

Totally T-Type 2

ISSUE 3 - DECEMBER 2010

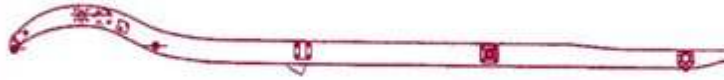


TA2889 with Great Gransden windmill in the background



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THE EDITOR

John James



Hello! Quite a few of you know me and I have met many of the UK readers (and some from outside of the UK) but lots of you don't, so here's a 'mugshot'.

Having got this third issue of TTT 2 under my belt I'm looking forward to the six issues in 2011. I do so with renewed confidence, thanks to the many messages of support which have been received. It was a bit of an act of faith when I launched the first issue of TTT 2 back in August. I had severed my links with the MG Car Club and had left behind a successful and highly regarded magazine (TTT) which I jealously guarded as "my baby". However, "my baby" wasn't really left behind; the infant came with me to pastures new and what's more, lots of you voted with your feet, contributors and readers alike, and joined with me!

So it's a 'thank you' for wonderful support and for financial contributions (more of this later) and a special 'thank you' to my son, Stephen for developing the website and generally keeping me (a real computer "dummy") on the straight and narrow. I know that he has lots of ideas for the future development of the website and if I can sit him down for long enough when he returns from Japan in early December, before he goes out to Thailand in January, we can make some real progress.

At the time of penning this editorial (19th November) we have 875 Internet "subscribers"; we also have 20 'hard' copy subscribers, of which 5 are outside of the UK. The 'magic' total of one thousand subscribers is currently eluding us but we will get there; of that I am absolutely certain. When one considers that we have built up this number of subscribers in a period of four months from a standing start, then I reckon we have done pretty well – we must be doing something right!

Donations currently stand at £242.57. Included in this total are three amounts where I have supplied spares - head gasket sets {2} and a Bob Grunau oil filter adapter {1} - and purchasers have sent me some extra cash over and above the price asked for. To all who have sent donations and to those who have paid more than the asked for amount for 'hard' copies I heartily thank you.

Although I am no longer a member of the 'T' Register I have indicated that I am more than happy to publicise their events in TTT 2. Here's one that will be with us before we know it:

The 'Register is holding its annual 'Rebuild' event on Saturday 5th March 2011 at Oxford & Cherwell Valley Motor Sports College, Bicester, OX26 4LA. Technical sessions/speakers so far confirmed are:

"T-Electrics Revisited" - update and revision of previous sessions and publications by **Barrie Jones**, with particular emphasis on modernising, improving and upgrading the standard T-Type electrical components, including detail on Distributors, Alternators, negative earth conversions, "electronic" ignition etc.

"Practical M.G. TD" - sessions on Maintenance, Update and Innovation, by **Jonathan Goddard**, based on his recently published paperback book on the transformation of TD 0589.

"Suck, Squeeze, Bang, Blow" - living with modern fuel blends in the T-Type XPAG/XPEG (and other classic engines), by **Paul Ireland**, who has been carrying out much personal investigation and research into the effects of "modern" fuels on XPAG/XPEG engines. Paul will be sharing the results of his latest investigations, and pointing out the pros and cons of various tuning, timing and "blending" solutions.

"So You Want To Be A T-Racing Race Engineer?" a light hearted, but nevertheless, fascinating look behind the scenes at the T-Racing community and activities, by **Iain Rooney**, of Pilot Motorsports and Restorations. Iain is the Race Engineering and Performance Tuning brains behind a number of well known T-Racers and their cars.

Applications, quoting MGCC membership number, email contact address, telephone contact, and postal address, together with your cheque for the appropriate amount (£25.00 for MGCC members, £32.50 for non-members), should be mailed to Peter Cole, 8 Aldbourne Drive, BOGNOR REGIS, West Sussex PO21 4 NE. Tel: 01243 267234.
Cheques payable to Peter Cole, please.

Just enough space to wish you the very best for the coming festive season and the New Year! We live in a *topsy turvy* world and no doubt some of us would like to turn the clock back a bit, but the one thing that binds us together is *our little matchbox cars*, as Michael Sherrell so cutely describes them.

They Don't Make 'em Like They Used To!

In Issue 2 (October) Chris Oswald recalled the day he bought TC7045 from a dealer in 1990. To quote Chris;

"On the surface, my car looked pretty good but the years had taken their toll in a myriad little (and big) ways under the surface, of which more anon".

In a series of articles, which will follow in future issues of TTT 2, Chris takes us right up to where he is now with the car.....

TC7045 on the outside seemed to be looking good for her age (OK her makeup was a bit too thick and her clothes were looking worn, but you would not turn her out of your garage on a cold night)



Then one day she stopped performing (fortunately close to my garage) and the scales began to fall from my eyes. I began a thorough and very intimate examination of the whole car. As I scraped the waxoyl off everything, it was clear that underneath was a world of rust just waiting to get worse,



As time went by, (and believe you me a lot of time goes by when you're restoring a TC) and as I dismantled more and more pieces, it was becoming a regular feature of weekends for me to stagger up from the garage and present my supremely disinterested wife (bless her, she does *try* to sound interested) with yet another sad bit of rusty metal and say "My God, just look at that – and I was four-wheel drifting round Donington (*racing circuit*) sat in this death trap!"



A sample: the cage bolts clamping the front springs to the front axle - me and my eye for a straight line again!

While I was removing the engine – you know, the sturdy 'bomb-proof' XPAG – bits just came off in my hand! Yes, I know that is the standard excuse, but the water pipe had been quietly rotting away from the inside and just snapped – imagine that between junctions on the motorway! Couple that with my discovery of the fact that one of the two front engine mount bolts had sheared, and I was beginning to feel that I had borrowed several lives off my cat.



Remember the mention of Donington? Yes, well, that resulted in four broken spokes.

The brakes? Well, the master cylinder had seen better days –the bore was pitted and it took ages to get it out in the first place. (I heartily recommend the replacement extended nut to enable you to

reach it with a spanner rather than struggle trying to reach it inside the mounting bracket). I had the bore on this (and all of the slave cylinders which had similar pitting) reamed out and fitted with stainless steel sleeves. Brake shoes? – at the rear, oil-soaked; at the front worn down to the rivets.

I dismantled the shock absorber links – they were held together with washers and split pins, hiding the fact that as far as the bushes were concerned, the rubber had long since hit the road. I had a problem even moving the shock absorber arms as they had frozen through inactivity because the movement was being taken up within the loose link joints. So, effectively there was no operating shock absorbing system apart from the spring in the tyres – which, of course were wearing unevenly because they were not properly trued due to the 'dicky' spokes (you can almost play a tune with the different tones the spokes make if you tap them)

The back axle?no, I won't bore you. If you don't know what I'm talking about, ask any TC owner.

