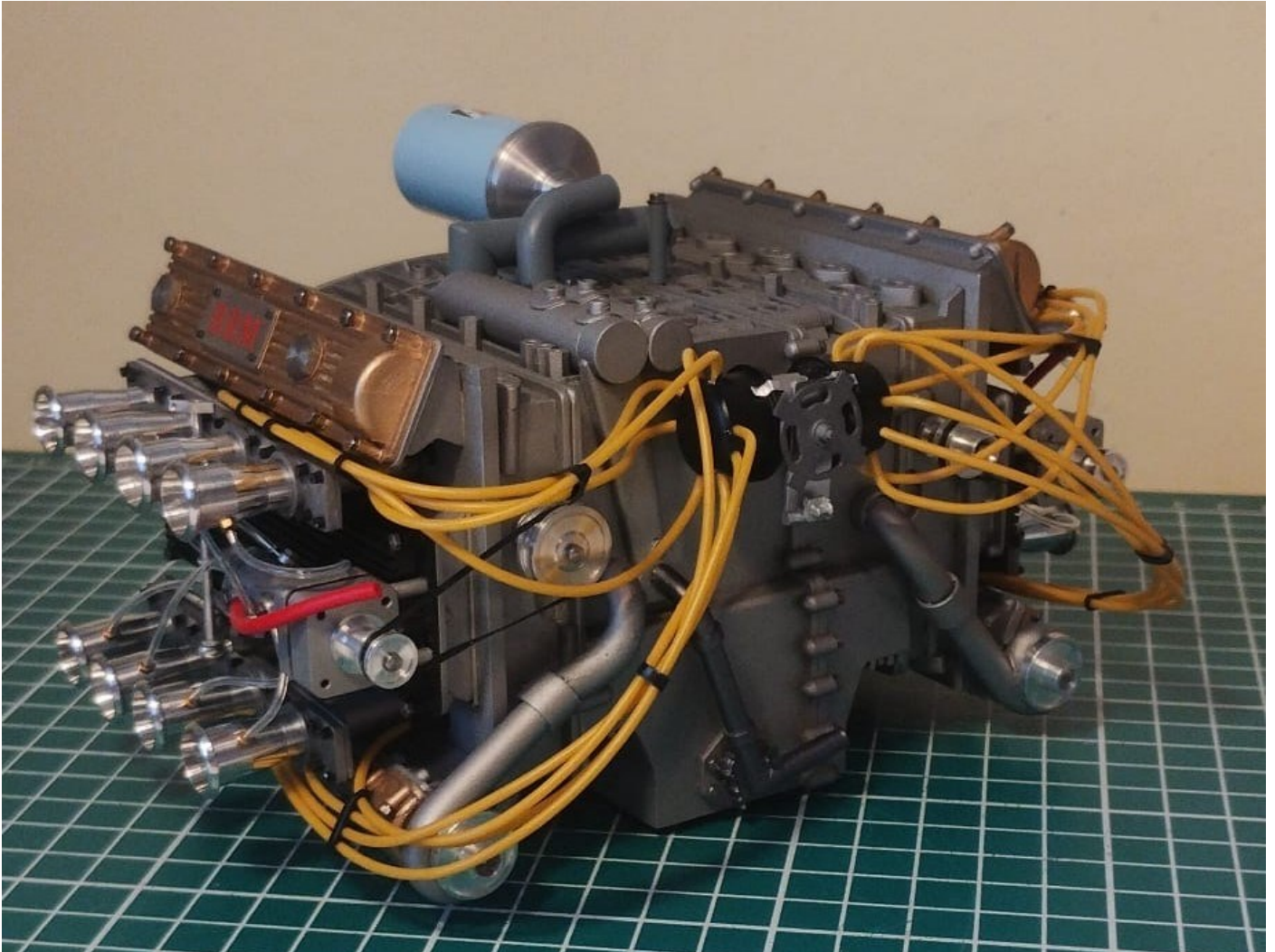




# ***KIT LOTUS***

*Volume 17 issue 6 January 2024*



***1:5 Scale scratch built BRM H16 engine***

**In this edition of Kit Lotus:**

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## ***Kit Lotus Editorial – the world's only magazine dedicated to scale model Lotus***

A very Happy New Year to everyone, I do hope you had a wonderful Christmas and New Year holiday. There hasn't been much model building happening here as the last few weeks have seen me inundated with all things Christmas and I am only just getting to grips with putting everything away until next year. Thanks to being involved with our local community, my modelling bench has been commandeered, testing sets of lights for eighteen trees, since we, with our neighbours decided it would be a great idea to decorate every tree on the street this year which started at sixteen but migrated to eighteen with two trees at the entrance to our street also benefitting from some Christmas cheer. The added hindrance of almost monsoon rain resulted in everything taking days to dry out before it all could be put away and so me being in a slovenly mood hasn't been the reason for this late publication. It is all Santa's fault. Talking of which I hope you all got what you were expecting, unless of course it happened to be a Beemax Lotus 99T. Unfortunately, they never made it to UK Santa sacks this Christmas, hopefully it will be an early new year present.

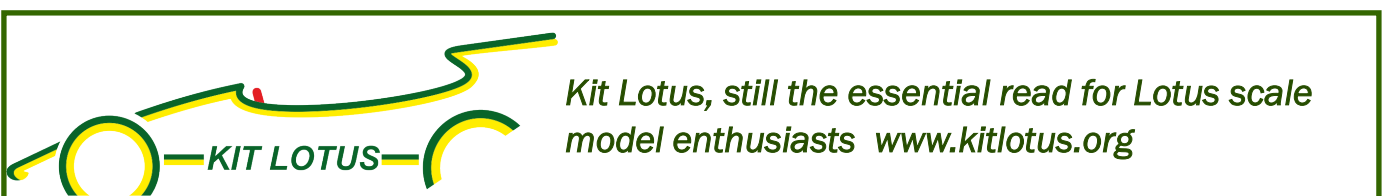
Volume 17 Issue 6 brings an end to yet another Kit Lotus year with 2024 seeing our sixteenth birthday in March with Volume 18, thanks again to everyone who has contributed, please keep letting me have your Lotus model stories and photographs. This issue is slightly shorter than usual, with less modelling taking place these last few weeks.

For this issue, and to coincide with Peter Pedroza working his magic on yet another wonderful scratch built engine, this time a 1:5 scale model of the superbly complex beast that was the BRM H16 engine, it occurred to me that in one shape or another, between us, Kit Lotus enthusiasts have modelled many of the significant engines that ever powered a Lotus type and so I have taken the opportunity to showcase the model engines again and for that reason, I have featured all of the significant engine models that have powered famous Lotus types together in one longer article.

Models seem to be getting bigger and more expensive now that the partwork businesses are targeting Lotus subjects, first with the previously mentioned De Agostini Lotus 97T, but now AGORA models are offering us a 1:8 scale James Bond Lotus Esprit submarine version from the film *the Spy Who Loved Me*. The model looks pretty amazing and has remote controlled widgets and gizmos which I have described. It is hard to turn away from such stuff until you get to the price tag!! See later.

Weird stuff features again and I am thankful to Martin Mayor and Andrew Bradshaw for turving out some oddball Lotus models, I must say though that Andrew's model looks a bit like a bar of industrial soap! There is a short discussion on the subject of dirty models, or rather using the excuse to re-issue a model but with a dirty, race driven surface. A neat idea or cold blooded marketing? You must ask yourself. Also, we have Maxichamps in Lotus model news.

