

# HOW TO BUILD

THE NIGEL DEAN WAY

## A WESTFIELD...

Having invested almost 1,000 hours in his garage, Nigel neared completion of his beloved Vauxhall 16 valve Westfield build. However, it is so often these last few jobs that can make or break a project, especially when the finishing line is looming. So, in the last instalment of this amazing build, Nigel shares his usual tips and techniques and describes how he slipped behind the wheel for the very first time. Did she live up to expectation?

Part

5



**P**atience, patience, patience. That's the one thought that goes through my mind when nearing the end of a build. It is all too easy to say, 'I'll do that later,' and just rush to get a project roadworthy. It happens so many times and the car always suffers. Even worse, the last 5% of jobs can often take 20% plus of the total build time and all are visible. My approach has always been to complete a car

in every respect before getting behind the wheel. The small task of passing SVA (or an MOT in the case of this Westy) can happen as soon as possible, but I usually spend another couple of months getting the car spot-on before going for that inaugural drive. It takes a fair amount of resolve, especially when the sun is shining and the kids are pleading for a ride in Daddy's new toy. However, I remind myself to be patient: it's worth it in the end.

When we left last month's instalment I had pretty much completed the interior trim, and the next main aim was to get the car through its MOT and be done with all the legalities. Remember, in pre-SVA days all you had to do was get an MOT certificate, send off for a registration and you were road legal. Occasionally an inspection was requested which was undertaken at your home but, on the whole, things were so, so, easy.

## PREPARING FOR THE MOT

To get the car through its ministry test there were only a few more jobs to complete, the exhaust being one of them. Today nearly every builder of a Seven type car will opt for a stainless steel system. The primary reason for this choice is because a rusting mild steel silencer box strapped to the side of your gleaming Westy, Robin Hood, Striker, etc. is not conducive to aesthetic appeal. At the time of my project a few builders still chose this mild steel option and the reason was cost. In my mind the additional £150 premium for polished stainless steel is well worth it and, as you can see from the pictures, the four into one collector and side mounted silencer box look rather purposeful. I had no choice but to mount the system on the passenger side; great for me the driver, but a little less comfortable for the missus after she burnt her leg several times! A small tip: if you are currently trying to convince a partner a kit car is a good idea, such details are probably not worth divulging until the build is well under way!

Cutting the exit hole for the manifold in the bodywork is always a challenge,

especially for a new builder. To make the job easier it is always worth fitting the system prior to fixing the bodywork. This allows you to make a cardboard template of the exit hole which can be transposed once the fibreglass is in place. Utilising the chassis cross-members as a datum will ensure you don't make a costly and extremely visible mistake. You can fit an escutcheon plate around the exit hole to hide small errors, but it is not necessary if you do the job right.

Nearly all side exit exhaust systems come in two or more pieces and joining them neatly can be a challenge for a conscientious builder. In my Westfield's case I used a bespoke stainless steel band with a button head tensioner. At a cost of £10 it was not cheap and was also hard to find at the time, unlike today where pretty much all kit car accessory suppliers list these clamps in varying sizes. Interestingly the price is still the same, even less in some cases!

Final preparation for the MOT included temporarily fixing some rear view mirrors, front indicators and a few other items to



*Stainless steel four into one side exit exhaust system.*

## THE MOT

I booked an MOT at the local garage for a day when the weather looked good and decided to trailer the Westy. OK, I could have legally driven her the ten mile round trip, but since many of my finishing touches had yet to be added I wanted to save the inaugural pilot for another day - that's patience for you! On

arrival I was duly beckoned towards the inspection pit, the examiner reached for his lead lamp and went about his business. It didn't take long before I could sense he was a little bemused. Being used to peering under rusting old Sierras and the like, kit cars seldom came his way in rural Wiltshire. After a lot of huffing and puffing from underneath my

make everything legal. This practice was commonplace ten years ago and is probably one of the reasons SVA inspectors are now firm on all items being permanently fixed to pass the test.

