



Michelotti/Standard Triumph flag badge



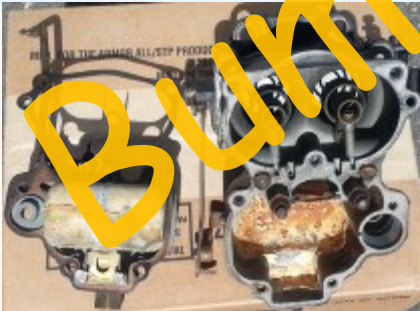
## Shropshire Group Spring Tour 2022 to the Yorkshire



Chris Appleton's update on



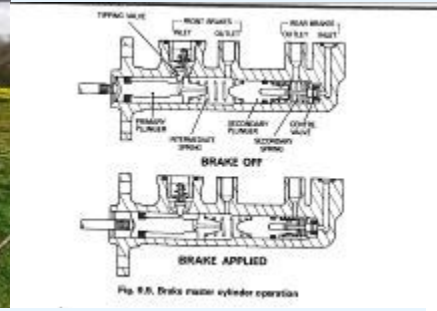
Alberto Grisoni, our correspondent in Italy, writes about his trip to Montorfano with some friends in TRs —page 6



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## Preface



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Articles for publication are welcomed provided that they are relevant to the Group such as:-\*

Restoration projects.

\* *Technical do you have a particular experience?*

\* *Runs out with your cars either individually or in*

*a group.*

\* *Future events*

\* *Anything that Members may feel would be of interest to the Group beyond TRs.—ie anything!*

*All opinions expressed by contributors will be their own and are not necessarily the views of the editor, the TR Register or the Shropshire Group.*

*The Editor reserves the right to edit content and to moderate submissions.*

## Upcoming Events



JUNE	
2/6	Severn Valley Railway Queen's Platinum Jubilee Event - to 5/6
4/6	Classics at the College, Elsmere College - in aid of Hope House Children's Hospice
4/6	Tatton Classic & Performance Car Spectacular - to 5/6
4/6	Best of British, Shelsley Walsh Hill Climb, Worcester - to 5/6
10/6	Le Mans - race 11/6 & 12/6
11/6	Midland Championship Meeting, Loton Park Hill Climb Alberbury, Shrewsbury to 12/6 - includes TR class
12/6	TR Tours - Ireland - to 17/6
16/6	<b>Shropshire Group Meet and Drive TS2 - venue The Fox &amp; Hounds.</b>
18/6	<b>TS2 on display with club cars in The Square, Shrewsbury. Collection for Severn Hospice</b>
21/6	<b>Club Night - The Fox &amp; Hounds, Wytheford Road, Shawbury, SY4 4JG</b>
23/6	<b>Shropshire Groups Run to Black Rock Sands, Morfa Bychan, Porthmadog</b>
23/6	Goodwood Festival of Speed, Goodwood, Surrey -to 26/6
25/6	Shrewsbury Food Festival, The Quarry, Shrewsbury - to 26/6
25/6	Mid Shropshire Vintage Club, West Mid Showground, Shrewsbury -to 26/6
25/6	Summer Spree, Shelsley Walsh Hill Climb, Worcester - to 26/6
30/6	Le Mans Classic - to 3/7
JULY	
1/7	British Grand Prix, Silverstone - to 3/7
3/7	TR Tours - TRs & Trabants, Romania - to 9/7
3/7	Vintage Meeting, Shelsley Walsh Hill Climb, Worcester - includes TR class
3/7	Music Event at Dorothy Clive Garden, Market Drayton. Free entry for Classic Cars

JULY	
10/7	<b>Shrewsbury Classic Car Festival, Longden, Shrewsbury - Club run</b>
10/7	Weston Park Motor Show, Weston Park
10/7	Classic Motor Show, Walsall Arboretum, Walsall
16/7	Classic Nostalgia, Shelsley Walsh Hill Climb, Worcester - to 17/7
17/7	Wem Vehicles of Interest Show, Wem
19/7	<b>Club Night - The Fox &amp; Hounds, Wytheford Road, Shawbury, SY4 4JG</b>
22/6	CARFest North, Bolesworth Castle, Bolesworth Road, Tattenhall, Chester CH3 9HQ. TR Register stand to 25/6.
29/7	<b>Oulton Park Gold Cup weekend - to 31/7</b>
31/7	Audlem Festival of Transport
AUGUST	
6/8	Interclub Meeting, Loton Park Hill Climb Alberbury, Shrewsbury to 7/8
6/8	Severn Valley Railway Vintage Transport Extravaganza - to 7/8
13/8	<b>Shropshire Group Run to The Long Mountain and The Stiperstones, Lunch and afternoon visit Martin &amp; Helen Davies's garden at Moat Hall (NGS)</b>
13/8	Championship Challenge, Shelsley Walsh Hill Climb, Worcester inc TR class on 14/8 - to 14/8
16/8	<b>Club Night - The Fox &amp; Hounds, Wytheford Road, Shawbury, SY4 4JG</b>
19/8	<b>Inter-club Triumph &amp; MG Weekend, Stafford - until 21/8</b>
26/8	Silverstone Classic Weekend, Silverstone - to 28/8
27/8	Interclub Meeting, Loton Park Hill Climb Alberbury, Shrewsbury to 28/8
28/8	Shrewsbury Steam Rally, Onslow Park, Shrewsbury - to 29/8
SEPTEMBER	
4/9	Classic & Retro Show, Himley Hall, Dudley
7/9	TR European Meeting, Sweden
10/9	Vintage Sports Car Club, Loton Park Hill Climb Alberbury, Shrewsbury -to 11/9
11/9	Vaynor Car Festival
16/9	Goodwood Revival, Goodwood, Surrey - to 18/9
17/9	Harvest Festival Meeting, Shelsley Walsh Hill Climb, Worcester - to 18/9
20/9	<b>Club Night - The Fox &amp; Hounds, Wytheford Road, Shawbury, SY4 4JG</b>
24/9	TR Tours - Loire Valley, France - to 1/10
24/9	MSUK Championship Meeting, Loton Park Hill Climb Alberbury, Shrewsbury - to 25/9
OCTOBER	
8/10	<b>Group Run TBA</b>
18/10	<b>Club Night - The Fox &amp; Hounds, Wytheford Road, Shawbury, SY4 4JG</b>
NOVEMBER	
5/11	<b>The Autumn Run</b>
11/11	Classic Motor Show, NEC, Birmingham - to 13/11
15/11	<b>Club Night - The Fox &amp; Hounds, Wytheford Road, Shawbury, SY4 4JG</b>
DECEMBER	
4/12	<b>The Turkey Trot</b>
20/12	No Club Night

All events are subject to confirmation and updates will be incorporated into "What's On" which will be published at the start of each month.



