7th Heaven

Journal of the Aus7 Modellers Group Inc.
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Straight Down the Line - Opinion

by Trevor Hodges

Change Of Venue for the April Forum

After something like 14 years at North Sydney Leagues Club we've taken the decision to hold the upcoming April 4 O-Scale Modellers Forum at a new venue: the Carnarvon Golf Club at Lidcombe (see the advertisement in this issue for details). This may or may not be a permanent move as we'll be gauging the reaction of the membership and also seeing whether it's a good fit for the event. However if things work well chances are the Forum will be held at this new venue for some time into the future.

The possibility of making a move has been on the cards for several years now with some pressure building on the suitability of Norths as a venue. The cost of holding the Forum at Norths had continued to rise, the second floor location was becoming a real issue for our traders and gaining early access seems to have become a bigger issue over the past 12-18 months. While the arrangement of the rooms with separate seminar and trading spaces has always been a big plus since the club underwent renovations a few years ago, the seminar space was often very crowded and the number of chairs we could fit into the space was restricted. In addition to this there has never really been adequate space for displays and/or small layouts or modules to be put on show if this was needed. While the location of a venue is always going to be a vexed issue (for every person you advantage by a move you're likely to disadvantage someone else) if we we were going to move I was looking for somewhere more central to the metropolitan area.

While not a perfect venue I feel Carnarvon Golf Club addresses most of these issues. The arrangements and timing of the next Forum will be almost identical to the ones we've held for years at Norths. Starting times, entry costs, coffee and lunch will all be similar or exactly the same as in the past. You'll find ample parking at the venue and, while the club is not what I would describe as an easy walk from Lidcombe railway station (it's 2.2km according to Google maps) I've been informed that a bus service (the 925) runs right past the club and takes about 11 mins. Please make your own checks and plans before you take my word for this however.

Changes to Contact Details and Social Media

If you look at the side panel that appears on this page you may notice a few changes to the information contained there. All the executive members have a contact email address listed and you may also note that all membership enquiries are now being directed to our Secretary Chris Lord. I'd like to thank Anthony for his work in this area for the past number of years who has reduced his role to that of Treasurer which is his official job title anyway. We've also listed the contact details of both our new(ish) GroupsIO group (this is the one that essentially replaces the Yahoo! Group) and our new Facebook presence along with our web page. While it isn't a requirement to sign up to Facebook to continue being included in exchanges online I have noticed that in spite of only having half the number of members as the GroupsIO group there is a good deal more activity and exchange of views and photos on the Facebook site.

You might ask why people can't make these posts on the GroupsIO email group and as someone who resisted for years signing up to Facebook I have a certain sympathy for this view. However Facebook is how anyone under 35 communicates and if we wish to be accessible to a younger generation of potential modellers, having a presence on Facebook is a must.

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Please contact the Secretary for for any membership, advertising or back issue enquiries. For matters related to the twice yearly Forum contact the President.

All advertisements must comply with the Trades Practices Act.

Back Issues

Issues 34 onward only available at $7.70 each plus $2.00 p&h for one or two copies, $4.00 p&h for three or more copies.

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On The Cover
The fettlers on Arakoola are hard at work near their rail rack. On page 10 Bruce Lovett shows how you can add one to your layout.

Faced with a dilemma 8 years ago with my small O gauge shunting plank in the garage not giving me much pleasure I decided to once again go out into the great outdoors inspired by people like Ralph Holden. This was partly prompted by a friend offering to build the baseboards for me.

Previous excursions had shown up the problems with using wood; particularly the pine and plywood that I had used before. This one would have to have as little wood in the structure as possible within my budget. Steel was used for the risers and for the spine of the roadbed.

Wooden crossbeams were used under the top layer of Villaboard. These crossbeams proved to be an issue about 6 years later, crumbling to pieces where they were at the joins in Villaboard where water could seep through. The edges of the crosspieces were initially tied to strips of wood but were quickly replaced with strip of galvanised sheet folded at one edge to give added strength. Having friends with welding and metal sheet forming tools allowed this to eventuate.

Going outdoors allowed me to have a double track continuous run to sit back and watch. This is something I like in a layout as I find shunting can get very boring quickly; particularly on my own. Given the trophies on my wall for r/c plane and car racing I don't find operating a loco a great challenge. I also was able to have the recommended minimum 6' radius curves for 7mm finescale.

Outdoors does have its challenges however. These can be summed up thus.

- rain
- snow
- ice
- wind
- contamination from airborne particulates
- UV
- heat
- leaves/ twigs
- animals
- ferals
- stock storage

I'll deal with the last item first.

I think a set of sidings in a shed or garage or even in the house is a must with an outdoor layout. It enables rapid storage of trains if the weather turns bad and also saves having to load every train onto the track before starting play.

Most O gauge is not built to be operated in the rain, although plastic items might survive the occasional shower.

The sort of snow falls we get in this country are not likely to see us out of action for days on end unless you are located at Thredbo . I have brushed light falls off the track to allow me to operate.

Ice on the tracks means waiting until it thaws. If you were in a hurry you could run a bucket of warm water over the tracks.

Wind can be the biggest problem. I have had stock blown off with sudden unexpected gusts. Weighting stock a little heavier that is required indoors can help as can some sort of fencing at the edges of the baseboard. Permanent structures on the layout should be well glued or screwed down.

With track open to the sky there is constant airborne particulates settling on the rails. My answer has been to wipe them over with a graphite stick. Keeps rail to wheel contact fine for months at a time.

I decided to use Peco track as it has had a proven reputation for handling our levels of UV radiation since they improved their UV protection in the nylon sleeper base many years ago. After 8 years in the sun my track is fine.

I now avoid stock made from urethane, I have had a few items in three different scales warp after running outdoors on a sunny day. I have one or two that have also shown no signs of problems. As I have no idea of the differences in urethane used by manufacturers I just don't purchase any stock made from that material.

Leaves and other detritus from trees can derail stock so it pays to have a quick look before each running session.

Birds can hit structures when flying by and cats could also decide the layout is a place to jump on. Neither should hurt the track but may damage some structures.

Security could be an issue in some areas. My layout is not readily visible to some neighbours and from the street. I have not had any issues in that area.

With all of these possible down sides one may wonder if it was worthwhile? I can say it was! I would probably have returned to a smaller scale indoors if I had not made the move. The wood crosspiece issue was partly my fault as I realised I had only painted the wood in a primer/undercoat, not added the top coat. The replacement has all the coats and a plastic layer between it and the Villaboard at the joins this time around.

As for reliability, I have far less pickup problems than I witness on Arakoola. The rare electrical problems have been where I have forgotten to solder a joint.

While operation is very dependent on the weather, we have lots of days suitable for running in this country and nothing beats natural light and the changes it brings at the close of day.

Would I change anything? Yes, given my time over again I would lower the layout. The ground slope meant that clearance needed under the layout at the back fence meant the storage area in the garage was too high for easy access and its width had to be reduced. If I had decided to go battery/radio from the start I could have lowered the layout to near ground level at the rear, saved all the work of wiring it up and had a much lower and wider storage area in the garage. I would have had to trade that convenience for regular battery charging however.

The jury is still out here on the question of whether BPRC (battery powered radio control) would have been the better option over DCC for use outdoors. My layout is so reliable that track and wheel cleaning is a rare event. Locomotive pickups do need a clean occasionally.

The biggest advantage I see for using BPRC is not having to string wires under layouts and solder all the joints. If you really value the sound that can come with DCC then at the moment it might still be the better option.

