

TR TRANSFORMATION

Tim McDonald discovered that although car restoration takes its toll of time and patience, it is ultimately rewarding. Arnold Wilson describes the process in words and pictures

IN NOVEMBER 1986 Tim McDonald bought a 1972 TR6 complete with a large notice plastered over the windscreen proclaiming: "Sold for restoration only". This was a polite way of saying that the car had no MoT certificate and was not fit for use on public roads, and Tim admitted that five or six years ago the same car would have been scrapped, but such is the current interest in Classic car restoration that he had to pay £995 for it. After two-and-a-half years of hard graft the TR6 is now complete, looking quite superb in its Rosso Red livery and black interior and although it is valued at around £15,000, Tim has no intention of selling it.

Tim McDonald is an electronics design engineer manufacturing equipment for the security market, ranging from simple automatic lighting to very sophisticated computer controlled units. However, in the field of car mechanics he is just a very keen amateur who, with the help and encouragement of his friend Geoff Kenchington, a fellow TR enthusiast and active club member, has learned a lot of new skills and then applied them to the rebuilding of the TR6. Tim estimated that he spent on average three evenings each week plus Saturdays and quite a few Sundays on the project, which he completed in May '89, some 30 months after buying the car.

Tim described his first task, the dismantling, as a two-stage operation beginning with the removal of the hood and frame, interior trim, bonnet, boot lid and doors, followed by the engine and transmission and external fittings. Stage two involved the removal of all the rusting panelwork and Tim remembers this period only too well, commenting: "At that time the dream

was driving me rather than the reality and I tended to treat the bodywork with kid gloves, not really wanting to damage what was after all my pride and joy. Around this time I met Geoff who had a lot of experience in body repair work, and the dream very quickly faded, beginning with the day he stabbed a large screwdriver into the rear wing, releasing a large lump of filler and exposing a gaping hole in the bodywork. Then to my horror he carried on down the wing using the screwdriver like a machine-gun and the panel just fell apart. Now beginning to learn what was required, I invested in some power tools including a large angle-grinder and adopted a more aggressive and realistic approach – the dream had finally given way to reality."

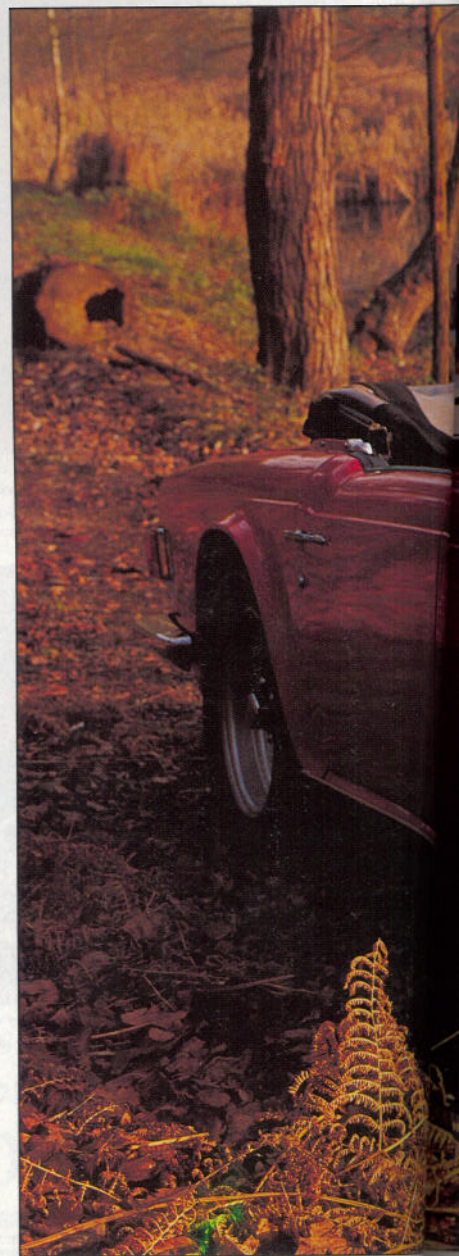
Removing the front wings should have been a simple unbolting job until Tim realised that one had been welded on while the other was bonded in with a large quantity of glassfibre matting and resin. He had hoped that most of the corrosion would be limited to the outer panels but after removing them he was horrified to discover that the inner wings, much of the floor including the boot, both B-posts and the outer and inner sills were all skeletal, consisting mainly of brittle ferric oxide. The whole lot would have to be replaced.

