The Crankhandle

NEWSLETTER OF THE HEREFORD AUSTIN SEVEN CLUB

July 2025

Issue 93

Annie Peake's chummy in the reception marquee at daughter Minna's wedding:

see the video of the car's progress by visiting HA7C website click the link:

Minna's wedding

Chairman's View

There is always a lot going on in the Austin Seven world and nobody can say that the weather has stopped us doing it! I have enjoyed the various activities that I have joined and tried to pace myself, to avoid becoming an 'anorak'. The thing that I enjoy most is driving my Opal and this is certainly reflected in the fact that the 'buggy' has clocked up nearly 1,500 miles since January. I always attend Kip Waistell's monthly lunchtime meets in the 'Buggy', but June's lunch at the 'Dirty Duck' at Much Dewchurch was surely exceptional, as it was one of the few days of torrential rain this summer. All credit must therefore go to Julie James who was the only member to attend in her '7'! Incidentally, the most recent lunch-time meet was at the Wheatsheaf Inn at Fromes Hill, when twenty-one members attended, not bad considering that the temperature reached 32°C that day.

The June club meeting was 'Bring-a-Car' night, and again it was a glorious evening. We sat outside in the reserved area for the club cars and chatted while the cars were judged by the Richmond Place Club secretary's wife. After several viewings, she finally decided that the winning Seven that she would most like to take home was, Tessa and Jeremy Plummer's '34 box saloon. They were delighted to be appropriately presented with a bottle of wine.

I hope that you have appreciated the variations of the Club night meetings over the past two years. The committee has worked hard to provide an assortment of speakers and subjects. We started by purchasing a screen and projector and more recently, have added a laptop and associated equipment. My sincere thanks go to Julie James who has donated a laptop, and also to Roland Alcock for acquiring the various bits to make it all compatible. Although we do not programme talks and presentations during the summer months, I feel sure that we can enter the Autumn season with items of interest to make your club evenings enjoyable. If you have a suggestion for topics and or speakers, then please let us know.

In the meantime, I hope that you enjoy reading this latest edition of the Crankhandle that Frank Sibly has compiled, and that it may inspire you to contribute a few lines about your own Austin Seven activities in the September and subsequent editions.

Enjoy your Sevenning,

Michael Ward, Chairman

Joining the HA7C Chris Clarke

As some of you will be aware, Jane and I are members of the HA7C but without portfolio, i.e. without an Austin 7. So how did this come about? With an aeronautical background, I have always been interested in older cars, planes and trains–boy's toys! I also have the privilege (?) to live next door to our chairman, Mr Ward. Over a number of years, I have watched his "Buggy" go through a meticulous renovation, culminating with me and others being roped in to lift the newly painted immaculate body back on. No pressure then!

Through conversation it became apparent that the HA7C had a diverse membership, all of whom sounded friendly, and that it enjoyed a rich agenda. Could we join? Yes – you don't need to own an Austin 7. So we did, and are really enjoying it. You have all been most welcoming.

Are we planning on getting an Austin 7? Probably not. Why not?? Well, we have a 1966 MGB GT which we have owned for 53 years, so it is rather part of the family, and we only have one garage.

The Great British Car Journey.

This museum is at Ambergate in Derbyshire. This has over 150 cars, mainly post war, which you remember from your youth, and although you cannot get in them, they are not roped off and have their windows open so that you have a good view of the interior. They are nearly all everyday cars that were manufactured in Britain, and bring back many memories. There are several Austin 7s, including this one, *on left*.

interior of caravan for A7

It is possible to drive many of the cars in the collection, and I was lucky enough to be given a present of a voucher that allowed me to drive two cars. The first was an Austin 7. I found the performance to be better than I had expected, with plenty of pull in any gear at low revs. I had learned to double declutch in the past, and did not find the gears to be a problem. The steering was a different matter, and I was helped by having been on some canal boat holidays in the past. As for the brakes, well, anticipation is good. I thoroughly enjoyed the drive.

Next was a Sunbeam Rapier, the car in which I learnt to drive, and also in which I passed my test. Driving that brought back many happy memories.

If you are going to be in the area, the museum is well worth visiting.

So for the time being, at least, you will sometimes have an interloper at the events, although I see that the idea of owning a green MGB GT is gaining traction!

Building something ‘Special’. Ned Buck

I have always liked 20’s and 30’s vintage cars, even from an early age, but as I am not in the league of Bugatti’s, Bentley’s, ERA’s and the like I thought an Austin 7 special would be more within my budget, especially after I saw an A7 special on a US auction site (left). This was sold in the USA in about 2019. In my view this is one of the prettiest specials I have seen.

So I decided I would try and replicate it, including making my own bodywork. I now know this will be a challenge. Fortunately, there are a lot of photographs on the web site of the car.

I do, of course, like the standard Austin 7’s, and love the commercial versions, but I have always wanted to build a car from scratch, and having completed two modern-ish cars, (Nissan 200sx S14 and MGA) I wanted to have a go at something much older.

I bought a chassis and engine off a local trader in A7’s – a 1933 PD tourer – which had lost its body! It came with a V5 identifying it as an Austin Special, which was rather handy.

