

MSSS

**MECCANO SOCIETY
of
SCOTLAND**

NEWSLETTER



No.71

AUGUST 2006

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DATES FOR YOUR DIARY

Society meeting, Smiths Museum Stirling 20th August

Annual exhibition Scone 9th/10th September

Cathcart Model Railway Exhibition, Couper Institute 4th/5th November

(N.B. One week later than usual)

North East Meccano Society Annual Exhibition, Darlington . . . 11th November

Greenock and District Model Railway Club Exhibition . . . 11th/12th November

(Yes, both the above on the same weekend)

Society meeting, Smiths Museum Stirling 19th November

ANNUAL EXHIBITION – SCONE PALACE, PERTH 9 and 10 September

Arrangements are now being put in place for our Annual Exhibition.

The arrangements will be similar to those of last year and we will be joining hands again with the Scottish Vintage Tractor and Engine Club (SVTEC) to provide a display of Meccano at their 'Farming Yesteryear' bonanza event in the beautiful grounds of Scone Palace which is 4 miles from Perth.

The SVTEC is a long established thriving club whose membership is drawn from all over Scotland. The two day event is one of the largest vintage vehicle events in Scotland and it attracts a large attendance with its extensive working displays and huge displays of vintage tractors and stationary engines, classic cars, commercial vehicles, motor cycles, vintage military vehicles and bygones. There are also extensive side shows, auto jumble and amusements.

Our display of Meccano will be housed in a large marquee in the same prime position as last year. Power supplies, trestle tables, etc will all be provided.

Complementary entry tickets and camping/caravan passes will also be provided for all exhibitors for the duration of the event.

Our display last year attracted huge interest as there are many synergies between those whose passion is vintage vehicles and the world of Meccano. Your reporter has indicated to the SVTEC committee that 'you have seen nothing yet' and we are hoping to arrange a truly dazzling display so get the models oiled and take them along for a truly enjoyable weekend.

Reply slips are enclosed with this newsletter and it would be appreciated if they could be promptly returned in order that the detailed arrangements can be made.

Alan Blair

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Club Meeting, 20 May 2006

The meeting was held in the Scout Hall, Menstrie, at about 2 pm on the Society's Open Day. Members present were Alistair Nicoll (Newsletter Editor), Margaret Tattersfield, Bobby Brown, Jim Wood, Alan Blair, Alan McDonald (Treasurer), Bob Middlemass, Ken and Malcolm McDonald, Angus Plumb, Robert Jones, Douglas Carson, Jackie Inglis, Ian Soutar, Rodney Bessent, Chris Shute, Tim Edwards (Webmaster), and Bert Hutchings (Secretary). There were apologies from Jim Gregory, Desmond Smith, Jim Berrie, and Dick Martin.

Exhibitions: forthcoming events discussed were the Scottish Traction Engine Society weekend at Balado, Kinross, on 6th and 7th May; Skegness, starting on 30th June; a charity fund-raising day at Auchterarder on 29th July; and the Scottish Vintage Tractor Society weekend at Scone on 9th and 10th September. The meeting agreed to contribute £10 from club funds for us being listed in the Skegness exhibition brochure. The next Model Engineering Exhibition in London is in January 2007, to which a Newcastle enthusiast is taking a model of a Glasgow Coronation tramcar, and would welcome a travelling companion - any member interested should please contact the Secretary for details.

Treasurer: the Treasurer was thanked for booking today's event, as were all those who had contributed to it - by catering, setting the competition, photographing the entries, or in any other way.

Newsletter: the Editor was congratulated on the continuing excellent quality of the Newsletter.

Website: Tim Edwards reported that he is producing an improved index to the CDs of past issues of the Meccano Magazine which are currently supplied by MW Models.

Other business: Chris Shute regretfully informed us that for professional reasons he would shortly be moving back to England and settling in Shropshire, but that he would still support our exhibitions when it was possible. Chris's novel and skilled contributions to our Meccano topics at club meetings will be greatly missed, but we expect to still bask in the reflected glory of their regular appearances in Constructor Quarterly.

Bert Hutchings, Secretary

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"Steam in the Park", 6th and 7th May 2006

by

Bert Hutchings
(pictures by Douglas Carson)

This is an annual two-day event organised by the Scottish Traction Engine Society, and is held on the same disused aerodrome as the pop music event "T in the Park", at Balado near Kinross. One of the organisers had seen us exhibiting at the Scottish Vintage Tractor show at Scone last year, resulting to an invitation to exhibit here as reported in the previous Newsletter.



A somewhat concerned Jackie Inglis with spectator

We were accommodated in a marquee only slightly smaller than at Scone, and provided with tables and power. The members who exhibited were Bobby Brown, Jim Berrie, Jackie Inglis, Alan Macdonald, Douglas Carson, and Bert Hutchings. There were apologies from Jim Gregory and Alan Blair, both of whom had planned to take part but were prevented at the last moment. Alan was able to send along his dark red and green model marine engine to be included in the show, and the result was a nice varied display spread over seven tables.

Two more tables were occupied by a large skeleton model of a traction engine made of K'nex, and an impressive scratch-built model yacht about four feet long, while one end of the marquee was filled with a comprehensive display of equipment for garden railway layouts. With bright weather for the weekend, and a fairly clean roof to the marquee, we had no problems either with illumination or with conditions underfoot.

The public attendance was excellent on both days, and our marquee was part of a whole ring of exhibits and activities which most of the visitors progressed around during their day. The massive traction engines on the old runway were the principal attraction, accompanied by vintage tractors, cars, and lorries. The stalls and side shows included autojumble, collectables and bygones, craft goods, fast food, pets, birds of prey, souvenirs, a fairground steam organ, a working jet engine(!), a narrow-gauge steam railway for children to ride on, and several quarter-scale traction engines which were really beautiful examples of miniature engineering, each touring the site pulling a passenger trailer filled with more delighted children.



A relaxed Bobby Brown with part of his display

One of the event organisers acted as an interviewer all day long, bringing various exhibitors in turn to his microphone, and broadcasting a few minutes of questions and answers with them over the excellent loudspeaker system which reached the whole site. Your Secretary was "nobbled" for this purpose on the Saturday, and tried to sound interesting on the Society's behalf. During the weekend, we were visited by our other members Jim Lamberton, Jim Wood, Angus Plumb, and Ian Soutar.

Altogether, this was a really rewarding weekend, and our congratulations go to all the exhibitors who were able to take part. If we are invited back next year, it would be great to have a rota system for the two days, so that members who cannot give up a whole weekend could still enjoy the very appreciative kind of audience that were attracted to this event.

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AUCHTERARDER

by

Alistair Nicoll

Last Saturday in July and it's Auchterarder time again. In recent years MSS members have exhibited at a coffee morning in the UF church in Auchterarder. The minister of the church, Jim Gregory, is one of our members and his congregation run this fund raising event each year to assist with the finance of ships that run up the Amazon all the way to Peru and offer medical assistance to the street children of Lima.

This year there was a bigger turn out of MSS members than previously and we lined both sides of the hall with Meccano models, Jim Gregory's own model of chair-o-planes being relegated to a side hall where there was also a model railway layout.

In the main hall, Ian Souter had a most interesting display of Meccano microscope kits complete with slides, adhesives and various things to look a through the instruments. Ian also brought along the Society's collection of spares, and several children took a sufficiently intelligent and lengthy interest to build some small models. Next to Ian, I had three Meccanographs, the colour mixer and the radio controlled lorry. On my right was Alan Blair with his Roundabout – which is certainly getting round about these days having been at Skegness earlier in the month. Then there was Bobby Middlemas with two steam engines, one a beam engine and the other an unusual rocking cylinder engine. Ken McDonald brought along his fishing boat in harbour and an Eiffel Tower. Both worked well and smoothly all morning with (apparently) no attention.

