



# MEWSLETTER 89

***JULY – AUGUST 2009***

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***A Selection of fast Kittens, some with motorcycle engines, in fact the blue one in the centre has TWIN motorcycle engines fitted!! This picture taken at a test day at Mallory Park earlier this year..... More details inside!***

**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.....**



# The Reliant Kitten Register

Rebel parts stock held by: - Adrian Hanwell

New Kitten / Fox / Rebel parts stock held by Brian Marshall

Rebel alternative parts list contact: John Blagburn,

Kitten alternative parts list: **\*\*Situation vacant\*\***.

Fox alternative parts list contact: Duncan Bradford

Our Mutual Aid Spares scheme is run for us by Phil Hallam

Tempest Registrar: Martin Seymour

Mewsletter pictures – should be sent to John Pearce

The Register is a member of the FBHVC, which monitors UK & EU legislation and lobbies on our behalf to protect our freedom to use vehicles of all ages on the roads. Readers are invited to show their own support of this worthy cause by becoming members in their own right. Contact the editor for details.

**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.**

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

# Dinky Cars

## RELIANT SPECIALIST

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**SALES, SPARES, REPAIRS,  
ENGINE RECONDITIONING**

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*As you will see, our front cover has had a change of format I was told that I was becoming too set in my ways and that I should beware causing this publication from following in my footsteps – in short I should try something new! Now I subscribe to the belief if ‘tain’t broke, don’t fix it! But I am prepared to bend a little – what do you think?*

.....



something broke. I didn't have to look and if you remember my previous report, the rear exhaust was known to be on borrowed time. I drove home with rhythmic accompaniment from the rattling tailpipe knowing that a replacement would be the only option. What was on there was something of a lash up anyway, welded sections with a horrendous acute bend over the chassis which could not have helped 'performance' and all very rusty too. Fortunately, there is an exhaust manufacturer only 3 miles from my residence in Yate. Infinity Exhausts reckoned it would be easy to bend up a stainless tailpipe to meet up with the existing stainless silencer. As my Rebel has a slightly larger diameter system than a standard system, even if such a thing was available, I booked LRF in for them to make one up and fit it. OK, it cost £120, the most I have ever spent on LRF, but then I was going to get plenty of use out of it after all. So why has it only covered another 10 miles and into early retirement?

Now it gets complicated, grab a coffee, you may need it. I was becoming very concerned about the high mileage and type of usage that Jan's car was receiving. It's a Peugeot 406 diesel estate. It gets used for everything except my daily commuting duties, the Rebel's main function in life. I have had to spend quite a lot on the 406 this year and to continue throwing similar usage at it is hardly fair to its 135,000 mileage. We cannot get rid of the 406; it's still our long distance load hauler but needs relieving of all the short journey town stuff that is such a killer. It is also a devil to park so a small 'town type car' would be its salvation. Now Jan isn't at all interested in cars and trying to get her opinion on any motoring matter is, er, difficult. "So what would you like then as your new run around?" Expecting a long silence the reply was swift indeed "A smart car". "OK, so you don't want a scruffy car but something tidy then?" "Yes, a smart car as in 2 seats, upright and smiling" Now these things are powered by a tightly wound elastic band so you don't have to change gear – or so I thought. We went to see one. Golden rule – never buy the first example you see - so we bought it!

I couldn't believe how well it drove. Only 700cc but turbocharged, the acceleration seemed terrific. As for the automatic transmission, it's a 6 speed sequential gearbox with paddle gearshift, just like the Ferrari 360 I drove around Silverstone last year. It wasn't until after we bought it that we discovered it was 6 speed, the gearshift indicator drew our attention that an upward shift from 5 was recommended as it approached normal Rebel cruising speed. I have never been so surprised by a car, or Jan for that matter. The next day she joined the smart Club. (Yes, I know I'm spelling smart with a lower case 'S', that is correct in smart speak) Within the first week we went on a smart convoy, or TUBE as they call it, with free munchies from the Mercedes Benz dealerships that we visited on route. We had been totally converted and amazed with our new smart lifestyle. Whilst at Mercedes Benz at Exeter, I was totally seduced by a smart roadster. I have always liked these but a sports car with a 700cc engine and auto box – ridiculous. But wait, if 700cc and a 6 speed paddle change gearbox in a Fortwo city coupe can be so much fun, maybe the roadster isn't so daft after all. Comparatively, it's a sort of booted Bond Bug with an extra wheel. Same size engine, same number of seats, small and nimble but in a wider choice of colours. Bugs are said to be good fun, but having never driven either, I could stand some abuse here.

