



Reliant Kitten Register



Seasons
Greetings

NEWSLETTER Forty-Nine

Seasons
Greetings

November/December 2002



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



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The Reliant Kitten Register

MEWSLETTER NO 48

I am eternally grateful to the following individuals:

Rebel alternative parts

Kitten alternative parts

Fox alternative parts

Mewsletter pictures

Our electric kitten man is now Peter Lingard, you can reach Peter on: 01254 813157

Our front cover is graced on this occasion by a one off, this is the factory prototype FW7, a sports version of the Rebel, it shares the Rebels front suspension, and a Bond Bug type rear axle mounting. How did we manage to get a Bond Bug in the picture? Well, you'll need to ask John Pearce that one. Sadly none of the last three custodians of this vehicle have chosen to subscribe to the Register, we live in hope. Unfortunately it is not on the DVLA computer, and so getting it on the road may involve an S.V.A. test, which I suspect the Rebels steering arrangement may make difficult, we need the help of an engineer who understands the rules methinks!

web page :- <http://www.uk-classic-cars.com/kitten.htm>

or have a look at <http://www.reliantkitten.co.uk>

INDEX

Page 3	Contact details and cover story
Page 4	Index
Page 5	the Registrar speaks
Page 6	Your
Page 7	Captions
Page 8	Rebel
Page 9	Round
Page 10	Up
Page 11	Foxes Den
Page 12	I did it My Way,
Page 13	or, Another Tempest is Born
Page 14	What you always suspected !
Page 15	Brian's
Page 16	Diary - October 2002
Page 17	Liege
Page 18	Page
Page 19	Fuel Fire !
Page 20	Parts to Salvage
Page 21	Readers Letter
Page 22	Tales from
Page 23	Tore
Page 24	Our Man in Moscow
Page 25	12 days
Page 26	Getting
Page 27	Technical
Page 28	Notes
Page 29	Tweeks
Page 30	from Thetford
Page 31	Chassis Numbers Questioned
Page 32	Front
Page 33	Suspension
Page 34	Story – Part 1
Page 35	Some Statistics
Page 36	Sales
Page 37	& Wants
Page 38	Notes

And, if I get organised, the quiz referred to on page 6, will appear on the back of your renewal notice, please don't delay returning it till you complete the quiz, just copy the quiz for later, and return the form now, thanks.

It should be noted that opinions and ideas, information and advice printed in this publication are as recommended by our readers and others, and, while believed to be accurate and correct, such information is given in good faith, and it does not necessarily have the approval of the Reliant Kitten Register, and cannot be guaranteed by either the Editor, or the Reliant Kitten Register. Owners must satisfy themselves as to the suitability of any suggestions made within these pages, as no responsibility can be accepted.

Hello, festive greetings to you, well, we do now know who will be lucky enough to enjoy a years free classic cherished car insurance, congratulations Mr. Ellis from Newmarket. When your Cherished Car Policy comes up for renewal, you will receive a free year courtesy of our advertiser P.F. Spare. My thanks to Rob Spare for coming up with this idea, with less than 300 of us, and an even smaller number of us being insured through the Cherished Car Policies offered by Spares, you really do stand a very much better chance of winning this, than you do of winning the lottery!

As ever I am frustrated by my own lack of forward planning. As regular readers will know, I am in the habit of making the Christmas edition a few pages longer than normal – but the next edition will be our 50th one – pity I could not have been clever enough to have those occasions coincide! Anyway, my thanks to Dave Price, Paul Wheatley and Alan Osborn for helping me to make the decision about how many pages to make this edition. I think this, 2002, is the first year that we have had 5 consecutive editions exactly the same number of pages in size – can anyone remember? – does anyone care?

One of our engineering orientated readers, a father of three I think, was quick to bring to my attention a misprint in the last edition on Page 30, the final paragraph, added of course after the proof reading had taken place, (always a dangerous thing to do, but faint heart and all that) the bit of late news about Paul Wheatley's Liege. Anyway, I am advised that the milk product that you pass through a teat is SMA, not SVA! What a testing time I have with you lot.

Another matter is Alan Osborn's new word in the last edition, Moira and I looked in the Dick'n 'Arry at the time, and could not find it, but there are always new words creeping into the language, and lack of organisation prevented me from checking with AI. John Blagburn was the first to fax me to ask if there was a prize for spotting the mistake, and suggesting that dichotomy was the word he meant to use. I instantly thought that the OCR software might have make a mistake, a quick delve into the files to check the original, and, surprise surprise, my filing is not up to date! So I am prepared to share the blame, AI, between us we got it wrong!

On the subject of a caption for the front cover on edition 48, boy did that one strike a chord with some folk. John Blagburn's name crops up again (I suspect he must have more time than the rest of us to spend on such matters of vital importance as reading the Mewsletter from cover to cover the moment it falls through his letterbox), anyway, John replied with two options as follows:-

"When they said that the MOT tester could use 'reasonable force' to aid corrosion detection, I never thought he'd be THIS thorough!" Or: "These new Michelins are REALLY good, but ye cannae change the laws of physics and something had to give!" JPB.

Thank you John for those thoughts and observations.

Then, hot on the heels of John's communication came the following from Derek Argyle, our man in Camberley who has numerous suggestions as follows :-

"This is where I get off" or "Fancy a bit on the side?" or "I was whizzing around this tight left-hander..." or "Ever felt jilted?" or "Parting is such sweet sorrow" or "No, I insist we turn right here" or "Damn nice of you to let me go off on my own".

Derek, who if you remember was the winner of last year's Christmas Quiz, and so won himself a year's free subscription, has very kindly provided us with a quiz for this year, so, yes, I will again offer a year's free subscription to the first set of correct answers I receive. I have to say that Derek initially supplied me with just the questions, so I couldn't cheat, (as if) and my initial reaction was that there may be more than one answer to some questions. However,

Derek shall have the final word, what I need from you are Derek's answers, get your thinking caps on, see page.... Oh dear, I've run out of space ! See the back of your renewal notice, I'll refund the first correct set of answers persons subscription.

Still with the last cover in mind, our man in Bristol, well one of them, I see after a quick check that there are three of you these days. Anyway, as I was saying, John Parker writes as follows :-

Dear Brian

1.11.02

Excuse handwriting, it's quicker than the computer, though less legible (That's LEGIBLE)! *[it loses something in the typing, Ed.]* Having, many years ago, had the body off my Rebel Estate, I sympathise with Andy. My suggestion for a caption is,

"Away having my hernia operation – next time I'll use the local football team".

Well, keep up the good work with the magazine. Yours, John Parker

Then the first fiver arrived, you remember John's suggestion that answers should be sent on one in order to secure a higher place in the results list? Well, Alan Osborn sent me, along with his technical articles and the FHBVC story, the following captions on an A4 sheet of paper, at the bottom of which was a Bank of England five pound note. Like our cars, they too have registration numbers, though I think they call them serial numbers, this one is DA72 014112, the only problem with it is that Al didn't use a colour copier, nor did he make it double sided, so I have just put his ideas in here in the order in which they arrived, no special treatment ! Good try Al.

"Must sort this misfire! I'll start with the spark plugs" or "I told you not to slam that door!" or "Wasn't there an engine in here somewhere?"

Andrew Norman, our master craftsman from Nutley thought :-

"..by now his security measures were becoming obsessive, each night he insisted on removing the body and engine, bringing them into the house for safe keeping. His wife was becoming increasingly concerned about his behavior... "

Right, enough, next we'll be wanting a competition to judge the best answer – oh no we won't!!! *I don't think it is a well published song, but then again it might be well known, it begins :- "It's Pantomime time, it's pantomime time, things happen defying all reason and rhyme" Could be used to describe this publication I sometimes think, Ed. Oh, hang on a moment – bet you can't remember the rest of it she said – well, "It's music and laughter, and fun ever after" dear, so there! "It's wonderful pantomime time." Jings, it's a long time since I've treaded the boards to that!*

Moving swiftly on, you should find enclosed with this edition your personal renewal notice for 2003, I have not made available the necessary time over the last few months to complete the database update operation I spoke of in the last edition, (well, I might have done so by the time you read this, but I certainly hadn't when I printed the renewal forms in November) so you may well find that I think you still have a vehicle which is no longer in your possession, this is your big chance to help me put the record straight, please use it, i.e. make any corrections to the information on the form before returning it, thank you.

