The Oily Rag!

Eddie Handisides and Paul Williams installing fencing beside the station at West Buckland

The Taunton Model Engineers' Magazine
Autumn 2025
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Contents

Chairman's Report

by David Hartland

Another busy summer for the club! Vivary running for the Armed Forces Day was a great success with 580 passengers and a lot of good publicity. The weather this year has meant that most of the planned runs have taken place, giving a good income to the club. The clouds are gathering, however, because it looks very likely that the council will introduce the threatened car park charges on Sundays. If this happens, then we cannot run at Vivary on Sundays. It becomes more and more difficult to park anyway. Meanwhile, the raised portable track visited Stockland fete in May. This is a regular event and always well received.

At West Buckland progress is good and we are now approaching the first of our public openings this year on 24th August and 21st September. There is much to do on site and on the day itself we need help with stewarding and other tasks. Carriage overhaul is underway and we hope to have all six carriages running for these open days. A worrying development in the village was the recent arrival of a group of travellers who invaded the playing field. We were fortunate not to be affected and they have now left the area. Bernard Hart has added a new security lock to the front gate to make things easier and safer for our site.

We have had several informal running evenings at West Buckland and a very nice barbecue evening in August, thanks to Ian Marks for leading the catering effort there.

This autumn we will not be returning to Stoke St Mary but instead we will be at our new clubhouse at West Buckland. The programme is at the back of this issue but you will see that there are several gaps in the evening meetings. It has become more and more difficult to find evening speakers and Dave Wood would very much appreciate some ideas for these. Failing that, would any member come and give a short talk one evening? Meanwhile, if there is no speaker programmed for the evening, we will have an informal get together at the same advertised times.

Evening meetings require heating and we have a quote for the heating of around £8,000. The sale of workshop equipment continues to bring in a good income and as a result we have some money towards this but if there is anyone able to make a donation to help us in this cost this would be very much appreciated.

Many members are doing a great deal of work for the club at the moment. I salute them and offer thanks on behalf of the club. The year 2026 will be our 80th anniversary and we will be ready for a grand birthday party….

My Father's Railway

by Iván Aragón Galera

It was around 8 years ago when my father started to think about building a layout after years of laying a few HO tracks on the floor some weekends to run his Renfe trains. The space at home was really limited and not having a workshop was a negative point as well. He started researching about the one metre gauge railways in the Madrid area. HOm allows you to represent quite a lot in the popular HO scale but using shorter trains, shorter stations and smaller bends compared to the normal HO track. Also, as my father says, the narrow gauge railways are so charming and, at least in Spain, they had a huge variety of wagons and locomotives along their history. The Tajuña Railway was the main option at the beginning, until he found that the Goya Station in Madrid, the start/finish of the Madrid - Almorox Railway, was the most important along the line, having a big passenger building (with the marquee covering both platforms), depot, turntable, workshop, garages, water tank, docks, warehouses and an important number of sidings. The Madrid (Goya) station of the Madrid - Almorox Railway was the first one on the south of the Manzanares River and this was also an improvement for the working class that lived in the outskirts of the city. Almorox is an small town in the North of the Toledo region, south of Madrid.

The railway was in use from 1891 to 1970 using steam and diesel engines and its total length was 73.4 km (45.6 miles). Works were carried out (bridges, tunnels and station buildings) to extend the line towards the southeast of the country, to get to Talavera de la Reina and link it with the Madrid-Caceres-Portugal line, but this extension never had a track. The Madrid-Almorox line was used for decades to move agricultural goods to the capital, material from quarries and passengers, especially those coming from the big city for a day at River Alberche in the hot summer days. It is worth to mention that my father visited this railway when he was a kid as well, so there was a nostalgic side in all this.

