Neil Wallace’s 1955 TF1500 (TF9205) with Red Arrow Hawk T1 jet. Photo taken at RAF Shawbury’s family open day, Shropshire on 25th July 2014.
The MG AuctionWatch website offers an up-to-date, real-time list of the latest online MG auctions, organised by MG model and category.

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Welcome to the August 2015 issue of TTT 2! I proudly feature the front cover of the Roadbook for our third TTT 2 Tour. Grant and Barbara Humphreys have done a superb job in organising the Tour (including the design and production of the Roadbook and the Rally plates) and it just remains for some decent weather to greet us in Lancashire and Yorkshire.

The front cover of the Roadbook shows the gateway to Skipton Castle in Yorkshire (one of our visits); at over 900 years old, it is one of the most complete and best preserved castles in England. ‘Flying’ over it (back west to Lancashire?) is one of the Pendle Witches (The trials of the Pendle witches in 1612 are among the most famous witch trials in English history, and some of the best recorded of the 17th century. The twelve accused lived in the area around Pendle Hill in Lancashire, and were charged with the murders of ten people by the use of witchcraft). Acknowledgement is due to Wikipedia.

If you haven’t been able to make this year’s Tour why not come along to next year’s Forest of Dean and Wye Valley Tour, which is being held from 26th to 29th August? The rate negotiated with Bells Hotel in Coleford http://www.bells-hotel.co.uk for the Dinner bed and breakfast package is £57 per person per night and the reservation number for bookings is BK07359 (£25 per person deposit).

The value of T-Types in the UK continues to increase; TA0873 recently featured in Classic & Sports Car with an asking price of £44,995 – mind you, it did have a complete Naylor Bros rebuild in early 2000 at a reputed cost of £70,000 plus!

Back to more humdrum matters – I am planning on commissioning another batch of TC rear springs. I don’t have a price yet but it will be extremely competitive.

Finally, John Davies is looking for a pair of carbs for a TC plus inlet manifold, if possible. Condition is not critical. johnadavies11@btinternet.com

I am reminded that five years ago we produced the first issue of Totally T-Type 2. From a zero base, albeit, to be fair, most of the former Totally T-Type subscribers registered for the new publication, we now have a worldwide audience of around 4,000.

However, in a competitive environment there is no room for complacency and continuous improvement is the name of the game. We want to cement our enviable position as almost certainly the world’s largest circulation technical magazine solely devoted to T-Types and in the coming months we shall be considering the best way to do this.

This issue is largely taken up by an article from Eric Worpe entitled ‘Conventional Ignition Systems’. It formed the basis of a presentation given by Eric at the T Register’s ‘Rebuild’ event earlier this year. Eric has put a lot of time into this and we are fortunate to have someone like him who is prepared to share his considerable knowledge.

At last year’s TTT 2 Tour of the Isle of Wight I was presented with this delightful tissue box which contained £155 in bank notes. The money is to be used to further the cause of T-Type motoring and I’ll be discussing with Eric whether it could help fund a project to help to fabricate replacement capacitor modules. Anything which serves to increase the reliability of our cars is to be welcomed.
Conventional Ignition Systems

The historical perspective that led to the T-Type’s ignition system is worth revealing, due to the involvement of some pioneering characters. One such individual was Nikola Tesla (1856 to 1943), born in Serbia during a heavy electrical thunderstorm, in which the midwife was heard to grumble that nothing good would come of any child being born amongst all the lightning flashes. Little did she know that “lightning” was to have such a profound association with Tesla.

Tesla emigrated to the USA aged 28 and worked for Thomas Edison as an electrical engineer, but left when Edison failed to honour his pledge to reward Tesla’s many improvements to DC motors and generators. Tesla joined forces with Westinghouse to develop the AC system of generation and distribution that we all use today.

Renowned for his achievements and showmanship, he became the archetypal “Mad Scientist” with 100s of patents covering such things as wireless communications (and we all thought it was Marconi), fluorescent lighting, poly-phase electric motors and generators, spiral flow turbines and high pressure water cutting. Amongst his many pioneering works, he used the inherent characteristics of inductors to generate very high voltages, enabling him to create artificial “lightning”. The unit of magnetic flux density is named in his honour, as is the Tesla coil, which forms the basis of our ignition coil.

