JOHNNY'S MECCANO MAGAZINE

February 2023

In this issue

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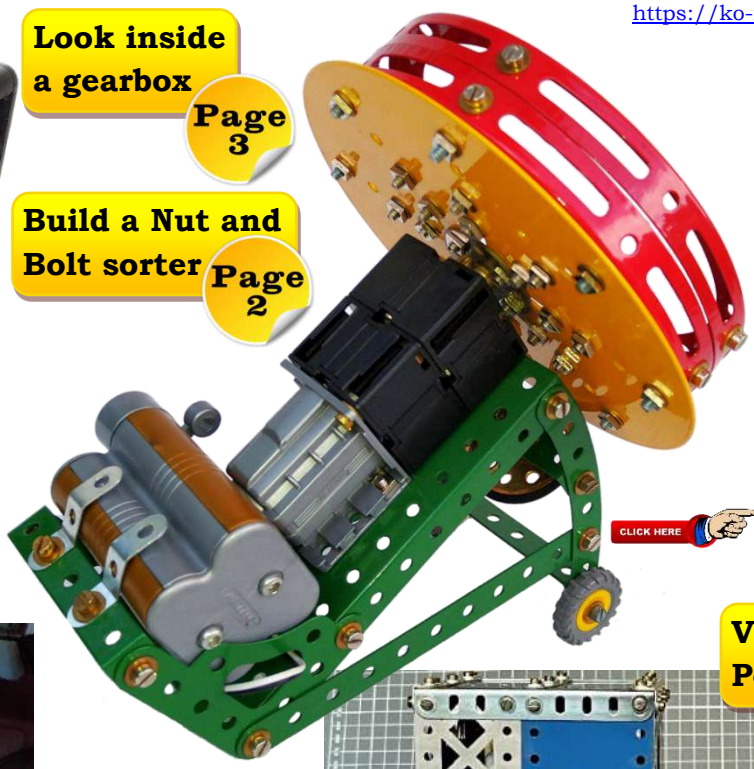

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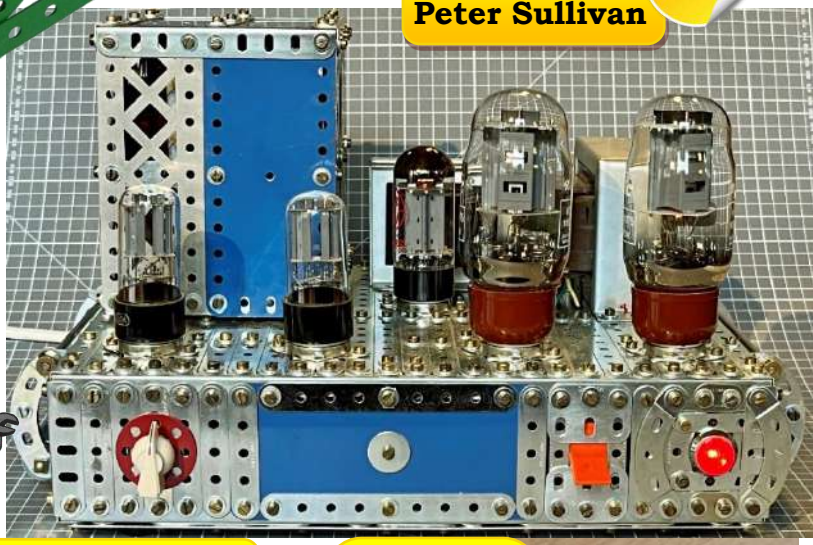

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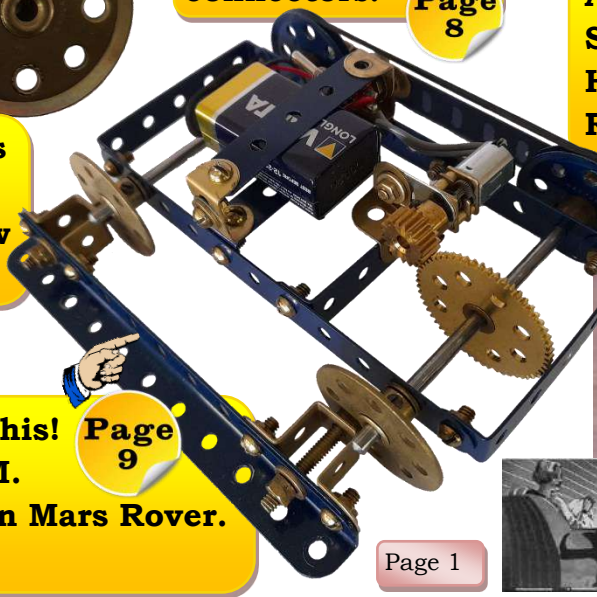

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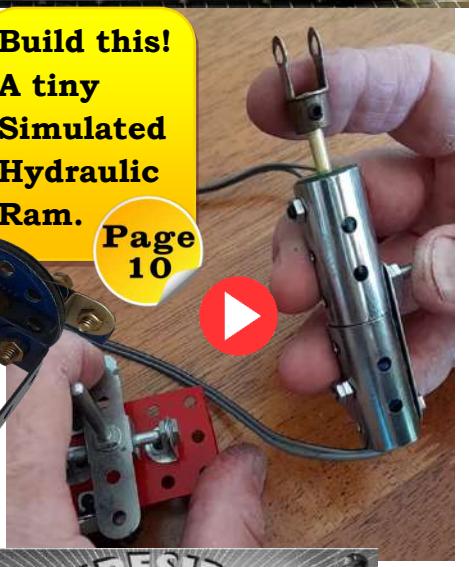

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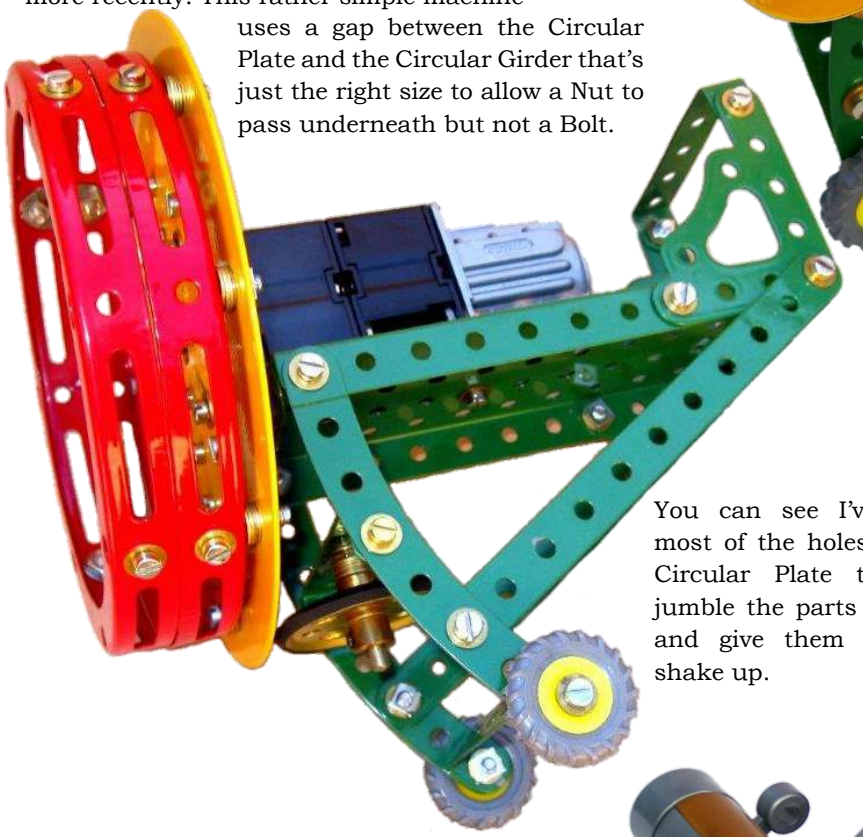
Let's sort the Nuts from the Bolts

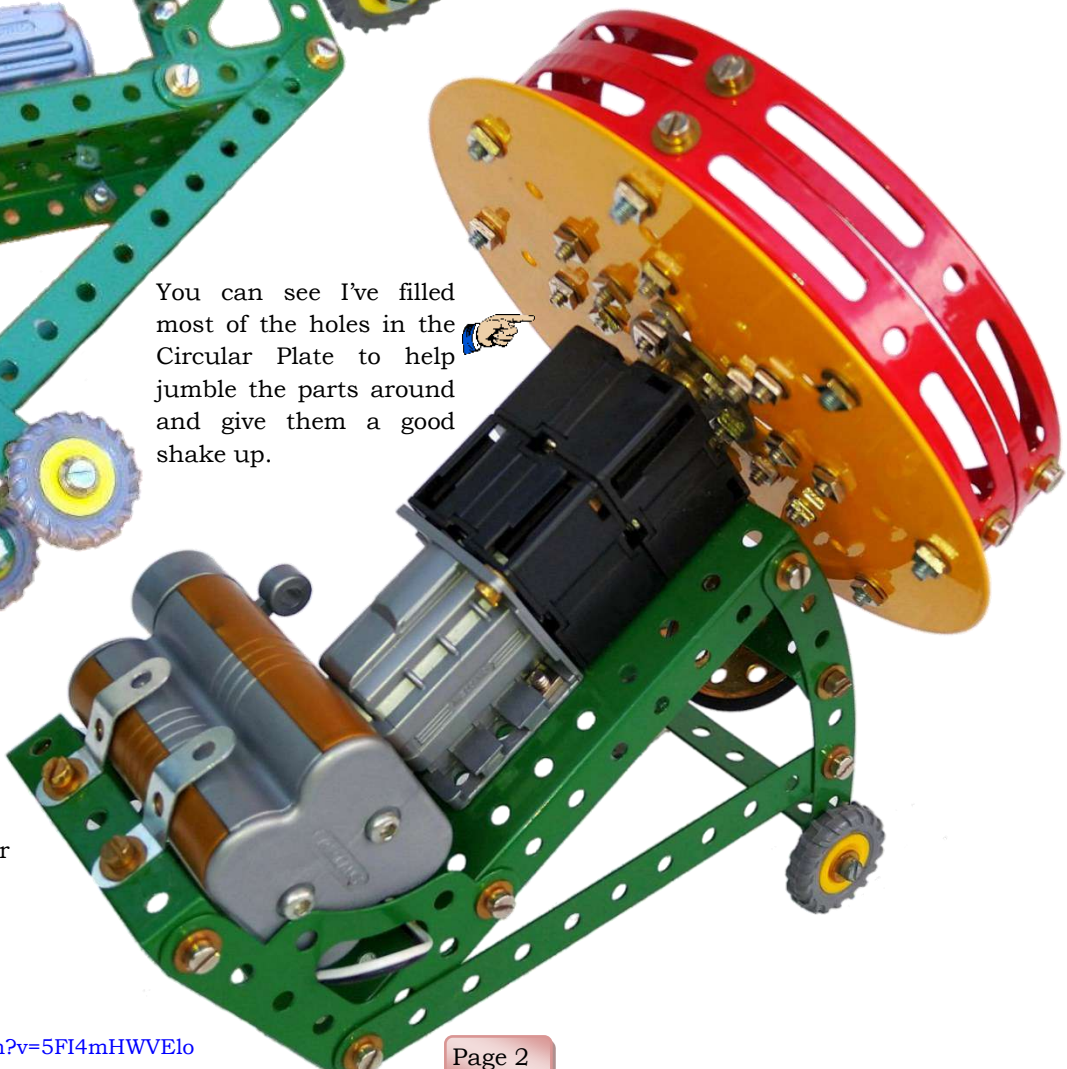
Graham Jost

Part No.	Description	Qty
2	Strip 5½"	2
10	Fishplate	4
21	Pulley 1½" with tyre	1
23	Plastic Pulley ½" with tyre	2
24	Bush Wheel 8 hole	1
48a	Double Angle Strip 2½"x½"	3
52	Base Plate	1
59	Collar	1
89b	Curved Strip 4"	2
108	Corner Gusset	2
115a	Threaded Pin long	1
143	Circular Girder 5½"	2
146	Circular Plate 6"	1
760	Gearbox for Tri-Flat Motor	2
825	Narrow Obtuse Reverse Angle Bracket	2
EM02	French Motor Tri-Flat	1

This Nuts and Bolts Sorting Machine, built in 2017, really came into its own when I disassembled my Babbage Difference Engine more recently. This rather simple machine uses a gap between the Circular Plate and the Circular Girder that's just the right size to allow a Nut to pass underneath but not a Bolt.