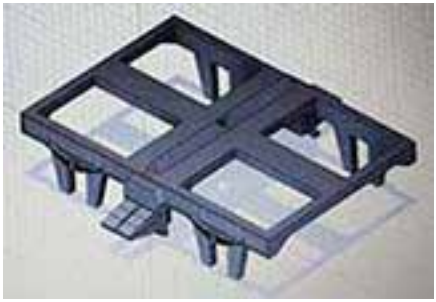
The modular station that my father is building is composed of 4 plywood modules. Another module connects the station in one end and on the opposite end it has dimensions and track position that follow some protocol, so it can be connected to modules constructed by other enthusiasts. Finally, a loop module is connected on this standardised end, in order to return the trains. All these modules have removable legs.

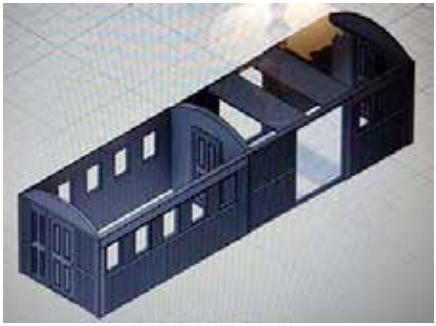
The building station was 3D drawn and 3D printed while the depot, docks, warehouse and garages have been built using plywood, balsa wood and different pieces of Evergreen plastic.

The layout is run using the DCC system, which allows one to turn on the lights on the trains without moving them as well as independence of the train movements. The most impressive part in all this, in my opinion,is that due to the non-existence of Spanish HOm models on the market, my father started to learn how draw and 3D print his own good wagons, passenger cars and locomotives. He has been able to reproduce not only the bodies but the bogies and has designed the chassis and transmissions for the locomotives so they could run on the layout and not just be static models. Please see examples of the wagons drawn, 3D prnted and painted by my father. Can you decide whether the balustrade on the picture is from a real car or a model built by my father?

There is still some decoration that needs to be done, especially the ballast on the two modules in the centre, the transition module from the station into the tunnel (which hides the return loop) and complete some small details here and there but I appreciate that this has been real hard work and there is still a lot more to come, as my father will always have some wagons or engines to draw, 3D print and paint once the layout is finished. Maybe reproduce another station from this line, a bridge . . . who knows?

I hope you have enjoyed this story about a little railway reproduced in a little, but detailed, scale.





Hindsight – Harry – Graham's Locomotive Build

By Graham Swales

A previous introduction in the *Oily Rag* provided a bit of an introduction to my model engineering background. With a recent appeal for more material, I thought I would have another attempt to cure insomnia and provide a little more information. (Cries of NO!) If it is of interest, it may turn into a mini series. Alternatively, it may shake others into action to apply fingers to keyboard and write something themselves. (You have been warned!)

Being in the situation of working all the way through Covid, whilst moving home as well, physical model engineering was placed on hold and thoughts turned to "The Next Project." Something larger to ease the effect of age, arthritis and eyesight perhaps. 7 1/4" gauge, narrow gauge, steam, and practical, rather than scale high fidelity. Simple you say. A Thomas 2, a Hunslet Quarry Locomotive, a Maxi 7. Or, in the same vein as Marmite, a Roger Marsh Tinkerbell! (A day out with our then only granddaughter to Moors Valley Railway sold me totally.)

A quick internet search, use of PayPal, and with spare time on my hands, a CD of full drawings was purchased. I confess to two initial disappointments. Firstly the small size of the parcel that arrived and then when the contents of the CD were downloaded, the realisation that the drawings were actually poor quality scans of the original drawings. Hmm...

Now, I have been in electromechanical engineering all my life and understand the importance of checking drawings, version control, drawing corrections and updating and measuring twice and cutting once. (Preferably the measuring coming before any cutting and not once before and once after to determine where the mistake occurred!)

I also understand the practicalities of a one man band acting as designer, draughtsman and manufacturer. We have all done it, "I need to change that dimension on the drawing, I will do it later, I will just weld a bit on or cut a bit off for now to keep things moving."

I (naively in hindsight) thought that after over 50 years and many previous builds, any mistakes would have been mopped up. I also joined a Facebook Tinkerbell Group thinking that errors would be recorded . . .

