# INSTRUCTION Manual 




ENGINEERING is the key to all the comforts and conveniences of modern life.

In 1785 the first locomotive ran at $\mathbf{1 2}$ m.p.h. and the world hailed it as a triumph of mechanical skill. Today, more than 100 m.p.h. faster has been run by the famous British "Silver Jubilee"; that is just one result of skilled and thorough engineering practice.

You belong to the modern world-the mechanised world; it is up to you to know all you can about it. Perhaps, too, you have the hidden genius of a great engineer in your brain and hands; let BOB help you to find out.

BOB is a grand hobby, a fascinating occupation and may open the doors of your career in life.
Now to work. Study the instructions carefuily before you start; thoroughness is one of the most important qualities in an engineer. Imagine that the models you make are miniatures of things actually to be usedthings that must not fail in use. That is the way to get the best out of your BOB kit. Ask a friend to join you-between you many other ideas and designs will come besides those shown in the manual. Try to create new models; the great engineer is a creative designer, and you must train your brain to produce original ideas.
Write to us if you are in doubt or if you would like to make original suggestions; the BOB engineers will welcome your letter and are ready to help in any way they can.

## CONTENTS OF No. 0 SET

Will make 40 models, part of which are illustrated on page 10.


## CONTENTS OF SUPPLEMENTARY SET No. OA

By adding the above parts, your No. 0 Set becomes No. I, enabling you to make at least 80 models. Part of the additional models are illustrated on page 12.

| No. |  | Quantity | No. | Quantlty |
| :---: | :---: | :---: | :---: | :---: |
| 1997/45 | 25 mm . Rod | 2 | 1997/21 | Jolnt Screw 12 |
| 143 | 75 mm . Rod | 3 | 149 | Sleeve ... 2 |
|  | 100 mm . Rod | 2 | 152 | Crank, 50 mm . |
| 120 | 150 mm . Rod | . 4 | 153 | Pulley with Perforated Face, 30 |
| 122 | Joint | 6 |  | mm. dia. |

## CONTENTS OF No. I SET

Will make 80 models, part of which are illustrated on page 12.

| No. | Quantity | No. |  | Quantity |
| :---: | :---: | :---: | :---: | :---: |
| 1997/45 | 25 mm . Rod ... 6 | 1997/33 | Pulley, Plain |  |
| 144 | 50 mm . Rod ... 5 |  | 18 mm . dia. | ... 1 |
| 143 | 75 mm . Rod ... 8 | 123 | Pulley, Plain |  |
| 142 | 100 mm . Rod ... 6 |  | 30 mm . dia. | ... 2 |
| 120 | 150 mm . Rod ... 7 | 148 | Rivet | ... 2 |
| 146 | 100 mm . Rod, Curved 2 Joint Casting 12 | /53 | Pulley with Perforated Face, 30 mm. dia. |  |
| 122 |  |  |  |  |
| 121 | Joint Screw 24 | /52 | Crank, 50 mm | . |
| 124 | Clip ... 5 |  | Metric Rule, 300 mm . |  |
| 149 | Sleeve ... 4 |  |  | .. I |
| 147 | Hub Pulley, |  | Screw Driver | ... I |
|  | 30 mm . dia. ... |  | Skein of Twine | $3-\mathrm{ft}$ |

## CONTENTS OF SUPPLEMENTARY SET No. IA

By adding the above parts your No. I Set becomes No. 2, enabling you to make at least 120 models, part of the additional models are illustrated on page 14.

| No. |  | Quan |  | No. | Quantity |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1997/45 | 25 mm . Rod | ... | 8 | 1997/24 | Clip | 4 |
| 144 | 50 mm . Rod | ... | 4 | 149 | Sleeve | 11 |
| 143 | 75 mm . Rod | ... | 4 | 133 | Pulley, 18 mm . dia. | 2 |
| 142 | 100 mm . Rod |  | 4 | /53 | Pulley with Perforated Face, 30 |  |
| /18 | 200 mm . Rod | ... | 8 |  | mm. dia. ... | 2 |
| 116 | 250 mm . Rod | ... | 10 | /54 | Pulley with Perforated Face, 20 |  |
| 122 | Jolnt | ... | 12 |  | $\mathrm{mm} \text {. dia. }$ | 6 |
| 121 | Joint | Screw | 24 | 157 | Crank, 100 mm . | 1 |