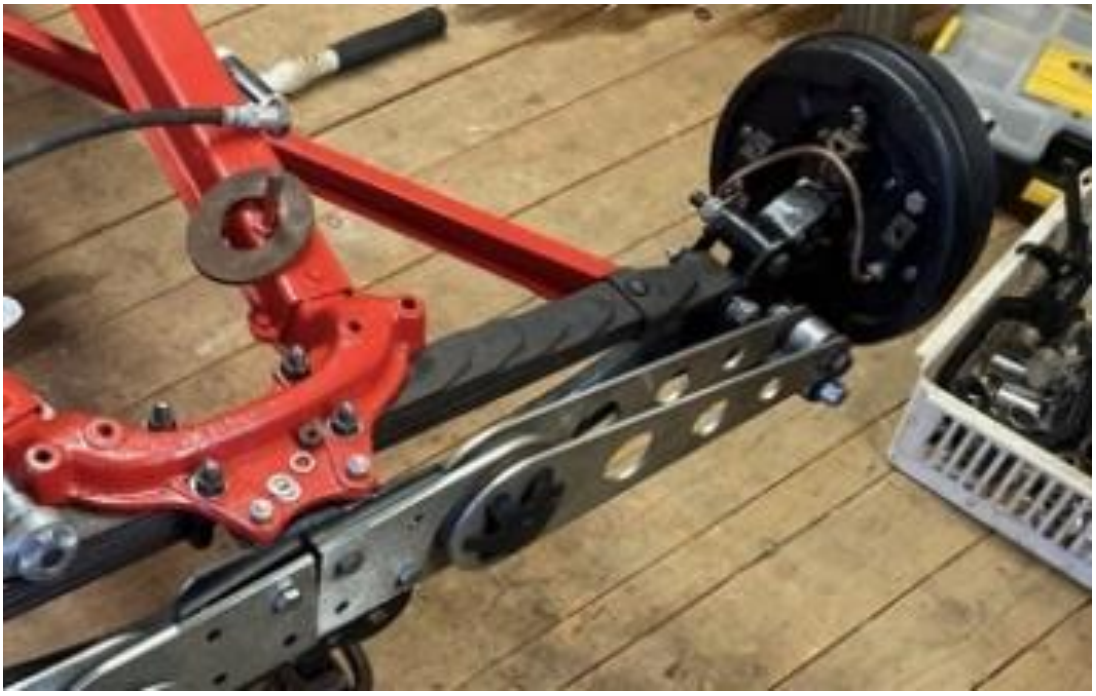
The chassis appeared sound, but a bit rusty. It had semi-Girling brakes, a steering wheel, column and box, plus 4 very rusty wheels. It came with a four-speed box and engine (the latter is thought to be the original, although there was no proof of this). Both the box and the engine were in a sorry state, with the engine having been tweaked at some point evidenced by the 29mm inlet valves and a rather sorry set of nuts, bolts, stripped threads and other items.



I also managed to purchase a pair of axles (front one dropped) with hydraulic brakes already fitted. More of this later, as I don't think it was the bargain it first seemed to be.
The first thing I did was to take the chassis to be sandblasted, then I painted it with a red epoxy undercoat, and a top coat of red Hammerite. Not the usual chassis colour perhaps! During this time I noticed some bits missing from the chassis, so these were made up and welded on.





The suspension on the car I wanted to copy had a different set up, with stainless steel arms and two mounting points. This required new pieces to be made, and as the front axle is dropped, I also needed to adjust the position of the radius arm, so suitable brackets were made up with one of them locking the end of the spring. I had read that the spring can easily move from side to side under cornering, and I wanted to fix the position to avoid this happening.

I had the suspension arms made up by a firm in Cornwall who will manufacture anything if you send them a decent drawing. I had already made a drawing at 1:50 of the proposed car to help with the build, especially the positioning of the steering and the seating. I can also enlarge any area to full size, if needed.

Using the newly purchased front axle, I managed to get the whole front-end rebuilt quite quickly. However when I fitted the temporary wheels, I noticed the “camber” (lean outwards) of the driver’s side wheel was not at all correct. It turned out that the king pin hole in the axle was stretched slightly, but also the stub axles which appear (now I know what to look for) to have been ground down and I am not sure what car they are from. But they have camber built into them, and are not quite right. I have since removed the entire set up, leaving only the spring attached to the chassis, and sent off the axle to be ‘shrunk’! Fortunately, I still have the original axle and hubs etc, so have started refurbishing them, as they seem much sturdier, having come off the semi-Girling axle.

To be continued……

Roly's Ramblings

Since the last newsletter, the Austin has been used far more frequently, due to the weather becoming pleasant, maybe going out in it four times a week. For a while, I have been frustrated with the performance of the car. It has a 1¼" SU HS2 carburettor. The feeling was that maximum power was achieved at half throttle, and full throttle gave less power. Inspecting the main jet needle, I found it was a No 6. Having had success with an EB needle in the past I ordered one up and fitted it. Whilst doing that, I noticed that the vacuum outlet for the distributor advance on the carb was not plugged, so maybe that was my problem.

Road testing showed an immediate improvement……. hoorah. Until I reached the destination pub, to find the radiator was gently steaming. Yes it was a hot day, but I had not gone up any hills….. strange. On the way back to home I ran out of fuel, stupid of me as I had not dipped the tank for a couple of weeks at which time there was half a tank, and I hadn't realised I had used the car more than usual. Using my spare can of fuel I primed the carburettor and proceeded on my way.

