

# RELIANT KITTEN REGISTER

MEWSLETTER Number Six

Spring 1995



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Hello again, so soon as well! Welcome to the sixth edition of the magazine of the Reliant Kitten Register.

After my apologies for the delay in putting out the last edition, I thought that some catching up was in order, and since there were a few articles which I have been meaning to include, and they were getting older all the time – Well, just don't expect the next one to follow so soon on the heels of this! here we go again.

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I am pleased to report that the batch of alloy rocker covers will be going ahead, it is not too late to send your cheque for £15.00, by way of a deposit which will be deducted from the final cost. Such cheques should be made payable to the "Reliant Kitten Register" and sent, with your name and address and a note of whatever you would like yours to say "RELIANT" or " KITTEN" on the top, to :- P. Hallam Esq., 4, Greenhead Holding, Stevenston, Ayrshire KA20 4JX It is still expected that the covers will be available in the summer.

In case you were wondering, I did give Phil the money for mine (both of them!) before you got the last edition!

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Still with Phil Hallam in mind, he has available, subject to knowing which type of points your engine uses, service kits, comprising 4 GKN spark plugs, an air filter, and oil filter, that is the short dumpy Reliant type, points, as mentioned, for the princely sum of £ 17.00 including postage to your home( U.K. ) address. Cheques this time get made out to Phil Hallam, and sent to him at the address shown.

Just to keep the information about bits together, I am still able to offer Lucas exchange alternators, their ref. LRA 100, that is the 34 amp one, for £22.50 exchange, and rear 4 leaf road springs with bushes for £68.00 a pair (+ delivery). Cheques to, me – Brian – this time, payable to "Reliant Kitten Register".

Alan (Marshall) has available a number of reconditioned distributors, which I was reminded of by a 'phone call from Harry Darby, thanks for the call Harry. The distributors are £ 24 I believe, talk to Alan if you are interested. 01505 328114

If there is a part which you require, and cannot get from your local Reliant dealer, or other supplier, please let me know, as it is my intention to use the Register to help ensure that we keep as many of these fine wee cars on the road as possible.

Also I should again make sure that everyone knows that we have copies of the Kitten and Fox (and Rebel of course) parts books available at £8.50 + £1.50 p&p. Also workshop manuals for the Kitten and Rebel at the same price.

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## **Are you sure you can put it all back together again ?**

It wasn't the first time that Moira had asked me that, only I wondered if this time her doubts might be well founded. The decision to remove the body from the Kitten had not been taken lightly. The choice had been to tidy up the bodywork to make VSA 801S more presentable, or overhaul the chassis. No contest! What's the point in having perfect bodywork if the chassis is falling apart with rust? Not that ours was, but you don't know for sure until you get the body off, do you? So, towards the end of 1992 (I told you this was an old story, Ed) The decision was taken, and when the tax ran out at the end of September, work started immediately.

Well, to be more accurate I should say that work started long before that, because I had already studied the workshop manual, and the car, to find out just how the body was fixed to the chassis. I had also previously removed and refitted some of the bolts, to assess how difficult they might be to remove, and to check their sizes. I had also bought replacements for every nut bolt and washer that I knew I would be removing, along with an assortment of H.T. nuts and bolts for the inevitable bolt I never knew existed.

At first glance the body appears to be attached to the chassis by just 10 bolts. It does get a little more complicated once you get started, but not as bad as this encyclopedia might make it sound. The body came off surprisingly easily really, and only the fact that I did not know how heavy it was, made it more difficult than it might have been.

After removing the five bolts in the boot, one in the passenger side footwell, two at the driver's side and the two at the front of the car, under the radiator air intake, I removed the doors to reduce the weight. The bolts securing the rear seatbelt mountings in the rear footwells were then removed. Both had to be chiseled off after cutting them halfway through with a hacksaw. The captive nuts broke loose while I was trying to remove the bolts, but I was able to remove the remaining part of the bolts from their nuts, and, after the body was removed, they were welded back into place on the chassis. Removing the gear lever and disconnecting the speedometer cable completed the work inside the car, except, remember the two bolts securing the seat belts to the transmission tunnel? I didn't!! Until the body refused to be separated from the chassis.