Any coil of insulated wire develops an extraordinary characteristic called inductance, which is enhanced if the coil is wound around a soft iron core. Any current passing through the coil produces an electro-magnetic field, which is a form of energy storage. Changes in current alter the strength of the magnetic field in such a way that the resulting changing magnetic field cutting through the coil’s turns induces a voltage that’s in opposition to the voltage driving the current through the coil. Not easy to find an analogy, but a bit like walking through a non-Newtonian liquid such as custard; the faster you move, the greater the opposition. This opposing voltage is called the back EMF (Electro-Motive Force), and just as with the custard analogy, the greater the rate of change of the magnetic field, the greater the back EMF.

The overall effect of the back EMF is to oppose any change in current, whether it’s increasing or decreasing, and the energy being stored in the magnetic field is available for this task.

In the case of the TC ignition coil, its inductance has a value of 10 mH (milli Henrys) (where a Henry is the unit of inductance) and a resistance of 4 ohms, so that when 12 volts are applied to the coil, the current takes a finite time to build up to its final value of 12/4 = 3 amps due to the opposing effect of the back EMF as energy is being stored in setting up the magnetic field, (Graph 1 – opp. page).

The build-up of current is not linear because the actual voltage applied to the coil’s inductive component is progressively reduced as the voltage developed across the coil’s resistive component increases, (Graph 2 – opp. page).

The characteristic of inductors to oppose change gives rise to a significant effect when the current is turned off. As the switch (contact-breaker points) attempts to disconnect the current flowing through the inductor, the energy stored in the collapsing magnetic field induces a voltage that tries to maintain the same current prior to switching off. This back EMF voltage can reach many thousands of volts and results in serious arcing across the switch contacts as they open and all the energy stored in the magnetic field is dissipated in the arc, (Fig.1 – page 7).

It was this phenomenon that enabled Tesla to generate arcs many feet long in his laboratory. However, whilst the arcing was impressive, the switch contacts would burn-out unless made very substantial. The back EMF generated was difficult to predict and if too high could cause the insulation of the coil’s wire to break down; so whilst Tesla’s coils were very effective in generating high voltages, their reliability proved challenging.

It’s at this point that Charles F Kettering came up with a simple but ingenious solution in 1908 at the age of 34. Kettering was founder of DELCO and head of research at General Motors and earned himself a reputation for his various aphorisms, one of which shows his determination. He quotes “Failing intelligently is one of the greatest starts as one should keep trying and failing until one learns what will work”.

He is credited with inventing the starter motor after learning of the death from septicaemia of someone injured by the kick-back of a starting handle. The victim had gone to the aid of a lady, who had stalled her car and in the ensuing turmoil had forgotten to retard the ignition timing prior to “swinging the handle”.

This must have been the golden age for inventors, given the many pioneering developments in both electrical and mechanical engineering, together with scientific advancements. Charles Kettering made many contributions, being credited with developing spark plugs, leaded petrol, automatic transmissions, safety glass, cellulose paint, the refrigerant Freon and advanced diesel engines and also held 100s of patents.

Magnetos initially provided the Extra High Tension (EHT) needed by ignition systems based on the magneto effect discovered by Michael Faraday around 1831. Kettering’s attention towards an alternative ignition system to the magneto may have arisen due to its main disadvantage of a low...
Graph 1

Build up of current in coil.

Graph 2.

Shows how the increasing voltage drop across the resistor reduces the voltage available to drive current through the inductance.
output at slow engine speeds. This was overcome in part by “impulse coupling” which used the release of spring tension to increase the rate of rotation of a magnetic rotor at a crucial moment. The early magnetos used simple cam operated contact points, which suffered from arcing, hence were prone to “burn out”.

Kettering devised an ignition system that used an auxiliary battery to supply current through an inductive coil. The system still needed contact-breaker points to interrupt the current and allow the generation of a high voltage back EMF. However, he overcame the inherent problems of arcing at the points by the ingeniously simple method of placing a capacitor across the points.

A capacitor is a form of electro-static energy storage consisting of two conductive plates separated by an insulating dielectric. Energy is stored in the dielectric by the reaction of atoms to the stress of an external electric field. *(Fig. 2 – page 7)* shows a typical capacitor construction, the two foils forming the conductive plates are separated by a thin dielectric layer and wrapped around to form a “Swiss roll”. Each foil extends beyond the insulator at one end to enable a continuous electrical connection to be made along its edge.

Capacitors work in the opposite way to inductors as they readily absorb current to build up an energy charge between the plates. Once the voltage across the plates reaches the supply voltage, current ceases to flow. However, any change in the supply voltage is opposed by releasing or absorbing a charge of energy. The effectiveness of this energy transfer is limited by any series resistance in the circuit.