# Roger's Ramblings

Message from our Group Leader



Hi Folks

Welcome to this bumper edition of *TR Torque* which Peter has put together to reflect what we have done so far this year. The last two years were a challenge but now that we have almost reached Summer (allegedly), 2022 is looking more promising.

As usual, our first foray of the year was The Snowdrop Run but the weather was atrocious! Only Phil and Roger B braved the conditions in their TRs. The roads back to Shrewsbury were scary and I was very pleased that Gordon was following me in his 4x4 Subaru.



*The Snowdrop Run*

The March Hare Run visited Dagfields Craft and Antiques Centre and went on to lunch at Bridgmere Garden World.

You will see, elsewhere in this edition, pictures from The Stretton Strollers' Daffodil Run. This was a magnificent display of daffodils. The Hulton-Harrup family have planted 170,000 bulbs on their Gatten estate, 1100 feet high in the Stiperstones Hills. Unfortunately, my TR6 was off the road and I had to improvise.



Weston Park, on Easter Sunday, was for a change, dry and sunny. Thanks to all of you who turned out for this. We had a good display but did not win the "Club of the Show" award. Which is good as it was becoming rather embarrassing winning it every year.

Drive it Day took 15 cars to Stokesay Castle, that gem of South Shropshire, followed by lunch at The Yew Tree in All Stretton.



*Shropshire TRs in the Elan Valley*

The Yorkshire Dales Tour is covered in detail on page 11. All I can add is that it was fantastic - good roads, great accommodation and excellent company. Our best yet!

If life couldn't get better, we then had a run to The Elan Valley, kindly organised by Robin Walker. We stopped at the Elan Valley Visitor Centre for a picnic.

But that's not all. We still have many events for your edification. Coming up in the near future are:

- TS2's visit to Shropshire Group
- The Black Rock Sands Run organised by Greg Washington
- Shrewsbury Classic Car Festival
- Oulton Park Gold Cup Weekend
- Run and visit to Moat Hall Gardens
- The Triumph & MG Weekend

Please see "What's On" for fuller details.

So, the TR Shropshire Group is well and truly back - with a vengeance!

Roger



## Roger's Observations

TR Insurance, arranged by A-plan, is designed to benefit both the TR Register and its members. The Register receives financial benefit which allows it to keep Members' Subscriptions down by approximately £10 per member per year.

One of the benefits to Members is that the scheme provides "Member to Member" cover. This means that one Member will be insured to drive another Member's TR provided that both vehicles are insured under the TR Insurance Scheme.

I have been made aware that not everybody's Policy Schedule reflects this. Whilst A-plan have assured Members that, in the event of an accident, this cover will apply, it should be included in the text. Please check that your Policy Schedule includes the endorsement "TR3 - Full Policy Cover Extension". If it doesn't, contact A-plan, Worcester, on 01905 930745.

Our go-to-man for all things TR, Alan Edwards, has an ingenious tool which holds hard to get to nuts and bolts in place. This consists of a combination spanner and the end of that wand thing we all use to pick up stuff we drop. See photos



And it works. This was discovered stuck to my engine block some six months after Alan had replaced my gearbox!

Clutches can often be a source of contention. Most of us prefer the hard to obtain Laycock clutch over the ubiquitous Bork & Beck item. Whilst watching an episode of Car S.O.S. recently, I discovered that there is a firm in Wolverhampton who reline clutches. This is Industrial Brakes Ltd on Ettingshall Road. I have put their details on our Group Website at: [www.tr-register.co.uk/group/shropshire/local-recommendations](http://www.tr-register.co.uk/group/shropshire/local-recommendations)

When my speedometer failed, I consulted the TR Register Forum for trusted repairers. Some of the comments were quite damning! However, Speedograph Richfield in Nottingham (who have been repairing Smith's instruments since 1935) were considered good and I used them. The Plough Garage in Pontesbury swear by Speedy Cables. I'll put details of both of these on the website.

Parts quality is always a hot potato and we, as the consumers, are often let down. A current issue seems to be the quality of speedometer angle drives - but they are cheap at £35ish each. One Member reports having had three fail in almost as many months! Luckily, he has now managed to obtain the last "New Old Stock" item from Fitchett's. Replacing the angle drive is a tedious job and which you won't want to repeat. TRGB sell a super-duper one machined from a billet. I have bought one of these at an eye-watering £167 but if it means that I never have to do the job again, then it's worth it.





# Stretton Strollers Daffodil Run

Peter Napier



A few hardy members in seven cars met in a cold, wet and windy car park in Craven Arms for a jaunt through the South Shropshire countryside stopping in Montgomery before heading off for the Daffodil Field at The Gattan followed by lunch at The Nag's Head, Pontesbury.

These are a few photos of the day.



# Letter from our Italian Correspondent

Alberto Grisoni



Lesà, 10th Apr 2022

If central Italy, with Tuscany in the lead, is a land rich of Middle-Age towered towns perched on the summit of hills, the North is rather rich of buildings in the Romanesque style.

You could easily point me out that, for example, the entire Miracle square of Pisa, with its Cathedral, Baptistery and leaning Tower is Romanesque while the style of Milan Cathedral ( Duomo) is Gothic but, generally speaking, Romanesque is more of the North.

