



MEWSLETTER 107

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Pictured this issue is our Registrar seated in his excellent White Rebel estate. Now over to Brian for his words..... "Having failed to look after old number 0003 properly, I really could not get involved in long term ownership of another car, especially as, in spite of a new galvanised chassis less than 500 miles ago, and a respray last year, this one needed lots of little jobs doing. Enter Mark Jones from just outside Shrewsbury, who, as you will read inside, has already made tremendous inroads. Keep up the excellent work Mark." Ed.

The Register caters for all the under 1 litre Reliant 4-wheeled vehicles plus all of their derivatives: Foxes, Rebels, Tempests, Salamanders, Ciphers, Jimps, Asquiths, Vantiques and all other specials including the Liege.....



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Web page: <http://www.kitreg.org.uk> or have a look at <http://www.reliantkitten.co.uk>

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I N D E X

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O.K., I’m sorry, had I not wittered on so much about internet imperial to metric conversions last time, I could have given you the information sought, instead of wasting the space – must try harder to stay focused and on message! I can’t even promise it won’t happen again, but I will try to do better in future.

The picture on page 25 (no room to tell you about it there I’m afraid) shows what can be done to our alloy rocker covers, in this case on the Reliant 850cc engine that Tony Adams from Guthrie uses to power his bright yellow 1938 Austin Big Seven S. Isn’t our pattern maker a clever chap? Thanks to John Copestake for putting Tony in touch.

e & o e

See page 5 for those figures on torque and force, and thanks again Alan (Shaw) for keeping us right.

Actually, Alan (who reconditions our old steering racks and ball joints) deserves a special mention, we all too often take people for granted, the following arrived by email recently from a Kitten owner whose car had passed its test, but had play in the steering rack – he opted to replace it immediately rather than wait 11 months or so :-

Hi Brian,

24/5/12

I have received the steering rack and I now have it fitted to the van, it's a great improvement, so many thanks,

I will parcel up the old one and send it off soon.

A great job, thanks, it feels like a new van.

Eddie Kelly - No. 912 - Colemaine

So Alan, take a bow, and thanks again for helping to keep our cars on the road.

~~~~~

One thing I almost missed – I had left the renewal notice on my desk to remind me – that was early February – see, I am getting through the backlog! Peter Burt from Cumbria was saying he was interested in the picture on page 22 of Mewsletter 103, he has a Mottoguzzi, and his friend has both one of them and a Sunbeam. *Small world Peter. Ed*

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Some news I ought to share with **those driving a Kitten on a B1 licence** – it is a long story, but the best advice I can offer at this time is this. **Sit your car driving test before Christmas.** By all accounts the DVLA may not stop you, but your insurance company will from next year's renewal. You have been advised in good time, please act accordingly.

~~~~~

Right, I have just reduced some picture sizes to make a corner for Dave Allan's plea for information on his Anadol, and I realise that I have yet to give you the lowdown on torques! No time like the present! Then I had to move a picture so you would see it in colour, and split an article to help juggle things about, it's never dull and always a compromise! Ed.

~~~~~

The Torque Story by Alan Shaw

Foot pounds and Pounds feet are not the same thing, although both are a force multiplied by a length.

If you lift a 5lb weight from the floor to a table 3 feet high you will have accomplished $5 \times 3 = 15$ ft lb of work.

If you apply a force of 5 lb at the end of a lever 3 feet long you have applied a torque of $5 \times 3 = 15$ lb ft.

Converting torques from one system to another simply means converting the pounds to kilogrammes and feet to metres. But “foot pounds” means a quantity of energy and has equivalents electrically and as heat energy besides mechanical. The trouble does not end there, the mechanical complications are bad enough.

All are based on mass, length and time.

Centimetre gramme second (C G S) system – now outdated

The unit of force, the dyne, is that which accelerates a mass of 1 gramme by 1 centimeter per second squared.

Foot pound second (f.p.s.) system.

Unit of force the poundal, which will accelerate a mass of 1 lb through 1 foot per second² (but it's common practice to use 1 lbf, which would accelerate 1 lb through about 32.2 ft/s²)

Foot slug second system.

One 1lbf accelerates a mass of about 32.2 lb through 1 ft/s²
Confined to the aircraft industry.

System Internationale. Unit of mass the kilogramme, unit of force the newton, which accelerates 1 kg through 1 m/s²

What a can of worms. Can't blame the internet for being so stupidly comprehensive.

To obtain torques in newton metres (Nm) multiply kg.m by 9.81

~~~~~

## Another Rebel Adventure

***But first – some really exciting news for most Rebel drivers :-***

Morning Brian,

May 27<sup>th</sup> 2012

just a quickie to say I've successfully managed the 3.23:1 axle conversion. Finished it yesterday afternoon. I won on ebay a Robin axle out of a trike from Stafford, and managed to merge the centre casing & diff with Regal halfshafts & axle tubes which I swapped with the Robin ones (from Andy the Tempest builder from Preston). It gave the exact same width as the original Rebel axle, whose tubes couldn't be used as they are welded in! In all it's taken around 8 half-days, but the outcome is great. It's a totally different car to drive now, very quiet & without the buzzy high rpms from the engine too.