Wiring? – a mysterious concoction of wires not of the original colour coding all wrapped in black electrician's tape – no metal ducting anywhere.

Brake lights? No, the switch was full of black gunk. Where did it come from? You guessed it – again ask any TC owner about engine leaks.

To her eternal credit, however, the stub axles and the pitman arm, passed their crack-test with flying colours.

I never intended to end up with a total dismantle and restoration but time and previous owners had taken their toll. I could not responsibly cobble her back together, once I knew what was wrong with her, so total makeover it became.

Editor's Note: The 'horror story' continues.....

When You Give a Mouse a Cookie

When you take a critical look at your beloved chariot and think "Hmm, beginning to look a bit tired old girl" - beware! Once you begin to look, you may find one thing after another and it can be a slippery slope to a complete strip-down. I know; I was that soldier.

Take another look at the photo of TC7045 in my "Don't get married on a dare" article in October's TTT 2. As she went round corners, a discernible list in the body appeared and so I decided to look to see what the problem was. I took out the internal trim – finished in a gruesome brown material which I thought may have been put in during a previous restoration. In later years I have seen photos of other owners' cars with a similar interior – how many are there out there? Could it conceivably have been a run from the Factory

when supplies of leather ran short? When the brown top colour wears off, it goes a pale blue. But I digress.

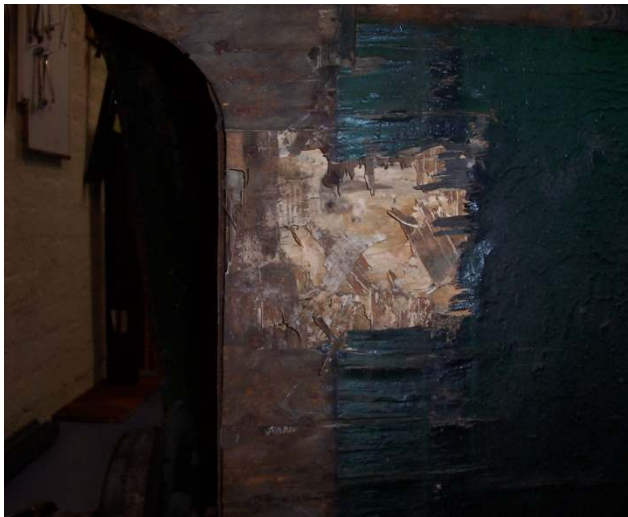
This is what met my horrified eyes!



I always thought it was the magical pixies on the Abingdon shop floor who built the frame out of seasoned ash – not Bob the Builder with a bucket full of unidentified rubble.

Oh, dear, oh dear! If the bit I could see was like that, what was the rest like? So I took the panels off and found this.....





almost every stick in her poor old body was rotten – in some places by damp and in others riddled by burrowing insects.

No wonder the body was leaning over!

The diff frame only had three pieces – two sides and rear and they were paper tubes – the centres having been eaten away by woodworm. The diff ramp appeared to have been made using a hatchet on a piece of packing case. All of the steel screws holding the frame together were rusted and the wood around them rotted away, so I could simply pull them straight out either with my bare fingers or at their most tenacious with a pair of fine nosed pliers.

As you can see, I photographed every step, knowing I was bound to forget how to put it back together again. You simply cannot take too many pictures from every angle. Bet your boots that the one thing you have not recorded pictorially is bound to be the very thing which has you scratching your head years later. My garage floor was littered with powdered ash and rust. Sherrell says never throw anything TC away – do you know I seriously considered putting all of it in a bin in case I had missed something and actually swept up some crucial pin, bolt, washer or nut which can no longer be sourced. I stopped short of being quite so obsessive, but I do have bags of all the original rusty screws, rotten felt and other broken bits of wood faithfully labelled.

Oh, well, I said to myself, it's a big job getting the body sorted out but I might as well totally take the frame apart and rebuild it - at least I've got a nice, solid, mechanically sound chassis and running gear to put it back on to....Yes, you've guessed it.

Once I stood back and surveyed the rolling chassis which had been revealed in all its nakedness, I knew there was more to come.....and come it will, next time.

Chris Oswald

Ed's Note: I can empathise with Chris concerning "a discernible list in the body" I had the same experience when my J2 was on the road – and yes the J2's body literally fell to pieces when taken off!

A "Dash" of Originality for the TC

Recently I had the good fortune to study TC4931, Jan 1948. Maybe just another TC? Not so. It only has a total of 9128 miles and is a time capsule for TC originality.



TC4931 Original Miles

As I looked over the car in awe, my eyes locked on to the dash panel. This could not be right! According to multiple publications, this TC control panel does not have the correct finish for being installed on a Rexine dash. And then, another problem! Rexine panels were not introduced until mid-TC5XXX. Something is wrong.



Late rexine w/early black control panel (TC4931)

To help solve the conflicting facts, I contacted with the Whitworth Shop, Novelty, Ohio. (The Whitworth Shop has been restoring world class T-Series dash panels for years). According to the review of historical records of original panels received by their shop, the "urban legend" of the control panel finish changing from black to gold at the same time the dash panel changed from wood to rexine is wrong. In order to clarify, let's review the sequence of changes to the TC dash as it transitioned from early to late.

Dash Panel: The early dash was walnut veneer and transitioned to the rexine dash between TC 4868-4926 (Feb 48). The rexine color matches the interior color.



Early wood w/ black control panel (Whitworth Shop)



Late rexine w/ gold control panel (TC7670 EXU)

Control Panel: Early control panels were black with white lettering. They changed to a painted gold finish with black lettering between TC6889-6909 (Oct 48). This was 8 months after the dash panel change from wood to rexine. And then there was a 3rd control panel change for the EXU. The instruments themselves were relocated on the panel. It also had the gold finish but there was no lettering, just plain.

Control Panel Fasteners: There are 6 specialty bolts that hold the control panel to the dash. They were finished black to match the black panel. When the panel changed to gold, the fastener finish also changed to gold. But wait! This was only for a very few early gold panels. Abingdon chose to revert back to the black finish for the gold panels through the end of production.

Map/30 Lights: The base plate finish always matched the control panel finish, black then gold. Also, the screw heads were always finished the same as the control panel bolts.

Dash Panel Fasteners: (Item of interest) There were different fasteners used between the wood and rexine panels. The wood dash used a #8 slotted raised (oval) head wood screw to secure

the dash panel to the sub-fascia, no finish washer. The rexine dash used a larger #10 slotted raised (oval) head screw with a finish washer. This later fastener set is often seen on wood dash restorations, which is in error and can cause damage to the wood when tightened.

