

## NG TA STRAIGHT SIX BUILD.



*Recently I have been delighted to see a revival of interest in Nick Greens first design, the TA. With enthusiastic new owners taking on and renovating some of the older cars that may have otherwise been lost. Being an original builder myself, I love to see these early cars brought back to life and updated to higher standards of finish and innovation. Certainly, the TA is the model that has inspired the most self-expression from its builders. With this in mind I thought readers may like a bit of inspiration, so went back and re-visited the article that I wrote about my TA rebuild for Changing Gear in the early 1990's, which was revised for Kit Car Magazine to provide a five page colour spread in the February 1997 issue edited and photographed by the late Peter Coxhead. I have also tried to provide a bit context to this great passion that we share together with additions to bring the story up to the time of writing. A version of this article has recently been published in Alan Mylands book on NG.*

*David Woolgar October 2024*

When I was a lad in the early 60's, a flustered young man came to the door of our farmhouse to ask if he could leave his car at the end of our track as it had broken down. He was told it was not a problem and a bit later I wandered down the farm road to investigate this stranded car. I was captivated, it was an Austin 7 special, I had never seen anything like it before, aluminium body, no roof, motorcycle mud guards covering skinny tyres and wheels with equally skinny spokes. My love of home-built cars was born.

Here in Great Britain, we have a long history of modifying automobiles. Apart from the United States of America no other country seems to have had such a broad love affair with this past time. I believe the roots of this preoccupation can be traced back to the introduction of coach- built cars when a quality manufacturer such as Roll Royce or Bentley would supply a rolling chassis to a coach builder. The body specialist would then finish the car to his discerning customers' requirements, desires and depth of pocket. The style would often be a luxury saloon or sometimes a sports car as regularly seen on the Bentley chassis. A number of these fabulous old sports cars were then driven by the great names from motor racing history on circuits such as Brooklands. The likes of Malcolm Campbell, Count Louis Zborowski raced some truly monstrous cars on the

Circuit, and Henry Segrave who I believe won the first-ever British Grand Prix organised by the RAC at Brooklands in August 1926.

After a few years, car ownership became more widely available to the masses. Individuals admired what was being achieved by the rich and famous and wanted to emulate it in some way. This really began to take off during the late 1940's and early fifties when men returning from military service and the horrors of war could not find stimulation in civilian life and searched around for a source of excitement, some looked to cars and felt the need for speed. In this country they came in the form of 'Specials,' in the United States they were called 'Hot Rods'. The great marques of sports car design were around, but even a MG would have been beyond the financial dreams of most people in these austere times.

Therefore, alternatives were sought in the quest for individuality and speed. Old production saloon cars, such as the Austin 7 and the £100 Ford were stripped down to a rolling chassis and then this creation was fitted with a lightweight sports car body, often in aluminium, by these early pioneers. Thankfully some of these lovely examples are still with us today.

Glass Reinforced Plastic revolutionised specials in the fifties and constructors quickly recognised that the versatility of this medium which allowed a pattern to be taken of their design. Once the pattern had been made, further examples could be re-produced and sold. Kit cars as we know them had been born. The birth was often traumatic and to be honest some left a lot to be desired, but famous names such as Chapman and Costin came to be recognised as key figures in this small but growing industry both on road and track. Of course, one of Colin Chapman's designs lives on and has been continuously developed in the form of the evergreen Lotus 7, now Caterham 7.

I loved the whole ethos of creating something from next to nothing and can tell you exactly where I was when I read the very first copy of Custom Car Magazine back in the early 1970's. I was enthralled!

By the late 70's and early 80's kit cars and things like beach buggies had reached the public consciousness and by the late 80's after a lot of hard work, we had bought our second house and I found myself looking seriously at the NG TA. Examining the photographs in magazines my mind was drawn back to that first glimpse of the Austin 7 special from my childhood which had captivated me all those years ago. Not only aesthetically, but the idea of starting with a single donor sports car gave me a good chance of finishing with a sports car when completed.