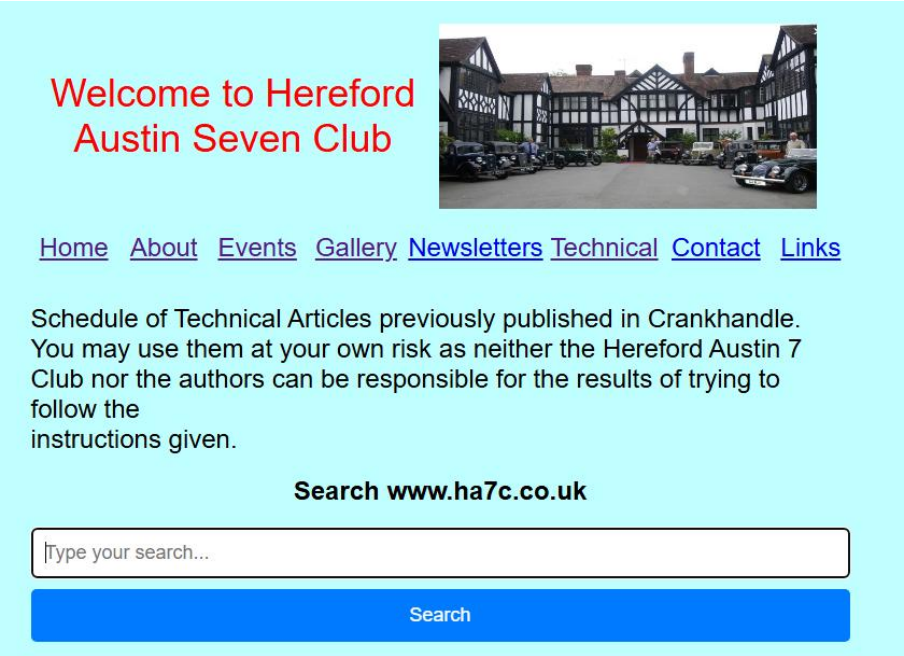
After a couple of hundred yards, I lost power, then it picked up and continued, then finally expired outside a funeral home, very appropriately. There was also a caravan holiday park there, and the owners kindly came and pushed the car off the busy road into their site. So, what was likely to be wrong? Was the overheating a symptom of a head gasket fail, or was the problem caused by changing the needle in the carb, or was the fuel I had put in the tank bad? There was plenty of fuel in the carb, and the needle hadn't fallen out of the piston, so not that. Testing for a spark raised my hair up! Yes, definitely a spark. So it could be fuel or head gasket at fault. It was a mystery, so many clues.

As the temperature was above 30C and my brain was fogging in the heat, and Freya dog was with me, I admitted defeat and called RH breakdown service. I am sure that if I had continued to fault find, I would have compounded my problems by unnecessarily messing with things that were not broken. The caravan site had by that time watered Freya and orange juiced me. The breakdown truck came in an hour, by which time I had called a neighbour to come and collect Freya. This was the first time I had used RH breakdown service, and gosh it was good. I cannot remember the last time I had to call a breakdown service, maybe 1978 when the engine of my S Type Jaguar came off the engine mountings, and pushed the fan through the radiator.

The next day, early in the cool of the morning, I conducted some tests. The compressions were fine at 100 psi. I poured fresh fuel into the carb. The engine sort of started but would only tick over and not rev. I swapped the condenser, no different. The temperature had risen, so I gave up for the day.

Next morning, I started the engine again, and discovered that if I moved the advance lever to max advance then the engine would rev. I inspected the distributor and found I could move it in unexpected directions. The dynamo body had come loose, because the long screws needed tightening. The bolt holding the distributor clamp was also loose, so I tightened that up. The distributor now felt firm when trying to move it. I reversed the car out of the garage and went to try a test drive, but the engine really did not feel right. Back to the distributor again. Inspecting the rotor arm spindle, I found that I could move it up and down by ¼". Odd. Then I found I could rotate the rotor arm! Removing the distributor I could see that the Mills pin holding the drive gear was absent **(the picture shows it bent into a C shape)**. A magnet retrieved what remained of it from inside the dynamo. I got a new pin and reassembled the distributor and retimed it. The Austin is now behaving perfectly, and is now accelerating up hills on full throttle. It may be my imagination, but it seems even smoother at tick-over. Also, my rough gearbox bearing noise has now disappeared, clearly it was the loose dynamo body making the noise. A few days later the Austin rattled my cage by popping and banging and running on three cylinders. Thankfully this was only an HT lead that had come off the distributor cap.

HA7C WEBSITE



Our editor Frank Sibly wrote to me, saying wouldn't it be nice to have a search function on the website. I agreed. My coding days are long gone, and what would have been an easy thing for me to do now defeated me! So I turned to AI. I rang up ChatGPT and asked it in plain English to generate the necessary code using google tools. Two seconds later I had the code, and it worked! Well, it worked on my PC, but not on my iPad. So back to ChatGPT and asked it to redo the code so that it worked with iPad/iPhone. I placed that resultant code into the website and it now works.
Why not give it a try? You can find it at https://www.ha7c.co.uk/technical.html

Frank also suggested that it would be a good idea to include **photos of recent events** in the gallery page, to prevent the website from becoming stale. Great idea, but as I don't often come over to club events in Herefordshire I do not have the material. So over to you dear readers, **send Roly photos of your cars and tell him what you have been up to**.

