

# Totally T-Type 2

ISSUE 16 - FEBRUARY 2013



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# THE EDITOR

John James

Welcome to Issue 16, February 2013!

I am now in my fourth calendar year of production of TTT 2 and the time seems to have flown by. It's a bit of a 'love/hate' relationship; the downside being that it's quite hard work and very time consuming – the upside being my pride in the finished copy and knowing that it is read by an appreciative worldwide audience. I can't begin to describe the warm glow of satisfaction I get when I collect the printed copies from the printer and eagerly open the box to reveal the carefully chosen front cover. It makes the previous few weeks' hard slog all worthwhile!

My decision to produce 24 pages rather than the usual 20 for the last issue 'blew' the 'hard copy' budget. As a result, I'm afraid that the 2012 subscriptions failed to cover costs by £80.31. However, it would have been higher but for the fact that I pre-bought non-value indicator (NVI) postage stamps, which effectively pegged mailing costs at 2011 levels.

Tight cost control and extremely generous donations have ensured a record carry forward balance of £2218.96 for 2013 (last year it was £870.49). The total figure for donations was £2235.81, made up of £724.12 individual donations and £1511.69 worth of donations from spares supplied. Cost items were in respect of the £80.31 referred to above for the subscription shortfall, £307.03 for complimentary 'hard' copies supplied to contributors of articles and £500 donation to the Manchester University XPAG project.

The XPAG project is gathering pace and there are two reports, December and January, later in this issue. The January report was received just in time to 'shoe-horn' it in under the 'Bits and Pieces' heading. As there was insufficient space to include any of the photos I've included one below.



**Two team members getting down to 'brass tacks' on the XPAG project.**

The other piece of good news from the project which I was unable to include is that Barclays Bank has donated £150 as a goodwill gesture in recognition of the problems in opening an account.

Now for some news of future activities planned.

## The 2013 Totally T-Type 2 Tour of Rutland

Planning for the above tour which takes place over the weekend of 6th-9th September 2013 is now well advanced. The route for the Saturday run, held mainly in Rutland, has been finalised and a road-book made; the mileage will be around 65 miles, with plenty of time to visit the various places of interest. The Sunday run is also well advanced, and will move into parts of rural Northamptonshire, again with a mileage of no more than 75 miles. We have arranged some fascinating places for you to visit.

Our allocation of rooms in the hotel has now been taken up, but if you have not booked we could possibly fit you in. Please contact the editor at [jj\(at\)octagon.fsbusiness.co.uk](mailto:jj(at)octagon.fsbusiness.co.uk) {substitute @ for (at)}. Alternatively, you can phone him on 0117 986 4224.

It seems, judging by the tremendous support we have had for the Tour of Rutland, that T-Typers very much welcome a choice of Autumn Tours so we have arranged another for 2014! Some preliminary details are as follows:

## The 2014 Totally T-Type 2 Tour of The Isle of Wight.

The '2014 Totally T-Type 2 Tour' will be held over the weekend of the 5<sup>th</sup> to the 8<sup>th</sup> September 2014 and will be on the Isle of Wight. The event will be based at the 'Shanklin Hotel' in Shanklin, with a package deal of 3 nights dinner, bed and breakfast plus a car ferry crossing from either Lymington or Portsmouth for around £180 per person. Once again, the plan is to have scenic tours on Saturday and Sunday, allowing plenty of time to enjoy the sights. We have secured a great hotel for your stay, with plenty of amenities and car parking space. More details will be made available later in the year but initial expressions of interest would be welcome and should be conveyed to the editor (same details as above).

**Note:** The hotel has not yet fixed its 2014 tariff so the rate quoted above is provisional at this stage.

This issue contains 24 pages and regrettably some articles sent in for publication have had to be held over. However, they should be included in the next issue, which will be back to the normal 20 pages otherwise I will be in trouble with the budget!

Just enough space for two more items; firstly, it's 'goodbye' to Geoff Trevena at the Octagon Car Club (Geoff has retired) and 'hello' to Pete Moore, who is taking his place. I look forward to working with Pete. Secondly, Peter Cole has asked me to publish a reminder that the 'T' Register's 'Rebuild' event takes place at the Heritage Motor Museum, Gaydon on 23<sup>rd</sup> March. An e-mail to Peter at [pcoleuk\(at\)gmail.com](mailto:pcoleuk(at)gmail.com) {substitute @ for (at)} or phone 01243 267234 will provide the details.

## James Wheildon – Wheel builder

*Since the last issue I collected five side laced wheels (J2 wheels) from James Wheildon. The wheels were in good condition but were dark blue in colour and I wanted them to be silver. I was pleased with the result and the cost (for powder coating) was £45 per wheel, which I thought was reasonable. I asked James if he would be prepared to write a brief article for the magazine and he has duly obliged. Over to James.....”*

“I became a wheel builder by accident when in 1990 I took a damaged motor cycle wheel to a local wheel builder. On that visit I learned that Roger would be retiring shortly and closing down. At that time I was in partnership in the building trade but I arranged to work with Roger for 2 days a week until he retired. I then bought the business from him, dividing my time between the two businesses. Soon I went full time into wire wheels.

At first I concentrated on motor cycle wheels but gradually started taking in car wheels. At the height of this business I employed 5 people and was rebuilding well over 3,000 wheels a year. Some seven years ago I reorganised this business and now two of my former employees concentrate on motor cycle wheels while I now only build car wheels. I undertake anything from replacement of one spoke to building new wheels in their entirety if required. Most of my work is on pre-war wheels as for many later classics, motor factors have new wheels available off the shelf. However I can, and do occasionally, work on post-war wheels.

Some of the rims I use come from as far afield as New Zealand as these are of the very best quality. Most hub types are also available.

The spokes I use, around 30,000 spokes a year, are manufactured to my specification. In the past when buying ready-made spoke blanks from recognised sources, I had intermittent spoke failures in wheels and when I investigated spoke quality I discovered a better specification was available. Now I seldom have problems with spoke failures.



A selection of spokes.

These spokes I buy in straight lengths with only the head and each spoke has to have a set introduced and then cut to length and threaded. For five Rolls-Royce wheels with 84 spokes each, it is almost a day's work just to make up the spokes!

The rims come in to me blank and have to be dimpled to take the nipple on the end of the spoke and pierced at the correct angle to reflect the dimensions of the hub. With the spokes in hand and the rims dimpled and pierced then the wheel can be “laced up”.

I have a variety of jigs and spindles for mounting the wheel prior to final truing and tightening. This is done entirely by hand and eye and can only be learned by practice. The first 50 wheels are the hardest - I think it took me a whole day to true up my first motor cycle wheel!

Wheels are usually finished either in powder coating which is cheap and tough or two-pack paint which has a greater variety of colours and a better quality finish obtained. The choice is up to the customer.

Now the wheel has almost turned full circle and not too far into the future I too shall be looking for someone to pick up the spoke key and run with it. Many of my customers over the years have become friends, and we all have a common interest in our many and varied vintage vehicles.

**Contact details:** James Wheildon, Old Brickwood Farm, West Grimstead, SALISBURY, Wilts. SP5 3RN **Tel:** 01722 712967

**e.mail:** [jameswheildon@yahoo.com](mailto:jameswheildon@yahoo.com) please substitute the (at) for @ - this is necessary to deter the 'spammers'.



A wheel from a Talbot (the colour is very similar to that which was on the wheels which I left with James to be 'silvered').

## Restoration Ideas and Updates

*(Alan Atkins discusses thirty modifications which he has made over the years on his TD2)*

In today's hectic world it may be worth taking a little time out to consider the following points in this article which embrace modern technology. Some help to ease or improve maintenance (long term); others can be considered as driving aids etc., which can make for safer driving and control, especially on our crowded roads; some are concerned with security of the vehicle.

As I progressed with the restoration of my MG TD2 in 1990 these improvements were seldom far from my mind. Now, twenty two years later, I have been asked by many friends to list and arrange a write up of the modifications which have been carried out over this period. There are thirty in total and after listing them below I will do a small write up on each subject. So here goes.....

- (1) Install amber winkers.
- (2) & (3) Attention to mirrors.
- (4) Do I need an electric radiator fan?
- (5) Is it wise to fit an alternator and change to negative earth, and purchase the dynamo look-a-like type?
- (6) Fit adaptors for sat nav and charge for phone etc.
- (7) Remote brake fluid container to master cylinder at bulk head level.
- (8) Fit bonnet support brackets.
- (9) Screen washers.
- (10) Fit electronic ignition.
- (11) Electronic S.U. fuel pumps.
- (12) Fit five speed gearbox.
- (13) Fit radial tyres.
- (14) Easy removal of central instrument panel.
- (15) Fit locking door handles.
- (16) Fit glove box lock.
- (17) Fit bonnet locks.
- (18) Indicator warning lights on dash with buzzer.
- (19) Do I need halogen bulbs?
- (20) Oil filter conversion to canister.
- (21) Rear crankshaft oil seal conversion.
- (22) Unleaded cylinder head, Laystall Aluminium head and up rated distributor 43D.
- (23) Up rated water pump.
- (24) Fit silicon hoses.
- (25) Consider Stainless Steel liner to Master Cylinder.
- (26) Consider a locking petrol cap.
- (27) Aluminium Tappet Cover and tappet chest cover plate with breathers.
- (28) Consideration of a Touring Map Pocket.
- (29) Quick Release of Bonnet MG TD.
- (30) Petrol Tank Dip stick for MG TD.

