



### DEV 2, the second Project Adder development car

It was built in 1990 as an RV8 pre-development car by Mark Gamble at BMH as part of the Adder project using a new Heritage MGB shell fitted with a 3.9 injection engine supplied by Land Rover Engineering and a 5 speed box. It may look like an ordinary MGB, apart from its RV8 bonnet and prototype styled front end, but with uprated suspension and brakes, its performance is far from ordinary. It is a very fast, usable car in very good condition which has been owned by Trevor Ripley for many years, but has covered only just over 26,000 miles. He has decided to sell it so there is a real opportunity for an enthusiast to get an interesting car which comes with a comprehensive history file and documents relating to its ownership with BMH and Rover Group.

### New European tyre labelling

On 1st November 2012 new European tyre labelling regulations come into force that could make driving safer, more economical, less polluting and less noisy. Now all new tyres sold in the UK must have a label attached with information about fuel efficiency, wet weather grip and external tyre noise. The difference in braking performance between different brands of tyres when braking hard from 50mph in the wet is considerable. In a BBC news report Christoph Kalla, the head of research and development at chemicals company

Lanxess's rubber division, said "it's amazing how much money people are prepared to pay for airbags, yet they don't want to spend money on tyres that can shave off up to 18 metres on their braking distance."

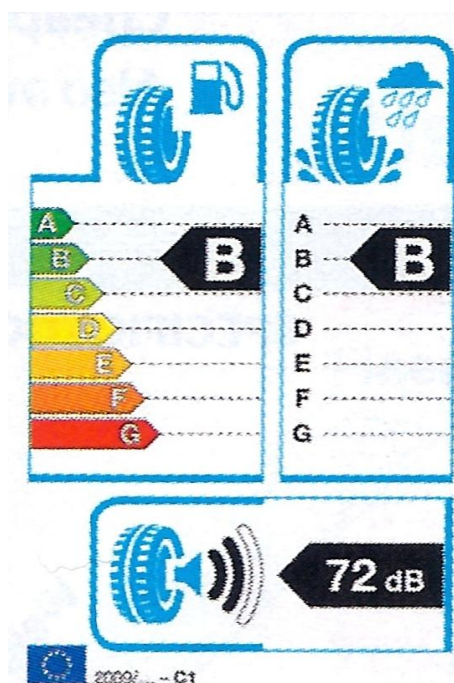
On fuel economy he added "consumers also need to be aware of the dramatic impact tyres can have on fuel consumption. Expensive tyres could actually be more economical over time. Some 20-30% of the fuel consumption of a car can be attributed

to the tyres that make up the interface between the car and the road," Hence, reducing a tyre's rolling resistance is a relatively basic way of reducing fuel consumption. The noise generated by tyres has also become an environmental factor so knowing the comparative noise generation of various brands of tyre is important, although probably not a major concern with most motorists at present.

As tyre purchases have become a major investment for people, increasingly they want to know exactly what they are getting for their hard-earned cash. "Until 10 years ago, it was primarily a cost game, which in turn used to be a labour game," explains Mr Kalla "but now the cost of materials is more in focus than labour costs."

Below is an example of the new tyre label. Fuel efficiency (upper left) is rated A to G with typically a 75% difference in fuel economy between ratings A and G. at a steady 50mph. Wet grip (upper right) is rated A to G and a the typical difference in braking distance between A and G tyres is around 30% or four car lengths. External rolling noise - two black curves means it meets EU noise limits.

"There is a bewildering choice of tyres on sale in the UK" says the BBC's Richard Westcott and the new EU tyre labelling scheme is intended to help improve consumers' awareness of fuel economy, wet grip and braking performance and noise generation. Consumer groups and commercial motor magazines provide useful comparative tyre test information but it is likely to take a few years for consumers to recognise these new labels and comprehend the information they provide.



### Spares news

Clive Wheatley has been beaver away to bring fellow MG V8 enthusiasts some new spares he has resourced just in time for your seasonal presents list!

He has a new supply of **RV8 front brake clips and pins** as a new kit which is a complete set for both callipers priced at only £13.95 including VAT, less than the price of the OE spares available before. They have been difficult to obtain for a while so he has found a supplier who has made them to an improved specification with zinc plating. The clips and pins on the RV8 front brake calliper are unique. The very good 4-pot AP callipers originally fitted to the 1980s Austin Princess were used on the RV8 but were modified with a thick spacer inserted between the two halves of the calliper body to clear the thicker ventilated disc used on an RV8, so the RV8 pad retaining clips and pins are longer than the 'standard' ones.





