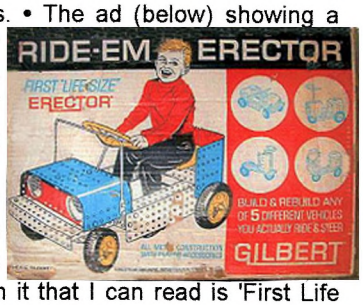
ITEMS FROM LETTERS

1. Numerous points of interest from Jeannot Buteux. • A Swedish set called **LEKSAKSSAMLARMARKNAD** that he saw at a Toy Fair in Helsingborg, Sweden.
• An unknown **aluminium system** with an unusual pattern of Braced Girders, but unfortunately too expensive to buy.
• A plastic set called **TEX** but also, according to one source, a metal set with the same name.
• An early 1916 version of the French **CONSTRUCTOR** system with parts similar to those in MCS but black, and up to twice the size.
• **DELOUTAX**, another translation of the Japanese name for DELTAX/DERUTAXE, see 11/288.
• Another recently discovered Scandinavian system, **DVS INGENIØR**.
• A manual for Danish **TEKNO** dated 1931, which is several years before previously known dates. [TEKNO has TRIX-style parts but a much larger range including more gears and circular parts. The Manual's date is only just after the original German Patent of September 1930 and it would be of interest to know the range of parts in the 1931 Manual.]
• News of a new Dutch set called **MECHATRONICA**. It seems to be intended for industrial use and is composed of a selection of TEMSI red and green parts, including the Temsi version of the 6-speed Richard motor, plus special parts, probably mostly electr(on?)ic. Shown in the brochure is an automatic beer pump which fills a glass placed on a stand in the machine. [The ultimate exhibition model?] The Set costs f 295 (plus tax) and the address of the manufacturer is BTC-Metaal, Postbus 2600, 3430 Nieuwegein, Fax 03402-53188. [I understand that this Outfit has been on sale for 2 or 3 years but is no longer available.]
• **Temsi** (11/292) has licensed production to various firms including **ESCHO-PLAST**.
• On **A.W.S.** (11/294), it appeared in about 1947 and one set known was marked by its purchaser as being bought at Baden-Baden in Sept 1952. [The reason I think the Manual in OSN 11 was from the 1930s is that the highest prize mentioned in it was parts to the value of RM5 - a sum that would have bought a MÄRKLIN No.0 set, say, in the 30s, but very little, I suppose, postwar.]
• Other colours for some **ÉCÉPÉ** and **MÉCANIC** parts (12/314) were tried, green for example and grey Wheels. The brackets around the Sets E and D bis mean that they were not available until towards the end of the ÉCÉPÉ period.
• On **MECHANIKUS** (12/321), a HELLER-MÉCANICUS set was bought [new?] in Belgium in about 1980 and enquiries made it clear that it was not connected with the French toy firm Heller. A town Schmalkalden was mentioned several times in the Manual and it turned out that it was in what was East Germany.
• **BURGSTÄDTER** (12/324) has also been sold under the names **PLASTICART** and **PLASTIKART**.
• A bridge made from the **LILIENTHAL** parts (11/295) is on display at the Deutches Museum in Munich.
• **TUBA** was also made in Berlin and it appears to be the same as the UK version shown in MCS. The Plates were available in gold, yellow, green, red, and blue, and were also sold as special kits.
• Two different versions are known of **FIX, HOHA, GLOBUS** and **IMPERATOR**.
• On **METEOR** (12/302), its period was from the 1930s to at least the 1950s, and a nickel finish was used before painted parts were introduced. Parts from a 1950s set were brass plated.
• On **MIGNON** (10/262), one Angle Girder has been found which is made of steel, nickel plated.
• There were actually 10 'Groupes' in **MULTIMOTEUR** (12/304), the 10th being 'Traction Électrique'. Each Groupe is composed of several sets with a total number of between 70 and 100. From Groupe P (Prospection), sets P6, P8, P11, P12, and P13 are known but there were others, though not all were necessarily on sale at the same time. There was only one manual with the P13. Other examples are the '1er Cycle' with 25 sets from C10 to C34, and 'Mécanique' from M80 to M99. Members of Constructorama possess many sets, some 20 manuals, and in particular the 6th edition (undated) of the 'documentation général'.
• **COZZONE** (12/313) was mentioned in a Dutch book, and the date given for a set shown in it was 1952.
• A **Märklin** catalogue of display models for dealers, some of which are 3 or 4m long.
• And a couple more new names, **MAKKO** and a German system called **FERROX**.

2. From Richard Symonds. • The ad (below) showing a photo of the box lid (or manual cover) of a second-hand **GILBERT RIDE-IT ERECTOR** set. That's a new name to me. The main illustration is of a fairly modern looking boy in the driving seat of a Jeep type vehicle. The only printing on it that I can read is 'First Life Size Erector' and 'Build ..... any of 5 different vehicles you actually ride and steer'. Apart from the Jeep, the 4 other vehicles are probably shown in the white circles, but only one, a 3-Wheel Scooter, can be clearly seen.

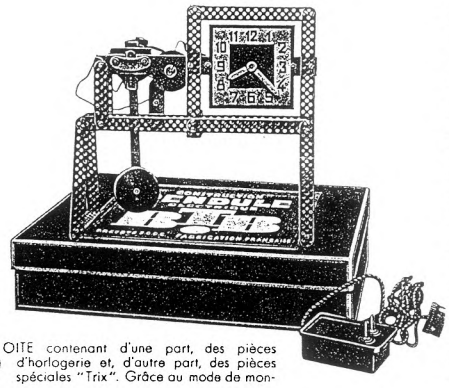


• A photo of some yellow and green parts that were all in one lot from a Toy Fair. Some are **THE ENGINEER**, see 12/328, and others seem compatible, including a 47.5mm dia Pulley with no holes in its face, a small Dredger Scoop, and a Flat Trunnion with 7 holes, 2 of them elongated (opposite). Some of the other parts might be for a road grader or snow plough, and are painted the same green and have the same hole size. Finally a canvas belt, 2" wide and 36" long with 10 nickeled Scoops, 1" by 2" wide, clipped to it, and some wooden rollers, 1" dia x $2\frac{1}{8}$" long, with Axles, 4"x$\frac{3}{16}$" dia through them.

• A copy of an American fortnightly advertising paper called **Toy Shop**. Over 200 pages full of small ads but only 6 classified for OS, including 3 wanted and 2 for current spares, and I didn't spot any OS in a quick look at the dealers' lists. Full details on request.

3. David Hobson sent one or two items on **Gilbert** in the UK. The 1921 GPO London Trades Directory lists The A. C. Gilbert Co. as a manufacturer of Gilbert toys, and scientific and educational toys, at 125 High Holborn, WC1. In a local South London paper (The Blackheath Guide and District Advertiser), Gilbert toys and ERECTOR were prominent for the first time in the 1921 pre-Xmas ads. They included: • Dubois of Lewisham who advertised various sets from 7/6, and the No.6 'includes a powerful motor which will operate any ERECTOR model'; also **'The New Wheel Toy'** which made 12 models, 32/6 [see 8/198]. • John H. Bailey of Blackheath had, as well as the full range of MECCANO and PRIMUS outfits, **Gilbert sets**, including the Hydraulic and Pressure Set, the Light Set, the Gilbert Air-Kraft, Mysto Magic, etc. Mr. Bailey also announced, 'I have procured at low price a number of the Gilbert Machine Guns (B654). These I am offering at the absurdly low price of 5/11 each. These Machine Guns have a steel barrel and fire a wooden

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



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

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

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

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

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

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

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

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

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

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

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

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

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

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

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TEKNO This is about the Danish TEKNO that generally looks like TRIX. Most of the dozen or so known copies of TRIX are simple systems with even fewer parts than the real thing, but there are three Danish systems in MCS which go well beyond TRIX, although none have the latter's electrical parts. One is TEKNO and the others, ABRA & TEKNIK, will be discussed briefly at the end of this account.

REFERENCES & HISTORY Not much is known of TEKNO before WW2 but it is said to date from 1931 (13/360). Its existence pre-WW2 is confirmed by a model in the '1950' manual (see below) labelled as a prize-winner in a 1939 competition. The post-war phase is mainly based on some parts and 3 manuals which were owned by the late Neils Gottlob. The first manual has 1950 written on the cover; the second, later judging by the new Bevels advertised in it, has 1960 written on it, and a PR of '8 60'; and the third is much more modern looking and the Bevels, and a few other parts not in the earlier editions, are included in the Parts List. For ease of reference I'll call it '1970' – TEKNO is said to have continued into the 1970s. The parts to hand include all in the 1950 manual but not the 1960 Bevels, nor the new parts in the 1970 manual.

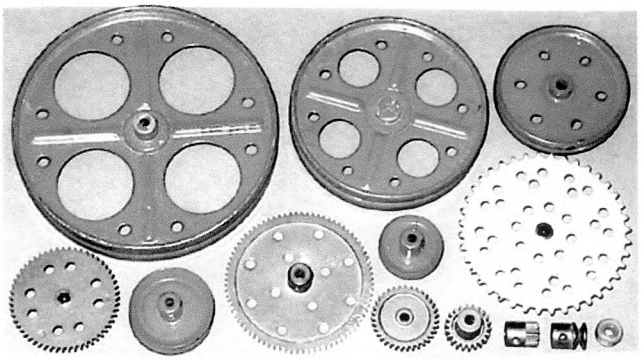
The other material mentioned has been contributed by David Hobson & Richard Symonds, to whom many thanks.

The company is given in the 1950 manual as Dansk Legetøjs-Industri, Rentemestervej 47, København NV. The same address is given in the 1960 edition but the only name used is Tekno – the telephone number has been added: Tlf. TAGA 8001. No mention of the maker is made in the 1970 manual but the name on the cover has changed from TEKNO followed by INGENIØRSÆT in small letters, to TEKNO INGENIØR. Another firm is seen on the headed paper of a typed circular – ALGREMA-TEKNO A/S, Hedevej 1, 9800 Hjørring, Telefon (08) 92 53 00. It is undated but gives the contents of certain TEKNO INGENIØR sets, and the Bevel Gears are in one of them.

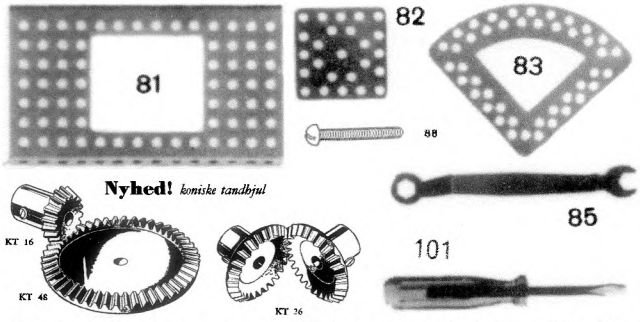
The PARTS • DATA (in mm) Strip (17-hole*): •Hole pitch/dia, 7.86/3.6 •width, 14.6; •thickness, 1.02; •ends near fully radiused. Boss: •o/d, 9.0; •i/d, 3.6; •material, see below; •double tapped. Thread: 3.5x.8mm (prewar TRIX). Axle Dia: 3.45. DP (Mod): As TRIX, & 36.3(.7). Nut: hex, 7.0 A/F, brass; Bolt: tapered CH, 6.0 dia, brassed steel.
*the number of holes in the centre row for Strip parts; for A/Gs the number in the row next to the bend will be quoted.

Except as mentioned the **colour scheme** is a mid, mossy shade of green for Strips, A/Gs, & Brackets, with Plates, Discs, Pulleys, & Hook orange. Among the parts to hand are a few Strips in a dark, late 1920s MECCANO green, and 2 Discs in a mid red (between the 1950s & '60s MECCANO shades) – an earlier colour scheme perhaps.

