New System - METALCRAFT Chas Shrubsole came across the back page of a manual in Canada and kindly send a copy (opposite) via Don Redmond. That is all that's known of this system, but apart from there being no A/G, the page is virtually identical to the back cover of the PIONEER manual, as shown in MCS. The pages are the same size, and the layout of the parts and the PNs are the same; there are the same strips on either side of MODELS under the name, and the same 'Designed and printed in Great Britain' underneath. The PIONEER heading is shown opposite above the METALCRAFT page. So it must be likely that the two systems were made by the same manufacturer. It isn't known for sure who made PIONEER but because of the obvious resemblance of the parts to VOGUE, it may have been Vogue Playthings Ltd. of Melton Mowbray. Whether METALCRAFT was intended for the Canadian market isn't of course known. Looking at the PIONEER and METALCRAFT back covers it does look as if the latter came first and the 11 h A/G was squeezed in afterwards. Of the 25 models in the PIONEER Manual, this part is used in 8 of the last 11. A new MCS Sheet will be prepared for METALCRAFT later, in case in the meantime anyone comes up with anything else on it. Metalcraft Corp. was the


Designod and printed in Great Britain. name of the American company that made METALCRAFT aircraft and train constructional sets, and so the new system will be listed as METALCRAFT [1].

THE STEEL TEC F-18 FIGHTER 'SK' SET In OSN 12/323 I mention the various SK sets shown on the Leaflet for the Motorcycle. Chas Shrubsole has now kindly sent the Leaflet from the jet fighter set - the F-18 FIGHTER WITH SPRING SUsPENSION - and again it's labelled item \#7080, © 1993. It contains 78 parts and there are one or two points of interest. The nose is a $5 * 3$ hole blue Plastic Plate curved around and fastened underneath by a N\&B. The latter also carries a Rod and Strip Connector which holds the Rod that comes out of the nose. The Triangular Plates, all red, are shown with different hole configurations in the different illustrations in the Leaflet, but the actual ones are as shown opposite, superimposed on the $3 * 7 h$ MECCANO part. Pairs of black Wheels, CR and GP, push onto axles that pass through the yellow front and rear undercarriage members, CT and CA. The rear unit is shown with a Spring, AS, but it seems not to do anything because the Axle HD passes through the bottom (round) holes in the Double Bracket, M. But that's odd too because the other parts $M$ are 1*2*1h DAS (plus a centre hole) and there's no Double Bracket shown in the Set Contents. One of the DAS, $M$, can be seen over the cockpit and it looks as if it $x$ ought to be the NS style, but in the set it's of normal width.

QUERIES 1 and 13. On the TRIX thread, from $9 / 224$, and the hole spacing, from $7 / 166$. Tony Matthewman kindly sent copies of postwar UK official workshop drawings for a Strip and an A/G, and the pitch of the holes is shown as .307", both lengthways and crossways. That works out at 7.798 mm and so probably the original German dimension was 7.8 mm . Why 7.8 ? Tony suggested that it might the minimum value to ensure that the Nuts in the different holes didn't interefere with one another, and in fact if all the holes in the outside rows have N\&B in them there is just room for the Nuts to turn. The centre holes are all free but with no room for a Nut or Bolt in any of them.

So if the idea was to have the Strips as small as possible given the size of the Nuts, why that size of Nut? Perhaps because it was the standard for whatever thread was originally used. But we don't know exactly what thread that was; its diameter was probably 3.5 mm or .138", and the pitch was 8 mm or, almost the same, $32 t p i$. The Belgian No. 19 thread (OSN 8/203) might fit the bill but would a German firm have used a Belgian thread? Can anyone suggest an equivalent German or Continental thread, now obsolete.

Another point from the drawings, the hole size is $.145^{\prime \prime}$, very close to 3.7 mm , the probable German diameter.
22. Richard Symonds kindly sent a copy of the 2 panel model leaflet for Australian CONSTRUCTO, with illustrations that look just like the MCS entry. Most of its 18 simple models appear to be direct copies of prewar MECCANO manual models, and include all 4 patterns of $51 / 2^{*} 21 / 2^{\prime \prime}$ Flanged Plate. But I don't recognise two or three of the models and they have Flanged Plates with only the two long flanges, and with elongated holes in them. For example in the Horizontal Bar opposite.


HORIZONTAL BAR So l'd like to know what the CONSTRUCTO Flanged Plate, and the other parts, were really like.

