

Totally T-Type 2

ISSUE 22 - FEBRUARY 2014



TC2634, a 'barn find', brought back to life by Frans Sitton.



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THE EDITOR

John James

Welcome to Issue 22, February 2014!

I am now in my fifth calendar year of production of TTT 2 and the time seems to have flown by.

It's worth pausing for a moment to review what has been achieved since the decision was taken in early summer 2010 to launch the totally free bi-monthly magazine **Totally T-Type 2**.

At the beginning of January this year we reached the landmark of 3,000 'subscribers' which surely makes us by far and away the largest circulation magazine in the world, solely devoted to T-Types.

Our website continues to earn plaudits and the free advertising facility is much appreciated. Also highly valued is the *Publications* section and the arrangements we have made from time to time to purchase leaf springs direct from an old-established spring maker.

Our T-Database now has over 5,300 cars with photos which have just passed the 3,000 mark.

We arranged our first TTT 2 Tour in September 2012 and judging by the interest in and the numbers who are coming on our 2013 Tour of the Isle of Wight, we are fast becoming the premier T-Type Tour.

All this has been made possible by a combination of hard work and dedication to the cause with wonderful support from you the readers.

Your support has resulted in record donations of £2407. Tight cost control has kept expenditure to a minimum but we needed to review our e-mailing arrangements mid-way through 2012 and we are now using a commercial package to send out the notifications that a new issue of TTT 2 is on the web.

Complimentary printed copies and postage for sending these out were the main items of expenditure but we still ended up with a net surplus for 2013 of £1770.

With this level of surplus we have decided to pre-purchase five years of e-mail credits for the commercial newsletter package at a cost of £550 and arrange for another five years of website hosting and domain names at a cost of £500.

All this assumes that I'll still be around in five years' time, but T-Types and my Triple-M cars will hopefully keep me out of mischief!

The 2014 Totally T-Type 2 Tour of The Isle of Wight – Friday 29th August to Monday 1st September – 3 nights.

As soon as this issue is 'put to bed' I'll be sending out a 'round robin' to those who have secured places in the Tour hotel and to those who have booked in elsewhere (the Tour hotel having been

fully 'spoken for' as soon as the Tour was advertised).

Three crews have booked accommodation in 'The Grange' <http://www.thegrangebythesea.com> and another crew have booked in at 'The Keats Green' <http://www.keatsgreenhotel.co.uk>

The 2015 Totally T-Type 2 Tour

The 2015 Tour will probably be based in North Yorkshire – further details to follow in the April issue.

An opportunity to 'star' with your TC!

Participants on the Tour of Rutland will know that we have been very supportive to a Film Production Company who are making a TV programme, scheduled to appear later this year, about the iconic TC. Indeed it is highly likely that scenes from the Rutland Tour will be shown.

The programme will feature, *inter alia*, the restoration of a 'barn find' TC. This is now nearing completion and should be finished by the end of February.

The finale to the programme will be the 'unveiling' of the restored car, hopefully on **Saturday 8th March**, to be joined by two TCs which are in regular use. Then on **Sunday 9th March** a further twelve TCs (including the two Saturday TCs) are invited along. The purpose is to show the programme's fully restored TC to a group of like-minded owners and to capture some group driving convoys and sequences, with interviews with some of those taking part.

The dates still need to be confirmed (it will surely have stopped raining by then!) and the likely venue will be the Hertfordshire area.

I hope that we can really get behind this event and I will try to be there on both days. If you would like to come along please contact me via the website contact form, or phone 0117 986 4224 or e-mail me direct at [jj\(at\)octagon.fsbusiness.co.uk](mailto:jj(at)octagon.fsbusiness.co.uk) {please substitute @ for (at)}.

Hopefully there won't be any low flying aircraft!

Signs of the Times



Front Cover TC2634

Frans Sitton tells the story of his TC restoration which, in his own words, he describes as "The ultimate barn find".

"Throughout my life I have been busy with cars, especially MGs, as a hobby.

In spite of liking my work as a graphic designer for a newspaper very much, I had to retire at 58½.

First in my retirement I bought a driving MG TF, imported from USA and restored it over a period of 3 years – a 'nut-and-bolt' restoration. Then I decided I wanted to restore an MG TC, which I think is the most beautiful model of MG, and the ultimate sports car. I had already owned 2 TCs in my life, but I had never restored one.

Some 5 years ago I placed an advert via the T-Register, "Wanted a TC for restoration, barn find preferred".

A couple of weeks later I got an answer from a guy, (whose name I shall not mention) who knew of such a car for sale. For this information he would like me to pay the sum of 500 GBP! Well, it's not my way of doing business, but after some haggling he grudgingly accepted the sum of 100 GBP and pointed me to an advertisement in the Lincolnshire Car Club website.

It was TC2634, built on 24th April 1947. The owner, Mr Heron, then posted with the RAF, bought it in 1966, drove it till 1969 and then stored it in his shed, with the intention of restoring it.

Well, I agreed a fair price with him over the phone and we discussed arrangements for collection. As he had to do a welding job on a pipe-line somewhere in Africa, I could either come in three weeks time, or wait for about 4 months. Keen to collect my purchase I opted to come sooner rather than later.

The homecoming

Just at this time it began to snow heavily in England. I had my doubts about going, but didn't want to wait for 4 months, so, on 20 December I hired a double-axle trailer, and booked for the Zeebrugge-Hull ferry. Fortunately, from Hull to where the MG was situated in Lincolnshire, was not so far - about 110 km.

I arrived in Hull the next day and had to find a village called West Torrington. Everywhere there were mountains of snow around me. To make matters worse, I found out my navigation system was not working! Fortunately I had also printed out the route on paper.

The snow was becoming thicker and thicker. Every time I saw someone on the road I jumped out to ask for the right direction! However, about 15 miles from my destination I got stuck in a snowy corner of a road. I had intended to phone Mr. Heron to

ask him if he could possibly come and meet me for those last few miles to Torrington, but noticed my phone was also not working!

Once again I was 'saved by the bell' for, in one of the gardens I noticed a man busy clearing his pathway. He was so friendly to make the phone call, and after half an hour I met Mr Heron and went to his home, after freeing my stuck car from the snow.

Well, Mr Heron was certainly living in the middle of nowhere! At his estate I stopped after a little hill in the road. I needed to turn the car trailer around and then drive the car back to re-connect it, in order to be able to face the right way for the return journey.