I'm often banging on about the generosity of Kit Lotus readers when they have something to offer other model enthusiasts using what is developing into a "Kit Lotus barter economy". The latest generous offer is from Gary David who resides with his Lotus enthusiast wife Sandy, his collection of Lotus road cars, his collection of Lotus models together with our very own super hero Grover, in Cleveland, Ohio. Gary has some extremely rare JOKER kits, those hard to find 1:24 scale resin ones from Japan and he is looking for someone to build a couple of them for him. They are a Lotus 22 and a Lotus 18. Payment for building the two kits would be the gift of three other Joker Lotus kits, a 49, 33 and 25 all of which would be difficult to find in any case let alone as a trio in one place. If anyone fancies taking on this build, let me know at [kitlotusmail@virginmedia.com](mailto:kitlotusmail@virginmedia.com) and I will put the two of you in contact with each other. We have a considerable percentage of readers in the USA but I wouldn't have thought it would be a barrier if say, a UK builder were to make the build offer in return for these super kits.



## Kit Lotus editorial continued.....

I have a couple of updates for you, firstly from Paul Munby who shared his wonderful 1:20 scale resin Lotus 63 kit with us the last issue. He now has laser printed decals which he will include with the kit alongside the self print pdf files. He also tells me that he is working with a supplier to provide professional waterslide decals later in spring and will advise costs, prices etc when he is fixed up. Secondly, I have to apologise but, the Lotus 72D 1:8 scale build book from Chris Swarbrick is delayed and I will keep you updated.

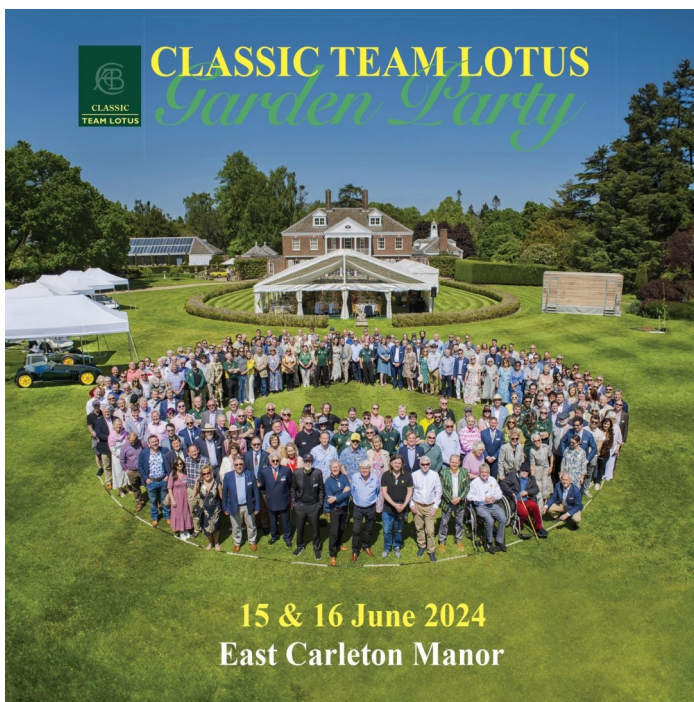
Often new Lotus stuff pops up on social media although it can often be frustratingly difficult to get those posting to respond to requests for further information. I've included an example of this with a very neat 3D printed Lotus 7 with figures from a small Japanese provider under the brand of Lake Front Models, very few details other than it appears the first run is already sold out but this does raise a question which may or may not be of interest to erstwhile 3D producers. The explosion of 3D printing technology provides mind blowing opportunity as to what can be effectively printed. For us that means some very clever enthusiasts who understand the technology are able to very quickly recreate models that we will enjoy very much. However, and particularly for modern cars under 25 years old, there is the potential to fall foul of intellectual property (IP) rights and copyright infringement. A European Court ruling on older cars has already made this area very grey but for older cars, but for newer models, and I am thinking Elise onwards here, it wouldn't surprise me if suddenly a few licencing officers pop their heads up to check what is happening with their name on.

Looking ahead, It is with great delight that I can tell you, Kit Lotus has been invited to exhibit at this years Classic Team Lotus Garden Party which this year will be a two day event taking place on 15th and 16th June in the beautiful grounds of East Carleton Manor. Tickets are limited to 200 guests each day at a cost of £195 each and can be booked at the Classic Team Lotus website. Going on the success of the 2023 event, I've no doubt that this year's event will be oversubscribed.

Later in the year, a date sometime in September, has been earmarked for another Malcom Ricketts Racing Lotus Open Day at his Hertfordshire premises. I hope the event takes place and we have another opportunity to display our models and meet with old and new friends. The event will be special in that it will correspond with the 100th edition of Kit Lotus, now that will be interesting.

I hope you all have a great modelling/collecting year and thank you for all your support.

JT



***This little fella is still looking for a good home, thanks to the generosity of Andrew Beint. Many people who collect SPARK models have an incomplete set of the Lotus Gravity Racers under the type name 119, 119B and 119C, if you are one of them and would like this model of the 119B for nothing, drop me an email, the only stipulation being you must already have the other two or one of the other two and that this model helps complete your set kitlotusmail@virginmedia.com it will be posted for free as well courtesy of Kit Lotus.***

## 1:5 scale scratch built BRM H16 engine by Peter Pedroza

Partial success? Or complete failure? I'll leave it to you to decide but I suppose it was both really with a Grand Prix win but at the cost of a lot of blown engines.

As the 1966 season approached engine manufacturers were contemplating the change from 1.5L to 3L and basically trying to decide how many cylinders would be best. Ford and Repco went with 8, Ferrari, Westlake, Honda and Maserati with 12, which left just BRM. Their 1.5L V8 had been a pretty good engine and after a feasibility study it seemed logical to utilise as much of the smaller unit as possible, but by keeping the same cylinder size this of course meant it would have to have 16 cylinders. However both a V16 and Flat 16 would have been much too long, and so with two "Flat 8's" one on top of the other, the H16 was born.

So far so good but then design faults were added. Firstly, the ignition system was wrong as on the first engines they fired as two separate 8 cylinder units and secondly both crankshafts should have been directly geared together but instead an idler gear was fitted between them, these designs ensuring that there was a tremendous amount of vibration. The initial solution was to weld inertia weights to the crankshafts for balance, which was ok until these weights flew off at high revs causing considerable damage.

Then there was the gearbox. A big cable operated 6 speed unit with the clutch mounted at the extreme rear. The engine output shaft ran all the way from the lower crankshaft, through the gearbox casing to the clutch and then the drive went forward to the gearbox itself. This again contributed to a lot of failures. Then of course there was the weight, it's a well known fact that it took four mechanics to lift it off the truck when it was delivered to Lotus!

There were positives with this engine though not least that it was designed as a stress bearing unit being bolted directly to the rear chassis bulkhead, pre-empting the DFV. Also being of H configurations meant it had a lower centre of gravity than that of a 'V'.

This 1/5 scale model is one I've been promising myself for a long time, one to complete the set of the V8 Climax, the Twin-Cam and the DFV, but I've always put it off because of it's complexity. Some years ago Andy Middlehurst asked me to build him a MFH model of his 43. As he only lives a few miles from me it was a good excuse to collect the kit in person and then to deliver the finished model. Of course the bonus was that he let me spend a good hour with the car on both occasions and the overall impression is that firstly, the 43 is a very big car with obvious similarities to the 38 and secondly, that engine is a very, very complicated piece of engineering. I took some photos of it at the time but those, together with what I found on line and in books, almost every one shows it to be different on each occasion, understandable really as there was constant development with it, ignition systems, different heads, 32 valve, 64 valve etc. Therefore I have to admit that this model is probably not totally accurate, it's just my interpretation of it.