Many builders of locomotives have the funds to utilise laser cuts, sets of castings and commercially available items such as wheels. Me? I have lots of scrap material, a selection of welders, a plasma cutter and gas axe and time. This would be an "economy" build, fabricating and machining rather than pattern making and casting. A supplier at work said I could use his plasma

table if I provided a drawing and material and so a frame drawing was needed.

I spend many hours in my day job staring at computer screens and CAD drawings and like a break at home so the drawing board and instruments were dusted off and a frame drawing was started, allowing a little extra length and width in the cab area to minimise the boiler backhead scorching my knees and allowing a bit more room for my slim girlish figure. (Stop giggling at the back!)

The realisation set in at this point that the drawings purchased at great expense contained many “challenges” and “opportunities” .Perhaps I am picky, but it would be nice for the outside cranks not to occupy the same space as the cylinder blocks, the reversing shaft not to pass though the boiler and the brake blocks to actually line up with the wheel treads . . . And it got much worse as the build continued. In hindsight I should have completely redrawn the whole lot, but I enjoy cutting and welding more than drawing!

I settled for a full frame outline drawing (scaled) and a series of drawings showing space envelopes, centres of shafts and similar and an email to the CD supplier to get their comments on the accuracy of the product they were selling. Never got a reply!

A half sheet of 12mm steel plate was procured and delivered to the friendly supplier arranged, together with a DXF file of the frames, buffer beams and stretchers. A few days later I just happened to have to visit the company for work (with the company van of course) and coincidentally the parts had magically appeared from the steel plate.

I admit it. I had always laughed about the comment “size is important” - especially when wallpapering onto bare plaster. In hindsight perhaps I should have printed off the frame drawings full size at least. I confess that I thought I had drawn the cad image to some oddly increased scale rather than full size or that I had messed up the DXF process. Nope, all the items were correct, it was my brain that hadn’t converted the views on the drawings into the actual physical component sizes and hence locomotive size.

Fortunately I managed to get the frame components into the workshop without a) a hernia, b) Mrs S seeing the size of the new build or c) dropping anything on my toes! The component parts were all de-burred, (angle grinder rather than Noga S,) another early indication of size, and rather than riveting the two frames together with copper rivets they were held together with a judicious application of the TIG welder. Next step was the marking out of holes, cut-outs and slots. I was amazed how much layout blue was needed – good job the workshop has an extractor fan! Much centre popping, followed by checking and rechecking (see comment above) and work on the frames could start in anger. Note to self, bigger workshop, drilling and milling machine needed! Jib crane

needed in workshop (there is one in the garage) and bigger swarf bucket needed.

After many evenings in the workshop, the initial components were finished and balanced together on the floor of the workshop whilst I sat on a bucket simulating the cab seat.

Yes I looked silly, yes Mrs S was shocked by the overall size, yes I realised that I would have to assemble the beast in the garage as the workshop was nowhere near big enough and yes, I realised at this very early stage that perhaps I should have built a Sweet William instead!

Ooops!

The TME 100 Club

By Mary LeCoyte

The 100 Club got off to a bad start last year, for which I apologise, but it is now being brought up to date. The first draw was made at the proper time, but subsequent draws were late. This article is to bring news of the results of draws, and changes in the club, to the attention of all members.

Late draws have been made; prizes, which are based on 40% of subscriptions,were in all cases £25, £15, and £10.
The winners are:
Draw 2- Peter Le Coyte (36),Roy Fathers (9), Nigel Gettings (28).
Draw 3 – Bob Abel (32); Bernard Hart (18); Phil Mortimer (10).
Draw 4 – Chris Kelly (6); Peter Le Coyte (5); Tony Gosling (2)

Subscriptions are now due for renewal, please, at £24 per number for four draws. Members may buy more than one number. Payment should be made either by bank transfer (using your surname followed by 100 as a reference) or by cheque to Bob Abel or Hedy Herriot.