The parts are well made, but as with TRIX the **hole pitch** varies a little in the different parts, from 7.84 to 7.88 in this case (TRIX spacing is nominally 7.80mm but from 7.75 to 7.84 have been found). Also, again as in TRIX, many of the holes are nearer 3.7mm then 3.6. **Compared to TRIX** the steel used for many of the parts appears slightly thicker, and some parts are, typically, 1mm against .9, but often it is the paint on the TEKNO parts that gives the impression of greater thickness. Apart from that, and the slightly longer hole pitch, both unnoticeable at a glance, there are some differences among the parts common to the two systems (all the UK parts except the 11 electrical parts, plus the German large Pulley Disc): • **Strips, DAS, & Brackets** are slightly below 15mm wide, against slightly above for TRIX (for example 14.6 v. 15.2), and TEKNO ends are not quite fully rounded. • The **DAS** are typically 1mm longer o/a. • The arms of the **A/Gs** are only 15mm wide and have only 2 rows of holes in each. The lengths are different too with 4, 17, 33, & 49h, against 9, 18, & 27h for TRIX. • The **Flanged Plate** has no stiffening groove on the top across each end. (It, and the A/Gs, are steel of course, rather than the UK aluminium.) • The small TEKNO **Pulley Disc** is slightly larger, 36½mm Ø against 35¾mm. The large TEKNO Pulley Disc is 50¼mm. (Though described in the manuals as 30 & 50mm Ø, the **Wheel Discs** are, as in TRIX, 29 & 49mm Ø.) • The **TRIX-style Gears** are the same except for the 40t (shown below) which has a different hole pattern, and lacks the 30 oblong cutouts to allow a right-angle drive with 3:1 ratio. The discs are steel, & the bosses brass, nickelled all over except the 40t which is painted silver. • The peening of TEKNO **bosses** is distinctive with the first 1mm or so of the bore formed into a 5-sided indentation. Some TRIX bosses are similar but with 6 sides. • The nickel plated, steel wire **Worm** has an extra turn (making 5) and is 30mm long against 23. And at 9mm o.d. it is ½mm less in diameter. • The **Threaded Coupling** is 7mm A/F, like the Nuts, and is brass: some are plain, some nickeled. • A 125mm **Axle with Screwed Ends** replaces the 120mm Screwed Rod. • The **Large Tyre** has TEKNO 50 three times on each sidewall and is about the same size as the UK TRIX 49. The **Small Tyre** has TEKNO 35 instead, and at 58mm o.d. is 2mm large than the TRIX 35's to hand. • The **Nut** is machined brass, 2mm thick (machined Nuts are well worthwhile, they ensure that Screwed Rods will be at 90° when nutted to other parts). The **Bolt** has a neat head 2½mm deep, and is 7-7½mm u/h. • The **Spanner**, painted orange, has, sadly, no holes in its arm (the perforated TRIX Spanner, as a narrow strip, is a very useful part, both structurally and, with its head removed, to make neat linkages). It has slightly wider jaws to accommodate the 7mm Nuts, and is about the same length, but the top of the head is fatter and the arm over 1mm wider. • The 10mm, 16mm, and (12mm) Eccentric **Washers** are as in TRIX but are nickel plated. Likewise the 1 & 2h deep **Double Brackets**.



Now for the **parts special to TEKNO**, mainly Pulleys & Gears, but some structural parts as well. • A **33h Strip** (nearly twice as long as the (17h) longest UK part). • **DAS** with 5 & 13 complete holes along the base (to go with the standard 1, 3, & 7h ones). • **Axles** (smooth) 87 & 125mm long, and a **Crank Handle** 120mm o/a with a 16mm handle. • A **Collar** & a proper **Coupling**, like M63, with the holes at standard pitch. Both are nickeled brass, 9mm Ø, and double-tapped; they vary a little in length – Collars are 7 or 8mm, and Coupling between 22½ & 23mm. • The 5 **Gears** above, with conventional teeth: 5mm face width Pinions with 11 & 22t, and 35, 55, & 80t Gear Wheels, 2mm wide. All are zinc alloy die castings with, except for the 11t Pinion, a shallow recess extending nearly out to the teeth on one side (the boss side except for the 35t). The Pinions and 35t Gear have integral bosses; the larger Gears have peened-in brass bosses. The finish is gold paint all over. All can mesh using the holes in 2 adjacent rows. • **Pulleys** (above). The 9½mm (all diameters are o.d.) Loose & Fast Pulleys are about 4½mm wide and the Fast has an integral 9mm Ø boss. Both are nickeled brass. The others, 24, 31, 50, 75, & 100mm are made from steel pressings held together by the boss, and spot welds in the 3 larger ones. The vees of the 24 & 31mm are 5 & 7mm wide, and their brass bosses stand out by 5mm on the peened side. The halves of the larger ones are flanged around the outside at 90° with an oblique corner to form a vee when the two halves are joined. The outer edge of the flange is turned over inwards to give a rim some

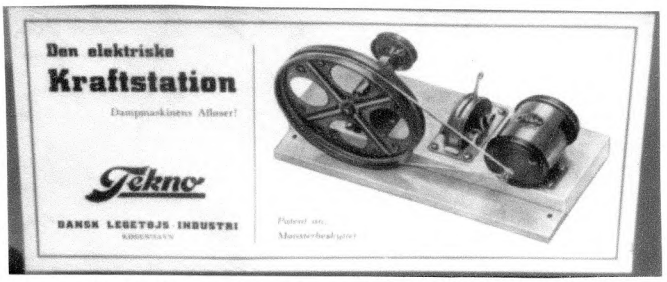


2½mm thick. The overall widths are about 10½, 12½, & 14 mm, with vees 3, 3½, & 4mm wide. The boss of the 50mm is brass like those of the 24 & 31mm versions, but those of the 75 & 100mm are zinc, with an integral 18mm flange on one side of the pressings, and peened over an 18mm washer on the other. • **Plates** (above). A modified **Flanged Plate** with a centre 5*6h cutout. A **5*5h Plate** with centre holes to match the 30mm Disc. A **Quadrant**, 4 of which suitably overlapped form a circle 110mm o.d. • The **Tools** above, not seen, replace the TRIX-type Spanner in the 1970 manual. A Skruetrækker is also listed but not illustrated. • **Bolts**. The **Set Screw** is similar to the standard Bolt but is 4mm u/h. A **Long Bolt** (above, not seen) is listed, and illustrated for the first time, with a round head, in the 1970 manual. • The **Bevels** (above) look similar, apart from not having face holes in the largest, to the MECCANO ones, and have the same number of teeth, 16, 26, & 48. • 35 & 50mm **Road Wheels** are also listed - each is made up from standard parts, a Tyre on a hub made from a pair of Pulley Discs joined by 4 N&B. • A **Reversing Switch**, with centre off position, described later, & a coil, not seen, of Elektrisk Ledning (**Connecting Wire** for the Motor no doubt).

So, some 35 new parts to add to the basic 40, and mostly very useful. The Coupling is a very valuable addition but no Crank, Bush Wheel, or Face Plate is provided to use with the Axles. The Gears could substitute but the hole patterns in the large ones (80t & 40t TRIX-type) are not entirely satisfactory. Both are based on the holes in the Wheel Discs, & that raises the question of why their radii are 10 & 20mm. It may not perhaps matter for the 30mm Disc but it means that Strips cannot be attached radially to the 50mm using 2 N&B (the 40t Gear is better in this respect because of the extra outer holes). The 10/20mm spacing came from TRIX of course and ideas on why these non-standard pcd's were used in the first place would be welcome. In TEKNO even the 5*5h Plate has a ring of holes at 10mm radius in its centre instead of the seemingly more useful full perforation at standard pitch. Other quibbles: an A/G between the 4 & 17h would be useful, & though the large holes in the 75 & 100mm Pulleys look attractive, face holes which would allow 6 or 8 equi-spaced Strips to be attached radially would be more useful. They are useful parts though, serving as pulleys, flywheels, flanged discs, & even wheels. In that last role, the 50mm Tyre can be fitted to the 50mm Pulley. Finally it would perhaps have been more useful to have had a Curved Strip instead of the Quadrant.

Plating is suggested on the centre pages of the 1970 manual (see end of this article). The words read 'Templates for Covering Sheets. Make the outlines and cut out in cardboard.' A few models are shown fitted with such parts.

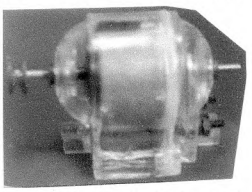
The MOTORS The Motor included in the Sets is the 4-8v **#50**, identical to the TRIX #2051 shown at Fig.1 in 4/52. Its base in orange and the magnet green. It is advertised in the **1950** manual along with the fully enclosed, 4.5-8v **#66** Motor shown below. An example to hand has an orange body



46mm Ø, & 50mm long. Also shown the **#67 Reversing Switch**, as on the back of the Tank on p768. The ones seen are orange, with the sides made of brown insulating board. Also advertised is a set to make a **Kraftstation**, (Power Station), and the one known is packed in a blue box with the B&W label above. The actual Motor in this outfit is an orange #66 as described above, but on the label the ends fit over the body. The other parts in the outfit are standard except the green Base and the black Bearing Block.

The Motors #50 & 66, and the Switch 67, are again advertised in the **1960** manual but instead of the Kraftstation on the back cover there is a Motor, **#701**, 6-8v a.c., along with 11 small, non-constructional machine tool models using non-standard parts, from #702 Transmission, to #713 Vandsten (Grindstone).

None of those is mentioned in the **1970** manual but the back cover gives details of 12 small d.c. motors, with shaft diameters from 2.0 to 2.8mm. The 6 in the 'A' range go from A 150 to A 5, and in the 'B' from B 15 to B 65. 3 are illustrated including the **Nr.65** in the last column, the only one with means to drive a model. The B 65 in the list is stated to be 39mm high & 54.5mm long, and to take .64 amps at 6v. Another Nr.65 is known (right) with a different, transparent body. It is for 3-12v and is 33mm long, 32mm high, with a body 26mm in diameter.



The SETS There were 6 sets, Nos.40-45 with linking sets 40a-42a, and 44a-44c. No inventories are given in the 1950 or 1960 manuals and what follows is from the 1970 edition. Sets 40 to 43 are progressively larger. **Set 44** is identical to No.43 except that it contains a TRIX-type Motor. No.44c converts a 44 into 45, and a 44a plus a 44b make a No.44c. The Set Contents from the 1970 manual are given in MCS, but if the Set Nos. are hard to read, they are 40 to 43 along the top row, and 44a, 44b, 44c, 44, 45 along the bottom.

The **No.40** is the same as the UK Unit A; the **No.41** is Units A+B; and the **No.42** is A+B+C except that it has only 2x 50mm Discs. The **No.43** is the No.42 plus a Gear Unit G, and 2 each of 33h Strips, 7h DAS, & Collars The main extra parts in the **No.45** are: 2 x 49h A/Gs, & 4 each of the other lengths; 2 each of the Axles & Crank Handle; a Coupling; 1 each of all the new Gears; 2x 26t Bevels & 1 each of the 16 & 48t; a Reversing Switch; 4 of the 10mm Loose Pulleys, and 1 each of all the other Pulleys; a Flanged Plate with Cutout; 2x the 5*5h Plate; 4 Quadrants; and 4x 35mm Road Wheels. The set contains only 56 Bolts & 84 Nuts. The only parts not included in it are the 13h DAS, the 50mm Pulley Disc, the Long Bolt, the Connecting Wire, and the 50mm Tyre or Road Wheel.

The 35mm Road Wheels in Set 45 provide the only Tyres in any of the 1970 sets and are only needed for one No.45 model. In the 1950 & 1960 manuals they are also needed for a model from a No.44 Set - or from 'a No.43 plus a Motor & 4 Road Wheels', so the 44 wasn't just a 43 + Motor at that time.

