

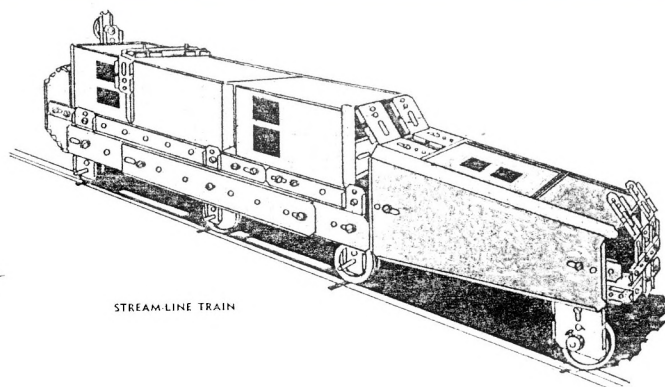
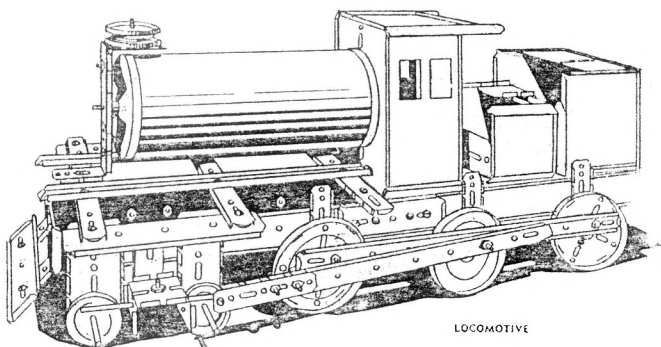
EDITORIAL I had intended to include notes on AUTOMAT in this Issue, but for lack of space they've had to be deferred until the next. Many AUTOMAT parts aren't shown in MCS and quite a number of Extra Sheets will be needed to cover them all: since there aren't over many Sheets relating to this Issue I've added a batch which show all the AUTOMAT parts at an early stage, when they were made in Switzerland, and frameworks were made from Angle Girders.

Some details of GEOBRA were included in OSN 19, a

set with parts that were probably intended to allow only one model to be made from them. Another such is the P'WER HOUSE Ferris Wheel Set described briefly in this Issue. For GEOBRA I offered to prepare MCS Sheets if there was a demand for them, but no-one has taken this up. So I'll assume, unless my doing so provokes an outcry to the contrary, that single model sets should not be included in MCS. Should they be mentioned in OSN? On the whole I think yes, but again I'd be interested in readers' opinions.

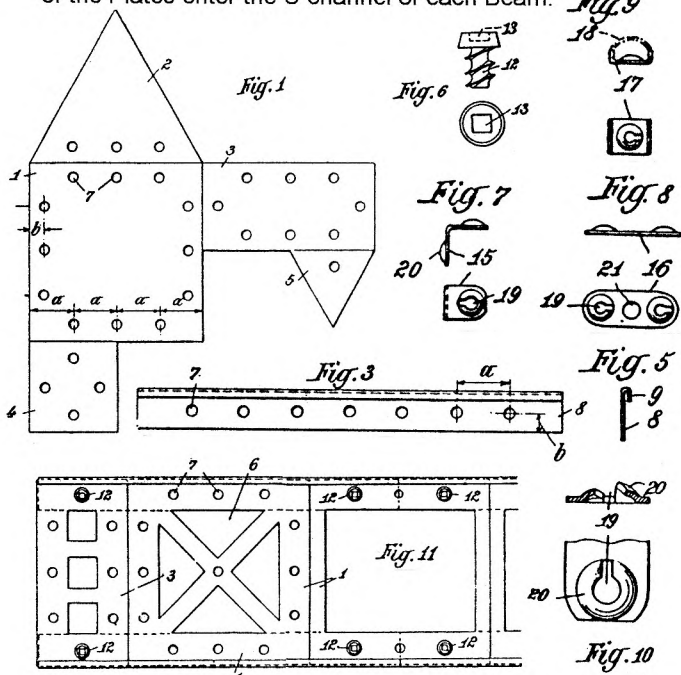
STEELBUILDER

Notes on this 1930s
American system
appear on pp562-3

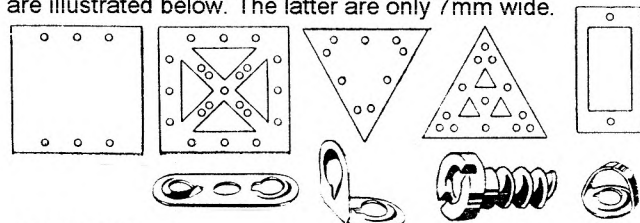


DUX-UNIVERSAL This unusual German system was conceived to allow realistic mechanical and architectural models to be easily made from a limited number of parts, 70 or so in all, but probably little more than half that number when the system was first produced. It is well covered in MCS but there are some details about it worth mentioning, and there were one or two significant changes made during its 15 to 20 year life. 3 stages can be recognised from the material to hand, that's to say a reasonable selection of early parts and 2 manuals from the same time, a later Booklet, a few later parts, notes on other parts, various photos, and other information.

First Period The German patent, Nr.705732, was applied for in Feb. 1939, and was granted in March 1941; it was in the name of the makers, Markes & Co., K.-G., of Lüdenscheld, and also named were Carl Markes, Rudolf Griessel, & Dr.-Ing. Gustav Boehme. The main elements shown in the patent are thin strips, called Beams (Fig.3 below), stiffened by one edge being formed over into a 'U' (Fig.5), and the 5 Plates (Fig.1). The dimensions were given, with holes of about 3mm Ø at 15mm pitch ('a'), but only 5mm from the edge ('b'), and the large Plate to be 60mm square. The Bolts are the blunt-ended self-tap type (Fig.6), called Quick-Connect, with winged 'spire' Hooped Nuts (Fig.9), but Flat & Angle Brackets (Figs.7,8) are often used to join the parts and they have formed holes (Fig.10) to take the Bolts. These parts allowed closed boxes to be made easily. Other constructional parts shown are various Slotted Strips, and Plates pierced in several ways to represent windows or bracing (Fig.11). In this figure the top & bottom of the Plates are joined by a Beam, and the edges of the Plates enter the U channel of each Beam.

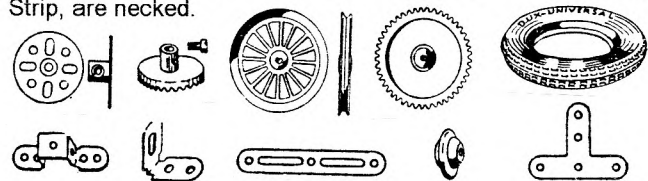


The **actual parts** include all those above except the small triangular plate, but a 3*6cm Pierced Plate was added, and some other changes made, see below. Other alterations: the end pairs of holes in the Beams are at 10mm centres; and the head of the Bolt is as shown below, with a normal slot & a central circular recess. Screwdrivers seen have a wooden handle like the one in MCS but the blade section has a semicircle in the centre which prevents it from slipping out sideways. The Hoop Nut and Brackets are illustrated below. The latter are only 7mm wide.



Details of the other main parts in the sets at this time follow: the starred ones are illustrated below.

- An ordinary M3 hex Nut, and a 23mm ordinary Bolt with the same head as the Quick one.
- **Axles**, 45,65,85 & 110mm long with slightly tapered ends, and a longitudinal groove about 1½mm wide, rather like M230. The **Pulleys and Gears** have no bosses but instead the centre hole in the disc on one side of the part is shaped to provide a key which engages the groove in the Axle. Rubber or something similar is packed between the discs in the centre of these parts, as in DINKY BUILDER Wheels, and this grips the Axle and prevents lateral movement. The parts I have work perfectly after some 45 years. Only 2 parts have normal bosses, the **Bush Wheel*** (28mm Ø and typically only .70mm thick), & the **Contrate**.
- 60,120,180mm long **Beams**. **Slotted Strips**, 40,60*, 120mm long, 10.5mm wide, & all with maximum length slots between their end & centre holes.
- 27 & 46mm* Ø **Keyed Pulleys**, plain on one side but with impressed radial spokes on the other; **Tyres*** to match. An **Axle Stop***, 15mm Ø, with the centre belled out on both sides and filled with rubber.
- A Mod.1 black plastic, 4mm face width **Keyed Pinion** with 15 teeth, and a similar 45 teeth **Gear*** to mesh with it at 30mm centres. The steel centre discs on either face are about 9mm Ø. (The PN for these at this time isn't known but later, though apparently unchanged, their PN ended with an 'a', which may indicate that there was an earlier version.) The **Contrate*** is 27mm Ø, with 26 teeth, and is made of brassed steel.
- An **Angle Bracket*** with 2 holes in one arm at 8mm centres, and a slotted hole in the other. A **T-Bracket*** with 3 holes at 15mm centres along the top, the outer ones very slightly elongated, and 2 in the vertical arm at centres of about 13 & 8mm. A **Double Bent Strip*** with slotted feet and not the 2 holes in each shown below. The bend in the Angle Brackets, and those at the feet of the Double Bent Strip, are necked.



- The **parts** are well made and finished. Though of quite thin metal, with Plates only .55mm thick for instance, the parts are strong enough, and structures are quite rigid. The Beams, Strips, Keyed Pulleys, Bush Wheel, Axle Stop, and Brackets, other than the Flat & Angle Brackets, are painted red; the Plates are red on one side and white on the other, and/or green/silver. The Axles, and the Angle & Flat Brackets are brass plated.

- **DATA** (in mm) **BEAM** (12cm): •hole pitch/dia, 15.0 (except end holes)/3.3; •width, 11.3; thickness, .55; •sq. ends. **SLOTTED STRIP** (12cm): •hole pitch/dia, varies/3.3; •width, 10.5; thickness, .65; •ends fully radiused. **BOSS**: •o/d, 8.0; •i/d, 3.45; •brass; single tapped M3. **THREAD**: coarse self tap type & M3. **AXLE DIA**: 3.25. **Mod**: 1.0. **NUT**: hex 6.0 A/F (Hoop Nut 7½mm Ø); **BOLT**: cheesehead, 5.4 Ø, with screwdriver slot & centre recess; all brassed steel.

The **manual** from his period (in German, Italian, French, & Swedish) has a PR which includes '1241', so that may well be its date.

SUMMARY OF MANUAL •Name: DUX UNIVERSAL Vorlagenheft für DUX-UNI 1,2 und 3 und für DUX-UNI A mit Ergänzungskästen B,C und D. •Maker: Markes & Co., K.-G., Lüdenscheld/Westfalen. •Dates &/or Ref Nos: HR 1241 L CARL V.D.LINNEPE, LÜDENSCHELD •Page size: 22*274mm deep. •No. of pages: 8 unnumbered inc covers. •Language: German, Italian, French, Swedish. •Printing: halftones of models with line drgs of details; cover is blue, red, green, yellow on buff, with at top left, a large Bridge, & Houses behind, as on the next manual. •No Parts List/Set Contents. •Sets covered: A,A+B,A+B+C,A+B+C+D. •No. of models for each set: 60,20,16,3. •Name, Model No., Page No. of first & last model of each set: A: Tisch mit 2 Bänken,1,2; Bahnsteigbank,60,4.

A+B: Langholzwagen, 61,5; Windmühle, 80,6. A+B+C: Verladebunker, 81,6; Aufzug, 96,7. A+B+C+D: Eisenbahnkran, 97,8; Ventilator, 99,7.
 •Other notes: • The models on the BC are in colour. • Other combinations of sets can be used for some models, inc No.1, & Parts Packs.

At the end of the above another manual, called Part 1, is said to contain larger & finer models. The one to hand, PR '1245', in the same languages, is described next.

SUMMARY OF MANUAL (details not given are as above) •Name: DUX UNIVERSAL Vorlagenbuch Band 1. •Dates &/or Ref Nos: OG 1245. C. v. d. Linnepe. •Page size: 240*160mm deep. •No. of pages: 72+covers. •Printing: models as before but some in colour, drgs white



on black; cover picture, left, as before. •Sets covered: certain of Sets A-D, 1-3, Parts Packs needed for each model. •No. of models: 38. •Name, Model & Page No. of first / last model: Bohrmaschine, 101,2; Kohlenförderanlage, 138, 68-71. •Notes: the parts for each model are on

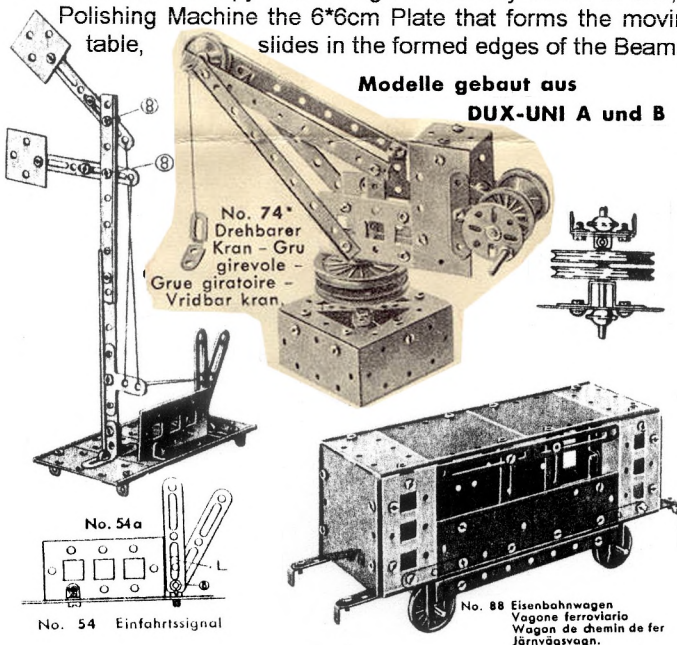
p72, a Model Index on the IBC, & a list of sets on the BC.

These manuals complement and are consistent with each other. The **range of sets** at the time was a basic Set A, with add-on sets B (Pulleys, etc.), C (Beams & Plates), & D (Gears, etc). Also Sets 1, 2 & 3 which are described as 'gift' sets. No.1 was probable equivalent to A+B+C, while Nos.2 & 3 included the same Gears as D. There were in addition 10 Packs of Parts, Nos.11-20, containing respectively red/white Plates; green/silver Plates; Beams; Slotted Strips, & Brackets; small Pulleys; large Pulleys; 4 small Tyres; 2 large Tyres; N&B; clear Celluloid for windows. A Manual with 60 models, included in Set A, is mentioned.

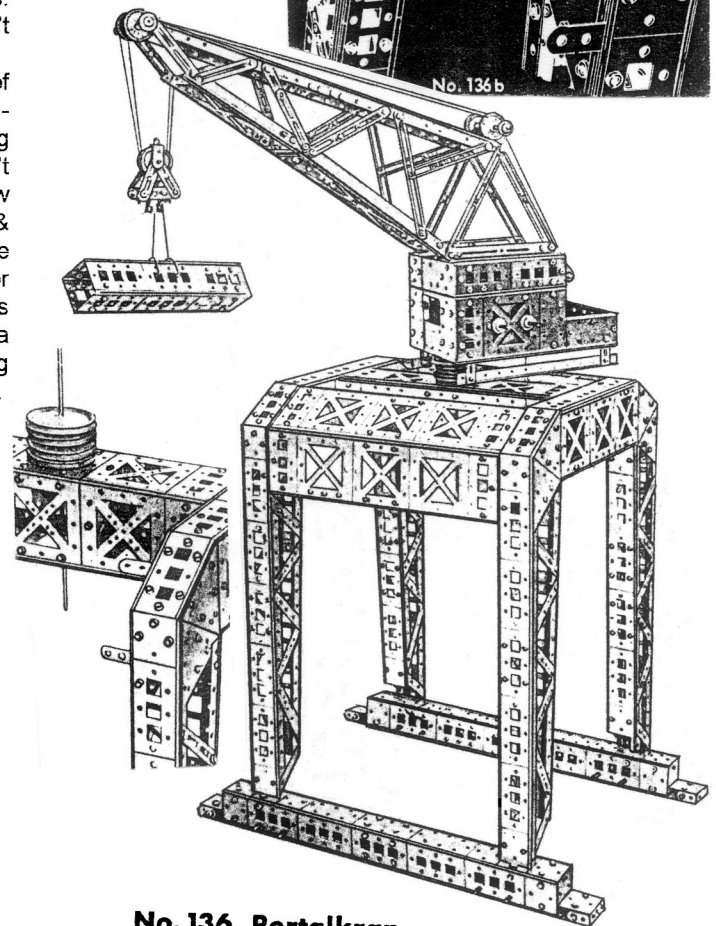
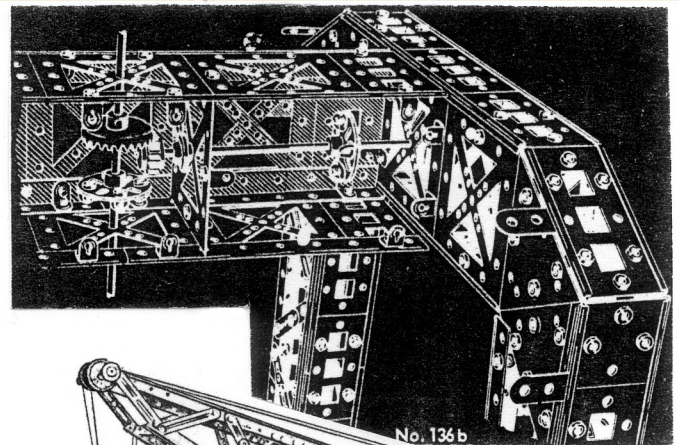
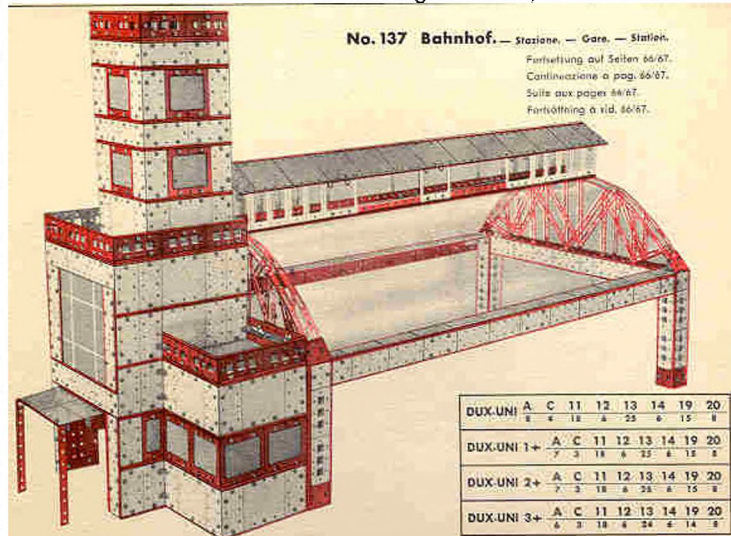
A photo of a **No.2 Set** shows the top of the lid completely covered by the Bridge picture used on the Manual covers. The parts match those described and among them are 4 small & 2 large Pulleys, 3 Bush Wheels, 2 Pinions, a Gear & a Contrate.

Neither manual contains a Parts List or Set Contents: these were in a separate Introductory Booklet, and one isn't available from this period.

The 60 **models** for Set A are mostly small models of everyday, static objects, with a few of more technical subjects. There's a small photo of each, plus an engineering drawing for a few, showing constructional details that can't be seen in or deduced from the photo. The Signals below give an idea. Set B contained a Bush Wheel, and 4 small & 2 large Pulleys, and the models for Sets A+B are a little more ambitious, the Railway Coach and Crane below for example. The Gears are used in the 3 A+B+C+D models but none will copy well enough to see any detail. In one, a Polishing Machine the 6*6cm Plate that forms the moving table,



The presentation of the Book 1 models is similar but the illustrations are much larger, some are in colour, and the auxiliary views are white on black, and often isometric. The 38 models start with a Drilling Machine that needs 75 Bolts, and can be made from Sets A+B+C (or No.1), and ends with a Coal Extraction Plant which needs 1164 Bolts from a Set No.3 + 4x A, 1x B, 6x C, 1x D, and 71 of the various Packs of Parts. Below 2 of the large models, however all



but 5 models need no more than a No.3 plus a Pack or two in some cases, and use no more than 170 Bolts. There is a good variety although about half are machine tools or plant - among the rest a Motorcycle, a Mechanical Shovel, 3 Cranes, an Anti-Aircraft Gun, a Windmill, and 4 fairground models. The Railway Station is the only model in the Manual that one would describe as architectural though a few of the others have buildings as part of them. 8 Packs of the Celluloid are called up for it including, I suppose, covering all the arched part. An intermediate arch in the roof might look well. Wide use is made of the Gears in a straightforward way in the suitable models, but all are simple mechanically, with, for example, centre pivot steering on the one realistic Lorry, and nothing to stop loads on the Cranes descending under gravity.

I made a small Lifting Bridge with my pieces, and I found that the parts fitted together well, and it was obvious that some thought had gone into their design. Some loss of flexibility arose from the hole pattern, but this didn't lead to any real difficulties. The appearance was good too with the Slotted Strips and the edges of the Beams adding interest to the simple structure. The Quick Bolts, Hoop Nuts, and 'tapped' Brackets worked well, and the hoops of the Nuts did not usually look out of place, on this model at least.

About the smaller models in Book 1 I'm not so sure, and I think that some of them look rather angular, with the wide use of Plates without any apparent framework. But they might look better in the flesh. With buildings the Plates are more suited to modern looking designs and I have seen such a medium size model. The problem I thought was the simple cutouts for windows, because they don't look right without the opening being set back a little, or having some sort of indication of a framework. In several of the manual models, as in the Station, this effect is achieved to some extent by using a different colour for the window panels.

Second Period An **Introductory Booklet** from this time shows the Set Contents for **revised sets**, with new Set Nos.101-104, plus linking 'a' sets, and shows the complete range of parts. The only ones not included are those associated with the **Quick Bolts**, and as explained in the Booklet, all (the 4 shown earlier) had been replaced by the conventional parts, below. The **Angle Bracket** is now 10mm



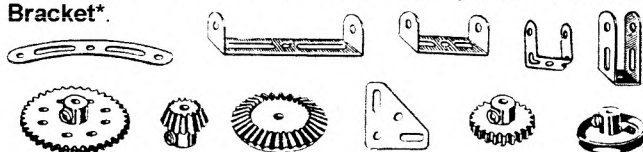
wide and the slot in one arm is 7mm long. The bend is still necked, and not as shown. The plain **6cm Plate** now has holes

on all four edges, as in the Patent.

The other parts (a few may have existed earlier) are listed below; they have only been seen in a photo. The starred ones are illustrated.

- A 12mm M3 **Bolt**, matching the existing 23mm one and the new short one. At some point the Bolts were given a standard cheesehead without the centre recess, and the **Screwdriver** blade was changed accordingly. Some **N&B**, including all 3 lengths of Bolts, found with some later DUX parts, were nickel plated, with the heads the same size as before but the Nuts slightly smaller at 5.4mm A/F. The N&B in an unused PITT set, also made by Markes, were this size, and the Spanner in it was stamped DUX.

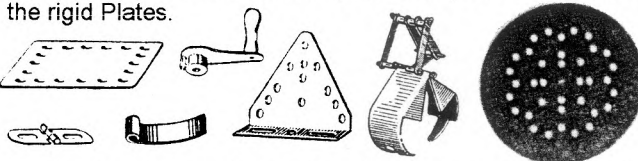
- 90 & 240mm **Beams**, a 180mm **Slotted Strip** with 3 intermediate holes at 45mm centres, and a **Slotted Curved Strip***. 2 **DAS*** and 2 **Double Brackets***, one quite deep, made from Slotted Strips or similar parts. A **Corner Bracket***.



- A small brass looking **Loose Pulley**, of about 15mm o.d. A **27mm nickel Pulley with Boss***. Brass **Gears*** with 22 & 38 teeth, and **Bevels*** with 16 & 32t, all with bosses. A

105mm **Grooved Axle**. **Smooth Axles** 30,70,90 & 110mm long, the same diameter as the Grooved Axles.

- A **Circular Plate*** of about 90mm Ø with holes as below, not as in MCS (unless that was an earlier variant).
- **Plates** of 3*6, 3*12, 6*6, & 6*12cm which are probably thin and flexible, and may be made of aluminium. Those known are not like the one below (with 5*6h), but have square corners and a similar pattern of perimeter holes to the rigid Plates.



- The **Large Trunnion*** with holes to allow meshing of the various Gears. The **Grab*** and **Pawl*** which scale at 6 & 3.3cm o/a. A **Hinge*** and a **Handle Crank***.
- Many of the parts are the same **colours** as before but the Bush Wheel, all the small Strips & Brackets, and all the new parts, are nickel, or perhaps in some cases, painted silver. Probably by this time the Plates were painted the same colour on both sides - green, silver, red, white, or blue. The green & silver ones may have been discontinued at some stage, perhaps when the blue ones were introduced. Some that look to be dark grey are shown in one of the models in *Eisenzeit*.
- The **manuals** listed are one for Sets 101-103, and one, described as Part 6, for No.104.

The **Set Contents** in the Booklet are as p6 of MCS/FB. The new parts are only in Set 104, and it may be that Nos.101-103 are variations on the old Nos.1-3. But now even Set 101 has 4 small Pulleys with Tyres, and the 103 also has 4 large Pulleys/Tyres. No.101 has a pair of Gears, with an additional Pinion and Contrate in the 103, and plus one each of the new Gears & Bevels in the 104. The 101 has 80 N&B, the 103, 180, and the 104, 300.

The **Booklet** is in English, Spanish, French, Italian & Portuguese, and in addition to the details of the parts, it shows 31 basic constructions, all fairly simple, and how to use the holes in the Large Trunnion.

No manual is to hand for this or the third period but a Set 103 **model** is shown in MCS/NZ, and a 104 one in /FB. The **cover** in MCS, showing a boy with a Railway Crane with Grab, is the same as the Booklet cover, and a No.103a Set with the same design on the lid is shown as Pl.17 in *Bauklötze Staunen*. A somewhat different lid and manual are shown in *Eisenzeit* with a similar boy, but wearing a striped shirt, and carrying a rubber-tyred Mobile Crane, against the same railway backdrop. Which of these designs came first isn't clear.

Third Period The main change in this final phase was the withdrawal from the Sets of the **Grooved Axles**, and the **Keyed Pulleys & Gears** for them. Whether they were still available separately isn't known. The replacement **Gears** were identical to the old ones but made of green plastic moulded onto a brass centre boss. In the half dozen bosses seen from this time the pilot tapping hole extends right through the boss but only one side is actually tapped. The **27mm Pulley** was replaced by the nickel Bossed version introduced previously, though some seen, thought to be DUX are only 25mm Ø. A similar nickel **Large Pulley** was introduced to replace the Keyed 46mm one. The **Sets** were revised to reflect these changes but remained the same otherwise. The Contents are given on p6 of MCS/NZ.

There were **other Sets** marketed during this Period, or at least during the time when the 101-104 Sets were current, and there are small illustrations of them in MCS/FB p7. **Sets 70, 71 & 72** were add-on outfits, which look to contain Gears and other parts. A Circular Plate and 2 Large Trunnions can be seen in No.70, and in No.72 there appears to be a Gear or Sprocket larger than any of the standard Gears. *EZ* says that 70 & 71 were Gears Sets but

doesn't mention No.72. **Parts Packs 11-21** are also mentioned in EZ.

The other 3 sets were to make one model each: an Electric Loco from **No.120**, a Passenger Coach from **121**, & a Goods Wagon from **122Z**. Not much can be seen in the illustration opposite but the track appears to be a standard model railway item.

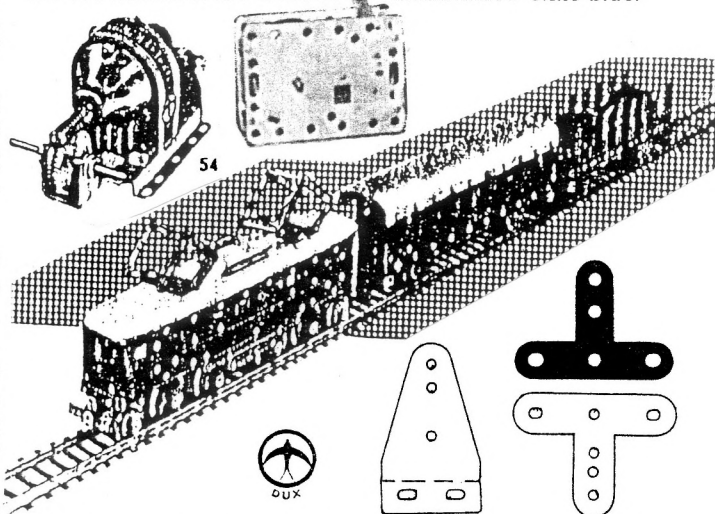
Above the train the No 54 **Electric Motor** from MCS, with a worm drive to the output shaft. Also a **C/W Motor**, No.52, which in a photo looks to have conventional grey or silver sideplates of perhaps 2*3".

EZ gives the **end date** of DUX as about 1958; GMM wrote in 1964 that the DUX range consists of 4 basic sets, 3 accessory outfits, and 3 supplementary kits, and later that year added a note saying that according to recent information the system was no longer made.

More on the Parts Don Redmond sent some notes on the DUX parts in a mixed lot. They include a **Small Trunnion**, 25mm wide by 36mm high, as well as the Large one, and a **T-Bracket** with different holes in the vertical arm. 'Pencilled-round' sketches of these, reduced in size, are shown opposite, with one of the T-Brackets described earlier in black. Other parts that appear to be DUX: a **Rack Strip** and a pair of **Sprockets**. The Rack is of angle girder form - the toothed flange is 9cm long with only end holes, 75mm apart; the plain one is 75mm long with 5 holes. The Sprockets are about 3cm Ø and have 13 teeth.