Commenting on the thirty items I've listed, I must stress that in all cases the theme has to be "Can most of the alterations be reversed if need be to bring the car back to the original specification?"

### (1) Install amber winkers

SVC Ltd. market a side-light conversion which has two bulbs one amber and one white which is a direct exchange fit with the original unit and easy to fit, so it would also be easy to revert back to its original specification if required; an alternative, but more expensive option, is to have one amber bulb in the side light and transfer the white side light within the headlight unit giving a larger white light area. <http://www.s-v-c.co.uk>

With the rear amber lights on the MG.TD it is best to purchase a pedestal type as used on motor cycles which you attach at the same height and in line with the present red light lens, I made a stainless steel square section base which held the unit close to the rear lights and attached to the rear valance.



**Photo 1 – showing fixing of pedestal type winker light to the rear valance.**

### (2) & (3) Attention to mirrors

Good vision is essential. If you go to a lot of shows and rallies both in this country and abroad, you need good vision. When you have the side screens in place your vision on the near side mirror can be limited. An improvement over certain types and designs of mirrors, is the fully flexible double joined ball oval mirror from S.V.C. which is fixed to the windscreen pillar. Then, purely as an experiment, I designed some all clear side screen panels made of poly-carbonate sheet, these were very successful - no blind spots mirrors always in view.



**Photo 2 – showing Alan’s polycarbonate sheet side screens (these were featured in Issue 5).**

Having solved the problem of the side mirrors and having achieved markedly better all round vision with the poly-carbonate sheet side screens, one outstanding issue needed to be addressed. The central dash mirror is useless if you have luggage on the rear rack. I managed to pick up from an Auto-jumble an ex-BMC mirror 8 inches long which had a threaded ball joint stem at its rear. I then designed a stainless steel bracket which attached to the top windscreen rail centrally and did not interfere with the hood when in situ, so it was like driving your every-day car and excellent full vision to the rear of the car.



**Photos 3 & 4 – showing wide rear view mirror affixed to top rail and stainless steel bracket.**



**(4) Do I need an electric radiator fan?**

On MGs without a pressurised cooling system there is the possibility of over-heating when in traffic hold ups in the UK and also abroad in very hot climates, so you may consider this addition. I fitted a 12 inch thermostatically controlled fan and the thermostat bulb was put in the header tank through a unit and into the top hose aperture and works fine. It was purchased from an Auto-jumble as a complete set up. One thing to bear in mind is that the fan takes approx. 7amps power so the dynamo output has to be checked.

**(5) Is it wise in certain circumstances to fit an alternator?**

Again this depends on how you use the car. If you attend a lot of functions here and abroad and need negative earth power for extra electrical equipment to power a fan, sat nav, phone charger, tyre inflator etc., then the answer is ‘Yes’; but whilst it is an easy operation to convert from positive to negative earth, if you have an electric clock this could need an electronic implant unit which is not cheap, also the ammeter will need attention. S.U. fuel pumps are generally dual polarity but always check any electrical equipment to be sure.

The type of alternator that I fitted was the ‘Dynolite’ purchased from [www.racemettleld.co.uk](http://www.racemettleld.co.uk) which is an alternator in a dynamo body with the tacho take off. It is expensive but is a very good product. Also on the Eurolec website [www.powerlite-units.com](http://www.powerlite-units.com) there is a reference to positive earth C45 conversion. Some have fitted a standard ACR alternator but the tachometer is the problem.

**Ed’s Note:** Malcolm Sayers covered the fitting of a Ford Transit alternator in Issue 2.

**(6) Negative earth**

As with previous comments it’s a case of what you require. Some electronic ignition systems only work with negative earth, but as with all items electrical always check with a qualified Auto-electrician.

**(7) Brake fluid reservoir bulk head fixing canister**

This requires some thought but it is a step in the right direction from a maintenance and brake bleeding point of view. It is so easy to top up without bending yourself like a question mark and risk getting dirt in the master cylinder on checking fluid levels. There is a kit available from Morris 1000 parts suppliers like Charles Ware, but I did not use the plastic fluid bottle or the plastic pipe to master cylinder; instead I purchased the Castrol metal canister (small) the pipe to the master cylinder can be either nylon or copper brake pipe.



**Photo 5 – Brake fluid reservoir on bulkhead.**

This pipe is connected to the master cylinder via the special adaptor to the rear of the master cylinder supplied, but I must stress this is a job for a competent engineer. All the joint fixings must be fluid proof and make sure the routing of the pipe work does not foul any objects en-route to master cylinder; also you must seal the air hole in the master cylinder filler cap - very important!! This job is best done as an extra task when fitting a 5 speed gear box or as part of a total restoration when you have a clear area to work.

**Ed's Note:** Noel Lahiff covered this subject in detail in Issue 10. Keith Douglas described an alternative solution in Issue 2.

### **(8) Fit bonnet support brackets**

This is a useful item to fit on some "T" Types which is obtainable from the MG Octagon Car Club at a small cost, but allows you to raise the two bonnet sides at once for inspection and maintenance and can prevent paint damage at the hinge point.

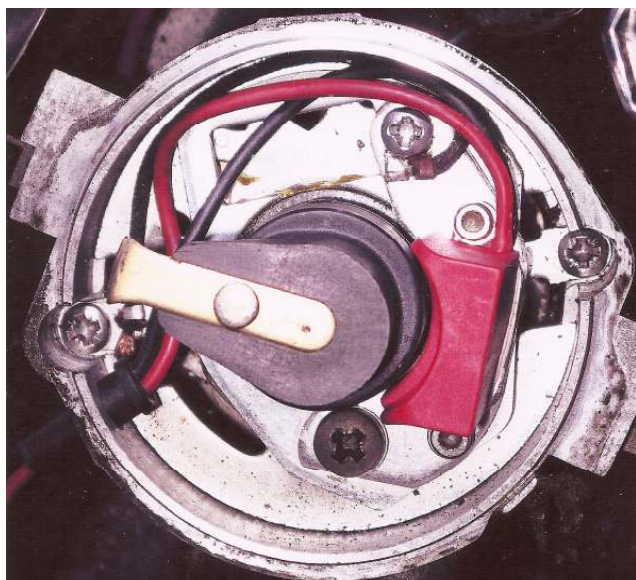
### **(9) Fit screen Washers**

This is an item that you could consider if you don't already have them. The method I used was a small extension on the bonnet rear hinge chrome cover bracket on the top of which was placed the two jets, the fluid was piped via copper brake pipe and plastic tubing to the fluid container in the under bonnet tool box operated by switch on the dash.



**Photo 6 – windscreen washer jets mounted as described in the text.**

### **(10) Fit electronic Ignition (Photo 7)**



Quite a number of owners have now fitted this upgrade and there are benefits, such as being maintenance free, efficiency at all RPM and can run at a lower tick-over rate which in turn saves petrol. Very responsive on acceleration and owners may have experienced other advantages, but as has been mentioned before, some require negative earth. However, others use positive earth and some operate on either polarity. The system I fitted was the AccuSpark unit, fitted inside the distributor in place of points and works very well so far. Some systems will require a balance resistor to coil and are more expensive.

<http://www.accuspark.co.uk>

### **(11) Fit electronic SU. Pumps**

I fitted two SU fuel Pumps on my MG.TD. in situ both on the bulk head; one for supply, one as a spare and the electronic unit was put in by Auto-Flux of Liskeard, Cornwall. They are expensive, but I have had no problems for five years.

### **(12) Fit a five-speed gearbox**

Two reasons why I went for a five speed gearbox, after two failures on the lay gears at great cost now was the time to consider implant of a five speed gearbox using the type 9 Ford unit. It is a more reliable and quieter gearbox, which gives better fuel economy. It's a godsend for motorway driving.

I purchased the complete kit from Peter Gamble <http://hi-gearengineering.co.uk> It is expertly engineered with good fitting instructions. Also supplied was a reconditioned Ford gearbox and at the same time I fitted this gearbox I also did the remote brake fluid canister to master cylinder whilst there was room to work on this up-grade.

With this kit you get a black plastic bell housing and gearbox cover. Now you have to transfer the holes in the bulk head fire wall to the plastic cover; there is not a lot of room on the flanges of the cover, so it is important that the new floor boards are in place. Centralise the cover first by marking a white centre line between the two top bulkhead holes with a centre line on the plastic cover and central at the gear lever end in the "D" shape raised boss; then put a white chalk line round radius end to bell housing, this will give you a good idea where all the holes will be on the flange. Transfer the bulkhead top holes first after you are happy that all the holes are in the correct place on the plastic cover.

A trick here is in transferring the holes you can warm up a 3/16" dia steel rod which has a pointed end inserted through the nuts on the engine side which in turn will melt the plastic cover in the correct spot for you to drill the holes 15/64ths dia, and with the floor boards you can drill the holes required from underneath the car, but I am sure there are other ways to achieve the same aim.