A thousand years ago, the idea that World would finish after year 1000 had been discarded and a new air of dynamism spread all over Europe. Men wanted to look for God with introspection in a research of stability and safety. To underline this search in oneself, the architecture of buildings had to look massive and sturdy. Arches were all-round and the walls showed an alternation of horizontal lines in different colours.

In this part of the Country, notably in the river Po lowland, the so called "Pianura Padana", winters are long, cold, wet and foggy. A climate totally different from the sweet one of the rest of Italy and the Romanesque lines of the buildings, low and solid with a reminiscence of the power and stability of the Roman Empire, got on better with the nature of the inhabitants. The subsequent Gothic period, with all its pinnacles and high ogival vaults was in strict contrast with all the above, showing the search of God in the Highs with the elevation of shapes and souls.

Lombardy owns its name to the Longobards, a north Germanic tribe that share with the Celts the main substrate of the north Italians. In this region there are beautiful and important examples of Romanesque cathedrals, such as Sant'Ambrogio in Milan but all around there is plenty of small pure gems of this style. In the area of Lake Maggiore where I live, almost all the villages have buildings related to that period. We pass by on our cars absently every day but never stop to admire them.

Among my local TR friends there is Giuseppe and his wife Anna, owners of a red TR3 and Alberto with his wife Marisa with their TR4. All of us are retired but we are still working as consultants



TRs at Montorfano

with much flexible and reduced working hours.

Giuseppe and Anna live in the capital town of our province, Novara, thirty miles away, while Alberto and Marisa live in Vigevano, 20 miles from Novara.

In Vigevano there are several factories of luxury shoes but the most relevant thing to see there is the main Renaissance square with its tower and castle. This square is considered one of the most beautiful of Italy.



Piazza Ducale, Vigevano

At the beginning of April I organised an excursion with these friends to visit an unknown tiny village perched on the slopes of Montorfano, which is a peak of 2400 ft standing alone in the middle of a flat land overlooking Lake Maggiore and the small Lake of Mergozzo. Actually in Italian Mont Orfano means Orphan Mountain.



Lago do Mergozzo

Why did we choose to visit this almost lost village? Because there is a little Romanesque church perfect in its proportions. This church dates from the XI century and was built over a previous one dating from the IV century.

On the way back we stopped to admire another church of the same period, in the village of Carpuigno.





*Panoramic view of Montorfano*



*TR3 and TR4s at Montorfano*



*La Chiesa di San Giovanni Battista, Montorfano*



*Interior of la Chiesa di San Giovanni Battista, Montorfano*



*TRs at Monorfano*



*TR3 and TR4s at Carpugnino*

After that we said good bye : I took a small road twisting in the woods for 4 miles and leading down to the Lake shores where I live, while they carried on toward the town of Arona for shopping and then to their hometowns.

On the next article, I will take you to another tiny village lost in a wild and almost uninhabited valley that skirts the Swiss border for many miles. This village is famous because the dwellers have ancient Scottish roots (and still speak a sort of highlander old dialect) as their ancestors, who were mercenaries, stopped here on their way back after the Battle of Pavia, five hundred years ago.

*Many thanks to Alberto for sharing these experiences with us. Oh to be able to count on the weather to be kind at least in the summer! I can feel a repeat of the 2018 "Four TRs to Italy" road trip coming on—Ed*



# Members Projects

## Chris Appleton's TR



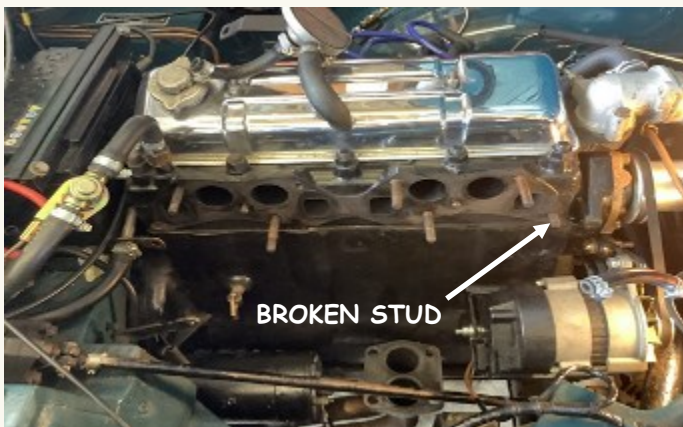
### Work done on the TR during March 2022

#### New Starter Motor

I have done a couple of jobs on the TR during March; put a new starter in and replaced a broken exhaust stud, and painted the manifold etc.

The starter on the 4a had been chugging away since I purchased the car 3 years ago, and it was on my "to do" list so I bit the bullet and ordered up a new uprated one from one of the regular suppliers of TR parts.

I decided that I would do the job at the same time as replacing a broken exhaust stud, which had been there since I



*Fig 1 Broken studs on far right*



*Fig 2— old and new studs*

purchased the car. This would give me easier access to the starter motor, as all the manifolds carbs etc. would be off to facilitate the removal and replacement of the broken stud.

I used an excellent stud extractor which removed the broken one with no problems at all, from Laser.

This worked a treat.

The hard part was removing the starter, only two bolts, however access the top nut is really difficult due to its position.



It took nearly two hours and I had to grind down a spanner to get decent access to the nut. If I had realised how long it was going to take I would have gone in through the transmission tunnel, cut a hole, and used a socket with an extension on it. Probably would have been quicker.

The new starter was even harder to install as the top bolt is fixed and doesn't turn, so you have to just turn the nut. This is the nut you can't access easily. Anyway eventually it was installed.

I also attach a picture of the inside of the old starter, wet and sludgy.

While I had the manifolds off I took the opportunity to paint the exhaust manifold with high temperature paint, went for blue.

All refitted with again with new gaskets, new brass nuts and washers.

The car now turns over and starts faster than it ever did.



*Fig 3—New starter motor*



Next month I intend to polybush the front of the car and will take some pictures in case its of any interest. (YES definitely—Ed!)