Anyway, Jan couldn't stop raving about her fortwo, she drove it to Cornwall to attend a Folk Festival plus a trip to west Wales to visit our eldest daughter. Whatever it was asked to do, it did it in style. The 406 started to collect spider webs and I couldn't get the idea of a roadster out of my mind. That's when the Rebel's exhaust broke. All the excuse I needed to go and test drive a roadster. I could have hated it and put the idea to rest – but no, I liked it – but didn't buy it. Did I remember the Golden Rule this time? Well maybe, but this example didn't have the paddle gearshift or a couple of other things that I remembered from our visit to Exeter. Not all roadsters are the same it seemed. Go do some homework and consult Auto Trader online and I find but one example that looked the business. Shame its 120 miles away but then I travelled 100 miles to buy LRF back in August 2005, a trip I had to do twice in fact. Furthermore, LRF was the first Rebel I saw; I bought that with no subsequent regrets so never mind the golden rule or the distance.

It was Monday evening; the Rebel was booked into Infinity Exhausts for Wednesday, that gave me Tuesday to travel northwards to finally put this crazy idea to rest. Jan was supposed to come with me but at the very last moment, she couldn't so I set off in the 406 to displace the growing collection of cobwebs and spidery things. Jan hadn't driven the 406 since buying the fortwo so it would now actually benefit from some usage. Later, I returned home with the news that she would be spared a journey to South Derbyshire to collect a smart roadster. She looked surprised. I then added that we will have to go to South Derbyshire to get the 406 back, I had left it on the vendor's drive where his roadster used to be. Surprise turned to panic, not that I had bought a roadster, but she needed to use the 406 the very next day. A quick phone call to son in law Mike and he very kindly ferried me back up the motorway again that day to recover the abandoned Peugeot. I got home knackered but happy.

The next morning the Rebel went in for its new stainless exhaust and its final journey, to date, into storage. I think the poor thing knows what happens there; My Mk1 Escort GT lives there and has covered just 60 miles between its last 2 MOTs.

I have the dilemma of currently having 7 cars, from the over used to the under used. Which to get rid of? The Escort has been with us from new. The 406 is still required as our large load lugger. The Frogeye, I've had for 30 years and is too much fun. The Sprite Mk1V which used to be my daily driver and was replaced by the Rebel. Well, I thought about it but then both my daughters are claiming it as their inheritance. No doubt my son will if he remembers where I hide it. So that leaves the Rebel then. But who would want it? It will be MOT'd in August and it will have a new UJ and lower front trunnion fitted (both in stock). It doesn't cost me anything to keep it and I probably wouldn't get much if I sold it. Sadly, it is potentially worth £2000 if I traded it against a new car and goodness knows, I have certainly spent the equivalent on cars this year to have done just that. The thought of it being destroyed or being sold for peanuts are both unattractive options at the moment. So, will this be the last time? Is it all over now? And I don't know how to get hold of Addy either. If this is a mid-life crisis, good job I won't be here when I'm 120, I won't be able to move for bloody cars.

Oh, a rather poignant note to finish on, the Rebel's mileage just turned 100,000 miles as it came to rest.

Terry Horler - No. 755 from Bristol

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## Foxes Den

Rialto bonnet release fitted to a Fox

The latest development from Les in Ashford

With the prospect of a need to open the bonnet quickly (Fire etc) I decided to replace the fiddly key lock on my Fox with a Rialto system. This involved a support for the Rialto catch being fabricated to fix and also locate cable along with fabrication of a locking latch and handle. Photos pretty much self explanatory.



Catch



New Latch



Bonnet handle.