On the other side of the hall (the tables for coffee and home baking were down the middle) was Alan Macdonald with a model excavator powered by an (original) Meccano steam engine. Next to him was Jackie Inglis with a selection of her large collection of working models in both traditional Meccano and in Plastic Meccano. Margaret Tattersfield had brought along her entry in to the can carrying competition at Menstrie. One wonders what the general public made of this, which was displayed complete with its tin of baked beans. However there was no mistaking the very nice little model articulated lorry made from modern Meccano and battery powered. Next to Margaret was Bert Hutchings with two models in blue/gold – a racing car an a railway breakdown crane. Bert also had his blocksetter in zinc and a red/green steam lorry model as well as his display of Meccano through the years.

As always the exhibitors were well cared for with coffee and home baking and a sandwich lunch. The folk of this Perthshire town who come to these coffee mornings show a great interest in the models and in every way it is a pleasure to exhibit at this event.

CONSTRUCTORS DAY

Mid-May and Menstrie time again. Members of the Meccano Society of Scotland turned out in force for their annual day out at the Scout Hall in Menstrie. There were lots of models to look at, a competition to take part in, a meeting of the society and excellent catering throughout by the indefatigable Mesdames Shute and Souter.

In all, twenty one members of the Society (i.e close to half of the nominal membership) attended for all or part of the day. A wide variety of models was on display.



Alan Blair and Bobby Middlemas with a technical problem

Alan Blair had his developing galloper roundabout. This fine model is nearing completion but, as can be seen from the photograph, not working quite perfectly yet. Alan is getting expert advice from Bobby Middlemas whose miniature blocksetter can just be seen on the right.

Next to Bobby was Alistair Nicoll's giant blocksetter being his realisation of SM4. While it was certainly big and would work in hoisting, carriage travel and swivelling, it did not travel as a unit. It was however a reasonably faithful reproduction of the model as described in the Super Model leaflet. There is a lot more work required, though. An ambition to have separate motors for the various movements was mentioned but it is

likely that this will tax his electrical engineering skills beyond their (very limited) extent.

Jim Gregory had brought along a very neat little tractor and trailer powered by a Magic Motor. This was to be his entry into the tin carrying race. He also had a very rapidly rotating cement mixer to about the same scale. Angus Plumb joined Jim later in the day with a little 'O' gauge tank engine and his entry in to the can race. Jackie Inglis had a short length of track with a tram car chassis on it. The chassis was able to run along the track, stop, wait and reverse. It then performed the same manoeuvres at the other end of the track. The automatic reversing mechanism was a Chris Shute design and Chris himself had brought along the prototype as well as his apparently tireless acrobat. This was Chris' last appearance at an MSS event before his move abroad. He is returning to England following upon his retirement from the BBC and his highly ingenious model designs will be missed at Stirling meetings.

Tim Edwards had brought along some Meccano literature. One of the books was the very expensively produced CQ publication of Bernard Perrier's ZKWYX models. He also had a copy of the French publication 'Les Jouets de Meccano'. Beside him was Bert Hutchings with his collection of spare parts for sale. Bert also had brought along a pair of possible variations on the spider for the swivelling unit of Alistair Nicoll's SM4 (see The Building of SM4 - Part 2) for illustrations. Rod Bessent had a model crane built to the instructions in one of the IR controlled model sets. This worked very well and showed that this little control unit, though of limited use, can be very effective if applied to the right kind of model.



Manual chain tensioning by Doug Carson during his steam powered demonstration

Doug Carson brought his steam powered workshop and this time it was steam powered. Apart from a waywardly loose sprocket chain, it ran perfectly with the accompaniment of little noise and the nostalgic odours of methylated spirits and hot metal. The interest generated during a demonstration showed how unfortunate it is if, as we understand, steam power is not covered by our third party insurance for exhibitions attended by the public .

Desmond Smith came for part of the day and produced a model saw bench with a genuine Meccano circular saw blade. This little model had the capacity to do genuine woodwork on small section timber and it would be interesting to see it in use

for this purpose. Fortunately no fingers were severed during the day but the amazingly dangerous Meccano Saw Blade part certainly retains the ability to do just that and it is not surprising that Meccano Ltd. discontinued it.

Bobby Brown, Alan Macdonald, Ken McDonald (and son) , Ian Souter, Robert Jones, Jim Wood and Hamish Henderson all attended for all or part of the day and several of them brought along entries for the tin carrying race.

All in all an excellent day out and quite the best event in our annual calendar.

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CARRY THE CAN COMPETITION

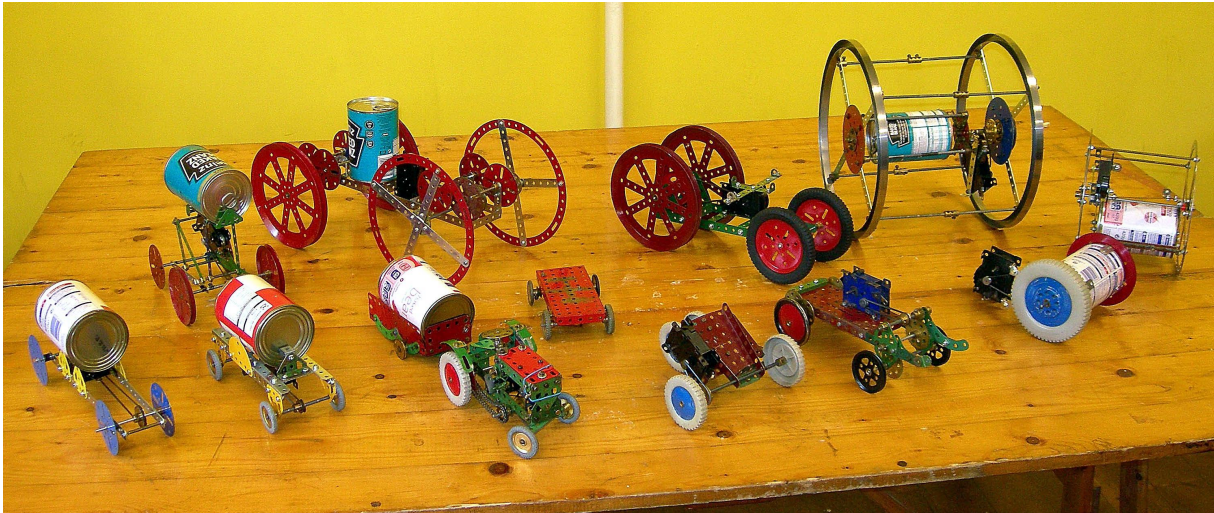
by

Chris Shute

No less than eleven competitors took up this years challenge for our all-day get-together. Their task, to devise a machine capable of transporting a tin of baked beans as far as possible, using only the power of a clockwork Magic Motor.

A wide range of vehicles were each put through their paces along the floor of the Menstrie Scout Hall. Once again the ingenuity our members kept the judges busy. More than half the entrants carried their cans the length of the hall, an impressive feat for such a tiny motor. It's a shame the old Meccano Magazine never really advertised the potential performance of clockwork motors.

Jim Gregory carried his can on a trailer towed behind a clockwork tractor, which was a fine scale model in its own right. Others also opted for a power-hungry solution to the problem. With its powerful reduction gearing, Jim Wood's vehicle might have won a hill climb or the tug-of-war event, but sadly this wasn't it.



Pre competition parade of entries

Angus Plumb's tricycle-like machine was compact, with great economy of parts, but unfortunately reluctant to travel in a straight line. There were good performances from the creations of Alan MacDonald, Douglas Carson and Margaret Tattersfield, generally using vehicles tyred wheels, which travelled far before becoming tired. Alistair Nicoll used Face Plates as his wheels for greater efficiency.

Ken Macdonald's machine was larger and although heavier looking, was probably the fastest vehicle competing. It made use of 6" Pulleys as driving wheels. Alan Blair's well-engineered machine achieved 3rd place. In second place was Robert Jones, who had used a pair of circular Channel Girders to construct a large drum with the bean tin, held at the axis in a cage of rods. The clockwork motor was slung within the drum, driving the axle. In a previous competition (2001) I slung a larger motor within a drum built from 7½" Circular Strips which travelled further than rival wheeled vehicles. I think Robert's drum suffered some braking effect caused by the viscosity of the beans constantly churning and dragging against the inside of the tin. Try rolling a tin of beans and a tin of soup: the soup tin rolls more easily. I'd built my own 7½" drum with both the can and the motor suspended from the axis, and was able to get a little further than Robert. As a judge I wasn't competing, of course. In any case, somebody had a better idea.



