

# T REGISTER



# Totally T-Type



ISSUE 21

MAY 2007



*New Register Chairman, David Butler*



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- Valve Stem Seals: **£8**
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# THE EDITOR

It's been a hectic few weeks! We held our Spring committee meeting in Abingdon on 22<sup>nd</sup> April. There were six T-Types and a PB in the car park and had Chris Tinker been able to attend (his engine is being rebuilt), there would have been seven T-Types. Between then and now (9<sup>th</sup> May as I pen this editorial) I've been busy in my new found role as Editorial Committee member for "Safety Fast!" More about this later. I also found time to take the rear wings from the TC for repair to a new firm starting up in business in Northampton and as I was in the area I booked some hotel accommodation in Towcester (four miles from Silverstone) for one of our members from Argentina, who is visiting Silverstone this year. He is being joined by four others from Argentina, who have arranged their own accommodation. I correspond quite regularly with two of these visitors and I am really looking forward to meeting them in person.

As I am currently "T-Type less" I've been using the PB and it is taking us to Portsmouth tomorrow to catch the Friday morning ferry to Caen for the Normandy trip with the 'T' Register. A week ago I thought that I ought to go around the car with a grease gun and prepare it for the journey. Imagine my shock and horror when I discovered a broken rear leaf spring! The fracture occurred at the bottom of the spring eye. The poor old J2 came to the rescue (the springs are exactly the same dimensions, but the spring rating is different – but not critical enough to really notice) and a job I could have done without was duly completed.

No doubt you will have read about our plans for "Safety Fast!" from the July issue. In a nutshell, we are going to produce a 100 page quality magazine, which I am confident you will enjoy. We have already mapped out the first issue (July) and a "mock up" will be on display at Silverstone.

I know that some (but not many) 'T' Register members are disappointed that they will no longer receive their 'free' copy.....*continued on page 4*

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of *MG Enthusiast* but the fact of the matter is that it was never 'free' and the cost to Club was unsustainable. It is true that efforts were made to reduce the cost, but this partly relied on the Club producing extra pages to go into *MG Enthusiast* (I could never fathom how this could be a saving!). Anyhow, to cut a long story short, I said at the last MGCC Council meeting that whilst I would 'move heaven and earth' for the MGCC and "Safety Fast!", I was not prepared to do the same for a commercial magazine.

Silverstone International is fast approaching and we have received an appeal from Club Office for volunteers to assist in the smooth running of the event. The 'T' Register has offered to help with car parking duties. Even if finances allowed, this is not a task which can be left to paid help who could not be expected to know one model of MG from another. Specifically we need a number of people to commit to a 2 hour shift in the morning of either Saturday 23rd June or Sunday 24th between 8.30am and 12.30pm; plus people to help pack up equipment after 5.00 pm on Sunday. If you are prepared to volunteer, please contact David Butler (01234 407351), indicating any preferred times, and times when you would not be available. This is your chance to "put something back" into your Club!

In the last issue of TTT I failed to mention the Filkins Classic Car Show which takes place on Sunday 10 June, to coincide with the National Gardens open scheme in the village of Filkins (near Burford, Oxfordshire). You are invited to bring your car along from midday until 5.00pm to join around 100 or so other classic cars, which will be on display. The objective is to raise money for urgent Church repairs by charging visitors to the village to view the cars. There will be free tea and coffee, ample space for pick-nicking and the local village charity, St. Filica, will have a bar-b-cue on site. In addition to some fine gardens to visit, the Cotswold Woollen Weavers, the stonemasons, the wood carving centre and the village museum will all be open. The contact is Chris Bristow at Filkins Farmhouse, Filkins, LECHLADE, Glos. GL7 3JJ (01367 860195) email [cdbristow\(at\)tiscali.co.uk](mailto:cdbristow(at)tiscali.co.uk).

The Pendine Dash (briefly mentioned in the last TTT) is being held on 12<sup>th</sup> August. Starting at St Clears, it takes you on a wonderful scenic drive through Pembrokeshire, finishing at the glorious Picton Castle. Proceeds from this year's Run will go to the nominated charities for 2007, namely the Martin Roberts Trust which gives aid to abused children and Ty Hafan, the Children's Hospice for Wales. Route book including Tulip directions (and a map!), Rally Board and tea /coffee at the finish will be provided. Limited to 120 cars. Cost per car is £16.00. All entries to be sent to: Neil Thomas, The Hollies, Gumfreston, Tenby, Pembrokeshire, SA70 8RA, Tel 01834 845244/Mob 07980 726201, email: [pendinedash\(at\)hotmail.co.uk](mailto:pendinedash(at)hotmail.co.uk) or download an application form at [www.pembmsg.co.uk](http://www.pembmsg.co.uk) Entries close 12/07.

# T REGISTER NEWS (Compiled by John James)

**We have a new Chairman!** You will have seen from the front cover that David Butler is the new Chairman of the 'T' Register.

## **A Profile of The New Chairman**

David Butler, who took over the Register Chair from Dennis Barker at the March AGM, has had an interest in cars since his schooldays. He says that the only pleasure he ever got out of cross country running was when, at the age of 15 he found an abandoned Austin 7 which he later bought for £4 and pushed home with the aid of some friends. It wouldn't be persuaded to start, so he performed his first engine rebuild in his father's woodwork shed. It was then tied down to the bench, and started up, but due to an open oil pressure gauge line, liberally sprayed the shed and its contents with oil before it could be stopped. Not such a cunning plan!

After leaving school, he served an engineering apprenticeship and took a degree in mechanical engineering. During this time he acquired a VA saloon for the princely sum of £35. This taught him about setting up twin SUs, and about the efficacy of the left hand threads on the near side hubs. A previous owner had assembled the front hubs on the wrong sides, which resulted in the loss of a wheel in a dark country lane somewhere near Rugby late one winter evening. Talking to the late Nigel Mossop years later, he found that Nigel had had a similar experience in one of the T-Types that he bought whilst on overseas army service. It's amazing how some of our cars survived the "Bodger" era.

The VA was found to be a bit pedestrian, and was soon replaced by TA Tickford 2842. Tickfords in the 1960s were rather despised and fetched lower prices than "proper" TAs. This one was bought for £55, and provided daily transport for 4 years. During its period of ownership, another couple of Tickfords passed through David's hands, with a certain amount of parts swapping taking place. It was last heard of in Connecticut about 10 years ago. *(David with TA2842 in '63)*



A number of other interesting cars followed, including a 1948 sport-racing Connaught, which was used as daily transport, mainly in Manchester, for a

year without any significant weather equipment. Imagine parking such a car at the side of the road overnight today! In 1968 he married Gill, they started raising a family and restoring old houses rather than old cars.

After the classic car boom of the 1980s collapsed, TD 4244 was purchased in 1991. This is a bodily sound ex USA car which had been fitted with a Volvo 1800 engine and gearbox, but still had the (totally 'shot') 5.125 rear axle. Most of an XPAG and gearbox came with it. It took 2 years to renovate this car, converting it to RHD but keeping the two tone US-style silver and black paintwork. Since then the TD has been regularly used, with David and Gill putting in a continental trip in most years. *(The car is pictured below, competing in the Curborough Sprint on 1<sup>st</sup> April this year).*

David's other MGs are a road modified BGT with which he became Luffield Southern series champion in 2006, and a part built TD special which started as a rolling chassis bought on Ebay ("I couldn't resist it, and no-one else bid.....")



Asked about his aims as Chairman, David acknowledged the need to keep working at improving communication with Register members, - something that has already seen quite a step change with the arrival of TTT. He would invite members not to hesitate to

contact him with their ideas, which would all be given serious consideration. On car restoration and originality matters he said: "it's your car and you can do what you like with it, but I don't understand the perceived need to put modern Ford gearboxes into TDs and TFs. If you want to belt down motorways, why not put the Ford engine in as well? I think the rather primitive gearboxes are a fundamental part of the character of the cars. The factory gave the option of a higher axle ratio, and personally I think this is the way to go." Needless to say, he rebuilt his own back axle, and recommends reading Carl Cederstrand's treatise on the subject.

David's main interest apart from MGs is music, in particular early keyboard and choral music. He sings in his local church choir and with Bedford Choral Society. His last project before the TD was building a reproduction 1730 spinet (a relative of the harpsichord) although he admits that his construction skills far outweigh any playing ability. He is recently retired and is hoping that this will give him the time to make a meaningful contribution as Chairman of the Register. (David's e-mail is [mqtdff\(at\)ntlworld.com](mailto:mqtdff@ntlworld.com) Ed)

## PAST REGISTER EVENT ('Rebuild' – held on 11<sup>th</sup> March)

The May issue of "Safety Fast!" contained a full report of this event. Once again, it was extremely well supported. There were some very professional presentations and I intend to feature some of these in future issues of TTT. Indeed, the plan was to feature Eric Worpe's presentation on the Bishops Cam steering box in this issue, but due to time pressures on both of us and the fact that Eric has produced an article on fitting king pins and bushes for this issue (see page 33) I'm afraid that it will have to wait for another issue.