So, TC4931 is exactly correct and truly original as stated. It was one of the very first rexine dashes and yet still sports the black finish control panel and map lights. If you find evidence that contradicts any of the above findings or helps to narrow the transition windows, I would like to hear from you.

Time to dash! Doug contact: doug@fromtheframeup.com

(Note: TC4931 was recently purchased by Steve Landry, Phoenix, AZ. Thanks Steve for sharing).

Ed's Note: Thanks for another really good article Doug. As usual, Doug's articles are meticulously researched. I'm planning to do a feature on his business for the February issue. Doug tells me that he is now very close to being able to supply every single part for the TC. This is a tremendous achievement when you realise that Doug only set up his business in late 2007!

DISCLAIMER

'Totally T-Type 2' is produced *totally* on a voluntary basis and is available on the website <http://ttypes.org> on a *totally* FREE basis. Its primary purpose is to help T-Type owners through articles of a technical nature and point them in the direction of recommended service and spares suppliers. Articles are published in good faith but I cannot 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.

Practical M.G.TD Maintenance Update and Innovation.

Jonathan Goddard's book, titled as above, is selling well and copies have been dispatched to customers worldwide. The book costs £6.99 with postage costs being £0.81 (UK), 2.25 (EU) and £3.75 (Rest of World). The book can be ordered using the following link <http://shop.ttypes.org>

"Just received the copy of the Practical MG TD book by Jonathan Goddard that I ordered. It is a great source of information on the TD and excellent value at less than £7. Well worth the money!"

A satisfied customer.

A Bonnet (Hood) Rest

When I bought my TC about four years ago, I found a curious item tucked away behind the driver's seat. It was a short piece of what looked like plastic water pipe, of the overflow variety. Attached to one end of the plastic tube was a length of stiffish wire ending in a metal hook. With lots of other things to think about following my return to T-Type ownership (having sold my TA some 30 years prior), I didn't pay it much attention. However, having learned the hard way that one never throws away anything associated with an MG, I left it behind the driver's seat.

A few weeks later I had reason to take the car back to the garage from where I had bought it. The mechanic asked whether I had thrown away the plastic tube. On retrieving it from behind the seat, he surprised me by using it to support the bonnet whilst he worked on the faulty control box!!

Since then, I've found it invaluable. It supports the open bonnet safely allowing a greater degree of access than with the bonnet merely folded and importantly, ensures that the paintwork isn't marked by repeatedly folding the bonnet back on itself.

The device is simplicity itself to make. Mine is a piece of plastic tube around three quarters of an inch (19mm) diameter and one foot eight and a half inches (520 mm) long with a groove cut in one end. A length of stiff wire measuring three feet five inches (1041mm) is attached through the non-grooved end of the tube and culminates, at its end, in a metal hook.

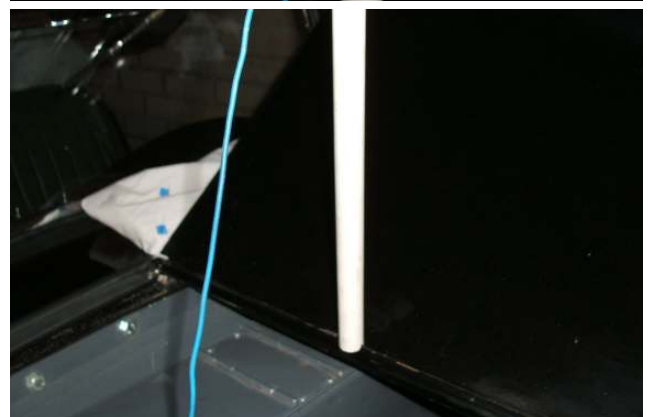
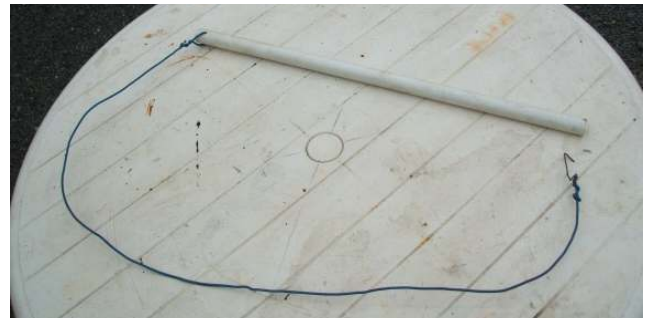
To use the device, sit the groove of the tube on the centre lip of the open bonnet whilst the other end goes over the locating hook of the rear Amal bonnet catch. Next, slip the hook on the end of the wire into the rear Amal chassis lug and gently let the device take the strain. Simplicity itself but a most ingenious invention

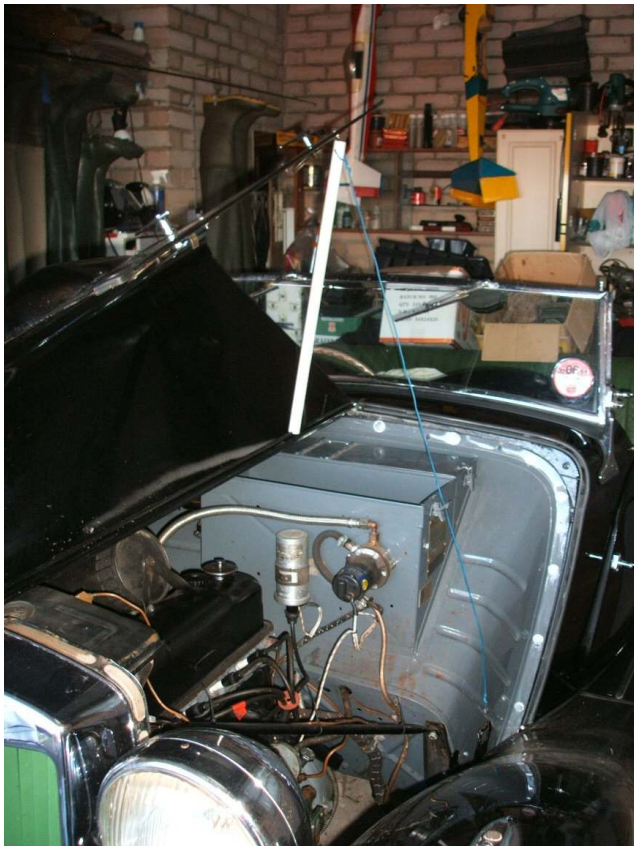
N.B. One could use string in place of wire but I think that stiff wire facilitates easier positioning and releasing of the hook on the chassis lug. What is important is that the groove at the base of the tube is sufficient to allow it to sit securely on the bonnet centre lip. I don't think that the dimensions are in any way critical - my device is very Heath Robinson!! (see below for explanation of 'HR').

