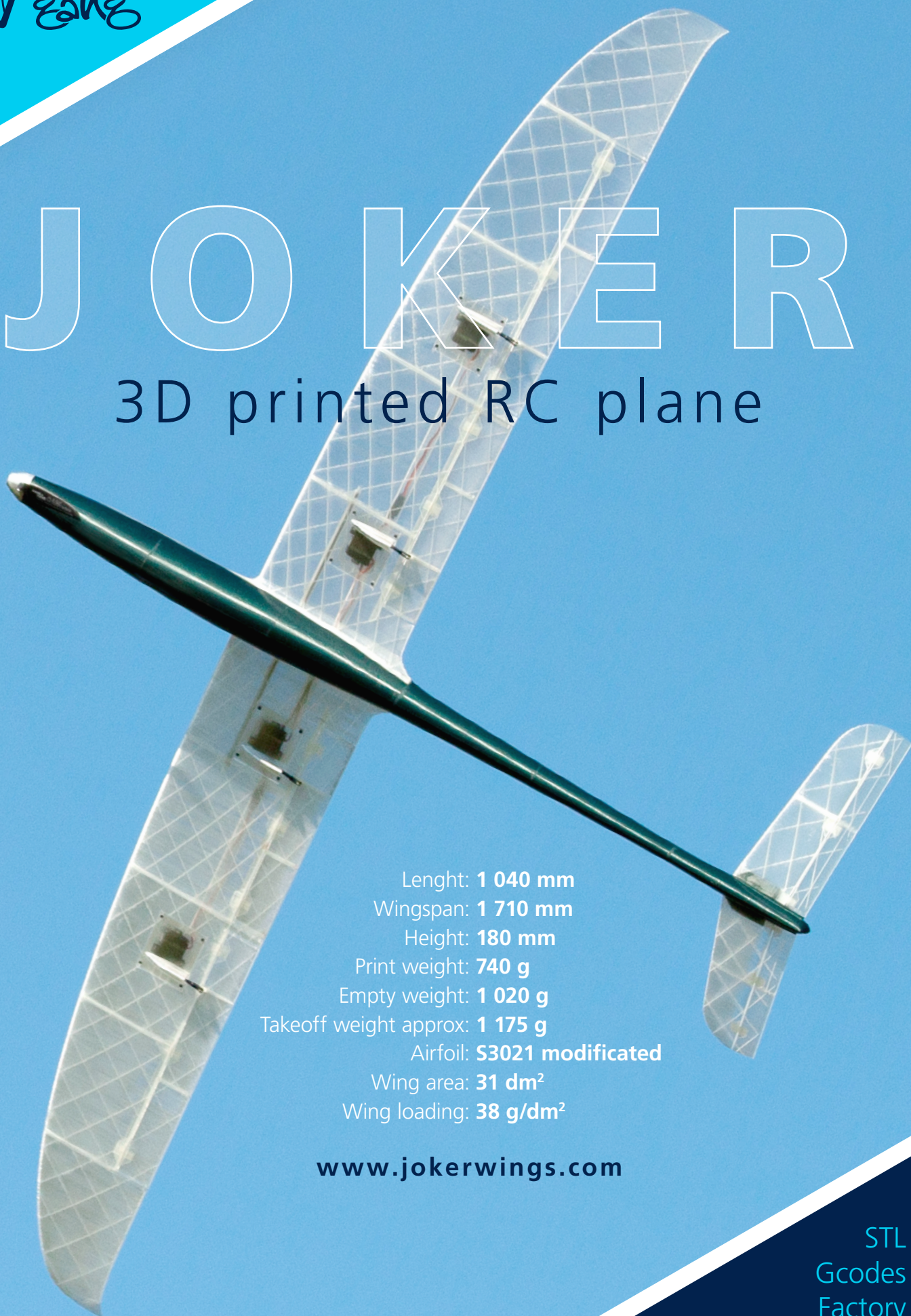


JOKER

3D printed RC plane



Length: **1 040 mm**
Wingspan: **1 710 mm**
Height: **180 mm**
Print weight: **740 g**
Empty weight: **1 020 g**
Takeoff weight approx: **1 175 g**
Airfoil: **S3021 modified**
Wing area: **31 dm²**
Wing loading: **38 g/dm²**

www.jokerwings.com

What you need

Filament PLA filament for print model parts. A total of about 800 grams.

Hardware [M4x15mm Nylon Screw](#) (central wing clip)
[Screw Socket Head Hex M3x18mm](#) (wing pin)
[Self Tapping Machine Screw M2.3x6mm](#) (servo cover, servo holder)
[Screw Countersunk Hex M3x8mm Machine Thread](#) (motor mount)
[CA Hinge Sheet](#)
CA glue (optional activator)
[Brass Linkage Stopper For 1mm Pushrods](#) (optional)
2pcs Metal Wire diameter 1mm/1000 mm (push-pull servo rod)
Carbon Fiber Tube (for reinforcement)

- outer diameter 6mm, inner diameter 4mm, length 1000mm (split in length 360mm and 640mm)
- or 2pcs [Carbon Fibre Tube 6x4x750mm](#) (shorten to length 360mm and 640mm)

Tools FDM 3D printer - min. build volume 200x200x180mm
Thread screw tap M4 metric right-handed
RC modelers basic tools