## **FUTURE REGISTER EVENTS**

**1. Register Trip to Normandy (11<sup>th</sup> to 14<sup>th</sup> May)** Twenty five cars are making the trip across the Channel. We are staying at a very pleasant hotel *Ferme de la Rançonnière* at Crepon.

Roy Ingleton, who has organised the trip, with help from Ray and Jenny Pilbeam in preparing and checking the routes, has come up with a really superb programme for us.

On Saturday 'The Cider and Calvados Tour' takes us to the eastern side of the region, visiting the area in which the renowned Normandy cider and the Calvados spirit are produced. The route back takes us over the famous "Pegasus Bridge", the first part of France to be liberated (by airborne troops) on D-Day.



The Sunday run 'La Suisse Normande Tour' takes us southwards to the rather more hilly area of Normandy with countryside reminiscent of the Ardennes, with wooded hillsides and fast flowing rivers.

The last tour on Monday takes us to Bayeux and on to the beaches where the Allied Forces landed on 6<sup>th</sup> June 1944. Later in the evening there is a farewell gala dinner.

Grant Humphreys has kindly volunteered to prepare a report of the trip, which we will share with you, either in TTT, or in "Safety Fast!"

## 2. Silverstone International Weekend (22<sup>nd</sup> to 24<sup>th</sup> June)



We will be hosting the usual Friday evening 'natter' from around 5.30pm in the paddock area (same as last year) in the marquee adjacent to the XPAG Specials display. Refreshments will be provided.

The Register stand will be up and running first thing on Friday morning and will close around 4.00 pm on Sunday afternoon.

We will be pleased to welcome all visitors, especially those who have come from afar. This year we have a small delegation from Argentina – they are visiting Abingdon on the Wednesday before Silverstone. A special thank you to John Venables, who will be looking after them on Wednesday.

**3. 'T' Party – 1<sup>st</sup> July** I have received the following communication from Tony Blake, who is organising the Oaksey Auto & Aero Day, to which we have been invited and where we will be holding this year's 'T' Party. Tony has included an application form and an indemnity declaration so you can either photocopy these, or ask Tony to send you the form, or you can print a copy off from the MG Car Club South West Centre's website [www.mgcars.org.uk/mgccsw](http://www.mgcars.org.uk/mgccsw). Click on 2007 calendar, page down and click on MG Auto & Aero Day and then print off the combined form.

"Welcome to the annual South West MG Car Club Picnic. This year we are delighted to host the 'T' Register 'T' Party and down on the flightline the Jodel and Druine Fly-in will be lining up along with the fascinating collection from the general fly-in.

As usual, the money that we raise will go to the Wiltshire Air Ambulance Appeal and to local charities. So, please invite friends and family to come along as well as interested members of the public.

MG Car Club members can book in advance for £5 per car and occupants, but on the day it is £5 per person for everyone who turns up at the gate. An under 15s arriving with an adult will get in free. MG cars go though to the paddock and parking is arranged for everyone else.

This year's driving test will concentrate on slow speed driving skills with another set of fun tests that need a working passenger. The entry fee is £5 for unlimited attempts. You get one passenger for your entry and you are allowed as many more as you like. You can double enter with a different drivers or passengers the only stipulation is that they have to put £5 in the pot for the privilege. The biggest penalty is for a divot in the grass. Not only replace it, and lose points, but that will be a fine of £10 in the charity pot!

The Wiltshire Popular Flying Association is organising the Aero part of the show. They are coming in from all over with a variety of aircraft that are

reminiscent of our sort of machinery. Yes they have rebuilds and paint jobs, worry about the engines and the electricians but they look a bit blank if you ask them about the clutch. They will have an Aero Park where you can go and compare notes and look at their 'vehicles'.

To look after the creature comforts we have the usual barbecue in the clubhouse and the tea and cake and refreshment stalls, all at reasonable prices, or bring a picnic. Come along and enjoy the day!

Send the Entry Form to:

Tony Blake, 38 Braemar Crescent, Filton Park, Bristol, BS7 0TD 0117 969 0650 tonyblake38@hotmail.com

Oaksey Airfield Grid Reference: ST 990 925

Near Malmesbury Wiltshire, off the A429, signposted from Crudwell or Kemble.

### Entry Form Oaksey Auto & Aero Sunday 1st July 2007

Send to: Tony Blake, 38 Braemar Crescent, Filton Park, Bristol BS7 0TD - 0117 969 0650

Please make out the cheque to **MG Car Club South West** and enclose an SAE if you want your tickets sent in advance.

Entrance. Car and Occupants £5.00	
Gymkhana £5.00	
Total	

Name \_\_\_\_\_

Address

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Postcode \_\_\_\_\_

Car Registration \_\_\_\_\_ Make \_\_\_\_\_

Model \_\_\_\_\_

Club \_\_\_\_\_ Membership number \_\_\_\_\_

## INDEMNIFICATION

I agree to be bound by the Supplementary Regulations issued for this event them and by the General Regulations of the RAC Motor Sports Association Limited. In consideration of the acceptance of this entry and of my being permitted to take part in this event, in respect of any parts of the indemnified The RAC Motor Sports Association Limited, such Person, Persons or Body as may be authorised by The RAC Motor Sports Association Limited to promote or organise this event and their respective Officials, Servants, Representatives and Agents together with other Competitors and their respective Servants, Representatives and Agents, from and against all actions, claims, costs, expenses and demands in respect of Death of or Injury to or Damage to the Property of myself, my Driver(s), Passenger(s), Mechanic(s) or associated personnel, arising out of or in connection with this entry or my taking part in this event.

Furthermore, in respect of any parts of this event on ground where a third party insurance is not required by law this agreement shall in addition to the parties named above extend to all and any other competitors and their Servants and Agents and to all actions, claims, costs, expenses, and demands in respect of loss or damage to the person or property of myself, my driver(s), passenger(s), mechanic(s) or associated personnel. I declare that the use of the vehicle hereby entered will be covered by insurance as required by the law which is valid for such part of this event as shall take place on roads as defined by the law.

Signed: \_\_\_\_\_ (Driver) Date:  
\_\_\_\_\_

If entrant is under 18 years, Parent or Guardian must sign below:

Signature of Parent/Guardian: \_\_\_\_\_  
Date: \_\_\_\_\_

Name: \_\_\_\_\_  
\_\_\_\_\_

**4. The Autumn Tour 7<sup>th</sup>/8<sup>th</sup>/9<sup>th</sup> September** Peter and Vanessa Cole report that they now have entries for 55 cars and in addition they have a number of tentative enquiries on hand. There is still a possibility that we can have exclusive use of the hotel, but to do so we must be able to turn the tentative enquiries into firm bookings and also find a few more entries. The message is therefore, please book as soon as possible.

Just to remind you, the Weekend for the Tour is based on The Chichester Park Hotel, Chichester, West Sussex. Prices are as follows:

Dinner, Bed & Breakfast on Friday (7<sup>th</sup>) and Saturday (8<sup>th</sup>) at £65 per person per night.

Dinner, Bed & Breakfast on Sunday (9<sup>th</sup>) at £50 per person.

The contact details for the hotel are Tel: 01243 786351; Fax: 01243 782371. The website is [www.chichesterparkhotel.com](http://www.chichesterparkhotel.com) Those booking should quote 'MG Weekend' to secure the rates quoted above.

One point that needs highlighting is that the hotel is on two floors but has no lift. Therefore, anyone needing a ground floor room should specify this at the time of booking.

The entry fee (to cover items such as route planning and admission charges to attractions visited) for the Weekend is £40 per car and a cheque for this amount, payable to Peter Cole should be sent to Peter at 8 Aldbourne Drive, Bognor Regis, PO21 4NE as soon as you have booked with the hotel. Telephone number is 01243 267234. E-mail [peter.cole\(at\)onetel.net](mailto:peter.cole(at)onetel.net)

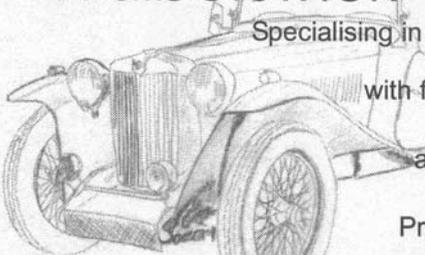
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# **The old chestnut – XPAG /XPEG oil leaks – rear main bearing**

Having made the decision to fit a 5-speed gearbox to the TF over the winter, I took the opportunity, while the engine was out, to investigate the usual oil leak from the rear main bearing. In my case this was not just a few drips but more a pool of oil about 5 or 6 “ in diameter each time the engine was turned off after a run.

As I dismantled the engine I closely examined the potential leak areas in order to find exactly where and how the oil was escaping. On removing the sump I observed that:

1. the sump lip had firmly indented the cork strip set into the rear main bearing cap to make a good joint
2. the stepped ends of the cork strip overlapped the 1mm paper sump gasket, were slotted into recesses and the joint sealed securely in place.

So far so good!