Post competition winners parade.

That person was Rod Bessent. He'd come up with a winning combination of thin 7 ½" driving wheels supplemented by 6" Pulleys as idlers. The driving axle was mounted in low friction bearings built from paired overlapping Face Plates. Rod had put the motor near the centre of the chassis, so the drive band was almost pulling the axle up out of its bearings. By mounting the Motor on long bolts set horizontally Rod would have been able to optimise

the tension on the drive band: enough to grip the pulleys, but not so great as to cause excessive friction.

So here then are the results of the 2006 competition, the distance travelled by each competitor's vehicle, measured in inches (naturally!) using Tim Edwards tape measure:

1	Rod Bessant	2076
2	Robert Jones	1358
3	Alan Blair	996
4	Ken McDonald	826
5	Alistair Nicoll	775
6=	Douglas Carson	450
	Margaret Tattersfield	450
8	Jim Gregory	148
9	Alan MacDonald	138
10	Angus Plumb	76
11	Jim Wood	75

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EAST ANGLIA REPORT

by

Ron Frith

On the 11 February 2006 I attended the 30th Anniversary Exhibition of the Thetford Model Railway Society with a Meccano display at Brandon High School in Suffolk Unfortunately the exhibition Manager was involved in a major road accident on his way to the venue on the Friday night set up, which threw the whole exhibition out of focus. This was then compounded on the Saturday, the day of the exhibition, when the caterer's failed to turn up. As you can imagine the two events threw the TMRS planning & organisation into turmoil. Each exhibitor/display ended up doing their own organising & for a while chaos ruled. However with a bit of help from everyone we managed to open on time, even though some exhibits were still being set up & power points being organised. Fortunately the exhibition organiser was not badly injured but he ended up in hospital for 24 hours so missed the whole exhibition.

My location was in the main hall immediately in front of a twin power socket so I was ok and ready to roll on opening.



Ron's one man display

My display consisted of the following models: a Blue/Gold version of the No 8 Set Twin Cylinder Marine Engine, the Brian Rowe designed 4 Pillar Beam Engine in Blue/Yellow, a 1930's Supermodel Single Cylinder Steam Engine also in Blue/Yellow, the Radio Controlled 4 x 4 SUV and the 6 wheel RC Truck (more later), a Remote Control version of the 1978 No 5 set Breakdown Truck in Green & Yellow from CQ 69 and 3 Meccanographs, two in Red/Green and one in White/Yellow/Orange from the

components of the Space Base Set. Completing the display were the M&S Spitfire (also more later) the 1995 No 6 Set Jet Fighter in Red & Zinc plus numerous small Master Connection, Flexible and Evolution models. I also had two BAYKO models; the Plimpton No 4 set detached house & garage and its equivalent version using Meccano Bayko parts.

The White/Yellow/Orange Meccanograph I built from instructions downloaded from the Internet, the pen is stationary and only the table revolves. I am not too impressed with it as it has very limited capability; it is single speed with just the one fixed gear ratio. The pattern is altered by fixing the pen in different locations along an axle rod, but movement is very restricted. The axle rod can also be adjusted fore and aft by one hole; the end result is the pattern is really only a larger or smaller version of the same basic shape. The pattern can be varied depending on how long you leave it running & with a bit of fiddling about you can just about fit the smallest design inside the largest and using a different coloured pen it gives a reasonable pattern, it's a bit hit and miss though.

The other two Meccanographs are of the more standard designs & produce a variety of different patterns, one has a multiplicity of speeds and gear ratios and is built from instructions I obtained from NMMG member Alan Scargill at Skegness one year and the other one is the Meccanograph described and pictured in CQ 64 (June 2004).

You may remember in a previous article last summer I was going to our local M&S to see if I could get the Meccano Spitfire Set. Well apparently they were only available at the Larger M&S stores & the Ipswich M&S are not deemed a large store. So no Spitfire and no they couldn't/wouldn't get one for me. However Christmas week found me last minute shopping in the town & on the off chance I happened into M&S. Along to the ground floor Christmas toy area, plenty of LEGO & Kinex etc but no Meccano.

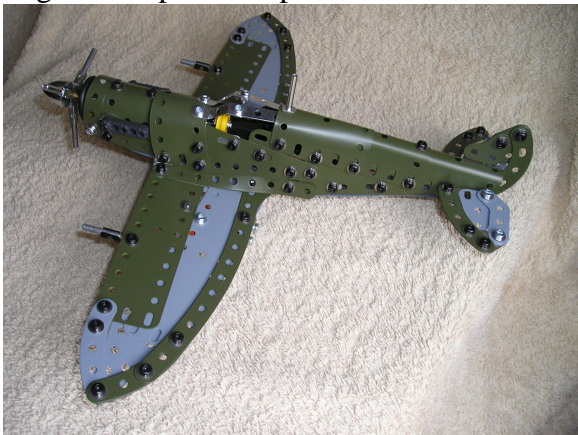
Up the escalator, none on the 1st floor, up to the second floor and there right in front of me as I stepped off the escalator was a great pile of Blue & Black boxes containing the M&S exclusive Meccano Spitfire.

There must have been a hundred of them along with M&S exclusive boxes of three model Meccano motorcycle sets and various single model sets. So with the elusive Spitfire securely under my arm I headed for the checkout tills. I'm stood in the rather long queue looking

around as you do when I noticed a number of rather large boxes being placed on some display shelves at the back of the store. Too far away to see clearly, but identical Blue & Black style boxes to the Spitfire box tucked under my arm only much bigger. I had to know what they were, so I reluctantly left my place in the long checkout queue & went over to the display to find another M&S Exclusive Meccano Set, this time the 6 Wheeled Radio Controlled Truck no less, dozens of them. They were well separated from the main Meccano display at the top of the escalator and right out of site until you approached the checkout counter. There was one further surprise, as I was paying for my two M&S Exclusive Meccano Sets one of the checkout girls told me the sets were on special offer, 3 for the price of 2. There was no in-store advertising for the sets or the 3 for 2 offer anywhere, if the checkout girl hadn't told me I would have been none the wiser. Indeed the girl at the till I ended up at knew nothing about the offer, it was only when she rang the purchases up that the till indicated the offer. This offer was too good to miss so I bought three boxes of Meccano, two of the 6 Wheeled RC Trucks and got the Spitfire set for free.

The M&S truck is in Black & Silver, similar to the RC 4 x 4 Set, not Red & Silver as the Meccano 8701 Truck Set. However the Manual is the Meccano 8701 Set manual in Red & Silver, no separate manual being printed for the M&S set.

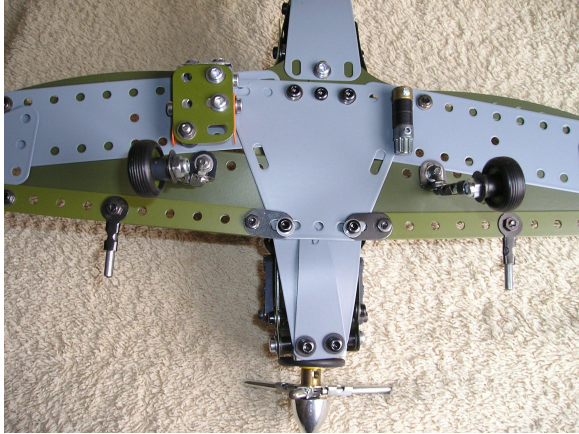
I'm quite pleased with the set although I didn't build the manual model of the truck. I built the Nikkoliner by Bernard Perier described in CQ68 (June 2005), except mine is in 1978/79 Blue & Yellow. I have also fitted a roof mounted wind slammer and cab side wind deflectors, a proper Meccano Steering Wheel & the wire ariel from the 6 wheeled RC unit is fed into the cab & out through the roof to simulate a radio ariel. Being in the main hall there was lots of room to run this model & its SUV brother, they are much easier to operate & manoeuvre in a large floor space compared to the restricted area available in a modern house.