Motor [BH Power 2830 1300kv](#) or
[AXI 2217/12 GOLD LINE V2](#) or
[PROPDRIVE v2 2830 1200KV Brushless Outrunner Motor](#) or similar

ESC [Aerostar 30A Electronic Speed Controller with 2A BEC \(2~4S\)](#) or similar

Battery [ZIPPY Compact 1300mAh 3S 25C Lipo Pack](#) or
[ZIPPY Compact 1500mAh 3S 25C Lipo Pack](#) or
[ZIPPY Compact 1800mAh 3S 25C Lipo Pack](#) or similar

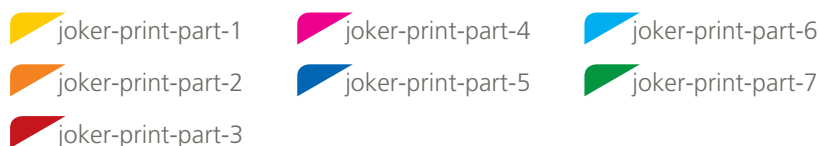
Propeller [Folding Propeller 9x6" W/Alloy Hub 35mm/3.17mm Shaft](#) or similar

Servos 4pcs [Corona DS-239MG Digital Slim Wing Servo](#) or similar
2pcs [HXT900 Micro Servo](#) or similar

RC control 5~7 Channel TX/RX

Included 3D print files

Printed parts are prepared for printing in Gcode and Factory print files. They are highlighted for easier orientation. The print file preview is on pages 13-14.



Gcode print files are prepared for i3 3D printers. If you have a compatible i3 3D printer, try it. Gcode files work reliably with original Prusa i3 3D printers.



If your printer does not work with prepared Gcode files, use Factory files to customize the settings for your printer. Factory files contain everything you need for successful printing.



All STL files are already included in the Factory files. These STL files are designed to Simplify3D software only. These STL files are not compatible with other slicing software.

Simplify3D



If possible, use Simplify3D software version 4.1.1, which works better with the initial points of printing layer.

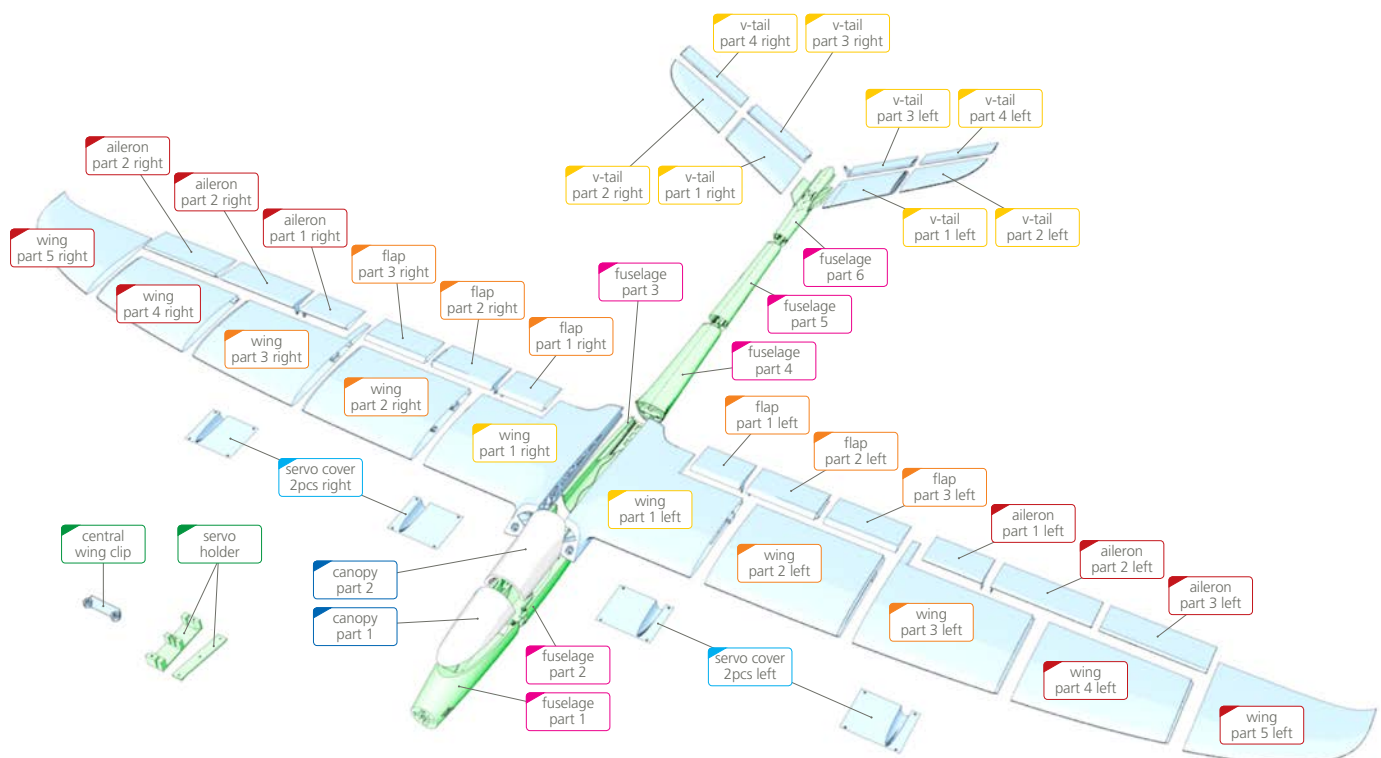
General printing parameters

Nozzle Diameter: **0,40 mm**
Extrusion Multiplier: **1,00**
Extrusion Width: **0,40 mm**
Primary Layer Height: **0,2 mm**
First Layer Height: **100 %**
First Layer Width: **100 %**
First Layer Speed: **50 - 60 %**
Temperature Primary Extruder: **230 °C**
Temperature Heat Bed: **60 °C**
No Cooling!
Default Printing Speed: **40,0 mm/s**