Going back a few years, in 1980 I was doing a driving job which took me all over the South East of England, on one particular day I found myself in the New Forest, so I drove down to New Milton to have a look in the NG showroom only to find that it was closed! Thankfully, Nick Greens Mum ran the local store across the road and let me in to have a look at the cars. I had no money and was driving an ancient Morris 1300 at that time, but the seed was sown.

With the new house purchased, eight or so years later I had saved enough money to purchase a kit. By now the NG TA production rights had changed hands to the former owner's club stalwart, Peter Fellows who produced the design as the TA Motor Company in Rotherham, hence the radiator badge on my car. Once ordered the kit arrived in two stages with the metalwork in May and body in July. While the chassis was excellent the body, which was the very first to be produced with doors, left a lot to be desired and I later found that GRP production had changed from the original and very experienced GRP laminators to an unknown other. The door design and shape however were exactly as I had imagined and discussed with Peter Fellows when he delivered the chassis.

A leisurely build followed over the next two years which included a few modifications but otherwise pretty standard kit construction. At this stage the TA was powered by a tuned MGB 1800 that I had built by Motorbuild at Hounslow and the gearbox was a non-overdrive four speed unit. Due to Nick Green's great design, no major problems were encountered during the build although, in those days, the manual was essentially a few sheets of A4 in a plastic spine to bind them with some photos on the glossy covers. Unfortunately, I was very much on my own during the build as Peter's company had folded and the owners club was also at a quite low point, so a pretty dark period of NG history. Even as a former motor vehicle engineer, I learned a great deal because it is so different to everyday garage work, more akin to restoration. It was my first full paint job, and my integral garage

was turned into a spray booth to prepare, prime and apply the Jaguar Racing green cellulose – in fact our main bedroom and en-suite bathroom also turned green! (Ops, moving swiftly on) I was very pleased with the results and the car was on the road in August 1991.

I had only been to one show at Doncaster, when disaster struck on a very warm April day and with only 2000 miles on the clock a rear flexible braided brake hose failed, despite being new when fitted, this resulted in an altercation with a Mercedes and a Renault. Fortunately, this was in a 30mph limit, and no personal injuries were involved, the Police were of the opinion I had done all I could to avoid an accident. I was very disheartened to say the least and the thought of dealing with all that insurance paperwork still makes me shudder. On a positive note, I can personally testify to the strength and integrity of the NG chassis which was undamaged.

The NG sat untouched in the garage for over six months while I regained my enthusiasm and at one point seriously considered breaking the TA for parts to selling them on, eventually realising that would never recover the money I had invested. Once the insurance company had paid out a compromise was sought and with a fresh sparkle of enthusiasm, I was inspired by a Christmas card previously received from Peter Fellows. The card depicted a stylised TA with a much longer wheelbase and bonnet on a red background, so I decided to rebuild my TA to reflected that shown in the drawing. The longer bonnet TA depicted on that Christmas card eventually became the Marina based TA. As I was having to start again, I wanted to build something different to everyone else, period in style but with nothing on show in the engine bay that could otherwise be hidden.

Essentially the front of the TA was undamaged, but the body was crushed along both sides, doors, rear wings, two wheels and tyres completely trashed with the rear axle resembling a banana. Naturally, I stripped down the whole car and cut off the undamaged front end, sold the engine, gearbox box, bonnet, grille shell and set about repairing all the damaged stuff. What a wonderful pile of parts with which to start a new project! I should add that the engine is still in another club members TC to this day!

I had always admired the 2 litre six-cylinder Triumph Vitesse, although it fell over on corners, its straight-line performance and sound impressed, so decided that was the engine for me. I acquired a complete Triumph 2000 TC locally through the free ads and trailered it home for the princely sum of £30. Out came the angle grinder and the whole front panel was cut out which allowed the engine to be easily craned out for a rosier future in the TA. The following day the rest of the Triumph was collected by a very nice man with a flatbed Transit who said he would take good care of it. I hope he did!

