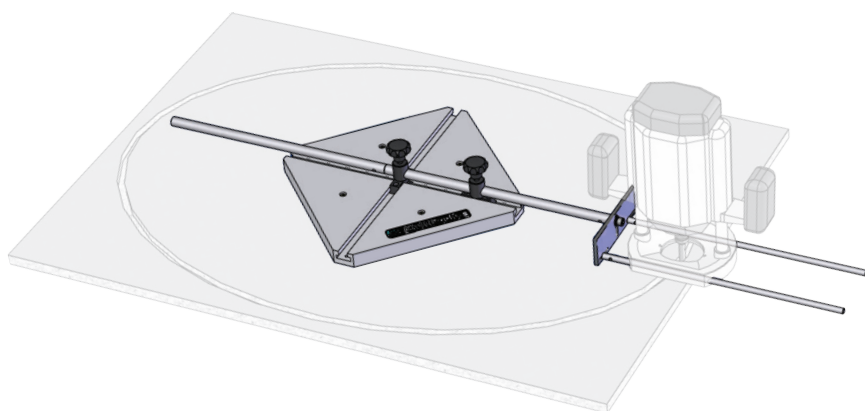




# FMR3000



FMR3000 IGM Ellipse and Circle Cutting Jig Manual EN v2.6.00 A5br

## ELLIPSE AND CIRCLE CUTTING JIG

FMR3000 MultiRadius

*Operating instructions EN*



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## DESCRIPTION

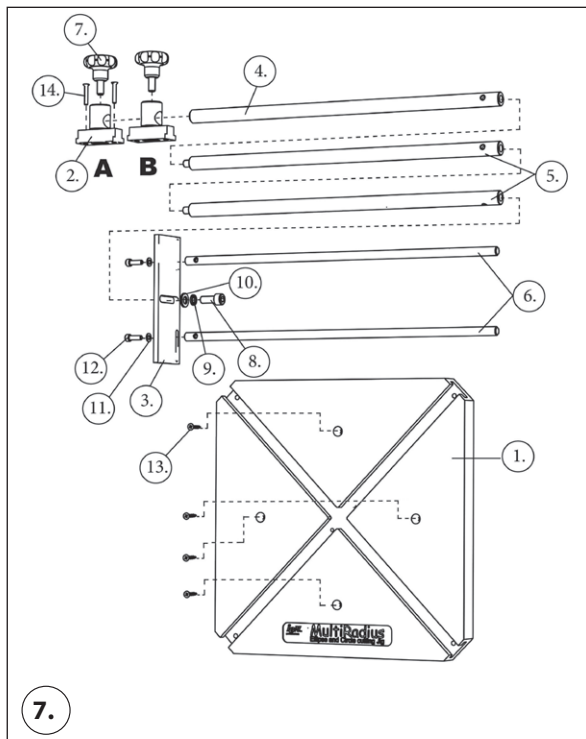
The jig is designed for cutting circles and ellipses at circumference or on the front side of the piece. It extends the possibilities of the portable router and increases the quality of the machined surface as well as the precision of the cut form. The basis of the whole jig system is the sliding cross frame made of special plastic. Special sliders **A + B** are shifted within this cross frame.

## PACKAGE CONTENTS

- 1 pc (1) Cross frame made of special plastic
- 2 pc (6) Guide rods D=10mm (upon request 8 mm) L= 400 mm
- 2 pc (5) Distance rods with L =400 mm screw
- 1 pc (4) Distance rod L =400 mm
- 1 pc (3) Connector plate
- 2 pc (7) Control bolt M8
- 2 pc (2) Sliders – complete
- 1 pc (8) Imbus Screw M8x20
- 2 pc (12) Imbus Screw M5x16
- 2 pc (14) Screw M4x25 with countersink head
- 1 pc (10) Screw washer M8
- 2 pc (11) Screw washer M5
- 1 pc (9) Elastic screw washer M8
- 4 pc (13) Wood screw 4x35

## JIG ASSEMBLY

(Fig. 7) Insert the guide rods D10 (6) into the grooves of the connector plate (3) and tighten with screws M5x16 (12) and washers (11). Screw the control screw (7) into the sliders (2). Put the sliders (2) into the cross frame (1). Assemble the distance rods D16 (5) and (4) together. Insert the end of the distance rod with threading into the groove of the connector plate (3) and tighten with screw M8x20 (8) and washer (9) and (10). Put the sliders A and B into the guide grooves of the cross frame, insert the distance rod into the holes in the pins of both sliders, tighten the control screws of the sliders. Assembly is now complete.



