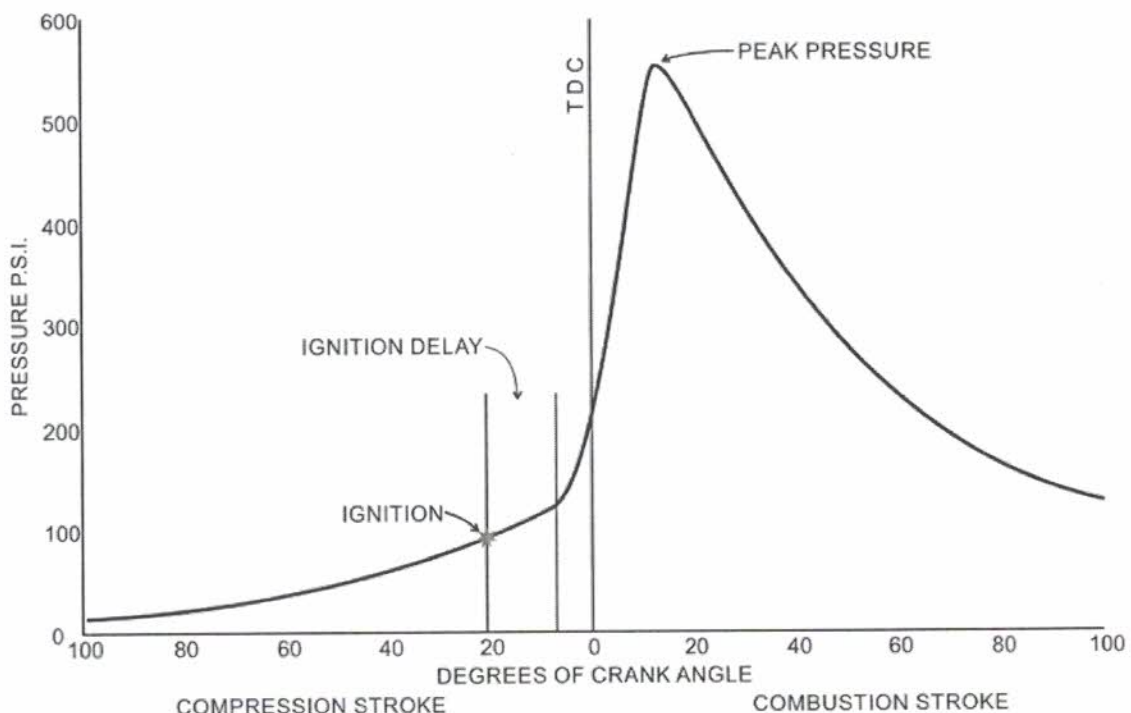
On a recent Club event, a well-known 12/50 developed ignition problems, its performance steadily deteriorating until it reached the stage where it was no longer drivable.

Subsequent investigation determined the most probable cause was attributable to the choice of spark plugs, and a detailed account of this particular instance will be given later in this article. Firstly, however, it may be helpful to have a very brief look at the combustion process, before examining why the correct choice of spark plug is so vitally important. *This discussion is focused on engines of the type likely to be found in vintage and pre-war Alvis with compression ratios in the range of 5:1 to 6.5:1. Some of the parameters quoted do not apply to modern engines with electronically controlled engine management systems.*

### NORMAL COMBUSTION

In a petrol powered internal combustion engine, as the piston approaches the end of the compression stroke, the pressure of the air-fuel mixture in the combustion chamber will have risen to about 80 to 120 psi, according to compression ratio, ignition advance and degree of throttle opening; and the temperature will have risen to around 400°C. Once the spark plug has initiated ignition, there is a momentary delay before the flame front progresses steadily outwards from the point of ignition, with the pressure in the combustion chamber rising to between 500 and 1000 psi, accompanied by peak temperatures in the region of 2000° – 2500°C.

The following indicator diagram shows the delay that occurs after ignition is initiated before any rise in pressure due to combustion occurs. It is because of this delay that timing of the ignition must be advanced to occur before the piston reaches top dead centre. Most engines are designed so that the ignition timing results in peak pressure occurring between 10° and 20° crank angle after top dead centre.



This is purely a mechanical consideration so that the geometric angle which the connecting rod makes with the crank is the most favourable at the time there is the greatest pressure exerted on the piston.

It can also be seen from the diagram that advancing the ignition will cause unduly high pressures to be exerted on the piston while it is still rising on the compression stroke. This is undesirable as it will cause a reduction of torque and if advanced too far will ultimately lead to the onset of detonation.

### *DETONATION*

Detonation, or 'knocking' is uncontrolled combustion and occurs when the temperature and pressure in the combustion chamber rise to a level where the progressive combustion process no longer continues and the whole of the remaining unburned mixture (the so called 'end-gas') ignites spontaneously. The resulting high-pressure wave hitting the cylinder walls and piston crown can produce a metallic knocking sound (the absence of audible knocking does not mean detonation is not taking place however). Detonation causes loss of power, local overheating, mechanical shock loading and sustained detonation will inevitably result in serious engine damage.

The incidence of detonation depends on:

- Operating condition
- Characteristics of the fuel being used.
- Engine design factors including compression ratio and combustion chamber shape, although these are outside the control of the operator.

It is totally erroneous to assume that detonation cannot occur in low compression engines using modern high-octane fuels. If the ignition timing is too advanced then the pressure and temperature rise caused by compression added to the pressure and temperature rise caused by combustion can cause spontaneous combustion of the end gas. Detonation can lead to pre-ignition because of overheated surfaces in the combustion chamber.

### *PRE-IGNITION*

Pre-ignition is an entirely different phenomenon and should not be confused with detonation. Pre-ignition is an uncontrolled ignition process where the air/fuel mixture is ignited at any time prior to the spark occurring. Ignition in this instance is initiated by localised hot spots in the combustion chamber where the temperature has risen to over 850°C. These hot spots can occur at spark plug electrodes, exhaust valves, overhanging gaskets or ash and carbon deposits. Pre-ignition can occur at any time in the inlet cycle and if it occurs while the inlet valve is still open then back firing through the carburettor will result.