If it's not too late can you amend my ad please? The axle is obviously no longer required but if you could please ask if anyone has a Rebel 750 gearbox I would be grateful, as I really could do with syncro on 1st now! If I can't find one I might have to go down the modified Robin route but I could do without the extra work with the crossmember, mounts & prop at the moment.

Hope the damage to your Rebel's bits & pieces isn't too bad & please let me know how it all progresses.

Heading out for a 2<sup>nd</sup> test drive now!

Kind regards, Mark (Jones) from outside Shrewsbury - No. 936

~~~~~

I said most Rebel drivers, anyone who still uses the early 600cc engine will not have the power to exploit the dramatic change this makes to the car. I ought not to be so lazy, but the fact is that I have yet to do the calculations, but, on the original gearing, a Rebel is only doing 68mph when the engine is doing 6,000rpm in top gear, (not much different from a kitten in third!) as a result not many of them did much over 70mph even with a following wind. I do remember Moira averaging just over 60mph on a brisk trip home from York many moons ago – quite a feat! And that was in a 700cc Rebel saloon. I was almost deaf for hours after that! Ed.

I acquired the Late Robert Fairfoull's very tidy white Rebel estate earlier this year, but with Old Number three sitting outside the house waiting for me to fix it, I really could not justify keeping it, even though the estate car is much easier to get the wheelchair in and out of, so I had to find a new custodian for CSM 802L quickly.



As it happened Mark had been in touch looking for just such a vehicle. (just sometimes in life the timing of random events works out really well!) Finding good custodians has, in my experience, always been a bit of a lottery, and I had never met Mark, but he seemed to have the right credentials.

I did enjoy running a couple of tankfuls of fuel through it during the three weeks or so that I had it, and we took in a number of local photo opportunities along the way – sadly just missing the best of the cherry tree blossom!

I could fill a few pages with the history of this car, but the key points are that Robert owned it for a long time, hardly ever used it, did a lot of work to it, including fitting a new galvanized chassis we went to England to collect about 15 years ago, and it had not covered more than a couple of hundred miles since the new chassis was fitted a decade ago.



In the House for an Art Lover’s garden at Bellahouston park, Glasgow

A deal was duly agreed and Mark, along with Doodle his dog duly boarded a train very early one Saturday morning, and arrived at Glasgow Central station just after 11:00am.



Outside the Glasgow Science Centre on the south bank of the River Clyde



And again at the Art Lover's house. March 2012



Listening to the Wurlitzer at Pollokshaws Burgh Hall

April 2012

We set out around 3 & Brian gave us an escort onto the M8 motorway. After he saw we were making good progress he flashed his hazards as arranged & we overtook & waved goodbye out of the rather misty side window, likely caused by the damp Airedale stretched out across the passenger seat, & headed onto the M77.

Eventually we were off the motorways and after passing Kilmarnock, got onto the A76 heading for Dumfries. The Rebel was much more happy with these A roads, but was feeling a bit skittish in the rain.

Now I had never driven a Rebel before, so didn't know if this was normal, but I remembered Brian saying the tyre pressures were too high so we stopped in Cumnock and let the tyres down - from around 40psi to 24psi, with the aid of the tyre pressure gauge found rather conveniently on the parcel shelf.

We set off again & immediately the Rebel felt better, and within a few miles I had got confidence to power through the twisty bits, instead of backing off for them. We drove past Annan and headed for the M6. Nearly as soon as we were on it we got off it and headed for Tesco at Carlisle, where we filled up with petrol. This was the acid test, would it pour over my feet or had the new hose worked? Well 18 liters went slowly in before I could see it had reached the bottom of the pipe & all was well, not a drop on the floor or my boots. I will have to leave Brian to work out the arithmetic, as I don't know how many miles he had covered previously, but seeing as it was showing 3/4 full on the gauge when I picked it up I'm guessing its somewhere between 40 & 50mpg, which I know will make him happy, as he thought it was not doing well in that respect.

Unfortunately we had missed the cafe as it closed at 6 & it was now 6.15 so it was off down the M6 again after taking the dog for a quick walk, without any caffeine injection to prop me up and I was getting tired. The rain had stopped by now & the miles passed by slowly & without incident, but we were having to keep to around 50 mph, due to the increasing noise & vibration that set in after this speed. Every lorry decided we were fair game to overtake, which was annoying because I could tell the Rebel could have easily outrun them, if it was not for that problem. Even at 50mph the noise was very loud, but Brian had forwarned me so I brought earplugs, and as the dog's head was resting on my leg most of the way home, I rested my hand over his ears!

The spray from the lorries was another problem, as the wiper blades were flopping around & not really clearing the screen, allied to the non

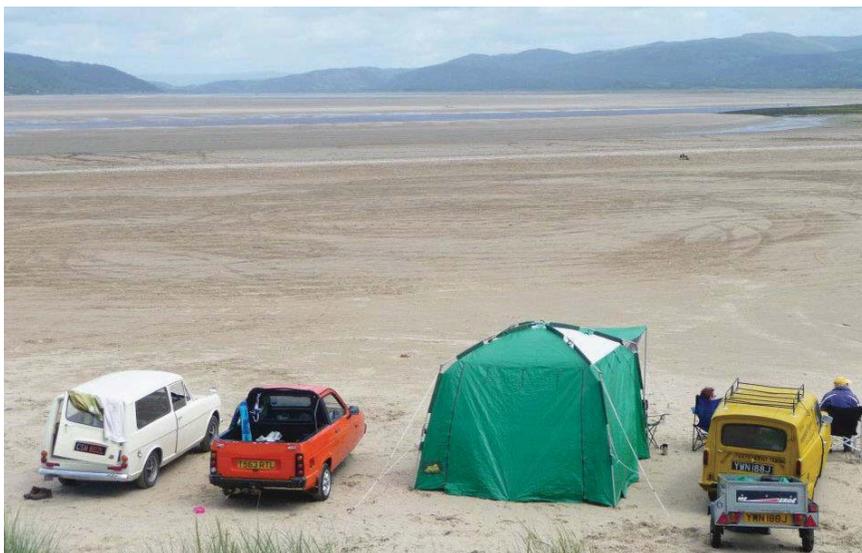
functioning washers. We turned off the motorway & headed for Burton in Kendal to John Box's residence, where we had arranged to pick up a pair of carbs, arriving around 7.45.

It was a welcome break & nice to have a natter & coffee, which woke me up again. Before we left I asked John if he could help me with the wiper issue, as I didn't look forward to driving in the dark with them as they were. He searched & found an old blade that he trimmed down & we fitted it to the drivers side. On testing it out I hit the washer switch by mistake & found they worked! They stayed working all the way home too, and allied by the new wiper blade we could see clearly again!

We departed John's around 8.30, as we had a few hours travel still left to go so couldn't stay & talk cars all evening, as much as I would have enjoyed it. Back onto the M6 again & after a while, near Manchester it started to rain, so it was a good job we had sorted that problem.

Finally we got off the motorway & back onto the A roads heading for Whitchurch, where we had our only breakage of the trip, the speedo illumination bulb! The little Rebel was in its element now, easily negotiating the twisty roads, and I doubt if we were in a modern car we could have made any better progress. Finally on to Shrewsbury & then home arriving at 11.30, having covered 300 miles in around 7 hrs, with only one failed bulb to show for it, in a car that had only previously covered around 500 miles in the last 25 years. I think it deserves some pampering after that!

Mark Jones from Ruyton XI Towns bear Shrewsbury - No. 936



Dear Brian,

6/2/12

Long time no chat. I have been concentrating, or trying to, on the jobs in hand but, unfortunately without much success.