The temperature setting can be different for different brands and types of PLA filament. Try it. (210-260 °C)

All parameters set in the file *.factory

List of printed parts



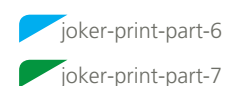
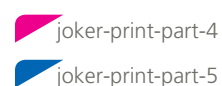
joker-print-part-1
joker-print-part-2
joker-print-part-3

joker-print-part-4
joker-print-part-5

joker-print-part-6
joker-print-part-7

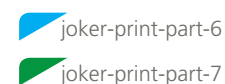
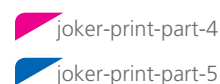
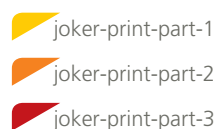
List of printed parts

Parts		STL file	Weight	
wing	 part 1 left	joker-wing-part-1-left.stl	79g	410g
	 part 1 righth	joker-wing-part-1-right.stl	79g	
	 part 2 left	joker-wing-part-2-left.stl	41g	
		joker-wing-part-2-left-brim.stl		
	 part 2 righth	joker-wing-part-2-right.stl	41g	
		joker-wing-part-2-right-brim.stl		
	 part 3 left	joker-wing-part-3-left.stl	35g	
		joker-wing-part-3-left-brim.stl		
	 part 3 righth	joker-wing-part-3-right.stl	35g	
		joker-wing-part-3-right-brim.stl		
	 part 4 left	joker-wing-part-4-left.stl	28g	
		joker-wing-part-4-left-brim.stl		
	 part 4 righth	joker-wing-part-4-right.stl	28g	
		joker-wing-part-4-right-brim.stl		
 part 5 left	joker-wing-part-5-left.stl	22g		
	joker-wing-part-5-left-brim.stl			
 part 5 righth	joker-wing-part-5-right.stl	22g		
	joker-wing-part-5-right-brim.stl			
ailerons	 part 1 left	joker-aileron-part-1-left.stl	6g	44g
	 part 1 righth	joker-aileron-part-1-right.stl	6g	
	 part 2 left	joker-aileron-part-2-left.stl	8g	
	 part 2 righth	joker-aileron-part-2-right.stl	8g	
	 part 3 left	joker-aileron-part-3-left.stl	8g	
		joker-aileron-part-3-left-brim.stl		
	 part 3 righth	joker-aileron-part-3-right.stl	8g	
		joker-aileron-part-3-right-brim.stl		
flaps	 part 1 left	joker-flap-part-1-left.stl	5g	38g
	 part 1 righth	joker-flap-part-1-right.stl	5g	
	 part 2 left	joker-flap-part-2-left.stl	7g	
	 part 2 righth	joker-flap-part-2-right.stl	7g	
	 part 3 left	joker-flap-part-3-left.stl	7g	
		joker-flap-part-3-left-brim.stl		
	 part 3 righth	joker-flap-part-3-right.stl	7g	
		joker-flap-part-3-right-brim.stl		



List of printed parts

Parts		STL file	Weight	
tail	 part 1 left	joker-tail-part-1-left.stl	11g	54g
		joker-tail-part-1-left-brim.stl		
	 part 1 righth	joker-tail-part-1-right.stl	11g	
		joker-tail-part-1-right-brim.stl		
	 part 2 left	joker-tail-part-2-left.stl	8g	
		joker-tail-part-2-left-brim.stl		
	 part 2 righth	joker-tail-part-2-right.stl	8g	
		joker-tail-part-2-right-brim.stl		
	 part 3 left	joker-tail-part-3-left.stl	4g	
	 part 3 righth	joker-tail-part-3-right.stl	4g	
 part 4 left	joker-tail-part-4-left.stl	4g		
	joker-tail-part-4-left-brim.stl			
 part 4 righth	joker-tail-part-4-right.stl	4g		
	joker-tail-part-4-right-brim.stl			
fuselage	 fuselage part 1	joker-fuselage-part-1.stl	32g	158g
	 fuselage part 2	joker-fuselage-part-2-sleeve.stl	42g	
		joker-fuselage-part-2.stl		
	 fuselage part 3	joker-fuselage-part-3.stl	23g	
	 fuselage part 4	joker-fuselage-part-4.stl	25g	
		joker-fuselage-part-4-case.stl		
		joker-fuselage-part-4-brim.stl		
	 fuselage part 5	joker-fuselage-part-5.stl	17g	
		joker-fuselage-part-5-brim.stl		
 fuselage part 6	joker-fuselage-part-6.stl	19g		
	joker-fuselage-part-6-brim.stl			
canopy	 canopy part 1	joker-canopy-part-1.stl	6g	15g
	 canopy part 2	joker-canopy-part-2.stl	9g	
servo cover	 servo cover	joker-servo-cover.stl – print twice	2x5.5g	11g
servo holder	 servo holder	joker-servo-holder.stl	8g	8g
central wing clip	 central wing clip	joker-central-wing-clip.stl	2g	2g
Weight of all printed parts			740g	