A little time measuring indicated that adding six inches to the front of the chassis from the K member forward would provide a new home for the 6 cylinder Triumph engine, with the bulkhead being recessed to take the gearbox bell housing and allow room at the back of the head. (No modern engine bay congestion here) I constructed a wooden jig with which to fabricate the complete new longer front chassis section which incorporated dumb horns at the front and anti-roll bar mountings behind the axle rather than in front. The chassis parts then went to Phil Hester (brother of ex club chairman Graham) at Chessington Coach Works to be aligned and welded up together on their car bench. With the chassis back together, anti-tramp bars, panhard rod, engine and gearbox mounts were fabricated and welded on. New cranked torque braces were also fabricated to provide clearance for the SU carbs which are on the steering column side rather than nearside as on the MGB 1800 engine. A bespoke stainless steel fuel tank was folded up and welded for which I am grateful to my late friend Gordon who's welding expertise was far superior to mine.

The engine was basically standard and sat on fabricated mounts that use Cortina, cotton reel style, rubbers. As the engine is upright in the TA as opposed to being inclined in the Triumph 2000 (so you could close the bonnet) a TR6 sump pan is fitted and the SU carb float chambers slightly rotated due to this change of angle. The radiator is an original Austin 1800 unit with the inlet and outlet transposed to match the Triumph engine with a period Morris threaded filler in the top. A boss in the bottom of the radiator accepts a Fiat X19 82-degree fan sender switch which activates a very efficient Lancia electric fan of

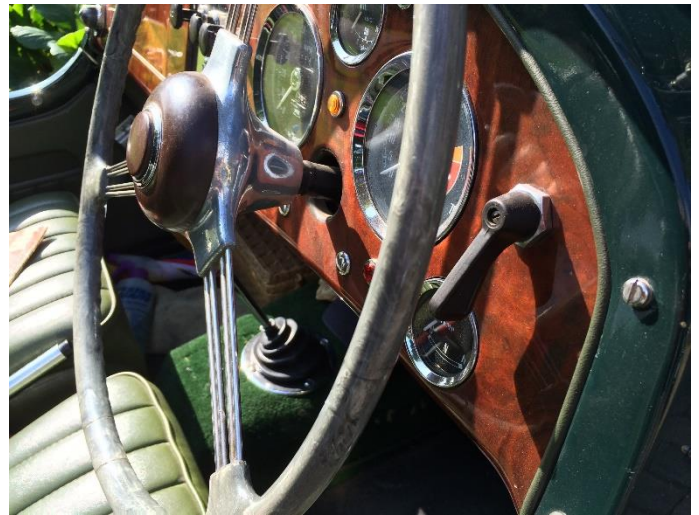


completely unknown origin, but it was new old stock and free. I would have preferred to have used a mechanical fan, but the standard Triumph fan is fitted to the bottom pulley rather than water pump, which is also, rather inconveniently, off-set, so not at all practical. A radiator expansion bottle sits beside the radiator and was fabricated from scrap copper tube with a filler neck and 10lb radiator cap. A bespoke cradle accepts the standard rear gearbox mounting and connects to the rear axle via an MGB prop shaft fitted with the Triumph front flange. The clutch operation is taken care of with a mixture of MGB and Triumph hydraulic parts.



The TA's front suspension used early roadster springs and uprated standard dampers. There are performance damper upgrades available, but I like the period appearance the lever arms provide. Bespoke brackets bolted to the wishbone pans mount a rearward facing 16mm Renault 5 anti-roll bar. The channel section wishbone arms are boxed, welded, ground and smoothed to improve their appearance. The king pin assemblies, anti-roll bar have all been nickel plated and non-MGB high tensile specific fixings are in stainless steel as are many other fixings on the car. At the rear, early roadster springs mount the wire wheeled axle which was found in a ditch and upgraded by anti-tramp bars, full width panhard rod and Spax adjustable dampers. This provides a ride that I describe as being "firm but compliant" and quite comfortable on long drives.

In view of the accident, dual circuit brakes were a must. Originally a Mazda 626 master cylinder fitted the pedal box perfectly, but provided a very firm, but hard to push, brake pedal due to the slightly larger bore size of the cylinder. This was eventually changed to a Renault master cylinder and remote Fiat 126 reservoir which is not as neat, but worked. Early roadster wheel cylinders are fitted to the rear as is a shorted handbrake cable and modified lever that allows the handbrake to lay neatly between the seats. At the front the discs are protected by fabricated and polished stainless-steel back plates.