It may well be, of course that I'm advocating something that all the world knows about, in which case forgive my ignorance!!

Steve Ashworth (TC3448)

William Heath Robinson (1872 – 1944) was an English cartoonist and illustrator, best-known for the complicated and outlandish inventions he portrayed, which has resulted in his name entering the English language.





The bonnet (hood) support in use in Steve's garage

Now, this is really going to get confusing as Steve has sent me some photos of the hood (as well as the bonnet!) he had made at Pickering's of Bradford, West Yorkshire Tel: 01274 7240000 <http://www.aspickering.co.uk>

Pickering's have been around for over 60 years so presumably would have 'cut their teeth' on our cars.



Steve says that the work (supplying a bespoke hood and sidescreens) is of the highest standard and he would recommend them wholeheartedly. They rebuilt the sidescreen frames and cleaned and repainted both, them and the hood-bow, prior to fitting. His only caveat is to ensure that the exposed nuts on the insides of the rear sidescreen frames need covering, otherwise they cause damage to body paintwork. He placed a

blob of silicon sealant over each nut and they're fine now.



Another recommendation for upholstery and hoods is PJM Motors of Marker Drayton, Shropshire. Tel: 01630 652873. Their website address is http://www.pjm-motors.co.uk/mgb_trim.html

David Lewis found the company most obliging when he called in on them on unrelated business and picked out the hide for his upholstery. Seats and trim arrived shortly thereafter, resplendent in their magnificence. He later ordered a full tonneau cover from the same source, with special features to retain original appearance (despite there having been no full tonneau cover originally).



Replacing T-Type Brake Pipes

By Eric Lembrick

The brake pipes on T-Types were originally made from steel and later replacements from copper. No doubt some cars still have their original brake pipes or copper replacements today. Steel pipes are liable to corrosion, of course, and it is now widely recognised that copper pipes have a tendency to fracture over time as a result of metal fatigue. So if you are rebuilding a car or refurbishing your brakes, it makes sense to use the best material available today, which is Cunifer tubing. Cunifer gets its name from the chemical symbols of the metals of which it is an alloy, namely, copper (**CU**), nickel (**NI**) and iron (**FER**).

Cunifer tubing is widely available on both sides of the Atlantic. A Google search will reveal plenty of sources. It is available in 4.8mm, 6.35mm and 8mm diameters. 6.35mm is correct for the TABC, being the metric equivalent of the 1/4 inch tubing used originally and 4.8mm is correct for TDs and TFs. It is typically sold in 25 foot lengths, which is ample for a T Type.

Whilst ordering the tubing, it is probably a good idea, (but not essential), to order a new set of nipples. Alternatively, these can be reclaimed from the original brake pipe set. The correct size for TABC is 1/4 inch x 7/16 UNF and 3/16 inch x 3/8 BSF for the later cars. 7/16 inch nipples are available with 7/16 or 1/2 inch AF (across flats) heads. The latter perhaps allow more purchase when tightening. You need 12 nipples for a TABC and 16 for the TD/TF. Whilst ordering material have a close look at the date code printed on your rubber brake hoses. If your hoses are any more than ten years old you may want to consider replacing them at the same time. There are three hoses on T-Types, two at the front and one at the back, but they are not the same across the range of cars. The least expensive source of these flexible hoses is, in my experience, the Octagon Car Club who will sell you a set for little more than some suppliers charge for one! If you live in North America and Octagon won't sell to you for fear of litigation I can only apologise on their behalf.

If you have a TABC the final item on your shopping list will be the wire to make the armour coils that slip over the tubing to protect them from potential damage in their vulnerable position under the car. Most commercially available brake pipe sets that I have seen for the TABC use wire that is too thin, the turns are spaced too far apart and the coils are never long enough to replicate the original arrangement. All of the pipes on the TABC, except the longest one that connects the three-way union at the front of the car to the flexible hose at the rear, have armour covering. Most are completely encased, and one is encased for part of its length. Fig 1 shows a section of original pipe encased in

its armour coil. This is a picture of John James' TC0750, 'The Vicar's Car', before restoration began. It shows the section of pipe that crosses the brake pedal shaft on the driver's side of the chassis.



Fig. 1 An original brake pipe and armour coil on 'The Vicar's Car', (complete with 60+ years of accumulated dirt, oil and no doubt some corrosion too).

It took me a long time to find a suitable source of wire to make these armour coils. Stainless steel is the obvious choice to avoid the tendency of plain or plated steel wire to rust, but it needs to be soft enough so that it can be wound easily into the spring-like coils that slip over the pipes. Wire from most sources in the thickness required, 1.2-1.4 mm, (0.048-0.056 inches) is too hard to allow a tight coil to be made using a realistic tension. Eventually I hit on the idea of using 'tying wire', which is used in the construction industry to tie reinforcing bars together before they are encased in concrete. I have found this to be ideal. It is sold in two kilogram reels, and comes in a handy cassette dispenser, designed to be worn on a belt around your waist, so leaving both hands free during the winding process.

These cassettes can be bought from the manufacturer Reelfix from their Ebay store. Click on this link:- http://cgi.ebay.co.uk/Reelfix-2kg-Stainless-Steel-tying-tie-wire-reel-/260318495982?pt=LH_DefaultDomain_3&hash=item3c9c3104ee



Fig. 2 The Reelfix Wire Cassette

I wound coils for my TC using a lathe and a mandrel consisting of a piece of ¼ inch piano wire, about a metre long. If you don't have a lathe I'm sure your local machine shop will wind the coils for you.

Start by making a means of fixing the wire to the mandrel. This can be as simple as several turns of masking or gaffer tape, or a more elaborate fixture as shown in Fig 3. Fit the mandrel into the lathe chuck, with about 150mm protruding from the chuck, the remainder of the mandrel being inside the headstock as shown in Fig 3.



