

April 2024

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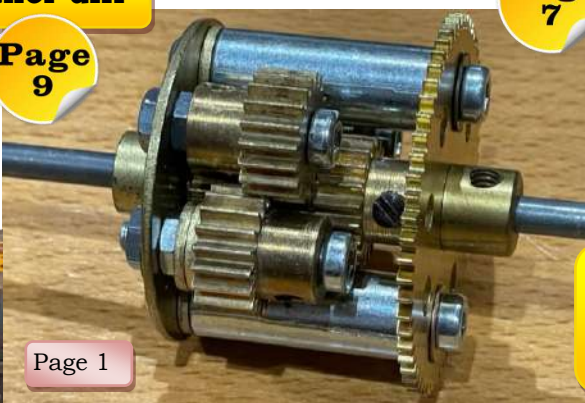
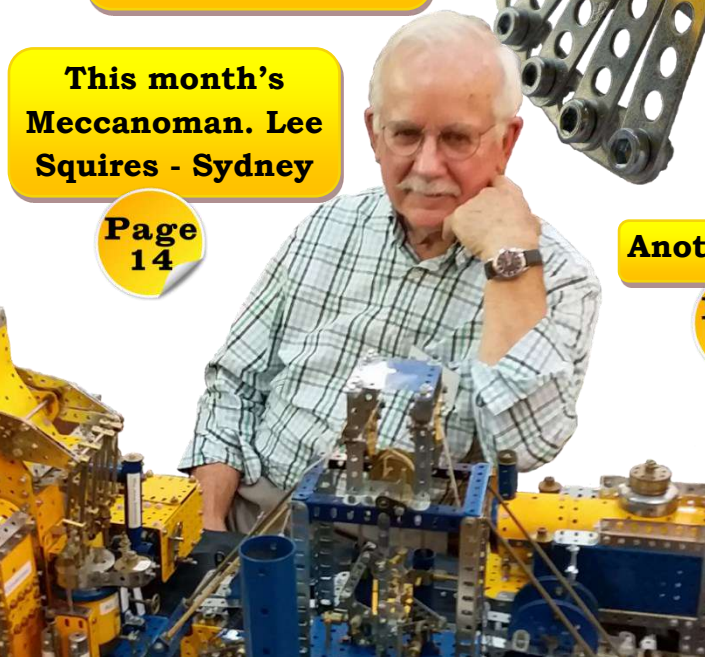
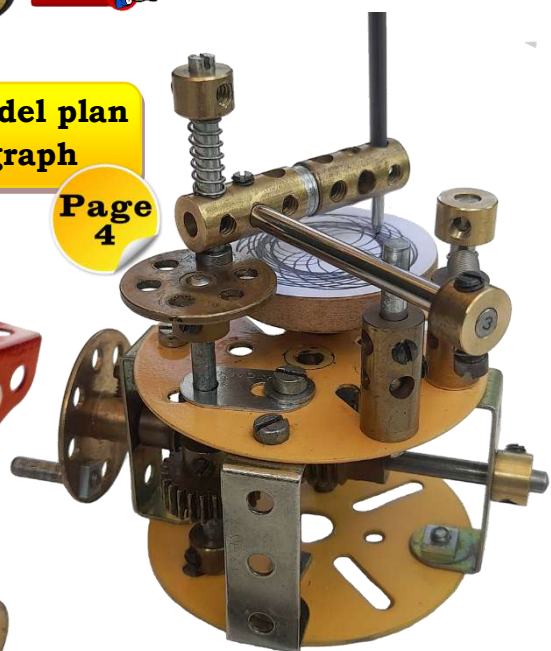
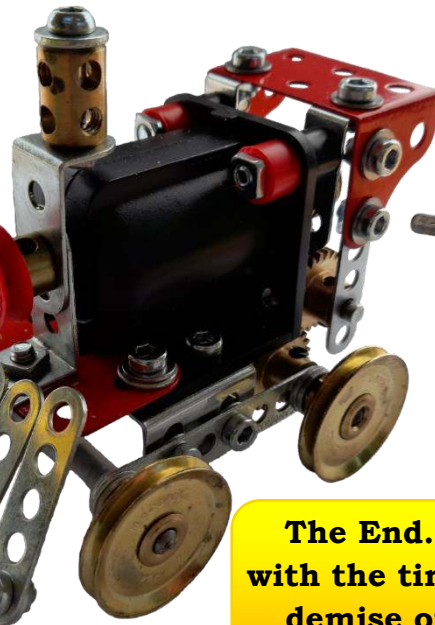
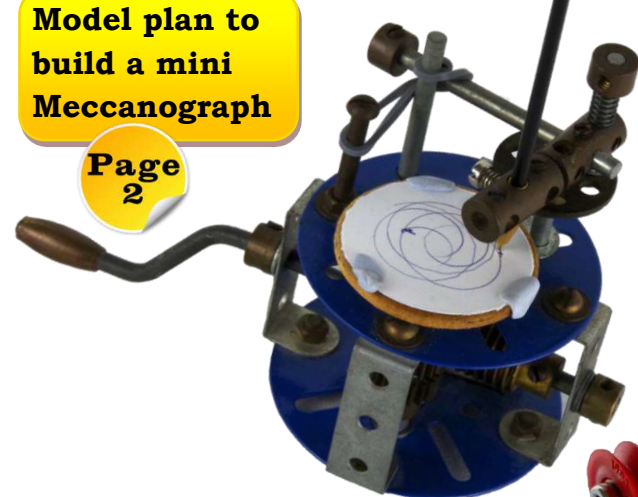
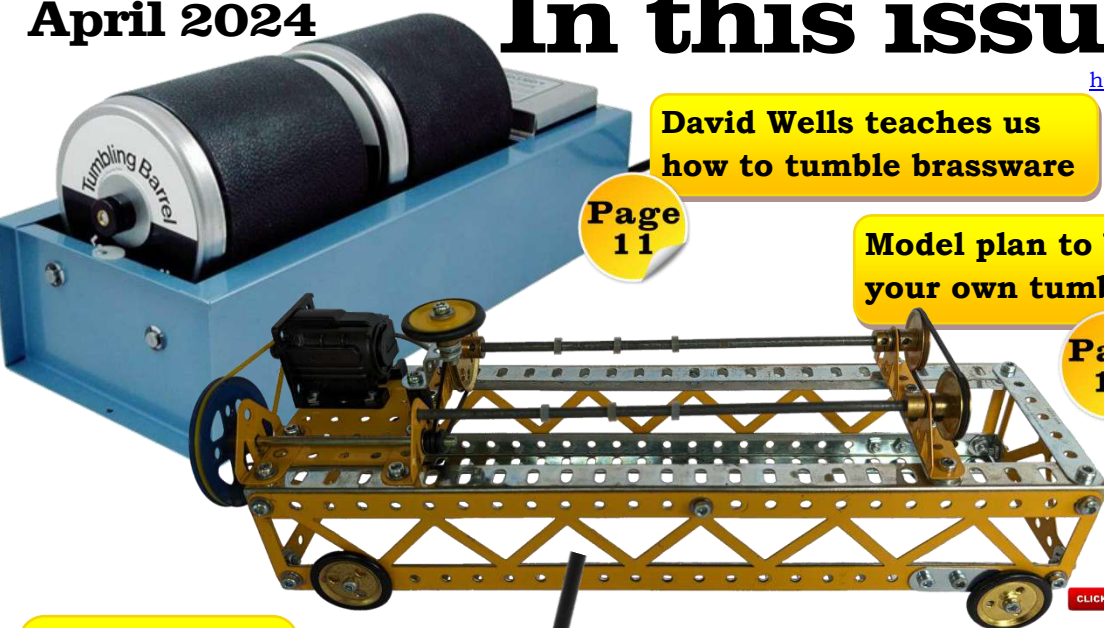
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it on the cover!

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Mini Meccanograph

by Paul Dale - Oz



YouTube
Click on the image

I saw a photograph many years ago of a similar compact Meccanograph by Peter Stuart in one of the club magazines. The design produced can be changed by locking one or the other of the 1/2" Pinions or adding a spacer to the vertical support Rod.

| Part No. | Description | Qty |
|----------|---------------------------|-----|
| 10 | Fishplate | 4 |
| 16a | 2 1/2" Axle | 2 |
| 17 | 2" Axle | 2 |
| 19s | 3 1/2" Crank handle | 1 |
| 24 | Bush Wheel | 1 |
| 25c | Pinion, 25 tooth 2mm face | 1 |
| 26 | Pinion, 19 tooth | 1 |
| 26l | Pinion, 20 tooth obsolete | 1 |
| 32 | Worm gears | 2 |
| 37b | Bolt | 10 |
| 37c | Nut | 13 |
| 38 | Washer (paint protection) | 29 |
| 38b | Washer, 3/8" diameter | 1 |
| 48 | 1 1/2" x 1/2" DAS | 4 |
| 59 | Collar | 6 |
| 62 | Crank | 1 |
| 63 | Coupling | 2 |
| 109 | Faceplate | 2 |
| 111d | 1 1/4" Bolt | 1 |
| 115a | Threaded pin, long | 1 |
| 120b | Compression spring | 1 |
| 186g | Driving band 65mm | 1 |
| 251 | Pallet pin | 1 |
| 518 | Bush wheel, 1" | 1 |

Fig. 1

Fig. 1. The mini Meccanograph is based around a pair of Face Plates spaced apart by 1 1/2" x 1/2" Double Angle Strips as shown.

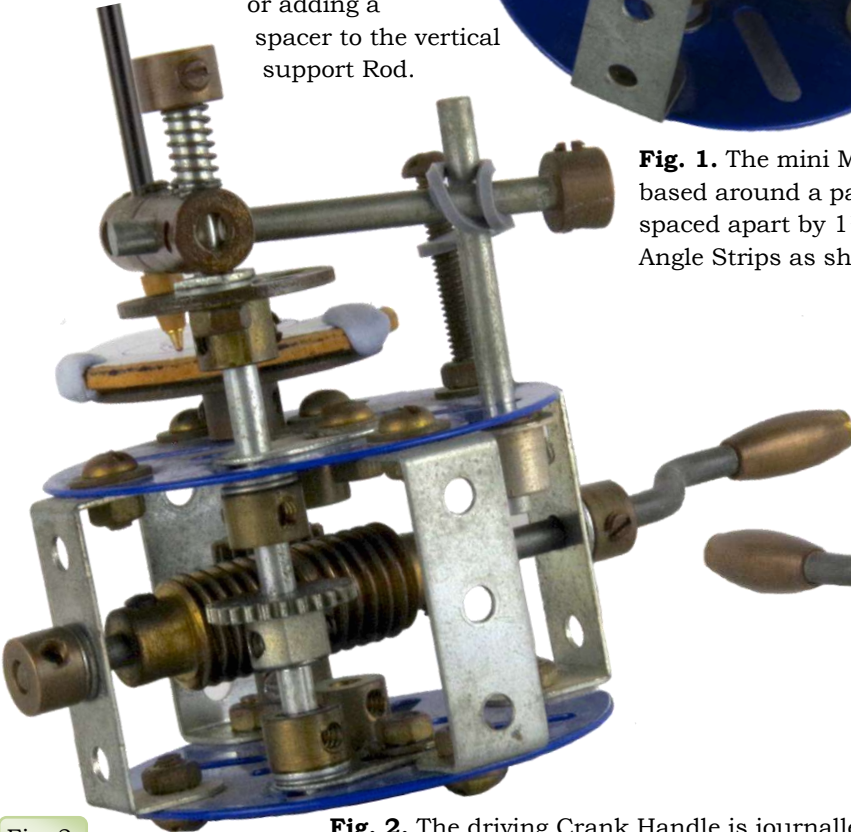


Fig. 2



Fig. 3

Fig. 2. The driving Crank Handle is journaled in the central hole of a pair of Double Angle Strips as illustrated. The Crank Handle has two Worms attached. One drives a 25t Pinion, the other a pair of 1/2" Pinions, one having 19 teeth and the 2nd (green) being the obsolete 20t version.

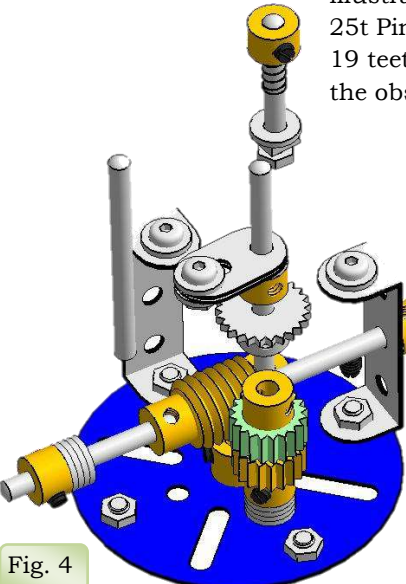


Fig. 4

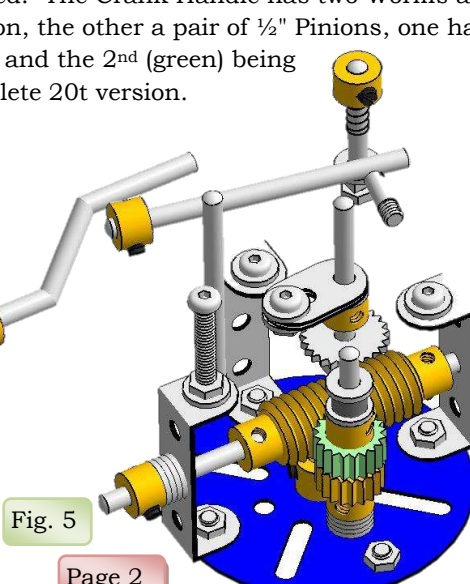


Fig. 5

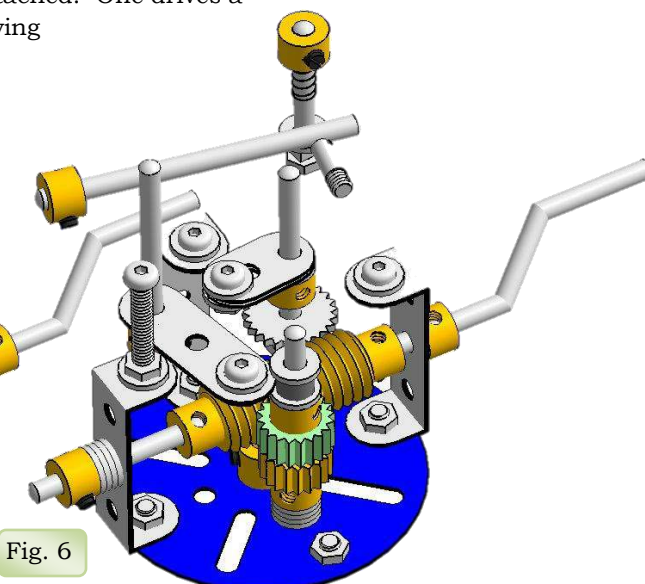


Fig. 6

VirtualMec **Figs. 4 to 8** form a progression where additional obscuring parts are added in each step. Because there are floating parts illustrated, construction will have to be undertaken in a different order.