At the gear lever raised boss there is available a chrome plated "D" shape fitting with leather gaiter and fittings available which puts the finishing touches to this up-grade; this item can be purchased from me.

### (13) Fit radial tyres

Only you yourself can decide on this up-grade.

**Ed's note:** I doubt if those who have fitted radials would go back to cross-ply tyres.

### (14) Central Instrument Panel

It may be on most MG models the central instrument panel is held in place by small screws which can be very awkward to remove in order to attend to any instrument or wiring so the answer is simple - use wing nuts! You can then remove this panel probably within ten minutes, and you have not used a light, lost a nut and twisted your body in the process!! With the TD I used six dome headed long 2BA screws that go through the complete dash panels then use wing nuts and washers, if need be you can fill the slot in the screw heads with solder and polish.

### (15) Fit locking door handles

This is a matter of security and is important nowadays. These handles are from Morris register which I believe are fitted on the Morris Eight, they are an exact fit and the same profile.

### (16) Fit Bonnet locks

These are to protect your engine compartment from thieves, I had the two SU carb springs stolen at a show and this is why the locks were fitted - part no. BCPCL Compartment lock (see item 17),

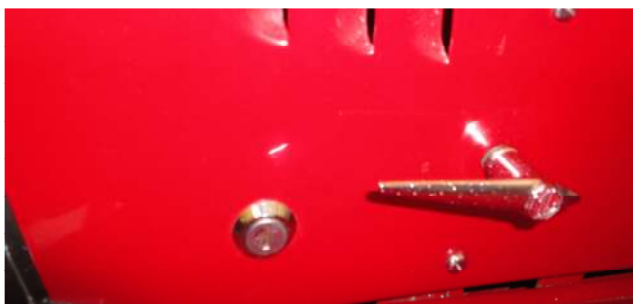


Photo 8 – bonnet lock

### (17) Fit Glove Box Lock (Photo 9)



The glove box lock was fitted for security purposes I purchased the locks from [www.EuropaSVT.com](http://www.EuropaSVT.com) Part Numbers 'BCRP lock ring' pull and 'BCPCL Compartment lock'.

### (18) Warning lights on dash with buzzer

The reason I fitted this set up was because of traffic noise when on motorways etc., Wired into the winker switch, the lights and buzzer were purchased from SVC Ltd <http://www.s-v-c.co.uk>



Photo 10 – warning indicator lights on dash.

### (19) Do I need halogen bulbs?

Perhaps not, but if you think that there is a chance of driving during hours of darkness and in bad weather then this up-grade could be ideal. Check to see if you require a relay (although this is something else that can fail!!)

### (20) Oil filter conversion to canister

This up-grade is worth consideration for easy maintenance and very little loss of engine oil on change over; but there are two types of canisters one has a magnet in the body (Unipart Premium) the other has a by-pass valve which kept the oil pump primed (was Crossland no. 357 but not now available under that name as Crossland was taken over by Coopers filters – number is now Z 27A).

### (21) Crankshaft rear oil seal conversion

This conversion is best carried out when engine is stripped down for overhaul - it is costly but many owners have fitted this up-grade and are pleased with the outcome.

### (22) Up-grade to an unleaded cylinder head

In today's world of additives in fuel this is something for you to consider and at the same time pay some attention to polishing the ports which can improve performance. Another option (but expensive!) is to buy an after-market Aluminium Laystall cylinder head. It is a better set up with bigger ports which can be polished. I have fitted one of these and the performance is very good with the up-rated distributor 43D.

### (23) Water pump up-grade

This a water pump design of which I was involved with at the very early stages. Manufactured by Racemettle Ltd it is a six vane pump needle bearing type so it's more reliable and has a



modern sealing arrangement This type of pump was introduced on the Triumph range of cars in the first place with very good results.

On learning of the improved pump for Triumphs I asked if the same design could be introduced for the XAPG engine and the answer was 'Yes', I tested this pump when complete and I am very pleased with the increased water flow which is vital for non-pressurised cooling systems. As you may guess, this pump does cost more than the four vane one, but you get a quality product which will out-last the original type of pump.

**Ed's Note:** The Racemettle pump was featured in Issue 11 [www.racemettleltd.co.uk](http://www.racemettleltd.co.uk)

A less expensive option is to have your existing pump rebuilt by E.P. Services of Wolverhampton [www.ep-services.co.uk](http://www.ep-services.co.uk) E.P. offer a lifetime guarantee on their rebuilt pumps. Their rebuilding service was featured in Issue 15.

### (24) Fit Silicone Hoses



**Photo 11 - Finishes of silicone hoses supplied by** <http://www.classicsiliconehoses.com>

The most important hose which you should get is the very large radiator top hose. You can take this off with ease if you have to change the thermostat or radiator and leave either end in situ as the hose is completely flexible (unlike removing the existing non-flexible rubber top hose which can result in having to remove the whole housing).

**Ed's note:** The silicone hoses supplied by Classic Silicone Hoses Ltd were featured in Issue 4. My understanding is that these hoses are only supplied in sets and it is not normally possible to buy just a top hose. However, I have in the past persuaded the company to supply me with just the top hose and I'll have five (5) available for sale at Stoneleigh and also one (1) complete set. Finish will be "old style wrap". Price is not yet known but I won't put any mark up on them for TTT 2 members. If anybody wants to reserve a top hose (plus clips if wanted) or a complete set (plus clips if wanted) please contact me at [jj\(at\)octagon.fsbusiness.co.uk](mailto:jj(at)octagon.fsbusiness.co.uk) {Please substitute @ for (at)}.

### (25) Consider Stainless Steel Liner to Master cylinder

When I fitted the five speed gearbox I also had the up-grade done because of the ease of fitting it and less maintenance and that is at least ten years ago.

### (26) Locking petrol cap

There have been quite a number of ideas on this introduction because of petrol thieves, some are feasible using the Fiat locking petrol cap off the Uno model. I have yet to fit this worthwhile item.



**Photo 12 - locking petrol cap set-up**

### (27) Aluminium tappet cover and tappet chest cover plate

This is a luxury item but one which looks good under the bonnet and does go some way to adding quietness of the engine in general; these items are fitted to my car!

### (28) Consideration of a touring map pocket

With the large maps which are available today it was a question of where to I do keep them? The solution was to have a water-proof twin zip pocket sewn into the half tonneau cover of the correct size and depth which was easy to get at and can be locked if required but I also kept the yellow emergency vest in this pocket.



**Photo 13 - map pocket sewn into half tonneau**

### (29) Quick release of Bonnet MG TD

A useful solution to the problem of grappling with the nuts on the end of the small screws which hold

the bonnet in place, fore and aft (two at each end) is as follows:

At the front radiator end, the fixing for the chrome cap, I fitted two hexagon headed rivet nuts threaded 2BA in the radiator shell which I made myself, then all that is required is two 2BA screws ½ inch long to fix the chrome bracket in place.



**Photo 14 – bonnet fixtures rear and front**

For the rear bonnet chrome cap (these are the most difficult to remove because the nuts are only accessible from under the bulk head) I fitted two upholstery claw nuts with a 5mm thread which attach to the wood rail as the name suggests by the claws as you tighten the screws. Once in this position you can drift the flange of the nuts further into the wood to make sure they are permanent, so you drill the two holes right through the wood rail from the bonnet top and in line with two holes already in the chrome bracket, the diameter of this hole is about ¼ inch; then you purchase two 5mm countersunk headed screws one & half inches long, fit and the job is done and the need to remove the bonnet is made that much easier.

### **(30) Petrol dip stick for MG TD**

Sometime ago there was an article in the Octagon Car Club magazine which gave all the measurements for a hardwood dip stick. I did make one of these and it is reasonably accurate, for different models you may have to start from scratch marking first the top of tank on the stick then add three gallons of fuel (below this your green light may come on at two gallons), then graduate the stick as you fill the tank.

### **Additional Comments**

For greater clarification of some of these modifications see photographs which accompany this article.

Finally, bearing mind the garage cost per hour, fuel, spare parts, Insurance, it makes sense to look at all possibilities including the cost of attending shows and rallies, all of which seem to be on the increase, but I must stress whatever up-grading you do always seek professional advice if you are

not certain of any outcome which you may contemplate to undertake on your car.

**Alan Atkins** [alan.atkins903\(at\)hotmail.co.uk](mailto:alan.atkins903(at)hotmail.co.uk)

[substitute @ for (at)]



**Photo 15 – the author's TD with polycarbonate side screens in place.**

**Ed's note:** Thank you Alan for a thought provoking article. I'd like to add a couple of comments as follows:

If you modify your car please bear in mind that you need to notify your insurance company that you have done so. This applies particularly to mods to steering and brakes and also any bolt on 'goodies' which increase the performance of the car. If in any doubt, err on the side of caution and advise your company anyhow – better to be safe than sorry!

For those who have not seen or heard of Jonathan Goddard's book on the TD entitled *Practical MG TD – Maintenance, Update and Innovation* this is a publication which covers, under the 'Innovation' banner, a number of modifications and improvements similar to those covered in Alan's article.