The scene has been muddied by computer failure, again ! We have finally given up on the HP desk top and have connected the big monitor and printer to a little net book that I purchased when the first PC hard drive packed up about twelve months ago. Anyway we are back online.

I am still waiting for the caliper brackets to be milled to size, but have made some progress with seals and will try some which have 50 mm OD, 37.85 mm ID (a reasonable fit on the 1and1/2 inch land on the stub axle) . the main problem is that the seal is double lipped and 7mm wide , the land is only 5mm wide and hence the main (inner) lip only just touches the stub axle . But I shall give it a try .

As for the hub retaining washers, I have assumed that you have had no luck in finding some, and set myself the task of manufacture. No real problem, just tedious. Managed to find a piece of bar steel, drilled it half inch, turned to size and parted off two washers , then came the tedious bit ! welded a lump of approximate size for the flat in the holes but then took ages filing to a nice fit on the axle. Result two good parallel washers with "D" holes.

However, please do not relax your search for both washers and seals, I shall be very happy to purchase the approved spares for each ! As a back stop, do you know if the felts for the original seals are available ? Not much other news , Our summer has been the coolest I can remember for years, not that I mind, I am not fond of the heat. I rather gather that you have been suffering a cold winter.

TTFN , Bob . (Riches) Australia

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NORTHERN TRIAL 18<sup>th</sup> FEBRUARY 2012

Part two

Mobile again and out onto the road for a short distance before heading back into the forest and on to 'Long Crag' which we cleared without incident.

'Ladyside' was next up but we didn't get any further than a 5 grinding to a halt in the goo to score a 5 Kevin getting a little further to score a 3.

Out of the forest and back on the road, descending 'Whinlatter Pass' we pulled into a lay-by to eat our lunch. Kevin drew alongside to ascertain if we were ok and to inform us that he was making a detour to Keswick for petrol. Lunch over, we set off for 'Routen Romp' almost 9 miles further on. Back onto the forest track we tagged on to the end of a very long queue. We were joined by several other cars and continued to wait until word was passed down the line to retreat, problems and delays having caused the section to be abandoned. To retreat meant reversing about half a mile along the edge of the mountain. We rejoined the forest track just as Kevin arrived so his detour for petrol had saved him the hassle the rest of us had suffered.

Next was 'Falcons' Crest' with differential start lines according to your class. A muddy hole was our starting point from which there was no way out resulting in a 12 for us both.

On to 'Browne's Challenge' and a challenge it was. Grip running out for us both at the 9.

'Little Cockup' came next. Last year I did a big cockup by not getting off the start. This year I got off the line, round the tight left and out of the hole for a clear. The cockup this year however was in the provisional results that showed we had missed this section out. The cockup was subsequently rectified!

On to 'Longthwaite Side' and its restart. Last year we didn't get off the restart but no such trouble this time and we flew out of the top to join yet another queue but this time it was for a gate, one of several over the fields before joining the road. We had joined this snake of cars in the optimum position and didn't have to do any opening and closing of gates. Thanks to those who obliged. 12 miles up the road to Sandale' where we tagged on to the end of a queue in the lane leading to the section. My observation of the section was that there was no sand or ale just lots and lots of deep deep mud and lots and lots of wet, wet water. We made it to the restart but no further and had to suffer the ignominy of being towed out. So deep was the mud that the front number plate acted as a bulldozer clearing a way for Kevin who was following on behind. Unfortunately the number plate wasn't man enough and became detached. Without the way cleared Kevin didn't make it off the restart ether.

Back on the road we re-attached the number plate with tie wraps

kindly donated by Kevin and then it was on to 'Carlislegate Lane'. This section went on forever and ever but that was because we didn't spot the section end board!

On to 'Greenrigg' and observed test 2. This was a timed circuit around a field of grass covered slime with ABC lines to trip one up. We got our alphabet right and recorded an average sort of time.

Test over and back to 'The Stocksman' in the gathering gloom to sign off. It was now dark as we changed the wheels and drove back to Carlisle looking forward to a hot shower.

We had a most enjoyable day's trialing and are looking forward to next year. Many of the Northern sections have to be reversed down by clears as well as fails, leading to delays. However this gives the opportunity for chatting, general socializing and inspecting the backs of trees. During these delays the question I was being asked over and over was "where is Steve (Kenny)?" The answer being that he is selling his Liege and taking time out with the idea of returning later driving either the restored Clegg or an Austin 7 based special (or the Liege if it doesn't sell). In the meantime brother John is keeping the family name alive and finished first overall on his Beta ALP in the motorcycle class.

As for our performances. We were beaten by a Dutton but as he was third overall he wasn't entitled to a class win therefore Kevin took First in class with me Second.

It was good to meet up with old friends who were manning the sections. Standing all day in the cold is real enthusiasm and our thanks go to them and to the organizers without whom we drivers would have been sitting at home with nothing to do except perhaps looking after sick wives.

Sunday morning we were up, packed, breakfasted and on the road by 8.45am. It was a spectacularly beautiful day with the low sun casting shadows over the rolling landscape and highlighting the snowcapped peaks of the Lakeland fells beyond. We chose to drive home by way of the A6, A66 and A1 rather than through Swaledale, then through Thirsk up Sutton Bank and on to Malton. On this stretch we became entangled with the 'Riponian Stages Rally' almost finding ourselves on one of the special stages! I dropped Alan off in Bridlington then drove back home having covered 440 miles including wheel spin.

Roger Goldthorpe from Driffield in East Yorkshire No. 156

## A Wheely good story

For some reason I tend to keep the electronic world separate from real life. I just know that one day the leccy won't work, but I still have my pencil and notebook! However, that very separation sometimes causes me to miss opportunities. I had an on-line enquiry from one of our recent subscribers, one of his question was about the fitting of 12" wheels to a Kitten. John Pearce, who, like several others, has done this, got involved in the discussion, and it dawned on me that we could give it a wider audience, here is the story :-

