

TECHMASTER What is known of this small American system appeared in the *Southern California Meccano and Erector Club Newsletter* back in 1987 but was never included in MCS. The details were originally provided by Joel Perlin and came from 4 pages of an incomplete manual; I am grateful to Anton Calleia, Secretary of the SCM&EC for permission to use them here.

TECHMASTER

CREATIVE · CONSTRUCTIVE · EDUCATIONAL

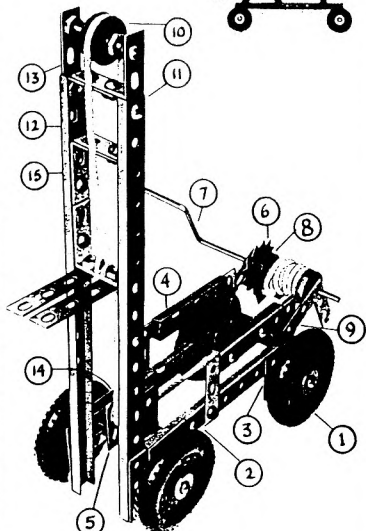
TECHMASTER was made by the Techmaster Educational Toy Company, Chartley, Mass., U.S.A., and was distributed by the Geo. Borgfeld Corp., New York City, N.Y. The Tier Lift model below is stated to be 'Made from Techmaster Sets 1, 2 & 3' but nothing is known of the sets themselves or whether that was the complete range.

The cover of the Manual shows various models including cranes, a tractor/trailer unit, and a yacht transporter/launcher. A young and an older boy are shown on it building a model. All the models are fairly simple and look as if they could be made with the parts used in the Tier Lift, and those illustrated in the 'Instructions', some of which are shown below.

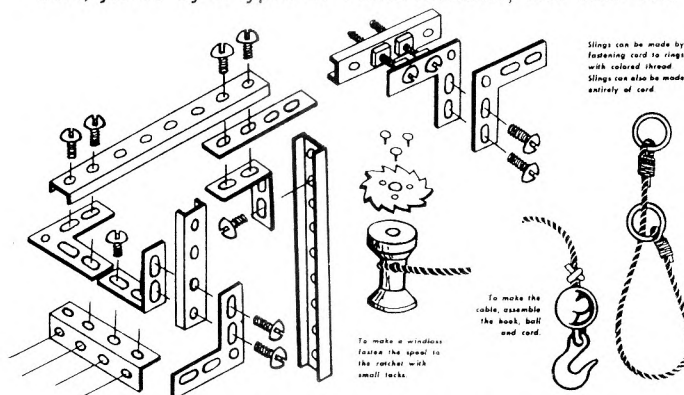


NO.	NUMBER OF PIECES	NAME OF PART
16		SCREWS-NUTS-WASHERS
15	2	8" CHANNEL
14	1	MEDIUM SHEAVE
13	8	STRAIGHT TIE PLATE
12	1	CABLE
11	8	ANGLE TIE PLATE
10	1	LARGE SHEAVE
9	1	1" CHANNEL
8	1	1" ANGLE (PAWL)
7	1	HANDLE
6	1	WINDLASS & RATCHET
5	6	SQUARE TIE PLATE
4	2	2" CHANNEL
3	10	CORNER TIE PLATE
2	2	4" CHANNEL
1	4	WHEEL

TIER LIFT
Made from Techmaster Sets 1, 2 & 3



The main point of interest is the use of shallow channel girders, up to 16 holes long, as the main structural members, joined by 3 types of 4-hole brackets, and also their



use in allowing other 'strip' parts to slide in them. The Spool, which is used as a winding drum, is probably wooden because the Ratchet has to be fastened to it with small tacks. No axles are mentioned and the wheels appear to run on long bolts locknuttred to the chassis.

Some 2 dozen different parts can be identified as follows,

MECCANO in the U.S.A. On Gilbert MECCANO, Don Redmond notes that the 3" Pulleys in his 1930 #110 Set are red and have MECCANO bosses, but Gilbert would have used ERECTOR bosses for new production as the various parts that he acquired from the NJ factory went out of stock.

Kendrick Bisset mentions the parts in a **No.4a outfit** belonging to John Drury. The Strips, DAS, etc are tin plated, other parts are red and green, and some have been painted over nickel plating, (the Architrave on one side only).

Also he has a **0-40 Manual**, ©1929 PR O-112925, and the last page confirms that the models for Sets 10-70 models correspond to those for the previous Sets 0-6; the models for the new 0 Set were the old 00 up to No.472, and the new No.5 allowed all the earlier 00 models (through No.496) to be built. The models in the Manual retain their original numbering and each page has at the top 'See last page of this Manual for list of models built with your outfit.' To further help anyone still confused, the cover is stamped 'THIS OUTFIT BUILDS ALL MODELS UP TO PAGE 110', and that page has the last of the previous No.2 models, so no doubt this 0-40 manual was packed with a No.30 Outfit.

Roger Baker sent some details of a **U.S. Edition Manual**, Copyright 1913 by Meccano Ltd. The illustrations and instructions in it appear to be identical to the UK No.14. The lettering on the cover is brown instead of blue and there's the additional text: 'TRADE MARK 83171 PATENTED JANUARY 16TH 1906. AMERICAN AGENTS: THE EMBOSING COMPANY, ALBANY, N.Y. MECCANO LIMITED, LIVERPOOL. PRICE 25 CENTS.'

Prices in the ads are in dollars of course and compared to the UK prices the exchange rate is generally between 2/6 and 3/- (12½-15p) to \$1, against the official rate of £1=\$4.76 (\$1=21p).

A blue flier in the U.S. Manual advertises the No.1 and No.2 Meccano motors, and the address on it is: THE MECCANO COMPANY (INC), MASONIC HALL, 71 WEST 23RD ST., AND 46 WEST 24TH ST., NEW YORK.

