V8 Register

V8 NEWSLETTER
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WELCOME TO THE V8 NEWSLETTER

RV8 overall winner of the Luffield Speed Championship

Dave Morris says “I have been lucky enough to be overall winner of the Luffield Championship this year in my RV8. This is my second season campaigning the car and it has been 100% reliable and dependable throughout. It just goes to show that a well maintained and carefully tuned RV8 can be competitive and good fun to drive in these events”.

Dave ended the 2017 season with 803.87 points ahead of Ian Howlett with 798.85 in second place and Andrew Till with 796.73 in third. It was his second season competing in this speed championship which includes events in the north and southwest of England. Dave gives us the following account of his season:

Getting started

My first event in the Luffield MG Speed Championship in the RV8 was at Rockingham in March 2016. I had never taken part in a sprint before and had no idea what to expect. I queued up nervously to sign on and for scrutineering, then got my safety gear checked and my helmet stickered. Fortunately both the car and I got through the formalities unscathed and the fun could begin!

The other competitors and the organisers were very helpful and gave me a few pointers, including watching out for the banking and avoiding the concrete wall alongside. By the end of the day I had had four blasts around the fast but tricky circuit, I was well and truly last but was bitten by the bug.

The Luffield MG Speed Championship is a combination of sprints and hillclimbs at some of the best known venues in the country. The Championship rounds often coincide with major Vintage and Classic car events and the opportunity to join the paddock at places where I had enjoyed spectating at in the past was irresistible. In 2016 I completed rounds at several historic tracks and circuits in the company of exotic machinery and came away at the end of that first season as ‘Best Northern Novice’. At the tender age of 64 I thought this was quite amusing. As a result I decided to have a serious go at the Championship in 2017.

An RV8 Racer?

Why in an RV8 you might ask? It probably seem an odd choice as a competition car, after all it is a luxurious sports tourer and not really tuned for speed. Well, basically it was what I had! I bought it in 2014 as a pile of boxes and put it back together as a road car. It had only done about 30,000 miles and as part of reassembling and recommissioning it I had replaced many critical bits with new parts. I run in the “standard class” so the permitted modifications are very limited and I concentrated on improving reliability and driveability.

Over the winter before the 2017 season I did my best to optimise the performance and the handling of the car. I replaced the dampers and suspension bushes, lowered the back end by one inch and changed to Toyo T1R tyres on Minilite type wheels. Engine-wise I added a DIY cold air intake, reset the timing and made sure there were no air leaks or faults with the fuel injection. The Rovergauge software was a great help here. I replaced the exhaust with a bigger bore single box system and then had the car set up on a rolling road. Although this did not increase the peak power output it greatly improved mid-range throttle response and driveabiity.

The car has been 100% reliable but I did not get it all right first time. Initially I fitted 205 45 15 Toyos thinking they would give me better grip and acceleration. Unfortunately I found that at tricky circuits like Curborough and Harewood I was actually slower than I had been the previous year! Too much

wheelspin and hitting the rev limiter all the time. So I went back to a higher profile (205 55 15) and got an immediate improvement.

I need more horse-power!

About this time I also realised that success was not just about making the car faster. Line and driving technique were equally, if not more, important. Or to quote one of the trainers at the Curborough sprint school "Dave you're all over the ***** place!" It was a case of trying to drive with too much right foot rather than concentrating on getting the right line and carrying more speed onto the straights. One thing I have learnt is that sprinting and hillclimbing are very technical branches of motorsport in which you only get one chance to get it right.

I am absolutely delighted to have won the Championship of course. It shows that a standard MG can easily be adapted for motorsport with some chance of success. I have met some great people at fantastic historic venues like Shelsley Walsh and Loton Park with paddocks full of wonderful classic Jaguars, Astons and Bugattis as at Prescott. Will I do it again? Yes, definitely, but probably in my recently acquired MG TC race car; or maybe I will modify the RV8 and compete in a different class. We will see.

Parts news

Clive Wheatley has obtained a new supply of RV8 track rod ends from a British manufacturer specialising in high quality forged steel automotive parts. They are available now at £19.16 plus VAT and freight costs. It's worth noting they are far better quality than some of the replacement track rod ends seen available recently. He also has a batch of new RV8 back axle U bolts due for delivery shortly. One of his fastest selling items lately is the wheel centre cone for the MGBGTV8 Dunlop composite wheel. Sets of the RV8 manuals on a handy CD are available from Brown & Gammons.

V8 40th Anniversary 2018

For the 40th anniversary of the formation of the V8 Register in October 1978 and the launch of the MGBGTV8 model in August 1973 we have a programme of eight main events in 2018.

V8 Curry 2018 on Saturday 10th February 2018 at the Lloyds Indian Restaurant in Knowle, west of Stoneleigh where the annual MG Show is held the following day.

Visit to the Symphony Hall and Organ in Birmingham on Wednesday 30th May 2018.