VOGUE, PALIKIT, and PIONEER VOGUE and PALIKIT (VOG, PAL for short) parts and sets are not really very exciting, but they turn up fairly regularly here in the UK, particularly VOG, which is also I understand well known in Canada. Both systems are in MCS and the object in writing this is to describe the parts, and the differences between them; to try to sketch in some of the history of the two systems; and to relate PIONEER (also in MCS) to them. Some notes on METALCRAFT, which is very similar to PIONEER, appeared in 15/421
HISTORY VOG probably appeared in the late 1940s and at first there was only one set. No example of it is known but in early manuals it is referred to as the 'standard' set, and it was probably identical to the later No.2. The final range of parts is shown in these manuals except the Flanged \& Flexible Plates, and the rubber-tyred Wheels, 26R. None of these parts were ever included in the No. 2.
The first definite reference is an ad in the May 1950 G\&T, from Vogue Playthings Ltd., Egerton Road, Melton Mowbray, Leicestershire, which says that sets are 'Now available in 3 sizes'. There are Illustrations of the sets and all the main parts, including the Wheel 26 R, and all the Plates, can be seen. The sets' layouts are identical to known outfits. At this time Strips and A/Gs were a rich dark green and Plates a medium red.

In the manuals with these 3 sets they are usually referred to as Nos.1, 2, \& 3, with sometimes the names Junior, Intermediate \& Senior added. However the 2 examples of the No. 2 I've seen both have (Standard) after the number on the box lid

The next, and last, ad in G\&T was from the Vogue Manufacturing Co. Ltd., in January 1952. Sets were mentioned but without any details, and the distributors were Vogue Playthings Ltd. \& Thermold Ltd., both of the Egerton Road address. All VOGUE manuals have 'Made in England by Vogue Playthings Ltd., Egerton Road, etc, on the back cover.

At some stage a larger No. 5 (Major) set was introduced. The packaging of the one example known is similar to the other sets and the green paint used is the same shade, but the red is lighter, identical in fact to that of the red metal parts in PAL sets.

It is supposed that the VOG range was dropped and replaced by the PAL sets. PAL was made by Cascelloid of Abbey Lane, Leicester and according to British Tin Toys, Vogue Playthings was a subsidiary of Caselloid (which was founded by A.E.Pallett). The main differences are: the change from chamfered corners on Strips, A/Gs \& Brackets, to rounded ones; the change to a much lighter shade of (pea) green paint (together with the lighter red); the use of a light red plastic for some parts; and the packaging of later PAL sets, with the parts in moulded plastic trays instead of being strung to cards;
The 4 PAL sets bore the same numbers, 1,2,3,5, and the same names except that the No. 5 was now the Super. There were some changes to the contents of Nos.1-3, fairly minor except that a Flanged Plate was added to the No.2, and to the No.1, but in that case it replaced 2 each of 11 h A/Gs and 5*5h Plates. New models were introduced for the No. 1 but those for the other sets were just redrawn to show the minor differences in the PAL parts. One new No. 5 model was added to the 4 VOG ones.
The date PAL was introduced isn't known but perhaps it was around the time that MECCANO's colours were lightened in the mid 1950s. Tin Toys says that VOG was being made in 1955. MCS has PAL continuing on into the 1960s, and the Meccanoman's Guide says production ceased in 1964. (It also gives Cascelloid's address as Owen Street, Coalville, Leicestershire.)

The Actual PARTS The main differences between VOG and PAL parts have already been mentioned - the chamfered corners on the Strips, Brackets, \& A/Gs; and the paint
colours. Other differences are noted in the summary of the parts below. These are the parts that are commonly found and some of them can be seen in the METALCRAFT Illustrated Parts in 14/393.
DATA (in mm ) Strip (11-hole): •Hole pitch/dia, 12.7/3.9 -width, 12.7; •thickness, . 95 ; •ends - see above. Boss: (brass) $\cdot 0 / \mathrm{d}, 9.6 ; \cdot \mathrm{i} / \mathrm{d}, 3.92$; double tapped. Thread: 4BA. Axle Dia: 3.66. DP (Mod): NA. Nut: hex or sq, 7.8 AF ; Bolt: roundhead 6.4 dia; both brass plated steel.

