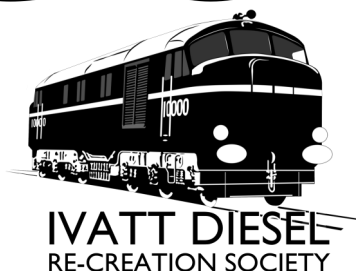
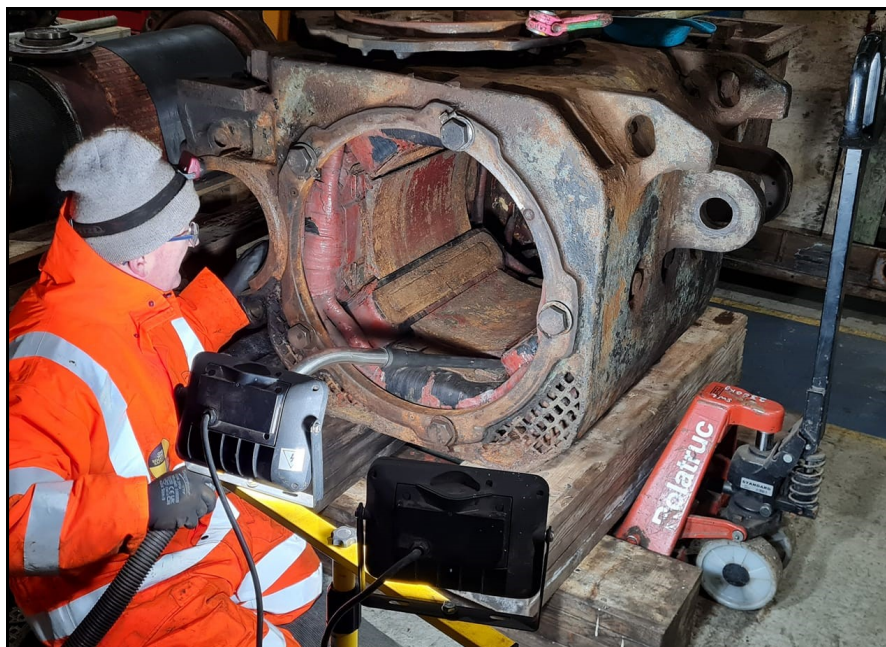


ICON



10001 at Willesden dept in 1967. Basil Hancock

10000/1 were Britain's first successfully mainline diesel locomotives, leading to such classes as 20,37,40 and 50. Sadly they were scrapped in 1968. We are building the third of the class!



Welcome to Issue 14 of ICON.

We've had a good winter at Centenary Works, with much progress, as shown within.

We've been drying out traction motors, refurbishing brake parts. Most importantly, the final drawing for the chassis and amendments thereon, is being completed.

In the photo left, we see a traction motor being inspected after removal of the armature.

The bottom picture shows happy members on board the special train along the EVR a month ago. Our train was able to get within a 100 yards of the landslip, but was locked out of section by a stop board.



WHAT EQUIPMENT DO WE HAVE SO FAR?

Since 2011 we have amassed a considerable amount of equipment for use in the new locomotive. Here are some of the major pieces.

CHASSIS



Origin: Class 58 chassis from 58022
Obtained: Donated by a member in 2016
Status: Stored on Sturgeon wagon pending alterations
Next work: Pending a decision whether to send have alterations done in house or by a contractor

BOGIES



Origin: Class EM2 (77) from 1503 Juno
Obtained: Purchased from EM2 Society in 2018
Status: Conserved and awaiting refurbishment
Next work: Wheel turning and reprofiling.

POWER UNIT



Origin: English Electric 16SVT mk1 of 1947
Obtained: Purchased from Powerfind in 2011
Status: In dry storage
Next work: Refurbishment including alterations to fit alternators.

ALTERNATORS



Origin: Class 56 56104
Obtained: Donated by GB Railfreight in 2022
Status: In storage along with another similar alternator obtained from UK Rail in 2022.
Next work: Storage / Refurbishment

ELECTRICAL CUBICLE



Origin: Class 58 from 58022 plus parts from 56104
Obtained: 2016 plus 56 parts bought in 2022
Status: Stripped for rebuilding
Next work: Ongoing reconstruction.

RECTIFIER



Origin: Class 56
Obtained: Donated by GB Railfreight in 2022
Status: In storage
Next work: Assessment

COOLING UNIT



Origin: Class 58 cooling unit from 58022
Obtained: Donated by a member in 2016
Status: In storage
Next work: Alterations to fit new loco.

EXHAUSTERS



Origin: Purchased privately
Obtained: 2019
Status: Under refurbishment
Next work: Ongoing overhaul

INJECTORS



Origin: Purchased privately
Obtained: 2020
Status: In storage
Next work: Ready to fit. These are variable speed injectors suitable for a locomotive.

STEAM HEATING BOILERS



Origin: Class 55 Deltics
Obtained: 2020
Status: Long term storage.
Next work: Long term refurbishment.