The bonnet was removed and, in the engine compartment, the radiator was removed to prevent possible damage. The heater hoses were removed, the steering column was disconnected at the bottom.. The battery was removed and fully charged prior to storage. The battery and starter cables were removed from the starter solenoid and the earth cable was disconnected at the timing cover (Editors note, the position of these earth straps may vary, watch for them) The H.T. leads were marked and the distributor cap removed. ( it would have been better to have removed the distributor complete, to avoid damage to the vacuum unit – but hindsight is wonderful ) The water temperature, oil pressure, and ignition leads were disconnected, and the oil pressure gauge tube. The throttle cable was disconnected ( the choke cable had been removed as part of the gear lever removal operation ) . The brake pipe between the master cylinder and Tee piece, and the bolt securing the speedo cable to the bulkhead completed the under bonnet work.

Under the car it was necessary to remove the bolts securing the seats, and these (the seats) were removed to reduce weight. Two bolts on each side secure a roll over bar to the chassis just behind the doors. These had to be cut off, although the bottom ends of

the bar were badly corroded, completely gone at one side. One bolt on each side secures the front door pillar to the chassis. Disconnecting the clutch and handbrake cables completed the work under the car, or so I thought, until I remembered the petrol filler and breather pipes.

After jacking the car up as high as possible, a long piece of wood was placed through the rear wheel arches between the chassis and the body, and supported on axle stands, so that by removing the road wheels, and carefully lowering the jacks, the body was slowly separated from the chassis, or it might have been if I had remembered the two central seat belt mounting bolts ! The front was a little more difficult until I managed to raise the body enough to get a piece of wood in between the front body mountings. I ended up with the body supported on 4 axle stands, and the chassis, complete with engine, gearbox, back axle, and front suspension, sitting on its brake drums, but I did not have the body high enough to let me pull the chassis out from underneath.

Up to this point I had not had any assistance, but I now needed the help of my 17 year old son, a major task in itself. Isn't it amazing how when you ask them to do something difficult, like put the cat out, if they are not too busy studying for an exam, they are already late for an appointment to meet a friend. It would never occur to them that they might have to open the door on the way out, and so could simply shout " pussy pussy " as they did so.

Anyway, on this occasion I was successful, and while he held the front of the body as high as he could, I pulled the chassis out from the side on the trolley jack. It would have been fairly simple to lift the body off with two strong assistants, but great care is necessary to clear the rear valence from the rear of the chassis and spring hangers. The body was then placed on timber blocks, the doors laid in place, and the whole thing covered with a plastic sheet for its winter hibernation. The plastic sheet turned out to have been a bad idea. You would be amazed how much paint came off with it, and I had tried to protect the obvious contact points with old sheets.

After completely stripping the chassis of all its components, I removed as much of the old underseal as I could using a hot air gun, the difficult bits were softened by spraying them with Gunk, and allowing them to soak overnight. A local firm shot blasted the stripped chassis and etch primed it for £ 80. The shot blasting showed up the one weak point on the front suspension turret, but apart from that, and replacing the ends of the roll over bar, and most of the captive nuts, no other welding was required. What a lucky chap he is!! Ed.

The roll over bar was repaired by removing a section of the bar from a scrap Kitten in order to obtain the correct size square section bar. Two pieces about 12" long were replaced. In order to attach the repair sections, and retain maximum strength I took a spare piece of the new bar, about 7" long, and cut it length ways from corner to corner. I then welded it back together to form a square of smaller dimensions than that which I started with, just enough smaller to be a tight fit inside the original. After drilling two holes through the repair pieces, the reduced size bar was forced about 3" inside, and then welded through the holes just drilled to secure it.

Some trial and error was involved in finding out just where to cut the original bar in order to both remove all the rust, and provide a reasonable opportunity to secure the repair section. The best place to cut the bar was found to be about 2" to 3" above the rear seat

base, immediately behind the door. This meant a single cut with an angle grinder to get started, and finishing off with a hacksaw blade to avoid any fire risk. This released all the rusty metal which was simply pulled out from beneath the car. At this position the joint was also assembled through the large rubber plug at the rear of the door opening, and could be secured with a bolt and nut, avoiding having to weld so close to the fibreglass. Editor's note, I know that Phil Hallam has a similar but different approach to this repair, using a solid circular cross-section bar with a hole drilled and tapped at the appropriate point, and a set screw to locate it.