## REGISTRATION

The registration process at the time was a paperwork exercise combined with an inspection. The Westy was going on a 'Q' plate. Trying to convince the inspector the powerplant came from a Ford Sierra (the source of all the other donor components) in order to obtain an age-related plate was a little unrealistic with VAUXHALL stamped all over the engine! Unlike today the inspectors came to you, making the whole process far more convenient. I'm sure if such a chargeable service was available now many kit car builders would opt for a visit to his/her garage rather than having to trailer the car to a VOSA office. Or better still, why can't the inspection be carried out during the SVA test? This is still a bone of contention so I will not elaborate further.

The reason behind the early registration in this build was not to

get the car on the road but to ensure I could get the plates made and attached during my final fettling stages. I always hope for a short registration number (or multiple number '1's) since this allows the trimming of the plastic to make the plates less obtrusive. In this case, the reg 'Q511 VMR' was not ideal, but at least it had two of my favourite digits.



*Trimmed number plate.*

beloved Westy, he shouted, 'I'm wasting my time under here, it's all bloody new!'

Suffice to say the test took no time at all and a 'ticket' was duly issued. Within an hour and a half I was back home drinking a cup of tea - a far cry from today where the SVA test takes a good four hours, not to mention the travelling time and associated stress.

## BACK IN THE GARAGE

With all the formalities out of the way I could finally relax and look forward to the home straight, the part of all my builds I savour the most: the detailing. Removing all the temporary 'MOT' additions (to be replaced later by legal alternatives, naturally) I decided to concentrate on the interior.

Having been an avid fan of Formula One for years I had always loved the idea of having controls mounted on the steering wheel. It was unheard of in the kit car scene at the time and steering wheels with pre-mounted switchgear were only the wares of racing teams. Removing my rather costly Momo steering wheel I proceeded to drill two 10 mm holes in the spokes to accommodate a couple of switches. Complete with waterproof covers, the single pole, double action toggle switches were bolted in place and I remember sitting for a few minutes flicking the controls trying to simulate the Nigel Mansells of the day (sad I know, but I was a lot younger then!). One

was allocated the official task of activating the horn (wow) and the other the indicators (a little more useful). Finding an appropriate cable to span the gap to the dash was a little tricky but, if I remember correctly, a spiral headphone cable worked a treat: extremely flexible, gloss black in finish and freely available. On full lock it got a little wrapped around the column, but didn't pose any safety hazards.

Continuing the Formula One theme, I wanted a shift light – a bright red light to indicate the engine was about to self-detonate and prudent to go up a cog! Luckily my MBE management system had a shift light output, so I purchased a 12 mm diameter super-bright LED. It was huge and my father turned-up an aluminium housing to accommodate the 'beacon' as it became known. The whole assembly was then powdercoated and mounted in direct line



Removal of interior after MOT to introduce additional circuitry for interior lights, shift light etc.



Part of Nigel's bespoke security system in boot compartment.

of vision atop the scuttle. Illumination was set at 7,250 rpm and the rev limiter 7,750 rpm. This was all defined during the ordering of the ECU system from MBE and remains an advisable addition to any highly powered kit car. Omit such a safety device and all it takes is one bad gear change and your valves and pistons can become permanently acquainted.

While sending my shift light housing for satin black powdercoating I decided to give my gear lever and handbrake surround the same treatment. Honed from 2 mm mild steel sheet, they took a fair amount of chain drilling and filing to fabricate but ensured the minimalist theme was continued throughout the cockpit.

Being an electronic engineer at heart I could not resist adding interior lighting (activated by a switch under the handbrake) and an audible alarm for the indicators. If

you have ever driven a 'loud' open top car or motorbike you will know how bleeding useful this second enhancement is when piloting your machine.

Finally, to ensure the car was secure I added my own immobiliser system. Removing power from the ECU, courtesy of a secure barrel lock, the car could not be started. A flashing red LED was added to indicate the alarm was activated, not only to warn potential villains but also to suggest why I might not be able to get the damn thing started!