The danger with pre-ignition lies not with the destructive high-pressure shock waves that occur in the case of detonation, but rather the intense heat build-up that results. In nine cases out of ten, pre-ignition is initiated by overheated spark plug electrodes. Every 10° of ignition advance will raise spark plug firing end temperature by 70°C to 100°C. This situation is dangerous and can cause serious damage to the engine, especially when it occurs in only one cylinder, when the effects may not readily be noticed.

In the normal combustion process, the piston crown and combustion chamber surfaces are protected from very high temperatures by a thin boundary layer of relatively stagnant air-fuel mixture. However, if detonation or pre-ignition occur, the extremely rapid combustion removes this boundary layer exposing the surfaces to the full heat of combustion. This almost always manifests itself in softening and consequent pitting of piston crown.

### *THE SPARK PLUG*

Although the spark plug appears to be a fairly simple component, the conditions under which it has to function are very exacting. It has to withstand pressures up to 1000psi and temperatures reaching 2500°C. At moderate engine speeds it has to carry a 5 - 10 000-volt spark 25 times every second. In these conditions, the plug insulator and electrodes must remain within an optimum temperature range of between 450° - 850°C, known as the 'self-cleaning temperature.' This is hot enough to burn off any combustion deposits that might form, but not so hot as to initiate pre-ignition.

### *HEAT DISSIPATION*

To satisfy this requirement it is necessary for the spark plug to pass to the engine cooling system just enough heat to stay within this temperature range. As engines vary enormously it is obviously necessary to have different spark plugs with varying heat dissipation characteristics to suit different engines. The rate at which a spark plug dissipates heat is known as its 'heat-range.' Spark plugs capable of passing a large amount of heat to the cooling system are known as 'cold' (or 'hard') plugs, generally used in higher performance engines which generate more heat per cycle. Conversely, spark plugs which retain large amounts of heat are known as 'hot' (or 'soft') plugs and find use in cool running engines operating at low speed such as industrial or tractor engines.

The design of the spark plug determines the rate at which it passes heat to the cooling system. The primary method used to do this is by altering the length of the insulator core nose.

A cold plug with low insulator seat will conduct more heat to the cooling system and will remain cooler. Conversely a hot

plug with high insulator seat will retain heat from the combustion chamber so the firing end will stay much hotter.

In addition, the gas volume of the plug, which is the area between the insulator nose and the shell, can be varied - a greater gas volume exposes the insulator to more of the combustion flame and as a result it stays hotter. Further, the alloy composition of the electrodes can be formulated to conduct heat faster. This means it is not possible to visually determine the heat range of a particular spark plug.

#### HEAT RANGE

The method of classifying spark plugs is by using a numbered scale. This was initially based upon the time in seconds it took for a plug to heat from cold to auto-ignition temperature in a test engine. Unfortunately, nowadays there is no universal numbering standard and every spark plug manufacturer uses their own system.

To make things even more confusing some manufacturers, for example Bosch and Champion, use low numbers to indicate a cold plug with the higher the number the hotter the plug, while others, such as NGK, do the opposite, the higher the number the colder the plug.

The Champion range goes from 1 (cold) to 23 (hot) but then there are additional ranges for industrial and racing applications. Furthermore, Champion heat ranges have undergone a number of changes, so it is not a straightforward process to find a current equivalent for a pre-war heat range.




The Bosch range is possibly simpler, ranging from 13 (hottest) to 2 (cold) but then continuing from 09 to 06 for very cold racing plugs.

The NGK general application range is similar to the Bosch range, but reversed, ranging from 2 (hot) to 10 (cold) and then extending to 12 for racing applications.

The KLG range (though KLG plugs are no longer available) equates very closely with the NGK range, one simply has to delete the final zero from the KLG number. This is useful as KLG plugs were often specified in Alvis cars. For example, a KLG TMB50 (mid heat range plug specified for the Alvis 12/50) has a direct equivalent in the NGK A5, or better still the NGK AB5, essentially the same plug but with a reduced 13/16" hex, allowing a standard plug spanner to be used, which is a better fit in the plug recesses of the 12/50 cylinder head.

#### READING SPARK PLUGS

The best way to tell whether a spark plug is of the correct heat range for a particular application is by 'reading' the spark plug firing end. It is essential to do this after a period of normal driving as prolonged idling or slow speed running will give false indications on an otherwise correct plug. A useful fact to remember is that on the NGK range, a change of one heat range number will result in a change in the firing end temperature of a plug by 70° to 100°C. This means if a plug is operating just inside the overheating range, a reduction of at least two heat range numbers will be required to bring it back to the optimum temperature.

Overheating range		<b>Overheating</b> The insulator is white, sometimes blistered. Pre-ignition may occur. Engine power will be reduced and risk of piston damage.	<b>Causes</b> <ul style="list-style-type: none"> <li>• Ignition timing too far advanced</li> <li>• Fuel mixture too lean</li> <li>• Spark plug heat range too hot</li> </ul>
850°C			
Optimum Self-cleaning range		<b>Normal</b> Insulator very pale brown or light grey.	<ul style="list-style-type: none"> <li>• Spark plug heat range correct</li> <li>• Engine in good condition</li> </ul>
450°C			
Fouling range		<b>Fouling</b> Carbon accumulates on insulator nose forming a conducting path to earth. Hard starting and misfiring will result.	<b>Causes</b> <ul style="list-style-type: none"> <li>• Fuel mixture too rich</li> <li>• Spark plug heat range too cold</li> <li>• Prolonged slow speed driving or idling</li> <li>• Overuse of choke</li> </ul>

It is not recommended that you make spark plug changes at the same time as another engine alterations, such as carburetion or timing. Performing multiple changes at one time will lead to misleading and inaccurate conclusions if any issues occur.

### THE 12/50 CASE

This 12/50 mentioned at the start of this article is in fact a 1924 SA 12/40 that has been converted to OHV 12/50 specifications. Full details of this conversion are not known, though it has an early block with recessed side cover, a cylinder head bearing a 1926 casting date, M.L. Magneto and 30mm Solex MOV carburettor.