The various captive nuts on the chassis were repaired / replaced by welding a nut to a washer, and then welding the washer to the chassis. This is fairly simple until I came to the two bolts at the front of the boot, as these were about 18" inside the box section. Determined not to be beaten, I drilled three holes round the original, and using the same idea, I welded a length of welding rod to the edge of the washer. This was used to pass the nut inside the chassis to the required position where it was caught on a bolt passed through the original hole, pulled into position by the bolt, and then welded in place through the three additional holes I had drilled in the first place.

*That's fine as far as it goes Les, but how did you remove the remains of the original nuts first? Ed.*

After welding, two coats of Finnegians No. 1 primer, 3 coats of chassis black, and two coats of underseal assured me it would not rust again, but just in case it was then waxoiled inside and out before re-assembly began. I've heard it all before ! - Ed. But I am sure it will last longer than the original did. Some fibreglass repairs were required to the body before refitting, as it was severely cracked in the area of one of the mountings, and this would have caused an M.O.T. failure under the new regulations.

The body was lifted back onto the chassis using the method suggested earlier of two strong assistants ( my son and his pal ) lifting the rear while I lifted the front, but as suggested earlier with their limited grip on the back bumper, and no one to guide operations, it was difficult to guide the body past the rear spring hangers and locate it in exactly the right place. The front was easy because with the bonnet off I could see exactly where the body was going, so after I got that in place, I managed to guide operations at the back.

*What he really means is that you need at least 4 people to do the job easily, ! Ed.*

The only difficulty met after this stage was in hanging the doors. This was finally achieved by bending the hinges to give an approximate fit, and then hanging the doors, and fitting the required shims before securing the steel pillars inside the door pillars, and again using shims where necessary. The final bolting up of the body, and tightening all of the suspension bolts with the weight back on, was completed one Sunday in the pouring rain. My neighbours now know how mad I really am. The reasons for this sudden bout of apparent insanity were the facts that the car was booked in for an M.O.T. test on Tuesday, and I had just assured Alan Marshall that it would be at the Doune Classic Challenge, of course I never doubted that it would be!

Les Cruickshank – Dundee

*Thanks Les for that account of events, I can hardly believe that that was almost two years ago now! Ed.*

### From the Mail Tray

Dear Brian,

Just a few lines to say that although I have not caught up with you yet, my Kitten is still soldiering on.

When I first put her on the road, her previous owner had left her sitting under a tree for three years after a total loss of oil pressure. I always felt she was underpowered, however as she was replacing a 7 series BMW, obviously she would! Later events however revealed another reason. The loss of oil pressure was caused by a broken oil pressure relief valve spring which I renewed (The "New" modified oil pressure relief valve unit, which involves digging out the hardened seat from the crankcase makes the best improvement, Ed ) and promptly blew two filters to bits. The two half gallons of oil on the drive did nothing to endear the little car to my wife, who thought I was mad to buy it, especially as I intended to drive it to Dover and use it as a runabout down there. What a selfish chap, imagine leaving your wife at home with the B.M.W., while you take the Kitten to work ! The fact that all of it, the glass as well, is bright green didn't help either. More scrubbing and a new set of brake cylinders, shoes and pipes, a modified pressure relief valve, and several 20 mile runs around home, and I felt she was ready for the great trek south. Promising myself to stick to 60, I set sail late one night via Edinburgh, Jedburgh, Newcastle and down the A1 to the south. By the time I had reached the border, only headwinds and hills kept us within the legal limit. My Kitten revving quite happily till it ran out of steam. In this fashion I arrived in Dover in 10 hours, stopping only for fuel and a stretch (I've sat in more comfortable seats!)

*Oh, is that what Vor sprung Durch technique means? Ed.*

I used my little car, much to my colleagues amusement, to run back and fro to my work on the channel tunnel with the intention of travelling back home by train or air – cor, there's a thought, a Kitten that runs on Air!! However when a total muck up with train bookings meant I would not be able to travel overnight from London on my first trip home in a month, losing me a day at home, the Kitten and I hit the A1 again. That weekend was a round trip of 900 miles with no problems. This became a regular happening every three weeks for the next 16 months. With odd trips to air shows within 100 miles of London in between ( WW2 aircraft are my other great interest ) Apart from an annoying habit of eating points and condensers at about 500 mile intervals, I had no problems. I solved the distributor problem by fitting the distributor from a BMC Metro giving me breaker less electronic ignition. This was achieved by removing 3mm from the bottom of the aluminium body. The drive spigot from the Kitten one being fitted in place of the one from the Metro, the shafts are the same size. I can produce a small sketch if anyone is interested.