Internal release pull

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Letter to the editor,

July 2009

Hi Brian, I was interested to read Lyn Rodden's tale of her newly acquired Kitten in the last edition. I briefly met Lyn and her Kitten at a vintage show in St Just, Cornwall last summer just as she was about to embark on the long journey northwards. I thought then, brave lady and it sadly all went wrong near Easton in Gordano services which is near to my home patch – I know it well. Also interested to read Alan Osborn's article on the popular inlet manifold modification which in practice didn't seem to work for Alan. I had been tempted to try this but was never convinced that the theory would be realised in practice. Alan failed to note any improvements but did not check the fuel consumption, could it be here that the real gain is experienced I still wonder? Perhaps others who have performed a bit of art work to their inlet manifolds could tell of their experiences?

I note your comments about the content of Mewsletter. As a bi-monthly publication with a readership of around 200, it is a shame that some times you have to resort to non – Reliant related material to fill the space. Surely some 200 subscribers have something to relate within a 2 month period that would be more appropriate to the pages of Mewsletter? A gripe I know and as I am sure that you will respond, you can only include material that is donated. No one should expect you to write it all. We must all have a tale to tell, how we acquired our cars, what we use them for, what goes wrong, journeys, modifications, etc. I would like to see more technical stuff and personal stories about our cars just as Lyn and Alan and the trailing Tempest features of last month brought to these pages. I do read some very good articles from fellow subscribers but I get the impression that despite the quality, Mewsletter isn't receiving the quantity it really needs. Please prove me wrong.

Terry Horler

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### Quiriosities!

Before diving off to France this summer, Phil Hallam sent me the following pictures. Phil has been working on a top secret project (well top secret from me at any rate!) for some while now. He did not see fit to offer any further details at this time, but you will I am sure be as curious as I am when you see them. I am thinking of offering a year's free subscription to the best caption, and await your response with interest! Oh, I may be mistaken, but I think I remember him saying that "it" would be Reliant powered!

Now I know that adjusting brakes can be a pain, but this seems just a tad excessive a way to avoid having to do so, don't you think?



The whole thing ?



A close up of one side!



A different view

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**And now for something completely different!**

Those who made the effort to get their hands on the May 2009 edition of Practical Performance Car magazine we mentioned last time, will have seen pictures very like the ones following.

As I mentioned earlier I'm not sure if we have an official view on such matters, but I guess we should be proud of the fact that the basic platform of our wonderful wee cars has the strength and adaptability for such things to be possible. On top of that it has to be a better fate than some of the alternatives.

They must have been pleased that the sun shone on the day, good for the pictures, and the grip on the track, but a challenge for the cooling systems I should imagine!



Feel free to propose a caption for what that man (is that you Steve?) is doing, surely they don't need a push start !?!





Nick Edwards' solution was a 120bhp Kawasaki engine in the back, the transformation took 18 months. The rear end being from a Sierra Cosworth.



David Firman's blue converted van used a Suzuki V twin 1000cc engine, but then he discovered that some other Kittens were faster, so he moved it over and back a bit, and fitted a second one!



Steve Broomhall is the only one of the group to retain the Reliant 850cc engine, you can read about his turbo charging adventure further on in this edition.

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So, there it is, Ian Oddie uses a 230bhp Cosworth YB engine from a Pinto, he does use the car to go shopping, but only fits the wing for track use, it does help at up to 140mph apparently! (the yellow estate).

Mal Lamsley (the grey estate) uses a 2.3 litre Duratec engine which I understand puts out 260bhp. The end result in this case gives a power to weight ration of getter than 350bhp to the ton.

The point of it all? Well, a year or two back Practical Performance Car magazine had run a competition to see how fast, and fast accelerating a car you could get for a low budget, was it £500 originally? Anyway, it was so successful that they decided to do it again with a budget of £999, and while many illustrious marques were entered, the Kitten won hands down. So there you have it – Fun!

And now for something else completely different!

A young Glasgow man walks into a local bank and asks for the loan officer. He tells the loan officer that he is going to Australia on business for two weeks and needs to borrow £5,000.

The bank officer tells him that the bank will need some form of security for the loan, so the Glasgow lad hands over the keys and documents of new Ferrari parked on the street in front of the bank. He produces the Log Book and everything checks out. The loan officer agrees to accept the car as collateral for the loan.