The sets that came with this Manual seem to be the same as the equivalent English ones except for a sticker (over the note about patents) on the lid, which reads: PATENTED IN UNITED STATES 17TH JANUARY 1908. [I haven't been able to check yet whether '1908' is a slip of Roger's (or Meccano's) pen - there is a list of all the Meccano U.S. patents in MJ 19/524 and the first after 1906 is in 1912.]

with MECCANO-style names in square brackets:

- 1", 2", 4" and 8" Channels. • 1", 2", and 4" Angles [A/Gs].
- 4-h Angle, Corner & Straight [Flat] Tie Plates [Brackets].
- Square Tie Plate (probably 2*2 holes).
- Large and Medium Sheaves [Pulleys, which look about 1" and ½" dia]. • Road Wheel.
- Handle [Crank Handle]; Spool; Ratchet.
- Screws, longer Screws, Nuts and Washers; Cable [Cord]; Hook (& Ball for); Ring.

What else? All parts are shown with square corners. The hole spacing is probably ½" if the lengths given for the parts are overall. There's nothing to say if the parts were steel or aluminium, or how they were finished.

So, some slightly unusual parts and brackets which probably allowed quite rigid structures. MASTERBUILDER used rather similar looking Channels but didn't provide such good brackets for joining them, and I don't recall parts sliding in them.

CANADIAN STEEL INSTRUCTOR - New System

John Wapshott has kindly sent details of a set he came across recently. It was in a box approximately 14*9*1" and on the green cover, in gold, faded but readable, 'Canadian Steel Instructor // No.1 Set \$1.' Also a Canadian red ensign flag (a symbol of Canada until well after WW2), with 'Made in Canada' under it. Inside the lid is a sticker on which are listed the contents of a No.1½ Set. The lid hasn't copied well enough to reproduce here but the sticker is shown below.

John wrote that all the parts in the box are nickel plated and that about a third are American MECCANO (1916 patent date), about a third Phase 2 MODELIT (the one with alternate round and square holes, see 12/326), and the rest are MECCANO-like but include some unusual parts which seem to correspond to those on the Sticker - 2 of 4" A/Gs, a flat Sector Plate, and a 5*7h Perforated Plate, which would be the Medium Plate. In fact all the main parts in the '1½' Contents List are present and John sent dimensioned sketches of them. My first reaction was to think of Phase 1 MODELIT (see 8/186) or the Canadian CASTLE BUILDER, both of which had a similar range of parts, including a 4" A/G, and the flat Sector and 5*7h Plates. CASTLE BUILDER can probably be ruled out because the ends of the Sector Plates are a slightly different shape. The MODELIT parts described in OSN 8 are very similar but there are some differences:

- The CSI Strips are wider (.556" against .500±.005"), and thinner (.038"~.042"). The CSI Plates are 8 thou thicker at .032". The average CSI hole size is .167", against .173" for most MODELIT ones.
- The CSI Axles and Crank Handle are a thou or two smaller in diameter (.157") and the Crank Handle doesn't have a hole through it. The CSI bosses and Collars are

No. 1½ Set Contains

6 12½ inch Strips	1 Medium Plate
10 5½ " " "	24 Nuts and Screws
2 4 " Angle Girders	2 4½ inch Cranks
2 2½ " " "	3 5 " Axle Rod
2 1 inch Wheels	14 " " "
2 Collar and Set Screws	4 Wood Screws
1 Double Bent Strip	1 Instruction Sheet
1 Sector Plate	1 Cord

.388" o.d. against the MODELIT .376". Both are single tapped 6-32. The thread of the N&B in both systems is 8-32, but the CSI Nuts are rough cut a nominal 5/16" square.

Of course these differences could be ascribed to production at different times, but given the close correspondence between the types of part found and the ones in the '1½' Contents List, it seems likely that the original parts were in the box.

I wondered about the Contents sticker. There's no explanation of why the Set No. on it is different to the one on the outside, unless there was originally a '1½' label over the '1' and it has fallen off. It's reasonable to assume that the '1½' contents are those of a linking set, and with some differences they correspond quite closely to the MODELIT No.1-A outfit. The use of '½' numbers to denote linking sets is unusual - AMERICAN MODEL BUILDER used them but their parts aren't at all the same. Many of the names of the parts are the same or similar to those used by MODELIT, but not all. I can't draw any firm conclusions from all this but it may point to a definite but perhaps tenuous connection between MODELIT and CSI. One day a manual will surface, and that may help.

The manufacturer of the Set isn't known - the dealer it came from marked it Proule Co., Toronto, c1910, and, perhaps not by coincidence, that name and town is stamped in large capital letters on the underside of the box. However John searched the City of Toronto Directory from 1910 to 1925 and didn't find a Proule. There were some Sproules and the only likely connection was Collett & Sproule, listed as box makers from 1913 onwards. In that case the first part of the name would have been chopped off during manufacture. If CSI was not made by Proule, then John suggests that one possibility would be the Reliance Toy Co. of Toronto (1916-24).

Since all the available information has been given here, an MCS Sheet will be deferred in case anything new comes to light.