The time eventually came when my work on the tunnel finished – Yes Gordon, we noticed you had finished it eventually, now we all know why it took so long, he was enjoying driving the Kitten up and down the country too much ! and I had to return home, so with every inch of the Kitten crammed with things I had collected during my 4 years in Dover, off northwards we set. All went well till I came off the A1 for petrol. As I decelerated from 70 I felt a vibration which disappeared almost immediately. A close investigation revealed nothing amiss, and we set off again. It occurred again round Newcastle, and again went away quickly. Some thing's coming adrift in the clutch I thought, and kept on till Jedburgh. While revving hard to overtake a truck there was a

tremendous vibration, the oil light came on and the engine stopped immediately. I just knew the crank had broken, having suffered a similar fate on an A40 some years ago. A more leisurely trip courtesy of the RAC saw us home, and over the next few days I removed and stripped the engine and yes, the crank was in two pieces, the centre main cap was lying in the sump, the lock nut on one stud had run off, and the other one had snapped.

The following weekend was the Classic Car Show at Ingleston, and I came over hoping to meet you as the Thistle branch of the R.O.C. had it on their events Calendar. Unfortunately I came on the Saturday, and I gather you were there on Friday and Sunday, However I now know what a Rebel looks like, and I did have a pleasant chat with Sandy Riddoch.

*Sandy was one of the main driving forces behind the setting up of this Register, Ed.*

At this stage I decided to collect a Kitten I had bought sight unseen but with a guaranteed good back axle, and use the engine from that. However out of the blue, is this him still running the Kitten on air I wonder ? I was offered an engine from an 850 Robin which had been removed to fit a new clutch, but then the car had been badly vandalised and the car engine ended up under a bench in the man's garage. Coin was exchanged, and it was mine. Off came the sump and I started to remove the crank with the intention of fitting it to my, now fully stripped and gleaming engine. It was then that the reason for the lack of power dawned, my original engine was not original after all, it was a 750 !! Perhaps it had shrunk with all this running on air ? Ed.

So, as transport was fast becoming a necessity, a quick bearing check, a new high capacity oil pump, and a clutch, and the engine and gearbox went into the Kitten and started almost immediately. To date I have had no real problems doing about 50 miles a day, and it certainly has more grunt than it did. The next job must be to change the diff, which is getting noisier all the time, and I really must go and collect the Kitten saloon which I still have not seen.

One other point, probably for Bob Neal, while touring round near Folkestone, the Folkestone racecourse is actually about 6 miles from Folkestone. I came upon a garage selling Robins and Rialtos, and among them was a Fox done up as a cabriolet with Wolfrace alloy wheels, four Recaro seats, and carpeted throughout. The garage owner had originally been a Reliant dealer, and, although no longer so, did quite a trade in three wheelers. When I commented that someone had spent quite a bit of time and money on the Fox, he said he had actually sold the vehicle when new, and it had come from the factory as a cabriolet. Like myself, he had thought that the Fox was only available as a pick-up, if it had not been for the fact that it had a faulty engine, I would have been very tempted to part exchange my Kitten towards the asking price of £700. I did however take a couple of photographs which are still in one of my yet to be developed aircraft films. When I do get the film developed I will send you copies.

Gordon Keay – Dunfermline.

*Thanks for the letter Gordon, sorry to have missed you at Ingleston, and I look forward to seeing the pictures. We will meet up some time Ed.*

Dear Brian,

Thanks very much for Mewsletter No.5, we know how much effort goes into producing it.

OYC 321P is still being restored, we're working on it almost every weekend, learning as we go along. The Ford Cardinal red respray looks good, and the new headlining is in. The sun visors and interior light (rewired) are in. Replacing the dashboard took a lot longer than we'd imagined, as we found that every wire in the car had been cut and extended with twisted wire and sticky tape joints, many of which just fell apart. All is now well, rewired, soldered and insulated with heatshrink. Had to make new brackets to retain the instruments, and evolve a way of keeping the switches from falling out. All is now secure, and a replacement dashboard installed (the old one was literally in bits!) "Back to black" from Halfords has made the new dashboard actually look new. We still have to get the seat frames repaired, and then re-upholster them, fit the new carpet, sort out the clutch (which has now seized), etc. etc. but we are getting there –