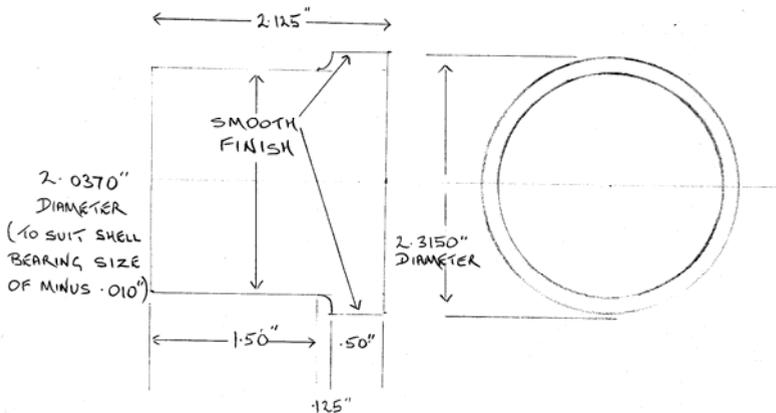
However, when the rear main bearing cap was removed, the faces of the cap and the block were found to be very oily, indicating that the cap had not been seating as well as perhaps it should, due to the shell bearings protruding slightly, even when the nuts were tightened to the correct torque. My local engine rebuilders tell me this is not unusual so any gap will allow some oil to find its way out via this route, particularly if the engine is worn and crankcase pressurization is present. In theory this should not be a problem as any oil escaping this way should get caught by the split collector housing formed by the rear main bearing and the oil slinger cap and drain back into the sump through the drain tube. Also there was no sealant or jointing compound between the two halves of the collector housing where they butt together, any gap at that point could allow oil to escape. Note made to check and remedy this on reassembly. I also checked that the thread grooves in the scroll were clear. On this engine they were but I have seen one rather neglected engine where the grooves were blocked with burnt oil deposits. The reverse scroll design struggles at the best of times and will not work at all if the grooves are blocked.

With the crank and flywheel assembly still in place my attention turned to the usual culprit, the fit and positioning of the die-cast slinger cap (called an oil seal cover in the Workshop Manual) secured by 3 bolts and two dowels to the crankcase. Checking with the feeler gauge at the two ends that are just visible showed no clearance one side and .007” the other. This was confirmed when the crank was removed later to reveal slight groove marks

made by the crankshaft oil return scroll on the side with no clearance. Here was the most likely cause of the excessive oil leak. As the crank and flywheel obscure the fit of the split collector housing to the scroll it is very difficult, if not impossible, to check there is an even .003" to .004" clearance throughout its circumference. Surely there must be a better way of getting to grips with this problem that has irked T-Type owners for so many years and about which so much has been written?

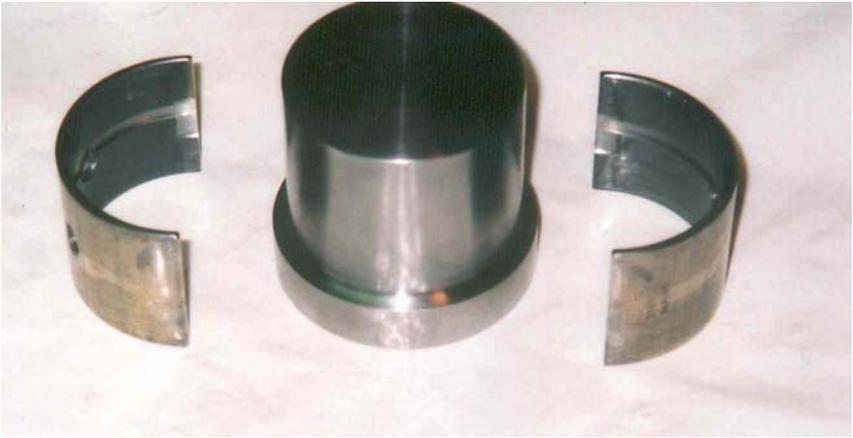
I had seen it suggested that a good fit could be achieved by using a plug or setting gauge to accurately position the slinger plate with the crank assembly removed from the engine. I figured that such a gauge would have to replicate at least the rear main journal and oil return scroll section of the crankshaft and be accurately machined to achieve the desired result. I therefore drew up and had a setting gauge made out of mild steel by local engineers for a modest cost, but if you have your own lathe, no doubt you could turn up your own. The drawing for the gauge is shown below and picture 1 (*overleaf*) shows the finished article while picture 2 (*also overleaf*) shows the gauge positioned in the rear main bearing (engine inverted).

**Note:** The rear journal dimension of 2.0370" was made to suit my own main shell bearing size of minus .010" but you might want to vary that to suit your own circumstances.

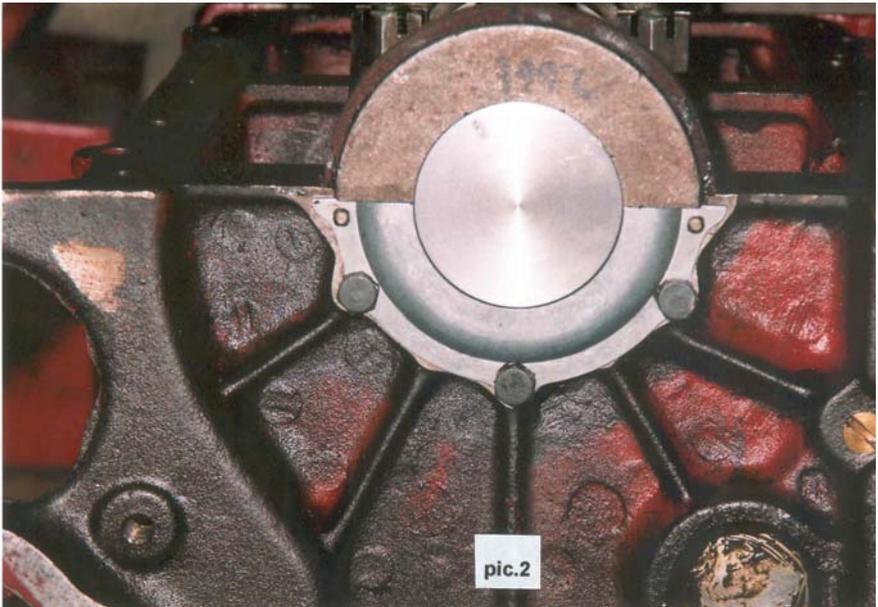


SETTING GAUGE FOR XPAC/XPEC ENGINE - REAR OIL SLINGER CAP.  
MATERIAL - MILD STEEL OR SIMILAR.

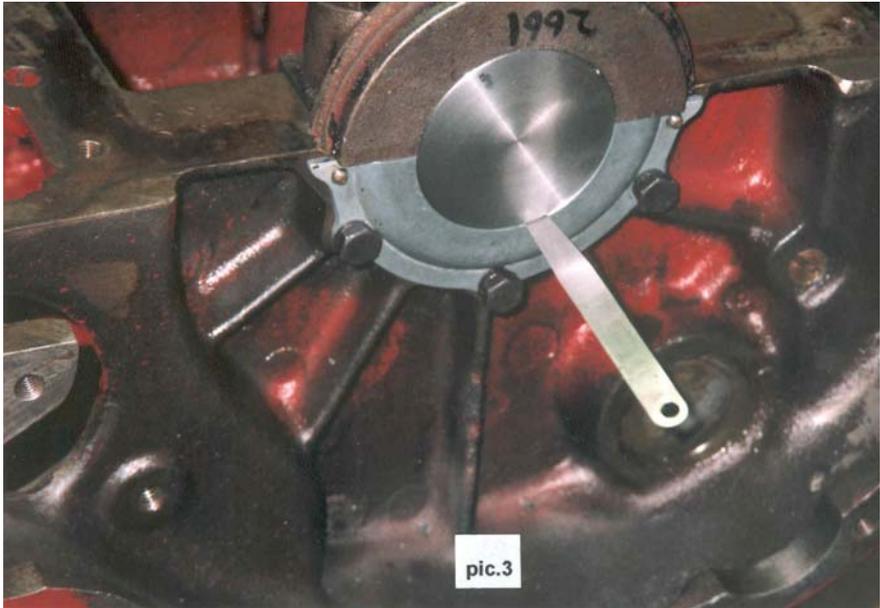
R.E.M. JAN. 2007



Picture 1



With the gauge in place and the rear main bearing cap tightened down, the setting gauge should offer the same turning resistance as the crank would do if fitted in the same manner. Now at last you can see what you are doing! It becomes a simple matter to trial fit the die-cast slinger cap using a .003" feeler gauge, (see *picture 3 overleaf*), to achieve an even gap throughout the circumference of the collector housing.



I used a new slinger plate but had to elongate the dowel holes with a needle file and scrape the semi circular face very, very slightly in order to get the slinger cap in the right position. I did find that the plate tended to move out of alignment as the 3 bolts were tightened and eventually used cap studs and omitted the spring washers.