Other points from Don: • The **Axle Stop** contains a stiff spring which holds it in place while the outer housing is free

to rotate. It would have numerous uses, as a conveyor belt roller for instance. [The outside of the ones described earlier don't rotate.] • The **48mm Pulleys** are made of thin discs held only by the boss, and they tend to bend apart when Tyres are put on or taken off. • The **22 & 38t Gears** are stamped DUX. • The **bosses** are a reasonable fit on the Axles, though some Pulleys are a little slack. • A few Plates are red but most are 'a rather unattractive' slate-blue.



Thank you to all who have contributed to this account, including Toby Haffter, David Hobson, Don Redmond, Werner Sticht, and Clive Weston.

ESCHO This name has been known for some time but with no details. Now I have a No.2 manual, courtesy Jim Gamble, which mentions 4 Sets from the German firm Escho-Plast of Bad Godesberg (near Bonn), and the parts look like TEMSI. Jeannot Buteux reported that Temsi had licensed Escho-Plast in 13/360. On the back cover of the Manual is the name Escho-Metallbaukasten; on the front in small letters is METALLBAUKASTEN ESCHO-PLAST, and in larger ones 'ICH BAUE, IK BOUW, I'M BUILDING, JE CONSTRUIS'.



Already in MCS (Part 5) is a small system with TEMSI parts, called IK BOUW / JE CONSTRUIS (IB/JC), and the two manual covers have exactly the same boy, Strip & Spanner, and exactly the same model Bridge with toy train on it. The differences are the additional English & German names, in the same typeface, and the ESCHO name & logo (left).

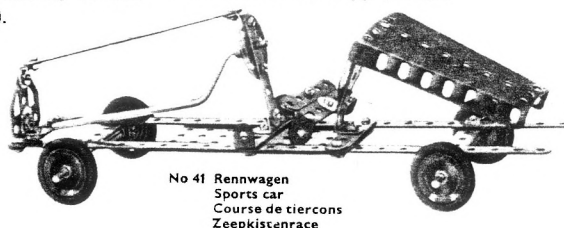
The ESCHO Illustrated Parts pages are identical to the MCS ones and to those in TEMSI manuals, likewise the List of Parts. A list of the models that can be made with the different sets is included and the names of the three IB/JC models in MCS are in the ESCHO List. So ESCHO & IB/JC may well be the same. Sets 1-4 are mentioned for each, though in the ESCHO manual the models for Sets 'I-IV' are listed in

French & Dutch, but for some reason only those for Sets '1-3' in German & English.) No company is known for IB/JC, and its date is given as the 1980s in MCS - there's nothing to indicate the date of ESCHO.

Though the parts are, or at least look like TEMSI, the Sets were not the same as any TEMSI outfits. The Manual has no Set Contents but many of the No.1 models use a 5*7h Flanged Plate and a 5*9h Perforated Plate, neither of which were in small TEMSI sets. Both can be seen in the IB/JC MCS models. None of the No.1 & 2 models have the 5*11h Flanged Plate used by TEMSI. The models are not very exciting, and the two opposite are not untypical, but it has to be remembered that there were no Flexible Plates in the Sets, and probably only 20 N&B in the No.1, and 25 in the No.2. The Strips on the manual cover are green and the Plates (all non-standard sizes) red.

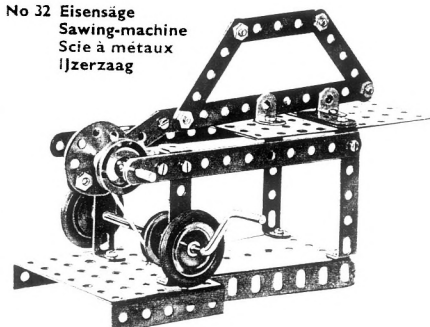
SUMMARY OF MANUAL •Name: ICH BAUE, IK BOUW, I'M BUILDING, JE CONSTRUIS on cover,

also METALLBAUKASTEN ESCHO-PLAST No 2. •Details of maker: ESCHO-PLAST Kunststoffzeugnisse GmbH & Co. KG, 5321 Berkum-Bad Godesberg. •Dates &/or Ref Nos: none. •Page size: 300*192mm deep. •No. of pages: 24 inc covers, with model pages numbered 1-12. (1-24 used below.) •Language: German, Dutch, English, French. •Printing: coloured cover (left) with yellow ground; B&W halftones of models; centre pages red. •Page Nos. of Parts List & highest PN: 3,4,11,14; 99 (illustrations on pp12-13). [No Set Contents] •Sets covered: 1,2. •No. of models for each set: 23,22. •Name, Model No., Page No. of first & last model of each set: 1: Dagger,1,5; Covered trailer,23,10. 2: Grandfather clock,24,15; Crane with turntable,45,20. •Other notes: which models from which sets on pp2,21-23.



Escho - Metallbaukasten

No 32 Eisensäge
Sawing-machine
Scie à métaux
Ijzerzaag

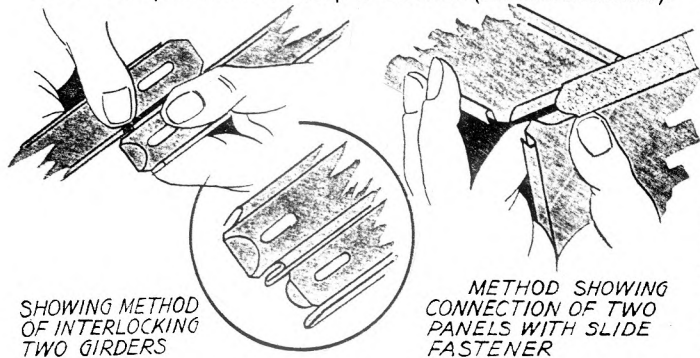


STEELBUILDER Richard Symonds kindly sent photos of the parts in his No.5 Outfit, a few samples from them, and photocopies of the Manual, and a Supplement to it, which were with the Set. The Manual includes a List of Parts to go with the illustrations in MCS, and more details of how they are joined together; the Supplement features the Motor and models driven by it. STEELBUILDER has been bracketed with MORECRAFT as 'boltless' systems, but in fact STEELBUILDER parts are more often than not bolted together. The two systems are about the same size though, with between 60 & 70 different parts in each, and with STEELBUILDER making much of its 'boltless' features, no doubt the two were competing for the same market.

The PARTS • DATA (in mm). •hole pitch/dia, often 25.4/3.2 (in Connector & Disc Wheel). **BOSS**: •o/d, 8.0; •i/d, 3.23; •brass; •single-tapped. **THREAD**: 4-36. **AXLE DIA**: 3.06. **NUT**: hex 6.2 A/F; **BOLT**: roundhead 5.2 Ø; both grey plated steel.

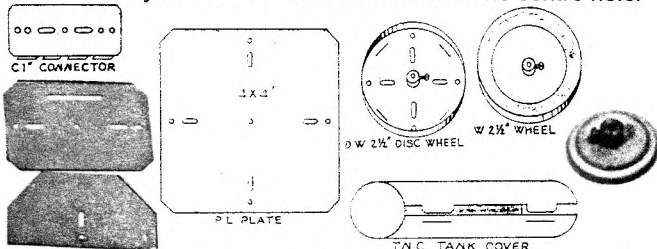
The main parts are described below.

- **Girders** are strips flanged on the long sides, with each flange then formed outwards into a 'U' (see below), and tabs on the ends bent up at 45°. They are up to 10" long and there are two widths, ½" & 1", inside the flanges. The holes in the longer ones are at 1" spacing. Below two are shown joined by being pushed together. Both widths are also bent up to make 3" deep **U Girders** (Double Brackets).



- **Panels**, edged like the Girders, but with no holes, although 3 are pierced to represent windows. They range in size from 2*1" to 3*3" & 2*4", and there are also 6" long Tapered Panels, one reducing from 3 to 2", & one from 2 to 1". Two Triangular parts called Peaks are used in making the gable ends of buildings, but I can't see their edges. Two Panels are shown above joined at right angles by a **Slide Fastener** engaging the 45° flanges. The Slide Fasteners are from 1 to 6" long and ⅜" wide, with a flat lug at one end as shown, and the one at the other bent up at 90°.

- ½" & 1" wide **Connectors**, 2⅜" long, are mainly used, attached by N&B, to join Girders end to end or at 90°. A flat one is shown below left, and the part was also supplied formed as Angle & Obtuse Angle Brackets, and as a Double Bracket. The 2 pairs of lugs at each end simply serve to locate the part. The **Connector with Bushing** (½" & 1" wide) is an ordinary flat Connector with a bush at the centre hole.



- **Plates**, from 3*1" to 3*10", & 4*4" (above), with angled corners and some holes/slots. Parts are known without the centre hole, and the piercing of Richard's 3*2" (above left) differs from the MCS part. Under the 3*2" is a Hood Plate used as a car radiator. The Plates are mainly held by sliding them into the U edge of 2 or more Girders or Panels.
- As well as a 1¼" **Pulley**, there is a **Single Wheel** (above right), a boss attached to one of the Pulley's discs,

giving a flanged wheel. The two 2½" **Wheels** are shown with the Plates - the flange of the **Disc Wheel** is about 5mm wide, and the outside of the **Wheel** looks as if it is formed to crudely represent a tyre. The 5 **Axles**, 2-7", have sheared square ends, there's a **Crank Handle** with 90° bends, about 6" long o/a, and a **Connecting Rod**, about 3½" long with ½" bends at 90° at each end.

- The other large part is the **Tank Cover** (again shown with the Plates), a cylinder about 5" long & 2½" Ø, so that a Disc Wheel can fit over the end. There's also a **Disc**, P, shown in the Supplement, which has the same holes as the Disc Wheel but none of the slots, and is a little smaller in diameter. Its purpose is to sit between a pair of Disc Wheels to form a Pulley. It is made of 3mm thick card.

- That leaves the **Collar** which looks like the bosses, and the N&B, which have the unusual 4-36 thread. The 2 Bolts are ⅝" & ⅝" u/h. The small **Screwdriver** has a red handle and is about 3" long o/a, and there's a single-ended **Spanner** in Richard's set, but not listed, which is grey, some 2" long, with what looks like a small hole at the end.

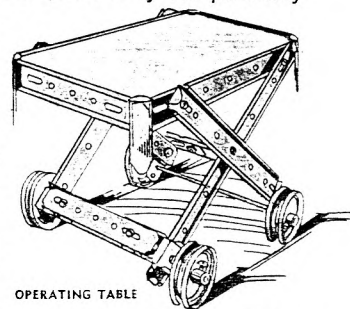
- **Colours**. The Girders and Panels are painted a dark blue, the Plates and Tank Cover yellow, and the Slide Fasteners are nickel plated. The Connectors, 1¼" Wheels, and the N&B have a dull grey metallic finish. The 2½" Wheels are red in the Set, and in the Supplement, but in the Manual they are shown the same colour as the 1¼" Wheels.

- A half page of the Supplement is given to the picture of the **Motor**, and it can be seen driving the Windmill on the facing page: it is shown blue with the centre band of the body yellow. No details are given, not even the voltage, but it has been that it is 110v. In one of the models it looks about 4-5" wide and about the same in height.

The SETS In the Price List in the Manual are 3 sets, Nos.1,3 & 5, priced at 1,3 & 5 dollars. The No.5 is packed in a quite large, flat, wooden box, with a label very similar to the Manual cover (on the front cover of this issue), but with some differences. The blue parts are shown orange for instance, and the letters in the name have no shadow. Some parts found without a box were tied or clipped to card.

The MODELS SUMMARY OF MANUAL •Name: Steelbuilder Book of Models •Details of maker: STEEL BUILDER COMPANY, Inc., 2-24 Orange Street, Newark, N.J. Division of ACME METAL GOODS MFG. CO. •Dates &/or Ref Nos: © 1934 on FC. •Page size: 270*186mm deep. •32 pages inc covers. •Language: English. •Printing: cover (as in MCS) & models, blue, yellow on white. •Page Nos. of Parts List & highest PN: 30-31,WPA. •No Set Contents. •Sets covered: 1,3,5. •No. of models for each set: 24,27,36. •Name, Page No. of first & last model of each set (no Model Nos.: 1: WHEEL BARROW,3; BRIDGE,8. 3: JINRIKISHA,9; STATIONARY PUMP,18. 5: BEDROOM SET,16; GUARD HOUSE,27. •Other notes: •Details from photocopy. •#3 models on p18 follow pp16-17 with #5. •Constructional methods on pp28-29. •A Supplement printed as above but also with red, has 8 unnumbered pages; the first 2 of the 8 models are for the #3 Set, the BAND SAW & GOVERNOR on p1, & the rest for #5, from a WATER WHEEL on p2, to a FERRIS WHEEL on p7 (though the pages may not be in order). p8 shows the Electric Motor & the models in the main manual that it can drive.

The **Manual** is nicely produced with a good sized picture of each model in colour, and a list of the parts needed for it, though not the number of N&B required. There is a good selection of not unattractive models, and they are probably quite sturdy where the parts are bolted together. The main 'boltless' assemblies are the Panels and Plates used in buildings, and the 'flanged plate' used in some of the smaller models, such as the No.1 Operating Table, right: the 3*6" Plate is held in a frame of Girders, joined at the corners by Slide Fasteners.



The **No.1 Set** models are mostly quite simple, with for example, a Bridge, a Mooring Mast, items of furniture, trolleys & hand trucks using the four 1¼" Pulleys in the Set,

and the 8" long Traveling Crane below.

The **No.3** adds 4 Wheels and these are used in various simple Trucks like the Tow Car (bottom left) - the front might look like the one in the No.5 Rack Truck above it. The 2 Disc Wheels in the Set are used as eccentrics to operate a Trip Hammer, and an Automatic [Railway] Hand Car. The most complex model is the Steam Shovel below.

The **No.5** probably contains all the different parts and the models start with some sets of furniture: 6 pieces for a Bedroom, followed by the same number, but better looking, for a Living Room. Then after a number of other small models including a Flower Vase and a pair of Book Ends, the more 'serious' ones. There's another Steam Shovel which runs on the 1 1/4" Single [Flanged] Wheels, a part not included in the lesser Sets, and the Locomotive on the front cover of this Issue. Most of the rest are similarly eye catching, like the Train on the cover. The Steering Gear, below right, is from the one vehicle so fitted.

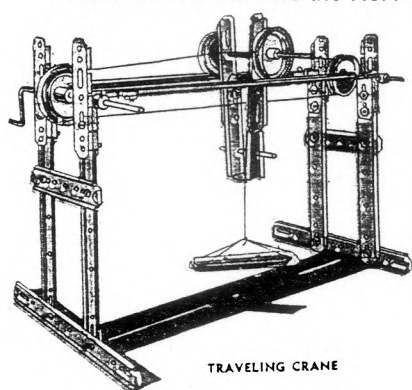
The models in the **Supplement** are all powered by the Motor, and all need the card Disc to make 2 1/2" pulleys from the Disc Wheels. 3 mechanisms are included: a Governor, a Speed Increaser and Reducer (using Pulleys), and the Forward and Reverse Friction Drive shown below. From the Parts List for it, it seems that the pulley on the left is made of a Disc between two Disc Wheels, the other wheels on the same axle are both a Disc Wheel with a Disc bolted to it, and between them on the other Shaft, a Wheel. The parts needed for the Drive were offered for \$1 and they probably included those for the framework - as spares the whole lot would have cost \$1.14 plus the 3 Discs, which aren't in the Price List. At the time the No.1 Set also cost \$1. The mod-

els include the Beam Engine shown in MCS, a 4-car Ferris Wheel, and the Windmill opposite, in which most of the joints in the structure are made without N&B.

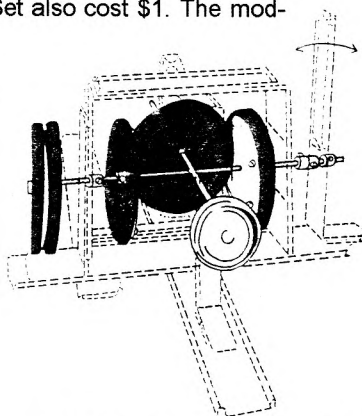
The Manual cover on the front of this Issue shows two 'supermodels'. The House looks very well, although that's partly because the roof, made from 1" Girders, is shown as blue-green, and so creates a contrast with the blue & yellow parts of the walls that wouldn't exist using the actual parts. It is a little over 12" long. The Ferris Wheel must be over 30" high and again it has been 'improved' by colouring alternate cars blue & yellow. The cord drive to the hub isn't as good as the one in the Supplement where the cord runs around Pulleys on the ends of the arms.

Richard wrote, "You may like the look of the models built with this Set, but the parts are poorly painted, and it's a so-so system meant for easy assembly; it's limited in many ways in terms of adjustments, and the versatility of the parts. But very different and fun to work with all the same." He sent a photo of a nice Elevated Jib Crane that he'd made from his parts.

HISTORY All that is known for sure is the 1934 copyright date on the Manual cover, and the name & address of the manufacturer. No doubt the Supplement, which isn't dated, came later. I have a note giving 1938 as a date for the system. It is said in the Manual's Introduction that 'the punched and grooved girders and panels with their interlocking corner-pieces are *patented*', but no patent number is given.



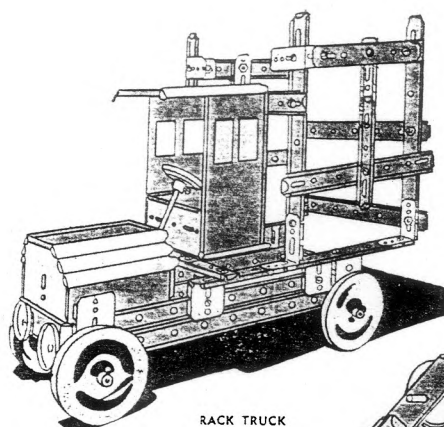
TRAVELING CRANE



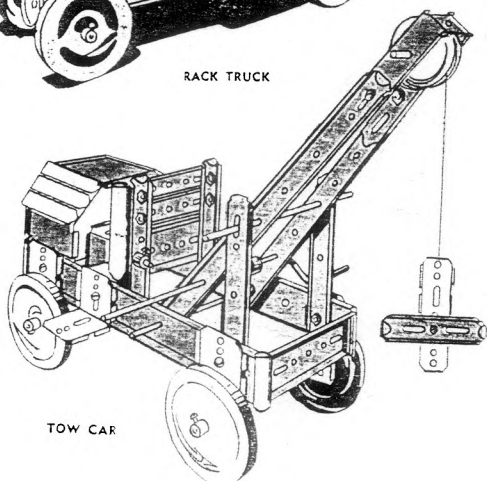
FORWARD AND REVERSE FRICTION DRIVE

PARTS FOR FRAME

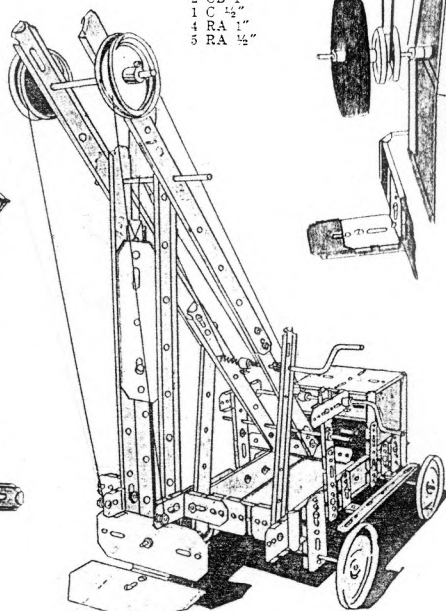
- 3 G 1x3"
- 1 G 1x4"
- 2 G 1x3"
- 2 G 1/2x4"
- 3 G 1/2x3"
- 2 CB 1"
- 1 C 1/2"
- 4 RA 1"
- 5 RA 1/2"



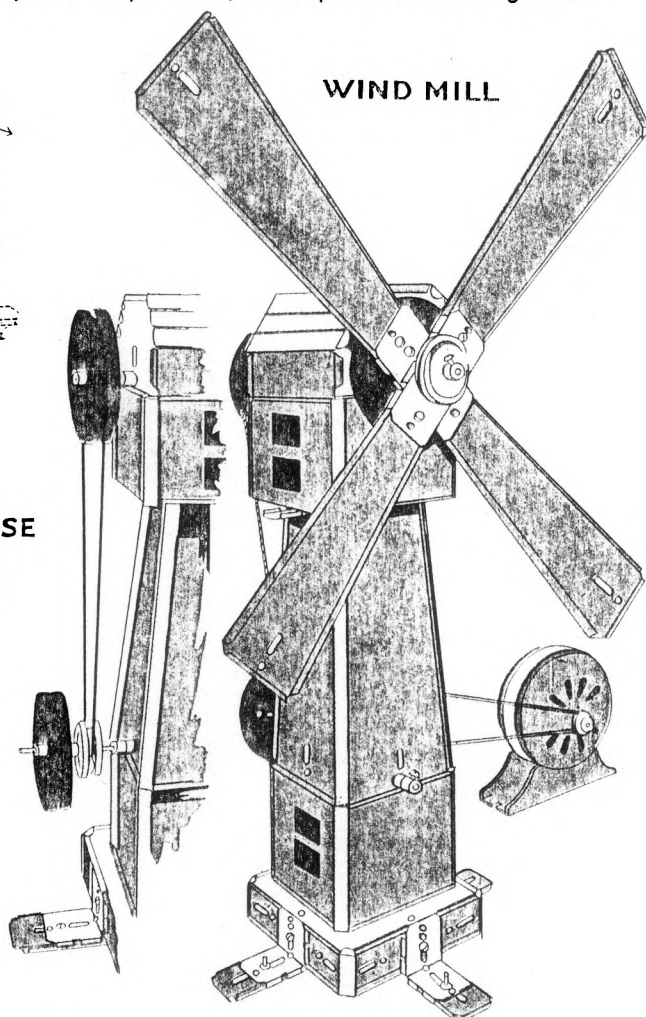
RACK TRUCK



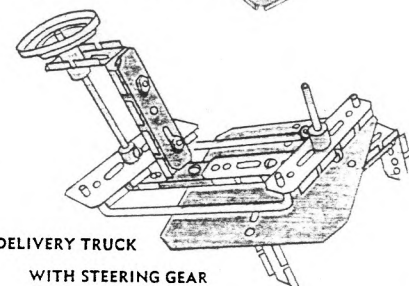
TOW CAR



STEAM SHOVEL



WIND MILL



DELIVERY TRUCK
WITH STEERING GEAR

FIX Some notes on this small German system with the unusual 'linked' Strips were given in 15/413. Now a few more details are available from a photocopy of a manual that Thomas Morzinck has kindly sent.

SUMMARY OF MANUAL •Name: FIX MODELLSCHAU •Details of maker: MECHANISCHE WERKSTÄTTEN KITZINGEN/MAIN - K.WOELK \ ABTEILUNG "FIX". •Dates &/or Ref Nos: N/1051 6.48 10000 on BC. •Page size: 207*146mm deep. •No. of pages: 28 unnumbered inc covers. •Language: German.



•Printing: Line drgs of models; red covers. •Page No. of Parts List & highest PN: 3,U6. •Page No. of Set Contents & highest PN: 2,U6. •Sets covered: I,II. •No. of models for each set: not stated but 1-26 probably for #I, some of rest need #I+II. •Name, Model No., Page No. of

first & last model of each set: I: Stern,1,5; Kreissäge,26,11. II or I+II: Semaphor,28,12; Löffel-Bagger,48,26. •Other notes: std constructions on p4; a larger Karussell also labelled Model 48 on p27. Details from p/c.

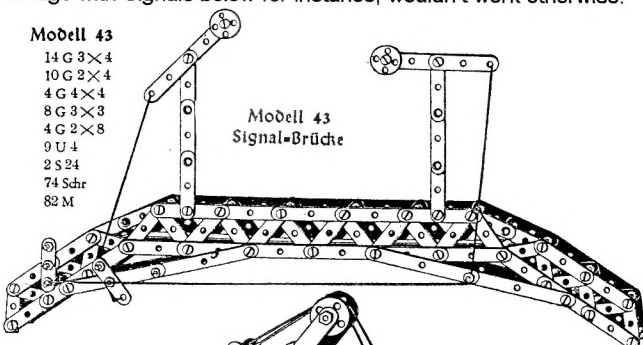
On the **parts**: • The numbers (3,4,5,8) associated with the elements in the **Linked Strips** are their lengths in centimeters. • As can be seen in the Racing Car below, the 48mm Ø **Disc** has 8 holes in a square pattern; the 24mm Disc with 4 holes, and the plain 16mm one, can be seen in the OSN 15 model. The **12-sided Disc** is 12mm across and its only use in the models is to be placed between larger Discs to make pulleys. So, 12 sides to give more grip? • The **Axles** are threaded along their full length.

There were 2 **sets**, Nos.I & II. Each had some of all the 29 parts in the system, but with more of each in No.II, including 58 Linked Strips, 43 Strips & DAS, 26 Discs, 40 Bolts, & 70 Nuts.

The PR of **Manual** is 'N/1051 6.48 10000', hence perhaps the 1948 date given in OSN 15. The letters DRPh on the cover may concern a patent, but I haven't found their exact meaning.

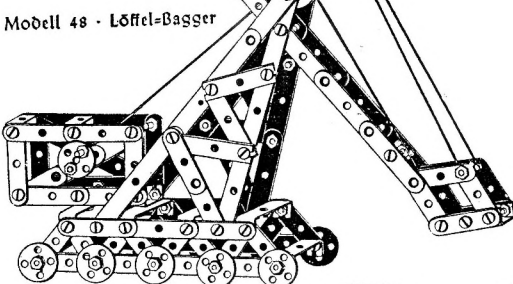
Clear line drawings of 48 little models are included, with a good selection including cranes, bridges, vehicles, & domestic items, each with a not always reliable Parts List. It was suggested that card be used, as in the Racing Car below, to enhance the models. No indication is given of which Set is needed for any model and about 8 seem to require more parts than were in the No.II. One, No.48 below, needs 90 Nuts, & is the model on the box in *Eisenzeit*. The last model, also No.48, a Chair-O-Planes Roundabout, needs 'several' No.II Sets - it will be in an Extra MCS Sheet.

The joints in the Linked Strips must be quite tight, because some parts in certain models, the uprights and signal arms of the Bridge with Signals below for instance, wouldn't work otherwise.



Modell 43
14 G 3x4
10 G 2x4
4 G 4x4
8 G 3x3
4 G 2x8
9 U 4
2 S 24
74 Schr
82 M

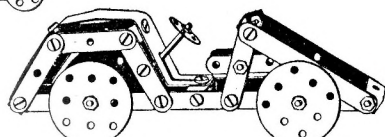
Modell 43
Signal-Brücke



Modell 48 - Löffel-Bagger

Modell 48
2 G 8x8
2 G 8x5
4 G 4x4
6 G 8x4
6 G 4x3
2 G 3x3
2 G 2x4
4 L 6 - 2 L 5
5 U 6 - 6 U 4
1 Sp 80 - 2 Sp 60
2 Sp 45
50 Schr - 90 M

Modell 31
2 G 2x8 - 8 U 4
4 G 3x4 - 4 S 48
1 G 2x3 - 1 Sp 60
1 Sp 80 - 1 S 24
22 Schr - 34 M



Modell 31 - Rennauto

OSN 20/564

MÄRKLIN in 1996/97 & 1997/98 This account is based on a 1996/97 Dealers Catalogue, courtesy Ivor Ellard, a 1997/98 Catalogue (170070-0997 kl) in German, and the French edition of it, 170072-0997 kl, kindly sent by Werner Sticht, and the Swiss AMS Club, respectively.

1996/97 The **Sets** are:

- The Ju 52 Set (see 16/460), marked 'Produced only in 1996'
- The basic sets m10, m30, m50, m60, m100, and linking sets E10, E30, E50, E60, as before: see 11/297 & 16/454.
- The M-Start (1010) & E MECH (1062) sets, see 9/209.
- The Unimog set (11/297), the Lorry set, 1085, and the add-on 10851 (see 16/455).
- The small sets for the Tractor, Tractor with Trailer, Chopper, and Helicopter (11/297 & 9/209).
- The Bridge and Güterwagen Sets (16/455).
- The 1060 Solar Set (1060) - the featured model is a Monoplane which uses the Propeller in the Set.

The only **Motor** listed is the 1022, with separate Switch, as used in the Ferris Wheel, see 19/556.

The **7 Packs of Parts** 1040 to 1047 (described in 2/16) continue, plus the 4 (1067 - 1070) in 11/297.

Compared with 1990/91 (2/16) the changes to the List of **Individual Parts** are the deletion of the three that made up the black 64mm Ø Ball Bearing (11754/55/58), and the addition of the Counterweight Disc (110340, see 16/454), the Unimog Tyre (140260, see 16/454), and an Allen Key (140180). None of the special Lorry Set parts are listed.

The other change is to the **Manuals** with 6 in '90/91 (60832-7) for the m30+m50, Robot (1007), Solar (1008), Motorcycle (1034), Cable Car (1035), & Helicopter (1037) Sets, and 2 in '96/97 (657420, 658660) for the m10+30+50+60, & E60+m100.

1997/98 One **Outfit** has been added, another Lorry Set, and the M-Start (1010), & the Ju52 of course, deleted.



The **new Lorry Set**, 10852, has the same cab as the first Set (16/455) but painted white, and makes up into the 2-axle Lorry above, with a loading crane behind the cab, which is said to rotate and be telescopic. Compared with the original it has 761 parts against 1030. The sides of the load platform are made of Strips rather than Flexible Plates.