# Spring Tour—Yorkshire Dales



## Preamble

This year the Group decided to have a run up to the Yorkshire Dales and to stay at The Charles Bathurst Inn (the CB Inn) as that seemed to tick all the boxes for location, food, accommodation and the beer! How right we were.

The Tour set off on Sunday 8th May and would return on Thursday 12th May.

Prior to the Tour, driving routes had been planned by Roger, Malcolm Lainsbury, Greg Washington, Gordon Grant and Peter Napier. There were to be five runs including the trip up to Yorkshire and the return journey for those who were to leave on the Thursday.

The Itinerary was for drives through the spectacularly beautiful Yorkshire Dales landscapes to include Richmond on Monday, Malham Cove on Tuesday and Masham on Wednesday with various other stops on these routes.

## DAY 1 -SUNDAY—THE OUTWARD JOURNEY



Greg attaching the rally plate designed by Alice to his car at Prees Heath

The majority of cars met at Prees Heath on Sunday 8th May. Other cars were to meet us either on the way or at the CB Inn later that day.

All went well with one exception. Peter Napier's TR4.

Here is his story:-

I, decided to take my TR4 as it has been off the road for over a year being resprayed (it took longer than planned).

With the roof down from setting off from home, it was a tad cold in the car not helped by the heater blower not working. The car was running perfectly. Purring along to Prees Heath with good oil pressure and no hint of what was about to happen.

After a bit of a panic unsuccessfully trying to get the heater blower to work we all set off for Yorkshire. Rosanne and I had trouble getting the inertia reel seat belts to pull out as we had moved the inertia units when packing luggage on the rear seat.

Not wanting to hit the motorway without seat belts, I looked for a convenient place to stop and saw quite later a layby on the A49 and decided to stop there. Unfortunately I misjudged my speed and I had to slam on the brakes and came skidding to a halt and immediately a loud knocking started from inside the engine.

Phil Desborough, who always drives shot gun, and Greg stopped behind me and they agreed the noise didn't sound good. I have still to diagnose the problem and the cause.

One theory that has been rubbished

by many, is that in stopping so abruptly, the oil in the sump rushed forwards leaving the oil pick up without oil and thus starved one of the big ends of oil causing it to knock.

Another is that the baffle in the sump has moved and the big ends are bottoming onto it.

Only time will tell when the engine is stripped and the fault diagnosed.

The AA was called and eventually the TR4 was repatriated home and I commandeered my TR6 which I hadn't prepped for the journey but needs must.

By the time we had put a cover over the TR4 it was getting towards 5pm and the Group were all relaxing at the CB Inn when we set off for what turned out to be a trouble free blast up the motorway and we arrived at the Inn at 9.15pm to a welcoming committee in the car park as they had seen us arrive.





## DAY 1 - SUNDAY—By Roger Critchley

That was Peter and Rosanne's experience. For most of us it was relatively plain sailing.

The route was planned by Malcolm Lainsbury with the



*Shropshire TRs at Prees*

intention of avoiding as much difficult motorway as possible. As this was Sunday the traffic was little lighter than normal.

We met at Prees Heath and set off on the dot of 10am and followed the A49 for 32 miles before having to use motorways around Manchester. As planned, we stopped at Tesco's in Haslingden for a comfort break and to refuel. The exit from Tesco's was confusing and some Members headed off in the wrong directions. Fortunately, mistakes were soon discovered and rectified.

100 miles into the journey we entered the Dales at Settle. From then, we were into fantastic open coun-

We knew that The CB Inn was remote, but we were not ready for its great location. Open countryside and scenic views unfolded in every direction. Fantastic!



The CB Inn proved to be an inspired choice. It is an AA rated 4-star Country Inn and we booked all of its 19 bedrooms. So, we had the whole place to ourselves. The rooms were extremely comfortable and the food excellent. It will be hard act to follow.



*Richard and Hazel got Ribbled on the way up. (Photo by Sheena Grant)*

tryside. However, motorcyclists were a problem and some of their activities rather dangerous. We did come across crashes.

It was, of course, necessary to stop at the Ribbleshead Viaduct just as a train was crossing - unfortunately not steam! Our route from there to Hawes was blocked by an accident involving several motorbikes with 'bikes and riders lying across the road. A quick U-turn and the use of a narrow mountain road took us into Hawes for lunch.

From Hawes we used the Buttertubs Pass (Jeremy Clarkson's favourite road - and we can see why!) to reach Muker and Reeth and onwards to The CB Inn in Arkengarthdale.



## DAY 2 - MONDAY—RICHMOND

This was to be a short run to Richmond via Kirkby Stephen with a short stop at The Tan Inn for a photo opportunity. The Tan Inn is Britain's highest public house at 1,732 feet (528m) above sea level.

Before starting off, Phil Desborough had to identify an annoying ticking sound coming from the rear offside wheel of his TR6. Phil recently fitted new coil springs and thought that this may have something to do with it. In the end it was narrowed down to the lead balance weight just kissing the telescopic damper on each rotation. Not a big deal so back on



the with the wheel and off we went.

The drive took us over desolate and windswept moorland and along lush green valleys along quiet winding roads.

Once in Richmond, people went their separate ways with one group visiting a local garden, the castle and then Richmond's famous 18th century theatre.

The following is a compilation of photos from the day:

### At the garden behind Millgate House



Sheena Grant enjoying the tranquility of this beautiful garden



The garden is the backdrop to this town house



Here Roger Critchley gives a memorable Shakespearian performance watched on in bewilderment by Phil Desborough *"Seem to me all the uses of this world! Fie on't! ah fie! 'tis an unweeded garden, That grows to seed;..."*



At The Tan Inn



Debbie Washington

View point en route to Richmond.



The garden is ram jam full of wonderful planting.



At Richmond Castle



Debbie Washington



Debbie Washington

At Richmond's 18th century theatre





## DAY 3 - TUESDAY—MALHAM COVE

Greg Washington planned and organised this run and what a memorable day it turned out to be.