At this point you may wish to remove the gauge and bearing cap and trial fit the crank to check that the clearance between the actual crank scroll and the two halves of the collector housing is exactly as you would wish. This time, because you can no longer see what is happening, you will have to use a smear of engineer's blue on the housing faces to make sure that interference is not taking place. When totally satisfied that your new gauge truly does replicate the role of the rear section of crank, remove the crank again and finally fit the slinger plate with its paper gasket using the gauge for the last time to check the clearance as you tighten the bolts or cap studs. I use a light smear of silicone sealer (gasket maker) on both sides of the gasket and particularly on the thread of the bolt that goes close to the camshaft oil way (the right hand one with the engine inverted). Apparently the thread drilling has been known to break through into the oil way and not surprisingly results in a major oil leak as indeed can the core plug at the rear of the camshaft bore if this becomes loose. Do check these areas carefully as they are potential leakage points.

While I had the two halves of the collector housing on the bench I noticed that the oil groove in the die-cast slinger cap did not line up accurately with

its counterpart in the rear bearing cap. A distinct ledge was formed in the main cap casting, (*picture 4*), where the two halves joined, which might hinder oil draining down and back through the tube into the sump. In practice this ledge probably makes little difference but in the quest for eliminating potential leak points I felt it worthwhile to spend a few minutes with small files opening up the profile of the oil groove in both sides of the bearing cap casting to smooth out the ledge.



Picture 4

## Summary

1. Cork strip with stepped ends must make a good joint with the sump lip, overlap the sump gasket, fit into the recessed slots each end and have both ends sealed to the block. This means fitting the gasket to the sump first.
2. When tightened down, the rear main cap should seat on the block as closely as possible,
3. The two halves of the oil collector housing must be sealed with jointing compound where they butt together,
4. Scroll threads must be clean and not blocked.
5. The fit of the oil slinger plate to the scroll must be no more than .003/.004"throughout. This can be accurately set up using the gauge described.
6. The slinger plate must make an oil tight joint to the block.

7. The joint between the oil grooves in the two halves of the collector housing should be aligned as smoothly as possible to aid drainage.

Does it work? The answer so far is a very definite 'yes' as the split pinned drain hole in the bottom of the clutch housing has only a faint smear of oil mist and no oil drips. As the engine wears it may not stay that way, only time will tell, but it can't be worse than it was before.

After refitting the engine/5 speed box, I read that our old friend Carl Cederstrand in California has come up with yet another way of beating the evil oil leak from the rear main bearing area. Carl advocates using an anti-wicking compound made by Nye Lubricants on the crankshaft scroll and the two halves of the oil collector. He reports that the compound causes the oil to ball up and as a result it will not wet the treated surfaces. I suspect however that his method still requires the summarised points to be observed. As Carl says this area of assembly does require a patient and methodical approach if leaks are to be kept to a minimum.

Finally, I just wonder how the Coventry engine factory managed this problem on the production line. They certainly would not have wasted time fiddling around, filing holes in slinger plates! Perhaps original production parts were made to closer tolerances then and being subject to quality control checks, fitted without the need for alteration? On the other hand motorists were probably more forgiving about a few oil drips and could only dream about the standard of engine design and manufacture we enjoy today.

**Roy Miller** January 2007



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## A Delighted Customer!

*(Whilst we are on the subject of engines, I thought that you might be interested in the following from David Lewis)*

"At one of the Lacock "natters" I mentioned that when I collected my TC engine from Peter Edney in January I was able to see and hear it running on an engine test rig. I had been told by Peter that one of his team (Chris) had plans to build such a rig but I had not imagined that it would be ready in the same timescale as my engine refurbishment. When Evelyn and I arrived at Peter's HQ there was my engine, beautifully painted in 1946 grey, sitting on the just completed and still unpainted rig. Once fortified by a cup of coffee the great moment arrived and Evelyn pressed the starter. The engine purred into life, sounding great and registering an oil pressure never before witnessed at those revs by yours truly. Coming in the middle of a seemingly endless process of repairing and welding the body panels - still continuing - it was like a burst of sunshine and a fanfare of trumpets! Chris was clearly, and justifiably, pleased with his innovation. The whole situation was in stark contrast to the last time I rebuilt the engine in a gloomy Putney lock up over 30 years ago!

The attached photo shows that the rig has since been painted and generally brought up to a very professional standard. No doubt the future will see a long succession of heartened customers, as thrilled as I was to see and hear their refurbished engines running."



**The engine test rig in the showroom of Peter Edney Classic and Sportscar (see his advert on inside cover).**

## **FIVA Guide for Users of Historic Vehicles**

FIVA (the European level umbrella organisation representing national historic car clubs and interests) has recently published a Guide for Users of Historic Vehicles. It can be downloaded direct from the FIVA web site <http://www.fiva.org/E/Downloads/Drivers%20Guide%20ENG.pdf> This document is FIVA's initiative designed to contribute to, and support, the European Commission's Road Safety Charter. The content of this Guide was discussed at a recent 'T' Register Committee meeting. While we support the initiative taken by FIVA, we are concerned at some of the content and the way it is presented. We therefore bring it to your attention with reservations.

We are particularly concerned that the discussion on lighting in the Guide does not differentiate adequately between historic cars that largely comply with modern vehicle lighting requirements and those that do not (mainly those built before the 1930s), with T Types falling into the former category. This should not preclude T-Type users from maximising visibility at night by, for example, always using headlights, making sure your rear reflectors are adequately large and effective, and adding a high centre brake light

We would have expected more accurate advice than that given in some areas. For example, the Guide suggests that brake fluid be drained and replaced every three years or so. Many T-Types now use silicon-based brake fluids that are not hygroscopic and for which this advice is incorrect.

The Guide is written in a way that does not acknowledge specific local requirements of individual countries – for example, in the UK all motor vehicles have to have two red reflectors to the rear which significantly affects the advice on rear lamps at the bottom of page 8 of the Guide. A commentary by the FBHVC (the UK umbrella organisation for historic vehicles) highlighting such variations specific to the UK would have been useful.

Overall, this Guide is a serious attempt to ensure that those driving historic cars do so safely and with regard to other road users. It is to be welcomed as a first attempt to provide sensible guidance. Jim Wyman at the FBHVC would be happy to receive your comments, good or bad, on the Guide so it can be improved.

**Chris Sundt, 'T' Register Secretary**

**Ed's Note:** Chris makes reference to the FBHVC (Federation of British Historic Vehicle Clubs). This organisation, which receives funding from most of the Classic Car Clubs in the UK, including the MG Car Club, does a significant amount of work in examining legislative proposals from the European Commission. The aim of the Federation is to uphold the freedom to use old vehicles on the roads without any undue restriction and to support its member organisations in whatever way it can.

*Totally T-Type, May 2007 19*

# OTLEY TO PAMPLONA IN A TC

*Thursday, 11th May to Saturday, 3rd June, 2006*

This adventure came about because my children declined the offer of a family holiday in Brittany. Rather than lose the deposit of £100, my wife Judith and I decided to go by ourselves. I don't know which one of us first thought of taking the MG, but once the seed had been sown we were committed. The two most frequent reactions amongst our friends when we told them what we were going to do were 'you must be mad!' and 'I wish I was as brave as you!'

We were soon into the planning and preparation stage, which was almost as enjoyable as the journey itself. This included a full service and asking for advice as to what spares we ought to take. If I had taken everything that was recommended I would have had enough to build another TC! I limited the spares to ignition - points, condenser, distributor cap - fan belt, inner tube, bulbs, enough oil to float a battleship and a half shaft.

There were two relatively minor problems associated with doing the trip in a TC. Firstly, how do you fit luggage for two people for three weeks in the car? I fit a Moss luggage rack and strapped on a suitcase (the type that is cleared for aircraft overhead lockers) and made it waterproof by putting it in the largest back-pack liner that Millets sell. (The case obscured quite a lot of the view through the scuttle mirror, but we managed). The second problem was how to get from Otley, in Yorkshire, to Portsmouth and onwards to Pamplona in northern Spain without using motorways, because as most TC owners appreciate, our cars and motorways are like oil and water - they don't mix. However, after a pleasant hour or so with a UK road map and a bit of help from the RAC for the French part of the journey we succeeded.

Because the route to Portsmouth was rather circuitous and about 300 miles we decided to take two days over it. We left home at 8.35 on a beautiful sunny morning (we were innocent enough to think that the whole journey would be equally fine!) and reached our first night's stop in Drayton Parslow, Bucks. The owner of a rather sporty looking blue ZT was staying in the same pub and was quite taken with our TC, asking if he could take a photograph of the two cars together - talk about dignity and impudence!



Because on the following day we only had 115 miles to travel to Portsmouth - and the ferry didn't sail until 22.30 - we could enjoy a leisurely day. An early

arrival at the ferry gave us the chance to talk to some of the other passengers, including a cyclist - my other hobby - with what I thought was a Hetchins 'Curly Stay', but turned out to be a Bob Jackson (who had bought the Hetchins company). There was only one other vehicle of interest, a 1935 Morgan 4 seater 3 wheeler, powered by a water cooled Ford side-valve engine. This car had been in the driver's family since 1937!