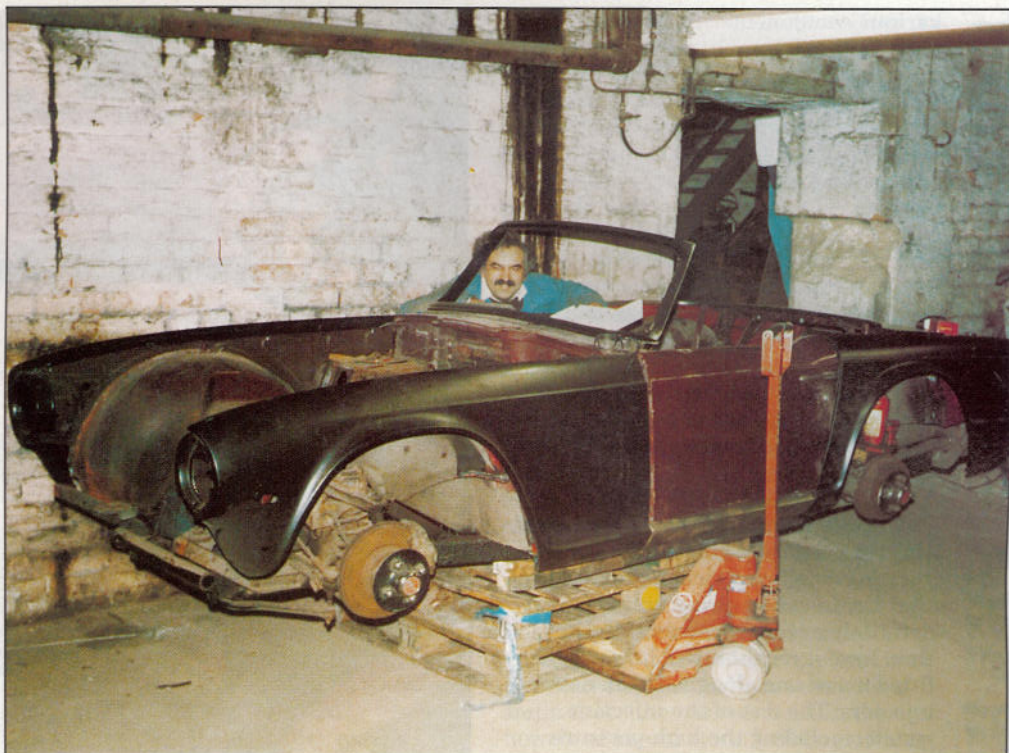
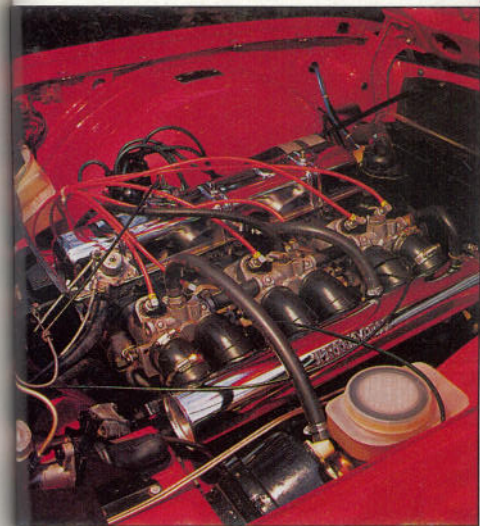
Again, being new to the game, Tim took advice from others who had trodden the same path before him and as a result decided to replace the inner panels one-by-one while the shell was still on the chassis, thereby ensuring, according to the professionals, a much more accurate panel fit, particularly when it came to replacing the outer panels such as the wings, bonnet, etc. Not being an expert, Tim spent much time photographing and measuring

before each panel was removed and renewed as he realised that a mistake or misalignment at this stage would really only come to light much later. To help prevent this he tried on the wings, bonnet and boot lid dozens of times until he was quite happy that they would be a perfect fit. Now, some two years later, we can confirm that Tim's cautious, painstaking approach has paid off because all the panels fit very well, with narrow, even shut lines.

MIG welding and brazing are not skills normally associated with a micro-electronics man and Tim had to start from scratch with the theory and then the practice, until he felt sufficiently confident to tackle the bodyshell itself. After spending several weeks welding and brazing-in new panels Tim needed a change of activity, and the chassis-bodyshell unit was pushed into the corner of the workshop to make space for the examination and overhaul of the engine and transmission.

The engine was fully dismantled, after which Tim set about cleaning, checking and assessing the wear in the





Tim McDonald was very much an amateur at the car restoration game until he took on a semi-derelict TR6 bought for £995 in 1986. Learning as he went along, his painstaking approach resulted in an immaculate British sports car currently valued at £15,000



various components. The bores in the six-cylinder Triumph engine are usually in good order but Tim decided to have a 10 thou' rebore and had the crankshaft reground at the same time. The block was rebuilt with new main, big-end and little-end bearings, plus a set of new oversize piston rings. Tim took the cylinder head to a local machine shop where it was skimmed, the valve seats recut and new valves and springs fitted. Back in the garage, the reassembly continued with the refitting of the original unworn camshaft, a new timing chain and new front and rear oil seals. A new water pump was installed and a reconditioned alternator fitted for good measure.