Club Presentations

Julie James kindly presented the club with a laptop, which I have prepared for people to use to give presentations. It is not very fast as it does not have much memory, and doesn't agree with memory upgrades, but it is good enough for presenting.

I continue to update the website, distribute the Crankhandle, and also the Grey Mag. Plus occasional emails to the membership. As ever, contributions for material for the web site will be gratefully received.

Roly Alcock – Webmaster and Dogsbody.

Austin Seven – steering column bracket Bob Garrett

My friend (and fellow HA7C Member) Brian Wooster - recently started re-assembling his A7 Opal after spending several years repairing its badly corroded body - but sadly, could not find the inner clamp for the steering column bracket.

These items occasionally come-up for sale but it seemed much more fun to make a new one.

Remembering roughly what the inner clamp looked like and having the outer bracket to determine the width – it was a simple matter of bending a strip of 1/8” x 3/4" Mild steel strip to form a strap to fit the column, folding over the ends then drilling and tapping 1/4" BSF for the threaded stud. Finally, bronze ‘welding’ it all together and fitting a nut and locking washer as shown in the photo.

This inner clamp was then assembled into the ‘under-dash’ outer bracket, ready to be fitted over the steering column, tightened-up and secured to the underside of the dashboard.

The underside of the complete steering column bracket assembly is shown in the second photo.

A rather satisfying outcome.

Adjusting an Austin Seven back axle Bob Garrett

This note is a more comprehensive follow-up to a brief article published in the Hereford A7 Club magazine 'Crankhandle' in March 2017 that described a method of setting the pre-load on differential carrier bearings. The following is an attempt to describe a complete approach to setting-up the correct meshing of an A7 back axle for anyone who doesn't own an original Longbridge setting-gauge.

Before attempting to build a later type (1933 – 1939) 'D'-Type back axle for my Seven some years ago, I read a number of different articles to find-out how to adjust the meshing of a crown wheel and pinion. My reading list comprised:

- The Austin Seven Manual by Doug Woodrow (Section E5)
- 'Meshing the crown wheel and pinion (CWP)' by Jack French, in the Austin Seven Companion, pp 169-170
- 'Austin Seven back axle adjustments' by Malcolm Watts, in the Cambridge A7C Seven Focus magazine Aug 2004 pp 26-29
- 'Adjusting back axle crown wheel/pinion back lash, in the Bristol A7 Club magazine 1983
- 'Transmission noise' by Malcolm Watts on the Cornwall A7 Club Website
- Austin Seven Specials by L M (Bill) Williams – Chapter 5

The above publications provided an abundance of useful advice that was mostly consistent and made sense, but there were some interesting differences and some areas that seemed (to me at least) a little unclear. So, these notes were originally cobbled together for my own use to record the approach I proposed to adopt – also to avoid forgetting exactly what I had done, in the event that the exercise was a success. I am happy to tell the reader that my efforts created an axle that has now covered over 6,000 miles, is quiet on both drive and overrun, doesn't leak oil, the backlash seems to have remained OK, and happily there are no metal particles in the oil. So, although it may be a dangerous thing to say - the exercise seems to have been successful. I have subsequently built and adjusted a second axle using the same approach and this one is also nice and quiet in operation.

The following, assumes the back axle is on the bench with hubs, drums and brakes removed. Also, that the axle is clean and contains sound bearings, undamaged crown wheel & pinion teeth, a nice clean set of shims and freely moving lateral (castellated) differential adjusters with their cover plates removed. Some axle builders advocate removing the differential oil seals whilst carrying-out meshing adjustments but mine are modern lip seals that are working well – so, I was reluctant to disturb them. Anyway, I seem to have managed perfectly well without their removal.

The process of Crown Wheel and Pinion (CWP) meshing adjustment, effectively comprises the following five steps …..

1-Marking, 2-Assembly, 3-Rotation, 4-Dismantling & examination and 5-Adjustment

These steps are repeated as necessary until satisfactory meshing is determined at Stage 4, when the axle can be finally assembled ready for use. The five steps are described in the following notes but please remember, this is an account of what I do (which happily seems to work), I am NOT saying 'this is how it should be done'. For example, I am aware that my approach differs somewhat from that suggested by others.

1. Marking

The traditional engineering method of marking gear teeth to determine areas of contact is called 'Blueing' using a dye known as 'Engineers Blue'. It is often used to check valve seat contact or to determine where to scrape when fitting a white metal bearing - a small tin or tube is not expensive and seems to last for ever. However, I use thinned 'Humbrol' model enamel because it seems to work just as well, and I have quite a collection of these small tins in the workshop.

After degreasing the crown-wheel and pinion teeth, I apply a light coat of thinned paint to both sides of five or six consecutive crown wheel teeth in three separate groups, roughly 120° apart.

2. Assembly

The torque tube is fitted into the differential case using the same shim configuration that prevailed prior to disassembly (or three shims top and bottom if the previous arrangement is not known) and firmly secured with a pair of diametrically placed setscrews over plain washers. Strangely, Woodrow and others suggest using lock washers at all times but this is clearly unnecessary for repeated temporary assembly – arguably, even a nuisance. Of course, final assembly *does* require all bolts to be in position together with (preferably new) spring washers. Incidentally, it is important that the shims are fitted immediately adjacent to the differential housing (i.e. in the gap in the photo) and not next to the torque-tube flange; otherwise, correct longitudinal tooth meshing will never be achieved.