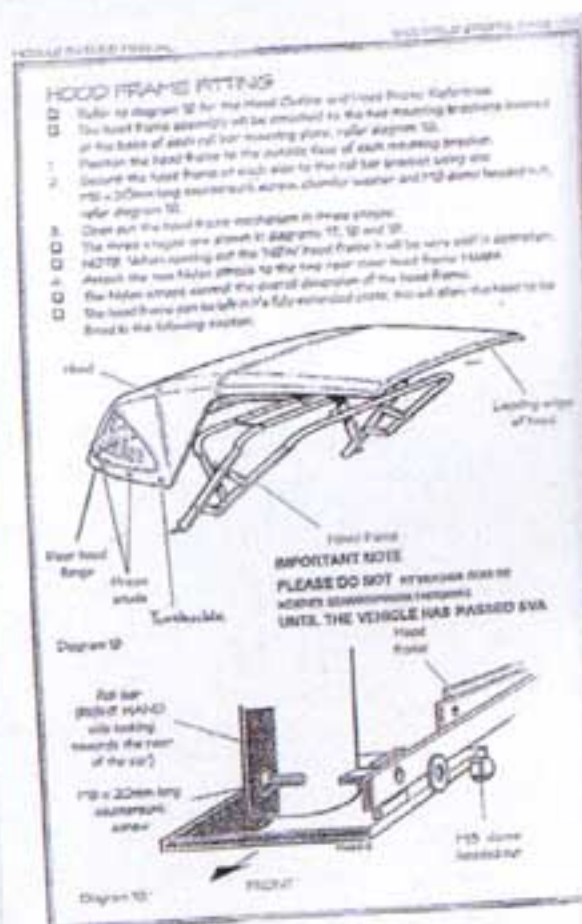
Standing back and surveying the completed interior I must say it was one of my best achievements: simple, user-friendly and trimmed to last. In addition, the whole lot (apart from the seats, belts and instruments) cost me under £100. This proves a quality finish need not always be expensive.



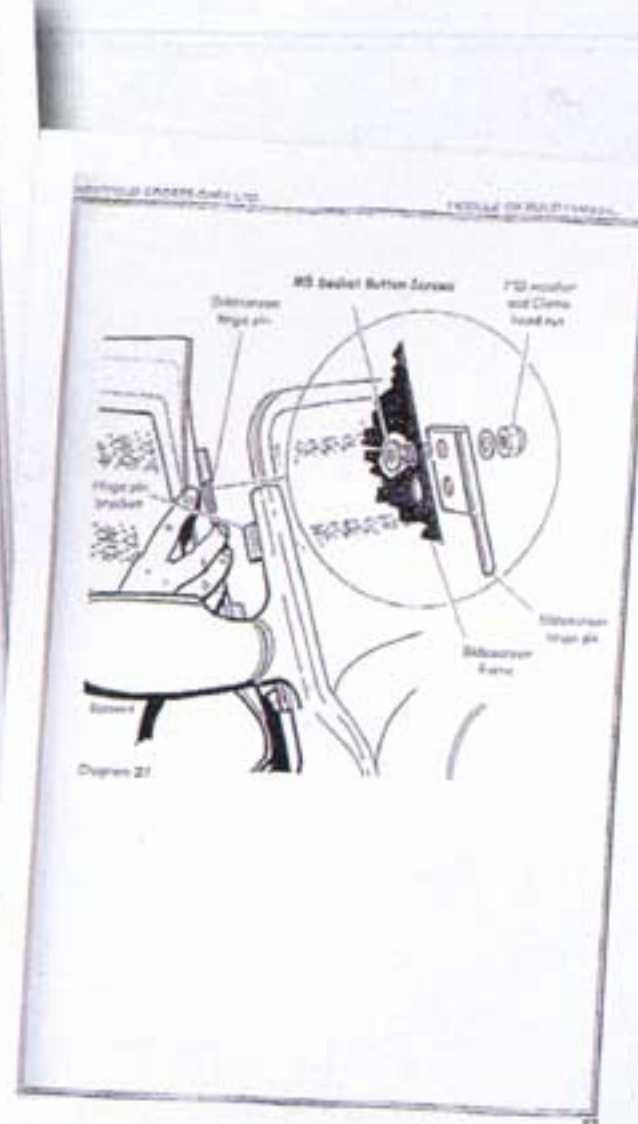
Finished interior. Note switches on steering wheel and shift light.