The bank's Manager and its officers all enjoy a good laugh at the rough looking Glaswegian for using a £120,000 Ferrari as collateral against a £5,000 loan. An employee of the bank then drives the Ferrari into the bank's underground garage and parks it there.

Two weeks later, the Glaswegian returns, repays the £5,000 and the interest, which comes to £15.41. The loan officer says, "Sir, we are very happy to have had your business, and this transaction has worked out very nicely, but we are a little puzzled. While you were away, we checked you out and found that you are a multi millionaire. What

puzzles us is, why would you bother to borrow "£5,000" ?

The Glaswegian replies: "Where else in Glasgow can I park my car for two weeks for only £15.41 and expect it to be there when I return?"

Ah, the mind of the Glaswegian.... This is how we survive!

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## Us.

You would think I would have learned by now not to jump to conclusions would you not? I mean I ask you, how long have I been doing this for now?

For a number of years past I have moaned about the time it takes some people to renew their subscriptions, and it does matter, as I have explained in the past I am sure, we pay our annual subscription to the Federation based on our numbers, so I really do need to know who is with us, and who is not.

This year was worse than usual, in spite of every person who had been with us last year being sent a personal reminder, with a simple questionnaire and a sae, almost two dozen people did not bother to reply within 2 months, one actually, by chance, renewed the very day I had posted our cheque to the Federation. Made me feel like a cheat!

In spite of that, and my comments in earlier editions about dwindling numbers, twice this year, in a genuine attempt at not wasting money, and trying not to clutter the house with more bits of paper, I have actually run out of magazines, and had to have reprints made. The happy fact is that while our numbers are down from their peak of three or four years ago, there are still 240 odd souls on the mailing list. And because people who enquire receive a complimentary copy of the mag., I need spares. Though our recruitment levels have fallen back from a peak of about 1 a week, they have not dropped to 1 a month, far from it, we have signed up 15 new people so far this year (to the middle of June), so it's a lot closer to one a week than 1 a month! I guess I just need to relax and accept the fact that some people, regardless of the level of effort I put in, will always be late renewing, and to recognize that that is offset by new people joining us – and very welcome they are.

What I need to decide between now and the end of the year is – do I really want to be doing this in 5 years time? Because that is key as to whether I will again offer a 5 year subscription deal or not.

Watch this space....

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## The latest from the Federation.

### **Lakeland Motor Museum**

The construction of a new state of the art purpose designed facility to house the Lakeland Motor Museum's collection of some 30,000 exhibits has commenced. Supported by the Northwest Regional Development Agency (NWDA) , the project at Backbarrow, near Newby Bridge at the southern end of Lake Windermere was officially started on 15th of May 2009, when the NWDA Chief Executive Mr. Steven Broomhead 'cut the first sod'. The museum is to transfer its operation from Holker Hall at Clark-in-Cartmel where it was established in 1978.

The new museum will be linked by a new railway halt to the historic attractions of the Lakeside and Haverthwaite Railway and to Windermere Lake Cruises. A transformation of the existing road transport related displays and the introduction of strands of motoring not presently included will be undertaken in readiness for a public opening at Easter 2010. Meanwhile, the museum will continue to welcome visitors at Holker Hall, until closing on 1st November 2009.

The museum exists to collect, preserve and interpret motoring history for the public benefit and to provide educational opportunities whilst providing a thoroughly enjoyable visitor experience via an awakening of motoring memories.

My thanks to the Federation of Historic Vehicle Clubs for the above, it makes a pleasant change to be able to report on something positive in the future.

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That is a picture taken in January 2008 of the car which now belongs to our most recent Dutch subscriber Coen Bouwmeester. I understand the car is now green with a white roof, in the picture it is orange. Note they made the back door hinge from the other side on the export model, but retained the moldings for the right hand hinge mountings! (You will now be hunting out the edition from earlier in the year to see if Rik's one is the same, won't you?)

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## **Getting Technical**

### **Lucas Distributors used by Reliant**

Part Three: More Bang, Less Bucks.

To recap more bang because it's a useful way of thinking about what timing does, less bucks because tuning the timing is tuning for the very maximum efficiency. That simple.