Torque-tube & shims

The differential assembly complete with crown wheel and half-shafts is fed into the off-side (D-shaped) axle case and the near-side casing popped into position using a new, dry paper gasket. The axle cases are then gently secured together, and carefully tightened, whilst ensuring the CWP can still turn freely. If the gears bind, then the near-side lateral castellated adjuster will have to be slackened. I encountered a variety of suggestions for the repeated temporary assembly of the axle casings and torque tube between meshing tests. This is probably not critical so long as the assembled components are firmly attached each time but I used just two diametrically spaced bolts to secure the torque tube, and four (the front and back pairs) to hold the axle cases together, and this proved satisfactory.

Index marks used to check 1/16" of backlash at 7" radius

Once the casings are firmly secured together, both lateral adjusters can be brought just into contact with the differential carrier bearings and the backlash adjusted. Backlash (the clearance between the pinion and crown-wheel teeth) for an A7 should be one sixteenth of an inch at a radius of seven inches on the pinion shaft. I check this by temporarily securing a simple index arm under the spherical bearing grease nipple, and comparing it against a moving pointer attached to the pinion flange – see photo.

Clearly, slackening the off-side castellated adjuster and tightening the near-side - will reduce the amount of backlash ….. and vice versa.

Next, the pre-load on the differential bearings can be set. Several articles agree the pre-load should be three to four thou', Jack French recommended 'considerable pre-load' and the Austin factory reckoned 'slightly slack'. I didn't find words like *'considerable'* and *'slightly'* particularly helpful so I decided to go for the more specific *'three to four thou'* but none of the articles I read explained exactly how this might be achieved. It then dawned on me that the adjusters are threaded 20 TPI and each has fourteen castellations, therefore simple arithmetic (1/14 x 1/20 = 1/280 or 0.00357") tells us that a tightening rotation of one castellation on a single adjuster gives a pre-load of 3.6 thou. So, tightening both adjusters by half a castellation, each from a position of just touching the bearings, gives us the desired pre-load. This approach happily doesn't interfere with the backlash setting.

3. Rotation

The pinion shaft is rotated by hand to transfer the crown-wheel markings to the pinion teeth and this process gives much more consistent results if a small load can be introduced between the teeth. One way of achieving this, is to press a hard-wood dowel through the oil filler hole so that it drags on the periphery of the crown-wheel. The pinion shaft is then rotated in one direction, about twelve turns and back a similar amount. Most of these axles

have a ratio of 5.25:1 and twelve turns will ensure the pinion teeth all make at least two contacts with the marked crown-wheel teeth.

4. Dismantling and examination

Next, the axle casings are separated and the differential, complete with both half shafts is withdrawn. We can now inspect the markings transferred to the pinion, and see where tooth contact has been made. You will be very lucky if it's in the right area at this first attempt.

The marking will almost certainly be a 'slightly ill-defined splodge' and often a little different on each tooth. However, the ideal position for this 'splodge' is …….

a) Radially - half way between the root (bottom)edge and the free (top) edge of the tooth, and -
b) Longitudinally - about two-thirds of the way from the large-end of the tooth i.e. a little nearer the smaller (rear) end of the pinion

These ideal meshing positions are designed to minimise axle noise and thus wear. The reason for setting-up the longitudinal contact off-centre is that the enormous power of the A7 engine causes a very slight distortion of the pinion shaft, which in-turn, moves the tooth contact to a more central position under operating conditions.

An added complication is that these ideal tooth markings apply to both the 'drive' and 'over-run' sides of the teeth and again, it is unlikely that both sides have markings in the desired position.

5. Adjustment

a) To move contact marks radially outward i.e. closer to the edge of the gear teeth -

The crown-wheel needs to be moved away from the pinion by slackening the near-side adjuster and tightening the off-side adjuster.

b) To move contact marks radially inwards i.e. closer to the root of the gear teeth –