- 25,11,9,7, \& 5-hole Strips. 1*3*1 and 1*2*1 DAS. 17, 11,7, \& 5 -hole A/Gs with round holes in both flanges. The Angle Bracket has elongated holes, $61 / 2 \mathrm{~mm}$ o/a, in both arms. All these parts are green. In VOG all have corners chamfered at $45^{\circ}$; the PAL rounded corners are generally near fully radiused, but larger radii are found on 25 h Strips, some Angle Brackets, and some A/Gs.
- Green 4-hole Bush Wheels, and for VOG, green 1" Pulleys - steel in both cases with brass Bosses. The ends of all bosses are spun over leaving that end of the bore tapered, as in the cross section
 shown. Three lengths of boss are found. The protruding part on many dark green Pulleys is about 11 mm long, but others and the PAL Bush Wheel, are shorter at about 8 mm . VOG Bush Wheels are in between at $9-10 \mathrm{~mm}$. The PAL $1^{\prime \prime}$ Pulley is red plastic and is a push fit on the Axles. The boss tapers outwards ( $81 / 2$ to $71 / 2 \mathrm{~mm}$ ) and is slit across near the face so that Axles are gripped only by its outer portion.
- 5*10h Flanged Plates, flanged on the longer sides, and 8hole long Flanged Sector Plates with 3 rows of holes and straight, parallel ends. Both these parts have elongated holes ( $61 / 2 \mathrm{~mm}$ ) in their flanges. Other rigid Plates are a $5^{*} 5 \mathrm{~h}$ Perforated Plate, a $5^{*} 3 \mathrm{~h}$ Semi-circular Plate, and a triangular Flat Trunnion. The 3 sizes of Flexible Plate are, $5^{*} 5 \mathrm{~h}$, $10 * 5 \mathrm{~h}$, and $10 * 3 \mathrm{~h}$. All their holes are round and the only 'centre' holes are 2 in the $10 * 3 \mathrm{~h}$ size. All these parts have near fully rounded corners and all are red. The PAL Semi-circular Plate with the $45^{\circ}$ radial slots (right), and the Flat Trunnion, are red moulded plastic.

- Red painted balloon tinplate $13 / 4^{\prime \prime} \varnothing$ Road Wheels are found in the smaller sets. VOG ones are often flat on one side with the tyre shape impressed only into the opposite face. Others have the same 'tyre' shape on both sides, but sometimes with a raised flat area of about $5 / 8^{\prime \prime} \varnothing$ around the centre hole on one side. The larger outfits contain rubbertyred Wheels. The VOG type consists of two $1 " \varnothing$ formed discs, similar to but not the same as those used for the Pulley, with a fat $11 / 2^{\prime \prime}$ o.d. black rubber ring between. The discs are loose on a brass sleeve but the tyre holds them tight against a 3 mm wide shoulder at one end and a spun end at the other, formed like the boss shown earlier. The PAL Wheel is the standard $1^{\prime \prime}$ red plastic Pulley with a black, treaded rubber Tyre on it: it has made in england moulded into one side and is about 40 mm diameter.
- The Crank Handle, the Axles $\left(2,3,4,51 / 4^{\prime \prime}\right.$ with square sheared ends), the Span'driver, and the Hook are black, sometimes painted and sometimes with a metallic look. VOG Hooks are some 42 mm o/a but PAL only 24 mm . All the Pulleys and Wheels, except the push-on 1" Pulley are a very loose fit on the Axles.
- VOG Collars are $5 / 16^{\prime \prime} \varnothing$ by $91 / 2 m m$ long, double tapped about 4 mm from one end. PAL are similar but only 8 mm long. Two types of Spring Clips are found, black ones like Meccano's \#35 and bright wire ones. The VOG pattern wire type is as shown for METALCRAFT; the PAL one is similar but with longer ends bent parallel to one another (opposite). Ordinary and wire Clips are usually found in the same set. PAL Nuts are square, VOG are sometimes square but more often hexagonal - both are the commercial pressed sort, ${ }^{5} / 16^{\prime \prime} \mathrm{A} / \mathrm{F}$ and about $21 / 4 \mathrm{~mm}$ thick.
Other PARTS A number of other variations have been
found that appear to be VOG or PAL:
- A medium red $5 * 5 h$ Plate with small ( $1 / 8^{\prime \prime}$ ) corner radii. Several Semi-circular Plates with an extra hole either side as described in 15/421. They correspond to the bottom of the slots in the PAL part.
- Several 2-round hole Angle Brackets, and $2 \& 3 h$ DAS, all with angled corners and a black metallic finish. A PAL looking Angle Bracket but with round holes.
- Several Axles and Crank Handles with a bright finish.
- Several nickel plated Bush Wheels. Several all brass 1" Pulleys, and other steel ones in nickel, red, or black metallic. All have the characteristic brass boss but with a slightly wider ' $V$ ' $(41 / 2-5 \mathrm{~mm})$ than the normal green ones $(4-41 / 2 \mathrm{~mm})$.
Not all the parts above are necessarily VOG or PAL, some may be from PIONEER or METALCRAFT. A possible red herring is BILT-E-ZE, another small UK system with parts, including Strips with angled corners, that looks distinctly similar on paper. But the holes at 4.1 mm are larger, and the bosses are single tapped and have more normal peening. The parts are much less well made and finished, and the green paint is a medium shade, darker than PAL and lighter than VOG. It's also worth mentioning that VOG and PAL parts are quite often found with their holes opened out, no doubt to make them compatible with MECCANO.
As pure speculation, the nickel and all brass parts may date from the early days, and then the black steel parts may have appeared around 1951-52, at the time of the Korean war, due to material shortages in those years. Some of the known sets include finishes that don't entirely support that sequence of events, but in some cases there are doubts about whether all the parts in them are the originals. The only sets l'm absolutely sure of are a VOG No. 5 and a PAL No.5. The VOG has green Pulleys (with long bosses), a green Bush Wheel, green double slotted Angle Brackets, square Nuts, and black painted Axles, Crank Handle, Hook \& Span'drivers. The PAL has the parts in a formed plastic tray and they include a green Bush Wheel, green double slotted Angle Brackets, square Nuts, and metallic black Axles, Crank Handle, Hook \& Span'drivers.
PARTS in the Manuals There are one or two points of interest in the parts illustrated in the manuals.
In the early VOG manuals the 5*5h Perf. Plate is shown with chamfered corners, and the Angle Bracket with 2 round holes. No Plates with angled corners are known.