Kettering’s original circuit, *(Fig.3 – page 9)*, possibly drawn on the back of a used envelope was dated July 23 1908 together with his signature and those of two witnesses. It showed an interesting insight as an air gap was included in the soft iron core’s circuit. It’s this air gap that actually stores the energy of the magnetic field.

Whilst the points are closed, the capacitor is shorted out and current is allowed to flow through the coil. As the points open, the dc path for the coil’s current is interrupted but an alternative path for oscillating currents is opened up through the capacitor.

When inductance and capacitance are connected together, they form a resonating tuned circuit, where energy can be transferred back and forth between an electro-magnetic field and an electro-static field. Such an energy transfer produces a sine-wave oscillation resulting from a fundamentally natural phenomenon known as Simple Harmonic Motion, which is also found in other energy oscillating systems such as swinging pendulums and vibrating springs. As a result of this resonance the duration of the spark is extended, giving reliable ignition of the fuel/air mixture in the combustion chamber.

You may be wondering if you haven’t dozed off, why this seems like a physics text book, and you’re not alone - even my wife sympathises with you. However, I’ve come across numerous explanations about ignition systems and found almost as many mis-conceptions, most as a result of an inadequate understanding of basic principles, which, whilst relatively simple, have a profound effect at some quite subtle levels.

As the points open in Fig. 3, the magnetic field collapses, generating a back EMF that charges up the capacitor. When the magnetic field has finally collapsed, the capacitor is fully charged and then starts to discharge back into the coil. This oscillating effect could go on indefinitely were it not for various energy losses. The energy transfer between coil and capacitor offers the chance to control the maximum back EMF generated by the coil as the energy e in Joules within the system can be deduced by two simple formulae. The Joule is a quite small unit of energy equal to 0.24 calories, one calorie being the amount of heat needed to raise the temperature of 1 gram of water by just 1 deg. Centigrade.

For an inductance, the energy \( e = \frac{1}{2} L x (I x I) \), where L is inHenries.

For a capacitor, the energy \( e = \frac{1}{2} C x (V x V) \), where C is in Farads.

For a typical TC coil of 10mH running at a current of 3 Amps, the stored energy is \( e = \frac{1}{2} x 0.01 x (3 x 3), = 0.005 x 9, = 45mJ. \)

When this energy is transferred into the capacitor across the points, we can work out the maximum voltage appearing across the capacitor, whose value is around 0.22μF.

From \( e = \frac{1}{2} C x (V x V) \),
We transpose to find the voltage \( (V x V) = 0.045/ \frac{1}{2} \times 0.22 \times 10\times(-6) = 409,090. \)

The square root of 409,090 is 640 volts.

This gives us the theoretical peak voltage across both the capacitor and coil. The value 640 volts is on the high side as the TC ignition coil has a much higher inductance than is usual for modern coils today and therefore stores more energy. A peak output of 300 volts is typical of more recent coils.

Although we refer to the “ignition coil”, it’s really a transformer. The “coil” we’ve been mentioning forms the primary winding of a transformer, whose secondary winding contains many times more turns, so the magnetic flux generated by the oscillating primary current also cuts through the numerous secondary turns and consequently induces a much higher voltage of about 25,000 volts, *(Fig. 4 – page 9).*
As the switch opens the magnetic field starts to collapse.

The induced EMF acts to maintain the current flow, The coil swings many volts as a consequence.

An arc is formed as the switch opens and dissipates the energy stored in the magnetic field.
So if we require 25,000 volts at the secondary, we need a turns ratio of 25,000/640 = approx. 40 to 1. Newer coils of an approx. 5mH inductance giving 300 volts need a higher turns ratio of 80 to 1.

As we’ve seen, the capacitor is able to control the opening points, 300 volts need a higher turns ratio of 80 to 1. never so great as to initiate arcing across the points but would dissipate much of the coil’s energy in the arc. The capacitor slows down the rate at which the back EMF can rise by absorbing some of the energy of the collapsing magnetic field in such a way as to produce a sinusoidal waveform thanks to the resonant tuned circuit formed by the coil and capacitor.

The rate at which the oscillating back EMF rises is never so great as to initiate arcing across the opening points, (see Fig. 5a – page 10), and consequently preserves the life of the points. However, the capacitor has a stressful life coping with oscillating high currents at elevated temperatures, which can lead to a partial failure that may still produce a spark at a spark-plug in the “open”. The spark will be weak and put under pressure can fail. Such a condition occurs when the internal series resistance of the capacitor increases to a point where it absorbs too much energy and/or causes arcing at the points (see Fig 5b – page 10) and results in either erratic running of the engine or a failure to run at all. Another possible failure arises if the insulation of the capacitor’s dielectric becomes “leaky” or even “shorts out” (see Fig. 6 - page 11) this can be measured with an ohmmeter, unlike the series resistance, which needs a special bridge.