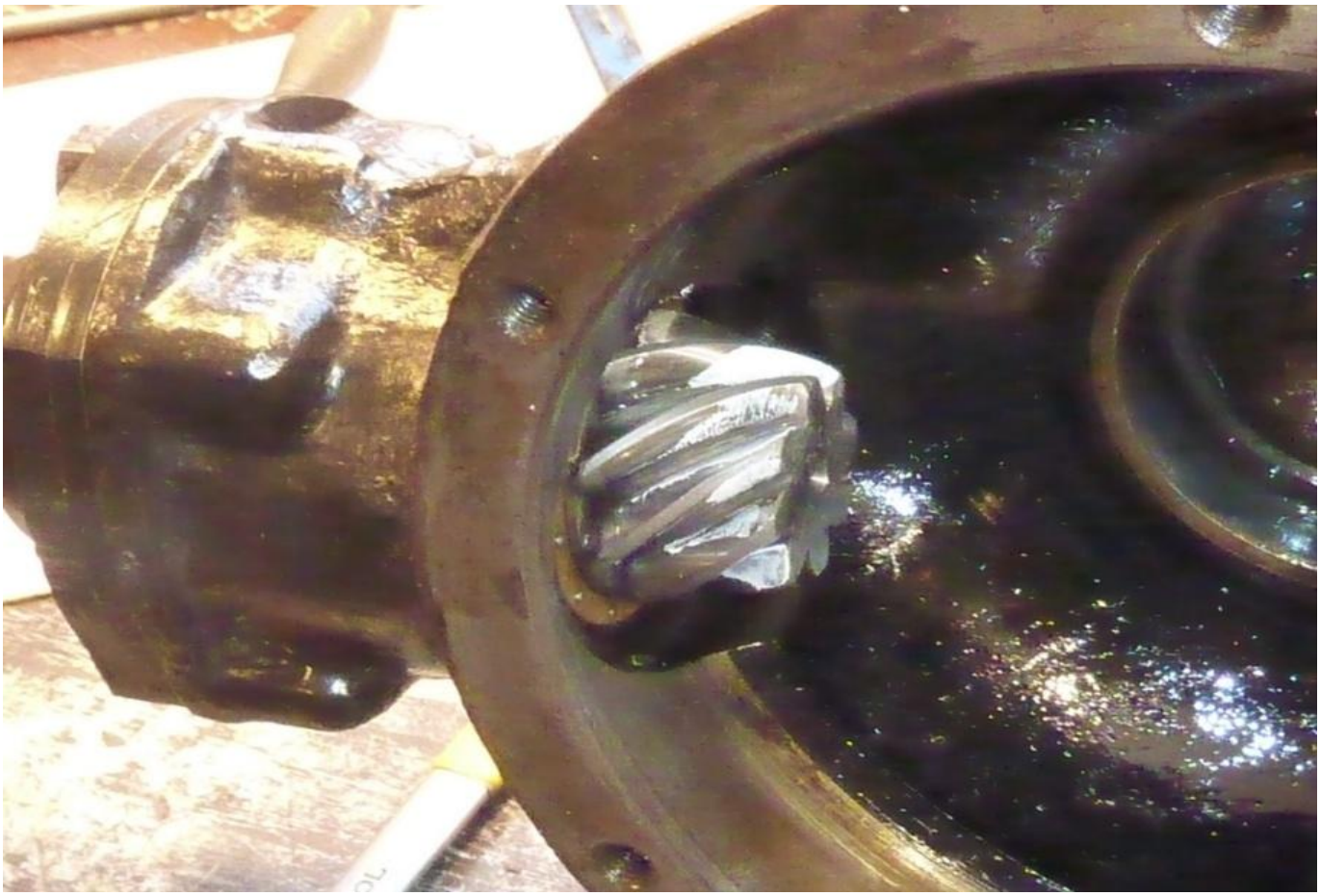
The crown-wheel needs to be moved towards the pinion by slackening the off-side adjuster and tightening the near-side adjuster.

c) To move the contact marks longitudinally towards the narrow end of the gear teeth i.e. closer to the differential –

The pinion needs to be moved further into mesh with the crown-wheel by removing a shim.

d) To move the contact marks longitudinally towards the wide end of the gear teeth i.e. away from the differential –

The pinion needs to be moved further out-of-mesh with the crown-wheel by adding a shim.



Pinion markings at first assembly

I found that each of these adjustments had a quite noticeable effect on meshing and although it is a tedious process, it seems a good idea to make small adjustments, one at a time whilst carefully recording each change made and the results. I have heard of others who claim to have made significant adjustments but experienced minimal effect on meshing. I'm not sure where you would go from there, except maybe to re-check the torque-tube and differential bearings for wear - also perhaps review your marking technique.

The photo shows pinion markings on first assembly where the contact areas look too close to the edges, and a little too far back i.e. too close to the differential. Both my axles required six or seven iterations of cleaning, marking, reassembly, examination and adjustment before I found a comfortable compromise between the longitudinal marking position for 'drive' and 'over-run'. Eventually, I settled for a 'drive' contact marking that was just about spot-on with the 'over-run' somewhat closer to a central position. Good radial meshing was achieved, with markings pretty much mid-way up the teeth and backlash very close to the required specification.

I hope some of this helps if you decide to have a crack at re-building or adjusting an A7 back axle.

Some additional information on A7 threads

It seems there are *eight* different thread types to be found on Austin Sevens ……

- **BSW** (British Standard Whitworth) – The Whitworth thread was devised by Joseph Whitworth in 1841, characterized by a 55° thread angle and was the first national screw thread standard. It is a coarse thread, mostly found on Austin Sevens where steel bolts and studs are screwed into aluminium (with the exception of early magneto engines where BSF was used).

- **BSF** (British Standard Fine) is a relatively fine screw thread form alternative to British Standard Whitworth. It was in general use for steel bolts, nuts and studs in much of Britain's machinery, including cars, prior to adoption of Unified, and later Metric, standards. BSF threads have a 'Whitworth' 55° thread form, and are widely used throughout the engine, gearbox and chassis on the Austin Seven.

- **BSP** (British Standard Pipe), which can be a parallel (BSPP) or a tapered thread (BSPT) – These threads have a 'Whitworth' 55° thread form, and their sizes relate to the *internal* diameter of early (relatively thick-walled) steel tube. Examples on the Austin Seven are: Oil gauge feed on the top rear off-side of the crankcase, 4-speed gearbox oil-filler plug, some grease nipples, and the ⅜" BSPP brass speedometer bush to gearbox thread.

- **BSB** (British Standard Brass) – Again a Whitworth thread form, but all sizes are 26 TPI (threads per inch). The gearbox speedometer cable attachment brass bush is ¾" x 26 TPI.