Fig. 3 Winding the Armour Coils

Now fix the free end of the wire to the mandrel, engage backgear, reverse and the slowest speed. Using a pair of tough leather gloves grip the wire tightly, and turn on the lathe. As the wire is pulled from the cassette, keep it under tension and guide it from right to left to form a spring-like coil with adjacent turns touching. When the coil has progressed to within about 10-20mm of the chuck, stop the lathe. Release the chuck, and pull out the next 150mm of the mandrel. If any more than about 150mm of the mandrel is exposed at a time there is a danger that the mandrel will bend due to the tension required to form the coils. Repeat the winding process until you have produced a coil of sufficient length as described in the table on the next page. Beware when cutting the coil from the remainder of the wire in the cassette as the spring will uncoil somewhat as the tension is released. Hold the end of the wire as it is cut and let it unwind slowly to minimise this effect. This slight unwinding is essential to allow the coil to be removed easily from the mandrel and allow it to be fitted over the brake pipe. Fig 4 below shows a length of armour coil taken straight off the mandrel before trimming to length.



Fig. 4 A Length of Armour Coil Ready To Be Trimmed To Length

With a little practice you will be able to produce perfect coils in no time at all. Once you have gained confidence you can increase the lathe speed to quicken up the process. It is a wise precaution to wear safety glasses during this operation, as it is when using any machinery. Make the coils a little longer than specified so that the start and finish can be trimmed off. Keep adjacent turns touching so that the coils can be teased out later as they are fitted to the car. The coils cannot cover the whole length of the pipe with adjacent turns touching because a gap is required at one end of the pipe for the flaring tool to grip it whilst the second flare is formed. This gap is covered by stretching the coil after the second flare is formed and is unnoticeable in practice, except possibly on the shortest pipe on the TABC, which connects the rear three-way union to the driver's side rear brake cylinder.

Now that you have perfected the production of armour coils it is time to try your hand at pipe flaring. T-Type pipes use double flares, so called because the flare is formed in two separate operations. An example of a double flare is shown in Fig 5 below.

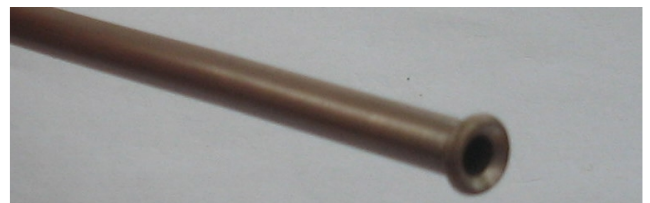


Fig. 5 A Double Flare formed on a piece of ¼ inch tube.

Again it is a good idea to practice on a short length of tube to gain confidence, before making the actual pipes that you will fit to your car. It is not difficult; it is just a matter of gaining confidence, which comes after a couple of attempts.

There are many flaring tools on the market which range in cost from about £25 for a basic tool, up to around £100 for a 'professional' version. I have used a model sold by Automec, whose list was included along with Brian Rainbow's article, in August's TTT 2. The tool is shown in Fig 6 below:



Fig. 6 The Automec Flaring Tool suitable for both 4.8 and 6.35mm tube.

Again, the internet comes in handy here, this time in the form of YouTube. Search for Fedhillbrakeline or click on this link:

<http://www.youtube.com/watch?v=OeFLD5blen8>

and you can watch a video demonstration of one of the many types of double flaring tools. It gives you an idea of how easy it is to make a perfect flare.

Now for some tips - I learnt the hard way:

- When making brake pipes it is a good idea to start with the longest one first. That way, if you make a mess of it, you can cut off the flares and use the remaining tube to make the next longest pipe. If you start with the shortest pipe and make a mess of that, it is scrap.
- Another useful tip is to make absolutely sure you have the armour coil and both pipe nipples (the correct way around) on the tube before you form the final flare. It is not easy to fit either the armour or the second nipple once the second flair has been formed! If you do forget (and I have to admit to doing so myself) again you can cut off one of the flares and use the remaining tube to make the next shortest pipe.
- Note that as a result of forming the flares at each end of a pipe the tube 'shrinks' in length by a few millimetres each time. When making your practice flare, measure the length of the tube before and after forming the flare(s) and note how much it has shrunk. Add this amount to each pipe to obtain an accurate finished length.
- Finally, it is important to remove all the burrs from the cut end of the tube; otherwise you won't get a good flare (see next para for advice on how to do this).
- This is the method I use. Firstly cut the tube to the length specified in the table*, plus a shrinkage allowance determined by the tool you are using (see note above about calculating the shrinkage). Use a fine-toothed junior hacksaw, keeping the cut square to the tube end. Then with the tube horizontal, file the cut end with a fine file to remove the saw marks and the burrs from the cut. Then deburr the internal wall of the tube with a drill bit.
- Finally suck out any debris left inside the pipe with a vacuum cleaner. This should be done from the end of the tube being worked on, to avoid drawing the debris along the full length of the tube where some of it could remain.

* Table follows.

Table 1 Brake Pipe Lengths for TABC

From - To	Finished Length	Armour Coil
Front 3-way union to rear hose	1890 mm	None
Master cylinder to LH hose	1020mm	Full length
Front 3-way union to RH hose	765 mm	Full length
Rear 3-way union to RH rear wheel cylinder union	740mm	340mm*
Master cylinder to front 3-way union	740mm	Full length
Rear 3-way union to LH rear wheel cylinder union	395mm	Full length

NB: LH & RH as viewed from the front of the car.

*** Only the RH portion of this pipe from the wheel cylinder union to the fixing clip is fitted with an armour coil. The section looping over the differential is unprotected.**

Before fitting the armour coils and forming the second flare it can be helpful to form the bends in the end of each pipe that is to be bent around the tightest radius. This is generally the ends of the pipes that connect to the three-way unions or the rear wheel cylinder unions. For really tight bend radii use an external bending spring to stop the pipe collapsing as it is bent. The larger radii can be formed easily by hand after the pipe is complete. This applies particularly to the TABC, which uses the larger diameter tube. The smaller tube used on the TD/TF is much easier to bend as they are fitted. Don't bend any of the pipes closer than about 100mm to the end before the final nipple is fitted because the nipple will not fit onto a curved pipe. Fig 7 shows an example of a finished pipe with nipples and armour fitted.



Fig. 7 A finished pipe complete with armour and nipples.

Making your own brake pipes is a satisfying job and can be less expensive than buying commercial brake pipe sets, especially if you can borrow or hire a flaring tool. You will know the tube is indeed Cunifer, there is no debris left in the pipe to damage the delicate brake cylinder seals and the coils look just like they did when your car came off the end of the line in Abingdon all those years ago.

Please note: Brake pipes are a safety critical part of the braking system of your car. Do not attempt any work on your braking system unless you are competent to do so. Check for leaks after bleeding the brakes before you use your car on the road. If you are unsure always seek professional advice.

Regards,

Eric Lembrick ericlembrick@gmail.com

Ed's Note: Thanks Eric for a really useful article and the links you have given are particularly helpful.