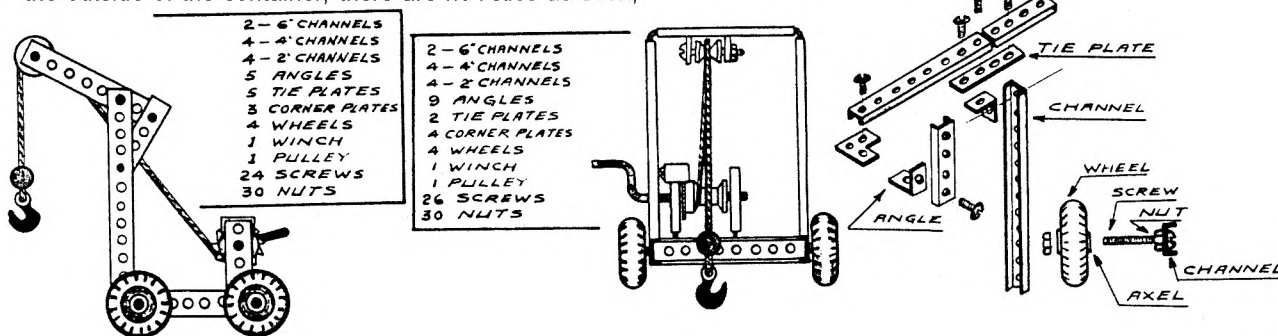
Another TECHMASTER Outfit In OSN 13/346 an account of this system was given based on a Model Leaflet which referred to Sets 1,2&3. Now John Seaverns has kindly sent details of an actual Set, the #50, and a copy of the single side Model Leaflet that was in it.

From John, 'The Set is packed in a pasteboard tube with a 'tin' top and bottom, and is covered with paper printed in yellow, red, blue and green. #50 appears in small type near the bottom of one side. The majority of the the parts are made of steel, with a bright, perhaps plated finish, but the Corner Plates are aluminum. The pitch of the holes is ½", they match MECCANO spacing perfectly. The 2" dia Wheels are moulded from black plastic. The Spool is wood, painted green, and the Handle is aluminum. Despite being listed in the Contents on the outside of the container, there are no Axles as such,

but ¾" long Screws are included for the Wheels to run on. The thread is 6-32 and the Nuts are made of aluminum, about 9mm square.'

The Leaflet shows 8 unnamed models, all running on 4 Wheels, and all cranes or winches of one sort or another. For each a list of the parts needed is given, together with a side view, or for one an end view. Two are shown below, plus two of the illustrations showing how the parts are used.

Notice the 6" Channel not seen in OSN 13, and also the Corner Plates with 3 instead of 5 holes, and the Angles with 2 instead of 4 holes. The #50 Set includes 10 Channels, 2,4 and 6" long; 21 brackets; and about 30 N&B. The complete contents and the entire Leaflet will be included in an MCS Extra Sheet.

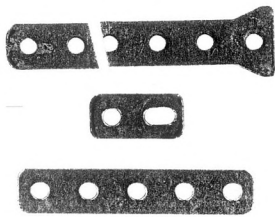


ITEMS FROM LETTERS

1. Roger Baker confirmed that the Patent date on his **U.S. ©1913 MECCANO Manual** is 16TH JANUARY 1906 (see 13/346).

2. From Don Redmond. Referring to **MEK-STRUCT** (OSN 14/392), there is another series of 9 sets (bubble packed on card), each making a model smaller than the 3201-8 outfits. All are vehicles except #32301, a Mini Plane, and 32302, a Mini Helicopter. All have 5-digit numbers and names prefixed with Mini: 323903, Fire Engine; -4, Fork Lift; 5, Racer; 6, Buggy; 7, Loader; 8, Off-roader; 9, Car. The Fire Engine has 89 parts, in the standard colours rather than the red used for the Emergency Vehicles (3213-5).

• On **HANDY CRAFT**, it's not clear in the MCS illustrations that the 15h Strip has both ends splayed, whereas the 11h, as can be seen, is so shaped at only one end. All the Strips and the Fishplate have corners of very small radius (about 3mm), and this gives the DAS a decidedly odd appearance. The 3*3h triangular 'Trunnion' is similar to the VOGUE one but again has small radius corners. [Don kindly sent a Fishplate and 2 Strips, a 5h and an 11h. They are nickel plated, 12.1mm wide, and their holes are 4.4mm Ø, against 4.2mm given in MCS.]



3. On **CONSTRUCTION TRUCK** (14/373), Richard Symonds passed on some more details that he'd had from Don Blakeborough. The Flanged Plate in Don's set had a normal centre hole and not the enlarged one shown in OSN 14, the Axles are 80mm overall with 10mm of thread at each end, and the length and width of the Triangular Plate are both 35mm. The latter is red like the Flanged Plate, and the other parts are blue, except the black Spanner and nickel Screwdriver. The 5mm Ø RH Bolts are 5mm u/h, and the hex Nuts are 6mm A/F.

Richard also sent a photo of what appears to be a **BILD-A-SET** manual cover. The wording on it is in English, including 'Made in U.S.A.'. And there's what may be a copyright date but I can't read it. The models shown are much like those in MCS with holes that look as if they might be at least an inch apart. It is stated that no tools are needed, and there's a sentence in small print that I think reads '170 pieces complete with wooden pegs and dowels'. The latter can be seen in the models and it's possible that all the parts are wooden and the pegs and dowels are a push fit in them.



Another item was the March issue of another U.S. advertising paper called **Toy Trader**, rather similar to *Toy Shop* mentioned in 13/360. The main difference is that it doesn't contain any classified ads, all were from dealers, and I didn't, in a quick run through, spot any for OS in its 108 pages.

4. Points from David Hobson. • The London Toy Co., 0181 864 2186, say that they stock **STEEL TEC** sets, but have no lists. • **Eisenzeit** (ISBN 3-921590-39-6), the book reviewed in 14/377, can be obtained from the UK European

Book Shop, German Dept., tel: 0171 7345259. It costs about £37 plus UK postage, and delivery takes about 3 weeks. [Richard Symonds obtained a copy from Canada by writing directly to the bookstore mentioned in EZ - W. Tümmels Buchdruckerei und Verlag GmbH, Gundelfinger Straße 20, 90451 Nürnberg. Tel: (0911) 64197-0, Fax: (0911) 6419750. The total cost was around £34 including £4 postage and tax. That would have been by surface mail I expect. Richard added "Sure is a winner of a book".]