Right, that's quite enough for now, talk to you again soon.

Brian.

REBEL ROUND UP

Dear Brian,

Summer 2002

Just to let you know, I have put another 750cc engine in the Rebel estate. It seems to go O.K. but uses quite a bit of oil. Just drove up to see my daughter in Sunderland in the Rebel, round trip of 430 miles and was very pleased to average over 50mpg at speeds up to 70mph. Starting on the cosmetics now since it went through MOT O.K. on Friday. Sanding down, filling and respray etc.

Not done much on the Rebel saloon yet, just got the necessary bits. The camper is off the road for the winter now. Will take engine out to change ring gear and exhaust manifold studs etc.

I have just been working on the Isle of Wight, had some spare time so visited the Microcar rally there. I went on the road run as a passenger in a Messerschmitt KR200, interesting experience, quite exciting. There were about seven Bond Minicars and Seven Messerschmitts at the rally plus a Goggomobile, a BMW 600, a couple of Isettas and a Reliant Fox.

I saw some interesting cars outside the rally too. During the road run I spotted a Reliant Rebel estate in someone's drive in Newport IoW. I called in and chatted to the owner. He also had a Bond Bug, 2 Lomaxes, 2 Cursors, a Vespa truck, an Argson invalid carriage, a Fiat 500 and numerous scooters! Quite an original car, on the island all its life, original engine and crossplies. Owner retrimmed inside.

In East Cowes I spotted a Reliant Rebel saloon fitted with 850cc engine. A runner but not used for a while. I took details chassis numbers and registrations for your records - will forward them shortly I talked to the owner who knew T.L. Williams (founder of Reliant) and had driven the prototype Reliant Regal in early fifties. In Cowes I found a rather battered and vandalised AC Petite Mk2 - the third one of these rare cars I have spotted in the last couple of years. I will send you a photo for the mag when I get them developed. Bye for now. Kerry

Thanks Kerry for keeping us up to date. Good luck with your various on-going projects, Ed.

Dear Brian,

18th October 2002

I called you last weekend to discuss Reliant Rebels following my purchase of a Rebel Van. As I told you on the phone the car has been unused since 1984 and is in need of restoration but I do not foresee any serious problems. Since talking to you I have removed the cylinder head with no difficulty (it lifted straight off -- ain't I the lucky one!) and I don't foresee any problems with the engine, (famous last words!). The van seems to be pretty complete and original apart from the rear side windows which have been fitted, and the panel which fills in the space where the estate rear seat goes being missing. I will be looking for a replacement or a pattern from which to make one in due course. I also expect to remove and fill in the rear side windows.

The V5 shows a first registration date of 01 02 73 and I would like to get a Historic Vehicle status if possible. If you can send me any information (magazine articles/info from Reliant records etc.) to indicate that the van was manufactured in 1972 I would be grateful. The chassis number is V94/1267.

Thanks, John Horth - Hull

So it would seem that you can still, in the new millennium, remove a Reliant cylinder head that has been on an engine for years if not decades, in under an hour after all – what a lucky man John is! I know at least half a dozen people who have had quite different experiences, myself among them. Oddly enough the last one I removed with ease was on Richard Plaxton's Rebel, could it be something to do with Rebels I wonder? Oh hang on a moment, perhaps not:-

Hello Brian,

21st October 2002

I am about 6 weeks into using the Rebel as my main transport and it had been fairly successful up to last Friday with mostly minor problems showing up that are only to be expected when a car has been off the road for ages. All the time though the loss of coolant has been an increasing issue and with no external evidence of escape together with the characteristic starting on two, then three and finally four cylinders pretty much confirmed a new head gasket was required.

Well, you warned me that it may not be as easy as I anticipated, and last Friday I confirmed this by setting about the engine with screwdrivers and spanners. All proceeded reasonably well until the time came to "lift" the head itself. This appears to be completely impossible, I have tried all the old dodges, spin over the engine with the rocker shaft off, leverage, penetrating oil, extracting the hold-down studs one by one and finally, the lump hammer, all to no avail. Eventually, in desperation, I took the engine out of the car to allow a better swing on the hammer and succeeded only in cracking the exhaust manifold (luckily I have a better spare as the original's exhaust pipe studs had sheared off as I tried to undo them)

I am at a total loss as to how to proceed with this engine now, which is a pity as except for the water loss it seemed a pretty good unit. Actually, I am preparing a "yellow top" 850cc engine for the car which should get me mobile again soon and be generally better than the original engine. I would however really like to get the head off the old engine as this will deteriorate internally pretty quickly now as water will have got inside it, and I would like to keep it as a spare. If you have any ideas about really troublesome head removals I would much appreciate them!

Other problems to date:- Gearbox very noisy from day one, occasionally jumps out of second. Fuel gauge failed after 500 miles (bad earth I think, tried but not fixed yet). Clutch Master Cylinder intermittently ineffective after 600 miles (responds to "pumping", not fixed yet). Speedo cable broken at 950 miles (have picked up a Morris Minor one from a local breaker).

Total Mileage (estimated!) so far 1250 Miles. Fuel consumption averages around 47-49 MPG.

Any ideas about the head are very welcome. If you hear of a late-ish model spares car this would help a great deal, I particularly need an all-synchro type gearbox, either good or suitable for renovation (I need to carry out the swap without taking the car off the road for ages.)

Many Thanks and Best Regards, Mike King - Suffolk

Foxes Den

Duncan Bradford was asking the other day if anyone knew of an alternative to the Smiths 'snail' shape heater blower used by Reliant, "cos mine's bust", and the red Fox has a similar but larger one, not Smiths, unidentifiable, but blows 3 times the air. It's now seized too, all just in time for the misted-screen season. There is apparently a kit-car builder in our area who pays in advance at all the scrappies for any they may get [which can't be many nowadays]. Wish I could find out what's in the red Fox as it's excellent - transforms the climate instantly. It even has [needs?] wider air trunking!

So, can you help the man see where he is going this winter, and possibly keep him from freezing at the same time ?

Duncan has provided me with a pretty comprehensive three part article on front suspension, but as it really relates to Kittens as well, I have elected to put it in the technical section, thanks Duncan.

I DID IT MY WAY or (Another Tempest is born)

With the floor pan and body frame fitted to the chassis it was time to deal with the electrics and wiring. John Box had provided me with a new Reliant wiring loom when I originally got the floor pan etc from him what seems like years ago now. So out it came from it's safe storage and into the car.

Some will remember that I had ventured into a house extension so the 'slow forming' Tempest was kept at a lock-up garage one and a half miles away in Moreton in Marsh. When I could get away from the building work I went to the lock-up garage to work on the Tempest. The trouble with that is the number of times you need some thing you have not thought of, and where is it? You have guessed correctly, back at the house. O.K. three miles return journey is not too bad, but it does take time away, especially after a cup of coffee.

So with the alternator, starter motor and battery fitted, gradually working out where each wire went things started to take shape but this took a large amount of time. Next it was time to think of the dashboard so switches and gauges could be wired up. Again a lot of time was spent with this. I fitted an Ammeter, as I like to know what is going on. I wired it up how I thought it should be with power in on one side and the other side to the electrical equipment but that did not work. I talked to my electrics man at Premier Wiring who make wiring looms for kit cars and he soon put me right.

The power in should go on one side with the wires from the electrical equipment and the other side goes back to the earth post of the battery.

Once I was happy that most of the wiring was correctly placed where it should be I could start to think of the bodywork. Now that is real progress.