After a 'millpond' crossing, we were greeted in St. Malo the following morning by very grey, cold weather. We only had a short distance to drive to our destination in Brittany - Baud, just north of Carnac - where we were to spend a week. We stocked up with 'goodies' at the Saturday morning market in Josselin. For the next 7 days we just tootled round Brittany, covering 300 miles, most of the time with hood up due to cold and very windy weather. We left Baud at the end of the week en route to Pamplona.. The day was very cold with a fierce wind, so bang went any hope of travelling down France with the top down! (The drive over the St.Nazaire bridge over the Loire was particularly hairy). As we were only doing about 150 - 180 miles a day we had time to enjoy some of the many sites of interest on the way. We stuck close to the west coast, crossed the Gironde at Royan, travelled through the Bordeaux wine region - frustrating because we didn't have any spare room for samples. After driving on a stretch of road which was dead straight for over 12 miles we visited the highest sand dunes in Europe - over 400 ft - at Pilat, near Arcachon.

Our last stop in France was at St.Jean-de-Luz - a lovely resort - and then we headed over the foothills of the Pyrenees towards Spain. I had previously driven to Pamplona in my more modern Rover 827 via the pass from St.Jean-Pied-de-Port to Roncesvalles, but I thought it would be a bit too much for the TC, so I took an easier option. We had by now risked taking the hood down, even though it was a bit cool still, because it would give us a better view of the mountains. We went over the pass of St.Ignatius - very many tight hairpins, but not too steep - to join the main road to Pamplona. This was quite spectacular, again not too steep and I had to drop into third gear only for one short stretch, when I was baulked by a trunker. We arrived in Pamplona on Tuesday afternoon, having left Brittany on Saturday morning and having travelled 1,304 miles since leaving Otley. Whilst staying in Pamplona my daughter and family took us to San Sebastian on the north coast. What a spectacular road is the A15 to San Sebastian! At its highest point it is almost 2,000ft above sea level and the views could make you think that you were in Switzerland.

We left Pamplona - having given the car the 'once-over' and the grease gun an airing - on Sunday morning to return home, in perfect weather, blue sky and very hot. That is until we came out of a 1.75 mile tunnel through the Pyrenees into weather so bad we had to have the headlights on! The return journey wasn't exactly a reverse of the outward trip because we stayed at different B & Bs, but not far off. We arrived at St.Malo on Thursday morning for the ferry to Portsmouth. We stopped once more on our way north at an hotel that we use when we travel to Silverstone.

The final day home - my birthday - was superb, England at it's best in early June, the countryside covered in blossom and a drive along what must rank as one of the best roads in the country for a TC - the B6047 from Market Harborough to Melton Mowbray. Try it sometime! We arrived back in Otley in good time to put the champagne on ice and look back on a splendid adventure. Over the course of the trip we saw the afore-mentioned Morgan, P Type (at least I think it was) , Jaguar XK120, E-Type, MGA, MGB, an old Standard, and an old Simca, the owner of which spotted us parked in a lay-by, turned round and came back to see if we were OK. We were, so we 'kicked tyres' and compared notes. The trip also confirmed what I have long noticed, that in the UK very little interest is shown in our vehicles - even, sadly, by most owners of MGFs - but in France great interest is shown. We have never had so many people tooting their horns and flashing their lights. Granted, a lot of people thought it was a Morgan, and one chap even asked, 'Is it a diesel?' So much interest was being shown that I wrote all the details of the car on a large sheet of paper and tucked it behind the wipers whenever we left the car. Mind you, like most TC owners, I imagine, I would much rather people took an interest and talked to me about it. The total mileage was 2,204 , we used 74 gallons of petrol - 29.7 mpg - and 8.8 pints of oil - 250 mpp, mostly dripped over the roads of France. In fact on two occasions the leaks were pointed out to us by concerned Frenchmen - although one was a lady. Our little TC ran faultlessly throughout the whole journey - 60lbs oil pressure and 70 degrees water. Having done the End-to-End two years ago on my bike, we are going to do it in 2008 in the TC - can't wait!

For interest, our stops - and daily mileages were :

<b>Drayton Parslow (Bucks)</b>	<b>194</b>
<b>St. Malo (Brittany)</b>	<b>115</b>
<b>Baud (Brittany)</b>	<b>90</b>
<b>Brittany touring</b>	<b>305</b>
<b>Aizenay (Poitou-Charentes)</b>	<b>161</b>
<b>Jau-Dignac-et-Loirac (Aquitaine)</b>	<b>173</b>
<b>Tosse (Aquitaine)</b>	<b>173</b>
<b>Pamplona (Navarra, Spain)</b>	<b>94</b>
<b>Lesperon (Aquitaine)</b>	<b>131</b>
<b>Dompierre-sur-Mer (Poitou-Charentes)</b>	<b>188</b>
<b>Missilac (Brittany)</b>	<b>153</b>
<b>Dinard (Brittany)</b>	<b>104</b>
<b>Portsmouth</b>	<b>21</b>
<b>Great Oxendon (Northants)</b>	<b>159</b>
<b>Otley</b>	<b>144</b>



**Ed's Note:** The author, Geoffrey Barrett from Otley in Yorkshire owns one of the earliest cars on the Register. His TC, registration no. MVK 27 is Number 3 on the Register.

# T-TYPE RACING IN THE UK



'T' Racing, as run through the MG Car Club, is in excellent spirits, and with a new style of running the race meetings in 2007, there will be more of a presence of the MGCC, more reporting and photos, and a big welcome to those of our readers in the UK, who want to take a day out to support these events. Or, if you really want to race your car, it is not too costly, and skills are acquired thick and fast!

'T' Racing has a long and gracious history, and none of the enthusiasm of thirty years ago has left us, despite, naturally, a smaller number of cars as the younger drivers these days take to the more modern cars. However, the older motors run superbly, and provide some most exciting sport! It is also worth mentioning that a number of our T-Types race on the Continent during the summer months.

The 2006 year began with another splendid weekend at Arrow Mill – this is a pleasant hotel near Stratford-upon-Avon (Shakespeare country), where the 'T' Racers gather annually for a drivers' meeting and dinner. Dates for the coming season are decided and trophies for the previous season are presented.

The races which were agreed for our 2006 'T' Register racing programme included a splendid variety of circuits: Cadwell Park, Donnington Park,

Silverstone International, Brands Hatch and Mallory Park. The best supported events were Silverstone International and the popular meeting of the Bentley Drivers' Club. T-Types often race with other compatible cars such as MMMs, MGAs and MGBs, and also fine examples from other marques. For spectators it makes a good day for the camera.

The 2007 series, 'The Peter Best Insurance Challenge MGCC', is already under way, and at all Club events you can expect to find a Hospitality marquee and a Club director present. This season promises to be varied and busy, with some worthwhile double headers if you want to make a weekend of it, and there will be plenty of opportunity for sport. We hope some of the membership will come and support the racing – it always makes a good day or weekend out. 2007 dates include

19 May at Oulton Park	<i>MGCC Invitation Series</i>
23/24 June at S/Stone (International)	1. <i>Peter Best Insurance</i> 2. <i>MGCC Invitation</i>
14/15 July at Cadwell	1. <i>MGCC Invitation</i> 2. <i>Peter Bets Insurance</i>
4 August (tbc) at Silverstone	<i>Bentley Drivers Club meeting</i>
6/7 October at Snetterton	<i>Peter Best Insurance Challenge</i>

For those who want to read further about 'T' racing, the 'T' Register website contains race reports and results, a file of photographs of the drivers, as well as information on how to get in to 'T' Racing should you be interested. Go to the site and have a look for yourself: <http://www.tregister.org>. Or telephone me, the 'T' Register Competitions Secretary, at 01473 461252. We can give guidance on regulations, finding a car, instruction days, insurance, licences, clothing such as fireproofing and headgear and much more. We are friendly and welcoming; please don't hesitate to make contact for further information.

**Christopher Tinker**

email(at)tinker.go-plus.net

### **DISCLAIMER**

Articles published in **Totally T-Type** are published in good faith, but the MGCC 'T' Register cannot be held responsible for their content. Always seek advice from a competent person before doing anything that could affect the safety of your car.

# QUESTIONS TO AND ANSWERS FROM THE TD/TF TECHNICAL SPECIALIST

*Barrie Jones, the Register TD/TF Technical Specialist kindly keeps me informed of requests for technical advice received by him and the answers he supplies. It's about time I published some of these since I see that the last lot were included in last September's TTT, with a short follow up in November's TTT.*

**Question on engine, gearbox and back axle oil** *I have bought some Halfords 20/50 oil for the engine [made by Castrol] and some Comma EP 90 GL5 for the gearbox and diff. Many stockists do not sell EP 90 but offer EP 80/90. I am not sure what is best to use. I notice that on some Castrol EP 90 that I have for my 1275 Midget that it is EP 90 GL 4.*

*Could you possibly explain the difference and let me know if the Comma EP 90 is suitable. On the container it mentions only gearboxes, which is slightly strange.*

**Answer** *The Halfords 20W/50 engine oil is ideal for your TF in the UK. Castrol and Comma are both excellent makes, and I use them myself. The W (Winter) rating means it is as thin as a 20 grade when cold (ideal for cold starting), but as thick as a 50 grade when hot (ideal for protecting a hot engine).*

*Any EP (Extreme Pressure) oil with a rating of 90 will be fine for the TF gearbox and rear axle. Look for EP90 or EP80W/90. The 80W just means it will be a bit thinner when cold, which is a good thing for the gearbox, making gear changes easier when you first start off.*

*GL4 and GL5 are just additional information that you need not worry about.*

*Most cars nowadays are front wheel drive, so they do not have a separate rear axle, hence Comma do not mention them.*

**Question on thrust washers in the TD gearbox**

*I am in the process of rebuilding my TD gearbox. I have found your rebuild video and booklet very helpful.*

*With the new thrust washers installed on the laygear I have .010 end-float. The booklet recommends .002. Is there a range that would be acceptable?*

*I have tried milling down a bronze thrust washer. It cupped! I have access to a mill and a lathe. Is there a preferred way to cut down a thrust washer? Is it as matter of how it is held down? Or the amount of the cut?*

*Not having much success with making a new washer, I got to thinking about making a shim. Enclosed are pictures of what I came up with (**not published**). It goes behind the front bearing plate. It is notched for the*

*Totally T-Type, May 2007 25*

"key". It has sides that wrap around the bearing plate to hold it in place during installation. It is made out of brass shim stock. It could be any thickness.

