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“What’s After Lego. Young Engineers Club”

This document was written by Patrick Hendra, Young Engineers club, and published by the FMES in the Summer 2026 Newsletter.

My view of the future of modelling is rather bleak. For at least two generations, schools have **not** been teaching their lads and lasses how to make things. As a consequence, declining numbers of parents are engineering practitioners---plumbers, machinists, electricians, or welders--- referred to today by our beloved establishment as TIN BASHERS. Very few parents have served apprenticeships. Grandparents, yes, but Parents no. The result is that modern children DON'T MAKE ANYTHING because no one is there to provide tools and workshops and appropriate teaching and encouragement.

This doom-laden message is no exaggeration.

Do you have a decent model shop near you? I don't. These shops are definitely a threatened species but it is simple minded to blame their demise on online shopping or COVID; they have disappeared because of a lack of demand.

Youngsters who have the urge, buy (or their parents buy) radio-controlled racing cars or ready-to-fly model drones or boats rather than make them from scratch. In a sense, this doesn't matter overall, but it really does affect the Boys and Girls who have a POTENTIAL interest in engineering and a potential to become MODEL ENGINEERS when they are much older. If a youngster is 'good with his hands' and has no way to take the matter further, how does HE or SHE learn the skills that are out there? Ah! 3D printing. Very valuable but for the vast majority of youngsters, that means PLASTIC and low-performance plastic at that.

A local Solution

I created a Club---the Eastleigh Young Engineers, based in a village north of Winchester. Why Eastleigh?—I'm coming to that!

The Club has been operating for 13 years and had a stand at MMEEEx2024 and 2025 in Warwick where members ran away with the honours in the junior class of the competition.

The Young Engineers are a group of about a dozen children aged between 10 and 17—boys and girls-- who come to my workshop weekly for an hour or 90 minutes and more during school holidays. Terry Brown of the Eastleigh Model Boat Club and I teach the youngsters ALWAYS on a one-on-one basis. This is done for safety reasons.

Does the initiative produce any real-life engineers? **Of course, Yes!**

One of the first members was Angus French. He won the Turner Shield three times at successive Midland Model Engineering Competitions and is now a fully qualified production engineer at Jaguar Land Rover. Another 'old' Young Engineer, Ewan White, is now a practising professional Electrical Engineer. Two ex-members are studying engineering at university, another one is about to start studying electrical engineering, and one is now a practising vet, and so it goes on.

Crawley Youth Club and the Eastleigh and District Model Boat Club.

I started working with Children in 2011. At that time, there was an excellent Youth Club in Crawley, a tiny village near Winchester. The kids had nothing to do during August, so I set up a scheme to teach Youth Clubbers who turned up on a Mon. Wed. and Friday mornings from 9.30 -11 for four



weeks. I bought a Keil Kraft high-wing balsa kit, and we made an R/C electrically powered plane. 22 youngsters were involved. I might have a dozen one morning and only three the next, as they all went at various times, on holiday. Unfortunately, I had never built a plane myself and didn't realise how tricky it is to fly a radio-controlled model plane, especially on its first flight, so the plane had only three flights, all finishing up in hedges. Oh Dear.

The next summer, we built an R/C boat-MUCH

safer! We launched HMS Crane on the village pond and then the following August we built a Thornycroft Lorry---both from scratch. The lorry was based on a Lorry of the 1920s housed at the Milestones museum in Basingstoke. These two models won a silver at the Model Engineer Competition at Sandown Park, and then the Youth Club ran into the buffers.





I had accepted an invitation to let the Crawley-based youngsters become the Junior Section of the Eastleigh and District Model Boat Club. E&DMBC produces some of the very best model boats in the South of England and members helped me improve what we were up to. All went swimmingly until 2015 as we appeared on the Club stand at the Model Boat Show and Alexandra Palace, until a newly formed committee decided that the E&DMBC wanted to terminate the Youth Section because 'the Youngsters don't make boats they make lots of other things.'

By that time we were known for our involvement with the Eastleigh Club at Shows so we took the ball and departed but kept Eastleigh in our new title and became **the Eastleigh Young Engineers**. The crazy thing about this sad little story is that a small enthusiastic group within the E&DMBC membership helped us to build up the Junior Section AND they ran a weekly class for the Eastleigh Scouts teaching the Scouts how to build boats from scratch and **they still do!**

Fortunately, we have restored excellent relationships with the Eastleigh Club and they provide me with a steady flow of unfinished hulls and considerable help. In particular, Terry Brown, the Club commodore and an expert at building shapes like hulls from planks and also sheet metal work teaches the YEs regularly. So----let's forget our experience and move on.