Whilst we are on the subject of brakes there has been some off-line correspondence arising from Brian Rainbow's article in the August issue (Issue 1). This has centred around the mixing of Glycol (DOT 3, 4, 5.1) and Silicone (DOT 5) brake fluids, and the use of methylated spirits for cleaning the system.

Who better I thought to seek advice than from **Barrie Jones**, TD/TF Technical Specialist for the 'T' Register!

Barrie commented as follows:

"There is a lot of anecdotal evidence that old rubber cups impregnated with DOT3 or DOT4 can swell up if they come into contact with DOT5. Therefore, it is important to replace them when converting to DOT5. Even then (according to my friends at Nelson Brovex*), you run the risk of slight swelling.

Five years ago I converted my TF from DOT3 to DOT5 as follows:

- 1) Flush out the entire system with denatured alcohol (methylated spirits) in order to remove all trace of old brake fluid.
- 2) Blow out the denatured alcohol with compressed air, leaving the system open to the air for several hours so that any residue can evaporate
- 3) Strip the entire system down, replacing every rubber component
 - Master cylinder cups
 - Slave cylinder cups
 - Flexible brake hoses
- 4) Fit a slightly thinner main cup inside the master cylinder

My TF tends to hibernate over the winter, and every spring I had the ritual of 'freeing off' the brakes. Since converting to DOT5 I have never had any problems with corroded pistons.

It really was 'fit and forget'."

*Brovex Nelson is a supplier of automotive components (including brake hoses and brake cylinder repair kits) based in Camelford, Cornwall.

Ed's Further Note: If you've renewed the brake pipes on your car you will probably have renewed or overhauled the wheel cylinders and master cylinder.

A couple of years back when I was plagued with leaking wheel cylinders on TC0750 and a wheel cylinder repair kit did not do the job, I decided to buy some new bronze ones from C & C parts in The Netherlands <http://www.ccparts.nl> You can also buy them from the MG Octagon Car Club.

The original wheel cylinders were left on the shelf in the garage (never throw anything away!) and it occurred to me that this was really a wasted resource, since if I was to get them refurbished, it might help somebody else. So I boxed them up and sent them to Past Parts in Bury St Edmunds, Suffolk <http://www.pastparts.co.uk> Telephone: +44 (0) 1284 750729. They arrived back in 'as new' condition. Within a matter of weeks an 'e-mail pen friend' of mine in Poland needed some for his TC so I was pleased to be able to help.

The service provided by Past Parts was very good and the price for refurbishing four wheel cylinders was £185 which included the postage for getting the cylinders back to me. The postage for sending the cylinders for reconditioning was around £9.

So that's most things sorted with the notable exception of brake drums. **Cast iron brake drums for TA/B/C** machined from a modern drum still in production (a Nissan Vanette) can be bought from Brian Thomas of Engineering Solutions in Bexley, Kent. These are the same drums as advertised in Issue 1 (August 2010). Brian's website can be found at <http://www.engineeringsolutionsuk.com> Each drum costs £85, which includes an amount for postage. Brian also does **VW steering box conversion kits**, so he's a handy chap to know.

Up to now, brake drums for the TD/TF (disc wheels) have been unobtainable. A while back I made some enquiries about getting some produced but there weren't any manufacturers 'busting a gut' to take the job on. I hear that the MG Octagon Car Club are looking to get both TA/B/C and TD/TF drums produced. Those of you who are Octagon members will already know this; those who aren't will learn of developments through TTT 2.

In the February issue of TTT 2 there will be an article about skimming TD/TF brake drums and fitting oversize brake linings.

Front Cover (TA2889)

The TA featured on the front cover belongs to Philip Butcher. Philip purchased the car in September 2004 after a chance conversation between his father and John Sole, owner of Bassingbourne garage, when his father was getting his Rudge Whitworth motorcycle MoT tested. The garage owner mentioned that his MG TA had similar Rudge type wheels and that he did not think he would ever find the time to restore it. Philip expressed an interest in the car and John Sole eventually agreed to sell it to him; the TA had been in John's ownership since 1972 when he took it in lieu of a bad debt. Here's Philip's story.....

INITIAL ASSESSMENT

The car had been badly repaired by the previous owner who then passed it on to John. The body had been 'bodged' with pieces of timber, sourced from various bits of furniture and seed boxes, together with copious amounts of body filler; the rear wheel arches had been made of plywood and the complete tub had been primed and looked reasonable.

The engine had a new coat of bright red paint on the block and silver ancillaries. Did this mean that it had been mechanically restored? Not a hope! The one saving grace was that the engine was still the original one and it had not suffered any frost damage that is all too often found on the MPJG block. Back to reality.....the cylinders had been bored to maximum, sleeved and then bored out to max again! The crankshaft mains and big ends had been ground down to 100 'thou of an inch (2.5 mm) undersize.

The car (FRA794) is believed to be one of a batch supplied to the Derbyshire police (FRA 793 was a known Derbyshire police car) and must have done a considerable amount of work to have worn the engine to that extent.

BODYWORK

Investigation of the bodywork revealed the true horrors that were disguised by the filler. A decision was made to get a body tub timber kit and inner wheel arches from Hutsons and build up a skeleton frame and re skin it ourselves; we also made new body side angles and side screen box/tonneau area timbers.

The skeleton body went together reasonably well with the few salvageable timbers from under the scuttle top. The scuttle top was corroded at the usual windscreen mounting points and was repaired and re fitted to the frame.

We then made panels to cover the side/rocker panel and the tricky double curvature rear 1/4 panel

Much wood and metal work was required to repair the doors to make them fit nicely (the original

doors had lower repair panels brazed over the original corrosion with the timbers still in place not a very nice repair as the timbers had caught fire and burnt quite badly!).

Some traditional lead loading around the critical door closing areas and the tub was ready for priming, approx one year to complete and significantly cheaper than a new tub.

It was challenging, but rewarding to get such a major part of the car finished.

ENGINE

The engine/gearbox was next for attention. The undersize crank was a cause for concern and deemed not safe to use as we had heard horror stories about a tendency for them to break when new, let alone with so much undersize!

Fortunately, the ever helpful Brian Rainbow had a short Morris 10 motor, which had a very good standard crankshaft and only needed a light grind to true up.

The engine was taken to T and L Engineering, Elstow for white metaling, re-boring, new liners, pistons, head and block re-facing, dynamic crank balancing and re-assembly. We then had the short motor back for assembly of the other parts.

The M.G camshaft although worn still had 1/8" more lift and a more peaky profile than the Morris 10 one, so we used that camshaft. New guides, valves, springs and rocker shaft were fitted to the head; new cylinder block studs were fitted, also a new timing chain and sprockets.