Some details are given of the **add-on Set 10851**: it has 205 parts and allows changes to make the Lorry into a Breakdown Truck for instance, or the model below, in which the skip can be swung up and down.

The **Motor**, **Individual Parts**, & **Manuals** remain the same as in the previous year; however the **Packs** with Gears, & Sprockets/Chain (1045,1047) are no longer listed. Some details of the Motor are given: the voltage range is 9-16 a.c.; at 12v the no load speed is 7000 rpm, reducing to 6000 under load; and the maximum current is .96 amp.

In the intro a Strip is shown with labels indicating that it is finished by galvanising and then with powder paint. It is also said that the N&B are made of brass.



METALLO Maybe Jim Gamble kindly gave me a Model Leaflet in Danish on which someone had pencilled 'Metallo?'. The heading at the top of the front page is INGENIØRKASSER but that probably means Engineering Sets, and it's possible that originally the Leaflet was stapled inside an outer cover. A Danish METALLO was mentioned in 16/458 but I don't know if it's the same system.

So a few notes in case anyone can shed light on the matter. The Leaflet is a wide sheet folded into three, giving 6 'pages' 216*164mm deep. On the front are the Set Contents for Outfits No.21, 22, 23 & 24, and there are 32 different parts in all, numbered from #2 for an 11h Strip to #70 for a 25mm Pulley. The back page has at the bottom in small type, CHR, ANDERSEN - KBHVN. K., no doubt the printer in Copenhagen. There are photos of 31 small models with no model numbers but a parts list for each, and the Outfit(s) it can be made from (the Sets aren't progressive). The first model on each page is Bogstav A (Letter A), Kardinal+ stol (Armchair), Vindmølle, Flyvemaskine, & Signalmast.

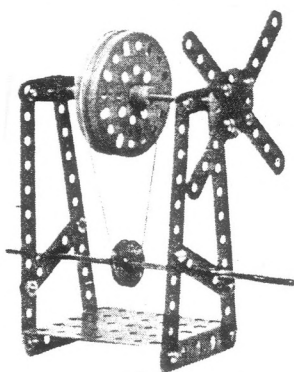
Except as noted the parts look like MÄRKLIN, and the main ones are: 3-11h Strips, Crank Handle (like M19), Bush Wheel, Flanged Sector Plate, 5*7h Flanged Plate, 1*5*1 DAS, Hook, 6.5cm Flanged Pulley, Curved Strip (with the 3h long centre slot), and 25mm Pulley. There are also a Double Bent Strip and various Brackets: Angle (1*1 & 1*2h), Double (1*1*1 & one probably 2 holes deep), and Reversed Angle, but the exact form of these can't be seen. The Bolts are cheeseheaded & the Nuts largish hexagonal.

The parts may be like MÄRKLIN but the Sets aren't - the baseplate in each is a 5*7h Flanged Plate whereas in MÄRKLIN a 5*11h one is used. The smallest set has 25 N&B, 14 Strips/DAS, a Flanged Plate, & 4x 25mm Pulleys; the largest has another 25 N&B, 12 Strips/DAS, a Flanged Sector Plate, and 2x 6.5cm Pulleys. The quantities of 13 of the parts aren't progressive and I can't see, from the models or otherwise, any logic behind the make up of the sets.

Most of the models don't remind me of any other system; the ones below are among the more ambitious, or show the various parts.

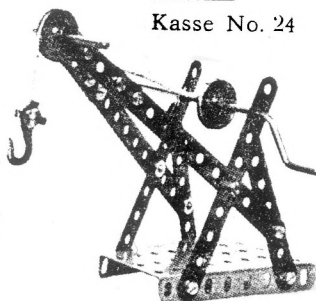
Vindmølle

Kasse No. 23 + 24



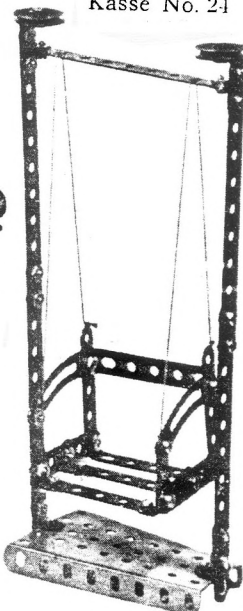
Kran

Kasse No. 24



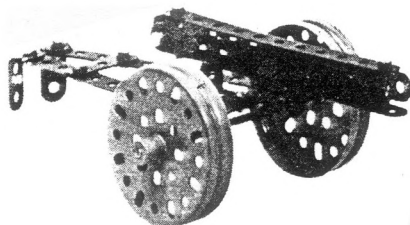
Gynge

Kasse No. 24



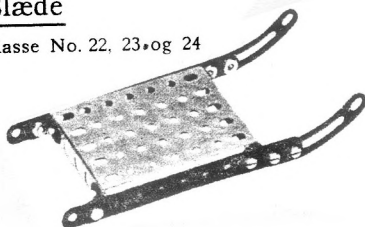
Kanon

Kasse No. 24



Slæde

Kasse No. 22, 23+og 24



A CONSTRUCTO ADVANCED JUNIOR SET MARK 2

Don Redmond sent some details of the set's box & manual, supplied to him by a friend, and Richard Symonds sent a photo of his similar box, and the manual with it. Thank you to both. This is the CONSTRUCTO that had MERKUR parts, and was sold in Canada by Paramount Industries in 1980. The box is 29*20*1.8cm & has end openings; the top (below) is in full colour and the boy is looking at 3 typical small MERKUR models (a Windmill, Car, & 90° Pulley Drive), which are on a yellow surface against a blue backdrop. On the bottom the usual MERKUR Illustrated Parts, including blue 5 & 10h Braced Girders.



Don's manual has 32 unnumbered pages plus covers, 212*146mm deep and stapled at the top. Nothing is known of the covers except that Paramount's address is on the back. The following projects (models) for Sets Mark 1-4 are shown. 1: On pp1-4, #1, Semaphore signal discs, to #51, fortune wheel. 2: pp5-11, #62, automobile, to #77, sedan chair, plus #52, wheelbarrow, #79, automobile, #90, skier, #83, machine gun. 3: pp12-23, #110, gun, to #139, lift and crane. 4: pp24-32, #151, machine saw, to 175, drilling machine. No set contents are included.

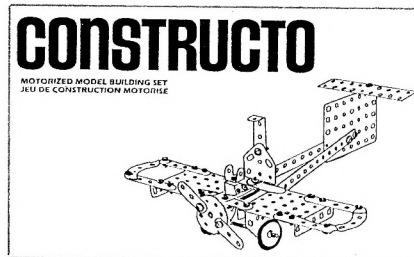
In the light of the 'Junior 1-4' & 'Advanced 5-6' manuals mentioned in 9/235, it's a bit confusing to find this box marked 'Advanced Junior', but the models on the lid & in Don's manual are typical of those for MERKUR Sets 1-4, & not 5-6. No doubt there were 4 sets, Mark 1 to Mark 4, all with this manual, but whether they were all called Advanced Junior remains to be seen. If the 65 'Projects' claimed on the lid is correct there must be some gaps in the model numbering within the Mark 1 &/or 2 models.

This is not the same box as Keith Cameron's (see 3/38) - the size & lid design differ, and Keith's had no Set No. His manual is different too: let me describe it from a photocopy he kindly sent

some time ago. The page size and format is similar to Don's but it has only pages 1-14 plus covers. The front cover, left, is the one in MCS; the back shows various parts and a Pair of Scales, (see MCS/NZ) - presumably,

taken all together, the parts in a Set (but not the parts in Keith's, see 3/38). The models, all of which can be made from the parts on the back cover, run from 1. Shovel \ Pelle on p2, to 60. Dune buggy \ Véhicule pour sable, on p13. On the cover is 'Motorized Model Building Set', singular, and no mention is made anywhere of different sets, and the word 'project' isn't used. Page 14 is about the Motor included in the Set.

Richard's manual has the same cover as Keith's, but its contents aren't known, and so there's a doubt whether it 'belongs' to the MARK 2 Set. Given that the parts in Keith's set don't bear any relation to those on the manual cover, or those needed for the models, it looks as if his manual went with a different set originally. The indications above point to it not being one of the Mark series, but if Richard's manual, assuming that inside it's the same as Keith's, did actually belong to his set, it was perhaps included as a substitute, at some stage, for Don's type. One difficulty is that it contains only 60 models, but if the 2 on the covers (front & back), and the 3 on the box are counted, that would make the 65 claimed.



More from Russia & Belarus

KONSTRUKTOR-MEKHANIK David Hobson recently found, and kindly lent me, a KONSTRUKTOR-MEKHANIK No.3 Set, similar to Richard Symond's described in 18/499. It is said to date from the 1950s, and is nearly complete, but has no manual. Below a few more details of the parts and notes on minor differences from the OSN 18 Set.

The Box It is well made, size 42*29*3cm, and is green outside with the red label of OSN 18, except that the logo at the top right is a bolt with an 'M' on the shank, as shown right. Pasted inside the lid is the Illustrated Set Contents, as in MCS.



The Parts • The **Axles** in this set are mostly 3.93mm Ø and are 30,55,75,115,150,200mm long, with sheared ends, slightly rounded. The **Crank Handle** is 100mm long o/a with the handle offset 15mm from the 75mm shank.

• The **Pulley** is made from 3 discs held together by the boss, and so the groove is rectangular, and only about 1¼mm wide. The boss is steel, 10.0mm Ø, with a bore of 4.25mm. The 6 holes in the face are at 10mm radius. The **Tyre** to fit this part is black rubber and has a shallow tread on the outside. It is 7mm wide and 44mm o.d. when on the Pulley. The small **Pulley n/b** (#27) (perhaps the Spacer mentioned in OSN 18) is 12mm o.d by 4.2 mm wide, and in this Set is a dark red plastic moulding.

• The 10mm **Bolts** are roundheaded, but the heads have a rounded base and a rather flattened top. (Does such a shape have a name?) They are the same shape as those in Richard's set, which weren't properly described in OSN 18. In David's outfit the longer Bolts are 16mm u/h and have ugly 6.8mm Ø cheeseheads. There are also a few, 6, 9 & 15mm u/h with genuine roundheads, 6.9mm Ø, and the same grey finish. The **Washers** are dull grey too.

• There was no Screwdriver or Spanner in the Set; the **Nut Holder** differs from the one in OSN 15: the pressed through lower end is the same but it's 107mm long and the other end is shaped as in the sketch (right), to carry a Nut.



'New' System, KONSTRUKTOR [11] Along with the KONSTRUKTOR-MEKHANIK Outfit above, David acquired, and again lent me for this account, two other sets, both probably still being made, and both with most of the parts very similar to the German, ex-GDR, CONSTRUCTION system. The larger of the two just has KONSTRUKTOR 2 on the lid, and as the 2 indicates the Set No., the [11] above is needed; the other has YUNYI (Young) KONSTRUKTOR, and as well as having the same parts, where they are common, it is from the same factory, in Minsk, in Belarus. So it can be regarded, as can the No.2, as a set in the KON [11] range. Another, Electro-Mechanical Set, will be mentioned later. The No.2 has 'MADE IN BELARUS' on the box - all the other text is in Russian.

At a glance most of the metal parts look just like CONSTRUCTION but there are small differences. The most noticeable is that the Plates have a little too much metal outside the outer holes to allow a Strip to be bolted across two butted together. Another is that the bends in the DAS and Flanged Plates aren't quite as sharp, and are often not quite at 90°. Less obvious are 4.6mm holes rather than 4.2mm, Strips that are slightly over 10mm wide rather than just under, and the use of steel about 1mm thick instead of .8mm. The parts are accurately made in the main and the bright nickel plating is even, but slightly granular in appearance, rather like some early CONSTRUCTION parts.

DATA (in mm) **STRIP** (7-hole): •hole pitch/dia, 10.0/4.6; •width, 10.1; thickness, 1.05; •end fully radiused. **BOSS**: •o/d, 7.7; •i/d, 3.6; •integral plastic; •not tapped. **THREAD**: M4. **AXLE DIA**: see below. **DP (Mod)**: N/A. **NUT**: hex 7.4 A/F; **BOLT**: roundhead 7.0 Ø; steel with dull, light grey finish (YUNYI Nuts nickel).

KONSTRUKTOR 2 The box measures 40*28*4cm and the

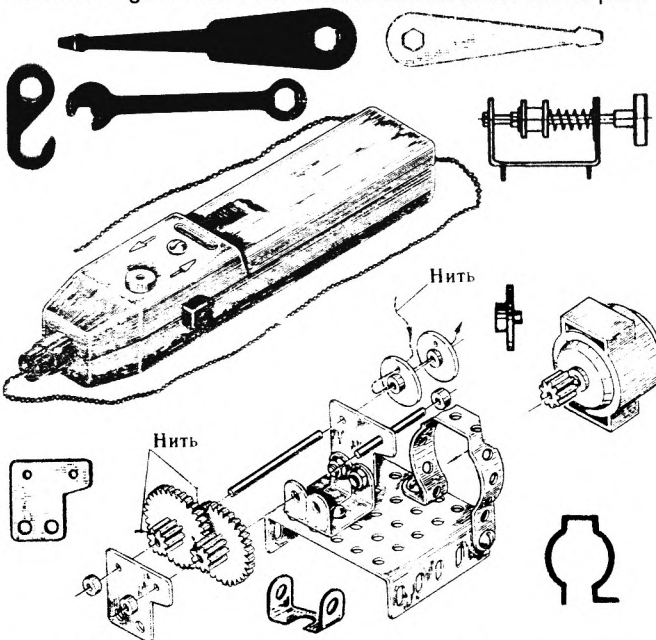
КОНСТРУКТОР

lid has the name in script, as above, with a '2' after it; a Mechanical Digger from the manual in B&W, on a dull yellow ground; the logo right; & a '10' indicating the number of models in the manual. Stamped on one edge is 'STB 951-94', & an address: AO "Aktamir" \ "F-ka "Igramet" \ 220021 g. Minsk \ per. Bekhtereva 10. The first line is a name, the second the factory, g. stands for town or city, & per. for 'lane'. The parts sit in a green moulded plastic tray, and there's a similar cover, with a recess in its top for the manual.



The PARTS The following are like CONSTRUCTION: 5*5h **Flanged Plate**; 3,4,5,7,8,15h & **Curved Strips**; **DAS**, 1*5*1h, 1*3*1h long & short versions; **Flat, Angle** (1 slotted hole), & **Double Brackets**; 9*5h & 3*3h **Perforated Plates**; 30 & 50mm **Discs**.

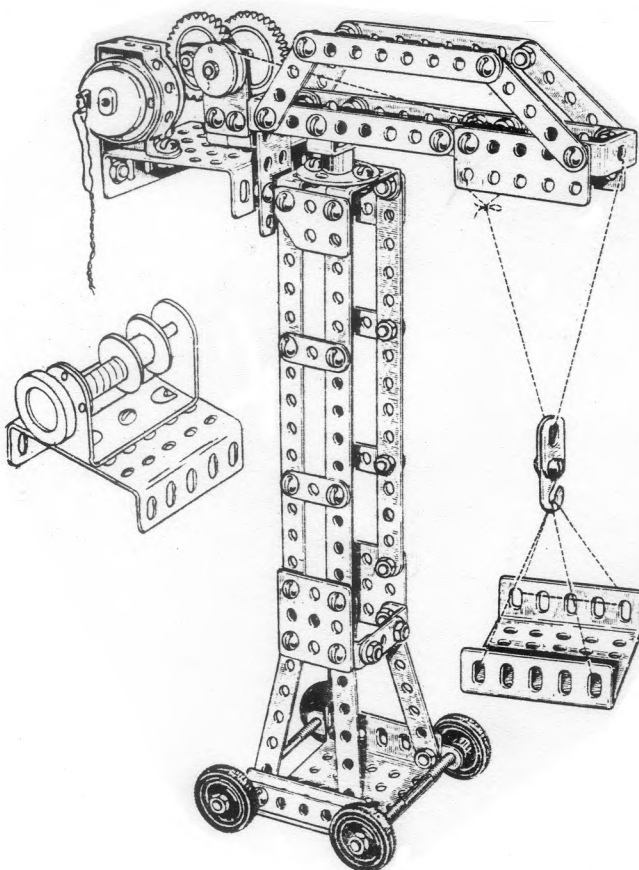
Non-CNN parts are listed below - most are illustrated or can be seen in the model. • A **2*5h Plate**; a **2*3h Gusset Plate** with an angled corner; a **Hook**, below, 22mm long o/a; **Rods** with Threaded Ends: 44 & 73mm long, threaded over 12mm, & 90mm with about 30mm of thread. The centre, smooth part of these Rods is about 3.5mm Ø. • **N&B**. Bolts are 6,8,20mm u/h. • A flat **Screwdriver** & **Spanner**, 100 & 80mm o/a. The actual parts are shown below in black; both have a hex piercing at one end - alongside, with a somewhat different shape, is the Screwdriver in the Manual. • Very thin grey **Cord**. • In plastic are: a red **Spacer**, 12mm Ø by 7mm long; and a black 'one-sided' 25mm Ø **Road Wheel** which has to be 'screwed' onto the Rods. • Finally the **Winch**, below right, with a 2cm wide black metal frame, and yellow plastic drum & winding knob, on a square section shaft. To prevent undemand rotation of the shaft, the knob end of the frame has 2 holes in it, and 2 pins on a spring loaded washer engage in them. To mount the Winch the pressed out lugs in the base of the frame pass through holes in the Plate and would then have to be bent over, an operation which would take considerable force. In the manual these simply serve to locate the frame, which is bolted down through a centre hole that is absent in the actual part.



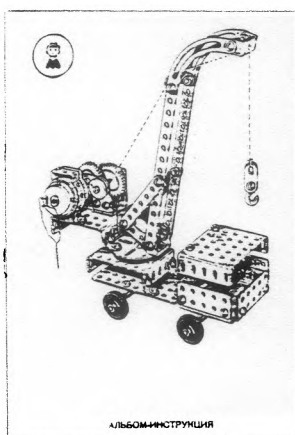
Also shown in the manual Contents (and above) are a **Battery Box** & the parts needed to make a **Motor/gear-box/winch Unit**. None of these parts are in this Set, apart from a pair of the **Special Double Bracket** above, with the base hole opened out to the edge, which were no doubt put in by mistake. The models show the Winch as an alternative to the Motor Unit and it is explained in the Manual that the models can be operated by hand with the No.2 Outfit, and the Motor etc are included in the Electro-Mechanical Set mentioned earlier.

The Set contains 4 Flanged Plates, 30 Strips, 6 DAS, & about 80 N&B.

The MANUAL The cover bears the logo but not the name of the Set, just 'Instruction Manual'. Inside are 10 models, with a clear line drawing of each, plus exploded views in many cases. The first is a Dentist's Chair; the rest, apart from a Digger & a couple of Vehicles, are Cranes. All are simple models and the Crane below is typical.



20 Кран башенный



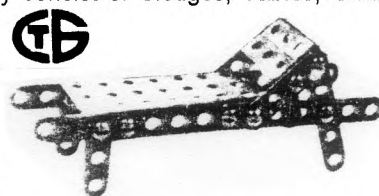
SUMMARY OF MANUAL •Name: none (logo & AL'BOM-INSTRUKTSIYA on cover). •No details of maker or dates/Ref Nos. •Page size: 157*217mm deep. •No. of pages: 20 + covers. •Language: Russian. •Printing: Line drgs of models. •Page Nos. of Illustrated Parts List/Set Contents: 1-2 (no PNs). •Sets covered: not stated. •No. of models: 10. •Name, Model No., Page No. of first & last model: Kreslo Meditsinskoe, 1,5; Kran Bashennyi, 10,20-IBC. •Other notes: •Names above are transliterations. •Intro on IFC; std constructions on p3; assembly of Motor etc on p4; parts for each model on p5.

The parts needed for each model are shown in tabular form on the back cover and the presentation used is very similar to that of the K•115 and VIS sets (19/530, 3/39). But the parts, though similar in some cases, aren't the same, and the 'paperwork' shows no obvious connection.

YUNYI KONSTRUKTOR This is a much smaller set with no Wheels or Discs, and only 20 N&B. It is packed in one of those very nicely moulded plastic boxes of the type

used for several other Russian sets. This one is yellow, 13½*11½*2cm, and the lid has the name and logo moulded into it. All the parts have already been described except a 3*7h Flanged Plate, which has square cornered flanges on the 7h sides, with round holes in them. The other parts are 2 5*5h Flanged Plates, 20 Strips from 3-8h, 5 DAS, 4 Angle Brackets, a Spanner, & a Screwdriver.

The Model Sheet is 253*446mm, folded into 8 to fit in the box, and again the name of the Set isn't mentioned. On one side is the name, address, and 'STB 951-94', as on the KON 2 box; the logo below, which seems to be made of the Russian letters for 'STB'; a long Intro; the Illustrated Parts & Set Contents; and a list of the 14 small models shown on the reverse side. They consist of Sledges, Tables, Chairs, and the like, with a small, rather blurry photo of each. #1 is a Triangle, and #14, Parallel Bars. The bed of the Stretcher opposite is the 7*3h Flanged Plate.



Модель № 13 „Медицинские носилки“

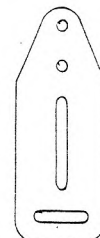
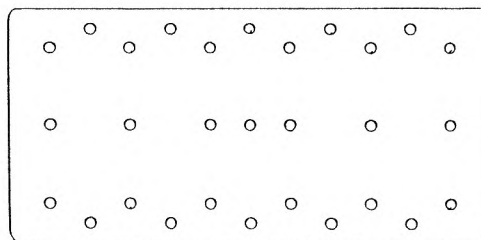
Finally a thank you to Michael Denny for help in translating the Russian, & explaining about Russian script.

MYSTERY PARTS No.26 The Trunnion in 13/363 with the 3 unusual cutouts - Don Redmond wrote that a rusty pair of these have turned up in Ottawa.

No.32 Don also reported a third batch of the 6 & 12" Braced Strips from 17/475 & 18/507, 8 of each length. The holes in the side rows are at 1" pitch, and the rows are ⅞" apart. The end holes are at 5½" / 11½" centres with the adjacent ones at ⅞".

No.36 These were a Flat Trunnion, Curved Strip, and Flat Bracket (see 18/507), and they are may well be CONDOR. Referring to 18/497, the pattern of holes in the Trunnion is the same and Roger Baker has told me that the Curved Strips in his Set have slotted end holes, like the centre one that can be seen in OSN 18. He also noted that the slots have the large radius ends of the Mystery Parts. The colours don't correspond but some CONDOR parts were nickel, so it's not impossible that more parts were so finished at some point.

No.41 Another from Don Redmond. The part below, of stiff, nickel plated steel, .022" thick, has turned up twice in Canada with other OS parts, first a pair (from John Wapshott) and then a quantity. From a tracing it's about 2.9" long o/a, and the hole pitch is ½" (with the long slot spanning 3 holes), except that the 2h long transverse slot is less than ½" from the long slot.



No.42 And another from Don. Two of the Plates above were found with some other parts believed to be early IL COSTRUTTORE MECCANICO (BRAL), see MCS/FB, including a 6*6h Plate with a centre hole (#53). The basic pitch of the holes is 1", with the outer rows ¼" apart. All three parts are plain steel with 4.3mm holes.

DER JUNGE MECHANIKER

Thomas

Morzinck kindly sent a copy of the manual for this old German system, and some notes on the No.4 Set that it came from. Apart from the front cover the appropriate pages correspond exactly to those in MCS (Part 5). DJM I'll call it, and it clearly owed much to MECCANO, with 1/2" pitch holes, Key fixing of Pulleys & Gears, and many near identical models. However there were some important differences with Flat Plates & A/Gs instead of Flanged Plates, and a few original parts including two special parts for one of the models.

THE PARTS The range of parts is nearly the same as MECCANO in 1912 before tapped bosses were introduced, including the Collar introduced in 1912, but with none of the parts (Spring Cord, DAS, Windmill Sail,) from 1913. The exceptions are the DJM original parts, and those needed to make up the flanged plates. Apart from those mentioned in the notes below, the parts look like MECCANO. Asterisked parts & the Key are illustrated.

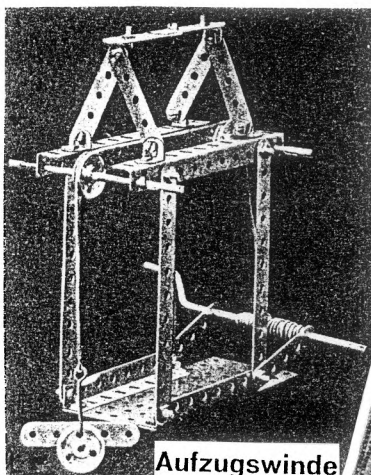
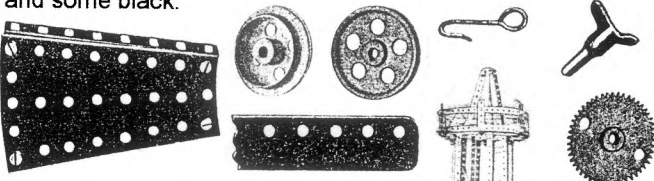
- The **Flanged & Grooved Wheel**[†], and the **1 1/2" Pulley**[†], both have 5 face holes, though the former is sometimes shown with 4 in the models. The **Bush Wheel** is 36mm Ø. The **Gear Wheel**[†] has 2 face holes and is also listed as 36mm Ø, but it meshes with an 18mm Pinion at 2-hole spacing in the models, and is probable the size of the M27.

- The **Flat Plates**, 11*5h, 7*5h, & Segment[†], all with square corners, are used with 11,5, & 8h[†] A/Gs to make up the usual flanged plates. This was like MODELIT (see 8/186) though the hole pattern in the Segment Plates differ.

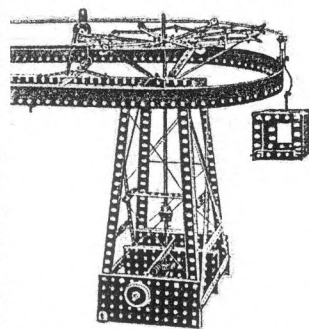
- The 25h long **Wide Strip**[†] with a single row of holes near one edge, is only used, as a rail, in one model, the Seilbahn opposite. (The complete model is shown in MCS/FB.) Another part, called **Seitlich gebogene Stahlstreifen** (sideways curved steel strip) is also only used in that model: it's not illustrated and I can't pick it out unless it's the Formed Strip to which the cars are attached.

- Two original parts not illustrated are a **Long Bolt**, and a **Rubber Ring**. It isn't stated what size either are, and the Ring isn't called up for any models. Another part not listed by Meccano in 1912/13, though it was earlier, is a **3-hole Strip**. The **Wire Hook**[†] is a different shape.

- **Colours**. Some of the parts in the No.4 are tin plated and some black.



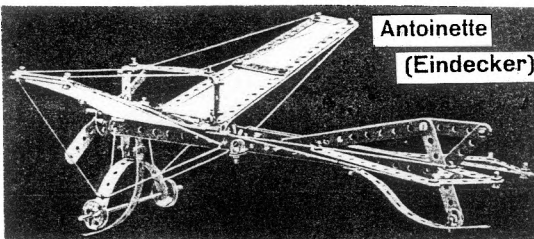
Aufzugswinde



Turm

Der junge Mechaniker

Aus Kasten No. 6



Antoinette

(Eindecker)

OUTFITS Sets 0-6

were available plus linking sets, and Nos. 5 & 6 were packed in wooden boxes. The lid of the No.4 measures 35 1/2*25cm, and is dark red with the

name, '4', & 'Deutsches Fabrikat' in silver lettering.

The **contents** of Sets 0-6 are quite similar to the corresponding MECCANO outfits of 1912-13, though, particularly in the larger sets, a few extra parts, mainly Strips and N&B, are included. At the extreme, there were 500 N&B in the No.6, an extra 50.

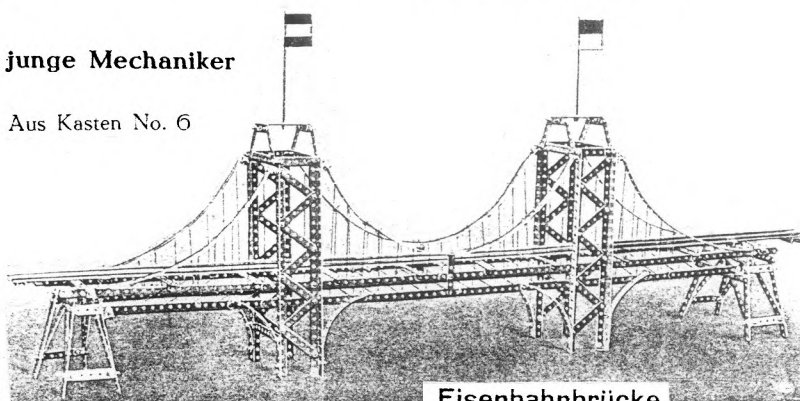
MODELS The manual has models for Sets 1-6 but not the No.0. There's a good photo of each model, except the last, a Big Wheel shown as a line drawing. The same model is in MCS under LE JEUNE MÉCANICIEN. All have a list of the parts required, with descriptive text for the more complicated ones, and auxiliary views for the largest. Nearly all the No.1 models, and some of the larger ones are made to look more attractive by having a black background.

Most of the models, particularly those in the larger sets, owe much to MECCANO, but none is an exact copy in every detail, and a few have been improved a little. The separate A/Gs are used to advantage in some of the smaller models, as in the Winch below left. There are 5 models of early aeroplanes, all quite original, and on the largest some of the control surfaces can be moved. One of the small ones is in MCS and another is shown above.