The typed circular mentioned earlier gives the contents of Sets 42, 43, & 44. The first two are as in the 1970 manual but the 44 is nearly as big as the 1970 No.45. It lacks a few structural parts, 20 N&B, the Motor & Switch, and has 2 each 35 & 50mm Road Wheels instead of 4x 35mm. At a guess this came after the 1970 manual but it is unclear

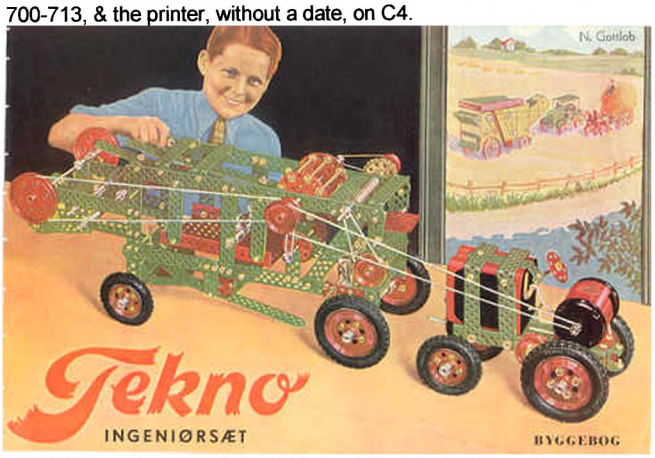
whether any other sets were available at the time.

B&W photo of Sets 42a, 44a, & 45 are shown in the 1950 & 1960 manuals and the parts appear to be strung to backing cards, with 2 layers of parts in the No.45. The lid label, taken from a photo of a No.43 set, is shown above, with the name in red, a boy in a blue shirt, and a Train crossing a Bridge, both blue-grey, on a yellow ground. The box itself is black with the parts, in the colours already described, on a yellowish card. The manual cover is like that of the 1950 manual, shown later.

A No.42 set is in a cardboard box with an imitation wood finish. Its label (below) is half red, half yellow, with a man & boy looking at a manual. It is similar in layout to the 1970 manual cover, shown later, but no model is visible on the right. The parts are as before, but the 1970 Spanner can be seen - it is cranked at both ends, deeply at the ring end, and looks nickel plated. The Screwdriver is missing.

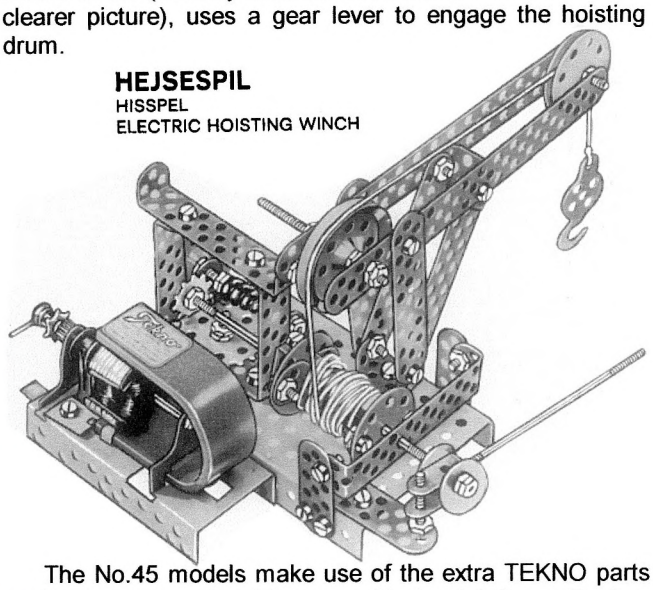
The MANUALS The **1950 & 1960** manuals have the same models on the same pages so differences will be noted in the Other Notes of the Summary below. Also in those Notes, details of an in-between edition.

'1950' MANUAL Summary •Name: TEKNO INGENIØRSÆT •Details of maker: Dansk Legetøjs-Industri, Rentemestervej 47, København NV. •Dates &/or Ref Nos: none. •Page size: 225*149mm. •No. of pages: 56+covers. •Language: Danish. •Printing: line drawings of small, ½-tones of larger models; colour cover with model on yellow-orange board & boy in blue shirt. •Page Nos. of Parts List & highest PN: 1,93. •No Set Contents. •Sets covered: 40-45. •No. of models for each set: 38,15,4,8,6,9 (+3 'Super-models'). •Name, Page No. of first & last model of each set (no Model Nos.): 40: figure '1',6; Jernbanesignal,10. 41: Maskinhammer,11; Løbekran,19. 42: Brevvægt,20; Dampmaskine, 23. 43: Pendulsav,24; Bevægelig projector,31. 44: Hejsespil,30; Pendulsav,38. 45: Vippe-karussel,39; Kraftig løbekran,50-51. Super-models: Kædestemmer,52-53; Krigstank,55-56. •Other notes: •Set 43 & 44 models overlap. •pp3-5 show basic constructions. •Below the **'1960'** cover; the letters in 'INGENIØRSÆT' in the 1950 version have serifs. •Otherwise the 1950 & 1960 manuals are the same except that in the 1960 the maker's name is TEKNO; the new Bevels are on C2; the 701 Motor & machine tools 702-713 are on C4 instead of the Kraftstation set; '8 60' is added to the printer's name, 'EILER EILERTSEN. KØBENHAVN' (on C3 in 1950, & C4 in 1960). •**Another manual** between the 1950 & 1960 has INGENIØRSÆT with serifs; TEKNO as maker; no Bevels; items 700-713, & the printer, without a date, on C4.



Most if not all of the models for Sets 40-43 are in prewar TRIX manuals, and in many cases the illustrations are identical. There are words of explanation for the larger ones but unlike TRIX, no Parts List, and sometimes an extra view in the TRIX manual has been omitted. The No.44 models I'm not so sure about: most look typically TRIX but I haven't found any of them in the Books 1, 2, & 3 to hand. One, shown below (actually from the 1970 manual because it is a clearer picture), uses a gear lever to engage the hoisting drum.

HEJSESPIL
HISSPEL
ELECTRIC HOISTING WINCH



The No.45 models make use of the extra TEKNO parts and include a couple of Cranes, a Horizontal Steam Engine, and a Roundabout. All seem quite fair models, particularly given the limited number of parts in the Set, but its hard to work out their finer points without being able to read the constructional notes.

The Supermodels are much better. The first is a Kædestemmer, which is translated in the 1970 manual as a Chain Caukling Tool. It's pedal operated but beyond that I'll not commit myself. The next is the nice Threshing Machine which is shown in its improved 1970 form on p780. The third is a rather ungainly looking Tank, with less features than the 1970 version discussed below, notably it has only one Motor driving both tracks.

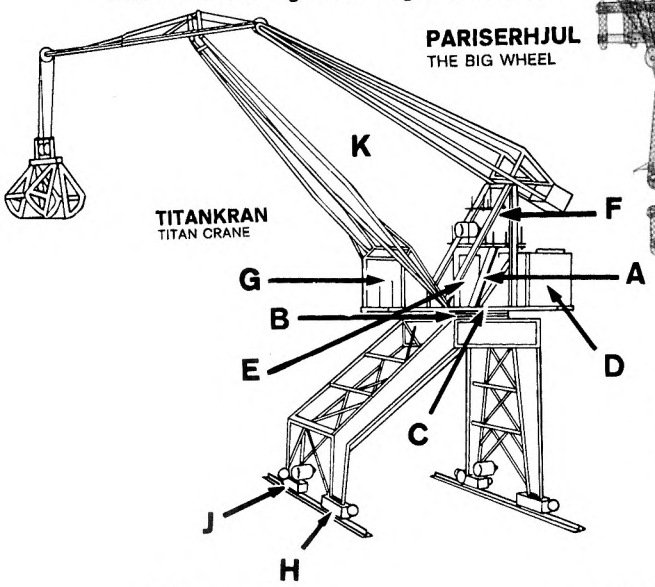
'1970' MANUAL Summary •Name: TEKNO INGENIØR. •Details of maker: none. •Dates &/or Ref Nos: none. •Page size: 245*173mm. •No. of pages: 69 inc covers. •Language: Danish, Swedish, English. •Printing: ½-tones of models; red/yellow cover (below) with white names, & green/red Crane. •Page Nos. of Parts List & highest PN: 2,103. •Page Nos. of Set Contents & highest PN: 67,103. •Sets covered: 40-45. •No. of models for each set: 41,15,3,8,4,9, (+9 Supermodels). •Name, Page No. of first & last model of each set (no Model Nos.): 40: letter 'T',5; Fire-escape,8. 41: MACHINE-GUN,9; BALANCE,15. 42: LATHE,16; STEAM ENGINE,18. 43: PENDULSAV,19; SEARCH LIGHT,25. 44: ELECTRIC HOISTING WINCH,26; PENDULSAV,29. 45: STEAM ENGINE,30; TRAVELLING CRANE,42-43. Supermodels: CHAIN CAULKING TOOL,44-45; TITAN CRANE,60-66. •Other notes: •The names of parts on C2, & some of the text on C4 are in Danish only. •Basic constructions are on pp3-4; ads for motors A 150 to B 65 on p68; the printer is given on p67: Tilrettelægning: Art Service – Tryk: Art Print Offset. •A **manual for Sets 40-42** has 20 pages inc covers with pp3-18 identical & the same covers but in B&W.

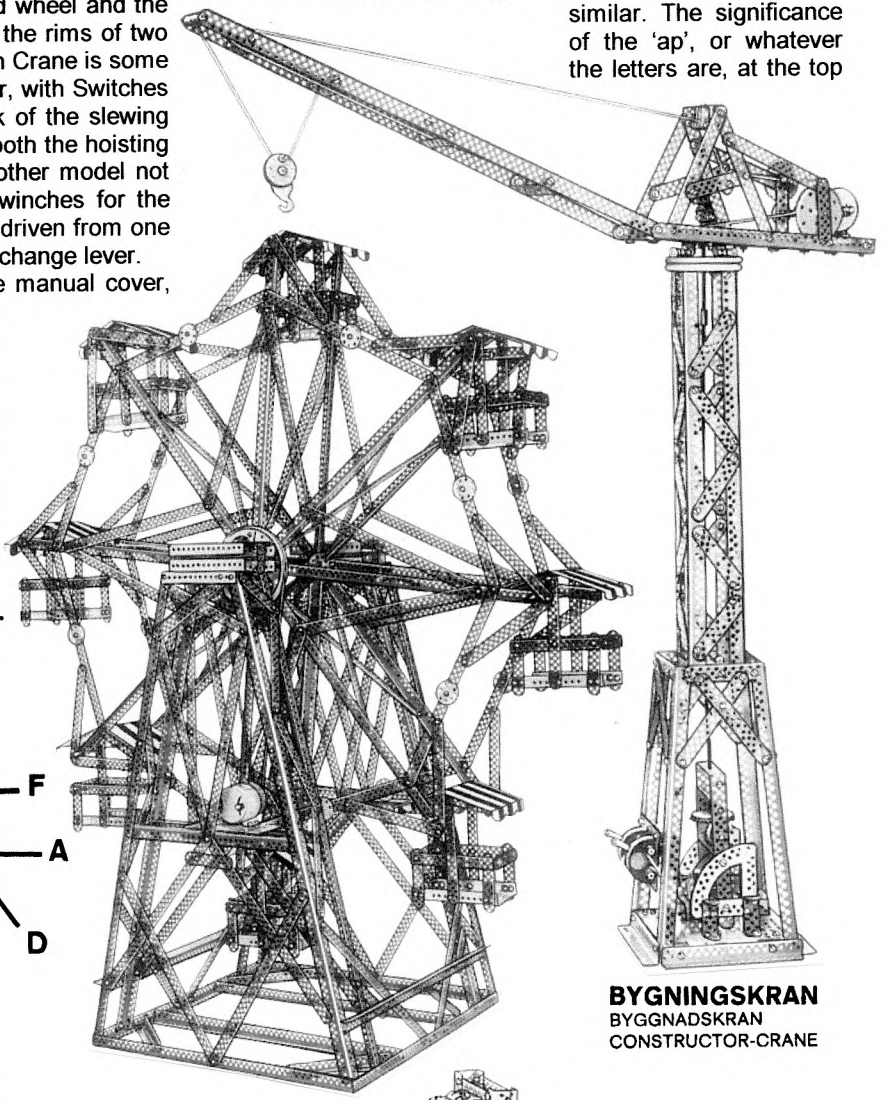
The No.40-44 models are either the same as earlier ones, or similar with a few improvements. Constructional notes are no longer provided but the photos are larger, clearer, and more views are given in some instances. The only significant loss is the No.44 Chassis which had linkage steering, and a worm drive at the back axle. The No.45 models are unchanged.