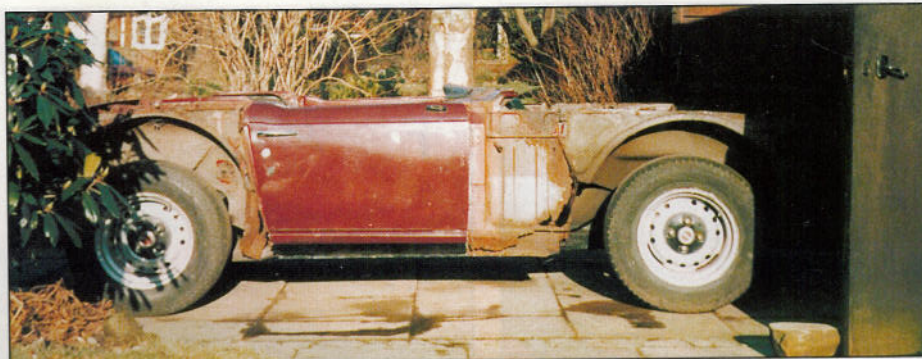
Tim's TR6 has the 150bhp fuel-injected engine and as the car was emitting clouds of blue smoke and running rough and rich, he realised that the Lucas metering unit was very definitely out of adjustment. Rather than have it recalibrated, however, he fitted a new one along with six new injectors. The rest of the injection system, including the high-pressure pump in the boot, was quite satisfactory and was re-installed.

Concerning the gearbox, Tim commented: "I took the 'box out and checked it visually but didn't strip it down - which I now regret. It's getting noisy and leaking through the rear oil seal, so I'll be taking it out this winter and reconditioning it. Fortunately the Laycock overdrive is fine - no problems at all."

The power is transmitted to the rear axle via a one-piece prop shaft and the universal joints were replaced as a matter of routine, but the heavy-duty 3.45:1 differential was in excellent condition and only required a new pinion oil seal. The universal joints in the half shafts were replaced and new rubber dust excluders fitted; the sliding splines showing negligible wear.

After overhauling the engine, Tim had to deal with the suspension and brakes. The TR6's conventional front suspension consists of double wishbones, coil springs, telescopic dampers and an anti-roll bar and again he decided to do the job very thoroughly with no expense spared. Consequently he replaced the bottom trunnions and a damaged nearside lower wishbone and then spent £150 on new rubber bushes for both the front and rear suspensions. New coil springs, dampers and wheel bearings completed the rebuild of the front suspension.

The independent rear suspension consists of chassis-mounted semi-trailing arms, coil springs and lever-arm dampers, but reconditioning it caused Tim some problems. "The suspension arms are large cast-aluminium alloy units to which the wheel-bearing housings are bolted with two sets of six studs, many of which came out with the nuts, often stripping the threads in the process. It caused me quite a few problems and I had to learn another skill - helicoiling - and even then I had to drill out, retap and fit



Above, once the wings were off, it was the same old story - rampant corrosion everywhere



Left, the 150bhp engine required a fairly drastic rebuild and some attention to the injection system



Above, a huge amount of work had to be carried out on the car's basic structure; the body was left on the chassis for this to ensure accurate panel alignment



Tim practised his spraying techniques by tackling the rebuilt inner panels first

oversize studs to some of them, because the original ones are no longer available. I completed the suspension rebuild by fitting new springs and reconditioned lever-arm dampers." It is worth mentioning that all the suspension parts (and many others) were epoxy-powder coated prior to refitting.

The braking system on the TR6 is a Girling servo-assisted disc/drum combination with 10.9-inch diameter front discs and 9-inch rear drums. Tim split open the front calipers, thoroughly cleaned and reassembled them with new seals and pistons, while at the rear the seized wheel cylinders were replaced and the whole system linked up using KuniFer and copper piping. Both front and rear rubbing surfaces were in good order and did not require skimming, and while new pads were fitted at the front, the rear ones had obviously been replaced recently and were as good as new. The master cylinder and servo unit were both examined and fitted with new seals where necessary.

After removing the repanelled inner shell, the chassis was thoroughly cleaned and sand-blasted to reveal the extent of the rust and corrosion, most of which seemed to be around the rear suspension and differential attachment points. New lengths were welded-in where necessary, but the centre section of the chassis was in excellent condition due to the protection afforded by a mixture of underseal and engine oil. The front suspension turrets were strengthened with extra plating after which any small areas of corrosion remaining were cut out and replaced with fresh steel.