• When starting to restore some (Belgian) **TECNIC** parts, the paint on a proportion of them was in a particularly poor state and it was found that they had been stamped from sheet zinc instead of the usual mild steel. The Nuts too were solid zinc, 10mm square by 2½mm thick.

5. On **TRIX**, Peter Page asks what surface treatment was given to UK parts, and wonders if it could have been cyanide case hardening, which he adds, was a very cheap mass production method.

6. Some notes from Jeannot Buteux. • **CONSTRUCT-ORAMA (CO')** have discovered the following 'new' systems: **MÉCAMOTEUR**, **MULTIMÉCOS**, **INGÉNIO** [2], **BYG OG LES**, **CONSTRUCTA**, **STRUCTEX**, **KOSTRUKTØR**, **MÉTALLO** [1], **MÉTALLO** [2], **INGÉNIOR**, **NAVIGO**, **DEN LILLE ELEKTROINGENIØR**, **LEONARDO**, **SCHUMANN**, **MATADOR-ELEKTRO**, **PRIMEX**, **TEKNO-ELEKTRO**, **METALLO-MOTOR**, **METALLO-BILER**, **ACQUAVIVA**, **APENES**, **TECNICAVIA**, **LE MÉCANO**, **MÉCANAUTO**, **MASSTER KOWIES** (Polish), **CONSTRUCTOR** (Russian, 4 different types), **MAL'YCH** (Russia), **ARTIMÉTAL**, **MULTI-CONSTRUCTIONS**, **CONSTRUITOUT**, **FALCO** [2] (alias **ASSEMBLO** - this sounds like the **FALCO** mentioned in 5/83 but if so what is **FALCO** [1]?), **FALCO ELET** (alias the 1933 German **ELECTRIC**), **MEC-AÉRO**.

• Of these 3 seem of particular interest, although as yet the only information on them comes from documents - manuals, brochures, etc. **STRUCTEX** is Belgian and has about 112 different parts including a Ball Bearing and 11 A/Gs. The parts are apparently aluminium, like **STOKYS**. **LEONARDO** (Italian, 1947) is generally like **MECCANO** but with some individual parts. Again there is a good range of pieces, and the 'Epsilon' Set contains 1691 parts plus 1333 N/B. Another good size system is **MULTIMÉCOS**, c1950, and the parts include Curved Rods and many pieces with tapped holes.

• The existence of **MULTIMOTORE** has also been confirmed. It was an Italian version of **MULTIMOTEUR** (see 12/304 & 13/360), made under license by G.E.M.M.A. around 1947. It is likely that only 12 Outfits were available, from 3 of the 'groupes'. • Also confirmation that **EFEL** (the version made by Gédé, see 5/91) was produced with coloured parts: red A/Gs, green Strips, and blue Triangles.

• Some years ago CO' discovered a 1921 **ERECTOR** Manual in Dutch.

• On **WENEBRIK** (13/334), Jeannot wrote that he used to have a French Set No.5 with a Manual in French which was different to the British version.

• In answer to Don Redmond (OSN 13/337), the name **ÉCÉPÉ** corresponds to the pronunciation in French of the initials E.C.P., which stand for the École Centrale de Paris, the school for engineers at which Gustave Eiffel was a student in 1852/53. Another thing, a large steel Plate, 19*28h with 2 flanges, and painted black, formed the bottom of **ÉCÉPÉ** boxes.

• CO' have a **TECHMASTER #50 Set** and extra/different details from those in 13/391 are: • The con-

tainer is 80mm Ø * 205mm high. • There are 110 parts in the Set, of 24 different types, including 14x8mm, 6x18mm, and 2x26mm RH Bolts, and 14 small crossheaded Countersunk Bolts. • The steel parts are nickel plated, the Pulley is aluminium, the Wheels may be Bakelite, and the Cable is white string. • The Handle is 3.00mm Ø; the holes in the Channels, Wheels, and Angles and Corner Plates, are 3.90, 3.50, 4.70mm diameter respectively.

• LEKSAXSSAMLARMARKNAD

(13/360) is not the name of a set, it means Toy Fair in Swedish. **Two unknown systems** were seen there, as well as the aluminium one mentioned in OSN 13; one resembled MÄRKLIN and the other STABIL.

• On TEKNO (13/360), there is also **TEKNO-ELECTRO**, and its Manual is almost identical to the equivalent TRIX one.

• **MAKKO** (13/360) should have been **MAYCO**. [Sorry]

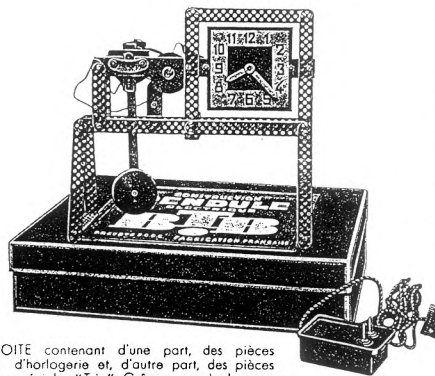
• **AIMANTO** (13/361) is not a constructional toy, it's the brand name of various games in which magnetised pieces are moved about (aimant = magnet).

• For **AJUSTO** in 12/315, the wooden parts in a known Set are red in colour. The 'UNIS FRANCE' isn't the sign of the manufacturer but was a mark of distinction awarded by a toy maker's trade association or the like, in the period 1916 to perhaps 1940. The criteria for such awards aren't known. Also the Brevet No. mentioned was probably not a Patent No. but more likely the Registration No. with a trade body.

• A French system **MÉTALLU** is shown in MCS, the name coming from an advert which is reproduced there. In fact it is a misprint and the real name is MÉTALU - CO' have several Sets with Manuals. Similarly an **ÉRECTOR** Manual is known, another error.

• On **TRIX A/Gs** (13/361), both aluminium and brass plated steel ones were included in French sets.