Let me tell you how the Young Engineers Club works

Members

Our young members come from seeing us at the Annual Littleton and Harestock Show or my parent-to-parent introduction. I am always overloaded and have a waiting list that never gets shorter: *like the NHS*.

I interview potential members and parents to check that the youngster is really keen AND that the parents realise what they are letting themselves in for. Parents are expected to provide travel in all weathers and to regularly check to see what their child has done. The Youngsters get particular satisfaction when they explain how they have made a component and know full well that their parents don't have a clue.

I have an up-to-date DBS Certificate and am always present when the children are on site.



Safety is an obsession. Everyone wears glasses-----several of the members hate the glasses, but I insist. The girls and boys have to tie their hair back before they start a session. I also ask the Members to wear one of Dad's old T-shirts because Mums tend to go ballistic if a nice white uniform shirt or blouse has a line of black spots up its front. As they gain experience, the members are allowed to use more demanding (and potentially more dangerous) machines but the band saw is *prohibited* until parents have seen how dangerous it can be **and agreed**.

The Young Engineers try soldering early on in their career. Soft soldering is often done with a hot air torch but small flames are involved. Silver soldering using a powerful propane torch on a very small hearth is introduced early on.

To be honest---the children think they are doing the silver soldering, but really they are helping. I'm sure you get the message.

The Club carries insurance and is a Member of the Federation.

One point about electrical safety:

We rarely use mains-powered hand tools because most are battery-operated. The Members are NEVER allowed to handle 230v supplies or wiring. There is a 12VDC line on the benches and this is their normal source. Models are usually LiPo powered but the Club owns the batteries and members are not allowed to charge them for obvious reasons.

Subscriptions

Until this year, the parents paid a sub. and I bought in, at their cost, any items specific to their YE's project. This year we have changed to a simple sub. covering everything required.

The Subscription is just under £200 per year, with a reduction if a family has two or more YEs. I am embarrassed at the amount; it seems to my aged mind that is too high but the parents tell me it is absurdly cheap for a practical Club where members are using expensive equipment. Neither Terry or I charge for our services and the Club does not have to pay for space; the workshop is in my house.

Projects

We avoid trains like the plague. To make even the simplest bit of kit for a steam-powered railway takes many hundreds of hours. Kids don't have the time.

The Young Engineers come to the workshop after every school day, plus extra time during the school holidays. Typically, this amounts to about 45-60 hours per year.

Youngsters want to make things that move --- **preferably fast!** They also need to see results quickly. I try to get them to build a lorry or car or a boat. We get the bare model running around as quickly as possible.

Let me tell you about just three projects that were on our show stand at MMEx2025.



Alice is our youngest member. She is at primary school. Using photographs picked up online, she built a blue Citroen 2CV, made of a mixture of wood and metal. This was Alice's second model, and it impressed the Judges.

Freya is sadly earthbound. She had to be satisfied with a model of Mr Musk's latest creation! Her rocket is almost entirely made in metal and involved some interesting machining. It houses a home-built smoke generator and a fan to blow the smoke out the bottom as the rocket rises up the supporting tower. The workshop has been full of smoke---frequently. The Judges liked this one too!



Sacha, like Freya has built two models from scratch before coming up with 'La Jamais Contente' the World Land Speed record holder in 1899 --- at 62mph.

The model has a chassis fabricated in brass and steel, and the top is made of thin aluminium sheet over wooden formers. The noses are solid and made from rigid PU foam. Sacha was awarded a first and the Turner Shield. Oh yes---it runs up and down the village street!



I am not allowed to tell you what the members are going to offer at this year's Warwick Show. It's a secret! Three members insist they are going to win this year. Hmm! Here is a little peek---a Greek Chariot from Lyra, our resident expert.

To conclude

I'm not planning to stop but I have just celebrated my 90th birthday. Why can't you folks set up Junior Sections in your club? Many of you have the building, better kit than mine and much more

expertise than I can offer. Working with youngsters is really satisfying and it keeps **me (and you)** young.

Creating a Youth Section is much simpler than you think.

Remember----there are not going to be very many Model Engineers in the future. We Brits don't make very much these days. We think great thoughts, tell the Chinese to bash the metal and we buy the product.