CAB SEATS AND DRIVER'S DESK ITEMS



Origin: Class 45 seat base
Obtained: 2020
Status: Seat frame constructed and painted
Next work: Long term completion

BRAKING SYSTEM (bogies)



Origin: Class EM2 (77) from 1503 Juno
Obtained: 2018
Status: Some refurbished and replaced
Next work: Some require cleaning and refurbishment prior to replacement

TRACTION MOTORS



Origin: Class EM2 (77) from 1503 Juno
Obtained: 2018
Status: Drying prior to assessment
Next work: Refurbishment as required

GOVERNOR



Origin: Class 56
Obtained: 2019
Status: Refurbished to suit a 16SVT power unit
Next work: Ready for use

FUEL TANK



Origin: 58022
Obtained: 2016
Status: Storage
Next work: To be cut to size

AGM — For your calendar

Our Annual General Meeting will be at the
Aston Court Hotel, Midland Road (opposite the Station), Derby, DE1 2SL

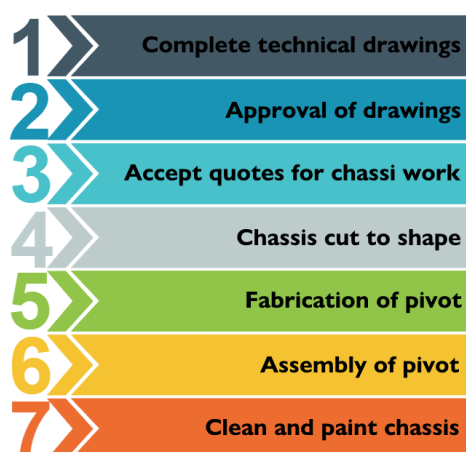
Saturday 5th October 2024 - 1pm

Motions to discuss should be forwarded to the
Secretary no later than 1pm the preceding day.

Contact us on 07551621685, info@LMSI0000.co.uk
or write to IDRS, 46 Biddick Village Centre, Washington, NE38 7NP

THE PLAN GOING FORWARD

Our plan sees us working on multiple fronts to achieve the aim of creating the third class D16/1 locomotive. The electrical cubicle is proceeding steadily. Meanwhile parts of the braking system has been removed and refurbished. The largest aspect of the project is to create the rolling chassis. Below is a flow diagram showing major aspects of the task, split between chassis and bogies. We can not give a time schedule for this work. Voluntary projects are understood to take long periods. At its most simplest, the quicker we are funded, the quicker the job is finished! Some large sums will be required to refurbish traction motors and for design accreditation. Meanwhile we are working on a possible commercial contract for the chassis side of the work.



Financing the project

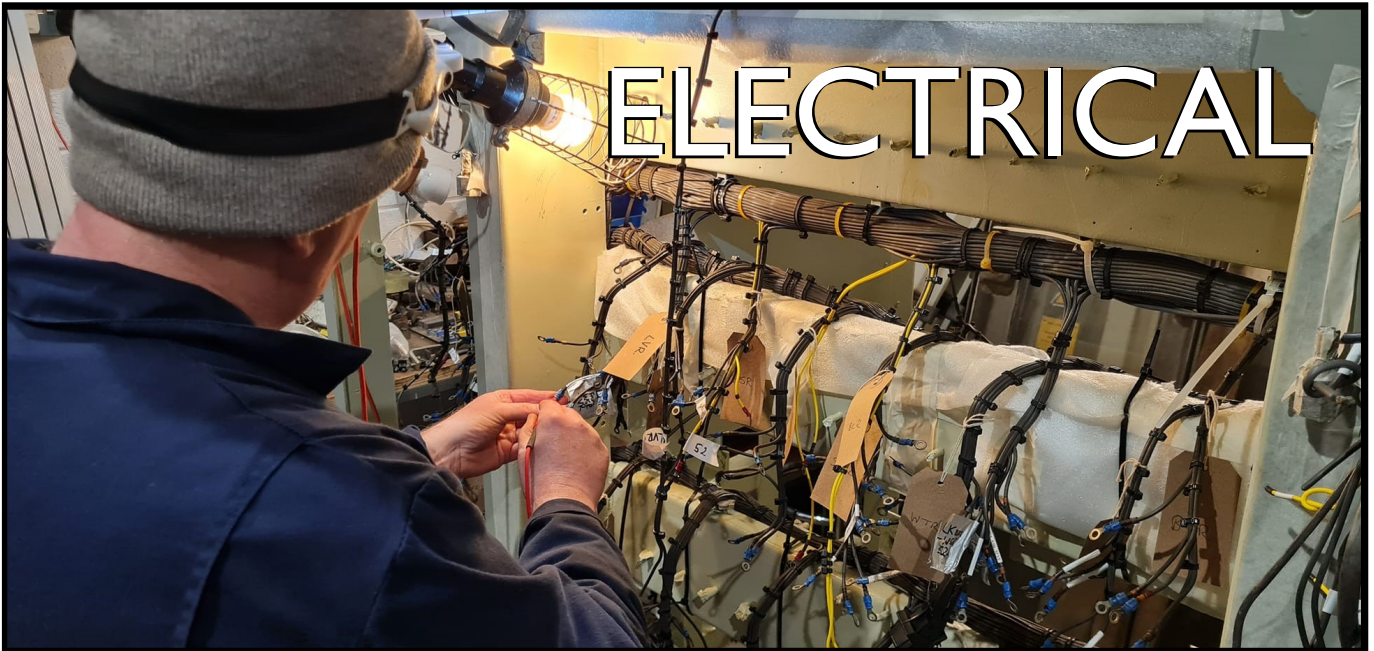
Your donations cover our rental and other day to day expenditure. Rent for Centenary Works comes to £918 inclusive of VAT. Utilities are an additional cost. Without the workshop we would still be working in an open yard and other people's property, which would not allow the project to be practical.