5 of the 8 No.6 models are almost identical to 1912/13 MECCANO but the 1.20m long Railway Bridge below replaces Tower Bridge, the Seilbahn already mentioned replaces the Transporter Bridges, and in addition the Tower below, 1.35mm high, is included. It is suggested in the instructions that the Seilbahn could be driven by a motor or steam engine.

SUMMARY OF MANUAL •Name: Der junge Mechaniker. •Details of maker: none. •Dates &/or Ref Nos: none. •Page size: 240*162mm deep. •No. of pages: 48 + covers. •Language: German. •Printing: half-tones of models; cover brown with silver Monoplane & wording. •Page No. of Parts List & highest PN: 46,55 (illustrations: 47/52). •Page No. of Set Contents & highest PN: 45,55. •Sets covered: 1-6. •No. of models for each set: 21,8,10,5,6,8. •Name, Page No. of first & last model of each set [no Model Nos.]: 1: Sackkarre,2; Wage für Massen,8. 2: Arbeitswagen,9; Barriere,13. 3: Drehbare Brücke, 12; Reparatur-Wagen,20. 4: Fluß-Brücke,21; Webstuhl,25. 5: Aufzug mit Kippvorrichtung,26; Farman-Doppeldecker,32. 6: Eisenbahnbrücke,33; Luftschaukel, 44. •Other notes: • On the cover is Generalvertrieb Gebr. Weimar \\\ Rotterdam. • Two No.2 models on p13 come after the 1st No.3 on p12. • Details from photocopy.

HISTORY Thomas wrote that the Manual's Introduction is written in a very old fashioned way, and his No.4 Set is believed to be from 1914. He also noted that of the several aeroplane models in the Manual, one, the Farman-Doppeldecker, didn't appear until 1913. So perhaps the system was introduced in late 1913 at the earliest, with a range of parts largely as 1912 MECCANO. If so it's a little odd that the Key fixing of Pulleys & Gears, never very satisfactory and abandoned by Meccano in 1912, was used. Was DJM introduced a little earlier and then updated? The



Eisenbahnbrücke

manual models don't really provide any solid evidence of this although there are a few pointers. For example 2 of the Aeroplanes for the No.5 Outfit show Strips used as propellers, but the proper Propeller Blades, contained in that Set, were included in the Parts Lists for the model. Perhaps it was just that those models were photographed before the range of parts to be produced was finalised. No end date is known but see LE JEUNE MÉCANICIEN (LJM) below.

There's no indication of the maker anywhere but one oddity is that on the cover of the Manual is 'Generalvertrieb: [general distributor] Gebr. Weimar \\\\ Rotterdam'. If that's the city in the Netherlands, perhaps a European common market is not such a new idea after all. Or perhaps more likely, the Set was to be sold there with a separate Dutch translation of the German text.

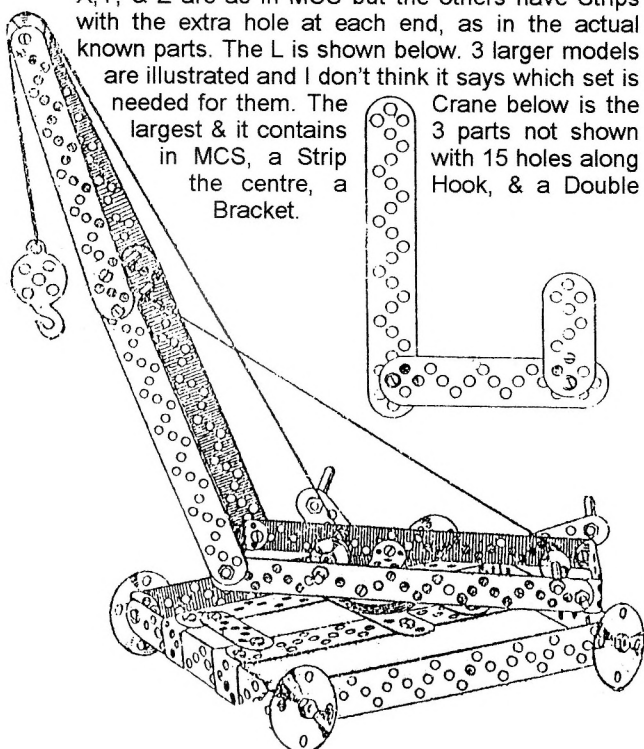
The cover in MCS is identical except that the name of the Distributor is replaced by the logo opposite (50% full size). The wording can't be read even in MCS, but perhaps someone will recognise the shape, heavily inked in here to try to make it stand out.

LE JEUNE MÉCANICIEN It is suggested in MCS that this Belgium system was the same as DJM, and this is confirmed by Thomas's Manual. The illustrations for the LJM models in MCS are identical to those in his Manual, the page numbers correspond, the typefaces are the same, and so are the lists of parts for the models, apart from the language. The suggested date for LJM in MCS is the 1920s but I don't know what that was based on.

An INVICTA No.00 Leaflet Josep Bernal kindly gave me a copy of a Model Leaflet for this small Spanish system - it has parts like TRIX but with some of the holes omitted, see 9/222. It speaks of the system being new and lists the sets then on sale as 00, 0, & 1, with linking sets 00A & 0A. If I've understood correctly the Nos.00 & 00A are identical in terms of the parts in them.

The Leaflet is headed 'INVICTA No. 00' (in the same lettering as the No.0 Leaflet in MCS), and shows the Letters X,Y,Z,M,H,K,L for the No.00 Set. X,Y, & Z are as in MCS but the others have Strips with the extra hole at each end, as in the actual known parts. The L is shown below. 3 larger models are illustrated and I don't think it says which set is needed for them. The largest & it contains in MCS, a Strip the centre, a

Crane below is the 3 parts not shown with 15 holes along Hook, & a Double Bracket.



TECC I've had no news of this Dutch system, (with the MERKUR parts) since the notes in 12/320, and I'd be glad of an update - when it ceased to be available for instance, or the current range of sets. I'd also welcome details of Sets 4 & 7, see 12/320, if anyone has anything available on them. I have though, courtesy of David Hobson, been able to examine a No.6 manual (see 8/201) in detail, and compare it with the No.5 (see 6/114).

Starting with the **No.5. SUMMARY OF MANUAL** •Name: bart smit TECC CONSTRUCTIE-BOX 5. •Details of maker: bart smit. •Dates &/or Ref Nos: 'Printed by EXPRINT - CS' on BC. •Page size: 320*235mm deep. •No. of pages: 32 inc covers. •Language: Dutch, German, English, Spanish, Czech. •Printing: Colour photos throughout. •Page Nos. of Illustrated Parts & highest PN: 29-29,4037. •Page Nos. of Set Contents & highest PN: 30-31,4037. •Set covered: No.5. •No. of models: 16. •Name, Page No. of first & last model (no Model Nos.): EXCAVATOR,6; HIGH LIFT TRUCK,27. •Other notes: •The covers are in Dutch only. •Basic Constructions on pp3-5. •Photos/contents of Extra Part Packs 101-108 on BC.

As mentioned in 6/114 the featured Excavator is the only large model; the others vary from a very simple (and unrealistic) Airplane needing 8 N&B, to a 40h long, spidery looking Travelling Gantry Crane. The better models are 4 small machine tools and a simple Fork Lift Truck. One model is the Helicopter that is the featured No.4 Set model, see 12/320.

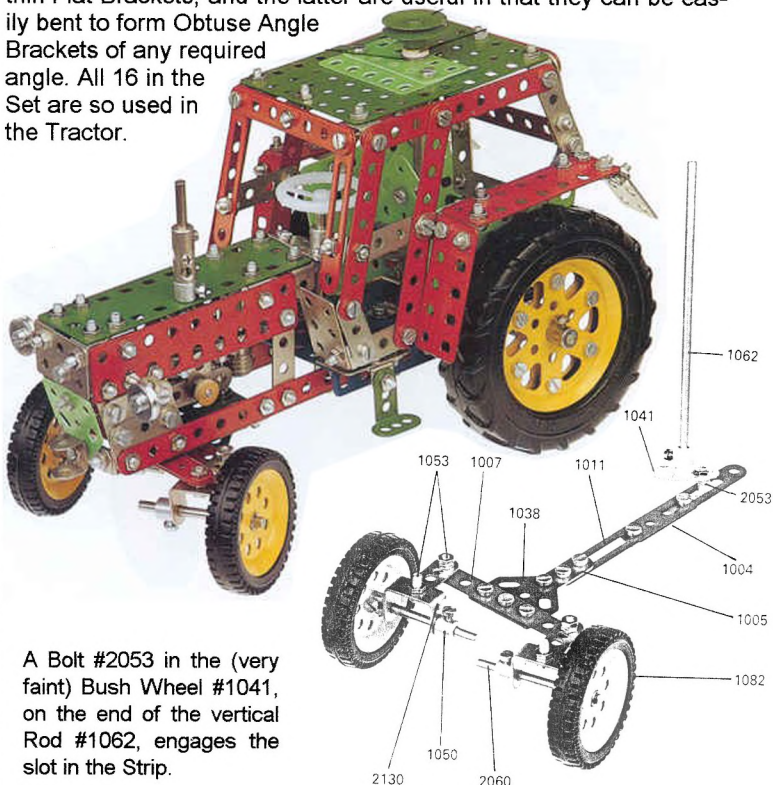
The **No.6** is quite a large set with over 100 Strips, 12 A/Gs, 6 Gears, numerous Plates, metal & plastic, 39 Pulleys, 2x 92mm & 6x 56mm Ø Tyres, 16 suitable Half-Pulleys to fit them, and about 400 N&B.

SUMMARY OF MANUAL (omitted details as above) •Name: as above but '6'. •No dates or Ref Nos. •No. of pages: 36. •Page Nos. of Illustrated Parts List/Set Contents, & highest PN: 32-33/34/35,4075. •Set covered: No.6. •No. of models: 14. •Name, Page No. of first & last model: Bulldozer,6-7; Dump Truck, 29-31. •Other notes: as above.

The first 4 models are (see MCS) the Tractor and Trailer of the Low Loader (as separate models), the Mobile Crane, & the Bulldozer. They are all reasonable looking models but simple mechanically, although the Tractor does have proper steering. It's said that all these four models can be made at the same time and there do seem to be enough Wheels and other key parts, but only 2 Tracks are listed in the Contents.

The next 6 models are small ones identical to six in the No.5 manual. Finally 4 much better models, starting with the Buggy and F1 Racing Car which are in MCS as MERKUR models, from the No.330 manual. Then as shown beside the No.6 cover in MCS, the Tractor (below) and a Side Tipping Wagon. Both have proper steering and the latter has a tipping mechanism.

David mentioned that the parts include both normal and very thin Flat Brackets, and the latter are useful in that they can be easily bent to form Obtuse Angle Brackets of any required angle. All 16 in the Set are so used in the Tractor.



A Bolt #2053 in the (very faint) Bush Wheel #1041, on the end of the vertical Rod #1062, engages the slot in the Strip.

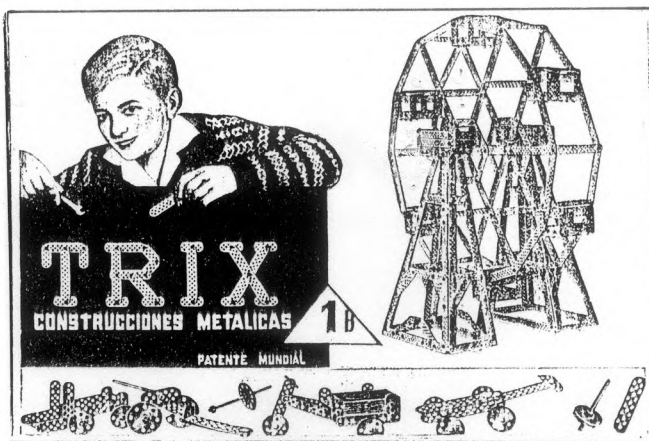
TRIX in SPAIN Josep Bernal has kindly gave me some details of TRIX sets that were sold in Spain, probably around the early 1950s.

On the back of one box is a list of all the outfits available, comprising Nos.1, 1A, 1B, 1C, 2, 3, 4, 5 & 6. Nos.1-1C were the basic Units and each of them cost Ptas.3,50. The correspondence between these numbered Units, used universally prewar, and the lettered Units used in the UK from immediately after WW2, and later in France (and perhaps other countries?), is given in 7/150 for Germany. It's the same elsewhere except of course for the named Units with electrical parts and Tyres.

Outfit 2 contained a No.1 and a No.1A, and Nos.3-6 had respectively 2, 4, 8 & 16 of each of those sets. There was also an Electro Set, the equivalent of Unit E.

The parts in Sets 1-1C were packed in printed envelopes, inside cardboard boxes 205*145mm deep. Details of the envelopes from Sets 1, 1A, & 1B are available, and all the parts in each Set were illustrated on one side of its envelope - the PN's are the German ones noted in OSN 7 - perhaps an indication of where the Sets came from, but the Hook is the rounded type and not the German pattern with flat sides. The Spanner is illustrated unperforated. Set 1B is shown to contain 2 Large Wheel Discs, whereas the post-war UK Set C had four. On one envelope is an address: INFORMACION "TRIX", Cortes 642, Barcelona.

The design of all the lids is similar to that above with the same boy, Big Wheel, and row of small models along the bottom. The edges that can be seen on some of the boxes



are patterned like TRIX Strips.

The finish of the parts is a surprise though. A No.1, 1A, & 1B all had painted parts in red, blue and green; however those in sets of the same number, perhaps from about the same time, packed in envelopes but as found not boxed, were all nickel plated.

The No.1 Model Leaflet is a sheet folded into three with 26 models, all familiar from prewar UK manuals, starting with a Windmill (Molino de viento) and ending with the Number '14'. There's also a Fire Pump (Bomba de incendio) that needs a 1A Outfit, and in one corner a coupon, with the offer of a 64 page No.1 manual containing hundreds of models, for 15 of them.

And Experi-TRIX

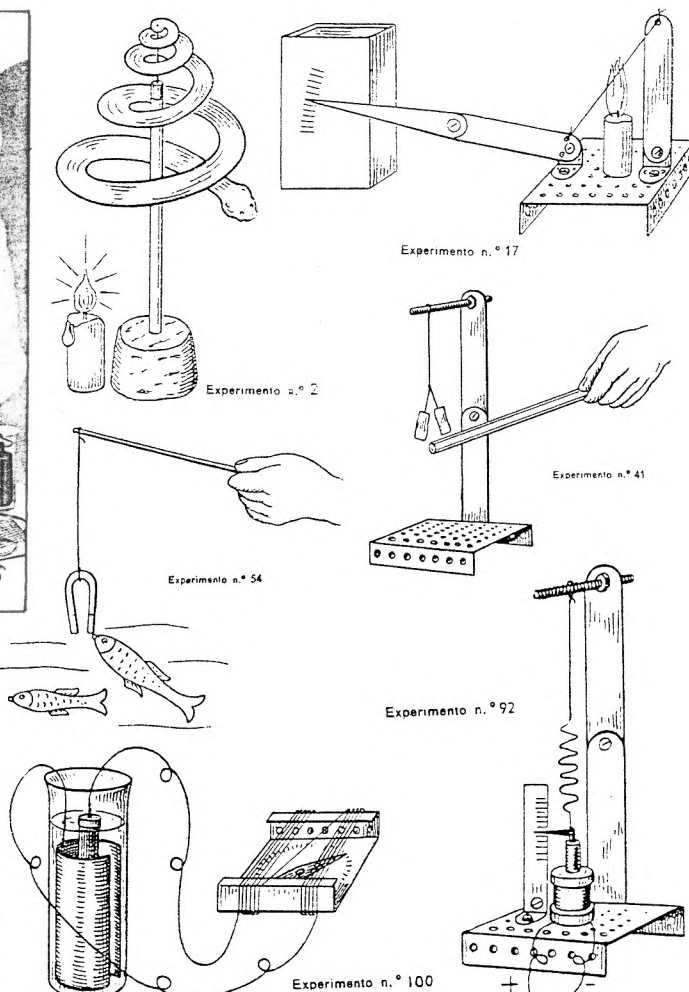
Josep also sent copies of the manual and box lid from this unusual outfit, which as far as I know was never sold in the UK. It consists of some standard TRIX plus various simple special parts, and the manual shows 100 elementary physics experiments using them.

The box measures 335*245*35mm and the lid shows the name, a large flywheel driving a generator, and the boy and parts on the manual cover shown above.



The contents of the outfit are given in the manual, and there are 29 different parts. Standard TRIX are 6 N&B, a Screwed Rod, 2x F9 Strips (though in the experiments they are shown with only the end holes), a Coil, 2 Angle Brackets, & a Spanner. There's also a Flanged Plate, but with 7*7 holes. Other parts include a Horseshoe Magnet, a Magnetic Needle, a Bulb and Bulb Holder, a Glass Beaker, Glass & Rubber Tubing, various cork & insulating parts, a Candle, a Compass Disc, Copper & Iron Wire, and a Wood Rod.

The manual is the 1st edition and has 96 small pages, about 16*12cm deep, plus covers. The experiments run from No.1 on p5, El nivel de agua (air rising to the top in water), to No.100 on p95, Cómo producimos corriente eléctrica económica? (shown opposite - the needle moves when the current from the simple cell flows through the coil of wire). They cover quite a wide range and though simple, are probably instructive. Much depends on the quality of the explanation alongside each, which is beyond me. A few are shown opposite. Some need material not in the Outfit, a carbon rod and a zinc plate for the No.100 above, for



example, and a 4½v battery is needed in certain cases.

On the back cover is a list of TRIX sets. The 1-1C, and 2-6 mentioned earlier are there, at the same prices, plus the Electro, the Motosand (see 2/17), and Neumáticos (Tyres). Each of the 3 latter cost Ptas.3,50, the same as the basic Units 1-1C. Incidentally it wasn't cheaper to buy the larger sets: prices were pro rata so the No.6 cost Ptas.112.

FRANZ WALTHER As most OSN readers will know, Franz Walther founded the firm that made STABIL & other constructional toys, and he is as well known to many German enthusiasts as Frank Hornby is in the UK. The photo opposite [courtesy of his grandson, Torsten Walther] shows him as a young man in military uniform; the one below was probably taken when he was in his sixties.

First a slightly condensed extract from an article to mark Franz's 70th birthday, in the Oct. 1930 trade journal, *Deutsche Spielwaren-Zeitung*:

'Franz was born in 1860 and on leaving school he became a carpenter, obtaining his certificate as a master carpenter after paying to study at a trade academy. Following military service he worked on various building projects including a large military barracks at Posen. Next he was in charge of a factory at Eisenach making parquet & furniture, and there he was able to exploit his first patents on military furniture. He left this work in 1898 to co-found Pfeil & Walther in Goslar/Harz, to make the patented furniture himself.

It was there that the idea of the wooden RECORD constructional system came to him, based on an unused patent by Lilienthal, the aviation pioneer. He had taken it out shortly before his death and it described a toy made from parts with equispaced holes, joined by pins or screws [see 11/295]. Scrap from the other work provided the raw material.

Then it was only a small step to replace the wooden Strips with metal ones, and the concept of STABIL was born. The first sets were the INGENIEUR-Baukasten [see 19/550]. Initially progress was slow, partly because limited finances prevented foreign patents being obtained, and firms abroad were imitating his ideas. But even before WW1 the name STABIL was known all over Germany. The war caused problems arising from shortages of materials and of skilled labour, but afterwards expansion was rapid & after 25 years the new premises & factory at Harzer Straße were occupied [in 1930].'

Other points of interest come from the Walther house magazine, *Stabil- und Record-Zeitung*, and a brochure for Christmas 1931. Issues Nr.8 & 10 (December 1930 & 1931) of the former are known, both with 12 pages 150*227mm. Nr.8 includes an article congratulating Franz on his 70th birthday followed by a page exhorting Germans to buy only German goods, and claiming STABIL as the oldest metal constructional set. The text reads, 'A foreign firm claims to have created the original construction setw and states in their advertisements to have got the first patent for it in 1901 (allegedly in England). But as explained before, the inventor of the constructional set was Otto Lilienthal who obtained a German patent in 1888. And, as the calculation of time is the same in Germany as in England, this patent existed 13 years before the alleged first English patent. The construction set with strips that can be connected together originated in Germany therefore, and it was Franz Walther who first put the idea into practice. That's why the German Stabil metal construction set is the earliest con-



struction set and is better than any other foreign product.'

That may sound a touch fierce but at the time appeals to national sentiment were commonly, & successfully, used in advertising everywhere. The point about Lilienthal having first claim to the idea of equispaced holes seems fair (David Hobson goes into the details in his book on PRIMUS, reviewed on p583); Hornby's achievement was in creating the first mechanical constructional system. Werner Sticht commented that in the development of constructional toys each manufacturer has borrowed ideas from others.

I myself wonder how far Walther & Hornby were simply commercial rivals and how far their attitude to each other was fuelled by a belief that the other man was somehow cheating. In Hornby's *The Life Story of Meccano* (MM 9-10/21) he says 'amongst the first imitators of our system was a man called Walther of Germany, who brought out a metal constructional toy containing strips with equidistant holes, etc., under the name of "Stabil". It was a flimsy kind of toy, however, and not well manufactured, and although it had a small sale, I think the principal effect of its introduction was to emphasise the value & quality of Meccano.' It's true that he was even more scathing about STRUCTATOR, rightly so no doubt, but his view of STABIL does seem a little unkind.

Apart from ads, the Nr.8 contains illustrations of several models and notes on the prototypes of 3 of them. A 'Stabil-Bastel-Saal' (Stabil hobby hall) is also mentioned, where films were shown, and models with their prototypes displayed. In addition Stabil boys, and even school classes, were instructed on how to build with STABIL - all without charge.

Nr.10 starts with an obituary for Franz who had died in Sept. 1931. Next a 3-page article on locos illustrated by 6 attractive models, which I hope to show in OSN 21. Then 5 models from the small Nr.48 Outfit, and various publicity stories and items, including an ad for Tyres 84, 84a & 84b.

The Xmas 1931 **Brochure**, under the heading 'Important', has: 'A foreign firm is trying to gain a footing with a set similar to Stabil. Comparing the two you will immediately realise that the foreign sets, though having a smaller content, are more expensive than the German Stabil.' Further on some remarks about painted parts starting, 'The so much praised coloured parts have proved impractical', and continuing along the lines of 16/459. It finishes by noting that 'the same colours have to be used for all models and red, green & yellow don't always fit together harmoniously'. No doubt the foreign sets were MECCANO; the red & green coloured parts could equally have belonged to MÄRKLIN, but which system would have had yellow parts at the time? Ads for Set No.48 & the Magnetic Steam Engine are included, and thus both were available before the dates given in 13/349 & 15/407.

Thanks are due to Karl Debit who supplied most of the historical material, to Werner Sticht for translating it; and to Thomas Morzinck for the photos above.

Some SWEDISH SYSTEMS Staffan Kjellin has kindly sent what is known about three hitherto unknown Swedish sets, and more details, manuals, and parts from the two major Swedish systems, MEKANIK & TEKNIK.



REX The oldest Swedish system is REX, and the label from a box lid, probably a No.3A, is shown above. The original measures 32*12cm, and the lid is the same length but 21cm wide. The label is printed B&W on pale yellow, and the text says Swedish Made, and talks of 200 models from a series of outfits, including linking sets. BYGGLÅDAN means constructional sets. From the spelling of the words, it is thought to date from before WW1. The only known parts (left) are a 25t Pinion, and a Large & Small Contrate. They are marked REX and are cast, from a zinc alloy perhaps.

A friend of Staffan has told him that sets from the 1920s were marked MÄRKLIN-REX and that the parts looked like MÄRKLIN. How far the original system was a copy of MECCANO isn't known but the model on the Label is almost identical with the Tower Bridge that was included in MECCANO manuals as a No.6 model from 1911 through 1923. The only difference I can spot is that the far left Flanged Plate has lost one hole in height. The Plates on the ground by the girl don't look like MECCANO or MÄRKLIN.

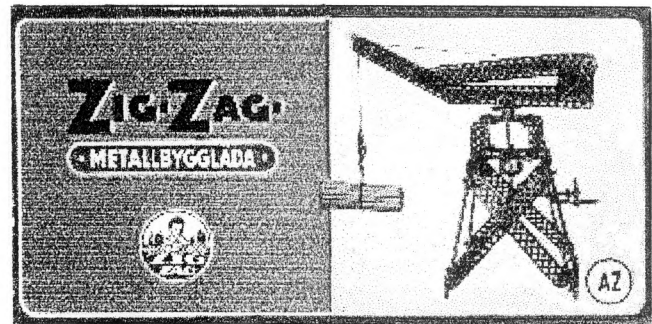
KONSTRUKTÖREN For this 'new' TRIX look-alike I've the cover or title page of a manual, 210*144mm deep, with on it: Modellbok, the name, & N:o 10, the number of the Set no doubt. On other pages are a short introduction, the illustrated parts and set contents.

All the common TRIX constructional parts (from UK

Units A,B,C) are shown plus the Flanged Plate (right), with an extra row of holes along the bends. There are also a few minor variations: the Spanner has no holes; the TRIX 87mm Spindle is listed as 85mm long, and is shown with much longer threaded ends; and the diameter of the Large Wheel Disc is given as 48mm Ø (not 49). Otherwise all the dimensions correspond. The Hook is the round pattern. The Bolt is listed as 7.5mm and is shown roundheaded; the Nut a small hexagon.

The 24 different parts are numbered from 1 to 47. The Set has 161 parts including 40 Bolts & 50 Nuts. The contents are roughly the same as Units A+B+C, with a few extra parts including one Flanged Plate, more Bolts, but fewer Nuts, and only 2 Large Discs, the number in the appropriate TRIX Unit prewar.

ZIG-ZAG A wooden system of this name had perforated strips held together by dowels. Quite elaborate models of a Motorcycle & Rider, a Travelling Tower Crane, & a Tramcar can be seen in a small picture of a box lid with N:o 28 on it. The makers also sold a metal ZIG-ZAG system with TRIX-like parts, and some can just be seen in the Crane on the box lid below. The left panel is red, and the right cream; in the righthand bottom corner is AZ or possibly A2. A small photo of a dealer's cabinet shows a wooden box with a lift-out tray; Tyres can be seen, probably in 2 sizes, and 2 Gears or Sprockets. Some parts look silver and others have a blue look to them, but that may be the light.



TEKNIK Most of the parts of this system in the 1960s are clearly shown in MCS, and though some of them are similar to MECCANO, mostly they are distinctive variants. Many Plates are flanged on one side only, and this allows flexibility in using the parts to best effect, and ease of assembly without the need for too many Brackets. TEKNIK parts and models are characterised by a certain delicate appearance arising from the variety of small Plates in the system, the range of rather light colours used, and the thin metal of the Plates and Gears. The practicality of the Gears may be questioned but the other parts, though light, aren't flimsy.

On the history, Staffan wrote that TEKNIK was made by a company called C.G.Stjernqvist Mekaniska Verkstad, principal Carl Gustav Stjernqvist (1900-1993). [If I've understood correctly, the Gustaf W. Jonsson mentioned in MCS was the extra part distributor.] Production started in 1936 with one size of set, a #2. In 1939-40 a new factory was built at Huddinge (Stockholm) and soon Sets 0-5 were available. In the early 1950s, perhaps 1953, Sets 6 & 7 were introduced, together with a number of new parts including A/Gs. Most of the parts were renumbered at that time. In the late 1950s, or 1960, two larger sizes of Rubber Tyre (supplied by Värnamo Gummifabrik) were added and included in Sets 5-7. The Sets were also enlarged slightly with 870 parts in the #7. The factory closed in 1970 and by that time 1 million sets had been sold, including exports to, for example, the U.S.A., Canada & Australia.

This account is mainly based on the following: • Parts

from Staffan and those in another large lot. • Two manuals kindly donated by Jim Gamble - one for Set III, that I'll call 'early-1940s', has parts not seen in later manuals, and the other, for Sets 2-4, from the 'mid-1940s', has later parts but is not in the format used subsequently. • Another manual, kindly given by Ray Weston, is for Sets 2-5 and dates from before the parts were renumbered - it will be called the 'late 1940s'. • A 'mid-1950s' manual in English, for Sets 2-7, from the time after the No.6 & 7 Sets were introduced but before the advent of the large Tyres. Also an English language Model Leaflet for a No.1 Outfit which may well date from the same time. • A manual (as in MCS) for Sets 1-7, almost certainly from the system's final phase, which I'll call the '1960s'. • A brochure from 1964 that shows the sets, and an identical one but with prices including tax (inkl. oms. skatt), and 1969 typed on it.

Apart from the Brochures none of the dates above are certain; they are my guesses within the framework provided by Staffan's history, to allow easy identification of the different manuals.

THE PARTS Both lots of parts contained a number not among the 90 in MCS, and they are mentioned below in curly brackets. Staffan wrote that some, the Plates for instance, have never been seen in unused sets, but may have been available loose, especially at the Stockholm factory. However, as will be seen, many of them are obsolete parts and one or two from my lot may be 'foreigners'. I'm suspi-

cious of the 28mm gold Pulley, the larger Worm, and the larger Hook. Parts are generally like MECCANO unless otherwise stated.

- **DATA** (in mm) **STRIP** (11-hole): •hole pitch/dia, 12.7/4.2; •width, 12.1-12.2; thickness, .78; •end: *. **BOSS**: •o/d, 9.0*; •i/d, 4.1; •brassed steel*; •double tapped. **THREAD**: $\frac{5}{32}$ " BSW. **AXLE** Ø: 4.00. **DP (Mod)**: 34 (.75). **NUT**: sq 6.4 A/F; **BOLT**: cheesehead* 5.9 Ø*; both brass steel. *see below.

- The **ends of Strips**, Brackets, etc are usually nearly fully rounded but are sometimes finished with a larger radius of between 7 & 8mm. There is usually less metal than normal outside the end holes, typically 2½-3mm, but sometimes less than 2mm.