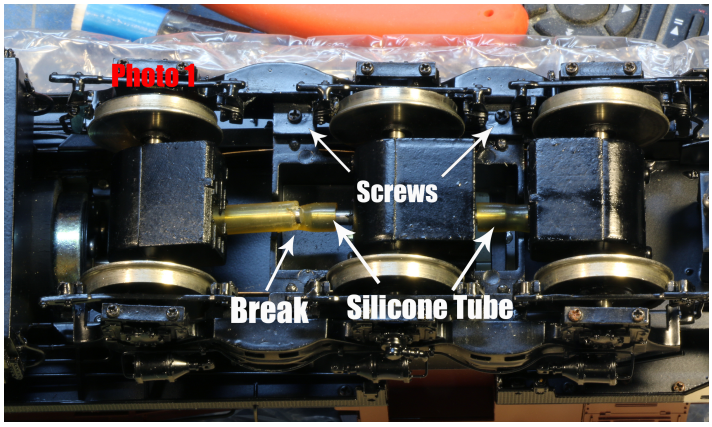
So, if you don't have room indoors, consider this option.

Repairing A Broken Drive Train On The Auscision 49

Trevor Hodges

About 5 years ago I installed a DCC sound decoder into Peter Krause's Auscision 49 class. The loco ran fine and sounded great and I'd watched it run on his layouts at various times in the intervening years but on a recent visit I noticed the loco wasn't being run so I asked him why not. He replied that it had stopped working and the bogie on the leading end had a major problem. After getting the loco off the layout and turning it over it emerged that the bogie's drive train had suffered the same problem as another loco I'd looked at several years before. I'd been sitting at a demonstration table assembling kits on the Aus7 stand at the Liverpool exhibition next to Arakoola and Paul Chisholm had approached me with his 49 which had also ceased to operate. I applied a quick fix to that 49 in hopes that it could be put back into service. My memory was that it had started to run again but I hadn't thought a lot about it since and I'm not sure what the final outcome of Paul's loco was.

The drive train of these locos has a fatal flaw in their design in my opinion. The individual gearboxes for each axle are held in alignment through the use of short lengths of silicone tubing which also acts as a crude "universal" joint between the three gear boxes. I've seen this type of arrangement in HO DJH steam locomotive kits which were supplied with NWSL gearboxes. The gearbox and motor would be connected with the same type of silicone tube, although of small diameter, as that used in the Auscision 49, in the earlier KHIAC 44 and I presume the Berg's/Haskell/OAust produced 44. I've been told that this arrangement is also quite common in brass locomotives produced for the US market. This problem has since been overcome in Auscision locomotives through their use of properly engineered steel universal joints in the 45 and 48 class locomotives. I've never seen the same problem as that in the 49 occur in the either type of 44.



While the use of this tubing does work the flaw is in the reliance on the side frames staying where they're supposed to in relation to the axles. In the case of the Auscision 49 these side frames are held in place by two small screws. These screws are tightened down through two relatively thick cast "tabs" on the side frames leaving only about 2 or 3 thread turns on the screws to hold the side frame in position. The screws seem to work themselves loose quite readily and this allows the side frame to shift position. As the side frames are used to hold the ends of the axles in position this shifting can allow the end of one or more of the axles to drop out of alignment leading to the affected gearbox not being able to turn. In operation, as the motor and the rest of the axles are still rotating, the torque between these and the affected axle (the one that has stopped turning) is transferred to the tubing which twists and can break (see photo #1), rendering the loco inoperable. In both the locos I've seen this happen to the side frame retaining screws were loose and the side frame was moving quite freely, more than enough to allow the axle end to come free from the side frame.

A proper fix to this problem would be the replacement of this somewhat less than satisfactory arrangement with a set of properly installed metal universals. However this would be quite time consuming and expensive so instead Peter and I (after consultation) decided to go with a simple replacement of the broken tubing. After some thinking, internet hunting and a couple of dead ends I was able to determine that the tube supplied on the Auscision 49 is in fact silicone and not propylene as I'd originally been led to believe. The drive shafts of the loco are 3mm diameter so the inside diameter of the tube needs to be considerably smaller than this so it can grip the shafting. The original tubes have an outside diameter of 5mm, and inside diameter of 2mm and a wall that is 1.5mm thick (see photo #2). I've included both the new tubing I acquired over the internet and part of the old, broken tubing for comparison sake. I purchased the replacement tubing from Gecko Optical (PO Box 718, Mt Lawley, WA 6929 and http://geckooptical.com/) and the package arrived two days after I placed my order of Silicone Tubing 3100205 – 2.0 mm x 5.0 mm. I can't be absolutely certain that this is the exact same material that was supplied on the locomotive but from a quick squeeze test and by placing the tube side by side with the broken piece I'm pretty sure it's of the same type. The only downside is that the minimum order is for 1 meter of tubing so I have enough spare to repair about 40 locomotives. The total cost of the tubing including postage was $20.03. If you have a loco that needs a similar repair make contact with me and I'll supply you with a small piece for a small charge and postage.

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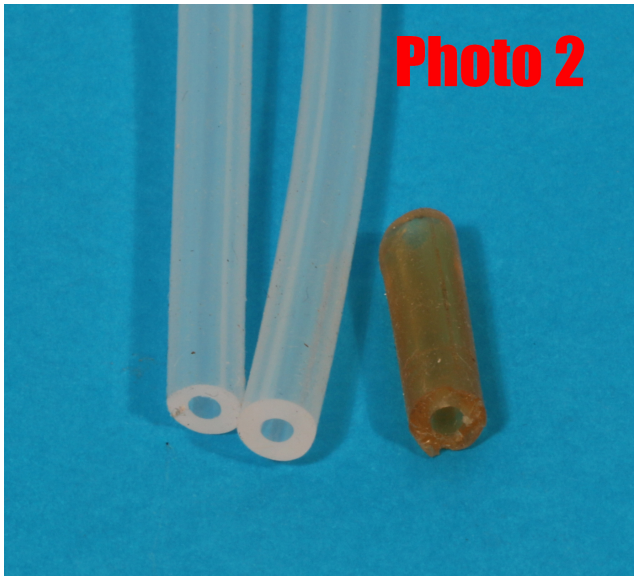
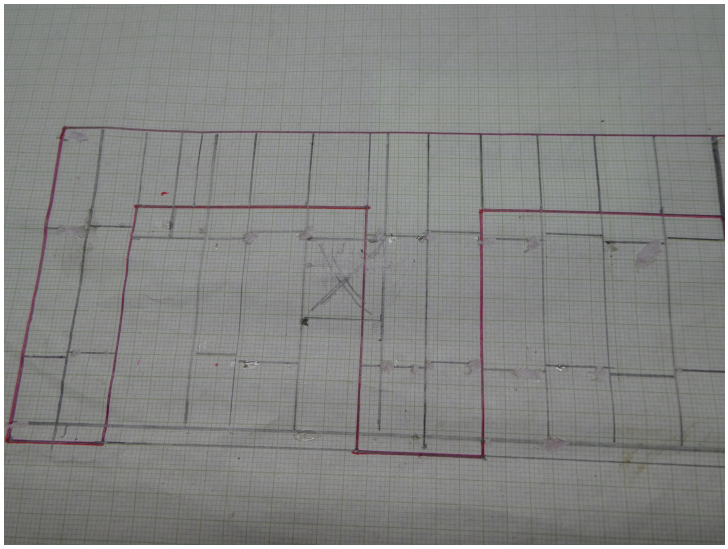


VIRTUE MOTORS - PART TWO

STEPHEN REYNOLDS

For the workshop I wanted a different look from the Service station part of this complex, and that required a different approach. A timber frame with timber weatherboard, the same as the prototype.

