

WHISTLEBLOWER

THE NEWSLETTER OF THE FARNHAM & DISTRICT MODEL RAILWAY CLUB

September 2019 Edition

EDITORIAL

We are entering a busy period at the club with the modelling competition in early October, the annual exhibition in mid October and our Club open day in mid November. Please note the dates and take part as much as you can!

Julian Evison (Editor)

CLUB MODELLING COMPETITION – A REMINDER

As mentioned last month, the Club Modelling Competition will take place on Wednesday 2nd October, which is only one month away. The categories are:

- 2mm scale locos and rolling stock
- 4mm scale locos and rolling stock
- 7mm scale locos and rolling stock
- buildings, dioramas, accessories, etc. (any scale)

There is a cup for each of the these categories. In addition there are two categories which are open to any entry in the above categories:

- best entry submitted by someone under 25.
- best item produced by modifying a kit or ready to run item ('kit-bashing')

It is fair to say that the competition is not a deadly serious affair, though winners can be rightfully proud of what they achieve. Mostly it is a chance to look at and discuss what is on the tables and, hopefully, gain some inspiration. So do think about what you can enter and get it ready for 2nd October. This truly is a case of the 'the more the merrier'. If you have any questions, ask the 'convenor', Richard Harris.

CLUB OPEN DAY – SUNDAY 17TH NOVEMBER 2019 – Mike Le Marie

In a moment of madness I said to the Chairman that if nobody else was willing I would run the Open Day again. One day I will learn to keep my mouth shut!

I plan to use a similar theme to 2018 which was a 'typical club day'. The layouts to be displayed this year are Greenfields and Haydon Square. The N gauge running track will be available and possibly the OO running track. Some of the 009 modules will be displayed and I would like to include one or more private layouts. If there are any members who would like to bring a personal layout or project for display then please speak to me at the club.

LASER CUTTER TALK – NOTES – Noel Leaver

James Aitkin and Tim Peacock of Risborough MRC gave a very interesting talk about the laser cutter their club owns. They have used it for a wide variety of items in 2mm, 4mm, and 7mm. Here are a few notes to summarise what they had to say, followed by a couple of photos.

- The cutter is from HPC, a Laserscript. It is A3 sized (300 x 400 mm) with a 40 watt laser, and has proved big enough for all their work. They bought it with training included – they heavily recommended getting training. Cost was £3500 plus VAT including training. Prices slightly lower now (£2500 + VAT without training).
- They have had it 4 years and are just having the first major service to replace the laser (rated at 1,500 hours use), cost £360.
- It is water-cooled using a large tub of water next to cutter, it pumps water round.
- It produces nasty fumes, particularly bad when cutting plastic – you need to vent it outside and clear of neighbours. A filter unit is available, but expensive (£1,250 plus VAT).
- It only needs simple cleaning, but regularly – sweep out any bits to avoid fire hazard, clean lenses. If laser cutting something that melts/leaves sticky mess, it may need more work.
- It can cut paper, ply (must be ply recommended for laser cutting, glue used on normal ply prevents cutting), acrylic (perspex) plastic sheet, ABS plastic sheet, engravable plastic sheet (2-colour so second colour shows when engraved), MDF (suitable for laser cutting). Some materials like plasticard cannot be used as they produce toxic fumes when cut.
- Cost of the materials is low – a 4 x 2 foot sheet of plastic is £35. Ply and MDF are about half that price.
- The size of cut is 0.3 mm, it tapers outwards slightly, particularly noticeable for thicker materials. It is important to set head height correctly for the material. Max depth of cut is about 10 mm but depends on material and power of laser (the reason they are replacing laser is it no longer cuts full depth). Can be a slight burr on edge of cut plastic.
- No need to clamp or fix item being cut – laser does not cause it to move while cutting.
- When drawing the item in CAD, use different colours for different cuts. When you load the drawing you can specify the order the colours are to be cut in, and the speed and power of the cut (hence depth), When cutting to leave thin strips of plastic (say window frames) use different colours for the cuts either side so the plastic has time to cool between cuts. Setting the power to below 11% results in no cut.
- It can use a photo or texture and engrave this on a surface.
- The cutter takes .dxf format files - all CAD packages are capable of exporting this format, and there are online converters for other formats like CorelDraw.
- They recommended ProgeCAD (free for personal use – though I had difficulty finding this, it may no longer be available). Plenty of free packages available for CAD.



Here are a couple of examples of what can be achieved using parts produced by the laser cutter. The left hand photo shows an N scale building. The photo above shows some 0 scale wagons and engine shed.

A PRAGMATISTS INTRODUCTION TO 'BACK-TO-BACK' MEASUREMENT – Julian Evison

I am sure many of us have seen the situation where a vehicle misbehaves on a layout and someone says, "Oh, the back-to-backs must be wrong". We all nod wisely and run the next train. What does this mean? What can we do? I hope this will help, but please realise that this is only a pragmatists guide, not a treatise usable by the very finescale modellers amongst us.