A major feature of the TA interior is the 1953 Morris Minor banjo-style steering wheel. This is a keyway fitting rather than being splined and the whole steering column and rack arrangement is similar to a NG TC but does not require an additional support bearing. The pinion shaft in the rack has been machined down to a peg and hole before being re welded so that it can be stripped out from the rack if ever required, this connects to an intermediate shaft with two MGB universal joints to enable it to clear the carburetors and allows some crash protection due to the off-set before it enters the main inner and outer column at the bulkhead. The whole lot is retained by brackets and no discernible scuttle shake is felt through the steering wheel when driving.

The body was a real mess, but once bolted back on the rebuilt chassis it was pulled back to shape and clamped together enabling it to be cleaned up and re-glassed with resin, matt and new steel inserts to support the doors and timber re-enforcing the sides. New un-joined doors and rear wings were ordered from GTM who had purchased the moulds and jigs from the liquidator by this time. The new doors were glassed up together

with steel inserts to allow them to be rear hung suicide fashion on the new steel frame which give a much more traditional appearance to the car. They also have 13mm thick aluminium plates bonded in that mount the handles and latches, this also provides a much more solid closure of the doors. Lastly the front bulkhead was recessed back by two inches and made up to an eight-ounce layup with two extra layers of matt and resin for strength. The top of the bulkhead has since been modified with an additional moulding to accept an internally mounted BMC Mini heater which is far more efficient than the MGB unit. Once prepared, the body and other parts were professionally sprayed in Jaguar Grand Prix green two pack paint so as to maintain domestic bliss.

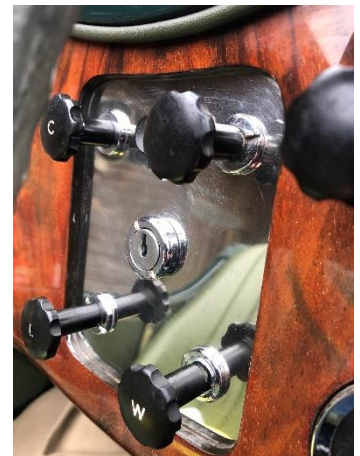


The 'piece de resistance' of the TA restyling is the 1927 Morris Light Van radiator surround which was found at the September Beaulieu Autojumble. It was in a terrible state, but after spending a week on repairs it was sent, along with the newly fabricated headlamp mounts and other parts, to Farham Plating for chroming. The badge on the surround is made with three layers of brass and is engraved TA Motor Company - Made in England to reflect this period of NG history.

The original Morris radiator surround caused a major fabrication problem as the radii did not match that of the scuttle, I had the aluminium bonnet panel blanks

cut on a guillotine but could not find anyone prepared to form the required tapering radius on the top panels. Therefore, I had to devise a tool for rolling over the curve using a carved wooden buck which was then screwed to a frame and roller to form the required shape. Basically it was a crude metal brake which took time to fabricate, but the result was worth it. Aluminium continuous hinges were welded on to join the top and side panels after TF sized louvers were punched in the sides. This method eliminates the pop rivets usually found on TA bonnets and has since been covered by a painted overlapping aluminium profile that makes it appear more like a stamped-out panel. A Stainless-steel piano hinge articulates the top panels and is attached by polished stainless button head screws.

The interior is fully trimmed and uses BRA P Type glass fibre seat shells which were upholstered in a very traditional style to make the pleats handed. This means that the stitching of the fabric is rolled over by the adjoining pleats rather than pulling the stitching apart when you slide into the car, a marvellous job which exceeded my expectations. I fabricated the original walnut veneered dashboard, but this was superseded some years later with an SVA style version along with a bespoke wiring loom which locates the fuse box, stereo, cigar lighter socket and now USB ports in the glove box, providing music through four dual cone speakers within the car, phone charging, dash cam and satellite navigation, plus extra ports if ever required. Despite having Austin A40 Farina knobs, the switches are actually a mixture of Lucas types which are surprisingly interchangeable when you take them apart. They match the Bakelite steering wheel centre very well and incidentally reflect the later NG badge rim style.