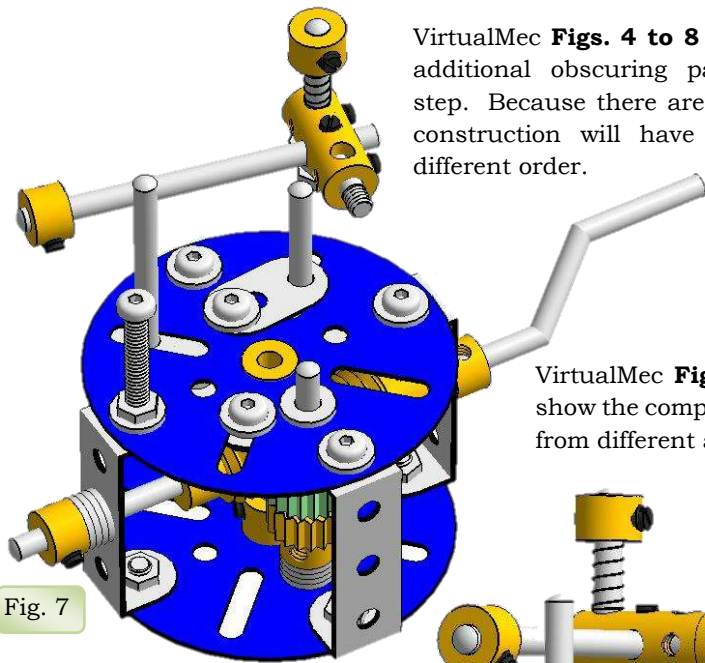


Fig. 7

Figs. 3 & 10. The table drive comes up through the upper Face Plate, driven by one of the ½" Pinions below. A Bush Wheel is later added to this to create the drawing table. A small wooden or MDF disc is attached using BluTac to the Bush Wheel to provide a better surface for the pen to draw upon.

VirtualMec **Figs. 9 to 11** show the completed model from different aspects.

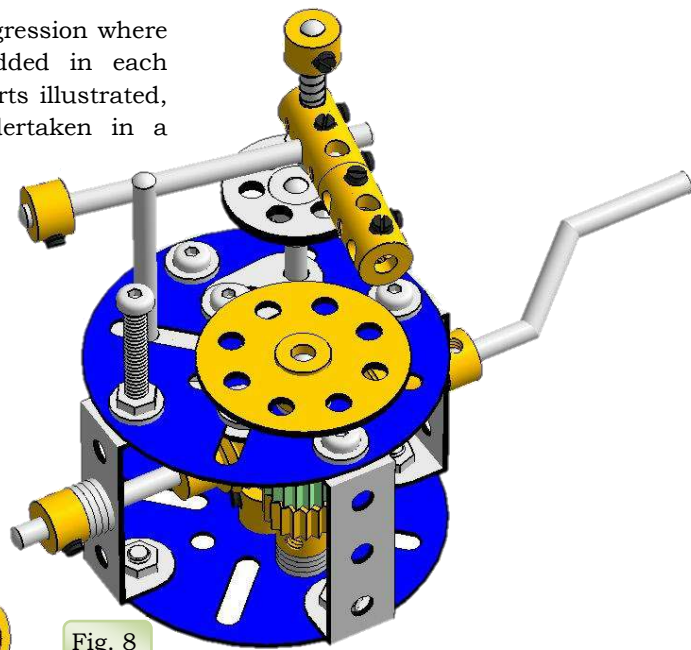


Fig. 8

Figs. 2, 10 & 11 The pen arm drive is via a 25 tooth Pinion that is on a vertical Axle Rod that is journalled in slotted holes in the Face Plates, each journal being two Fishplates which are angled to get the Worm-to-Pinion spacing correct. Note that it is not necessary to use a narrow face 25 tooth Pinion, a full width one is also workable.

Further fine adjustment of the space can be achieved by moving the 25t Pinion out of the line of the Crank Handle. The ½" Pinions are on a separate vertical Axle Rod and this passes through the upper Face Plate and drives the Bush Wheel drawing table.

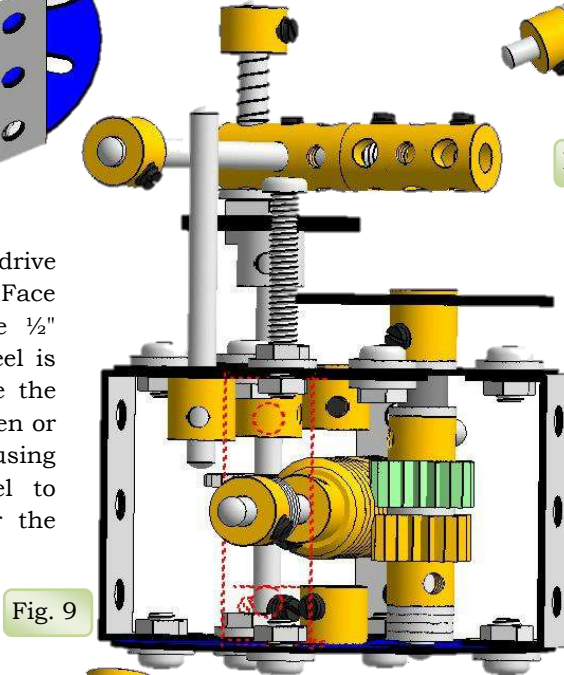


Fig. 9

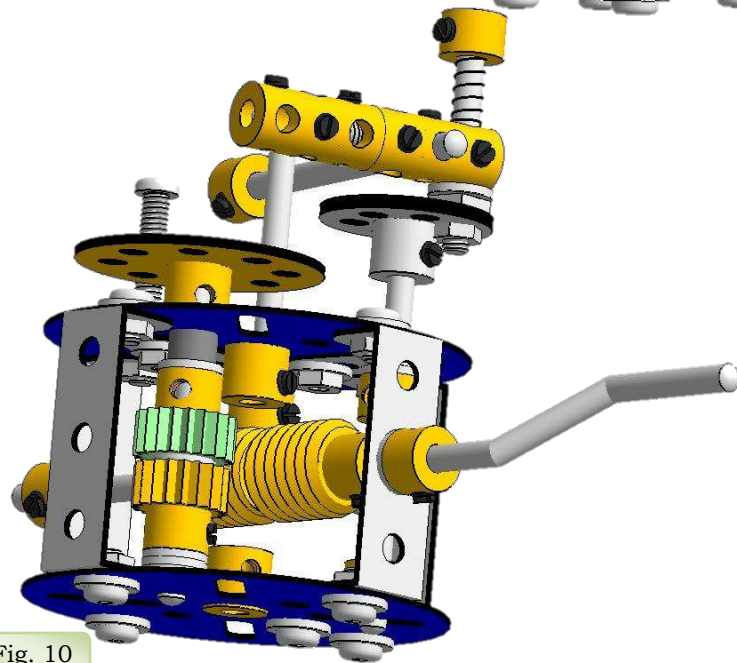


Fig. 10

Fig. 10. A 1" Bush Wheel moves the pen arm which is built from a pair of Couplings. The Compression Spring is to reduce backlash and it's strictly required. The first of the Couplings has a horizontal Axle Rod which is loosely attached to a vertical Threaded Pin using a Driving Band that also wraps around a vertical long Bolt. The Threaded Pin is held in a slotted hole of the upper Face Plate via a skew 1½" Perforated Strip. The final 3 VM drawings show views of the Meccanograph from different directions.



<https://youtube.com/shorts/xRp8Ku74vTY>

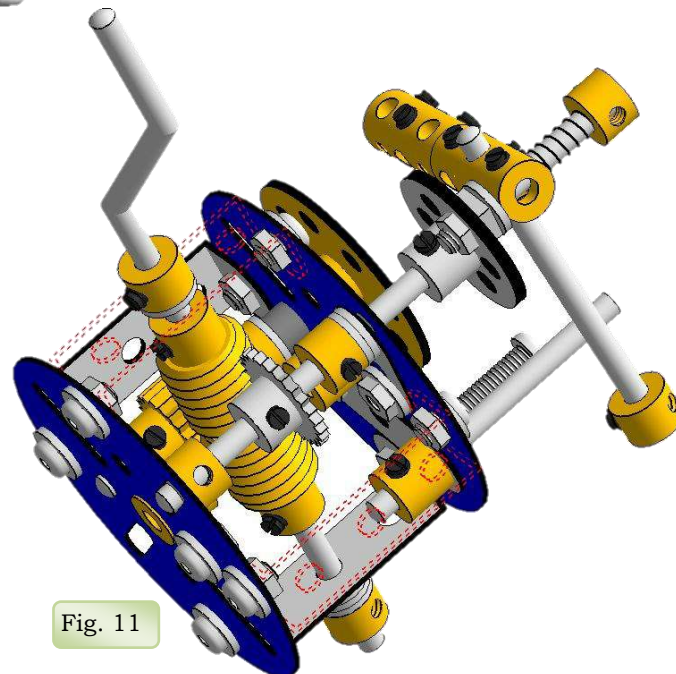


Fig. 11

Thank you to Ed Veiga for producing all the Virtual Mec drawings. The .mdl files can be downloaded from the MeccanoIndex here...

<https://www.meccanoindex.co.uk/Virmec/index.php?id=1705976849>

Mini Meccanograph

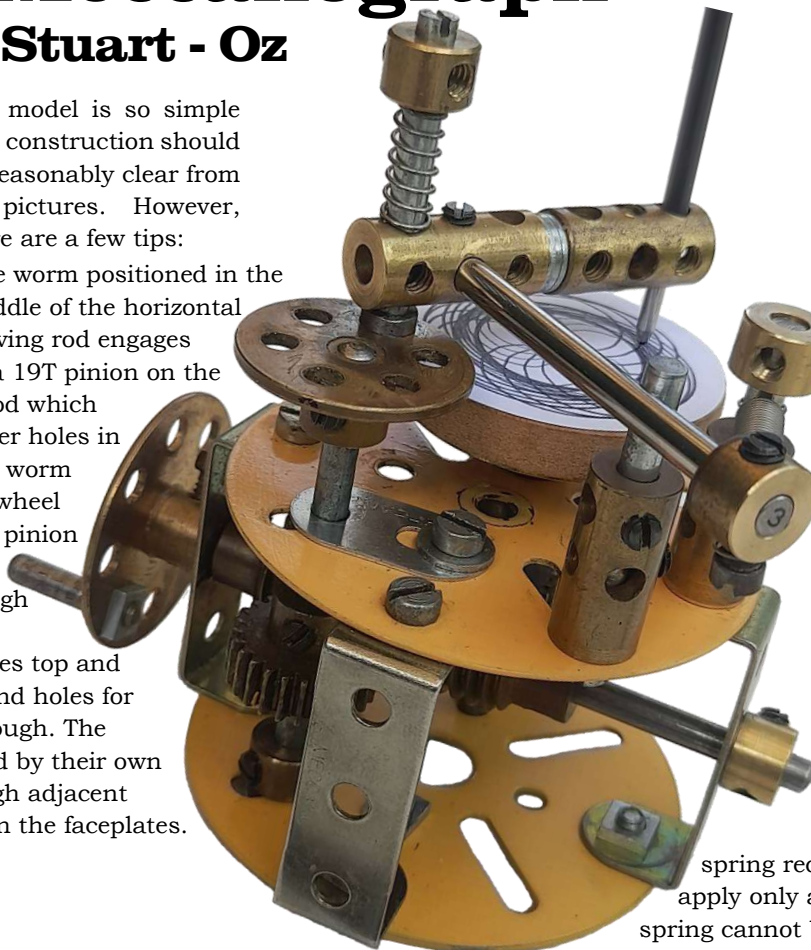
by Peter Stuart - Oz



The model is so simple that construction should be reasonably clear from the pictures. However, there are a few tips:

The worm positioned in the middle of the horizontal driving rod engages with a 19T pinion on the

turntable vertical rod which passes through inner holes in the faceplates. The worm closest to the handwheel engages with a 25T pinion on a vertical rod which passes through slotted holes in the faceplates. Fishplates top and bottom provide round holes for the rod to pass through. The fishplates are bolted by their own slotted holes through adjacent inner round holes in the faceplates.