New “old stock” capacitors can show alarmingly high series resistances. Out of 10 tested, Rs varied between 9 and 140 ohms, the average being 44 ohms. Modern replacement capacitors had an average Rs of 4 ohms, which is a harbinger of problems to come, as such high resistances indicate poor quality in both design and manufacture.

Finding an alternative capacitor that could be substituted for the soldered in capacitor used on the dizzy plate seems a worthwhile endeavour.

The Quest for the wholesome capacitor.

Lucas quote the capacitor value to be between 0.18uF and 0.24uf, so the preferred value of 0.22uF fits in well. The choice of a low loss dielectric capable of handling peak voltages of over 600 volts, high currents and high temperatures was narrowed down to polypropylene, a dielectric that’s been reliably used in high-current pulse-discharge circuits due to its low Rs and robust dielectric. Two versions of the capacitor are suitable; the first can be housed in a thin copper tube soldered to the dizzy plate and retained in the distributor, the second is housed in some 22mm copper plumber’s fittings and fixed next to the coil with a flying lead going to the CB terminal. This is an improved position as the coil and capacitor form a tuned circuit, (see Fig.7 – page 11)

Version 1 uses a Vishay MKP 1845, 0.22uF rated at 1,000 volts, +/- 5%, and up to 100 deg.C operation. 44mm long by 18mm dia. and is suitable for the “soldered-in” type of capacitor, (see photo 1 – page 12)

Version 2 uses a LCR PC/HV/S/ WF, same characteristics but +/- 20%, 33mm long by 20mm dia. This is more suitable for attachment to the side of the coil in those cases where the dizzy capacitor was secured by a screw to the dizzy plate. (see photo 2 – page 12).

Both need to be potted in araldite with a short flying lead made from multi-stranded silicon sleeved cable rated at 1.5Kv, -60deg.C to +180deg.C.

So why are both original and modern capacitors unreliable? The first clue came from being able to vary the series resistance Rs from 300 to 6 ohms simply by pressing the rubber end seal on a faulty modern capacitor. Dismantling the capacitor revealed the rather crude construction shown in photo 3 – page 12, where electrical continuity relies on pressure exerted by a rubber washer. This presses a contact-plate against the end of the capacitor element, which in turn is pressed against the end of the housing. This form of construction is suspect due to:-

1, The elasticity of rubber is reduced by exposure to heat, oil and time.
2, Electrical contact is made only at the “high spots”.
3, Any residual solder flux will act as an insulator, unless cleaned off.
4, Contact materials are of dissimilar metals.
5, Access for contamination.

These points indicate sub-standard design and construction compared with an industrial quality capacitor, where the leads are electrically welded by a plasma-arc spray or a vacuum deposited aluminium film on the conductive foils protruding at the ends of the capacitor element, photo 4 – page 12. The whole assembly would then be potted with resin inside a case to provide a permanent seal.

Present replacement dizzy capacitors cost about £7 for a “screw-on” type and some £40 for a replacement “soldered-on” type, as compared with the cost of polypropylene capacitors at about £2.50 from a trade supplier or £4 on e-Bay. However, the time and effort needed to install
polypropylene capacitors in a metal sleeve, attach leads and pot in araldite would seem to make them commercially uneconomical unless constructed on an industrial scale.

It’s probably only when the second replacement dizzy capacitor causes erratic running or brings the engine to a halt that many will take an interest in this issue. Capacitors in a partial failure mode may well affect the life of contact points, so problems due to premature erosion of the points should trigger suspicions about the capacitor.

If there’s sufficient interest, a follow up article on how to fabricate replacement capacitor modules may be considered, but in the meantime any feedback is welcome.

My thanks to Peter Cole for the stimulating communications that have led to this article and to Mike Card for his corrections. 

Eric Worpe
Fig. 5a.

Oscillations are "damped" by the inherent resistance of the coil and any external resistance, Rs.

Waveform produced by resonant circuit with good quality capacitor when contact points open.

Fig. 5b.

Waveform resulting from faulty capacitor with internal resistance of 33 ohms.

Slow ramp up due to arcing across points. Voltage increases as points separate. Arc extinguishes and remaining energy transfers to the capacitor.