- **BSC** -British Standard Cycle – An even finer thread than BSF, used on the Austin Seven for the centre-bolts of front and rear dampers which are ⅜" x 26 TPI. Also, some headlamp mounting 'bolts are $\frac{7}{16}$" x 26 TPI.
- **BA** (British Association) – There are numerous examples of 2BA threads in the distributor and also in the advance/retard levers of early A7s and the fan retaining bolts.

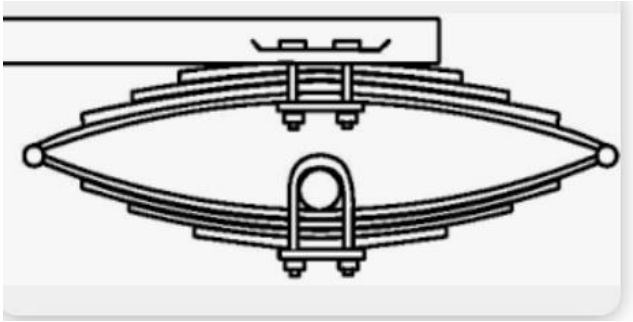
- **Metric** - The float chamber retaining bolts on the 26VA carburettor are 7mm x 1.0mm.

- **'Austin Special' threads** (albeit Whitworth 55° thread form) e.g. Hub extraction thread 1⅜" x 16 TPI, rear hub retaining nut, torque tube support locking nut & cap and early block cores all 1 ¼" x 16 TPI, flywheel nut ⅞ "x 12TPI, Track rod ends ¾" x 20 TPI and radius arm front spigots & crankshaft front nut both ⅝" x 16 TPI. Also, the engine, gearbox and back axle drain plugs are ¾" x 14 TPI

Michael Ward & Bob Garrett

Suspension Shed Night (Pt 1) Eddie Loader

Springs for the first motor cars were often fully elliptic, *see right.* They soon changed to semi-elliptic (see below for the A7 transverse front spring).



The rear springs on the A7 are quarter elliptic, with the rear axle attached to the forged eye at the rear end of the spring (see below).

Originally, the spring leaves had chamfered leaf ends, but these eroded into the leaf below, so, they were changed to having squared-off ends which was also cheaper.

Chamfered leaf ends on a 1927 Chummy, top

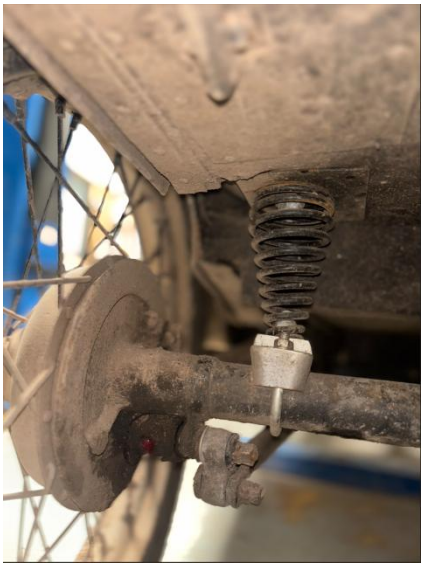
Square leaf ends on a Ruby Chassis, bottom

Light commercials and HGVs still use semi-elliptical leaf springs. The longest leaf takes the initial load, and it is progressive as more leaves are affected. However, as the spring flattens it also elongates, and so has to be attached to the frame by at least one shackle to accommodate the change in length.

Shackle on A7. Note grease nipples on each pin

If the A7 front axle shackle pins and bronze bushes are badly worn, the car sometimes judders in reverse, but often without any noticeable adverse effect when going forwards.

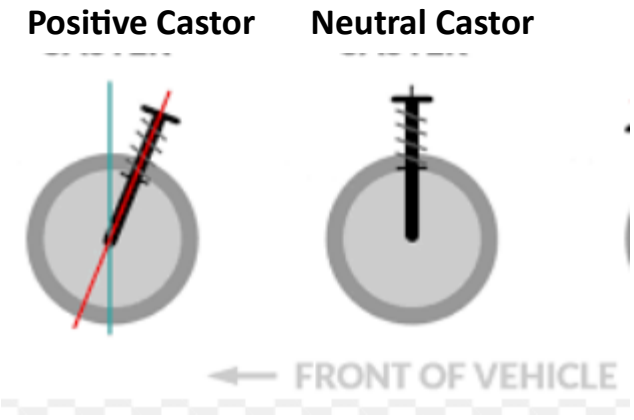
The rear spring of the A7 does not have a mechanism to compensate for the change in length, and therefore causes the rear axle to move slightly backwards as the spring is compressed, similarly, as the load is reduced on the opposite spring, it will tend to contract for example during body roll when cornering. This effectively results in a small amount of rear wheel steering; i.e. in a left hand corner, the rear off-side spring elongates, the rear near-side spring contracts and the rear axle steers to the left (further into the corner). Which explains why Austin Sevens have a natural tendency to 'oversteer'. Of course, if both rear springs are simultaneously compressed when going over a bump for example, then the slight fore & aft backward movement of the whole back axle is accommodated by the torque-tube ball joint and its flexible chassis mounting, together with either the sliding propshaft spline on later cars or the flexible drive disc on early Sevens.



Interestingly, the flatter rear springs found on the later 'low chassis' Austin Sevens are less prone to 'rear axle steering'.

The after-market "Nobby" coil springs *(left)* were sometimes added to the rear axle of some A7s, but are of limited value, as they do not have dampers, and can sometimes cause damage to the floor of the car [Ed: I have now removed the ones on my chummy].