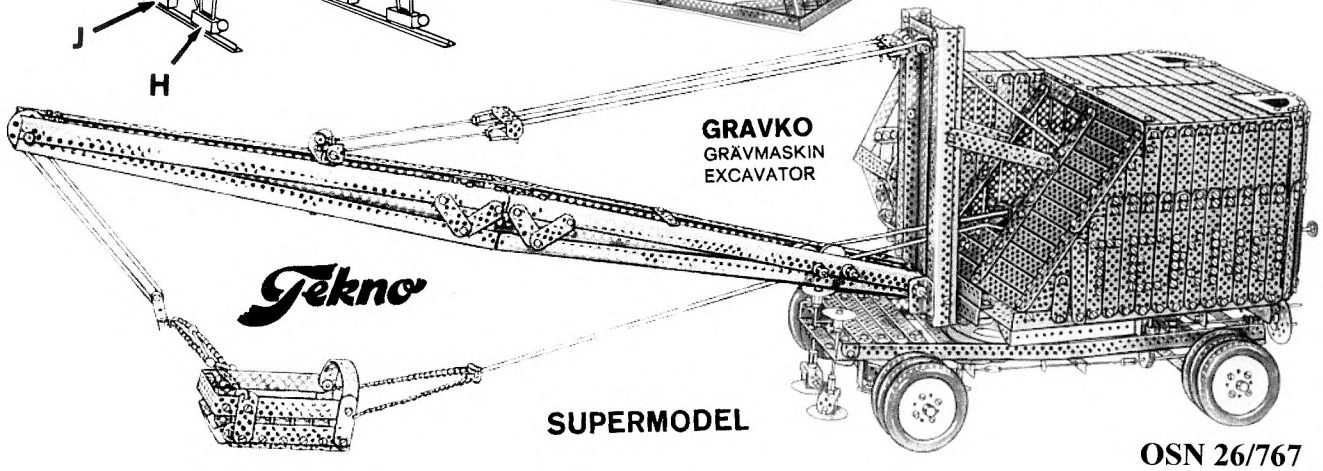
Some of the 9 Supermodels are shown below, overleaf, & on p780. I couldn't resist making the Threshing Machine and it is full of life with 7 rotating/sliding/jiggling elements driven from the input Pulley by various bands & chains. The Tank now has a Motor driving each track, but through one of the small idler sprockets, with the Chain held down onto it by a 2h Double Bracket. The Motors are controlled by Switches at the back, and hand wheels operate the main gun in azimuth & elevation. Points of interest in the other models follow. The Big Wheel is about 30" diameter, and has a Chain drive to the (rather inadequate looking) central Axle. The Dragline's jib is also about 30" long and inside the cab are 3 Motors driving winches. The Motors are controlled by Reversing Switches operated by rods coming out through the back of the cab. Slewing is from a hand wheel and the roller bearing has Pulleys running between the rims of two Large Pulleys. The tower of the Construction Crane is some 2ft high and at the base are a slewing Motor, with Switches which control it, and the Motor at the back of the slewing platform. The latter seems to be geared to both the hoisting & luffing winches at the same time. In another model not illustrated, a Jib Crane on a Gantry, the winches for the hoisting motion and control of the grab are driven from one Motor, but either can be selected via a gear change lever.

Finally the huge Titan Crane, as on the manual cover, with, to give an idea of its size, the platform standing over 20" high. The cover was reproduced in colour at about ¾-full size, in CQ49. It is shown here diagrammatically, with the letters denoting the various views given in the instructions. They occupy 6 pages and even so it would be difficult to build the model from then. 6 Motors are used: 1 each on 2 of the travelling bogies, with a band & 2 geared stages of reduction to the 2 travelling Pulleys in each of the bogies; a luffing Motor with gearing to a linkage to the jib; 1 each for the hoisting & grab winches; and one for slewing, with geared drives to 4 Pinions equi-spaced around a Gear Wheel. In this case the slewing ring is about 8" Ø and is made of 2 layers of Strips curved to suit. 4 Pulleys running on it take all the weight, and they are configured 2 ahead & 2 aft, with less than 60° between each pair. The Motors are controlled by 5 Switches in the forward cab. Current passes through 10 slip rings, with a pair between each Switch and each Motor (or 2 Motors in the case of the travel). The slip rings are a stack of 30mm Wheel Discs and with metal brushes rubbing on their edges. Nothing is said of these, or of the insulating parts which would clearly be needed.

TEKNIK All that is known of this system is the MCS entry, and from the Illustrated Parts shown it looks to be the same, or very similar, to TEKNO. The parts are said to be green strips & orange plates. The manual cover with a boy's face covering most of the left half of it, is completely different to the TEKNO ones, but the style of the name (above) is quite similar. The significance of the 'ap', or whatever the letters are, at the top

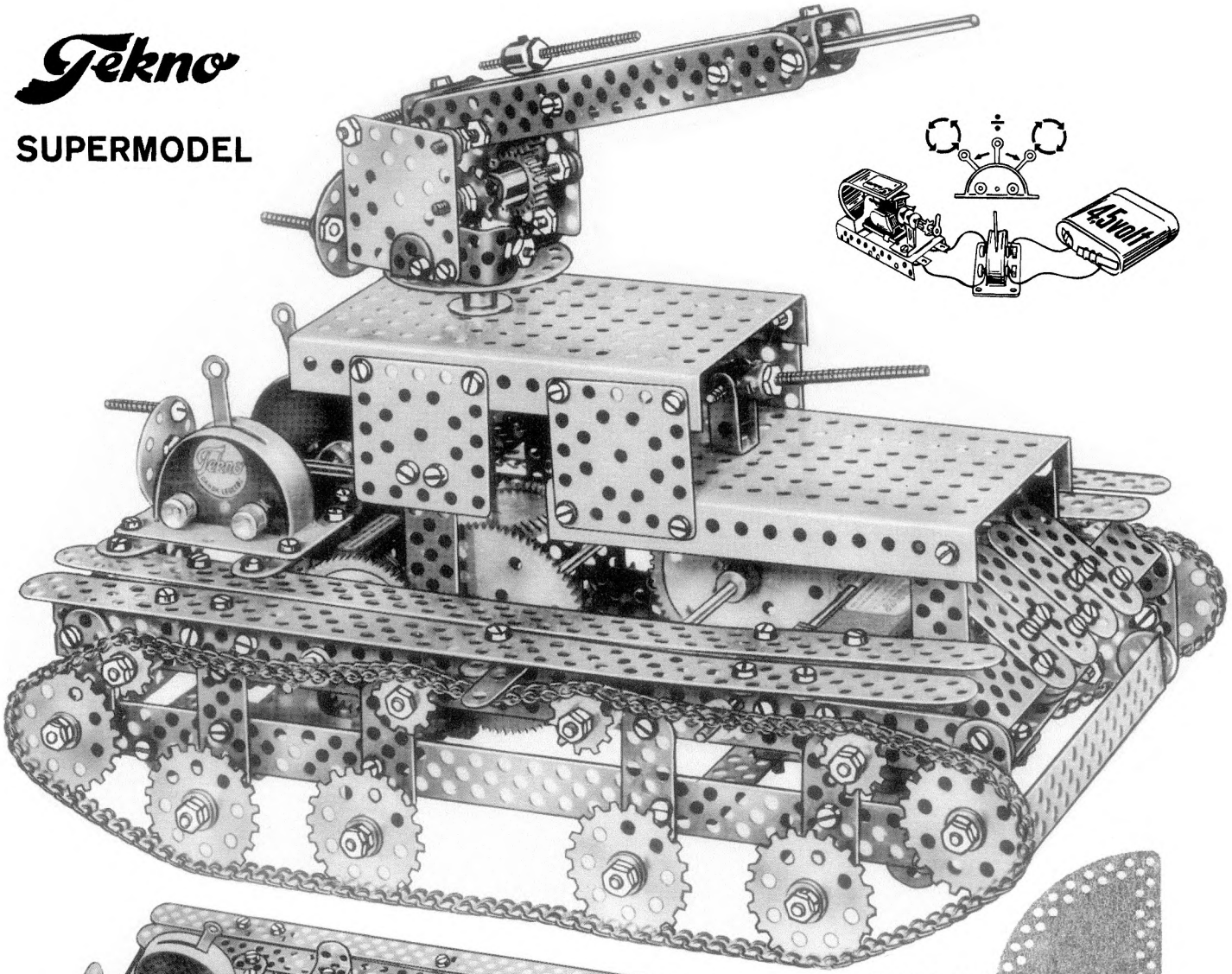


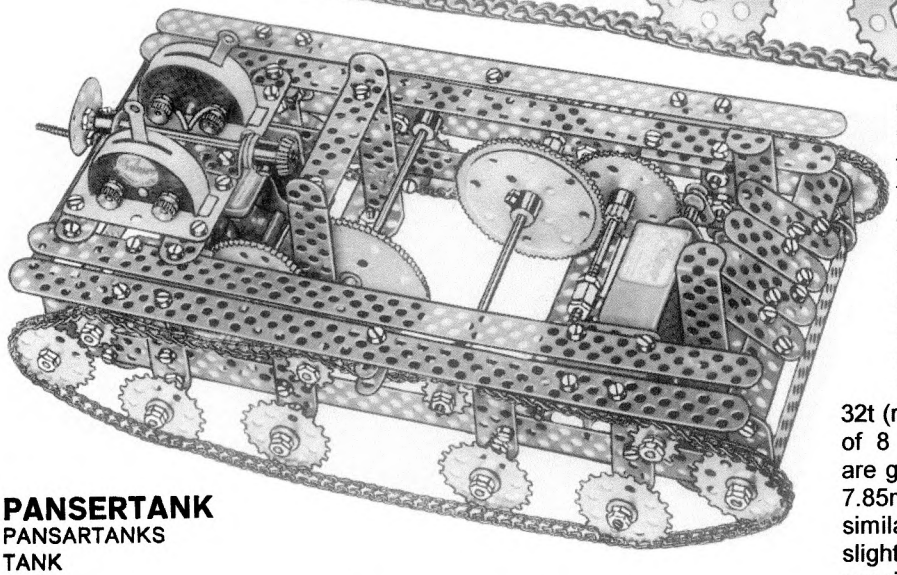




Tekno

SUPERMODEL



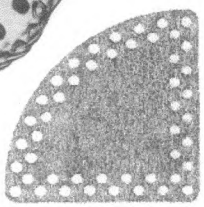


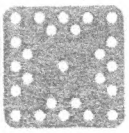
PANSERTANK

PANSARTANKS
TANK

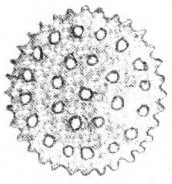
isn't known, but if they are a company's initials they don't match any of the known TEKNO firms. The Illustrated Parts is in the style of the 1950 & 1960 manuals but with revisions to include the later parts such as the Bevels & Road Wheels. The model page, including the page number, is identical to a page in the 1970 manual except for the name of the system.