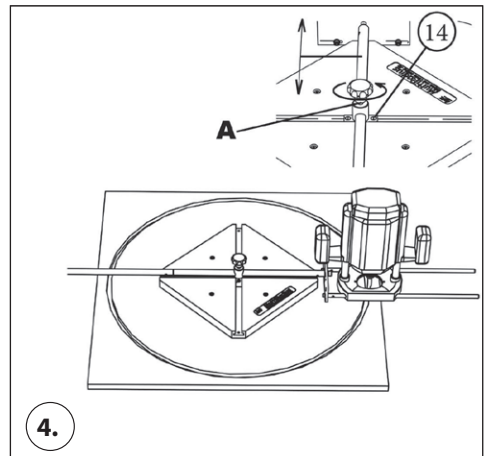
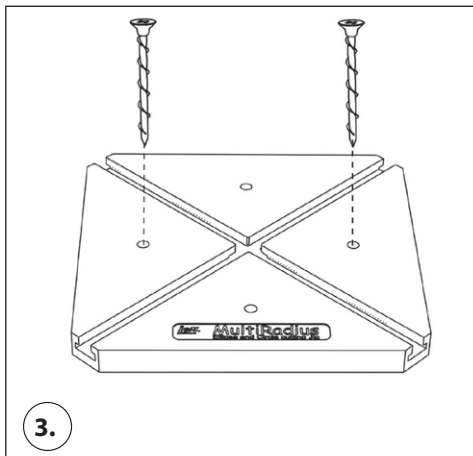
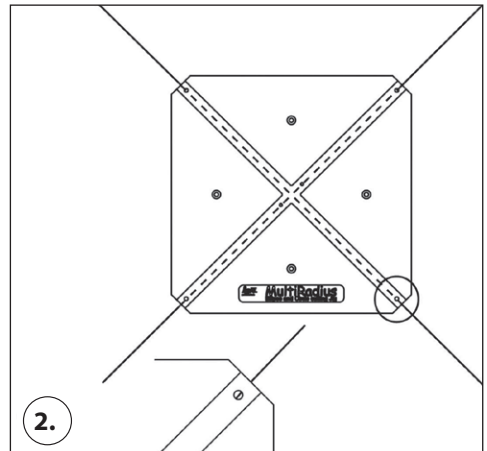
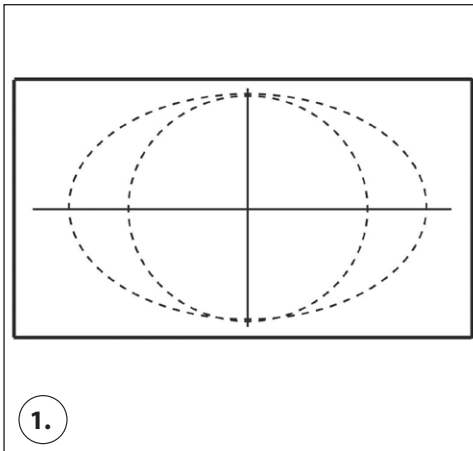
## CUTTING CIRCULAR CURVES

Delineate on the work piece axis of the required circle at the angle of  $90^\circ$  with a sign on the required radius (fig. 1). Affix the cross frame (1) to the work or help piece (fig. 3) with the help of wood screws (13) or with bonding tape so that the delineated axis intersect the centre of the borings at the end of the cross frame grooves (fig. 2). The cross frame is now centered on the circle axis. Put the slider A into the cross frame slide way, shift it to the centre of the cross frame where the both grooves are crossing and affix to the cross frame (1) with the help of two countersink head screws M4x25 (14). Remove the slider B from the slide way. Set the required radius and tighten the control screw of the slider A (fig. 4).

Possible diameter of the circular curve:  $D = 620 - 3000 \text{ mm}$

## CUTTING ELLIPSES

The construction design stipulates the **maximum difference** in the length of **semi-axis of the ellipse** at **205 mm**.



## PROCEDURE ON CUTTING ELLIPSES

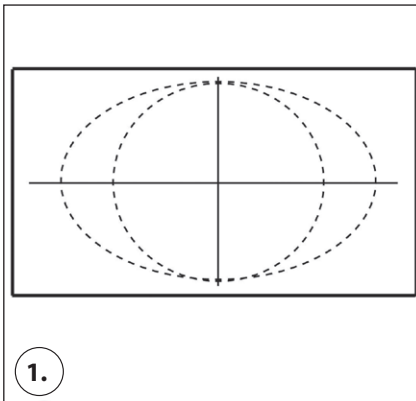
### Ellipse size determination

Delineate on the work piece axis of the required ellipse at the angle of  $90^\circ$  and mark the length and the width of the ellipse (**fig. 1**). Affix the cross frame (**1**) to the work or help piece (**fig. 3**) with the help of wood screws (**13**) or with bonding tape so that the delineated axis intersect the centre of the borings at the end of the cross frame grooves (**fig. 2**). The cross frame is now centered on the ellipse axis.