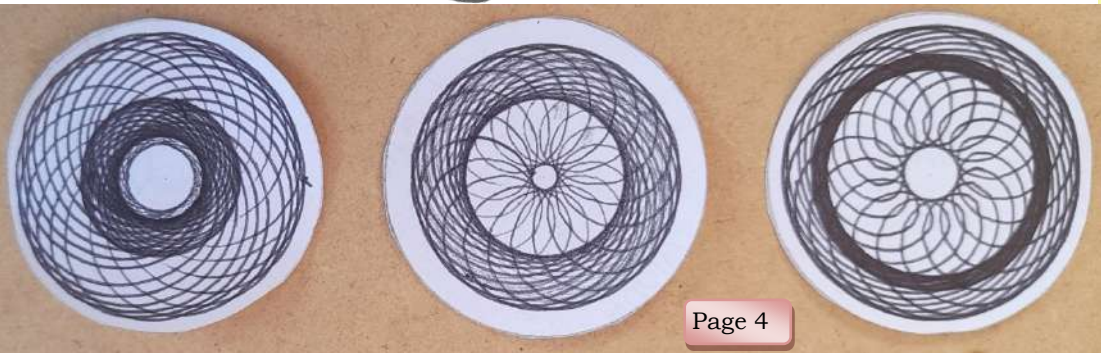
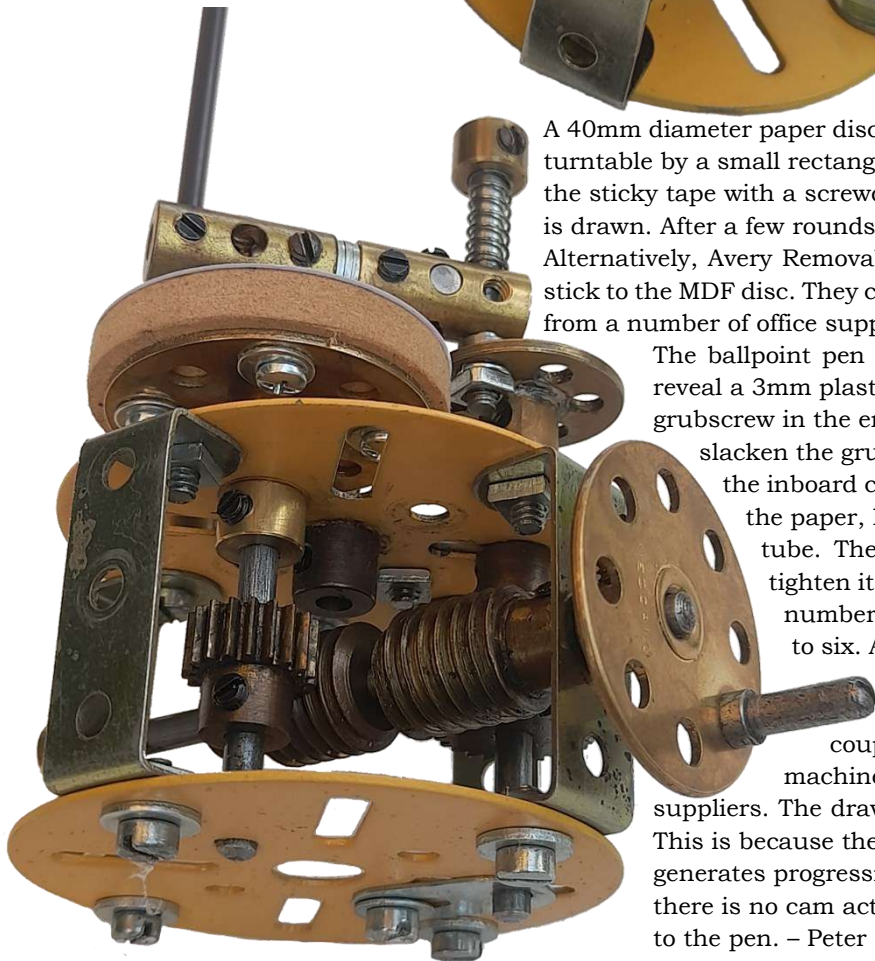


| Part No. | Description | Qty |
|-------------------------------|-------------------------|-----|
| 10 | Fishplate | 2 |
| 16 | Rod 3 1/2" | 1 |
| 16a | Rod 2 1/2" | 2 |
| 18h* | Rod 3/4" *h for hacksaw | 1 |
| 24 | Bush Wheel 8-hole | 2 |
| 25 | Pinion 25t | 1 |
| 26 | Pinion 19t | 1 |
| 32 | Worm | 2 |
| 48 | 1 1/2" x 1/2" DAS | 4 |
| 59 | Collar | 7 |
| 63 | Coupling | 2 |
| 63c | Threaded Coupling | 2 |
| 109 | Faceplate | 2 |
| 115 | Threaded Pin short | 1 |
| 115a | Threaded Pin long | 1 |
| 120b | Compression Spring | 1 |
| 518 | Bush Wheel 1" | 1 |
| Tension Spring or rubber band | | |

The turntable is made from 6mm MDF board. It is 1-9/16" (40mm) diameter and is secured to a bush wheel by small self-tapping screws, 3G x 1/4" long. Washers of 1/8" ID are required on either side of the bush wheel. With the turntable attached to the bush wheel, it should ideally be machined to size in a lathe. Alternatively, constructors could use a drill press, or a cordless drill clamped in a vice, and a coarse file held by two steady hands. The tension spring requires a bit of experimenting but needs to apply only a light pull on the sliding rod. If a suitable spring cannot be found; a rubber band can be used.

A 40mm diameter paper disc, cut with scissors from heavy grade paper, is fixed to the turntable by a small rectangle of double-sided sticky tape. The paper can be eased off the sticky tape with a screwdriver blade but this must be done soon after the pattern is drawn. After a few rounds, the sticky tape may need replacing. Alternatively, Avery Removable Matt White Round Labels, 40mm diameter, will self-stick to the MDF disc. They can be easily peeled off afterwards. The labels are available from a number of office supplies companies.

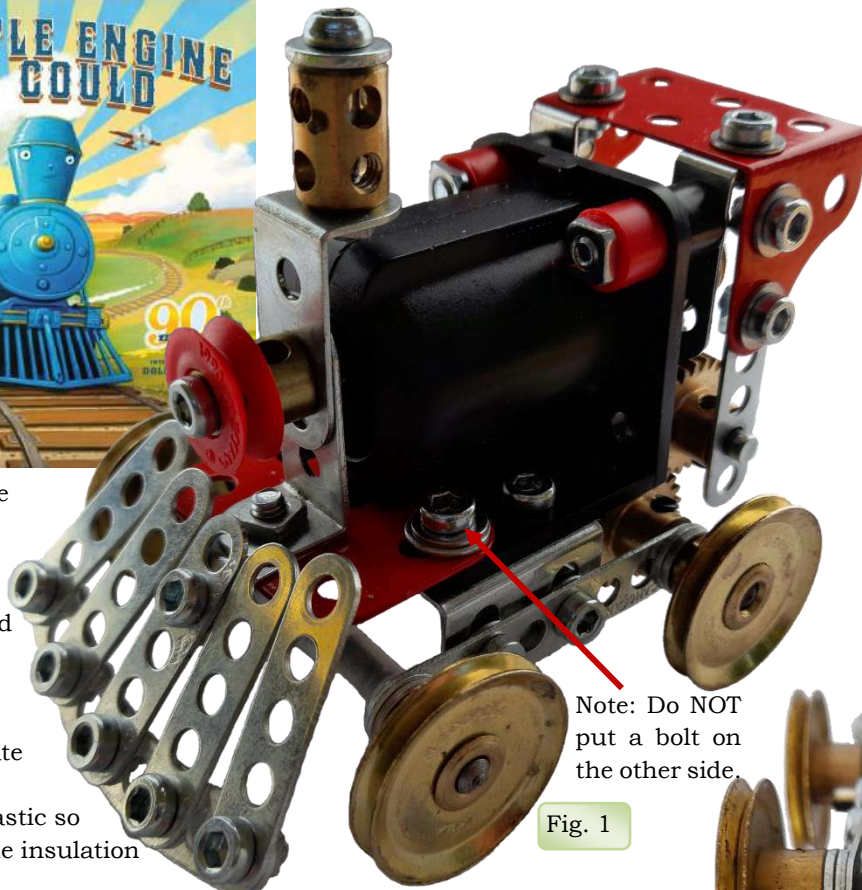
The ballpoint pen can be any fine point type which can be dismantled to reveal a 3mm plastic ink tube with roller ball end. It is lightly clamped by a grubscrew in the end coupling. To set the downforce on the biro tube, slacken the grubscrew in the collar above the compression spring. Raise the inboard coupling about 2mm, then while the biro point is touching the paper, lightly tighten the outer coupling grubscrew to clamp the tube. Then push the collar down to lightly compress the spring and tighten its grubscrew. Seven patterns can be drawn by altering the number of spacer washers between the two couplings, from none to six. Another seven different patterns can be drawn by rotating the outboard coupling 90 degrees and inserting the ink tube through its middle hole. The short rod between the couplings might need to be shortened. The washers I used are machine washers, 0.9mm thick, available from specialist fastener suppliers. The drawn patterns are all similar, differing mostly in their size. This is because the mechanism generates progressive spirals; there is no cam action imparted to the pen. – Peter Stuart MMAS.





This little engine is designed to pick up power from the rails without the need for a 3rd rail. To this end, it's necessary to electrically isolate the wheels. The motor is plastic so that provides the insulation side to side.

| Part No. | Description | Qty |
|----------|-------------------------------|-----|
| 9L | Angle Girder 2 hole | 2 |
| 12b | Angle Bracket 1½" x ½" | 2 |
| 12c | Obtuse Angle Bracket | 1 |
| 18a | Rod 1½" | 3 |
| 18b | Rod 1" | 2 |
| 22 | Pulley 1" | 4 |
| 23ap | Pulley ½" red plastic | 1 |
| 25 | Pinion 25t | 2 |
| 31 | Gear 1" | 1 |
| 32 | Worm | 1 |
| 38a | Spacer plastic red | 2 |
| 38a | Spacer plastic black | 2 |
| 51d | Corner Flanged Plate red | 1 |
| 63d | Short Coupling | 1 |
| 103h | Flat Plate 1½" | 1 |
| 812b | Narrow Angle Bracket 1½" x ½" | 2 |
| A213 | Rod Connector plastic | 2 |
| C768 | QI Narrow Strip 5 hole | 5 |
| C769 | QI Narrow Strip 7 hole | 2 |
| C770 | QI Narrow Strip 8 hole | 2 |
| C777 | QI Narrow Strip curved 9 hole | 1 |
| EM02 | Motor French plastic | |



Note: Do NOT put a bolt on the other side.

Fig. 1

To insulate the Rods, I've used the plastic Rod connectors found in the French outfits from the 90s. See link below to Tim Edwards' MeccanoIndex.

<http://tinyurl.com/Plastic-Rod-Connectors>

Start by bolting the Narrow Strips and Narrow Angle Brackets to the Corner Flanged Plate, Fig. 3.

Mount the Corner Flanged Plate to the motor using a large Spacer and a Washer. This is critical to

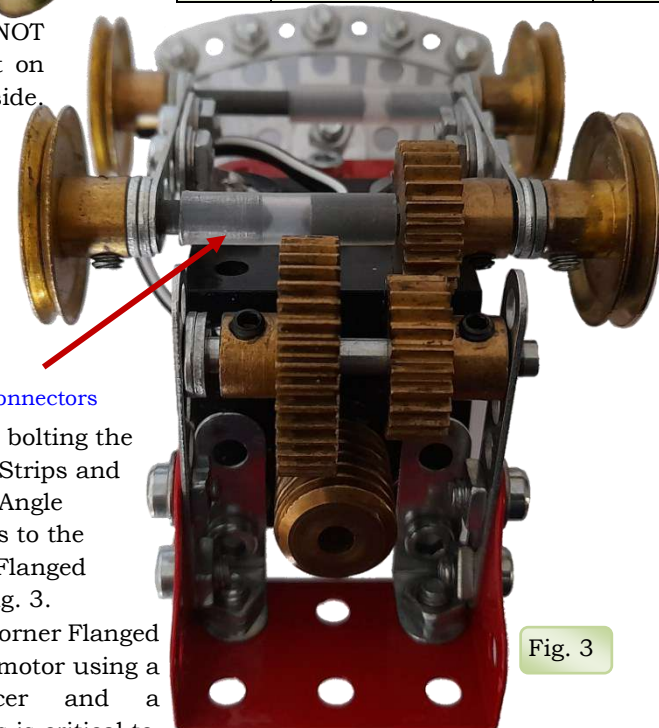


Fig. 3

allow the 1" Gear to clear the motor. The 1" Gear and the 25t Pinion are journaled through the 2nd hole in the 7 hole Narrow Strip. (6 hole strips don't exist). To get the Worm to mesh freely, the 1" Gear is offset and spaced by 2 Washers. I've used a Triflat Axle but a round Rod will do. Careful adjustment is required to get the all the gears to mesh freely.

The wheels are spaced to fit the track which is simply 2 x 24.5" Angle Girders separated with part B051 plastic 9 hole Thick Strips and Angle Brackets. You could make the track narrower and mount the 1" Pulleys with the boss outwards if you want. Solder tags with 4mm holes to the wires or just wrap the wire around a Bolt and Washer if you want to be a purist. The cow catcher is added last and in Fig. 1 you can see I've added red Spacers to tart it up a bit. The easy way to drive it up and down the track is to use a little train transformer with a reversing rheostat. But if you want to go to the next level, read on...

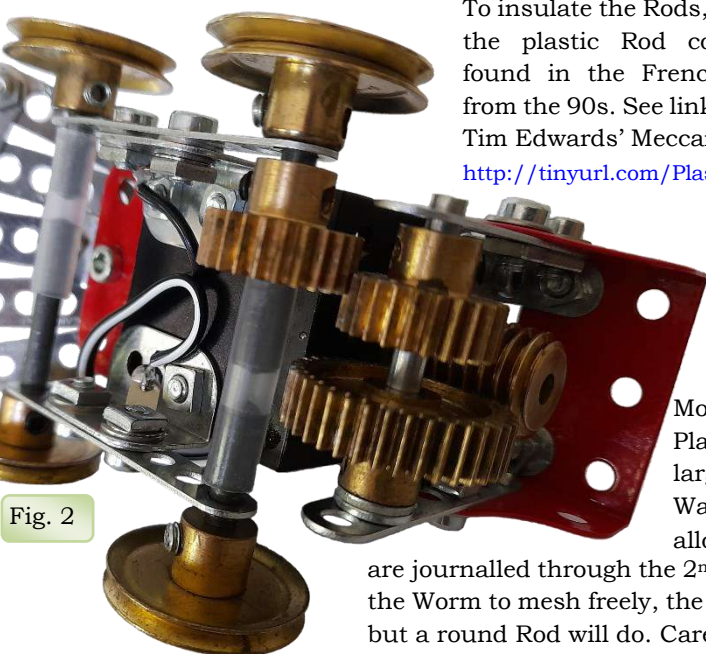


Fig. 2

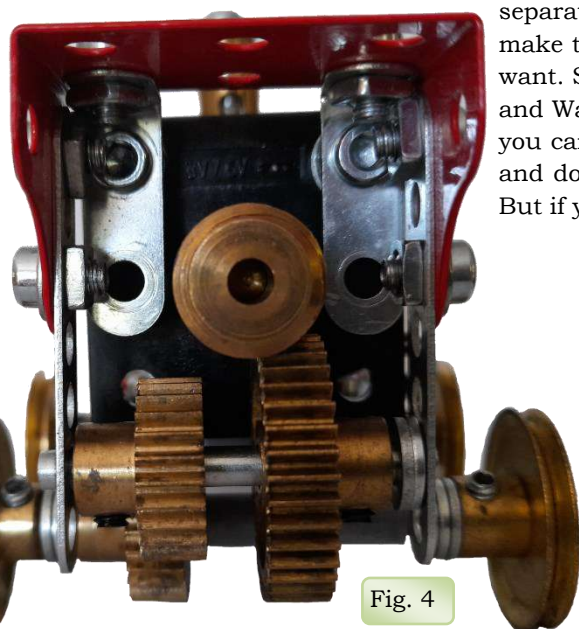


Fig. 4

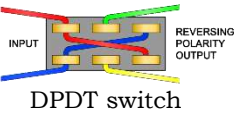


You Tube <https://youtu.be/REMWe7erDO4>



The Little Engine That Could... reverse automatically

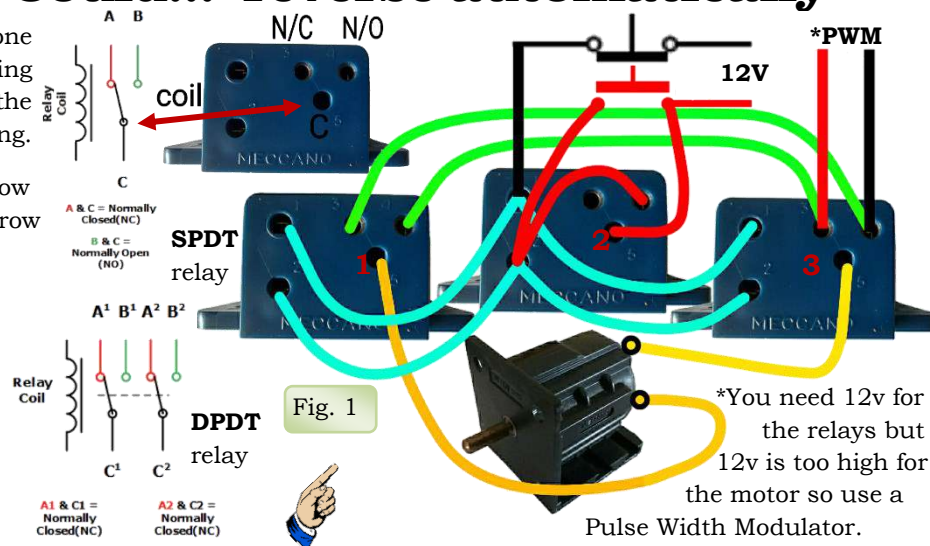
From the outset, let me point out that this can be done far more easily with a DPDT switch wired for reversing but I wanted to learn a bit more about relays and the idea of the Elektrikit relays clicking away was appealing.