## CONTENTS OF No. 2 SET

Will make 120 models, part of which are illustrated on pages 10,12 and 14 .

| No. | Quantity | No. | Quantity |
| :---: | :---: | :---: | :---: |
| 1997/45 | 25 mm . Rod ... 14 | 1997/33 | Pulley, Plain 18 mm . dia. |
| 144 | 50 mm . Rod ... 9 | 123 |  |
| 143 | 75 mm . Rod ... 12 | 123 | 30 mm . dia. |
| 142 | 100 mm . Rod ... 10 | 148 | Rivet |
| 120 | 150 mm . Rod ... 7 | /53 | Pulley with Perforated Face, 30 |
| 118 | 200 mm . Rod ... 8 |  | mm. dia. |
| 116 | 250 mm . Rod ... 10 | 152 | Crank, 50 mm . |
| '/46 | 100 mm . Rod, Curved 2 | 154 | Pulley with Perforated Face, 20 |
| 122 | Joint Casting 24 |  | mm. dia. $\ldots$ |
| 121 | Joint Screw 48 | 157 | Crank, 100 mm ... |
| 124 | Clip ... 9 |  | Metric Rule, |
| 149 | Sleeve ... 15 |  |  |
| 147 | Hub Pulley, |  | Screw Driver |
|  | 30 mm . dia. ... |  | Skein of Twine |

So far 3 BOB Sets are on Sale, Nos. 0,1 and 2, together with Supplementary Sets $O A$ and $1 A$.

In 1947 further BOB Sets will be ready for you which will make an entirely new range of models in addition to the existing ones. it is in your own interests to look after all your pleces very care-fully-as this will allow you to build some other splendid models which will appear later in a supplementary booklet.

## Instructions



When you first open your BOB Set, do not at once remove the parts, study them on the card for a time, and become familiar with them. Get to know what each part looks like, its name, and its purpose. An engineer is always familiar with the materials with which he works, and YOU are learning to be an engineer.

Now study all the fascinating things shown on pages 10,12 and 14 which can be made from BOB Sets. Consider their detail and construction and then get to work.

After a little practical experience with your BOB parts you will be able to make not only the models illustrated but your own too-bridges, aeroplanes, etc. and many other novel assemblies. But remember, see the model in your mind's eye before you start constructing, better still make an actual drawing of it. With $B O B$ you are building to scale and anything you create will be like the Real Thing in miniature.

## Explanation of BOB Parts

The different parts required for all assemblies are limited to 5, viz., joints, rods, sleeves, pulleys and clips.

1. Special union joints with 2 grooves in which a rod is held by the pressure of a screw head.
2. Steel rods 3 mm . in diameter and 25 to 250 mm . in length.
3. Sleeves which make it possible to obtain instantly rods of any required length by joining them end to end.
4. Pulleys which can also be used as wheels when constructing vehicular models.
5. Clips to secure wheels, pulleys and other parts.

BOB needs only one tool-THE SCREWDRIVER.

## How to assemble BOB parts

To get the rod into the groove of the joint all you have to do is:

Loosen the screws by $1 \frac{1}{2}$ to 2 turns (supposing it was screwed up tight in the beginning) so that the rod can be pushed in from the end. Fix the position of the joint by measurement with your ruler before tightening screw.
Always take care to allow play between wheel and clip in order that the wheels may ratate freely.

## Panelling

Once the framework of a model has been put together, it can be made to look more finished (seat, bed, windmill, tramcar, aeroplane, etc.) by placing on it panels of cardboard or metal of sultable size and colour.