- **Bosses** are typically 8mm deep, a few are brass, and a few are larger in diameter, as noted below. Peening is level with the face, or nearly so.

- **Strips** with 2,3,5,7,11,15,17,21,27 holes. The 2h Strip is a **Flat Bracket** with one 8½mm slotted hole. Some other lengths up to 7h have one end hole slotted, or sometimes both, with 8½ or 6½mm slots. All the 3h Strips seen have a 6½mm slot at one end. Most Strips are between .7 & .8mm thick, but short ones can be down to .5mm, and long ones up to 1.1mm. {Strips with 4,6,10 & 13 holes are known.}

- **DAS**: 1*3*1, 1*5*1, 2*3*2, 2*5*2h. Some of the 2*5*2 have 6½mm slotted end holes in the base. Also **Bossed DAS** - the 1st & 3rd above with an 'outside' boss at the centre hole.

- **A/Gs** with 5,7,11,17,27 holes. Corners have medium rounding and slots are 7mm o/a.

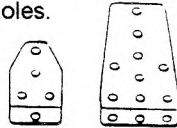
- **2-Flange Plates**: 5*5,7,11h, flanged along their long sides, with 7½mm slots in the flanges and the outside rows of the top. {A 3*5h with reversed flanges on the long sides, is shown later as the base of the Motor. All round holes.}

- **1-Flange Plates**: 3*3,5,11h, & 2*3,5,7,11h with the flange on the underlined side. All holes round, and made of thin, .5mm, steel. {Also 3*2,4,10h & 2*4,6h.}

- **Perforated Plates**: 3*5,7,11h; 4*5h; & (not seen) 5*11h, 7*17h. Again thin steel is used. {Also 3*4h & 4*6h}

All the Plates above have slightly rounded corners and only 2½-3mm of metal outside the outer holes.

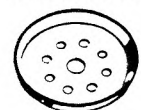
- Two unusual **Trunnions** (right): one 3h high with one central hole in the base, or, later, 3 holes at ¼" pitch; and one 5h high with a 3h base.



- **Brackets**. **Angle Bracket** made from the 2h Strip. **Reversed A/B** with a 6½mm slot. {1" **Rev. A/B** with a 9½mm slot.} **2*1h A/B** with a 6½mm slot in foot, and the same but the top hole slotted instead, as M12b. {3*1h A/B with a 9½mm slot in the foot.} **2h high Double Brackets**, one made from a 5h Strip, and another wider (19mm) & deeper, made from a 5h 3" Strip.

- **Pulleys** 23, 45 & 60mm Ø. The larger two have 8 face holes and 10.5mm Ø bosses. Black rubber **Tyres** for these with diagonal side to centre tread and **TEKNIK** moulded into the sides. A 14mm Ø turned brass **Loose Pulley**. {29mm **Pulley**, and a 28mm painted gold, the only part seen so finished - it looks like the other **TEKNIK** Pulleys except for a shallow groove where the V starts. Both these types have brass bosses. Also **Loose Pulleys**, similar to the 14mm, but steel, brass plated, 13 & 15mm Ø.}

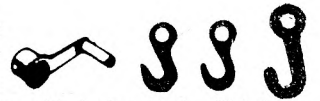
- **Pulley Discs**. 45 & 60mm Ø, from the Pulleys above, with an 8mm Ø centre hole. 17mm Ø (mine are 18mm) with a normal centre hole. {27mm Ø with no face holes; 37mm Ø with 6 face holes at 9mm radius; and a 30mm **Wheel Disc** which is the centre of the 37mm Pulley Disc.}



Also listed is the 52mm Ø **Wheel Flange** (Glidhjul) left, which appears to be flanged at 90° and is used as a steady for the slew motion of Cranes, etc.

- A 38mm **Bush Wheel** with 4 holes and 4 radial slots, 8mm long, in the disc. 2 & 3h long **Single Arm Cranks**, and 3 & 5h **Double Arm Cranks**, with no slotted holes in any of them. A **Pawl**, and a 15t **Ratchet Wheel**, 17mm Ø and 2mm thick. A **Collar** similar to the boss but 7mm deep.

The **Handle Crank** opposite with a 13*4mm Ø handle at 20mm radius. **Hooks** (right):

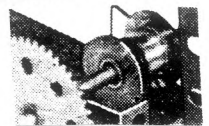


two almost identical, 21mm o/a, with holes that will take a Bolt but not a Rod, & a 28mm one that will take a Rod.

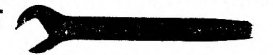
- An 18t **Pinion**, 14mm Ø with a 4mm wide face; solid brass, or brass plated steel with a separate boss. A 51t **Gear Wheel**, 38mm Ø, to mesh with the Pinion at 2h centres. It has 8 holes in the disc and is made of steel only .6mm thick. 3 **Bevels** (I'll call them) - gears with the rim formed at 45° - 18,38,65mm o.d. with 24,51,84t. All are made of similar thin steel, and the two largest are pierced with 8 holes. The 84 tooth has a boss of 11.0mm Ø. As well as meshing as bevels they can run with the other gears as spurs or contrates. A **Toothed Segment** (below), a curved strip of .8mm steel, with 29 teeth on the outside; 4 make a circle of 3" pcd, with 116t. Two types of **Worm**, one brass, 13.65mm o.d., 19.3 mm long o/a, & the other brass plated steel with a longer boss, 13.95mm o.d., & 20.9mm long. Both have 5½-6 turns of thread.



- **Axles** 300,200,115,85,60,30mm long. {The only one I have is 68mm long, with cleanly sheared ends.} A **Threaded Pin**, 25mm long o/a with 8mm of thread, and no shoulder. **Crank Handles** listed as 60 & 110mm. The ones to hand are 50mm o/a with a 15mm long handle offset about 13mm, sharp bends, and sheared ends. {A 16mm **Pivot Bolt** with 6mm of thread and a neat, unslotted, 6mm Ø head.} All these parts are nicely nicked. A 50mm **Screwed Rod** is listed. Another part not seen is the **Winding Drum** above - in a model, also above, it looks to be about ¾" Ø & perhaps a little wider than that.



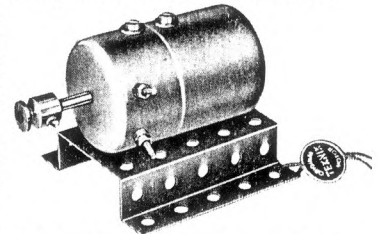
- The **Bolts** are listed as 5.5, 15, & 25mm. The 5.5 & 15 have neat heads, 3mm deep, and the 25mm has a round-head 7mm Ø. {Also seen a 13mm, and a roundheaded 36mm.} The **Set Screw** has a tiny cheesehead, typically 5mm Ø; it is listed as 5mm but the ones seen are less than 4mm u/h. **Washers** are a thin 10mm Ø and a 19mm like M38d. A wire **Screwdriver** is shown, and the **Spanner** is flat with a 4mm hole in the middle instead of the normal square opening. {The **Span'driver** opposite, 70mm o/a.}



- **Colours**. Parts are often found painted in various colours, and sometimes in all the colours used - blue, red, green, & silver. A few seen are different colours on their top & bottom surfaces. 3h Strips, small Brackets up to the 1*3*1 DAS, and other small parts, are often nickel, and a few of them are also known with a dull zinc-like plating. The sets are more consistent and commonly Strips are blue, A/Gs red, Plates red, green and silver, Pulleys red, Pulley Discs green, and Gears silver.

- The parts are well made and finished but, as might be expected the silver paint is easily marked, and the coloured paints flakes off fairly readily.

- A 4-12v **Motor** (below) was sold as an accessory. In an English language leaflet printed in Sweden it is explained that the terminals are on the side, and that the motor could be unbolted from the base and built into a model using the same bolts, or the ones on top. Staffan wrote that it was a disaster - he was given one at Xmas 1960 and it barely lasted into the New Year.



The '**Early 1940s**' The 'early-1940s' manual described overleaf has no covers but otherwise looks complete. It is unusual in the crosshatched lettering used for the name, and the Roman 3, presumably the Set No. There's a clear photo of each of the 45 models, but unlike most later manuals no parts list is provided for them, and no mention

is made of any other outfits or linking sets. Equally nothing to indicate the range of parts is included.

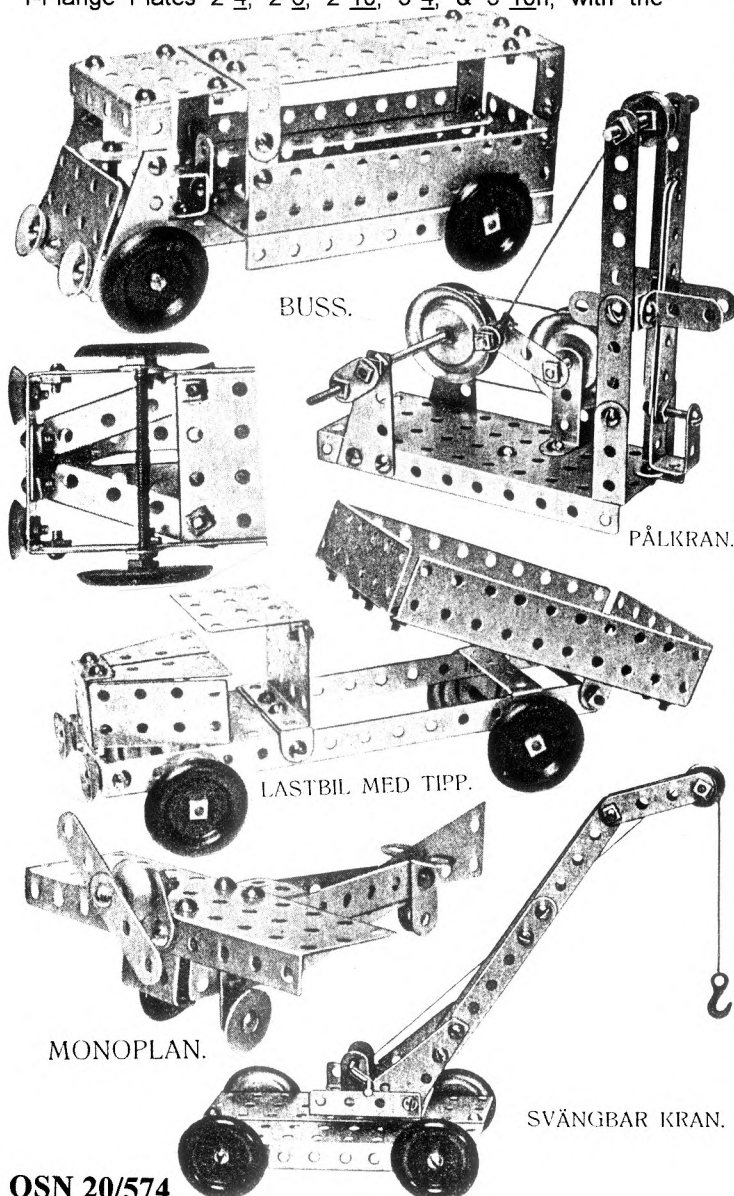
SUMMARY OF MANUAL •Name: TEKNIK III •No details of maker, dates, or Ref Nos. •Page size: 235*155mm deep. •No. of pages: 12 unnumbered exc missing covers. •Language: Swedish. •Printing: half-tones of models. •No Parts List or Set Contents. •Sets covered: No. III. •No. of models: 45. •Name, Page No. of first & last model: TRUCK,2; FLAKVAGN,12. (no Model Nos.) •Other notes: •The manual probably had covers, the



first page is shown above. •The printer is given on the bottom of p12: TRYCKERIAKTIEBOLAGET BJÖRKMANS EFTR, KUNGL. HOFLEVERANTÖR.

Three parts, which are not in later manuals, stand out in the models, and they can be seen in those below. The Pulley Discs are different in section with a distinct tyre shape around the rim, and they are used in pairs to form a pulley, or singly as a 'half' road wheel, often held by Nuts on Screwed Rods used as axles. They are on all the road vehicles instead of the Bush Wheels used later. The other parts are a 2*4h Triangular Plate with no holes along the hypotenuse, and the 3*2h 1-Flange Plate, flanged on a 2h side, which has already been mentioned as a non-1960s part. Two of the Triangular Plates are butted together to make the top of Lorry bonnets, and the 1-Flange Plate forms the radiator. Later the two Trunnions were used instead of these two parts. The Triangular Plate is widely used in the models and it's rather surprising that it was dropped.

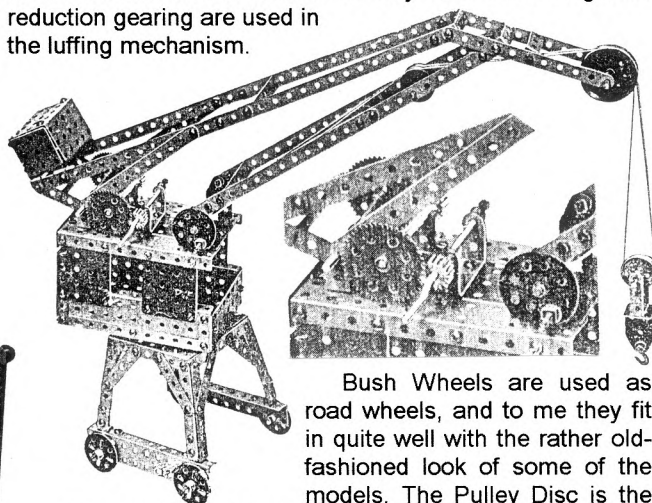
Other parts that can be seen in the models are: 1-Flange Plates 2*4, 2*6, 2*10, 3*4, & 3*10h, with the



flanged side underlined as before; Perforated Plates 3*4, 3*6, 3*10, & 4*6h; 2,3,4,6,7, & 10h Strips; 1*4*1 & 2*4*2 DAS; Brackets: 1*2, 1*3, & 2*1*2h; a Washer of about 20mm Ø, & a small Pulley Disc of perhaps 15mm Ø. A few of the small Plates are also shown with none but the perimeter holes, the 3*4h for example and the 2*4h 1-Flange Plate made from it. Many of the parts are 4 or 6 holes wide or long with no centre hole, and most are among the 'non-standard' parts noted earlier.

A wide range of models are included, although the emphasis is towards wheeled vehicles, mostly Lorries. None have any mechanical features, steering for example, but some at least are well proportioned and perhaps rather better than average in appearance.

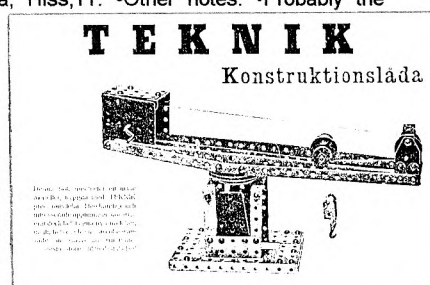
The 'Mid 1940s' The covers of the manual from this period, for Sets 2-4, are missing too but all the inside pages are intact. The name is in a different typeface, the photos of the models are smaller, darker, and less clear, and again there is no overall Parts List, nor one for any of the models. There is though mention of linking sets 2K & 3K. At the time it's likely that the largest set was the No.4 because on the last page the Crane below is shown which needs the parts from two such outfits. It won't be very clear but 2 stages of reduction gearing are used in the luffing mechanism.



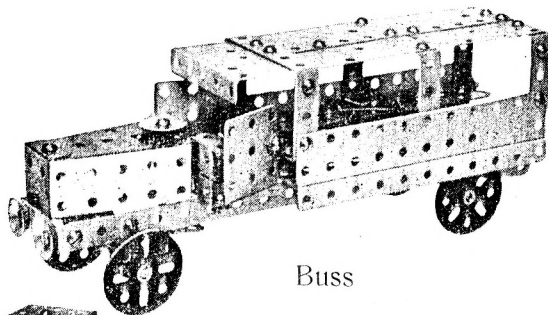
Bush Wheels are used as road wheels, and to me they fit in quite well with the rather old-fashioned look of some of the models. The Pulley Disc is the

later 8h type without the 'tyre', and in some models it is shown without the holes. The Trunnions serve as the bonnet top and radiator and this role may perhaps have driven their design. Even more fundamental, the 4h wide Plates are replaced by 5h wide ones and the 6h wide ones have gone completely. 11h long Plates, and an 11h Strip, supplant the 10h ones. 3 & 5h wide DAS replaces the 1*4*1h. No 4 or 6h Strips can be seen. Someone had seen the advantage of having parts with a centre hole. At this stage nearly all the parts of the next, late-1940s, period, can be seen except the 26h Strip, the 2h deep DAS, the 7h long Plates, the Bevel Gear, and the Toothed Segment.

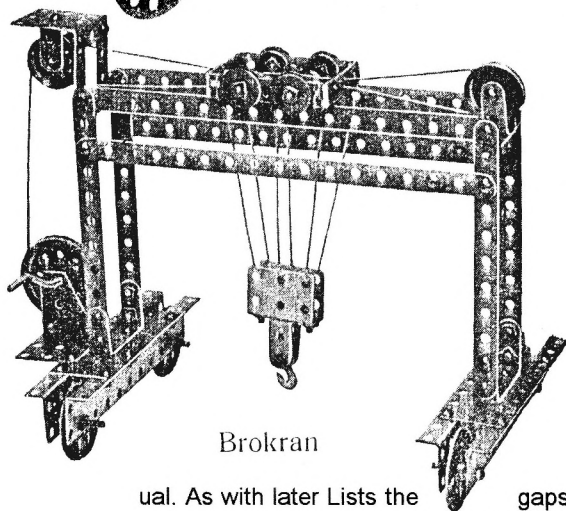
SUMMARY OF MANUAL •Name: TEKNIK •No details of maker, dates or Ref Nos. •Page size: 227*153mm deep. •No. of pages: 16 + (missing) covers. •Language: Swedish. •Printing: half-tones of models. •No Parts List or Set Contents. •Sets covered: 2,3,4. •No. of models for each set: 26,14,14. •Name, Page No. of first & last model of each set (no Model Nos.): 2: Sulky,2; Lastbil,7. 3: Stampmaskin,8; Arbetande gungbräde,11. 4: Mekanisk schaktskopa; Hiss,11. •Other notes: •Probably the covers are missing & opposite the first inside page, with the No.4 Löpkran from p14 on it. •The multi-jib Crane above, made from two No.4 Sets, is on p12. •On the last page is the name of the printer, BJÖRKMANS EFTR.



All the models are new although a number of the



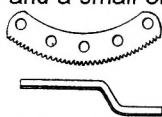
Buss



Brokran

ual. As with later Lists the gaps are because different types of parts start from 1, 21, 41, 51, etc. So the system at this stage was much simpler than the final 1960s product, with its over 90 parts.

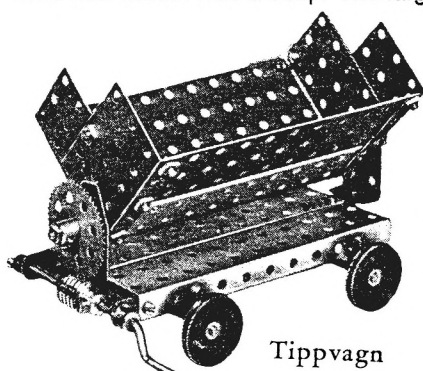
The Strips in the two are the same and so are the 1-Flange Plates, DAS, and Brackets, but there are no A/Gs or 2-Flange Plates. The two largest Perforated Plates are not listed. The 3 Pulley Discs are there, & the 45 & 60mm ones



than the large and small Bevels are present, but the Segment (left) is shown with all round holes. There are only 3 Axles,

60, 80, & 100mm, and the longer Crank Handle is 80mm instead of 110. The bends are shown as above. The same Spanner is illustrated but there's the Span'driver already mentioned instead of the later Screwdriver. All the Bolts other than the shortest are shown with round heads. Other parts not listed are Tyres, the Pawl & Ratchet Wheel, the Winding Drum, the Wheel Flange, Threaded Pin, Cranks, DAS, and the Handle Crank.

The Manual is for Sets 2-5 and has bright, attractive, coloured covers showing models and a boy wearing a collar and tie. No reference is made in it to any other outfits or to linking sets. A small halftone of each model is provided and a list of the parts needed to build it - just about adequate provided you didn't try the large models first. Quite a few of the models were in the 'mid-1940s' manual, but many had been changed or were new, although of a similar nature. One new model was a Jeep. The largest No.5 models only



Tippvagn

smaller ones are not greatly changed. Some for the No.4 Set are a little larger than any before, and the range of subjects is larger too, with a Chair-o-Planes ride for instance, and a Pit Head Gear. Mechanical features are limited to cord drives, & reductions using the Pinion and Gear Wheel. Two of the models are shown on the left.

The 'Late 1940s'

56 parts, numbered from 1 to 126, are included in the Illustrated Parts List in the 'late-1940s' Man-

SUMMARY OF MANUAL •Name: TEKNIK •Details of maker: none. •Dates &/or Ref Nos: none. •Page size: 231*159mm deep. •No. of pages: 12+covers. •Language: Swedish. •Printing: halftones of models, solid colour covers on yellow ground. •Page No. of Parts List & highest PN: IBC,126 [Illustrations on p12 & IBC]. •Sets covered: 2-5. •No. of models for each set: 11,8,8,8. •Name, Page No. of first & last model of each set (no Model Nos.): 2: Vagn,1; Bär-gningsbil,3. 3: Lyft-kran,4; Väderkvarn,5. 4: Bärningskran,6; Slänggunga,8. 5: Loko-motiv,9; Karusell,11. •Other notes: • Intro on inside front cover. • NVIUNDS LITO STNIN (some N's may be M's or W's) on back cover.



The 1950s The Parts List in the 1950s Manual shows the newly introduced A/Gs, and the only other differences compared to the final 1960s phase (as shown in MCS, and described earlier) are: • No 45 & 60mm Tyres. • No 18mm Bevel. • No 2" Screwed Rod, but a 2" Bolt instead.

Sets 1-7 and 2A-6A are listed on the back cover of the Manual, together with the number of parts and the box size for each. Oddly the number of parts in the 'A' Sets doesn't correspond to the differences between the main sets, and this is particularly marked for the smaller ones. Thus the No.2 & 3 have 121 & 151 parts, and a 2A has 60. Also listed is the 4-12v Motor. The cover illustration (below) is the same as the one in MCS except for the 'Handbook for building models with' along the top; the box shown open is probably the No.6 of this period.

SUMMARY OF MANUAL •Name: TEKNIK •Details of maker: none. •Dates &/or Ref Nos: none. •Page size: 296*208mm deep. •No. of pages: 24+covers. •Language: English. •Printing: halftones of models,



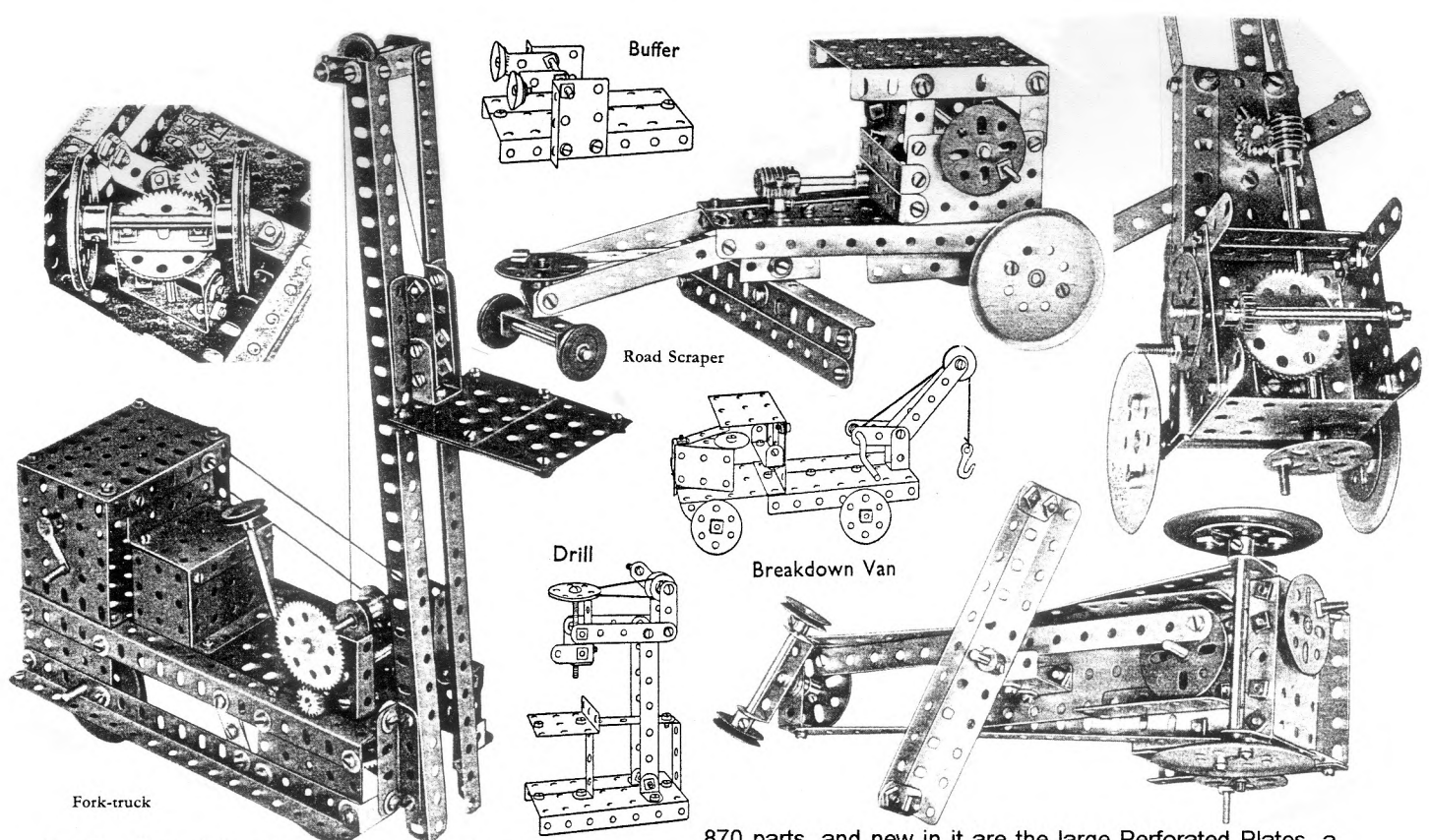
colour cover as in MCS, solid colours on blue/white ground. •Page No. of Parts List & highest PN: IBC,0149. •Sets covered: 2-7. •No. of models for each set: 15,8,8,7,5,3. •Name,

Page No. of first & last model of each set (no Model Nos.): 2: Wool-winder,2; Grinding Machine,6. 3: Mech-anical Shovel,7; Road Scraper,9. 4: Slewing Crane,10; Elevator,12. 5: Dockside Crane,13; Merry-go-round,16. 6: Dockside Crane,17; Lifting-platform for Motorcars,20. 7: Fork-truck,21; Turret Crane,24. •Other notes: the range of sets is on the back cover; Printed in Sweden, & the printer, Tryckeri AB Björkmans Eft, are on p24.

Of the 9 small models on the cover, 7 are from the Set 2-5 ones in the Manual, except that some have Rubber Tyres on 23mm Pulleys instead of the Bush Wheels shown in the Manual models. The 6-Wheel Lorry, is from the 'late-1940s' manual, and a 3-Wheel Cart isn't in any of the manuals seen.

New is a page showing lock-nutting, and standard constructions. The presentation of the models remains similar but the photos are much larger & clearer, and auxiliary views are provided for a few, and some words of explanation in one case. Some of the models for Sets 2-5 are from the 'late-1940s' manual but most are new or significantly revised, and cover a slightly wider range of subjects.

The No.6 & 7 models include several nice looking Cranes and the 2 models overleaf. Gears are used quite widely in all the models, and a 3/4-circle of the Gear Segments can be seen in a Pile Driver. Although the Tyre for the 23mm Pulley is included in the Illustrated Parts, and is shown in the Set on the cover, and in the page of Standard



Constructions, it is only used in one (No.6) model.

Probably from this period, an English language (Printed in Sweden) Model Leaflet for No.1 models. It is 502*156mm deep, folded into 4, & on the front is the 'mid-1940s' Gantry Crane shown earlier. There are line drawings of 41 models and all the main parts can be seen in the 3 above. The wheels are 6h Wheel Discs not included in the larger Sets.

The 1960s The range of parts in this final phase is that shown in MCS and described earlier. The sets are Nos.0-7, with linking sets 1a-6a, and the Tyre/Wheel Set 'G-H'. The Motor is unchanged. No official Set Contents are available but two 1964 Parts Order Forms to hand have the quantities for the No.6 & 6A typed in, & the 1964/69 Leaflets show photos of most of the sets, with the box sizes, price & number of parts for each. These details are also of the back cover of the 1960s manual. The No.1 has the same number of parts as in the 1950s, the others a few more, with 870 in the No.7, 16 extra. Again the numbers of parts in the linking sets don't tally, by about 10 or so in most cases. The box sizes are the same except for Sets 1-3 & 6A. All the box lids are similar to the one left, and a manual, with the MCS cover, is shown by all the sets except the No.0.