*SPDT is Single Pole Double Throw

*DPDT is Double Pole Double Throw

I have built a relay reversing circuit before using a DPDT relay which is the same as a DPDT switch but the Elektrikit relays are SPDT. This means you need 2 of them to get a DPDT. To achieve this, I've wired the coils of 3 Elektrikit relays in parallel, Fig. 1, so that when the centre relay is energised, so are the other 2 relays. The centre relay is then wired as a 'sticking' or 'latching' relay meaning that when power is applied to the coil the contacts are switched so that power is then supplied to the coil directly without going through the red N/O switch. So even if the switch is released, the coil remains energised until the black N/C switch breaks the circuit and the relay returns to its resting state until the red switch is pressed again. This is called a latching circuit. The other 2 relays are then wired for a reversing circuit.

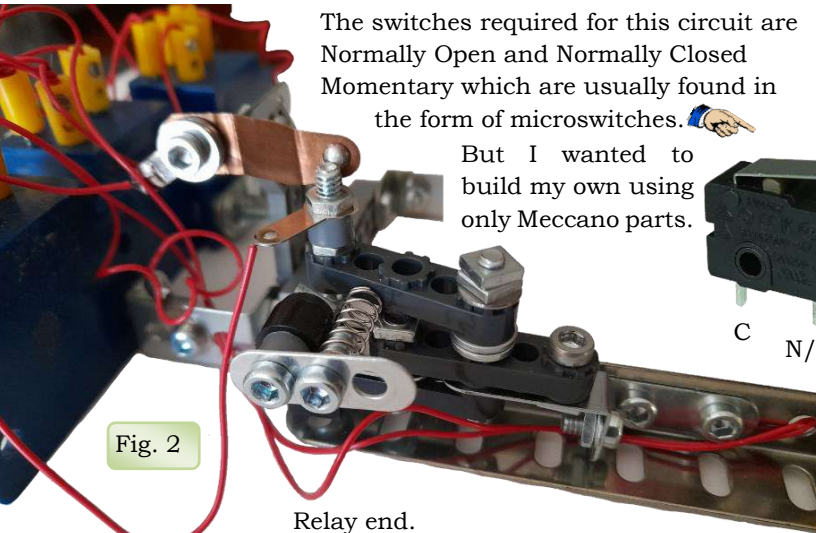


*You need 12v for the relays but 12v is too high for the motor so use a Pulse Width Modulator.

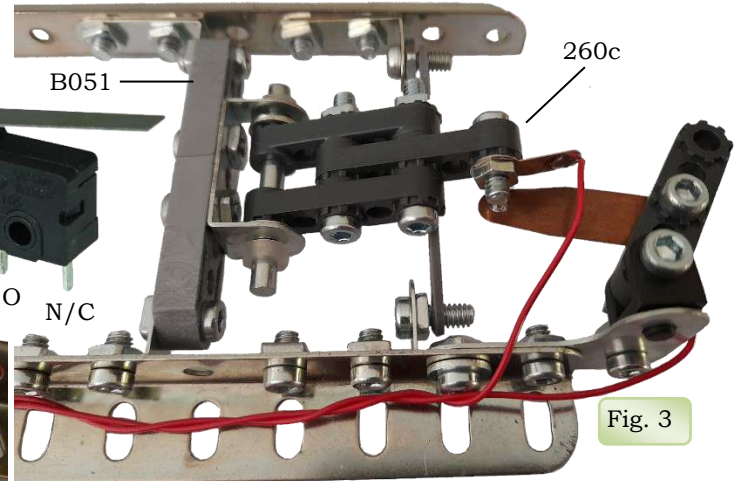
Power is applied to one side of the coil and the Common. Because the Common is connected to the N/C contact, no power is applied to the coil. When the red N/O switch is pressed, the coil is energised and now the Common is connected to the N/O relay contact and remains in this state until the black N/C switch breaks the connection. Relays 1 and 3 are also energised in sync with relay 2 and these are then wired to reverse the motor connections.

The switches required for this circuit are Normally Open and Normally Closed Momentary which are usually found in the form of microswitches.

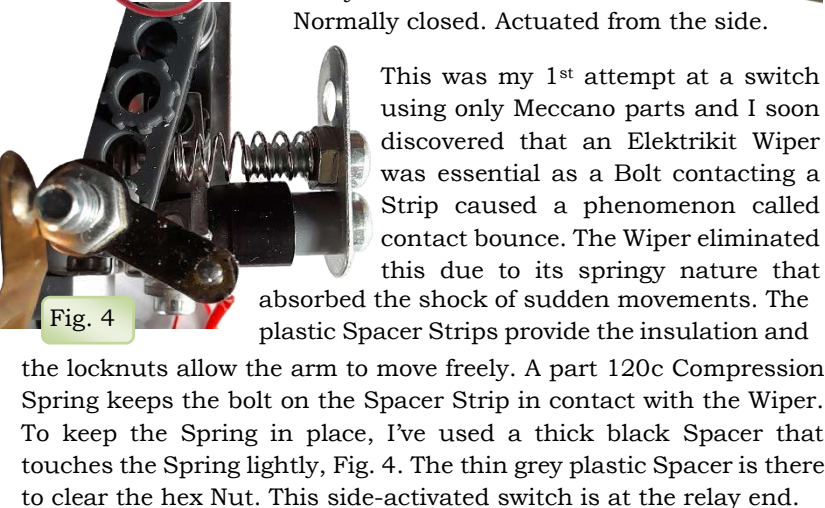
But I wanted to build my own using only Meccano parts.



Relay end. Normally closed. Actuated from the side.



Far end. Normally open. Actuated from the top.



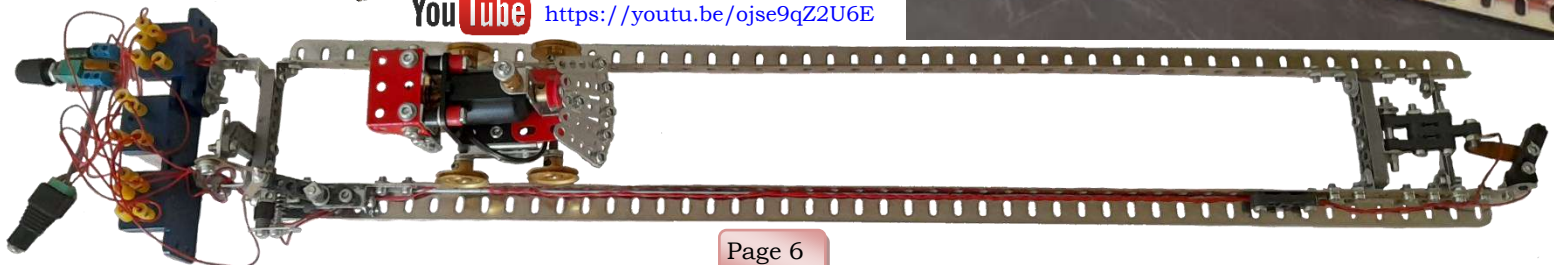
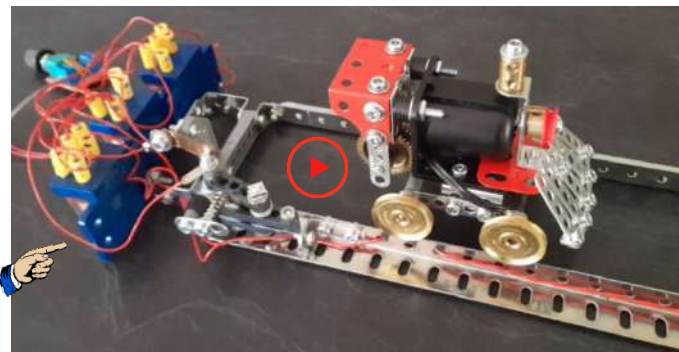
This was my 1st attempt at a switch using only Meccano parts and I soon discovered that an Elektrikit Wiper was essential as a Bolt contacting a Strip caused a phenomenon called contact bounce. The Wiper eliminated this due to its springy nature that absorbed the shock of sudden movements. The plastic Spacer Strips provide the insulation and the locknuts allow the arm to move freely. A part 120c Compression Spring keeps the bolt on the Spacer Strip in contact with the Wiper. To keep the Spring in place, I've used a thick black Spacer that touches the Spring lightly, Fig. 4. The thin grey plastic Spacer is there to clear the hex Nut. This side-activated switch is at the relay end.

The side actuated switch was derailing my little train, so I designed this top actuated switch for the other end of the track. It works very well. Rather than a spring, I used a Drive Band. The angle of the Spacer Strips is deliberately shallow to cause minimum resistance. When the Spacer Strip is pushed down, the Bolt contacts the Wiper. The Drive Band returns the switch to its normally off state.

Watch the relays and switches working on YouTube.

Click on link below or just click on the photo.

[YouTube https://youtu.be/ojse9qZ2U6E](https://youtu.be/ojse9qZ2U6E)





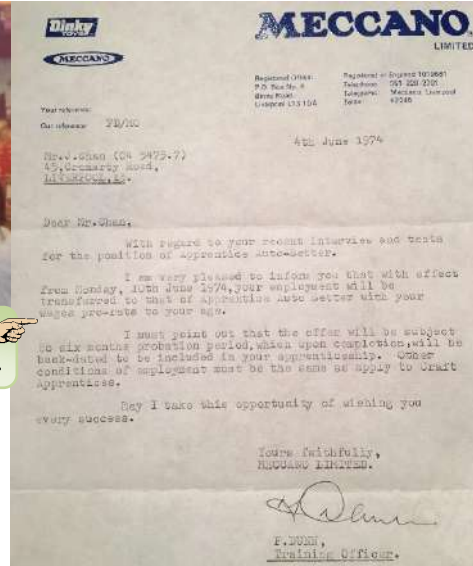
The End

Jimmy Chan started work at Binns Rd as a "Bar Lad" in 1974. The term refers to putting the brass rods into the machine that produces collars, pummels and Worms etc. Jimmy recalls it was quite scary when they were barricaded inside the

Jimmy, left, at Binns Rd



When another apprentice finished his 4 years, Jimmy was offered the opportunity.



factory and very tired when the bailiffs came at 4.30am and smashed their way into the factory with sledgehammers while everyone inside were in sleeping bags. Jimmy sent me the following timeline of events that was posted anonymously under the pseudonym "Working Class", and he assures me it's pretty much exactly as it happened.

30th November 1979:

Local management, having spoken to Airfix bosses in London, announced that Liverpool's Meccano factory was to close immediately and the approximately 950 workers were to lose their jobs. They were given approximately 15 mins notice of redundancy. Ray McNeice, managing director, said: "We have run out of money. It's as simple as that. We had hoped for more money from Airfix but we knew at about 3pm yesterday that we weren't going to get it. We knew it was highly unlikely we would get it a few weeks ago when there was a main board meeting. The senior stewards were invited in and told that within three weeks their future would be decided". Company bemoaned the financial performance of the firm, identifying £5m losses over the past 3 ½ years; and £1m in the current financial year alone. Workers immediately responded by occupying the plant, with one GMWU convenor telling the press: "We'll fight this to the bitter end".

31st November 1979:

Political response led by local MP David Alton, who sought high level talks with Airfix bosses in London. Shocked City Council leaders, meanwhile, described the news as a "tragic blow for Merseyside".

3rd December 1979:

MPs Eric Ogden and David Alton tabled questions in the Commons, demanding to know how much in state subsidies had been paid to Airfix bosses over the past three years, before drawing attention to management's failure to provide workers with the statutory 90 days' notice of redundancy. Trades Council leaders and workers discussed a complete ban on the handling of all Airfix products by local Dockers.

5th December 1979:

News emerges that company bosses had been withholding wages for the final week of normal working. Despite eventually releasing pay cheques, they published an advertisement in the local press blaming workers for the delay. Margaret Thatcher, meanwhile, warned that Airfix could be prosecuted for failing to provide the statutory 90-day notice of redundancy. The company responded by claiming there were "special circumstances" which meant they would avoid legal action, reaffirming that there was "no hope" of saving the Binns Rd. facility.

6th December 1979:

Government pressure prompted company officials to sit down with workers and their union officials; with the latter asking Airfix to reinstate sacked workers, and for "breathing space" whilst a buyer for the plant was found. However, after the London talks broke down, the occupation was transformed into a work-in. Jack Spriggs, worker-director at KME, addressed a mass meeting of workers to discuss the possibility of establishing a workers' co-operative. Local action committee elected, with leaders suggesting the work-in could be maintained for at least 3 months.