The route to Malham meandered through the Dales passing by a location familiar to those who watch the new series of *All Creatures Great and Small* where filming presumably for another series was taking place. The crew and cast waved us through.



Lizzie Charlton



Lizzie Charlton

Several members of the Group ventured on a circular walk up to and up the four hundred or so steps to the limestone pavement and beyond whilst some others climbed the steps and returned whence they came. Others decided to take a more leisurely walk.





Unfortunately, Richard and Hazel decided not to make the journey to Malham as their car started playing up on them almost immediately after leaving CB Inn.



Phil found the problem with a little help from Gordon G and even less from Peter N. It was a faulty set of brand new recently fitted points which Phil managed to repair. However, Richard thought it best to stay local to the pub until the car had proved itself reliable which it did for the remainder of the week.

After leaving Malham, the group made their leisurely way back to the CB Inn via Hawes for a very brief stop.

## DAY 4 - WEDNESDAY — THORP PERROW ARBORETUM, MASHAM, BOLTON CASTLE AND AYSGARTH FALLS

Gordon Grant planned and organised this run and what a great day it turned out to be.

Thorp Perrow Arboretum was a well chosen mid run stop. The weather was kind to us as it remained dry and relatively warm. There were lovely walks around the grounds and there was a display of owls. which was well presented by one of the birds of prey staff. All in all a very successful visit.



After Thorp Perrow we moved on to Masham which is a charming Dales town with a grand parish church a large square and the famous Theakston's Brewery. Sadly there wasn't time in the itinerary to visit the brewery but maybe that is a good reason to return to the Dales on another occasion?



Some of the Group enjoying refreshments in Masham



Bolton Castle



Aysgarth Falls



A group of early Mercedes SLs called in to see us when we got back to CB Inn.





**DAY 5 - THURSDAY — RETURN HOME—FOR SOME—A FEW OTHERS STAYED ON UNTIL SATURDAY.**

Greg organised a route home via Kettlewell, Grassington

**DAY 5 (FOR THOSE WHO STAYED ON) - EGGLESTONE HALL GARDENS AND NURSERY AND RABY CASTLE**

More great driving roads and a trip to a gardens and nursery. Next time we visit we must bring a van to bring all the plants back from this wonderful nursery.

The garden was pretty good as well. It includes the old parish church, used as a romantic ruin within the garden.,



Group photo (less one!) at High Force waterfall.



Our cars next to a BMW i8 (starting price £124,735). at Raby Castle

**DAY 6 (FOR THOSE WHO STAYED ON) - BUTTERTUBS PASS AND REETH**

A relaxing day today with a drive up to and over the Butterubs Pass and return with a walk around Reeth



Stop off to admire the (windy and cold)



Reeth

**DAY 7 (FOR THOSE WHO STAYED ON) HOMEWARD BOUND**



Stop off in Grassington





MORE PHOTOS FROM YORKSHIRE













# A Practical Guide to Using Modern Fuels

Steve Buxton



## Introduction

The make-up of petrol has gone through many changes over the years and we have adapted our classic cars, by and large, to accommodate these changes successfully. With the introduction of E10 in September 2021 prompted me to do some research with a view to converting my classic cars to run on E10 and gain a better understanding of the effects of modern fuels on older normally aspirated engines.

The protection grade E5 high octane petrol is both expensive and is not widely available in all areas as we found out during a trip to Wales in September 2021, thank goodness for TESCO. Although the Government have given assurances that E5 will be available for the next 5 years, I think that this is more likely to be determined by market forces and availability will decline over time. In addition, with the ever mounting pressure to improve the environment, the levels of ethanol in petrol is likely to rise in the future, so we really need to get on board.

This article is a summary of my findings, having spoken to a number of experts and manufacturers for their advice and having read many reports on the effects of ethanol in petrol. I have to say it is not all bad news. The focus is on the practical aspects of living with ethanol and problems with using modern petrol in our classic vehicles. The way forward.

What is ethanol & why do we put it in petrol?

Ethanol is produced from plant based materials, principally sugar cane and corn which are widely available, cheap and sustainable. Ethanol is naturally produced by the fermentation process to produce alcohol which is further refined for use in fuels. Ethanol is a volatile, flammable, colourless liquid which contains approximately 35% oxygen by weight.

Due to the high oxygen content, when ethanol is mixed with petrol it acts as an octane booster which results in a cleaner burning fuel and a reduction in the harmful exhaust emissions released into the atmosphere. Ethanol contains approximately 33% less energy than petrol, so as you increase the level of ethanol, fuel consumption will increase. For E10 this equates to approximately 3% increase in fuel consumption, not that most people will notice.

E10 petrol has been widely used in the USA for many years and has also been the main grade in Europe since 2010. Much higher levels of ethanol have been added to petrol in other countries, such as Brazil and South Africa, and their vehicles have been successfully adapted to cope. The historical evidence indicates that the issues arising from the addition of ethanol to petrol can be successfully managed by classic vehicle owners.

## Ethanol & modern fuels - compatibility with classic vehicles

There are 4 key areas of concern which need to be addressed:-

- Corrosion of metal components.
- Elastomer compatibility - seals, flexible pipes, diaphragms, gasket materials, plastic floats and the like.
- Air / fuel ratio enrichment.
- Fuel evaporation.

## Corrosion of metal components.

Compared with petrol, ethanol has increased acidity, conductivity and inorganic chloride content which can result in the corrosion of metal components. The biggest problem is that ethanol, when exposed to the atmosphere, absorbs water which, being heavier than petrol settles to the bottom of the fuel tank, fuel pump, carburettor float



**Fig 1.** Corrosion in the float chamber caused by untreated E10 petrol & water.

bowls and the like. The increased acidity of ethanol combined with absorbed water leads to the formation of acetic acid which is highly corrosive. This leads to corrosion which is generally localised and concentrated leading to perforation of the metal components and fuel leaks, ref fig 1. To avoid the problem of water absorption during storage at the refineries, ethanol is only added to the petrol when it is shipped out in tankers for delivery to the forecourts.