Ron Frith's model Spitfire

Then came the Spitfire. Apart from the characteristic elliptical wings it bears no relationship to any Spitfire I have ever seen. From the rear of the cockpit to the nose of the propeller the design is incorrect. Spitfires had a bubble canopy & a long sleek nose. The underside of the fuselage is flat & should be curved; there is no dihedral to the wings, no air intake, oil cooler or pitot tube. This is a good idea let down by poor design, consisting mainly of Flexible Plates. Bernard Perier (CQ69) and Stuart Paul (CQ72) achieved much better

results with their Spitfire designs, and it is not the easiest of models to build. The whole structure is inherently weak until the model is completely assembled & even then the wings flop about. It will certainly not stand up to heavy children's play. The set must rank alongside the Binns Rd Combat Multi-kit for poor value for money.



View of underside showing additional strengthening using fishplates. View also shows oil cooler and air intake. Note misaligned front of nose. Unable to correct

The nose section is built from 2 ½” x 2 ½” FLAT flexible plates; they are not pre-formed and have to be bent right over from one side to the other. With the whole front section loosely assembled, you have to hold the wing starter plates & leading edge perforated strips, the cockpit connections and the propeller bearings plus the special curved flexible plate whilst at the same time trying to install the nuts & bolts through the plates. It took me a long time to build & at one stage I accidentally dropped it and the triangular flexible plates forming the cockpit sides buckled beyond recovery.

A visitor to my display at the exhibition asked me how I had managed to build “the b****y thing”. He had bought one for his 13 yr old son for Christmas, neither of them had managed to assemble it and were now left with what he said was a lot of bent and buckled parts. I have strengthened mine using fishplates in various locations (anything bigger will not fit) redesigned the tail wheel & propeller assembly, fitted a 3 bladed propeller, added a seat, cockpit interior, oil cooler & air intake (al la Bernard Perier’s model). I also used black nuts & bolts in place of the zinc ones supplied. With a little more thought (and perhaps actually being built by the designers instead of relying on their computer design) this could have been a really good model. At £35 it is not cheap for a single model set. I need to do a bit more re-design on it before I will be satisfied but I wanted to have it built for the Brandon display.

I have to say that most of the latest 2 / 3 model sets from Nikko suffer from what the late Bert Love would call Flexibleplateitis. There is a dire shortage of girders/strips/flat plates in the designs to give rigidity to the models. I have added A/G & strips to the RC 4 x 4 SUV to strengthen it and even the spring steel parts can be bent beyond recovery if you are not careful. Having said all that I do like these latest outfits from Nikko (except the Crazy Inventors Outfits). I will have one of the RC Urban/Street/Cruiser cars next. I also have an order in at the local Renault Dealership for the Meccano F1 Renault Racing Car Outfit. These are a Limited Edition Outfit of just 1000 sets and are only available through the Parts Dept of a Renault Dealership. They are shown in the 2006 Renault F1 Merchandise Catalogue & you need the Renault Part Number in order to obtain one. If anyone is interested the part No is 77 11 419 422.

OTHER NEW SETS

For my birthday in February I bought Set number 0570 – the Super Construction Set. Apart from the colour of the cardboard sleeve this set is identical to Set 7080 – the Centenary Crane Set. The manual is the Crane Set manual, number 7080 & all the parts are exactly as listed in the manual including the colour (Black & Silver). In fact the only other difference is the price, in the Toys R Us supermarket where I bought it the Crane Set was £69-99, and the Super Construction Set was £49-99, a big saving on the crane set and very good value for money. I used some of the black parts & the black nuts & bolts from this set for the Spitfire plus a few long bolts & fishplates from the 1974 Army Multi-kit.

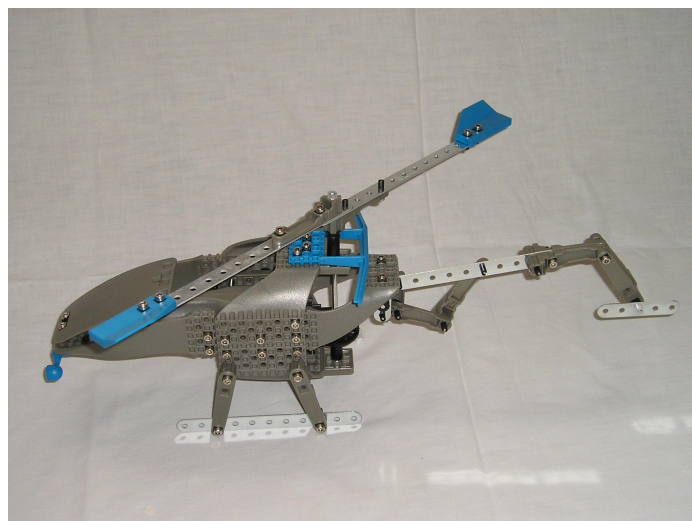
I also recently bought one of the Speed Play sets, No 7901 – the helicopter/racing car/insect set, which uses a kind of self tapping screw and a plastic sleeve. Another good idea I thought, although I didn't find it any faster to assemble than using standard nuts & bolts. The power tool/motor is a clever feature and to answer the comment in CQ71 "how do you screw up the Bolts that fix the motor in the model", the answer is "you don't". On completion the motor very cleverly clips into its own special plastic plate built into the model.



Speed Play Helicopter with rotor arm in as built position (Held by long bolt & nut)

A standard Allen key is also provided in the set as the screw heads are the same as in the metal sets. The motor has very good torque and a slip clutch which prevents you over tightening the self tapping screws. This method of fixing unfortunately means the whole model is again inherently weak. Careful use of the Allen key allows you to tighten the fixings a little, too much and the thread strips in the plastic sleeve. The tail fin holding the rotor arm is a weak spot. Only one bolt is used to fasten the four plastic arms together with the result that the arm holding the tail rotor flops down.

I have replaced some of the self tapping screws with normal long bolts in areas of weakness, especially where the fixing is to standard metal parts. In fact you could replace all the self tapping type screws with various sizes of standard long bolts and square nuts. The nuts fit into the square recesses that hold the heads of the plastic sleeves, the result would be a much stronger model. The idea is good but I fear the model will easily fall apart during play and parents & children will be disappointed. I also doubt the serviceability of the self tapping screw feature; continued use in the plastic sleeve will reduce the strength of the fixing capability.



Tail rotor droop using single self tapping screw fixing

I hope the above gives you all food for thought & perhaps a starter for discussion at the next MSOS meeting. If anyone would like to discuss anything above further, disagree with my opinions (nicely of course) or just wants to swap information they can always get in touch. Phone me, e-mail (new e-mail address – ronfrith.sen@talktalk.net) or good all pen & paper, feel free.

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SKEGEX 06

by

Angus Plumb

The North Midlands Meccano Guild began holding an exhibition at the Newark Show, but when this arrangement fell by the wayside Mike Cotterill, himself a Skegness resident, had the idea of an exhibition at the resort, where a ready made crowd would be on hand. The original venue was the Arcadia Theatre Hall. After two years the show had outgrown this space and moved to the Festival Pavilion but this was closed in 2000, since when the Embassy Theatre has been used. This year's exhibition made good use of the available space in the stalls area of the auditorium, cleared of seats and the stage. It is one of the largest Meccano shows held worldwide and attracts international contributions, Holland, France, Belgium, Canada and New Zealand being represented at this year's show. The display area was a little on the crowded side, making it difficult to get clear photographs of individual models.

The first taste of Meccano the visitor encountered was a large tractor and transporter, by Peter Pyefinch, standing on a table in the Embassy Foyer. Making one's way anti-clockwise around the tables against the walls of the auditorium the visitor first encountered a plate of cheeses modelled in Meccano.

Next was a display of six Fire Engine models by George Illingworth, who specialises in modelling fire fighting equipment. The models are, from l to r, Austin IC2, Bedford OL, Bedford Green Goddess, Dennis F12, Dennis 30cwt & Dennis N. Although George's models are finely detailed they are not to a large scale and should be an inspiration to modellers of modest ability. Next were a couple of Adler Riefler Clocks based on MP 141.