What do you think? Is this a viable solution to excessive end-float? Or is it too "Mickey Mouse"?

**Answer** In top gear, the laygear has no load on it.

First and reverse are straight-cut, so they place no load on the thrust washers, only on the needle roller bearings.

In third and second the angle of the gears places a load on the front thrust washer, so I would not put a soft brass spacer in there. At the back, there is another thrust washer that never has any load laced on it, so that is where you could add an .008" shim.

I would turn up a new rear bronze washer slightly thicker than the Moss part. You have to turn the bar down to the correct diameter (which is not critical), drill the central hole, and then use a parting tool set at the thickness you want to achieve. If you make it slightly too thick, you can polish it on some emery cloth in order to achieve the final thickness.

Also, you need to clean up the notched steel support.

I see from your photo that the front one has wear ridges on it.

**Question about a starter motor** I am asking for some personal help which is not covered in your 'Electrics Booklet' which I obtained at a 'Rebuild' many years ago. Probably because I suspect that it is a mechanical rather than an electrical problem.

My TA has an XPAG with the usual starter motor and at revs over 3000 there is a 'tinkling' sound which appears to be caused by the pinion vibrating against the flywheel. Certainly when the car is stationary at these revs I can see the pinion starting to move against the light restraining spring. The pinion and bendix drive do not appear to be damaged although there is a little play and the pinion moves very easily even after removal of all traces of lubricant. I suspect that the restraining spring has become weak through age and use.

Questions:

1. Is my diagnosis likely to be correct?
2. Is it possible to buy the restraining springs?
3. Is removal of the large 'cushion' spring a DIY job or must I seek a specialist? The retaining 'nut' appears to be VERY tight after removal of the split pin.
4. If it is practicable what is the best way of removing it without causing damage?

**Answer** Your diagnosis fits all the facts, and it is a common fault.

I don't have any experience with the TA/TC starter motor. The TD/TF one is smaller and has no switch attached. The bendix mechanism is very similar, possibly identical.

Extract the split pin and undo the retaining nut, releasing the tension of the recoil spring. It should undo quite easily, after which it all just comes apart. See 'Blower' page 343. If it is very tight, that indicates either rust or a previous problem. Either way, it must be undone.

Clean everything. Check the springs are still in good condition, especially the light restraining spring which holds the bendix away from the flywheel. It may need a SLIGHT stretch.

Check for wear and burrs which might stop the bendix from returning. Oil lightly with 3-in-one and re-assemble. The bendix should screw inwards easily by hand, and return FULLY under its own power. If not, fit a slightly stronger spring. Not too strong, otherwise the bendix will not throw out fully to engage the flywheel.

**Question about cam follower wear** *My problem is cam lobe tip and cam follower wear. After 5,000 kms they are both badly worn.*

*I have a Crane cam, and have worn out:*

- (a) the cam followers purchased with the cam, and*
- (b) a second set with oil grooved followers after much shorter mileage.*

*Interestingly, my old cam, punched 'MOWOG', which I replaced two years ago, shows less and the cam followers about equal wear after 50,000 kms than the new parts.*

**Answer** There is a known problem with a recent batch of new cam followers, especially when used in conjunction with the Crane cam with larger lobes...

The followers have 2 sets of holes, top and bottom. When the cam raises the follower, it fills with oil through the top hole. When the follower lowers, it releases oil through the bottom hole, which lubricates the lobe. If the holes in the follower are too high, and the cam has a larger lobe than standard, then the follower may not drop enough to reveal the bottom hole, so the lobe never gets any oil.

Cutting a groove in the follower is a possible solution, but the groove must not extend all the way to the bottom of the follower, or else it may damage the cam lobe as the cam and the follower rotate.

I would prefer to enlarge the bottom holes in the follower with a Dremel file, so that the followers work as they were designed to do.

**A follow up answer** I have been thinking about your camshaft.

The first set of followers may have caused permanent damage to the cam lobes. The second set may have been damaged BY the cam lobes. If you fit another set, it may damage them as well.

**Question (from the Technical Specialist)** *I see you work for Castrol. Maybe you can help me?*

*I understand that modern oil has much less Zinc in it compared with older oils. I think that Zinc is the additive which protects surfaces such as cam followers. Is this true? If so, it may be that your problem is with your oil, and not the followers! I would like a reply from someone who is knowledgeable about lubricants, so that I can publish it in TTT.*

**Answer** I have had a long discussion with my colleagues in Pangbourne, Castrol's R&D labs. Commercially, ZDDP is available and was introduced in engine oils in 1949 (probably incorporated before in lubricants for military applications in WWII aircraft engines). The XPAG however being of pre-war design has been constructed without this anti-wear additive technology in mind. As a consequence the combination of cam and followers must have been working in those days.

With regard to our entire Castrol Classic Motor oil range the ZDDP levels are well above to what was the Mercedes Benz limit of 0.08 % giving superior anti-wear results. It is true however that zinc levels have been reduced very recently but only in modern "Low SAPS" oils ensuring cleanliness of today's exhaust filter systems. These oils are modern developments being of synthetic low viscosity/fuel efficient technology and not suitable for old engines like the XPAG.

I have also spoken to a number of local engine rebuilders and they all agree that high cam follower wear is normally not a lubrication problem, but more a question of a) material compatibility of the cam/cam followers and/or b) a question of the quality of the hardening process of the cam lobes and the feet of the lifters. It was agreed that the running in process is critical (applying a MOS2 paste to lobes and followers contact surfaces/ensuring that they all are turning freely as from start/running the engine at 1800 to 3000 rpm for the first 20 minutes). Interestingly all followers so far used had a measured hardness of 58 to 60 Rockwell (Crane recommends 48 to 58 Rc).

My opinion is that the quality of most cam followers produced today is not suitable, at least in combination with the Crane cam. As a trial I have now purchased a set of purposely made lifters machined out of solid steel sourced in Italy for a price of about 2.5 times the current level. I will keep you informed about my experience.

**Question about fitting an MGB fan blade to a TF** Whilst thinking back to the long hot summer days of last year and thinking of ways to keep cool this year, I understand that may be possible to fit the more effective MGB fan blade to the TF - is this the case? Any mods required? And is it worth doing? I am probably only putting off an eventual rad rebuild, but it's a lot cheaper than a new rad if it works.

**Answer** Yes, this is a worthwhile mod if you aren't worried about originality. The MGB plastic fan has 1/4 inch holes in it, whereas the TF water pump pulley takes smaller 5mm set screws, so you will have to tap the pulley out to 1/4 UNF or 6mm.

Centralisation is critical. An out of balance fan can cause a nasty vibration.

**Some comments from John Saunders (via Barrie Jones) on the item in the September 06 TTT on core plugs for the XPAG**

Care should be taken if stainless steel or brass core plugs are proposed for use instead of mild steel. Both stainless steel and brass are significantly more cathodic (electronegative) than cast iron (CI). Mild steel is slightly more anodic (electropositive) than CI. In mutual contact with an electrolyte (e.g. water) two dissimilar metals will set up a small electrical cell or battery. Current will flow and the more electropositive metal of the pair will corrode preferentially. The magnitude of the effect, i.e. the voltage generated between the two metals and thus the current, is governed by the separation of the two metals in the electrochemical series (more or less anodic).

To illustrate the point, in a ranking of forty metals ascending from the most corrodable (anodic) to the least corrodable (cathodic) some common metals have these positions in rank :

1 - Magnesium and its alloys (most corrodable), 3 - Zinc, 5 - Aluminium, 10 - Mild steel, 12 - Cast iron, 18 - Lead, 19 - Tin, 25 - Brass, 29 - Copper, 35 - 304 or 316 Stainless steels (passivated type), 37 - Silver, 39 - Gold, 40 - Platinum.

As can be seen, Mild steel and Cast iron are close together (separation on this scale = 2 ranks). Cast iron and Brass are separated by 13 ranks and Cast iron and Stainless steel by 23 ranks. The activity of the batteries for each pair in magnitude of current flow will be roughly proportional to these rank numbers i.e 2 : 13 : 23. The corrosion resulting is directly proportional to the current under comparable conditions, but all three are faster at higher temperatures as in an engine block.