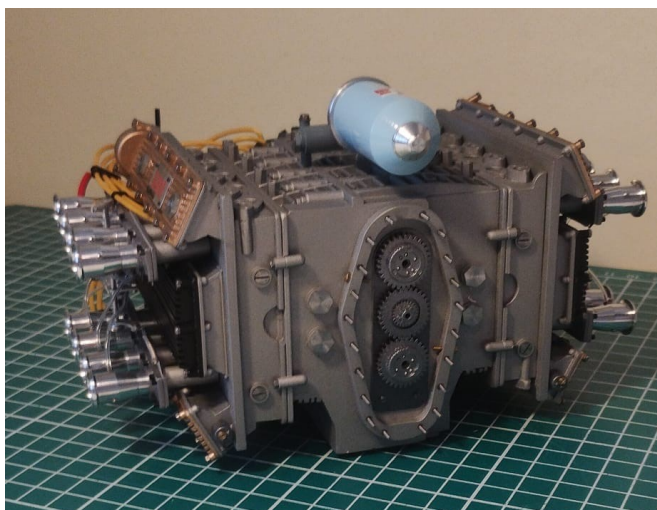
One other feature of the model that I must mention is the help I received from Scott Dunbar at Grand Prix Decals. On the cam cover is a metal plate with the letters BRM in red. The actual letters are of a style that I didn't recognise, but Scott did. From just a very few details he managed to recreate them perfectly. I had already applied the letters in a "normal" font but these were removed and replaced by the correct ones. The eagle eyed among you will have spotted the difference already from the video on the Kit Lotus website and these photos.

So, a success or failure? Well, let's put it this way. It was raced by BRM, Reg Parnell Racing and Team Lotus in 1966-7. Not counting non-championship races, the total statistics just for the Grands Prix therefore are:-

Total number of actual race starts.	33
Engine/gearbox related retirements.	25
Grand Prix Wins.	1
Failures during practice, DNS	More than a few!

## 1:5 scale scratch built BRM H16 engine continued

Peter made the block as a hollow fabrication from styrene sheet. The four cylinder heads are styrene blocks laminated from sheet, all the ancillaries are metal, mostly aluminium or brass. The only purchased items are the three gears on the gearbox end and are actually painted brass.



Pete's mastery with a lathe ensures all of the turned ancillaries such as the beautiful set of inlet trumpets (left) are always accurate and complemented with accurate placement and a super finish. There was a hiccup with the BRM logos on the cam covers but a chat with Paul at Grand Prix Decals rapidly saw off that challenge, replicating the BRM logo very nicely.



Paul even managed to pick out the "Registered Design Number" on the identification plate (right), whilst the left picture shows the completed cylinder head and fuel injection components ready for mounting, including the original BRM incarnation before Paul got hold of it. Yet again a truly magnificent model.

## *Its all about engines*

Now that Peter has produced his fabulous version of the BRM H16 engine from 1966, it occurred to me that between us in one way or another, Kit Lotus modellers have built models of every significant engine within the Lotus legend of single seater and sports car racing from it's birth in 1948, right up to and including the final hurrah of the 1980s Senna Era. The Renault EF15 is the last Lotus power plant to be modelled outside of a chassis with the Lotus Honda being part of full detailed kits rather than a separate entity. By the eighties engines in any case had disappeared under aerodynamic top covers and anything post-Senna was devoid of success and by default, any scale model engine just wouldn't attract the same attention as the "winners" and creators of nostalgia.

Full detail models always include an engine and whilst some model engines are there because they are in the various Lotus types we have modelled, this sort of became the catalyst for modelling those engines which stand as single exhibits either as scratch built items like the DVF, the Twin Cam, FMWV and the H16, either stand alone or inside a model, or as a kit with the Renault Turbo or as a factory produced model like the Ford Quad Cam Indy Engine. From Peter's point of view, scratch building one engine meant you couldn't really be without the others and so a unique collection in 1:5 scale engines has evolved which I thought warranted a piece just about them and so, in some semblance of chronological Lotus order, as opposed to the order in which they were modelled, they are as follows:

### *Austin Seven engine*

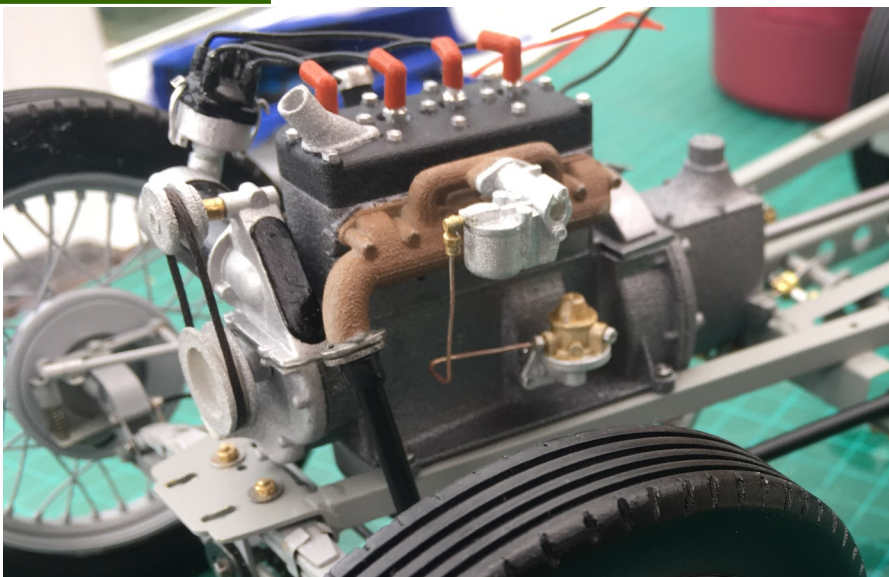
Most legends start with a humble beginning, none more so that Colin Chapman's first car which he and Hazel built as a trials special in 1947/48 and later



**3D Printed engine components**

became known as the Lotus MK1. Using a pre-war Austin 7 as his donor car, Colin created the MK1 which was powered by an Austin 7 engine and was to be specifically used for Trials driven by him and Hazel. When I went over to the Barber Museum in Alabama, then home to the world's largest collection of Lotus cars (as well as 2500 motorcycles), my aim was to talk to Lee Clark and his team and to get a close look at their Lotus MK 1 Replica. All my wishes came true, and I was given private time to photograph and measure the car with a view to a later 1:8 scratch build model project. When I started the model, I contemplated using mainly wood for the engine and gearbox, but I came across some rather fabulous 1:8 creations on

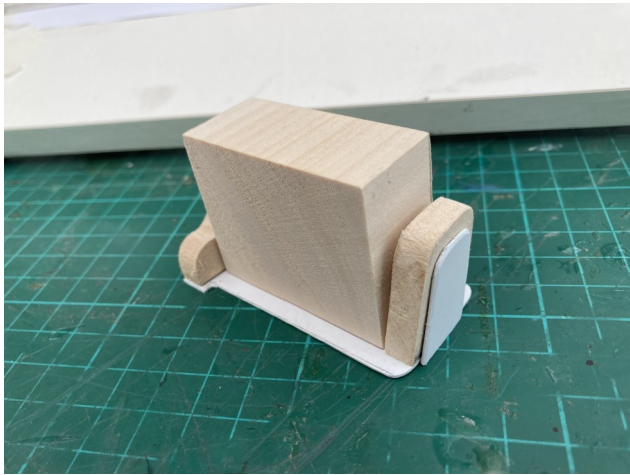
the internet by John Haddock Jnr that included an Austin 7. John is based in the USA and Canada, but I contacted him on the off chance that there may be some engine parts available. Well, John was brilliant, he set me up with files for 3D printing all of the Austin 7 engine parts and also the print lab in Florida to produce them and my MK 1 project, bearing in mind it was my first full scratch build, benefitted with a great 1:8 scale engine. Some neat RB Motion spark plugs and covers helped ensure a good outcome.....