ABRA This system is also in MCS, with just the manual cover and the Illustrated Parts shown. Colours are given as zinc plate & dark blue, and as a date '? up to the 1980s'. The range of parts isn't nearly as large as for TEKNO, 45 against about 100, and the main non-TRIX parts are a 31h Strip; 2 extra A/Gs, 5h & 50h long (judging by the Chair-O-Planes model in MCS the A/Gs may have a row of holes along the bend as well as 3 rows in each flange); a longer DAS; a 17*8h Flanged Plate, longer than its TRIX/TEKNO counter-



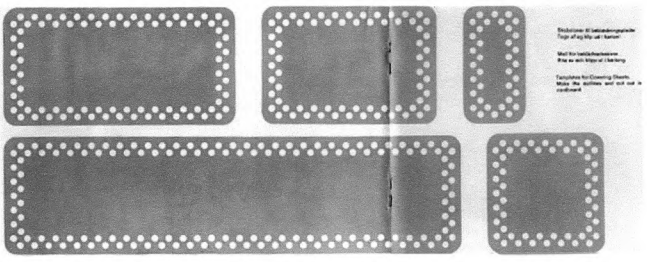


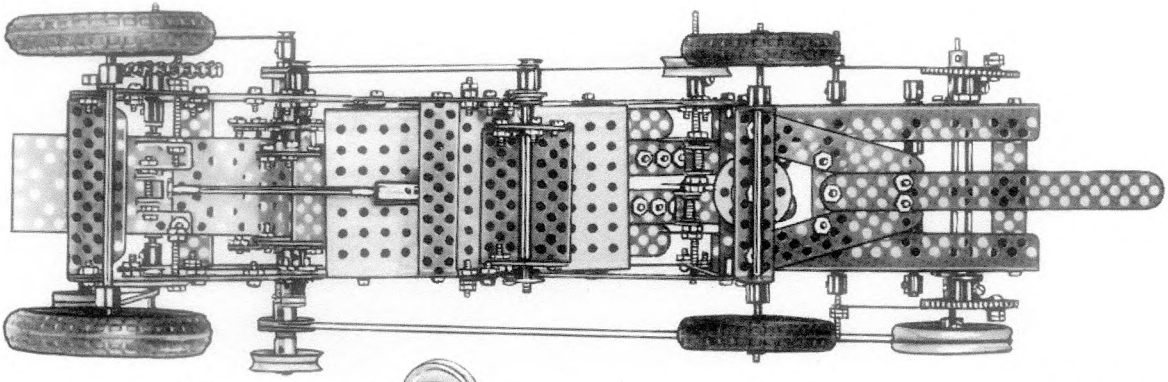
part & with staggered holes in the top; and the two Plates right (with the rather better pattern of the centre holes in the 5*5h Plate). The 3 Gears look as if they may have the characteristic TRIX teeth, but fewer of them – 8, 16 & 32. The face holes differ too with only 4 in the 16t, while the 32t (right) has just 2 rings of 8 holes. ABRA holes are given as 3.6mm Ø at 7.85mm pitch, so very similar to TEKNO and slightly further apart than the nominal TRIX spacing.



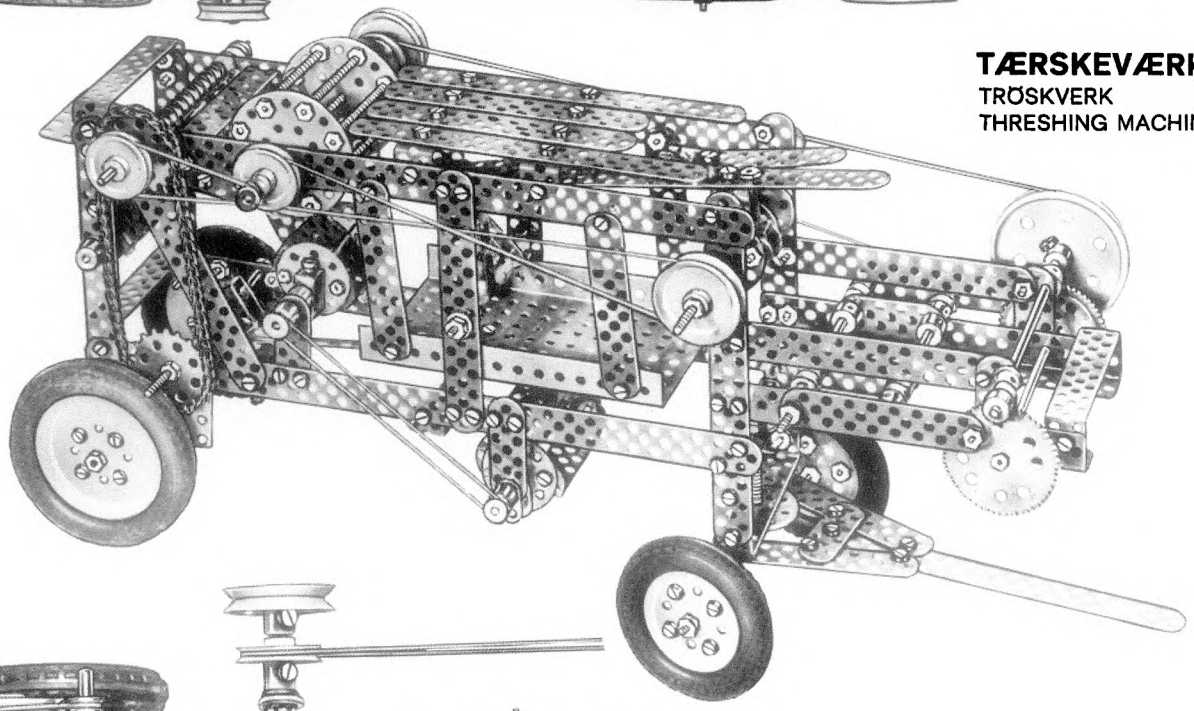
FOOTNOTES On the question of electrical parts, I notice a reference in my Database to **TEKNO-ELEKTRO**, 'analogous to TRIX electrical sets', but I've no details of it.

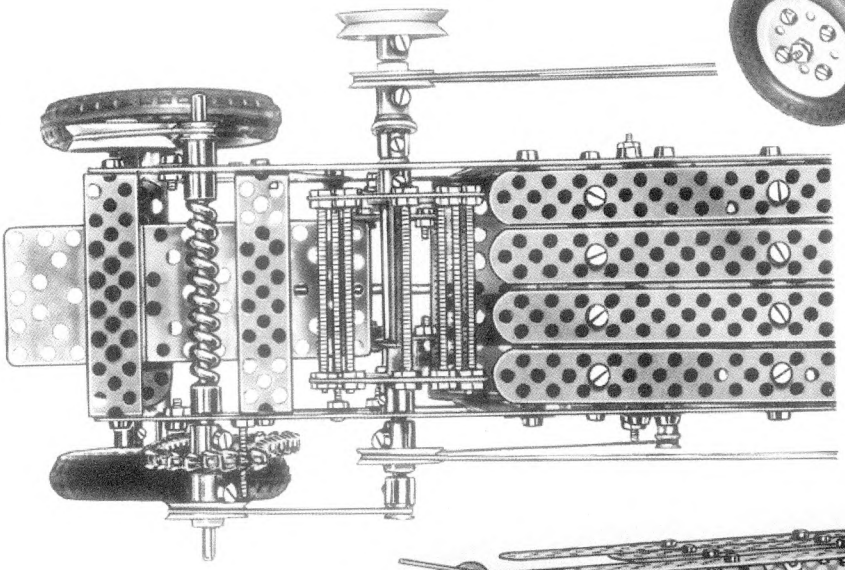
The illustration of the suggested homemade cardboard **Plating**, mentioned earlier, is shown below.



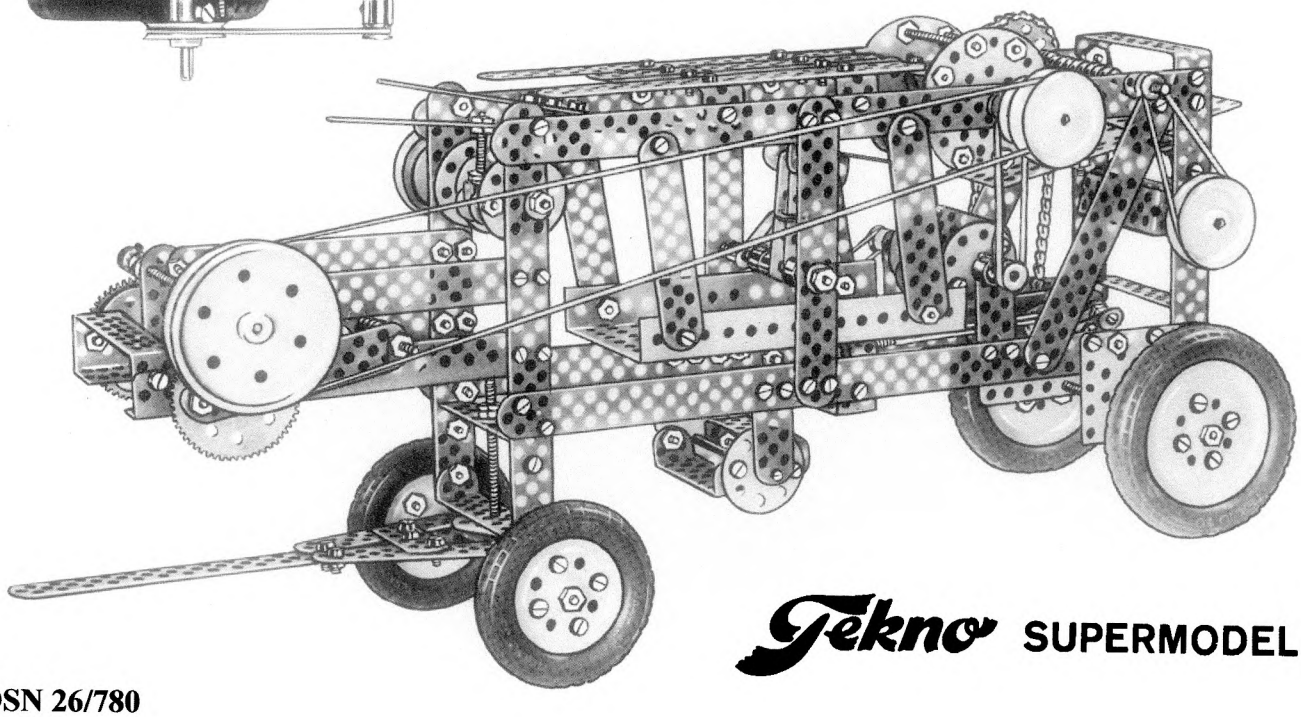


TÆRSKEVÆRK
TRÖSKVERK
THRESHING MACHINE





More about TEKNO on p764.



Tekno SUPERMODEL

OSN 26/780

5. **CREIN**. Jean-Pierre Guibert pointed out that the parts in this system (see p1586 of this Issue) resemble closely those in CONSTRUCTOR AUKRI (44/1347), the only obvious difference being the Handlebar used in the Irish Mail etc: one of the Short Wood Pieces in AUKRI but formed with a circular section in CREIN. Thus it is very likely that the dimensions of the parts are similar or even identical.

CREIN: S2 [52/1581].

Snippet. Gilbert's KLAX Clock Sets [Who vetoed KLAX KLOX I wonder.] Prior to the Ebay set to be described the only reference to KLAX to hand was in 6/136 where a No.2 set for a Pendulum Clock was said to date from 1925 and that ERECTOR Gears, Rods, & Chain were used.