Thank you to everyone who contributes. We could not achieve our goal without you.

Our membership is based on monthly payments of £2 or more (or annual payments in lieu). You decide what you can afford to pay. Some pay £2, others £100. The most common figure is £10.

Membership is essentially for life, based on those regular monthly payments. Those who were 'Life Members' under the original membership system, remain Life Members. We understand that situations can change and that at times no donations can be made, that's fine.

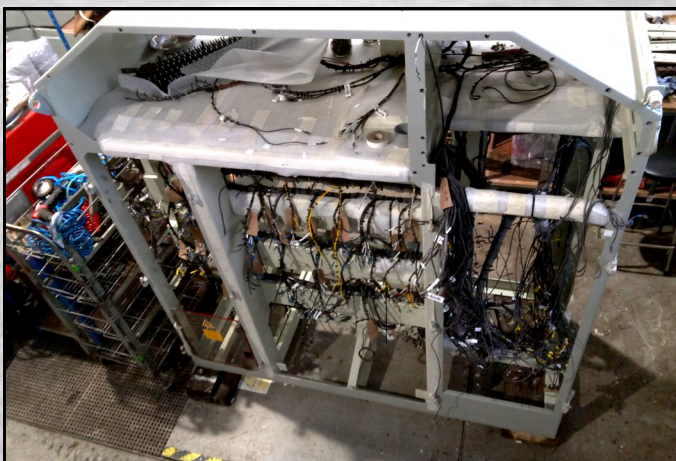
Magazines are sent by email to all members. We do send paper copies to all who donate monthly (or in lieu). To conserve costs, if anyone does not need a paper copy, please let us know. Contact details are on the opposite page.



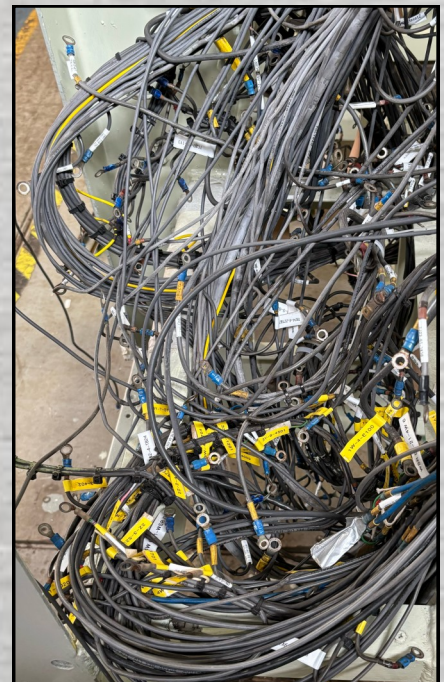
Graham working on the cubicle wiring. Mark Langley



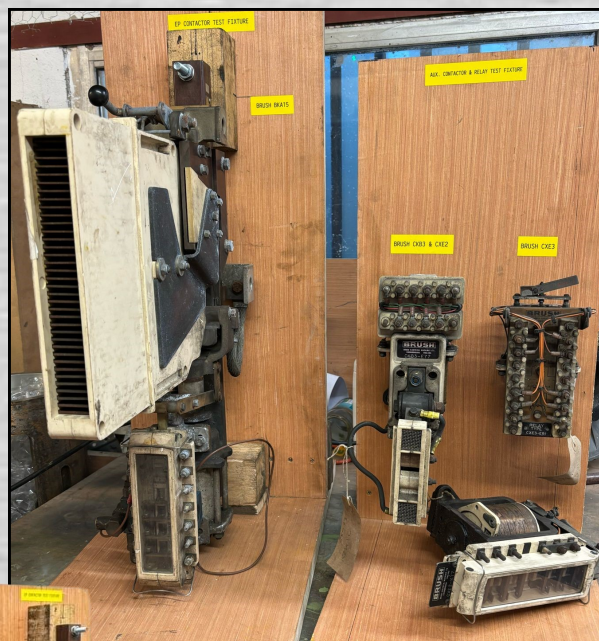
Left, the cubicle during January. We can move it using a pallet trolley, which helps with accessibility around the workshop. The frame can be accessed from every side, which certainly helps when working with fiddly wires.
Mick Clamp



View from above of the former cl 58 cubicle. Andrew Hoseason



Thankfully, every wire is newly labelled and matches the drawings!
Graham Clarke



Relay & Contactor Test Fixtures. Graham Clarke

Work on the electrical cubical has continues through the winter. Thanks to Adrian, Drew and Graham for their work at home and in the cold workshop!

The cubicle from 58022 has been stripped then painted as required. As wires are removed they are individually labelled in accordance with the wiring diagram on the wall.

Wiring is now being returned or replaced into the cubicle.

In March we completed the relay and contactor testing area, as seen above and this will be put to work soon.

Thank you to everyone who uses their knowledge and experience to further this rebuild.

ENGINEERING

We continue to work on a variety of fronts. First of all, the final drawings are being prepared, after which they will be independently checking, along with stress calculations.

The most visual activity has been to do with the traction motors. We removed the one identified to be in the 'least good' condition. This was in order to examine it and establish the likely costs involved, at worst, in overhauling the traction motors. The bogies in which the motors were situated, were outdoors for many years. Therefore the first task was to dry the motor out before being able to take resistance readings. This could have been an expensive process, however we designed our own means of drying the motor out, an oven powered by halogen lamps.