All manuals except early VOG ones show colour illustrations of the parts on their back covers, but in fact the shades of red and green shown are not true, and those for PAL are nearer VOG, and vice-versa.
VOG manuals depict the Bush Wheel and 1" Pulley as brass coloured (actually yellow, like the N\&B), and the one hole in the Angle Bracket that can be seen is round. I have numerous Brass Pulleys but have never seen a brass Bush Wheel. (No Brackets with 1 round and 1 elongated holes are known.)
The parts in PAL manuals are as the actual ones already described except that all the Strips, A/Gs and Brackets are shown with the Vogue-style corners. MCS/FB indicates that light green Strips with angled ends are the norm but I haven't come across any. I once thought I had but I believe now that they are BILT-E-ZE.

SETS There are photos of the VOG Nos. 1,2 \& 3 outfits in the manuals and the No. 5 is similar except that there are 3 layers of parts. All are packed in red boxes, with large full colour labels on the lids showing the scene that's on the manual cover in MCS. The No. 5 box measures 19*12*2". The parts are strung on bright yellow cards with red cord. Sets 1-3 in the manual correspond closely to actual sets except that the No. 2 has 2 boxes for N\&B and small parts, and they are glued over the vacant square spaces on the upper card. A complete No. 3 hasn't been seen but it's possible that the squares there may be cut out to show the
parts underneath. That is the case for the top card of the No.5, and it has a smaller centre cutout too.

PAL sets are in duller red boxes, again with a label similar to the manual cover. The parts in early PAL sets were strung to yellow cards, often with layouts similar or identical to VOG. Then moulded plastic trays were used with col-oured-headed drawing pins to hold the parts in place. They were much more closely packed than the strung ones and the boxes were thinner with only one tray even in the No.5. The No. 1 box measures about $13^{* \prime \prime}$ and the No.5, 19*12" the same size as the VOG No. 5 but only $1^{1 "}$ deep.
MANUALS Two early VOG manuals are known. One, I'll call it the 'blue' manual, has only 8 unnumbered pages plus covers, and is a little smaller than later ones. Its front cover (below) is blue and black, and the 7 'Selected Working Models' in it are all No. 2 models later on - first is Tipper Truck and last, Wind Driven Water Pump. The parts are shown on the inside covers as white line drawings on a blue ground. All are there except the Flanged and Flexible Plates, and the Wheel
 $26 R$. The back cover has a panel with the maker's name and address on it.

The second, which l'll call the 'red' manual, has 20 standard size pages, plus covers, and unlike later manuals, the text at the top and bottom of each page is printed in red. There's the normal full colour front cover but instead of the parts in colour, the back has a panel similar to the one on the blue manual. The parts are on P20 and the IBC, with again the 'blue' presentation. As in the 'blue' one, no Set Contents are given, but the contents of the Supplementary Spare Parts Sets $1-5$ are given on p19 (see p6b of MCS/FB) these aren't in the 'blue' manual but are on a separate Leaflet that was with it. A photo of Supplementary pack No. 3 (opposite) is on p18 of the 'red' manual, and doesn't appear in the 'blue' or later manuals. All 27 models shown are for the Standard Set but the first 12 are smaller ones and they are not the same as the No. 1 models in the later manu-
 als. The larger models include all the later No. 2 models and 2 of the 4 extra are above average for VOG models. One is


It isn't certain that the 'red' manual came after the 'blue', it's possible that the latter was a cut down, utility version
that had to be produced for some reason. But the 'blue' probably came first because, unlike the 'red', it has no Parts Required List for any of the models, although there is ample room beside each.