The book is available from the T-Shop priced at £6.99 plus postage. I have just a handful of copies remaining from my bulk order of 150.

### **DISCLAIMER BY THE EDITOR**

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Articles are published in good faith but neither I nor the authors can accept responsibility or legal liability and in respect of contents, liability is expressly disclaimed.

Before doing anything that could affect the safety of your car seek professional advice.

**JOHN JAMES, EDITOR TTT 2**

## Refurbishment of a TC grille

The grille on TC4332 was in poor condition with the slats bent and rusted particularly at their connection with the upper and lower cross bars. The outer slats that connected directly to the radiator shell were broken, probably due to mistreatment in the past. The lower cross bar had broken across one side of the central hole. It was decided to restore the grill. The slats are of rivetted construction with 1/8" brass rivets securing them to the upper and lower cross bars. The cross bars, the two central slats, and the two outer slats are connected directly to the radiator shell. The slats appear to have a slight concave radius, can anyone confirm this?

To start, the slat rivets were carefully drilled out; I say carefully since the metal slats are very thin being 20 swg (0.91mm) and it is possible to enlarge the rivet holes. The slats are folded with a long edge and a shorter edge to an included angle of about 30 degrees, the longer edge being about 11/16", the shorter edge about 1/4". The slats shorter edge are cut 1/2" in from each end, bent almost flush (in line with) with the longer side and drilled to accept the rivet or the radiator shell fixing.

The slats were cleaned with a wire mop in an electric drill, it was not possible to clean inside the included 30 degree angle, this can be solved however by sawing a piece of wood to an angle of 30 degrees, wrapping it in a medium emery paper, securing it in the vice and rubbing the slats along it.

Following painting of the grille slats with a zinc rich primer (rattle tin) and the repair and strengthening of the lower cross bar the problem of reassembly arose. After several mainly unsuccessful attempts to pop rivet the slats to the cross bars using soft copper rivets, it was decided that a bolted solution would be simpler and stronger. The web site of Namrick fasteners was visited and 3mm x 10mm CSK slotted machine screws obtained with hex nuts and lock washers. Assembly of the grill then became simple, see the following photographs.

**Les Hancock** lestc4332(at)hotmail.co.uk  
{substitute @ for (at)}



Photo 1 – slats attached to top cross bar



Photos 2 & 3 showing slats attached to bottom rail (above) and front view of top and bottom slats attached to rail (below).



Photo 4 – view from back of grille of TC0750.



Richard Mascari's TC grille – Richard says that Ford Tuscan Beige is a perfect colour match to Mike Collingburn's biscuit/fawn upholstery.

# One of life's little mysteries

This is the strange tale of the mysterious ignition warning light saga that can afflict owners of the more mature MG. So, for the benefit of the younger generation that have taken up the challenge of pre 1956 MG ownership let me tell you a story.

Situated on the instrument panel of many of the older cars is a light that tells you when the ignition is switched on. When the engine is started and the speed increases the light goes out to tell you all is well with the electrical charging system. An ammeter is also fitted to reassure you that some electricity is coming out of the dynamo and that the battery will actually have some juice put back in it so that you can start engine again. In the words of the little furry meerkat friends, simples!

Horror, what happens when the little light does not come on when you turn the ignition key? This is where our mystery tale begins. As long as the battery is connected, the obvious starting point is to fit a new light bulb. This is where the MES becomes interesting. As with any other snag, the first port of call, for the less experienced, could be the Operations Manual or even the Workshop Manual. However, this is not as easy as you might think. Let me explain.

According to Operations Manual, if you have a TA the bulb is a Lucas 252 MES, if you have a TB, TC, TD, Y or YB the bulb is a Lucas 970 MES. The other panel bulbs are Lucas 987 MES. But they all look the same! Some Operation Manuals do not state a voltage so they must all be 12 volts surely? For reassurance you can consult the Maintenance Manual and Instruction Book for older models or the Workshop Manual for the newer types. This might not even be of much help. On page N-9 of the Y Type MM and IB the voltage or wattage of the ignition bulb is completely ignored, but the WM for the YB is a bit more specific as here on the same page number we can find a precise specification of the offending bulb.

Now for the science! For the logic of using a low voltage bulb, you need to consult the Bible of older MGs, the Blower Book. Here is an explanation of why and how the 2.5 volt bulb works. Of course such a low voltage bulb would soon be zapped if subjected to a burst of 12 volt + power. The low value filament is protected by a resistance that is wired in series. Look at the wiring diagrams and there it is shown as an additional curly line tucked into the bulb pictogram.

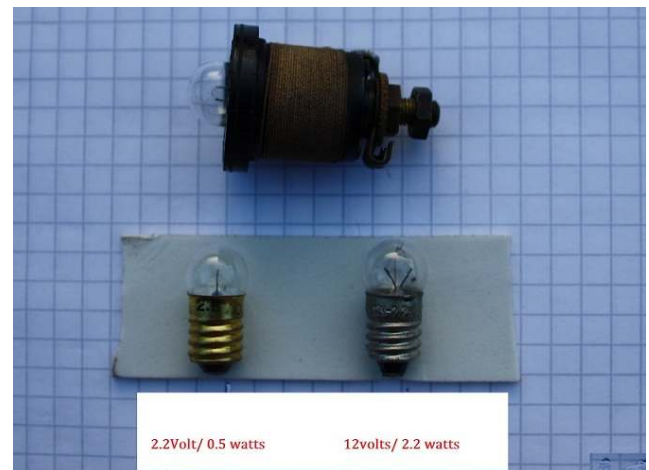
Quote from Blower's tome page 262 'A resistance is always included in the warning light circuit to prevent the voltage rise of the dynamo burning out the bulb, and in the light under consideration the resistance is of sufficient value to permit the use of a small 2.5 volt bulb of considerably longer life

than the earlier heavy consumption type.' Sounds convincing, but is it really that important? Checking other cars from the same era, especially those without Lucas systems, a 12 volt bulb seemed to work OK.

On my 1936 Morris 8 the ignition warning bulb is also quoted as 2.5 volt C252A MES, but the system is 6 volts! Again Mr Lucas seems to know best. In the new 1947 Rover cars, the ignition warning bulb is quoted as Lucas 12volt 2.4 watt screw cap MES 1224M. However, in the 1953 E93A Anglia, Mr Ford leaves out the ignition warning bulb altogether and tells me to check the ammeter after starting. Very confusing!

So do I need this little light at all? The answer is probably yes as it gives me information. Firstly, after turning key on but before starting engine it confirms ignition is on, and then, when engine is running the absence of a flickering light tells me something good is happening to charging system and thirdly if it stays on I know there is a problem. If the warning light stays on when key is turned off, time for immediate action as there is possibly a short circuit in charging system that, if ignored, could burn out components. Does it matter if it is not working? - not really as the ammeter tells me the system is charging and the loss of bulb does not affect charging system (as it can with more modern alternator power supplies).

Now, to show how the resistance is applied to the bulb. The resistance comes in the form of a coil wrapped around the bulb holder (see photos of typical holder this one from MG YB).



**Photo 1 – shows how the resistance is applied to the bulb. In the foreground (left) is a low voltage bulb and (right) the look-alike Lucas 987 MES.**

The bulb is supplied with its own direct connection to ignition switch. The ignition switch has a parallel line that goes via a connector (A3 in either the control box or fuse holder, dependent on model) to coil and petrol pump but does not go through any fuses. Essential running needs are hard wired. If the warning bulb is open circuit, the ignition and fuel systems are unaffected.



**Photo 2 – the ignition warning light at the back of the dash in Mick’s YB.**

So the proper bulb is a Lucas 252, C252A or 970 MES. Of course these are all the same part, just Mr Lucas trying to confuse us. But where can you buy such a bulb these days? Most of the usual suppliers carry the look-alike Lucas 987 MES, but this is a 12 volt / 2.2watt bulb. Yes, it will fit and yes, it will work but can be difficult to see in good light. The 2.5 MES bulb was standard fit in old fashioned bicycle lamps (made by, you guessed it, Mr Eveready and Mr Lucas!). Never fear, just Google or Ebay ‘bulb 2.5 volt MES’ and the magic of the internet will supply your needs. Maybe not from a car accessory supplier, more likely from a vintage flashlight or cycle specialist!

The mystery is really why do we call it the ‘ignition warning’ light when it should be called the ‘I think the dynamo is charging up the battery’ light; long winded perhaps but no more than the old description of a rotor arm in my pre-war maintenance manual that referred to the ‘rotating electrode on a rotating moulded arm’, such is progress,

Safety Fast,

**Mick Bath**

#### **Ed’s note:**

I thought that I would have a look at the various Instruction Manuals/Workshop Manuals/Operation Manuals to see what each had to say:

**TA** – Page 73 lists the Ignition Warning Light as 252MES 2.5-v (.2amp). Page 75 states that “A warning light is usually provided which gives a red light when the ignition is switched on and the car is running very slowly or is stationary, thus reminding you to switch off.” my underlining!