The motor before disassembly began. Mark Langley



Inspecting a traction motor after removal of the armature. Mark Langley



The inside of a traction motor! Bernard Caddy



Lifting a traction motor. Mark Langley



Inside a partly built oven. Mick Clamp

Paul's diary

First of all, got to say how refreshing it was to get back to Wirksworth and spend time with some of the excellent people that will get this locomotive on the rails and pulling trains in the best way possible. It was great to get on with stuff

Our Tony T started proceedings with our new site induction, which I have to say was to an excellent standard. Tony has really taken our safety welfare and wellbeing up and beyond industry standards more to the point it suits what we are doing to the letter. We have been able to lag the roof of the back room, which should provide a better environment to work in.

A quick win was achieved in here as the railway wants to test and use our stands to sit a MKI coach on. So we slung them over the TM and placed them out down the yard ready for November LOLER exam.

This freed up space to carefully sit the TM on its end with the telehandler. Tony B and Mick L made a spot on wooden stand which fits the motor spot on and it doesn't rock. All the end cover bolts were undone, greased and refitted prior to this. The excellent pinion retaining nut release tool made by Phil S was trial fitted and removed. The three new 7/8 eyebolts were fitted to standard by Mick S.



*Paul preparing the traction motor oven.
Mark Langley*

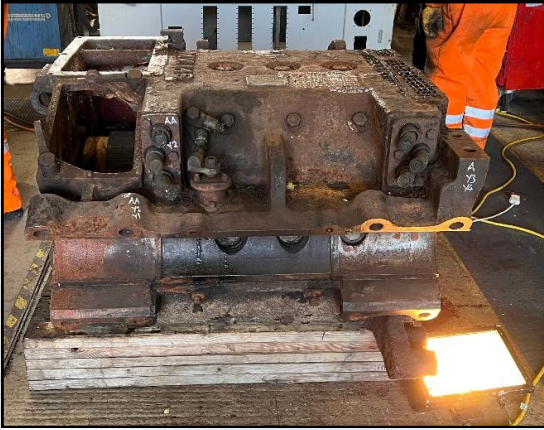
Whilst undertaking the cleaning the TMs on bogie 140 were tested for insulation as these have had the benefit of having the 58 roof panels over them. I will say that these were encouraging. With this in mind Bogie 140 and the boilers have been tarped to allow fresh air through but with zero chance of direct water contamination.

Due to the weather being quite nice and a suggestion from one of the gang, the chassis got some TLC bestowed upon it and further inspections were undertaken. The traction centres were polished up and coated with rust inhibiting preservative after measuring up with micrometers.

However the biggest task on the chassis was the excellent draining and further cleaning works on the chassis. Indeed Mark L and Anthony P made a brilliant start on A. Making the chassis very presentable and B, prepping it for sending the chassis to an outside specialist contractor for the shotblast, fabrication and modification of the adaptors to be attached to the chassis.

DRAWINGS

Derek is very busy sorting through the last modification drawings with the added data received latterly. Derek being the true professional that he is, has been scrutinizing every aspect of it to ensure that we get it absolutely right. Indeed the revisions will be of a quality and standard that



The side view of a motor. Anthony Pilkington



Seated within the oven frame. Mick Clamp



The traction motor's armature being lifted by the Telehandler. Mark Langley



Almost finished! Mark Langley



The traction motor's armature being positioned. Mark Langley

will save lots of time for evaluation with the utter clarity Derek shows in his draught man skills, it's a dying art but DP does it to a quality that in my opinion is unrivalled.

ELECTRICAL CUBICLE

I do not profess to be any way involved with the "darkside" of electrickery but the way it is going is exactly the way it should be and many thanks to all the people for undertaking a marvellous job thus far utilising the KISS principle.

BOGIES AND BRAKES

Tony Bennett was busy all day cleaning up the brake rigging for bogie 140 to a very high standard. a thankless task but his standards of work speaks for itself. On this, Tony is a very talented toolmaker and is the perfect person to fabricate all our bushes we require during the bogie overhaul and I am thinking that we ought to buy a decent lathe for Tony to get on with this. Well Done Tony! He has carried on with preservation of parts his inbox has grown to mammoth proportions, if anyone fancies lending Tony a hand I am sure that he would greatly appreciate it!

On the bogies Phil is going to fabricate the spacers required to undertake a full dynamic bogie brake test of the actual brake force applied on an EM2 as standard before we test our improved version!

The Burton Crew carried on with the careful systematic removal of the primary triple coil springs. Indeed a massively difficult task in light of the stored energy and seizure of 30 years outdoors with no load and movement.

As always the Burton Crew carefully dealt with these and achieved their goals without destroying any components. After a full day of Savage amusement they managed to remove the springs from one side of bogie 139. Said it before and I will say it again, this is only possible due to the pre soaking of every separate component with diesel and oil. Very soon we need to get bogie 140 well oiled again in preparation of full stripdown. A round of applause is definitely in order for all that have done work on the bogies, because we edge ever closer to a working locomotive every time these are attended to.

As has been the case throughout the bogie works, we are always surprised on how good a condition and how well designed and built every individual component is once removed from its seized static location for many years.

To that end it is very clear to me from an engineering perspective, that the quality utilised in the early modernisation era of post war Great Britain was to a far greater standard that was employed later on with the emphasis on ensuring that all components are fit for purpose by over engineering and spending the time and the materials to be the best possible regardless of manhours.