John Thorpe with his Issigonis Shield winning Tornado

One of the highlights of this year's show came next, a Tornado fighter plane modelled by John Thorpe and mounted so it could be manoeuvred to simulate normal flight, with sound effects. As John's son drives one of these things we can presume the details were correct. It took two years to construct. The modellers in the hall evidently shared my impression of this model as it took 1st Prize and the Issigonis Shield.

This is modelling at the other end of the scale from George Illingworth. John could not hope to mount his plane on conventional Meccano rods and bearings and was limited in the stock he could bring for his dealers tables by the size of this model.

Tony and Maurice Rednall presented a Novelty Ball Roller that attracted much interest. A similar machine was displayed last year and figures on the cover of CQ 72. Brian Ashton, as usual, had a collection of fairground type amusements:

- A Day at the Races in which a crank handle was turned to propel representations of race horses along a track.
- An 'Allwin' Game, a sort of vertical bagatelle.
- A Tilting Table Game.

Visitors were invited to try their skill. He also had a Loom, a modified version of MP 49, and a Colour Mixer in which a disc carrying shapes of various colours could be spun to cause the colours to merge into white.

Stuart Borrill set out his stall at the corner displaying his excellent range of brassware for sale and inviting orders for non-standard gears and other replica parts. Stuart is an accomplished machine operator, his finishes are excellent and his prices are very reasonable. His contact details may be obtained from a Website hosted by our own Tim Edwards.

Alan Scargill displayed a Giant Level Luffing Crane. An impressive model that unfortunately was not operating due to a problem with the main bearing that had occurred during transport to the venue. The model was based on an original by Eric Taylor. Alan was selling copies of building instructions for this model. I obtained a copy which I will be pleased to bring to the next meeting if anyone is interested. Alan also had a steam engine model from a design by Brian Rowe.

Bob Thomson had a range of old and unusual parts for sale included a Crane Grab and a Digger Bucket in red. There was some inconclusive discussion around his table on the nuts and bolts used on the original Digger Bucket, maybe Tim Edwards will be able to shed light on the notion that 6BA bolts were used?

In the centre of the wall opposite the stage was a display of the current products of NIKKO. Although no staff were on hand and there was no sales pitch, there was an encouraging letter from the company and the range of models seems to be combining the advantages of the Meccano system in metal with Nikko's expertise in radio control to produce kits that should appeal to to-day's youngsters. Providing Nikko can position these products in the competitive toy market, Meccano should be safe for the foreseeable future.

Well positioned beside this stand were two tables of parts, one of plastic and one of metal, at which kids were encouraged to try their hand at model building. These tables were set up by Rob, Wendy and Luke Miller who were on hand in the corner with a display of their own handiwork for examples. There was some enthusiastic construction work proceeding as I passed. Robin Johnson was at the next table with a spread of back numbers of CQ and related publications.

Next was Mervyn Wood of the Henley Society with a Liebherr R912 Excavator and Volvo A35C Articulated 6x6 Hauler, a couple of impressive pieces of construction plant modelled in good detail at a large scale.



Phil Edwards with his Rickshaw

I have to admit that cleverly detailed models of Oriental prototypes tend to leave me cold and, in spite of my intention to cover all the stands thoroughly, I seem at this point to have overlooked Phil Edward's R/C Chinese Rickshaw that took 5th prize in the modelling competition. I suspect the defect is due to my not having seen the model functioning and no-one being present at the stand to enlighten me.

Jim Gamble's impressive montage of covers of various Meccano publications from 1920-1940 followed. The display was too wide and the aisle too narrow for my camera to do justice to this complex panel with a full frontal.

J. B. Schurink from Holland had the next table with a complex Moon Phase Clock that he

claimed kept accurate displays of hours, minutes, seconds, day, date and month and moon phase. In spite of the limitations of the standard gear range the moon phase was out only by minutes over a year, not enough to notice in practice.

John MacDonald, well known for his expertise with military models, presented a German V2 Rocket Carrier and a freelance 4x4 Lorry. The space in front of the right of the stage was occupied by Tom McCallum's impressive display of a variety of Meccano sets, including Dinky Builder, Bayko, Elektron and Boats. He had a 1919 Outfit 3 and a 1920 Red and Green Outfit 4 boxed and in immaculate condition. He also had models of a Helicopter, a Canadian style Steam Locomotive and the Giant Dragline from the 1960's Instruction Book covers, using a PDU to power all the functions.

Moving back to the entrance and to the tables in the middle of the floor, Ron Gee showed a Schools Class SR 4-4-0 in French blue/yellow (not a well known livery on the Hastings line), a modified version of Model 10.12 from the Outfit 10 Leaflets. Dave Bradley showed how tyres from an Action Man Jeep could be used to good effect on a model Quad Buggy. Dave also displayed a Mercedes 600 Pullman modelled at 1:5 scale in yellow with a great deal of realistic detail including functioning head lamps.

John Bridge displayed the 'Lost Owl and Ballyonion Railway', a Lartigue style monorail with heavy influence from Rowland Emmet. Mike Hooper presented a representation of a Roller Coaster being unloaded and erected from its transporter. This was a good example of the sort of scene that the public seldom see at Fairgrounds. Eddie Oatley showed a twin cylinder marine steam engine modelled on that used to power the P. S. Balmoral. He also had a model of a Dry Dock Crane, although out of scale to have dealt with his marine engine.

Nick Rodgers of the Runnymede Society had models at a range of scales, a number of examples of Engineering in Miniature mounted on a roundabout, a Spitfire in camouflage, a Konkoly Meccanograph and a Traction Engine from SML 24.

Ivor Ellard, under the title 'DIY Hornby Trains' had mounted an impressive display of O Gauge railway vehicles from a number of different national prototypes, constructed (largely) out of Meccano, although not without some mutilation, 52s reduced to 2" wide for instance. The effect was very pleasing and was a reminder that Frank Hornby had devised the first Hornby Trains as Meccano models, and the first production models were bolted together.

John Turnbull showed a (far from) Boring Mill that had featured in MM for April '54. Prior's Hall Quarry (modeller not identified) had a Giant Dragline at work and part of an O Gauge layout to give a sense of scale. Across the gangway, Michel Breal from Calais displayed a Quayside ore unloader and a barge. The detail in this large, fully functioning r/c model earned Michel 3rd prize from the votes of the modellers. He also had a range of well cut Gear Rings at reasonable prices and a variety of Geared Roller Bearing Plates and Toothed Rings in several sizes. Tony James had a pair of Optare Solo Midibuses, plans for which are available as MP 167.



Guy Kind with Pipe Laying tractor (and No.10 Set cabinet)

J. Sleaford displayed various vehicles, in particular a skip lorry and road sweeper with all functions modelled and operating. John Ozyer-Key had a model of a 1938 ERF Tipper as shown in CQ 37 and built in 1978 dk blue/yellow parts. Guy Kind's CAT 583 Pipe Laying Tractor in z/b/y took 4th Prize on the votes of his fellow modellers.

Harry Marien from Belgium showed two examples of Motor Chassis employing George Constantinescu's Torque Convertor as featured in MM for April 1924. One of the models was set up to invite spectators to turn the drive shaft by hand and demonstrate the working of this ingenious device. Adrian Williams had a table of models including Windmill, Railway Truck, Derrick Crane and Big Wheel set up to allow visitors to operate them and observe their workings.

Roger Burton displayed a Weatherhill Winding Engine. David Hobson showed what could be achieved with Nikko's r/c chassis demonstrating a Tank and Towing Tractor crossing a well modelled Bailey Bridge and using the older r/c set in conjunction with the recent productions to obtain realistic functioning of the tracks of the Tank. The Tank and bridge were well displayed in green while the other vehicle was presumably a civilian unit in yellow.

Ken Senar mounted a DH Vampire FB MkV. This was a superb static model in red which took 2nd Prize in the voting. There was little to choose between Ken and John in terms of modelling skill, using triangular and flexible plates to achieve a smooth realistic outline, but John Thorpe's r/c control must have swayed the voting.