8th December 1979:

Action committee, spearheaded by senior shop stewards, discussed three potential options: find a potential buyer; establish a workers' co-operative; or ask the council to take over the site and run it as a municipal enterprise. Workers, meanwhile, picket Liverpool's Holiday Inn, where management have holed up since being escorted from the premises a week earlier.

10th December 1979:

Another round of high-level talks broke down, with workers rejecting an apparent 'peace deal' from company officials. Offer included 90-days pay in return for an end to the occupation, access to stock and guarantees from union officials that their members wouldn't seek a financial award under the Protection of Employment Act. All but one employee rejected the package, with local leaders calling for a public enquiry into the affairs of Airfix. Union officials announced British taxpayers had the right to know what happened to the £2m worth of state funds pumped into the Meccano plant.

12th December 1979:

Unionists and workers meet with DTI officials in Whitehall. Under-secretary, David Mitchell, was clearly angered by the manner in which Airfix bosses announced the closure. Back in Liverpool, 100 workers staged a demo at the Town Hall, lobbying Councillors on arrival. Inside, they backed a call from Derek Hatton for the City to take over the factory. Rival political parties agreed to ask the NEB to undertake a feasibility study into retaining the facility. Further discussions over the possibility of a workers' buyout and co-operative.

13th December 1979:

It is revealed that Meccano employees are being blocked from accessing state benefits as they aren't yet recognised as being either unemployed or actively seeking for alternative work. Workers asked shoppers in the City centre for their support and a 'hardship' fund is set up at the Trades Council offices in Victoria Street. Shop stewards and union officials urged increasingly vulnerable workers to ignore press talk of a golden handshake worth an estimated £3,000. Council rejects local Labour Party resolution to take control of the facility.

14th December 1979:

The Commons debated the possible closure, with Eric Ogden accusing management of displaying "almost incredible ineptitude and bad judgement" when giving less than one hour's notice of its closure plan. The MP also revealed that letters mailed to his constituent workers had been secretly intercepted by management.

17th December 1979:

At another meeting between Airfix and union officials in London, the former caused uproar by describing their workforce as “almost unmanageable, with extensive pilfering, high absenteeism and restrictive practices”. Company then hire an independent personnel management consultant to oversee a PR campaign placing Meccano’s woes squarely at the door of the workforce. Nick Cowans subsequently angered Liverpoolians by informing The Guardian that the factory was a good example of why Merseyside was being de-industrialised. Local union officials would respond by describing him as a “paid assassin”.

18th December 1979:

Widespread press rumours that the Meccano and Dinky line was set to continue to be produced abroad after fate of the Binns Road facility was finally sealed. Upon hearing the news, a mass meeting rejected management’s latest redundancy proposal by a 2 to 1 margin; voting to continue the protest in the process.

19th December 1979:

Another company advert in the local press, outlining the “generosity” of management’s earlier offer to pay all holiday pay before Xmas in exchange for “permanent repossession” of Meccano’s office block.

24th December 1979:

Management cut lights, heating and telephone lines at the factory in an attempt to force the cessation of the sit-in. Further threat to switch off water supplies.

Workers responded by bringing their own torches, heaters and, eventually, a back-up generator. John Lynch told the Liverpool Echo: “The news came as a bit of a kick in the pants but, to be honest we would have been living in cuckoo land not to have expected something like this. My major concern, though, is for the safety of the building. If the power goes off the sprinkler system will be affected. Also, there are security men on the premises, and they are going to have to work without lights and heating, and they aren’t going to be pleased. The workers have taken the blow quite well and are now even more determined to fight for their jobs. It’s going to be a cold and dark Christmas, but with our own heaters, and determination, we will stick it out”. In an effort to gain further support from the local community, workers distributed leaflets in Liverpool City centre.

7th January 1980:

Workers adopted new tactics, travelling to Airfix offices in London, organising a six-hour vigil. Another flying picket, meanwhile, protested at the gates of another company-owned facility in Doncaster.

18th January 1980:

Despite further talks with management breaking down, sit-in organisers remained hopeful, with news of several prospective buyers registering interest in buying the facility. GMWU shop steward Eric Titterington told the press: “We are hopeful. I honestly think it will re-open. I don’t think it is lost. Everyone at the factory seems to have more heart for doing the job of sitting-in. We have all got over the hump of Christmas. Spirits are tremendous now”.

26th January 1980:

After a temporary thawing of relations, workers, union and company officials agreed to form a Joint Working Party (JWP) in order to explore a possible sale of Meccano to a third party. Yet only days later, an Airfix spokesperson announced there was no chance of re-opening the factory, confirming production would be exported to Europe.

28th January 1980:

A mass meeting voted to allow management to enter offices in order to access records and company files. Workers also agreed that if the JWP failed to buy a buyer by 28th February 1980 – the end of the 90-day notice period – then they would begin handing the site back to management in a peaceful manner.

31st January 1980:

JWP in disarray, with management refusing to address 10 questions the union side put on the table. One regional GMWU official told The Guardian: “There seems to be some reluctance to get down to business, so we have asked for a reply to our questions in writing. We want to know what plans there are for moving Meccano and Dinky production elsewhere, and why. If we have made no progress by Monday, there may have to be a change of mind in the workforce about handing back the factory”.

1st February 1980:

At a meeting with union officials in London, Airfix bosses raised the prospect of improved redundancy payments of up to £5,000 for long-time workers.

Union officials, on the other hand, warned a cap of £400 was being prepared by an untrustworthy management. Although approximately 200 employees were looking to settle, a mass meeting unanimously rejected the offer.

12th February 1980:

Another mass meeting agreed to continue the occupation, rejecting another redundancy offer from company officials. Frustrated by the management side of the JWP, action committee leaders launch a “super sell” campaign in a final effort to save their livelihoods.

19th February 1980:

Meccano workers took to the streets of Liverpool, organising a demo that snaked from their place of work on the city’s outskirts towards the Pier Head. The 1,000-strong protest was bolstered by workers at Shotton steel plant and the nearby Massey Ferguson tractor factory – two facilities that were also under the threat of closure.

28th February 1980:

Occupation reaches 90-day deadline agreed by JWP and still no buyer had been found, despite significant interest and several reported bids having been rejected by management. At a mass meeting, approximately 250 of the 950 workers voted to continue with their sit-in, but hundreds more, including several shop stewards, accepted a £1m redundancy package and ended their protest.

1st March 1980:

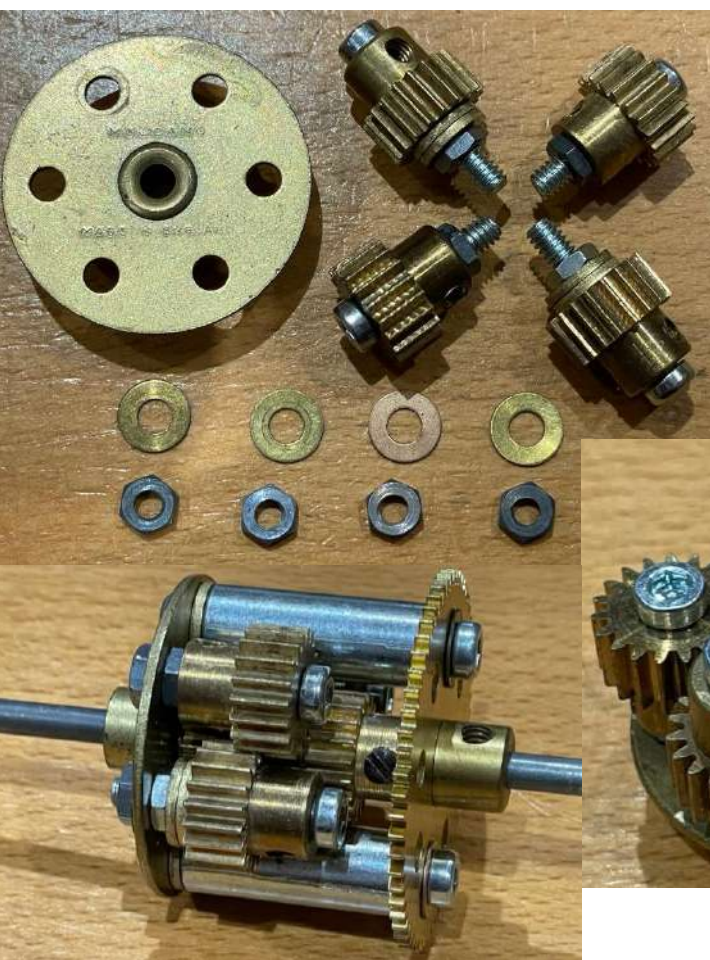
Occupation of the plant continues after the 28th February 1980 deadline had passed and the threat of legal actions from company bosses. A company spokesperson told The Guardian: “Now two of those [union] officials, Mike Egan and John Lynch, are leading the occupation of the plant. They are clearly breaking that [31st January] agreement”.

3rd March 1980:

Airfix seek a possession order from the High Court to enter their premises. Only 100 workers remain inside the plant. 700 workers had by now accepted redundancy terms.

11th March 1980: After a high court order was granted, bailiffs and 30 policemen forcibly entered the Binns Rd site, thus ending the 14-week protest.

Another Diff by Tim Gant



Part List

Total Number of Parts:

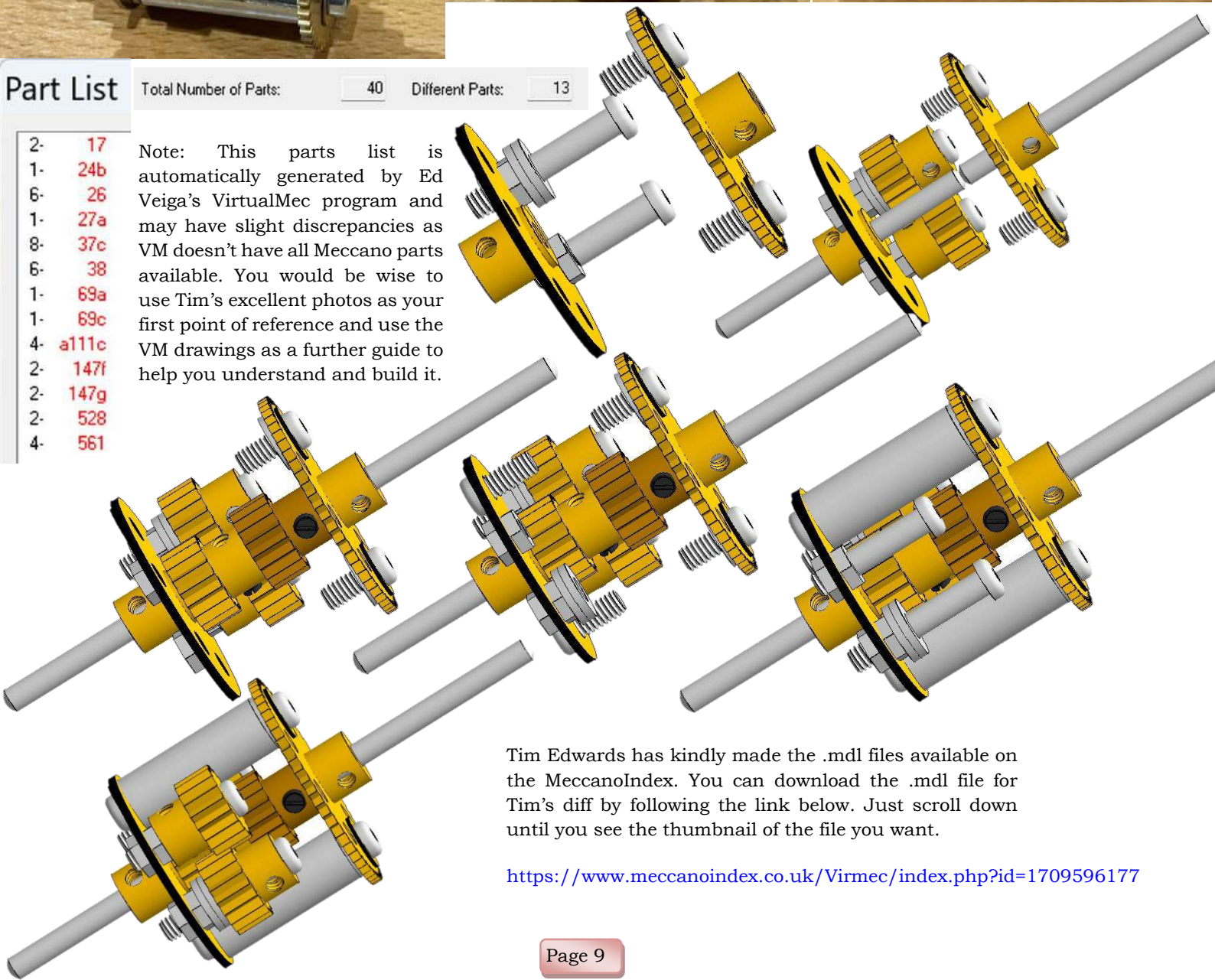
40

Different Parts:

13

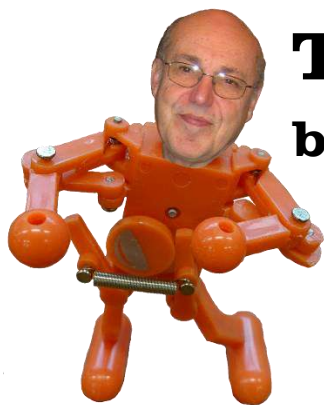
Note: This parts list is automatically generated by Ed Veiga's VirtualMec program and may have slight discrepancies as VM doesn't have all Meccano parts available. You would be wise to use Tim's excellent photos as your first point of reference and use the VM drawings as a further guide to help you understand and build it.

2- 17
1- 24b
6- 26
1- 27a
8- 37c
6- 38
1- 69a
1- 69c
4- a111c
2- 147f
2- 147g
2- 528
4- 561



Tim Edwards has kindly made the .mdl files available on the MeccanoIndex. You can download the .mdl file for Tim's diff by following the link below. Just scroll down until you see the thumbnail of the file you want.

<https://www.meccanoindex.co.uk/Virmec/index.php?id=1709596177>



Tiny Dancer

by Santiago Plicio - UK

I have long owned a tiny little toy of a man dancing whose basic movements were driven from a winding motor and key, and I was suddenly inspired by the idea of trying to reproduce it in a Meccano form.

The main aim I guess was trying to create a figure moving his arms and legs as if he were dancing.