Over the past year or so it has suffered a number of issues, starting off with a case of overheating. Once this had been attended to it appeared to run well, but soon developed issues with loss of power with associated misfiring and back-firing through the carburettor. The ignition timing was checked and re-set, and new plugs installed. Initially things were better but after a while the same symptoms started to re-appear. Finally, another set of new plugs were installed and the magneto changed to eliminate the possibility of a defective capacitor.

To cut a long story short, on a recent Club event it spent more time on the side of the road than actually driving. Timing was checked and re-checked, the magneto points were cleaned and re-set, carburettor jets were checked, the fuel filter cleaned, valve clearances checked, all to no avail. After every enforced stop it would run better for a while, but after a period of either high-speed or high-load running it would lose power dramatically with associated violent backfiring through the carburettor. Eventually it had to complete the last 100 kilometres or so on the back of a recovery vehicle.

### SO, WHAT WAS WRONG?

Firstly, the carburettor was checked, and found to be fitted with appropriate choke and jets, and there were no leaks in the induction manifold so the fuel system was ruled out. However, the interior of the carburettor was coated with black soot.

Secondly, the ignition timing was set at 42° BTDC. The Alvis handbook for the SA 12/40 and SA 12/50 specifies an ignition timing figure of 28° BTDC, fully advanced. Bear in mind that was the factory specification based upon the fuel available at the time, and this engine has been modified, so would likely benefit from some slight advance over this factory setting.

Thirdly, the spark plugs were of an inappropriate heat range. When the symptoms first started to appear Champion D16 spark plugs were in use. This is an 18mm ½" reach plug that is toward the upper end of the heat range. It in no way resembles the Champion 16 specified for the early 6-cylinder Alvis engines, which was in fact a cold plug in the Champion 18mm pre-war range.



Finally, when new plugs were installed, they were Champion D23's. These are the hottest 18mm plug available from Champion. The advice given was that these were cooler plugs, this may have been caused by confusion with the NGK numbering system which goes the other way!

This photograph is of the plug removed from #3 cylinder, and quite plainly shows all the signs of severe overheating. The insulator is blistered, the centre electrode is very eroded bearing in mind the very short time the plug had been in service, and the earth electrode shows signs of severe overheating.

The other three plugs had also been overheating, but not quite to the same extent, so it would appear that the problem was mainly confined to one cylinder. Interestingly #3-cylinder inlet valve spring was broken.

### CONCLUSION

I believe that all the problems this 12/50 experienced are due to pre-ignition caused by a combination of the use of spark plugs with too high a heat range together with excessively advanced ignition timing. Either of these factors in isolation would probably not have caused these symptoms to appear, but once over advanced timing heated an already hot spark plug electrode to over 850°C, pre-ignition would start. Initially, as the other three cylinders were still running normally, this would manifest itself only as a loss of power with associated rough-running (which indeed was the case). Continued pre-ignition would then further raise the temperature of that spark plug enough to ignite the incoming charge on the inlet stroke while the valve was still open. This would cause the backfiring through the carburettor and would explain the soot on its inner surfaces. It could also explain the broken inlet valve spring on that cylinder, as combustion taking place with the valve open would cause it to be violently opened even further until the spring became coil bound and ultimately fractured.

The car is now fitted with NGK AB6 plugs with an ignition advance of 28° and is running well .

Peter Miller

“For the sheer joy of driving ..... I'd like to go there in an Alvis”  
(Advertisement in The Motor 1952)

### 3 Litre pedal linkages with particular reference to the TA-TC cars.

It wasn't until the mid 50's that it became common to mount both clutch and brake master cylinders on the firewall. This made servicing and adjustment of the pendulum linkage relatively easy. Alvis on the other hand had to provide a running chassis to the bodybuilder which meant that the pedals and linkages had to be chassis mounted with the added complication of making lubrication and adjustment awkward. Typically out of sight out of mind. The task of linkage servicing became necessary when I removed the brake master cylinder from my TA21. I found the brake pedal push rod “frozen” into the rear of the piston. There was no free play as per the Manual of Instruction. At this point I decided to lift the offside floor board in order to get a better overall “picture” of the linkages. I further discovered that the clutch reversing lever assembly was in fact mounted back to front. In this article I have dealt with the issues of clutch and brake linkage maintenance separately. In both cases check all parts carefully for wear, especially the fork pins. The task is made easier with a pair of ramps.

#### Brake linkages

Removing the push rod from the rear of the piston required a good set of multigrips. The master cylinder was removed in order to fit a replacement, a case of preventative maintenance. Being in service for nearly 10 years was long enough given the cars intermittent use. Ten years was meant to be the life of the car back in '51, hence, as per the Manual of Instruction, no adjustment was ever deemed necessary. 57 years later.....



Figure 1- Linkage components and brake cylinder piston - A 1/32” play should exist between the end of the push rod and the piston when fully inserted. Prior to fitting I applied some anti-seize lubricant to the end of the push rod. See Plate I in the TA21 Catalogue of Spare Parts.

Figure 1 shows the linkage components. The piston on the right hand side serves to show how the master cylinder piston is actuated. Linkage servicing and adjustment can be done with the master cylinder in place. All that is required is that the fork pin be undone (a little easier with the floor board removed as the split-pin may be difficult to remove) and the linkage taken apart in situ. See Figure 1. I found that the linkage could not be removed as a complete unit as the fork end was fouled by the pedal assembly. The secret to the successful replacement and correct adjustment is to ensure that the linkage threads are very clean and lightly lubricated. This will allow the parts to be easily reassembled and will allow for finger adjustment before lockdown. I also applied a small amount of anti-seize lubricant to the end of the push rod. When completing the installation it is good practice to use new split-pins. The Lockheed manual S.111/4 which is the service manual for two leading shoe hydraulic brake systems explains the adjustment procedure and is reproduced below. This accords with the TA-TC Manual of Instruction.

#### BRAKE PEDAL ADJUSTMENT

In order to ensure the complete return of the piston in the brake master cylinder, it is necessary to provide a minimum clearance between the piston and the push rod which operates it, so ensuring that the piston is fully back against its stop when the pedal is released. This is important, since if the piston is prevented from returning fully the lip of the main cup will cover the by-pass port and prevent the escape to the tank of the excess fluid drawn

into the cylinder during the return stroke of the piston; the brakes would, therefore, drag or remain “on.” With some master cylinders, the clearance is automatically obtained, but with others it is achieved by manual adjustment of the push rod; the latter can easily be distinguished since the push rod is threaded and fitted with a lock nut, it is with this type that the following is concerned.