**TC** – Page 88 duplicates the wording of Page 75 above. Page 86 lists the bulb as Lucas No. 970 2.5-v, .5 watt.

**TD/TF Workshop Manual** – Section N (Electrical Equipment) lists the bulb as No. 987 12-v, 2.2 watt. A separate listing for the TF shows it as Lucas No, 985 12v, 2.2 watt.

**TD Operation Manual** - Page 61 shows Lucas No. 970 12v .5 watt.

**TF/TF1500 Operation manual-** Page 56 shows BMC part no. 2H4732 (12-v, 2.2 watt).

Only the TA & TC Instruction Manuals are correct!

## **Manchester XPAG Project Newsletter - December 2012**

As the Manchester XPAG engine trial ends its second month work is progressing well. The most important milestone has arguably been the submission and acceptance of the team’s proposal, budget and plans to the University. This forms part of their academic assessment.

The next task for the team is to mount the XPAG engine into the test cell. The diesel engine has been removed and they have completed the design of the engine mounts. Several designs were created and the team came to a decision based on advice from their supervisors. At the beginning of the month, they were waiting for the final approval from the assigned experimental officer. As the Department’s workshop would have taken another month to produce the parts, delaying the project, the team took the initiative to manufacture the mounts themselves using the student workshop. The front mounts are complete; however the rear mount, which fits directly to the back of the engine, has proved more difficult.

While internal combustion engines have not changed a great deal since the 1940s, the process used to manufacture them is unrecognisable. Now components start life in a computer and are brought into being by laser cutters, numerically controlled machine tools, 3D printers and the like. The first challenge for the team was to accurately measure the positions of the holes in the rear of the engine, not easy with a complete engine and no clear reference points. Thank you to Peter Gamble (Hi-Gear) for providing the necessary measurements. The virtual rear mount is now finished ready to be “brought to life” by a laser cutter.

The team has also been preparing a poster session, to be presented to the Department on Friday 30<sup>th</sup> November 2012; again this forms part of their assessment. The poster contains ideas pertaining to possible solutions for the engine that have emerged. Current suggestions include new needles for modern fuels, fuel intake cooling, fuel recirculation and a possible mechanical closed feedback loop system.



## Front Cover – TC0999 TCs Forever

I'd been hankering after a TC since owning one as a student in the 1960s. I never knew the chassis number, but HKD 140 was a good runner, albeit in rather tatty 'student' condition. I had great fun during the couple of years I owned her, and learnt most of my car mechanics at that time. I sold her for £140, the going price in those days. Unfortunately, she seems to have disappeared, and I can't find any trace of her today.

HKD 140 in the 1960s



I'm sure there are many of us in this nostalgic post-war 'baby boomer' bracket, re-living our youth at much greater expense. The question is, who will take care of these beauties after us? I see mostly 'grey-beard' owners like myself these days. I guess T-Types are just too pricey and of little interest to today's younger classic car owners. My wife would say they are also impractical and uncomfortable to boot, and she has a point. Still, when did common sense play a part in these matters? It's much more serious than that.

TC1202 in 2004



After talking about it for many years, I finally bought two TCs in 2001, with the idea of enjoying one whilst restoring the other.

**TC1202** (1946). Some repairs were carried out in 2002-4 including new front wings, repairs to body panels, and repainting. She is mainly used on dry days on quiet roads in the Scottish Borders, and on occasional club runs. I made a round-trip visit to northern France in early 2007.



**TC0999** (1946) is the more original of the two cars, manufactured for the home market with some modifications for police use. She was first registered as GUR 220 in July 1946 with Hertfordshire police. After police service, she was purchased by a senior police officer in about 1948. She was reportedly unused between 1969-89, and the log book was unfortunately lost. The car was re-registered in 1989 with the age-related number, RSU 772. Chassis and engine numbers match production records.

Around 1989, a previous owner painted her dark metallic blue, and fitted grey upholstery, a light blue hood and side screens, and new front wings (probably). Aside from these non-original cosmetic changes, the car was largely unaltered, providing a good basis for restoration.



She was driveable when purchased, but the front brakes were pulling to one side, the engine was blowing smoke, and the right front wing was slightly damaged. The chassis and ash frame were in good condition, and the bodywork mostly rust-free. The car retains some items specific to



its police heritage, which differ from a standard TC. These include (i) a larger than usual bulge in the left side of the bonnet to accommodate an oversized dynamo for increased electrical demands, (ii) different positions on the bulkhead for a larger battery box, tool box, ignition coil and fuel pump, and (iii) a high-ratio differential for increased top speed.

A body-off and chassis-up restoration began in 2009, respecting originality where possible, and was completed in 2012. Most items have been restored,

rebuilt or replaced as needed. All paint was removed, and the car returned to its factory livery of black bodywork and weather gear. Upholstery and trim are now beige, a personal preference, as this was probably red originally. Police regalia have been omitted.

Efforts to reinstate the original registration number have been unsuccessful. I'd be most grateful if, by some remote chance, anyone has evidence linking TC0999 with its original number, GUR 220. DVLA are not interested in circumstantial evidence, of which there is plenty. The 999 digits are appropriate for a former police car.



The distribution of rehabilitation costs is: 37 percent for parts and repairs, 30 percent for painting and bodywork, 18 percent for interior and weather gear, nine percent for the engine rebuild, and six percent for chrome work. Nearly half the restoration costs are for painting, including preparation, and for the cockpit interior. It is essential not to skimp on these items, especially if it's black!

Of course, it goes without saying that it all took much longer and cost far more than expected. And I'm still waiting on one item sent away for

restoration ten months ago! Fortunately haste has not been a priority.

It's clearly far more sensible to buy a TC already restored, but where's the fun and satisfaction in that?

On the agenda for next spring are local trips to uncover the inevitable bugs after such an extensive rebuild, and later, a leisurely trip to south-west France to visit family.

I can't justify owning two TCs (to management), so TC1202 is up for sale. I'll be very sad to see her go, and will advertise next spring.

**Tim Jackson** [tjackson125\(at\)gmail.com](mailto:tjackson125(at)gmail.com)

**Ed's Note:** Tim sent what amounts to an album of photographs of the restoration. I'll include quite a few of these in the next issue. Tim also sent a spreadsheet giving details of suppliers he used for his restoration. These are published immediately after this note.



Reference has been made to the efforts to reinstate the original registration number. We know that TC0999 and TC0998 were built on 26<sup>th</sup> June 1946. We also know that GUR 219 and GUR 220 were both registered in the name of 'The Chief Constable Herts, Hatfield, Herts' on 11<sup>th</sup> July 1946, but no record exists to link these with chassis numbers. However, according to Andrea Green's book *MGs On Patrol* Richard Uzzell from Aylesbury owned TC0998 with the registration number GUR 219 in the late 1950s. This car had the same bonnet bulge (as TC0999) to house the larger dynamo used in police vehicles. Unfortunately it has so far not been possible to trace Mr Uzzell. **What we need is some positive evidence linking TC0999 with GUR 220. Help!!!!!!!!!!**

Support	Supplier/Service	Location	Contact	Activity	Phone / email / website
Overall	Couston Classics	Fife	Dave Stewart	Rebuilt engine, carburetors, gearbox and back axle (tapered half shafts), minor repairs, final checks (brakes, steering, electrics, etc), commissioning, and MOT	01383 860 470 dandmstewart@surfree.co.uk
General Parts		Fife	Keiran Boyle	Repaired body panels, first fit and reassembly of main body panels	07952 454 972 keiranboyle24@aol.com
	From the Frame Up	Arizona, USA	Doug Pelton	Sundry clips and fasteners; technical tips	info@fromtheframeup.com www.fromtheframeup.com
	MG Octagon Car Club	Staffordshire	Geoff Trevena	Parts	01889 574 666 info@mgoctagoncarclub.com
	MG Spares & Restorations	Leicestershire	Andy King	Restored steering box, and supplied bonded brake shoes, brake pipes, dash centre panel and other parts	www.mgoctagoncarclub.com 01949 860 519 info@mgsparesandrestorations.com
	Moss Europe	London		Parts	www.mgsparesandrestorations.com 020 8867 2020 sales@moss-europe.co.uk
	NTG Services	Ipswich	Mike Green	Parts	www.moss-europe.co.uk 01473 406 031 info@mgbits.com
Chassis	Yorkshire Chassis Services	Leeds	Russ Trueman	Repaired chassis: strengthened, geometry checked, and painted black	www.mgbits.com 0113 257 1134
Suspension	Brost Forge Ltd, London	London	Chris Wann	Springs re-tempered with bushes	0207 607 2311
	John James	Bristol	John James	Shackle pins and washers	0117 9864224 jj@octagon.fsbusiness.co.uk
	Vintage & Classic Shock Absorbers Ltd	South Croydon	Graham Brown	Shock absorbers restored with link bushes	0208 651 5347
Rear Axle	Mad Metrics	Devon	Roger Furneaux	Tapered halfshafts, machined rear hubs, rear hub oil seals	01566 784 111 roger.46tc@virgin.net
Brakes	C&C Parts Bv	Netherlands	Luc Hoeben	Bronze master cylinder and wheel cylinders	info@ccparts.nl www.ccparts.nl
Wheels and Tyres	Richards Bros	Cardiff		Rebuilt and restored wheels, and fitted tyres and tubes	029 2022 9945 www.richards-bros.com
	Vintage Tyres	Hampshire		Tyres and tubes	01590 612 261 sales@vintagetyres.com www.vintagetyres.com
Radiator	Norwood Radiators	West Lothian	David	Radiator core, resoldered clips to support radiator shell	01501 740 558 sales@autosparks.co.uk
Electrical	Autosparks	Nottingham	Debbie	Braided wiring loom (for indicators) with original conduits built-in, and dash panel wiring	0115 949 7211 www.autosparks.co.uk
	Gregorys Autoparts	Doncaster		Reproduction FT27 foglamp	01427 872 224 www.gregorysautoparts.co.uk
	Pensbury Manor	California, US	Terry Sanders	LED inserts for rear 'D' lamps	taterry@pacbell.net
	Rockhall Auto Electrics	Derbyshire	Bill Hearsam	Restored RF91 voltage regulator	01663 742 539