Having said that, unless you find some part of your distributor not working as it should [and by now you should have fixed it!] tuning further is a waste of time and energy unless:

- 1 You have done away with mechanical points, and
- 2 You have checked and corrected the following, in order of greatest dividend payment
  - a] Matching exhaust manifold ports to the gasket [castings are very poor / blocked]
  - b] Checked compressions and valve clearances
  - c] Checked correct carb needle and no leaks in breather system or pipework
  - d] Modified inlet manifold by cutting back the 'party walls' to improve breathing flow.

Carrying out any one of the above items will add more power and efficiency than will be gained by tuning the distributor on an engine otherwise handicapped. -: here's a comparison of three of the distributors used for the 850 engines.

41625A Robin and Kitten, 1975 onwards, 9.5:1 compression ratio

41625B Robin and Kitten from around 1980? and Rialto2, '85 onwards and later Robins, '85 onwards, plus the early Fox, pre-'Yellow-top' HT-E engine [also: 41704 Robin and Kitten, 1975 onwards, 8.5/7.5:1 c.r. ]

41961A Fox and Rialto1 fitted with 'Yellow-top' HT-E engines.

Each distributor has an 'advance curve' and each vac. unit also has its own separate set of figures.

Most of the following information is put together from discussions with two local engine tuners, and is subject to my memory and misunderstandings, but it should give you a general idea.

To devise the advance curve required, a test engine was run at different speeds with a locked distributor, i.e. no advance mechanism, and timed to fire at 10° before Top Dead Centre to provide a smooth idle. Three [or more] speeds were selected to represent slow, moderate and fast road speeds. At each speed the distributor was manually advanced to give the most power for the least throttle opening, and the amount noted. The results were plotted as a curve to show the amount of advance needed for any intermediate speed.

The three figures for the advance curve of the 41625A and B distributors are:-

8° @ 800rpm, 14° @2,400rpm, 15° @3,000rpm For the 41961A:

3° @ 800rpm, 10° @ 2,000rpm, 10° @2,500rpm

The vacuum advance unit curve is given as degrees of advance for each of three levels of negative pressure relating to the amount of 'suck' from an engine at different stages of running. The vac unit for the 41625A gives 7° - 16° - 8°, the unit on 41625B gives 5° - 10° - 5°, as does that on the 41704, and I think the 41961A. There are others for other distributors.

The figures for the two above distributors vary because of the different camshafts and carburettor needles they use, as well as the difference in compression ratios. These things affect the rate at which the fuel burns. One engine gives its power at higher revs, hence the chosen speeds.

All the above figures refer to degrees and rpm of the distributor, not at the crankshaft.

Double the figures at the crankshaft as it rotates twice for every turn of the distributor.

Vac. units can be swapped, rather than adjusted, and so over the years someone may have changed yours, as they do get bent, damaged, and cease to function. They are not often code-marked, so it is not easy to tell units with different settings apart.

Centrifugal advance can be adjusted in three ways.

With the contacts mounting plate removed [2 no. 2 Pozidriv screws located in bays in the sidewall of the body] you can see the mechanism. Two levers, pivoted at one end on a post, arc outwards as the lower driveshaft spins. A tooth on each lever acts on the upper shaft, thus turning it further around in advance of the main lower driveshaft. Two springs attaching the levers back to the pivot posts restrain the amount of advancing. One spring is lighter, and acts from the start, the heavier spring has some free length and comes into play at higher spinning speed. At a certain point a stop, formed from part of the upper shaft base, reaches one pivot post and prevents further advance. The length of the stop and the lengths and 'weights' of the springs determine the total amount of advance and the amount at any given speed allowed by the springs .

If the settings in your distributor were perfect for your engine and the work you ask it to do, on the specification of fuel you feed it, as metered by the carburettor you have, and taking altitude and temperature into account...

Well, suffice to say everything is a compromise. Theoretically though, if you turn your distributor until it is just too far advanced, you'd expect to hear pinking across the range. In practice pinking sets in at one favourite point far sooner for a particular engine. At one time I always heard it when accelerating up a slight incline from a 30mph limit on my daily commute. Playing with the springs [I actually shortened the heavier one so it came in earlier] removed this 'high point' and allowed me to advance the disi another few degrees, giving a faster idle and a bit more power, with no pinking.