You can see I've filled most of the holes in the Circular Plate to help jumble the parts around and give them a good shake up.



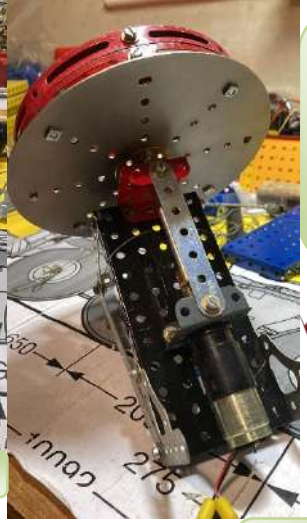
To get the low speed required, I used 2 gearboxes joined together to give a 361:1 reduction. (They are roughly 19:1 each).

It's necessary to put washers between the Motor and the gearbox as the Tri-Flat shaft can sometimes be too long for the hole in the gearbox. The gearboxes themselves are joined with long Bolts.

Watch it here

YouTube https://www.youtube.com/watch?v=5FI4mHWVElo

Richard Payn built Graham's Sorter.



I didn't bother with the stabilising wheel to steady the Circular Plate. I'll get around to it one of these days. – Pa Kettle.

I didn't have the part 108 Corner Gussets, so I made do with some Strips.

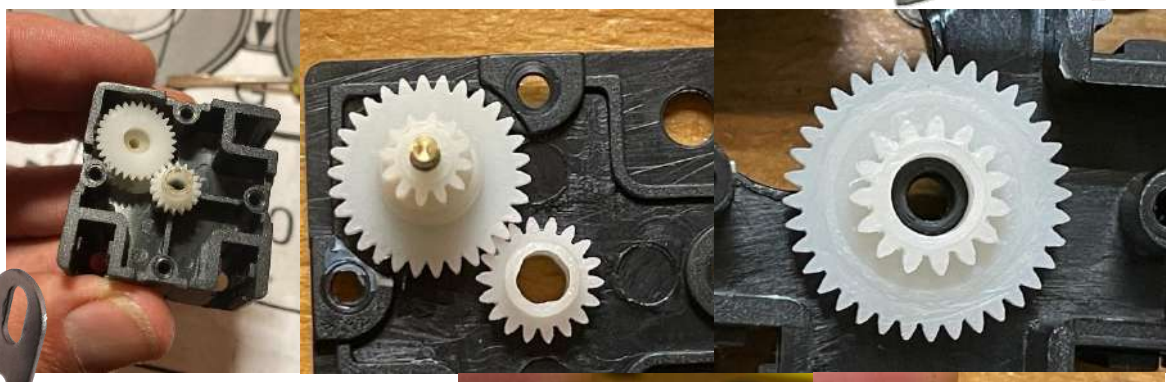
I also built Graham's Sorter.

Gear Boxes

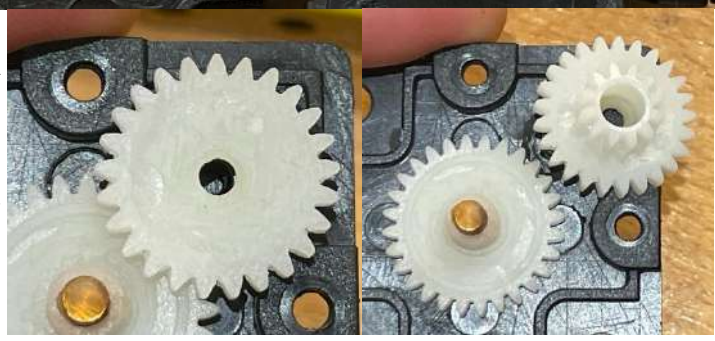
https://youtu.be/zci18U5Xje4

These modern gear boxes were actually introduced in 1998 so that makes you realise how old we're getting when we refer to parts made 25 years ago as modern!
They were designed to fit onto the Tri-Axle shaft of the EM01 French motor. (Also referred to as 'modern').
The Special Edition Locomotive Outfit 0507 and the Mechanical Workshop Outfit 0532 had these gearboxes, so I used them to build Graham Jost's Sorter although there are many other ways to get the gear reduction if you don't have the gear boxes.

The front displays "OUTx19". I guessed that meant 19:1 reduction but I was curious, so I put a crank on the input and output and counted the turns. I got 19 and a quarter turns. After asking the 'Brains Trust', both Richard Payn and Tim Gant pulled their gearboxes apart so we could count the gear teeth.



After careful scrutinization, the nylon gear reductions were shown to be:
18:30, 12:36, 15:25, 12:28 which equates to 175:9
Divide 175 by 9 and you get 19.4444 recuring to 1.
So, the 19:1 is only a rough guide. Bolt two together and you get 378:1

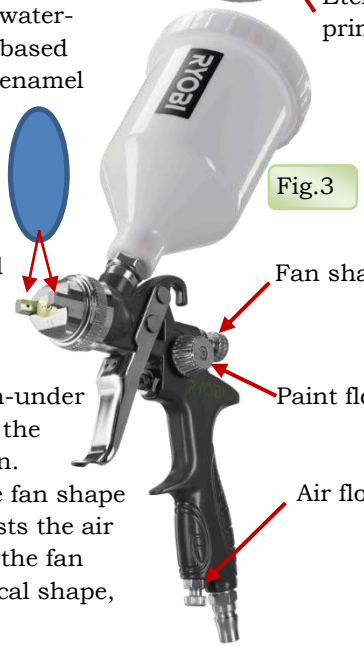


Now bolting two of these gearboxes together is not as straight forward as it sounds. For a start, some French motors have a Tri-Axle shaft that's just a bit too long for the gearbox and although it fits as soon as you tighten the bolts it comes to a grinding halt. For this reason, most people put washers between the motor and the gearbox or a 3x3 hole Flat Plate. Another difficulty is getting the gearboxes to line up properly. I was banging my head with frustration trying to understand why mine would only align 90 degrees from each other while Graham was able to align his at 180 degrees to get the nuts lined up. Eventually I discovered they're not all the same. See the gearbox on the left? It has a raised dimple. The one on the right doesn't. I solved the problem by putting the gearbox WITHOUT the raised dimple on the motor then I was able to align them in all 4 orientations.

Paint by Numbers

There's lots of info on painting Meccano on the NZM website. See link below. Rather than rehash it all, let me give you a numbered list of tips and tricks that I've found by trial and error, (mainly error). Read the NZM article before my tips and tricks.
A lot of **LITTLE** things make a **BIG** difference.

nzmeccano.com https://www.nzmeccano.com/RestorationPainting.php



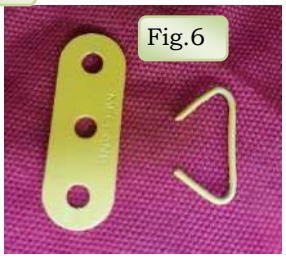
1. Paint. Rather than cans of spray paint that rely on preordained colours, I use cans of water-based enamel paint and a spray gun. Modern technology has rendered water-based enamel just as good as oil-based and that means easy clean up and thinning.

2. Equipment. Gravity-feed spray guns are far superior to the can-under type because you don't need as much pressure. Rather than suck the paint up from the can, you let gravity feed it down to the spray gun. You control the paint to air ratio with the dial shown in *Fig. 3.* The fan shape of the spray is controlled by dial, also shown in *Fig. 3,* which adjusts the air flow through the holes either side of the nozzle. The orientation of the fan shape is altered by turning the nozzle. Horizontal holes are a vertical shape, vertical holes are a horizontal shape.

3. Frame. My frame is made of scrap wood with bolts to keep it square. The hooks are secured through holes at the top with staples or nails to stop them moving. *Fig. 7.* The bottom has holes for the wire to be pulled tight after the parts have been strung.

4. Wire. Stainless Steel high tensile wire is so much better as it is very strong and can't be bent by fingers. Use long nosed pliers. *Fig 5.*

5. Hooks. Bend them at 45 degrees at each end, *Fig. 6.* This helps to prevent 'wire shadows' where the spray is blocked by the hook.



6. Pressure. The lower the pressure the better. I use 50psi or less if I can get away with it, *Fig. 4.* "Orange peel" is the dimpled effect that happens due to a few reasons. Pressure too high, paint too thin, temperature wrong, air/paint ratio wrong preventing proper atomisation etc.

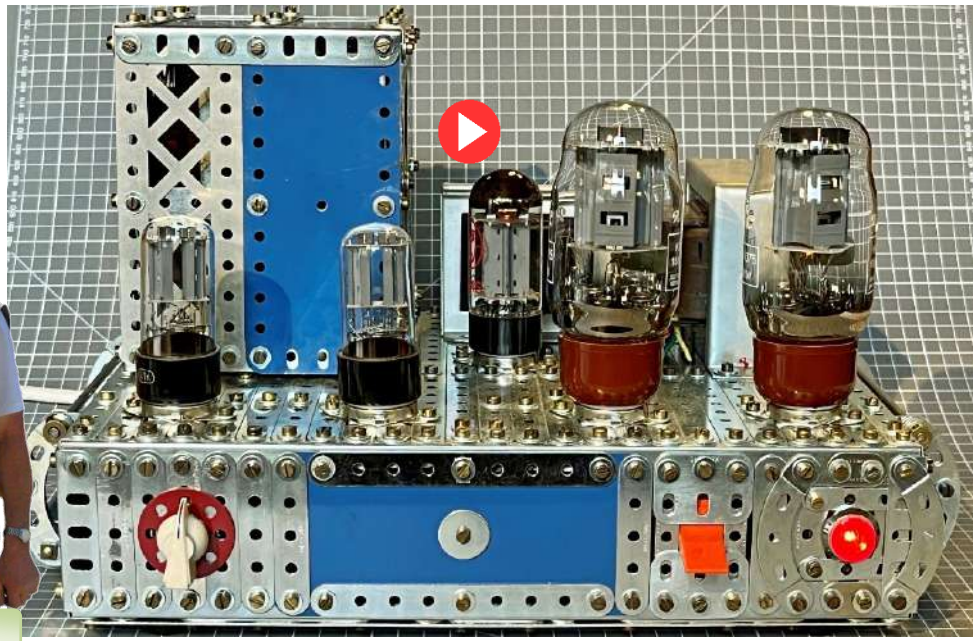
7. Thinning. Google search your paint specs. Mine is recommended 90:10 for spraying. I used 80% paint and 20% water using the syringe to draw up 80ml of paint and then 20ml of water. (Never been one to follow the rules). Too thick and the nozzle blocks. Too thin and you get paint runs.

8. Horizontal painting. In *Fig. 7* you can see I'm hanging the parts vertically but then I lay the frame horizontally for spraying. *Fig. 8.* After I've done one side, I flip the frame over and do the other side. This helps to prevent runs and gives a more even paint spread. I use a heat gun on a low temp & low fan speed to begin the drying process. Place a board over the top after painting to stop dust in the air settling on the wet paint.

9. Baking. I bought the oven in *Fig. 9* for $25 on Facebook Marketplace. Baking at 100°C for an hour seems to work best. Higher temps darken the paint and cause a smell. I discovered that leaving parts on the frame to dry overnight invites condensation resulting in rust blobs, so I put them in the oven before nightfall. This oven has a timer, so I just dial it to 60mins and forget it until morning.

MECCANO VALVE "ULTRA-LINEAR" PUSH-PULL AUDIO AMPLIFIER by Peter Sullivan

****Safety Warning****
Valve equipment uses potentially lethal high voltages on their HT power supplies, much higher than a transistor amp. Do not consider attempting such a project unless you know how to safely manage high voltage wiring, ground bonding the chassis and associated components to build such an amplifier safely. This article is intended to show you what Peter, an electronics engineer by trade, has built. You should NOT try this at home!