It is easy to imagine the way panels are fixed to the rods. One of the most suitable and effective means is to use a rivet which passes through the panel and is held in the joint, together with the rod as shown in diagram at back of your BOB cover.

Later BOB sets, ready in the near future, will include panels for this purpose. These you will find ideal in many ways. Details, however, will be explained to you when the time comes.

Whatever method is applied be sure to make a good job. Neatness is essential-your reward will be a faithful reproduction of the Real Thing.

## Presentation of BOB

For the present $B O B$ is supplied in 3 Sets, Numbers 0,1 and 2 with Supplementary Sets Number OA and IA as listed on pages 3 to 5 . The larger Set will in each case make all the models listed for any lower numbered set.
The main sets are boxed and fitted with Screwdriver and Rule. The Supplementary Sets are only carded as there will be room in your box to keep the extra parts.
In addition to this, separate parts can be purchased as required so as to meet the needs of your own ideas.

Once a model using all the parts of a box has been assembled you are certain to want more.

Prices and particulars of additional parts may be had from your local supplier.

In case of difficulty or if supplier is out of stock, write to:

$$
\begin{aligned}
& \text { RIDINGBERY \& CO., LTD., } \\
& \text { BOB Dept., } \\
& \text { Feeder Road, } \\
& \text { Bristol } 2 .
\end{aligned}
$$

stating the name and address of your nearest toy shop.


No． 0 SET

|  |  | E <br> E <br> ¢ <br>  |  | E <br> E <br> 8 | E <br> E <br> 号 | E 8 8 8 8 8 8 0 0 | .! |  | \＃ | 号 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Models Illustrated No． | $\mathrm{z}_{\mathrm{o}}^{\mathbf{2}}$ 敬 | 士 | \％ | N | 몬 | $\pm$ | ત | ㅊ | İ | ＋ | ¢ | m | $\pm$ |
| 8 Toboggan <br> 9 Hauling Truck |  |  |  |  |  | 2 | 6 | 12 12 |  |  |  |  |  |
| 14 Wheelbarrow | 2 | 1 | 1 |  | 2 |  | 6 | 12 | 2 |  |  |  | 2 |
| 16 Photo Stand |  |  | 2 |  | 3 |  | 5 | 10 | 2 |  |  |  |  |
| 17 Trolley |  |  | 2 | 1 | 2 |  | 6 | 12 | 2 |  |  |  | 2 |
| 20 Towel Horse |  |  | 4 | 2 |  |  | 6 | 12 | 4 |  |  |  |  |
| 21 Reyolving Signal |  | 2 |  | 1 | 1 |  | 4 | 8 | 2 |  | ， | I |  |
| 26 Pair of Scales | 3 |  | 2 | 1 | 1 |  | 6 | 12 | 5 |  | 1 |  | 2 |
| 27. Waggon |  | 2 | 2 | 1 | 2 |  | 6 | 12 | 2 | 2 |  |  | 2 |
| 28 Luggage Truck | 1 |  | 2 | 3 |  |  | 6 | 12 | 4 |  |  | I | 2 |