The principal metals subjected to this type of attack in our fuel systems are steel and aluminium. Whilst copper, brass and solder will also be affected, these have not been found to be a major problem. The key to preventing this type of corrosion is to exclude, as far as possible water entering the fuel system.

Fortunately, there are corrosion inhibitors available which are well proven and very effective at preventing the corrosion of metallic components in our fuel systems.



They work by inhibiting this corrosive behaviour by joining with any free bonds on the ethanol. This effectively stops the corrosion from even starting. There are many of these products on the market, I have used Millers VSPe, multi shot, for over 10 years and have not experienced corrosion of metallic components in the fuel systems of any of my classic cars with E5 petrol. Many of these products have other benefits such as acting as an octane booster, reducing valve seat recession, preventing running on and improved fuel life.

More drastic alternatives are to change the fuel tank and lines to 18.8 Stainless Steel or a modern polymer material. This would be expensive and is not really necessary.

Treating the inside of steel or aluminium fuel tanks with a fuel resistant coating is not recommended as the surface preparation cannot be guaranteed and therefore the coating is likely to flake off causing blockages in the fuel system.

### Elastomer compatibility

Ethanol is absorbed into many elastomer materials over time which then swell and soften resulting in weakening of the material structure. On drying out shrinkage and cracking occurs leading to fuel leaks, ref fig 2. The type of components affected are;

- Flexible fuel hoses.
- Seals & O rings
- Diaphragms in carburettors & fuel pumps.
- Some gasket materials.
- Plastic carburettor floats.
- Fuel filters.
- Fuel injection metering units & injectors.

Unfortunately, fuel additives will not prevent degradation of the above components if they are not manufactured from ethanol compatible materials.

The good news is that having spoken to Burlen Fuels, who supply and manufacture many of the parts used in our classic vehicle fuel systems, they changed 10 years ago to using ethanol compatible materials where possible, including all of their overhaul kits and items listed above.

Fuel injection metering units and injectors have been ethanol compliant for many years. The seals and diaphragms used by overhauler's were changed from Nitrile to Viton with the introduction of lead free petrol in 1998.



**Fig 2** Effect of ethanol on an incompatible fuel pipe material

With regards to fuel hoses there are many standards, but the one most used by the automotive industry is The Society of Automotive Engineers (SAE) J30. For those of you who are interested, this is freely available online. This specification covers many different types of fuel hoses, but the one which is most suitable and readily available for our purposes is SAE J30 R9. (There are others which would be acceptable within this standard) This is available in bore sizes ranging from 6mm to 13mm and imperial with an operating temperature range of -34°C to +135 °C and a working pressure of 100psi. For those who are using high pressure fuel injection systems SAE J30 R12T3 has a working pressure of 145psi. The working pressure is normally printed on the hose and is often much higher than the standard demands.

All hoses manufactured to this standard have the specification printed on the outside of the hose, ref fig 3. If you cannot verify the hose specification, the chances are it does not meet the required standard, my advice is don't buy it. There are many hoses available, particularly on the internet which are simply marked FUEL HOSE, this is not acceptable.



**Fig 3** SAE J30 R9 ethanol compliant fuel hose showing the correct identification including the working pressure which in this case is 20 bar or 290psi.

I would not recommend the use of braided fuel hose as it is not possible to visually determine the condition of the hose material.

### Air / fuel ratio enleanment

Ethanol has a high oxygen content, approximately 35% by weight, which results in fuel mixture enleanment when blended with petrol. Petrol containing 10% ethanol for example would result in a mixture leaning effect of approximately 2.6%. This may manifest itself in the form of stalling, hesitations, loss of power, flat spots and the like. It may also result in hotter running of the engine and fuel evaporation which is something the majority of us will have experienced in recent times, particularly on a hot day.

The way to combat this is to adjust the mixture strength (enrichment) to counteract this problem.

## Fuel evaporation

The high volatility of modern petrol is the main cause of what is often referred to as The Hot Restart Problem. At a typical engine bay temperature of 50°C only approximately 8 % of petrol from the 1960s would have evaporated in comparison to 25% of modern petrol. This is compounded by the seasons as petrol blend is more volatile in the winter months to aid the problem of cold starting.

Many classic vehicles suffer from The Hot Restart Problem. When a vehicle is stopped or moving slowly in traffic, the temperature in the engine bay rises and with little or no petrol flowing through the fuel pump, the petrol starts to boil. Under these conditions the carburettor cannot deliver the correct mixture when there are bubbles and/or vapour in the petrol. This weakens the mixture and causes the engine to stop and prevents it from restarting. I have experienced this problem on my Stag and both TR's from time to time and it is most inconvenient.

Unfortunately, there is no magic wand to fix the problems with modern petrol, but there are a number of things which can be done to reduce the severity of the problem.

- Reduce the temperatures in the engine bay.
- Correctly tune the engine.
- Reduce the heat getting to the fuel system components.

## Reduce the temperatures in the engine bay

When driving normally the air flow through the front of the car dissipates the heat from the engine. When in slow moving traffic or stationary, the heat in the engine bay will rise. It is important to keep the engine bay temperatures as low as possible, the following measures will help.

- Install a thermostatically controlled electric fan which is designed to run on for at least 5 minutes after the engine has stopped.
- Ensure a free flow of air is able to enter the engine bay from the front of the car.
- Check that the radiator and cooling system are functioning correctly.
- Consider a modern core in the radiator with increased cooling capacity.
- Park in a sheltered area where possible on very hot sunny days.