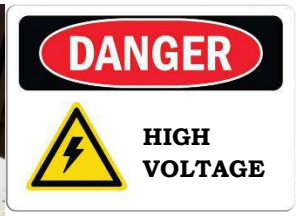
https://youtu.be/FQ_BTC_WUYo

Take vintage electronics and the Meccano system, and what do you get? A Valve (Tube for USA chaps) Audio Amp! This project effectively leaves the realm of model making and takes a footstep into real "apparatus" design and assembly combining the two early 20th C contemporary technologies!

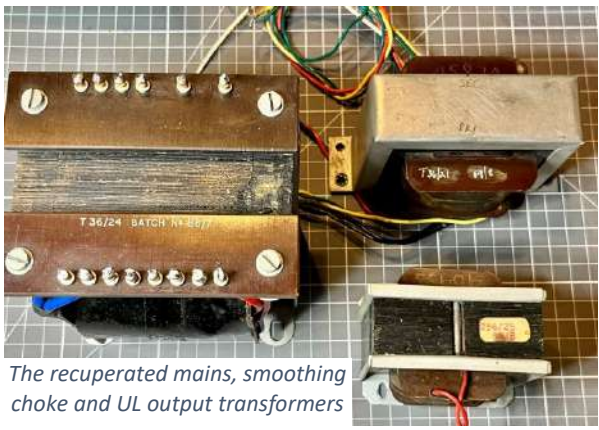
Why contemporary? In fact, the interesting history of thermionic valves follows much in Meccano's footsteps, and both emerged as curiosities in the first few years of the 20th century. Meccano as Mechanics Made Easy in 1901, and John Ambrose Fleming's discovery of thermionic emission in 1904. Both technologies progressed in leaps and bounds and in a few years were soon known on a worldwide basis, both becoming kings in their respective domains.

Back to the 21st century, and it has been an extremely satisfying project to combine Meccano and Valves to make a real audio amplifier that works and indeed works compellingly well – smooth music to the ears! The project started with a rusty 1950s Trix Electrics Public Address amp from which I recovered the 'ironware' mains, smoothing choke and output transformers. For some time, I had been thinking about rebuilding the Trix amp on a more attractive chassis, and as a lot of these old components are inch-based I had the idea to marry them up with a Meccano chassis to take advantage of the ½ inch pitch. Both Valves and Meccano were prevalent up to the 1960s, but probably no one has ever had the crazy idea of putting them together until now, 60 years later!

The old rusty Trix Electrics PA amplifier to be dismantled



Don't try this at home. Mains voltage and Meccano DO NOT mix.

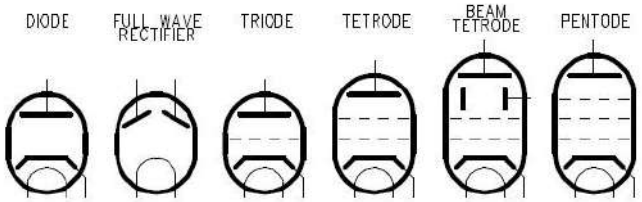


The recuperated mains, smoothing choke and UL output transformers

The proof-of-concept chassis with octal and B9A valve bases

The final project chassis is a simple sturdy box shape - sturdy being the key point as the complete assembly weighs about 11kg. Producing correct sized holes to take the valve bases, connection sockets and other components was a tricky challenge in the ½" Meccano pitch, and by using a mix of flat girders, curved and narrow strips in combination with the basic frame, we can accommodate all these odd parts! The first stage was to construct a small "proof of concept" chassis to test the idea of mounting B9A and Octal valve bases on a Meccano chassis. This was made up of zinc (or nickel) plated strips to retain good earth bonding over its entirety.

Octal bases were easier to manage with Meccano, so it was decided to adapt the amplifier circuit to use just octal based valves.



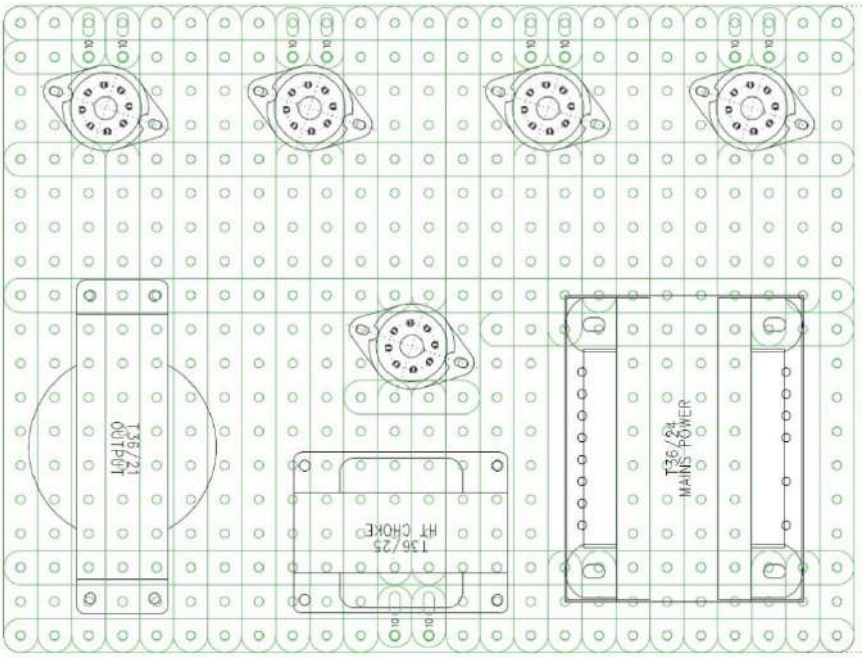
Common Thermionic Tubes/Valve types used in Audio Amplifiers

The "Ultra-Linear" amp design and layout.

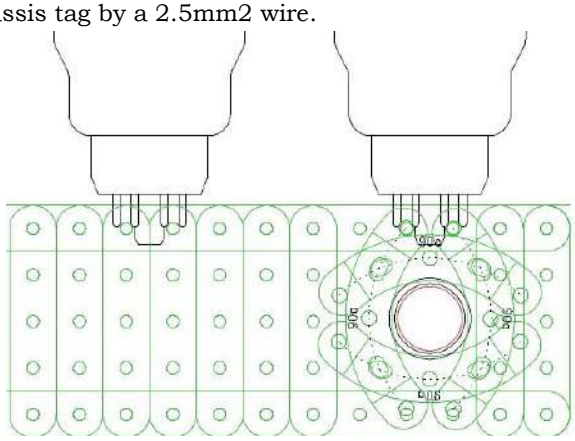
The amp schematic is based on a 30W Ultra-Linear push-pull design from the 1957 GEC publication "An Approach to Audio Frequency Amplifier Design" (you can find this as a pdf download on the web). This publication promoted using the GEC KT66 or KT88 beam-tetrodes as output valves and the 30W circuit is similar to the famous Williamson 15W design from 1947, which also used KT66s, but wired as triodes for best linearity. The idea of connecting the o/p valve screen grids to intermediate (20 or 43%) taps on the output transformer was discovered in the early 1950s, maintaining good triode linearity, but also the higher power output of a simple pentode configuration. The name "Ultra-Linear" was coined, and most decent valve audio amps used this configuration from the mid-50s and onwards. Please note there are some errors in the GEC publication component value lists, but it provides an excellent snapshot of audio design from that time for amplifiers of 3 to 400 Watts output! The KT66 was introduced already in 1937, and fortunately replicas are still manufactured today! I was able to procure a shiny matched pair of KT66s from Watford Valves UK: https://watfordvalves.com/

The GEC circuit uses five octal based valves in total, two double triode 6SN7 drivers, two KT66 for output, and a 5V4 or GZ34 HT rectifier. After a few attempts I arrived at the best compromise for the chassis layout with a CAD program, minimising interaction between the transformer iron cores, mains power input and input signal wiring. The top plate dimensions are a compact 12½x9½ inches, so a good layout helps greatly to retain neat wiring under the chassis.

The "KT" in the GEC valve part number stands for "Kinkless Tetrode", and the beam forming plates in these valves inhibit secondary anode electron emission, hence avoiding the distortion making kink in the characteristic of a standard tetrode. Tetrodes are still used today in high power RF Class-C applications (many KW of power) where the kink is of no consequence.

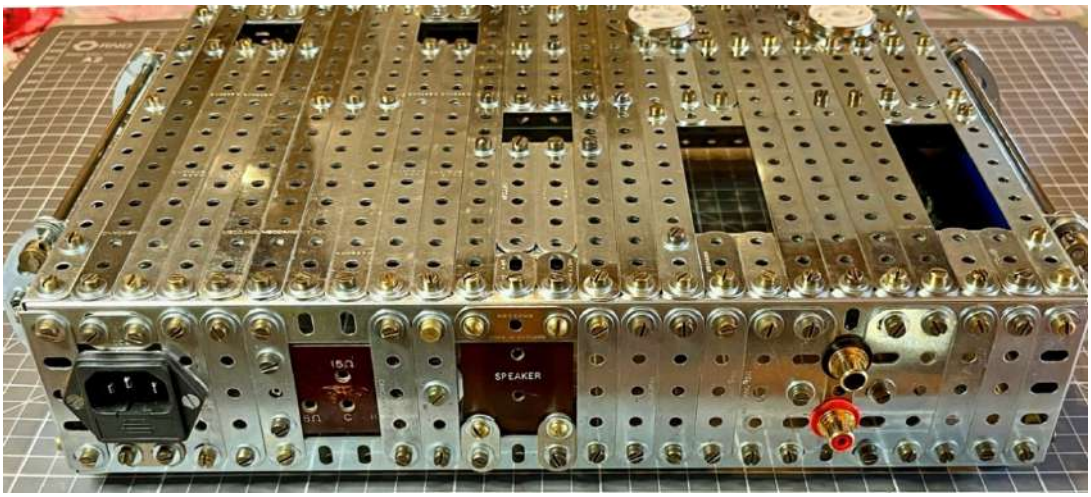


One very important point is the that the Meccano chassis should provide a good solid earth bonded shield around the high-tension wiring, so that rules out using painted strips. Zinc plated strips in good condition are perfect for the chassis, and the safety earth terminal on the IEC mains input connector is taken straight to a firmly fixed chassis tag by a 2.5mm2 wire.

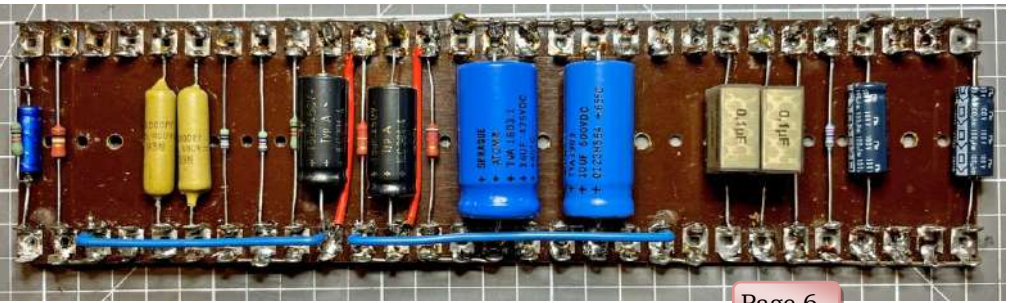


Working out details to mount the ¾" diameter front panel indicator recuperated from the old Trix amp using 90As.

The chassis uses large numbers of 1A and 1B strips, many more than contained in an outfit 10, and is strengthened by lateral 12½ girders to support the weight of the transformers. When all bolted up, the top plate is satisfyingly rigid and holds all the heavy power components with no flexure. The rear panel holding the mains IEC input connector, old Trix amp speaker plates, and audio input RCA jacks was constructed with a mixture of 2½ inch strips and flat girders to best fashion rectangular apertures for the connectors. The RCA/Phono input connectors are earth isolated from the chassis to avoid hum loops.