Clive has obtained a supply of new replacement **RV8 main header rails** made by one of his suppliers and, to overcome a problem he had seen with many RV8s (a rubber hose connected to the end of the header rail tends to rub on an adjacent part which has resulted in the hose leaking), the fixings on the rail have been moved back by 3mm. The new part has better plating too. Available at £59.95 including VAT plus P&P.

**New MGBGV8 thermostat housings** are available again from Clive as good quality castings with a brass connector. They are in stock now and available at £36.95 including VAT together with the gasket at £1.20 including VAT, plus delivery

### V8 Curry 2013

An annual V8 Curry Night has been a tradition of the V8 Register since 1979. It is usually held in February on the evening before the International MG Show at Stoneleigh nearby so members can combine the two events. This year it is on Saturday 16th February 2013 at the Palash Bari in the village of Fosters Booth which is between Towcester and Weedon on the A5 in Northamptonshire. The V8 Curry is being arranged again this year by Tony Lake and full details and a booking form are available on the V8 website or you can get details from Tony on 01604 589104.

### V8 35<sup>th</sup>/40<sup>th</sup> Anniversary 2013

Next year we have the 40<sup>th</sup> anniversary of the launch of the MGBGV8 model in August 1973 together with the 35<sup>th</sup> anniversary of the formation of the V8 Register in 1978, so we are planning a compact programme of anniversary events of events spread over the two months or so before MGLive! rather than packing them into the week running up to MGLive! as we did for the 30<sup>th</sup> anniversary in 2008.

The anniversary events will include a **BMH Body Plant tour** as they are very popular but can only take 18 people. This year many members wanted to join our tour but it was fully booked, so we have another tour in 2013 as John Yea at BMH has indicated we would be very welcome again. The tour will

be followed by a lunch near Uffington which proved popular with many members this year. The likely date is early April or June 2013.

A **V8 Technical Day** with talks on a couple of technical matters together with a speaker on an MGV8 topic is planned at a study centre on his farm near Watlington just off the M40 near Thame which RV8 member Charles Peers has kindly offered as a venue.

...Chris Yates has suggested a rolling road session for V8 enthusiasts so another **Dyno Day** is planned in May. Novatech provided a rolling road at MGLive! several years ago which was very popular. They have a mobile dyno they can take to a venue. In June we are planning a **visit to Rousham House**, an attractive country house just northeast of Oxford.

**A new book – MG V8** – from David Knowles on the full range of V8 powered MG models is expected to be published in the Spring as a sequel to his earlier much sought after MGV8 book published back in the mid-1990s. The book has a major section covering the RV8 pre-development story in considerable depth so we are arranging a book launch. It will be part of our marketing and sales effort for this book to help generate much needed funds to run the V8 websites. The event will include a presentation by the author plus an additional speaker on one of the MGV8 models covered by the book. The likely date is late Spring 2013.

... A high point of the anniversary events will be a **V8 35<sup>th</sup>/40<sup>th</sup> Anniversary Dinner** – over the MGLive! 2013 weekend when we hope V8 enthusiasts from the UK and overseas will be able to attend. Further details of that and the rest of the anniversary

events will be available in January.

In addition there will be the Sunday lunchtime V8 Gatherings at Hazeley Heath in April and in August organised by Bryan Ditchman and a new similar event at Worfield in Shropshire being planned by Clive Wheatley for near the end of May 2013.

Ken Clayton has offered to arrange another **V8 Day Out** at a country house in the Midlands. These are usually at a National Trust property with an informal picnic. More details in the New Year.