Details of later manuals are given at the end. All later VOG manuals have the same format and layout and the 2 different versions l've seen are for the No. 2 set, with 1-2 set models, and for the No.3, with 1-3 models. With the No. 5 Set was a No. 3 manual with a 'No. 5 Set' sticker on the cover, plus 4 separate 'Supplementary Pages' with the Set Contents and 4 models. [In passing, the lid of the No. 5 box has the same No. 5 Set sticker followed by '(MAJOR)' printed on the lid. So what does the sticker cover? Was the set originally to be called the No.4?]
All the PAL manuals have the same format and layout the 'No. 2 Set' one has Nos. 1 \& 2 models, and the 'No. 3 \& 5 Set' has $1-3$ plus No. 5 models. As in the VOG manuals there is just one good photo of each model. It has already been mentioned that only the No. 1 models and one No. 5 were new. With a few exceptions none of the models are anything more than adequate and many are rather ugly. The unusual No. 5 Large Plane below is perhaps one of the worst, and hardly epitomised the jet age. There is no mention of the 5 Supplementary Sets of parts in any PAL manuals, or elsewhere


VOGUE \& PALIKIT Abroad VOG in Canada has already been mentioned. Two Leaflets were found with the manuals in the No. 5 VOG, one in Dutch and the other in French. They are both translations of the Intro that's on the inside front cover of VOG manuals, except that they say that replacement parts are available but with no mention of them being sold in sets. At the bottom of each is Vogue Playthings Ltd., Abbey Road, Leicester - the PAL address. Two Leaflets were also found in a PAL 'No. 3 \& 5 Set' manual. One in French is the same as the VOG one except the name of the firm is Cascelloid. Replacement parts are again said to be available, the only known mention of PAL separate parts. The other Leaflet in Dutch gives on one side a similar Intro (but with no mention of replacement parts), and the Contents of Sets $1-3 \& 5$; and on the reverse are the names of the models for those Sets.

ENDWORD VOG/PAL parts were quite well made and finished (except for the black paint on Axles etc.), but the range of parts available and their design left something to be desired. For example, the lack of slotted holes in the Flexible Plates and, more particularly, in the A/Gs, make them difficult to use in any but the simplest of models. Another oddity is the rubber-tyred Wheels in the larger sets which are smaller than the balloon type in the smaller outfits, and look out of proportion on the models to which they're fitted.
But quite a lot of VOG/PAL must have been sold, so what was the attraction? It may have been the attractive layout of the parts in the generously sized boxes. Despite having more of it than I know what to do with, I still find sets in
good order hard to resist. Or was it the price? There's 50/( $£ 2.50$ ) pencilled onto the VOG No. 5 box, and that seems about right against $12 / 6$ \& 27/6 for Sets $1 \& 2$ in a 1952 Eagle ad. The nearest MECCANO set would be a No. 4 which had (a much better range of) 140 major parts against 110 in the VOG, but only 90 N\&B against 168. The No. 4 was $42 / 6$ in 1956 and 48/- in 1960, and an extra 72 N\&B would have cost $4 / 6$. To sell at $50 /$ - the VOG Set probably needed to be called a No. 5 rather than a No. 4 .

SUMMARY OF MANUAL. -Name: VOGUE No. 3 Set Instruction Book. •Details of maker: Vogue Playthings Ltd., Egerton Road, Melton Mowbray, Leicestershire. - No dates or Ref Nos. -Page size: $223^{*} 141 \mathrm{~mm}$ deep. $\bullet$ No. of pages: 24 plus covers. -Language: English. •Printing: photos of the models; colour front cover inc r/g models, turquoise frame; parts in colour on back cover. •Page No. of lllus-
 trated Parts \& highest PN: back cover, 34. •Page No. of Set Contents \& highest PN: 1, 34. $\cdot$ Sets covered: 1 (Junior), 2 (Intermediate) ,3 (Senior). ${ }^{*}$ No. of models for each set: 14,10,8. . Name, Page No. of first \& last model of each set (no Model Nos.): 1: MONOPLANE,2; SWING BOAT,8. 2: SCOOTER,9; EXTENDING AND ADJUSTABLE FIRE ESCAPE, 16. 3: LONG WHEEL BASE LORRY WITH STEERING,17; WINDMILL, 24. -Other notes: contents of Supplementary Spare Parts Sets $1-5$ on IBC The No. 2 Set manual is identical except that pp16-24 are omitted. The No. 3 manual was found in a No. 5 Set with a No. 5 Set sticker on the cover, together with a 4 page Leaflet headed SUPPLEMENTARY PAGES for VOGUE No. 5 SET. It gave the No. 5 Set Contents and 4 models from LARGE BREAKDOWN LORRY AND TRAILER to LARGE CRANE.