~~~~~

Hello there Brian sorry to bother you, do 12" wheels fit on a kitten?
thanks Scott Read.

Ahh Scott, a good question. The answer is it depends, and you will almost certainly need to fit longer studs and wheel spacers (which come in many sizes and designs) .

First thing to check is that the proposed wheels are 4PCD, Most recent ones will be 100mm which is not the same. They can be filed out to fit if you have the skills, but it is much better and safer to use 4" ones. Very difficult to tell looking at them as there is only 1.5mm of difference, but that can be quite enough to cause really bad vibration and or wheel wobble.

Next the offset is crucial, particularly if you are fitting them with a view of doing a disc brake conversion as they will need to clear the calipers you plan to use.

The rim width of course makes a huge difference to the size of spacers and length of studs you will need.

The offset will also determine how much longer the studs need to be as well as the thickness of whichever spacers you chose to move them out to clear things.

Many alloy wheels require special tube nuts, so be sure and allow that cost, as well as 16 new longer studs and a set of 4 spacers in any financial calculations.

So, yes they can be fitted provided you take care. Many think they look better, but if it is the gearing you are wanting to change, the Kitten is already highly geared, using a low profile 12" tyre can get you back to the original circumference, or so close as to make little difference.

If it is just steel wheels you are talking about you can often use the original nuts.

There are many pictures of Kittens and Foxes with 12" alloy wheels - most Foxes came with them (Bedford steel ones) as standard. Again care needs to be taken, I can't remember which way round but either Fox wheels won't fit the Kitten, or Kitten ones won't fit the Fox, sorry but I can't remember which does not work, it is down to the different brake drums and clearances. Fox drums are thicker than Kitten ones, that was the method Reliant used to get clearance for the 12" wheels the later (most) Foxes had. i.e. instead of a spacer they went for thicker drums. The Bedford wheel had a different offset from the Reliant (Mini) 10" one. Just thinking about that Fox ones won't fit a Kitten unless you fit spacers, which of course means longer studs too.