We had a quick tea and showed each other some pictures; Mr Heron told me then that in early years he used to race with his friend Syd Beer, a well known name in MG circles.

Although there was enough time, I was in a hurry, because I had the suspicion that it would be a long and slow trip back to catch the ferry. We went to his shed, and there was the MG.....



TC2634 awakes from its slumber after 39 years!



With the help of Mr Heron's son, we managed to get the chassis with engine still fitted and what was left of the body onto the trailer. The rest of the remains of the TC were loaded into my car. I need not have worried about grip in the snow for the car was certainly very heavily weighed down!



TC2634 loaded on 'the ambulance' in thick snow for the return journey

Can you imagine? A Renault Clio, with the double axle trailer, carrying the remains of the MG and the Clio itself stuffed with the rest of the parts! I even had to leave some things behind; the hood, with several wee mouse holes in it, and some of the eight wheels. Afterwards, not one of the wheels I brought with me was usable. Some were side-laced and very rusty. Also, some years ago there was a burglary in the shed, and one of the headlamps and the radiator shell were missing. Fortunately the V5 was intact with the registration book.

OK, off we go! Mr. Heron was again so kind to accompany me several miles back on the road. We first had to shovel the snow away, before I could pass over the little hill. And slipping and sliding we went back on the little roads back.....

After a good few miles we said goodbye to each other and I went on myself, frequently asking for confirmation that I was heading in the right direction. Then it began to snow again.... I had the luck of driving always in the right direction. After a few miles the road turned into a highway and the snow into a little snowstorm. The side of the road was littered with abandoned cars; also everywhere police cars with flashing roof lights. I expected they would stop me, with this heavy slippery load and would have to spend the night in the snowstorm, but they did left me driving on! With sweaty hands, slipping and sliding I reached the Humber Bridge near Hull. There the snowstorm stopped.....

Well, I believe I must have had a Guardian Angel! If I only had known this, it would have been wiser to have taken the 4 month option!

I drove to the first ferryboat I saw. Well, it was a very long steep way going up the ferry. I waited some time, 'till everyone in front of me had gone, ignoring the waving personnel at me! At last, I accelerated the most I could, and raced up the gangway. I just made it till the last 10 cm!! Again that Guardian Angel!

On the ferry I got the key of my cabin, to find it was already occupied by a lady! Went back to the purser, to figure out I was on the wrong boat going to Zeebrugge instead of Europoort. I had arranged this in order to drive on the Dutch highway back, rather than the small roads in Belgium. Too late to get back in my car; it was surrounded now by other cars, so I had to stay, and got another cabin from the purser

The next day I reached the coast of Belgium, and off the ferry I went. Unluckily of course there was a diversion, and I had to drive home over narrow roads with small icy cobblestones, which they call in Belgium "Kinderkopjes". (Free translated in English "little childrens' heads".....)

Well, after hours again I reached home, completely 'knackered' after this adventure, where my wife was waiting for my safe homecoming.....



Home at last! – that's my wife, inspecting the contents of the trailer wondering "What on earth has he bought now?"

The restoration

Very quickly, the remains of the TC were taken apart, to be followed by weeks of cleaning, de-rusting, priming, coating, etc. New brake linings, front and rear cylinders, master brake cylinder, etc. Then the missing radiator shell..... Once I bid on a shell on eBay, but stopped at 600GBP. It was then sold for 1900GBP! After some time I found the shop of Andy King, who beats the shells out of copper at a reasonable price. I ordered one - only to find out afterwards it was 11 mm too wide for my bonnet, so I had to shorten it on both sides by 5.5 mm.

A friend of Mr Heron, who was a carpenter, cut out some years ago all the ash parts of the frame, 1/3 too thick. The metal of the body tub was badly rusted. Very luckily, I managed to buy a complete body tub in eastern Belgium for a reasonable price. Panelling was very good, but the ash frame was unusable! So I had to adjust the ash frame to fit the panelling.

There was a new frame for the tub body with the car, but the measurements were so bad, I decided to use still the old frame sides.



The Belgian body tub – sound panelling but shame about the timber!



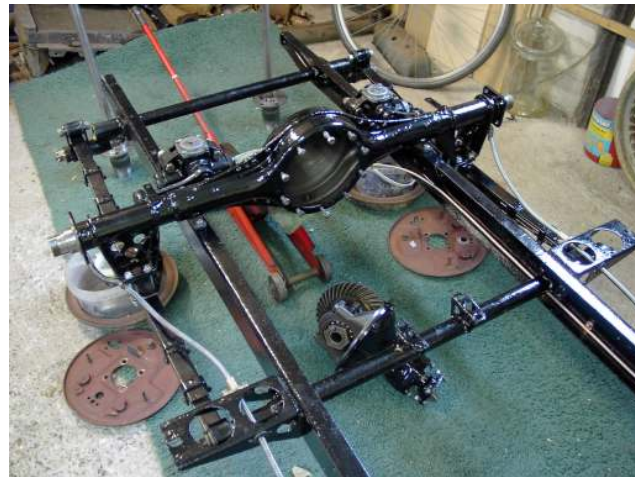
The rusty chassis.



The restored chassis.



Frans at work getting the body timbers right.



Rear end of chassis taking shape.

I had to weld in a new battery compartment, and finally mounted the tub to the chassis, which fitted miraculously well!

Next came the restoration of the carbs with rebuild kits, cleaning, polishing, and adjusting the jets. In the filter housing I replaced a K & N filter, to the specifications of Ray McCrary in the resources section of MG T-ABC's online.

Ed's note: The reference is <http://www.mg-tabc.org/library/T-airfilter-2-K&N.htm>

There is also the following: <http://www.mg-tabc.org/library/T-air-cleaner2.htm>



Carburettor restoration from this to this!



A firm in USA modified the old non-functioning coils of my regulator RF95/2 to modern electronics. Unfortunately, the case got broken in the post.

Ed's note: Classic Dynamo and Regulator Conversions in the UK also do this work <http://www.dynamoregulatorconversions.com>

Both the starter and the dynamo were overhauled.

The engine, complete with head, oil pump and distributor, was sent to a well known MG-specialist for rebuilding. New pistons, 0.060 thou, New shaft, con rod bearings, timing chain tensioner, starter ring gear, cam followers, etc. etc. ,

The radiator was leaking badly so it was re-cored. To aid cooling, a plastic MGB fan was fitted - much lighter, with 6 blades. A heat shield of my own design was also fitted.