Initial fast voltage step points open at to.

Short burst of oscillations at low energy level.

Note Time scale change

Thanks to Peter Cole for measurements.
Equivalent circuit of a capacitor.

**Fig. 6.**

Rp. Parallel resistance represents leakage from contamination or a poor dielectric.

C. The actual capacitance.

Rs. Series resistance resulting from poor design & construction. Can only be measured with an A.C. bridge.

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Coil and Capacitor form tuned circuit. (Loosely coupled)

**Fig. 7.**

Contact breaker points in remote "dizzy". NB. Disconnect capacitor in "dizzy".
TC10178 – saved from sitting on bricks since 1967 in a lock up garage in Sheffield.

In the June issue of TTT 2 I mentioned that Norman Verona had contacted me to say that he had found the TTT 2 website and that he had registered his newly acquired TC on the T-Database. He promised that he would send regular updates of a total restoration which he intended carrying out himself. True to his word, the first update was received on 18th June and is published below.

When I was a kid, about 8 years old and living in Hackney, I would see a chap go past every day in an MG as I went to school. For all I know it could have been a P or a J but I’ve always thought of it as a TC. I fell in love with that car and it directed my life.

I left school at 15 to work at University Motors as an apprentice and loved every minute of it. I was going to get a TC when I was 17 and passed my driving test but an uncle talked me into borrowing money from the bank and getting a new Mini as he said I would “pull the birds” with a Mini. He was right, it was how I met Lynne, my wife, at a Christmas party and she went with me only because I could get her home in time.

I was going to buy a TC when I sold my first company but as I didn’t have a garage I bought a Caterham 7 instead; a TC would have rotted away parked outside in the open air in the Peak District.

Fast forward to the present………………..

We live in France and have two gites which we use for friends and family. A friend from Sheffield booked to come over and told me about a friend of his wife’s whose husband had an old TC in a lock up garage and it had been there since 1967 with a broken half shaft. To cut a long story short, I bought it at the end of March. I arranged for a car transporter to collect it from Sheffield and bring it to me in France. It was due on 28th April so a long wait for me.

The TC duly arrived on time and Steven, the transporter driver, parked up a ¼ mile away in a side turning. We got the car off and towed it into the farm with the Land Rover, Lynne steering and me trying to hold the near side rear wheel in.

I then washed the car before moving it into the workshop and getting it up in the air.

One week later it was completely dismantled and down to a bare chassis.

Then the real work started. I took the chassis outside and started sandblasting it. Took four days to finish but looked good when all done.

I then gave it one and a half coats of POR-15 chassis black. The half was because I ran out of paint. As you can no longer send paint overseas I’m still waiting for the next two tins to arrive (written on 18th June) so have been getting on with overhauling the dynamo, starter, wiper motor and cleaning all the other bits; partly with the sand blaster, partly with the glass bead in the blast cabinet and partly on the 8” wire wheel.
I've rebuilt the diff with new bearings and a modified end cap on the pinion shaft with an oil seal. I spent two days rebuilding the shock absorbers and fitting new rubbers into the arms. I've had a TABC member from the States here for a week. Norm (that's two of us then!) has rebuilt 4 TCs and has kept the last one. He uses plastic rod suitably turned down and drilled instead of the rubber bushes. I've bought a length of nylon rod 25 mm in diameter and plan to turn it down to the 23 mm required and drill it to see if it's OK. I'll report back if it is.

In the middle of all this my little 50 litre compressor gave up and sighed to a standstill. I bought another on eBay, a 1960 model with a huge 400 litre tank which is very heavy and big. So we hire a large van and make our way to the UK to collect it. We are at Ouistreham to catch the early morning ferry and find out that the dockers are on strike so we have to go to Cherbourg and get the ferry from there. No real problem other than it arrives 2 hours later than the Ouistreham ferry. We're supposed to pick the compressor up and then go on to Peter Edney to collect a lot of parts. Peter was really helpful and waited for us. We got there about 1900, loaded up and went to Newmarket for the night. Had other stuff to collect the next day and we were booked on the overnight ferry back to Ouistreham........ except it was cancelled so we had to book into a hotel for the night and incurred two extra days van hire. This cheap £100 compressor was getting more expensive by the day, and night!

Get it back to France; it falls over as I'm struggling to get it off the back of the van and the gauge and pipe break. Never mind, I find enough bits to fix it. Now we have a problem. It's supposed to run all the time and has a mechanical valve to stop it pressurising the tank above 60 psi. But when on the compression cycle the lights in the house are going dim and bright as the motor turns. As this is happening all day long I have to do something. Anyone want to buy a cheapo compressor?