SUMMARY OF MANUAL. -Name: PALIKIT No. 3 \& 5 Set Instruction Book. •Details of maker: Caselloid, Abbey Lane, Leicester. •No dates or Ref Nos: •Page size: $216^{\star 140 \mathrm{~mm}}$ deep. $\bullet$ No. of pages: 28 plus covers. -Language: English. •Printing: photos of models; colour cover with red crane on yellow ground; parts in colour on back cover. -Page No. of Illustrated Parts \& highest PN: back cover, 34. -Page No. of Set Contents \& highest PN: 1,34. -Sets covered: 1 (Junior),
 2 (Intermediate), 3 (Senior), 5 (Super). •No. of models for each set: $12,10,8,5$. Name, Page No. of first \& last model of each set (no Model Nos.): 1: MAN ON SKIS,2; SACK BARROW,8. 2: SCOOTER,9; EXTENDING AND ADJUSTABLE FIRE ESCAPE,16. 3: LARGE CRANE,17; WINDMILL, 24. 5: LARGE BREAKDOWN LORRY AND TRAILER, 25; OCEAN LINER,IBC. -Other notes: A No. 2 Manual with similar front cover, has the same No. 1 \& 2 models on the same pages, with the No. 5 OCEAN LINER on the IBC. Both Manuals have 'WITH PLASTIC COMPONENTS' on the front cover.

PIONEER Only one size of PIONEER set was made, and although there are obviously more, and different types of, parts in the one known set than there should be, all of them, with one exception, match known VOG parts exactly. This together with the strong similarities between the VOG and PIONEER manuals, and the style of their covers and box lid labels, make it $99.9 \%$ sure that PIONEER was made by Vogue/Cascelloid. It is said in Tin Toys that 'The [PIONEER] construction set is illustrated in a 1950s Lines Bros catalogue with the 'Frog' trademark of the International Model Aircraft company a subsidiary of Lines Bros.' So it seems likely that the set was specially produced for the one customer.

Most of the parts in the known Set are in the dark green, light red colours of the VOG No. 5 already discussed and this points to it having appeared towards the end of the VOG era. Other evidence to support this comes from the Manual. The Illustrated Parts on the back of it are exactly
like those on VOG manuals but the Nut is the (square) PAL shape, and Angle Bracket has 2 slotted holes. None of the models are in VOG manuals but 4 appear as PAL No. 1 models.

The contents of the Set isn't given in the Manual but judging by the parts needed for the models, the Set lies between PAL Sets Nos. 1 and 2. (PAL rather than VOG because a Flanged Plate is included.) The box is red and is large (about 19*12") in relation to the likely number of parts in the Set; it has a large label similar to the cover of the Manual. The parts were originally strung onto a single yellow card. The cardboard box for small parts is green and yellow and as for VOG/PAL is labelled Sundry Parts. The Axles, Crank Handle, Hook, and Span'driver in the Set are painted black (though there are more Axles than there should be), and the (green) Angle Brackets are double slotted.

The Manual contains 25 models and some of them are rather better looking than the small VOG/PAL ones. The more elaborate models on the cover (above, right) need several parts, including Flexible Plates, that are not listed as PIONEER parts.

The part in the Set that isn't VOG pattern is the Semicircular Plate with 2 extra holes that was shown in 15/421. This one is a slightly darker shade than most of the other red parts, which included one ordinary Semi-circular Plate. So probably it wasn't a PIONEER part.
SUMMARY OF MANUAL
-Name: PIONEER // STEEL

GIRDER BILT This was a small American system with aluminium parts that probably had a brief life soon after WW2. It is in MCS but without much on the parts, and Kendrick Bisset has now kindly sent details of a set that he came across.