Regards, Brian

Scott, John here, I'll dive in here as I upgraded my Kitten to 12" wheels a few years ago – well worth the effort as it greatly improves the car..... There was a blow-by-blow explanation on the forum but, alas, I don't think it made the migration to the new server – it WAS a long time ago.....

I fitted the alloy wheels Brian mentions, originally fitted to classic Mini Coopers and Mini Mayfairs from around 1977 on. These exact wheels were also listed as a factory option for Foxes by Reliant – there's usually a few available on e-bay..... You need 4" (101.4mm) stud centres, which these are, and the 4.5 or 5" rims. Wider rims will cause you serious modifications.....

These wheels are a direct fit on to Foxes (though tyre size is important for clearance) but not to any Kitten. Whilst very late Kittens did have the smaller Fox front hubs, none had Fox drums with the cast-in 1/4" spacer mentioned by Brian below. This spacer, although small, is vital or the rear tyres will be too close (even possibly rubbing) to the rear springs and, at the front, the wheel rim might well foul the top knuckle of the upper wishbone. Fox drums can be fitted to Kittens if the centre hole is opened out to suit the front hub. If your Kitten is one of those (as mine is) that uses the same drums front and rear, then Fox drums can also be fitted at the back though most Kittens unfortunately had different rear drums and Fox rears do not fit at all..... Problem is that Fox drums are not available anywhere, at any price..... New Kitten drums are still sold by EBC (both types) around £22-£25 each.

I bought my wheels without tyres (about £40 the set if I recall

correctly) and had a local machine shop turn out the back of the wheel centres to the correct amount to clear the Kitten hubs. I had all four done so I can swap them round to even out tyre wear. The same engineering shop (Rees Engineering of Leighton Buzzard), also, later, laser cut me a set of bespoke solid steel spacers. Aftermarket (universal) spacers are only available in metric (5mm is the nearest) and I found caused serious wheel balance problems.

You will need 145/70 x 12 tyres and stick-on balance weights (clip-ons will hit the upper wishbone knuckle). You must also use the correct Mini wheel nuts as the taper on the standard Reliant nuts is wrong for these wheels.

The tyres are now much easier and cheaper to source – most tyre places actually keep these in stock. 10” tyres generally have to be ordered in advance these days. I have no clearance problems whatsoever and can use the excellent turning circle whenever I want – going forwards at least. They do touch the inner arches when reversing though, but the original 10” wheels also did so I suspect that this might be normal!!! The front suspension on mine has all been poly bushed so I don’t think I’ve any problems in this department. The ride is significantly better and I’ve not noticed any change in the handling, and I do tend to “ear’ole” through the lanes more than a bit!! It also now sits happily on the motorway at a sat-nav 70 with just below 4000 rpm on the rev counter.

John (Pearce)

~~~~~

Hi Brian, Dave Allen here, member no. 791. I wonder if you can help me? I know it’s not a vehicle under 1 litre, but here we go. I have bought an Otosan Anadol 500 pick up I know it used to belong to Reliant and was their factory run around in 1975. I know that you have connections with a few of the ex employees, is there any chance you could pass my details on as I would like to restore it to the condition it was in when Reliant ran it. I know it was cream in colour the reg. no is KOJ 146P. I thought someone may remember it or even have some pics? The vehicle looks as if a few people have been at it over the years as there is a fair bit missing from it i.e. the original seats, front bumper, dashboard, fuel tank, and there are a few modifications and I wondered who did them. You can forward this if you like, many thanks.

Dave. home 01912342306 mob 07941217123

~~~~~

Getting technical

Rebel gearing adjustment – by Mark Jones

This subject has been under discussion by a number of Rebel owners, virtually all Rebel drivers for a couple of decades or more, basically since Reliant did not address the issue from the introduction of the 750cc engine, and given that most Rebels have the later 850cc unit installed now – well 6,000rpm at 68mph is just too noisy, not to say burning more fuel than you need to. By comparison if you could get a Kitten to pull 6,000rpm in top you would be doing a three figure speed, yes, I've had that experience thanks to Dick Watson's tuning. You cannot imagine the difference till you have driven both. Ed.

Hi Brian,

28th May 2012

You will need a Regal axle, for its axle tubes & halfshafts, and a Robin or Kitten axle for its centre casing & diff. The "A" ratio 3.23:1 is the one you need, which is good because they are cheaper as all the trike builders are after the "B" ones! The Rebel axle is not required, although you could use its halfshafts if needed, as they are the same as the Regal's. The reason why you can't use the Rebel's axle tubes is they are welded into the diff casings end covers, so can't be easily removed.

Disassembling the Robin axle;

Remove the halfshafts, the same as you would whilst replacing wheel bearings.

Grind the tops off the 3 axle tube securing rivets on each side of the diff casing.

Undo the nuts & separate the 2 halves of the diff case.

Lift out the diff assembly

Tap out the 6 rivets you previously ground the heads off.
Put the one half of the axle into a large tube (I used an old flue pipe) with some padding & use a large socket as a drift to knock the axle tube out (see pic)



You will need to heat the casing with a blowlamp first to get the alloy casing to expand enough to release the tubes.

Regal axle disassembly;

Repeat the process as per the Robin axle, but this time there are no rivets holding the tubes in, just 4 small bolts to be removed.

