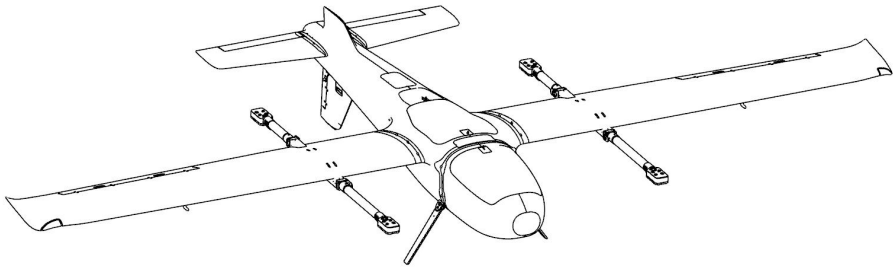
开拓者 3200

PIONEER3200

用户手册 V2

User Manual V2

2026.11



makeflyeasy

产品概述

简介 Introduction

开拓者 3200 是一款 EPO 多用途垂直起降固定翼飞机壳体。开拓者多处采用冗余设计，保证飞行安全，同时延续了拆装便携、使用方便的特点。模块化设计理念让飞机组装工作简单快捷，可快拆机头，可快拆机翼、可快拆尾翼、使飞机具有实用的便携性和友好的用户体验。

Pioneer3200 is a multi-purpose VTOL fixed-wing aircraft shell made of EPO material. Adopting redundant design in multiple positions, it ensures reliable flight safety while retaining the advantages of easy disassembly, assembly and convenient operation.

Featured with modular construction, the aircraft can be assembled quickly and effortlessly. The nose, wings and empennage are all quick-detachable, delivering excellent portability and user-friendly experience.

免责说明 Disclaimer

Makeflyeasy 系列产品为通用航模/无人机零配件，任何理由引起的直接，间接衍生性意外伤害造成的后果，厂家不承担任何责任。

禁止用于军事相关用途，禁止用于涉密及违禁飞行场景，严禁擅自闯入机场、军事管理区、禁飞区飞行，使用者承担全部飞行责任。

请把飞行器放置儿童触及范围之外，确保飞行器飞行时远离人群及危险物品，切勿在饮酒，疲劳或精神不佳情况下进行任何飞行器操作。

All products of the Makeflyeasy series are general model aircraft and UAV spare parts. The manufacturer shall not be held liable for any consequences arising from direct, indirect or consequential personal injury caused by any reason.

This product is prohibited for military-related purposes, confidential operations and prohibited flight scenarios. Unauthorized flight into airports,

military restricted areas and no-fly zones is strictly prohibited. The end user shall bear full responsibility for all flight activities.

Keep the aircraft out of the reach of children. Always operate it away from crowds and hazardous objects. Do not operate the aircraft under the influence of alcohol, when fatigued, or in poor mental condition.

产品规格 Products specifications

材质 Material	EPO、EVA、PC、工程塑料等 EPO,EVA,,PC,engineering plastics etc.
翼展 Wingspan	3200mm
垂起机臂 VTOL Boom	1082mm（含电机座） 1082mm(including motor mount)
机身高 Fuselage Height	410mm（含脚架） 410mm (with stand)
机身长 Fuselage Length	1680mm
翼面积 Wing Area	100 dm^2
机翼安装角 Wing Mounting Angle	2.9°
副翼转角 Aileron Angle	向上 22° 向下 28° Up 22°/Down 28°
V 尾转角 V-tail Angle	向上 28° 向下 20° Up 28°/Down 20°
产品净重 Net Weight	4.5 Kg
装箱重量 Gross Weight	15 Kg
包装箱尺寸 Transport case size	1480*480*570mm

产品使用注意事项 Usage Attentions

安装注意 Installation Attentions

1. 在焊接大电流连接器时，注意线序一一对应，以免烧毁电调、舵机。
1. When soldering high-current connectors, match the wiring sequence strictly to avoid damaging ESC and servos.

2. 副翼和尾翼推荐使用 **MFE3054pro** 数字舵机，或者其他相同尺寸的舵机，便于舵机安装和尾翼快拆装置的安装。
2. We recommend the MFE3054pro metal digital servo,or other same size servo for the easy installing of servo and tail wings quick release devices.

3. 在安装多旋翼电机座时注意调至水平。
3.Take care to level the multi-rotor motor mount when installing it.