## WEATHER GEAR

I seldom use my kit cars in the rain, not because I'm afraid of getting them wet but because the amount of cleaning you have to do once they return to the garage is not appealing. In addition, these cars are about enjoyment - being stuck under a rag top in the driving rain while negotiating traffic is not my idea of fun. With this in mind I decided to only fit sidescreens and no other weather equipment. Apart from the additional cost saving, the absence of poppers riveted to the bodywork was rather appealing: they look a little crude in my opinion. The reason for the side windows is a Westfield (and any other Seven clone, come to that) is practically unusable without them. You may get some hardliners denying this statement, but they



Full weather gear is an option and can be added later to reduce the cost of any build.



Sidescreens, however, are a must in a seven type kit car.

will fail to mention the need to pick dead flies out of their teeth and the accelerated thinning of their hair after a short drive. It's uncomfortable to say the least – trust me on this one.

## UNDER THE BONNET

One of the reasons I chose the Vauxhall 16 valve lump is it looks so good in a Westfield engine bay. Compact, simple, good-looking and nestling millimetres under the standard bonnet, it's just delectable. Wanting to enhance the installation further I decided to have the cam cover polished. Many companies offer this service and, providing the item is fabricated from cast alloy, it's a great upgrade. To complement the mirror finish I sprayed the spark plug cover in chrome yellow to match the Westy's nose and cycle wings. The black lettering was then meticulously picked out in gloss black using my trusty modelling brush. The need for anodised fasteners and Aeroquip was irresistible and to tie the introduction of another colour to the installation I used par-head red fasteners to re-attach the cam cover.

To ensure the engine could breathe properly a polished alloy catch tank was plumbed into the cover, not totally necessary because the pipe could simply be routed to the road, but such a crude solution never sits



Engine compartment complete. Aeroquip, braided hoses, ITG air filtration, oil catch tank... all the trappings of a top-quality kit car build.

comfortably with my approach to building. The other cam cover breather was fed directly into the air filter, a real b\*\*\*\*\*d of a job because the large diameter Aeroquip just didn't want to form into an 'S' bend without trying to push the air filter base away from the carburettor. I managed to solve the issue in the end with some lateral thinking, but that single pipe probably took me three evenings to get right!

Looking at the pictures, in retrospect I would have mounted the battery in a less prominent location and used a polished stainless steel header tank, but maybe I'm just being picky. As you can appreciate, many of the additions cost very little in monetary terms yet they enhance the installation considerably.

## EXTERIOR DETAILING

Turning my attention to the exterior of the car my aim was to add a few nice touches without cluttering the final appearance. Starting at the rear, the only addition was a bespoke vinyl sticker produced in gel coat-matching yellow font. It simply read 'VAUXHALL MOTORSPORT'. Finally, I trimmed the number plate to the smallest dimensions possible while retaining legal character spacing and size. It was thoughtful of VOSA to make the background of their rear plate to match my gel coat!

Moving to the nose, there were a fair amount of enhancements in store. Firstly, the use of minute indicators was fairly unusual at the time. Most builders opted for Westfield's



Look closely and you can see the intricate handmade grille. As for the indicators, these are subtle and look the part.

standard stalk items which (again, in my opinion) did not enhance the car at all. This also applied to the grille. Even though not clearly shown in the accompanying photographs this was painstakingly fabricated from a dozen pieces of mild steel, welded, polished and then powdercoated; a good two days work in fact, but totally unique.