Having completed 2023 with a little indirect nod to Elton John with

my [Rocket Man](#) robot model, starting the new year with another similar connection seemed like a natural progression and in this way my 'Tiny Dancer' model was born.

I started with the main part of the body and the legs, having tried a few different ideas before I felt I was heading in the right direction, and eventually I achieved the satisfaction of having its legs pivoting at the knees and feet for free movement.

The head followed immediately after, and in keeping with the recent theme I decided to add the same type of hat once worn by Elton John as I had given to my Rocket Man, but adding its hair by using narrow strips bolted freely to its head so they can swing with its dancing motion.

Once I had constructed its neck, I set about also achieving pivoting arms to the body that would move freely, though I hadn't decided at that stage whether I would motorise those later. As with all freelance constructions, where you are working from your imagination as opposed

to following a manual, there are always a series of alterations needed. Then some more minor adjustments before you have everything working as smoothly as you might hope for, and all that was left was to attach the correct type of motor to bring my Tiny Dancer to life as I had imagined it.

This proved a little trickier than I had thought it would, but eventually a small and slow motor proved the perfect fit for it. I bolted this to the inside of the main body using two sprocket gears on an axle which I bolted to a pulley (19b) placed at the front of the model.

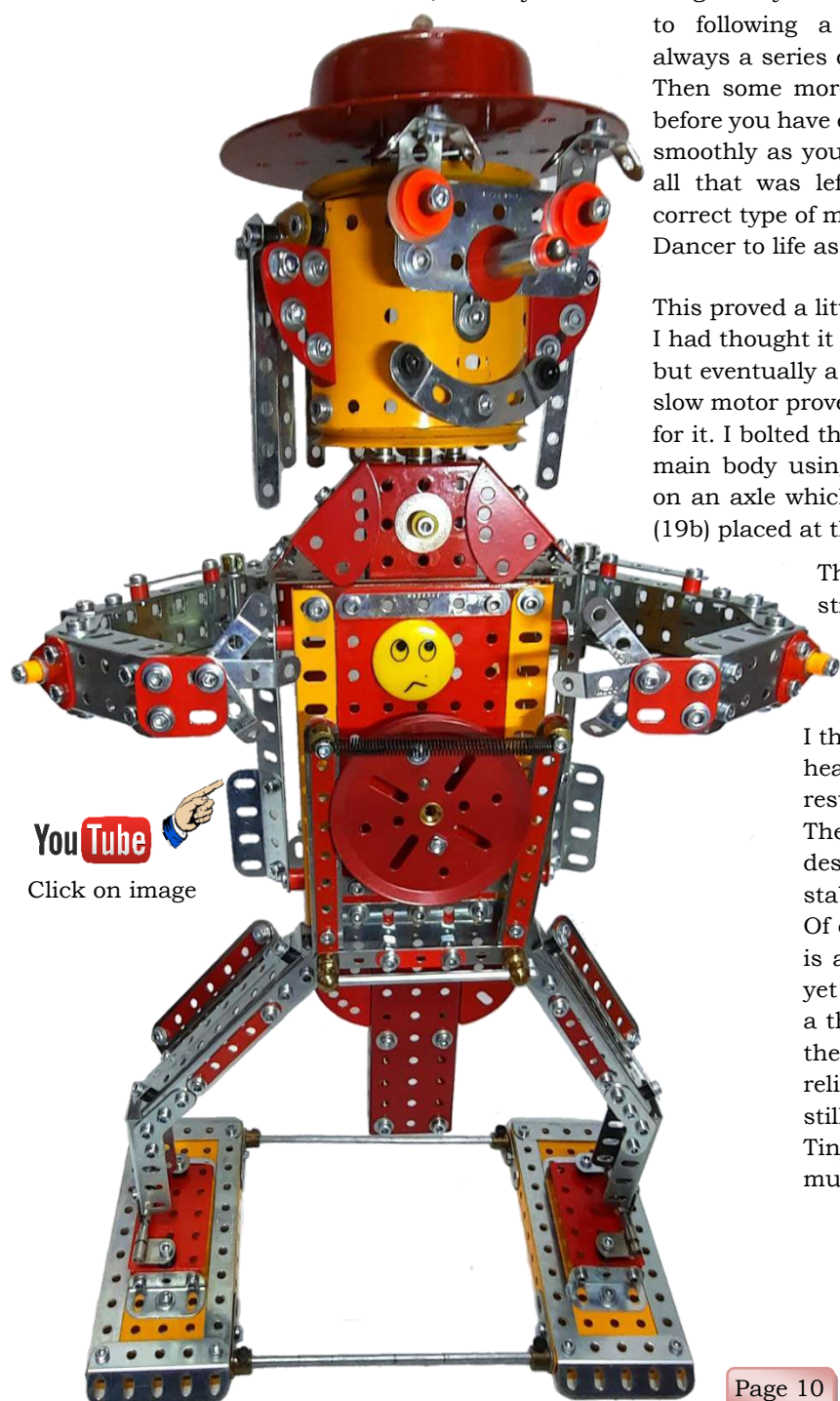
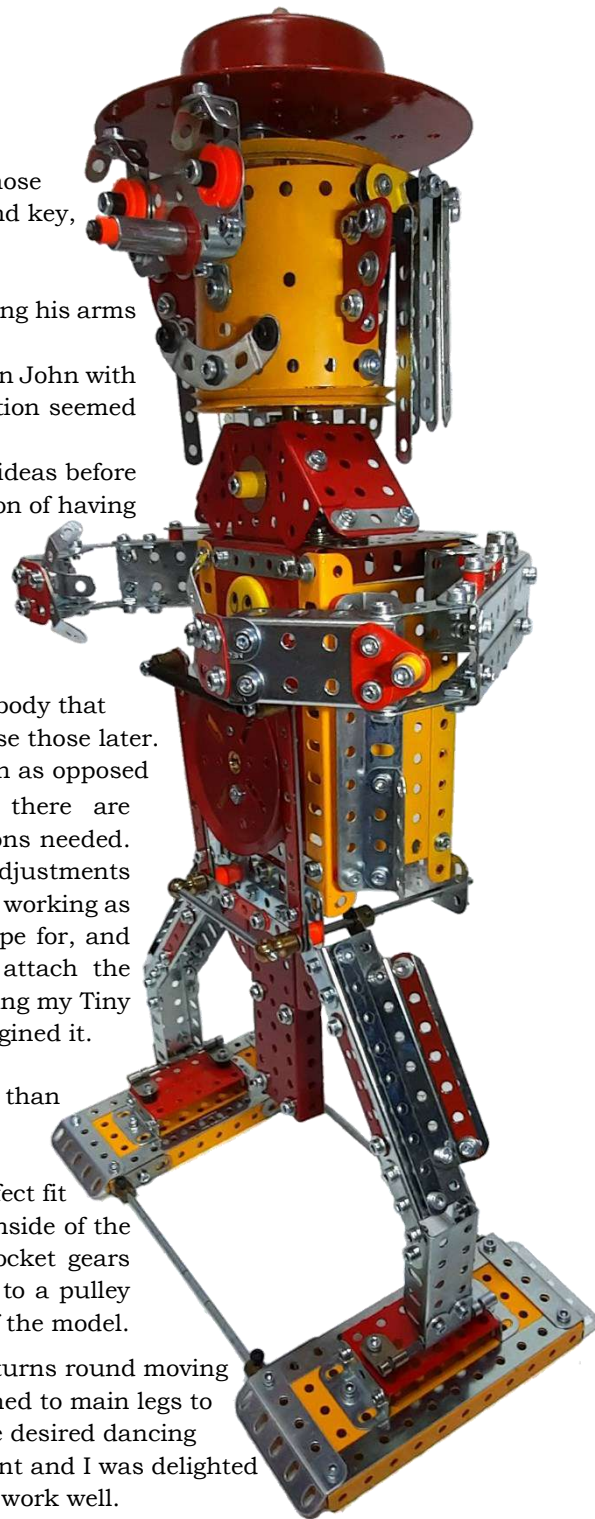
This pulley turns round moving strips attached to main legs to create the desired dancing movement and I was delighted to see it work well.

I then decided against adding a second motor for its arms and head and opted to allow the arms to swing freely simply as a result of the action of the powered legs.

The finishing touch was in connecting the feet which were designed with large weights to keep the Tiny Dancer model stable enough through its dancing routine.

Of course, after the big hulk that is my Rocket Man model, it is a much tinier dancing toy that inspired its successor and yet another Elton John song that helped give it its name, but a third song of his came to mind after I had tentatively given the model its first dancing test. Much to my pleasure and relief; I could almost imagine him triumphantly singing "I'm still standing" in my head!

Tiny Dancer — dancing to a tune all of his own but still very much music to my ears!



YouTube



Click on image

Watch it on YouTube.

YouTube

https://youtu.be/DM3yJdZRn_4

David Wells You got to roll me and call me tumbling brass.

Thomas Edison was asked if he felt a failure for allegedly testing 1000 different materials for an incandescent light bulb prior to having success with the carbon filament. "No! I found 1000 things that didn't work!" Brass cleaning kind of falls into the same area.

Over the years, I tried various methods with varying degrees of success. Initially, when we were living in the UK in the 1990s, I tried Horolene – a clockmaker's ammonia-based solution. This was moderately successful but is prone to leaching and leaving the brass with a distinct copper look. I never found Horolene readily available in Australia although it can apparently be made up.

Next was Zenith silver and coin cleaner made in the US, available locally, and used by clockmakers. A "Dip and Rinse" solution, quick and moderately successful but not cheap. Some other brass cleaning solutions were tried – but none were really successful. I would love to know what Steve in the UK show "The Repair Shop" uses as this seems to be a wonder solution!

I also tried ultrasonic cleaning – good for Meccano clockwork motors but not very effective for ultrasonic cleaning of Meccano brassware.

Finally, a few years ago, I decided to buy a Tumbler from [Aussie Sapphire](#) using stainless steel burnishing media – a mixture of shot, 10mm bars and small 'satellites'.

The two drum barrels kit is around \$300 or \$250 for a single barrel tumbler. Although you could probably build your own, adding a burnishing powder and water was quite successful producing bright brassware even from the most ancient and tarnished gears, collars etc. The one major drawback was that the shot is just the right size to get jammed in Meccano holes! So, one spends a lot of time with a small screwdriver or bradawl and a pair of pliers clearing the holes!

The "Eureka" moment came when talking to Aussie Sapphire I was told that the 10mm bars were used in cleaning brass shell casings and were available separately.



This is the 2 barrel version.



Change the water occasionally.



One cautionary note – beware of thin brass plating as on some gears it can be worn off. The photos show the progress. To summarise, this is much easier than any other method I have tried and less messy. Except one!!

The process is very simple. The burnishing media takes around a third of the barrel volume. Add the parts; almost any brass part can go in including gears, collars, couplings, worms etc. Don't over fill but just add water so it covers the parts and add a teaspoon of burnishing powder. Tumble for 90 minutes and check progress. Replace water if really dirty (which it often is!) Tumble for another hour or so. Rinse parts and allow to dry. By and large one tumble may be good enough. A small magnet as found in modern sets is useful to pick up the bars.

This was told to me by a veteran Meccano Dealer: Buy "Easy-Off Bam". (In the UK I think it is Cillit Bang.) Put parts in a small jar and give a goodly squirt of Easy-Off Bam. Give the jar a good 30 second shake, rinse off and dry. Works surprisingly well except for the most serious tarnish. But don't overdo it as it will get that coppery/bronze look. This will probably disappear after a bit but Brasso can restore the colour.

Warning: Use gloves and eye protection.

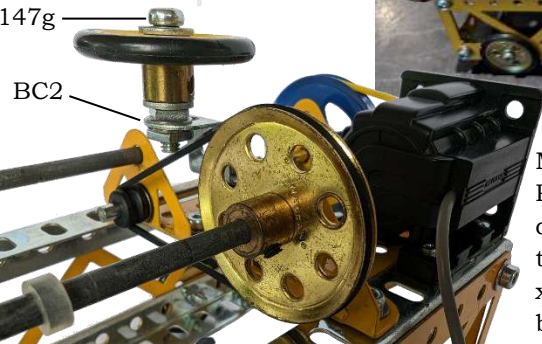


Build your own tumbler.

After reading David's article, above, I thought I'd have a go at building a tumbler. A quick Google search revealed the ideal speed to be around 40RPM which is a long way from the 11,350RPM of the modern Meccano motors.