## *Its all about engines continued.....*

### **Ford 1172 Sidevalve**

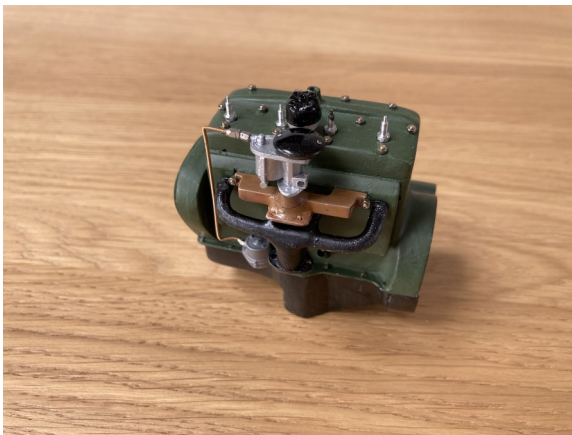
The Mk 1 was the catalyst for Colin Chapman to unleash his design skills further and a second more powerful trials car also based on the Austin 7 chassis that was technically the first car to bear the Lotus name but is known as the MK 2, was built for the increasingly popular Sporting Trials events that attracted many followers and large crowds. Initially it was fitted with a sluggish Ford 8 engine but later receiving a Ford 10 1172 cc engine which Colin had purchased in a now infamous deal involving a burned-out Ford Consul and a scrap dealer. The MK 2 also provided the springboard that would catapult Colin into the world of motor racing. Already a successful trials car, having provided Colin and Hazel with four class wins and numerous 2<sup>nd</sup> and 3<sup>rd</sup> places by the end of July in 1950, Colin decided to compete in his first ever motor race at the Eight Clubs Silverstone Meeting on 3<sup>rd</sup> June 1950 in which he soundly beat a Type 37 Bugatti driven by Dudley Gahagan. Although the trials success had continued, Colin had his sights set on circuit racing and the MK 2 was sold to



***Basic engine parts prior to carving with styrene sheet for the bottom flange***

Mike Lawson who successfully campaigned the car in trials for a couple more years before it changed hands again to Major Eric Beaumont again for trials. Later it came into the hands of the film industry and 'starred' in the Boulting Brothers film "Brothers in Law" starring Nicholas Parsons and Jill Adams, gaining a coat of red paint and provided the wedding transport for Parsons and Adams. Another owner in Hampshire was set to complete the MK 2 story but current HLR Chairman Nigel Halliday rescued it and is very much alive today, albeit substantially repanelled from the original Chapman version. The Chapman version is the subject of my 1:18 scratch build MK 2. For my project, I have not been able to locate a 3D printed engine this time, so Basswood has formed the principal medium for me carving it in wood. The sump, gearbox, bell housing and cylinder head are all separate parts using the same wood whilst the carburettor is brass and plastic, sitting on a manifold

made of black tubing on a wire frame. R B Motion spark plugs are currently in place and there are some ancillaries still to complete as the project takes shape. The 1172cc Ford side valve engine went on to power the Lotus Mk 4, Lotus MK VI and the early Lotus 7s before finding its way into some S1 and S2 Lotus Elevens.



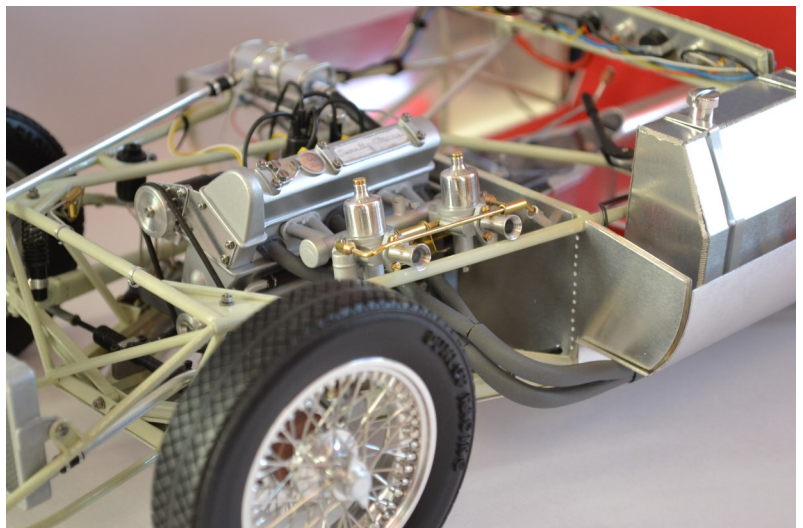
***MK 2 Ford 1172 Engine work in progress and in-situ in the chassis behind the wooden and before the starter motor was added***

## *Its all about engines continued.....*

### **Coventry Climax FWA**

The Lotus Eleven brings us to the next part of our engine modelling story. Peter Pedroza gave us another masterclass with his superb Lotus Eleven rolling chassis which houses the FWA. I took my use of basswood cue from Peter who uses the stuff extensively including the block and cylinder head of his 1:8 scale Climax engine. Together with his high standard machining and precise styrene fabrication skills, Peter created the perfect engine and gearbox. When he was assembling the model, we talked about as we often do, the parts we make which are then hidden from view in perpetuity and so in the case of his eleven, Peter was persuaded to make the floor over the gearbox in clear acrylic so we can also see the level of excellence under the car. The Eleven was a highly successful Sports Racing Car and sealed Lotus as a serious maker by taking significant success at Le Mans, claiming several world records and being a highly competitive club racing car. Well over two hundred were built. The FWA also found its way into the pretty Lotus Elite GT car as the FWE finding its own fame on the track and writing its own history.

Ubiquitous with early Lotus sports racers and F1 cars from 1958 to 1966, the Coventry Climax engine had started life oblivious to any motor sport potential. It's main product from its 1903 inception to becoming a registered company in 1917 was fire pumps mounted in cradles although some engines were provided to the motor industry including Morgan. It wasn't until 1950 that motor racing appeared on their horizon. By then the Coventry Climax mainstay was forklift truck transmissions until that is Leonard Pelham Lee, the owner, employed Walter Hassan as Chief Engineer who later became the Technical Director when the business went public a year later. Hassan was responsible for employing Harry Munday, so now two senior people happened to be motor racing enthusiasts. This boded very well with a government contract to produce pumping engine with twice the capacity of their previous and half the weight. The specification called for 35bhp and 3500 rpm. Using their racing background, they decided that an alloy engine of one litre capacity was needed to ensure the continuous performance requirement. The use of a single overhead camshaft would ensure the performance output and after successful tests, the engine became the FWP (Featherweight Pump engine) and in 1951, Coventry Climax were rewarded with a contract from the government for five thousand units, their biggest ever order. At this point, racing wasn't even a twinkle in any one's eye, however, by 1952, Leonard Lee was keen to go racing and decided to exhibit at the 1953 London Motor Show where the motor racing fraternity spotted obvious potential and beat a path Lee's door, including Colin Chapman. Many publications have painted a picture of Colin not being highest on the popularity stakes with Coventry Climax and early cars from other makers such as Kieft and Cooper were given preference over the racing version of the FWP which became the FWA (featherweight automotive engine). When Colin did get his hands on the engine, it complemented his Lotus eleven especially with lots of success in the 1100cc sports car classes, finding its way into the Lotus Elite GT car as the FWE. Our story is with the Eleven and in particular Peter's magnificent 1:8 rolling chassis and the FWA. Peter's technique is to use styrene sheet and sections to provide most of the scratch building components along with wooden blocks for other bits. His turning and machining skills complete the model with very high detail using many small fixings and wiring and his hand engraving of the cam covers with the Coventry Climax logo is just brilliant.....