I cut the timber (cedar) for the frame on my band saw. Most pieces scaled out at around 5 x 3 scale inches. I was pleased with this as I wanted it to look like a rough sawn heavy hardwood frame which it did after staining it with an application of alcohol and Indian ink.



Once again I used graph paper to draw the plan in 7mm. using the lines on the graph paper to make sure all timbers were horizontal or vertical. Covering this with a sheet of non stick paper I began the frame much the same as I would if I was constructing the prototype. A heavy top and bottom plate 6x4, studs and noggins 5x3 and heads above windows and doors 6x 3 all at two foot centres.

Weatherboard came from Artesania of Spain, a model ship building supplier. It is a type of hardwood and comes in strips. It scaled out at 9x 2 inches and this allowed a 2 inch overlap. While still in the full length strips I used white household flat plastic wall paint. First coat, grey roughly brushed on. The grey was achieved by tinting the white with a small amount of black tube water paint. While the grey was still wet white was applied over the top and with a damp cloth, paint was removed from each strip to achieve a weathered look.

The roof trusses were constructed out of craft timber using a jig to achieve consistency. The dimensions of the timber scaled out at what I thought would be a reasonable size for such a construction, which is another way of saying I have no idea but it looked right.

The concrete floor was part of the slab for the whole building that was poured much the same as the prototype would have been. The formwork followed the dimensions of the buildings. A depth of ¼ inch was allowed and instead of concrete, casting plastered was screened off. Once dry expansion joints were carved into the surface. The windows, there are only three, are Grandt Line. Roller doors were scratch built from corrugated metal sheeting and because not much shows I did not go to a lot of trouble in their construction.

Something I did go to a lot of trouble with was the roof cladding but because it is rather involved I will wait till another article to explain the method. Except to say that I wanted the look of corrugated fibro super six roofing material, a product that was used a lot on industrial buildings in the second half of last century. For this I used corrugated cardboard.

Commercial News

Trevor Hodges

ModelOKits

ModelOKits, PO Box 379, Sydney, NSW, 1700, (02) 97073390, 0404935663, http://www.modelokits.com & sales@modelokits.com, shop open most Fridays between 10am to 1pm at Unit 4/61-71Rookwood Rd Yagoona NSW 2199, have passed on the following news:

The E flat wagon and water gin should be available for purchase at the next Aus7 Modellers O-Scale Forum in April.

The Minerva Manning Wardle K's in straight black are now available in DC for $495 and with DCC sound installed at $725.

Stock of the newly released Minerva 5 plank GWR and BR wagons will be available at the end of February 2020. Minerva have also released a special edition of their Iron Monk wagons in private owner cement livery.

ACM, HCX, BX, CX, BHG, BCH, BWH wagons are all back in stock and are available for purchase at the shop or the next Forum.

We now have stock of the newish Andian models figures, including 48 class crew. We are also stocking the O scale range of Stephen Johnson Models.

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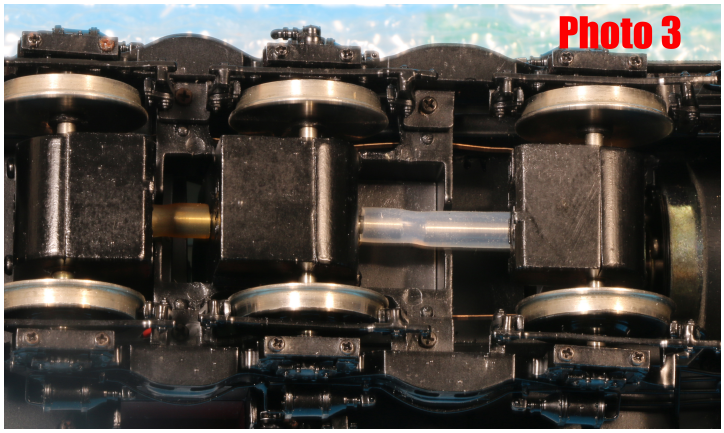
I measured the intact length of tubing on the other bogie and cut a 30mm long piece from the new stock. I slipped this into place and reattached the bogie side frame and gave the loco a test run. I was very careful not to bend the pickups that act on the rear of the wheels while doing this to ensure power would still get to the decoder. Once placed on the track it ran as good as new. I tightened all the retaining screws on all four side frames and recommended to Peter that once the loco has been properly tested that he retain them by dipping the ends of the screws in some loctite or superglue before re-screwing them in place. This will retain the screws in place but will allow them to be removed for maintenance with a little persuasion if needed in the future.



2019 Aus7 Modellers Group Award

Perhaps the most enjoyable aspect for me about 7th Heaven Editor Paul Chisholm being the recipient of the Aus7 Award at the last Forum in October 2019 was his discomfort at having to ask one of the executive to write something about the award for this issue of 7th Heaven. I jumped at the chance to write something about Paul and the award, after-all it was me who nominated him.

I met Paul through my involvement with the 1:43.5 scale layout Stringybark Creek around 2004/5. Like many of us he'd been a HO modeller but something about the size and volume of 7mm models drew him to sign up to help out with building the layout after Dave Morris published his "Gunnas Need Not Apply" letter in one of the very early issues of 7th Heaven. I don't think it would be unfair to say that Paul has been one of the core members of the group of modellers responsible for the construction of both Stringybark Creek and Arakoola. By this I don't *just* mean he's one of the few originals still left in that group but also that he's been a leader and driving force in the conceptual development, design, construction, ownership and transportation burden of these two seminal NSW outline 1:43.5 layouts. At the very time when everything in this hobby seemed to be heading further and further down a pre-packaged, standardized path, SBCk and Arakoola showed that things could be done differently. These layouts have allowed thousands of modellers see what is possible outside the HO, r-t-r box. Paul's central leadership role in the development of these layouts is more than enough on its own for him to be given the 2019 Aus7 Award.

However, as any member of the Aus7 Modellers Group will be well aware, Paul hasn't restricted his involvement in supporting his chosen scale through building layouts, even when they're layouts as important to the hobby as SBCk and Arakoola. I went back and checked and discovered that the first issue of 7th Heaven where his name appears as editor is on the Winter 2008 (#18) issue after he replaced Kim Mihaly as editor at the 2007 AGM. I have a feeling he may have edited a couple of issues prior to this as the transition from Kim to Paul took place, but if we take the middle of 2008 as his first "official" editing of the magazine that means he'll have been doing the job for 12 years after the Winter 2020 issue comes out. Aside from the ongoing issue of a lack of articles to publish, and the significant thinning and greying of Paul's hair caused by this, the thing that stands out for me about his editorship is that I don't have to think about 7th Heaven before he makes contact with me to write something like Commercial News or SDTL. Paul knows his job, he does that job and the magazine comes out (a lack of articles not withstanding) regularly and on time. He's done this 4 times a year for 12 years. He carries out this role without fuss, drama and on a time line. Anyone who has run or worked for organizations will know just how valuable this quality is in a colleague and it's what I most value in Paul. If you want to know how important an individual is to an organization all you need to do is try imagining it without them.

Congratulations Paul on receiving the Aus7 Modellers Group Award for 2019, there are very few people who I can think of who have done more to earn it.

Trevor Hodges

Build A Rail Rack

Bruce Lovett

Throughout the N.S.W.G.R. system, rail racks could be found at most stations that had a track maintenance gang. Usually they were situated close to the track in a siding so that the gang members did not have far to carry the rail for loading on a flat wagon.