### European Event of the Year 2013

Some 58 MGV8s have been booked in for the event with 115 members and their guests, many of whom are from Sweden, Denmark, Holland and Germany as well as the UK. As part of the V8 35<sup>th</sup>/40<sup>th</sup> anniversary we are arranging a V8 Reception before dinner on one of the evenings during the tour. Also, as the journey to Aviemore in the Highlands is such an outlay, we felt some V8 enthusiasts attending the event might like to extend their stay in the Highlands for a couple of days so, we are planning a **"V8 2 Day Add-on Tour"** based near Ullapool on the northwest coast which will include a tour of the fascinating Assynt region and a drive round the Wester Ross Trail with stunning views of mountains and lochs from a route which passes by Loch Ewe and Gairloch, through Glen Shiel and the Great Glen to Dalwhinnie on the A9, the route south. Details and the booking arrangements will be available in January. Another Memorable MG Route is due to be published shortly covering the Wester Ross Trail which will provide a good guide to the route and the many places to visit. It's a route few will want to rush but one





to enjoy.



### Solving a problem with an LH overdrive cycling in and out

A fault experienced by some MGB and V8 enthusiasts with a Laycock LH overdrive unit is that when the multi-function stalk switch has been operated to engage overdrive, the overdrive then begins to cycle in and out – engaged and disengaged and engaged again – and continues to do so as the car is driven at a steady speed. The essential question is “what can cause an overdrive to malfunction and how do you cure it?”

The likely causes for an overdrive cycling in and out are a faulty overdrive inhibitor switch, a low oil level in the gearbox, an ageing seal causing an oil pressure leak, a faulty seating for the valve ball bearing, a faulty multi-function stalk switch operating the overdrive or an electrical fault related to the solenoid. Generally it is more likely the fault will be electrical, but two of the early steps in the diagnosis are to check the inhibitor switch and the oil level.

### Checking the inhibitor switch

Ron Gammons mentioned in an earlier “Problems Solved” column in Safety Fast! that on the MGB gearbox fitted with an overdrive there is a switch on the lefthand side of the gearbox remote casing (see above) which acts as a cut out so the overdrive can only be operated in third or fourth gear and not in other gears. The similar switch on the righthand side is the reversing lights switch. With the stalk switch moved to bring in the overdrive, the action of selecting fourth gear by moving the gear lever to right of the quadrant, pushes the switch into contact and allows an electric current to flow through to the solenoid which

then operates thereby engaging overdrive. When second or first gears are selected the switch opens breaking the circuit to inhibit the overdrive from engaging in those gears. The mechanism is slightly crude and the continual action of the switch being pushed whenever third or fourth gears are selected wears the operating faces. The inhibitor switch is screwed into position on a taper thread with spacer washers under the head. The first thing to do is verify whether the switch is the fault.

With the ignition on, select fourth gear and then with the stalk switch moved to engage overdrive, check with a test meter whether you have a current on the lead to the solenoid. If no current flows then get your assistant (fair or otherwise!) to pull the gear lever firmly towards the driver’s seat (on a righthand drive car). It is most likely that a current will then flow indicating an adjustment to packing washers is needed. It is possible to remove and adjust the packings with the gearbox in situ by dropping the gearbox crossmember and pushing the gearbox across to one side. Access to the switch is then possible. It is certainly easier with the car on a ramp, but it is possible from underneath at ground level.

A variant of this test is an on the road check suggested by Dave Wellings who says with the car at a steady speed and overdrive selected, “hold the gearstick firmly” in fourth gear by pulling it to the right “to check the inhibitor action. If contact is marginal, the vibration at even a modest speed could easily interrupt continuity, especially if the gearstick is a close fit with the hole in the transmission tunnel.” If by

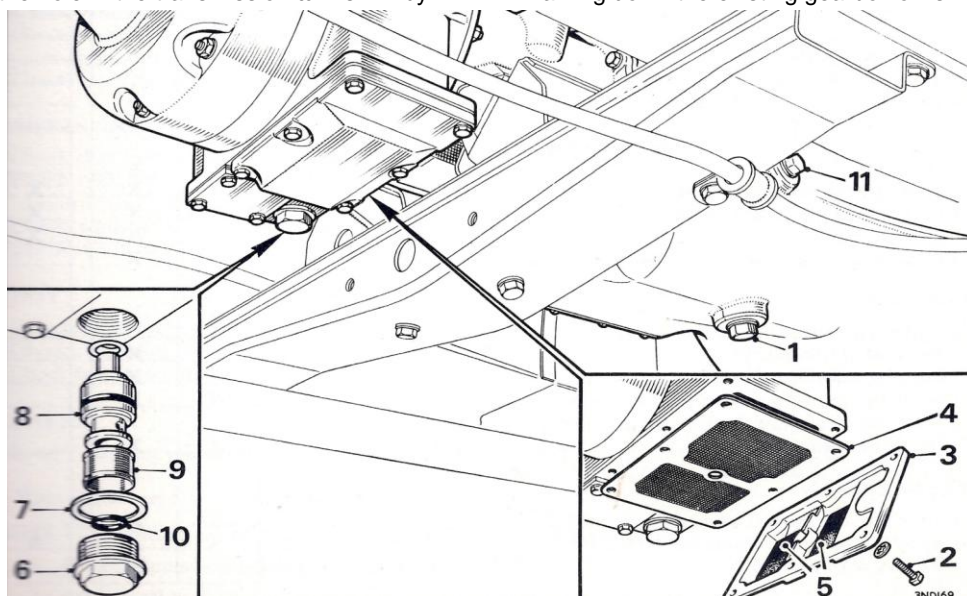
pulling the gear lever over the overdrive engages and when the pressure on the gearstick is released it disengages, a fault on the switch is revealed.