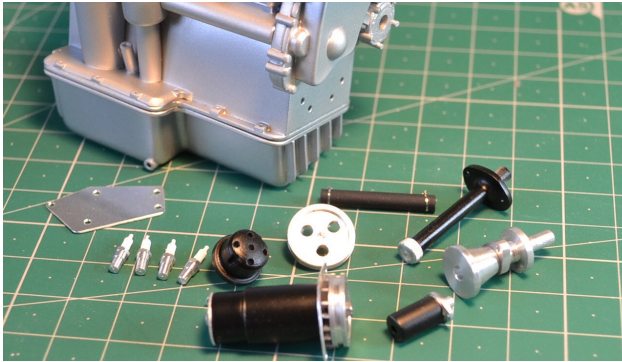


***Pete's amazing skills grace his Lotus eleven rolling chassis. Even the bits we can't see are treated as if we could.***

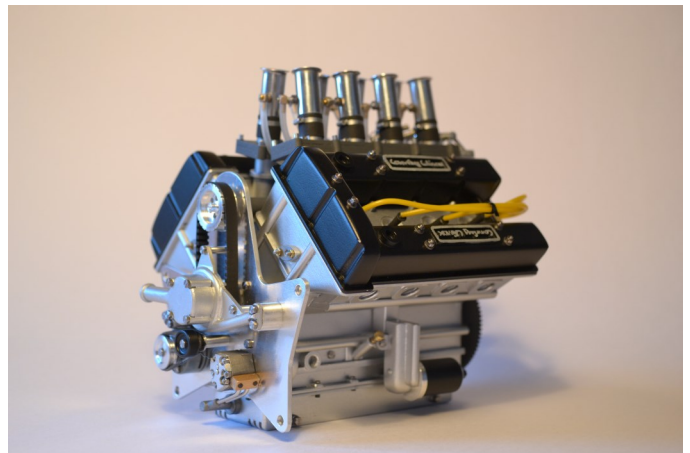
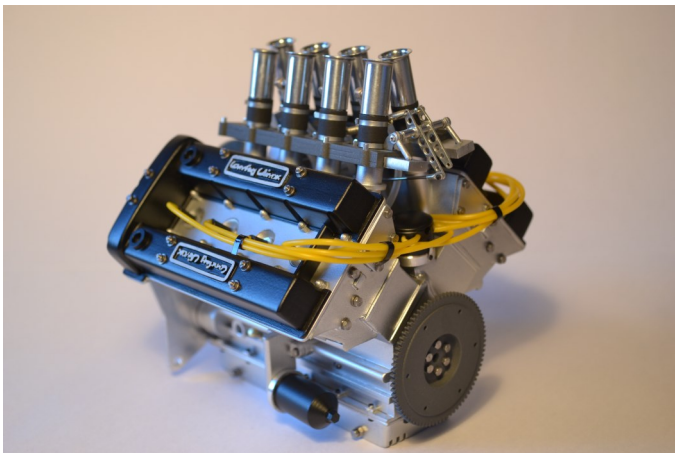


## Is all about engines continued.....

### Coventry Climax FWMV



The FWMV vee 8 engine was derived from the four valve FWMC with crossflow heads and unsurprisingly made its debut in the back of a Cooper and in Rob Walker cars before Colin Chapman got his hands on it. Colin wasn't flavour of the month with Coventry Climax and Cooper, who, remember had already claimed two Formula one world championships with their four-cylinder power units. Colin however had the last laugh seeing off most of the opposition in terms of grand prix wins between 1962 and 1965 with the Lotus 25 and Lotus 33 using this V8 engine and it's flat planed developments.



Our engine powered the former and in terms of how scratch building goes, Peter Pedroza's 1:5 scale version is actually 'mass-produced' with four examples in existence, three being in the hands of 'senior' Lotus names and the other always on display at Kit Lotus exhibitions.

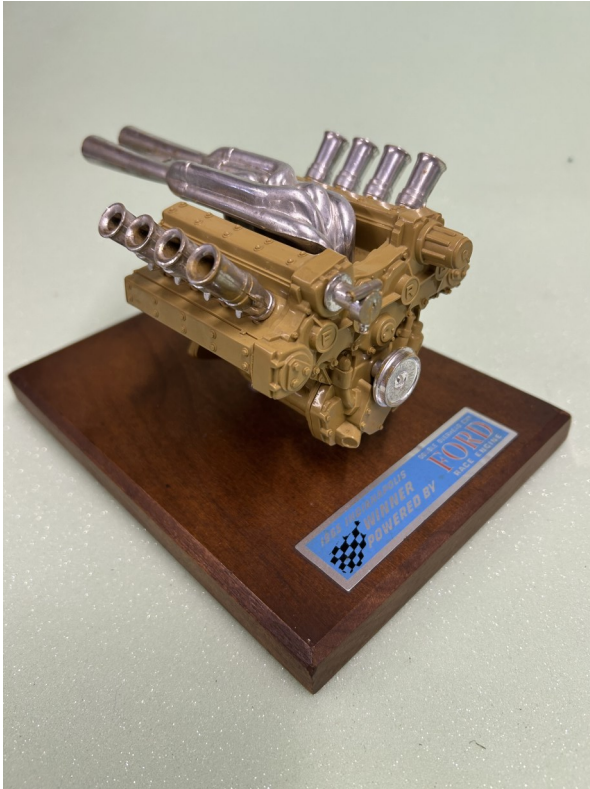
Peter's proven format of styrene sheet, wood carving and metal turning, married together with miniature steel hexagon fasteners, and sporting those amazing machined R B Motion spark plugs resulted in high quality miniatures of this famous engine.

**BRM H16**

By the time you arrived at this page, you will have already marvelled at Peter's scratch built H16 but, inclusion within this article being a must, I have left the description to Peter's own article .

**Ford OHC V8 Indy power unit.**

Colin's link up with Ford in his attempts to conquer the USA racing scene at Indianapolis starting in 1963 inevitably led to a Lotus car powered by an engine from the Dearborn giant with a V8 pushrod that almost gave Jim Clark, Lotus and Ford their debut victory in the Indy 500. A double overhead camshaft version with around 425BHP gave Lotus and Ford their win in the 1965 events.



Although not a model kit, this 1:5 scale Ford Quad Cam racing engine replica was released by Ford USA to celebrate their victory at the 1965 Indianapolis 500 powering Jim Clark to his famous win. I have no knowledge of how many of this promotional model were produced or any estimate of how many survive. I am just incredibly grateful for the generosity of a Kit Lotus reader who has very kindly entrusted it to my care.

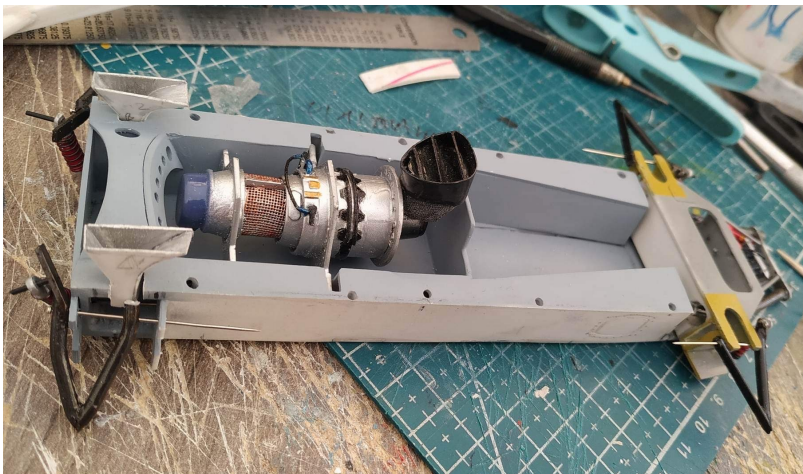
Similar to the early Coventry Climax V8 engines, the Ford Quad Cam sported a complicated exhaust system with twin megaphones extended over the transaxle. Given the dimensions of the model it appears to be around 1:5 scale.