That was a fluke really, I could have been unlucky and ended up making things worse. There is sometimes fun in experimenting though. The maximum advance can be increased by filing the stop arm. Spare springs of known characteristics can be obtained from good engine tuners, i.e. the older ones who remember the days before engine management systems, when Lucas parts really were made by Lucas. To be fair, as well as cheap Chinese copies, Lucas still exists as Lucas-TVS in India, still producing many Lucas auto parts, but not alas distributors for Reliants, in spite of the Kitten having a production history as the S.A.I.L. Dolphin, but that's another story.

There are electronic distributors available, such as the 1-2-3, with up to 16 dialable advance curves [at a price]. If you need a new distributor body because yours has worn bushes, try a 25D4. Instead of a thin steel bush top and bottom they have a solid bronze one right through. There are 'generic' 45D4 disis on the market, with unknown settings, which you could swap for the correct ones [though it's far cheaper to get second-hand and rebuild that]. Some people have found even these to be an improvement on what they had - imagine if they had the right settings on top, or merely fitted an electronic kit to the right distributor.

In the end there's nothing to beat a professional tuning, using a rolling road, or at least a professionally rebuilt distributor, but you can have a lot of fun, and probably moderate success in the meantime.

One last tip. If you have occasional starting or ignition problems, check the low tension terminals on the coil. On many coils the Lucar connection tags are attached to a threaded terminal and held by a nut. These do corrode with time and benefit from being dismantled, cleaned and reassembled with vaseline. A tip passed on to me years ago, which fixed an intermittent problem I was only dimly aware of, on all three of my Foxes. Big Smile.

Duncan Bradford - Norfolk

*Duncan, when I tell you that a number of people could not wait, and I had to print off the three articles in the series and post them out, you (and I) will realise how much demand there is out there for such useful and good information. Thanks as ever.*

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Hi Brian,

26th May 2009

I have fitted the springs & the bushes for return to you are in the post. *(Les has one of those early Foxes that use the same bush as the Kitten at the front of their back springs, but we did not realise that till he tried to fit them. Ed.)*

My thoughts were confirmed if you look at attached photo, the top spring is the offending spring and the bottom spring matches all the other Fox springs I have seen.

On the top spring the second leaf from the top is thicker & tapered being almost as long as the top leaf, the third leaf is thicker and the 4th leaf is trapped under the clamp where the normal Fox one is not.

This difference as I suspected put the offside rear 1/2" higher and the front nearside 1/2" lower. It must be my age as this is the sort of detail that really bugs me nowadays !



Fitting the new springs you sent and measuring the body wheel arches after fitting them has now put all the wheel arches and body correct.

It might be worth bearing in mind should you or Duncan be contacted with a similar problem in the future?

Not a job I would want to do again soon as I also had to replace the usual assortment of mangled nuts in the process.

Thanks again for your help. Regards. Les (Smith) from Ashford in Kent

## **Turbocharging the Reliant 850**

18/05/09

I sent a few lines to Brian for the Mewsletter when I first purchased my Kitten in 2006, at the time I'd decided to put a large motorbike engine into it. I used the car as it was for a few months and quickly grew to love its quirks and charms and realised that whilst I wanted more power and speed, I didn't want to lose the whole character of it, which can easily happen when a car is re-engined.

So, I tracked down Al Osborn who advertises in here, to discuss possible mods to the standard Reliant lump. After some investigation into fitting bike carbs and a race camshaft, then deciding against it as being a bit too extreme for normal road use, turbocharging seemed a good if complex choice.

The power delivery is quite soft compared to a highly tuned, high revving normally aspirated engine which would help the rest of the running gear cope with a significant hike in power. I'd also previously built a Turbo Hillman Imp engine which although disastrously fragile had made good power (in between rebuilds) and I thought I could do a better job second time around.

A scrap Rialto yellow top engine was sourced, chosen due to the milder camshaft timing giving better low end torque, and the bottom end was rebuilt with new pistons and liners, bearings, mini A series oil pump and cam chain. The crank was crack tested, journals lapped and the whole assembly including clutch cover was balanced by Scholar engineering in Stowmarket.