In the back axle I used the well known seals of Roger Furneaux, so I am sure now that no drop of oil is allowed to leave the back axle without my permission!

I replaced the rather floppy Bishop Cam for the VW conversion rack. Also, mounted castor taper shims between the front axle and the springs, but decided to remove them again, because I didn't like the steering adjustment afterwards. After resetting the toe-in with half an inch, the steering is perfect now.

An important stage in the restoration was the first start of the rolling chassis. You can watch this on YouTube:

<http://www.youtube.com/watch?v=b1b2qBSPc0>

The task of re-wiring the car with a new loom was initially a bit daunting but all went well, and everything worked OK in the end. I used the well known Lucas DB10 conversion for the indicators/stop signs.



Starting the re-wiring.

On eBay I succeeded in buying the correct headlights, early type, with the U-glasses. Adapted the bulbs to halogen ones. For the tail-lights I used the right D-lights.

The painting

After having arranged for my MG TF to be professionally re-sprayed, I decided that I would love to do the painting myself this time. Well, it lasted a whole summer to finish it. After restoring the badly worn front wings I had to weld reinforcing sections on the lamp brackets, and did a lot of tinning in several places. I started with several layers of primer, always sanding with paper grain 280, and the last layer with 500, only using dry paper.



Preparation is everything – as Frans knows....

I sprayed the colour with 4 layers, then about 5 layers of clear coat. The temperature has to be at least 24 degrees Celsius, for a good result. So this limits the spraying to about 3 or 4 suitable months of the year. I used ordinary spray cans, from the paint shop. Well, quite a lot of them!



Looking good!

If the colour is just thick and equal enough then you can build it up with the clear coat. The more layers the deeper the shine. Always go in one strike from one to the other side. Not too quick, and not too slow. After spraying, leave the garage, close the door, and return after half an hour, to carry on. And hope that no winged insects have landed on your job!

Well, I think I did a nice job for an amateur. (*You certainly did!*) – Ed.

The trimming

The hood, side screens and seat trimming I bought at a very reasonable price at PJM-Motors.



A mouse (probably several mice) had taken a fancy to the seat back.



TC2634 shows off her smart new hood and side screens. That's Frans' TF alongside with the rather agreeable colour scheme.

To complete the rebuild I ordered new tyres and wheels from Moss (made in India....).

Finally, I had to go to the Dutch equivalent of the DVLA for a registration number, which was obtained without any problems. I could now start to do a few first little trips in TC2634. Now it was back on the road and in use after sleeping for 44 years in a shed. At first I drove very cautiously; as confidence grew I tried some longer trips. (always hoping that I tightened all the nuts and bolts well!).



At the Dutch 'DVLA' for a registration number.



Front of the car, of course with the beautiful badge of T-ABC! (*third from left – Ed.*)



Above: TC2634 when last on the road in 1969 just before it went for a 'little sleep' in Mr Heron's shed. Below: TC2634 as she is now in front of the channel of Terneuzen.



OK, that's my story. Needless to say, I am very proud to bring back this beautiful car on the road. From all the restorations in my life this is the most beautiful and joyful, and I think also the last one. Hope, I will be able to travel for many years again with much joy with my TC!" **Frans Sitton**

Keeping it on the straight and narrow – Aspects that affect TA/TB/TC steering.

Eric Worpe delivered a superb presentation at the MGCC 'T' Register's 'Rebuild' seminar in March 2013. Eric used flip charts to aid his presentation and I have been working with him to 'flesh out' the flip chart notes to produce a series of articles for inclusion in TTT 2.

Eric divided up his presentation into seven headings which he termed as "Seven Deadly Sins". We have so far covered the first three 'Deadly Sins' i.e.

CHASSIS – is it true? – Issue 19 (August 2013).

FRONT AXLE GEOMETRY – Issue 20 (October 2013)

FRONT SPRINGS – Issue 21 (December 2013)

In this issue we'll look in depth at the fourth 'Deadly Sin':

KING PINS

King pins or swivel pins have had a longish history from the earliest cars with simple beam axles to some quite recent cars with independent front suspension. Despite being subjected to considerable stress, king pin assemblies seem to give a reliable service when regularly maintained.

One story about Henry Ford tells how he would send inspectors to breakers' yards to assess what were the causes of terminal car breakdowns. King pins were the only items that emerged unscathed, so he ordered their specifications to be downgraded. Fortunately, our king pins have escaped the machinations of the 'bean counters', as a good safety factor seems to have been built in to the king pin assembly.

Fig. 1 sketches out the component parts of the assembly, the original bushes were of the bi-metal wrapped type consisting of an internal layer of leaded bronze fused to a steel backing in the form of a split cylinder. Impressed in the bronze layer is an oil/grease groove with a spur take off that feeds lubrication to the thrust faces of the beam axle's eye. The main thrust washer has either an eccentric groove or radial channels to distribute lubrication around the thrust faces. Sitting on top of the king pin is a felt washer covered by a dished cap to keep moisture/abrasive dirt out. The felt washer should be soaked in heavy oil such as EP140, before assembly.

The cotter pin is, I believe, an unappreciated critical item as all it seems to have to do is wedge the king pin in the beam axle's eye. How well this is achieved is crucial to the robustness of the assembly as the eye is heavily stressed and any slight tendency of the king pin to rock in the eye becomes exaggerated by the constant stress reversals on the road wheels.

Cotter pins made from easily machinable steel tend to "ruck up" when their flat flank is obstructed by the leading edge of the notch on the king pin.