**Pratt & Whitney Turbine Engine**

Just sticking with the Indianapolis theme for a moment, we cannot ignore the famous foray into alternative power source of the jet turbine by Colin Chapman, almost taking a sensational win at Indianapolis with his Pratt and Whitney jet powered Lotus 56, sponsored by Andy Granatelli's STP company and resplendent in Granatelli Green (that's fluorescent red to you and me). The engine as a scale model appears in kits both in the popular 1:43 scale and 1:20 but

rarely pops up as a scratch build. However, our Kit Lotus modelling genius James Schixas from Piraeus in Greece is a prolific scratch builder in 1:20 scale using the most basic of tools and equipment to produce

some wonderful results like the turbine engine as part of a Lotus 56B project. It does show what a little imagination and a good dose of modelling experience can do. The simplicity of the base bits, i.e. the tube, the plastic sheet and the wire coming together to demonstrate that scratch - building skills are alive and kicking. The resulting scale model turbine sits well in James's test build of his Lotus 56B chassis.....



## *Its all about engines continued.....*

### **Ford Cosworth DFV**

The Ford Cosworth DFV (double four valve) is probably the most popular engine that has been modelled due to its proliferation in formula one cars from 1967 onwards, whilst it evolved through many guises over a long illustrious career, we modellers usually turn our attention to the original DFV and its short-stroke Tasman series counterpart, the DFW. It is inevitable that the kit builder has to assemble the DFV, mostly in 1:12 and 1:20 scale as part of many types and marques of race car and there are many examples of modellers work that leaves the onlooker gasping over the level of detail employed which often requires more than a second look to decide if what they are seeing is real or a model.

The story how Cosworth came into being is well recounted in many publications but the story of how the DFV engine was born is itself the story about the persistence and tenacity of one man, Colin Chapman. The combined technical minds and skills of Mike Costin and Keith Duckworth became legendary in motorsport as was their strong links to Colin's Lotus organisation, both having worked there. When Colin was faced with Coventry Climax announcing in February 1965 that its motor racing operation would be wound up at the end of the 1965 season, he needed to come up with an alternative 3 litre power source for his Lotus formula one cars to cover the change from 1.5 Litres regulations to 3.0 litres for 1966 onwards.

Colin's approach to the problem was predictably ambitious and having decided on an interim, technically mind numbing BRM H16 engine, set to work on a plan for a brand-new engine. There were only two names on the design shortlist, Duckworth and Costin. The formula two regulations changing to 1.6 litres, due to start in 1967, provided Duckworth with a strategy to create a four-cylinder F2 engine of 1.6 Litres that could be doubled up to a V8 of around three litres. As with almost everything in reality, cash was the major stumbling block, Duckworth having calculated that £100,000 budget would be necessary to create both engines and in the pre-commercial sponsorship era, it needed someone with persistence and tenacity if any hope of funding were to be found, a perfect task for Colin.

Colin first approached the Society of Motor Manufacturers and Traders (SMMT), the body representing the British motor industry with a persuasive argument that with Coventry Climax withdrawal from motor racing, particular the pinnacle of formula one was a disaster for British motor industry prestige on the word stage and that what was needed was a new formula one engine backed by the industry as a whole. The SMMT, whilst sympathetic would not help and potentially missed a massive opportunity given that at the time there was an abundance of British car makers who wouldn't have had to stump up any great amount each to be part of a gamble with great odds of a huge success story. Similar approaches to Harold Wilson's Labour government also came to nothing. As part of the SMMT discussions, Ford, already heavily involved with Lotus in touring cars and Indianapolis, declined to get involved in Formula one. Aston Martin was approached but reportedly their Chairman David Brown wanted more control than Duckworth and Costin were prepared to relinquish.

Having persuaded Coventry Climax to build two more V8 engines of 2 litres and secured the deal with BRM to provide the 3 Litre H16 to cover the 1966 season, Colin's search for funding of his new engine continued.

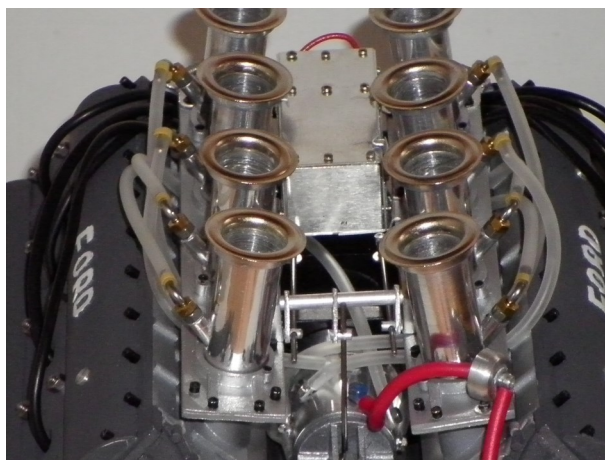
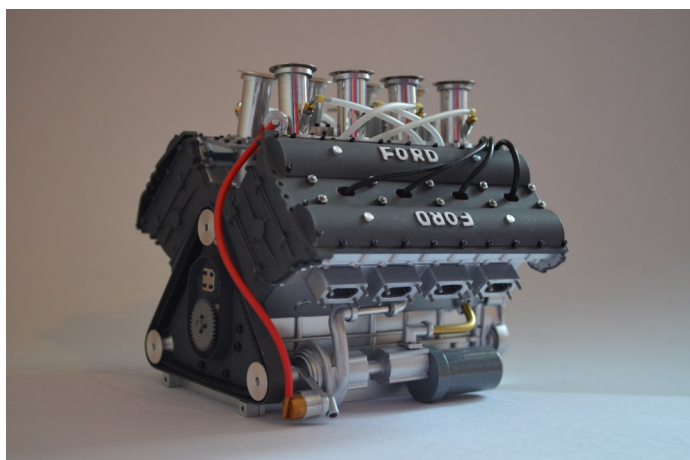
Sometimes, fate intervenes, maybe the hook up Colin and Walter Hayes was fate, but he and Colin certainly were acquainted both socially and through a column Colin wrote for the *Sunday Despatch* newspaper where Hayes was the editor before moving to the Ford Motor Company to become director of public affairs. Ford's competition involvement became part of Hayes remit becoming a main player in the Lotus Cortina project and providing financial backing for Cosworth's Ford based Formula 2 SCA engine. When Colin tentatively asked over dinner if Hayes would get involved with his engine, Hayes revealed he was already toying with the idea of a formula one engine based on the success of Cosworth's SCA in F2. Hayes took the idea to Harley Copp, Ford of Britains's vice president of engineering and from then on it was a case of 'get your people to talk to my people', many presentations and submissions up the Ford ladder until finally Hayes and Copp sat in front of the main Ford board in Dearborn explaining why the plan was so cheap? The £100,000 representing a far less outlay than tooling for a single new part for a Ford car.....

## *Its all about engines continued.....*

.The deal struck, Cosworth were tasked with producing first the Formula 2 engine and then the V8 grand prix engine that issued in a new exciting era in formula one which saw an explosion in technological changes in areas such as tyres, aerodynamics including ground effect and materials which carried on from 1967 until the DFV finally succumbed to the turbo era although derivatives went on to many more successes with no less than 6 more derivatives of the DFV in 2.5 litres, 2.6 litres and 3.5 litres in various formulae which produced many more victories to top the 155 in formula 1, Lotus winning 47 of them.