The correct pedal adjustment is set when the vehicle is assembled and should never need alteration. A minimum clearance of 1/32" is necessary between the push rod and the piston, which gives a safety margin of 3/8" - 1/2" free pedal movement at the pedal pad. (refer Fig 3). This free movement can be felt with if the pedal is depressed gently by hand. Should it not be apparent, first check to make sure that the pedal is not being fouled by a displaced mat preventing the complete return of the pedal to the "off" position. In the event of the adjustment having been disturbed, slacken the lock nut "A" (refer to Fig 3) and reset the length of the push rod extension until the pedal can be depressed the correct amount before the piston begins to move. Retighten the lock nut.

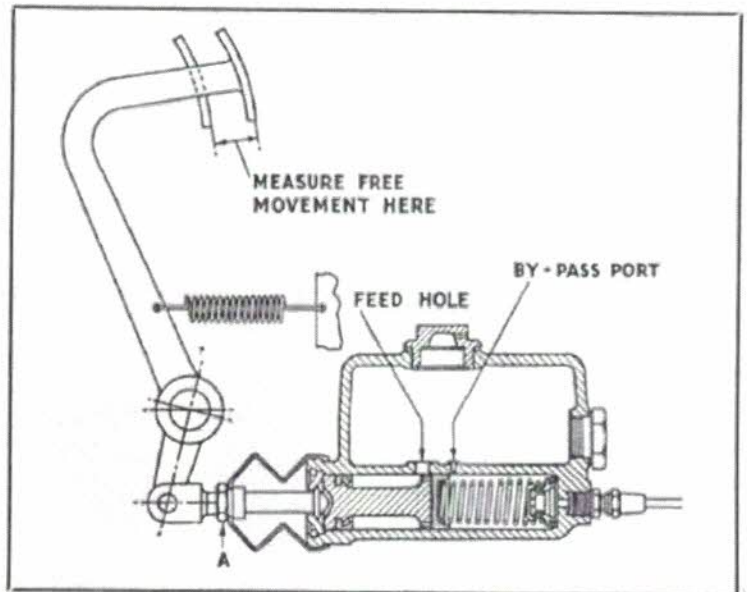


Fig. 3.

## CLUTCH LINKAGES

Besides adjustment the main issue concerns the correct placement and lubrication of the clutch reversing lever (10). The correct placement is important for both leverage and clearance purposes. The TA21 Catalogue of Spare Parts shows the orientation and is reproduced in Figure 2 below

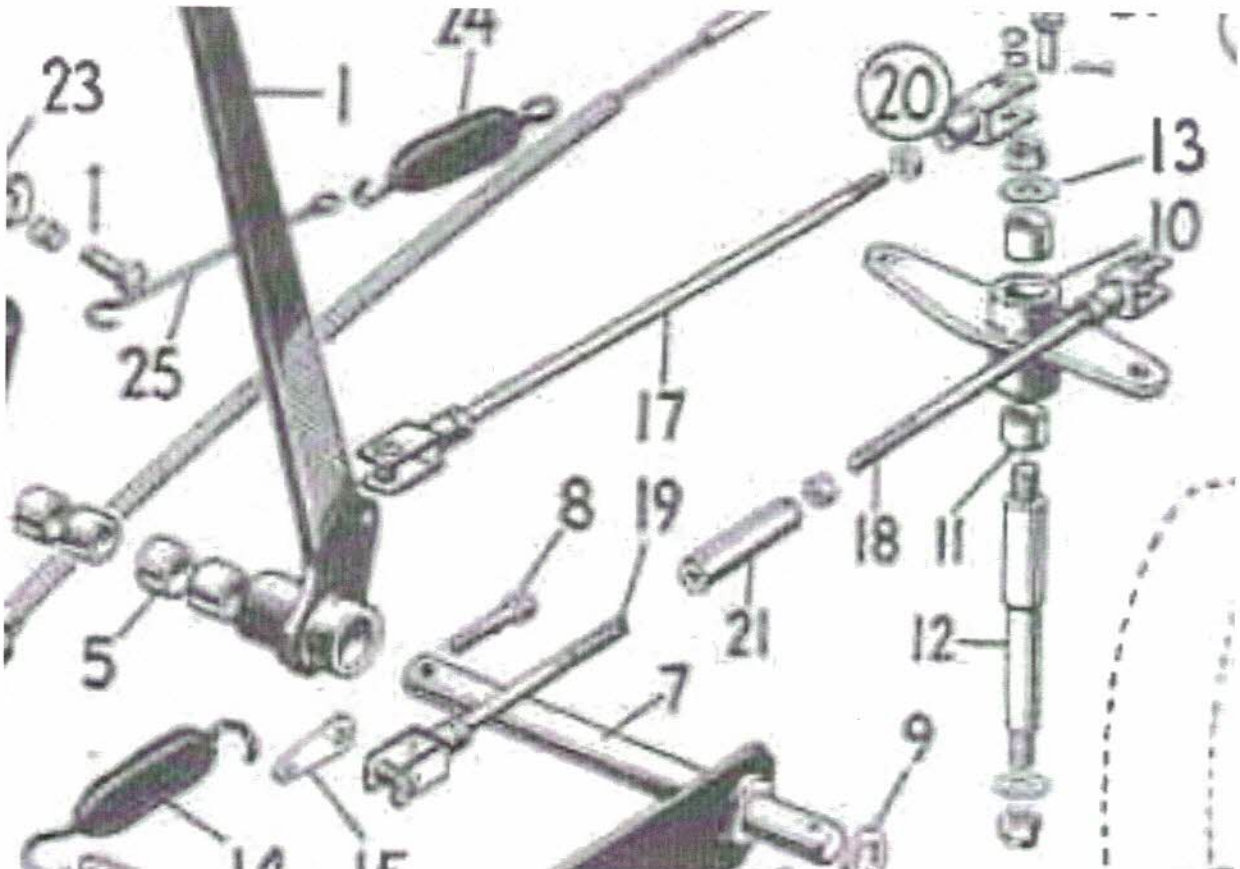


Figure 2- Page 42. The longer arm is connected to the pedal and slopes upwards.