Video guide: step by step assembly



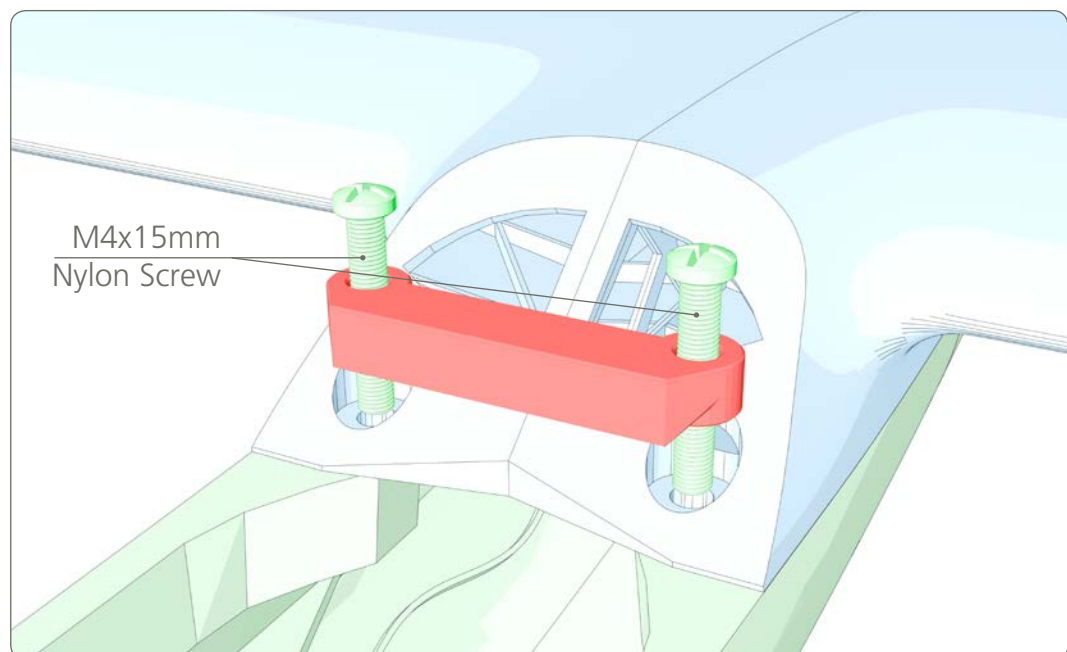
Video guide: chapters

- 00:15 ▶ [left wing](#)
- 01:45 ▶ [right wing](#)
- 02:13 ▶ [ailerons, flaps, v-tail](#)
- 03:23 ▶ [canopy](#)
- 03:43 ▶ [fuselage](#)
- 06:24 ▶ [cleaning after gluing](#)
- 08:18 ▶ [hinge](#)
- 11:22 ▶ [servo holder](#)
- 11:45 ▶ [pushrod for the v-tail](#)
- 12:46 ▶ [threads for wing fixing screws](#)
- 13:16 ▶ [fuselage and v-tail assembly](#)
- 13:49 ▶ [servos for the v-tail](#)
- 14:51 ▶ [servos for the wing](#)
- 15:57 ▶ [servo cover](#)
- 16:43 ▶ [wing pins](#)
- 17:02 ▶ [engine assembly](#)
- 17:35 ▶ [receiver assembly](#)
- 17:45 ▶ [carbon fiber tube](#)
- 19:09 ▶ [central wing assembly](#)
- 19:24 ▶ [central wing clip](#)
- 19:44 ▶ [battery strap](#)
- 20:02 ▶ [battery location](#)
- 20:38 ▶ [control of deflections](#)
- 20:44 ▶ [center of gravity](#)
- 20:50 ▶ [short video of flying](#)