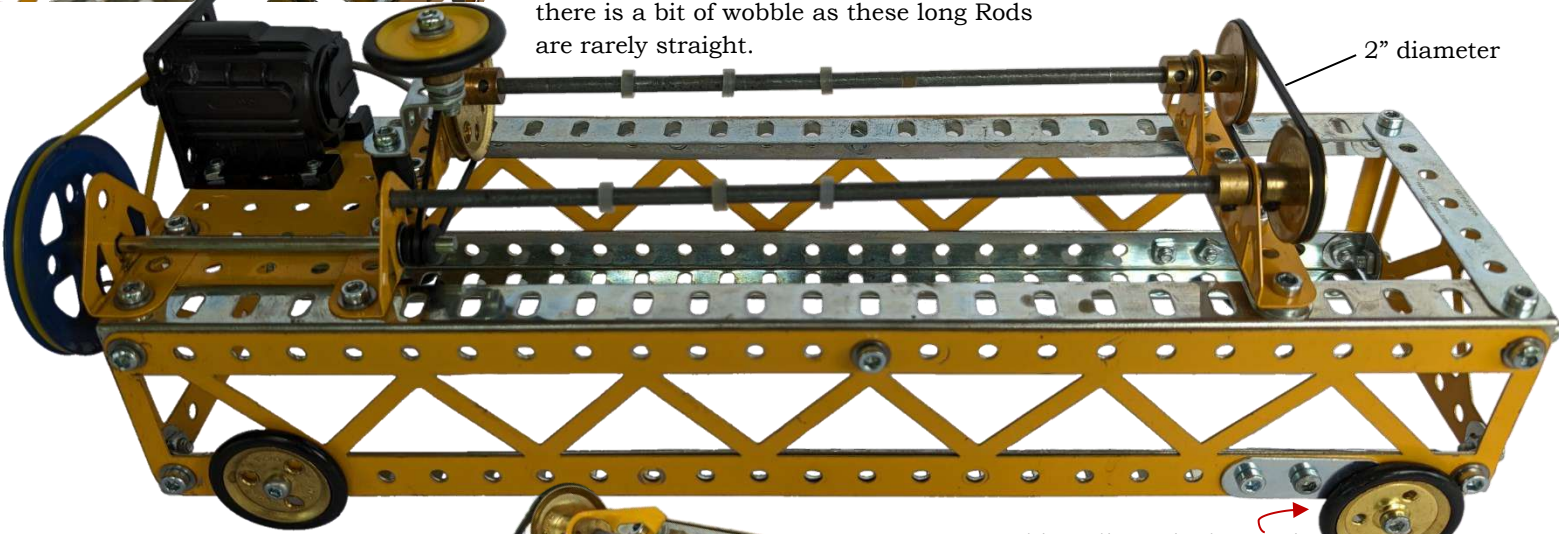


| Part No. | Description | Qty |
|----------|---------------------------|-----|
| 3 | Strip 3½" | 2 |
| 8 | Angle Girder 12½" | 4 |
| 12 | Angle Bracket | 8 |
| 13a | Rod 8" | 2 |
| 16 | Rod 3½" | 1 |
| 20a | Pulley 2" | 1 |
| 21 | Pulley 1½" | 1 |
| 22 | Pulley with boss 1" | 3 |
| 22a | Pulley without boss 1" | 4 |
| 23c | Pulley rubber ¾" | 2 |
| 38a | Spacer large | 3 |
| 59 | Collar | 2 |
| 59c | Collar soft plastic | 6 |
| 72 | Flat Plate 2½" x 2½" | 1 |
| 97 | Braced Girder 3½" | 2 |
| 99 | Braced Girder 12½" | 2 |
| 125 | Reverse Angle Bracket | 1 |
| 126 | Trunion | 6 |
| 133c | Obtuse Corner Bracket | 2 |
| 147g | Pinion Bolt ⅞" | 1 |
| 186 | Drive Band 2" dia black | 2 |
| 186 | Drive Band 2¼" dia yellow | 1 |
| EM02 | French Motor 3-6v | 1 |

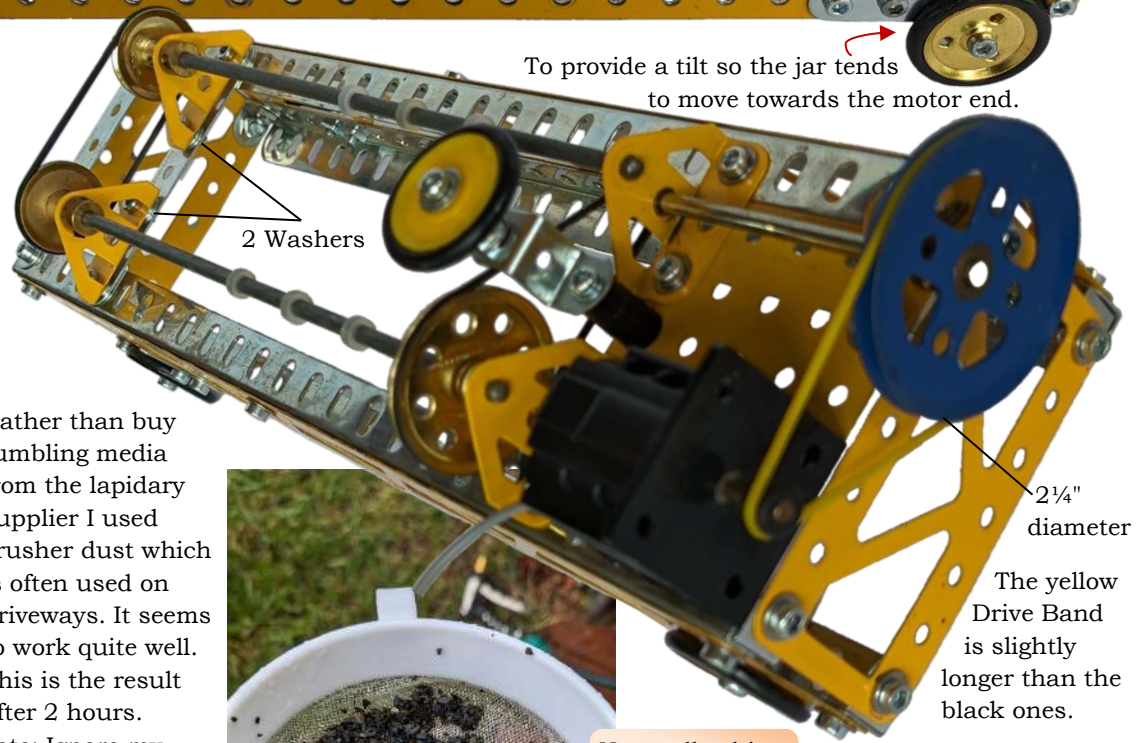
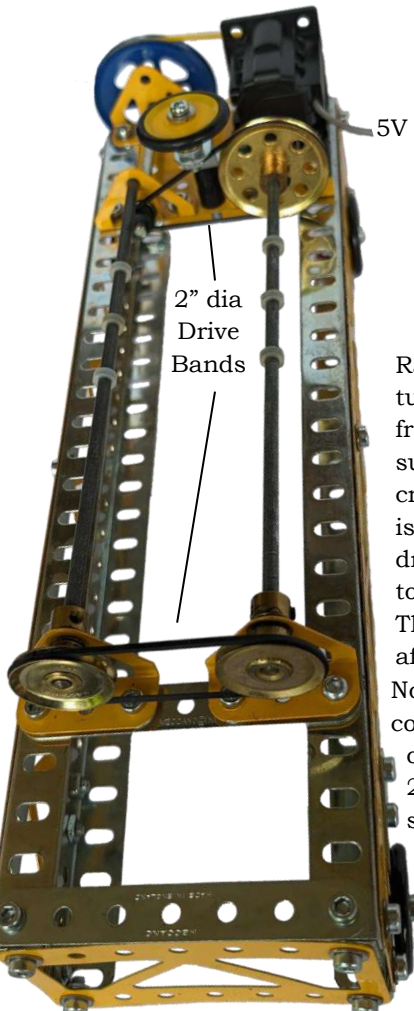


YouTube https://youtu.be/JIijG_OSGA0

My original idea was to sit a jar on 1" Pulleys but then I realised that the smaller diameter of the part 59c little rubber thingies meant less gear reduction. The 2 x 8" Rods are kept in sync by the drive band on the 1" Pulleys and unfortunately there is a bit of wobble as these long Rods are rarely straight.



To provide a tilt so the jar tends to move towards the motor end.



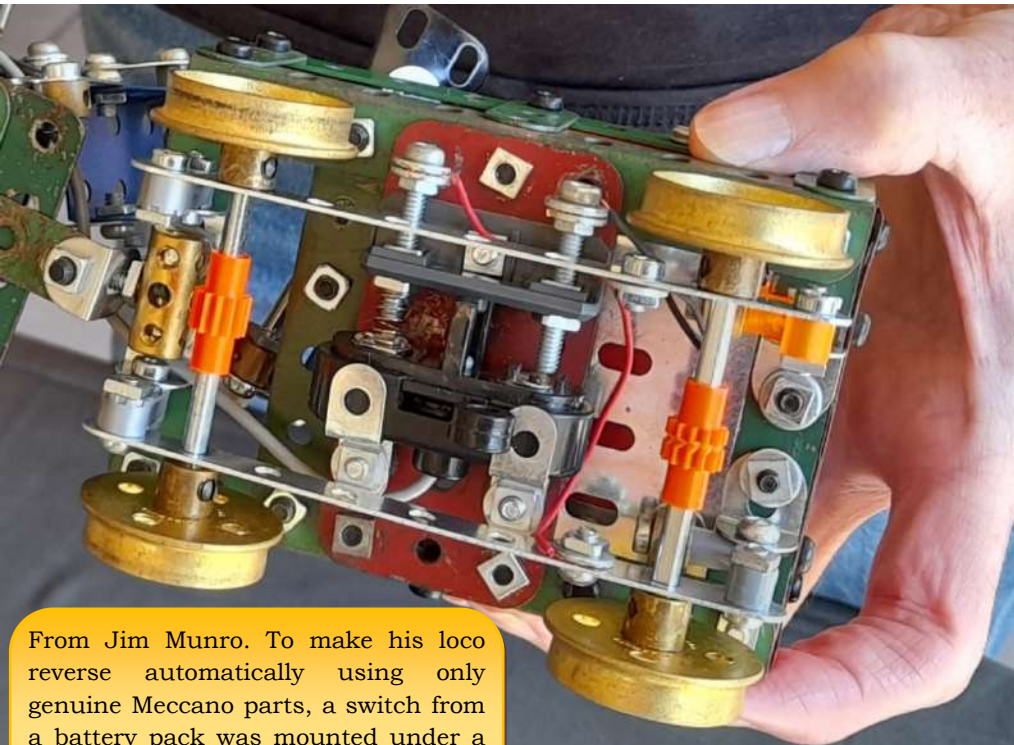
Rather than buy tumbling media from the lapidary supplier I used crusher dust which is often used on driveways. It seems to work quite well. This is the result after 2 hours. Note: Ignore my comment at the end of the video about 2 days. I meant to say 2 hours. If you tumbled these collars for 2 days you'd have some brass balls!



Not really shiny but clean.

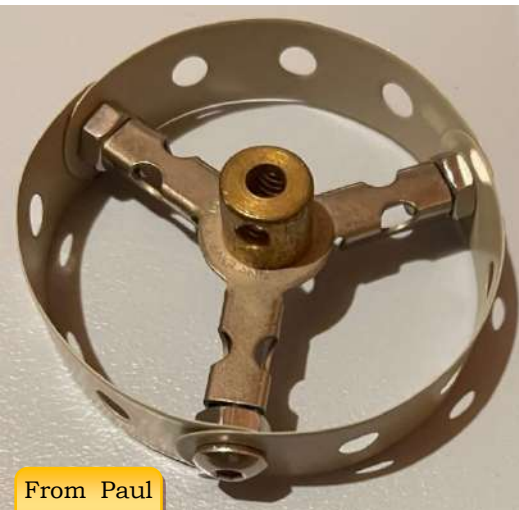


FROM OUR GOOD IDEAS DEPARTMENT



From Jim Munro. To make his loco reverse automatically using only genuine Meccano parts, a switch from a battery pack was mounted under a couple of narrow reverse angle brackets and held in place with 2 bolts that also act as connections for the power.

The bolts are insulated from the chassis with a part D224 plastic Angle Girder from the 4x4 off road buggy outfit 16212.



From Paul Dale - Oz

Just noticed that three flexible 2½" strips neatly fit around a three way rod and strip connector. The bolts themselves hold the strips in place. If you start with the circle of strips and fit the rod connector at the end it just squeezes in.



1. Some modern French motors are wired directly to the battery pack. If you cut the wire it's so fine that it's next to impossible to work with. (I think they've used audio wire). Follow these steps to firmly attach better wires.

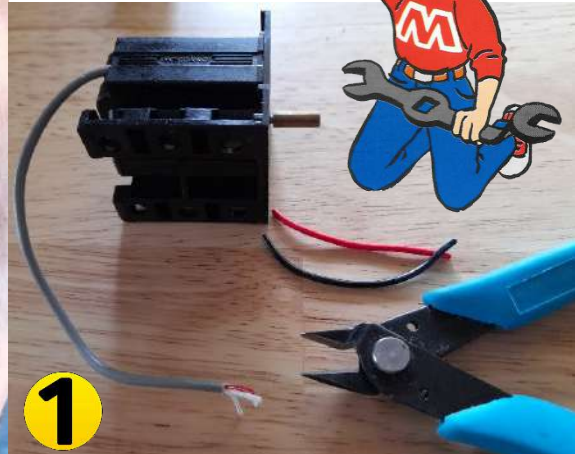
2. Strip the ends and tin them.

3. Heat the thicker wire and quickly drop it onto the thinner wire.

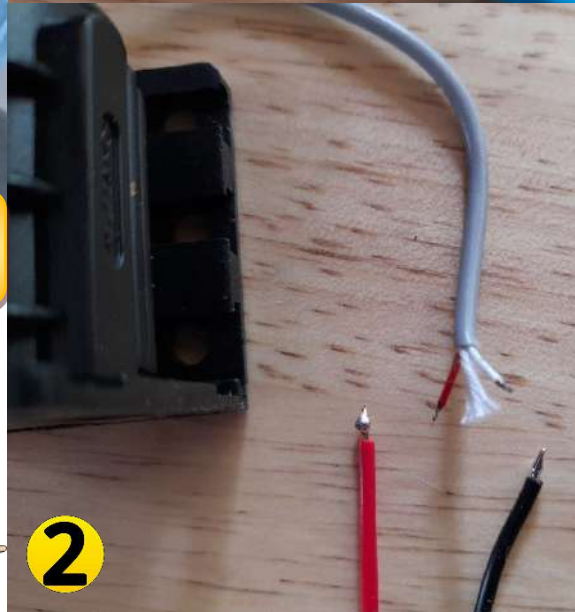
4. Put some thin heatshrink over the solder joins.

5. Put some thicker heatshrink over both joins making sure it's tight enough to act as a strain relief.

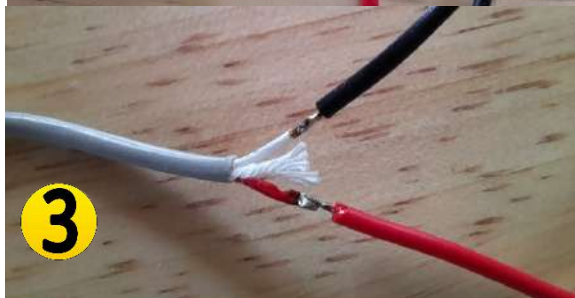
6. Put solder lugs with 4mm holes on the wires.