The lever pivots on two bushes (Fig. 2 - 11). The original bushes were the sintered bronze type hence The Works made no provision for further lubrication. This type of bush consists of tiny bronze spheres which are compressed under high pressure. As a result there are tiny cavities between the spheres which retain oil when filled. {The same type of bush is used in the rear of the generator and is kept filled by the wick lubricator.} Given the age of our cars it begs the question as to when they were last inspected for both wear and lubrication. There is also the possibility that at some stage the bushes have been replaced with the ordinary non-sintered type. This type will require greasing.



Figure 3- NOS clutch reversing lever as supplied by Red Triangle. Sintered bushes don't have the same shiny surface as do ordinary ones.

Due to the amount of wear at the ends of the lever, I sourced a NOS replacement from Red Triangle, which included bushes. I used an old technique and immersed the entire unit in very hot engine oil in order to drive out the air from the bushes and allow for the ingress of oil as it cooled. With the aid of Figure 2, correct reassembly was straightforward.

The next task was to strip, clean and re-lubricate the forks, pins and turnbuckle rod threads in order to allow for easy adjustment. Adjustment, was as per the Manual of Instruction and was easier as the turnbuckle now rotated freely. This should be done periodically in order to compensate for clutch lining wear. Having completed both tasks the final job was to try and get some oil, as a stop gap measure, on to the pedal shaft prior to replacing the floor board. Removal of the pedal shaft will be a future task as there is some play in the bushes. Sintered bushes are also used. When I sit behind the wheel I can feel both the correct brake and clutch free play under foot and am pleased this side of car maintenance has been addressed.

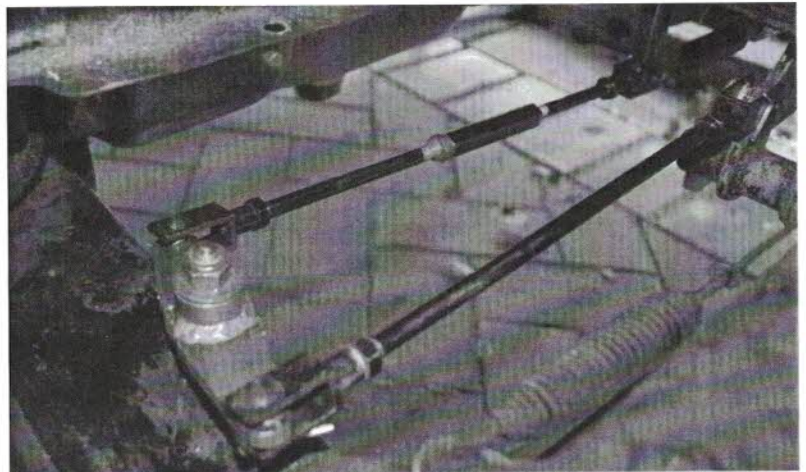


Figure 4 - Job done. TA21- 24314

**Postscript: When working underneath eye protection is paramount.**

Richard Wallach  
Melbourne  
[richardwallach@hotmail.com](mailto:richardwallach@hotmail.com)  
April 2018



# Be part of history

In September 2018 the Victorian Automobile Chamber of Commerce turns 100.

To mark the occasion, the VACC Centennial Cavalcade – featuring ‘100 vehicles from 100 years’ – will travel from Melbourne to Bendigo, VACC’s birthplace.

It’s a feat never attempted before and you can play an important part.

VACC is seeking significant vehicles dating from 1918 to 2018 to participate – cars, motorcycles, commercials and trucks of all marques.

So, if your special vehicle fits the bill, register your interest at: [vacc.com.au/News/Events](http://vacc.com.au/News/Events)



Powering automotive for 100 years



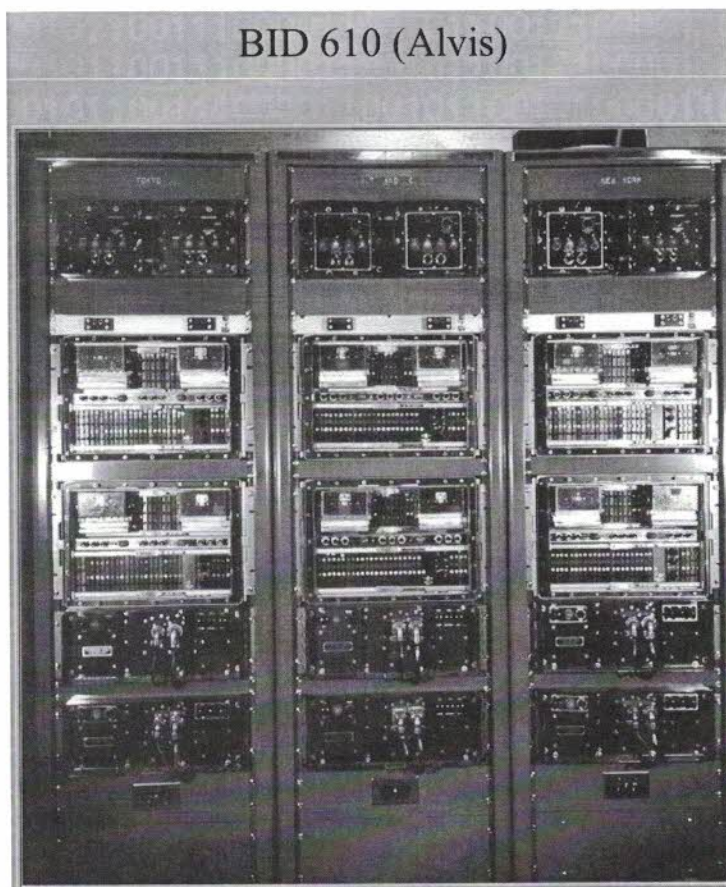
## A MOST PECULIAR ALVIS.