In a moment of weakness, I agreed to build a frame for our man in Bedfordshire, Dave Smith, which originally I said I would do when I had finished mine. But time was going by and I could not make Dave wait any longer and so I built his frame in my new garage. Dave duly collected his frame and for a long time we were progressing our builds along side each other albeit some 60 miles apart. Dave would ring me with "How did you do this" and I would ring Dave with "Have you done this". Eventually Dave put a spurt on because of some ribbing from his mum. Unfortunately Dave's mum died just before he finished it, and so she never saw it completed, which is very sad.

The Tempest body panels were taken to my contact for paint-work, who sprayed the panels in 'Black Tulip' with Two Pack paint. Having previously fitted each panel to the car and drilled all the holes before they were painted. On their return they went straight onto the car to avoid damage. I secured the panels in place with stainless steel pop rivets and painted each head afterwards. With the new garage finished, the bodywork was fitted with the car at home which saved time.

Having finished his car, Dave Smith was very helpful to me with various information which avoided re-doing jobs. It is surprising how many times things do not work out and results in it all being removed to try again. Dave kindly came to Moreton in Marsh to help me with making the doors. With the doors made they went off for painting and fitted a treat.

I got hold of a Reliant Rebel gear change relay which seemed a better idea than the other relays, including my home made arrangement, but we had a problem in reverse gear and Dave liking the idea got hold of one and cured the problem, which I have now cured on mine.

Next job was the grill which took some time. I used stainless steel mesh held in place with stainless mouldings, the result of which I am not quite so happy with and will probably re-make at a later stage. The edge mouldings need to be mitred which I need to learn how to do properly.

The dashboard is another job I will be re-doing at a later stage. The present dash is a fibre-glass moulding which I want to change for a timber dash. At the same time the wiring behind the dash will be changed to tidy it up.

I decided I wanted wire wheels, so I looked out for a set of MG Midget wheels. I had almost decided to buy a new set, so I went to a car show at NEC at Birmingham. Most second-hand wire wheels are shot, and would be as expensive as a new set by the time they are rebuilt. Bumping into Dave Smith he said, "Have you got your wire wheels yet?" "No", was the reply. "There is a set in the middle isle that look good" Hot foot I set off to the middle isle and there they were in excellent condition with a good set of tyres. Thinking of £150 I asked the price. "£120 err, £100" came the reply. Having torn his hand off I quickly wrote out a cheque and had myself a set of wire wheels at an unbelievable price.

I went to Orson Equipment Ltd. and bought a set of hub converters for £150 which gave a total of £250 for wheels and tyres. Against £650 for new wheels alone that can not be bad!

The carpets and trimming were the next jobs, simple enough, but again time consuming.

Lights were fitted next and connected up, all found to work O.K. which proved my wiring was OK.

I studied seats at various shows and eventually bought a pair of Corbeau from Midland Wheel Supplies and a pair of full harness seat belts from Merlin Motor Sport at Castle Combe.

The Tempest will shortly be insured, MOT'd and taxed ready for the road and PCT trails next year. The trouble is my daughters and wife think the Tempest is too good for trials!!!!

The last job will be to have the soft top made which will be made by the same man who made Dave Smiths.

Dave Price

Thanks for keeping us informed Dave, one solution to your family objections is of course to do another one just for them! I happen to know that John Box had one brand new Fox chassis left as at November 2002. I hope that you have many pleasurable years use from the Tempest, and help the others of that ilk keep those Liege folk in place! Ed
(Editor waits expectantly behind letterbox for deluge of mail from angry Liege owners!)

~.~.~.~.~.~.~

What you always suspected

A major research institution recently announced the discovery of the heaviest element yet known to science. This element has been tentatively named 'Administratium'.

Administratium has one neutron, twelve assistant neutrons, seventy five deputy neutrons and one hundred and eleven assistant deputy neutrons, giving it an atomic mass of three hundred and twelve. These three hundred and twelve particles are held together by a force called morons, which are surrounded by vast quantities of lepton-like particles called "peons".

Since Administratium has no electrons, it is inert. However it can be detected, as it impedes every reaction with which it comes into contact. A minute amount of Administratium causes a single reaction to take over four days to complete, when it would normally take less than a second.

Administratium has a normal half -life of three years, it does not decay, but instead undergoes reorganisation, in which a proportion of the assistant netrons and deputy neutrons and assistant deputy neutrons, exchange places.

In fact, Administartiums mass actually increases over time, since each reorganisation causes some morons to become neutrons, forming isodopes.

This moron-promoting characteristic has lead some scientists to speculate that Administratium is formed whenever morons reach a certain quantity in concentration. This hypothetical quantity is referred to as a 'Critical Morass'.

You'll know it when you see it.

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*Re Administratium:- I have come across this element, and find that it is very easy to weld on to it but b****y impossible to work with, or even to grind it down. As it is insoluble, there can be no solution - only suspension! Its effect on humans is, initially, to cause running of the eyes if experienced in small doses, major exposure can lead to blindness in some cases, in others it results in complete insanity. Ed.*

Brian's Diary – October 2002

Now that BUE 244B (Rebel number 00003) is safely in good hands and on the road, its owner Robert Fairfoull has decided to make his estate car the top priority. After all, it is not the weather for doing fibreglass work, which is the next stage with number 3. This, the estate car, is a fairly big job, and so it was agreed that a bit of team effort would be the best way to make progress.

I had volunteered to organise some hands to do the body lift operation, and so get the new galvanized chassis in place. The connecting up of the bits and pieces to make the car go again however, needed a bit more thought than I had put into it. I have been too long away from such tasks, and the memory is not what it once was. So it came to pass that the bottom halves of the pedals were **not** put on the chassis before the body was fitted, a big mistake, especially as it turned out that the threads on the ends of both the clutch and brake pedal attachment shafts had been damaged on the new chassis. Trying to run a die up them would have been a piece of cake with the body off, in the event poor Phil had to spend an hour lying on his back with a file and a home made die from a spare nut, to recover the situation and get the pedals fitted. Rebel pedals come in two parts, the bit which mounts on the chassis, and the bit that pokes up through the floor for your foot to push on. These two parts are attached to each other by a pair of countersunk fine threaded set screws (or in this case by a pair of Allen screws). Anyway, they are in place now, and neither I nor Phil are likely to forget that job in a while.

Then came the matter of the electrical system. Robert had decided to use an alternator in future, and so the front plate of the engine which had to be changed to suit the chassis, had then to be modified to take the alternator. This time my memory was working well, and I had Phil and Robert drill the new hole in the early engine plate before fitting it to the 'new' 850 engine which was going into the Rebel.

What we all failed to realise is that the early front engine plate differs in more ways than one from the later one. The alternator body is much thicker (O.K. larger diameter if you prefer) than the dynamo one, and in fact it is the alternator body which limits how far out you can swing it to tension the fan belt. You only get half way out the slotted bracket which secures the top of the alternator, before the body of the unit fouls the top of front engine plate. There are two solutions to this situation, one is to use a shorter fan belt, and accept that you will have less adjustment than normal, about 50% less. The other being to remove the alternator and remove some material from the appropriate place on the front engine plate.

It would have been so easy to both mark out and do this modification at the same time the hole for the front mounting of the alternator was being drilled, but no one realised it had to be done – so much for my expertise, no consultancy fee for you Brian m'lad!

Wednesday evenings seemed to suit people best for these operations, and so it came about that Phil and I, ably assisted by a variety of others from time to time, made the round trip to Ayr a few times over the autumn of 2002.

On one such visit, a Thursday as it happens this time, Grant Coull kindly agreed to give up an evening, (Grant came second in the young electrical engineering apprentice of the year in November 2002) and ended up cutting up the old chassis after removing the back axle and front suspension. It all came to bits remarkably easily considering it was 29 years old.

Much soul searching had been done before this terminal step was taken. After all, Rebels are getting a bit thin on the ground these days for anyone to be cutting up chassis. The thing is that you need space to store a chassis, and both Phil and I have spare Rebel chassis already. The feeling was that this was the worst of the three, and we really do not all need to keep a spare chassis handy.

Of course it was only a month later that I discovered that George Mitchell, not a subscriber, but Rebel owner of many years standing, is thinking about renovating his Rebel van, which has a really badly rusted chassis – why did we not think of him at the time? I've said it before and I'll say it again, life would be so much easier if everyone signed up, that way we would be much more likely to remember them.