In February, the gang worked like a well oiled machine stripping and cleaning the triple coil spring assemblies with our heavy duty spring compressors, WD-40, brute force and colourful language. All the brake rigging on bogie 139 was excised prior to brake tests next week. All the brake shoes were fitted with the fabricated shims made by Phil S to replicate new brake shoes. This occurred whilst the triple coil assemblies and Traction motor blower impellers were cleaned up to a high and very acceptable standard far better than you would have believed was possible.



A cased traction motor blower fan impeller. Mark Langley



"Before" Blower fan impellers. Mick Clamp



"After" Blower fan impellers. Mark Langley



"Before & After" Chairs for the cabs. Mark Langley



Centenary works in the evening. Mark Langley



SUSPENSION

What has come to the fore today has been a lot to take in. Now looking at the bogies and the secondary springing arrangement it has become clear that we really ought to change the secondary springing arrangement more like 10000 than the EM2. The bottom swing link pivots contain a lot of wear. On an EM2 these are fixed with no way of altering the burden on the springs. The clearance obvious on the machined pivots is quite large and would require spiral welding and machining back which to me is a bodge that will cause all sorts of heat related issues and cost a lot of money to put right especially if these did not take too kindly to the heat of the spiral welding process and warped.

On 10000 the fear of getting all the weight distributed correctly can be seen within the design, as these were fully adjustable in as much as the saddle was held up by a bracket fixed to heavy threaded bar and spherical knuckles. I think that this needs to be replicated as this would enable us to set the ride height both on the secondary springs as well as the primary triple coil springs. IE we can create absolute equal axle loads and heights. Having looked at it it would be a simple thing to do but will need fully design analysing by outside experts in bogie design.

TRACTION MOTORS

We have an agreed place in Doncaster to store the three TMs from Holland.

We have the problem of finding a place for the four Alternators we have at IMPS that are our acquired spares.

Please note this machine is possibly the worst stored traction motor of the lot of them with how these bogies were stored at Middleton and Midland with this one always facing the elements without covers. (I took note long before this was ever a movement.) We removed the non-drive end end plate which I must say came away absolutely perfect, no water contamination has made any difference to the engineering spigoted fit that it was designed with. Graham and Mick carefully hoovered and cleaned the case of all the years of water ingress and damp.

I won't try and explain the positives from this exercise but all indications point to an improvement in condition and a greater understanding of overhaul of these fantastically over engineered traction motors. Believe me if we have six of these motors under our loco it will become apparent how strong and heavy duty these really are. They will provide so much torque and inertia up and beyond any lighter higher strung machine that could be found on a 1960s to 1980s diesel loco. Many thanks to the team who are constantly assessing the content of these motors for hazardous content and materials.

Graham very kindly mega tested the three sat against the damp wall today and the results were dismal, now these were the worst out of the six when we got near them water running straight through rotten covers etc. It is clear that they are still full damp and it would pay to get these dried out before any further assessment which is impossible in our place without heated blankets or some kind of trace heating.

First job was almost done when I finally arrived after the regular visit to B&Q, Phil Tony T and Tony B put together the oven lifting brackets fabricated by Phil at TAS utilising the free class 58 bodywork frame.

Like clockwork it was put together and very soon I had it on the Telehandler lifting it off the worst traction motor.....Has it worked? Well we picked the worst TM first and the answer is yes and no. The oven thermometer was registering 40 degrees when we arrived, however what was contained inside registered 60 degrees on the calibrated temp gun. The motor was



*The chassis is upside down on our Sturgeon wagon.
It is currently in the headshunt of Wirksworth station. Bernard Caddy*



On the chassis, discussing alterations required to the pivoting arrangement. Mark Langley



Derek discussing the drawings after visiting the chassis. Mark Langley

absolutely toasty all the way through, instantly warming up the works once uncovered. No change in the lack of insulation readings within the field coils...as we suspected would be the case with a few of them. The oven however works very well and very efficiently at 900w! It is easy to move and use as well so 10 out of 10 to the Saturday crew "Think Tank".

The last motor to be baked exhibited similar readings to the others of a healthy serviceable motor! So where are we with this? Well we have done a huge amount of investigation work to the worst visual condition motors and basically rehabilitated them to be able to provide motive power instead of going BANG!

As encouraging this is we still have to deal with the internal corrosion that has taken place over the years. The works done on the stripped motor has proven that careful patient cleaning can go a long way towards restoring the motors. But we have to formulate a plan of action that will arrest the corrosion, varnish them and rebake them to standard? We have the start of a coherent cost effective plan but further ideas and suggestions most welcome.



Examining coil springs. Mark Langley





The process of lowering triple-nested coil springs from the bogie frame.
Mark Langley



Above: This is the only way these pivot pins can be removed, there is no access from behind.