Electrical (cont'd)	Stafford Vehicle Components Steve Hunt Taff the Horn Tanya Batteries Tim Hodgekiss	Staffordshire Birmingham Swansea Abergele, Wales Norfolk	Steve Baker Steve Hunt Isaac Lynn Tim Hodgekiss	Side light conversion (amber light), rear indicators Restored CW1 wiper motor Alttette horn parts Modern battery Light bulbs, spark plugs, points, etc	01827 67 714 info@s-v-c.co.uk www.s-v-c.co.uk 0121 777 0071 steve@stevehunt.demon.co.uk 01792 233 763 lynn.isaac@tinyworld.co.uk 01745 823 399 www.tayna.co.uk 01692 535 802 www.vintagemotorspares.com
Lights	Keith Ardley	Cambridgeshire	Keith Ardley	Restored lights, reflectors and mirror	01353 778 493 kieth@ardley8142.fsnet.co.uk
Fuel	SU Carburettor Co	Wiltshire		Fuel pump with brass base	01722 412 500 www.sucarb.co.uk
Dashboard	Rique Llinares	Lancashire	Rique Llinares	Walnut dashboard and top rail for hood	01524 262 588 riquellinares@hotmail.com
Instruments	Vintage & Classic Parts	Derby	Chris Clarke	Restored: dashboard instruments, horn switch, lights and PLC6 ignition/light switch supplied: three-spoke 'Douglas' steering wheel	01773 550 485
Steering Wheel	Lancaster Vintage and Classic Spares (Wheelrights)	Lancashire	Jerry Walker	Restored three-spoke steering wheel	01524 423 453
Body Panels	Leniks Auto Panels Tippers Vintage Plates	Warwickshire Cornwall	Nick Hammell Gilbert Tipper	Checked and re-shaped front wings Number plates	02476 384 728 01702 392702 info@tippersvintageplates.co.uk www.tippersvintageplates.co.uk
Chrome	Derby Plating Services Ltd	Derby	James Cholerton	All re-chroming, and zinc plating of seat runners	01332 382 408 info@derbyplating.co.uk www.derbyplating.co.uk
Paint Removal	Aliblast Services	West Lothian	Ali MacGill	Paint removal by bead blasting	01506 671 844
Painting	Bitec Classic Cars	Shropshire Fife	Chic Doig	Aerosol primers and paint Preparation and painting of body panels and other items	www.bitec.co.uk 01592 722 999 sales@chicdoig.com www.chicdoig.com
Upholstery, Trim & Weather Gear	AS Pickering Ltd	West Yorkshire	David Brown	Upholstery, carpets, trim and weather gear	01274 724 000 david@aspickering.co.uk www.aspickering.co.uk
Miscellaneous	Namrick Ltd PVR Direct Wrights Auto Supplies	West Sussex Bristol West Midlands		BSF nuts, bolts, washers, etc Workshop supplies, abrasives, wire wheels, lubricants, degreasing, etc BSF nuts, bolts, washers, etc	01273 779 864 www.namrick.co.uk 08712 003 033 www.pvrdirect.co.uk 02476 470 377 www.wrightsautosupplies.co.uk

Advice from MG TC Owners: Mike Card (Surrey), David Irwin (West Sussex), John Steedman (Hampshire)

Books Used: TCs Forever (Mike Sherrell), The T-Type Restoration Manual (Dick Knudson), MG T Series Restoration Guide (Malcolm Green), Instruction Manual for the MG Midget

# Bits and Pieces

## Oil Pressure Hose Disasters

Issue 15 included a *caveat emptor* in an article from Paul Ireland about an after-market oil pressure hose he bought. Erik Benson posted a



website comment on the article saying that he had identified the root cause of the failure in an article in the Octagon Bulletin in 2011. Eric suffered a hose failure in his early TD and put this down to

the brass tube part of the after-market hose not having a shoulder as provided in the original fitment (see photo).

## VW Steering boxes and Tubular Extractor Manifolds

Dieter Wagner e-mailed following Mike Harvey's article in Issue 15. Referring to Mike's comments on page 21 of Issue 15, Dieter wrote:

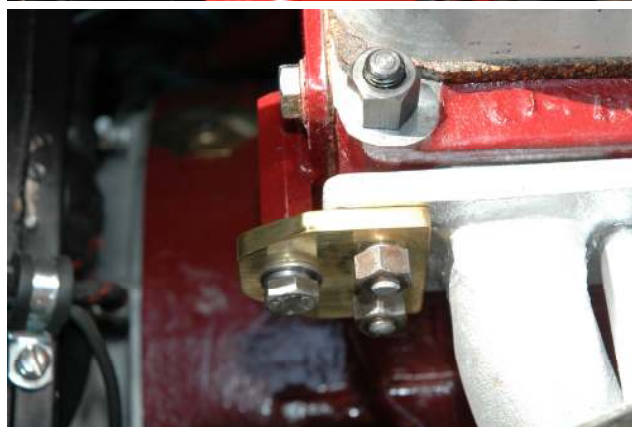
(Mike says) *"that he can't fit a VW steering because he uses a tubular extractor manifold on his MG TC. As you can see in the pictures, I have no problem to fit a VW steering together with my special manifold. This manifold is normally screwed with only four bolts to the head. The basis plate of the manifold is made from steel and not cast like the original and it tends to bend on the ends if it gets hot. Then the exhaust may blow. To overcome this problem I made two brackets in the shape of an "L" (see pics). This way the ends of the basis plate are pressed to the cylinder head"*.



Dieter's photos to show that the VW 'box' fits.



Two more photos from Dieter to show the brackets which prevent the basis plate of the extractor exhaust manifold from distorting.



Mike Harvey's slightly different solution (above and below) for the manifold securing arrangements - see text which follows.



# Manchester XPAG Project Newsletter - January 2013

Mike provided some detailed fitting instructions and drawings for his manifold securing arrangements. Unfortunately I don't have the space in this issue for these and as the drawings have appeared in another magazine, I would, as a matter of courtesy, need to approach its editor. Hopefully this can be cleared for publication in the April issue.

As to the question of whether the VW steering box would fit with the extractor exhaust manifold, Mike pointed out that different suppliers individually hand construct their tubular manifolds to their own jigs and therefore there may well be slight differences between the manifolds available for the XPAG. He added:

*The tubular manifold was already fitted when I purchased my car in 2003 so I don't know the supplier, but certainly the Datsun steering box I purchased after the engine was rebuilt in 2006 fouled the exhaust manifold's forward pipe. I looked at the VW conversion at a later date and it looked to be of similar dimensions to the Datsun box, however by then I'd rebuilt the front axle and refitted it correctly with 8 degree castor which together with a correctly adjusted Bishops Cam box and rose jointed drag link and track rod, the steering was very satisfactory so I never pursued it further. Thanks to Dieter for his correction and sorry if my comment re the VW box has caused confusion.*

## **Front Leaf Springs for TC**

Those who have ordered (and paid for) these springs have been separately notified regarding delivery.

## **Rear Leaf Springs for TD & TF**

There is certainly demand for a small batch of each to be made but I don't have a drawing as per the drawings in 'Blower'. If anybody is able to provide me with the information I can arrange for manufacture.

## **Interleaf pads on TD/TF (and Y) rear springs**

I am embarrassed by the delay but I am hoping to get the machine shop who made the bronze TA/TB spring trunnions to make some for me.

## **Large Rear Shackle Bushes for the TC**

These have sold well and stock is down to only enough for four (4) cars. Another 100 bushes were ordered just before Christmas and should be ready for collection by the end of January. Plenty of the smaller bushes for TC and TD/TF are in stock.

## **Steel Crankshaft and rods for the XPAG**

There are three (3) interested parties so far. Farndon Crankshafts (who we have been to see – and came away most impressed) are aware of our interest. They can also supply steel cranks for the MPJG engine.

***This is an updating report from Paul Ireland and has been "squeezed in" so that TTT 2 readers have the latest possible information. "Peter" mentioned below is Peter Cole, who, as treasurer, is accounting for the income from the sponsors and 'co-driving' the project with Paul. It has been necessary to shorten (squeeze!) Paul's report.***

As part of their Assessment, the Team presented their plans to the Department in November and to Peter and me in December. Their overview Poster shows the main problems experienced by classic car owners, the various hypotheses, experimental designs and proposed test methodology.

