

## Confessions of a first time kit car builder

*Roger Bramley*

As a new member I have read through some of the Spare Parts articles and am impressed by the degree of technical knowledge of some of the writers. I cannot compete with that but assume there are some other people in our membership who are like me and maybe need to be reminded that not all of us gifted with technical skills but that with the right application of enthusiasm this hobby can be undertaken by even the most naïve and clumsy of us (i.e. me).

I am not a car constructor, I have huge respect for those who can conceive, design, engineer and construct a car from scratch or from plans. Whilst I can join bits of metal together it would be generous to describe it as welding, I can drill holes in metal but they invariably end up the wrong size or place and my painting experience is limited what you can do with an aerosol can. Compared to many in the club I have achieved my goal the easy way, but achieve it I have.

This story is therefore for the just as keen but less skilled or equipped amongst us. I work in an office. I have been a car nut forever and have always done my own car servicing and will tackle any DIY task around home. But, apart from an abandoned attempt to rebuild a Mini have no real car construction experience. Those of you with the real skills may want to turn the page now as the following confessions may offend.

Like many of my generation the Lotus Seven is 'the sports car', I have never had any difficulty spending money on car magazines (cheaper than smoking) but invariably would buy anything with a Seven inside. I had spotted Frasers many times over the years at shows or racing and had even got brochures sent from the factory. I had considered buying a 'real' Seven (a series four being in my budget) but somehow the style does not appeal as much to me as the earlier models. In the end the combination of the look of the Fraser, the support offered from the factory and the challenge of doing it myself won the day. With the long service leave cashed in the budget was set, who needs an overseas holiday or a new kitchen anyway.

The budget dictated a basic car and well short of the ultimate Fraser. I wanted simple and fuss free so ended up with an unpainted car, standard 4AGE on injection and live rear axle. The motor choice was more head than heart, the traditionalist in me wanted a worked crossflow but for a \$1200 spend I could get a 130hp reliable Japanese engine and box, to get the same power and reliability out of a crossflow would have been far more expensive.

Although working to a budget I also wanted a factory finished look so committed to buying everything from the factory down to upholstery and instruments, the theory being that a Fraser is a recognisable 'marque' and a consistent look and feel is a big part of that and ensures that the dollars spent were retained in the cars value. The other advantage was that in the absolute worst case when the project turned to custard I could turn the whole thing back over to Fraser for them to finish.

I am sure when I visited Neil Fraser to discuss the purchase he had me pegged as a tyre kicker but he gave me an order form anyway. This was duly completed and the three month wait for chassis #249 and kit commenced (had to finish building the garage anyway). At that point I confess I hadn't even sat in (let alone driven) a Fraser or any other type of Seven – I hoped I would fit.

My work background (Risk/Project Manager) means I have a tendency to over plan, so in early November 2000 we duly rolled up to the factory to pick up the kit with a huge van (hired at great expense) – according to Neil many people turn up with a garden trailer and a roll of twine. Needless to say we arrived back in Wellington to unload and consider the extent of the huge expensive mistake I had potentially made in getting this far.

After a careful read of the 'instructions' I could begin. Fraser builders will know I say this with tongue firmly in my cheek, I understand the theory is that if the instructions are too detailed then people follow them literally and don't think

for themselves. In hindsight I can see the wisdom of that theory but at the outset the lack of instructions is a bit daunting. The key thing to remember is that help is only a phone call/ fax/email away.

The first job is to complete the riveting of the alloy panels, this went smoothly enough apart from removing the scuttle which for transporting was temporarily fixed to the car. The scuttle is in two pieces and I thought I had to drill out the few rivets holding the two pieces together to remove it – seemed a bit strange but I bowled on - it wasn't until I was half way through this process that I noted some bolts underneath that when removed allowed the whole thing to be lifted clear...



### *Motor in!*

Next is the suspension and initially pressing the bushes into the wishbones, the instructions suggested a big vice was needed. I duly headed down to Mitre 10 and bought the biggest one they had. Back at home progress was slow, I tried freezing the bushes and heating the wishbones - no luck. In the end I resorted to a pipe wrench on the vice handle which successfully destroyed my shiny new vice with a crack like a rifle shot. Back to the tool shop (second hand this time) and bought the biggest vice they had, I almost had to reinforce the work bench to fit it, needless to say the bushes went in like a hot knife through butter – success.

The next challenge was fitting the wishbones. It was not clear to me which bolts/washers went where but I carried on and it looked perfect – I was sure however that there was some sound engineering theory that dictated there was only one 'right way'. At the February 2001 skite night (I was a non-member at this stage) I sneaked a

look at Terry Bufferys front end (of his car that is), later that night I was at home dismantling my nice 'perfect' suspension to put the bolts/washers in the right way around...



### *Bare bones coming together*

Next it was fitting the running gear. I had got Frasers to source and modify all of the second hand bits required (front hubs, rack, axle, engine, gearbox) – getting them to do the sourcing saved me a lot of time scouring wrecking yards and I am sure was ultimately less expensive. The bits however were still in wrecking yard condition but many wire brushes and POR 15 paint fume hallucinations later they all looked pretty smart.