• And while on TRIX, Jeannot sent a copy of a leaflet for



B OITE contenant d'une part, des pièces d'horlogerie et, d'autre part, des pièces spéciales "Trix". Grâce au mode de mon-

the French **BTB PENDULE ÉLECTRIQUE** (Electric Pendulum Clock). It was a kit made up of standard TRIX pieces and special precision clock parts, and the finished clock 'worked very well and could be regulated'. The address given is 35 Boulevard Richard-Lenoir, Paris XI^{me}, and the price, fr.59, included the necessary battery, or for another fr.15.50 a transformer was available.

7. John Wapshott wrote that he has 2 **ARKIRECTO** Pulleys (W3), see 2/21, with Collets that tighten onto a 2.6mm Rod that was with them, and that a 3.25mm drill goes through their bore (without the Collet fitted). The 3 that I measured for my Database will not tighten onto a Rod of that size, but do tighten on the 3.05mm Rods that came with them (although they were all in a mixed lot), and their bores are typically about 3.07mm. The bore of the solid end of John's Collets is 3.0mm, while mine are 3.1. All the Pulley are stamped ARKIRECTO. Were there two standards or have some of the parts been 'got at'?

TRUNNIONS GALORE Trunnions are often a good way of identifying an unknown lot of parts, or at least narrowing down the possibilities. But it's one thing to have a Trunnion in your hand and another to know which system it comes from. Don Blakeborough and Don Redmond have been working on this and Don B. recently sent me the answer for all known Trunnions and similar Triangular Plates. There's a drawing of each different design - in fact to save space only the left hand side is shown - and a list of all the systems that use each type. In all there are over 130, of some 70 different designs, with notes on material and colour where possible

I find it a great help and with Don's agreement I've arranged it all on a double sided A3 sheet, and I can supply copies at £0.40 each plus postage.

EXTRA MCS SHEETS The Sheets listed opposite are available at 15p per Sheet plus postage. That makes £1.20 + post for all 8 Sheets. There aren't many MCS Amendments this time so they will be included in List No.4 to be issued next April.

BILDO: X1.7 [1 Sheet]
KINCO ENGINEER: X1.7 [1 Sheet]
MECHANIX [1]: X1.3a/5a/6,4 [1 Sheet]
MECHANIX [2]: X1.1,4/6,4a/6a,5 [2 Sheets]
STRUKTIRON: X1.3/6,3a/6a,7 [2 Sheets]
TANSAD: X1.1,7 [1 Sheet]

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5. On **KONSTRUKTOR K.115** (19/530), Michael Denny pointed out that the town of Brest is now part of Belarus, rather than Russia, and that the Éavod in the maker's name should read Zavod (meaning factory or works).

6. From David Hobson. • Another **CONSTRUCTION JEEP** set has been seen, with similar packaging to the one described in 17/469. However it was marked with a KK (see 14/373) in an oval, and in a larger oval, **MARUSAN TOYS \ SAN \ JAPAN**. Also the Flanged Plate was the large, rounded corner type, painted red. The N&B were nickel and the Bolts roundheaded, but the Nuts were hexagonal.

• On **MAKE-AND-KNOW** (see 19/555), there was also a plastic version, a poor quality copy of the original, 1956, **PLASTIC MECCANO**. A leaflet shows models for Sets A, B & C, and has on it, 'Manufactured by Ravindra Plastic Works (India)'; on a Set A box is, 'Sindhvani Toys & Games'.

7. From Don Redmond wrote of a **TECHMASTER** No.50 set corresponding to the one described in 14/391. The N&B appear to be commercial items; the round heads of the Bolts are 5.3mm Ø, and the Nuts 8mm A/F.

8. Kendrick Bisset wrote that he had learnt about some other systems through auction items on the internet. A site called **ebay.com** has a listing site specifically for 'Erector' sets, and OS show up there periodically.

• One such is the **#150 POW'R HOUSE Ferris Wheel** Kit mentioned in 19/552, and it is clearly very similar to the 'mystery' model in *Canadian Meccanotes*. A picture of the set below shows dark coloured Braced Side Supports, spaced apart at the bottom by a red Base with steps pressed into one side. Yellow Radial Arms bolt onto 6-arm Hubs, probably grey plated, and support blue Rim Segments, cranked at each end, 6 to a side. The Rims are channel section; the Arms may be similar or angle girders.



The Base is not shown in the *Meccanotes* model. The 6 Chairs are variously red, blue & yellow, each with a decal of an animal on the back rest - a giraffe, elephant, lion, bear, seal & hippo. No drive can be seen but a **Motor** construction set was available. The illustration gives no indication of size. The box lid has the model, in different colours, against a fairground scene. **POW'R HOUSE** sets were made by Kelmar Corporation, Milwaukee, Wisconsin, & a **Sky Ride** set has also been mentioned.

• Another item is a **1943 BILD-A-SET** outfit, with thick paper parts held together with wooden pegs. It is suggested that these materials were used because metal was not available during the war. Some notes on a BILD-A-SET manual cover appeared in 15/426. Bild-A-Set also made a large number of rather nice card buildings.

• Kendrick also sent a list of **screw threads** from a 1924 S.W.Card Mfg. Co. Tap & Die Catalog. So far as 60° U.S. threads go, the sizes over and above those in 7/169 & 16/459, are the US Std: 3/32" x 50 tpi, 1/8" x 32, 1/4" x 27, & 1/2" x 28. New 60° metric ones are 2mm Ø x .45mm pitch, & 2.5 x .45, though compared to OSN 7, most French threads are listed as International (IFS), and vice-versa. Kendrick listed the smaller threads as well, down to 1/16" and the US #0 diameter, if anyone would like details.