The photos of the Ebay set don't show a set number but the manual (Fig.2) does refer to 'Clock Sets'. The small lettering on the lid (Fig.1) reads: A Highly Interesting And Amusing Toy | That Teaches The Boy | The Mysteries of Clockworks | With A Manual | "THE STORY OF CLOCKS".

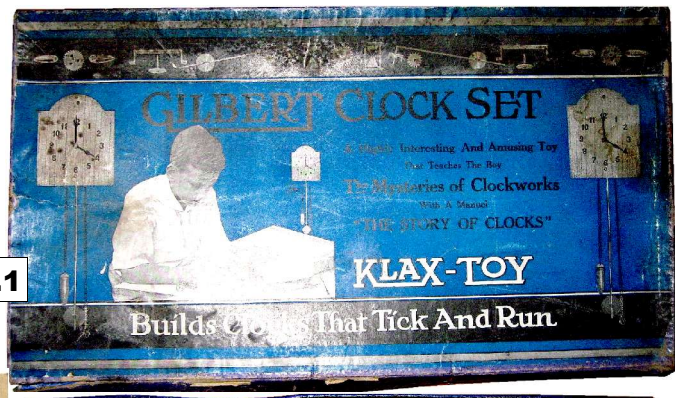


Fig.1

The parts in the box (Fig.3) look as if the set might be complete, with the small parts in the packet just poking out from behind the Clock Face (the only word that can be seen on it is Collar). But I'm not sure how the framework would be assembled and attached to the Face.

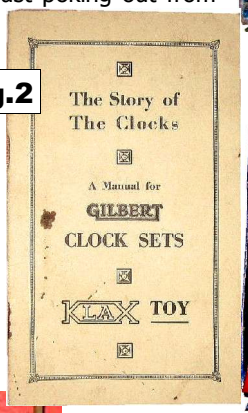


Fig.2

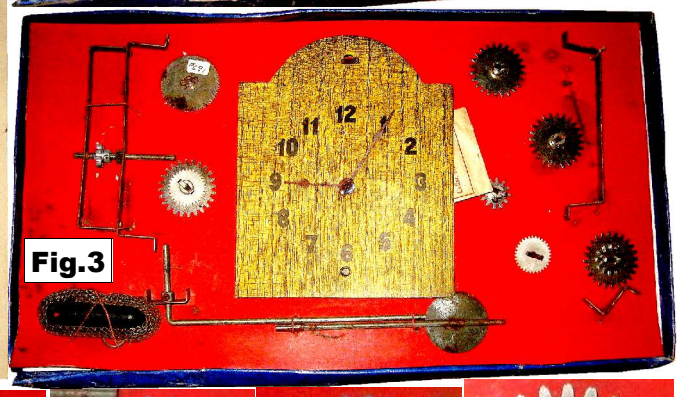


Fig.3

The 2 Gears top right are identical and one of them, & all the others, are shown as a-g in Fig.4 (they are from various Ebay photos but are all about to scale). b1,c,f have 8,12,36 teeth and are probably standard pre-1925 ERECTOR Gears. g is a double 12/36t Gear. The fine-tooth Gears are probably 'specials': a,d, have 32,75 teeth, and b2 probably 15 or 16. But I'm not sure that they all have the same tooth pitch. And given non-standard Gears one might expect a pair to have a 4:1 ratio to be used in the train between the minute & hour hands. e is another double gear combining a & f.

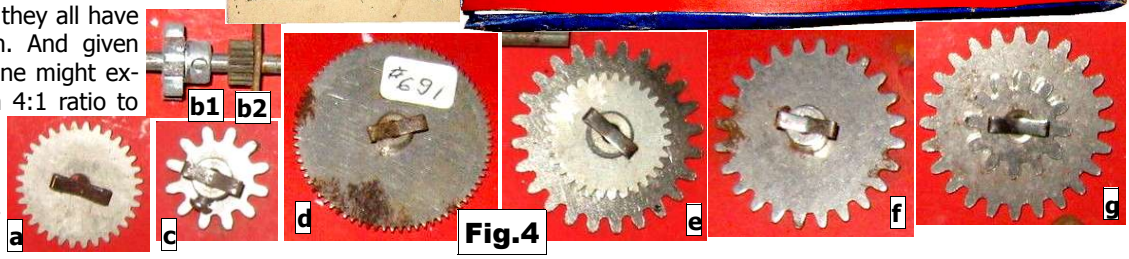


Fig.4

OSN 52/1581 **KLAX: S1**

New from VEX New parts, designs, etc have been added since the notes in 41/1243, though they are hard to pin down on Vex's confusing website, and many are probably of little interest to OSN readers. However one advance is that some products can now be shipped from the UK, Europe, & Canada, thus avoiding, one hopes, the previous high shipping charges.

Fig.1

Recently a number of kits to make relatively simple models have been offered on UK Ebay, all labelled VEX ROBOTICS & STEM STARTERS. STEM stands for Science, Technology, Engineering, Mathematics. An attempt perhaps to widen VEX's appeal & attract the young. The Ebay offerings were a Catapult with 100+ parts & a 10' throw, a Crossbow with 150+ parts & foam Darts, a Snapshot with a 10' range, a 100+ part Gear Racer with a pull-back Motor, a 270+ part Fork Lift ball machine with 8 Balls, and the Hook Shot ball machine left with 170+ parts & again 8 Balls. From the start the Balls shoot up, over the blue arch, then pass through it & down to guide rails to roll along the ramp & drop down to the start. Each box shows 2 other models which can be made with the parts, often a little more realistic looking than the featured model. Those for the Hook Shot are a Helicopter & a fairground Pirate Ship. Where appropriate models are hand operated, but some can be motorized with an add-on Motor Kit. Other models mentioned are a Strandbeast, Spider, & Scarab. The range offered in the different countries can be seen at hexbugvex.com and the 'stars' are the Strandbeast & a Robotic Arm, a sort of grabbing crane. Prices go from £15 to £90 (for a Motorized Robotic Arm).

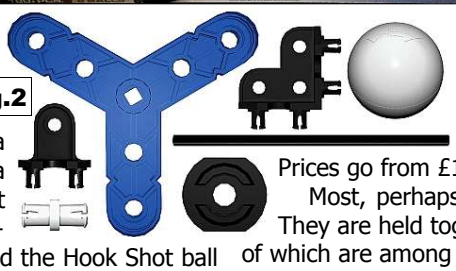


Fig.2

Most, perhaps all the parts in these models are plastic. They are held together by plastic split-ended Snap Pieces, 3 of which are among some of the Hook Shot parts in Fig.2.

OSN 52/1581 **VEX: S6**

More on the Danish TEKNO David Hobson kindly alerted me to www.loghoj.dk/Tekno-ingenioer.htm, Danish web pages about TEKNO, from Hans Christensen. This piece updates the notes in 26/764 and is what I found from the many photos on the site, the remarks with them, and a few items of information that have appeared since OSN 26. But given my lack of Danish, and even allowing for Google's best efforts, there may be errors. As always corrections welcome. My thanks to Hans for his kind permission to use the photos here, all from his site. The Combine right, built by Victor Andersen, is one of the many enthusiasts' models shown there.

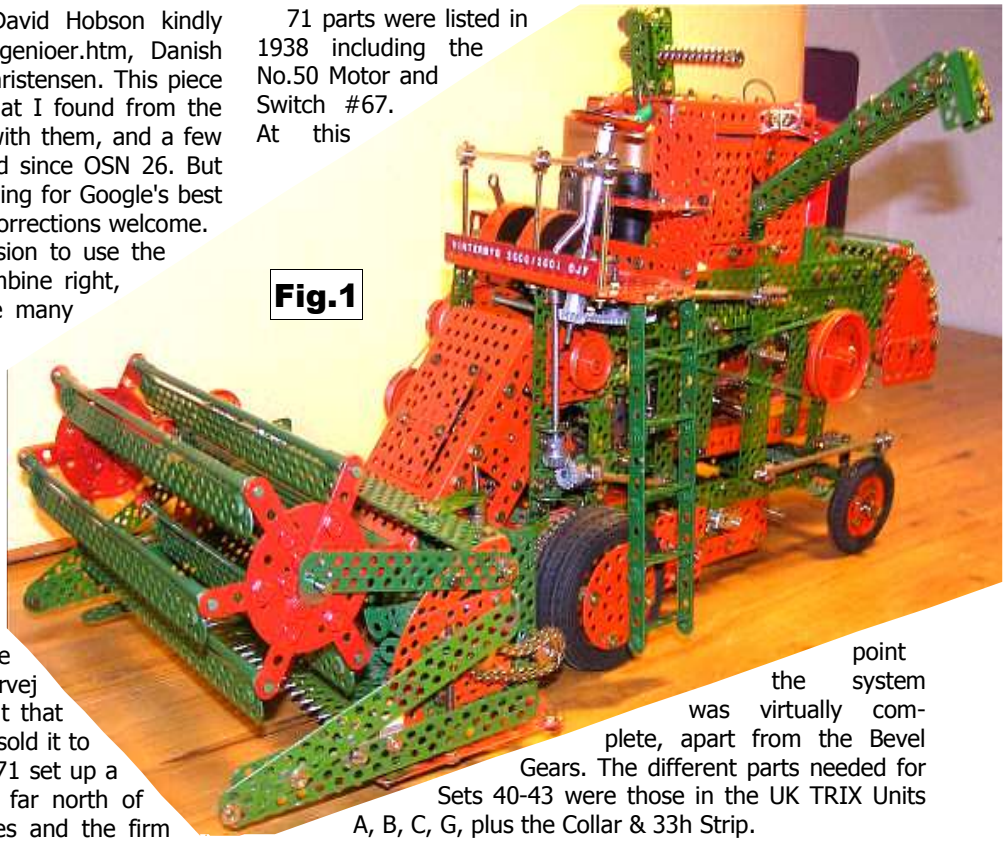


Fig.1

HISTORY Andreas Siegumfeldt had a plumbing business but changed tack in 1928 and started a toy company, Dansk Legeøjs Industri, in the basement of his home in Vanløse, near Copenhagen. Later his son Egon William & daughter Estler Margrethe helped in running the company. The various toy lines produced included tinplate and, after 1945, diecast toy cars. On Andreas's death in 1967, Estler ran the company, but in 1970 she decided that the factory on Rentemestervej in Copenhagen needed modernising, but that it wasn't financially viable to do so. She sold it to Algrema, a Jutland company, who in 1971 set up a factory on Hedevej in Hjørring (in the far north of Denmark). But there were quality issues and the firm (Algrema-Tekno) went into liquidation in 1972. For a time afterwards some sets were sold under the name TEKNIK by AP Teknik. Another website says that some of the tooling was sold to a Dutch firm, Vanmin BV, who as Tekno Toys continued making the diecast toy cars in Holland.

The TEKNO brand constructional sets were introduced in 1932. Initially the range of parts was similar to TRIX (patented in 1930) but later additional parts added greatly to the the scope of the system. Nothing is said on the nature of the connection, if any, between the two companies. Notes on the constructional sets, parts etc, & related products follow. Numbers in curly brackets show pages in OSN 26 which have a relevant illustration. If the page number is blue the image is shown in colour on the OSN website.

The MAIN CONSTRUCTIONAL SETS Nos.40-45.

The 1930s By 1933 an ad shows 7 sets with the 'Bridge' label {766} (the boy's face on it varied from time to time). The photos are blurry but it's probable that the sets were Nos.40-43, & linking sets 40a-42a. The ad also says that small models can be powered by the Fysiker motor (of which more later). No set inventories are known until the 'Titan' manual {766} but it's likely that they were as given there. An exception was that for an initial, short period in 1933 the No.43 had simply twice the parts of a No.42.