The first problem is that the back-to-back measurement is, in itself, not important, but it is easiest thing to see and measure, so it is useful. What is important is what is known as the check gauge which is the distance between the back of one wheel and the front of the flange of the other wheel. The check gauge determines whether a wheel set will run smoothly through a point. The measures are related as follows: Back-to-back = check gauge minus flange width. Flange width is really quite hard to measure so if you assume that all you vehicles have the same flange width (frequently, but not always, true), then measuring back to back is OK.

So what are the standard measurements? As usual with standards, the nice thing about them is how many there are. Two which are easily accessible on the web are the NEM standards (European) and the NMRA standards (USA).

Here is an extract of the table from the NEM standards which, happily and sensibly uses track gauge as the starting point (all measurements in millimetres):

Gauge	Check Gauge min	Check Gauge max	Back-to-Back min	Back-to-Back max	Flange Width min	Flange Width max
9	7.9	8.1	7.4	7.6	0.5	0.6
16.5	15.1	15.3	14.4	14.6	0.7	0.9
32	29.7	30.0	28.8	29.1	0.9	1.2

You can see that there is a range in each case and for those who really care the minimum flange width is what is taken to determine the relationship between the check gauge and the back-to-back gauge. For those who want to know the full story and the values for other gauges, here is the link: https://www.morop.eu/downloads/nem/de/nem310_d.pdf I hope your German is OK, but it is the picture which matters. B = back to back, T = flange width, K = check gauge.

The NMRA standards are, to my mind, more complicated as they seek to define values for each scale and gauge combination. For completeness, here they are in both imperial and metric measurements: https://www.nmra.org/sites/default/files/standards/sandrp/pdf/S-4.2_2015.01.19.pdf

A word of warning about the NMRA standards: the values for 00 are American 00 using 19mm gauge track!

Of course the story does not end here – the real fine scale modellers each have their own versions of The Truth and the definition of Standard Scale and Fine Scale in British 0 Gauge is normally a guarantee of 10 pages of vitriolic froth on a forum.

Pragmatically, however, what can you do? A way forward is to look at the wheels of vehicles you know run well on your layout. Measure their back-to-backs with a micrometer and you will probably find a range within which you can set the back-to-backs of new vehicles with reasonable confidence (provided their flange widths are not out of the ordinary). If you don't have a micrometer, just hold two vehicles wheel to wheel to compare by eye the distance between the wheels of a vehicle that runs well with another. Getting this right, really does help running on a layout.

CLUB DIARY – Andrew Wrobel

Recent changes in **yellow**. Running starts at **14:00** in the Hall. 'Run'g pm' = Priority for use of Hall AND tidy/vacuum Club Room + Lock-Up

DIARY 2019		
Date	Run'g pm	Event / Layout at Exhibition/Show
Wed 04 Sep	0	
Wed 11 Sep	N	
Sat 14 & Sun 15 Sep	--	Kinlochlagen (N) [Mike Le Marie's layout]: TINGS, Warwickshire Event Centre, nr. Leamington Spa Greenfields (00): REC (Railway Enthusiasts Club) Show, Woking Leisure Centre, Kingfield Road, Woking, GU22 9BA
Wed 18 Sep	P4/009	
Wed 25 Sep	00	GPC meeting at 2pm
Wed 02 Oct	0	2019 Club Modelling Competition
Sat 05 & Sun 06 Oct	--	St.Mary's (7mm NG) [J.Evison's layout]: Fareham MRC Exhibition, Fareham Leisure Centre, PO16 7JU
Wed 09 Oct 7pm	N	Annual Club Show BRIEFING [Noel]
Fri 11 Oct evening	ALL	Prepare the Club Show
Sat 12 & Sun 13 Oct	ALL	F&DMRC Annual Club Show , Aldershot; Wickwar (N); Brixcombe (P4); some 009 modules.
Wed 16 Oct	P4/009	
Wed 23 Oct	00	
Sat 26 Oct	--	St.Mary's (7mm NG) [J.Evison's layout]: Expo Narrow Gauge, White Oaks Leisure Centre, Swanley, BR8 7BT
Mon 28 Oct	--	O gauge photo-shoot for Railway Modeller [with Steve Flint]
Wed 30 Oct	Any	TALK: Full Layout Automation 7pm by guest Ian Morrison
Sat 02 & Sun 03 Nov	--	Haydon Sq. E.1(0): Spalding MRC, Springfields Events Centre, PE12 6ET
Wed 06 Nov	0	
Wed 13 Nov	N	
Sat 16 Nov	--	Wickwar (N): South Hants MRC, Admiral Lord Nelson School, Dundas Lane, Portsmouth, PO3 5XT
Sat 16 Nov	ALL	Club Open Day set-up 3pm - 5pm [Dance Club before 3pm]
Sun 17 Nov	ALL	Club Open Day 8:30am: Public 10am to 4pm [Layouts: Greenfields, Haydon Sq., some 009 modules, Test tracks: 'N' & poss.'00']
Wed 20 Nov	P4/009	
Sat 23 & Sun 24 Nov	--	For Info'n: Warley Show
Wed 27 Nov	00	
Wed 04 Dec	0	AGM
Wed 11 Dec	N	
Wed 18 Dec	P4/009	Last Club Day of the Year
TBA	--	Christmas Club Dinner (optional)