Visit to Packwood House, a National Trust property in Warwickshire, on Thursday 31st May 2018.

Tour of the Hook Norton Brewery and lunch in the brewery shop/café on Friday 1st June 2018.

V8 Anniversary Dinner on Friday 1st June 2018 near Silverstone.

V8 Register AGM at MGLive! 2018.

V8 Technical Day 2018 on Saturday 14th July 2018 at Club Office in Abingdon.

V8 Derbyshire Tour 2018 on Sunday 2nd to Thursday 6th September 2018 based at the Matlock Bath Hotel, with a programme of visits.

Rolling road session at a specialist in the West Midlands on a Saturday in September 2018. The event will have live rolling road sessions where each car will be run up and the BHP and torque curves recorded. They will not be able to undertake any adjustments or other work on the cars, they will provide a report on anything seen needing attention. The date will be released in January 2018.

For information and booking arrangements, go to: www.v8register.net/more.htm

Ever broken a stud removing parts from your engine?

It happens, particularly on studs that are exposed to the elements and to heat, as exhaust manifold studs invariably are. Here Nic Houslip recalls having the front most stud holding the exhaust manifold shear off just below the nut on a car that he was working on and was able to remove the residue with a stud remover.

I was able to remove all the other fixings and the manifold leaving me with about ½" of 3/8" UNF stud protruding from the cylinder head. In cases where the stud breaks flush with or below the surface, you have no option but to drill down centrally and use a stud extractor, but this is really a "head off and take it to a machine shop" job. They will then have to drill accurately down into the stud, remove it if it will come free with a "screw in" extractor that has a coarse lefthand thread; or if that fails, to drill down with larger drills until the root thread diameter is reached and pick out the remaining bits of thread from the hole. This is a difficult and time consuming job and best avoided, or better still left to an expert.

In this instance there was just enough stud protruding to be able to do something about it, but a first attempt with a self-grip wrench failed because it wasn't possible to exert enough pressure to grip and turn the stud. Over the years I've bought various unusual tools at events and auto jumbles, mostly on the basis that "it'll come in handy if I never use it". One tool I have had for a long time but never tried was a **stud remover** that had a cam shaped wheel with a knurled surface inside a strong circular body that was supposed to grip the stud. Unfortunately it needed about a half turn to get a good grip, by which time the body of the tool was up against the timing chest.

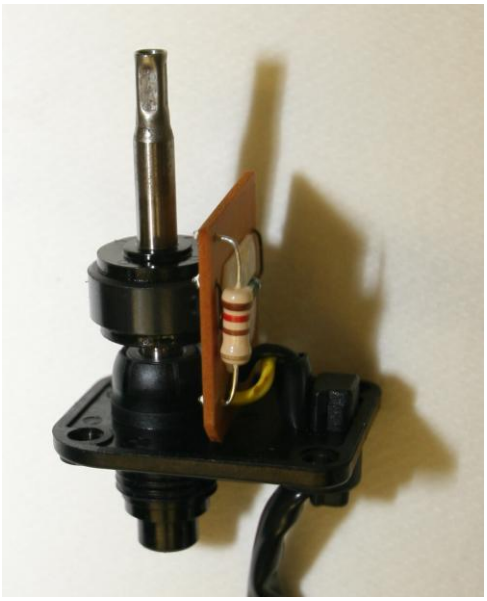
Time for a search on the internet. Less than 15 minutes later I had located a device that looked like a big sturdy version of a drill chuck. This seemed to be the tool for the job so next morning I set off to the local Machine Mart to get one.

The photo alongside shows the device mounted onto the stud. It clamps on like a drill chuck, and is designed to be used with an impact wrench, although it could be used with a ½" square drive ratchet or breaker bar. Turning the black hexagon shaped part anticlockwise tightens the jaws, chuck fashion, onto the stud, the more it is turned the tighter the grip and the teeth inside the jaws bite into the stud. The teeth produce longitudinal marks that can be seen below, it is these that grip the stud tightly.

Setting it to run anticlockwise the impact wrench screwed the remainder of the stud out of its hole in about 15 seconds, the length of time showing how tightly it was held by the rust of the ages. It is possible to use a½" drive bar but this might not be as easy as using an impact wrench, unless you have a very long one and the space to manoeuvre it.

I can honestly recommend this tool as being something that works exceptionally well, it was made by Laser Tools www.lasertools.co.uk and is called the ½" D. It will remove studs from 6mm-12mm (1/4" – ½") diameter. It can also be used to remove rounded or rusted nuts with external dimensions similar to the stud diameter, such as those with hexagon heads from ¼" AF to ½" AF or 6mm to 12mm AF. I bought mine from the Machine Mart at Great Barr in Birmingham.
https://www.machinemart.co.uk/p/tool-connection-tc3986-impact-stud-extractor/

At £21.59 it was worth every penny.