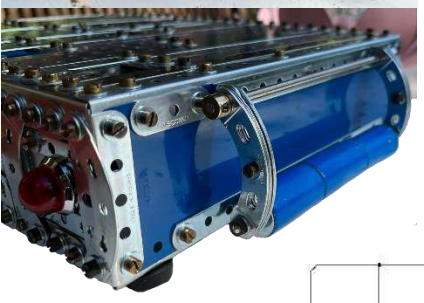


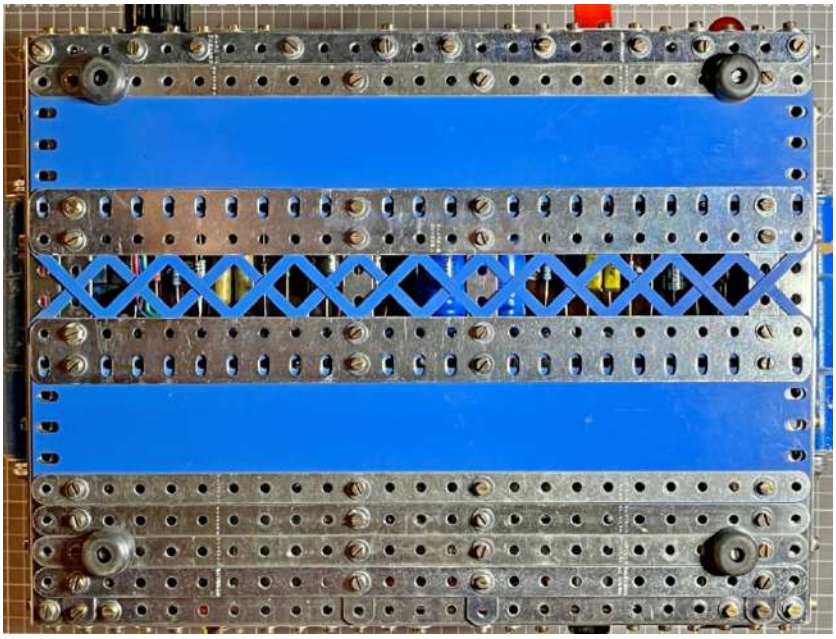
The rear of the completed chassis before fitting the transformers & valve bases



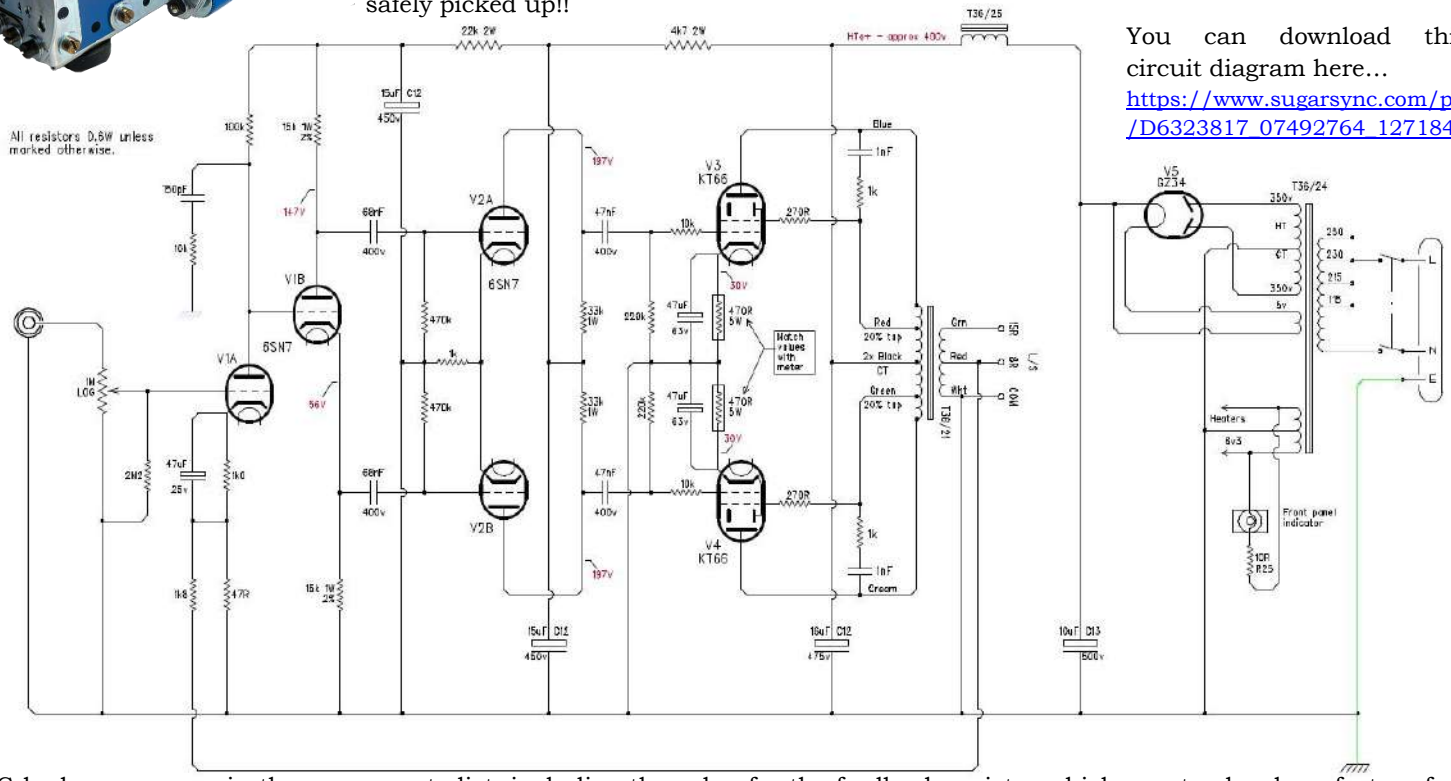
The old tag strip from the Trix amplifier was recycled for the new design. The photo shows the new component layout, almost complete and awaiting some final resistors. Valve circuits are normally simple compared to semi-conductor amps, and a chunky tag strip is a convenient way to mount fairly sizeable components and retain good separation between high voltage connections

To complete the chassis, a quick-fit bottom plate was designed with vent holes provided by overlapped braced girder strips, and four rubber feet fixed using long bolts. The plate is held in place on the chassis front by tongues engaging in a slot created from a second 12½" Strip spaced away from the main chassis girder, and at the rear by two bolts screwed into two brass couplings fixed above the lower rear chassis girder. Stowable carry handles were made from painted wine corks with a hole drilled up their centers, and fixed along threaded rods that are held between five 90a curved strips at each end. These allow the heavy chassis to be comfortably and safely picked up!!





Chassis bottom plate with rubber feet

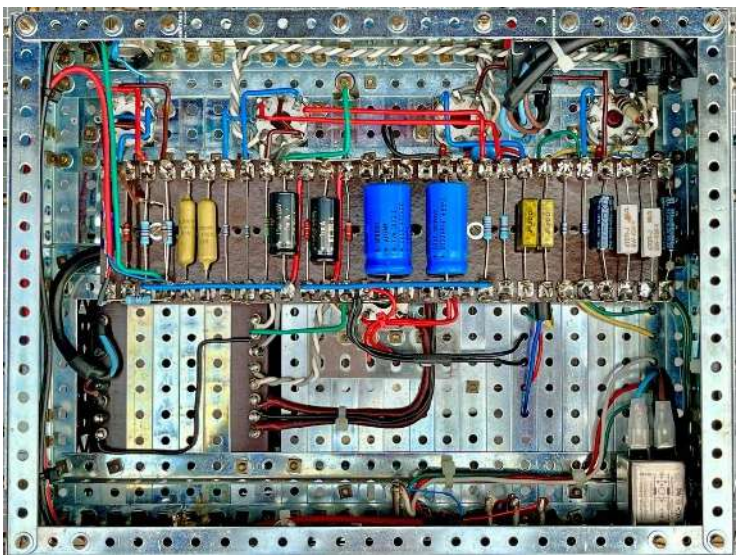


You can download this circuit diagram here… https://www.sugarsync.com/pf/D6323817_07492764_1271840

GEC had some errors in the components list, including the value for the feedback resistor which was too low by a factor of more than 2! Too much feedback in a valve amp with a "run of the mill" output transformer is a recipe for instability, so if the amp is motorboating or oscillating at an ultrasonic frequency, you can try reducing the feedback amount. With the recommended 14dB of feedback (1k8 res) I measured about 0.04% harmonic distortion at 1W output, which isn't too bad at all for a 66-year-old design! Apart from that, the circuit is fairly conventional for its time and uses a "totem-pole" phase splitter to drive the balanced drivers and push-pull output pair. A matched pair of output valves and cathode bias resistors helps minimise hum and improve linearity.

Wiring Layout.

After the transformers and valve bases have been bolted to the chassis, start with the heater wiring which should be pair-twisted with a drill, and pushed as much as possible into the corners of the chassis to minimise hum pickup by the input section. The mains input connector earth connection must be wired directly to a tag on the chassis. The double pole power switch and power transformer input wiring should also be double insulated and kept clear of the sensitive input section of the amplifier. When these steps are completed, you can fit the tagboard and wire up the valve bases. Crossing valve connection wires at right angles minimises unwanted capacitive coupling. If you follow these basic rules you will need to put your ear very near to the loudspeaker to hear any hum. We're in the 21st century and background hum is not acceptable! If you're interested to try this project, get in contact with me if you have any questions - space was limited here to describe all the details! Many thanks! – Peter.



Connecting rods between wheels

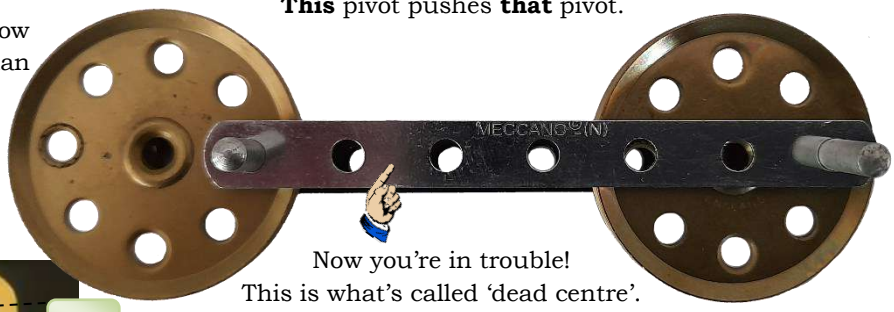
"A pair of locomotive wheels with a horizontal connecting rod has a 'dead centre'. That is, if the connecting rod lies along the line of the centre of the axles, trying to turn one wheel does not turn the other: it just jams the connecting rod. To overcome this in a real locomotive the connecting rods on two sides are out of phase." MM – Apr 1977.

When I started building my PrOP-M for the Spanner Christmas challenge I ran into a problem. I couldn't get the wheels to rotate freely past what I now know is 'dead centre'.

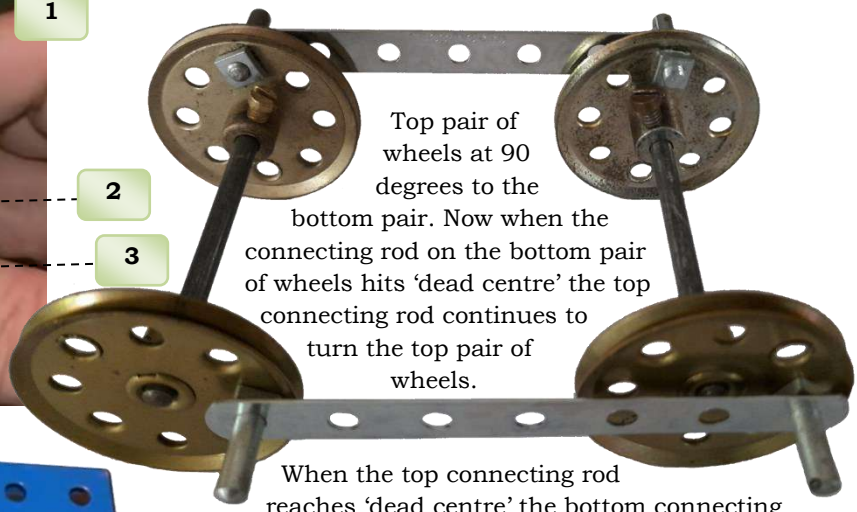
Graham Jost alerted me to the phasing solution but now there is another problem to overcome. The PrOP-M Russian Mars Rover has both skis in phase. So how do you get the connectors to go past 'dead centre' when they must remain in phase? Richard Payn explains in this 19sec YouTube video.

https://youtu.be/NqnImoVI50w

This pivot pushes **that** pivot.