The bottom door hinge was the other interesting job on that night, the old one had rusted away, and a good secondhand one was available for fitting. This is a two person job really there are no trapped nuts on the Rebel as there are in the Robin, Kitten and Fox. Unfortunately for us however, once the new bottom hinge was in place, it became apparent that the top hinge would need re-shimming if the door was to open and close in a satisfactory manner. Just a couple of shims needed, but we did not have any to hand, and it was cold. So we called a halt for the night.

LIEGE PAGE

Hi Brian,

16th October 2002

Just thought I'd let you know that (after 3 years in the build stage!) my Liege is now finally SVA'd and MOT'd.

The SVA was yesterday, Monday and the MOT test was this a.m. I had some minor glitches to sort out on both tests but was able to do these on site. I am now waiting to get the age related registration number issued, and then we will be on the road at last!

I've attached a picture of the finished article just after I returned from the SVA station yesterday. The 70 mile round trip without a roof wasn't too bad despite the torrential rain, the car ran really well considering it hadn't turned a wheel until Sunday p.m. I had no trouble at all keeping up with the flow of the traffic and even overtook a couple of vehicles although it soon became obvious that the mixture was very rich!

I am sticking to 4,000 rpm (60 mph) for the time being to run the engine in. The 4-2-1 manifold I have been promised hasn't materialised yet so it's on the standard cast manifold for the time being. The engine seems to have a lot of potential and sounds really nice, I found that a VW Polo center box (straight through design) fits the standard down pipe and I was able to rubber mount the whole system with a couple of easy mods, although I now have to use a straight pipe out the back of my car instead of the side exit Liege system as the box is too long. The SVA noise test was fine, it came out at 91 decibels (limit is 101).

I can soon start to play a bit more seriously with those carb and ignition settings and practice what I preached about that Air Fuel Ratio Meter (which isn't set up yet due to the lack of time, it will involve removing the entire exhaust again the welding in of the threaded fitting for the O2 sensor, and a bit more wiring).

A question for you. Do you know why (according to my Haynes manual) the ignition timing on the 850 engine is supposed to be set to TDC as opposed to the 10 degrees advance on the 750? I have just reset my engine with 10 BTDC and it seems to be much sharper on the throttle now and it also idles better.

By the way, I am running my (high compression) engine on standard unleaded without any pinking problems as yet, although admittedly it is running a bit too rich as I said earlier. I was quite concerned about octane ratings a while back but it might be OK after all. My engine is presumably now more than 10.5 to 1 CR as it was originally a yellow top engine - I didn't realise what this meant until later - and I had the head skimmed by 20 thou. Then they had to skim the block when they rebuilt it with a new liner.

I aim to get it run in for 1000 miles or so, get the tubular manifold fitted and finally get it set up properly on a rolling road, modifying the ignition advance curve if necessary as well as the carb settings/needles. I am interested to see how much power it actually gives. The twin

SUs seem to work fine, old skills gained in my Triumph Spitfire 3 days in the 1970's soon came back and I have been happily tweaking the jet holders and the dashpot oil viscosity etc.

All the best Brian.

Paul Wheatley

Thanks for keeping us up date Paul, it all sounds fascinating, you're enthusiasm is infectious, thank goodness that Peter is so busy, and I have neither the spare space, nor the spare cash to consider one! Brian

Oh, just a moment, after receiving Mews 48, Paul wrote as follows:-

Brian,

3rd November 2002

I read your Mewsletter paragraph about the logic of fitting the type of SU float chamber top with an overflow pipe. Quite right, and a timely reminder for me, especially as my car has an electric fuel pump wired through the ignition switch.

I checked my spare carbs for a top with the overflow pipe and found one last night. I have fitted it this morning, with an overflow to the underside of the Liege, below the alternator and outside the bodyline. There had been a slight smell of fuel which has now gone, so I think it was a job well done!

As the sun is shining, I'm going out in the car this p.m. to find a few "unsuitable for motor vehicles" signs up in the Derbyshire hills! We tried a few last weekend and the car goes very well....

Best regards, Paul Wheatley

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Kitten Catches Fire!

Dear Brian,

21/9/02

A friend of mine was driving his "V" registered Kitten today when it caught fire under the bonnet!

He jumped out of the car which is now a write off waiting insurance claim.

Have Reliants been known to catch fire before?

Later I can give you more details of the demise of this Kitten.

Les Gill - Liverpool

Well, as you can imagine I wrote straight back to Les, who has only been with us for a few months, and so he was not aware of the articles on this subject which we have published in the past.

What am I to do? I do not want to send everyone into a panic, nor do I want to put prospective buyers off purchasing one of our fine wee cars.

The subject has been well covered in the past, and all new subscribers are made aware of the fact that back issues of the magazine are available, and, thanks to Dick Goodall, we now enjoy the availability of a pretty good index to all the magazines, and a cross reference guide as well. Funny old life really, the creation and maintenance of an index was a worry for years, then Dick did it, (wonderful things words, several weeks painstaking work condensed into three words "Dick did it", not even terribly big words either, and while they do describe the result, they hardly reflect the time, effort and resolve put into the exercise, thank you Dick) and he updates it with every edition I produce, and less than 5% of readers take advantage of all his effort – the old adage about horses and water springs to mind.

Perhaps I should publish a guide to prospective buyers with a list of key points to look for, and send you all a copy so that you can check that your vehicle complies with the recommendations, also a list of all the Kitten parts we should be salvaging from any that are scrapped or broken. Oh no, not more work for me..... Tell you what, lets just do it, well the second part just now:-

Kitten / Fox parts we need to be keeping / salvaging

Steering rack, wishbones, ball joints, brake drums, backplates, front hubs, uprights, front dampers (if serviceable), lower steering columns, bonnet hinges, bonnets, doors, including the trim and hinges, heater control knobs, gear lever, front seats, dashboards (if not broken), instruments and switches, locks with keys, rear doors, all glass, rear window stay (if working), road wheels (if in good condition – don't forget to check the spare!). That's about all that springs to mind, though back axles could I suppose be added one day.

While we do have some of these bits in stock, new, but not in large quantities however. I am down to just 2 pairs of front dampers for example, and I don't know where to get any more at this time. Likewise ball joints, I still have half a dozen of each in stock, but again, don't know when more may be available (nor at what price!). So we need to salvage what serviceable bits we can in the meantime.

I have at some point in the past 5 years been asked for all of the above, and have not always been able to put my hands on them instantly. My thanks to those who have helped out in those instances. Between us we have helped keep over 50 Reliants running, which is no small achievement. Well done to those concerned whither you be a contributor to the spares fund, or a hoarder of spare parts!

The replacement of the carburettor float chamber lid with the later type which incorporates the overflow pipe, or indeed the modification of the one on the car, is one feature that should by now have been carried out to all Kittens (did the Fox have that feature adopted as standard ?). Obviously it is not enough that an overflow pipe is there, but that any fuel that comes out of it is diverted, collected, recycled or disposed of in an appropriate manner. On top of that the fuel pipe from the pump to the carburettor float chamber should by now have been renewed – they are the better part of quarter of a century old, more in some cases, and this unleaded fuel does appear to have some interesting properties. At the same time, if yours is one of the ones that have the fuel pipe secured to the top of the rocker cover by a clip – make sure that the clip is not damaging the pipe.

Readers Letters

Dear Brian,

8.11.02

Just an update on my Kitten rebuild since my last 'episode' that you published in issue 47.

My mismatch problem in the cylinder head vicinity was, I think, (its amazing how memory fades with age – *tell me about it, Ed!*) incompatible exhaust and inlet manifolds not the head itself.

I must thank Al Osborn for ringing me after reading my article, to offer advice on alternative front seats, thanks Al, although I'm not an absolute purist when it comes to originality I feel that Escort front seats would look a little out of place, albeit much more comfy (comfort is not really an issue as I have only done 165 miles in the past five months).