After spending so much time and effort on the chassis, Tim decided to give it maximum protection by applying several coats of red oxide followed by smooth black Hammerite, with Waxoyl pumped into every visible aperture.

The actual rebuild could now begin in earnest and Tim remembers his spirits rising as he realised that the worst was over. The front and rear suspensions were refitted, followed by the engine, gearbox, prop shaft and back axle, after which the braking system was installed and the road wheels bolted on, resulting in a rolling chassis.

Keen to check that the main systems were working correctly, Tim rigged up a remote petrol tank, jacked up the back end and prepared to start the engine. He recalls that "the injection system was botched together, with the fuel pump hanging on a piece of string and long leads to the remote tank: I was about to discover whether I'd dropped any major clangers. Fortunately I hadn't. Fired with success, I disconnected everything and pushed the rolling chassis away, eager to start work on the painting of the inner bodyshell."

The repaired and cleaned inner bodyshell was given a coat of etch primer followed by several coats of

"It's a fun car to drive – noisy, smelly, but full of character"

primer-filler, after which the underside was treated with an anti-stone chip compound. More undercoats followed and finally Tim applied the Rosso Red topcoats.

As our man had not done any serious spraying, he talked to a professional painter, borrowed a compressor and treated himself to a new spray gun. The read-up theory was put into practice on the inner body panels and by the time Tim was ready to paint the visible outer panels (wings, bonnet, etc) he had become a very proficient sprayer. He recalled with obvious pleasure: "There is a terrific sense of achievement when you spray on the final colour coat which is glossy and wet and on the point of running, but it doesn't and you go back to look at it after two or three minutes and it looks perfect."

Tim sprayed all the outer panels (wings, doors, boot lid and bonnet, etc) off the car, feeling more confident doing it that way. The fully painted inner bodyshell was then replaced on the rolling chassis after which the painted outer panels were carefully offered up and bolted into position.

The next step was to restore the interior. "About half way through the project," recalled Tim, "things were going very well and, being a bit of a perfectionist, I decided to go for leather trim instead of the original Ambla plastic. I didn't have a heavy-duty sewing machine so I had the work done by a professional upholsterer. The seats had new padding and webbing fitted before they received their covers. I bought and fitted a new set of black carpets which I obtained as a kit from a specialist supplier."

As Tim did not care for the light-coloured, straight-grained dashboard he took it to a local French polisher who refurbished it in a slightly darker 'scramble' finish. Our man renovated the instruments (a mixture of Smiths and Lucas) by removing and polishing the glasses, repainting the black bezels, very lightly cleaning the black faces,



before deftly touching up the white, yellow and red sections as required. A similar technique was applied to the letters and symbols on the switches, resulting in a good-as-new instrument panel.

Tim remembers replacing the hood and frame as "one of the saddest parts of the rebuild because both were stolen. I had to advertise for a secondhand frame and then bought a new hood. Fitting them was quite a difficult job – not to be underestimated."

Finally the car was completed some 30 months after starting the restoration and because Tim did much of the work himself, including all the welding and painting, his financial outlay was a fairly modest £5,000 (including the cost of the car), although it is currently valued at almost three times that figure.

The story of the man who built a big boat in his back garden and then couldn't get it out when completed was paralleled by Tim, who recalls with a smile that "the car was built in the bowels of an old stone building with a door just wide enough to squeeze the rolling chassis through. The completed car was several inches wider and I had the unenviable task of demolishing part of the two-foot-thick stone wall to get it out. The newly painted wings came within half an inch of the unyielding jagged stonework and I was sweating with tension as we eased the car through."

Finally we discussed the pleasures (and shortcomings) of owning and driving a TR6. "At low speeds and when parking," commented Tim, "the steering is very heavy, although it lightens up nicely at speed. The ride isn't the softest around and the body rattles and flexes a bit – but there's nothing you can do about it. At the moment I'm trying to make the car fume proof – exhaust fumes tend to be sucked up into the boot and interior."

"Basically I enjoy the car – it's a raw sports car, which epitomises the traditional British sports car. In its time it was one of the quickest cars around with a 0 to 60 time of just over eight seconds and a top speed in excess of 115mph – not brilliant by today's GTi standards, of course. There's no substitute for genuine cc's and the big 2.5-litre, six-cylinder engine has lots of torque right across the rev range which shows when powering the car up hills and round corners."

"It's a fun car to drive – good acceleration, noisy, smelly, but full of character. It has excellent roadholding with its wide 205-section tyres and with the hood down you don't have to be going very fast to really enjoy it. It's just a great car." After closely examining the car and going out in it, we wholeheartedly agree. The restoration may have taken two-and-a-half years of hard slog but the final result is a fine tribute to the skill (much of it newly acquired), patience and perseverance of Mr T McDonald. Well done, Tim.