飞行注意 Flying Attentions

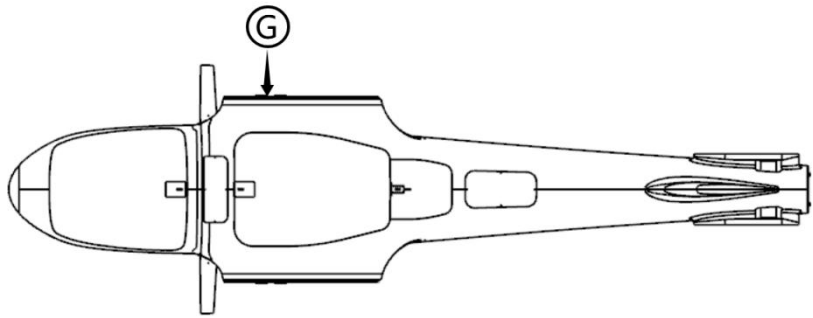
1. 请避免在 14m/s 以下的速度飞行转弯，以免飞机失速。
1. Avoid making turns at airspeed below 14 m/s to prevent stall.

2. 飞行前请检查电机、螺旋桨、电调信号线和电源线插头安装连接紧固，飞行时远离不安全因数，如障碍物、人群、儿童、建筑物、高压线等。
2.Check that the motor, propeller, ESC signal cable and power cord plug are connected tightly before flying, and keep away from unsafe factors such as obstacles, crowds, children, and high-voltage lines when flying.

3. 务必在安全起飞重量下飞行，切勿在机场净空区范围飞行。
3.Fly at a safe take-off weight and never fly within the airport clear zone.

4. 请按标识重心位置配重（位于机身塑料件重心挂环处）。

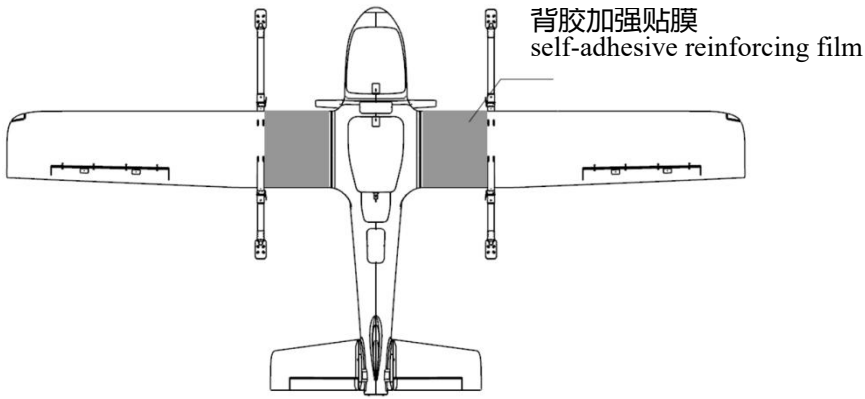
4.Conduct the counterweight at the marked center of gravity position. (Center-of-gravity hook on fuselage plastic component).



警告 Warning

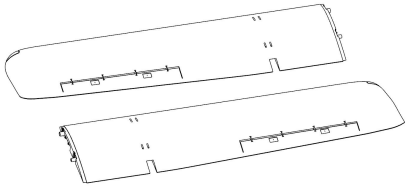
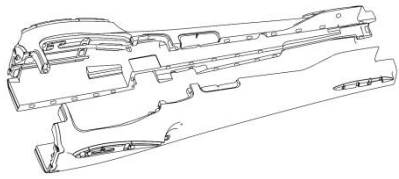
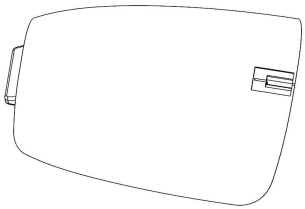
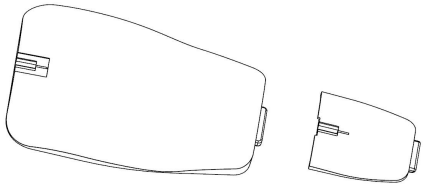
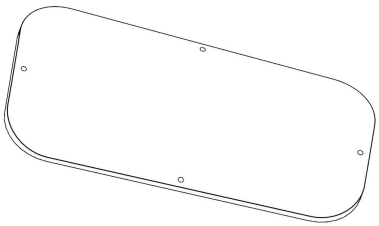
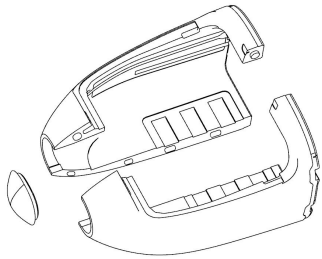
垂直起降版本请使用配套的背胶加强贴膜对机翼进行加强。