Some improvement in the oil filtration was provided by using a Mini filter housing and a modern cartridge type filter,

All other ancillaries were repaired as needed.

GEARBOX

The gearbox was sound and only needed new bearings and seals. The clutch had new bearings and a re-corked plate.

THE DIFFERENTIAL / BACK AXLE

This was modified and set up by Roger Furneaux. We fitted new hubs, bearings, drive shafts and Roger's sealed hub nut conversions. All appeared OK, so it was painted and put to one side.

Later in use, we had the dreaded oil leaks from both hubs. which eventually we found out to be running down between the axle tubes where the brake flange is riveted to the tubes, causing the brake plate to rotate slightly and loosen the rivets and allowing the oil to run out and on to the outside of the brake backplates.

This was rectified by removing the diff, dismantling the axle and removing the same out through the wheel arch. The flange was cleaned up, as were the rivets and fully welded round the flange and

rivet heads. This seems to have cured the problem since it was done last year.

THE STEERING BOX

Appeared to be OK, so we brazed a housing on the drop arm shaft to take a modern lip seal.

THE BODYWORK

The wings, splash panel, petrol tank and running boards all appeared to be the originals and had suffered numerous brushes with other vehicles and stationary objects! The worst being the front wing which looked to have hit a post, which smashed the head light (hence the later steel lamp fitted); it dented the chassis cross member and appeared to have fallen onto the top windscreen frame, dented and broke it across the wiper spindle hole!

All spare rear light/mirror holes were welded up. All flanges and wired edges replaced where needed, then all tin ware was blasted and primed.

All the body panels were returned to Bassingbourne Garage for preparation for two pack painting in two tone green (the original black stove enamel was still in places on the wings, and took a lot of effort to remove). It took much puzzling over paint charts to eventually come up with the colours used, the appropriate porcelain green (MG1300 saloon) and cameron green (Rover).

The chassis and engine were now re-united. The original central oil pipes were re-fitted, as were the fuel and copper brake pipes, and a new wiring harness was used.

A new stainless steel exhaust was fitted after much cutting, bending and re-welding. We assembled the exhaust with just the flat gasket, tacked the flange in position on the car, and then removed the exhaust and fully welded the flange to the pipe, and have not had any of the leaks that we had read about on some other cars.



TA2889's chassis, engine and body re-united

INSTRUMENTS

We had the original speedo, but were missing the rev counter, both of which use the chronometric

movements (which is the same movement as early motor cycles) – fortunately, we had a spare motor cycle movement. We supplied these to the instrument repairer, who fitted the rev counter movement into a suitable bakelite case, and fitted new dials etc. (The sale of my 1968 MGB Roadster restoration project, paid for the clocks!!) The other instruments, lights and switches we repaired ourselves.

DASHBOARD

We made a new dashboard out of MDF board and found a very helpful supplier of burr walnut veneer locally (who supplies Jaguar/Aston Martin). We then had a go at veneering the dash, which seems to have worked out quite well for a first attempt.

Next to be fitted was the M.G. grab handle, which I acquired about 20 years prior, not ever thinking that I would have a car to fit it to. The body was then mounted onto the rolling chassis.

UPHOLSTERY

The original remaining interior consisted of the leather covered seat squab, dyed black, but under the folds, originally blue. This was carefully removed as a pattern. Inside the seat cavity was a mouse nest; they had gained access through the rear vent holes, and used the horse hair and paper to make a cosy home!!

A new board was cut to the pattern, broken springs replaced as needed, seat cushion timbers cut and captive fittings fitted. The pattern and timbers were taken to my upholsterer for trimming in green leather. He also supplied and made sufficient piping to run inside and outside the car, and enough vinyl to allow me to cover the wheel arches, and all interior panels.

Panels were made in 1/8" ply wood to suit the car, as I knew that standard panels would not fit our re-made body!!

All sewing was done on my mother's domestic machine, possibly slightly heavier use than it was designed for, but it did it all the same. (I hope that she does not read this!!).

The hood came from Moss, and was good quality and fit. The side screens were made by the upholsterer to suit the car.

ON THE ROAD AT LAST!

The whole car was up and running and back at Bassingbourne for M.O.T. Test April 2009. We drove the car in ever greater radiuses from home, with a back-up vehicle in attendance, until the reliability was proven. It had to be towed back twice before we realised that the old ignition coil was breaking down. A new replacement from Brown and Gammons, and it has been very reliable since.

The car has now done 2000 miles, mostly local runs, but we took it to Silverstone in 2009, and it is now very dependable.



TA2889 at Silverstone in 2009

The finished result as people have commented is "a very pretty car" culminating in an award at Woburn Classic Car Show.

The brakes took some time and filing of the linings to get them to work as they should, but they are now very efficient. It now partly lives up to the **Safety Fast!** motto in that it handles and stops safely, but the fast I am still waiting to find?? Still, I have been told that the pace of traffic was different 70 years ago, and it is a pleasant ride at 50 miles per hour on quiet roads (when you can find them!)

There are still a few outstanding jobs remaining to be done, but I intend to do these this winter.

I sealed the fuel tank with a 'Petseal' solution which we have used on all our motor cycle petrol tanks, but I have noticed that the ethanol in the new petrol has made it flake off, so this will have to be rectified.

SUMMARY

The whole re-build took us 4 1/2 years, and approximately 13,000 hours of blood, sweat and tears, but also a lot of pleasure and satisfaction as well.

Cost of the project I do not know as I think it wisest not to add up the invoices !!!! – but I have a car that has been nut and bolt restored to the best of our ability.

I have many people to thank, most are mentioned in the article, but mainly my father, who gave up 4 1/2 years of his retirement to help and advise me with the project, and now can finally have the use of his garage back, Mind you, he was the one who checked the car out for me, and pronounced it sound, but I did not see it until we picked it up!!

I just hope that he does not send me an invoice for the labour costs!

P.S. The irony of the story is that the wheels which instigated the original conversation were not

and are still not the correct ones for the car year*, but were from an earlier Midget!!

Philip Butcher

* Early TAs (up to chassis number TA1769) sported side laced wheels (as on the Triple-M cars). Later TAs (from chassis number TA1770) were fitted with centre laced wheels (as on the TB and TC).



TA2889 with Lathbury (Buckinghamshire) Church in the background.

Ed's Note: Readers might be interested in the history behind the photo on this page and on the front cover. Here are some brief details:

All Saints Church, Lathbury (pictured above) is said to probably date back to Saxon times although much of present church was built in the 12th and 13th century.