The No.0 has 93 parts including 2x 2*7h 1-Flange Plates, some smaller Plates and short Strips; 4 of the 30mm 6-hole Wheel Discs and 2x 45mm 6-hole, non-standard, Pulleys Discs; Brackets, a Hook, and a Short Crank Handle. This Set seems to be broadly equivalent to the 1950s No.1. The No.1 has the same number of parts (including about 15 N&B) but doesn't follow on from the No.0. It has 1-Flange Plates up to 11h long, and 2 each of Bush Wheels & Small Pulleys with Tyres replace the 4 Wheel Discs. Extra in the No.2 are 11h Strips, Trunnions, and 2 more Small Pulleys/Tyres. The No.3 has 170 parts and boasts 15h Strips and 2x 60mm Pulley Discs. The No.4 (233 parts) includes a Pinion & Gear Wheel, and a Pawl & Ratchet Wheel, while in No.5 are 2x 27h A/Gs, 2x 45mm Pulleys with Tyres, and more gears including a Small Bevel, a Worm, & 2 Toothed Segments. Extra in the No.6 (466 parts in 2 layers, including about 97 N&B) are 2x 27h Strips, 2x 27h & 8 other A/Gs, 2x 60mm Pulleys & Tyres, 1 each of the 2-Flange Plates, 2 more Toothed Segments and 1 each of the two larger Bevels. The No.7 has 3 layers with

870 parts, and new in it are the large Perforated Plates, a Wheel Flange, and 2 more of the 45mm Pulleys with Tyres. In all it contains 6x 27h & 22 other A/Gs, 13 Gears, and about 220 N&B. The G-H Set isn't illustrated but has 80 parts and cost 20% of the No.7.

The presentation in the manual is identical to the 1950s one, and the cover is the one in MCS. Most of the small manual models now have small Pulleys & Tyres as road wheels instead of Bush Wheels, and though this is an improvement in some cases, they are too small for some models and don't really look well with the unchanged, pre-war look Lorries. The larger Tyres though are just right for the No.6 & 7 models.

A number of the 1950s 2-5 models are included though many have been improved, and in most cases a different photo is used. Some are shown for a smaller set than before. Many are new models and while they are perfectly respectable, none look modern, due no doubt to the lack of any curved or curveable Plates. No TEKNIK models requires any part to be bent, apart from a few Angle Brackets.

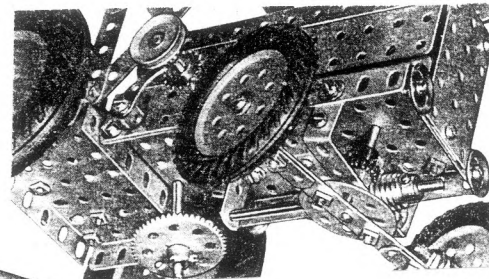
Most of the No.6 & 7 models are new or improved, and most look well, witness the Fork Lift Truck and Mechanical Shovel shown in MCS. At the top of the next page two No.6 models - I made the Shovel and it looked and worked well when finished, though the controls weren't very convenient to use. Raising the bucket arm using the Toothed Segment was entirely satisfactory, rather to my surprise, but the steering was sloppy with the (about right) overall gearing achieved with a step-up in the first stage, followed by a large reduction using a Worm.

I also made one of the simple Lorries shown earlier, elaborated slightly to match the one on the manual cover. The parts all fitted together easily, partly due to the lack of metal outside the edge holes of the Plates. This does give gaps between many adjacent parts, but, as with holes in a regular pattern, they don't stand in the finished model.

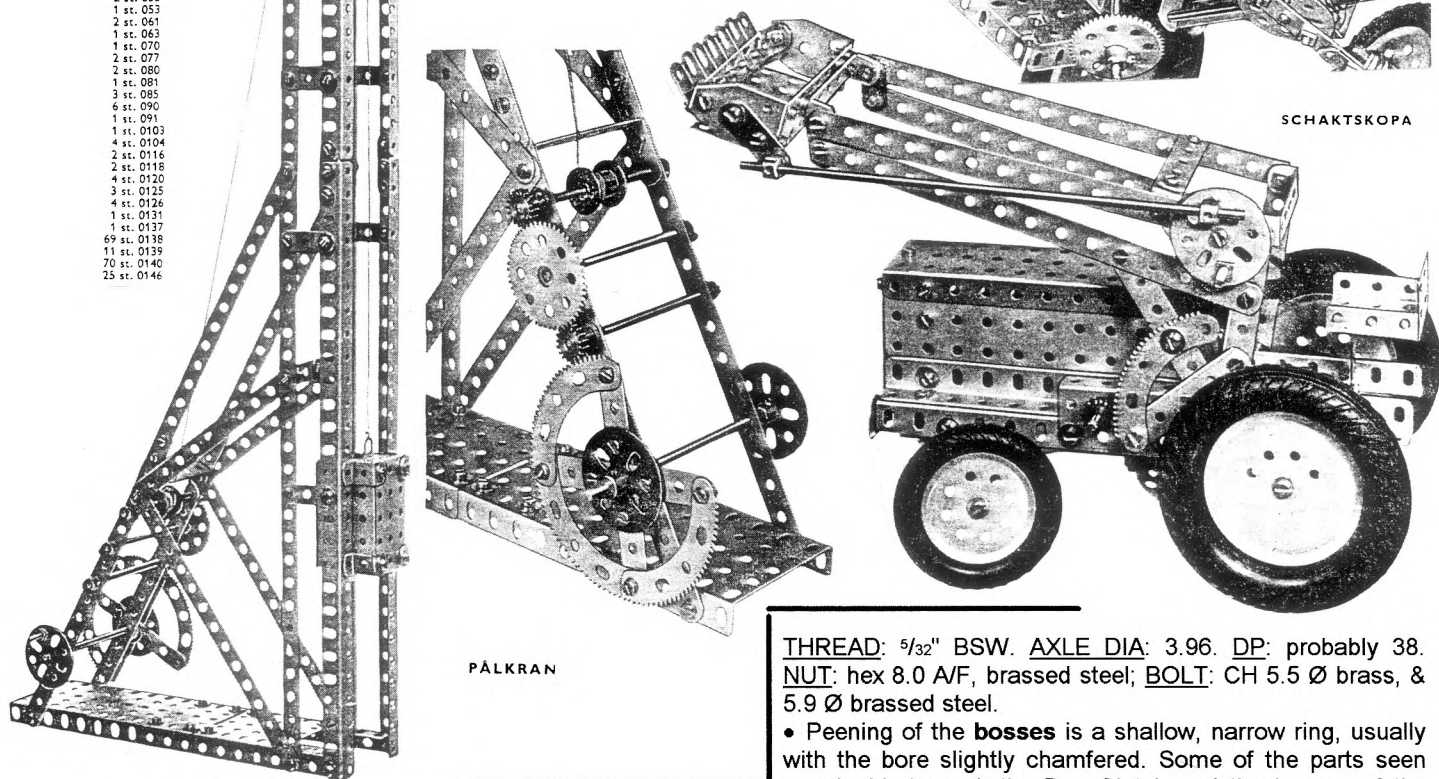
SUMMARY OF MANUAL [Details not given are as before] •Language: Swedish. •Page No. of Illustrated Parts List & highest PN: 25 (IBC), 0149. [No Set Contents] •Sets covered: 1-7. •No. of models for each set: 7,8,8,7,6,4,3. •Name, Page No. of first & last model of each set [no Model Nos.]: 1: SEMAFOR,2; KÄRRA,3. 2:TRAKTOR,4; LASTBIL,6. 3: GRÄVSKOPA,7; BÄRGNINGSBIL,9. 4: JEEP,10; MASTKRAN,12. 5: HAMMARKRAN,13; KARUSEL,16. 6: VÄGSKRAPA,17; PÅLKRAN,20. 7: GAFFELTRUCK,21; TORNKRAN,24. •Other notes: •The printer, TR.AB BJÖCKMANS EFFTR, is on p24. •Jonsson AB on p25 is a source of extra parts. •The range of sets is on the back cover.

DELAR
2 st. 01
4 st. 03
4 st. 04
2 st. 05
7 st. 07
8 st. 08
2 st. 015
4 st. 017
1 st. 025
1 st. 027
3 st. 032
2 st. 033
1 st. 033
2 st. 061
1 st. 063
1 st. 070
2 st. 077
2 st. 080
1 st. 081
3 st. 085
6 st. 090
1 st. 091
1 st. 0103
4 st. 0104
2 st. 0116
2 st. 0118
4 st. 0120
3 st. 0125
4 st. 0126
1 st. 0131
1 st. 0137
69 st. 0138
11 st. 0139
70 st. 0140
25 st. 0146

DELAR
4 st. 04
6 st. 06
3 st. 07
7 st. 08
8 st. 09
2 st. 016
2 st. 019
1 st. 025
1 st. 026
2 st. 031
2 st. 033
1 st. 035
2 st. 036
1 st. 037
2 st. 051
1 st. 052
1 st. 053
2 st. 060
1 st. 061
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2 st. 070
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2 st. 072
2 st. 074
2 st. 075
2 st. 076
2 st. 077
3 st. 080
1 st. 082
1 st. 085
1 st. 086
7 st. 090
1 st. 091
1 st. 092
1 st. 093
1 st. 0102
3 st. 0103
1 st. 0105
1 st. 0115
2 st. 0116
2 st. 0118
8 st. 0125
3 st. 0126
4 st. 0136
11 st. 0137
78 st. 0138
4 st. 0139
97 st. 0140
2 st. 0145
25 st. 0146



SCHAKTSKOPA



PÅLKRAK

MEKANIK This system was made from 1948 to 1958 by Hedbergs Verkst  der of Osby, in the south of Sweden. The owner of this firm been fond of MECCANO/M  RKLIN as a boy and decided to use the metal scrap from his factory to make his own system. At first it was called MECANIC but Staffan wrote that the name was soon changed after a legal complaint by Meccano Ltd., who thought it too like their own. With over 140 parts it was quite a comprehensive system, and although some of them are rather unusual, many are conventional, and often with a M  RKLIN flavour. In character MEKANIK is quite different to TEKNIK, with extra strong, solid parts painted in strong colours, mainly medium red and dark green, but with some blue Plates.



After the company name in most of the manuals is 'AVD. TEVE', which may mean TEVE Division. If so this may explain the logo (left), which has the letters T & V in its centre, and appears on all the manual covers. The AVD TEVE manuals also carry the lower version in the introductory pages, and it has the company name within the annulus.

This account is based on some sample parts; some illustrations from Staffan's Web site; a '1948' manual, with 1948 after the printer's name; a smaller manual from the same period, the '1948 1-2'; two later manuals of the type most commonly found, for Sets 1-5 and 6-7, which I'll call the '1952 1-5' & '1952 6-7', because there a 1952 after the printer's name on the 6-7; and a Price List that seems to come from between the '1948' and '1952', so will be called the 'c1950'. However, for reasons to be explained, there a doubt about this chronological sequence.

THE PARTS The parts mentioned below are those seen, and others that are unusual. All are shown in MCS and are similar to the MECCANO pattern unless otherwise stated.

• **DATA** (in mm) **STRIP** (9-hole): •hole pitch/dia, 12.7/4.2; •width, 12.65; thickness, 1.05; •8mm end radius. **BOSS**: •o/d, 9.0; •i/d, 4.05; •brass; •single tapped but see below.

THREAD: 5/32" BSW. **AXLE DIA**: 3.96. **DP**: probably 38. **NUT**: hex 8.0 A/F, brass steel; **BOLT**: CH 5.5   brass, & 5.9   brass steel.

• Peening of the **bosses** is a shallow, narrow ring, usually with the bore slightly chamfered. Some of the parts seen are double-tapped: the Dog Clutch and the bosses of the Bush Wheel and Slide Piece.

• Of the **Strips** seen (9,6,5,4,3h,3h with 1 end hole slotted, 5 & 7h with both end holes slotted) some have nearly fully radiused ends and some are like the 9h described above. The **Curved Strip** is M  RKLIN pattern with slotted end holes and 3h long centre slot. The shorter **Strips** are thinner than the 9h, down to .75mm for the 3h. Both the 3h ones are nicked, the rest are green. **Strips** longer than the 9h have 11,16 & 25h.

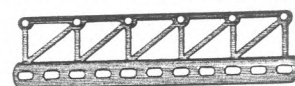
• **AGs** are green and a 25h is listed as well as those seen (5,7,9,11,16h). They are like M  RKLIN with almost square corners but the bend point increases the width of the slotted arm by 1/2mm with a corresponding reduction in the other. The corresponding **Flat Girders** are painted red.

• As well as the 5*7h, 5*5h, & 7*9h **Flanged Plates** seen, there are 5*11h, & 7*11h, all flanged on the sides underlined. None has any slotted holes but the 8h long Flanged Sector Plate has 6 1/2mm slots in the flanges, slightly shorter than those in the M  RKLIN part, to which it is otherwise similar. The unusual sized Flanged Plates are blue, the others red.

• **Perforated Plates** are listed as 3*3,5,11h; 5*5,9h; and 7*11,13h. All holes are round. The last three sizes were also made as thinner **Flexible Perforated Plates** (PN 81-83). A pair of the 5*9h size have been seen and are .78 & .35mm thick, and the latter is not very flexible. All these Plates are blue.

• The true **Flexible Plates** are made of aluminium painted blue on one side. The M  RKLIN hole pattern is used with all the outside holes slotted lengthways and no centre hole. 7 sizes were available: 3*5,11,16h and 5*5,11,16,25h. The ones seen vary in thickness from .35mm for the 3*5h to .5 for the 5*16h.

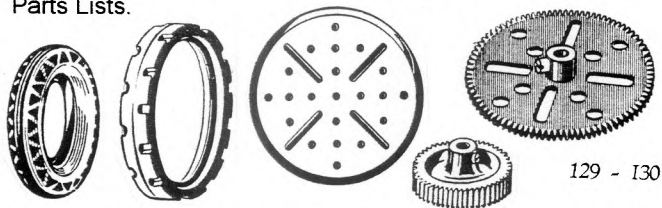
• The **Braced Girders** are red, 5,7,9,11,17,25h long, and of the unique design shown below. This allows them to be used alone to give diagonal bracing, or with two parts overlaid to give an X-pattern,



or as an attractive railing.

- 3 complete **Pulleys** are listed, a 14mm like M23, a 25mm with boss (nickel), and a 20mm without boss, with no holes in its face. There is also a nickel 25mm Pulley with a straight across dog clutch groove in the boss. Three other Pulleys can be made from 45, 60, & 100mm red **Pulley Discs** bolted to **Bossed Pulley Discs** (identical Discs with a centre boss). The smaller ones have 8 holes on a 1" pcd; the 100mm is shown below (centre). The actual parts also include a 21mm Ø nickel Pulley Disc and from the models it may be that the 20mm Pulley above consisted of 2 of these Pulley Discs.

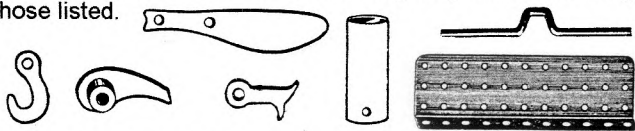
- **Tyres** to fit the Pulleys comprise an unusual Tractor Tyre (below) for the 60mm, and normal ones, also below, with a triangular tread on each side, for the 25, 45 & 60mm. The latter size hasn't been seen but all the others have TEKNIK moulded into one sidewall. Also among the parts, a small pale green Tyre with a similar tread but no name: it might fit the 14mm Pulley but isn't included in any of the Parts Lists.



- No **Gears** have been seen but those listed are 19 & 25t **Pinions**, plus a 25t with dog clutch boss; 56, 75, & 100t **Gear Wheels**; 25 & 50t **Contrates**; and a **Worm**. The 19 & 56t Gears can be seen meshing at 2 hole spacing in the models, so the DP is probably about 38. Another **Gear** looks like an M31 (see above) and is listed as 27mm Ø but with 50 teeth. In a model a pair mesh at 2h spacing and so the number of teeth quoted may be wrong. The 75/100t Gears (illustrated as above), of 54 & 71mm Ø, have never been seen and may not have been produced. 18 & 36t nickel **Sprockets** complete the gearing.

- The **Brackets** seen are a Flat Bracket somewhere between the MECCANO & MÄRKLIN patterns; a Double Bracket, & 1½" Double Bracket with 3 holes in each side, both MÄRKLIN pattern; a Double Bent Strip; a 1*3*1h DAS; and a 3*3h T-Bracket. All are nickel.

- Other parts examined are an 8h red **Bush Wheel** listed as 40mm Ø but actually 38mm; the flat nickel **Hook** below, 28mm o/a; a neat nickel **Slide Piece**; and a brass **Dog Clutch**. The **Axles** with the parts are bright with neatly sheared ends but at 35 & 85mm long they are not among those listed.



- Noteworthy parts not seen are the small **Pawl**, and one like M147a but without the small hole (both above); 65 & 150mm **Crank Handles**; a **Coupling** which looks to be MECCANO rather than MÄRKLIN pattern; a **Single Arm Crank**, and 3 & 5h long **Double Arm Cranks** with no slotted holes; a **Fork Piece** which appears to be the wide Double Bracket fitted with a boss; and (above) the **Propeller Blade** and the **Sleeve Piece**, the latter looking about 1½" long in the models.

Three other parts are listed but have never been seen and may not have been produced: a **Crankshaft**, and 1-**Flange Plates**, 3*5 & 3*11h (see above).

A MECANIK Set A small photo of a No.5 Outfit shows a cardboard box with a lift out tray & card partitioning. The label on the lid looks, apart from the name, just like most later ones, with 3 boys, a large red & green Loco on a table, and a Crane & Mono-plane on the floor.

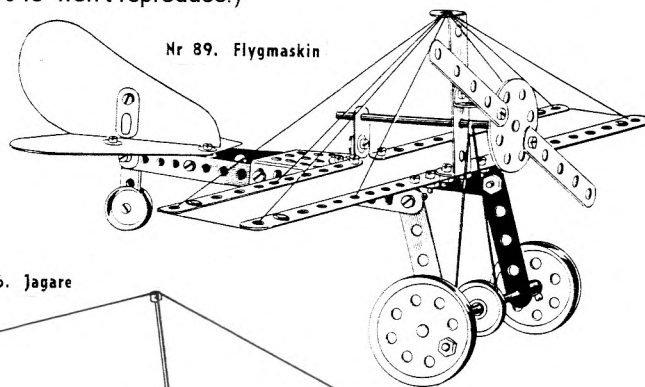
'1948' The Manual gives details of 54

parts, numbered 1-52 plus 17b & 18b, and Sets 1 to 5, plus linking Sets 1a to 4a. It isn't certain that this was the total range of parts and sets at the time but it seems likely. The main parts were all the Strips except the 16h; the Curved Strip and 1*5*1 DAS; 4 A/Gs from 7 to 25h, including the 16h; the 5*11h & 5*7h Flanged Plates, and the Flanged Sector Plate; all the Brackets except the 1*2h A/B; all the Pulleys from 20 to 60mm; the 19 & 56t Gears, and the Worm; and the Bush Wheel, Hook, & small Pawl. So no Tyres and no Flexible Plates. The main parts in the No.1 Outfit were a 5*11h Flanged Plate, 11 Strips (5 & 11h), a DAS, 4x 25mm Pulleys, a Bush Wheel, and 25 N&B.

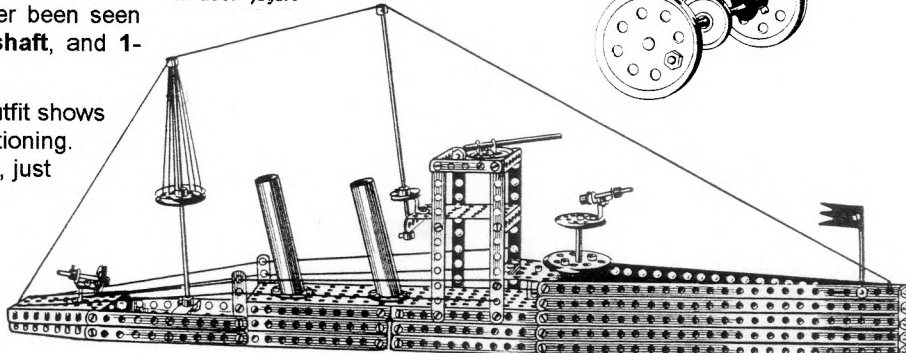
The sets were progressive except that in the No.2, 4x 45mm 2-part Pulleys replaced 3 of the 4x 25mm in the No.1. All the parts were in the No.5, including 60 Strips, 18 A/Gs, 7 Flanged Plates, 8 each of Bush Wheels and 2-part, 45 & 60mm Pulleys; 1 each of the Gears, & 125 N&B - 537 parts in all. A photo of the No.5 is on the back cover of the Manual and the box looks just like the MECANIC one although the arrangement of the parts is slightly different. Up to 10 MÄRKLIN-style Paper Clips are listed in the Set Contents, but many more than that can be seen in the No.5 holding the parts. The label on the lid (right) is quite different to the MECANIC one, and to later ones: it shows a rather stylised small boy & girl with a MECCANO Crane carrying a doll (or baby?) upside down on its Hook.



The cover of the Manual is shown in MCS; it is in full colour but is rather sombre, with dark green curtains and the wall & floor in shades of brown. 3 children on a mat are playing with various models including a reasonable Eiffel Tower that isn't in the Manual. All known manuals have this cover and oddly the colours of the parts are wrong, with red & blue Strips and A/Gs, and blue Plates & Pulleys that should be red. The 2 sets shown are in green boxes. Inside there are lots of models, with a large, rather dark photo, and a Parts List for each. They cover a wide range of subjects, and while some are old MECCANO favourites, many more are adaptations of prewar MÄRKLIN designs, and many, especially the smaller ones, look to be original. It must be said though that in the main they are rather uninspiring. Ignoring the Cranes, Hammers, & rudimentary Lorries, the No.2 Flying Machine below is one of the models which to me has some charm (plus a drive from the wheels to the prop), and the Destroyer, from the No.5 Set, is another that caught my eye. Like a number of the others, both need parts cut from card. (The illustrations are actually of identical models from a later manual because the photos in the '1948' won't reproduce.)



Nr 256. Jagare



SUMMARY OF '1948' MANUAL •Name: MEKANIK •Details of maker: Hedbergs Verkstäder, Avd. Teve, Osby. •Dates &/or Ref Nos: PR on BC: A-B. W.ERIKSON & C:o OSBY 1948. •Page size: 285*203 deep. •No. of pages: 56 unnumbered inc covers. •Language: Swedish. •Printing: halftones, models in B&W, colour cover as in MCS. •Page Nos. of Ill. Parts List & highest PN: 53-54,51. •Page No. of Set Contents & highest PN: 55,52. •Sets covered: 1-5. •No. of models for each set: 25,45, 24,26,15. •Name, Model No., Page No. of first & last model of each set: 1: Bjälkvagn,1,6; Kälke,25,12. 2: Transportabel svängkran, 70,13; Barnunga,114,25. 3: Mastkran,150,26; Svängkran,173,35. 4: Lastbil, 200,36; Svängbro med landgångar,225,44. 5: Varnhiss,250,45; Hamnkran på spår,264,52. •Other notes: (i) The Illustrated Parts on p53-54 are halftones. (ii) Set 5 is shown open on the BC.

Another manual believed to be from this time has a similar presentation and the Model Nos. correspond, but the numbers of models for Sets 1 & 2 are drastically reduced, and there are only sample models for the larger sets. Unlike the other manuals seen it has paper instead of card covers, and is stapled and not bound.

SUMMARY OF '1948' 1-2 MANUAL (Items omitted are as above.) •Dates &/or Ref Nos: none. •Page size: 277*204 deep. •No. of pages: 16 unnumbered inc covers. •No Parts List. •Page No. of Set Contents & highest PN: 16,52. •Sets covered: 1-2. •No. of models for each set: 14,13. •Name, Model No., Page No. of first & last model of each set: 1: Bjälkvagn,1,5; Gunga med ryggstöd,21,8. 2: Dragkärra,72,9; Garn+haspel,91,12. •Other notes: sample No.3,4,5 models are on pp10,11,12: (158,Lastbil - 160,Klockstapel; 218 Svängkran på vagn - 220,Mastkran; 258,Svängbar hamnlyftkran - 259,Väderkvarn).

'c1950' The Price List thought to be from this time shows all the later parts through #112, that's to say all but the Flexible Plates, Braced Girders, and those mentioned earlier that may not have been produced. #113 & 114 are also shown as Manuals for Sets 3-5, and 1-2, but those PNs were later used for other parts. The illustrations of the parts are line drawings, as in all later manuals, and not the photos used in the '1948' Manual.

The list of sets is interesting with the full range being shown, that is: 1-7, 1a-6a, 1S, 2S, 3S, & 5S, with prices and numbers of parts, but in addition Nos. 8, 9, 7a, 8a, 4S, & 6S, but without prices or numbers of parts. It is supposed that these sets were never produced. The List is thought to be from the time when the 6 & 7 Sets were being introduced because in the Parts List, and in the Set Contents on the back of the Price List, the Manuals for Sets 1-2 & 3-5 are listed, but nothing is said of a 6-7 Manual.

The contents of Sets 1-5 remained unchanged. The No.6 was nearly 50% bigger than the No.5 with 175 N&B, Tyres, 6 Couplings, 2 more Gears and 2 Sprockets, 2 of the Sleeve Pieces, and 2 each of the 100mm Pulley Discs & Bossed Pulley Discs. The No.7 was 40% bigger than the No.6 with 250 N&B and all of the parts in the then range except some of the Plates, but including all the Flexible Perforated Plates. Among the parts 32, A/Gs including 12x 25h, 2 each of all the Flat Girders, 11 Gears, & 2 Sprockets.

The parts in the S (for Special) Sets were to supplement the standard set of the same number, and the main items in them were Tyres in the 1S - 3S, with extra Pulleys for them where necessary, and Gears in the 5S, plus for all, a selection of other parts, most of them newly introduced and not in Sets 1-5. They weren't large sets though, with only 34 parts in the 1S, rising to 71 in the 3S, and with 50 in the 5S. There's no particular pattern to the additional parts that I can see except that there are from 4 to 8 Flat Girders in the 1S - 3S, and 4 & 8 Flanged or Perforated Plates in the 2S & 3S. But nice presents for any enthusiastic boy and the 1S & 2S actually cost more than the standard No.1 & 2, and more than the 1a & 2a linking sets.

Also in the Price List is a wooden Box for '6-7', which I suppose means 6 or 7. Probably at this stage all boxes were of cardboard, but later the 6 & 7 were packed in wooden boxes. Incidentally the main sets were in green boxes, the linking sets in red, and the 'S' sets in blue ones.

'1952' Both manuals from this time, the 1-5, and the 6-7 with the 1952 PR, list the full range of parts, and Sets 1-7,

1a-6a, and 1S-3S & 5S. Manuals 1-2, 3-5, & 6-7 are listed in the '6-7', and so follows the pattern of the '1950' List; the '1-5' has 1-2, 1-5, & 6-7 and may be later.

This is the manual in which the 'AVD. TEVE' is omitted after the firm's name, and it is the one that prompted the earlier remark about the uncertainty over dates. The reason is that although the name MEKANIK is used in most of the manual, the full range of parts is shown on the inside back cover under the name MECANIC. Another thing is the MCS entry for MECANIC, which has that name on a manual cover different from any of those described here, and, under that name, shows the Contents of the same range of sets as in the '1952' manuals, as well as all of the parts.

That would seem to indicate that the final range of sets, and the full range of parts, were available during the time when the MECANIC name was being used. And either that was early on before the name was changed to MEKANIK, or the name was changed back to MECANIC at some late stage. Staffan thought a late change unlikely.

For any seeker after truth there's one other thing worth noting - the name MEKANIK on the front cover of the '1952 1-5' is in red on a silver panel, instead of the normal black, and the red/silver is overprinting, and has obliterated whatever was there before. MECANIC perhaps, but the lid of a set is shown on the front cover, as on all the MEKANIK covers seen, and the name on it is MEKANIK.

In both '1952' Manuals the Set Contents are identical except for some obvious errors in the '1-5'. Compared with '1950' the 'S' Sets stayed the same, and for the others the number of 25mm Pulleys was increased to four in Sets 2-5, and the Paper Clips were omitted. So if this was the final stage the Flexible Plates and Braced Girders were never included in any of the outfits.

The parts in a No.1 & a 3S shown on the rear cover of the Manuals look to be strung onto card. The No.6 there is in a wooden box with tray and detachable lid, and the parts are separated by wooden partitions. A small photo of a No.7 shows a similar box. The labels on the lids of the main and linking sets are similar to that of the MECANIC Set mentioned earlier; that of the S Sets (right) is entirely different with the name in red on white, the top triangle yellow, and the bottom one blue. However the top of the No.6 label that can be seen on the back cover of the manuals looks like the S-type. The standard one is on the lid of the No.1 on that cover, and on No.7 in the photo.



label that can be seen on the back cover of the manuals looks like the S-type. The standard one is on the lid of the No.1 on that cover, and on No.7 in the photo.

SUMMARY OF '1952 6-7' MANUAL (Items omitted are as before.) •Name: MEKANIK •Dates &/or Ref Nos: PR on BC: A-B. W.ERIKSON & C:o OSBY 1952 (& on p1 without the date). •Page size: 288*205 deep. •No. of pages: 36+covers. •Printing: line drgs of models & parts cover as before but 6-7 in black at top right. •Page Nos. of Parts List & highest PN: 36,202 (parts shown on IBC). •Page No. of Set Contents & highest PN: 34-36,202. •Sets covered: 6-7. •No. of models for each set: 14,13. •Name, Model No., Page No. of first & last model of each set: 6: Tramp-hammare,501,11; Hammarverk,514,20. 7: Vägskrapa, 515,21; Timmervagn,527,34. •Other notes: (i) The 7 last No.7 models also need an S Set. (ii) 11 No.5 models are shown on pp4-10, from Nr 255. Svängbro med bom, to Nr 265. Hamnkran på spår. (iii) Sets 1,3S,6 are shown open on the BC.