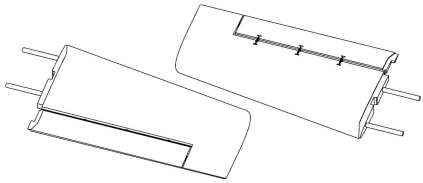
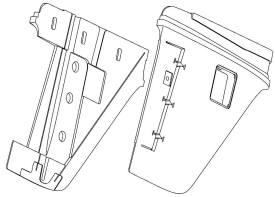
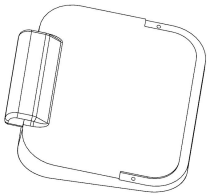
For the VTOL version, please reinforce the wings with the original matching self-adhesive reinforcing film.



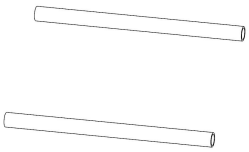
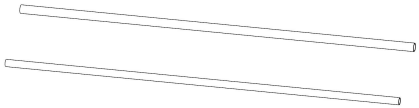
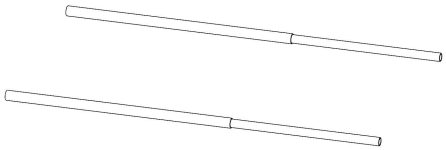
盒内物品清单 Contents in the box

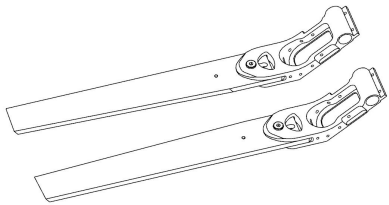
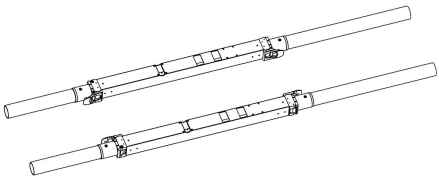
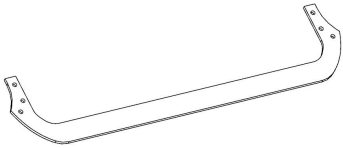
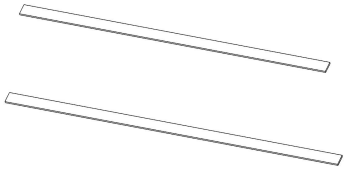
EPO 部件 EPO Parts

1 左右机翼 Left & right wing 	2 左右机身 Left & right fuselage 
3 电池舱盖 Battery hatch 	4 机舱盖 Canopy 
5 舱盖 hatch 	6 机头 Mounting-type nose 

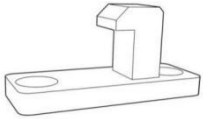
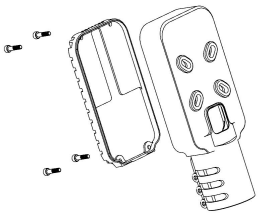
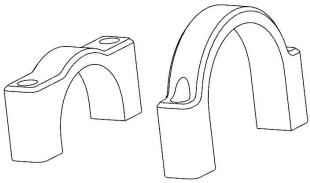
7 水平尾翼 Horizontal tail 	8 垂直尾翼 Vertical tail horizontal tail 
9 腹部舱盖 Belly hatch 	