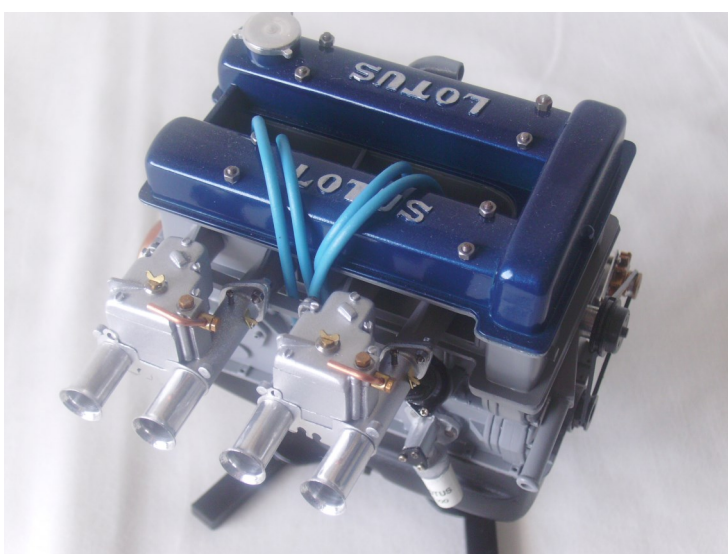
Our featured model engine is another Peter Pedroza scratch build. His version of the DFV is modelled in 1:5<sup>th</sup> scale and again demonstrates his neatness of assembly and super skills in machining together with clever use of styrene sheet.

Other DFV models are widely available mostly in 1:12 and sitting behind race cars, but Model Factory Hiro offer a stand alone engine model complete with moveable crankshaft and pistons.



### **Lotus Twin Cam**

From early in the progress of Lotus becoming a serious operator within the motor industry, Colin knew that having his own Lotus engine was necessary at some point, especially as the Elite with its Climax power was gaining a name for itself as a competitive if unrefined but very pretty GT car. Colin had the notion that using an industry standard bottom end would be the route in, with a well-designed cylinder head and when it became known that Ford was working on a five bearing crank bottom end, it became the catalyst to engage with the legendary Harry Mundy and Wally Hassan to design a cylinder head that gave the engine significant



power. The 1558 cc Lotus Twin Cam engine was born and had a very successful road and track life powering Elans, Lotus built Cortinas and then Cortinas built by Ford and Escort Twin Cams. Jim Clark's legendary progress in the Lotus 23 at the Nürburgring, trouncing much bigger cars for several laps with his Lotus twin cam power catapulted the engines reputation. Big Valve versions followed created by Tony Rudd when BRM were making the race version powering many track successes.

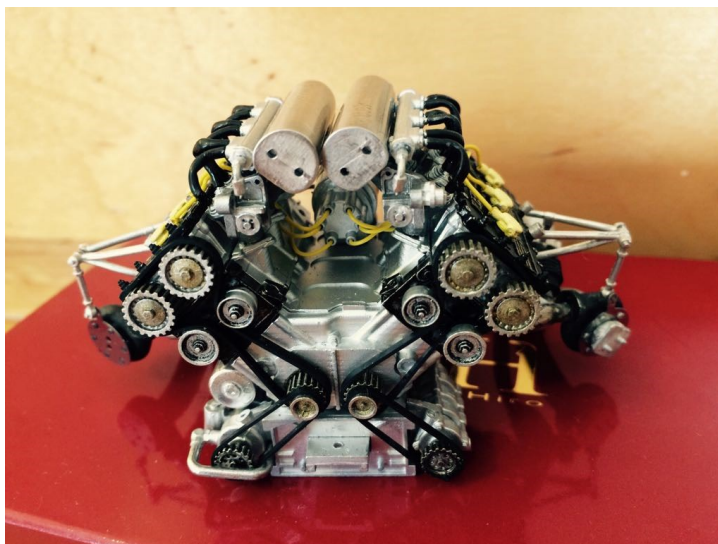
Our model is yet another by Peter Pedroza in 1:5 scale following the same principles of manufacture of all his other 1:5 engines. Precise, well-engineered and beautifully assembled.....

## Its all about engines continued .....

### Renault EF15

Simon Parsons built the Renault EF15, he takes up the story "Someone at MFH has obviously suggested that some of the model engines that go with their new 1:12 F1 kits would make nice models in their own right - They're right! and so they have recently started to produce these highly detailed kits. I haven't built the DFV Cosworth that MFH has produced, but I might. After ordering the Lotus 97T Renault turbo kit from Steve at 'Hiroboy' I opened the attractive burgundy box expecting to find a sort of white metal version of the Tamiya engines (four slab like sides and a few sticky out bits) but was pleasantly surprised to find lots of bags of cast parts, some of them very small.

The block is indeed made up of the largest parts in the box, but after that the engine just sort of evolves and apart from the usual mass of drilling location holes, which I think is the most time consuming part of any MFH kit, there is minimum cleaning of flashing off parts and the whole thing fits together beautifully. This kit does rely on lots of on line reference for painting as the instructions tell you to paint nearly everything silver and obviously when you look at photos, the metal on these engines are all shades of everything, the only other criticism that I have is the nasty over scale plug leads supplied with the model, I used my own wire. So, model builders, please build these models and make sure that you construct the nice little four wheeled trolley to mount the finished engine on. "



**Kit Lotuseer Roger Dutemple** of AxelR Models fame (retired) , still builds models for himself . Based on one of his kits K030 but never produced, he has built this Tesu Ikuzawa Lotus 59 F3 winner from Mallory Park in 1969. A very niceley built kit of a rare subject at 1:43 scale.



## Agora James Bond Lotus Esprit 1:8 scale partworks model

Partwork models have been around a long time but very rarely affect we Lotus model collectors and builder because the subject matter doesn't come around very often. The Agostini Lotus 97T broke the mould but now another famous Lotus is available to builds in monthly parts in a whopping 1:8 scale.

Agora models, based in Canterbury, England but with offices and storage facilities around the globe has collaborated with Lotus Cars and film makers Metro Goldwyn Mayer and other James Bond copyright holders to bring us the Lotus Esprit submarine version from the film *The Spy who loved me* as a *partwork model*. The model boasts some different features from the film that you won't find on other models.

Having no wheels, the model has a stand but being presented in its underwater format, has a lot of scope to show off its battle ready weapons system alongside its detailed 907 4 cylinder engine and a natty tartan interior. Hidden inside the nose of the car is a torpedo launcher loaded with both stun and explosive torpedos (pretend) and harpoons. It also has an air defence system in the form of a surface-to-air missile launcher. Concealed behind the rear number plate are defence jets, two which emit a dark ink like a Squid or Octopus and the others can pour out liquid cement. Underneath the car is hatch which opens to eject limpet mines whilst propulsion under water is by four propellers which are motorized. Alongside this substantial weaponry it has a targeting periscope, an illuminated targeting control panel and radar, working pop up headlights, functioning brake lights and indicators and the whole thing nicely packaged in a die cast body painted in Monaco White. Rotating hydrofoils add to the list of features you won't find on the average Ferrari model.

Uniquely for this model, it has a hand held remote control to operate the spinning propellers, all of which have small motors, the pop up headlights and interior lighting.



The Agora website fully explains how much your Esprit will cost and offers two main subscription options. A twelve month subscription with the first partwork sets costing £59.99 and £119.99 per month thereafter, total cost a total of £1379.88. A twenty four month subscription requires £59.99 for the initial partwork sets followed by 23 payments of £64.99 will cost you a total of £1554.76. Pre-orders are being taken.

## Weird Stuff

They say if it looks like a duck it must be a duck, however, to some manufacturers, if doesn't look like a Lotus, that won't stop them marketing dubious looking toy cars as a Lotus. Take this snap together Lotus which looks a bit like an Esprit from the German maker REMUS "Spiele mit Pfiff" ("play with a whistle"?), it has been redesigned with a front engine!! The graphic looks very little like a Lotus but claims the association. A great bit of weird.



This pair of weird (left) came from a pack of four plastic toy cars and approximate to around 1:36 scale, but are they a duck?? do they look like a duck? Well ever so slightly, there is a familiar look around the front end but that is as far as it goes either in coupe or cabriolet format. Whilst the "Le Mans" Lotus below, looks like a chunk of industrial soap.