*and not a train in sight Ed!*

Rob & Fiona Wilkes - Oxon

### **Gotcha Foxed?**

Is it a Robin?... is it a Kitten...? No, it's a Fox! (what is this affinity with wildlife?) O.K., I can't think of a suitable alliteration for Fox, although after 8 years of unstinting service, perhaps its just "faithful"

Mine is a Pick-up version, although there is a rear seat built in under the floor, as in all Foxes. The other main difference from the Kitten is that there is room for a 6 foot driver, I just couldn't function fully for long in the confines of a Kitten, and I needed the Fox as sole transport on long journeys. They are usually extremely undervalued, especially considering the galvanised chassis (do check the un-galvanised fuel tank for rust, and where the roll bar emerges from behind the doors and bolts to the chassis, as in the Kitten, these usually require attention).

Foxes were originally built for sale in the Caribbean apparently, but I'd love to know how many there are in the U.K. There are about 6 in the Norwich area, but after several years in production I only know of about 1500 being produced on their withdrawal from sale in 1988.

Incidentally by the time mine was built in 1984, chassis number 221, Reliant still had not solved the problem of fuel vaporisation, and my mod of fitting a ½" spacer under the carb made no difference. Perhaps the then new "Yellow Top" high compression engine will make things better, or worse! Any ideas??

Another feature of the engine is continuous pinking under light throttle at all speeds, unless accelerating or decelerating. I have made one or two useful mods, so if anyone out there wants to start an information pool or swap ideas, lets be hearing from you, perhaps the Feral Federation of Foxy Familiars, or Vixens of Vice and Virtue, perhaps I should sign off before fuel vaporisation occurs again!

Tall Ho, or View Hulloo  
Duncan Bradford - Norfolk

*See Duncan, I did eventually get around to using it! Thanks, Ed.*

Dear Brian,

I wish to fit a Marina 1300 engine into my Kitten. I have been informed that an adaptor plate was available some years ago, to allow you to bolt the Kitten gearbox to the A series engine, but I have been unable to locate one. Is anyone in the R.K.R. able to help me?? Gordon Burgham 0121 455 9428

*Well Gordon, I don't know, can anyone help the man please? What I will say is that the Midget or Morris Minor manifold might be of more use, and the alternator will be on the other side, and will almost certainly foul the coil or heater motor, but no doubt you have planned it all, and I don't doubt it can all be done. All this to avoid a wee bit of tuning on the Reliant engine, I don't know, still, at least he is staying British!! By the way Gordon, if push comes to shove, it must be pretty easy to make the plate you need, know any one with a plasma cutter?*

I am in the process of having a stainless steel exhaust made for one of our subscribers, and while this will probably not reach you till too late, I mention it on the off chance that the timing is on for once. The reason for all this waffle is that my "My Man" makes the system on the car, and so I will be going to Ayr with a donor Kitten, probably in March or early April, and it is just as easy to get a few done at the one time. As is so often the case there are a number of options as follows:-

- 1. ¼" bore with circular silencer
- 1. ¼" bore with oval silencer
- 1. ½" bore with either shape of silencer

I did quote a fraction under £100, but in fact by the time I take the donor car the 95 mile round trip, and have to amuse myself in Ayr for a day, the price for future orders will be £110.

I am south of the border indeed several of our Scottish subscribers make journeys south in a year, so delivery is possible, but perhaps not for a month or two. Alternatively carriage will cost about £15 to £20.

I have had one of my man's systems on my Rebel for over 12 years now, and while he does not use stainless clamps, and so they have been replaced over the years, the system is only now looking discoloured, but still shows no sign of corrosion.

Having just sent the 5<sup>th</sup> edition away to the printers yesterday, it is now the 21<sup>st</sup> of February 1995, and ( I wrote this bit of the mag first ! ) I am at this time hoping to surprise you all with this edition by April – I know one should never put such things in print, but I'm feeling brave at the moment.

Talk to you again later in the year ( possibly much later ! ) don't forget the Thistle Branch of the R.O.C.'s do at the Doune Classic weekends on the bank holidays in May and August, ( there is a two day autojumble on the May weekend this year, and on the Sunday of the August weekend ). Alan is again in charge of the campsite in August, talk to him for more details – 01505 328114. Why not come along and have a great weekend with fellow 4 wheeled Reliant enthusiasts?