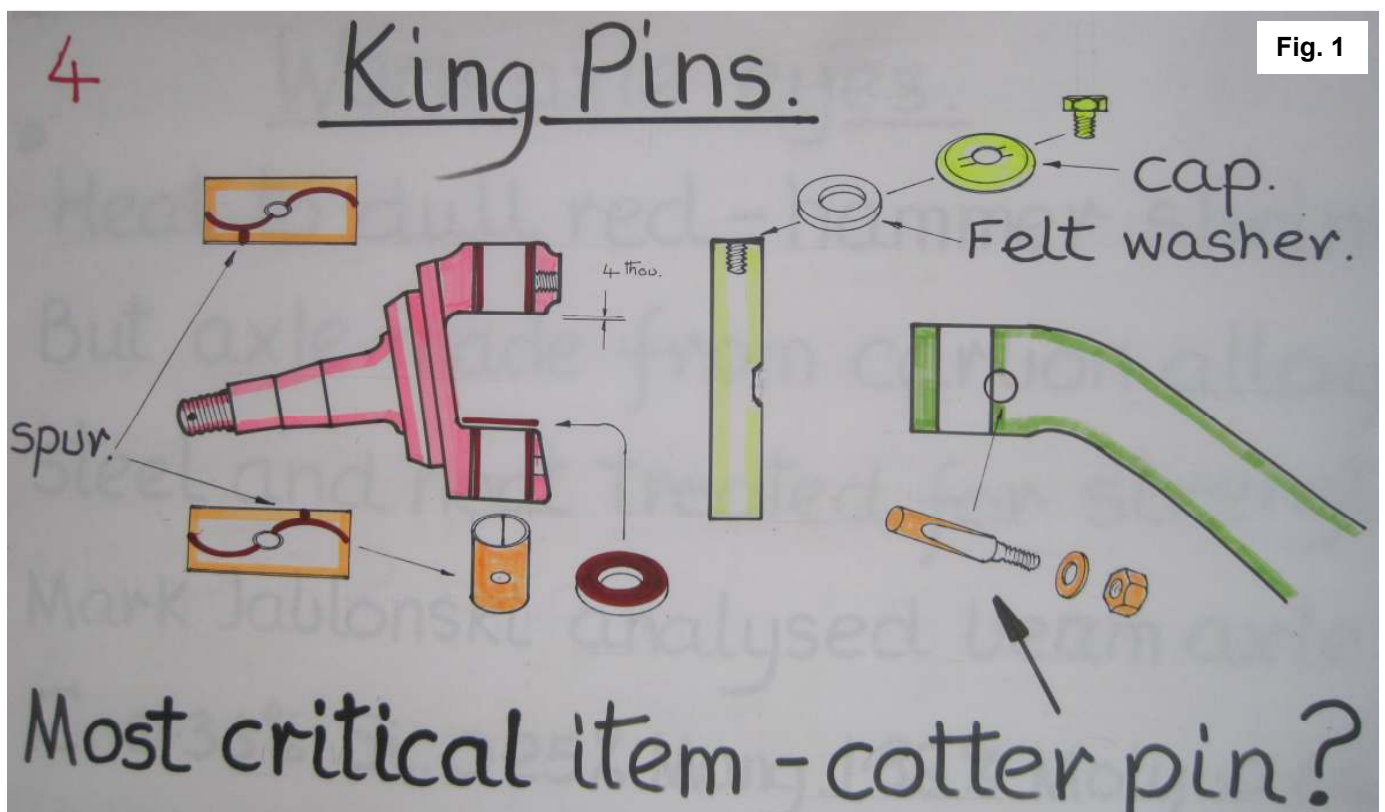


Fig. 1

This in turn prevents the cotter pin wedging the king pin really tightly in the axle's eye. Cotter pins need to be as hard as high tensile bolts; the ones that John James had made up were from EN19T grade alloy steel. They should be hammered home and only then should the nut be tightened; pulling the cotter pin through by just tightening the nut is not effective enough.

Check that the diameters of new king pins are within an acceptable tolerance, some have been known to be 2 thou under, as an estimate $0.750'' + 0.0001$ to $- 0.0003$ seems reasonable, although I would prefer the high end, especially if the eyes are worn. They should be a snug fit in the axle eye and not able to drop out under their own weight.

Beware undersized king pins as these will hasten wear of the beam axle's eye and a sloppy fit of the king pin is a serious problem and not easy to resolve.

One method sometimes used to overcome a worn axle eye is to "heat shrink" by heating the eye to a dull red and then hammering the forging to close up the eye. However, the axle is made from a carbon alloy steel and heat treated for strength, so that reheating the eye would alter its crystal structure and reduce its strength. Mark Jablonsky has analysed the beam axle to be similar to EN17 (C=0.36%, Si=0.25%, Mang.=1.88%, Moly.=0.64%). Hardness testing also confirmed that heat treatment had been applied. If "heat shrinking" were to be used, then the whole axle would need to be re-heat treated afterwards, a somewhat complex procedure.

Where the amount of play in the eye is marginal it might just be possible to close up the eye using "cold shrinking" with specially shaped dies and a powerful hydraulic press, not as straight forward as it may seem though.

Other alternatives exist, such as boring out the eye to about 21mm and then pressing in a toughened steel sleeve with a wall thickness of just over 1mm. and then boring out to size. This would weaken the

axle eye, however some mitigation of this problem might be possible if the eye was only bored out to say 20mm and then fitted with a split sleeve of 20thou/0.5mm shim steel which could be fixed in place with Loctite 603. A king pin could then be used to hold the sleeve in shape whilst the Loctite cured.

Yet another alternative is to bore out the eye to just clear any ovality and use oversized king pins. Machining, case hardening and accurately grinding to size king pins to match is not for the faint hearted, especially as solid bronze bushes might also be needed as the bronze layer in wrapped bushes is quite thin.