John Hetherington

During the 1960s western Europe was and certainly felt threatened by a possible nuclear missile attack by the USSR. In Britain a plan was drawn up to provide safe places in which the very very VIPs could shelter. "Operation Python," as the plan was named, identified five sites including the Royal Yacht Britannia. (Yes, "yacht" - of 6000 tons; not to be confused with Sydney to Hobart type yachts.) Britannia was to cruise in the Atlantic off the Western Isles of Scotland.

This information comes from a recent TV programme on the SBS channel - a documentary about Britannia. Shown on screen was a page from a document about Python. That same page, shown only momentarily, also contained the word, in capital letters "ALVIS." There was no commentary about this.

Obviously secure communications in all things military, diplomatic and Matters of State are essential. To that end the British government, in 1960, awarded a contract to Plessey of Liverpool, a well known and long established firm supplying electrical and electronic equipment, to design and build a fully transistorised full-duplex online cipher machine for use by the British Army. The designs for contract BID 610, as it was designated, were completed in 1965 and the machines were used extensively by the British and Canadian governments amongst several others, until the nineties. One was intended for Britannia, being part of Python, but whether it was installed is unclear.



The fruit of contract BID 610 was a cipher machine, the first fully transistorised full-duplex one in the world. It was called "ALVIS."

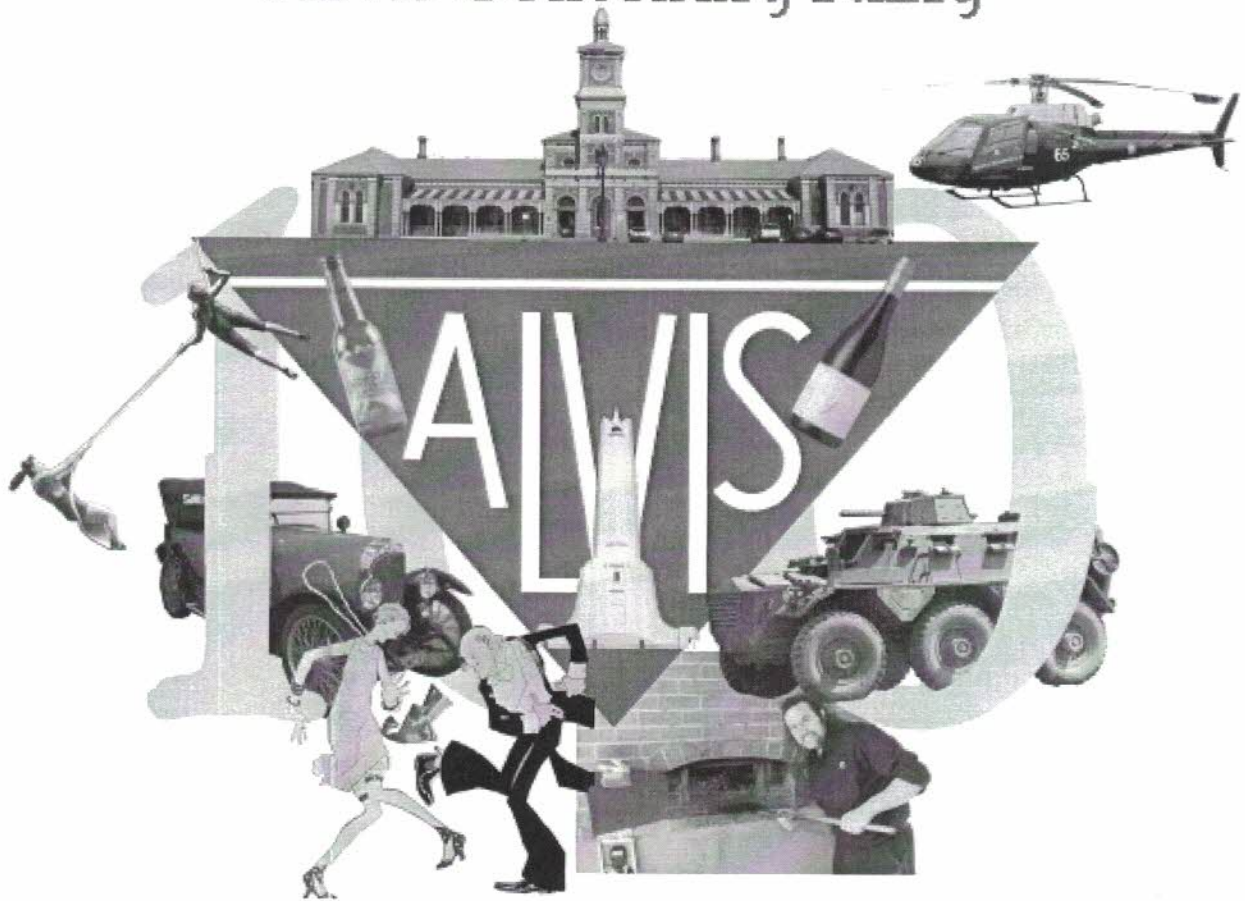
Why the name? Did Alvis plc have any association or even contact with Plessey at that time? Or at any time? Alvis did have contact with electrical and electronic designs later on, through BAE, later BAe. Was there contact or co-operation between Plessey and BAE in the early sixties? Seemingly they were competitors.

My guess is that a bloke who worked at Plessey owned and loved an Alvis. He would probably have been fairly senior and/or assertive to have had his way in the choice of name. If he was as fond as that of his Alvis he may have continued to own one into the seventies.

So someone today may know, have known, or know something about him. Does anyone know anything?

Or did clever Alvis plc really have its fingers in a Cold War era cipher machine?

# Alvis Centenary Rally



## Albury ~ Australia 7th - 13th April 2019

On 26<sup>th</sup> February 1919 T. G. John Ltd began trading. One hundred years later we will celebrate the quality cars that were produced by this company from 1920 - 1967.

Fittingly these celebrations will last for a year, finishing with the centenary of the first Alvis car produced in 1920. They begin in Albury Australia, and we invite everyone to take part.

After the Down Under Centenary Tour organised by the ACCV, the Alvis Car Club NSW will host seven days of entertainment and adventure centred at Albury City, a major regional centre in Australia.

Stay at the Hovell Tree Inn, Albury's premier motel, on the banks of the Murray River, opposite Hovell Tree Park, and just a 5 minute walk from Albury CBD.