Unfortunately, the Team's presentation to us was interrupted by a (real) fire alarm, allowing an extended visit to the testing room for a close inspection of the engine. Peter expressed a concern that it had been stored with open access to the main oil galleries, risking contamination in the bearings. As a result we recommended it was stripped and cleaned prior to the tests. Working into their holidays and under my guidance, four of the Team started this work. While the engine is in a reasonable condition, 3 of the cylinders had broken top rings and that on the fourth cylinder was very badly worn. Fortunately, the 60 thou oversized bores were in good condition. Four new pistons and rings have been ordered along with a few other parts to replace missing or worn items. These purchases will be funded from the donations.

The front engine mounts have been manufactured and a solution found to the misaligned front engine mounting plate. The rear mount design was altered in order to fit the starter motor and has been submitted to the workshop for laser cutting. It will now be ready in January.

With the Christmas break and examinations, the Team will not have a great deal of time to spend on the project in January. However, they are planning to further their research on fuel atomisation, ignition timing and to plan experiments to obtain relevant data.

**Please note** – the Team is finding it difficult to source 1950's leaded petrol or determine its composition. As they would like to use this as a starting benchmark for their tests, any help or advice, sent to [manchesterspax@ireland-family.org](mailto:manchesterspax@ireland-family.org) would be most appreciated.

Last month, the University asked if we could fund an Innovate Motor Sports Inc LM-2 A/F analyser. This is a high quality, hand held, gas analyser including a data logger. When asked, Innovate Motor Sports kindly donated one to the project free of charge. The Team believe they now have all the equipment necessary for the tests.

## Hybrid wiring scheme for an MG TA

This scheme was developed for my 1939 MG TA for two reasons – firstly to incorporate key MG TC elements (dynamo, control box and distributor) which were already fitted to the car, and secondly to bring the car up to acceptable modern standards of practicality and reliability while as far as possible staying true to the original design.

Hopefully many of the suggestions and modifications described here will be useful to TB & TC owners as well, although it is unlikely that another TA exists with exactly this combination of TA/TC key parts. Purists should look away now!

Please note this article is intended as a follow-up to Bob Butson's excellent article on wiring details in TTT2 of December 2012 <http://ttypes.org/ttt2/the-resurrection-of-ta0844-part-7>.

### Non-TA MPJG parts

The original 3-brush TA dynamo set fire to its wiring early in my ownership in the 1960s on a long journey and the only dynamo available at that moment en route was from a TF. This worked fine thereafter but I had to change the CJR3 control box (which has no regulated charging function) for the post-war RF95 (which does). This removes the need to alter High/Low charging via the ignition switch, so I fitted a TC ignition switch to avoid confusion in the future.

The TC-style DKY4A distributor was already fitted to my TA MPJG engine on purchase so proved easy to fit transistor ignition (I've had my fill of adjusting points over the years – no more!).

### Wiring Diagram (Figure 1)

The Wiring Diagram is based primarily on the TA original wiring diagram, but modified to accept the post-war RF95 Control Box (Figure 5\*), and other changes to make the car more reliable under modern driving conditions. It uses the two TA wiring looms (Main and Dashboard), but with the addition of indicator wires to the former. It proved possible with these looms to reuse most of the TA cores and follow the original Lucas colour scheme.

\* shown at the end of this article

Early on I decided to use **Negative Earth** as this is compatible with modern car accessories. I also added several features to the wiring, primarily an accessory circuit, and a dedicated earthing system (see later paragraph under "earthing"). The accessory circuit used plain brown wire as this colour did not appear in the Lucas list.

Some of the unusual features of the wiring are:

- Multi-connector terminal block used between the dashboard wiring and the car wiring. This enabled all dash wiring to be installed off the

car (using a purpose-made angled wooden frame). See Figure 2\*\*.

- Solenoid starting as I never liked the pull wire. This removed possible clearance issues at the switch on my TC-style starter. The small starter button was chosen so I did not have to alter the existing hole in the chromed centre dash panel.
- Extra 25A in-line fuse added to the main power input to the dash, as suggested by Brian Rainbow as a useful safety precaution. See Figure 2, larger yellow/black wire.
- Single 12V battery, for economic and simplicity reasons. This freed up one 6V battery location for a spares box.
- Battery cut-out switch installed on the rear axle ramp.
- Bullet connectors were used wherever necessary. These were crimped rather than soldered as I found this quicker and more effective.
- The Pertronics transistor ignition fits inside the distributor cap. It uses a wire to each side of the coil, both wires being passed through a thin black tube to make them less obvious. See Figure 4. (I carry the original contact plate already fitted with points and condenser in case the electronics ever fail). Note that the circular plastic cover over the cam lobes has to match the cam profile. The Blower manual Supplement No.1 - Page 528 in my copy - provides more information on these profiles. My TC distributor has an asymmetric cam and uses Pertronics Part no. 142 (see Figure 4\*\*).
- A separate klaxon horn is fitted on a small angle bracket and hidden under the front valence (great novelty value!).

### Earthing

As the chassis was powder-coated, and everything else had new paint, I decided to earth each electrical item by black wire. I ended up with an independent system fore and aft, the front terminating at the 3-way brake connector bracket on the chassis, and the rear at the battery to chassis earthing point. Both points were scraped to bare metal and used serrated washers for a good ground, and greased to prevent corrosion.

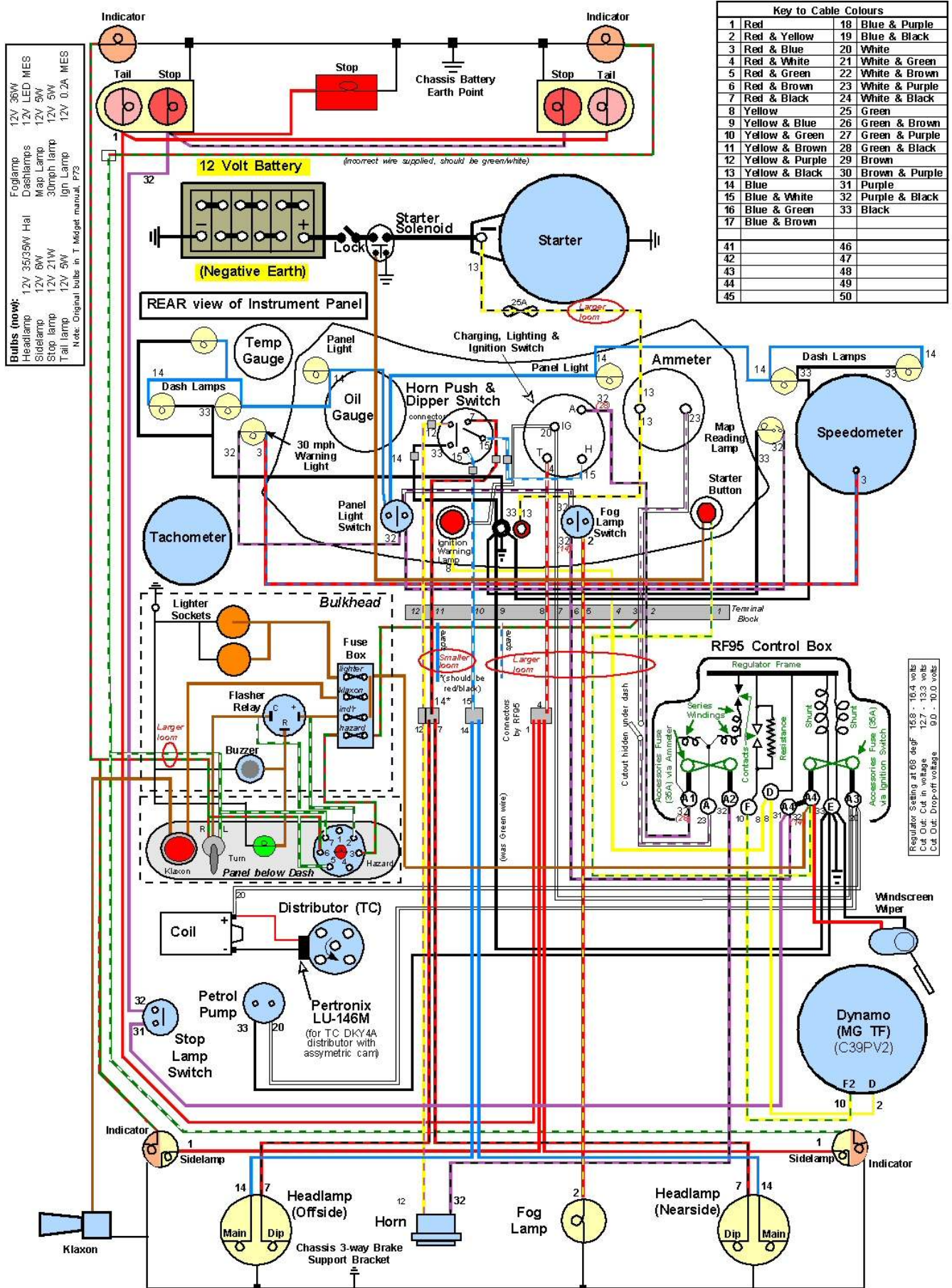
These systems do mean extra wires but being black are well hidden along the chassis. It was well worth the effort as all electrical components worked first time and continue to do so.