On the subject of door fitting – again thanks to Al for his comments in Mewsletter 48, although I have been trying to adjust the door with shims for months – they're coming out my ears! It must be obvious to all the other experienced Kitteners out there (which is probably why he didn't specially mention it,) but adjustment needs to be made (using the shims) with the bolts that mate with the A post where it is steel reinforced, all other bolts attach the hinge to the glass fibre, which of course will flex as soon as any serious stress is applied.

Tales From Tore 16th May 2002

Dear Brian,

Here are a few comments about Kitten cylinder head removal and related matters. To recap, a couple of cylinders lost compression on Orlando, and I decided the valves must be faulty, which of course means that cylinder head removal is required.

1) The head can come off easily, but when it sticks, boy does it stick!! This was on the manifold side, the other side came free by turning the engine over with the starter motor with spark plugs still in place (head nuts removed). REMOVE THE COIL LEADS WHEN DOING THIS, or a spark may ignite any spilt petrol. Several different methods were tried for removal. Lots of penetrating oil then tapping with a mallet. No joy. Remove as many head retaining studs as possible, 8 out of 12 came out using double hex nuts locked together. No joy. Fasten heavy Dexion to the rocker cover studs and get a strong chappie to lift a wooden cross post, resting on a vertical post one side. No joy, it lifted the front wheels off the ground though! Jack the front of the car up, place a stout wooden spar vertically under the exhaust manifold then lower the car so all the weight was on the post. No joy after 3 days and tapping the head.

The successful way to get the head off was by using Alan Shaw's special tools. One clamps to the rocker cover studs and levers at the head. The other clamps to the manifold side of the head and then a slide hammer action jars the head upwards. For a slide weight I used a 7 pound sledgehammer head with a metal plate just under the nuts at the top of the long rod. Brutal, exhausting for me, but eventually effective.

2) Once the head was off, it was obvious that it had been sticking on only the 2 center studs on the manifold side, caused by a layer of carbon type material completely filling the gap between studs and holes. Was this from head gasket combustion leaks, or had someone heavily greased the studs and the heat over time had carbonised the grease? Perhaps 'Copper Ease' would be best for reassembly? This carbon needed cleaning off the studs AND then out of the holes in

the head by using a suitable sized twist drill (13 / 32" diameter worked for me) held in an old tap wrench. All the other head stud holes were cleaned out at the same time.

3) **WARNING!!** And I only found this out after head removal. Look at the manifold studs. The frontmost and rearmost on my car came out with their nuts when removing the manifold. I put them back in and nipped them up so as not to lose them while still trying to remove the head. **BAD IDEA in this case.** It was not until the head was off that I found these studs were long enough to actually enter the nearest head stud holes in the head and bind on the studs so impeding head removal! I have now shortened the coarse threaded end of both these studs slightly so that they cannot jam on head studs again. I secured all the loose manifold studs with 'Stud & Bearing Fit' fluid. One can but try.

4) Strangely, the valves and seats were not burnt as I feared. Enough carbon had built up on some exhaust valve stems to stop the valves from closing properly. I had wondered for some time why the car would run not too badly some days and seemed to be 'missing' at other times. Cleaning up the valves and a light grind in with fine carborundum paste seems to have been successful.

5) The head was warped. Not surprising after all it had been through. I got it skimmed locally.

6) Valve collets. You will all be more clever, but I lost a pair which flew off when removing valves. A couple of spare ones to hand before rebuilding could be useful.

7) Exhaust manifold. The 2 studs for securing the downpipe had poor threads, so I cleaned them up with a die. I shall use brass nuts here again, yes they occasionally loosen a bit (easily nipped up) but (importantly) they can be removed when needed, without snapping the studs! In an extreme case the thread in the easily replaced brass nut shears before the thread on the difficult to replace steel stud.

8) Valve springs. I did consider replacing these, but they all measure the same length and this is a 'cooking' engine so I have re-used them. I feel that new, stronger springs might just hammer the valves & seats a bit too hard with non leaded petrol. Old pessimist! And it does save cash.....

Once all is together and hopefully running well, I will be using 4 star fuel again, belt & braces. The white Kitten is running fine on it so far from January, about 100 miles a week.

I will keep you posted on further events. Cheers, Dick

On Thursday the 14th Nov 2002 at 05:39:23 (GMT), Dick and I received the following communication, and with a page to spare, and the thought of snow, and it soon being Christmas, well, would you have left it out?

Our Man in Moscow

Hello Chaps, Sorry for being out of touch for a while but we have been a bit busy here at work. It's snowing, we have about six inches of snow here and it's completely different snow to the wet soggy stuff we get at home. This stuff is the white fluffy dry stuff you see on Christmas cards, except at the side of the roads where icy slush abounds.

It's only about minus 5 at the moment but even that is tolerable because there are no gale force winds.

I have bought my big fluffy hat for the winter but it has to be colder before you can wear it. If the temperature rises and it rains, the hat gets wet and the insulation effect is defeated.

The state of the cars here is a wonder to behold. Every Lada driver has a full toolkit in the boot and roadside repairs are a common sight. I saw a car the other day with what looked like new sills fitted with the biggest self tapping screws you have ever seen. I think they screw them in and bend them over on the other side. Some of the main roads into Moscow are five, six or seven lanes each way and trying to cross them on foot gives a whole new meaning to Russian Roulette. I think I have figured out the driving style here the idea is for the Lada driver to beat the average formula 1 car off the line at the traffic lights and tear down the road as fast as possible until you get to another red light. The speeds they go at, stopping seems to be optional depending on if you have brakes that work.

The idea of four lane roads at rush hour seems to be that you can get six or seven cars wide to help with shortening traffic jams. Its all good stuff but I don't think I will be trying to drive here. Its dangerous enough avoiding the cars that seem to want to drive down the pavements. One of the girls that works in the office here admitted that she just bought her driving licence, no lessons or driving necessary, but it is a full licence to drive anywhere. I will stick to the Metro (underground) for now, it's much safer. Anyway I had better press on. Regards, Brian (Millar).

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**A while ago now, Alan Osborn sent the following
(but I thought I'd just keep it till this time of year) :-**

The 12 days of Reliant (well, 25yrs actually)

(Sung to the tune of 12 days of Christmas)

After 1 million miles my Reliant wore out :-

- 12 Tyres a squealing,
- 11 Radiators leaking,
- 10 Exhausts a rattling,
- 9 Batteries failing,
- 8 Clutches slipping,
- 7 Engines revving,
- 6 Rear springs breaking,
- 5 Sets of wheels,
- 4 Front dampers,
- 3 Rear axles,
- 2 Steering wheels,
- And a blue body covered with spots !

This lot is closer to the truth than you realise.

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GETTING TECHNICAL

Right, it has been a while since I put much in here, my thanks to those who have saved you from me in the past. This time I have nothing to offer at all, but I was asked a pretty technical question – I do in fact have certain beliefs and or understandings, but trying to put them into words – I know, you don't believe it, Brian stuck for words! But seriously, I am sure that others out there are better qualified do deal with the question, and that is, why, when the 750 Reliant engines fired 10 degrees before top dead centre, do the 848cc ones fire at TDC ? No no, never mind the answers on a postcard please, I fear the print would be too small, just send me an explanation if you would be so good, thank you, Ed.

Brian, thanks for the latest Mewsletter, received a couple of days ago (28/10/02). There were a couple of questions in there asking for info from me, I think. Firstly, Air/Fuel Ratio meter stuff.

Westach's UK agent is:-

Acro Engines & Airframes Ltd,
Turners Arms Farm
Yearby, Redcar
England, TS11 8HH Tel (01642) 470 322

The chap who runs it is called Barry Smith. See www.acro.co.uk if you can. He has to order the gauges, because Westach apparently make them to order. Mine took about 2 weeks to arrive from California and cost about £35 including a simple lighting kit, ordered separately.

Alan Osborne mentioned having to put the oxygen sensor in a position where it will be kept at 600 degrees F (i.e. close to the manifold). This isn't a problem if a three or four wire sensor is used, as they have a built-in heater element. This type can even be fitted after the silencer if required. I wouldn't use a second-hand one, as it will probably be damaged when being removed from the donor car, they are delicate and tend to seize into the exhaust fitting.