Marking up Regal tubes;

With the axles spring platforms positioned downwards on a level surface mark a straight line across the widest part of the end of the axle tubes using a spirit level.

Continue these lines along the 3" length of the machined part of the tube & mark across the lines at 66mm in from the end.

Marking up Robin casing;

With the casing resting on a level surface and the nose of the pinion raised to an angle of 5 degrees mark the ends of the holes where the tubes will enter using a spirit level at the widest part of the holes.

Reassembly;

Put the Regal axle tubes in a fridge or preferably freezer. Warm one half of the Robin casing in an oven at 200 Celcius for 10 mins, remove from oven & insert a cold Regal tube taking care to accurately align the markings.

Insert up to the 66mm mark you have made. The tubes need to be inserted quickly & accurately using this method, because as soon as the tubes take on heat you will not be able to move them. It would be better to use a press if you have the option, then you would not have to chill the tubes, and could take your time getting everything aligned properly.

Repeat the process for the other casing & tube.

Drill & tap (through the tubes too) the 3 old rivet holes in each casing & insert M6 x 15mm bolts using plenty of threadlock adhesive. Drill a 2mm breather hole on top of the offside tube about halfway along (similar to the position on the Robins tube).

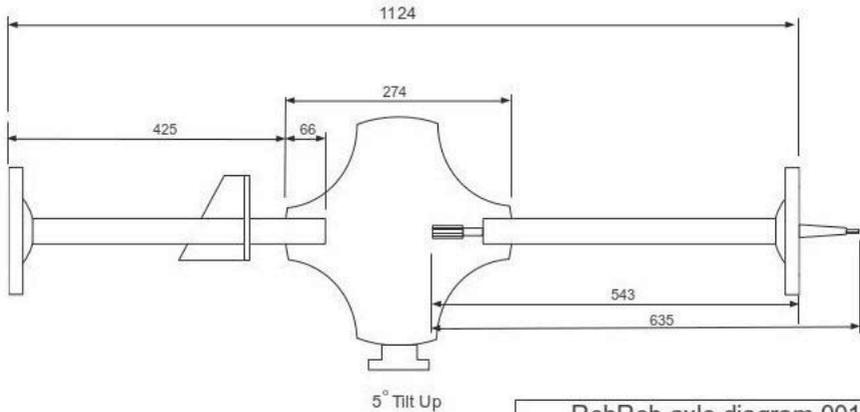
Clean everything & replace the diff assembly.



Smear the casing mating surfaces with gasket compound & reunite the 2 halves.

Fit the Regal halfshafts.

Looking back on the job it was very worthwhile. My only regret is that I had taken my own axle off the car, thinking that I would need to use parts from it. This meant that I had to get everything done at a pace to get the car back on the road to enjoy this lovely weather we are having! Taken at leisure it would have been more enjoyable & less stressful. The Robin axle was purchased for £70 on ebay, and just entailed a short run to Stafford to pick it up. It was in excellent condition internally though which is good as its always a gamble with these things. Those Robin tubes & halfshafts were then removed & driven up to Preston, and swapped for Regal ones, as a chap called Andy was doing a similar conversion up there, but in reverse to me. He wanted the Regal diff to get the right ratio as he was using large diameter wheels on a Tempest he was building & we spent a nice afternoon talking cars and discussing ideas.



RebRob axle diagram 001	
Not to scale.	Dims in mm
Design by Mark Jones	16.06.2012

I hope this has been of use. As for courage, knowledge & experience all I can say is I love a challenge, the knowledge & experience is usually picked up on the way!