I'd balanced all of the rods and pistons at home using a cheap set of digital scales and as a further precaution I had a high tensile steel centre crank brace made up.

The turbo chosen is a Garrett GT12 which is the smallest aftermarket one they do but can flow enough air to make up to 125 bhp so plenty for my application and about half the size of the RS Turbo Fiesta one I'd used on the

Imp. A small stainless elbow attaches the turbo to a standard but gas flowed exhaust manifold and the gasses are taken away by a 2" stainless dump pipe.

To lower the compression ratio from the standard 9.5: 1 I ground out the chambers in a Red top head in line with the mods shown in the book 750 racer but didn't skim the head to bring the C/R back up. This has left it at about 8.8:1 which should be ok for up to 15 psi of boost if everything is accurately set up. Lots of attention was given to port matching and smoothing, I fitted lightened 750cc Reliant cam followers and stronger valve springs and fitted the head using a thicker Yellow top head gasket.

Fuelling is by a Renault 5 GT Turbo carb, fuel pump and pressure regulator which keeps supply pressure above boost pressure to stop the petrol being blown back to the tank. The carb fitted very well onto an 850 SU inlet manifold after drilling and tapping some holes for new studs and enlarging the inlet slightly.

Accurate ignition timing is essential on a forced induction engine and I'm convinced that using the standard distributor on the Imp engine had been a big part of the problem. Turbo engines need less advance under boost conditions and spark scatter at high revs is a killer so I went for a distributor-less system that relies on a toothed wheel on the crank and a sensor to determine engine position. This takes out the inaccuracy from slop in the cam chain, distributor drive and the 30 year old distributor itself.

The brain of the system is a Megajolt ECU which controls the spark timing and is programmable with any advance figure at any revs and any vacuum/boost reading.

The spark is produced by a Ford Mondeo ignition and coilpack sourced from a breakers. The whole system cost less than £120 including new silicone plug leads and is as accurate as a new cars system, with no moving parts and no serviceable parts!

Other engine mods to help reliability are an oil cooler, alloy intercooler to cool the compressed air from the turbo and a rev limiter set to 7000 rpm.

So far the engine has covered nearly 1,000 miles with the turbo wastegate turned right down to only allow 5 psi of boost in running in mode and things look encouraging.

The turbo makes boost by only 1750 rpm and the car is already considerably quicker through the gears, aside from a couple of minor oil leaks and a dislike for starting when hot all seems well. The jetting of the carb is still an ongoing process as I've tried a few different combinations and it's not far off now and drives cleanly apart from a steady cruise misfire.

The next step is a session on the rolling road with the turbo turned up for final setting up and to see what power it can make and whether it can stand it!

I'll report back as soon as it's done but in the meantime, cross your fingers for me- I'm hoping for 100 bhp at the crank which should make for a very quick Kitten.

Best regards, Steve. (Broomhall) No. 780 from Suffolk

*Steve many thanks for taking the time to share that with us, sounds more like a scalded cat than a quick kitten! I'm still not sure if turbo charging is better / less stressful / more economical than supercharging. I know that the supercharger that Peter Davis commissioned 6 of a few years back (for some of his Liege customers) works very well, but at somewhere the high side of £2,000 or so fitted, it is not a cheap option. I was speaking to Bob Riches last month, and he fitted one to his Liege from a modern vehicle, the second hand unit cost him £150, but he is a skilled engineer and was able to make the necessary modifications, brackets, drive pulleys and plumbing himself. It has gone a long way to helping him avoid having to change the axle ratio, though he still spends too much time in third gear about town and on long hills I believe.*

~\*~\*~\*~\*~

I am told that the following took a lot of time to put together, and there is a second bit about "Up", but I will save that for another time, if you're up for that!