Visit the Albury Library Museum to view an exhibition of the Centenary of Alvis and see our Alvis cars on display at QE2 square.

See a performance of the Flying Fruit Fly

Circus, Australia's internationally renowned circus school.

Visit the Bandiana Army Museum, the largest and most diversified Australian Military Museum.

Have lunch at All Saints Estate, a heritage listed venue surrounded by ancient vineyards and award winning gardens.

Tour Chiltern and Rutherglen (wine country) and historic Corowa (birthplace of Federation).

Drive along scenic Kiewa Valley Hwy to see the Australian Stoeper Museum at Mt Beauty and return via the tourist centres of Bright, Myrdeford, Beechworth and Yackandandah.

Drive up Monument Hill for a look at the First World War Memorial and a view over the city.

Visit the old Hume Weir motor racing circuit.

For details on how you can join the Alvis Centenary Rally, contact Heather Goldsmith (email: [heatherandrob@optusnet.com.au](mailto:heatherandrob@optusnet.com.au); mob: 0431 067 994; ). ▼

Alvis Down Under Centenary Rally March 20th - April 7th 2019  
Alvis National Rally April 7th - 13th 2019



(with or without your ALVIS)

*To join us in celebrating 100 years of these magnificent cars.*

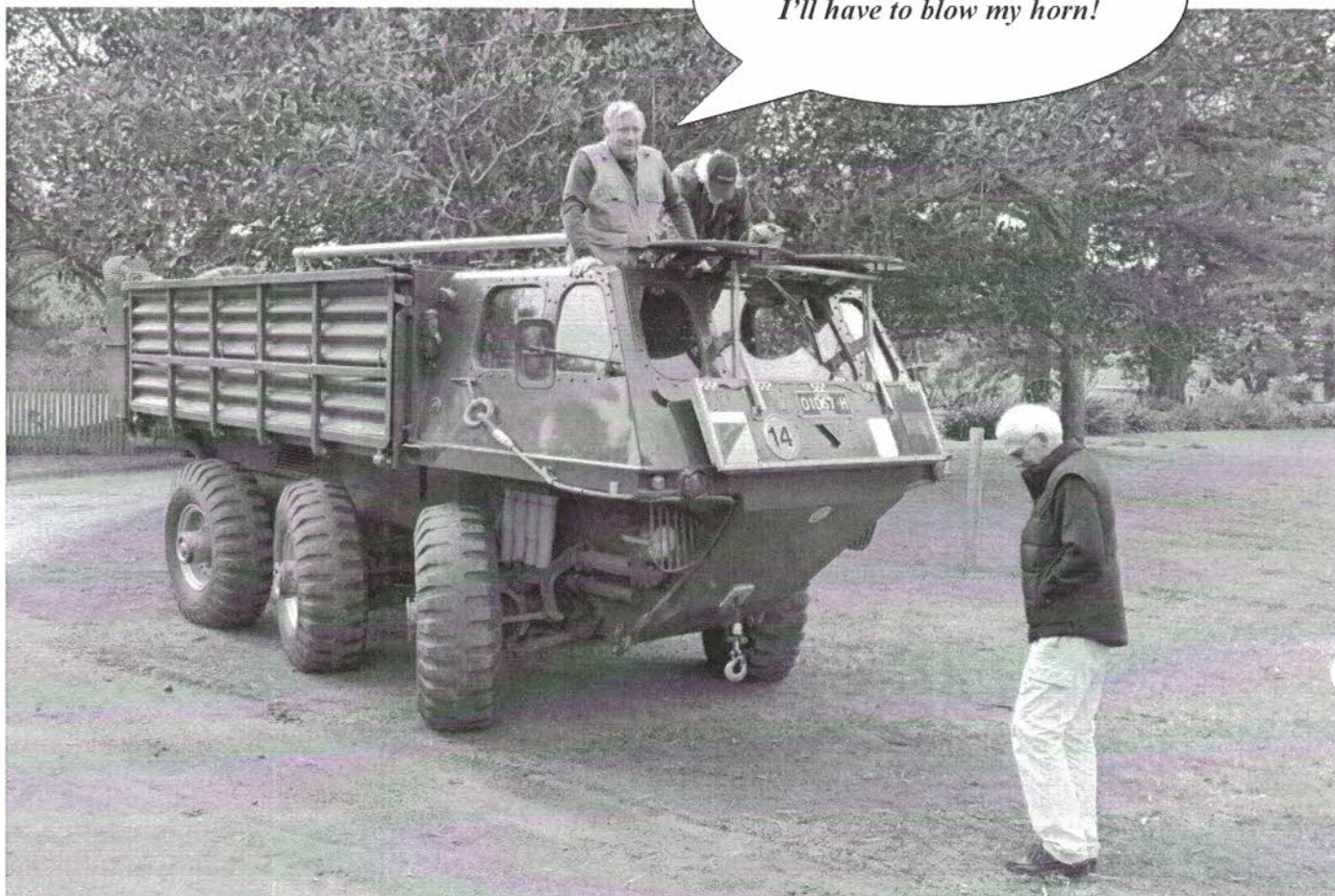
Don't miss this special opportunity to enjoy  
the best of ALVIS motoring through some of  
our most picturesque countryside

Dale Parsell - [dparsell@ozemail.com.au](mailto:dparsell@ozemail.com.au) 0428 832 126

Noeline McKinnon - [noeline@antiquetyres.com.au](mailto:noeline@antiquetyres.com.au) 0421 213 449

# Alvis People Behaving Badly

*If you're just going to  
stand there  
I'll have to blow my horn!*



*If your advertisement appears on these pages and is no longer relevant, please notify the newsletter editor.*

The opinions expressed in this newsletter are not necessarily those of the Alvis Car Club of Victoria (Inc), its officers or its editor. Whilst all care has been taken, neither the Club nor its Officers accept responsibility for the availability, quality or fitness for use, of any services, goods or vehicles notified for sale or hire or the genuiness of the advertiser or author. Other car clubs may reprint only articles originating from our members. Acknowledgement would be appreciated.