Bob Abel has taken over administration of the 100 Club and will undoubtedly do a better job! More members will make for bigger prizes, so do think about subscribing if you're not already a member. To join, please get in touch with Bob (details inside front cover) to find out which numbers are available.

Maintenance of an Electric Locomotive

By Jon Freeman

'The Wedge', my first electric loco design, is ten years old. It has been in regular service at Vivary Park throughout and had a 100% record for reliability, until retiring early on Armed Forces day 2025.

Long ago I drove a 'Polly I' steam loco at Vivary Park. This was fine, except for all the constant cleaning and fiddling between outings. With The Wedge, on the other hand, routine maintenance has been reduced to lifting off the cover once a year or so and checking for any mechanical bits coming loose. There is nothing to maintain in any of the electronics, blowing the dust off is treat enough.

The Wedge was designed as a "not less powerful than the Polly" passenger hauler, but also as a test-bed for some 21st century technology using brushless motors with three-phase electronic motor drives. This has successfully been taken forward and used in a more powerful 'Brute' dual-gauge loco, and moved forward again in '5914', a 5" gauge Baby Deltic, under construction.

The original Wedge lead-acid mobility scooter batteries have lasted all this time, probably because they were always recharged immediately after every outing. They would have done for this season as well, but now the price of lithium batteries has fallen to only about twice that of similarly rated lead-acid batteries, I thought it time to get some new experience. Lithium batteries were duly ordered and fitted, with one advantage for an ageing lone operative, taking some of the weight out. The change was as simple as that, drop-in replacements. Even the same mobility scooter charger does the job. One slight difference, the nominal voltage of 25.6 is a volt or so higher. The Wedge has run at Vivary Park several times since with a slight improvement in performance, thought to be due to the lower supply source impedance.

Recently at Vivary Park I noticed a new sound. Barry noticed it too, as did Ed. Not to be confused with the usual wheel-slip squeal on curves, this new noise sounded more like a distant 'quack', most noticeable when pulling away. Not knowing how to track down the cause of this I decided to flush out and re-grease the roller axle bearings. Bricked up on the bench everything ran perfectly, as it did before, with no 'quack' in evidence. The quacking was only to be heard 'on load' in the park, and sure enough, on the next outing the quack was back.

Armed forces day started quietly but soon picked up. We started with two electrics so The Wedge ran for two hours before we came off to make way for the steamers. Both electrics were to run later in the day, and it was then the Wedge controller display panel showed that one motor had gone out

of step with the other three. Motor No2 was running faster than the others under power and stopped completely during drifting or braking. The only logical explanation for this would be a mechanical drive failure – a broken drive belt or maybe a loose motor pulley slipping on the motor shaft. Noting this I decided to carry on, performance being not noticeably impaired. Later I spotted a broken drive belt in the grass. Of course this meant I was now driving the three remaining motors at four thirds of 'normal' power, and about an hour later a second drive belt silently parted while pulling away from the station. I ran a few laps using only two motors but performance was lacking so I took the decision to retire early.

Each of the four axles is driven by its own 105 Watt brushless motor and drive belt. Continuous motor torque rating is 0.25Nm (newton metre), 0.75Nm max. As motor current, hence torque, is accurately controlled by design, torque is driven to a maximum of 0.5Nm for short intervals, typically while accelerating out of the station. With a motor pulley radius of only 7mm, this loads the belt with a dynamic tension of 0.5 * 1000 / 7 = 71N, or about the same as tension in a string with a 16 pound weight hanging on it.