Covers over the steering arms, stainless overbraid over the headlamp wiring, a matching Westy badge and polished dome head set screws holding the front wings in place without distortion are just a few other examples of detailing I can recall after studying the pictures and video footage.



Rear end finished.



Complete in all her glory.

## BEHIND THE WHEEL

Two months had passed since the MOT and at last the car was ready for its inaugural blast. As if about to embark on a trekking trip in the Himalayas, multiple preparations were made in case of emergency: warm clothing, hat, gloves, survival equipment in the form of tools, water, mobile phone, map and, of

course, informing those close to me that I might be gone for a while!

Jumping into the cockpit (as I had done so many times before throughout the build) the full harness was donned - a real pain with several layers of clothes and a high risk of shoulder dislocation if you didn't follow the correct sequence of adornment. Eventually -

after a lot of grunting and puffing - the side window was clipped shut and Martine and Evie stood to attention by the gate to see me off. On reflection it all sounds a bit dramatic, but if you have built a kit car you will appreciate the mix of anticipation and excitement just prior to the first drive. With a gentle twist of the ignition key, the Vauxhall unit burst into life without any drama or hesitation. The ETB gauges reported good oil pressure, plenty of fuel and a steady 800 rpm lumpy idle. Lumpy because I decided not to fit a choke and was constantly tickling the 4 pot to keep it alive. As the water temperature needle started to lift I selected reverse and pulled out of the drive. Trying to ignore the gathering crowd of people who had heard all the kerfuffle from the neighbouring pub, I selected first and gently pulled away. Transfixed on the gauges rather than the road ahead, I moved up the gears without any fuss. Checking controls such as steering, brakes, indicators, everything seemed to be in order and the miles soon started to rack up on the odometer. My bright yellow Westy was obviously causing considerable interest from other road users as they tailgated me for several miles prior to overtaking at insane velocities - OK, so I was holding them all up doing only 40 mph at the time, but it's all about building confidence!

A mental 3,000 rpm rev limit was an agreement I had made with my self-conscious prior to launch. However, after a half an hour of confidence-building, the urge to ignore this extremely good advice was simply too much to resist. Selecting third, I squeezed the loud pedal and she was off. 40-50-60... better not say any more in case I incriminate myself. The sound was glorious, the effortless pull of the Vauxhall lump was relentless. What a machine! If you have never piloted a Westfield, Caterham or similar you will not appreciate how easy they are to drive. The steering is go-kart like, brakes are gut-wrenching, traction is second-to-none and as for acceleration, it is truly mind-numbing. Compared to my previous X flow Westy,

this was in another league. 180 bhp compared to 135 is a considerable leap, especially when the car weighs around 600 kilos.

Over the months of ownership the Westfield was an amazing car, never letting me down. It didn't take long before I was dancing up and down the gears as the 'beacon' repeatedly flickered into life. In the dark, on overrun, flames used to spurt from the exhaust as if the car was showing its disdain at slowing for a hairpin. I'm sure MBE might have been able to dial this out with an ECU re-map, but it was so addictive it became her party trick.

Having purchased an accelerometer, I performed a few tests and the Westy could pull around 1 g during acceleration (about

the same as a Ferrari F40) and hit 60 in a shade under 4.5 seconds. I'm sure the latter could have been trimmed back a little, but I was more than happy with her performance.