• Finally he mentioned that Marx Trains have produced a system called **TIN TOWN**, which is very similar to the 1920s BILT-E-Z (see 14/378). It is being sold (at train shows) as a collectible, not a toy, because of the sharp edges and toy safety requirements.

9. From Jacques Pitrat. • The Wetzel web site (see 19/552) no longer exists, and other 'unknown' metal sets listed were: #510 **MAGNETICKS** (Magnetic Constr., Ohio, 1949); #5804 **CABLE CAR BUILDER** (Schuco, Germany, 1954); #1 **MICKEY MOUSE** Assembly Set (California, 1947); and #1A **MAGNETIC CONSTR. TOYS** (Goodtoy Prod., England, 1915). A lid from a **KUKO** set, by VEB Ankerwerk Schmalkalden, was also shown.

Another interesting site is <http://www.chem.sunysb.edu/msl/LEGO/>; it's mainly Lego but there are also pages on **AMERICAN MODEL BUILDER**, **STANLO**, & **STEEL BUILDER**.

A #2 **KLIPTIKO** set has a 32 page manual in Dutch, but nothing in Dutch on the lid. The 'importeur voor Nederland' was W.L.M.Weimar of Rotterdam, possibly the same as 'Weimar frères' who were the Meccano 'agents généraux' in the French 1910 & 1911 manuals. [From copies Jacques sent, the manual cover is similar to the UK one that has a large (Eiffel) Tower on the left, and the Contents, for Sets 1-6 & 0-5A, are as p6 of MCS.]

EXTRA MCS SHEETS The Sheets below are available at 15p per Sheet plus postage. That makes £2.85+post for all 19 Sheets.

MCS Amendments, List No.7 [1]

AUTOMAT[a]: X1.3/4 - 3m/4m [7]

ESCHO: X1.1,2,3,5 [2]

FIX: X2.5a/6,5b [1]

KONSTRUKTOR [11]: X1.1,2,3/4/5/6,3a/4a/6a,5a,5b [3]

KONSTRUKTÖREN: X1.1,2,3/4/6 [2]

REX: X1.1,2 [1]

STEELBUILDER: X1.2a,3a,5a,7a [2]

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A No.3 AJUSTO Outfit This is the French system with wooden, semi-circular section Rods and metal Clips to join pairs of Rods together to form a round rod (which I'll call a strut), and to connect these struts together. An account from a manual and a box lid was given in 12/301 & 315, with a little more in 13/361 & 15/427. Now some further details from this set which David Hobson has kindly lent me.

The **box** is red, 32½*25*5½cm, and the lid, right, has the same design of label as the No.1, but has no models around its

aprons. Inside the box is white with a half depth false bottom and 7 compartments formed by red lipped partitioning. The Clips are in greaseproof paper packets and a number of the Rods were found held, 4 at a time, by red paper bands.

The **Rods** are dyed red, and a strut has a diameter of about 12mm.

For ease of reference the various **Clips** are shown below (their use was explained in OSN 12). Clip

A, left, is used to join pairs of Rods together – it is 9mm long & nickel plated. The other Clips & the Hook are bent up from 2.0*8mm rectangular section wire and mostly look like their illustrations. 2 types of B were found, identical save their tails, 12 & 24mm long. The ring of the bearing BB is very loose on the Rods but the end of an A runs well in it, and the A ridge is high enough to prevent the BB ring from passing over it. H has only one tail and it would push between 2 Rods, as right. As a bearing it is looser than BB and the A ridge will

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just pass through it. C & D are about 40mm long, and the Hook F 30mm o/a. G is not as shown, it has longer tails and they are joined at one side, like C. It is 50mm long o/a.

Clip A can fairly easily be bent to close it up a little or open it out, but the steel used for the other Clips makes it hard to change their shape, and near impossible to alter the tails of Clip B, as needed in the Example 9 in OSN 12, by hand at any rate. It is quite tricky to assemble the parts and requires some force to do

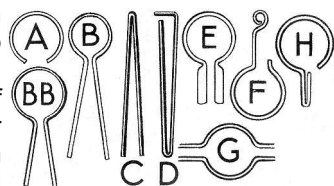
so, but the various Clips are very firmly held once locked in place by Clip(s) A. To build anything other than a simple model would need some forethought as to the order in which the parts would have to be assembled, and it would be daunting to have to add to or alter a structure.

The **Wheel** right, 39mm Ø by 12mm wide, is wooden, painted red, and has a shallow pulley groove. Its bore is 14mm and so it is very loose on the struts, but it runs well with the end of an A in the bore on either side, and is then located by the ridges.

The **Panels** in the Set are made of 1½mm thick brown fibre board. One side is dull & matt, the other (right) is shiny & grained. 5 sizes were in the Set, 61*31,62,121,151mm, & 31mm square.

David's set may well be near complete, apart perhaps from the Wheels & Panels, and as found contained: 27,15,10, 10,4,4,4 of 3,6,9,12,15,18,21cm Rods; 30,24(16 long, 8 short), 2,2,4,2,2,6 of Clips A,B,C,D,E,G,H,BB; 1 Hook; 1 Wheel; and 1 each of the 5 sizes of Panel.

The **Manual** is identical to the one in OSN 12.



OSN 33/997

AJUSTO: S1

Snippet: A No.2 TECHMASTER

Set Until this outfit was seen on Ebay all known TECHMASTER sets were No.50s, packed in canisters, as left, see 14/391 & 15/426. Before discussing the No.2 a word about a No.50 to hand. The main words on the front of the canister are METAL CONSTRUCTION SET | ERECT AND TRANSPORT | CONSTRUCT AND HOIST. The inventory is on the back, as Extra Sheet X2, with the maker's details under it, & 'No.50' under that in letters 1½mm high. The parts are as described in OSN 14 & 15 with the following additions: the Bolts are dull plated steel with 6.9mm Ø countersunk heads & 6.3mm round-heads; the Nuts are aluminium, 8.0mm A/F; the Pulley is ½" Ø; the Crank Handle is 3.2mm Ø & 104mm long o/a; the Hook is flat, nicked, & 19mm long; the Wrench is the span'driver below, nicked, 75mm o/a & only 8mm thick.