Construction was simple using old rail welded together to form a free standing structure of inverted “U” shapes. These were sunk into the ground and spaced about 8’0” to 10’0” apart to a height of about 3’0” above the ground. The length of these “U”s appears to be about 7’0”. They were used to hold 33’0” lengths of new or used rail and occasionally large baulks of bridge timber.

The dimensions above may appear to be too much “about”, but, despite exhaustive searching on various web sites I could not find any plans or let alone ‘photos of rail racks. The leading ‘photo in this article is one I took at Wauchope, N.S.W., on the 6 th October, 1977, which I have used to base my dimensions. No doubt when this article appears plans and ‘photos will come to light !

Any layout large or small will require a number of these rail racks , so, a “jig” is required. The time used to make a “jig” pays off in the long run with saved time and no burnt fingers or bad language. My “jig” is a piece of 3” x 1” timber using small nails driven in until about 1/2” protrudes, their heads cut off and the jagged edges smoothed with a file. Saves torn fingers later. I have used Code 100 Brass, Nickel Silver and even some old Steel rail for these racks. See 'photo 1.

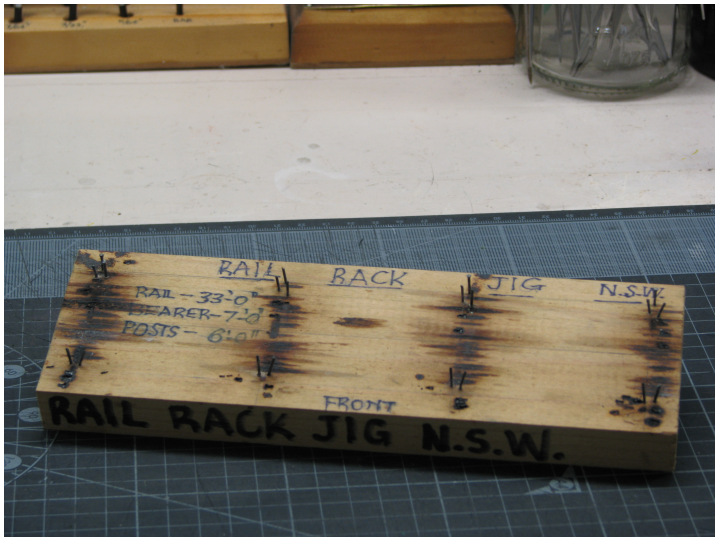
Cut the rails to length using the above dimensions as a guide, smooth the cut edges with a file as the prototype rail would have been cut with an oxy torch so it would be smooth. Lay the bearers in the “jig” with the rail upright and solder each 33’0” length of rail starting at the back and moving forward. Don’t be too fussy about lining up each rail parallel and even at the ends. The gangers were not fussy. You may need to use Alligator Clips to hold the soldered rail while you solder the next rail. Don’t use your fingers !!! See ‘photo 2.

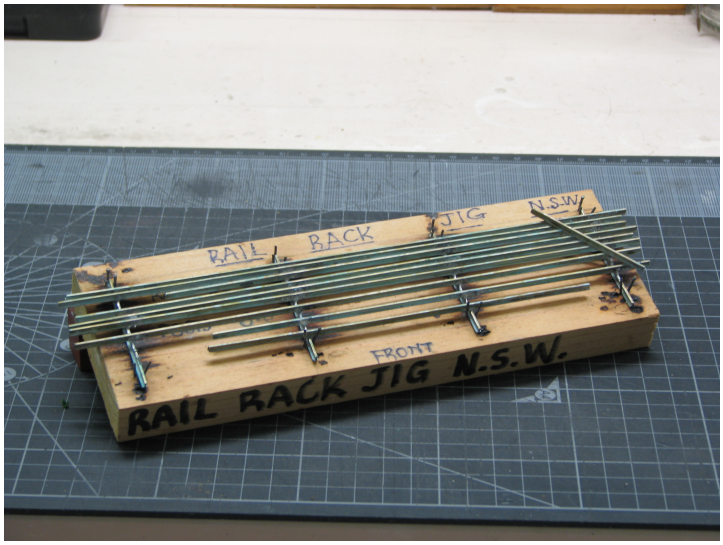
When completed, remove the assembly, turn it over and place it back in the “jig” so that the legs can be soldered in place. Once again use some Alligator Clips to hold the soldered rails in place or use heavy weights when soldering the legs.

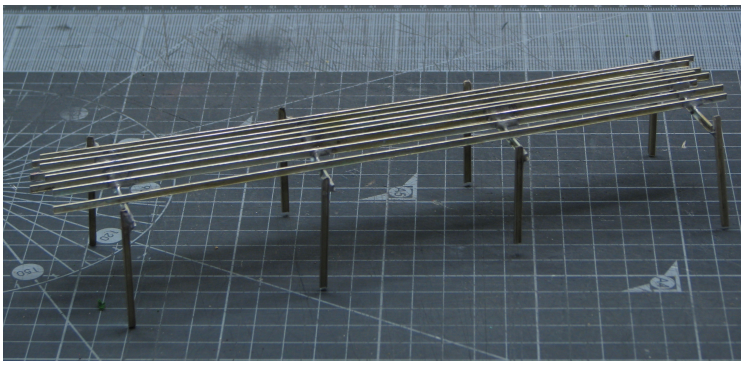
Carefully remove the completed assembly from the “jig”, spray with glass cleaner to neutralize the flux and a final cleanup with fine steel wool. See ‘photo 3.

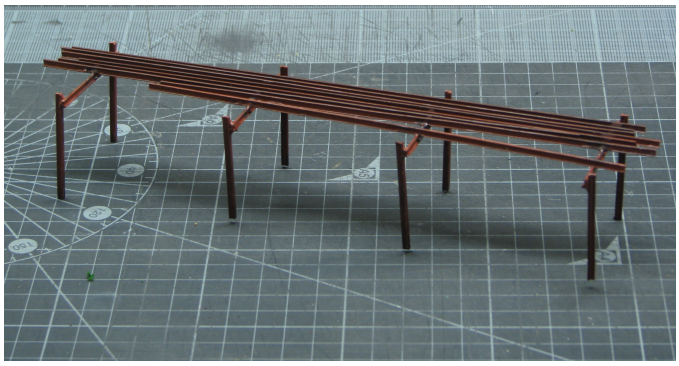
There you have it, a genuine Rail Rack. All it needs now is a coat of rusty paint and a bit of weathering. Plant it in that siding with weeds and maybe place Bluey having a “you know what” behind the rack. No wonder the weeds grow! See ‘photo 5.

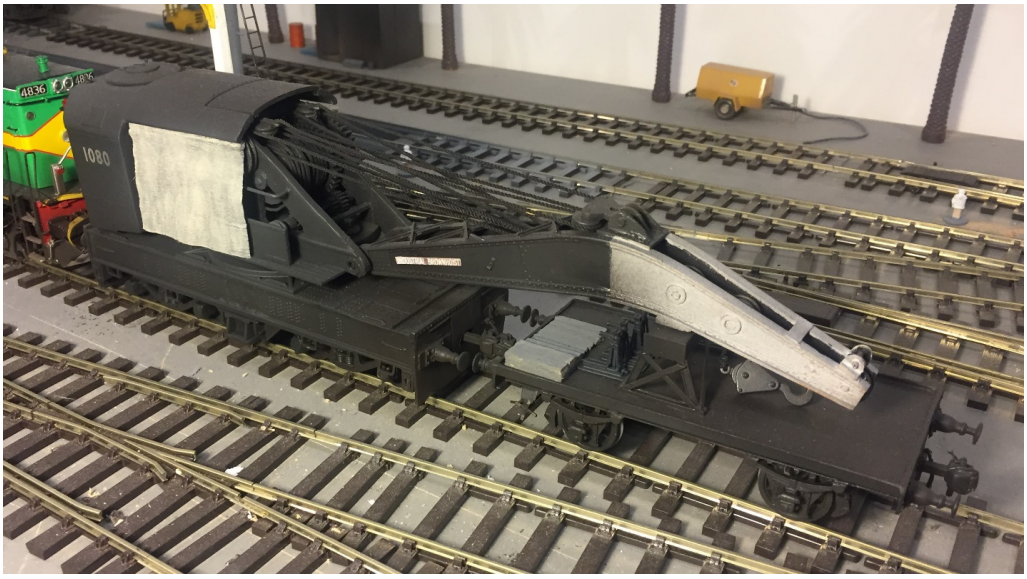
From The Old Blokes Workshop. If you have to produce more than one item by soldering, make a “jig”. It saves time, they will all be the same and no burnt fingers.