SUMMARY OF '1952 1-5' MANUAL (Items omitted are as before.) •Name: MEKANIK •Details of maker: Hedbergs Verkstäder, Osby. •Dates &/or Ref Nos: none. •Page size: 292*206 deep. •No. of pages: 56+covers. •Printing: line drgs of parts & most models but some models halftones, cover as before but red name, & red 1-5 at top right. •Page Nos. of Parts List & highest PN: 56,202 (drgs on IBC). •Page No. of Set Contents & highest PN: 54-56,202. •Sets covered: 1-5. •No. of models for each set: 25,45,24,25,15. •Name, Model No., Page No. of first & last model of each set: 1: Bjälkvagn,1,4; Kälke,25,10. 2: Transportabel svängkran,70,11; Barnunga,114,23. 3: Mastkran,150,

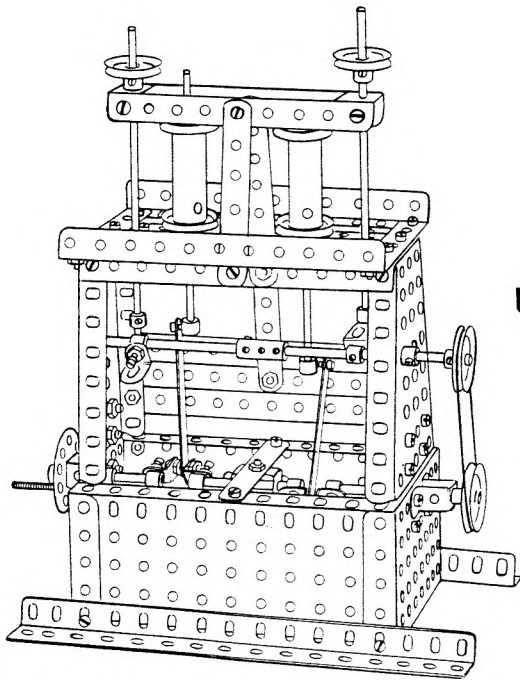
24; Svängkran,173,33. 4: Lastbil,200,34; Svängbro med landgångar, 225,42. 5: Varnhiss,250,43; Hamnkran på spår,265,52. *Other notes: (i) 5 No.6 models are on pp52-54, from Nr 508. Garnvinda to Nr 505. Flakvagn. #510 & 511 are wrongly labelled as No.5 models & #505 as a No.7. (ii) The No.6 #501 is shown instead of #223; #254 is missing. (iii) Sets 1,3S,6 are shown open on the BC.

The models in the 1-5 are the same as those in the '1948' manual but nearly all, apart from the No.4 models, are now shown as clear line drawings instead of photos. For Model 99 a new photo replaces the old one for no obvious reason, and Model 203, for Set 4, is replaced by a No.6 model, 501. Most of the No.5 Model Nos. are different and because No.254 isn't used, the last model is now No.265. After the No.5 models there are five No.6, 3 of them wrongly labelled as either No.5 or No.7 models.

The models look rather better to me as line drawings, the No.3 Crane Nr 151, below right, for example.

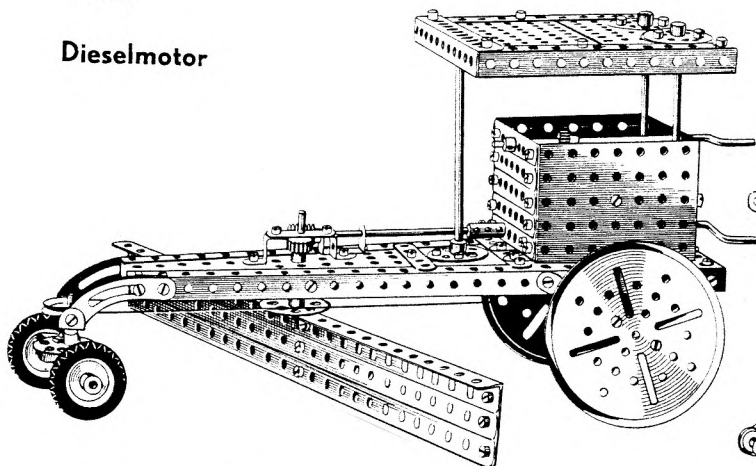
All the models in the 6-7 manual are line drawings.

The only photo is of a huge (real) marine diesel alongside the not too impressive model (below, left) - such unfortunate comparisons were a feature of some TRIX manuals. A MÄRKLIN-style 5*11h Flanged Plate can be seen in the model, a carry over no doubt from a very similar MÄRKLIN No.3 model. A similar Plate can be seen in the Wire Rope Machine shown in MCS/FB. As for the 1-5 models, most are obviously MECCANO or MÄRKLIN inspired, with a sprinkling that I don't recognise. The models below are some of the latter; notice the pair of 27mm Gears meshing at 1" centres in the Punching Machine. Some of the No.7 models need parts from an 'S' Set, but none really do justice to the contents of the Outfit, with all but 3 of the models needing less than 100 of the 250 N&B available, and some require less than 50. The largest model, a Crane, needs 173 and the Digger below, 113.

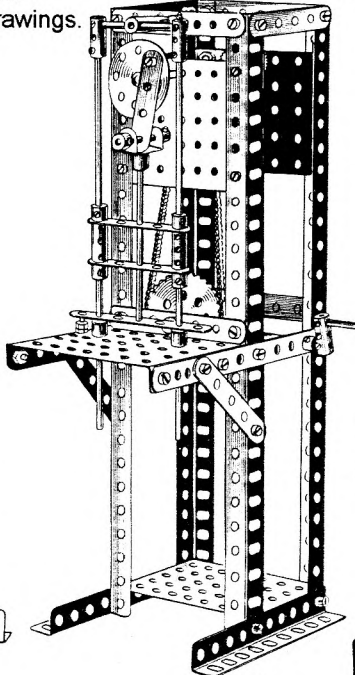
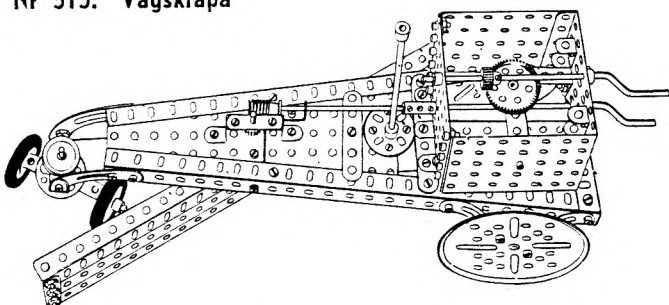


Nr 522.

Dieselmotor

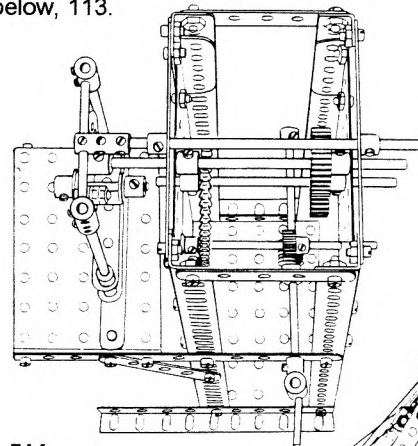


Nr 515. Vägskrapa

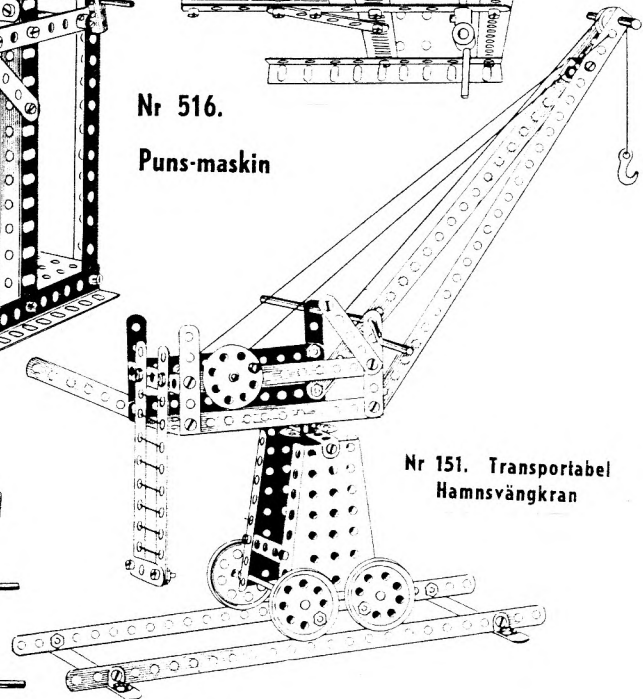


Nr 516.

Puns-maskin

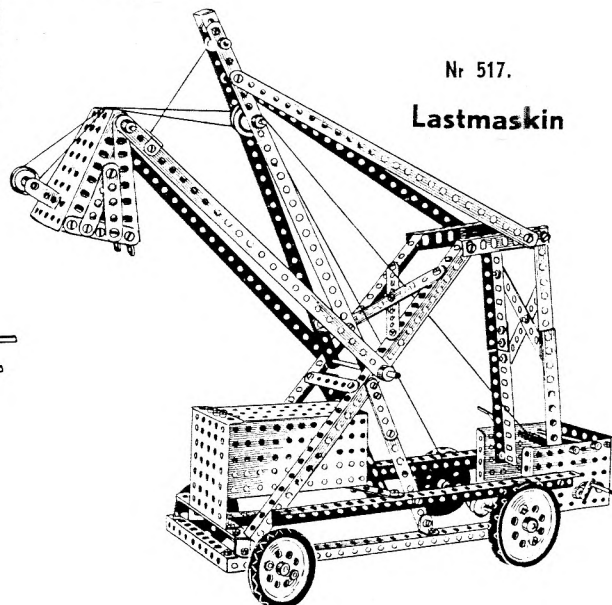


Nr 151. Transportabel
Hamnsvängkran



Nr 517.

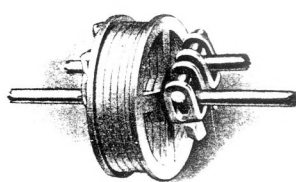
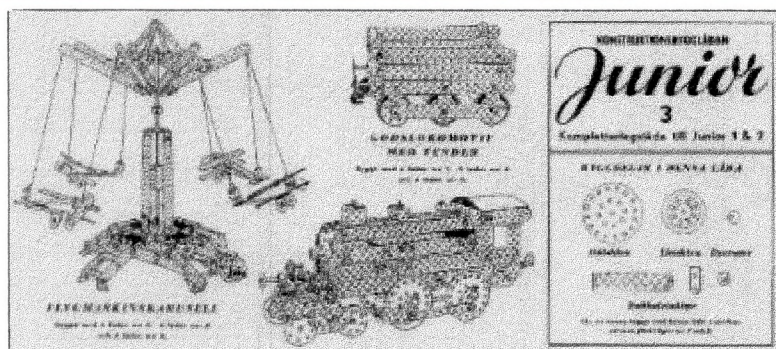
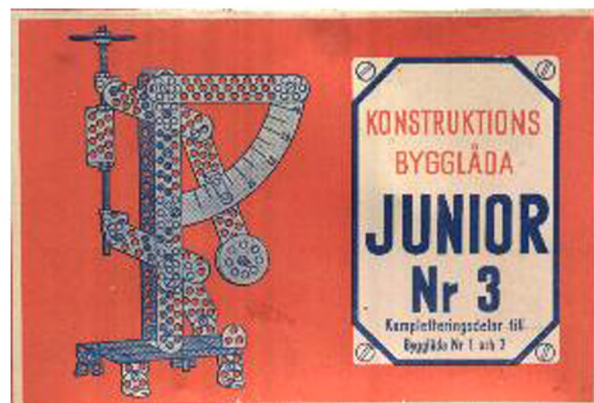
Lastmaskin



And More from Sweden Since this piece was written Staffan has added two more systems to his web site (<http://home1.swipnet.se/~w-14485/meccano/>). The first is about **Konstruktionslådan** (building set) **X**, which is in MCS as KONSTRUKTOR, (but I list it as simply X). It's a small system but includes Rubber Belts for use in Conveyors and the like. No parts are known but an empty tin box has been found, 330*205*25mm, with 8 partitions inside and a hinged lid. The latter (below) is mainly blue with the name in red, and you may be able to see a boy (the same one as on the manual cover in MCS) with a Crane, and another boy and a real marine diesel in the smaller windows. X was made in Nybro, in the south of Sweden.

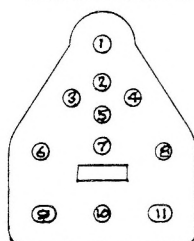
The other is a 'new' system called **JUNIOR**, with parts like TRIX but chrome plated, and with smaller, 3mm, holes

at a slightly greater pitch of 8mm (or conceivably $\frac{5}{16}$ "). The thread is $\frac{1}{8}$ " Ø, with a small hex Nut and what looks like a round or mushroom Bolt. There were 3 boxes, Nr 1, 2 & 3, and the range of parts seems to include all those in the UK Units A, B & C. The Nr 3 box lid, mainly red, is shown below, with underneath a photo of the various parts, and part of a Model Leaflet. Among the parts the Spanner has no holes in the handle, and the Hook has an extra hole above the centre five. Also, as well as the expected 25 & 55mm threaded Axles, there are 4 others: 76 & 87mm with the centre 45 & 15mm respectively smooth; and 52 & 95mm, smooth with no thread. I wonder if they are all JUNIOR parts. The models are copies of prewar TRIX manual models, and the Roundabout needs 6 each of Sets 1 & 2, plus 2 of Nr 3. The printing on all the items is in Swedish but it isn't entirely certain that the system was Swedish in origin.



QUERY 15 About the MOBIOL Wheels (8/199), Jacques Pitrat has explained that the 2 sizes are needed to make Pulleys, with 2 or more of the 30mm Ø between a pair of 33mm. The illustration opposite is from the Manual.

QUERY 25 About ERECTOR bosses, see 19/537, Don Redmond wrote that the $1\frac{1}{8}$ " Pulleys in his 1916 No.5 Electrical Set have the domed boss, but the Gear & Crown Wheels have the normal solid type.



QUERY 26 Don Redmond asks about the MÄRKLIN Trunnion/ Flat Trunnion and why its holes as they are. He notes that holes 1,3,4 & 1,6,8 form 60° triangles; hole 7 is not in line with 6,8, nor is it $\frac{1}{2}$ " from 3,4; and holes 2,5,7 are $\frac{1}{4}$ " apart but are not $\frac{1}{2}$ " from 1,10. The slot isn't $\frac{1}{2}$ " wide and isn't in quite the same position in the two parts. So why are the holes as they are, and what is the purpose of the slot? [Don surmised that the non-standard spacing might be to allow meshing of unusual combinations of Gears, but I couldn't find mention of this in the Basic Constructions sections of the manuals to hand.]

The MÄRKLIN Ferris Wheel Peter Kessler & Thomas Morzinck have commented on their friends' experience of building the 'super' model described in 19/553. Both had found the main axle inadequate and replaced it by a non-MÄRKLIN 8mm Shaft, & related parts. In one case the bearings were changed to the open-topped type, again using non-standard material, to allow the wheel to be easily removed for transportation.

The other problem was in attaching the cords, and tightening them to get the wheel to run true. Thomas said this was a 'REAL problem', and it took weeks to get the model right. Peter mentioned that more than one person was required to do it, and it is thought that even wives may have been needed to help.

Conclusions: 'Altogether a fine and impressive model, taking much time and even more patience to construct', and 'But when finished the model is a winner'.

Other points: the motor is the standard No.1022; the cabin parts are held together by small, 6 BA size, Bolts which screw into pretapped holes. Peter enclosed a hank of Cord, actually from a Güterwagen Set. It's a darkish orange-red colour, closely woven, about 1mm Ø, probably synthetic, and very strong.

Peter also made the interesting point that most of the Märklin super sets contain a large number of parts, a typical set weighs about 25kg, and enthusiasts often buy them just for the parts, which work out at about a quarter of the list price for extra parts. One man bought 2 of the Ferris Wheel Outfits, to ultimately increase his stock of parts, but in the meantime he was able to fit 30 cabins to his Wheel, as per the original before 15 were removed in the 1940s.

TECHNOKID This is the small Hungarian system with plain aluminium pieces that include special ones to make a realistic looking Railcar. It is shown on the manual covers opposite. These notes are based on a handful of parts which Tony Redhall kindly passed to me some years ago, on two manuals, Man1 & Man2 I'll call them, which are summarised at the end, & on some notes from Richard Symonds on his material. I've judged Man1 the earlier because it has fewer parts in it, because it lists only Sets 0 & 1, against 00, 0 & 1 in Man2, and because of the models and their presentation. Two versions of Man1 are to hand, one is in Hungarian and the second in English (but strangely its cover, still stapled on, is in Spanish). Inside, apart from the language, they are identical. Thanks are due to Jim Gamble for sending the English Man1, to David Hobson for lending me Man2, and to Richard.

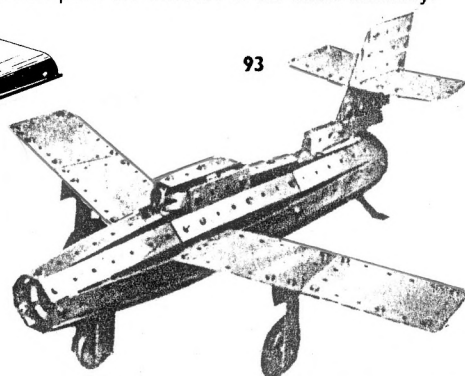
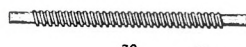
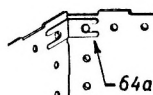
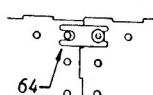
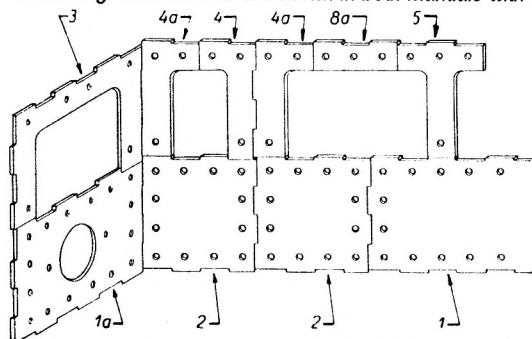
Most of the parts have square corners and the holes are 3.4mm Ø at 15mm spacing. The Strips are 15mm wide. N&B are M3 and the (aluminium) bosses are double-tapped. Their bore at nearly 3.6mm makes them a sloppy fit on the (steel) 3.34mm Ø Axles. A unique feature (see below) is the shallowly crenellated edges of many of the parts, so that they fit together at the joints. This gave a neat look to a small Crane I made up, but it does sometimes restrict the usefulness of some of the parts.

Apart from the crenellated parts, Man1 shows Strips up to 9 holes long, Flat & Angle Brackets, a 4-spoke 45mm Ø Pulley, and Axles. Also the pressed Roof Sections for the Railcar, and the Bulb Holder & large Reflector that are fitted at its ends. Two other unusual parts are a Lead Screw & Saddle, used for example in a Fly Press. The Spanner is some 11cm long. The Brackets are shown in both manuals with open ends but

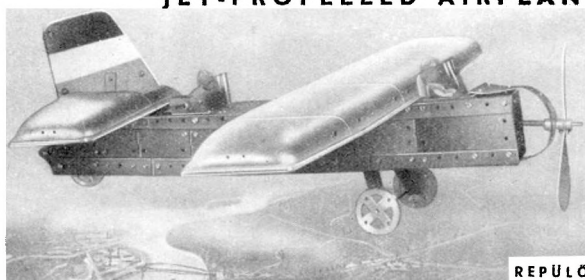
the ones with my parts, and those in Richard's, have normal closed (fully radiused) ends, and are 10mm wide. New parts shown only in the later manual are an 8-hole 45mm Bush Wheel, a smaller 30mm Pulley, and Tyres for both sizes of Pulley. Also the 4-spoke Pulley is replaced by an 8-hole one of the same diameter, and the wooden handled Screwdriver by what looks like a plastic one. In the intro to the English version of Man1 coloured parts are mentioned - 'The colouring of the "Technokid" building elements, gained by a special process, greatly enhances' - but no such parts are known.

Both manuals include the Railcar of course and the actual model in both is like the one on the cover of Man2: there aren't enough parts in Set 1 to make the longer version on the cover of Man1. But apart from the Railcar both manuals contain a wide range of different models. The only modern looking one in Man1 is the Railcar, and some of the others can perhaps best be described as charming, particularly those that have been photographed against 'scenic' backdrops. A nice example is the Aeroplane below, and it can be compared to the Jet Fighter in Man2. If it's not clear the wings and horizontal tailplane of the former are made from the Roof Sections. The Man2 models are more realistic, and only a small proportion of the earlier ones have been carried forward; many more mechanical models are included, like the Fork Lift Truck shown in MCS. The photos in the manuals are fairly clear, much clearer than the copies below, and a Parts List is given for each model, with the additional parts needed for many of the larger models in Man1 shown separately. The Lorry below is in both manuals, the Aeroplane and the Church are from Man1, and the others from Man2.

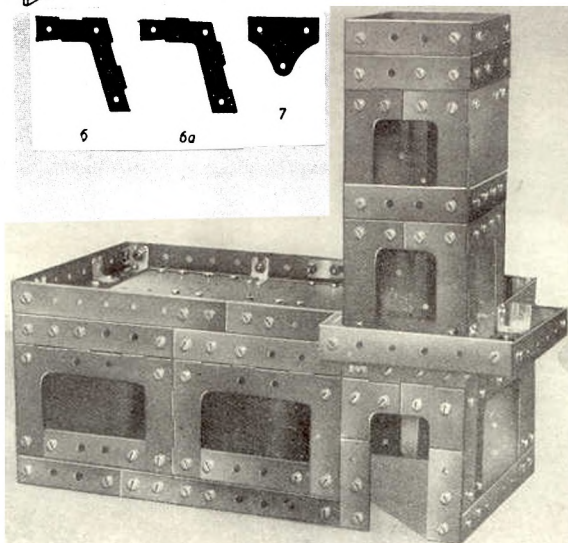
TECHNOKID has less than 50 different parts but the No.1 Set isn't a bad size with over 170 parts, plus 160 Flat or Angle Brackets and 230 N&B. In addition all the new parts are included in the Man2 inventory.



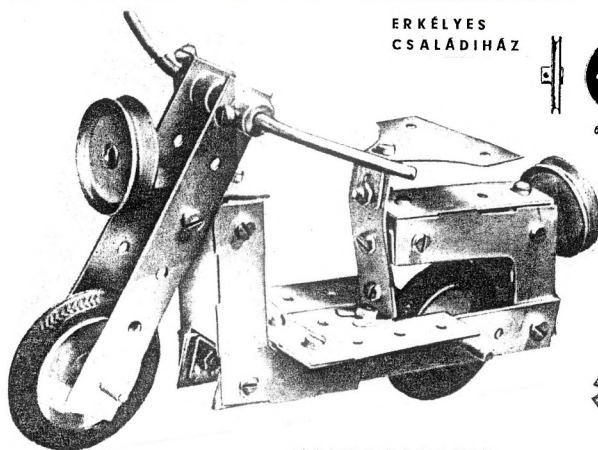
JET-PROPELLED AIRPLANE



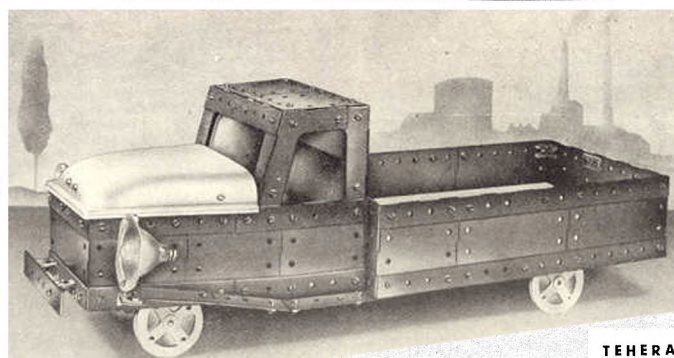
REPÜLŐGÉP



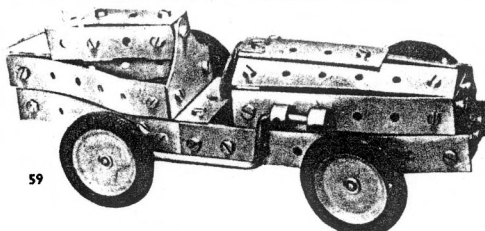
ERKÉLYES CSALÁDIHÁZ



MOTOR SCOOTER



TEHERAUTÓ



59

The No.0 in the first manual has 75 N&B, and in size it is somewhere between the 00 and 0 in the second.

Other manuals must exist because although the MCS models are in one or other Mans.1 & 2, their page numbers and layout are not identical. Richard also sent the Illustrated Parts from another manual which is the same as the one in Man 2, but also shows separately the earlier illustrations of the Lead Screw & Saddle, the 4-Spoke Pulley, and the Screw-driver with the wooden handle.

There are 4 other smallish Hungarian systems in MCS which together with TECHNOKID, have certain parts, & in some cases, models, with a similar look to them. Of the two general purpose sets MECHANIKA has the widest range of parts, with conventional, rounded-cornered Plates and Strips, though the former are 4 holes wide. FÉMÉPÍTŐ appears to be similar but with fewer parts. Another, METAPLAN, is the largest with over 60 parts, and many of them, all square-cornered, are obviously intended to allow the Loco & Carriage shown in MCS to look as realistic as possible. The last is KIS TECHNIKUS, and the manual cover in MCS shows the Railcar & a manual lying on a table with the name TECHNOKID on it. So it may be the same as, or closely related to, TECHNOKID. Actual MECHANIKA parts are plain aluminium like those of TECHNOKID, and probably those of the other three systems are too.



SUMMARY OF MANUAL

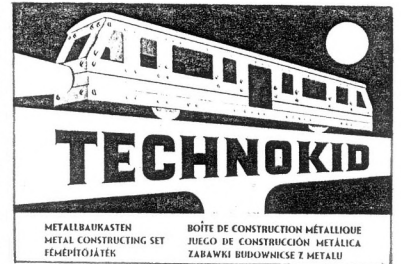
[Man1] •Name: TECHNOKID 0-1 •Details of maker: MEJA, MAGYAR GYÁRTMÁNY, GYÁRTJA A, BUDAPESTI VT. MECHANIKAI JÁTEKGYÁRA, BUDAPEST XX, SÁGVÁRI ENDRE-U. 24. •Dates &/or Ref Nos: F k.: Mosányi Pál - 27263/LD05 - Révai, Budapest (F. v.: Nyáry Dezső) •Page size: 246*166mm deep. •No.

of pages: 44 + covers. •Language: Hungarian. •Printing: Colour cover (black, yellow, dark blue, grey, red train); B&W photos of models on red framed white pages. •Page No. of Illustrated Parts & highest PN: 4,75. •Page No. of Set Contents & highest PN: 5,75. •Sets covered: 0.1. •No. of models for each set: 16,13, & 22 for #1+extra parts. •Name, Model No., Page No. of first & last model of each set: 0: BORONA [CLOD-CRUSHER],1,8; BORONA [HARROW],16,13. 1: FELVONÓ [LIFT],17,14; DIESEL-MOTOROS GYORSVASÚT [DIESELMOTOR TRAIN],29,25. 1+: KONYHAMÉRLEG [KITCHEN SCALES],30,26; KÖRHINTA [MERRY-GO-ROUND],51,44. •Other notes. The English names above are from the English edition. The words on its cover are in Spanish - Caja de construcción metálica on the front. The maker's name on the back of the Hungarian version is replaced by ARTEX, SOCIEDAD HÚNGARA PARA LA EXPORTACIÓN E IMPORTACIÓN, BUDAPEST 5.P.B.45. The PR is Publ : C. Kovács - 26111/LD05-Révai, Budapest (Resp.: D. Nyáry).

SUMMARY OF MANUAL

[Man2] •Name: TECHNOKID •Details of maker: TECHNOKID, Budapest, Hongrie. •Dates &/or Ref Nos: 'Felelős kiadó: Bokor Jenő igazgató', & '63.3254 Egyetemi Nyomda, Budapest', on back cover. •Page size: 201*136mm deep. •No. of pages: 92 inc covers (no page numbers). •Language:

German, French, English, Spanish, Hungarian, Polish. •Printing: Colour covers (black, yellow, fawn, red train); B&W photos of models on white pages, partially pink or blue. •Page No. of Illustrated Parts & highest PN: 20,151. •Page Nos. of Set Contents & highest PN: 21, 151. •Sets covered: 00,0,1.



•No. of models for each set: 37,16,55. •Name, Model No., Page No. of first & last model of each set: 00: TRAFFIC SINGS,1,32; LORRY,37,50. 0: BED,38,51; DUMPINGWAGON,53,59. 1: WHEEL BARROW, 54,60; DIESEL RAILCAR,108,90. •Other notes. The parts pages and model names are repeated in all languages. The models that can be made with each set are not stated and have been judged from the parts needed to make each model.

PUBLICATIONS

Ward's Catalog Erector, 1913-85 I haven't seen this 118 page, spiral-bound book by Marshall McKusik, but Don Redmond writes that it is very good, with a coloured cover showing two of the Duplex Standard Sets and a version of the White Truck, and a whole chapter on these Sets. (Duplex sets were made by Gilbert for the various stores and, instead of Girders, contained Strips with alternate normal & large diameter holes. Ward's sold TRUMODEL & STEEL-TECH Duplex sets.) The reproduction from the catalogues is much better than in the Sears volume (see 15/425), having been taken from the paper originals rather than microfilm. Also included is an article about the alleged connection between Gilbert and Meccano, including full details of the latter's legal action against AMERICAN MODEL BUILDER. It is available from Ashton House Press, 820 Park Road, Iowa City, IA 52246-2427, U.S.A., price \$28 including (US?) postage.