Now here is the "kicker" -- For the Mild steel/Cast iron pair the core plug will corrode preferentially leaving the block much less damaged, hence the complaint of leaking plugs. For the other two pairs the Cast iron block will corrode first, and at a much greater rate, 13 or 23 compared with 2. I

suspect a leaking core plug is easier to fix than a corroded block. The corrosion will not be distributed throughout the block but will be very localised close to the rim of the plugs and the result could be quite severe perforation of the core plug annular seat.

I was a chemical engineer in a different life and saw in the course of my work quite dramatic examples of this problem. Chemical equipment must often be designed so that cheaply replaceable parts corrode first rather than expensive pieces, e.g. sacrificial anodes of Magnesium alloy to protect product pipelines.

In the above core plug cases the way to minimise the bimetallic corrosion is to insulate the plug from the block as much as possible. When inserting the (preferably Mild steel) plug be generous with an insulating gasket cement between the plug and the annular recess where it sits in the block. The central inner face of the plug is less important. Personally I favour Red Hermetite cement which I leave to set thoroughly before replacing the cooling water, but the key is gasket cement durability and good insulation between the metals. (Note -- Red lead compounds although they were good for this (good insulators) in the past have been commercially unavailable under EU rules for some time now owing to chronic toxicity problems.)

Comments anyone ?

**John Saunders**

***Some thoughts on the Slow Running Control from Dieter Wagner (one of the suppliers of the VW steering conversion for TA/TB/TC)***

One of the finest features fitted to the pre war MGs, including the post war TC, is the Slow Running Control. When I start the cold engine I never touch the pedal but turning the button some revs the engine is idling happily after pushing in the choke with 1200 rpm. Even if you have 1.5 inch carbs it is possible to fit this item. Either you fit the same linkage as on the 1.25 inch carbs including that small piece on the butterfly shaft or you use the oval formed disc fitted normally on the 1.5 inch carbs. Bolt on a small lever to that disc and use it as the original lever.

But never the Slow Running Control is a hand throttel. You can make the engine run up to 4000 rpm idling but that is not enough to run the car with normal speed. Once I had a bad nerve on my right leg. After 30 minutes of driving I must bring the leg in another position or are forced to take a break. I fitted a real hand throttle on the steering column which was totally independent of the gas pedal. For that I used a choke cable as fitted to older motor cycles so I could use that item as a speed control. When the bad nerve disappeared I removed it.

When I restored my TA Tickford I considered fitting a rack and pinion steering from a Mini, but it came to light that this is not a good idea. The steering would be fitted in place of the tie rod tube and because it is fixed to the chassis the wheels would make uncontrollable turns whilst jumping up and down. Once in Silverstone I have seen a rack and pinion steering clamped to the back of the axle to avoid that effect. But there was a complicated connection to the steering shaft. It is thinkable to use only the left hand side of a rack and pinion connected to the left tie rod end. I eventually fitted the prototype of my VW steering to the TA. It is still there and the current owner is happy with the comfortable steering.

**Question concerning brake switch problems on a TF**      *When I bought my TF the car had been partially rebuilt including the brake system overhauled and filled with silicon fluid. All seemed well as it worked and there were no seized cylinders. However I have a problem with the brake light switch. It comes on when I turn the ignition on, goes out if I dab the brake pedal and release it goes out but comes back on after about 10 seconds. The workshop manual explains that the TF/TD master cylinder ensures the fluid is kept at a pressure of 8lbs per square inch to prevent the cylinder seals from becoming dry. I have tried three different pressure switches with the same result. The pressure in its static form is clearly too great for the switch and greater than 8lbs per sq inch. [The brakes remain free in this state]*

*I think I recall seeing an article or letter in one of the magazines, Totally T type or possibly Octagon a while ago saying silicon can cause this and the bleed hole in the master cylinder needs opening out. Have you any ideas about how I can solve this or find the article please ?*

*Other solutions [without completely stripping the system and changing to mineral fluids] could perhaps be to fit a mechanical switch to the pedal or a less sensitive hydraulic switch if I could find one. Help would be very much appreciated as it is preventing me from taking the car for its first MOT for 33 or so years.*

**Answer**      I have heard of problems with silicone brake fluid. It would appear to cause the rubbers to swell slightly, especially when these rubbers have previously been in contact with DOT3 or DOT4 fluid. The local manufacturer of replacement rubbers (Brovox in Camelford) told me that their grade of rubber is not compatible with silicone fluid, and they do not recommend it.

Yes, later cars have small springs inside the cylinders to keep the rubber cups open, but the pressure involved is minimal.

The design of the TD/TF master cylinder is such that the fluid supply/release hole is very close to the tip of the rubber cup, and even a

small increase in the thickness of this rubber will close it off permanently. So, the brake system retains pressure when the pedal is released, and the light stays on. More seriously, the brakes stay partially on as well. A mechanical switch will merely mask this problem, not solve it.

Some people have increased the diameter of the hole, and say that this has eliminated their problem. Others recommend machining 1mm off the end of the piston. Obviously, any such modifications to a safety-critical component such as this are done at your own risk, so I cannot endorse them.

***(From Werner Hofstetter on using the PU bushes supplied by Barrie Jones for TD/TF. Werner used the rear shackle bushes from the TD/TF on his TC as they fit the front of the TC - with modification to the lower bush - and the rear upper on the back. Barrie is prepared to order some more of these bushes if there is sufficient demand.)***

They are a perfect fit on the front axle (shortening the lower ones by the thickness of the brazed-on washers). This applies also for the upper rear bushes of the back axle which are the same dimension as the front bushes. I have also replaced the lower rear bush on the back axle by a PU variant sourced from MOSS in the US. Attention needs to be given to the end of the rolled spring leaf forming the eye for the bush: I found two to be sharp as a blade, potentially cutting the soft bush material. I rounded the edge a little bit with a Dremel grinder. At the same time I had installed bronze bushes at the front spring eyes on the front axle, minimising play. The result is a much firmer, more controlled ride without being hard (under the precondition that the springs are well lubricated). Roadholding is improved with a feel of increased safety. I have even noticed a somewhat lighter steering, probably due to the better controlled suspension. On top the dark blue colour can hardly to be distinguished from the black rubber bushes.

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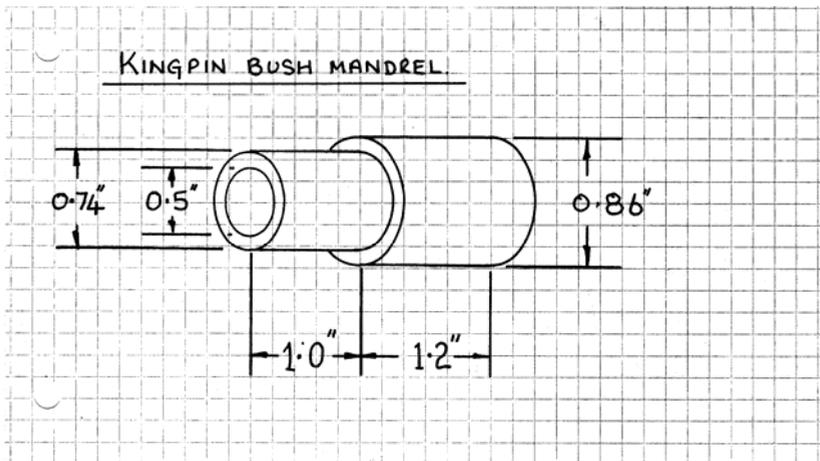
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## FITTING KING PINS AND BUSHES ON BEAM AXLE CARS

How many have shared the experience of observing the M.O.T. tester as he shakes a front wheel and starts to draw breath through his teeth whilst also shaking his head? Maybe you should have greased the kingpins every 500 miles as suggested by the 'Brown Book' (*TC Instruction Manual*). It's not just the lack of lubrication; corrosion will have played its hand if the whole assembly isn't covered in grease.

Is replacing the kingpins possible for the home mechanic? Well yes, given a  $\frac{3}{4}$ " reamer and drawbar plus a mandrel turned up from brass or aluminium by a friend with a lathe. The drawbar can be made from substantial studding at least 12mm in diameter, or it could be replaced by a 6 inch vice or press. The mandrel shown in the drawing is suitable for our kingpin bushes.



### Different reaming methods

Both the kingpin bushes must be reamed in line; this used to be achieved with a long two stage kingpin reamer. The start reamer section would be some 10 thou. under the nominal size and takes a light cut of the first bush. Having passed through, it engages the second bush and also starts to take a light cut. Part way through this light cut, the second reamer section starts to cut the first bush to size and then moves on to cut the second bush to size. Alignment is thus assured by the single straight-through operation. These reamers are now rare, and you would be very lucky to find one in good condition that wasn't bent.