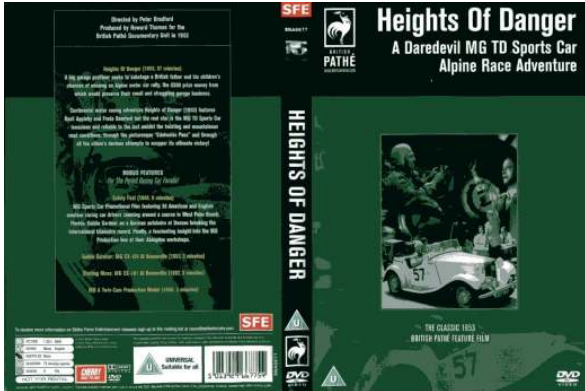
Great Gransden (front cover) boasts the oldest [post mill](#) in England. It was constructed around 1612 and has two storeys, with a flour dressing machine, inscribed 1774, on the second floor. The mill last worked around 1890, and was given to the County Council in 1950. In 1957 the post mill was classified as an ancient monument; following this a restoration project was completed in 1984. The mill still possesses the internal workings and retains its sails. It is available to view internally by arrangement. (*acknowledgement to Wikipedia*)

Further explanatory note: The County Council mentioned above was the ceremonial county of Huntingdonshire, which existed until 1965. It is now a District Council within Cambridgeshire County Council.

BITS AND PIECES!

Sorry about the title, but this page is full of miscellanea! First out of the traps is the following from Ted Hack:

"A 1953 film called 'Heights of Danger' has recently been released on DVD. It's really a film for the older child and the star of it is, without doubt, the TD (GRX 960 I think). It's black and white but shows glimpses of some interesting places back in the 50s including Prescott.



The film itself is only 57 minutes long but there are MG publicity films as bonus features after it, which are well worth having.

Safety Fast 1948 9 mins.

Goldie Gardner EX-135 at Bonneville 1951 3 mins.

Stirling Moss EX-181 at Bonneville 1957 3 mins.

MGA Twin Cam Production Model 1958 3 mins.

It was priced in one catalogue at £14.99 plus postage, but I got mine ex-stock at Amazon, free postage, for £9.99!"

TA Oil Filter Article in the October Issue

Those of you who read the TTT 2 Issues directly on the website (by browsing the contents on the left of the TTT 2 page) will be aware of some follow up correspondence between Brian Rainbow and Bob Butson concerning oil filter and fuel filter housings used on the MPJG engine. Following receipt by Bob of the correct oil filter bracket, kindly sent by Brian, Bob has updated the correspondence as follows:



"Brian Rainbow has sent me an alternative Tecalemit filter bracket. It is identical in external appearance to the one in my article. This one was

also removed from an MPJG engine but it has no drilling for a relief valve. I had no idea when I wrote the article that such a bracket existed. As Brian has pointed out, using this version will be much safer....."

The Essential Buyer's Guide TD, TF, TF1500



This book, written by Barrie Jones, 'T' Register Technical Specialist for the TD and TF models will be available in February, 2011 and will be stocked by us. We will offer the same excellent quality of service and competitive pricing as we have given to Jonathan Goddard's book on the TD, which, at the time of writing, has resulted in us probably selling more copies than our competitors.

Head and Bottom end gasket sets for the XPAG



I still have some head gasket sets for the early and late XPAG engines and also bottom end sets for both. The cost is £47.50 plus £5.41 (UK) postage for the head gasket sets and £21.50 plus £5.41 postage for the bottom end sets. Both sets can be sent for £5.41 postage. These sets are offered on a non-profit making basis and are therefore considerably lower than dealers' prices. Payment can be accepted by PayPal, but I would have to ask for a surcharge (otherwise I would be losing money!). Details from John James 0117 986 4224 jj@octagon.fsbusiness.co.uk

BARN FINDS”

The expression “barn find” conjures up visions of old MGs which have been discovered in barns on farms in the English countryside (I should really say the UK countryside). Two such “barn finds” have recently been discovered and were sold by different auction houses for amazingly high prices. I’m sorry to have to disappoint you but neither was found in a barn on a farm and the expression is frankly a bit of a misnomer.

The most recent auction (12th November) was held at the premises of Jacobs and Hunt Auctioneers, in Petersfield, Hampshire. TA0779 with original engine MPJG 1032 was owned for 55 years by the late Mr. Ivor Kemp, who died in May 2010. The car was in daily use until the mid 1980s and, according to the speedo, had covered 45,827 miles. It was discovered in his garage after his death and was unlikely to have seen the light of day for 25 years.



TA0779 WAKES UP TO DAYLIGHT!

The bidding was extremely brisk at the auction with half a dozen serious bidders and some bids over the Internet. It eventually sold for £12,800 GBP (\$20,350 USD, \$20,800 AUD). However, with buyer’s premium and VAT the new owner would have had to pay quite a bit more.

At an earlier auction (9th October) held at Chudleigh, Devon by Michael J Bowman Auctioneer, TC0683 came under the hammer. This car was last run about 30 years ago and had been in the same ownership for 45 years. It was pretty rusty and would have needed a complete rebuild. What the auctioneer did not know (until I told him) was that this TC was one of seven TCs which were built by the Factory for Kent County Constabulary in April, 1946. Hopefully, this bit of information (which was wrongly attributed in a press article after the auction to the MG Owners’ Club!) might have bumped the price up a bit for the deceased’s widow.

TC0683 was eventually knocked down after some keen bidding for £10,200 GBP (\$16,250 USD, \$16600 AUD). However, I am reliably informed that the successful bidder would have ended up having to pay £11,985 (buyer’s premium and VAT)



TC0683 (HKN 514) AS FOUND, LOOKING SAD!



GUARANTEE PLATE FROM HKN 514

The discovery of HKN 514 has ensured that another ex-Kent Police car has survived. The photo opposite (top photo) shows the seven TCs referred to earlier outside the Factory. You can see registration numbers HKN 511, 515, 516 and 517 on the right hand side of the photo. The registration numbers you can’t see are almost certainly HKN 512, 513 and 514.

Of the seven cars in the photo, three have definitely survived; they are as follows:

TC0683 (HKN 514) car in the UK

TC0685 (HKN 516) car in Western Australia

TC0686 (HKN 517) car in the UK

I would not be surprised if **TC0680** (may have been HKN 511) was also one of the cars in the photo (this car is in the USA) but the link between the chassis and registration nos. needs proving.



TCs for Kent Constabulary at the Factory in April 1946 (*top photo*) and for Derbyshire Constabulary in December 1945 (*bottom photo*).



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