I bought a new 200 litre one for £350 in France. Wish I'd looked before getting the one on eBay!

We went to Le Mans on the Saturday and watched the start. It was too much for two old geezers like us and we only stayed about 5 hours.

As I write this I'm de-rusting all the fittings that came off the car. All the chrome is cleaned and waiting to go; the body brackets and hinges will be going back to the UK the week after next to the chap making the new ash frame. Assuming the chassis paint arrives for first thing Tuesday morning as it should, I'm hoping to have all the painting done and the car back on its wheels by the end of next week.

To see all the progress of this rebuild go to www.frenchblat.com click on MG TC and then after the home page click on the months starting March.

I had taken the glass off the tacho and asked Lynne if she could gently clean it. I was going to show her how but, as usual, she had something else to do. When I came in for lunch she had been using an abrasive paste and the rust spots were still there but the numbers weren't (well a bit faded). The needle was around the 5000 rpm area. So I took it apart to see what I could do. Not a lot. Off they go for refurb and new dials. When I was getting the speedo out of the dash I pulled a bit too hard, the instrument flew out, I tried to catch it but missed. The result was:

Nice and shiny compressor, only 480€, or £350. It's not Chinese but Italian.

I've now overhauled the carburettors and riveted new linings onto the brake shoes.

DISCLAIMER BY THE EDITOR

‘Totally T-Type 2’ is produced totally on a voluntary basis and is available on the website www.tttypes.org on a totally FREE basis. Its primary purpose is to help T-Type owners through articles of a technical nature and point them in the direction of recommended service and spares suppliers.

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

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

JOHN JAMES, EDITOR TTT 2
I have been interested in cars from when my dad used to enlist my help to fix his car when I was a child. I have happy memories of playing in cars stacked in the scrap yard whilst he was looking for parts (very little regard for health and safety in those days), to a slightly more nervous memory of sitting with my legs straddling the transmission tunnel in a Cortina straining on a bit of rope that was holding up the gear box whilst he was under the car trying to bolt it back into place!

Roll forward to 5 years ago and I eventually decided to do more than just tinkering by building a low cost ‘7’ style kit car. Whilst I have always been mechanically minded, this was a significant challenge and I learnt an awful lot as I went along (with no little thanks to the kit car community). I finished building it in the early part of 2014 and managed to get it through the very comprehensive VOSA Individual Vehicle Approval (IVA) test last spring. The car that I ended up with has donor parts from a Sierra, a London taxi, a VW Golf and a BMW (it has a 2.8l straight 6 BMW engine in it), and is by far the fastest thing that I have ever driven.

I then realised that I had a ‘problem’ – I had been bitten by the car building bug so I needed to start work on another one. For a while, I considered building an AC Cobra replica but then remembered that I had always liked early British sports cars and that restoring an original would be an entirely different challenge to building another new kit.

So, in August last year I took delivery of TC8485 from Steve Baker who had recently imported it from Canada. As far as I understand, the Canadian owner bought it from an estate sale in California as a pile of parts and then reassembled it to sell on. The registration number that came with it is KGE 250, but this might not be the original as I have been told that it corresponds to a 1952 Glasgow registration, whereas the original build date is 21 April 1949.

According to the production records, the engine (XPAG 9204) is the original one. I would be grateful if anyone could shed any further light on its history.

The car itself is very original with virtually all of the bits that usually go missing still in place, including the headlights, fog light and horn and even the brake pipe brackets.

The instruments are reported to have been tested and to be in working order.

The bolt-on body work is mostly solid, although covered in surface rust as the paint had been stripped off by a previous owner. Most of the bright work has been re-chromed relatively recently, which should prove to be a big saving in the restoration costs, as long as I can carefully get the minor dents out of a couple of bits. For example, one of the headlamp bowls has a small dent in it from the bonnet latch, which I understand is a common injury.

The wood frame needs to be replaced as do the inner rear wings, and I’m not sure if any of the quarter panels that skin the frame can be saved. These are rusted away along the bottom edges, although the complex curves, particularly on upper edges of the rear quarter panels are in good condition. As these are reportedly difficult to get right from scratch, as a first option I may see if I can weld new bottom edges to the existing panels, although this will be tricky as the metal is so thin.