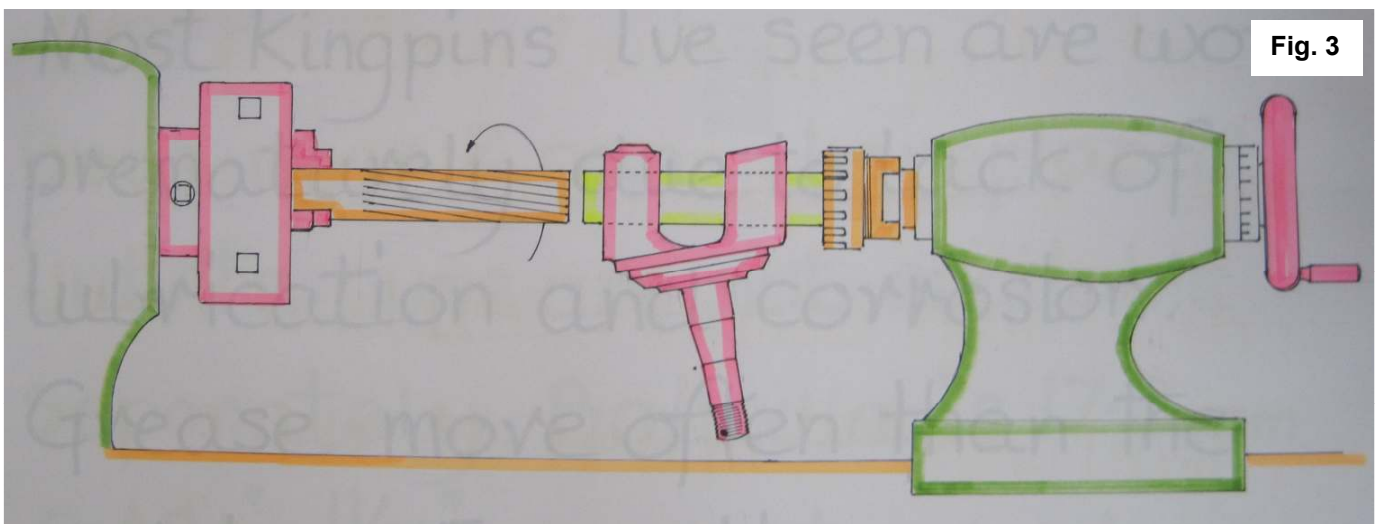
Fig. 2

The traditional way of reaming king pin bushes was with a stepped reamer as shown in **Fig. 2**. The leading reamer section acts as a pilot for the final reamer section, which should leave a smooth surface with enough clearance to allow for a film of lubricant. Tested dry, the king pin should just about slide down under its own weight through the bushes; when lubricated with light oil, it might need a gentle push. A tight king pin will tend to score surfaces as any boundary lubrication could be displaced resulting in metal to metal contact.

$\frac{3}{4}''$ stepped reamers in good condition are rare so alternative methods are available using a $\frac{3}{4}''$ hand reamer with a parallel shank and square drive as opposed to a machine reamer which would have a No.2 Morse taper drive.

Hand reamers have an advantage due to their cutting flutes having a tapered lead in for about $\frac{1}{3}$ of their length which helps alignment through the two bushes.

A special technique is recommended, remove the most worn bush and press in a new bush. Then, using the existing old bush as a guide, ream out



the new bush. Replace the second old bush, and then ream it out using the first new bush as a guide. Plenty of Tallow needs to be used as a lubricant.

Yet another way suggested by Peter Cole uses a reamer mounted in the chuck of a lathe (**Fig. 3**). A mandrel needs to be made up that just slides into the newly pressed in bushes. One end of the mandrel is then mounted in the tail-stock with the stub axle in place. This is then slid along the mandrel onto the slowly rotating reamer by holding the stub axle's spindle with gloved hands. Again, plenty of tallow is needed. A dull reamer will transmit considerable twist force to the stub axle, so extra care is needed.

Adjustable reamers with their straight flutes can produce a rippled finish and should be avoided except for the final easing of a tight king pin. Smoothness of finish is all important as any high-spots might give the initial impression of a good fit, but as they soon wear down, play will develop.

Many king pins that I've seen are worn prematurely due to corrosion from a lack of lubrication. I'm inclined to suggest more frequent lubrication than the recommended 500 miles and using a mix of EP140 oil followed by LM grease. This is especially true with new bushes as only a small clearance exists to act as a reservoir for any lubricant which should be pumped in quickly to ensure it spreads through out. Jacking up the front wheels should help lubrication to flow around the thrust washer.

The recommended free sliding movement of the stub axle along the king pin is about 4 thou (0.1 mm). As most thrust faces have worn, some packing out may be needed, either by using a thicker bronze thrust washer or using shim washers on the non-thrust face of the axle's eye.

Ed's note: I thought it would help to make Eric's description of the eccentric grooved thrust washer and the bi-metal wrapped type king pin bush "live" a little if I were to take a few photographs of these items. How on earth did we manage before the digital age?



Thrust washer with eccentric groove – material SAE 660 leaded bronze.



Bi-metal 'wrapped' king pin bushes – note the oil/grease groove which has a spur take off that feeds lubrication to the thrust faces of the beam axle's eye.



Bi-metal 'wrapped' king pin bush showing the spur groove that feeds the thrust washer.

Eric has added the following comment subsequent to me sending him the finished magazine article:

"Some ground finishes on new king pins can be less than smooth, so you may feel that it is worthwhile buffing the bearing surfaces of the king pin.

This may seem a bit OTT, but having bought a buffing wheel I'm on the look out for any applications and polishing the bearing surfaces does seem a really nerdy thing to do. I blame the medication!"

In the **April** issue we'll look at the fifth 'deadly sin':

TRACK ROD & DRAG LINK ENDS – worn balls and cups poorly set up.

In the **June** issue we'll look at the sixth 'deadly sin':

TRACKING – set up, tyre tread and pressure.

In the **August** issue we'll look at the seventh 'deadly sin'

'THE BISHOP' – Bishop Cam steering box.

Section F (Gearbox) of the TD/TF Workshop Manual – How it could (should) have been written.

I recently received the following e-mail from Peter Hehir, who is rebuilding his TD in Sydney, NSW, AUSTRALIA.

“About 18 months ago after reading as much available material that I could lay my hands on, I finally plucked up the courage to overhaul my gearbox. The box was noisy and it was impossible to move between second and third and vice versa without double declutching.

I followed the manual closely but found it lacking vital information in a number of key areas. Having spent the day disassembling and inspecting all the components, replacing the layshaft, thrust washers, bearings and needle rollers, I reassembled it and tested the operation only to have the synchro balls explode into the bottom of the box!

I then spent the following day putting everything right. Born out of anger and frustration I sat down and re-wrote the gearbox section of the manual adding what I believe were key pieces of essential information that should have been included by the original author.

I have retained the original format and text and my additions appear in italics.” (Ed. *I've made them red italics*).

F THE GEARBOX

(Updated: Nov 2011 by Peter Hehir)

Section F.2

TO DISMANTLE THE GEARBOX

It will be found advantageous to support the gearbox in a vice by means of a steel bar approximately 11/2” (40mm) square by 5” (127mm) long, this being suitably machined and threaded at one end to enable it to be screwed into the gearbox drain plug hole (see Fig.F.2).

Remove the dipstick and drain plug from the gearbox and drain off the oil.

Release the clutch housing from the gearbox by removing the fixing bolts and spring washers.

Extract the split pin from the nut retaining the drive flange at the rear of the gearbox sliding shaft and remove the nut and plain washer.

Place the gearbox into neutral.