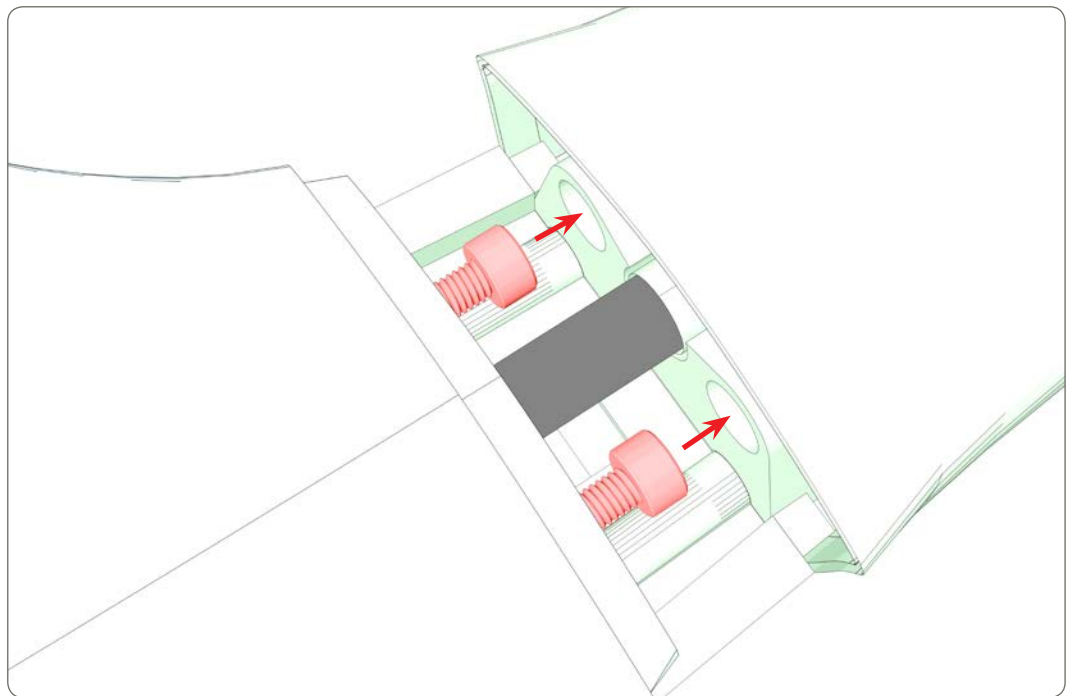
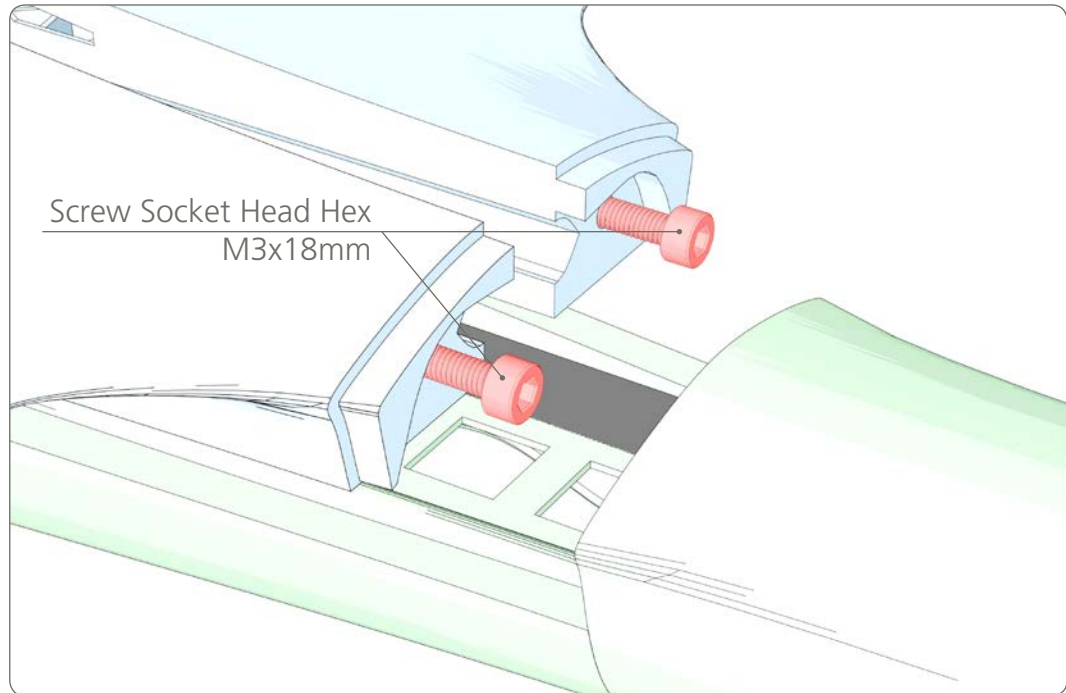
Carbon fiber tube for reinforcement