Second Prize went to this Vampire built by Ken Senar

The Nightingale family, stalwarts of Midlands shows, presided over a model Tramway. Ann was as usual busy with the fascinating Konkoly inspired Meccanographs in which she specializes. Chris Bourne presented a DH9A Bomber. Paul Joachim showed work in progress on a nearly complete Boeing Chinook Helicopter in red and green. He pointed out the effort required to get sufficient information to produce a realistic fully functioning model of an essentially military aircraft. It seems a shame that, once finished it is destined to be dismantled as domestic harmony requires a limited number of models to be set up at one time.

Roy Whitehouse occupied a prominent position at the end of two rows of tables to display an extensive Hornby 3-rail O-gauge layout. This was set up in front of an impressive range of contemporary blue/gold models, most notably a Giant Dragline and the Quebec Bridge that features in many early Meccano publications. Roger Marriott's display complemented Roy's with The Wizard in blue/gold and operating and also a display of old sets and made-up models including Motor Cars and Aeroplanes with an apparently complete Car Constructor No 1 set.

Don Morton from Victoria BC (Canada) showed a fully functioning model of the Anglo Australian Telescope. Apart from the supporting framework, he had replicated the colour scheme of the original almost entirely from commercially available parts, although he had stripped the paint from the plates forming the rolling surface to achieve the bare metal of the prototype. D. B. Latham's table displayed a Showman's Engine a Steam Engine with oscillating Cylinder and a Tracked Excavator. Tony Parmee showed his Mississippi Steamboat in red/green.

Bernard Shaw presented a Giant Block Setting Crane from GMM Supermodel No. 20 and a tribute to Andreas Konkoly in the form of one of his less serious constructions. Michael Whiting had a display comprising an Orrery from MP165, Herschel's 40' Telescope and an impressive and highly detailed Galleon which was awarded 6th place in the modellers competition.

Mark Rolston presented a Showman's Engine. J. Bader showed an impressive and attractive Dockside Crane in blue/gold plates and nickel strips and girders. Darren Bonner had left the boy racers at home this year and displayed more traditional Meccano fare in the form of a collection of Steam Traction Engines modelled at a modest scale and including a Fowler R3 and Wallis Stevens 3 Ton road locomotive.

The Way family had a display similar to that which had been seen at Meccanuity at Ironbridge in May, including Stephen's CAT D10R dozer, Keith's Steam Wagons, based on a number of manufacturers distinctive styles and Janet's Rowers which appear to be exerting themselves as their boat is pushed along.

Dave Harvey, also a TIMS member, showed a Vertical Steam Engine and a Savage Centre Engine which has been a project of his for some time and displays extensive detailing. Our colleagues from NEMS were present. John Herdman had a selection of models inspired by the revival of Dr Who, a Dalek, Tardis and K9. George Roy had 1:70 scale earth movers. Joe Etheridge had his Fowler BB1 Ploughing Engine and a Coal Loader and Unloader. Barry Richardson had James Court's Table Engine. Brian Chaffer had a Ping Pong Ball Roller.

Our own Alan Blair had brought along his Gallopers, a little further advanced than when it was seen at Menstrie and still with a good deal of work ahead before it is complete.

John Hornsby displayed a fully functioning Demag CC4000 crane in zinc and yellow which he could rig in a number of configurations in accordance with the prototype. This machine is typical of the type of crane used in heavy construction work such as bridge installation. One machine can be set up and then the jib length and configuration altered to suit the different loads and reaches required at the various stages of the job.

Russell Carr showed a finely detailed Bentley BR2 Rotary Aeroplane Engine. Under the stage and alongside Mike's position as MC, Marion Cotterill had mounted a large number and variety of miniature models.

I did not see Andrew Wells of Meccanisms, the New Zealand based multi channel model programming equipment producer who usually makes an appearance, but the units were on display and being used to control a number of models.

Up on the stage the dealers were doing steady trade. Mike Rhoades had a good range of 'Binns Road' parts, mostly in red/green, but he does stock other colours, as shown by the blue/gold outfit he had on display and by the large order for b/g parts he had put together following the list I had sent after the NEMS show in Darlington last November. John Thorpe had minders for his stall as he spent most of his time demonstrating his Tornado. He had his usual range of used and repro parts and repro manuals, but the space required by the Tornado meant he could not bring as many repro cabinets as he usually manages to display. Dave Taylor was presiding over several tons of modern, repro and compatible (mainly Marklin) parts at his usual excellent prices, with a substantial stock of well used parts at knock down prices in practically every colour scheme Meccano ever made and quite a few that never saw the inside of Binns Road, Calais or any other Meccano factory. Dave always has a number of current sets on his stall and I saw an encouraging number of adults being persuaded to dip into their wallets and purses by youngsters who had clearly been inspired by the constructions on display in the hall.

It has to be said that the Embassy was not exactly hoaching, but there was a steady flow of visitors of all age groups, including a number of youngsters displaying distinct enthusiasm for the models on display. Unfortunately the weather was probably too good to tempt visitors away from the front in large numbers. As places like Skegness now depend largely on day and week-end trippers, ideal SkegEx weather needs to be good enough to encourage trippers to come to the resort but not good enough to keep them outdoors for the whole day. As it was

78°F in the car park behind the Embassy at 10am on Saturday, the swimming pool and the sea were the attractions most likely to keep visitors off the sand. This year the situation was complicated both by a display at RAF Waddington and also some lads kicking a ball about a park somewhere in Germany, (or so I was given to understand).

* * * * *

THE BUILDING OF SM4 (Part 2)

by

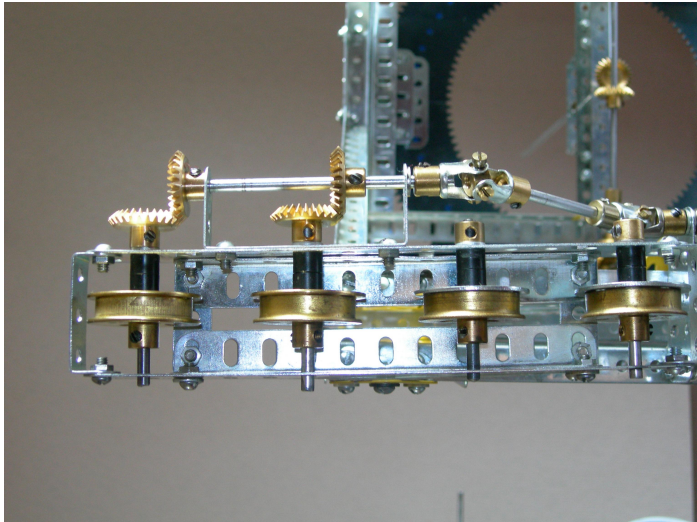
Alistair Nicoll

Following upon my decision to try to construct SM4 “The World’s Largest Meccano Model”, I had some decisions to take. I was woefully short of some parts. Notably, 1½" Angle Girders, 1½" x ½" Double Angle Strips and 26 tooth Bevel Gears. Nor did I have sixteen Girder Frames and a Geared Roller Bearing.

One at a time! In this model the 1½" Angle Girders are often used as Angle Brackets. They are however essential to the look of the model so cannot reasonably be substituted. I could cut up some excess 24½" Angle Girders but my Meccano is zinc plated so I would destroy the zinc coating. Any breach of this thin zinc film gives a corrosion site. 1½" x ½" Double Angle Strips can be made by bending 2½" Strips but it has to be done very accurately. It is possible to construct a Meccano tool to do this, but I was into building SM4, so decided not to go down that route. 26 tooth Bevel Gears could be replaced by ¾" Contrates and ¾" Pinions but the whole look of the model and its adherence to the appearance of the original really depends on using bevels.

A cursory look at the photograph of the model shows only eight Girder Frames, but a closer look at the instructions indicates that these are doubled for strength. However as they are also overlaid with Flat Trunnions, this seems a bit of overkill, so I decided to go with eight. I was definitely not going to use a GRB! I would just have to use the Large Tooth Quadrants and Large Tooth Pinion which replaced it, but that was going to take a bit of work.