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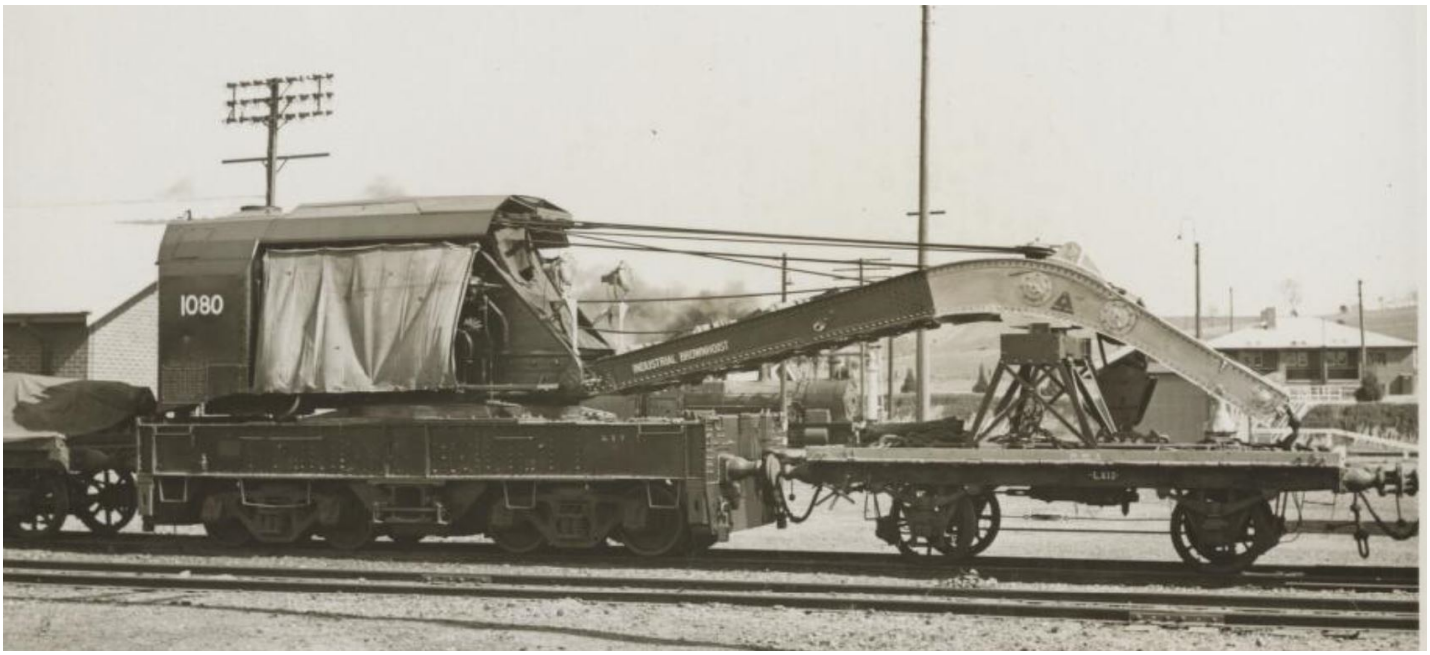
Filling the Crane siding:

A conversion to model a NSWGR Breakdown Crane.

Stephen Preston.



Background.

To assist with rail activities 2 Industrial Brownhoist wrecking cranes were shipped from America to New South Wales during WWII. Whilst still to be confirmed, research indicates that the cranes were likely built to Specification MIL-R-3241 for "Foreign Service" but the configuration of the cranes in NSW as we know them differs in several ways to the American design including by not having an enclosed crane unit. Presumably this modification was conducted after arrival in Australia utilising canvas side curtains better suited to the generally warmer local and crane operating temperatures. Rated as 75ton capacity in America, the cranes were nominated as having a 50 ton lift limit in NSW.

At the cessation of hostilities the cranes became part of the NSWGR fleet and were numbered 1080 & 1081 to continue NSW service as breakdown cranes. 1080 is believed to have served the Junee district for almost its entire career whilst sister 1081 is known to have been based at Taree, Broadmeadow and Werris Creek at various times. Today 1080 is preserved at the Junee Roundhouse Museum and 1081 is part of the extensive Dorrigo Steam Railway & Museum collection at Dorrigo.

I have long had an interest in breakdown cranes and having included a "crane siding" in my loco depot layout I was keen to find a suitable model to fill it. During a discussion with Glenn Scott about his modelling of Taree he mentioned that both brass and plastic O gauge models of Industrial Brownhoist cranes had been produced in the US which might be close in configuration to the NSW cranes. An online search identified the availability of both the Overland Model company (brass) and MTH (plastic) versions via Ebay and both were acquired.

Researching the NSW cranes has so far only identified a basic NSWGR outline drawing with overall dimensions but many photos both online and in private collections are available which show much detail. A photo provided by John Buckland many years ago of 1080 and jib truck at Junee in 1944 was the inspiration to model that configuration, Keith Jones from DSRM was particularly supportive of my efforts and provided numerous photographs of the detail on 1081 when requested.

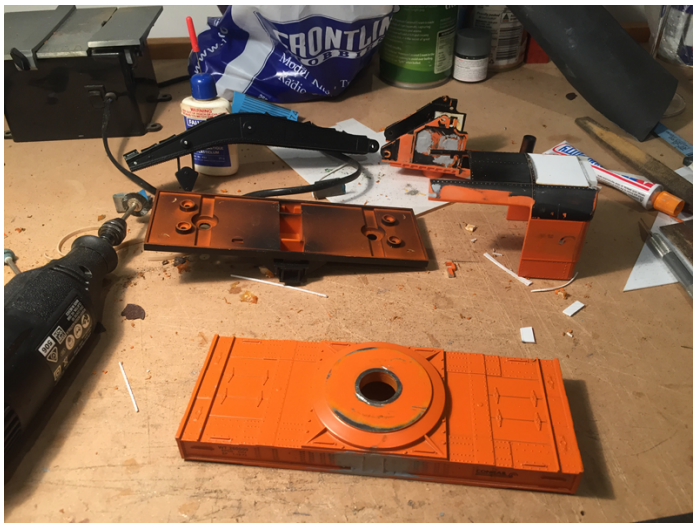
On review of the models the Overland Models brass 120 ton crane was found to be generally similar but not close enough to the 1080 & 1081 configuration to justify "hacking" this beautiful model. While the MTH Rail king crane car plastic version was a radically different version in many ways it has sufficient similarities to be the basis of a "near enough" conversion effort.

The model conversion task.