## Models Not lllustrated

| I | Trident | 2 | 1 |  |  | 1 |  | 3 | 6 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | Rake | 4 |  | 1 |  | 1 |  | 5 | 10 |  |  |  |  |  |
| 3 | Horizontal Bar |  |  |  | 4 | 2 |  | 6 | 12 | 4 |  |  |  |  |
| 4 | Pair of Compasses | 1 |  |  | 2 |  |  | 2 | 4 |  |  |  |  |  |
| 5 | Skls or Snow Shoes |  |  |  |  |  | 2 | 2 | 4 | 4 |  |  |  |  |
| 6 | Scythe | 3 |  |  | 1 | 1 | 1 | 4 | 8 |  | I |  |  |  |
| 7 | Holy Cross |  | 2 | 1 | 1 |  |  | 3 | 6 |  |  | 1 |  |  |
| 10 | Rammer | I |  |  | 1 |  |  | 1 | 2 |  |  | 1 |  |  |
| 11 | Dividers | I |  |  | 1 |  | I | 2 | 4 |  |  |  |  |  |
| 12 | Ladder | 3 |  |  | 2 |  |  | 6 | 12 |  |  |  |  |  |
| 13 | Crucifix |  |  | 1 |  | 1 |  | 1 | 2 |  |  | 1 |  |  |
| 15 | Pen Stand | 2 | 4 |  | 1 |  |  | 6 | 12 |  |  |  |  |  |
| 18 | Set Square |  |  |  | 1 | 1 |  | 1 | 2 |  |  |  |  |  |
| 19 | Sign Post |  | 2 |  | 2 | 1 |  | 6 | 12 |  |  | 1 |  |  |
| 22 | Spinning Top |  | 1 |  |  |  |  |  |  |  |  | 1 |  |  |
| 23 | Telegraph Pole |  | 1 | 1 |  | 1 |  | 6 | 12 |  |  | 1 |  |  |
| 24 | Coat Stand | 4 | 2 |  |  | 1 |  | 6 | 12 |  |  | 1 |  |  |
| 25 | Steel Yard | 3 | 2 | 1 | 1 |  |  | 6 | 12 | 5 |  |  | I | 1 |
| 29 | Stretcher |  |  | 3 |  | 2 |  | 6 | 12 |  |  |  |  |  |
| 30 | Railway Signal | 3 | 1 | 1 | 1 |  |  | 5 | 10 | 5 |  | 1 |  | 1 |
| 31 | Dumb－bell |  |  |  |  | 1 |  |  |  | 4 |  |  |  | 2 |
| 32 | Cross of Lorralne |  | 1 | 1 |  | 1 |  | 2 | 4 |  |  | 1 |  |  |
| 33 | Pliers | I |  |  |  |  | 2 | 2 | 4 |  |  |  |  |  |
| 34 | Brace |  | 4 | 1 |  |  |  | 4 | 8 | 2 |  |  |  | 1 |
| 35 | Foot Measure | 1 |  | 2 |  | 2 |  | 6 | 12 |  |  |  |  |  |
| 36 37 | Knlfe Rest |  | 4 |  | 1 |  |  | 4 | 8 |  |  |  |  |  |
| 37 38 | Candlestlek | 2 | 2 |  | 1 | 1 |  | 5 | 10 |  |  | 1 |  |  |
| 38 | Bracket Cross | 4 |  | 2 |  |  |  | 5 | 10 |  |  |  |  |  |
| 39 | Stand |  | 5 |  | 1 |  |  | 6 | 12 | 1 |  | 1 |  |  |
| 40 | Buffor |  |  | 5 |  |  |  | 6 | 12 | 4 |  |  |  | 2 |

Page Eleven


## No. I SET

\section*{Models Illustrated No. <br> | 42 | Rake |
| :--- | :--- |
| 59 | Crane |
| 60 | Towel Horse |
| 62 | See-Saw |
| 66 | Luggage Truck |
| 75 | Buffer |}