Kind regards, Mark (Jones) No. 936 - Shrewsbury

PS. Its early days but I think the mpg has improved dramatically too, now the engine is only turning at two thirds the rpms for a given speed.

~~~~~

## Latest on replacement anti roll bar links :'

Ok Brian, They don't appear to last that well, the joint itself is fine but the boots tend to split. I removed one pair due to that and fitted another set last week for the MOT this Monday (which it flew through).

I am now going to try and investigate another shape boot, as we know the Fox is a pretty tight fit on roll bar (and I have spaced mine a bit to miss bottom of the wishbone a bit more). The boots don't look split due to the shape but on close inspection after a while a split develops to the rear of them. I have kept the set I removed as the joints are fine, to investigate different boots, I don't think they flex enough. I will let you know. I by chance stumbled across the Vauxhall ones as the dimensions were the same and at the time ordered 2 sets.. just as well! Of course the original flex rubber insert type, a smaller stud length of the Scimitar ones would not suffer as they do not have rubber boots.... Hmm I will let you know (I have 18 months to sort it out)...

Regards. Les (Smith) No. 378 - Ashford.

One option is to machine down Scimitar ones :-



Scimitar one

Modified to fit Fox

Worn Fox original

Hello there Brian,

15/4/12

I hope everything is well over there?

Everything on this side of the Channel reasonably well, not everything but then there is always something to dream about isn't it.

The reason for this e-mail is that I am desperately looking for some handbrake cables for 2 of my Kittens

The one I have at the moment is dangerously fraying so the car is failing its MOT and I can't find a pair of new or even good used ones anywhere on short notice.

As you probably know Rialto or Robin cables won't fit because they are too short and have different fixing points.

I hope someone can help me with that.

The other question is if someone is interested in a left hand drive Kitten estate body and chassis (1977) ?

The body is bare except doors, bonnet, rear door and glass and is in reasonably good condition, color is turquoise.

The reason I was breaking this car is that it failed its MOT because of severe corrosion in the left hand front chassis rail so the front wheel collapsed when braking hard.

The body is still on its chassis and has never been removed but is minus running gear (engine and gearbox).

A few months ago I bought a "new" Kitten with a very sound chassis and transferred all the good parts from one car to the other.

The chassis is still repairable but it is a lot of work to do and I haven't the time for it even if I am out of a job at the moment.

I hate to break up the car completely because it was my daily driver for 12 years and only let me down only once.

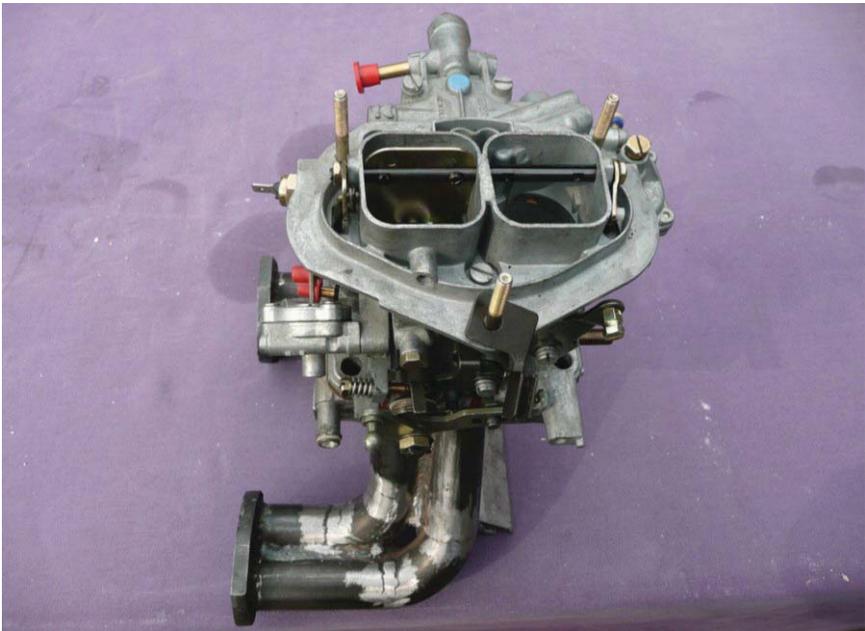
The car is on SORN and in a lock up at the moment but not for a very long time anymore so has to go to a new home.

So I was wondering if anyone anywhere is interested in this project ,

perhaps our man in Chile ?

All the best to you Brian and to the family.

Regards, Wouter van Oploo. Holland No. 412





We can do most things with the alloy rocker covers, looks good in Red don't you think?

~~~~~

Kitten & Fox Anti Roll Bar Links

The drop links for this seem almost impossible to find although a later booted fitment is available and performs well, however I was disappointed to discover split boots on my replacement aftermarket ones, so I am looking out for a suitable replacement boot to fit them. The replacement joint itself appears more than up to the job.

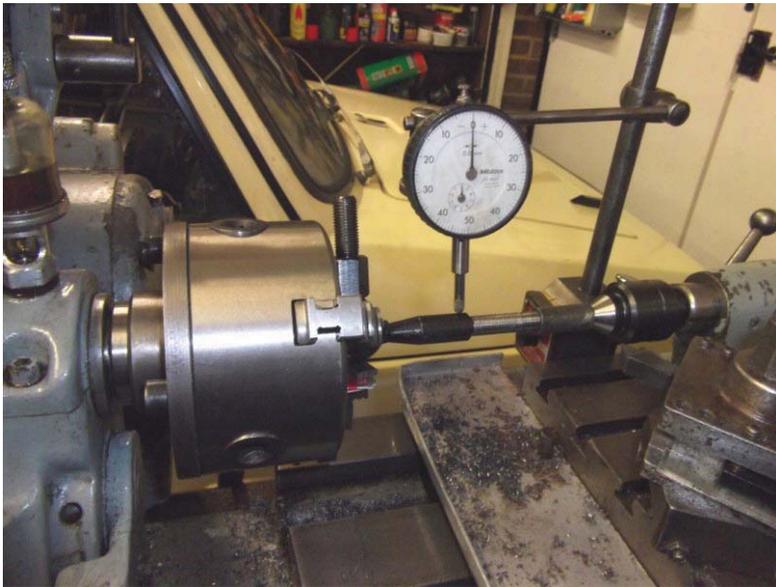


You need to look closely to see the split.

The boots split along its top edge is hard to see without close inspection when on vehicle, hopefully replacement boots will be approx £5 for four.

Trying to stay as near to the original links the only similar ones were the Reliant Scimitar links, although both the drop and reach are too long. I proceeded to see if they could be adapted to the Kitten/Fox size.

As they threaded up easily it was decided to mount one in a lathe and reduce the longest section first (drop). It was supported with the ball end in a three jaw chuck, and shimmed with a threaded spacer at the other end in a revolving centre, after some faffing about I managed to get it right to machine.