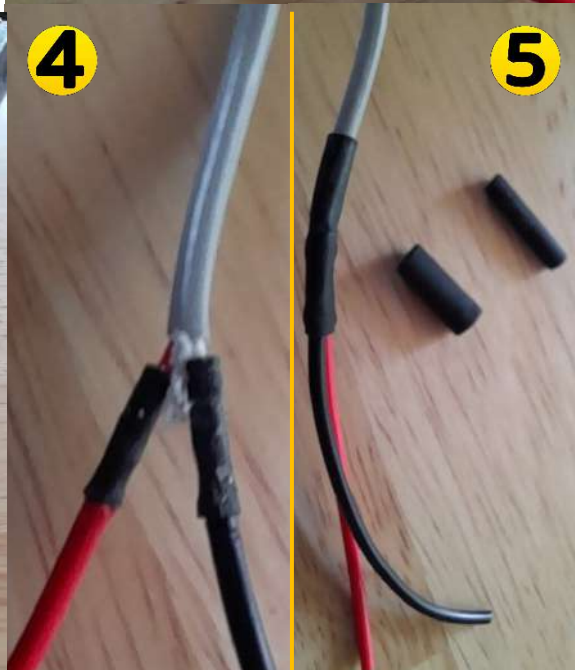
1



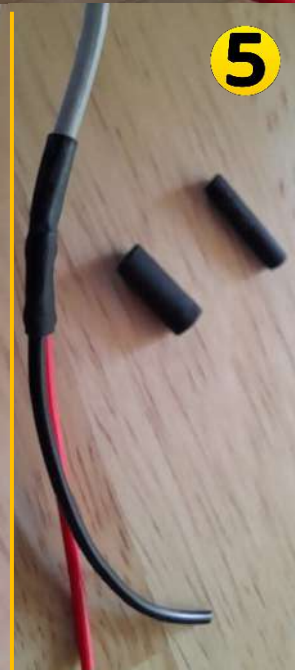
2



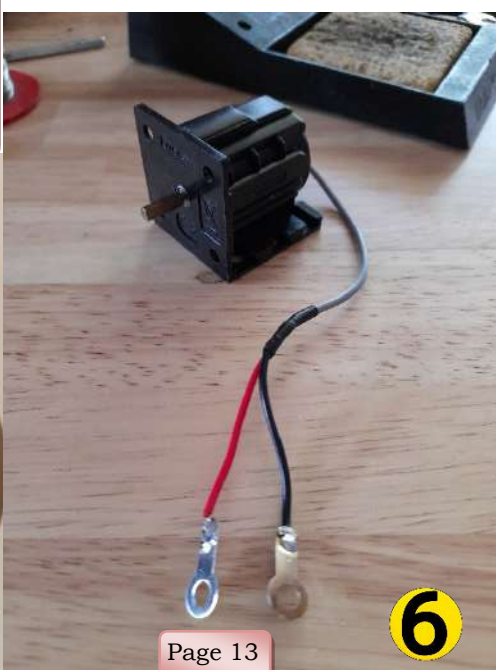
3



4



5



6

This Month's Meccanoman

Lee Squires President Meccano Modellers Association Sydney

When and where were you born?

1943, Sydney

What schools did you go to?

Summer Hill Public and Homebush Boys High

What subjects did you study?

The one's I have fond memories of are:

English, Geography, Physics, Technical Drawing, Woodwork and Metalwork.

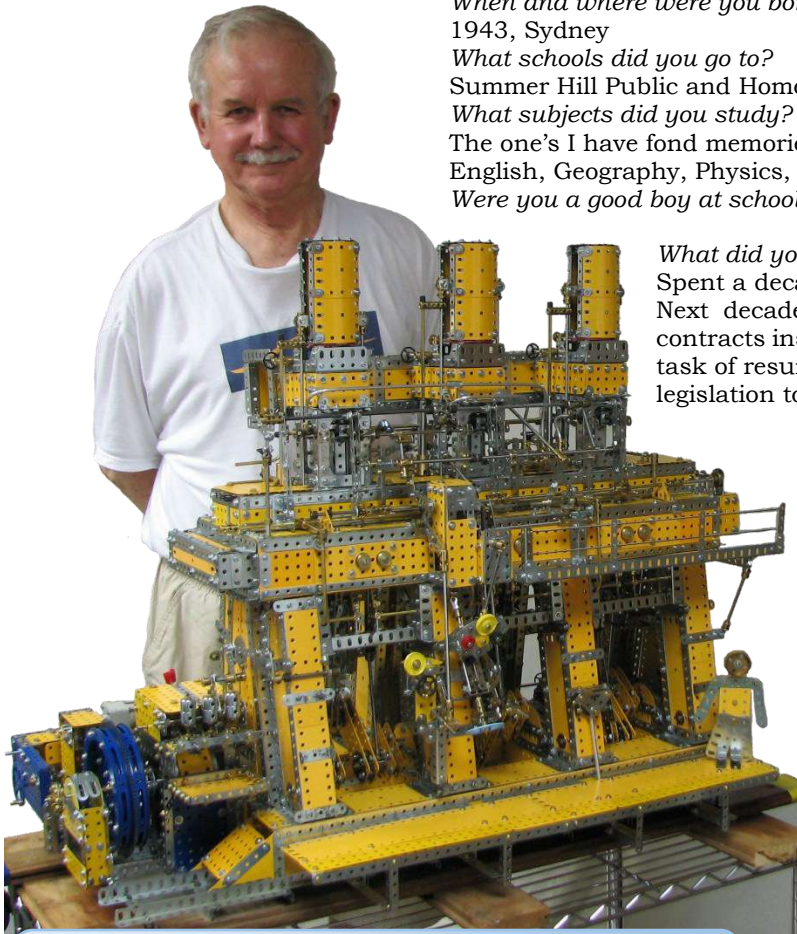
Were you a good boy at school? Well, I certainly hope so.

What did you do for a living?

Spent a decade in the world of ship building — maintenance and sea-going. Next decade in heavy engineering — running design offices, managing contracts installing refractories for steelworks etc. Next 23 years took on the task of resurrecting Rookwood for the Lands Department—introducing new legislation to a host of denominational cemetery trusts.

Have you travelled much?

Five Years watch keeping in Merchant Navy and RANR. Three conferences in USA sponsored by Macquarie University. Nancy and I enjoyed 14 ocean cruises in a twenty-year period. (We've finished with overseas travel.)



What's your best model?

The biggest by a small margin is my three-cylinder opposed piston Doxford Marine Oil Engine.



My first steamer: The SS Talinga 1967.



The ship to the left is the MV Kootara that I stood watch on when I was a junior engineer. It was a small coaster and she rolled beautifully as we followed the currents closest to the coast.



What was your first car?

1929 Alvis. I was a member of the Alvis Club and also the Rolls Royce club. I bought the car in the very early 60s and even then, it was considered to be a vintage car! It served me well and I regularly drove it all over the streets of Sydney. I restored this car and kept it registered. It was an authentic vintage car having been built prior to the death of Henry Royce. It had a lot of quirky features.



Are you married with children?

Married to Nancy for 51 years, two sons and two daughters and three grandsons.

Was there the usual hiatus where fast cars and girls took priority?
No, but I spent time riding my motor bike BMW R60 all over Eastern Australia.



A rare photo of Lee on National Trust survey west of the Darling River.



Squires' clan gathered for Nancy's 80th birthday celebration.

What type of models do you prefer to build?

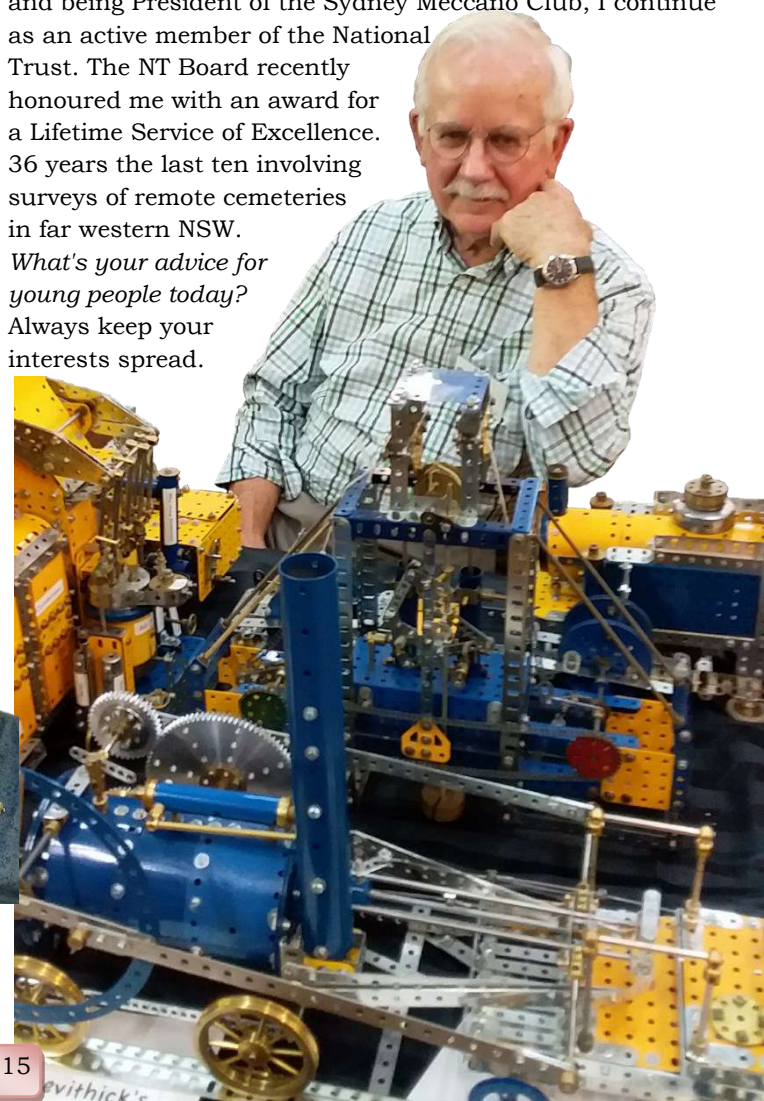
Old and ancient machines – ones that I can design in Meccano. I have enjoyed researching and making models that show the development of Marine Steam engines 18th to early 20th Century. The problem is, I now have so many models that I can't fit them on the table at expos!



Part of my Meccano room which includes a Meccanoid that I am pleased to admit is the club's and not mine.



What other hobbies and interests do you have?
 Apart from other intense pastimes (music, aboriginal rock art) and being President of the Sydney Meccano Club, I continue as an active member of the National Trust. The NT Board recently honoured me with an award for a Lifetime Service of Excellence. 36 years the last ten involving surveys of remote cemeteries in far western NSW.
What's your advice for young people today?
 Always keep your interests spread.



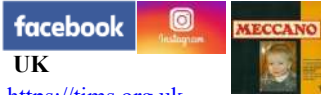
Nancy, Lee and Mary Jost at the Forresterville RSL in Sydney.

Have any Meccano folk visited you? Each year at the Sydney club we hold 6 regular meetings. In addition to this there are other meetings for lunches and of course our Annual Exhibition which will be held on the 4th of May, 2024. I occasionally visit some members to see them and their collections.

We are John & Johnny. A father and son team who like Meccano. We're nothing to do with Spin Master who own the brand. Contact us at

MeccanoNews@gmail.com

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<http://www.corlustmeccanoclub.co.uk>
<https://runnymedemeccanoguild.org.uk>
<http://www.midlandsmeccanoguild.com>

Other Countries

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<http://www.meccanogilde.nl>
<http://meccano.free-bb.fr/>
<https://www.aceam.org/es/>
<https://www.metallbaukasten-forum.de/>
<http://www.amsclub.ch/>
<http://www.meccanoweb.es/>
<http://www.la-roue-tourne.fr/index.php/le-meccano/notices-et-plans>

USA and Canada

https://www.spinmaster.com/brand.php?brand=cat_meccano
<https://www.usmeccano.com>
<http://www.meccano.com>
<http://www.cmamas.ca>
<http://www.bcmeccanomodellers.com/meccano-in-canada.html>
<http://www.meccanoquebec.org/index2ang.html>
<http://www.melright.com/meccanosales/>

Australia & New Zealand

<http://www.nzmeccano.com>
<http://www.nzfnm.co.nz>
<https://www.facebook.com/MWT-Meccano-Club-1476153515979522/>
<http://www.mmci.com.au>
<http://www.sydneymeccanomodellers.org.au>
<http://www.webjournalist.com.au/maylands/index.html>

South Africa

<https://www.facebook.com/Meccano-Club-of-South-Africa-464753870326296>
<http://www.mecworld.co.za/cmrf/>

Personal pages

<http://www.users.zetnet.co.uk/dms/meccano>
<http://www.dalefield.com/meccano/index.html>
<https://www.alansmeccano.org>
<https://www.meccanoindex.co.uk>
<http://www.meccanokinematics.net>
<https://meccanocreations.in>
<http://www.meccano.us>
<https://mecca-clocks.fr/>
<http://mattgoodmanuk.com/links/Meccano.html>
<https://neilsmeccanoandstuff.jimdo.free.com/neil-s-meccano-models>

Meccano suppliers

<http://www.meccanohobby.co.uk>
<https://www.meccanoshop.co.uk>
<http://meccanoman.co.uk/catalog>
<https://www.meccanospare.com>
<https://ralphsshop.com>
<http://www.meerlu.com.au/>
<https://tinyurl.com/AshokBanerjee>
<http://www.hsomerville.com/mwmailorder>
<http://www.metalconstructiontoys.com>



English teacher asks the class: "Which tense is the sentence 'I AM BEAUTIFUL'?"
Little Johnny replies, "Clearly, past tense."

The teacher was terrified to hear little Johnny swear. "I never want you to use language like that again. Where on earth did you pick it up?" "From my father." said Johnny. "Well, he should be ashamed of himself. And it's no reason for you to talk like that. You don't even know what it means." "I do." said Johnny. "It means the screwdriver slipped off the grub screw".

Little Johnny is back at school after the holidays. After a few days, his teacher calls up Little Johnny's dad to report that Johnny has been behaving badly at school. His dad says to the teacher "Hang on a minute, I had Johnny at home with me for 2 months and I never phoned you once when he misbehaved."

A man in a hot air balloon realized he was lost. He reduced altitude and spotted a woman below. He descended a bit more and shouted, "Excuse me, can you help me? I promised a friend I would meet him an hour ago, but I don't know where I am." The woman below replied, "You're in a hot air balloon hovering approximately 30 feet above the ground. You're between 59 and 60 degrees north latitude and between 107 and 108 degrees west longitude."

"You must be an engineer," said the balloonist. "I am," replied the woman, "How did you know?" "Well," answered the balloonist, "everything you told me is technically correct, but I've no idea what to make of your information, and the fact is I'm still lost. Frankly, you've not been much help at all. If anything, you've delayed my trip." The woman below responded, "You must be in Management." "I am," replied the balloonist, "but how did you know?" "Well," said the woman, "you don't know where you are or where you're going. You have risen to where you are due to a large quantity of hot air. You made a promise, which you've no idea how to keep, and you expect people beneath you to solve your problems. The fact is you are in exactly the same position you were in before we met, but now, somehow, it's my fault."

Two things are infinite: the universe and human stupidity; and I'm not sure about the universe." — Albert Einstein

Well? Was it worth the price of a cup of coffee?



Buy me a coffee