It’s worth noting that on later chrome bumpered V8s and the rubber bumpered models, the overdrive option on third gear was removed during the Factory production run and the gear linkage modified. It is possible that a gearbox from an earlier car may have been changed under warranty to remove the availability of overdrive on third as the Factory encouraged dealers to do that to avoid further warranty claims. It’s also possible that subsequently a later replacement gearbox may have been fitted to the car with overdrive only available on fourth, hence the suggestion that the test is made in fourth gear!

### Checking the oil level and filter

The second check would be the oil level in the gearbox since it also serves the overdrive and a low oil level could cause the overdrive to be slow to engage, fail to engage or cycle in and out. A related issue may be the oil is dirty, so if it’s been in there a while, drain down through the sump drain plug (1) below. The filter and gasket (4) are located under the flat plate (3) on the underside of the overdrive. Also clean any metal fragments attached to the two magnets (5) and replace the plunger O-Ring too. The service manual says the gearbox and overdrive unit should be drained and the overdrive sump filter (4) and relief valve (6) cleaned every 24,000 miles or 24 months.

Draining down the existing gearbox oil is



Drain plug (1), Cover (3), Filter & gasket (4), Magnets (5), Relief valve filter plug (6), Sealing washer (7), Relief valve (8), Filter (9), Seal (10) and the Combined filler & oil level plug (11).



best done when the gearbox oil is hot after an energetic run in the car! If the oil is dirty then flushing may be necessary. If flushing is needed then use fresh oil, take the car on a 10 mile run where good speed can be achieved to get the oil hot, and then on your return drain the gearbox and overdrive before refilling with fresh oil again. Ron Gammons notes that if there is lot of debris in the filter it's normally indicative that the friction bands are breaking up so it's definitely a removal job for an overdrive rebuild.

You also need to remove the relief valve filter plug (6) and the sealing washer (7), withdraw the relief valve (8) and remove the filter (9). Replace the seal (10) fitted in the plug and wash the filter, plug and sealing washer in petrol. Insert the seal (10) into the plug, fit the filter to the relief valve, push the valve upwards and refit the plug and sealing washer.

David Halliday traced his overdrive malfunction to a hardened O-Ring and cleared the fault with a replacement. He bought an O-Ring kit for less than £2.00. The old ones were hard, the new ones soft. Once changed, the overdrive worked perfectly and is still doing so three years later. He got his O-Rings from MGB Hive at the time, but he has noted that Moss list a kit as part number NKC99S.

To top up and check the oil level, remove the plug on the righthand side of the gearbox (11) and top up until the level is on the underside of the opening. With the correct level of clean oil in the combined gearbox and overdrive, the smooth operation of the hydraulic functions of the overdrive unit should be restored.

### Checking the multi-function stalk switch

Barrie Jones describes in his illustrated V8NOTE408 how he had been experiencing problems with the overdrive switch on his V8 – when switched to engage overdrive it would sometimes disengage momentarily but in that case it was traced to a fault in the multi-function stalk control on the steering column. Another member, David Stonehouse also mentioned he had the same fault with his switch but chose to live with it rather than go for a replacement switch. Later rubber bumper MGBs had the overdrive switch on top of the gear knob. The wires to this switch run down a groove in the gear lever. Both switch and wires are very flimsy and regularly cause problems.