Once machined it was threaded and cut to length before the shorter stud was reduced, the longer length needed reducing in size otherwise the swing would have been too great for my old lathe. It just missed the lathe bed (phew) so the shorter reach stud was again reduced, threaded and cut to length.



The end result I think is as near as you are going to get to the original fitment, Scimitar one on the left, machined one centre and worn out Fox one right.

Unless it can be found out where the original ones came from or what else they were fitted to, probably some other 1970's/80's vehicle, then it's a problem that has to be overcome.

Scimitar ones are close to £20 a pair with postage and as my original Fox ones were probably 25yrs old it should not be a constant replacement item. I will at some point machine up the other Scimitar one and fit them at a later date. Continued over the page - - -

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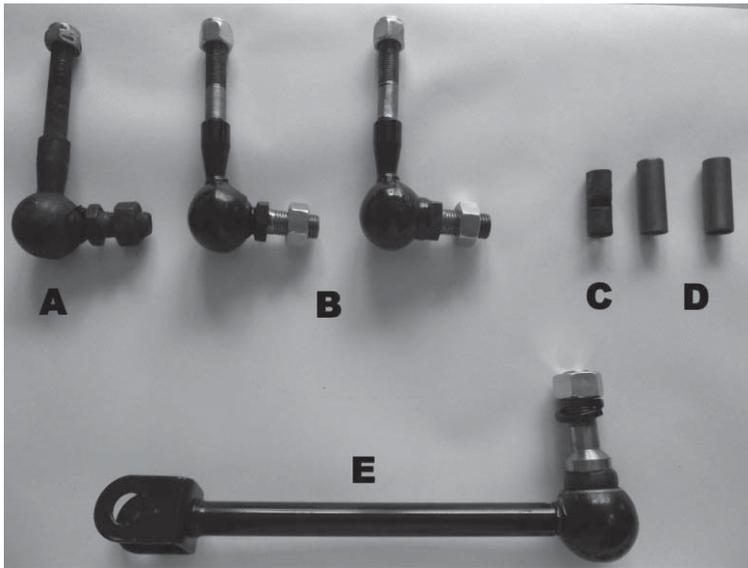


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A final recount of turning Reliant Scimitar drop links to fit a Kitten or Fox.

A = Original Fox Joint.

B = A pair turned down as described before ready to fit.

C = Original Kitten/Fox spacer sleeve.

D = Scimitar spacer sleeves to be shortened a tad.

E = Another alternative one that could be adapted a bit easier is the MGB drop link, slightly larger ball but probably easier to reduce, although no spacer sleeves so a pair would have to be sourced/made.

In the meantime the hunt goes on to find the originals, which I know more than one of us are looking out for.

Les Smith - Ashford in Kent - No. 378

~~~~~

## *Epilogue*

Well, as is often the case, I am working on this edition, and the last one is not even in the post yet – in truth it will only be going to the printers when they open in a couple of hours time! How organised am I?

Seriously, without your input all this would be greatly reduced. I am greatly indebted, we all are, to those who provide an alternative sort of article to that which I from time to time create. Great stuff folks, well done, keep it coming, please nicely.

I have driven more miles in a Reliant this year than for many years, (in the white Rebel estate featured at the beginning of this edition) but my very supportive doctor is retiring – early – later this year, (How dare she!?) and I have great foreboding about being able to find another one who can be persuaded to let me keep a licence to drive a manual car – oh well, it was good while it lasted, and I will concede that clutchless gear changes can take some of the fun out of brisk motoring, you need to think about it all so much more carefully – a different challenge, but one that often leaves me making less gear changes than I might ideally desire – compromise compromise – don't you just hate it!?!?! I can still type, so you won't be rid of me for a while yet!

Well, here we are on the last page of text and no jokes nor an update from the Federation, I **will** do better next time.

I do seem to be getting dragged into the electronic age gradually, this is one of 60 Rebel / Kitten / Fox related emails I received last month :-

Hi Brian,

June 26<sup>th</sup> 2012

Just to let you know, I received the rocker cover ok ... Very nice! Ground the cast face back and after a little fettling to get it aligned (clear the thermostat housing and coolant hose) as stated in the instructions. Mirror polished it. Just waiting for the tube nuts to arrive before I fit it. Many thanks. Dean. No. 941 from Cwmbran

~~~~~

Till next time drive carefully. *Brian*



Joe Mason – 07973 470810

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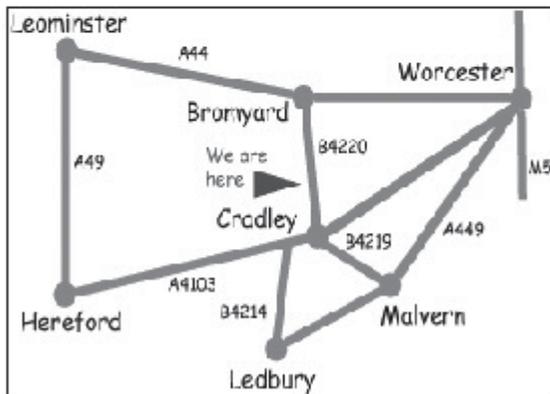
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