Mechanically, the car seems to be quite good. A previous owner had started a restoration and it appears that the hubs, including the brakes and the wheel bearings have been rebuilt, with just a bit of surface rust evident from storage. The springs are not original, but are generally in good condition, with light surface rust between the leafs (I am told that it is ‘leafs’ and not ‘leaves’).

Rough measurement would suggest that the chassis is square, although I need to measure it more accurately to be sure. It would appear that restoration had started on the engine, but only partially done before reassembly for sale. Taking this apart for inspection and rebuilding will happen much later in my project.

Progress so Far

My first job was to strip the entire car down, both to get a better idea of condition and to create working space in the garage. I have taken photos of every
part, both on the car and disassembled, as I have gone along in order to help when it comes to rebuilding and to provide a record of what I have done. Most of the car is now in the roof beams of the garage or in the loft in the house and if it wasn’t for the chassis leaning against the wall and a set of wheels in the corner, it would be easy to forget that there is a car there at all.

I have taken delivery of a new ash wood frame as a set of parts made by a contact that Steve Baker gave me, and I have made a new rear dashboard using an old one as a template.

I decided to restore most of the suspension and associated parts, including the leaf springs before starting on the chassis. This seems to have gone fairly well, with around 60 separate parts cleaned and prepped so far. The front leaf springs are now reassembled with a mixture of silicone grease and graphite between the leafs. The rear ones are drying in the garage as I write. My aim is to get back to a rolling chassis by the end of the summer.

I’m gradually creating a list of parts that I need to buy, these range from small things like the front suspension bump stops, to larger items like the rear inner wings (if anyone has any spare, please let me know). Later in the build I will need new seat covers, trim and weather hood, but it’s much too early to think about things like that yet. It remains to be seen as to what I need to buy to restore the engine.

New dashboard made by Steve, using the old one as a pattern.

One of the enjoyable things about building the kit car was getting to know the community. Fellow builders were an invaluable source of advice and, as I became more experienced, it was nice to be able to offer help as well as ask for it. From what I have seen so far, MG owners are equally friendly and helpful.

I am based in Nottingham (just of J26 of the M1), so if there is anyone local or passing through who would like to chat about such things over a cup of tea or a beer, please get in touch stevewallace2(at)ntlworld.com (please replace (at) by @) – I will need all the advice I can get and the occasional look at a finished one will help to keep me motivated!

I’m happy to provide further updates here as the restoration progresses, but this may be sporadic as things tend to slow down a bit during university term time as I am also doing a part time degree in astronomy, as well as paid work.

Ed’s note: According to the Newreg.com website http://www.newreg.co.uk/number;plates;search the registration mark KGE 250 was first made available in 1952. The issuing authority for ‘GE’ was Glasgow Borough Council.

Who knows what journey the car took following its completion at Abingdon! A possible (but unlikely) explanation is that the car was originally exported to North America but soon came back to the UK (which might explain the 1950s registration), but then it would have had to have found its way back out again. Not impossible, bearing in mind that the Airline TA has ‘lived’ in three continents.
LOST AND FOUND

Nowhere near as many for this issue as the last one, but three to find for Chris Keevill, who is the Early MG Society’s (EMGS) editor.

MRK 713 is a green 1954 TF which was in the ownership of Chris’ mother. A DVLA enquiry confirms that the car is on the road. Here’s a period photograph:

Next is TC8208, registration mark KNA 494, which was owned by Chris’ brother. Again, it is known to DVLA and is listed as having a 1500cc engine and is maroon in colour.

The third car is TD9712, a cream ’51 TD, which sports the registration mark AFL 972 and is on the road.

There was actually a fourth car – an MG PB, (green) registration mark AYK 187. Sadly, it is not known to the Triple-M Register.

A success story to report from the previous issue’s ‘Lost and Found’ concerns TC9044 (GWS 490) purchased by Richard Hinton in 1966 for 80 GBP and reluctantly sold to a USAF serviceman stationed in Lossiemouth (Scotland) in 1969. Richard was curious to know what had become of his car. Well, there must have been at least one change of ownership after the USAF serviceman because the car was bought by a Maryland chemist in c. 1976. It sat in his garage until May 2015 when it was bought by Tom Lange who brought it back to Maine; more in the next issue.

Finally, the owner of the TF1500 featured on our cover has details of the car from 1978 and would appreciate any information about ownership from first registration in May 1955 to 1978.

Bits and Pieces

Heat Shields for T-Types

The following explanation from Barrie Jones, TD/TF Technical Specialist for the T Register of the MGCC to an enquirer for a TD heat shield gives some useful background information about the development of his heat shields and the reasons for their lack of application to the TD.