## Correctly tune the engine.

- If the engine is running with the timing retarded you will not only be losing power, the engine will run hotter. It is important to advance the timing as far as possible

- without the engine pinking under high load.
- Check with a strobe that the distributor advance is working correctly, rpm versus degrees advance. This will need to be done in two parts, firstly with the vacuum advance blanked off and secondly with the vacuum advance, where fitted, connected. If the distributor is worn, springs damaged or incorrectly fitted, the mechanical advance will not be repeatable.
- Richen the mixture strength at idling to give a CO reading towards the top end of the range of 0.5% to 2.5%. The best way of checking that the mixture is to check the colour of the spark plugs after a run. They should be a grey/light tan colour for optimum performance. Light grey is too weak and dark brown/black is too rich.
- Check the float levels are correctly set and the carburettors are not worn causing air leaks, weakening the mixture.
- The best way of tuning the engine is on a rolling road to optimise the power output and engine efficiency for the particular fuel being used.

## Reduce the heat getting to the fuel system components.

- Insulate or re-route the fuel lines where they are subject to extreme heat in the engine bay. Insulation will only delay the fuel temperature rise, but this may be sufficient in the majority of cases.
- Insulated exhaust shields between the exhaust manifold and carburettors. These are already fitted to many classic vehicles.
- Insulation blocks between the inlet manifold and carburettors. Again, many classic vehicles already have these fitted as standard.
- Insulate the exhaust manifold to reduce radiated heat into the engine bay.

## Storage

When laying up your vehicle for a period of time or over the winter months using either E5 or E10 petrol it is advisable to undertake the following.

Use a fuel additive with a corrosion inhibitor, octane booster and anti-oxidant to improve fuel life. For storage I tend to use a double dose.

Fill the tank full of petrol to reduce the risk of condensation in the tank.

Drain the carburettor float chambers. On the stag, operate the fuel cut off switch and run the engine until it stops. Both my TR's are fitted with an in line mechanical shut off valve, which serves the same purpose.

Start the vehicle and run it up to operating temperature at least once per month this will help prevent coagulation of the petrol and keep the fuel system clean and operational. Many problems with fuel systems are simply caused by lack of use.



## What do I need to do to run my Classic car on E10 petrol?

If you decide to run your classic vehicle on E10 petrol, it is essential that the fuel system is maintained properly and remains in good order. In addition, the fuel hoses need to be changed to ones which are compatible with ethanol along with any other elastomer components together with the use of an aftermarket fuel additive.

It is also recommended that the engine is correctly tuned and that steps are taken to reduce the engine bay temperatures as far as possible.

Having already undertaken the essentials and with the addition of an electric fan to keep the engine bay cool in slow moving traffic, I don't consider it necessary to

undertake further modifications at this stage. The problem being that the other options on the table are far more difficult to implement, have only limited effect and may not be necessary.

*The following information may be of interest.*

FBHVC Essential Guide to Fuels - By Nigel Elliott.

<https://www.fbhvc.co.uk/an-essential-guide-to-fuels>

Classic Engines Modern Fuel. The problems & Solutions - By Paul Ireland.

SAE J30 Standard for Fuel and Oil hoses.

Millers VSPe Technical data sheet.

## Members Projects

### Roger Critchley's TR6 Brakes

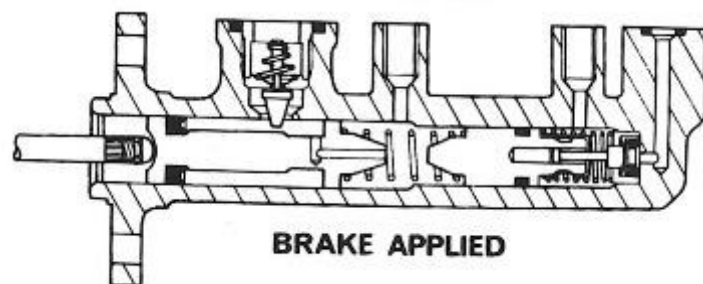
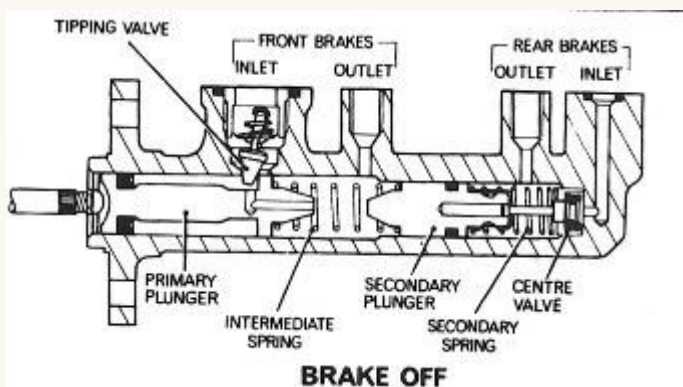


Roger Critchley reports that when he got his TR6 out in February he found the brake master cylinder empty of fluid. There was no fluid on the garage floor and there was no sign of leakage within the engine bay. He drove the car, cautiously, to the Plough Garage in Pontesbury for them to investigate. It appears that there had been a minor leak in a seal and that the fluid had dripped out over a period leaving the reservoir all but empty. A new master cylinder and reservoir were obtained from TRGB.

After the new master cylinder and reservoir had been fitted, the Plough found it impossible to bleed the brakes. TRGB were most helpful and advised that there had been alterations to the tipping valve (see picture) which meant that conventional bleeding was not possible. They recommended to start bleeding by vacuum. The Plough allowed the braking system to gravity bleed overnight before completing in the normal manner.

It appears that the profile of the new reservoir may be slightly different as the bonnet stay was now riding over the top of the reservoir causing the stay to foul and jam as the bonnet was lifted. Judicious bending of the stay cured this problem. The bonnet was then closed but the safety catch disintegrated. At that time, these were "NCA" from Moss and Rimmers but Fitchetts did have some in stock and, although of a slightly different design, it works. Moss is now listing the safety catch as being available.

Roger's problems continued with the speedometer which stopped working. Upon removal it rattled and bits were floating about inside the instrument. It was sent off to Speedograph Richfield in Nottingham to be rebuilt. It has been refitted but is not working because the angle drive needs replacing.