### Accessory Circuit

This is identified by brown wires only, has a separate fusebox and essentially runs along the inner wooden bulkhead and, apart from the extra panel showing below the dash (Figure 3\*\*), is out of sight.

\*\* Figures 2, 4 & 3 are at the end of this article.

FIGURE 1



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**TA3120 Wiring Diagram** (Modified for RF95 Control Box, using MGTA wiring harness, and NEGATIVE earth)

**Accessory Circuit (continued)**

The circuitry provides indicator and hazard light power, switches and indicators for same, two standard cigar-lighter power outlets and the klaxon horn.

It allows use of satellite-navigation equipment, charging mobile phones, and anything else

considered essential en-route by inserting a single or double USB adapter plug.

Indicators – These work in conjunction with the Hazard circuit, but are fused separately. There is a buzzer wired in series with the indicator lamp as the indicator switch is not self-cancelling and it's easy to overlook the indicator warning lamp in

Original*	Lucas No	Volts	Watt	Amps	Qty	Load, A		
						Running	Intermit	Total
Headlamp	54	12	36	3.00	2	6.00		6.00
Sidelamp, front	207	12	6	0.50	2	1.00		1.00
Stop	207	12	6	0.50	2		1.00	1.00
Tail	207	12	6	0.50	2	1.00		1.00
Foglamp	2	12	36	3.00	1	3.00		3.00
Dash	1224MES	12	2.4	0.20	6	1.20		1.20
Map	207	12	6	0.50	1		0.50	0.50
30 m.p.h	207	12	6	0.50	1		0.50	0.50
Ignition	252MES	2.5	0.6	0.24	1		0.24	0.24
Indicator, front	--	--	--	--	--			
Indicator, rear	--	--	--	--	--			
						<b>12.20</b>	<b>2.24</b>	<b>14.44</b>
at 12V, W=						146	27	173
TA generator rating, Amps =		11	at 12V, W=				132	
Safe max.=		<b>9</b>	at 12V, W=				108	
<i>*From MG Midget Series T Manual, P.73</i>								

Now (2012)	Volts	Watt	Amps	Qty	Load, A			
					Running	Intermit	Total	
Halogen SBC/BA15D 171H	12	35	2.92	2	5.83		5.83	
Push fit clear	12	5	0.42	2	0.83		0.83	
207 SCC/BA15S medium	12	21	1.75	3		5.25	5.25	
207 SCC/BA15S medium	12	5	0.42	2	0.83		0.83	
BFP cap	12	36	3.00	1	3.00		3.00	
LED MES, 100deg, white	12	0.02	0.00	7	0.01		0.01	
207 BA15S small	12	5	0.42	1		0.42	0.42	
207 BA15S small	12	5	0.42	1		0.42	0.42	
MES	12	0.6	0.05	1		0.05	0.05	
Push fit, amber	12	21	1.75	2		3.50	3.50	
207 BA15S medium	12	21	1.75	2		3.50	3.50	
					<b>10.51</b>	<b>6.13</b>	<b>16.65</b>	
at 12V, W=					126	74	200	
TF generator rating, Amps =		<b>19</b>	at 12V, W=			228		
(C39PV2)								
<i>Revised 9 Nov 2012: To show safe max for TA, and model of TF generator. Due to space constraints this spreadsheet has had to be split into two sections. To view it in its original side-by-side form, please click here: <a href="http://ttypes.org/images/spreadsheet.jpg">http://ttypes.org/images/spreadsheet.jpg</a></i>								

**Major Electrical Components – standard**

	<u>Distributor</u>	<u>Control Box</u>	<u>Dynamo</u>
TA	DK4A	CJR3	C45-NV (3 brush)
TB	DKY4A	CJR3	C45-NV (3 brush)
TC	DKY4A	CF91/RF95	C45YV/3 (2 brush)
TD (early/late)	DKY4A/D2A4	RF95 or RB106/1	C39PV (2 brush)
TF	D2A4	RB106/1	C39PV2 (2 brush)

bright sunlight.

## Lighting

To improve the feeble glow-worm bulbs on the dashboard and inspired by Bob Butson's suggestions in an earlier article (ref. TTT2 April 2012 <http://ttypes.org/ttt2/the-resurrection-of-ta0844-part-4>), I converted the dash bulbs to LEDs, which are much better. I also use halogen headlight bulbs, but retain standard bulbs elsewhere for now, although this may change as LED technology improves.

**Note re. Ignition Warning Lamp** – MG designed this to take a 2.5V 0.2A MES (Miniature Edison Screw) bulb, but after blowing several of these I discovered that the instrument restorer had rewired it to take a 12V bulb – this now works fine.

I prepared a spreadsheet some time ago to record the technical details of the lighting changes (included in Bob's latest article and repeated here for completeness, with a couple of tiny changes). Also listed in a table are the Lucas part numbers for the main electrical components for TA-TF. *(Both spreadsheet and table are reproduced on the previous page. Ed)*

### Suppliers (usual disclaimers)

Wiring Looms: Autospark  
Electrical components: AES  
Side/tail lamps & internal conversions: SVC

My thanks go to Bob Butson, Stewart Penfound and Brian Rainbow for reviewing this article. Brian has added some comments which I thought useful to pass on as is:

(1) Re - fitting a two brush dynamo and regulator/cut-out to suit: You could stay with the CJR3 but get it modified to have a solid state cut-out/regulator, several UK firms can do this. Alternatively fit an RJF50 cut-out/regulator (as fitted to MG VA etc) that looks externally the same as a CJR3.

(2) I am not sure that the Lucas DKY4A distributor has the same advance curve as the DK4A 405494 distributor fitted to the TA as standard. Accuspark now produce an electronic conversion mounted on the correct base for the DK4A, available in positive or negative earth models.

(3) The 25 Amp inline fuse added to the main power input to the dash is not really necessary. I only advocate using the in-line 25 amp fuse connected to the main battery feed whilst testing all electrical circuits after fitting a new loom. It is easy to get a wire inadvertently earthed and end up burning out a new loom. *[I still find this fuse useful as it provides a quick disconnect to the dash, along with the multi-connector mentioned in the article, see Figure 2. Perhaps I should downgrade the 35A fuses in my RF95 Control Box to 25A, but the Box came with 35A so I will see how they go long term first – Ian].* **Ian Linton**

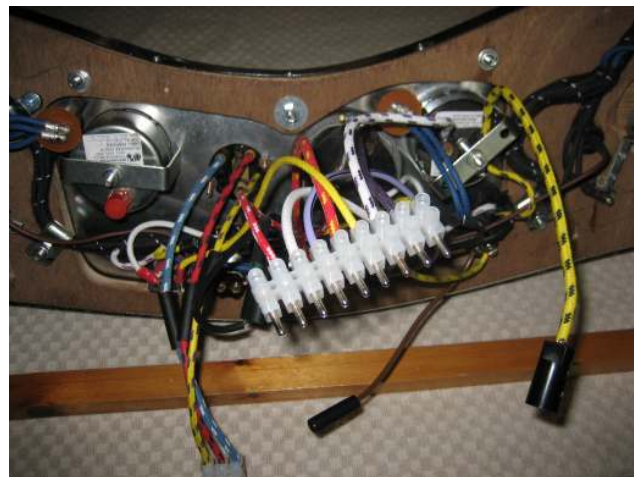


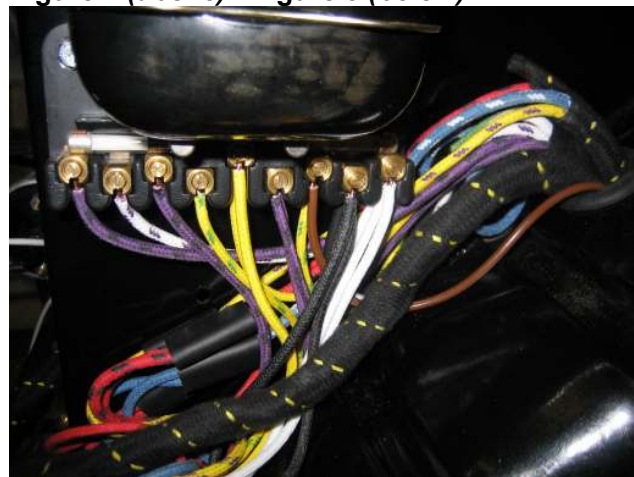
Figure 2.



Figure 3.



Figure 4 (above) - Figure 5 (below).





**Above:** Rick Waters (driver) and Bob Beale (passenger) in TC7881 at Sears Point Raceway (now known as Sonoma Raceway) in California. **Below:** TB0607 on a summer's day in Sweden. Leif Holmstedt restored this car after it had spent 30 years languishing in a barn. Original UK registration was EWM 158.