### Checking the solenoid

The solenoid plays an important role in engaging and releasing the overdrive. One specialist with long experience of servicing

Laycock LH overdrives feels it is a weak solenoid with not a great deal of energy, so if the O-Ring (60) becomes hard over time or the ball valve seat deteriorates producing a leak, that can contribute to a slow operation when engaging overdrive.

Bob Owen says "in checking through the possible sources of the overdrive cycling, removal of the solenoid for bench testing will enable the unit to be examined and its correct operation checked". But he feels that when "testing the solenoid on the bench, it's a less clear cut situation when a fault is intermittent or present in some situations and not in others. Yes, it's easy to verify that a unit is faulty but it's not easy to verify that it will work properly under all circumstances. A bad connection could be inside the solenoid – for example at the point where the coil wire is bonded to the external connection. It's possible for a bad connection to be temperature dependent – for example if it's riveted and the rivet expands with heat so relaxing the clamping force".

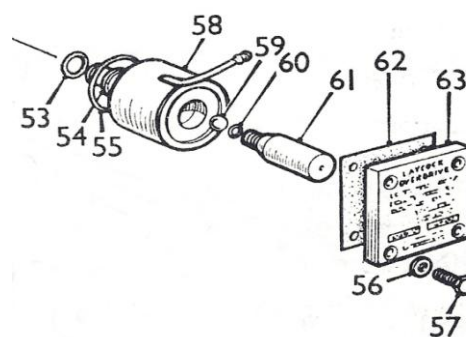
Where the option of "changing the solenoid is chosen that necessarily involves re-making connections so a bad external electrical connection problem would be solved by changing the solenoid and could be wrongly ascribed to a solenoid fault. A garage mechanic may be less likely to test a component, generally preferring replacement as this gives a lower labour cost, more certainty of reliability, gives them a margin on the spare part and usually results in a happier customer as they have a specific reason for the malfunction". However the solenoid replacement route, although not one for the purist mechanic, may result in a good outcome through associated replacement parts like the O-Ring or revived connections solving the problem with the possible bonus of a lower fault finding labour charge from the garage.

### Checking the seating for the small ball in the solenoid valve

Peter Eglington of Overdrive Repair Services in Sheffield, run by an ex Laycock team, mentioned "the repeated action of the ball (59) on the valve seating can work harden the seat and lead to a reduced seal. The seat can also show signs of pitting and scoring. With pressures of around 550psi that deterioration can lead to pressure losses. It's an item they check when servicing overdrive units.

### Other possible causes

Barrie Jones says "over the past twelve years of MGBGT V8 ownership I have had several problems with the overdrive solenoid



Solenoid: O-Ring (53), Solenoid valve body (54), O-Ring (55), Washer (56), Screw (57), Solenoid coil (58), Valve ball (59), O-Ring (60), Solenoid plunger (61), Gasket (62), Solenoid cover (63), Sump filter and gasket (64) and Filter magnets (65).

dropping out and immediately cutting back in again. I also have two friends with V8s and I have helped them to trace similar problems. Yes, the solenoid is the obvious culprit, but no, it has never needed replacement. In every case but one, I traced the fault to the solenoid power supply. I have diagnosed weak contacts on the column-mounted multi-function switch (on two occasions), a fault with the insulating sleeve covering a bullet connector slipping off slightly allowing the actuator wire to short out to the gearbox cross-member, a loose overdrive inhibitor switch which merely needed tightening, a corroded bullet connector where the overdrive/reverse light wiring loom meets the main loom by the side of the heater unit (three times) and a tiny damaged O-Ring which is operated by the solenoid.

### How does a Laycock Type LH overdrive work?

The Laycock Type LH overdrive fitted between the gearbox and propeller shaft is a self-contained gear unit which provides a higher overall gear ratio than the final drive. The overdrive gears consist of a central sun wheel and three planet gears which mesh with an internally toothed annulus. Fitted inside the annulus is a uni-directional clutch. A sliding clutch member is secured to the sun wheel and is free to move forward and backward on the sun wheel splines. Attached to a ball bearing, secured to the sliding clutch by a circlip, is a static thrust ring. The thrust ring is actuated by two hydraulic pistons and returned by primary and secondary return springs. An electronically operated solenoid valve, mechanical pump, relief valve and low pressure valve comprise the main components of the hydraulic system.