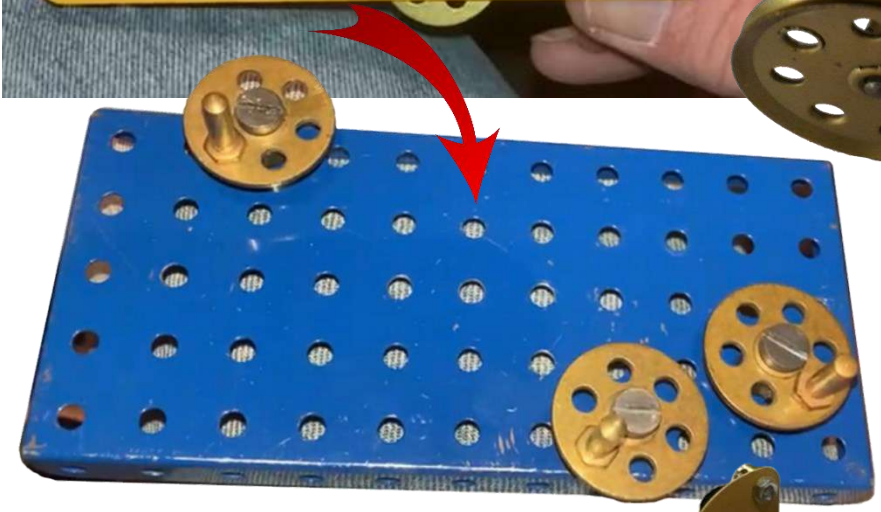


Now you're in trouble!
This is what's called 'dead centre'.



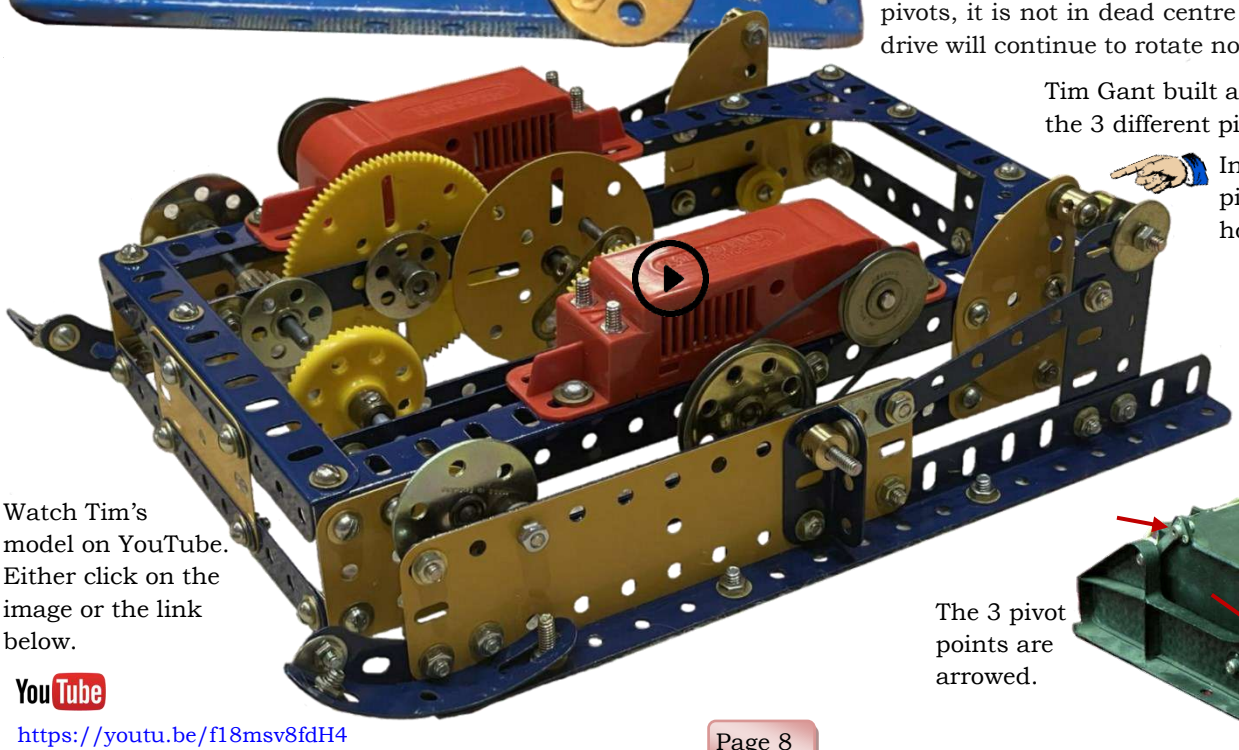
Top pair of wheels at 90 degrees to the bottom pair. Now when the connecting rod on the bottom pair of wheels hits 'dead centre' the top connecting rod continues to turn the top pair of wheels.

When the top connecting rod reaches 'dead centre' the bottom connecting rod takes over. This is known as phasing.



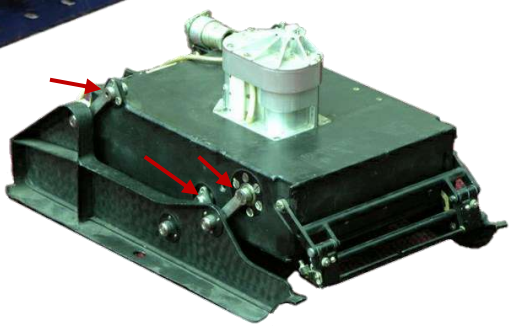
Richard Payn explains how to make 3 wheels turn by driving only one overcoming the 'dead centre' problem when a horizontal connector lies along the line of the wheel axles. The large flat plate is representative of using any rigid shape to connect 3 wheels. When the imaginary connecting rod line is in dead centre with one of the other pivots, it is not in dead centre with the third. Thus, the drive will continue to rotate normally.

Tim Gant built an excellent PrOP-M using the 3 different pivot point principle.



In Tim's model the rear pivot point is on a different horizontal plane.

The original Russian PrOP-M, pictured below, also worked on the same principle.



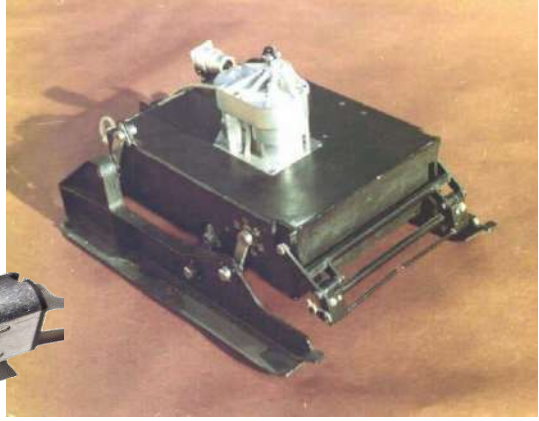
The 3 pivot points are arrowed.

Watch Tim's model on YouTube. Either click on the image or the link below.

https://youtu.be/f18msv8fdH4

PrOP-M

https://youtu.be/LEZd2fVwAKQ



PrOP-M (Russian: **Пр**ибор **о**ценки **п**роходимости — **М**арс (**ПрОП-М**), Passability Estimating Vehicle for Mars or Device Evaluation Terrain—Mars[1]) were two Soviet Mars rovers that were launched on the unsuccessful Mars 2 and Mars 3 missions in 1971. PrOP-M were the first rovers to be launched to Mars, 26 years before the first successful rover mission of NASA's *Sojourner* in 1997. Because the Mars 2 and Mars 3 missions failed, the existence of the rovers was kept secret for nearly 20 years.

Fig. 1.

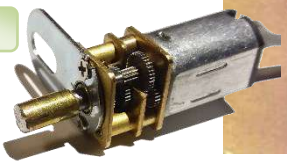


Fig. 2.

Note: All parts from the 78/79 DBDY 5 outfit.

Part No.	Description	Qty
2	Strip 5½"	2
5	Strip 2½"	1
9	Angle Girder 5½"	2
12	Angle Bracket	4
15b	Rod 4"	2
21	Pulley 1½"	2
24	Bush Wheel 8 hole	1
24b	Bush Wheel 6 hole	1
26	Pinion 19t	1
27a	Gear Wheel 57t	1
45	Double Bent Strip	4
48a	Double Angle Strip 2½"x½"	4
111	Bolt ¾"	4
154a	Corner Angle Bracket	1
186b	Drive Band 10"	1
235g	Narrow Strip 3 hole	4

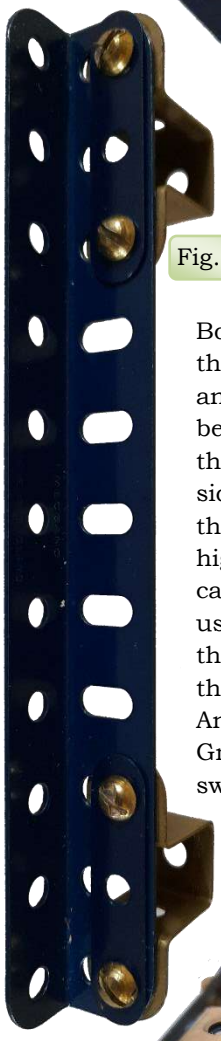


Fig. 3.

Fig. 4.

Bolt 2 x 11-hole Strips together with 4 x DAS then journal the Rods through as shown and put 2 x Pulleys on one side and the Bush Wheels on the other side. Use Washers between the Strips and the bosses. Secure 4 x ¾" bolts to the Bush Wheels and the Pulleys making sure that the port side is 90 degrees out of phase to the starboard side. Make the skis as shown in Fig 3. Place the Double Bent Strips as high as possible in the slot. Use as much wiggle room as you can. The higher, the better. Secure the skis to the ¾" Bolts using locknuts making sure they are free to move. Attach the Drive Belt as shown in Fig 4. Make sure you can turn the 57t Gear freely. Mount the N20 motor, Fig 1, on a Corner Angle Bracket as shown in Fig 2. Adjust using the slots. Grab an old Angle Bracket and file the slot to fit a toggle switch. Make a battery mount as shown in Figs 5 and 6.

It's a bit tricky trying to get Nuts in where the switch is but persevere and ye shall be triumphant. You can see I didn't bother with the top bolt. The 5-hole Strip stays put without it anyway.

Connect one wire from the motor to the centre lug of the switch and connect the red battery snap wire to the top lug. Connect the black wire of the battery snap to the motor.

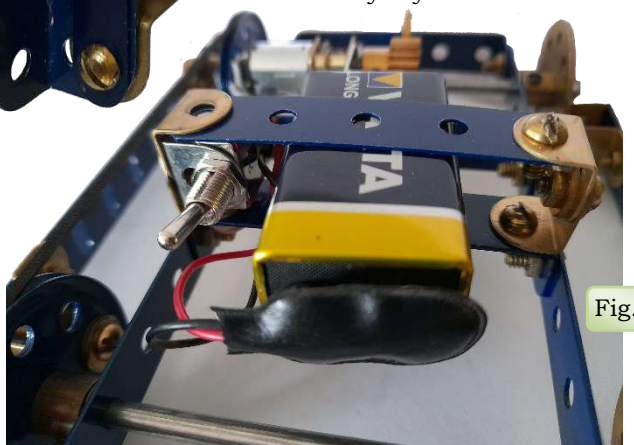


Fig. 5.