In this form the TA made it back on the road in time for the National Rally in 1994 and took the Concours Trophy on its first outing, which was unexpected as I had not built it as a show car. Since then, it has travelled many miles as a daily driver, been to France a number of times on long weekends and to the LeMans 24 Hour races. I have lucky enough to have been awarded many more accolades over the years including Best Classic at The Victory Wheelers show in Portsmouth which made me smile. Possibly the most memorable trophy and bribe was the one-million-pound note from the Late David, Screaming Lord Sutch at the historic dockyards at Chatham. A bit of fun that one!

Building and driving the NG, now known as the TA Straight Six, has given me tremendous pleasure. True there have been many times when my ingenuity has been stretched, but this is a result of the challenges I set myself

and all part of the build process. NG's are a builder's car; they go together very well and if sufficient time and money is invested, they produce a rewarding period style driving experience. They are not an Airfix kit where the manual tells you to put part `A' though a pre-drilled part `B' and all the better for it as you will learn far more from the whole exercise having to work some things out for yourself.

There are many more modifications and changes to the original NG kit than can be mentioned or even remembered here, but this covers some of the basic build and development which has been ongoing over the years.

Since the original build the TA Straight Six has covered over fifty-five thousand miles at the time of this re-write. I had always intended to refurbish the engine and gearbox once it was on the road and tested, but quite honestly, it worked and drove exactly as I wanted it to straight out the box and I never had the heart to strip it down again. In fact the only major issue I experienced in all those years was a cracked head due to overheating on the way to LeMans one year when the cooling fan stopped working due to a dry electrical joint in a connector. It was very hot in every way that day! On both occasions, the TA still completed the journey and got me back home again.

Two years ago, I decided upgrade the engine and gearbox and as I did not want to immobilise the TA, began searching for complete units from one car. But as usual you can never find what you want when you want it. So, an engine was collected from Plymouth and gearbox from Nottingham to be used as base units for refurbishment.



As set up on a rolling road, the refurbished engine produces a modest one hundred brake horsepower at the wheels but lots of torque which is what I wanted from the build. The engine is bored, balanced and lightened as required. The head worked and uses the original SU carburettors together with a better Triumph inlet manifold and stainless-steel extractor exhaust connected to the original bespoke stainless steel exhaust system. The cam is a Kent hi-torque grind with a duplex chain and vernia cam gear. A Lumination electronic module takes care of the sparks. The TA now has the engine it deserves.

The four speed overdrive gearbox was rebuilt and the clutch actuation converted to that used on the TR5 / TR6 model upgrades.

The braking system has also been updated to use the correct American specification non-servo dual circuit master cylinder. This cylinder was not available to the original build and although the cylinder is now available in the UK, not all of the parts required to fit it are which is quite bizarre. Once again, these unobtainable parts had to be fabricated or machined to make the system work.

A new carpet set has been cut and bound after the interior of the body tub was lined with a foil backed mastic sound and heat-resistant material which is a noticeable improvement, even in an open top car. A replacement green mohair full length tonneau has been made which compliments the original bespoke mohair hood and side-screens.

To conclude, the TA Straight Six is updated and more than capable of reliably keeping up with modern motorway traffic. It also handles surprisingly well for a car with narrow track running on standard aspect ratio rather than modern low-profile tyres.



*Dave with Nick Green, founder and creator of NG Cars*

Today, if I was rebuilding one myself, it would undoubtedly be more radical than my current TA. These days just about everything you need to know in one shape, or another can be found with a little on-line research along with some fantastic parts suppliers. Local small engineering firms are often very willing to fabricate, cut or weld parts you cannot make for yourself. Sometimes you just have to think outside the box to get the result required.

I do hope these words will help to inspire those who may be rebuilding an old NG to push themselves a little bit harder, perhaps beyond their comfort zone to create really interesting, safe and well finished cars.



*Photo credit to Charlie Dwyer*