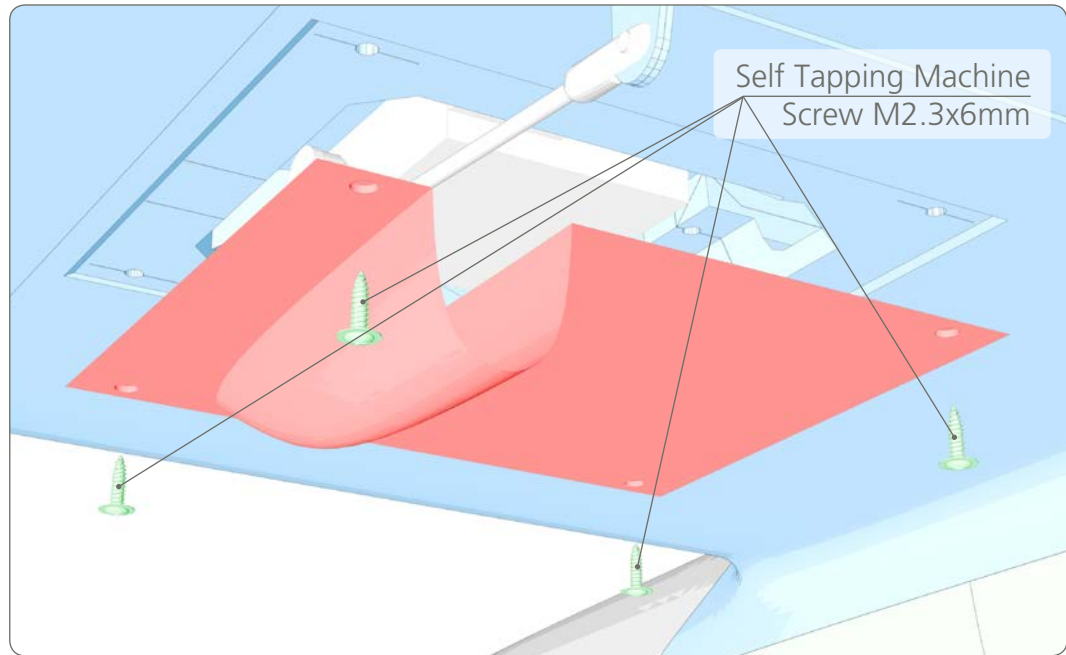
Central wing clip



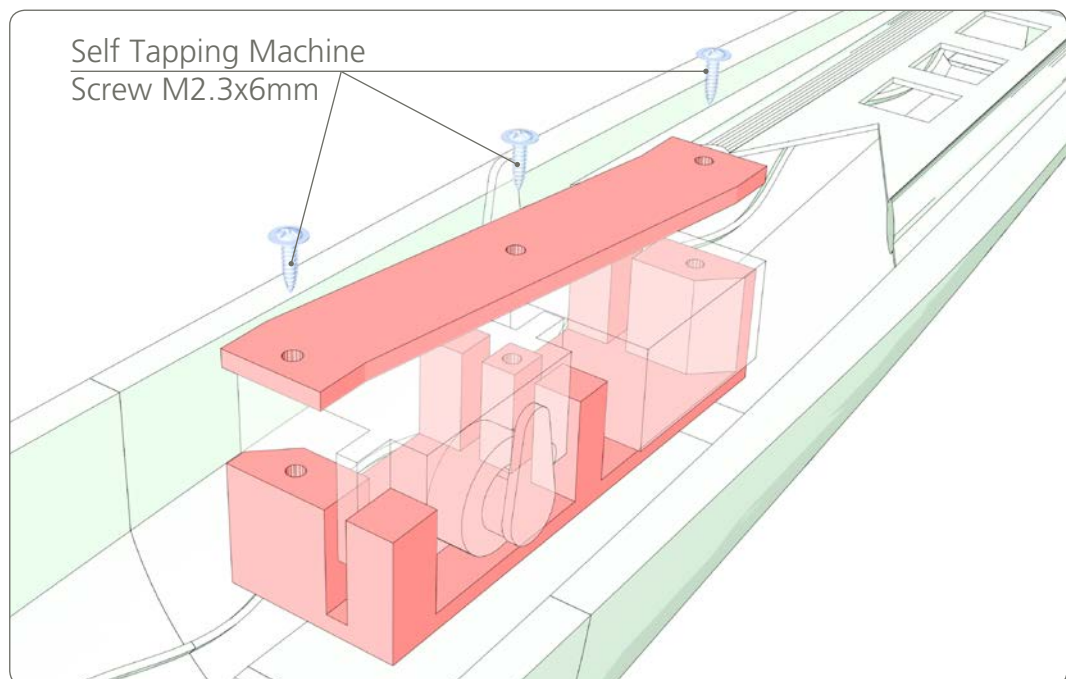
Wing pins



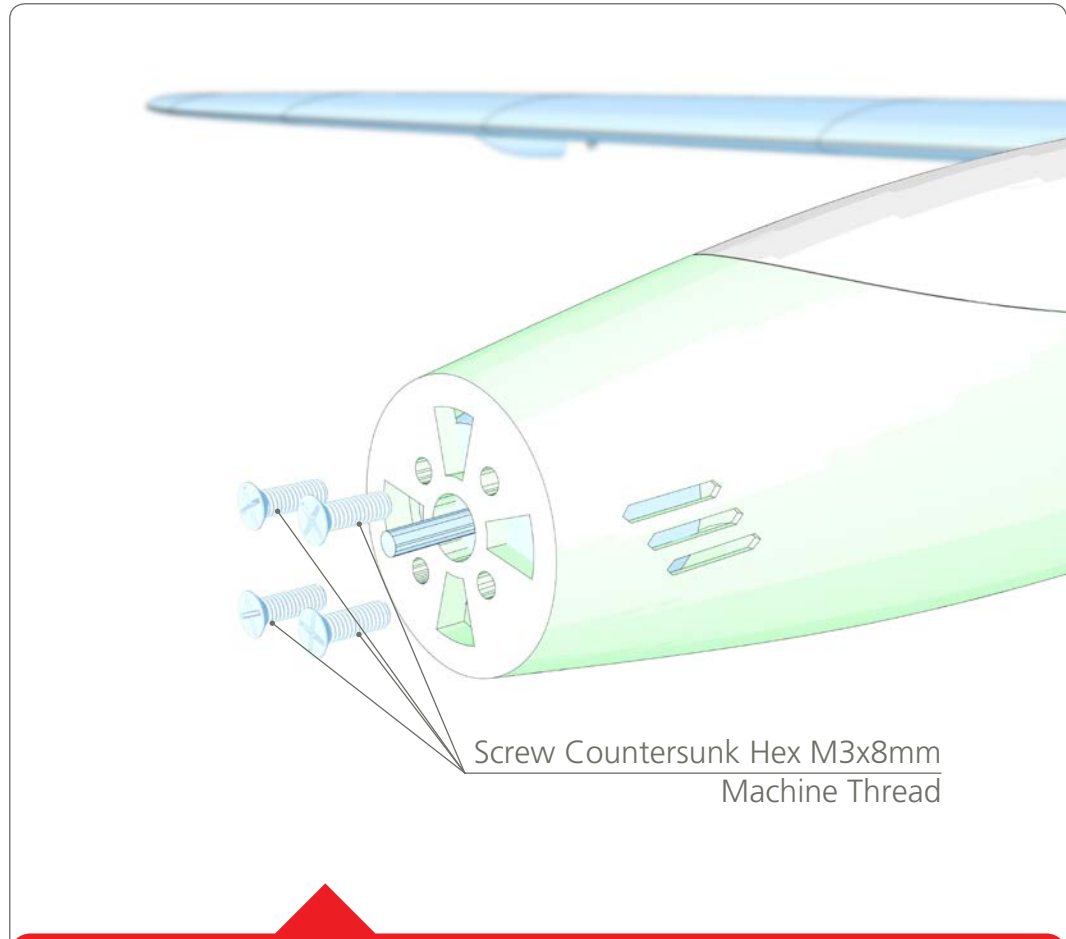
Servo cover



Servo holder

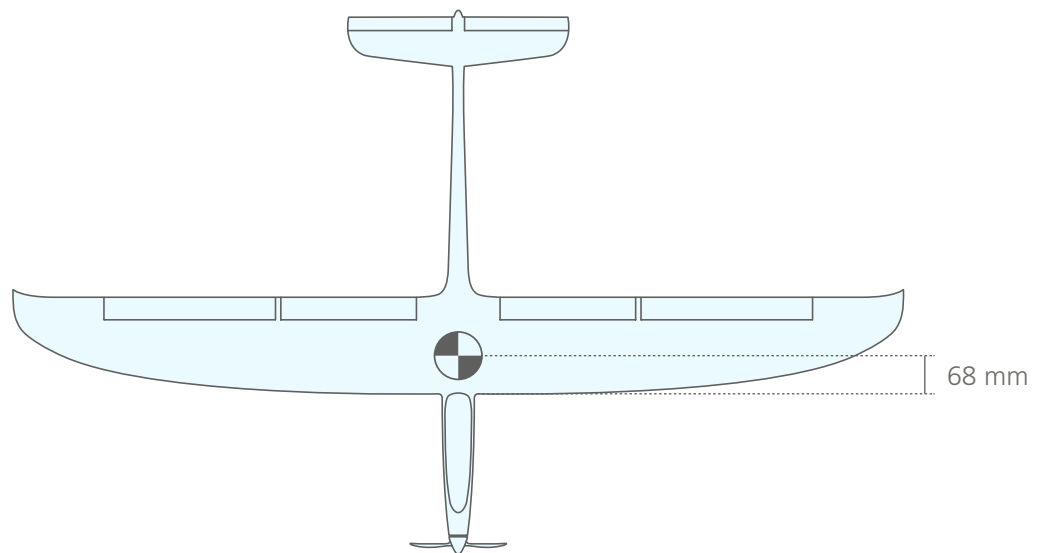


Motor mount

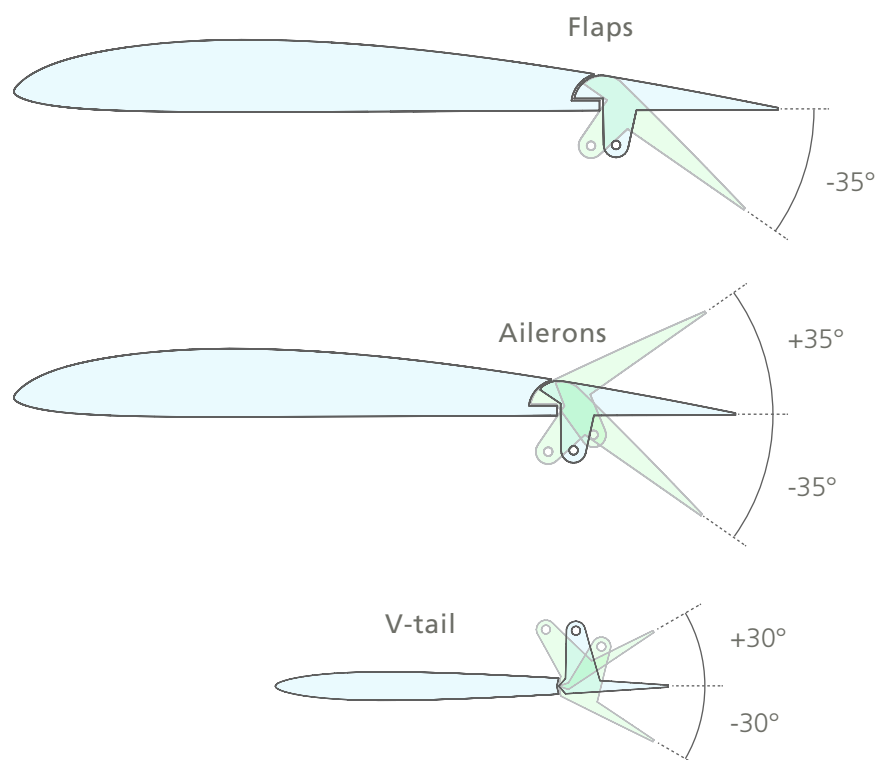


**Re-tighten the screws
after your first flight.**

Center of gravity