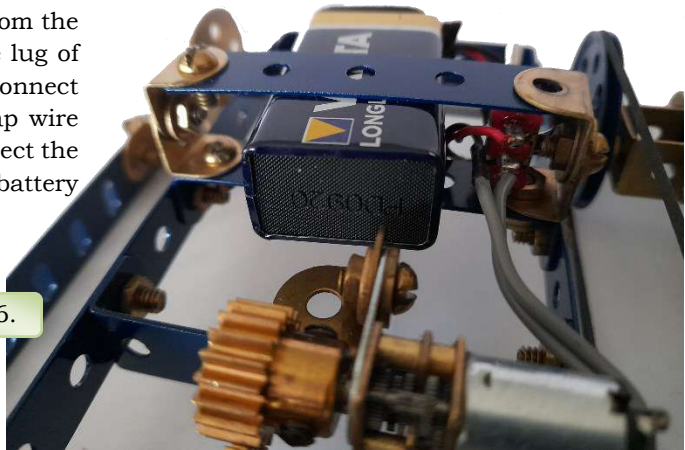
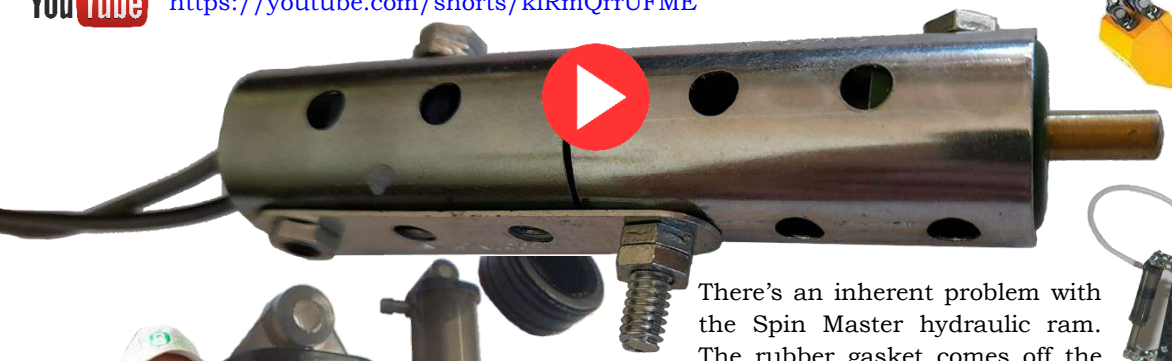


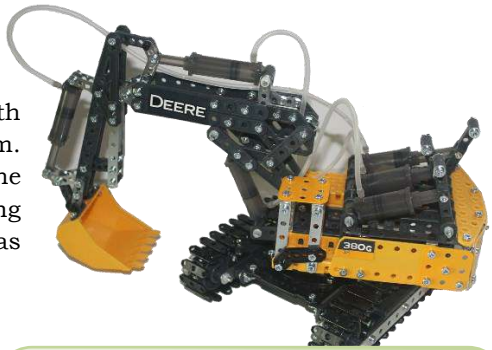
Fig. 6.

Simulated Hydraulic Ram

Spin Master produced a digger with hydraulic controls. They are basically just glorified syringes (without the needle!) and I don't think they work very well. So, I set out to build something the same size but powered with 12V and wires rather than water and hoses.

YouTube https://youtube.com/shorts/klRmQrrUFME





There's an inherent problem with the Spin Master hydraulic ram. The rubber gasket comes off the plunger and it's a nightmare trying to get in back on. Gary Higgins has had some success with repairs.

Gary Higgins NZ

Spin Master have used some artistic licence in the box cover photos. (top). You can barely see the rubber hoses. Gary's version (bottom) shows the more efficient way. If you tried to hide them like the top photo, they'd mostly likely kink.

From Gary,
Now that I have replacement cylinders from a second set (not from Spin Master), I decided to pull apart the damaged cylinder to see what could be done. I first sawed through the outer cylinder at the upper end using a fine-toothed jewellery saw. This done I found the central plunger arm still had just enough grab on the rubber plunger head to remove it. It is not a permanent fixture but pushes into two grooves in the rubber. If it pulls out inside the cylinder it does not appear possible to reseat it properly as only one groove engages. Once removed it is easy to push down so both grooves are embedded then a simple task to araldite the top of the cylinder back on and job done. After fixing the gasket, I removed the water altogether and lubricated the barrel and plunger with olive oil. They work better and smoother with just air.

Part No.	Description	Qty
69b	Grub Screw long	3
163	Sleeve Piece	2
164	Chimney Adaptor	3
235h	Narrow Strip 4 hole	1
	N20 motor 300RPM	1
	4mm OD Brass Tube 40mm	1
	4mm OD Brass Tube 10mm	1
	M3 Threaded Rod 45mm	1

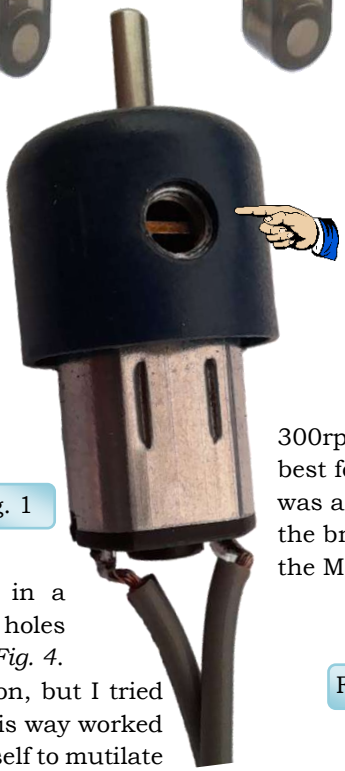


Fig. 1

Hex nut wedged in. There's not enough room for a square nut.

Fig. 2

300rpm motor worked best for me. 100rpm was a bit slow to move the brass tube along the M3 threaded rod.

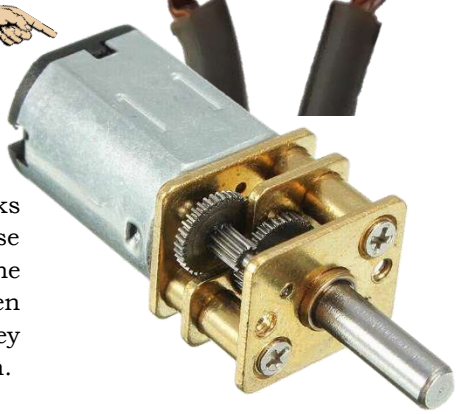


Fig. 3

Step 1. Mount the N20 motor in a Chimney Adaptor by drilling 2mm holes in the end and using M1.6 bolts. *Fig. 4.*

OK, I know this is mutilation, but I tried many different ideas and this way worked best. If you can't bring yourself to mutilate your Chimney Adaptor then try jamming icy pole sticks between the motor and the Chimney Adaptor or perhaps use some cross sections of bicycle tube as a sleeve around the motor. There is just enough room to wedge a hex nut between the gearbox of the motor and the hole in the Chimney Adaptor. There's not enough room for a square nut though.

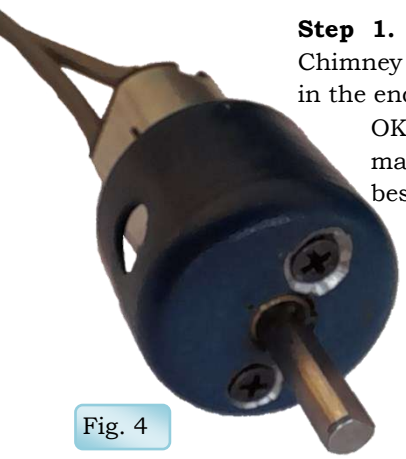


Fig. 4

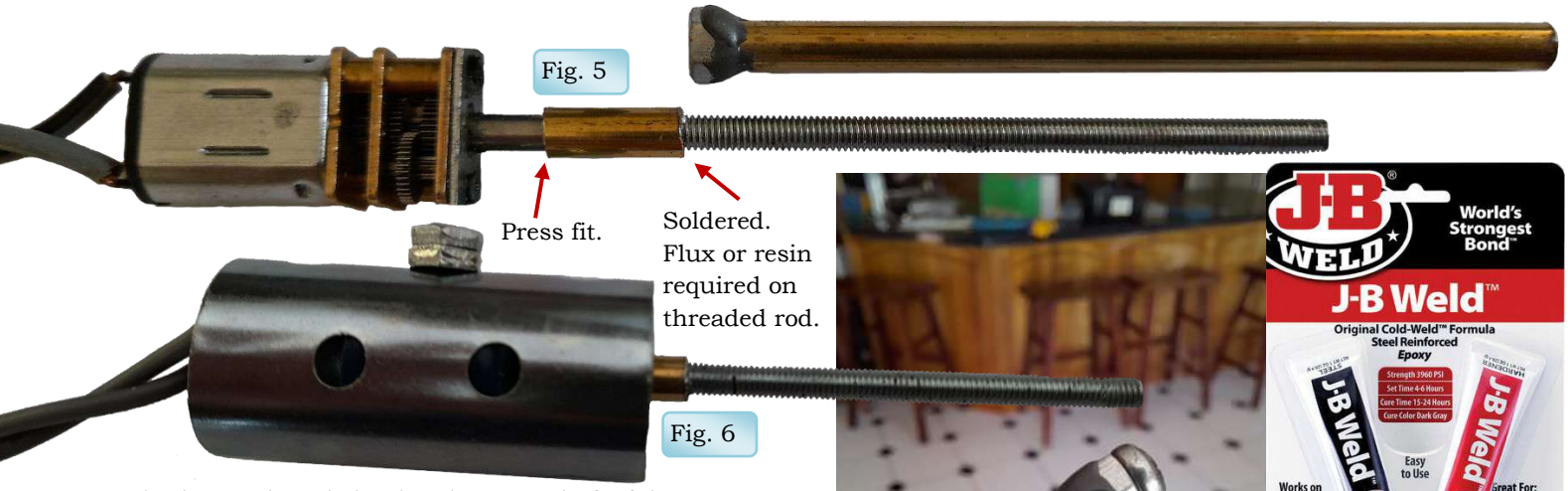


Fig. 5

Fig. 6

Fig. 7

Step 2. Join the M3 threaded rod to the 3mm shaft of the N20 motor using a 10mm length of 4mmOD brass tube. *Fig. 5.* The tube is a tight fit on the motor shaft so you can just tap it on gently and it will hold. The M3 threaded rod has an outside diameter of 2.98mm so, it's too small for a press fit. I sat it just inside the tube, applied some resin cored solder then pushed it all the way in.

Note: Not all brass tubes are the same. Ideally a 4mm OD tube has a 3mm ID but this depends on the wall thickness so look for 0.45mm at least. *Fig. 9.* These brass tubes are readily available on eBay and in all hobby shops. If you have a hobby shop, I suggest taking the motor along to make sure it's a tight fit. If not, then you need to solder the tube to the shaft as well. I tried Loctite. What a disaster that was! The Loctite ran down the shaft and into the motor gearbox. Doh!

Fig. 8

Step 3. Attach an M3 nut to the brass tube. *Fig. 5.* To centre the nut, use an M3 bolt. JB Weld cures as hard as steel in 24 hours. It is not the same as Araldite or other epoxy resins. When it has cured, remove the bolt, and make sure it turns freely on the M3 threaded rod.

Step 4. Slide the Chimney Adaptor into a Sleeve Piece and secure it with a long Grub Screw. *Fig. 10.* Do not overtighten as this can cause the Sleeve Piece to distort. You can see I've used locknuts but on reflection this probably isn't needed as the Grub Screw can still turn on the internal nut.

Fig. 9

Note: Don't let the M3 vs 3mm confuse you. When talking about threads you say M3. When talking about rod or tube you say 3mm.

Fig. 10

Step 5. Join the Sleeve Pieces together using another Chimney Adaptor to align them. *Fig. 8.* Then use a 4-hole Narrow Strip to make sure they don't come apart. Add the 3rd Chimney Adaptor to the end of the 2nd Sleeve Piece BEFORE you join them.

Step 6. Put some solder in the end of the brass tube to prevent it being squashed if you tighten a bossed part on too tightly. *Fig. 13.*

Fig. 13

You may notice in the video I've used a joystick to control the ram drive. Full instructions for this joystick are in page 2 of the June 2020 issue of JMM. Brief details below in Figs 11 and 12.