To kick off works I dismantled the MTH plastic crane and examined the various components to identify the extent of works and parts needed. Tasks undertaken to date are as follows:

Underframe: This was found to be largely similar to 1080 & 1081 so remodeling was relatively straight forward. The following changes were made:

- Lowering of the crane turret base mount by hand filing to close up the oversize gap between the crane and underframe. The crane unit has a round mount tab that fits into a hole in the underframe allowing 360 degree rotation.
- Removal of 3 vertical “webs” in the middle of the side bearers by grinding with a Dremel tool. The US model version comes with 5 webs vs the NSW cranes having 2.
- Closing in the ends below the “buffer beams” using styrene, putty and filing
- Fitting of Waratah brass buffers and brake air hoses. Note the buffers were fitted to styrene to represent base plate prototype mounting which allows the buffers to be swung clear for closer positioning during lifts.
- Fitting of Waratah auto couplers – Note this was done for model operational preference, 1080 & 1081 only ever had hook draw gear.
- Fabrication and fitting of outriggers behind the buffer beams. On the prototype these extend out and are packed on timbers to stabilize the crane during lifts.
- Fitting of steps to the underside of the underframe.



Bogies: The model comes supplied with nice sprung bogies as used in US service but these were replaced with Waratah whitemetal freight bogies as were fitted in NSW. The roller bearing axle box covers were built up and filled to represent the square plain bearing boxes fitted to breakdown cranes and the bogie centre pivot positions were moved to allow better clearance for bogie swing.

Crane body. The crane body/canopy separates from the crane engine and jib mount unit via a screw which provides good access for the extensive modification works required.

The rear boiler cover section of the body is overall very similar to the NSW cranes but the enclosed cab and engine area sides need to be removed. With some estimates of the actual dimensions made the side roof and body sections were marked for cutting using a hobby saw with final filing to size.

To replicate the recessed boiler and safety valve detail, the funnel was removed, the rear of the roof was filed down and then new body and detail sections fabricated using various styrene sections and sheet. Some protruding not required molded features were removed from the body sides and end by filing, filling and sanding. Basic internal boiler and operating area detail was also added. Forward ends for the side bunkers were fabricated using sections cut from the discarded body pieces and filled & filed as required. Construction of the operating & boiler platform also allowed an additional securing screw to be added closer to the back end of the crane unit which stabilized the fitting of the now less rigid body structure.

Crane unit: The crane unit as supplied has a rigged jib and a manual crane geared operating system. All of these components were removed to strip the crane unit down to its bare frame with the moulded mounting tabs and brackets ground/filed off. Considerable estimating, cutting, “shutting”, filing and fabrication were then undertaken to reproduce a basic frame structure more representative of the prototype crane. The frame includes open triangular areas on both vertical faces which required filling, drilling and filing to shape. After much searching a bag of various plastic crown and worm gears were obtained via Ebay and used with styrene to fabricate a “look a like” but certainly not

accurate engine and winding drum mechanisms. Engine unit cylinders, cross heads, rods, steam pipes, side platforms and covers were fabricated using styrene. The canvas side curtains which cover most of the engine unit details were cut from computer screen cleaning cloths painted and manipulated via folding/rolling to try and get the stained and "hung" look that John photographed in 1944. These canvas blinds have been modelled in the down position which covers and protects the crane workings during periods between use and could more easily be modeled in the rolled Up position to represent operating mode and show off the modelling detail. I've made the rods that support the canvas easily removable as I will continue to experiment to obtain a better look. Unfortunately I havnt been able to locate some suitable detail items like spotlights to fit to the crane unit and jib so there is ongoing enhancements to be done.

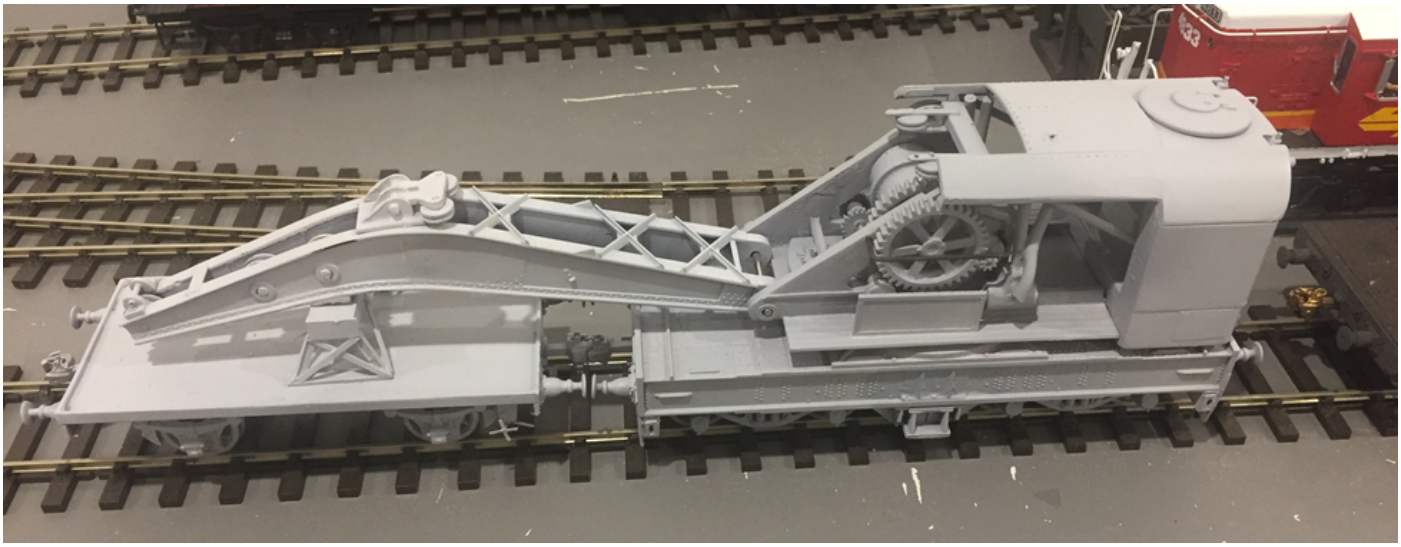
The Jib: This is a nicely detailed plastic moulding but unfortunately has a different radius and features to that fitted to 1080 & 1081. Gentle heating and reforming might be possible to improve the jib shape however after some experiments with plastic off cuts from the crane body I ruled it out as a high risk activity and instead chose just to make some small feature changes modifying and adding bracing and rollers. Fabrication of a new jib with the rivet and component detail would not be for the faint of heart but could possibly be achieved via a future 3D printing exercise? With the jib modified to my satisfaction it was refitted to the crane and the rigging "knitted" using the rope supplied with the model. As there was limited rope provided I pre cut some lengths and secured them only to the visible front sections of the winding drum, rigged the jib but only fitted the main hook & rope. The rope ends were glued tensioned to the pulley and drum sections to provide a stable suspended jib but with the intermediate rope flexible the jib can be lifted to support further underside detail additions. Once the jib is rigged to the crane unit in this fashion they are forever united so completing required works and painting is best done prior to the rigging. Note that I rigged the crane so the jib "hovers" just above the jib truck support frame as the jib and crane body moves in relation to the jib truck on curves and points and an interference fit would likely cause derailment issues.