## TWO TRs AND AN MX5 GO TO SPA

Anthony (Grafton) Beddoes



### Weds 18<sup>th</sup> May

Grafton, Steve and cousin Derek crack on down to Folkstone via a couple of comfort breaks - age dictates this - to catch the Eurotunnel train to Calais where we were due to stay overnight

### Thurs 19<sup>th</sup> May

Started from Calais in a violent rain and thunder storm to make our way to Malmady, Spa via La Coupole, a German WW2 military base built for the assembly and firing of V2



La Coupole bunker

rockets destined for London.

### Fri 20<sup>th</sup> May

Steve took a rest day as Grafton and Derek take off to "December 44 Museum" at La Gleize... well worth the



La Gleize—German King Tiger tank.

sounding happy either which meant more investigation and a lot of head scratching. Made a temporary fix to Steve's and got that going then looked at Grafton's where they realised the water pump bearing was the cause of the strange noise



Comfort Break



visit even if just to see the 70 tonne German King Tiger tank. Arriving back at the apartment we had to move the cars for weekly grass cutting. However, Steve's car was not playing ball by refusing to turn over...

Jump leads didn't help. Grafton noticed his wasn't

### Sat 21<sup>st</sup> May

This was the day we all went to the races for Spa Classic Racing to take in the atmosphere, sights and sounds of the track. We had access to most areas to look at the various pits and paddocks. We met other TR Register owners from the London group. I think we all agreed it was a fantastic place.

### Sun 22<sup>nd</sup> May

We headed out to Bastogne but took time to stop at a memorial for the 84 American soldiers murdered by the SS - sobering



Spa circuit

thoughts. At Bastogne we visited the Military Museum where the American 101st Airborne held the Germans in the Battle of the Bulge.

### Mon 23<sup>rd</sup> May

Another day of heavy showers and sunshine we headed back towards Calais but took in a detour to visit

the Battle of Waterloo site. Derek and Grafton have a connection with the battle as their Great Great Grandfather was there. Set off again but infamous water pump was starting to make a little more noise which as all drivers know is cause for concern but by hook and by crook made it to Calais for another overnight stay.

### Tue 24<sup>th</sup> May

An early start to catch the Eurotunnel with the water pump sounding no better. Back on home soil we started our journey back to Shropshire stopping several times to check water levels nonetheless we all made it home though the water pump was really moaning and groaning by the end.

However after all was said and done a good time was had by all!



On Le Shuttle



## FUEL MATTERS

Robin Jeavons



### TR5/6 Fuel Pump, Lucas - v - Bosch!

Having experienced the occasional 'jolt' from my engine, an ignition fault was suspected. Over the years various components have been renewed at various times, points upgraded to electronic and back again, etc etc. Time to investigate a complete, matched kit! Accuspark provided such a kit from spark plugs to distributor to coil inclusive for about £140.

The fault persisted so my attention focused on fuel. At this point I was determined to keep original and that wonderful piece of engineering, the Lucas fuel pump! As my beloved TR will be 50 this year, with an original fuel tank, I was advised to check for rust. An endoscope into said tank revealed the worst! So, tank along with filter went onto the shopping list!

Work began with draining the existing tank. (photo 1) This is achieved by disconnecting the feed pipe at the filter housing.



Photo 1

This enables clamping the rubber tube with a pair of mole grips, stopping the flow if the receptacle needs emptying. If possible, use a receptacle to fit under the filter as this will be full of fuel! After removing the filler cap and tube, excess fuel return pipes and electric connections for the sender (ensure battery is disconnected), seven machine screws in captive nuts are easily removed to free the



Photo 2

tank. (photo 2) At this time, I became impressed with Prestige's upgraded PRV so

decided to change that whilst in the area. (photo 3)

It is considerably easier to change this whilst the tank is out! Note that other wonderful issue with the Lucas pump, a sheared off rubber mount!



Photo 3

The new fuel tank arrived. Made in Taiwan! No further comment!

Although brand new, to assume it's clean and free of manufacturing residue - well we know what is said about assumption!

Flushing out with clean fuel is a good idea. (photo 4) .Fitting required elongating two of the mounting holes. No surprise there! After reconnecting all pipes, tubes and adding fresh fuel, time for testing! If using a cooling coil on the pump, ensure clearance for the boot hinge! The PRV installation instructions advise disconnecting the fuel feed at the metering unit, run the pump and flush the system into a suitable receptacle. It was at this stage my faith in the Lucas pump was shaken. It stopped without permission! Was this the source of those 'jolts'? Over the years I have collected

3 of these! Despite a few hours of benchwork swapping components, even purchasing a reconditioning kit from Rimers, a fully functioning pump could not be achieved. An exchange recon pump was about £270. A new Bosch £320. I finally relented and did what most TR5/6 owners do! (photo 5) I was pleasantly surprised how easy it was



Photo 4

to fit the Bosch kit. Pump and filter in one unit using the original filter location, bolts and nuts. The installation instructions were clear except for where it says allow gravity to feed the fuel through to the pipe connecting to the brass PRV fitting. Apparently to prime the pump before operation. Couldn't achieve this so sought a second opinion who said rubbish! Or words to that effect! (thanks Al)



Photo 5

After overcoming that hold up, finished the installation, fired up on the third attempt and went for a test run. The improvement in performance was dramatic. This was the car I bought 46 years ago! Lucas pumps - pha! When I think about it, Lucas pumps are only available as recon exchange. How many times has any pump

been reconditioned? How many times can they be reconditioned?

I have 3 here if anyone is interested. Free to a good home!



## Mercedes 300SL24 1991 108,000 miles—Immaculate Car

Peter Napier is selling his Mercedes as he needs the space and also because this car really needs a dry garage for over wintering and Peter does not have a garage! He has places where he can keep cars but unfortunately there is no space for this beautiful Mercedes.

The hood has a slight defect where the stitching has become loose on a fold in the plastic rear window. It hasn't got any worse in his ownership and as the roof spends most of its time down as the car is mainly been driven in warm dry weather, this has not been a problem.

Hard top and stand included.

**Asking Price: £8,000 ONO**

Contact Peter on :- 07710 969069 or [napierandcompany@gmail.com](mailto:napierandcompany@gmail.com)