By 1935 No.44 was available. There was never a 43a: the parts needed were 4x 35mm Road Wheels (a Tyre on a pair of Pulley Discs), and a No.50 (TRIX-style) Motor. By 1938 the No.45 with linking sets 44a, 44b, & 44c had been added. The 'c' set was equal to the 'a' + 'b', and 44 + 44c + a Switch #67 gave a No.45.

An early box is red with a plain cardboard base; later ones were black. All had the Bridge label {766} and strung parts. Early manuals, such as the one right, were portrait format with B&W covers each showing one model. Later, and thereafter, they were landscape, with the 'Roller Coaster' cover (far right), always in B&W. The model was inspired by a Copenhagen fairground ride. The manual for the '2x 42' No.43 was an earlier Roller Coaster edition with an extra 8 pages for new models.

Ebay photos show a set, said to be from 1939, with the 'Threshing scene' manual {766}.

71 parts were listed in 1938 including the No.50 Motor and Switch #67. At this point the system was virtually complete, apart from the Bevel Gears. The different parts needed for Sets 40-43 were those in the UK TRIX Units A, B, C, G, plus the Collar & 33h Strip.

The 1940s & 1950s It is thought that some sets were made during WW2 and one such is in the 1930s style but without a manual. An Ebay set said to be 1940s has the Bridge label & the Threshing manual. It has blue Flanged Plates, a colour used briefly soon after WW2.

Boxes in the 1950s were again black with the Threshing manual but with a new label (the 'Gantry Crane' above). Parts were strung. One set, a No.41, has a portrait manual with a B&W cover showing the Illustrated Parts. If correct perhaps this was from a time of shortages. At some point after the early 1950s the sets' name was change from Tekno Metal-Byggekasse [-Building Set] to Tekno Ingeniørsæt. Spring Cord was added in 1954.

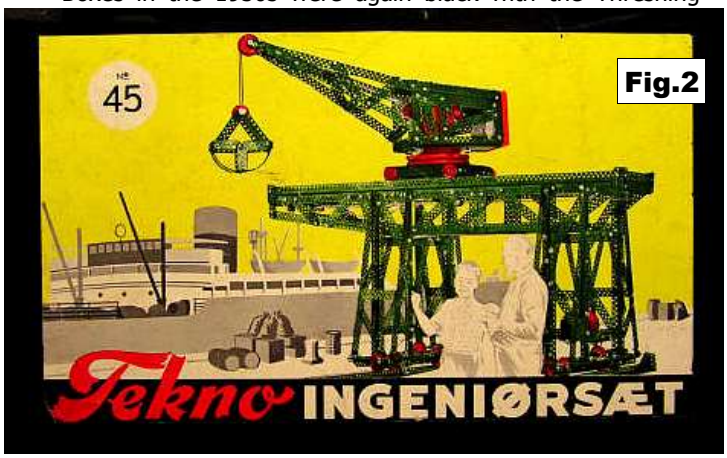


Fig.2

Fig.3

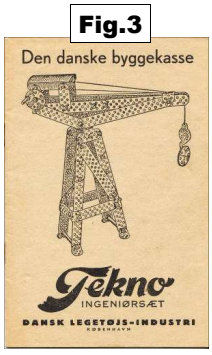


Fig.4

The 1960s Boxes had a simulated wood finish and there were two types of label, the 'Red/Yellow' {766}, and the 'Titan Crane', identical to the 'Titan Crane' manual cover {766}. At a guess the Red/Yellow came first but it's just possible that it was used for the small sets, and the Titan for the larger ones. In both types the parts were in a yellow formed plastic tray (it is white in one Ebay set) and their manuals had the Titan cover {766}. Some of these covers were B&W, probably for the smaller sets. By this time there were 75 parts in the system, again including #50 & 67. The significant new parts were the 3 Bevel Gears introduced in 1961.

The 1970s Algrema Sets 42-44 were advertised, and TEKNIK Sets 42 & 43. The 'Algrema' lid, with its transparent

Fig.5

panel, is shown above, and the 'Teknik' lid below. All the sets had the parts in a white plastic tray. The Alrgrema sets had the Titan manual, with the B&W cover for Set 42. The TEKNIK

Fig.6

sets also had the Titan manual but with 'TEKNIK' at the top of the pages and all mention of TEKNO removed. As explained in OSN 26 the content of the Algrema Sets 42 & 43 was as in the Titan manual but the No.44 was nearly as large as the previous No.45. The TEKNIK sets had the same content but the thread/Axle size was 1/8".

The PARTS The discs of the early 3 largest Pulleys {764} were riveted together with the boss soldered on. Initially the 11 & 22t Pinions were (nickelled?) steel. Sometime in the 1930s the 5*5h Plate {765} had a regular pattern of 5x 5h rows, and no doubt was the centre of the 13*7h Flanged Plate with Cutout {765}. The 10 & 16mm Washers were initially painted red. Some Tyres were not marked TEKNO, and some had a '+' rather than rectangular block tread. A tin version of the 35mm Road Wheel was used when rubber was unavailable during/after WW2.

The MOTORS: **No.50** {766} was the first and was clearly very like the TRIX product. It ran on 4-8v. Various colours were produced. The last examples had no pinion on the output shaft and had knurled nuts on the terminals (under the base). **No.66** 'Old No.66' (right & Fig.13) appeared in the late 1930s and ceased with WW2. It had a permanent magnet and again ran on 4-8v. **No.66** 'New No.66' {765} was introduced after WW2 and was a little more powerful than the first version. It has 4.5-8v. & .2-.4 amp on its box. **No.65** {765} came later. It was made in Japan. 3-12v, .6 amp. **Lange Motor** (**No.701** in OSN 26 {765}, from the '8 60' manual). Made by an outside company, Langes Legetøj, for TEKNO. Very powerful & robust, 4-6v (6-8v in OSN 26) but could tolerate up to 20v briefly.


Fig.7

Fig.8a **Plastic Motors No.64 & No.65**, below, 3-12v, introduced around 1954. **Type A & B**. 6 of each, A3-A150 & B15-B65 (Figs.8a,b are typical, but only the 3 largest B's had a driving pulley or sprocket). High quality made by Mabuchi.


Fig.8b

Fig.8

They were introduced in the early 1960s, at about the same time as the Bevel Gears.

The BRIDGE SETS There were 2 sets, introduced in the mid-1930s. Both had parts for one bridge model. The **Special 60, Lillebælysbroen**. Below, the set & its 2m long model. In the box the Ramps are cardboard, the grey wooden blocks under them could be the Intermediate Piers, & the Roadway the grey

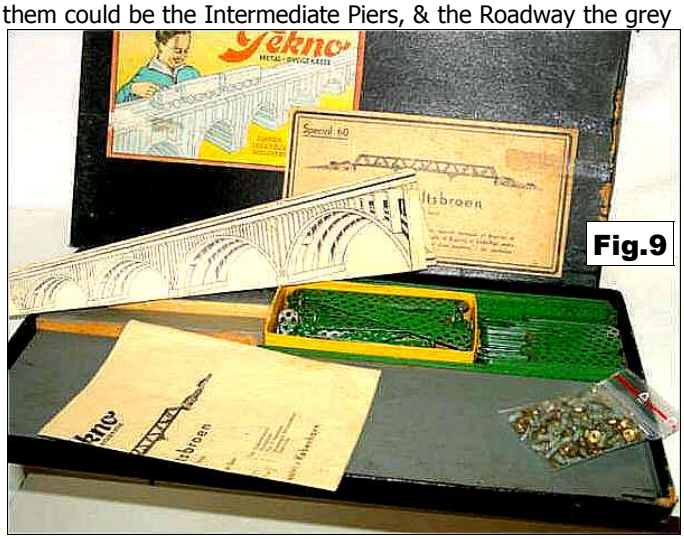


Fig.9

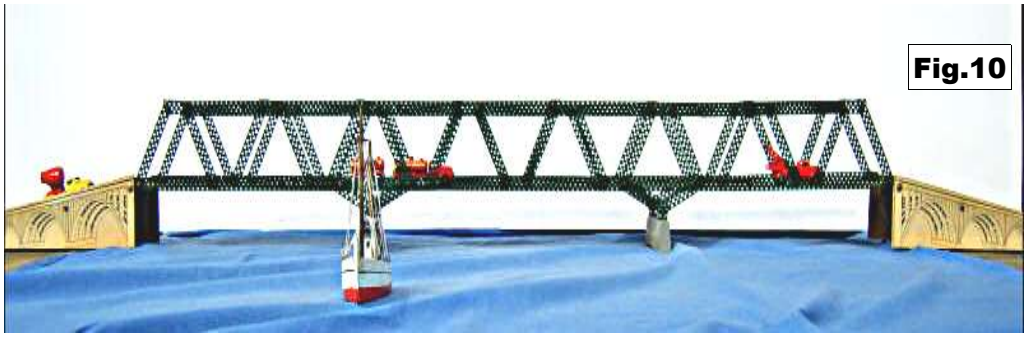


Fig.10

sheeting under the Instructions. The **Special 61 Klapbroen**. The Set & Lifting Bridge model are shown below. The Counter-weight Casing can be seen in the box but not the Roadway etc.