Road speed sensor for the RV8

Responding to a member searching for a replacement road speed sensor for his RV8, Nic Houslip agreed it is difficult adding "when I first had my RV8 it had some issues with idling at strange speeds, so I thought I had narrowed it down to the sensor. I then dissembled it and checked the operation".

Nic Houslip explains it is a simple device with a number of magnets rotating on a shaft. As these magnets pass by a device called a "reed switch" that is basically a pair of electrical contacts sealed in a glass tube. As the magnet passed by it opens or closes the contacts and sends a train of pluses to the ECU, which interprets this to determine the speed the car is travelling at, and more importantly in this case, if the vehicle is stopped (no pulses). The ECU then makes a decision, based on a number of other inputs (coolant temperature, air temperature and fuel temperature) and tells the stepper motor to let the engine idle at 700 rpm. Now it soon should become clear that the other inputs might have a great impact on the decisions that the ECU makes. If for example it detects that coolant temp is not in the right range, it will allow a much higher idle speed. The most likely explanation is the sensor is giving false information (either due to a sensor fault or more likely a poor connection) and then errant operation may occur".

Malfunction of the Road Speed Sensor

It seems to be indicated when the idle speed is erratic. The sensor is mounted on the inboard side of the pedal box on a bracket attached to it. Access is restricted, but it is possible to remove it after unscrewing the single screw mounting it to the bracket. After removing the retaining nut from the speedometer drive cable that comes from the gearbox, move the cable end out of the way, then there is just enough room get your hand in to unscrew the retaining nut that holds the short cable to the speedometer head. The electrical connections are made by a two-pin connector that needs to be disconnected; after pressing the latch the two halves can be separated.

Investigation of the circuit diagram and the sensor test in the Lucas manual XXB 825 shows that the black wire on the sensor is fed with 12V from the ignition switch, through a white wire into the female part of the connector which then feeds the sensor through a black wire. The colour change occurs at the connector, the output signal to the 14CUX box (pin 6) is yellow all the way.

The device is marked "**Jaeger France**" and has a part number **34019501** embossed on one side. Exhaustive searching does not throw up any information on this part. The device has an end cover attached by 4 staked pillars with a small washer on each and then pressed to retain the cover. To remove these, using a 4mm or larger bit drill into the staked part, until the washer is contacted. Then prise the washers off and remove the cover. Slide the cover with printed circuit board attached off and make sure you note which end of the magnet shaft is inserted into the cover. It appears to fit either way, but there is a slight difference in diameter in the sample I had that made it a tight fit if fitted the wrong way.

The device is simplicity itself. There is a circular magnet mounted on the shaft that rotates in close proximity to a small printed circuit board that holds just two components, a 120Ω resistor and a glass encapsulated "Reed Switch". As the magnet is rotated by the incoming speedometer cable the magnetic poles interact with the reed switch and close the contacts. The action is rather similar to a contact breaker in a distributor. The 12V supplied from the ignition switch is thus alternately connected and disconnected and then fed to the ECU. The ECU can easily count the number of times it sees the voltage rising and falling and make a calculation against a time base to decide how fast the car is moving. The Lucas manual says the sensor should output 6 pulses for every turn of the LH rear wheel when it is jacked up, but with the other on the ground. Due to the action of the differential we can assume that it will provide 3 pulses per turn of the road wheels when both are on the ground.

Using a small low current test bulb, I supplied 12V to the device and watched the lamp go on and off as it was rotated using a card degree wheel to ensure that the pulses were counted in only one revolution of the shaft. I counted 12 pulses in 360 degrees. The mark space ratio is not accurate, but I assume that it is probably only detected on a rising or falling edge, so the ratio isn't important.

Reassembly is only a matter of carefully drilling down the die-cast corner pillars and inserting small self-tapping screws to hold the cover in place. Do so carefully, with a pillar drill not a handheld. Cleanliness is important in reassembly; I rinsed the casing with a degreasing cleaner, blew it dry with an airline and then lubricated the bearings with light oil. It is important to clean the magnet carefully, inevitably it will have picked up small particles of magnetic metal while in your workshop. These are easily removed by using a small lump of well kneaded BluTack.

I had experienced erratic idle for several weeks and nothing I tried would stop it, but after dismantling and re-assembling the sensor the problem seems to have gone away. Only time will tell.

Clive Wheatley has **YBE10007** Rover RV8 Speed Transducer in stock The current price is **£59.00** plus VAT and carriage.

What is a Reed Switch?

The Reed Switch was invented in 1936 and is widely used in automatic telephone exchanges until replaced by the fully electronic versions we have today. More information can be found at http://en.wikipedia.org/wiki/Reed_switch but it is important to realise that it is a low current switch only, so shorting the output to ground might damage the contacts.

For more on items in this V8 Newsletter go to: www.v8register.net/more.htm