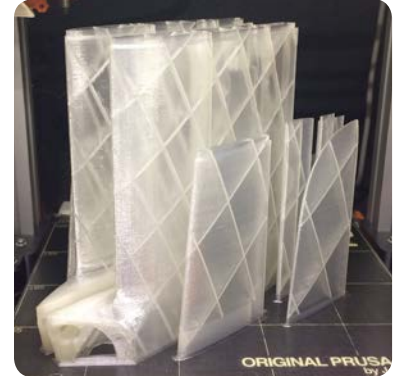
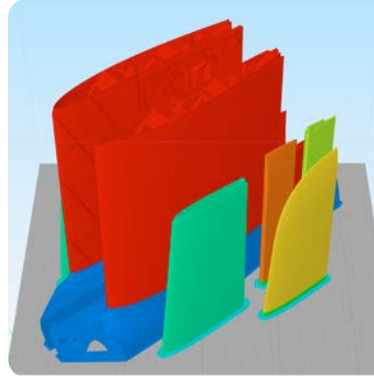


Control of deflections

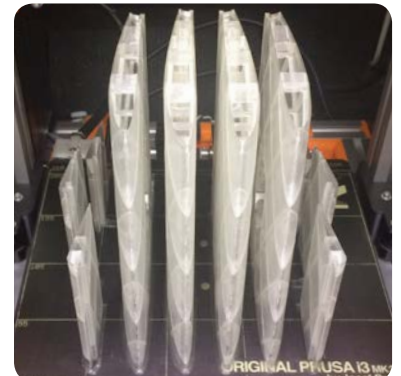
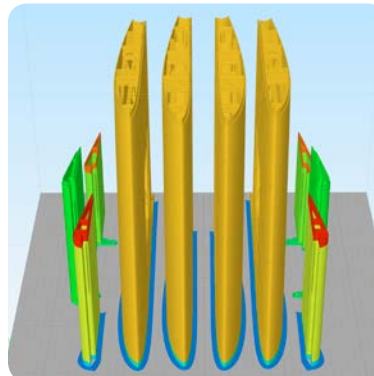


Preview of printed parts

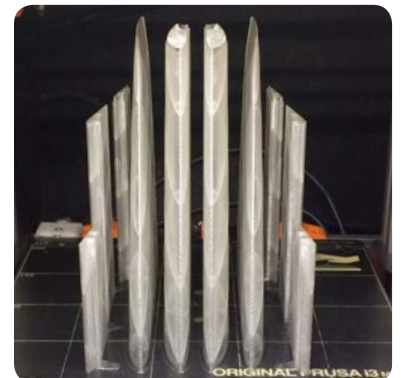
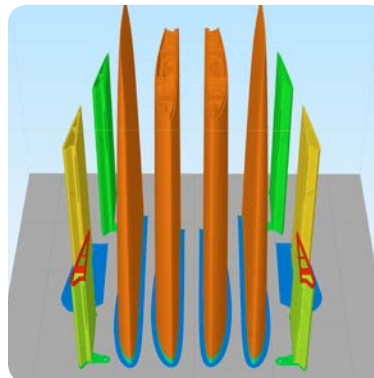
joker-print-part-1
Print time: 23h



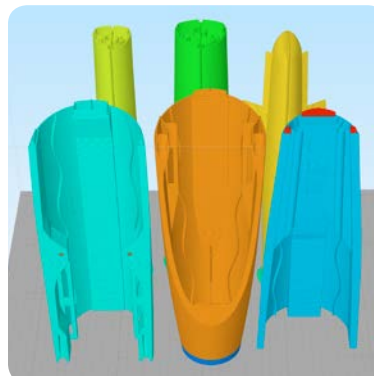