Remove the six nuts securing the top cover assembly to the gearbox. *Here, a word of caution is in order. Note that the cover is under spring tension from the*

three selector springs located in the three holes in the casing above the selector shafts. Take off the cover and remove the three selector springs and the three balls.

At this point, as an aid to reassembly, it is advisable to photograph the gearbox, paying attention to the position of the various components and the 3/4 sliding hub in particular.

It is essential to resist the temptation to operate the gears with the cover, springs & balls removed. On early boxes, unless the balls have been peened into position, this will certainly result in the 3/4 sliding hub balls & springs exploding into the box!

Which of course means completely stripping the gearbox to retrieve the springs and balls and to reinstate them into the hub and dog assembly. Not a real problem during disassembly but at the end of a hard days work assembling the box, believe me it's enough to drive you to drink! Been there & done that.

Remove the four bolts and spring washers securing the remote control cover assembly to the gearbox extension.

Remove the remote control unit.

If necessary, use the extractor, Tool No T.108 to withdraw the propeller shaft driving flange. It is advisable to use an extractor of this type to avoid distortion of the flange face.

In practice, this flange is easily removed by hand without the need of an extractor, making it very easy to miss the next step!

Before doing so it is advisable to mark both the flange and the shaft so they can be replaced in exactly the same position.

Detach the speedometer drive housing from the right hand side of the gearbox. *In later gearboxes the speedometer gear was keyed to the mainshaft.* Care should be exercised not to *lose the key or* damage the paper gasket on the joint face of the housing, *as this is not included in the gasket set.*

Whilst the manual says to extract the eight square headed screws, hex head on later boxes, locking the gear shifters and stops to the selector shafts and remove the screws, it is not necessary to remove all eight screws, as the three securing the selectors can remain intact.

The manual also says to slacken the nuts and set bolts securing the gearbox rear casing to the gearbox and withdraw sufficiently to allow the gear shifters to be removed from the ends of the selector shafts. This step is unnecessary. If the selectors are to be replaced this can be done during final assembly.

Remove the nuts and set bolts securing the *gearbox rear casing* and withdraw the rear casing from the gearbox.

On early type gearboxes, withdraw the selector shafts one at a time, taking care not to lose the *two remaining horizontal* lock balls in the process. *These two balls lie in the edge of the case, between the three visible holes, either side of the centre selector shaft.*

Prior to removal, observe the correct position of the gear shifters and stops on the selector spindles (*shafts*) as shown in the plan view of the selectors and shafts.

(Reference to page E.10 will show the interlocking mechanism of the shifter balls).

Later models have a third and top selector shaft extended at *both its rear and* front end and fitted with a circlip to prevent its accidental withdrawal and the loss of the synchromesh balls. In this case the circlip must, of course, be removed before the shaft can be withdrawn. This also makes it imperative to remove the gearbox from the engine before dismantling.

With the selector shafts removed, place a feeler gauge between the fork and dog and check for play. If there is more than .010", consider replacing the dog, or the fork, or both.

Now lift out the selector forks *and examine for wear. It will be noted that the 1/2 and the 3/4 forks are not interchangeable.*

Rotate the mainshaft and examine the condition of the gears, looking for chipped or broken teeth and for signs of pitting.

Remove the layshaft spindle (*shaft*) locating screw from the rear of the gearbox.

Extract the layshaft spindle (*shaft*) by tapping it at the forward end with a suitable copper or brass drift.

If you have a dummy layshaft to hand, use it to drive out the layshaft. Continue to push the layshaft towards the rear of the box from where it can then be easily removed.

Retain the layshaft.

If replacing it, cut the old layshaft to the length of the layshaft gear unit (cluster gear). It can then be used as a dummy. This will make the reassembly of the cluster gear unit and its subsequent replacement in the box so much simpler.

The first motion shaft bearing nut can now be removed.

It is essential to note that this nut has a left hand thread!

Perhaps it is stating the obvious but the manual neglects to mention this! As a result, both the nut and the locking tab washer will almost certainly be quite severely damaged, no doubt caused by

many previously unsuccessful attempts to undo the nut, by actually over tightening it!!

Whilst it is possible to repair the damaged nut with a file, it may well be prudent to replace both items.

Remove the drive gear (*first motion shaft*) with its journal (*front*) bearing by tapping the mainshaft towards the front of the gearbox, using a suitable copper drift.

Before the mainshaft can be removed, it is necessary to extract the journal bearing from its housing, using a suitable drift for the purpose.

The mainshaft assembly can then be withdrawn from the gearbox as shown in Fig. F.3.

Lift out the layshaft gear unit, observing that the tabs on the thrust pads (*washers*) line up with the slots cut in the boss at the front and rear walls of the gearbox.

Section F.3

TO DISMANTLE THE MAINSHAFT

Withdraw the top and third gear synchromesh hub from the forward end of the shaft, observing that the plain side of the hub goes to the rear of the gearbox.

It is worth pausing at this point and noting that the hub can be inserted into the dog in either of two ways.

Hold the still assembled dog and hub and view it end on, noting their relevant positions. The projection of the dog from the hub may appear to be equal on each side or it may seem to be slightly offset, as was the case with my box.

It seems prudent to mark the adjacent faces in such a manner so that this precise relationship can either be maintained, or intentionally altered, when reassembling the hub and dog.

Do not attempt to disassemble the hub and dog at this stage without reading Sections F.4 and F.5.

Remove the third speed gear collar by pressing down *on* the spring loaded plunger and rotating the collar until the female splines register with the male splines on the mainshaft (see Fig. F.4)

The third gear can now be withdrawn.

Care must be exercised to prevent the loss of the plunger and spring or the thirty two needle bearings on which the third gear is mounted.

Extract the circlip from the rear end of the mainshaft and remove the first and second gear synchromesh hub; the conical lining end of the hub faces to the front of the gearbox.

The withdrawal of the second gear from the mainshaft is executed in a similar manner to that for the third gear, namely by pressing down the locking plunger through the hole provided and rotating the collar until the two sets of splines coincide.

Again, care must be exercised not to lose the spring and plunger or the twenty eight needle bearings. (See Fig. F4.) And it must be noted that next to the second gear collar is a thrust washer, which is in two halves, having tongues which engage with slots in the forward face of the collar. It is important that this washer is correctly replaced on reassembly to centralise the collar.