It is in a tubular container, about $3^{\prime \prime} \varnothing$ and $10^{\prime \prime}$ high, and each of the 2 identical panels of the red, white and blue label (opposite $x^{1 / 4}$ ) has on it: SUPER GIRDER BILT ; MINIATURE MECHANICS ; ALUMINUM CONSTRUCTION SET. In MCS the name GIRDER BILT is hyphenated, and the outfit there isn't described as SUPER. 14 small models are shown between the panels, and around the bottom is the name of the maker - Play Items, Inc., 200 Fifth Avenue, New York 10, N. Y. - as in MCS. The top is tinplate and fits over the tube.

Below are some notes on the parts and photocopies of typical ones. The quantities found in the (not quite complete) set are given in curly brackets


- DATA (in mm) STRIP: •hole pitch/dia, 12.7/3.5-3.6; •width, 12.9; -ends, semi-radiused. BOSS: no bosses, hole in Wheel $3.15 \varnothing$. THREAD: 3-48 ANC. AXLE DIA: no Axles, the Bolts ( $2.5 \mathrm{~mm} \varnothing$ ) are used. DP (Mod): N/A. NUT: hex 4.7 A/F; BOLT: pan head, $4.8 \varnothing$; both blackened steel.
- $4,8 \& 16 \mathrm{~h}$ Girders [Strips] $\{13,16,8\}$. The rounding of the ends is rather irregular, with even a sharp splinter left on some. - Angle Bends [Brackets] with a round hole in each lug - the illustration above is of one flattened out $\{13\}$. - $11 / 2 " \varnothing$ black hard rubber Wheels $\{3\}$. - Nuts and 3 lengths of Bolt: $7 / 16^{\prime \prime}$ pan headed, $1 / 2^{\prime \prime}$ roundheaded, and $3 / 4^{\prime \prime}$ with fillister heads $\{21,23,1,3\}$. These seem rather small in diameter but from the marks on the Strips they may have been original. On the other hand the $21 / 2^{\prime \prime}$ long Spanners $\{2\}$ with jaws about $5 / 16^{\prime \prime}$ wide are far too big for the Nuts. $4-40$ might have been more suitable size, but perhaps the smaller ones were all that were available at the time. In MCS the lengths of the Bolts

are given as $1 / 4,1 / 2 \& 1^{\prime \prime}$. - Finally the $4^{*} 6 \mathrm{~h}$ Plate (opposite) which looks as if it is 6 Strips that haven't been sheared apart. It isn't used in any of the models on the box.

There was no Model Leaflet with the Set and although they are identical in style and general ap-
 pearance, none of the models on the Tube are any of those in MCS. However all of them, except the Letters E, F \& L, are shown in another MCS system, ALUMINUM CONSTRUCTION SET (ACS), and 2 of the other ACS models are among the GIRDER BILT models in MCS. Clearly the 2 systems were related in some way the same unusual name for Angle Bracket is used in each for example. ACS was made by Roberts Enterprises, 70-60 Broadway, Jackson Heights, N.Y. None of the models have any Plates in them and they all show Strips with square ends. Whether rounded ends (and the Plate if it wasn't a 'mistake') were features only of the 'Super' GIRDER BILT set is a matter of conjecture. Another odd thing is that the Letters mentioned above included Strips 3,5 \& 7h long.

The models on the Tube won't copy clearly so those opposite are from the ACS entry in MCS, but they are identical to the Super GIRDER BILT ones.


Builang


Ladoer


Tricycle
(see 17/464). The photos of sets $1-3$ are essentially the same as those in MCS; the No. 5 has 3 layers of parts, two of which look as if they may be like those in the No.3. Also listed are the previously unrecorded linking sets 1 A \& 2A, and the Catalogue Nos. for all these sets are 1, 1A, 2, 2A, 3, \& 5 .

The Catalogue No. 4 is the METALCRAFT set (see 14/393), and No. 6 is the PIONEER set (17/466). So these two sets were definitely from the VOGUE stable, and they were on general sale, and not, at least at that point, special sets created for a particular customer. Also though very similar to one another, they existed at the same time. From the Cat. Nos., METALCRAFT may have come first. As might be expected the wholesale prices of the two sets were very similar, 96/- per dozen for METALCRAFT, \& 100/- for PIONEER. Thus they fell between the No. 1 set at $64 / 6$ \& the No. 2 at 136/-. Nos. 3 \& 5 were 185/- \& 257/-.

The Supplementary Spare Parts Sets 1-5 mentioned in OSN 17 are listed; their contents are given and are as in MCS.

The maker is given on the Catalogue as Cascelloid, Abbey Lane, Leicester, Division of The British Xylonite Company Limited. Their offices \& showrooms were at 9 Conduit Steet, Mayfair, London, W1, and 7 Pall Mall, Manchester 2.