Thinking back to when I designed The Wedge, I remember ordering two sets of spare drive belts, and this had to be because I thought maybe I was pushing my luck a bit using HTD 3M (3mm pitch) 9mm wide timing belts. There was not the space for anything more substantial. Then, as now, it was easy enough to find the means and formulae to design drive systems to any standard of reliability using timing belts of pitches 5mm, 8mm and up, but not for smaller sizes. Using what was found, and coming up with some educated guesstimates for scaling calculation results, I thought we'd probably be working the belts at or a little beyond any recommended limit during rapid accelerations. In order to keep 'at least six' pulley teeth engaged with the belt, as all the data suggested, I included an idler wheel working against the outside of the belts. This had the advantage I could adjust the idler diameter until happy with the static tension. I had gleaned from the available data that rating factors for belts should be reduced for high-utilisation and continuous use applications. From this I reasoned that running only about thirty hours a year at Vivary Park I'd probably get away with taking some minor liberties for some time. And so it was.

Tim knows more than I about belts and drives, and he advised me to order new belts as the spares I've been keeping for ten years might have dried-out, gone stiff or perished. I've replaced all four from stock for now, they didn't look too bad to my inexpert eye. If they last until the end of this season that'll do for me. I think The Wedge may be retired stuffed and mounted at the end of this year, certainly if we can not continue at Vivary Park. For the future I'll have moved on to the more useful, versatile and innovative technology I'm building into my Baby Deltic 5914.

Talking about this with my old mate Barney, he was telling me about one of the first car engines to use a timing belt. It became well known that an engine making a faint quacking noise had a timing belt on the verge of failing. I'm not expecting to hear any quacking on the next run.

The Wedge in the rain

Broken belt

Tensioning idler

The Passing of Common Sense

Today we mourn the passing of a beloved old friend, Common Sense, who has been with us for many years. No one knows for sure how old he was since his birth records were long ago lost in bureaucratic red tape. He will be remembered as having cultivated such valuable lessons as knowing when to come in out of the rain, why the early bird gets the worm and that life is not always fair. Common Sense lived by simple, sound financial policies (do not spend more than you earn) and reliable parenting strategies (adults, not children, are in charge).

His health began to deteriorate rapidly when well intentioned but overbearing regulations were set in place. Reports of a six year old boy charged with sexual harassment for kissing a classmate, teenagers suspended from school for using mouthwash after lunch and a teacher fired for reprimanding an unruly student, only worsened his condition.

It declined even further when schools were required to get parental consent to administer Panadol to a student but could not inform the parents when a student became pregnant and wanted an abortion.

Common Sense lost the will to live as the Ten Commandments became contraband, churches became businesses and criminals received better treatment than their victims.

Common Sense finally gave up the will to live after a woman failed to realise that a steaming cup of coffee was hot. She spilled a little on her lap and was promptly awarded a huge settlement.

Common Sense was preceded in death by his father, Truth and mother, Trust and Discretion, his daughter and his son Reason. He is survived by three step-brothers – Inowmy Rights, Ima Whinger and Ima Victim.

Trophy Night 2025

The club's annual Trophy Night was held at the clubhouse in May. There was a good range of models and items brought along by members and these were on display for judging by the audience. As usual, there was a good level of banter and hopefully some experience passed on, because that it what the competition has been about (for the last 72 years!).

The results were:

Logan Trowel for the Best Model Complete: won by Fred Pepper for his Malaysian boat model (on the cover of the last *Oily Rag*).

Logan Trowel for the best workshop equipment: won by Dave Wood for his boiler test equipment, made for the club testing regimes.

Jack Gardner Trophy for the best locomotive - won by Paul Orrells for his part built 5in Britannia locomotive. This was featured in the last *Oily Rag* and has a wealth of small details made with lost wax castings.

Foden tankard to encourage others: won by Bernard Hart for his work on the new site gate lock. This is a precision job but made to last – it has already improved the look of the front gate compared with the old padlock and chain.

Bits and Pieces Cup – won by Harry Howe for his wagon underframe for a private owner coal wagon.

Once again an interesting evening!

Editor's note: in Railway terms the bottom half of a wagon, coach or locomotive is called the UNDERFRAME. The word 'chassis' is derived from a Latin word meaning a box, and was adopted by the early French automobile designers to mean the frame onto which a motor car is constructed. The word should only be used in conjunction with road vehicles.