Secondly, someone asked about the SU needle on my Liege. (There are in fact two, as it has twin carbs fitted). To date I have only managed to get time for 300 miles of road use, using the very restrictive standard cast iron manifold but with a straight through system (VW Polo center box only). Even so, the twin carb thing has been an interesting experiment so far, not least cutting a hole in the car's bodyshell to get them to fit in the engine bay in the first place. I have used a set of 1 & 1/4 inch SUs off a Triumph Spitfire engined Bond Equipe, found abandoned in an orchard and sold on to me for a tenner. They were obviously from a low mileage engine as they were almost unworn. I reconditioned them and modded them for better airflow. The only place they can really wear out is on the butterfly shaft pivot holes in the body; if this area wears they run erratically weak at idle due to air being sucked in past the spindle. Mine are of the older type that use the straight fitting (non spring biased) needles. Although the alloy carb bodies were very good, the brass needles had corroded away. I was advised to use GY needles by a carb specialist and tried these, but these are of the short type (only 13 stations rather than the full complement of 16) and they are FAR too rich at the top end.

I decided to go back to standard needles. I rang Burlen Fuel Systems and ordered some Reliant original / recommended ones but when they arrived I found that in fact they are spring biased and theoretically don't fit my carb slides. However I found that the "top hat" flange for the spring bias fitting is separate, and can be carefully cut off. I used my Dremel type tool with a mini cutting wheel. The knurling beneath it needs carefully polishing off with a fine file (don't

bend the needle, they are rather soft) and they will then fit "straight" throttle slides. This is good news because it means that the choice of needles is now increased to all 354 listed in the catalogue for the .090 jets.

AAT or AAC needles are listed for Reliant 850 engines, AAT being weaker. I chose those because weaker ones can always be modified to make the mixture a little richer by shaving the diameter. However, it isn't practical to put metal back onto a thinner needle to make it run weaker! The engine runs much better now but I still haven't yet connected up the Air fuel Ratio meter because the O2 meter will be fitted only once I have a permanent exhaust sorted out, so I don't have to do everything twice over. In any event my needles might need changing once I have a 4-2-1 manifold fitted.

I have very recently found a better programme for helping with needle choice; it's called WinSU and is very user friendly. A basic version can be downloaded free from the internet, find it by Google searching for it.

Remember I asked you, Brian, about ignition timing for the 850 engine, which is specified by Haynes as TDC, as opposed to 10 degrees BTDC for the 750? I felt that my engine was holding back at TDC so I tentatively tried 5 degrees BTDC and then the 10 degree setting as an experiment. Advancing the setting markedly improved the idle and pickup of my engine and I now have it set at 12 BTDC which has made it even better! I can occasionally JUST hear the engine pinking a little in top gear at very low revs, so it is about the best it can be on standard unleaded fuel. I will try Shell Optimax (98 Octane as opposed to 95 for normal unleaded) and see if it can be advanced any further for higher revs and more power when a few more miles have been put through the engine. TDC appears to be a very conservative setting even for my modified yellow top engine, so I suspect it might be for other 850 Reliants too!

I have always experimented with ignition timing on my older (distributor equipped) cars and it has often been possible to improve their output. It just needs some care to be aware of the onset of pinking and not to run an engine if this takes place. Best power output seems to be achieved just before the ignition setting at which pinking regularly occurs. A few years ago I ran a normally underpowered Nissan Prairie 1.5 estate (non catalyst but unleaded engine) on 4 star petrol and advanced the ignition by quite a bit - it ran a lot better after that, especially when pulling our caravan. The chap I sold it to was very impressed on the test drive - he said it ran better than his 1.8.

By the way, I notice that my Haynes manual (for the Robin / Kitten, 1973 to 1983) gives incorrect advice about which way the dizzy body needs turning to adjust the ignition timing. They state that the timing is advanced when the dizzy body is turned counterclockwise and vice versa (page 69 para 1). WRONG! The dizzy shaft rotates anticlockwise so the body needs turning CLOCKWISE for more advance.

Hope all this is of some use. Best regards, Paul Wheatley

Membership list

As you know, there is a plan to publish such a list during the coming year, to date only 2 people have been in touch in connection with this. (Dick & Ray, thanks) IF YOU DO NOT WISH YOUR DETAILS TO APPEAR ON SUCH A LIST, PLEASE GET IN TOUCH WITH THE REGISTRAR AND ADVISE HIM ACCORDINGLY – NOW!

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A Osborn 35 Griston Rd. Watton, IP25 6DN Tel: 01953 884681 + Fax

Again the Mews letter is becoming many ongoing conversations where you have to get the old copies out to see who said what and if you remembered it right. Dealing with older items; John Player was not happy with my method of radiator removal/fitting, 'arbitrarily poking under the wheel arch'. When you think about it, the minor differences between our cars come into play again. On my car fitting the radiator means just dropping it down onto the steering rack, then fiddling the bolts into place by hand, having first cleaned them and lightly greased. Then with all four in place, tighten with a long extension on the 3/8 drive socket set through the wheel arch. I suppose the elongated holes in the brackets help, now did I do that, or a previous owner? But for the rest of you out there, you now have two methods for radiator refitting. I will try John's brake bleeding idea next time, yes I am tired of knocking over the pot of brake fluid; but what do you do with this pipe full of brake fluid when you disconnect it?

Leaky fuel pipes under the bonnet were mentioned last issue, as it goes over the rocker cover, yes do remove that clip! Having had the leak on the Robin years ago I sorted that department on the Kitten with some metal reinforced pipe, end of problem. Although due to a little wear over the years there are a few sharp metal 'wires' sticking up that can 'get you' if mishandled. While on about petroly things, I notice a few references to carb jets and needles last issue, but no mention of the worn butterfly syndrome. If you have a two speed tickover, such that when you push the clutch down then there is a significant speed drop in the tickover perhaps a stall, then the fast tickover is the false one. Reason is that the sides of the butterfly where it wears on the body are letting air in to the mixture. Only cure - new butterfly. I have to do this job very soon as I have the very problem just developed yet again. There was a question last Mewsletter also about different needles that are available, when I was tuning and searching for the two speed tickover I did get into filing needles! and that really is a nest of worms. Gladly when we got to the end of the perceived problems we went back to a standard needle but with a little solder on it at tickover mixture, as tickover with a tidy engine was always too rich.

Now back to John Player, I see that this time last year John you were trying to develop an electronic control for the electric fan. I've had one of these on for so long I have almost forgotten how I did it, I expect the circuit is in my files somewhere, and I remember that I replaced the instrument voltage regulator (that little block with two connectors on the rear of the instrument pod) at the same time. I used the built in sender for the standard temp gauge and the transistor output switched a relay for the fan. The Mk1 had a transistor directly switching the fan-didn't work-too much volt drop. If by any chance you do know your PNP from your NPN then please ask for more details.