Section F.4

DISMANTLING THE SYNCHROMESH MECHANISM

The striking dogs for top, third and second gears are retained on two sliding hubs by balls and springs which are housed within the sliding hubs and register with a central groove in the internally cut gear of the striking dogs.

Please ensure you have re-read Section F.3 and noted the dog and hub relationship before continuing.

Each sliding hub, therefore, can be pushed out from its striking dog when sufficient effort is applied to overcome the springs.

On earlier gearboxes care should be taken to ensure that the 6 balls do not fly everywhere when the hub is removed as the balls almost certainly will not have been peened over.

On later gearboxes the ball housing openings are peened over to retain the balls in position and prevent their loss.

It is wise to incorporate this change when reconditioning an earlier box. A small cold chisel, ten to twelve mm wide, placed over the centre of the ball and given a sharp tap with a hammer will retain the ball. This simple, quick and effective modification will make assembling the hub and dog so much easier.

If unwilling to peen the balls into position please note it is impossible to retain and compress all six balls at once, without the aid of a six pronged compressing tool, or a modified dog as detailed in Horst Schach's book "The Complete M.G.TD Restoration Manual".

Using a jubilee clip to compress the balls seems promising in theory but in practice proves to be frustratingly ineffective, in spite of assertions to the contrary.

Section F.5

REASSEMBLY OF THE SYNCHROMESH MECHANISM

The striking dog is placed against the end of the sliding hub and pushed through into engagement with it, when the balls will spring into an indentation ground into the center of the teeth *of the striking dog* and the assembly is completed.

As mentioned earlier in Section F.3, the central groove may appear to be offset when the assembly is viewed end on.

If, on earlier inspection, the projection of the hub seemed to be equal on each side, it makes sense to reassemble the hub and dog without altering their relative positions.

However, if the assembly appeared to be asymmetrical, as was the case with my box, i.e. if the hub seemed to protrude from the dog more on one side than the other, this is almost certainly due to wear by the 6 spring loaded balls in the central groove of the sliding dog, thus creating the appearance that the groove is slightly off centre.

In this case, reassemble the dog and hub using the adjacent spline set and recheck the projection. The goal should be to have the balls come into contact with an unworn section of the central groove to ensure an equal projection of the hub on each side of the dog.

At the time of writing it is not known whether this asymmetry can/does affect the operation of the synchromesh hub. I'll have a better idea when the car is on the road.

The remainder of the text in Sections F.5., F.6 and F.7 remains unchanged.

.....
NB: The Arial Narrow font is the Manual. *The additions in italics are mine.*

I would welcome a review of my rewrites. Feel free to contact me either by email or phone.

© Peter Hehir. Sydney. Australia (TD 5801) Nov 2011.

pjbm@bigpond.com 0424 067 250

Ed's note: Peter's car is TD 5801 built 1st Feb 1951. RHD exported to Australia. Original/current engine no. XPAG/TD 5965. 43 year restoration! (She was asleep in his mother in law's garage for 40 of those years) Pic is below. Car was originally ivory with a red interior, but trim now changed to beige. Peter likes the combination of ivory paintwork and beige trim. Not original he says, but quite unusual. Apart from that, the finished car will be very original in every other respect.



More than Tea Pot(e)s for Two!

How is this for an almost unbelievable encounter?

I was driving my 1951 TD from SW France to Cherbourg in order to participate in the *Pre-War et Series T Rallye* organised June 26-28 last year by the MG Car Club France. For me this was a round trip of some 2300 kilometres (1440 miles), all but 50 with top down.

I had allowed myself 2 days to arrive in Cherbourg in time for the Rallye. On the second day, around noon, I looked for a quiet place to have a roadside lunch and wound up in a lovely shady rural lane well off the secondary roads that I had been travelling on. Total tranquillity in deepest France! There was no traffic at all for nearly an hour, which was just as well as there was barely room for a car to squeeze by. However, just as I was packing up, after checking all the fluid levels, a white van appeared and the driver rolled down his window and looked at me and the car and said (in French) "MG TD ! I have one too!" Then he said "I am a wine producer and my winery is just 1 km away Follow me!"

Naturally, I very quickly finished packing up and followed the white van and soon drove into the courtyard of Bernard & Philippe Luneau's chais. They produce a special dry Muscadet (great with oysters!), other wines and very delicious Sparkling wines (white and rose) using the Champagne system. These wines in French are called *Mousseux* (i.e. bubbly!) since it's not permitted to call them Champagne.

Bernard had me sample his *Muscadet Sevre et Maine sur Lie* (an AOC** and based only on the cepage of Melon B) and then his *Perles Royales Mousseuse* which was equally delightful. We went to see his lovely yellow TD and then we completed our degustation! Bernard would not let me leave without finding space behind my seat for 3 different bottles of *his Mousseux*!

So I can unreservedly recommend La Domaine des Deux Vallons at La Giraudiere, near the town of Gorges (Loire Atlantique, post code 44190). Bernard is also looking for Agents to help market his wines domaine.deuxvallons@wanadoo.fr So if you would like to combine wine and TDs - here's a challenge for you!

Marque is of course a French word - but having a chance meeting like this in the depth of the French countryside gives a totally new meaning to the Marque of Friendship! Quelle bonne chance!!

The photo of my TD (which I imported from the USA and restored 8 years ago) was taken on the last day of the Rallye when we visited the Normandy landings and the Airborne Museum in Sainte Mere l'Eglise. The wine by this point was

certainly all gone – but there is always more Chez Bernard!

Malcolm Purvis

Ed's note: In French, the slang for a buddy, chum, friend is *Pote*, hence the play upon words for the title of the article. Just as some of us in the UK refer to ourselves as *T Typers* so the T-Series clan in France call themselves *T Potes*.

**AOC = *Appellation d'origine contrôlée* which translates more or less as Certified Origine subject to Control/Verification/Inspection. It means that it is a product (wine in this case) which meets the rigid standards of the product name (*appellation*).

Cheese, Sausage, Ham can also be AOC.



Malcolm with his TD in Normandy.



Bernard Luneau's TD with passengers with his vignes in the background.

Bits and Pieces

New stub axles for TC



Tim Patchett (T-racer) has arranged for another batch of stub axles. The last lot sold out worldwide. The price is £630.00 per pair, plus carriage. Please contact Tim for full details: [happypeople222\(at\)gmail.com](mailto:happypeople222(at)gmail.com) {please substitute @ for (at)}.