In the end, Frizinghall were cleaned out of 1½" Angle Girders and 1½" x ½" Double Angle Strips and Stuart Borrill made me some very nice 26 tooth Bevels, so I was poorer but ready to start construction. The model falls in to two major components – the Gantry and the Boom. The Gantry is essentially a 9½" cube with the bogies for travelling on the bottom and the GRB (or its replacement) on the top. This went together without major problems.



One of the bogies from underneath

The travelling wheels are shown as composites made from a $1\frac{1}{8}$ " Flanged Wheel and a Bush Wheel. Not being willing to use up my entire stock of Bush Wheels, I substituted Wheel Discs and the modern Collar size plastic spacers for Bush Wheels and this worked very well. The four Large Tooth Quadrants fitted on the top. a spider with $\frac{3}{4}$ " Flanged Wheels between this and another 167b attached to the Boom.

Construction of the Gantry required only minimal changes from the version shown in the instructions. I attached the Large Tooth Segments with a p/n167b, Flanged Ring $9\frac{1}{2}$ " on top, the idea being to make a rail for the $\frac{3}{4}$ " Flanged Wheels which I intended to make the boom swivel on. I now needed a spider to hold the wheels. This proved to be a bit of a challenge. First thought was to use a $7\frac{1}{2}$ " Circular Strip (p/n 145). It would be possible to attach Angle Brackets or Trunnions to this part and affix the Flanged Wheels by $\frac{3}{4}$ " bolts. I was offended by this solution as the Circular Strip has (effectively) 44 holes in its circumference. Some of them are slots but the ends of the slots are a hole apart. For even spacing of the wheels I could therefore have 2, 4, 11 or 22. Such a solution, as realised by Bert Hutchings, is shown in the photograph. An

alternative, also suggested by Bert is to use a $5\frac{1}{2}$ " Circular Strip with the results



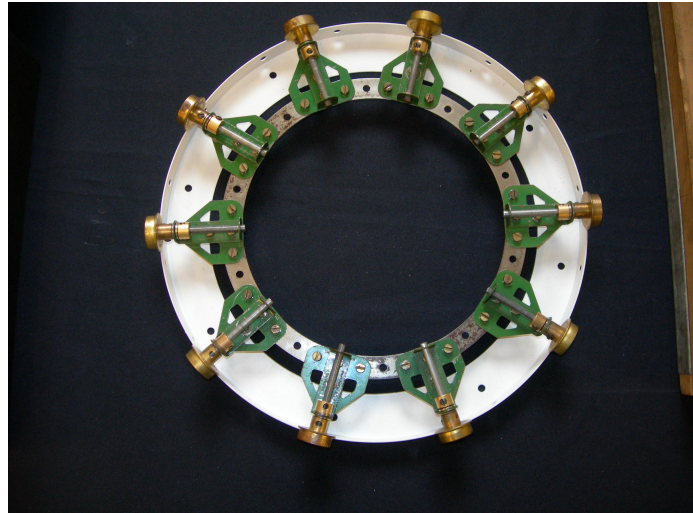
Spider made with $7\frac{1}{2}$ " Circular Strip

shown in the next illustration. This gives ten wheels on the circumference – but you have to use a very rare obsolete part.

I was not happy. I had decided that I wanted 16 wheels on the circumference. This is difficult to justify – but you can put it down to a hexadecimal fixation. The next ploy was to try making a circle by bending and overlapping $12\frac{1}{2}$ " Strips. The wheels were attached by $\frac{3}{4}$ " Bolts.

This was all right, but with the strip circle of the correct diameter so that the wheels would run on the Flanged Ring, I could not get an evenly spaced number of wheels on the circumference.

In the end I made a circle of 2½" Curved Strips (p/n90) and bolted 2½" Double Angle Strips to this circle. The inside end of every second Double Angle Strip was bolted to a central 4" Circular Plate and the intervening Double Angle Strips were nicely held in position by the bolted



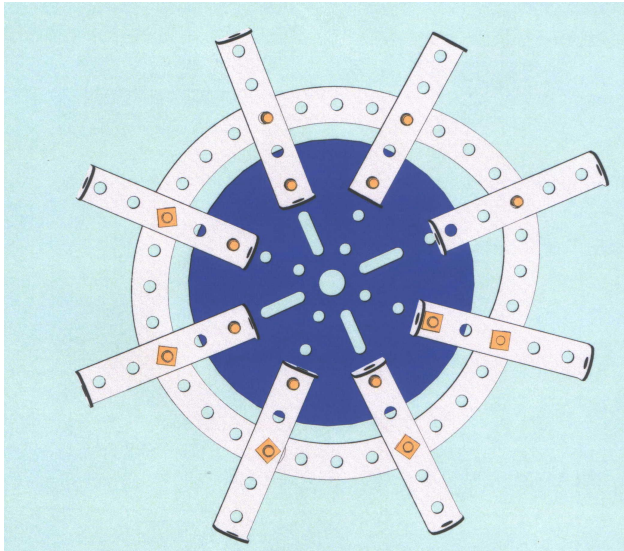
Spider made with obsolete 5½" Circular Strip

ones on either side. The ¾ " Flanged Wheels were then mounted on 3 ½ " Rods with suitable spacing provided by black plastic spacers. This proved to be very successful. Everything was nice and rigid, the wheels ran smoothly and I had met my hexadecimal target. The large hole in the centre of the Circular Plate was a bonus as it allowed for slight mis-alignment of the central drive shaft to the travelling bogies.

This spider (shown below) was installed on the Circular Girder with the flanges of the ¾" locating it nicely. The intention was to mount another Circular Girder on the Boom and have the wheels run on the edges of both.



The completed spider



VirtualMec drawing of the spider

If you are suitably *au fait* with the Meccano system, you will have realised that the above should not work. Advantage has (inadvertently) been taken of the considerable tolerances in the holes. An attempt to construct a drawing of the spider using VirtualMec gave the result shown opposite. The Double Angle Strip at 2 o'clock does not fit. That is the theory. It is not supposed to work but in practice it did.

This completed the Gantry and, out of interest, I weighed it and found it to weigh 6.4 kg (14 pounds for Imperialists). That was just the Gantry! With the boom as well, this was going to be a heavy model. Would I be able to get it to travel? - a concern for later. Meanwhile, onward and upward – to the Boom.

More next issue.

* * * * *

MECCANO ON THE INTERNET

While not strictly Internet, the following exchange of e-mails took place in June between Bert Hutchings and our Canadian member, Christopher Robertson:-

I am wondering if by some miracle anyone in our Society might possibly have the dashboard switch from the Meccano Car lighting set?

It is possibly a ridiculous question but being in need I really felt I should ask.

Please advise.

Christopher Robertson

Bert replied:-

Not very many of our members can be contacted by email. I have copied your inquiry to our Newsletter Editor instead, but it will be a couple of months before the next issue. I must warn you that I have never heard any of our members admit even to the ownership of a car lighting set, far less a spare dashboard switch from it, so I think the chances of success in your quest with us are not great.

Which elicited the following response from Canada:

Many thanks for your help with this matter of the dash board switch and yes I do understand that this part I am seeking is quite rare. Still, it never hurts to ask and possibly there is a network amongst the lads that would indirectly equal what I am after.

I am also wondering if you would be interested in using the attached snap in our newsletter? It's not much but currently all I've got in the way of Meccano Constructor cars. For the record, all of built up models featured are from, more or less complete Car Constructor sets. I believe the larger auto is only missing it's small base plate, while the small No.1s are shy but one single red seat. The No.2 set box is original but has been professionally restored. The Cream



No.1 is a true prize, being a Meccano France production. For that unit, I still am after a French Manual and carton. Also the Red and Blue No.1, remains unboxed until further notice!

Over the years I have had several collections of Meccano Constructor Car and enjoyed their presence immensely. Truly wonderful toys and well worth having! Christopher Robertson

On receiving the above I (*Ed!*) wrote to Christopher expressing interest and confessing ignorance of Meccano car sets.