# Day Run to the Seymour Railway Heritage Centre

## Saturday 27 October

The Jowett Car Club of Australia has invited the Alvis and the Armstrong Siddeley Clubs to join them on a visit to the Seymour Railway Heritage Centre on Saturday, 27 October.

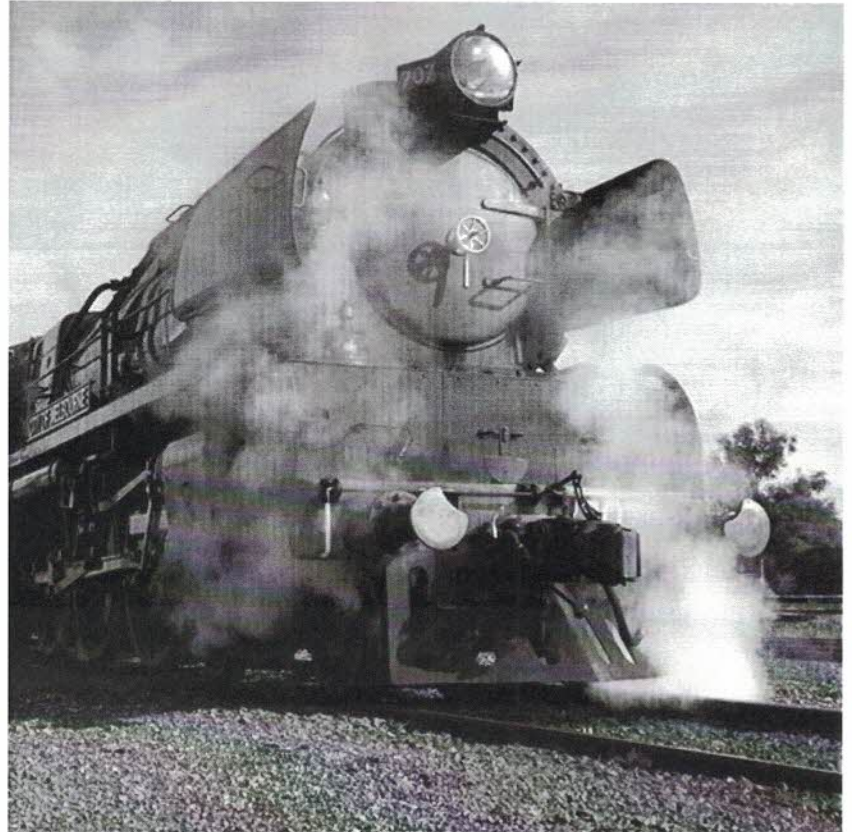
The plan is to arrive at the Centre by 11am for tea/coffee in their kiosk, then a guided tour of the depot followed by a starter-mains-desserts lunch served in their elegant, historic Dining Carriage at the depot, featuring proper linen tablecloths and original crockery. After lunch it is planned to visit the historic Seymour Station, built in 1875.

The cost is \$40 per head, payment on the day, with 2 choices of wine by the glass, at members' expense.

The Dining Carriage is limited to 48 seats, so we are allowing for 16 from each of the 3 Clubs – first in best dressed.

Please contact me on 0407 944 987 or [rtronkin@tonkinlaw.com](mailto:rtronkin@tonkinlaw.com) to book.

Richard Tonkin.



## ON OFFER

Margaret Caldwell advises that she has 2 leather hides that were purchased some time ago and never used.

If you would like to inspect them and make an offer, please ring Margaret on

**03 9720 4711**



# FOR SALE

1 x 1928 TA16/95 Silver Eagle, car no 12006. Complete car in need of full restoration, complete with some spares including spare cylinder block and cylinder head. Reco-gearbox with John Needham gear set and original gear set also available, spare diff housing and diff centre.

1x 1951 TA/21 saloon chassis no 23864 body # M2047, complete car.

1x 1953 TC/21 saloon chassis no 25213 body # 3084 complete car in need of restoration.

Also included is a host of spares for the 51/53 cars including a full set of doors, guards and bonnets in excellent condition as well as spare guards that are good for a pattern, radiator shell, 2 spare motors and gearboxes as well as a host of parts including lights, trim, starter motors and generators. Too much to mention. This is a quite extensive collection of spares for these cars and is almost a complete car's worth.

To be sold as a complete collection will not separate cars or parts.

Located in Kyneton, Victoria

Call for more details - 0439 320 496 Andrew Twomey



ALVIS 3 litre DHC

Chassis 24639 Engine 24639

Body: Tickford of London & Newport Pagnell – body # 20144 (144 of a total of 301 DHC bodies by Tickford

Colour: maroon (Glasso # 227226)

Trim: brown leather

Hood: black duck

Date completed: 12 May 1952

Date delivered: 16 May 1952

The owners handbook carries an undated entry stating "JUJ 200" has been modified at the Alvis Works by the installation of twin carburettors and a 3.7 / 1 rear axle and is now a TC21. The TC21 superseded the TA21 in the mid 1950s.



## FOR SALE

SG Silver Eagle Sports Tourer

12,000 miles since complete restoration including new body & full weather equipment & tonneau.

Chassis No. 12684 Original books & full history available

Restoration details available on request.

\$82,500 negotiable

Murray Fitch Telephone: 03 5766 2529

# FOR SALE

## 1953 Graber bodied TA21G Fixed Head Coupe

Shown on Herman Graber's stand at the 1953 and 1954 Geneva Motor Shows, the car was discovered by Alvis expert Nick Simpson in Madame Graber's garage in Berne, Switzerland, in 1975. Simpson restored the car in the 1990s, installing a twin SU TC21/100 engine.

Owned by me for the past 12 years, the car participated in the JNBC Rally in 2008 and the Nick Walker Tour of Britain in 2011. She was accepted for display at MotorClassica in Melbourne in 2016 and for their concours in 2017.

This car was the basis for all future Graber-designed Alvises, including the TD, TE and TF21. She features in most of the Alvis books.

Recently refreshed by The Healey Factory in Melbourne, the Graber is in excellent condition and drives beautifully. She comes with a large history file.

\$134,500.

Richard Tonkin

0407 944 987

[rtonkin@tonkinlaw.com](mailto:rtonkin@tonkinlaw.com)