The coil springs were moved indoors to be cleaned. Anthony Pilkington



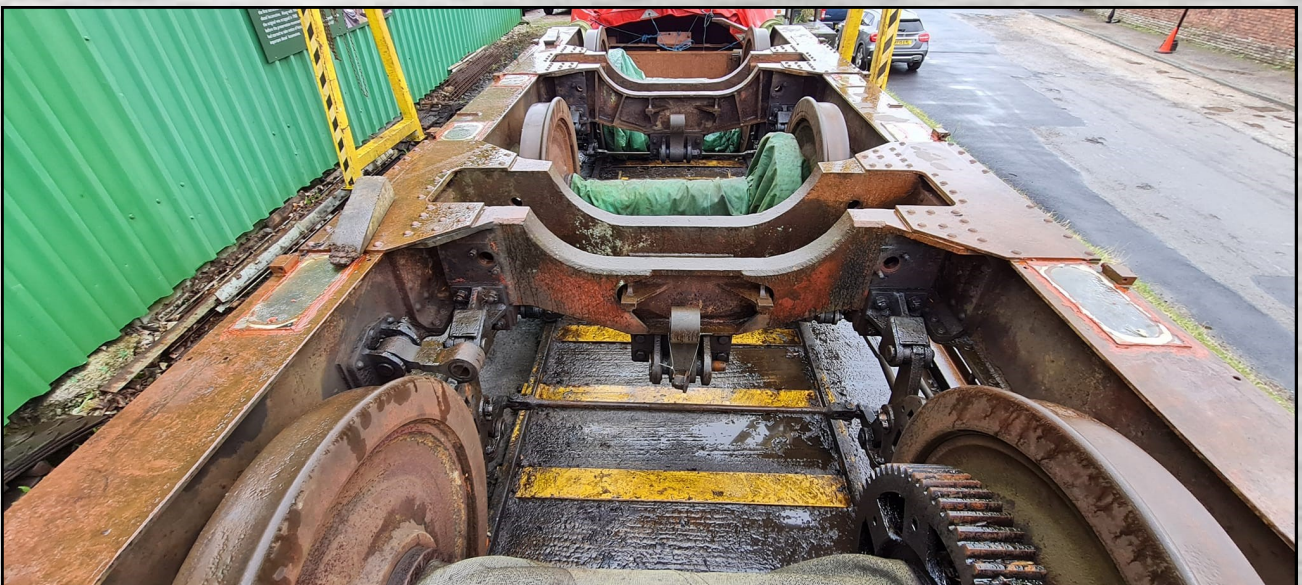
We are almost finished stripping bogie 139, while 140 remains under tarpaulin for the time being. The plan is to remove braking parts, clean and refurbish them, then put back in place. In the photo above we see the braking system being demonstrated in action using compressed air.

The leaf and coil springs have been removed for cleaning of their frames.

They will need to be replaced with stronger ones, due to the extra weight of a diesel electric compared to a DC electric EM2 Class, but will be refitted temporarily.

The wheels will be sent for tyre turning.

Photos: All Mark Langley, except above right, Andrew Hoseason





*The rods of the brake system being cleaned and painted.
Mark Langley*



The brake mechanism in place. Mark Langley



Parts stored pending fitting. Mark Langley



In place once again. Bernard Caddy

Open Days at Centenary Works

An opportunity to visit the workshop, see what is happening and talk with active volunteers.

We intend to be open our workshop when the Ecclesbourne Valley Railway has Galas:

TWIN PEAKS DIESEL GALA - Saturday April 13th
(The gala is running from Thurs to Sat, in partnership with Peak Rail, Rowsley South)

60 YEARS OF CLASS 14s - Thursday 25th—Sunday 28th July

Location: Centenary Works, Station Road, Coldwell Street, Wirksworth, DE4 4FB

Money Matters - Tony Brown, Treasurer

The trustees would like to share our warm thanks to Anthony Pilkington, Director of BookCheck Ltd, who has recently helped our team with moving our accounting onto Xero. He has also provided technical guidance about the implications of registering for VAT.

It's fantastic that we are able to find members of our group who can share their expertise and knowledge in order to help move us forward.

After our review, the trustees have decided to continue considering register for VAT, which would allow us to recover VAT on purchases we make, including on services. Registration means that eventually we will charge VAT on our loco rentals. However, we would need additional trustees or members to take this forward.

My full-time job is in the NHS, and I feel like I'm always very busy at work and find it difficult to give us much time to the charity as I would wish. Having said that, I've been Treasurer for around five years, and I'm determined to do what I can to support the trustees and the members and fantastic hard-working group who will enable us to see LMS10000 in full voice again.

I'd like to further reach out to anyone reading this who has financial experience and mainly those who could help us raise the funds we need in order to achieve our objectives.

The only thing that will ever be a challenge to us is money. We have a resolute and passionate engineering team, dedicated supporters, dedicated members, and a very achievable goal.

Fundraising is absolutely key for everything we need to do. I would love to hear your ideas of how we could secure more funding in order to accelerate our project.

You will feel the same as me I'm sure – that day when we roll LMS10000 out of the works like that day in 1947!! I can't wait for that day to be honest!

I would love to find other enthusiastic people who can help me raise funds – no idea is a bad idea!

Please get in touch with any ideas
You can send an email for my attention to info@LMS10000.co.uk
Or write to me at 50 Blackwood Road, Blyth, NE24 4DN

What is at Wirksworth?

Bernard Caddy

Many of our members have the opportunity to visit Centenary Works, and of course we have regular working parties with active volunteers on site. But for members further afield, this is a view of the home of LMS10000.