His reply was as follows:-

How good of you to write to me but I am a little surprised that you are not more familiar with the 1933 to 41 Meccano Lighting sets! There were two outfits released in the early



1930s, a year apart. One was dedicated to the Constructor Car Series and the other was just a general lighting outfit for use with Meccano models. The difference was in the parts. The former had a special part to house a battery, along with a unique dash board switch part! The latter Set had more general parts but both came complete with a set of headlamps and wired bulbs, that could be applied to a constructor car model. James covers these sets in his Hornby Companion Series Book, so please, check it out when you get a chance. Just for the record, I am attaching a further snap of my 1984 Meccano Constructor Car Collection. How I wish I had these autos now!! Oh well, such is life.

Very best,

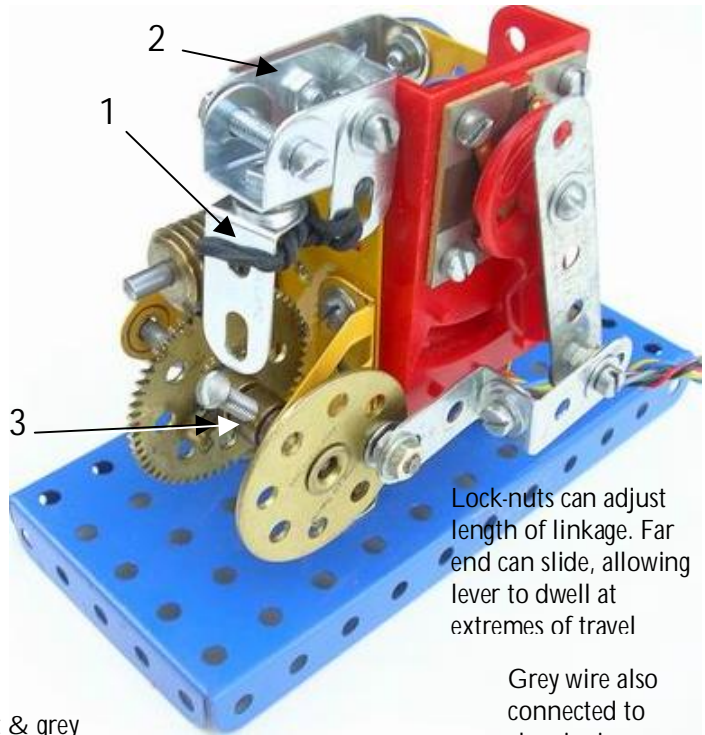
Christopher M. Robertson

Secondly, a contribution to Spanner from Chris Shute, notable not only for the ingenuity of its design and construction but also for the excellence of its presentation which has your editor thinking that perhaps he is not up to the job (Could do better!).

AUTO-REVERSING DEVICE FOR MODEL TRAINS AND TRAMS

By Chris Shute

Use this device to send a train or tram up and down a length of track, pausing at each end when it enters a dead section. When the switch has reversed the supply, the dead sections are made live, briefly, to restart the train back into the main section of track, travelling in the opposite direction. This is done by the pivoted sprung 1" x 1/2" Bracket 1 being briefly earthed by one of a pair of passing 1/2" bolts held in a Collar 3. The Bracket is fixed on a 1/2" x 1/2" Double Angle Bracket (at an angle to clear the Worm), free to pivot in the arms of a 1" x 1/2" Double Angle Bracket 2, which is mounted high in the plastic hole of the switch body to remain insulated from the 3" x 1 1/2" Plate. A 2 1/2" Drive Band pulls the bracket assembly back to the Fishplate shown. The green wire is connected to both dead track sections.

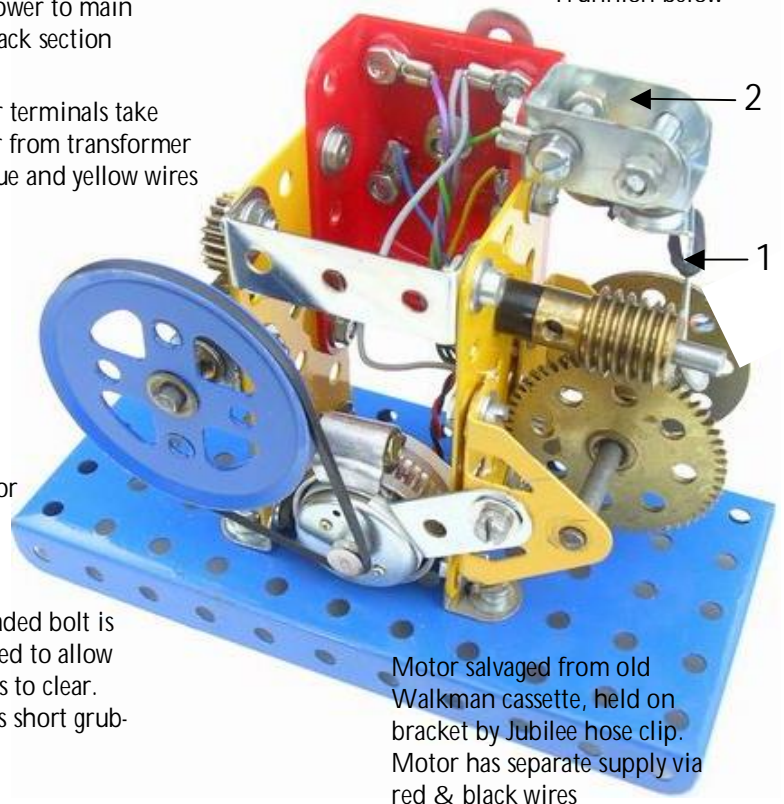


Lock-nuts can adjust length of linkage. Far end can slide, allowing lever to dwell at extremes of travel

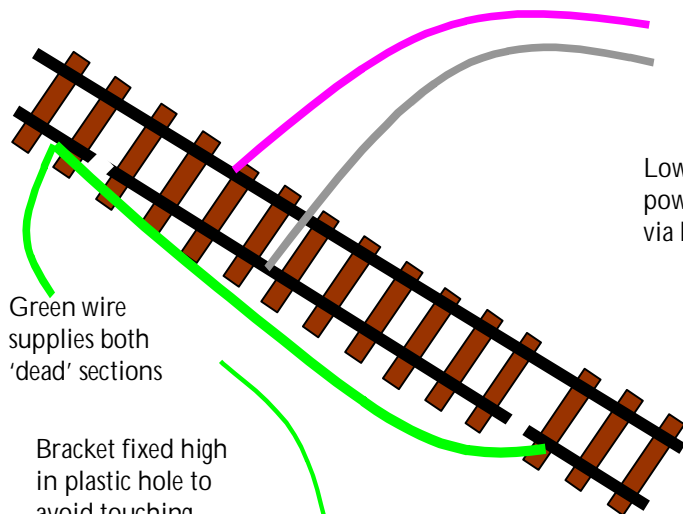
Grey wire also connected to chassis via Trunnion below

Violet & grey wires supply power to main track section

Lower terminals take power from transformer via blue and yellow wires



Motor salvaged from old Walkman cassette, held on bracket by Jubilee hose clip. Motor has separate supply via red & black wires



Green wire supplies both 'dead' sections

Bracket fixed high in plastic hole to avoid touching chassis plate

Use a larger pulley for a longer track or slower train

Dome-headed bolt is slightly filed to allow worm boss to clear. Worm has short grub-screw

Lock-nuts sandwich 2 1/2" Strip with Rod & Strip Connector, which has jaws slightly tightened to hold control lever. Linkage is free to slide under bolt head.

Waiting time can be increased with a larger pulley and also varied by having a variable power supply for the motor. If voltages are the same, the motor can share the constant yellow/blue supply.

The bracket switch assembly and green wire can be eliminated if a diode connects each dead section to the main rail (opposing polarities, trial & error!).

Dead sections could also be used on the central rail of 3-rail track, or an overhead wire.

ELECTRONIC CONTACT ADDRESSES

The Society's web site address is:-

<http://www.meccanoscotland.org.uk>

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