The castor angle is the slight forward rake (at the bottom of the king pin) seen when viewed from the side. Original Austin factory data suggest Austin Sevens should have 5 degrees of castor but 3 degrees is often quoted as satisfactory.



Eddie assures us that the front spring can go slightly flat without too much adverse effect on castor angle, although it will be slightly reduced, perhaps making steering lighter and harder to control, particularly on rough surfaces such as cobbles. However, if the rear springs go flat, then

the castor angle of the front wheels will be slightly increased, which can lead to heavier steering. It should be noted that even an extreme spring flattening of 2 inches will only affect castor angle by 1.5 degrees on a short chassis A7.

The lighter radius arms of pre Semi-Girling Sevens can be twisted if necessary to achieve some adjustment of castor angle. Although, they have a tendency to twist back in service unless an appropriate wedge is inserted between the chassis nose piece and the top of the spring. Also, the front radius arm spigot should ideally be 'pinned' into the axle and the securing nut needs to be tightened very firmly.

Suspension Maintenance: The shackles of the A7 front spring have one grease nipple for each pin. These must be regularly greased as they have a lot of work to do. The springs themselves should be cleaned with a wire brush, and thin grease applied [I used ACF-50, which is in an aerosol], which will work its way in between the leaves. It is possible, but not essential, to buy a leaf separator, which can even have a grease nipple to help get grease in between the leaves. Simply jacking-up the body will, of course, cause some separation of the spring leaves.

Deadline for next issue: 20th Sept

Please do send in contributions! editor@ha7c.co.uk

Ideal article length is up to 700 words, preferably with at least 2 photos or illustrations.
Longer articles also very welcome, especially if they can be divided into parts for subsequent newsletters
Short notes, say 150 words, also popular. Please keep writing!

A7 Lunch on Second Thursday of the month

Twenty-one at the Wheatsheaf on Frome's Hill at the July lunch! Some of the cars *(below).*

On the way home Roly suffered fuel starvation due to the heat. Even his iPhone stopped working as it was over temperature. He opened the bonnet, and let it all cool down. Restarted and made his way home ok. But the coolant was boiling.

National Austin 7 Rally: Prize for HA7C member Rob Mayow

Rob won three prizes last year, but these were for his Alvis. This year he won the Edroff Progress Plate for the "Best work in Progress" at Beaulieu for his 1925 Chummy. The car is not finished, and had to be pushed around the arena on its victory lap! He was a late entry, and wasn't going to enter, until encouraged to do so by David Cochrane. The Prize was presented by Lady Montagu, and it has been awarded since 2010

Race News Tim Bradley

Wow – what a weekend I have just had, my first race around Cadwell Park, what a circuit!

Well, I know you want to know where I came? – that's always the first question.

I qualified 17 out of 19 starters with a lap time of 2.24seconds at 9am in the morning

First race I gained 8 places, I got away quick off the line and overtook 4 people, and the others "Did not finish" (DNF), or were slower than myself. This meant I got a trophy for best improved, gaining 8 places between qualifying and race 1, moreover I reduced my lap time to 2.11seconds.

The second race was a handicap one, and I had a lap in-hand, and started 1.35 seconds behind the 1st person dropped off the grid, but I was in front of the faster people. I was tipped to win all afternoon in the paddock, and all that I had to do was shave something off my lap time, and complete the race, and I then would have a good chance of being first.

I led from the start, and for a whole six laps out of eight required, and unbeknown to me, I was the name being commentated on as the first place leading the race. Lap 6 is when it all went wrong; I had brake failure and reluctantly decided to come off the circuit to stay safe… I did indeed improve my lap time and my best lap was 2.04 seconds, so a very respectable racing speed as fast as the others.

You can view some footage on my youtube channel. https://www.youtube.com/@timbradley-l3v

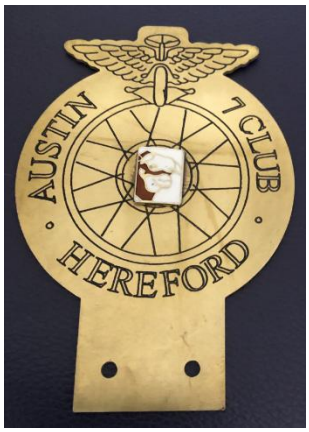
Club Regalia

Available at most monthly meetings from the Treasurer

Windscreen Stickers £ 2.00

Sew-on Embroidered badge: no longer available,
But could be ordered if enough interest.

Radiator Badge £20



Lapel Pin Badge £2

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HA7C website	https://www.ha7c.co.uk
Herefordshire Austin Sevens Forum	https://www.facebook.com/groups/357904524672062

Some other useful resources on the Internet

Austin Seven Friends	http://www.austinsevenfriends.co.uk/
Austin Seven Clubs Association	https://www.facebook.com/thea7ca/
The Federation of British Historical Vehicle Clubs	http://www.fbhvc.co.uk/
Austin Seven Group on FB	https://www.facebook.com/groups/8069487412
Cornwall Austin Seven Club	http://www.austin7.org/
Bristol Austin Seven Club	http://www.ba7c.org/
Dorset Austin Seven Club	http://www.da7c.co.uk/
South Wales Austin Seven Club	http://southwalesaustinsevenclub.com/
Red Cross Directory of Parts, Products and Services	http://oldcarservices.co.uk/