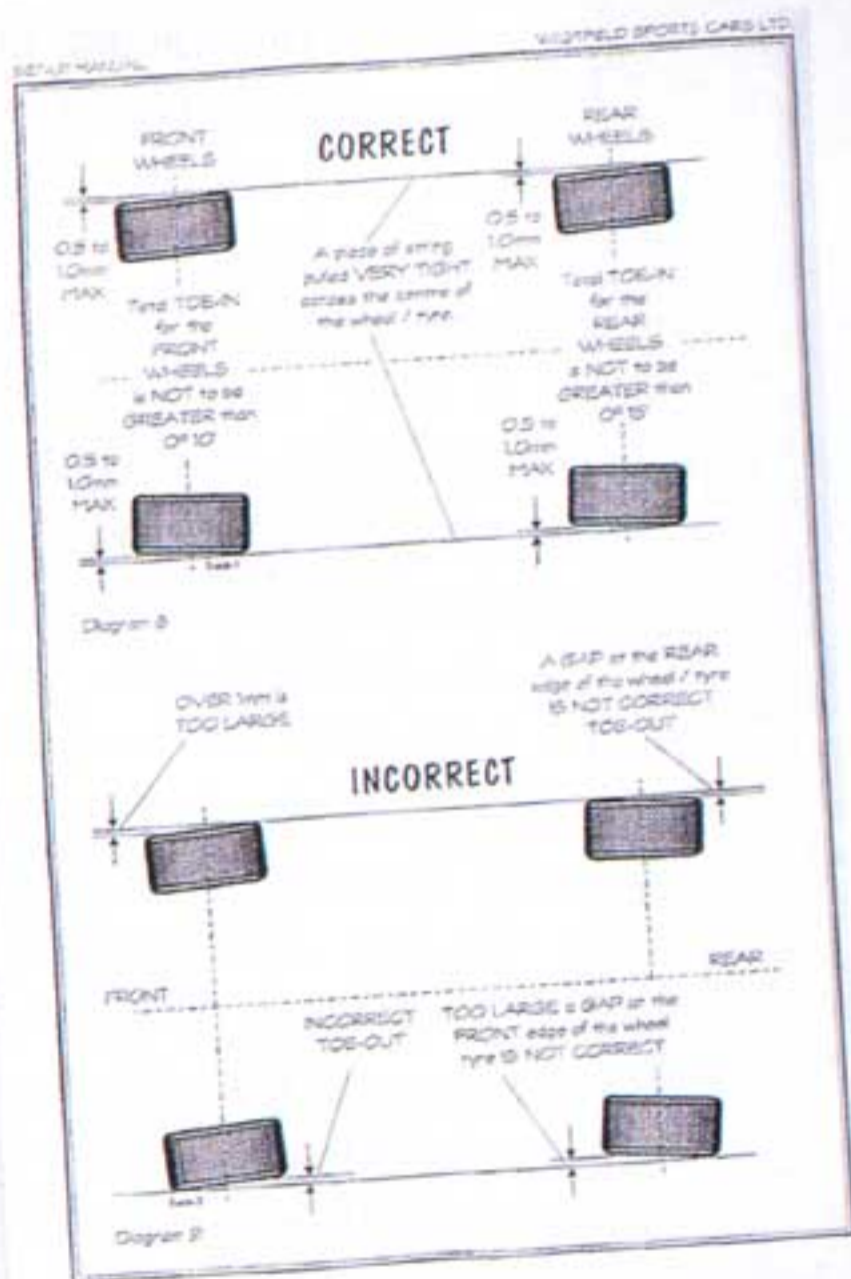
The black and yellow colour scheme worked well with the Westfield's small form.

### THE END BIT

So there you have it, my Westfield build from start to finish. I hope by now you will be chomping at the bit to start your own project. It is as easy as it sounds and, providing you follow the kit manufacturer's recommendations and take your time, the end product will blow you away. As you may have read last month, I'm starting yet another project. This time she is a DAX Rush with some serious cubes under the bonnet. So if you are an armchair kit car builder and just like reading about others doing the dirty work you are in for a great 2008. The Rush features start next month and, as ever, you can follow my trials and tribulations right here in Kit Car magazine. Until then...



The Dean family with the final car. Notice Evie, Nigel's daughter, in the passenger seat ready for a blast.



Set-up prior to the first drive is essential. Westfield provide a full checklist in their build manual.



Watch this space for Nigel's next project commencing in the May 2008 issue.