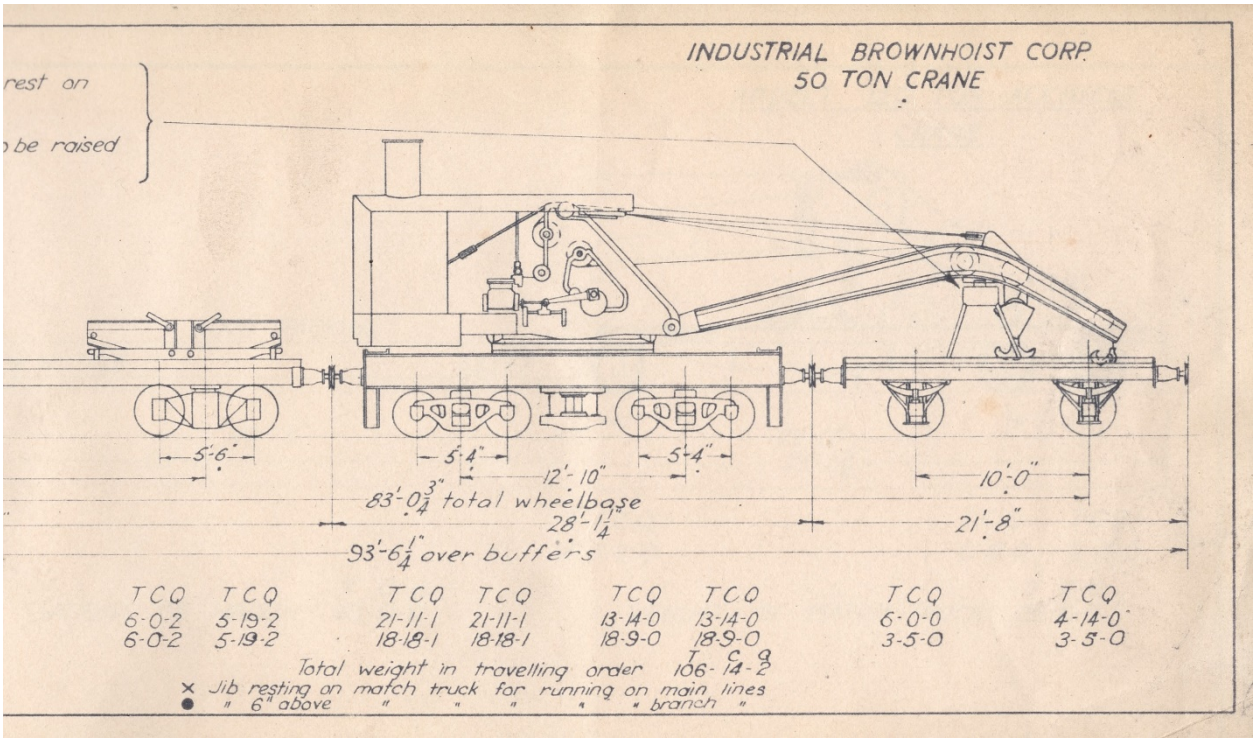
Jib Truck: The cranes have used various 4 wheel and bogie jib trucks over the years which provides choice to produce varied versions. I chose to base my model on the 1944 version of 1080 so a Waratah LV van underframe was assembled and modified by building up the deck sides and fabricating a jib support frame as per a photo using styrene. I'm gradually adding detail to the deck of the jib truck to represent its wider support role, Stephen Johnson loco jacks and some cut timber to represent packing blocks help provide typical "clutter".

Painting & numbering: As delivered the cranes were all over black with the 1944 photo of 1080 showing the end of the jib section painted white to improve visibility. At least 1081 was painted lined green during its service and both cranes finished their days yellow with various additions including diagonal lining, red pilots and silver frost highlights. Numbering font and positions varied from the side of the crane body to the engine unit covers depending on the scheme and era. As always its best to review photos to decide the era/scheme that's desired and then apply. The cranes were fitted with an enamel "Industrial Brownhoist" builders plate on both sides of the crane end of the jib. I've initially reproduced this by printing a colour photo secured on a styrene strip but desire to get better representation by having a decal produced.

Note that while satisfied with my model in its current state my intention is to modify and add additional detail when suitable items are found. The crane nicely fills the "Crane siding" and is also ready for breakdown train service however having learnt many lessons along the way a 2nd crane build is likely.

All up the model cost approximately $200 to construct which including shipping of the original model from the US. The MTH crane models regularly appear in the Ebay listings so if you are interested in in building a NSWGR crane set up your search profile and look regularly for a bargain.




INDUSTRIAL BROWNHOIST CORP.
50 TON CRANE
rest on
be raised
5'-6"
5'-4"
12'-10"
5'-4"
10'-0"
83'-0 3/4" total wheelbase
28'-1 1/4"
21'-8"
93'-6 1/4" over buffers
TCQ TCQ TCQ TCQ TCQ TCQ TCQ TCQ
6-0-2 5-19-2 21-11-1 21-11-1 13-14-0 13-14-0 6-0-0 4-14-0
6-0-2 5-19-2 18-18-1 18-18-1 18-9-0 18-9-0 3-5-0 3-5-0
Total weight in travelling order 106-14-2
× Jib resting on match truck for running on main lines
● " 6" above " " " " " branch "

Building Model O Kits Flat Pack Corrugated Water Tank.

Lionel Pascoe

Having built a Model-O fettlers shed and made a start on their workshop building, I realised I needed some more water tanks to collect the roof water in. On checking the website I noticed that some now come as a 3D printed corrugated tank completely built. All you need to do is clean, paint and weather and plonk in a scene to use? Nope - still have to build a tank stand and add the gutter and pipes and add some trees and shrubs to make the scene. But what about the ones in the cupboard, the old flat pack type? When finished they still look great with a bit of weathering as in photo1.

Photo 1 – Three tanks; two on right are 3D

These come as a flat cardboard sheet (see photo 2) with some flat styrene corrugated sheet and a diagram of how it goes together, some notes on removing, preparing, gluing and painting are on the packet. But how do I build it? Here are some tips on how I built mine.

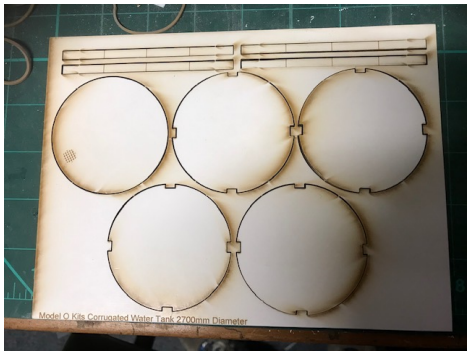


Photo 2 – Sheet of parts, 5 wafers & 4 supports

Some questions arise? How do I hold the wafers and add the supports and glue them? How do I roll the corrugated sheet and join it without getting flat spots or ending up with a square shaped water tank as I think they're supposed to be round? How do I hold it while gluing?

What height do I build it as if too high, the water from the roof gutters wouldn't be able to flow into the tank or, if it's too small it might be OK to wash your hands or a glass or two. So photo 5 shows us some completed tanks alongside a building and do you know which one will I pick?

On the sides of the supports in photo 2 there are some marks and when I stand one support along side the building, the 3rd mark is below the gutter so this is my tank height, a tank being 3m high. As I am using each mark per wafer, we measure the distance between the bottom and top mark and divide by 3 and get some wood close to this thickness or you can use two wood pieces if it helps to get close to the thickness as long as they are parallel. (Photo 3)

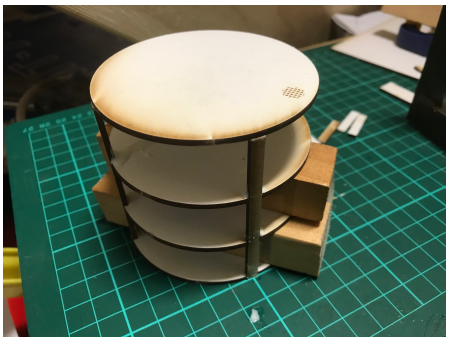


Photo 3 – Holding wafers flat and apart

As per the instructions make sure you clean up each wafer by sanding them and ensure it stays circular and ensure the supports goes into all the cutouts. You may need to do some filing.