Fig.11

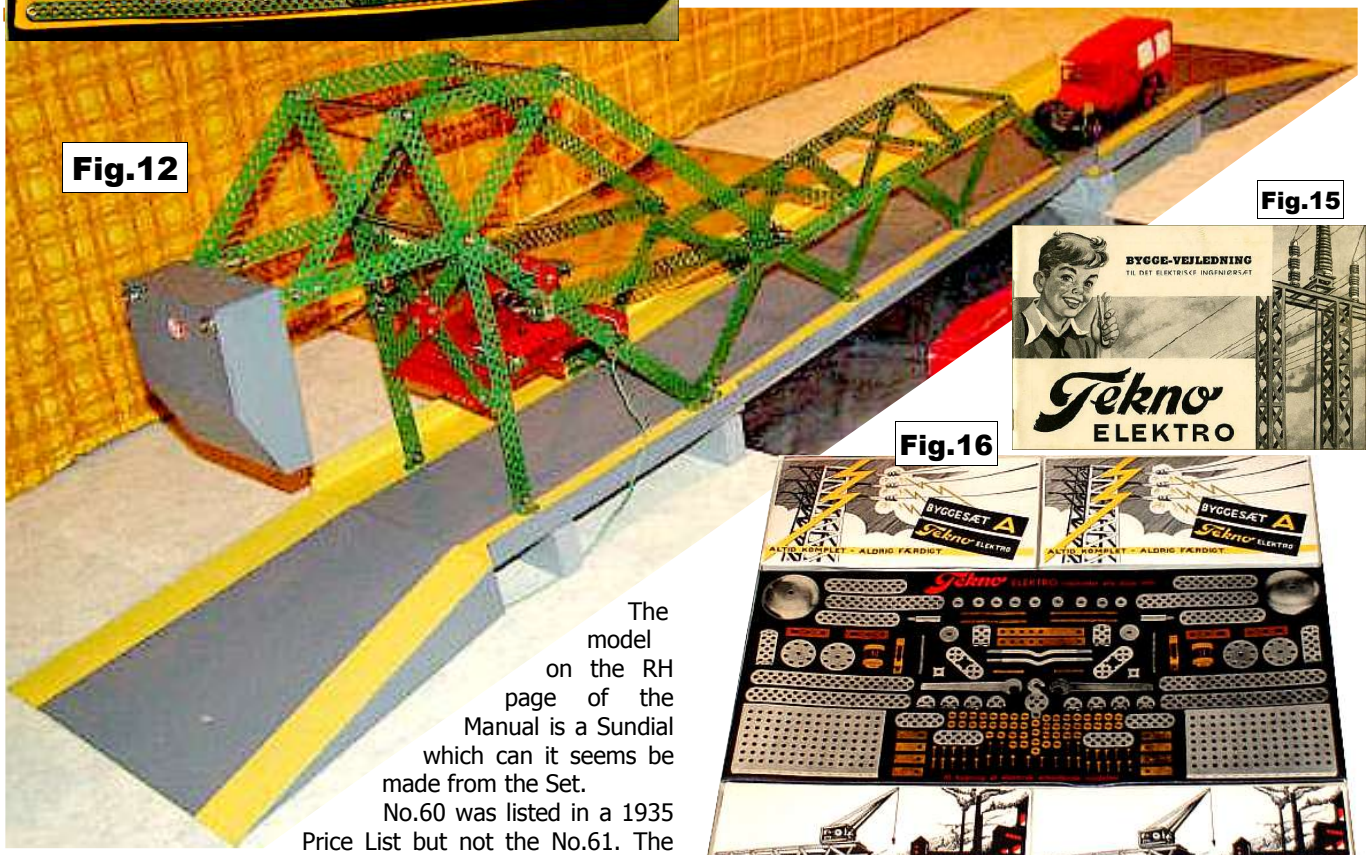


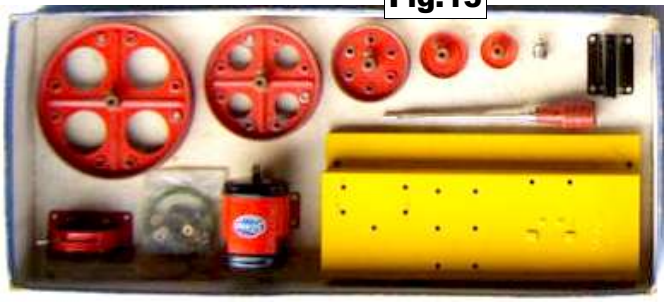
Fig.12

The model on the RH page of the Manual is a Sundial which can it seems be made from the Set.

No.60 was listed in a 1935 Price List but not the No.61. The latter was probably launched in 1936.

The POWER STATION SETS, Kraftstation Nos.90 & 91. The 90 was a constructional set which was intended to make to make the unit shown on the lid label {765} and Fig.18; the 91 was said unit ready assembled. Both were I suppose meant to provide all that was needed to bring models to life. The Sets were introduced in the late 1930s and continued until the late 1950s. The parts in a No.90 are shown below. It

Fig.13



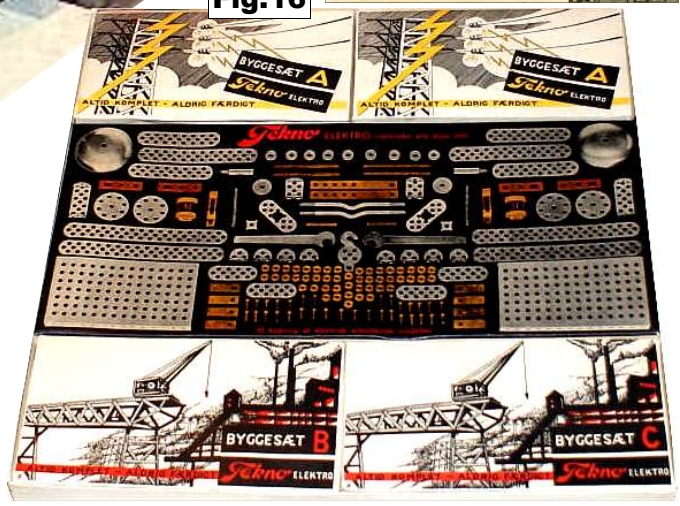
has the Old 66 Motor & a yellow Base (9*20cm); after a few years the Base was changed to green, and at the same time the Motor was changed to the New 66 (Fig.18). Both versions had a blue lid with the same B&W label {765}.

The ELEKTRO SET No.70 appeared around 1952 or '53 and was produced in cooperation with the German TRIX company. The box lid is shown below, and there was 2 types of packaging: one (Fig.16) has 2x Box A, & one each of B & C, in the other the main parts are in full view on one backing card the size of the box. 163 parts in all. The parts in Boxes A, B, C are as in the UK Units E, A, B. Most of the non-electrical parts were standard TEKNO but nickelled; the electrical

Fig.14

Fig.15

Fig.16



parts look just like their TRIX equivalents. Of the 9 manual models shown all were in my 1949 UK Electrical Manual.

DEN LILLE FYSIKER [The Young Physicist] This was an early product before TEKNO and Fig.17 shows a set with the featured Motor model in the box. When TEKNO appeared it was suggested that it could be used to drive small models, and it was powerful enough to drive a workshop fitted with the miniature Machine Tools described below. Later this set became Set 1, and Sets 1a & 2 were added. A 1938 catalogue shows them with a different lid, without the Motor on it. The manual showed a range of electro(-magnetic) items including the Motor, a Bell, & a paper tape Morse Telegraph.

DEN LILLE FABRIK, **then TEKNO MASKINMODELLER**. [The Miniature Factory; Tekno Machinery Models] For the

Fig.17

Fig.18

former a 1938 catalogue lists Sets 5 & 6. The No.5 contains a No.50 Motor, a Base, a Pulley Unit with shafting standards, a Saw Bench, a Grinding/Polishing Machine, & a Fan. Set 6 was probably the No.5 without the Motor. In 1954 the 'TEKNO' items listed were 2 wall-mounted Pulley Units, the 3 machines as before, plus a later Motor, and 5 machine tools: a Hammer, Drill, Lathe, Shaper, & Milling Machine. Above, many of the items including the Pulley Units, all driven by a Power Station.

FOOTNOTE The TEKNO Illustrated Parts have been added to the 'Extra Other Systems Material' link on the OSN website.

Some METAFLEX Parts These notes give more details of the parts mentioned in 16/447. They are based on a good selection of parts which came in a plain wooden box, almost certainly non-original. They were identified as METAFLEX by their resemblance to those in OSN 16 & by 3 small part boxes, all with lids of the same, or similar, design to the one in the OSN 16 illustration.

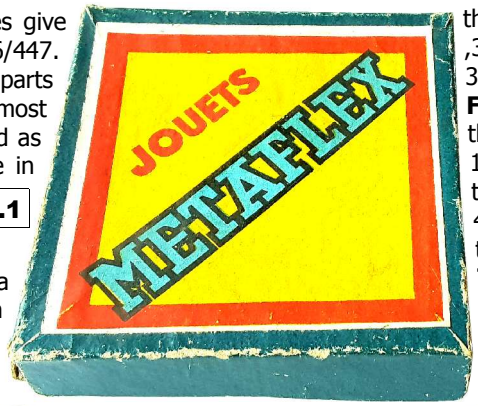


Fig.1

The box is 29½*50*9½cm (including a hinged lid 3¼cm deep), far deeper than would be needed for the parts.

Of the part box lids one has a label (Fig.1) as in OSN 16 except that it is a sideways mirror image, and doesn't have 'D. O.', the supposed maker, on it. The other two are identical to the OSN lid, & have the Fig.1 colouring. The lids themselves, & their matching bases, are dark blue-green, 7½cm square, for the 'non-D O', dark & light blue speckled, 6½cm square, for one 'D O', & plain cardboard, 7½cm square, for the other.

There are also 3 larger bases or trays: 15½*7½cm, dark blue-green; 14*7½ plain cardboard; and 13½*7 plain cardboard.

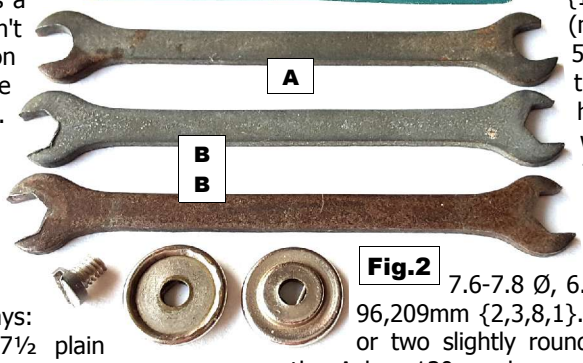


Fig.2

All the parts mentioned in OSN 16 are present except the Screwdriver, Hook, 5cm Axle, & 4h Collar. In addition there is a 21cm Axle, a Set Screw, & an Axle Stop, though the latter looks out of keeping with the other parts. All are aluminium save the steel Axles, Crank Handle, Bolt, Grub Screw, & Spanner, and the nickelled brass Axle Stop.

Holes are all round, 3.2mm Ø at 10.0mm pitch. The thread is the old French standard, 3x.6mm. Axles etc are 3.0mm Ø. All the Wheels are turned from the solid with integral bosses, the latter 8.7-9.2mm Ø, double-tapped, with bores variously 3.1 to near 3.2mm. All 'strip' ends, & corners are near fully radiused.

A list of the parts found with their quantities in curly brackets follow, with notes on them including differences in appearance from those in the figure in OSN 16.

Strips 2,3,4,5,6,7,9,11,14,15,21,33h {11,13,13,19,22,19,26, 18,17,11,8,4}, are 9.8-10.0m wide & vary from .5mm thick for the 2h to 1.5mm for the 33h. **DAS**, 1*7,5 ,3*1h {12,6,4}. **D/B**, 1,2,3h high {2,3, 3}. **A/B** {34}. **Double Bent Strip** {3}. **Flanged Plates**, 7*7,15h, about .9mm thick {4,2}. **Plates**, 7*7,15h, 5*11h, 3* 15h, typically .6mm thick but some thinner, with a few down to .3mm. {10, 4,5,10}. The 3*15h has no centre hole; the 5*11h has only the perimeter holes. **Triangular Plates**, typically about .5mm thick, 3*3h equilateral & 3*3h right-angled, as in the OSN 16 box, not the 2*3h of the Illustrated Parts in MCS {12,10}, **Pulleys**, 50,30,25,14,11,11 (no boss) {2,3,17,1,1,3}. The 30 & 50mm with 6 & 12 face holes, are the 'Bush Wheels' of OSN 16. Said holes are at 10 & 20mm radius. The width of the vee is about 3½mm, though up to 4¼ for the 30 & 50mm. **Flanged Wheel**, 25mm Ø with the 20mm Ø tread, 2½mm wide {10}. **Collar**, double-tapped, 7.6-7.8 Ø, 6.5-6.7mm long {13}. **Axles**, 30,37, 96,209mm {2,3,8,1}. Dark grey with sheared ends, one or two slightly rounded. **Crank Handle** {5}. Matches the Axles, 130mm long o/a with typically a 93mm shaft & 25mm handle offset 18mm. The handle not sleeved. **Bolt**, greyish finish, 2 types: cheesehead, 5.0mm Ø, 8mm u/h; tapered cheesehead, 5.3mm Ø, 8½mm u/h {5,9}. **Nut**, hexagonal, 5.0 A/F, 3.0mm thick {10}. **Grub Screw**, pointed end, 5½mm long o/a {8}. **Set Screw**, cheesehead, 4.0mm Ø, 5mm u/h (Fig.2) {20}. **Spanner**, 68mm long o/a, both ends angled, one slightly, one very slightly. Two types of jaw bottom: one shaped to fit a hexagon (Fig.2B), one concave (Fig.2A). {2,1}. **Axle Stop** with internal sprung wires, 12.2mm Ø, see Fig.2 {8}. Holds well, its centre turning with Axle, but difficult to push over the non-rounded Axle ends. **Cord**, some very fine white cord was wrapped around a Crank Handle.

Given the different styles of small part boxes, the quantities of the parts (the 5 Crank Handles for instance), and their variations, particularly the Spanners, it's very likely that the parts found were either from one set plus a good many extra parts or, perhaps more likely, at least two sets.