Getting the engine in was next – back to the tool shop (second hand, I had learned my lesson) I bought a hefty chain block and after reinforcing the roof of my nice new garage I was ready. What a performance, there is not a lot of room in the engine bay and there was a fair bit of grunting, sweating and spanner throwing before the thing was in. I had one particular drama with the inlet manifold which had a lug underneath from its front wheel drive incarnation that clashed with one of the chassis rails – lifting the motor a tad there was just enough room for an angle grinder...

To get the beast to go we needed some wiring, again I had taken the easy option and purchased a loom from Fraser. This still needed all the terminals attaching and took a bit of head scratching to work out, it certainly helped when I realised that there was a wiring diagram available also but that I had not received. Using the battery from the family car as a power source the car gradually came to life as lights, indicators, horn and finally the starter motor



*100% legal for a trip around the block*

were bought on stream. No joy from the engine however which just coughed and spluttered.

Getting the motor to run was a major milestone. Not being a mechanic I had adopted the theory that the motor would be untouched apart from cleaning and painting and I would assume it was fine until proven otherwise. I also assumed that since it had come from a live car that it should be 'plug and play'. It did not want to co-operate however, all symptoms pointed to a timing problem but I could not see how that could be as it was a complete unit supposedly from a live car. Process of elimination finally declared that at a wrecking yard somewhere along the chain had sold off the original distributor – a replacement had been slotted in but not timed – a trap for young players, don't always assume that what comes from the wrecking yard isn't a cobbled together amalgam of parts. Once sorted she roared – at least to 4000rpm when there seemed to be a rev limiter effect cutting in.

Rev limiter problem aside it certainly went well enough for a squirt round the block, so under the cover of darkness (no seats, seat belts,

guards, cowl, bonnet, windscreen, drivestaff tunnel cover) we went for a quick blast. What a sense of achievement, fantastic. We arrived back home and into the garage before someone called the cops. It wasn't until then that I thought to mention to Lyn that the black thing spinning between our backsides was the driveshaft and wouldn't be a good idea to put your hand on it while we were driving...

It was now August 2001 and I had plenty of time to get it finished and ready to drive to the Whitakers classic race meeting in November (as a spectator), which had been my goal from the outset and roughly 12 months from the start date. We worked our way through the seemingly endless list of jobs to finish the car (the danger of an irreversible mistake whilst marking out and then drilling the holes in the scuttle for the wipers certainly gets the heart pumping).

Come early October we dashed to Auckland with the car on a trailer for compliance and registration formalities. I had only a 48 hour window with work commitments so allowing for a day at the factory and some time for sleep it was a long couple of days in the car (thanks kids).

Back home again and the waiting for the registration documentation began, we waited and waited. There was no real hurry as I still had the rev limit problem to deal with, slowly I worked through a component replacement program but after several hundred dollars had no improvement. The Whitakers meeting deadline came and went but the car stayed in the shed – at this stage a match and a can of petrol was looking tempting.

Finally the registration stuff came through and we were legal. First trip was to an Auto Electrician who had professed knowledge of 4AGE's and an ability to solve my rev limit problem. To their credit and my relief several days later they tracked down the problem to the engine loom and we had 7000 revs – excellent (thanks L Alexander and Co in Wellington).

Finally finished and in many ways a real anticlimax. The process of the build had kept me so 'hyped' that when it was over there was a real "so what" feeling.

We have progressively made longer and longer road trips culminating in a weekend in Taupo with the Fraser Car Club and a day at the track. This has certainly rekindled my enthusiasm, what a revelation, what feels okay on the road feels decidedly ordinary on the track so a whole new vista of learning and fiddling has been opened up to me. I intend to learn more about this through this years Intermarque series and ultimately want to compete at a Whitakers meeting (more likely 2003 than 2002).

I must acknowledge the encouragement and support of my wife Lyn that was essential to get started and finished, she had put up with me talking about it for years and has never raised a single objection about 'that car' or the time/money spent. Also thanks to Neil Fraser for happily taking my money but also for being the driving force behind what is a great replica of a sports car icon, special thanks to Wayne Cheeseman at Frasers who patiently answered my dumb faxed questions that I am sure he had heard dozens of times before. Whilst this article is not intended to be an advertisement for Fraser I would have no hesitation in recommending the product to others.

So would I do it again – absolutely, next project needs to have a roof (I will keep the Fraser) and something more suitable for winter, gravel roads and chasing the NZ Rally. Whilst a Stratos or Ford RS200 replica would look pretty cool parked with the boyracer WRXs, reality (that kitchen still needs doing) will be a return to an

Escort/Mini/Alfa of my past.

Finally some rules to build by...for dummies like me:

- A project gets completed a minute at a time – don't wait for three or four spare hours - if you squeeze in 15 minutes here and 30 minutes there you can make a lot of progress without much effort or commitment.
- Keep a diary, in low moments it is encouraging to check back on how far you have come. Write down questions, problems and things to buy as you think of them. After each session before you leave the workshop, make a list of the next three or four things to do – the next time you go out there you are straight in to the tasks rather than scratching your head or sitting in the car making brmm brmm noises
- Persevere, better to have a go and mess it up than procrastinate or give up – remember this is not brain surgery, if man made it man can fix it.
- Join the club while you are building the car not when you have finished – I wish I had.
- No matter how stupid you feel...ask questions...ask questions...

As the ad on the TV says "Don't just dream it..."



*Back from the first big trip to Taupo in one piece*