You think English is easy - a new twist

- 1) The bandage was wound around the wound.
- 2) The farm used to produce produce
- 3) The dump was so full that it had to refuse more refuse.
- 4) We must polish the Polish furniture.
- 5) He could lead if he would get the lead out.
- 6) The soldier decided to desert his dessert in the desert.
- 7) Since there is no time like the present, he thought it was time to present the present
- 8) A bass was painted on the head of the bass drum.
- 9) When shot at, the dove dove into the bushes.
- 10) I did not object to the object.
- 11) The insurance was invalid for the invalid.
- 12) There was a row among the oarsmen about how to row
- 13) They were too close to the door to close it.
- 14) The buck does funny things when the does are present.
- 15) A seamstress and a sewer fell down into a sewer line.
- 16) To help with planting, the farmer taught his sow to sow.
- 17) The wind was too strong to wind the sail.
- 18) Upon seeing the tear in the painting I shed a tear.
- 19) I had to subject the subject to a series of tests.
- 20) How can I intimate this to my most intimate friend?  
Oh, and why doesn't 'Buick' rhyme with 'quick' ?

I was very tempted just to include the story of Up just now, but, as you know, I am trying not to digress too much too often.

.....

## Parts

Now see, I shouldn't be so hasty – after complaining about poor sales on Fox back springs recently, having finally had them made after years of procrastination, we only have 1 pair left in stock! Should I order more? We will see, but it does show that it really is very difficult to predict demand, this side of taking large deposits up front, which come to think of it is how we got going with most of the high value parts in the past!

I am finding that I get asked for bits that are in fact still readily available, two enquiries recently for speedo cables for example.

.....

## Sales and Wants

For Sale :- 1976 Kitten DL Estate, rescued from a local scrapyard 19 years ago and has lived in dry storage ever since until 4 months ago. Engine knocks and brakes inop. Has a very good n/s/f door and comes with a low mileage Robin engine and rear axle. Far too good to dismantle, needs a new home. Offers around £150

For Sale :- R reg Kitten saloon, Reliant blue, new tyres and windscreen. Taxed. Mot until September 2009 needs to be used and some cosmetics . Located in Hertfordshire. Reluctant sale £550 Ring Terry Silke

For Sale :- B583 JAP a Fox. Tax and MOT just out at the end of June, in daily use till mid June. New tyres and battery. Offers in the region of £500 to Mr. L. Winter Prestatyn north Wales

For Sale :- 1977 Kitten saloon, Les Gill, MOT just out, recent clutch and waterpump. Taxed till November, Liverpool area

For Sale :- Gearbox Syncro rings John Box at Stable Cottage, Thornleigh Drive, Burton in Kendal LA6 1NQ

For Sale :- Reliant Kitten saloon project, outside Balluinluig near Pitlochry contact Lyn.

Wanted :- a locking filler cap for a Kitten. Do you have one, or do you know where I can get one? Gerald Jennings London

Wanted :- Kitten heater control knobs. These are for our newest Dutch subscriber, Coen Bouwmeester to help complete his rebuild. Oh, and he could do with a pair of chrome door mirrors too. ring Brian for details.

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## **EPILOGUE**

Ahh, it is just a few days till Arleen and Colin's wedding, I just mailed the last edition last week, and as I am sure you might imagine, our phone has been even busier than usual at this exciting time. Wow, that was a quick 7 weeks, it did include a few days in hospital, under the knife even – I have been in hospital before, three times if memory serves, but not under the knife since I had my tonsils out over 4 decades ago, let's just say the general anesthetic has taken longer too wear off than I had hoped – sounds like a good excuse for my lethargy recently don't you think?

Gerald Jennings, a Fox owner of many years standing, has just acquired a Kitten, and is looking for a locking filler cap for it. Which makes me realise that that is something we ought to know the answer to, other than the stock, "Oh yes, they are like rocking horse teeth!" So, if you know what else fits, or where we can get them (possibly with a matching filler neck) please share the knowledge. Oh, Glwym Pritchard is beginning the renovation of his Fox, and he has a number of questions, in particular what alternative seats fit? I seem to recall Subaru Justy ones do, and I was impressed with the comfort, to sit on at any rate, of those used in the current Microcar, perhaps we should speak nicely to Dennis at Michaels and see if they have any odd seats lying about?

Right, panic is setting in, I am out of time, still a page to fill, here is a wedding shot, talk to you soon. That's our proof reader between the 2 bridesmaids.





Right, normal service will be resumed, the sooner if you write to me!

Brian (the one with the tie above!)

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