So, the Teller of Tore Tales wants to know about ball joint testing, **no trick here** just do as the MOT bods do. Jack up the front suspension at the bottom ball joint, your average trolley jack might be a bit too tuff for this job, the standard Reliant jack is fine. Raise the wheel about 1/2 inch (12mm in foreign), then lever the tyre/wheel up and down from the bottom at right angles to the car. A large crow bar and maybe a small block of wood to lever against might assist, and at the same time observe the top and bottom ball joints or if you're feeling brave or your eye sight is getting dodgy then feel with the other hand up at the ball joint around the rubber gaiter, if you've been greasing this dept. as told, by this time you are also covered in grease! Good a? A little play can sometimes be covered up by more grease, I've even seen an MCT dealer find King Pin wear in the Robin, grease it then pass it! Now the real problem of the month, surmounted with aplomb just for once. We had a head gasket job. There were bubbles in the radiator without there being any real apparent cause. About this time we started getting three cylinder starting. Then after my run to the FBHVC earlier this month in the presence of

the Rolls Royce Museum and persons from the 'big boys' car clubs I get a lock up when starting;! Very embarrassing; After a short go at bump starting it then fired clean on the key!? Odd, get home quick. Next day problem same syndrome, lock up when trying to start that cleared after putting in gear and a very short push. Blamed it on a tired battery. Looked in the radiator-oh dear! the tide's gone out! And, after two miles running I still have steam out the exhaust. And then when we look in the sump what's this? Salad cream? I'd just changed the oil. Oh no head off. Sure enough rear of number four had burnt through the fire ring into where there is oil ways and water ways! Boo hoo! The head came off super quick due to having opened out the four bolt holes down the exhaust side as per Dick Harvey, and of course used that copper slippery stuff. I touched the valves in while I was in there of course, I was looking for the valve burning that I am attributing to the unleaded fuel but after 17,000 miles these didn't show any sign of burning but there was some black carbon deposit on the valve seating area that needed removing. All back together now and going well, in fact I notice a very smooth motor now, so obviously we had been developing this steam powered cylinder for some time. Reason for the failure? Don't really know, except that in the last couple months I've shredded a couple of fan belts, one I stopped very quickly, but the other got a bit warm when the hot water from my overflow bottle, whooshed all over the carb. At the end of this job the oil pressure seemed to have dropped 10lbs (yes I had recharged it) but I hadn't changed the filter, when I did - oil back to pressure.

One other thing of note this month was Eric from Ipswich popping up to Watton (that's where I live) to show me the standard van he'd just got back on the road, very neat and tidy but a bit basic for my likes, it was very interesting to compare it to my van as it was just like that 247,000 miles ago! Such is evolution. So that's this month's excitement over, if you want any further information on any of the above then please call, or in fact on any other Kitty matter that I might be able to shed some light on.

Al

Some controversy about chassis numbers
(and other matters as well)

As you will be aware, we have published information about chassis numbers in the past. Back in March this year, one of our newer subscribers from Ashby, took the time to write to me, and while there is nothing wrong with his handwriting, it needed to wait till I had my spectacles up-dated before I could make out the small print. Hence the delay in getting this to you. That said, I know that I should check the details, both as I had understood them, and as the following letter describes them, but you may have a view, Simon Chisholm for example, and Les Cruickshank have both I know done some research into these matters, as may have others – read on :-

Dear Mr. Marshall,

16th March 2002

I don't feel I can agree with chassis numbers as set out in Mewsletter 44. While enlightening I don't think it's quite right. Original 70's Robin chassis numbers are 133 and the next three wheeler the Rialto is 162 so that covers the gap for type 14, the Kitten. Then you need to allow for exotic Reliants like the Ant. As a guess type 17 might be the Fox, or perhaps the SS1? The weight issue appears a little fuzzy too. The weight limit Reliant built to is 410kg. By chance the Kitten falls into the category of "light cars and vans under 550kg". Someone I know was eyeing the Bedford Rascal pickup, but it's actually around 800kg. far too heavy.

Perhaps the "best way" to remove the propshaft bolts from the gearbox drive flange is to cut a hole in the tunnel and attack them from the top. Not that you find many scrap three wheelers now, people keep giving them to the "banger racers" and all the stuff we might need

gets thrown away. I think I will stop now and prevent your desk from becoming further submerged in paperwork.

Yours faithfully R. Smith (565)

Thanks for that Mr. Smith. You say that the weight Reliant built Tricycles to is 410 kg, now I know that was true once, but I am pretty certain that they, certainly in the days of Jonathan Haynes being in charge, took advantage of the by then new limit of 500 kg, since increased by legislation to the 550 that it is today of which Les Collier was taking full advantage with his Robin BN1 & BN2 models. My understanding is that attempts have been made by the authorities to tighten up on the licensing entitlement, particularly the B1 licence entitlement. Also the trailer towing entitlement of new drivers on normal full car driving licences has been restricted to 750kg till you have two years experience these days. So we have a problem in that the rules keep changing.

I have not taken the time to dig out the article you refer to on chassis numbers, but in an effort to clear my desk, and at the same time not just file your letter and forget about it, I decided that to publish it was the best compromise just at the moment. Responses eagerly awaited. Ed. By the way, you don't say what the person you know who was looking at a Bedford Rascal was wanting to do with it – were they hoping to drive it on a B1 licence ?

The Ant I know was a TW9, but I will need to dig out a V5 to check the chassis number, Douglas, can you help us here please? – Not that I really want to get sidetracked from our 4 wheelers. I suspect part of the difference in understanding may be a potential difference between chassis numbers and vehicle model classification. Accepting as I do that TW's are three wheelers, and FW's are four wheelers, and that "TW" and "FW" do not normally in my experience appear in the chassis number, is the occurrence, possibly by chance in some instances, of a pair of numbers significant? I believe it was in the case of the Kitten.

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Spare parts: From time to time someone asks a question, and while I have an answer, it has been known for the answer to be out of date. Two items recently, Kitten silencers, and the anti-roll bar links. I don't know about silencers, many of the systems were 1 piece, but as far as the Anti roll bar link goes, part No. 24654 Partsworld have them in stock, and with our discount you should be able to get a pair for about £30 delivered, this current as at November 2002.

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Fox [or Kitten] Front Suspension - Part One of Three

The front suspension is an important area as it not only directly affects roadworthiness, but it's likely to be neglected, is very prone to the ravages of time and weather, and some bits are getting hard to find.

Buying another Fox early this year gave me the chance to take my original Fox off the road for a while. I thought I had looked after it over the last 18 years, but it did need new shock absorbers, which had been sitting in the cupboard for longer than I care to think, awaiting just the chance to fit them. 3 months later I was much the wiser, and the proud but necessary owner of an angle-grinder, battery hacksaw, and a very tired hammer and chisel, not to mention a gas blowtorch... Anyway, for what it's worth, I thought I'd pass on some tips. If you're lucky, you won't need them. If you feel daunted, this is one job that takes almost no mechanical expertise at all, just loads of time and patience. In return you get a safe vehicle that drives superbly, and that nice warm feeling of saving £20-£40 for every hour you put in!

Reading through the manual, it's strange how much is hidden by those two words that crop up so often: 'undo' and 'remove'. This article sets out to expand on them quite a bit, adding quite a few more useful verbs, yet missing out their accompanying expletives. Little knowledge of the subject is assumed, but you will need copious amounts of coffee, balanced by equal quantities of WD40 [cheapies don't work so well] and possibly alcohol for in between sessions. Diagrams help, but a torch is probably as good, as anyone who has been there before you probably didn't put it back as per the manual [This includes the guys on the assembly line].

Disclaimer: Although all info is given in good faith, I cannot verify the accuracy or safety of any advice. It is down to the reader to assess any risk involved in following any advice and take full responsibility for any consequences.

Description - this is to help you feel at home with what the front suspension is designed to do, and how. So if you know, you can just skim through and pick out my errors...

The whole assembly joins the wheel to the chassis, allowing up and down movement while supporting the wheel at the correct camber and castor angles. Camber is how much the top of the wheel leans outwards; castor is how much the top of the wheel leans backwards. [This encourages a steered wheel to return to straight ahead - look at the front wheel and forks of a bike as you turn the handlebars]. The wheel is mounted on a stub axle, this in turn is fixed in a 'vertical link'. The link is linked to the chassis via ball-joints at the outer ends of upper and lower 'wishbones'.

The upper wishbone is Vee shaped, so it connects to the chassis at 2 points. These points are brackets bolted through the wishbone ends via steel-lined rubber bushes, allowing hinging up and down. The brackets are bolted to the upper chassis with spacers in between the bracket and the chassis. Adding or removing spacers to either front or rear bracket moves the outer end of the wishbone, and therefore the 'top' of the wheel, fore and aft, giving castor angle. Altering both equally then changes the camber angle.

The lower wishbone has no such adjustment, and should stick out from the chassis at right angles. Because it is hinged to the chassis at only 1 point, and via a steel-lined rubber bush, it has a tie-bar to hold it at right angles, coming from the front edge to a point near the front of the chassis.