Right the

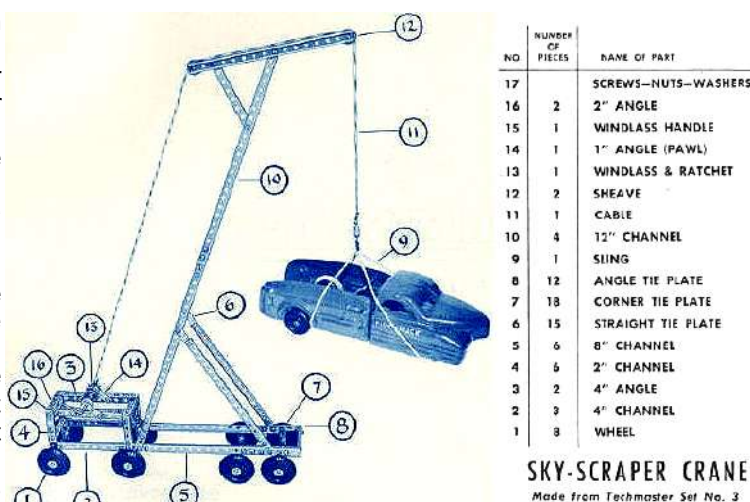
No.2. As can be seen the Girders are painted red, and other



parts easily recognisable are the Wheels, the green Spool with the Crank Handle through it, and the 4h Strip. Also the Pulley in the foreground although it looks larger than the one in the No.50 – perhaps it is the Medium or Large Sheave, both called up for the Tier Lift in MCS – the brass looking Pulleys above the Spool look more the No.50 size. The reddish part on the centre of the third Wheel may be the Ratchet. A darker yellow rectangle can be seen between the Wheels with a pattern of 4*8 lighter 'holes' in it – more parts perhaps, or possibly an unfaded area of the backing card where parts had once been. Its unclear what the greyish parts to the left of the manual are, or even if they are of the Set.

The notes with the Ebay offer gave the Set No., the name & address of the maker (as before), and said that the bag contained a Screwdriver and the N&B. Also that the parts were wired to the card.

The manual cover is the same as the one in MCS and two other examples of manuals with the same cover have been seen on Ebay. It is said to be 9*6" and to have 16 pages including covers. One site listed the models in it, 12 in all, from TIER LIFT (the one in MCS) which could be made from 'Sets 1, 2 & 3, to SKY-SCRAPER CRANE, which needed Set 3. So it is likely that the sets were progressive. The last



model is shown above (with the original white on blue PL changed to B&W), notice the 12" Channel in it. Most of the other models are on the front of the manual – full instructions have been seen for the 5th & 6th models, PORTABLE CRANE & WINDLASS, on p8 & p9 – both are for Sets 1, 2 & 3

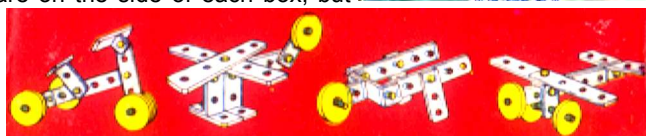
TECHMASTER: S1

OSN 33/998

GIO This little Italian system, said to be from the 1960s, is in MCS but without much detail. Now 3 different unopened sets are to hand, each to make a single model, a Helicopter, a Trike, & a Handcart. There are only 6 different parts, all small, plus plastic Plugs in 2 lengths to join them. The **GIO** name isn't obvious on the box but comes from the name of the Bolognese maker, Gio Cas, on the side of the box right.



Each set is packed in a little end-opening **box** 6*5½*1½cm, & right is the top of the one for the Handcart (x¾). 4 other models are shown on one of the box's sides, as below (x1½), including the Trike (Triciclo) & the Helicopter (Elicottero). It isn't certain how many sets were available - the same 4 models are on the side of each box, but



the Handcart isn't among them, so there may have been other 'extra' sets. The bottom of each box has an exploded view of the model, as right for the Trike (x¾). The small print down the left side is 'Not suitable for children under 3 years of age' in Italian, German, & English. The parts are in a sealed transparent packet.

The **parts** are shown at the head of the next column. The blue ones are plastic with the Plugs originally attached to sprue (but much thinner than for the Wheels). The metal pieces are bright plated, probably nicked, a few rather patchily. They are about 1mm thick, 7.5-7.7mm wide, & their corners have a small chamfer. Quality is adequate except that the bends are 5-10° short of 90°. The **holes** are at 7.5mm pitch and are mostly 3.4mm Ø, with a few

as small as 3.3mm.

The **Plugs** have a 1.5mm bore, but are closed off at the end of the shank. The head is 4.2mm Ø and 1½mm deep; the shank 3.4mm Ø and either 4 or 5mm u/h, enough to easily take



2 or 3 parts respectively. It is hard to push a Plug into the 3.3mm holes and removal is even harder; the grip in the other holes is adequate if parts held by a single Plug are handled with a little care. The **Wheel** is 14½mm Ø with a 2.9mm bore, and is thus very, very hard to push onto a Plug, and of course if it is attached in this way it isn't free to turn. An alternative is to use the sprue the Wheels are attached to as an **Axle**. It is 36mm long, just long enough if it runs in the DAS, & though slightly oval in section (2.8-3.0mm), that isn't really a problem. An Axle isn't shown for the Handcart but as can be seen two are indicated for the Trike, but with no indication that the sprue should be used (doubtless it would be obvious to your average bambino but it took me a while to figure it out – initially I assumed that, like the necessary 5th A/B, the Axles were missing). It wouldn't be possible to use Axles in the Helio, so both its rotors would be fixed.