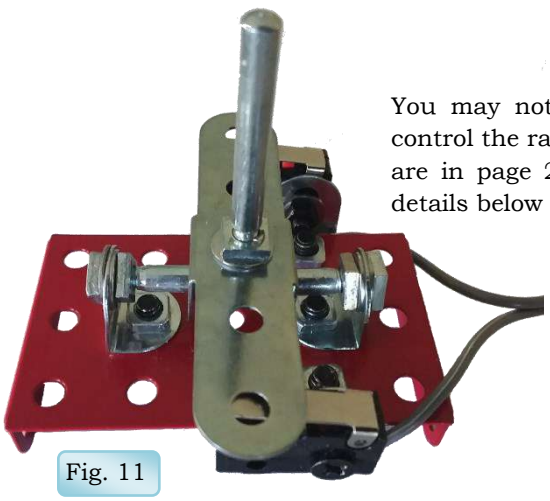


Fig. 11

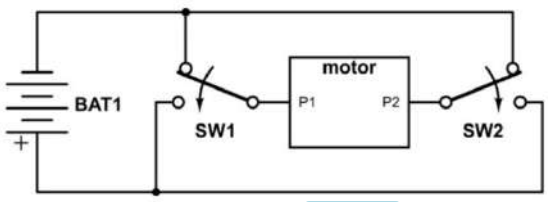


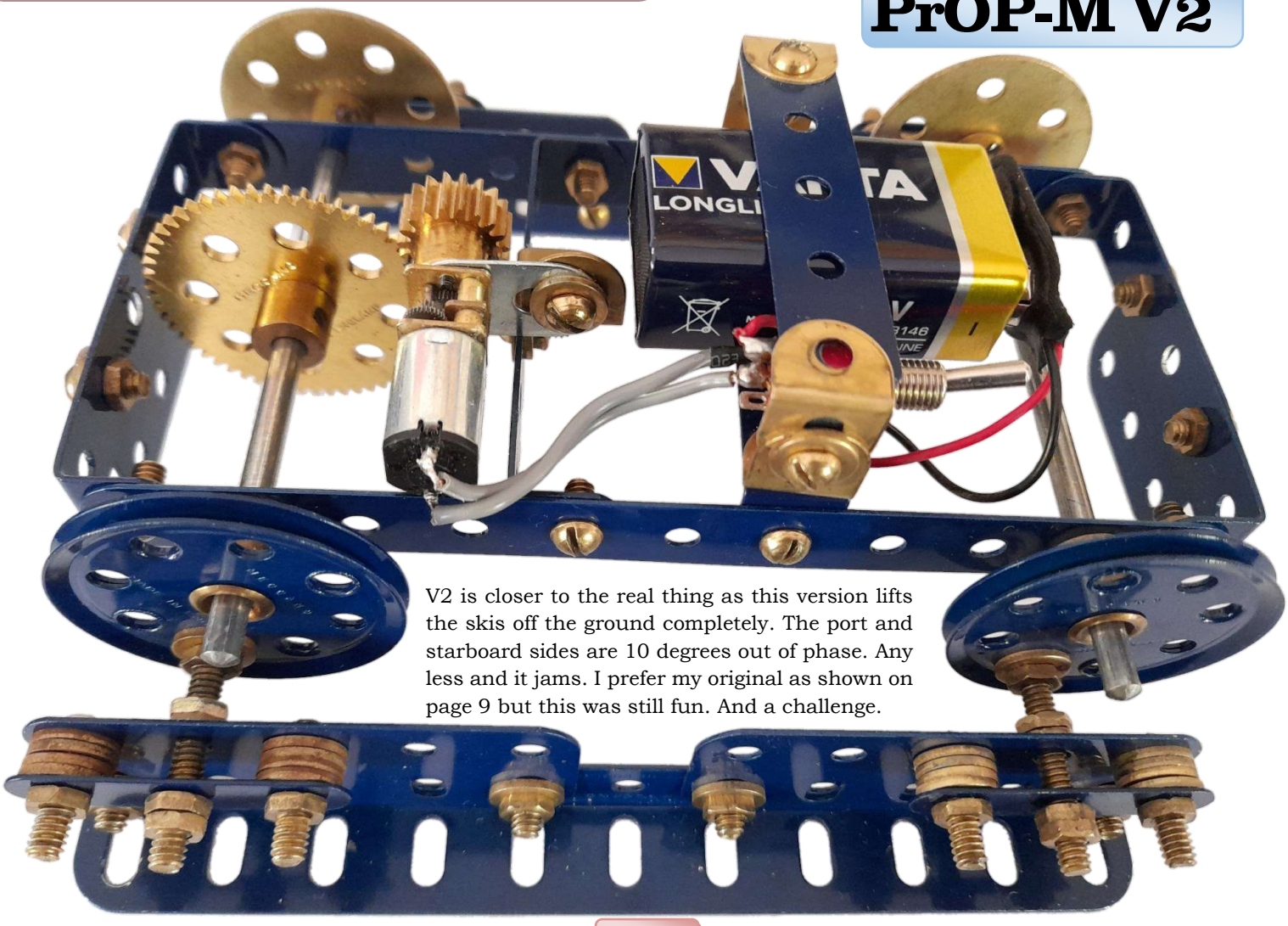
Fig. 12

FROM OUR GOOD IDEAS DEPARTMENT

From Dave Heathcote – South Africa
Hot tip of the week!! Small models, and sub-assemblies can scratch up the desktop. For tiny rubber feet - I do this. Works like a bomb!!

From Matthew Auger – Australia
Gearless differential using only Set 5 parts. Works rather smoothly. Not a huge amount of ground clearance. Have an idea of doing a set 5 car chassis with this diff, a Constantinesco torque converter (see MM late 1922 edition) and a two-speed auto in the style ignore Meccano Engineer mag from sometime in the mid-70s.

PrOP-M V2



V2 is closer to the real thing as this version lifts the skis off the ground completely. The port and starboard sides are 10 degrees out of phase. Any less and it jams. I prefer my original as shown on page 9 but this was still fun. And a challenge.

This Month's Meccanoboy

Reg Barlow - New Zealand

When and where were you born?

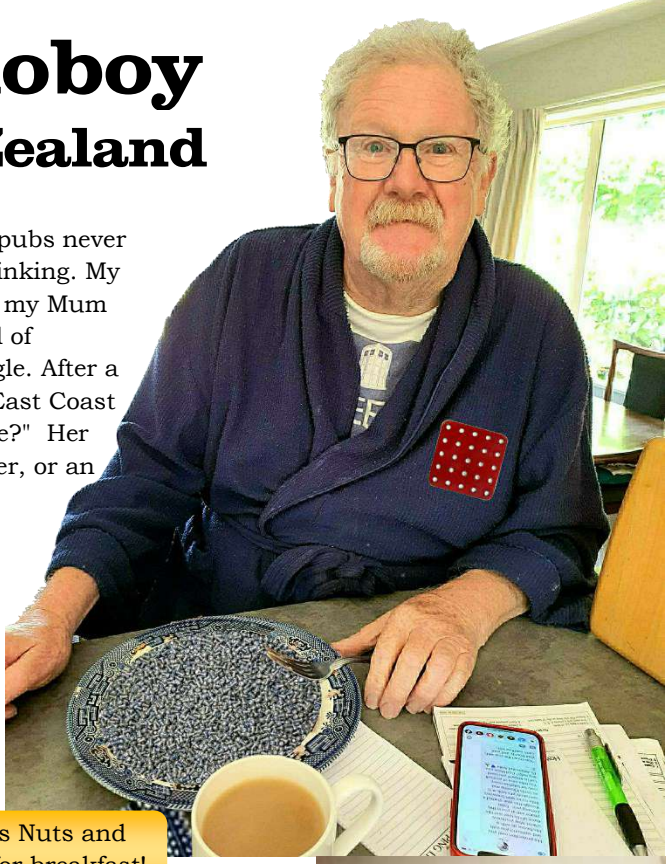
I was born is a small town on the West Cost of the South Island, where the pubs never closed, and the main occupations are mining and forestry, and of course drinking. My Father was killed in a Coal Mine accident when I was only 5 months old, so my Mum brought up my older sister and me. In those days there was not a great deal of assistance, either Govt or mining companies, so I am sure she had to struggle. After a few years we went to live 'over-the-hill' and moved to Christchurch, on the East Coast of the South Island. Some years later I asked my mother: "Why did we move?" Her answer was that she didn't want to see me become a miner, a forestry worker, or an alcoholic. My reply was that I thought that two out of three wasn't too bad.

Where did you go to school?

Without any fatherly control I was, on reflection, a bit of a ratbag. School was somewhere I had to go. I can remember receiving many '6 of the best'. In fact, I held the school record for the number of canings.

Did you have Meccano as a child?

I must have got my first Meccano set when I was about 11 or 12, not too sure. It was a Set 4 and I was hooked, just like every Meccano man I know. Every Christmas for many years to come, all I wanted was another Meccano set. It must have been tough on my mother being on a widow's pension, and Meccano wasn't cheap.



He eats Nuts and Bolts for breakfast!

Reg with Mum and Dad

Are you married? Any kids?

Two lovely girls from my first marriage, and I must have done a reasonable job as they still talk to me. I have two lovely grandsons from one daughter and four dogs from the other.

Did any of your kids share your interest in Meccano?

I'm afraid not, but I will be doing my best to steer my two grandsons in this direction.

Did you go through the usual hiatus?

Meccano held my interest until the 3 B's got in the way. Bikes, Beer and Birds. But like most of us, I drifted back to it when I realised that I was about to retire.

What was your first job and what did you do for a living?

Completing High School with minimum qualifications, I applied for a job at the Post Office, in the Telegraph section. In those days all you had to prove was that you could read, write and breathe and you got a job for life. Because of my interest in Meccano, I was asked if I wanted to be part of the group that repaired telegraph equipment/teleprinters, which was great, being paid to fiddle with mechanical things. With the Post office I travelled around New Zealand, gaining promotions. On reflection it was a carefree time. From the PO I moved to Telecom, then with the big restructuring of Telecom I applied for, and got, a similar job with Foreign Affairs Govt dept, working with their secure communication equipment. As the old saying goes, 'If I told you what I did, I would have to shoot you', so I won't say any more. For the next 15 years, I travelled the world doing what I had to do to keep the communications open and secure between our Embassies and Wellington. For ten of those years, I was based in London. This lifestyle was not conducive to a happy married life, so after many years, we parted, but I am now happily married (again). After this jet setting lifestyle, I moved back to NZ working in real estate and also as a contractor to Google for digital marketing. I loved it.

L-R. Anna, Reg, Liz. Anna is holding bubba Henry. And that's Dougal the dog.

Is that an ass on a donkey or a donkey on an ass? (Reg's comment not mine!)

How did you meet Snowda?
I met Snowda through mutual friends, and after a few meetings, we made it official. We had a very quiet registry ceremony, then it was back to work for me.

What's retirement like?
The answer to this question would be the same as for other retired Meccano men: 'How did we find time to go to work?' Weekends seem to disappear, every day is the same, so a bit of Time Management ensures that we get a break.

Have you travelled much?
The campervan has allowed us to tour around a bit, but it is under-used over the last few years, what with Covid. Snowda was diagnosed with breast cancer just before Covid, so life has been a journey, but now the best thing to say is the doctors did their best, and prayers did the rest. Travel, both international and national will soon start again.

Everybody needs one

What do you think the future of Meccano is?
I really feel they have lost their way with their latest offerings. For me it is something I want to get better at and enjoy the company of other blokes. We don't mix socially outside our monthly meetings due to geography, and retirement is a full-time occupation.