Club Sales

There are still many goodies for sale at West Buckland - come along and browse, you may find something you can't live without at a bargain price!

The South West Miniature Engineering Show

S.W.E.M.E.S.

Friday/Saturday 15th/16th May 2026

Newton Abbot Racecourse, Devon, TQ12 3AF

A grand exhibition of engineering by hobbyists for hobbyists with displays from many Societies in our area.

Whether 7+ or 70+, come and find out how they do it

Miniature steam and diesel locos, traction engines and more
Featuring locomotives from 16mm scale to 7 1/4" gauge
Completed, and part built models, see how they are made

Trade stands, demos, including 3D printing, + intro to C.A.D, plus other engines in steam outside and a ride-on-railway. Lots to see

Free parking, level access, and refreshments available

A not-for-profit show supporting local cancer charities

Dates for your Diary

TME calendar 2025

Aug 24 (Sun)	West Buckland public running. Setup from 1200.
Sep 2 (Tue)	Meeting at West Buckland - Bits and Pieces - 1930.
Sep 7 (Sun)	Vivary public running. Setup from 1200
Sep 9 (Tue)	Members' track running at West Buckland. Setup from 1700
Sep 11 (Thu)	Brean Steamers visit to West Buckland.
Sep 16 (Tue)	Meeting at West Buckland. - Carriage restoration on the West Somerset Railway byJohn Waters - 1930.
Sep 21 (Sun)	West Buckland public running. Setup from 1200
Oct 5 (Sun)	Vivary public running. Setup from 1200
Oct 7 Tue)	Meeting at West Buckland - club auction - 1930.
Oct 16 (Thur)	Trip by private cars to Midlands Model Engineering Exhibition.
Oct 19 (Sun)	Vivary public running. Setup from 1200
Oct 21 (Tue)	Meeting at West Buckland.(TBA) .
Dec 2 (Tue)	Meeting at West Buckland.(TBA)
Dec 7 (Sun)	Vivary public running - Santa Special. Setup from 1000.
Dec 12 (Fri)	Christmas lunch.
Dec14 (Sun)	Vivary public running - Santa Special. Setup from 1000
Dec16 (Tue)	Meeting at West Buckland - Mince pies and Natter.

NOTE - All meetings at West Buckland start at 1930 unless stated otherwise.

TME Boiler Testers

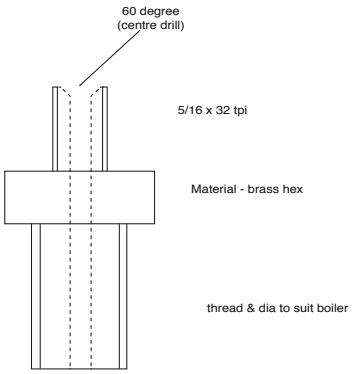
Boiler Testers for copper boilers

Nigel Gettings 01984 623190
Harry Howe 07809 259963
Ian Grinter 01823 400681
Dave Wood 01823 698928
Tony Newberry 01823 412655
Andrew Harvey 01935 411843

Boiler Testers for steel boilers

Dave Wood 01823 698928
Harry Howe 07809 259963
Andrew Harvey 01935 411843

To facilitate boiler testing members must fit this connection when submitting boilers for testing



Any member requiring a boiler test must make his own arrangements for the test with one of the testers.The boiler must be fully prepared for testing before presentation.Where an hydraulic test is required, an adaptor, as above, must be available. The boiler owner must ensure that a club member is present to witness the test. The boiler tester may refuse to test a boiler which has not been properly prepared. It is NOT the role of the boiler tester to prepare your boiler fory you.

Disclaimer

The views and articles featured in this magazine do not necessarily represent the views of the Committee, Officers, or the Members.

Ivan Aragón Galera and Jenifer from Hinckley Point at work surveying the track extensions into Yonder Field.

Assembly of the frames for the new bogies.

Paul Williams and Neil Evans concreting the platform for the raised track.