I originally developed my heat shield for the TF. It fits and it works. Fortunately, the TF was originally fitted with spacers between the H4 carbs and inlet manifold. (MGA spacers are even better).

I then modified my heat shield to fit a TC, which uses smaller H2 carbs (same as a TD). It did not fit because the TC carbs fit closer to the manifold, so my shield fouls the manifold clamps and the accelerator lever. I then added some 12mm spacers between carbs and manifold, and now it fits and it works. This arrangement also fits a TB.

So far I have manufactured 100 of these kits and I only have 8 left, with no complaints and several complimentary e-mail reports.

I have tried to fit my TC system to several TDs, but I experienced the following problems:

1) The original air intake system runs immediately above the inlet manifold, so the heat shield needed a big chunk cut out of it.

2) With the heat shield fitted, you cannot access the nuts on the steady bar that supports the air intake tube above the inlet manifold.

3) If your TD has a 5-speed gearbox conversion, this throws the engine forward and that does not leave enough room for the carbs plus my spacers.

For a TD I therefore recommend the heat shield marketed by Brown & Gammons (see link below), but I must warn you that I have my doubts about using such a shield without spacers because the TD float chambers will still sit too close to the exhaust manifold.

http://www.ukmgparts.com/product/td-midcat-8-td7-carburettors/heatshield-tc-tf-gac1036

Ed’s note: I have a small stock of both TB/TC heat shields plus spacers and also a few TF heat shields which are on their way to me from Barrie. I supply these on a not-for-profit making basis as a service to TTT 2 readers. The TB/TC heat shields are £15 each plus £5 each for the spacers (two required) plus postage at cost. The TF heat shields are likely to be the same price but will be confirmed at time of ordering.

Also on their way to me are several copies of Barrie’s Notes (see the T-Shop for details). The main print run of 1000 sold out, so a small batch has been printed. I have back orders on hand.
Clocks in TDs and TFs (from Russell Dade)

“Having owned my TD for 53 years and not worrying about the car clock very much I was suddenly reminded that it could be quite useful! however my clock had not worked since I first purchased the car.

Recently, whilst driving on a Social Run with the Austin 7 Essex Car club I needed to look at my watch for the time, as I had made a date for lunch with my wife. I discovered that with a buttoned shirt cuff and a jacket I could not stretch my arm enough to look at my watch and steer the car, so I decided that it was time to fix that tiny timepiece.

On removing the rev counter I discovered that it did not have a lead? ie no power!

“Easy” I thought, so I looked up the wiring diagrams for TD/TFs – Nothing!

Checked various web sites and very soon realised that this little clock has been discussed by all and sundry and the wiring was a simple lead from the feed side of the Ammeter, or Inspection socket or a lead from the “A” terminal on the control box.

So after sorting out the power lead to the “clock” Nothing!

Well, I have only owned the car for 53 years with the clock sitting there grinning at me knowing that it needed a power lead and also knowing that it was getting bunged up with dirt!

This is where Totally T-Type 2 comes in – I remembered that an old edition of the mag. had mentioned David Ward as a useful man when it came to our little clocks and so emailed him and arranged for him to repair it.

He explained that he does not carry spares for these clocks, but has the knowledge and ability to adjust, clean and get them running again and that’s exactly what he did with my superannuated time piece, he cleaned it and adjusted it and ran it for approximately a week on his work bench.

I refitted the rev counter complete with its clock and refitted the battery lead, adjusted the time and gave the tiny control wheel a twist and the clock was a runner!!

The ticking of the clock is rather satisfying on hearing it for the very first time, a simple pleasure, but after all those years rewarding.

So after the 53 years rest, I expect the clock to outlast me, although time is running!

David Ward is only interested in covering his costs so is generous with his time; I would recommend him as an MG ambassador.

It may be that they are not connected??

Thanks for your great little magazine”.

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

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Leather & vinyl interior and seat cover kit as original for all T-Types in beige, tan, red or green - £990
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Above: A fine TF ‘snapped’ by Michael Crawford on the recent MGOCC ‘Wings Run’. Below: Tom Ford’s ’46 TC (1643) restored from boxes with plenty of rust to boot. A true basket case, 4 years in the process. Completion in Spring of this year and photo taken with just 10 miles on the clock.
Above: Ian Linton’s TA taken at Brooklands at an MG Era day earlier this year. Below: Another TA, Nigel Wood’s on the Land’s End trial - a rather bumpy ride and a great cure for constipation!