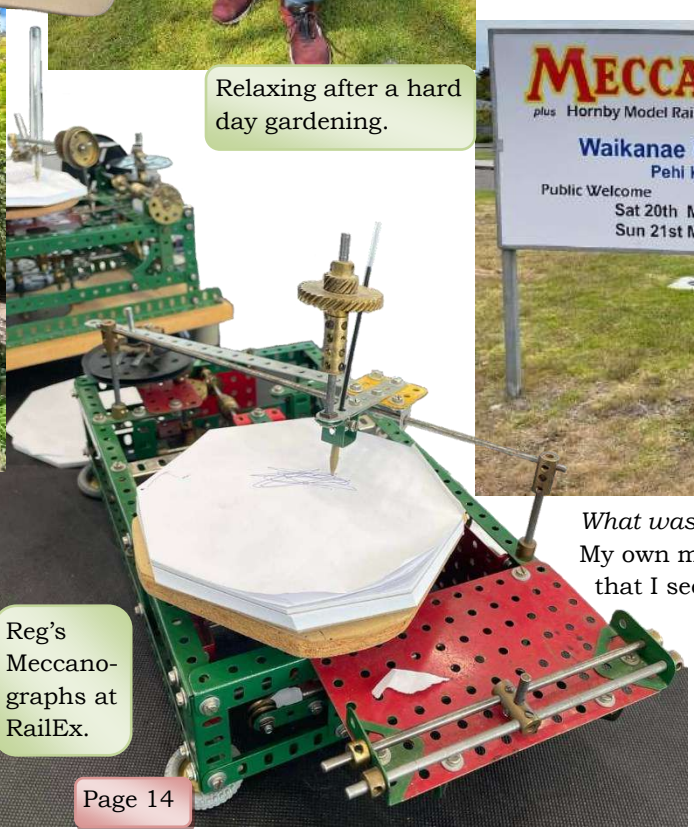
Reg and Snowda at Waipoua Forest

Snowda is quite an accomplished painter. Pictured in front of her latest award-winning painting at a recent art show.

What other interests do you have?
Gardening and cooking are passions. I'm building a 00 Gauge railway and have plans to build more. Where do I find time for Meccano??

Relaxing after a hard day gardening.

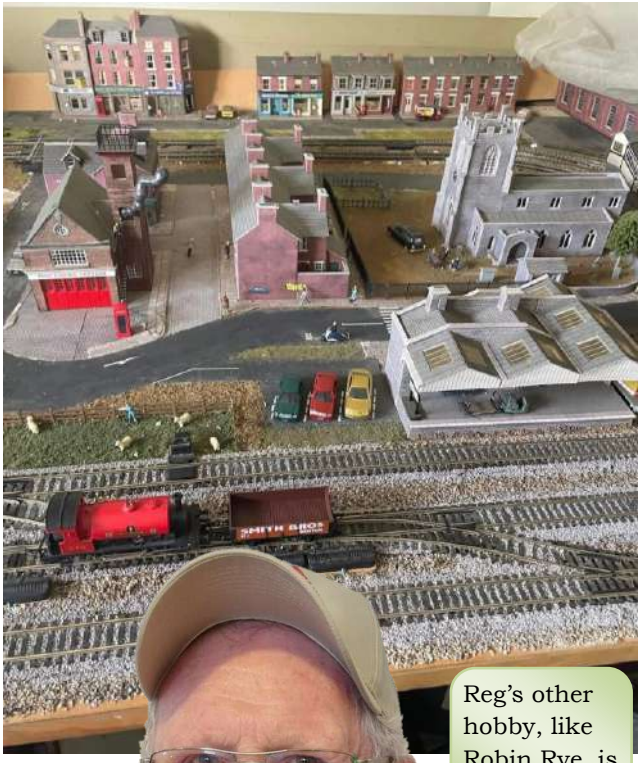
Have you been to many Meccano Expos? Which is your favourite?
I have attended four Conventions, plus a couple of expos, and had a hand in organising two of them. The recent RailEx was very good but the National Convention at Te Papa was the biggest!



Reg's Meccano-graphs at RailEx.

What was your best model?
My own models? I am in awe of the models that I see. They inspire me, but I am still at the beginner's stage, and usually follow plans and then adjust to make them work. My Meccanographs are perhaps my best so far. *Left.*

Reg with his Meccano mates at the April Antics meeting in New Plymouth 2010

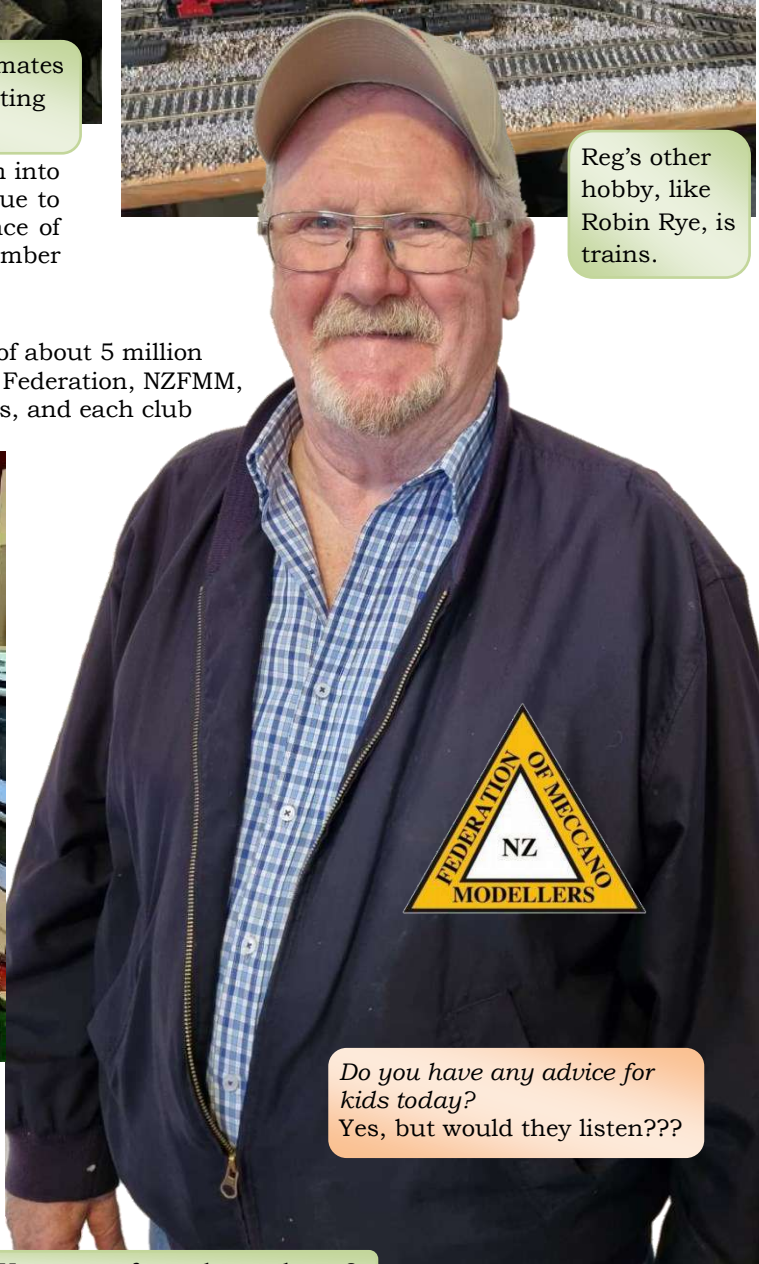


Reg's other hobby, like Robin Rye, is trains.

What Meccano club/clubs are you in?
I joined the Wellington Meccano Club and assisted in dragging them into the 21st Century with Facebook, YouTube, regular meetings and, due to marketing knowledge, doing my best to increase the online presence of Meccano and WMC. I am also a member of the MWT club. I was a member of Christchurch Meccano Club as a youngster.

Tell me about the NZFMM?
In NZ, we have 5 active Meccano clubs, not bad for a small country of about 5 million people. Each club runs its own business, but we have an overriding Federation, NZFMM, which publishes a quarterly magazine. We hold biennial Conventions, and each club takes turns in running these Conventions.

Where do you get all your Meccano?
We're all the same. Now that we have a disposable income, we can finally afford to buy Meccano through Trade Me, eBay etc. When people know that you're a Meccano nut, you get phone calls to check out sets that are found at the back of wardrobes when clearing out houses.

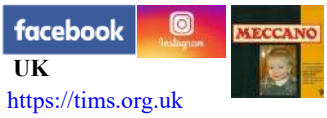


Do you have any advice for kids today?
Yes, but would they listen???

Exhibitors at the NZFMM Exhibition at Te Papa, Wellington in 2015. How many faces do you know?

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

Follow Johnny Meccano on YouTube



UK

https://tims.org.uk
https://nelmc.org.uk
https://nmmg.org.uk
https://www.selmec.org.uk
https://southwestmeccano.org.uk
https://londonmeccanoclub.org.uk
http://www.hsomerville.com/wlms
http://www.northwestmeccano.co.uk
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http://www.corlustmeccanoclub.co.uk
https://runnymedemeccanoguild.org.uk
http://www.midlandsmeccanoguild.com

Other Countries

http://club-amis-meccano.org/
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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/

New Zealand

http://www.nzmeccano.com
http://www.nzfmm.co.nz
https://www.facebook.com/MWT-Meccano-Club-1476153515979522/

Australia

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/cmrp/

Personal pages

https://neilsmeccanoandstuff.jimdofree.com/neil-s-meccano-models
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https://meccanocreations.in
http://www.meccano.us
https://mecca-clocks.fr/ NEW!

Meccano suppliers

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

Meccgear Jeff Clark New Zealand sales@meccgear.co.nz No website yet but a pricelist with photos can be downloaded here http://www.nzmeccano.com/image-151916

Bespoke parts from Corlust Meccano Club Ian Wilson bespokecraftshack@gmail.com

Mike Rhoades. Link to price list below. https://www.nzmeccano.com/image-165106

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

Buy me a coffee

An anonymous taxpayer wrote this note to the taxation department. "I am sending £5 because I cheated on my tax return 10 years ago and I cannot sleep. If I still can't sleep, I'll send you the rest".

A woman walked into the kitchen to find her husband stalking around with a fly swatter.
"What are you doing?" She asked.
"Hunting Flies" He responded.
"Oh. Killing any?" She asked.
"Yep, 3 males, 2 Females," he replied.
Intrigued, she asked. "How can you tell them apart?"
He responded, "3 were on a beer can, 2 were on the phone."

A woman awakes during the night to find that her husband is not in bed. She puts on her robe and goes downstairs to look for him. She finds him sitting at the kitchen table with a hot cup of coffee in front of him. He appears to be in deep thought, just staring at the wall. She watches as he wipes a tear from his eye and takes a sip of his coffee.
'What's the matter, dear' she whispers as she steps into the room, 'Why are you down here at this time of night.
The husband looks up from his coffee, 'It's the 20th Anniversary of the day we met'.
She can't believe he has remembered and starts to tear up.
The husband continues, 'Do you remember 20 years ago when we started dating, I was 18 and you were only 16,' he says solemnly.
Once again, the wife is touched to tears. 'Yes, I do' she replies.
The husband pauses. The words were not coming easily. 'Do you remember when your father caught us in the back seat of my car'
'Yes, I remember' said the wife, lowering herself into the chair beside him.
The husband continued. 'Do you remember when he shoved the shotgun in my face and said, "Either you marry my daughter, or I will send you to prison for 20 years'
'I remember that, too' she replied softly.
He wiped another tear from his cheek and said "I would have gotten out today."

It is a known fact that the penguin is a very ritualistic bird which lives an extremely ordered and complex life. The penguin is very committed to its family and will mate for life, as well as maintain a form of compassionate contact with its offspring throughout its life.
If a penguin is found dead on the ice surface, other members of the family and social circle have been known to dig holes in the ice, using their vestigial wings and beaks, until the hole is deep enough for the dead bird to be rolled into, and buried. The male penguins then gather in a circle around the fresh grave and sing:
"Freeze a jolly good fellow."
"Freeze a jolly good fellow."

If you don't know the difference between there, their and they're, your a idiot.

They just discovered an Egyptian tomb filled with chocolate and hazelnut.
They believe it's the tomb of Pharaoh Rocher.

Two engineering students bumped into each other at school, and one noticed the other's new bike.
He asked, "Where did you get such a wonderful bike?"
The other student replied that a blonde rode up to him, threw her bike on the ground, took off all her clothes, threw them on the ground and said, "Take whatever you'd like to have."
The first student says, "Good call, I'll bet her clothes wouldn't have fit either of us."