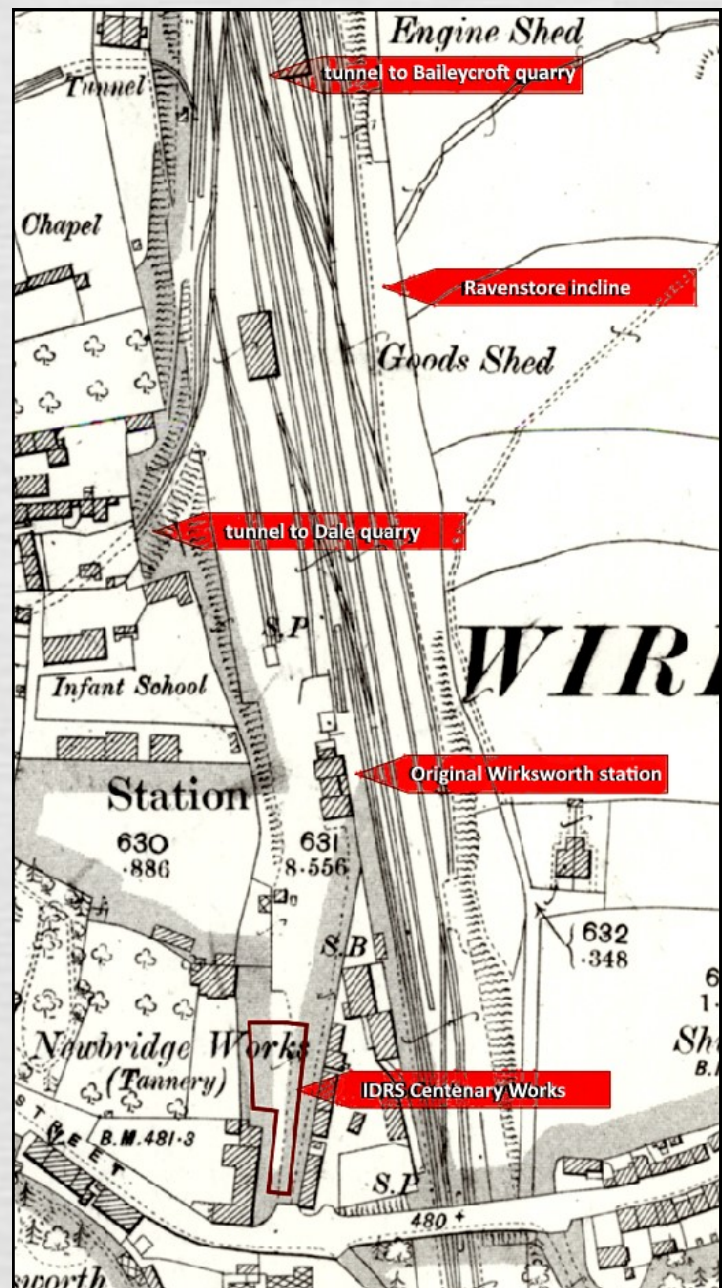
The history of the location

Our base at Wirksworth is on the west side of Station Road leading to the former Midland Railway Wirksworth station. The station, and the railway line running up the Ecclesbourne valley from Duffield, is well known now as the home of the Ecclesbourne Valley Railway.

The line was originally laid out as a double track roadbed to give the Midland a route north towards Buxton avoiding a section of line from Ambergate to Rowley, up through Matlock, where they relied on running rights. As relationships evolved and competitive pressures changed, the Midland was able to stay with the Matlock route and opted not to build a tunnel north from Wirksworth. The Ecclesbourne valley line became a quiet country branch supporting the town of Wirksworth, with significant traffic from limestone quarries in the immediate vicinity. The extra wide formation for a single track branch has proven a great benefit in dealing with the embankment collapse at Duffield, which still needs financial support to be resolved.

There were two tunnels from the station yard itself heading west into quarry areas on the other side of the town, as well as the Ravenstor incline mineral line heading around 1.3KM north from the station to climb up to the level of the Cromford and High Peak line and further quarries.

Our shed is not part of the rail infrastructure at Wirksworth. It is a steel portal frame building, clad with corrugated steel sheet, and a more modern green profile sheeting on the more prominent eastern face. It is on a bank, set some four metres higher than the track levels, and so not rail connected. It has a large maintenance pit and all signs are that it was erected for storage and maintenance of vehicles. When IDRS took on the lease of the building and surrounding land the shed had previously been used for servicing and repair of vehicles.



The first priority for IDRS volunteers, in the autumn of 2019, was to get the place tidy, cleaned (as much as possible), painted, and watertight (again, as much as possible). Probably the biggest problem left behind were many old commercial vehicle tyres, in various discarded heaps, overground, under brambles and elsewhere. EVR agreed to dispose of the old tyres, and also provided a number of skips for random rubble and rubbish.



By the end of 2019, the shed was cleared, the floor and walls painted, guttering fixed, new lighting, cameras and a security system, and signs outside to let people know we were there. On Friday 6th December, Stan Fetcher formally named and opened Centenary Works. Having the shed gave a focus for bringing together the various assets the charity had acquired since 2012 into one place. These included in February 2020 the 16SVT Mk1 engine, which had been stored at Peak Rail, Rowsley; and the pair of EM2 bogies stored at Midland Railway Centre, Butterley.



The largest and most complex move was 58 022, the donor locomotive stored at Peak Rail. The engine was removed while at Peak Rail, and then the remaining rolling chassis including cabs, electrical and cooler equipment, was moved to Wirksworth in August 2020, to be stored on EVR rails around the yard at Wirksworth. In 2020 we also brought on site at EVR a sleeper coach, donated by Porterbrook, for joint use by EVR and IDRS as volunteer accommodation. Since then many additional parts have been brought to Wirksworth, and with the gradual dismantling of 58 022, we've also disposed of unwanted parts.