## METALCRAFT [2]: S1; PIONEER: S1; VOGUE: S1 [28/814]

9. From Clive Weston, details of a PRIMUS Set B, apparently unused, the first ever reported sighting (see $24 / 712$ ). It is in a blue box, $93 / 4^{*} 71 / 4^{* 3} / 4^{\prime}$, with the label below. The contents are: 6,4,2 of 5,6,11h Strips; 2 each of $6 * 6$ P Plates, Architraves, $1^{5 / 8 "}$ Wire Stays, \& Wood Slips; 5x 1" Loose Pulleys; a 3½" Axle with Tapped Ends (\#167); $12 \mathrm{~A} / \mathrm{Bs}$; 17 N\&B. No sign of a
 Tool of any sort.

Most of the parts are held in slits in a red backing card, but the A/Bs \& N\&B are within triangular partitions in two of the box's corners.

The model leaflet is the one described in OSN 24. Some of the 'B' models in it would need parts not in the Set: a Fast Pulley or Axle Stops to locate a Loose one; a Crank Handle; and longer Bolts for the Loose Pulleys, if they were to run freely.

With the Set was a leaflet listing the full range of PRIMUS sets. The ' $C$ ' outfit is illustrated and its packaging is in the same style as that of the ' $B$ '. The extra ' $C$ ' parts appear to be in line with the details given in OSN 24 except that the Set has 4 Fast $1^{\prime \prime}$ Pulleys \& one Loose one. A Screwdriver, a Crank Handle, \& 2 Axles can also be seen.

The Leaflet is undated but from David Hobson's PRIMUS book (see 20/583) it seems likely to be from 1923 or 1924, and the 'A' set, price $1 / 6$, may have been the unidentified outfit from 1923 mentioned on p25.
PRIMUS ENGINEERING: S1
[28/814]
10. From Don Redmond. STABIL Flanged Pulleys have two different styles of boss (both on the inside of course). One is the usual stubby cylindrical type with very small peening; the other is thin, with a rounded edge to the free end, and held in position in the disc by a crimped-on wire ring.
STABIL: S1
[28/814]
11. On ERECTOR Bolts, Don Redmond mentioned 3 types:

1) Gilbert MECCANO, with what he calls a 'button' head, 5.8 to $6.1 \mathrm{~mm} \varnothing$, the edge almost rounded in at the margin (like antique shoe buttons). 2) Duplex standard or large headed, 7.5 to $7.8 \mathrm{~mm} \varnothing, 3 \mathrm{~mm}$ deep. The large head, needed because of the $1 / 4^{\prime \prime}$ holes in the Duplex parts, is prominently round. 3) Medium headed, 6 to $6.9 \mathrm{~mm} \varnothing$, under 3 mm deep, with a rather wide slot, apparently forged rather than sawcut as the sides of the slot may slope.
ERECTOR: S1
[28/814]

## QUERIES

[28/814]
Query 28 from 27/803. Some STRUCTO parts are now to hand and the groove in the Axles is vee shaped, with the apex angle rather greater than $90^{\circ}$. The depth is hard to measure accurately and varies a little from part to part but is probably between .5 \& .7 mm . The Crank Handle \& Crankshaft are also grooved.
Query 29 What colour (or colours) is STABIL Cord?

## MYSTERY PARTS

[28/814]
No. 51 from Don Redmond. A 19h A/G, with a 15 mm slotted arm, the other $121 / 2 \mathrm{~mm}$, \& the hole pitch is 12.7 mm . The metal is only .55 mm thick and it has a very marked curve, perhaps 2 mm radius, at the bend., It is painted, rather badly, bright green.
No. 52 More from Don. Parts similar to JUNIOR MECHANIC (see 12/327) but both sides of the Wheels are nicely enamelled red, and both sides of the Flanged Plates are also painted. The ends of the Strips \& A/Bs are rounded.

## SMALL ADS

[28/814]
For Sale. Large collections of TRIX \& FISCHER TECHNIC. Details from Ivor Ellard, 44 Well Lane, Galleywood, Chelmsford, Essex, CM2 8QZ; phone 01245 269830; email ellard@nildram.co.uk.
Wanted. Any metal nut \& bolted together constructional car or other vehicle kits, or any parts identified or not, ie wheels, axles, chassis, steering gear, mudguards, wings, clockwork motors, etc. Anything \& everything in any condition considered. Also boxes, instruction manuals (copies if you don't want to part with originals), or any information at all.

Please call Gary on 01635200460 before 8pm or email me at gary2car@aol.com.

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