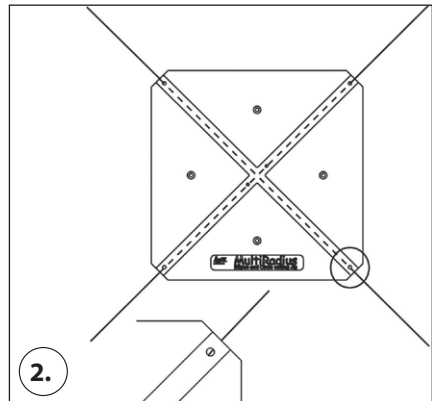
### Major semi-axis setting

(**fig. 5**) Insert the slider **A** into the centre of the cross frame and the slider **B** in the direction of the major (long) semi-axis. Loosen the control screw of the slider **A**, set the required semi-axis length by shifting the distance rod in the centre of the slider **A** pin and tighten with the control screw (the screw of the slider **B** is still loose and the rod passes free through the pin).

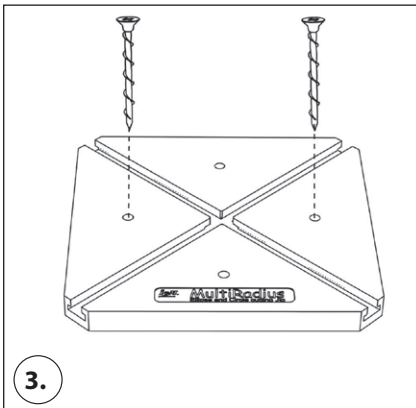
Minor axis L2		Major axis L1
MIN	MAX	
2590	2890	3000
1590	1890	2000
1390	1690	1800
1290	1590	1700
1090	1390	1500
990	1290	1400
890	1190	1300
790	1090	1200
690	990	1100
620	920	1030
620	790	900
620	690	800
620	620	730
Minimal possible combination		



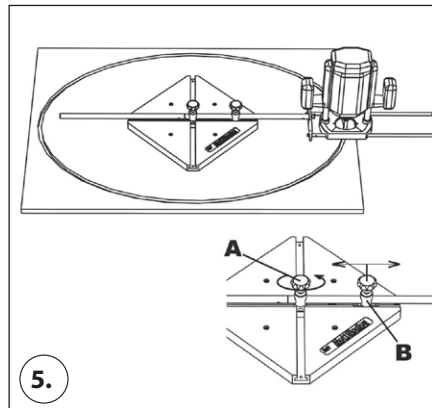
1.



2.



3.

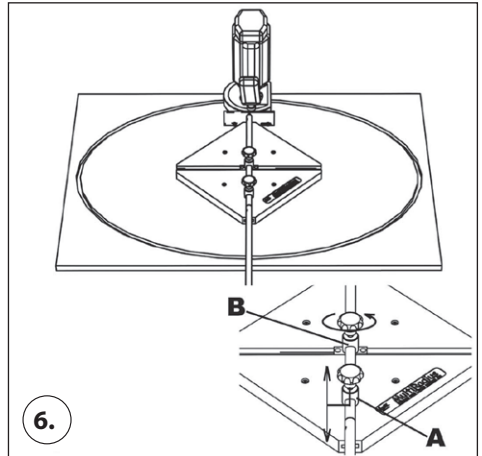


5.

### Minor semi-axis setting

(fig. 6) Rotate the router by 90°. (Cross frame is **not rotated!** Slider **B** is in the center of the cross frame). Set the required minor semi-axis length by shifting the distance rod in the slider **B** pin; slider **A** is still tighten! Setting finished, tighten the control screw of the slider **B**.

**Attention:** If the work piece is bent or otherwise crooked, after the tightening of the cross frame, the sliders may jam in the grooves. Therefore use only flat material!!!



### !!! SAFETY AT WORK !!!

- 1/ Respect the safety at work indicated by the producer of your portable router and tools used.
- 2/ The MultiRadius jig is safe if used in accordance with all principals of safety at work with routers and router bits.
- 3/ Always unplug the router when setting the MultiRadius jig.
- 4/ Read carefully the operating instructions before using the jig.

For questions contact your distributor or directly the producer.

FMR3000 Spare parts list v.2,1			
Pos. #	Description	Quantity in basis pack	Code
2	Sliders - complete	1	FMR3996
8, 9, 10, 11,12,13, 14	Set of screws	13 pc	FMR3994
6	*Guide rod D8 mm	2	FMR3998
	Guide rod D10 mm	2	FMR3000-02
5	Distance rod with screw D16x400 mm	1	FMR3997
7	Control screw M8	1	FS200 108
	Drawing compass	1	FMR3009

\*not included in the basic pack







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