An alternative method as suggested by Peter Cole (*Totally T-Type issue 9, May 2005*) needs a lathe. Both new bushes are pressed in and a long

guide mandrel made up that just passes through both bushes. The mandrel is mounted in the tail stock and the reamer held in the chuck. Slide the bushes in the stub axle onto the mandrel and advance the tail stock so that the ends of the mandrel and reamer meet. Using a low chuck speed, slide the stub axle along the mandrel onto the rotating reamer, holding on to the stub axle's spindle. This is a little hairy, and thick gloves should be worn as well as keeping a foot over the stop switch. This method should be suitable for the kingpin bushes that John James has available, as the amount of surplus bearing material to remove is only some 5 thou.

A third method is not dependent on having a lathe. However, the proviso is that at least one of the bushes is not too worn. This particular bush can be used as a guide for the reamer. Press out the worst worn bush, clean the stub axle bore of any burrs and press in a new bush. Using the remaining old bush as a guide, ream the new bush to size through the old bush, withdraw the reamer whilst still turning in the cutting direction. Press out the remaining old bush, clean the bore and press in the second new bush. The just reamed first new bush can now be used as a guide; carefully insert the reamer into this guide and then ream out the second bush to size.

If uncertain about the initial bush being suitable as a guide, replace the old bush with a temporary sleeve turned up from plastic or ally, which should be a light push fit in the stub axle and which has a bore equal to  $\frac{3}{4}$  inches. Once again you will need a friend with a lathe.

The reamers suggested so far are known as hand reamers and have a square end to the shank for use with a tap wrench. These reamers have a tapered "lead in" for the first 1/3 of their cutting section. Machine reamers have a Morse taper shank, no "lead in" and are not suitable for hand reaming. Do not be tempted to use an adjustable reamer; obtaining a good finish to size is difficult and because the cutting flutes are straight (no helix twist as with fixed reamers) they can cause chatter. Avoid reamers with damaged flutes, the first and only time that I had kingpin bushes reamed out by a garage they managed to bodge it. The initial fit seemed good, but that was only by virtue of the high spots. These soon wore away resulting in more play than the old bushes. A good finish is all important and it will take many minutes of hand reaming with a light to modest force progressing the reamer through the bushes. Whilst reaming, the use of diluted soluble oil or a lard based lubricant is advisable and a double handled tap wrench must be used so that both hands are involved, this reduces the side force associated with using just a spanner.

Removing the old bushes from the stub axle may need considerable force; a length of 12mm studding used to pull a bush via a mandrel through the stub axle may not work. In such a situation, where the nut has been fully tightened, an additional shock clout with a hammer on the nut may free the

bush. If this fails, then a substantial vice may be needed, at least a 6 inch version, to force the bush out of the stub axle. If this also fails, then a hydraulic press will be needed. All this may seem a wee bit pessimistic, but if you are contemplating kingpin renewals it's prudent to find out beforehand, who amongst your contacts may have some heavy gear.

The bushes can be pulled into the stub axle bores by the same techniques, once again the use of a mandrel will help align and protect the bush. The stub axle bores may need some de-burring and a light coating with anti-seize compound. The ends of the bushes should also end up being flush with the thrust faces of the stub axle. The correct kingpin bushes have a grease groove that almost circumscribes the bearing surface and a short spur section that serves to lubricate the thrust washer. Therefore the spur section on both bushes should direct grease inwards towards the beam axle. The grease hole in the bushes will also need to line up with the grease nipple. When greasing the bushes, try pumping the grease through as quickly as possible, this should encourage fresh grease to reach remote areas.

## **Assembly of the kingpin**

Having reamed both bushes, insert kingpin and check that a smooth sliding fit has been achieved. The pin should be able to drop gently under its own weight and one should only just be able to detect some play. If this play disappears after the application of some light oil, then that's a good sign. If the kingpin seems a little tight, then try polishing the bearing surfaces of the kingpin with some 1000/1200 grade wet and dry (crocus paper?) soaked in light oil.

Smear a light coating of anti-seize grease in the beam axle's eyes.

Position the stub axle around the beam axle's eye and insert a greased thrust washer under the axle's eye and slide in the kingpin with the slotted end facing up-wards. Rotate the kingpin so that its flat appears in the cotter pin's bore hole and push the cotter pin in from the back of the axle. Slightly oscillate the kingpin to check that its flat has seated on the inclined flat of the cotter pin, and adjust the vertical position of the kingpin so that its chamfered ends protrude equally. At this point the cotter pin can be driven fully home with a good blow from a hammer and the securing nut / washer fitted. The kingpin must be securely clamped to minimise any rocking in the axle's eye, which could result in the eye becoming oval.

The original cotter pin had a domed nut screwed on its "blunt end" so that the steering-lock adjustment bolt, screwed into the stub axle, would have a counter face to limit movement of the stub axle around the kingpin. The bolt would then have been adjusted to prevent the tyre rubbing on the inside of the wheel arch on full lock. The bolt is secured by a tab washer; however,

the system would benefit from washers being placed under the bolt's head to act as spacers and thus enable the bolt to be "tightened down". The head of the new cotter pins protrudes about 5mm and acts as the limit stop. We have chosen to improve the cotter pin by specifying a tougher material, after observing how old cotter pins often showed signs of "rucking" due to the leading edge of the kingpin's flat digging in to the soft surface. The thread form on the cotter pin has also been increased from ¼" BSF to 5/16" BSF to improve the pin's security.

Finally, the "top hat" and oiled felt ring can be fitted, these are secured by a ¼" BSF bolt. Having spent so much time and effort replacing the kingpins, you shouldn't need reminding about frequent greasing. **Eric Worpe**

**Ed's Note:** The kingpin and bushes project has been quite a success. At the time of writing I have only 2 full sets of king pins and bushes left from the original 30 sets ordered. Full details were given in the March issue of TTT. Postage costs (UK) are £3.85 plus £1 for insurance, so a full set of kingpins, bushes, thrust washers and cotter pins will cost you £69.85.

The bushes are still in plentiful supply (we did, after all, order 300!). The price is £26 for a set of four plus £1.50 for postage (UK). Surprisingly, the mailing cost to European destinations and to the Rest of the World is only a little more than the cost of sending within the UK. For overseas members, payment by credit card using a PayPal account is probably the best option. However, as we lose about £1 to fund PayPal's commission we ask for a small surcharge of £1. We are already doing this on a non-profit making basis and we don't really want to end up making a loss!

We have also acquired some wrapped bushes for the Bishops Cam 'box. These are 1¼" in length compared with the 1" king pin bushes. Eric Worpe comments as follows:

*I would advocate the longer (1¼") bushes for the steering box, as the top bush needs to be long enough to straddle the section of the box that has to be machined away to provide clearance for the worm cam. If two of the longer bushes are used, then an oil reservoir gap is created between the bushes, which can be drilled into from the cam gear section. This allows the lower bush to be lubricated, which only happens normally when the top bush is worn. New type oil seals are a must, this will need some machining also.*

At the time of writing, I have 14 (7 sets) of these bushes. The cost is £6.50 per bush (£13 per set) and UK postage cost is £1.50. Cheques should be made payable to me (John James) and sent to 85 Bath Road, Keynsham, BRISTOL BS31 1SR. Mainland Europe and Rest of World postage is £2.00 and if paying by PayPal, please add £1 surcharge. Please e-mail me [jj\(at\)octagon.fsbusiness.co.uk](mailto:jj(at)octagon.fsbusiness.co.uk) for details of where to send PayPal funds.

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£9,000 for the lot. Will not separate. Spares list available on request. 01234 822788 or email [tsale\(at\)qufaro.demon.co.uk](mailto:tsale(at)qufaro.demon.co.uk). Tony Sale.

**TA Tickford restoration project for sale.** Rolling chassis, engine/gearbox in and brand new ash frame fitted. Phone Ron Curtis 07803 148788 or 01455 822208.



**RHD 1952 MG TD Red with Beige interior.** Car was fully rebuilt from chassis up in 1998 and now sports a 5 speed conversion and a full wire Wheel set up. Engine is a Wolseley Block converted to XPAG and is +60 and 30/40 on the crank Covered for unleaded fuel. Lip seals front and rear main (both dry). Currently on

French plates (original UK document copied for return to UK registration available) and is Control Technique (mot) until 03/08. Contact via email at [mga752\(at\)aol.com](mailto:mga752(at)aol.com) or telephone 0033 297 73 41 22. Price £12750 or 18487 euros. The original MG gearbox and all parts to return to standard are included in the sale.



This well known car is only for sale due to the owner's failing health, It was substantially rebuilt by the previous owner, Ian Lloyd, and purchased by me as an unfinished project . To complete the rebuild, I had to finish the interior trim, and carry out a complete engine rebuild, having the cylinder head unleaded etc., and the

bottom end re-white metalled. The car has been fitted with a MG VA engine of 1550c and gearbox., giving the car an easy 60/65 mph cruising speed .The interior is trimmed with Blue Leather and all the woodwork has been refinished, and all chrome plating redone.

I have owned the car for the past 6years and covered only 6300 miles. I have most of the bills covering the rebuild. The price I am asking is £29500, but is negotiable to T Register members. Please Phone 01227 750520 ( Canterbury ) for further details or e-mail [sawrod\(at\)tiscali.co.uk](mailto:sawrod(at)tiscali.co.uk) Rod Sawyer.

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