Radiator repair

Chris Tinker reports good service from an excellent little company in Ipswich called Sheldrake and Wells. He adds that they were very prompt.

Your Editor has had good service from Raysons Radiators in Yeovil and Advanced Autocooling Bristol, who just happen to be down the road from him in Keynsham.

Cleaning hoods and tonneau covers

Mike Collingburn has been in touch as follows:

“We get asked all the time how to clean hoods and tonneau covers. I suggest, regardless of materials used on the hood, side screen covers and tonneau you use warm soapy water; this would do very little harm and quite a lot of good. Try it on an inconspicuous area first. DON'T over wet it as it can shrink and allow it to dry naturally. I would never use detergents. Use a small stiff brush and I would only clean dirty areas not the whole thing. Some MG owners rate the solution Wolfsteins RAGGTOPP cleaner and protectant but I cannot confirm its effectiveness.”

Mike adds that he used to clean the weather equipment on his TCs like this.

..... and a little 'commercial' from son, James

“We have almost all correct materials and fasteners for hoods and tonneau covers. We have; Double Duck, Black Wigan, expecting Beige Wigan in 2014, Canvas, the Black grained waterproof PVC etc. etc. we can supply you or your trimmer as we don't currently make weather equipment. We don't supply side screen frames. If

you want a detailed pricelist of materials and fasteners and we don't charge VAT, please email: collingburn@btinternet.com

Ed's note: Please don't phone them because I don't want them distracted from making my J2 seats!

Transils

Eric Lembrick has sent me a fresh supply of transils for fitting to your SU fuel pump to protect the points. These come complete with fitting instruction sheet. Price is £5.00 (including UK postage), £5.50 (including EU postage), £6.50 (including Rest Of World postage). There is a pro-rata (downward) adjustment on the postage if ordering more than one transil. Please add 50p if paying via PayPal. Small profit made goes to help finance the website www.ttypes.org including this magazine.

The following, courtesy of Eric Lembrick:

Why fit a transil?

The points on your SU fuel pump are at the mercy of the high voltage (up to several hundred volts) that is generated each time they open, causing them to arc. The basic explanation for such a high voltage (bearing in mind that your battery is only 12 volts!) is that it is an effect that happens each time a current through a coil is interrupted.

To negate this high voltage (i.e to limit voltage transients) the transil comes with a rated voltage. Below the rated voltage there is no connection between the two terminals, but above the rated voltage the terminals are connected together (dead short). Consequently, when the points break the high voltage which is generated across them is shorted out by the transil, so saving their burning & pitting.

Fitting is simplicity itself. The transil is supplied with ready made solder tag connections. All that is required to fit it is a screwdriver (instructions provided).



A transil fitted to protect the points

Hi-Gear 5-Speed conversions

Peter Gamble has been in touch to advise that a modification has been perfected which obviates the need to move the engine forward by 10cm on the TD. He is hoping to have it ready for inspection at the Stoneleigh show in early March.

Can you help with this TD body tub?



MGTD restored body tub with interesting history, last known of (less bulkhead panel), finished in Red paint (may have since been refinished).

Was for sale in the Essex/ Hertfordshire area in late 2011, Have you bought it or know anyone that has? Do you know of its whereabouts or if anyone has fitted it to a car as part of a restoration?

Reward for information regarding this body, all information treated in confidence.

Contact Matt Sanders on 01544 350320 or by email at fender57red@yahoo.co.uk {Please substitute (@) for (at)}

Barrie Jones has the registration marks for these TFs but doesn't have the chassis numbers

Barrie Jones, TF Registrar for the MGCC T Register is trying to find out the chassis numbers of 8 TFs for which he only has the registration marks. They are as follows: KUX 303, 668 YUW, 633 XUM, MUS 550, OAS 372, MSJ 661, 387 YUK, EL 6410. Please contact him if you can help at barrietf@btinternet.com {Please substitute @ for (at)}.

1st MG Drive through the South Tyrolean Spring

Dr, Christian Bianco is organising this meeting in the Dolomites/South Tyrol from 15th – 18th May. The centre of the meeting will be the village *St. Michael in Eppan an der Weinstrasse*. The deadline for registration is **4th March**. The Editor has all the information on this meeting, so if you are interested in going, or just curious please e-mail him via the contact form on the website, or to jj@octagon.fsbusiness.co.uk {Please substitute @ for (at)}. There is a follow up 2nd MG Meeting in the Dolomites from 26th -29th June.



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Mike (with TD) & Paul (with MGA) outside our Ipswich premises

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Speedo correction boxes for MG TD

Declan Burns has been busy developing speedo correction gearboxes for the 4.3 MG TD CWP conversion. They are designed to correct the speedo when the rear end of the MG TD is converted from the standard 5.125 to the 4.3 MGA CWP.

They run on the back of the speedo and are maintenance free. They run very freely so torque problems associated with the speedo cable should not pose a problem. However, it would be advisable to check the cable prior to installation. The correction ratio is 1.2 to 1 and they are run in on the lathe for several hours.

The first two photos show the prototype where Declan fitted an acrylic cover to reveal the gearing.

The next two photos show the correction box mounted on the back of the speedo.



The next photo shows some of the boxes in different stages of assembly.



Road tests using Declan's TD, as opposed to bench tests, will be done as soon as the weather picks up.

The first batch is currently being made and will be available after testing has been completed. They have the correct M12x1mm cable fittings and the gears are steel with two spur gears with 30 teeth modulus 0.5 and one gear with 25 teeth.

The shafts are made of silver steel and the housing is made from aluminium. They will also receive a graphite grease filling. Installation is very simple and should only take a few minutes.

Expressions of interest would be welcome and Declan can be contacted at: [declan_burns\(at\)web.de](mailto:declan_burns(at)web.de) {please substitute (@) for (at)}

The above is necessary to deter 'spammers'.

Declan is based in Düsseldorf, Germany.



Above: Mike Marini's TD which he purchased on March 23 1973. **Below:** A wonderful collection of cars at an MG meeting in Switzerland in 1994 – TA Airline Coupe, KN saloon, Lord Ashley TA, TA Tickford, TB Tickford, WA Tickford. Photo, courtesy of Dieter Wagner.





Above: 'Father Christmas' (aka) Graham Walker, driving TC3107 in the Buckingham Christmas Parade.
Below: Richard Mascari's recently restored TC9622 on duty on the occasion of his younger son's wedding.