The original facilities at the shed were little more than power (three phase and 110V), an old air compressor, water supply, and the pit. Over time these have been improved and added to - the office area refurbished and fitted with background heating so we can store papers and documents, two secure containers added for additional storage, the recovered cab from 58 022

cleaned and part-refitted placed as our 'gate guardian', and most recently further weatherproofing on the roof and insulation in the lean-to workshop area.



Map on page 20: OS 25" 1989 revision.
National Library of Scotland:
<https://maps.nls.uk/geo/explore/side-by-side>

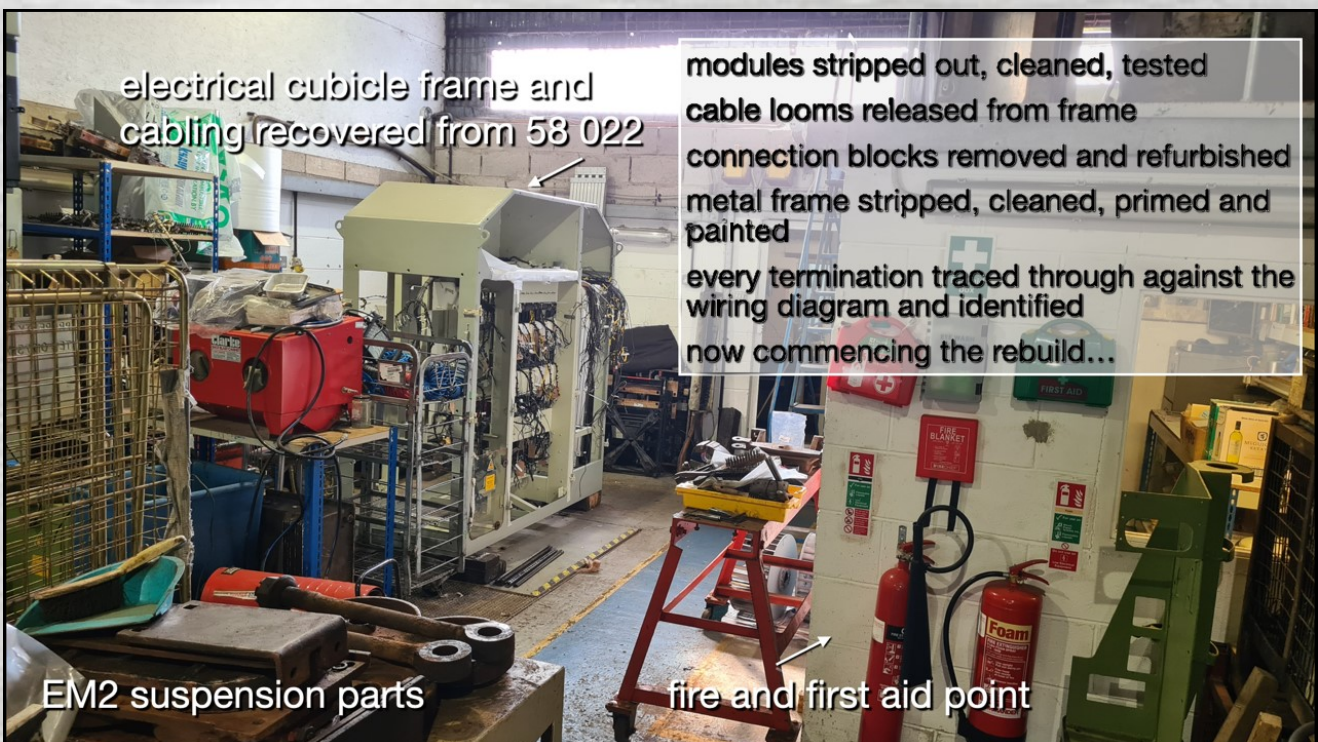
No.1 end (radiator end) cab recovered from 58 022

Most of the contents were stripped out during 58022's years on the scrap line at Crewe for use in other units.



electrical cubicle frame and cabling recovered from 58 022

modules stripped out, cleaned, tested
cable looms released from frame
connection blocks removed and refurbished
metal frame stripped, cleaned, primed and painted
every termination traced through against the wiring diagram and identified
now commencing the rebuild...



EM2 suspension parts

fire and first aid point



Mid Winter day's end, Mark Langley

We need you!

- ⇒ Edit this magazine!
*Fresh hands are welcome.
If you would like to be involved,
please get in touch.*
- ⇒ Join the engineering team.
- ⇒ Help with publicity. *Distributing
leaflets and making adverts.*
- ⇒ Help with the financial
admin and fundraising work

There are plenty of opportunity for members to get involved.

Your input can help 10000 be completed sooner!

0755 162 1685 info@LMS10000.co.uk

IDRS, 46 Biddick Village Centre, Washington, NE38 7NP



10000 at Northampton in 1960. Unknown photographer, courtesy of Paul Williams

LMS10000
Accounts
For 2023
&
Financial
Summary



During the last year we made requests for financially knowledgeable people to step forward and assist us. We are grateful for two gentlemen who did so and as a result, we have been able to present the 2023 accounts in much greater detail than previously, using Xero software. We intended to include the accounts in this magazine, but it's proving a little more involved than we would have hoped, so the accounts will be sent separately.