So far we have an arrangement a bit like the outer shell of a matchbox: Chassis tower the inside edge, vertical link the outside edge, wishbones top and bottom. What stops it collapsing is the spring and damper unit joining diagonally from near the outer end of the lower wishbone to the top of the chassis tower. Also attached to the lower wishbone is the end of the anti-roll bar, which limits how far one side of the car can go up and down without the other side of the car compensating: basically if a bump jolts one wheel upward, the anti-roll bar gives a bit, as it is twisted, but tends to hold the opposite wheel up as well, preventing excessive body roll.

All this is further complicated by the fact that under acceleration, or braking, this whole assembly would tend to swing back or forth and not stay at right-angles to the chassis. It is held more or less in this plane by the strut [Kitten] or tie-bar [Fox] which links the front edge of the lower wishbone to a point at the front of the chassis. This is where the Kitten and Fox differ: in the way the bar links to the chassis. I only have experience of the Fox, but the Kitten seems to use a steel-lined bush, so probably suffers as in all the other ones, from the steel lining bonding rustily to the through-bolt [hence the hacksaw, and then the angle grinder. Don't use the blowlamp yet 'cos rubber bushes burn and you'll end up with no job, due to not having a vehicle any more].

The next instalment will deal with how to get all this apart, and what size spanners you'll need and stuff.

You now have time to grab the torch and the WD40, 'cos it's never too soon to start. Good luck!

Many thanks for that Duncan (Bradford), see our 50'th edition for the next part of this interesting tale. Ed.

~.~.~.~.~

Brian Radford, our man in Cornwall, is waiting to hear from you if you would be interested in accompanying him on a Lands End to John O'Groats run in the summer, so if you are up for that, contact Brian through brian@northmead-online.co.uk

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Now I just want to make It quite clear that the following information has absolutely nothing to do with Bob & Judith Riches, our Australian friends who have a Liege. In fact, I believe it came from the Rover Club.

Anyway, the moral is clear, take care, don't be silly, and think before you act !

From the Australian Bureau of Statistics

3 people die each year testing if a 9v battery works on their tongue.

18 people had serious burns to their faces trying on new jerseys with a lit cigarette in their mouths.

31 people die by watering their Christmas Trees while the fairy lights were switched on.

58 people are injured each year by using knives instead of screwdrivers.

A massive 543 people needed emergency treatment after opening bottles of beer with their teeth.

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While on the subject of making things clear, John Blagburn asked me to put it in print that his invitation to Richard Plaxton to break his northerly migration at North Shields, in no way obligates him to spend hours lying under a Reliant, in the snow, to carry out repairs! (as he did last year). John's Kitten is running well, and the Rebel is not Richard's responsibility.

(I too look forward to seeing you over the festive period Richard – if you ever make it this far north, oh, and I'm making no such rash promises, I have an engine to change! Ed!)

Sales and Wants

Advertised in Kit Car magazine, Nov '02, page 85. William Towns' 1984 creation, the Black Prince, which still only has 4,000 miles on the clock, is up for sale. Described as complete but neglected, offers are invited

For Sale :- Yellow Kitten Saloon 1977 Taxed April, MOT'd end of March, £650 o.n.o. Nice tidy car (i.e. not messed about with various 'improvements') in regular use, just too many cars on the drive. Ring Andrew

For Sale :- Beige Kitten Saloon in good condition 1 years MOT, V Good tyres & a good runner, starts on the button ! £550 o.n.o.

For Sale :- 1976 Kitten DL saloon, good chassis but needs restoration, £50. (buyer collects, Perthshire). Reconditioned, re-bored engine and gearbox from above car, £300.

For Sale :- A rare opportunity to buy a Kitten estate in Scotland ! Robert MacNeilage has decided to part with his late example. Spare engine, full 5 alloy wheels, unleaded head, and other parts, offers over £250.

For Sale : Two Kittens, a saloon and an Estate, also a Rebel, together with a lot of spares. Contact Robin Ellis

For Sale :- A Kitten saloon with good chassis & mechanicals, also most Kitten spares available, fire damage. £ 100 Ring Martin Seymour for details.

For Sale :- R registered Kitten estate complete with many spares. £200 Also a Rialto estate with a good engine.

For Sale :- 700cc Rebel for sale, ring Andrew Woodard

For Sale :- Set of 4 Kitten Woolfrace alloys with tyres £120, either buyer collects, or plus carriage. Ring Brian on 0141 8866117

For Sale :- Kitten two piece stainless steel exhaust. Make me a sensible offer, I really don't have the room to store it ! Brian 0141 8866117

Wanted :- A pair of Kitten rear backplates, must be in reasonable if not good condition. Contact James Polson

Wanted :- 750cc Reliant engine, contact the editor – for John Dixon

Wanted :- 750cc Reliant engine, contact Nick Peck.

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NOTES

Well, another year draws to a close. Our cars are all a year older now, several rebuild projects are under way, Dave Price has his Tempest on the road, thanks for the pictures and article Dave, the last of the John Box supplied kits, well in fact it was one of the two that slipped out between John Box supplying them, and Steve Campbell taking over. Well done Dave. Another three Lieges made it through their SVA tests, so we should hear more of their exploits during the coming year. I was personally involved in saving no less than 4 Rebels from uncertain futures, three of them have been put back on the road during 2002, so that is good. (Phil Hallam deserves most of the credit for them) If only I could help save more Kittens and Foxes, but there are limits to my abilities these days.

Speaking of my abilities, and those of my daughter Arleen, she passed her driving test (of course at the first sitting) in September, having attained the old age of 17 in June, a testament to her aged father's skill and teaching abilities don't you think? (It took her 10 weeks mind you, I did it in 8 !, but lets be fair here, it is now a two part test, and you can't apply for the second part till you pass the first, and her instructor went on holiday at a crucial time, and then she could not get the test date she wanted), I did tell her that I would teach her how to drive, and I was also wise enough to tell her that I would obtain professional help and training to teach her how to pass the driving test, a bit sad really that they are two different things – strange times in which we live. Anyway, well done Arleen.

We have ended 2002 with more subscribers than ever before, 283 of us, so it would be easy to say that the future looks rosy, and while we should end on a high note, the falling numbers of Kittens and Foxes is a matter of concern. We need to at least salvage some of the rare bits from any that are being broken in order to secure the long term future of the others.

Your renewal notice for 2003 should be enclosed, by the time you read this your 2003 membership card will probably have been printed, thank you Brian Millar, and possibly encapsulated, thanks Phil, and perhaps even be sitting here waiting to be sent out to you when your renewal comes in, so, what's keeping you? No, don't use the "I haven't done the quiz yet" excuse, just copy the quiz, and return the form ! On that point, if you would like your membership card sent out before the next Mewsletter, i.e. on receipt of your renewal, an s.a.e. would be appreciated.

The spares fund, which has been successful at helping to provide parts to keep a number of our cars on the road over the past by enabling the purchase of rare bits for our vehicles, is still open to donations. It is only thanks to the generosity of those who have donated money to this in the past, that the Register is able to stock parts at all. Feel free to round the £12 sub up to say £15, and I'll allocate the difference to the spares fund.

O.K. this has just been proof read, the readers letter on page 21 has been found to be somewhat truncated, but I'm out of time, the covers have been here for a week, thanks John, and it is almost December, the desk is sinking under a mass of papers – again, so sorry, I'll sort it next time.

I had an interesting chat with Barry Smith this morning, 25th Nov., while checking that I had the telephone number correct, I did, but I had the wrong address, duly corrected, thanks for your time Barry. Also I must thank Graham Walker, though I have not managed to talk to you about it Graham, but thank you anyway, for the use of part of your advertisement page to enable John to show us the other side of the FW7. Much appreciated.

Right, that's it, fat geese and all that, have a really great time over the festive season, drive safely, or employ chauffeurs who do, talk to you in 2003, doesn't quite have the ring of you in two does it ? You know I remember the Timber Trades Federation campaign in 1973, Plant a tree in '73, they went on to Do one more in '74

Relax, we are at the bottom of the page now, take care.

Brian

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