joker-print-part-2
Print time: 23h



joker-print-part-3
Print time: 17h

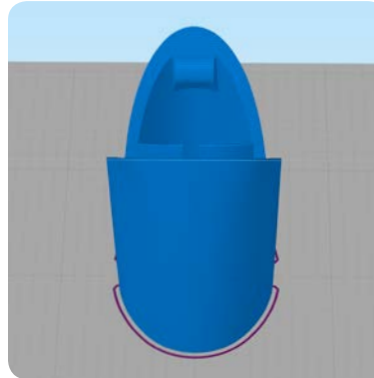


joker-print-part-4
Print time: 18h



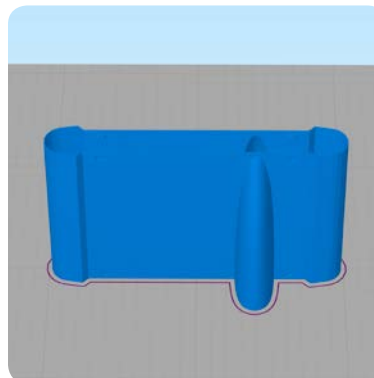
Preview of printed parts

joker-print-part-5
Print time: 2h



joker-print-part-6
Print time: 1h

**print this part
twice**



joker-print-part-7
Print time: 1h