Thank you to Martin Mayor and Andrew Bradshaw for the images. What is your Lotus weird?

## Weird stuff continued.....

As the world's motor manufacturers and many governments come to grips with the difficult task of persuading the car buying public to ditch petrol and diesel for electricity it was inevitable that the Chinese owners of Lotus decided to make all future Lotus products electric. Given that China is the biggest maker in the world of these cars, that wasn't unexpected.

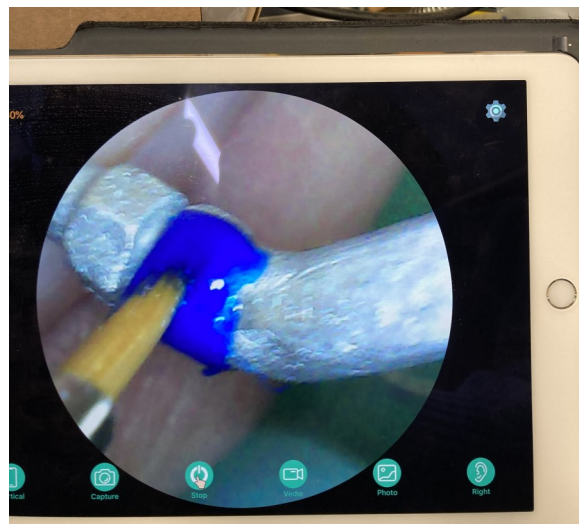
One of the biggest fears, apart from spontaneous combustion, the cause of many mining disasters in a previous era but now a popular EV hazard, is where do we plug in and in a manner as quick as stopping for petro chemical based fuel? For those of us living in the centre of England, this isn't a recent phenomenon in terms of travel and journey planning. It is just the same for bathroom stops. If we intend to travel north or south there is plenty of infrastructure to cater for our needs, however, if a nice pleasant run cross-country to our favourite East Anglian destination is planned, careful consideration needs to be taken of where the possible comfort stops can be found, especially as Lincolnshire County Council demolished the loo the lay by on the A17 topside of Sleaford. This is very much how it is currently with charging points for electric cars, go north or south my son and hey presto, charging points, but when the journey to and from your destination east is far greater than the current range of most electric cars what are you to do? Fear not, those very nice Lotus people have announced they will be manufacturing a range of EV charging points which hopefully will bring the



charging point population of East Anglia, above the current stock of EV points we currently enjoy ( in reality they will probably all be in China). As you would expect, any EV charging point made by Lotus will be stylish and elegant as the examples in this image demonstrate. All we need now is scale Model Eletre to go along side the Evija miniatures in a EV charging point diorama. Of course the EV charging points will have to be scratch built.

If like me you think the quality of tv programming these days is rubbish apart from the odd decent classic film maybe, I find factual programmes the best, particularly those where surgeons quite happily remove sections of skull to operate on brains, or where heart specialists use keyhole surgery to change valves etc. Partly the fascination is the amazing skill and confidence these people have in changing lives for the better but in particular how they manage new technology with apparent ease. How they work remotely with the subject matter on a screen is just amazing. Hand eye coordination is something they are particularly skilled at,

whereas me? I am finding it hard to get to grips with my Micro-Mark Brushcam to paint small details. I think I have quite a lot of practice to do yet. To be fair though, it is hard to look away from the task in hand to screen and strange after all these years and having an iPad screen as part of my modelling tool kit particularly as I have only just got used to using a head magnifier. Don't worry, I have no designs on brain surgery, you are all safe. As for the small detail, more practice needed. JT





## Minichamps to re-issue a “dirty” Lotus 97T

When it comes to scale models, either kits or ready built, there is always a lot of repeats about these days, reprise or re-issue call it what you will. All the big names choose to re-use their expensive tooling for a second or even a third round of production. Tamiya has been doing it for ages and later re-issues contain tempting super detail add-ons often in the form of photo-etch bits to tempt us who bought the last lot and those newer to this market place, who weren't in that sphere of influence last time around. Who can blame them when the opportunity arises to re-run that expensive tooling. With the resincast market of highly detailed race cars, there is always that opportunity for makers to issue the model with slightly different livery from a particular race or an alternate livery from another race team using the same car. We love it, we might complain but we still grudgingly buy them to ‘complete’ our collections in case we miss out.

Why am I discussing this? Well, I have just read about another way of maximizing the tooling which gives me at least cause for concern, even though I admit to making speculative assumptions on this. I will leave you to judge if I am wrong in my train of thought which concerns the announcement by Minichamps of their intention to re-issue the Lotus 97T driven by Ayrton Senna in the 1985 Portuguese Grand Prix in all three scales: 1:43, 1:18 and 1:12 but this time as a “dirty version”. That is all well and good for fanatical enthusiasts who will leap on the chance to get hold of what is beautiful model by Minichamps in any of the three scales and is a stunning looker from any angle. Now this is

where my scepticism comes in and unsubstantiated supposition takes over. By “dirty version”, bearing in mind so far only artists impressions are available, I assume that the livery portrayed on the car will depict weathering of some degree, remembering that the weather for the entire Portuguese Grand Prix at Estoril that year was filthy. Nevertheless, the model will look pretty special, or will it? Being a Minichamps Model, it will not be blessed with John Player markings and as a proud owner of the original 1:12 scale version I can testify that John Player Special markings and also the carbon fibre effect were not included. The missing decals are easily available on the aftermarket so my model benefitted from a set and the stabilising wire which stretches across the width of the car from the rear wing end plates. No doubt buyers of the new “dirty

version” will be able to purchase these. Using speculation again, will those aftermarket searches be able to buy “dirty” aftermarket decals? Will the decal makers rise to this occasion and produce “dirty” decals? If they don't then it will be difficult to have a correctly weathered model in your collection or one that is correctly marked for a specific race. The option would be to accept the blanks or have nice shiny clean decals in those areas which would defeat the object. I saw one comment on social media that suggested the easiest and cheapest way of getting a “dirty” version would be to take your Lotus 97T out of your collectors cabinet and leave it on a shelf untouched for a few weeks to gather some dust.

Minichamps have no release date confirmed but the three variants are likely to cost £100 for the 1:43 scale, £210 for the 1:18 scale and a whopping £749 for the 1:12 scale. Pre-order from your favourite vendor.



**My “clean” 1:12 version of the superb Minichamps Lotus 97T complete with aftermarket carbon fibre, John Player Special markings and the stabilising wire between the rear wing end plates.**

## Lotus model news

Minichamps or MaXichamps? If you are a serious Lotus only model collector and as narrowminded on the subject as I probably am, there isn't much reason to follow what else is happening in the model market until a Lotus model emerges. I have to confess to not being aware of the MaXichamps name for the exact reasons given above, but this range has been on the market since 2016 as a cheaper range made by Minichamps and now that a Lotus appears in the range it is time to take notice. The 1978 Lotus Esprit Turbo for around £46.

MaXichamps is the budget range of Minichamps who claim to bring "known quality at a reasonable price point" a claim they say is their "reaction to the vast requests and suggestion from our customers. As a manufacturer, we have managed to bridge the gap between a detailed Minichamps and high quality Maxichamps



model". The Minichamps brand has its critics, accused of diluting the brand over the years, however, if market conditions dictate the need for a lower cost alternative, who are we to object. The Esprit, available in White or Silver in 1:43 scale looks a very reasonable model for the price in die-cast and easily compares in quality and detail with other 'budget' ranges. Pre-order from your favourite vendor.

It just shows you, if you have the technical nous and the right kit, anything is possible. This neat Lotus 7 is the 3D printed product of a Japanese outfit, LAKE FRONT MODELS. It would appear that the first run of these nicely detailed 1:43 models have been snapped up already. Any information I have is vague at the moment but I would hope to see more of them in the future, so far the information has come via the facebook group 7Spot.



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