Models Not Illustrated

| 41 | Trident |  | 3 |  | 2 |  | 3 | 6 | I |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 43 | Automatic Pistol | 2 | 1 | 3 | 2 | 1 | 8 | 16 | I |  |
| 44 | Shrine |  | 4 | 5 |  | 2 | 8 | 16 | 2 |  |
| 45 | Parallel Bars |  |  | 8 | 2 | 2 | 12 | 24 | 2 |  |
| 46 | Steps |  | 5 |  |  | 3 | 11 | 22 |  |  |
| 47 | Trailer | 1 | 2 | 3 | 1 |  | 8 | 16 |  | 2 |
| 48 | Barrow | 2 | 2 | 4 |  | 2 | 12 | 24 |  | 1 |
| 49 | Hand Truck | 2 | 2 | 4 |  | 2 | 12 | 24 |  | 2 |
| 50 | Bench |  | 5 |  | 2 | 3 | 12 | 24 |  | 2 |
| 51 | Sawing Rack | 1 |  | 2 | 4 | 3 | 8 | 16 |  |  |
| 52 | Trestle |  | 1 | 2 | 4 | 2 | 10 | 20 | 1 |  |
| 53 | Table |  | 2 | 6 | 4 |  | 12 | 24 | 2 |  |
| 54 | Pen and Pencil Stand | 6 |  | 4 | 2 |  | 12 | 24 |  |  |
| 55 | Chair |  |  | 8 |  | 2 | 12 | 24 |  |  |
| 56 | Cart |  |  | 2 | 4 | 2 | 12 | 24 |  | 2 |
| 57 | Photograph Stand | 4 |  | 1 | 1 | 3 | 9 | 18 |  | 2 |
| 58 | Small Waggon |  | 2 | 8 | 2 |  | 12 | 24 | 2 | 4 |
| 61 | Trapeze | 2 | 1 |  | 6 | 2 | 10 | 20 | 2 |  |
| 63 | Reading Stand |  | 2 | 6 |  | 1 | 10 | 20 |  |  |
| 64 | Horizontal Bars |  |  |  | 5 | 2 | 8 | 16 |  |  |
| 65 | Wood Truck |  | 6 |  | 2 | 3 | 12 | 24 |  | 4 |
| 67 | Gridiron | 4 | 2 | 2 |  | 1 | 10 | 20 |  |  |
| 68 | Bedstead |  |  | 6 | 2 | 2 | 12 | 24 |  |  |
| 69 | Stretcher |  | 4 | 2 | 6 |  | 12 | 24 | 2 |  |
| 70 | Foot Bridge |  |  | 2 | 4 | 4 | 12 | 24 | 2 |  |
| 71 | Harrow | 7 |  |  | 1 | 3 | 12 | 24 |  |  |
| 72 | Wood Cart |  |  | 6 | 3 | 3 | 12 | 24 | 2 | 2 |
| 73 | Paper Rack |  | 2 | 2 | 2 | 4 | 12 | 24 | 2 | 2 |
| 74 | Pergola |  | 2 | 4 | 4 | 2 | 12 | 24 | 2 |  |
| 76 | Shelf |  |  | 2 | 2 | 5 | 12 | 24 | 2 |  |
| 77 | Gate |  |  | 6 | 2 | 2 | 12 | 24 |  |  |
| 78 | Photo Frame | 2 |  | 2 | 4 | 2 | 12 | 24 |  |  |
| 79 | Hat and Coat Stand | 2 | 5 |  | 1 | 2 | 12 | 24 |  |  |
| 80 | Lamp Bracket | 2 | 2 | 4 | 1 | 2 | 12 | 24 | 2 |  |



## No. 2 SET




Sole Distributors for the Home Trade
G. GREINER \& CO.,

23 City Road, London, E.C.
Monarch 3474

## The <br> 'вов' Constructional Club

I. There is no charge.
2. Membership :

| a | Associate Ages | $6-9$ |  |
| :---: | :---: | :---: | :---: |
| $b$ | Full | ". | $9-15$ |

3. Both classes of members receive monthly, free of charge, new designs of models and other interesting matter.
4. A monthly competition (details on membership) with valuable prizes in both classes.
5. Annual Exhibition for best exhibits, judged by famous constructional engineers. New models and parts will be cn view.

## Date

Dear Chief Engineer,
May I be enrolled in the ' $B O B$ ' Constructional Club please?

I understand there is no charge whatever and I undertake to abide by the rules of the Club.

I BOUGHT MY 'BOB' SET NO.......AT

MY ADDRESS IS

DATE OF BIRTH

Yours sincerely,
Signed
NOT TO 日E FILLED IN
Accepted
Badge issued
No. on Club Register.


THE manufactùrers regret that shortage of packing materials renders it impossible to present "BOB" in the quality box designed for it. They trust that the pleasure and instruction obtained from this set will make you wish to possess one of the advanced sets planned for 1947 which it is hoped will be offered to you in a pack worthy of the "BOB" contents.

## RIDINGBERY OF BRISTOL