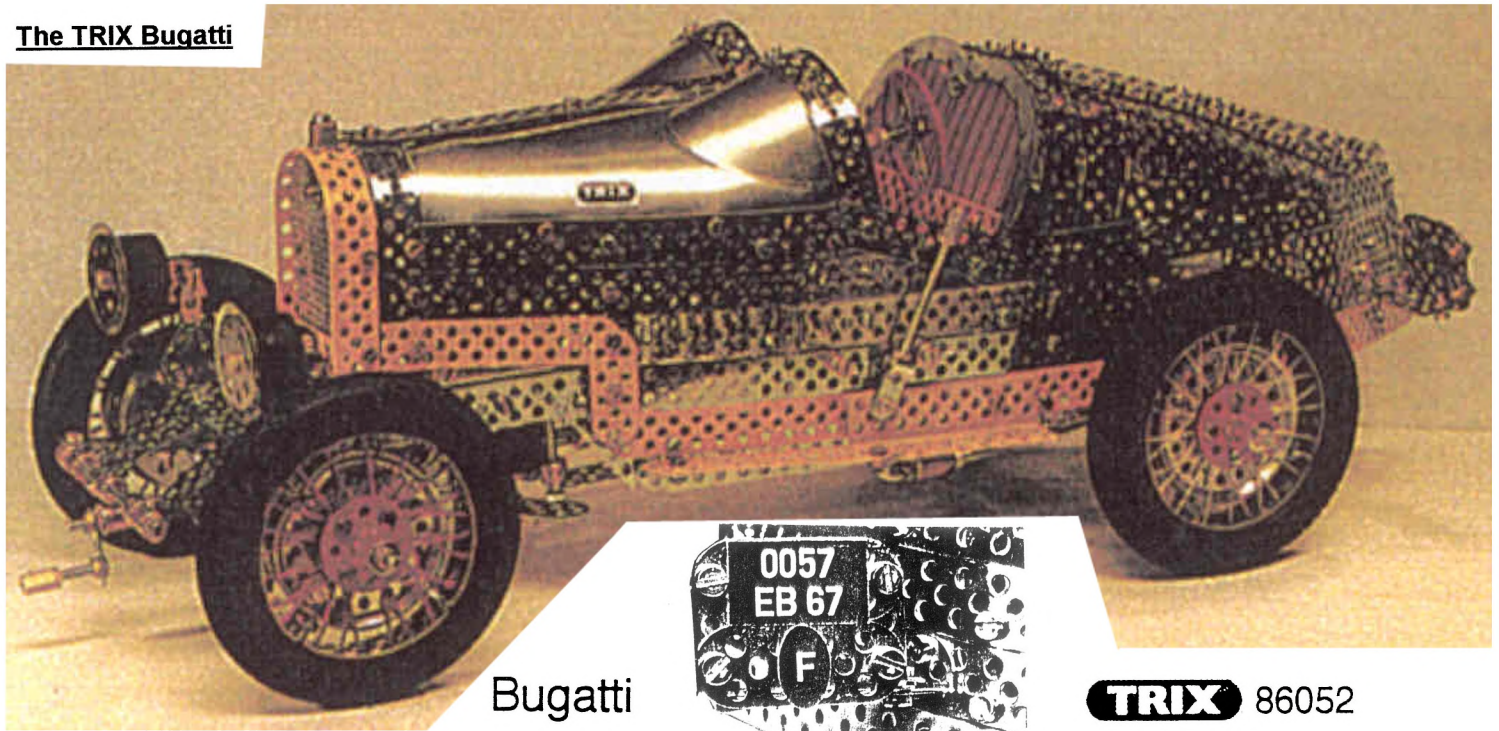
PRIMUS ENGINEERING This book by David Hobson is the result of much careful research into the PRIMUS system and the firm who made it, and though there are still some gaps because the appropriate records have disappeared over the years, it is a very thorough account of a unique system. Do you know where you can still see the full-size prototype of the PRIMUS Architrave? Did you know that a offshoot of the firm that made PRIMUS is still trading in Blackheath? Did you know that there are 8 known varieties of the Flanged Wheel? As well as all that there are the background topics which are mentioned in David's ad opposite, and some of them I found interesting in their own right, particularly the discussion of the validity of Hornby's 1901 patent claim in the light of the relevant patents that had preceded it. There is a lot of information in this book and, as seems to be the fashion these days, there is no Index, so I made up a skeleton one for myself as I read through the first time and have since found it invaluable.

The MERKUR Geared Motor This is the one that was mentioned in 17/485, and I finally got to use it in a model recently. In doing so I discovered that the fore & aft movement in the output shaft, which I had assumed was just due to poor assembly, is probably intentional. When the shaft is at one extreme position it runs at the 170rpm of OSN 17, but at the opposite extreme, a movement of 2mm or so, a different internal gear is engaged and the speed is increased by a factor of about 5. Depending on which speed is to be used a Collar may be needed on the end of the shaft that isn't carrying the output wheel. I can't find any indication of a 2-speed capability on the Leaflet which was with the Motor or the box it was packed in.

SMALL ADS

WANTED. The PRESTACON Jeep Kit, shown in OSN 17, p490. Don Redmond, 9 St Catherine Street, Kingston, Ontario, K7K 3R9, Canada.

FOR SALE at cost of production. Privately produced book "PRIMUS ENGINEERING - An Early Competitor for Meccano". Describes the history and details of the Primus Engineering system. Also includes information on the development of metal constructional toys in the late 19th century, and the position which Primus and other early rival systems (there seem to have been more than 20) occupied in relation to Meccano through to the mid-1920s. A4 size with 100 sides of text and tables, together with 111 sides of black and white illustrations, and 8 sides of colour copying showing 32 photos. Comb-bound with acetate covers, weight about 1kg. Price £19, plus post and packing: total in UK total £23; in Europe £24; in USA \$46 airmail, or \$38 surface (no credit card facility but can utilise US dollar currency). David Hobson, 'Woodington', Edford Green, Holcombe, Bath, BA3 5DB, England.



Bugatti

TRIX 86052

During 1997 Trix produced a limited edition of 333 sets to build a 20" long Bugatti. These notes are based on a copy of the manual that Thomas Morzinck kindly sent, together with some accompanying remarks.

The Set (#86052) cost DM 500 and was packed in a well finished wooden box, 27*21*62cm, large enough to take the completed model. The main mechanical features are steering with Ackermann geometry, leaf springs front and rear, and a differential. An electric motor with built-in gear reduction (Fa. Conrad 240745-44), powers the model, with 2 Universals in the propeller shaft drive to the diff. The appearance is enhanced with imitation wire wheels and special Tyres, aluminium bonnet panels, a special made-up steering wheel, and special material for the radiator, the seat backs, and the dash. The bulk of the model is in shiny BZP but the Strips etc along the bottom are in the alternative TRIX yellow finish.

Apart from the items mentioned above, plus a double-tapped Collar, SR1, a 12mm Bolt, S3, and a 'proper' 10t Pinion, ZRK10b, the model is made from the parts shown for German TRIX in MCS TRIX (2). Some of them were never in the prewar or UK ranges, and the relevant 'extra' ones are: a Rubber Wheel, GR1, used to make the body of the headlamps; a 55mm Ø version of the formed Pulley Disc, RR55; and a Universal, KG1.

The 'made from' 6 lines up needs explanation because many of the parts in the Set are standard Strips that have been cut to length, bent, curved, made into special DAS, etc; or modified circular parts like the 40-tooth Gear without its teeth, or reduced in diameter to become a bush wheel.

The Manual is A4 size and consists of 3 sides of introductory text (don't lose the Grub Screws, drill extra holes if the body parts don't quite line up); 15 sides of good-sized colour photos showing the 23 building stages; and a list of the packets of parts in the Set, one for each stage plus 4 others for NBW. In addition 2 sides of specific comments on the different stages, & 19 sides giving the parts needed for each stage. The PN of each is given and, where appropriate, how it has been modified; also for many of the technical name of the part in the car to help to see what is what, and occasional comments on how the parts fit together.

A handful of the photos are reproduced on p588, much reduced in size. Unfortunately they don't copy well but perhaps some of the main features can be seen. In what follows the numbers in brackets refer to the photos. The bare chassis (4) is made from Strips & AVGs. The diff (2) is 4x 10t Gears mounted between two 40t Gears - one reduced

to 40mm Ø, and the other to 50mm, to act as the crown wheel. The cage is made from Strips and two more 40t Gears reduced to 40mm Ø. It is suspended from the ends of a 5-leaf transverse spring, located by f&a radius rods (1). The front springs (5) are made from lengths cut from Spanners, with the front axle (3) bolted to them.

The steering is very high geared - motion from the near horizontal steering column (14) is passed to the track rod via: a pair of 10t Gears to a vertical shaft, a crank arm (a 5h Strip nutted to the bottom of the vertical shaft), a link (half a 17h Strip, cut lengthways, shortened to 14h,) from the arm to a quadrant (cut from a 49mm Disc), and another link (6 holes of a Spanner) from the quadrant to the track rod (6). (I can't see how the steering would work properly with the geometry of the linkages in the photo, so I may have missed something in the foregoing.)

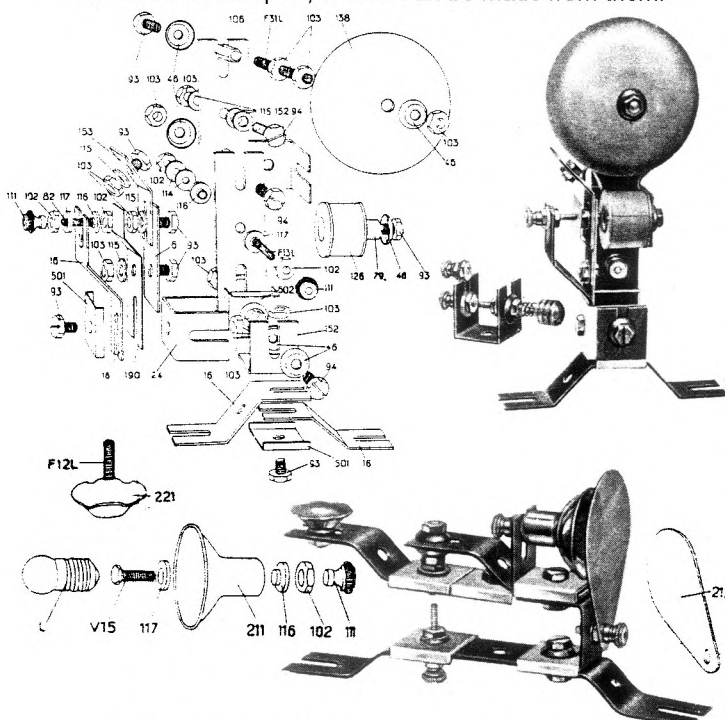
Each wheel is made from a pair of 55mm Formed Discs surrounded by 4 special, curved DAS bolted together by their lugs to form a circle. Cord is then used as shown to form 'spokes' (12) and a 29mm Disc is bolted onto the centre, with another (painted red) outside it, and a Pinion (ZRK10b) outside that (13). The Tyre sits on the DAS and is listed as '16.5 - 70(mm)' - with 70 probably the i.d. Inside the wheel, as at the rear, are a pack of 49mm Discs to represent the brake drum (1,9).

The bodywork is made up separately and then mounted onto the chassis. The rear (7) looks particularly well done in the photos. The radiator (9) is cut from closely perforated sheet metal; the seat back (10) is printed card, and the dash (11) is 1mm thick wood with the 'instruments' glued on. The steering wheel (8,14) is a cross made of two 5h 'spanner strips', joined to a 40mm Ø metal ring by cord which is bound around the ring and through each end hole of the strips. Finally headlights, each made from a stack of 5 GR1 Wheels with a disc and Formed Disc at the front (9), a number plate, and an imitation outside brake lever.

This doesn't appear to me a model for the inexperienced or faint-hearted, though no doubt it would all look much easier if I could read the German text. Thomas wrote, 'The Bugatti is a real beauty', and so it is, but purist, avert your eyes.

Thomas also mentioned that he rang Trix in Nürnberg last autumn, and they said that the future was uncertain, but that for the moment, the regular sets were still available. The customer service address given in the Manual is EP Konstruktion, TRIX Sonderkundendienst, Neckargrün 7, 68259 Mannheim.

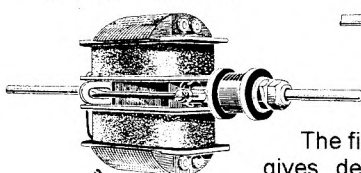
MULTIMOTEUR A few notes on this specialised French system were given in 12/304 & 13/360. Some more information is contained in three leaflets that Harry Mariën was kind enough to pass to me, together with a few parts. The leaflets are in French with no printed maker's name or address, but two have been rubber stamped. The first has 'Démonstrations et ventes [sales], 21 rue Tronchet, Paris (Anjou 57-23)', plus: 'I.C.E.R., 30 Boulevard Adolphe Max, BRUXELLES, Tel: 17.65.86 & 18.01.19, AGENTS GENERAUX Pour la BELGIQUE et le LUXEMBOURG'. This leaflet is mainly about the first stage Prospection sets, & 5 are illustrated including one that's very similar to the P13 shown in OSN 12, & another is much the same but with a square rather than circular frame in the centre of the box. The 3rd is to make the Electric Bell & Switch below, plus 5 other unspecified models. Below the Bell is one of a pair of Optical Telegraph Sending Lamps that can be made with the 4th set, & alongside 3 (200 series) parts from it in that aren't in MCS. Not all the final outfit can be seen but it's probably a Morse set. The manual 'Documentation Générale' (see OSN 13) is mentioned & is said to contain the contents of the sets in the different 'Groupes', & what can be made from them.



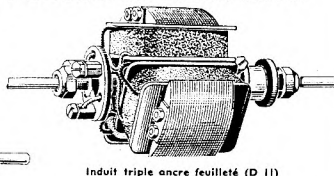
The second leaflet has the I.C.E.R. stamp only and advertises 2- & 3-pole motor Armatures with laminated cores, & carbon Brushes. These parts were contained in Sets D10 (2-pole) & D11 (3-pole), and the Manuals with them showed how the new parts could replace the solid Cores & metal Brushes in the Sets D1, D2, & D3. It is explained that though the simpler parts were satisfactory to show the basic principles, the new ones are typical of modern industrial practice. The new Armatures & Brushes are shown below.

INDUITS FEUILLETÉS

Induit double ancre feuilleté (D 10)

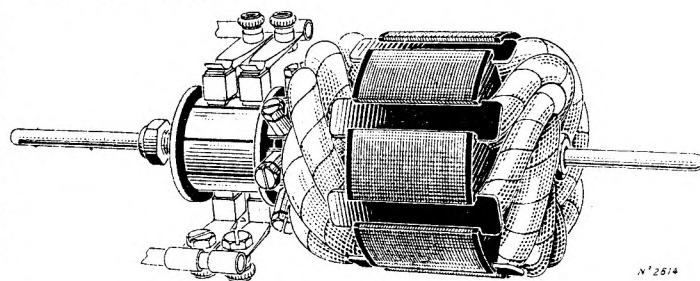


Induit triple ancre feuilleté (D 11)



The final leaflet isn't stamped and gives details of two 8-pole Armatures, similar except that one (above, right) has 20mm, and the other 40mm long poles. To be used with them, a separate 8-segment Commutator with terminals to allow connection to the windings, and in two widths to take single carbon Brushes or the double ones in the drawing. These units ran on 12v a.c./d.c., & Transformers T40B, T46B or

T47B were suggested.

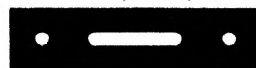


(8 encoches, armature de 20 mm., 2 pôles, collecteur large à 8 lames, 2 rangées de balais en charbon).
ÉLÉMENT C 102 (album 1-1^{er} cycle).

Supplied with the new units was a 56 page/75 figure manual which showed how to use the parts in certain 'Diffusion' Motors; alternatively they could be used in some models from 'album 51-1^{er} cycle' & 'album 71-1^{er} cycle'. Then it is said that to use the Armature within the frames made from Sets D1+D2+D3, or D27, or D28, the Element 'C 100 bis (album 1-1^{er} cycle)' is needed. No Element C 100 bis is described but C 100 is among the four combinations of Armature (Arm) & Commutator (Com) shown. They are: C 100, 20mm Arm with narrow Com; C 101, the wide Com on its own; C 102, 20mm Arm with wide Com; C 103, 40mm Arm with wide Com. After each C number is 'album 1-1^{er} cycle', but I can't work out the significance of that. Alternative designations are also given - for example the C 100 is 8/20/2/8, and the C 103, 8/40/2/8L. (The number of poles, their length, 2 brushes per side, 8 segment commutator, L for large = wide, i.e. double width).

It is said that the Armature 8/20/2/8 marks the start of machines of a truly industrial nature, but there's no mention of the use of laminated cores in field windings.

The parts include Nos.1,14,502,505 in MCS, plus the one below (x40%), and an identical part made of 1mm thick



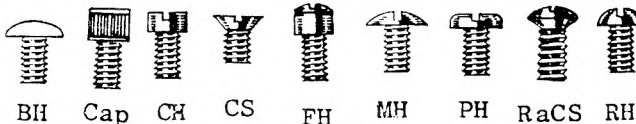
Paxolin (brown, insulating plastic). All are 20mm wide with 4.6mm Ø holes, & a chemical black finish.

Most are 1mm thick, but #502 & some #1 are only .6mm. Also of blackened steel, a deeply Dished Washer, 11.5mm o.d., probably #46, which is also used as a pulley cheek.

A Bolt with the parts is M4.5, with a slotted hex head 7.0mm A/F, probably #94. It is blackened steel and so is its hex Nut, 2.6mm thick and the same A/F, but it doesn't correspond to any in MCS, all of which are brass. Another plain steel M4.5 N&B, also not in MCS, was with the parts: the Bolt has the same type of head, and is 15mm u/h, threaded 9mm; the Nut square, 9mm A/F.

Finally the winged Box Spanners 513 & 514, made of .8mm steel, and cadmium plated as described in MCS.

BOLT HEADS The names used to described heads are not all self-explanatory and some are different in the UK and North America. To avoid confusion it seems worthwhile to list all known names. The ones below are taken from a UK catalogue, and from left to right are



Button, Cap, Cheese, Countersunk, Fillister, Mush(room), Pan, Raised Countersunk, & Round Heads. Elsewhere I've seen the Cap Head called an Allen Head. In my OS Database I've also added Tapered Cheese Head, Dome Head (a Tapered Cheese Head with a rounded top, as used on some MECCANO Bolts in the 1930s), Square & Hexagonal, and Truss Head. Don Redmond tells me though that the latter is simply a North American term for Mush Head; he also mentioned Pancake Head (like Pan but with the lower edge rounded too), and Flat Head, an alternative name for Countersunk. Other terms (in a UK 1995 Kempe's Year Book) are Raised Cheese Head for Fillister, and Instrument Head for Raised Countersunk. There's also Connection Head but it isn't described. Any more for any more? Some rivet heads have different names but perhaps they don't concern us.

ITEMS FROM LETTERS

1. From Gordon Finch. On the **STEEL TEC Enterprise** parts in 17/481: the 3 & 5h Strips are, in MECCANO parlance, formed and not curved; the 10h Strips are both curved and formed, but not quite to the extent shown in the manual, and at a glance they appear to be identical; the black Plates are of very thin, very flexible plastic; and the 7h Formed NS has kinks/creases across the holes. The electrical functions are operated by very neat, moulded push buttons, which aren't mentioned anywhere in the Manual.

2. • On the **Gilbert MECCANO #150 Set**, see 19/546, John Hanby noted that not all the parts needed for the models are included in the Set (or the Parts List), and there are insufficient of others.

• He also wondered if all the manual models for **CONSTRUMENTS** Sets 30 & 100 would actually cost £30/£100 (19/554). [Perhaps not because the claim wasn't used in any other known ads.]

3. From Werner Sticht. • On what was produced at **Schmerbach** (see 18/504 & 19/555), Karl Debit has asked some workers at Pfaffschwende, who had worked there for over 40 years, and they told him that there was never the machinery at Schmerbach to produce aluminium parts, and no-one knew of a connection with the **SONNEBERGER** system. A friend of Karl has also asked about **SONNEBERGER** in Sonneberg and in Steinach, and there too no-one knew of production at Schmerbach (or any connection with **CONSTRUCTION** either, see 17/489). So the Schmerbach phase of **SONNEBERGER**, arising only from the reference to it in *Eisenzeit*, is 'not proven'.

• The German mail order house **Quelle** (see 13/361) have sold **TRIX** and **CONSTRUCTION** in recent years, but in their Autumn/Winter 1998/99 catalogue the 3 sets offered appear to be repackaged **MEK-STRUCT**. They are identified by the numbers of parts in them, 300, 400, & 600, and the models on the lids look just like the small ones from known **MEK-STRUCT** outfits. The main name, **METALLBAUKASTEN**, on each lid, is stylised in a way unique to Quelle,

good
play



and the 'good play' logo (above) is in the top left corner of the 600 box below it. The two larger sets contain a Motor, and the 600 has the Sound/Light Unit. The sets are priced at DM 99.95, 69.95, & 49.95.

• A photo of a **STABILA** Outfit (see 13/343), with a strikingly bright and modern looking lid (below). It is orange and yellow with a large clear panel in the centre so the manual underneath can be seen. The name is on the diagonal band top left, with the slogan **TECHNIK FÜR Mädchen** (Engineering for Girls) on the right. 7 red circles probably show real life activities, with an aeroplane in the one clearly

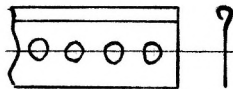


visible, and what may be a girl using a microscope in another. I still find it hard to reconcile the image this creates with the woolly looking (literally) models in the manual.

4. From Thomas Morzinck. • A photo of a **STABILA No.1 Set**, courtesy Karl Debit. Apparently the cover described above was only used for the No.2; the No.1 is a much plainer affair with no illustrations on the lid and no clear panel, just brown wording on a mottled light brown or or-

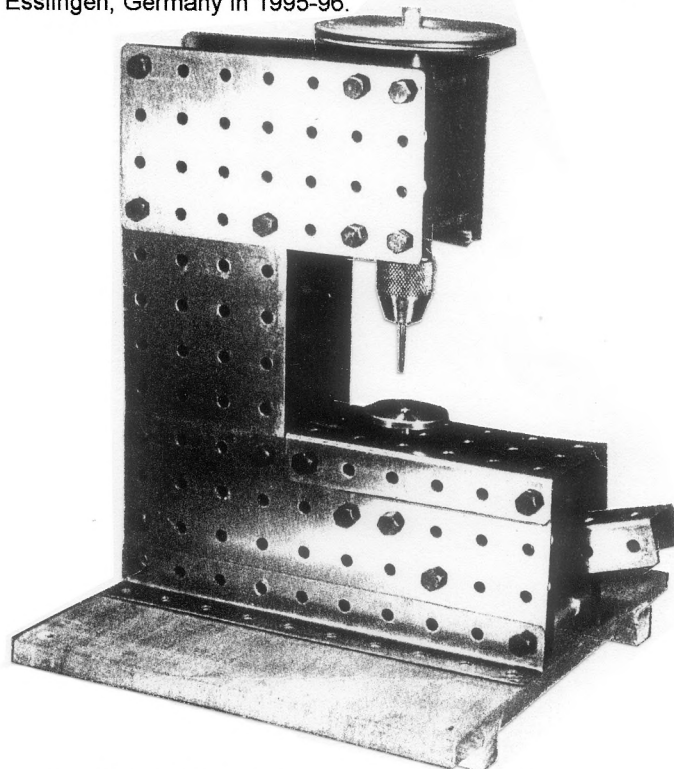
ange ground. The Wheel Discs have a brass look, and the 4 hanks of wool are white, blue, light green & orange.

• Karl also explained that the **WALTHER'S INGENIEUR** part called **Wulsteisen** (see 19/550), is a perforated strip with one edge formed over to stiffen it, as in the sketch opposite.



• **KOSMOS** (see 17/477) educational sets for children have been produced from 1930 to the present day, and have covered almost the full range of scientific topics: radio, chemistry, mechanics, electricity, optics/photography, biology, astronomy. The 'Mechanik' and 'Technikus' sets contained a lot of special parts to allow physical experiments with simple but working machines (including a steam engine). The only Set, apart from the 'Maschinen', that would really be called an 'mcs' was **TECHNOFIX** (15/419 & 17/477). In the late 1950s/early 1960s a similar set with plastic parts called **STECOFIX** was offered but it is a mystery because Franckh'sche Verlagsbuchhandlung of Stuttgart, who have produced and distributed **KOSMOS** sets since the beginning, have nothing in their archives about it. [An English language **KOSMOS** Set called **THE TECHNICAL KID** has strayed into MCS, and has 63 special parts including some for a steam engine. The manual was © 1952, and has on the cover '170 Experiments in elementary Physics, laying the foundation in Engineering, by W.Fröhlich'; W.Keller & Co. appears after the maker's name given above.]

Kosmos **MASCHINEN** was produced around 1930, and working models of a Lathe, Milling Machine, & the Drilling Machine below could be made, powered by a 110/220V motor. The model is on a wooden base, and the drill is held in what looks like a real chuck. This material has been taken from the catalogue of an exhibition of stone/metal/wooden sets belonging to Tobias Mey, that was held at Esslingen, Germany in 1995-96.



• The **METEOR** Windmill and Crane, (see 19/534) are very similar to the **MÄRKLIN** models Nr.1009-30 Windrad, and Nr.1010-30 Fahrbarer Drehkran, in Manual No.14910. [The 1009/1010 Sets appeared in 1957.]

• On **PONTIFEX** (19/527), the main parts are aluminium, and the basic pitch of the holes is 10mm. The holes are drilled by hand and are about 4mm Ø. The N&B found in the Set are not M4: the thread is near 5/32" BSW but slightly smaller in diameter and with a finer pitch. No doubt at that time whatever was available was used.

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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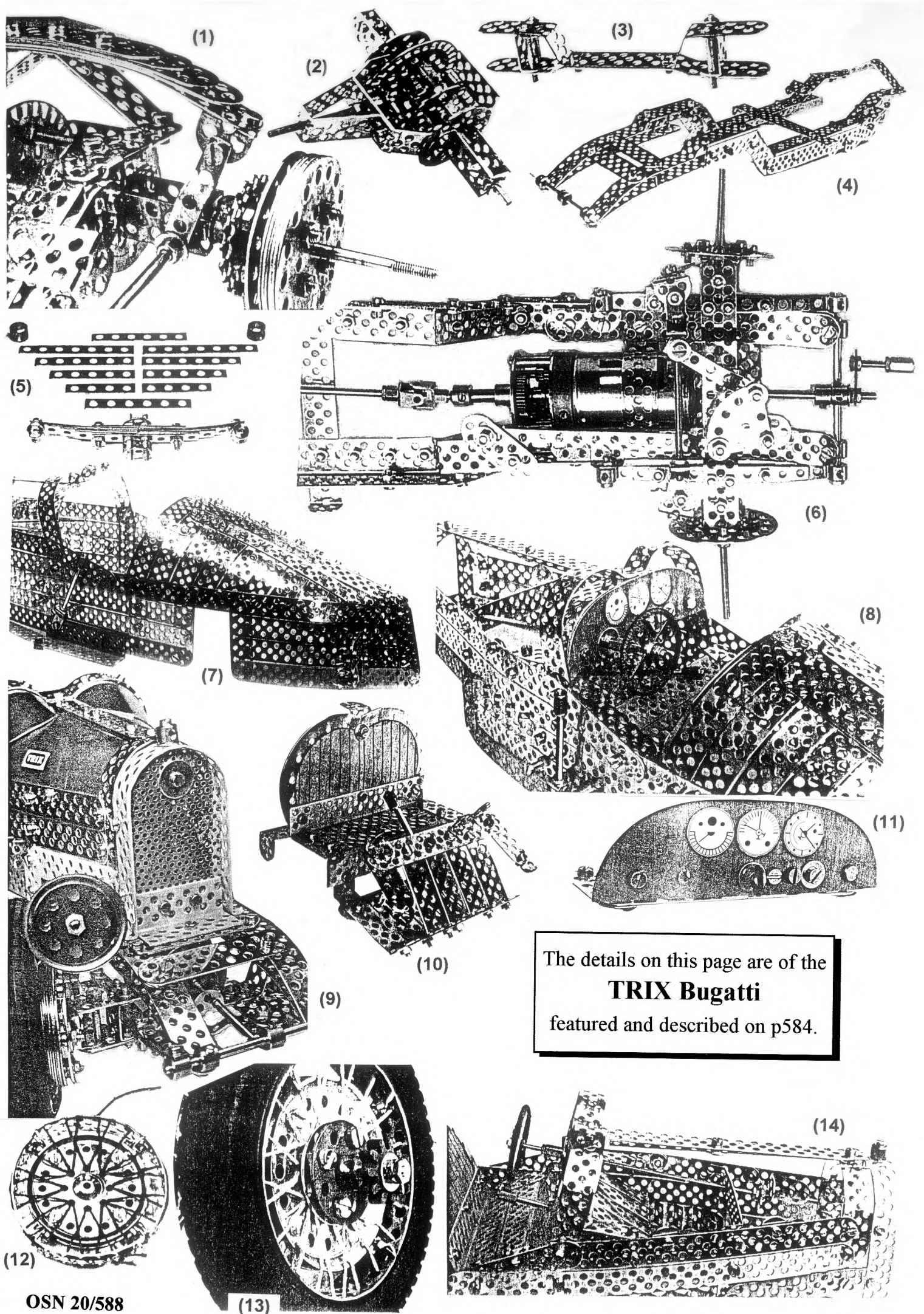
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The details on this page are of the
TRIX Bugatti
 featured and described on p584.