Now to Dry Assemble.
Start by laying the bottom wafer onto something that won't stick to our base when gluing such as a bit of wax paper or cling wrap under it. Lay the first wafer and add the first wood block onto the bottom wafer, then add the second wafer and a quick check with one support as a guide to keep alignment of slots. Add another wood layer and the third wafer and again a quick check that the holes are aligned and finally the top wafer with no cutouts will sit on the top of the supports without any holes. Photo 3. Do the sections between the wafers look or measure about the same?

To test that a support is vertical, slide your square in front of a support and line up the square's edge side and the supports edge vertically by eye. Slowly twist the tank to align vertically.

Next is to remove any lean by moving the square to be against the tank structure side support (or two squares on opposite sides as in photo 4), as we don't want a leaning tank. Lastly, check that the wood blocks are not interfering with the supports when assembling. Does it looks like our tank in photo 3?

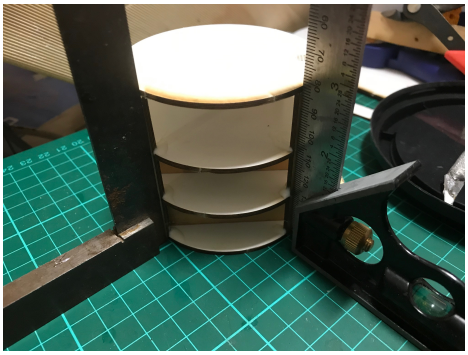


Photo 4 – Check the vertical, no lean or twist.

Now to check if we can do it again. Put your fingers on the top of the tank and slowly turn and push over – just a little. Can you realign the tank removing any twist or lean? Go through it again as when it dries, if it's leaning, then it can't be removed and every time you look at it – well; it shows there's something's wrong.

Glueing it together.
After you dry assemble you can now take it apart and start to re-assemble by putting some PVA into the cutouts on bottom wafer, use a pointed paddle pop stick, (don't forget cling wrap or wax paper), now add the wood and add glue to holes and add 2nd wafer. Add next wood wood and glue to holes in next wafer. Add some glue to the top of the supports and add the top wafer. Check the supports are vertical and that there is no twist or lean. Check these again then let stand to allow PVA to dry

leaving the squares against the supports. You can use blocks of wood as long as they are square to hold the supports. It has to be vertical when finished.

When dry remove wood and apply some more glue on the inside top of wafers against each support. Later when dry turn upside down to do the other side of wafer and support. Now we should have a quite solid tank frame as in photo 4.

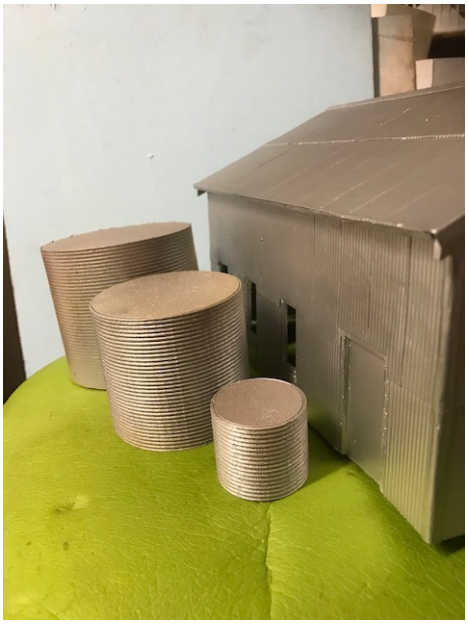


Photo 5 which tank do I select?

Photo 6 joined sheet partly around tank.

Adding the Corrugated Sheet side.
It soon became painfully clear that some experiments were going to be needed to over come some obvious problems discovered.

First problem - when I wrapped some flat sheet around the tank the ends stuck out.
Second problem - that at the final joint there was a similar problem.
Third problem - was getting the final joints length correct and straight.
Fourth problem - when gluing you don't end up with the tanks having flat spots from clamps.
Fifth was discovered when sanding the first joint - that if you don't line up the joints in the sheets then filing the putty was a big problem.

As a sheet of corrugated plastic is not long enough to wrap the tank, we will have to cut the sheet in half and join the two pieces and it will need to be a butt joint and with some putty we can file the corrugations to withstand a visual inspection as long as the corrugations are aligned. The final joint can be either butt joint or a lap joint, with the worst butt or the lap to be hidden from view.

Photo 7 shows the results of some testing, so we're going to make the sheet longer and than shown.

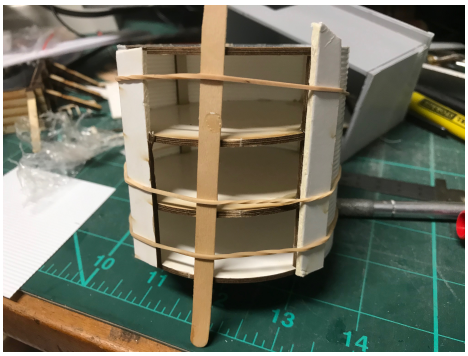


Photo 7 – holding the corrugated sheet.

Trim the corrugated sheet into two pieces a bit wider than the tank, test the joint has a straight edge with no gaps between the two sheets, if not recut till there are no gaps and ensure that the corrugations are in line by testing with a straight edge over the length of the two sheets together. Make sure the corrugations at the joint align (photo 8) and glue with a plastic glue, use a small miniature round file to run between the corrugations to check and file down putty in hollows but don't get carried away. Set aside to dry.

Now we can cut the long sheet to approximately to length around the tank. Stand tank upright and with a piece of wood under it, pull the corrugated sheet around, working it tight. Sliding one over the top bring together ensuring that the corrugations are aligned. With the sheet on the tank and aligned cut to width, holding with the elastic bands

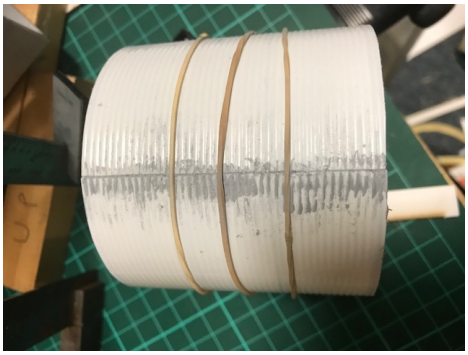


Photo 8 - filing the aligned corrugations.

Now the difficult part is to trim the joint, either make a lap joint and hide behind so as not to see this joint in the scene but watch out for the location of the tanks water inlet which should be under the downpipe as seen in photo 6. Or align corrugations and start to trim down the two ends to fit together with no gap. This is most important to do straight cuts little by little.
Put a mark under the tank were the final joint will be as a reference point.
Now you can add PVA to wafer edges and down each support but not too much. Add corrugated sheet and rubber bands and cardboard and set aside.

Once dry check joint and if requires a little putty to fill in you can do that now and then file smooth. Remember that after painting every imperfection will show. Paint and weather to your desire and use reference photos. Make a stand and add scenery.

Now go and put together some more as you've learnt the tricks. Experience is wonderful thing.

SHOWCASE

It's a long time since we have had a Showcase page as members just don't seem to send in photographs of their projects like they once did. This one features the work of Bob Hendy and gives us another look at his O Gauge House 57 class upgrade featured in the last issue. As well as this Bob has found time to construct these superb lower quadrant metal post signals, entirely scratch built from brass. Bob will be a presenter at the next Forum giving us further insights into his fine workmanship.

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