Quantities The parts found in the Handcart, Helicopter & Trike sets are given in curly brackets for each part. 5h Strip {4,3,2}; 3h Strip {-,3,-}; DAS {3,-,1}; 2*1h A/B {-,3,4}; Wheel {2,2,4}; sprue Axles {1,1,2}; Plugs {6,6,6 of each type}.

The **models** on the box tops don't correspond exactly to their exploded views underneath. Thus the Handcart left was



built with one less DAS cross member (as per the exploded view and the parts in the Set) – it is considerably less rigid as a result. The parts for the Trike don't include the 'T' & 'L' parts shown on the box and A/Bs are used instead, with one too few supplied, as already noted.

Snippet: TECHMASTER Since the photo of the No.2 set with coloured parts in 33/997, another set, much more complete, has been seen on Ebay. Its size isn't known but it is probably a No.1 because its box is slightly smaller than the No.2, and it has 4 Road wheels instead of the 6. The lid label is identical for both sets and covers the whole of the No.1 lid. The manual cover too is identical.

The left side of the open box right is a mirror image of the right. The parts that can be seen are as follows (many are illustrated in 13/346): • 2,4,8,16h **Channel Girders** (the 2h are under the 4h A/Bs top right). • 2,4,8h **A/Gs** (the 2h are under the 4h A/Bs top left). • **4h Strips**. • **5h Corner Brackets** (2 in each corner). • **4h Plates** (1 in each corner). • **4h A/Bs**. • The green **Spool** with a **Sling** to its left (cord with Rings at each end), and a **Cable** to the right (cord with Ball Weight & Hook at one end). • 4 small brass **Pulleys** below the 8h Channels with a larger **Pulley** between them, and it may be sitting on the **Ratchet**. • The **Road Wheels**, with what looks like a yellow 4*8h **Perforated Plate** under the righthand pair (a similar 'mystery' part was seen in the No.2). • A **Screwdriver** and white packet.

Most of the parts look to be tied down individually but if so their quantities would be insufficient to build the Tier Lift in 13/



346, a model 'Made from Techmaster Sets 1, 2 & 3' (assuming that means any one of the sets). The model is said to need 8x 4h Strips, 8x 4h A/B, 10x 5h Corner Brackets, & 6x 4h Plates.

OSN 35/1047

TECHMASTER: S2

Snippet: Another METALCRAFT Set You may recall that British METALCRAFT is a single-set, VOGUE-like system, similar to PIONEER. One set was described in 30/906 and it had a typical VOGUE lid with a few idealised models in the foreground & a realistic scene as backdrop. Now a set with an entirely different lid (right) has been seen on Ebay. The models are from the manual though some of the parts are red instead of green & vice-versa. The box is 20" long, 4" more than the OSN 30 set, and the backing card for the parts is green, the only one of that colour in any known 'Vogue' outfit. Compared with the likely contents given in OSN 30 (which should have included 2x 1*3*1h) this set is not complete, with no 25h Strips for example, but at the same time there are too many of most parts, and 4x 11h A/Gs which shouldn't be in a METALCRAFT Set at all. They suggest an admixture of parts from one or more other 'Vogue' outfits. The parts themselves are as expected except that all of the 6 Semi-Circular Plates have 2 extra holes, see



15/421. The cover & two model pages of the manual were shown on Ebay and they match exactly the 25/740 manual. The manual cover is the same as in the OSN 30 set, so it seems most likely that the present set came after it.

OSN 35/1047

METALCRAFT [2]: S3

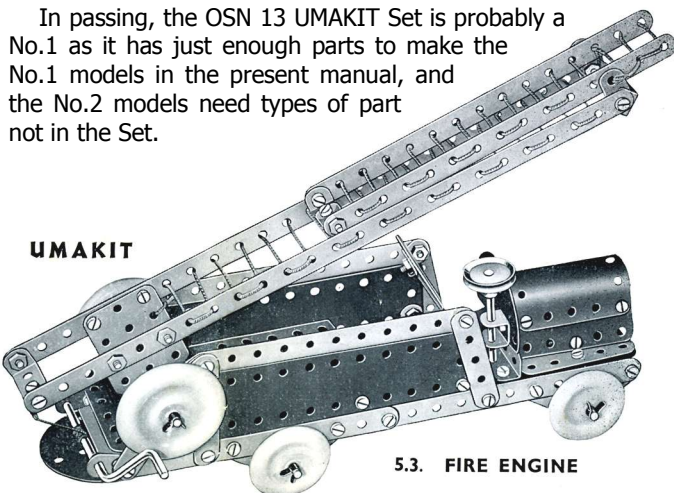
A UMAKIT Manual Notes on some pages of a UMAKIT manual were given in 30/907 and now, thanks to David Hobson, I've been able to see all of it.

It has 8 art paper pages, 265*217mm, and from the look of the staples there were probably no covers. The first 4 pages are as described in OSN 30, and the models on the other pages are as follows: 4.1 FIRE ENGINE on p5 to 4.5 LIGHT CRANE on p6; 5.1 LIFTING BRIDGE on p6 to 5.5 GANTRY CRANE on p8. Again there is one (excellent) halftone for each model, and again all the models are very similar to MECCANO, as in the example right (about half-size).

A number of the models are in the CONSTRUCTO manual described in 25/740 but some of them are for a set one size larger than in CONSTRUCTO.

Curiously of the 4 models on the lid of the UMAKIT set in 13/339, only the Tower Wagon is in the present manual (No.4.2), but all four are in the CONSTRUCTO manual above.

In passing, the OSN 13 UMAKIT Set is probably a No.1 as it has just enough parts to make the No.1 models in the present manual, and the No.2 models need types of part not in the Set.



OSN 35/1047

UMAKIT: S2