管部件 Tube parts

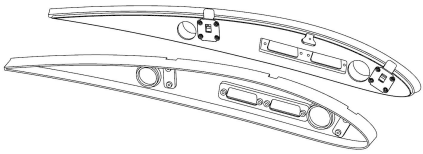
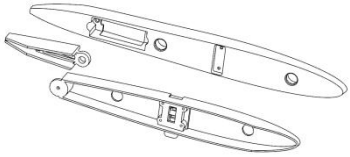
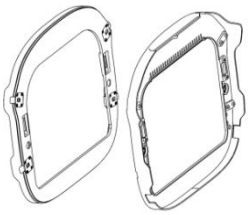
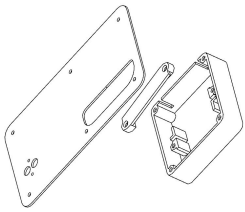
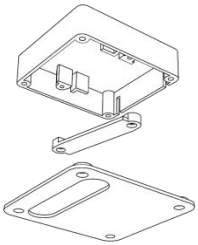
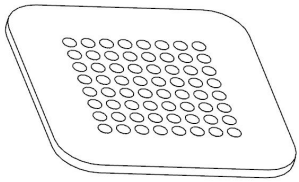
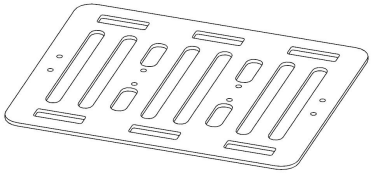
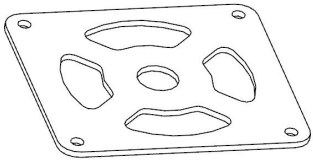
1 机身套管 Fuselage sleeve 21*20*387mm 21*20*387mm 	2 平尾对插碳管 Horizontal tails tube 10*8*146mm 
3 机翼套管 Wing sleeve 20*17*945mm 20*17*945mm 	4 机头连接管 Nose connecting tube 12*10*280mm 10*8*280mm 

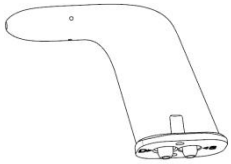
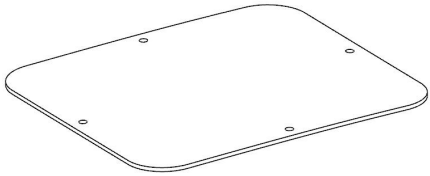
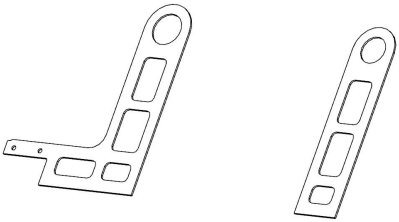
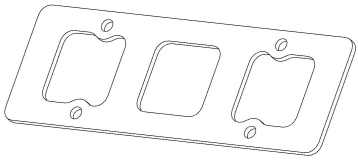
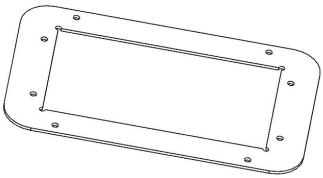
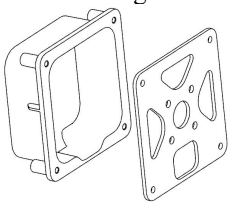
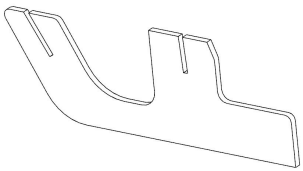
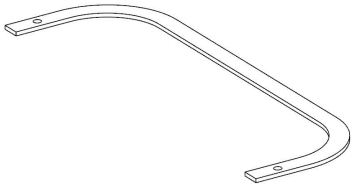
5 起落架 Undercarriage 	6 垂起机臂 6 VTOL boom 
7 起落架加强件 Undercarriage reinforcement 	8 垂尾加强玻纤片 VT fiberglass brace 

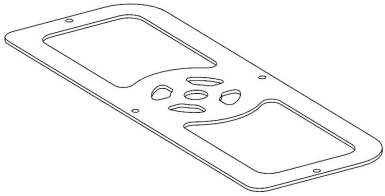
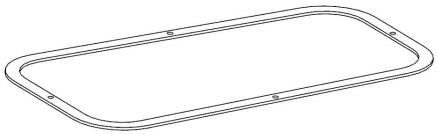
金属部件 Metal parts

1 重心挂环*2 Center of gravity suspension ring *2 	2 金属锁钩*11 Metal latching hook*11 
3 垂起电机座*4 Motor frame*4 	4 机臂固定件*4 Boom locking mount*4 

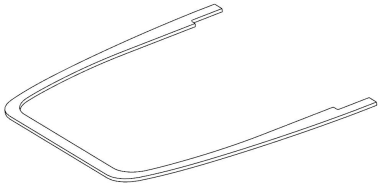
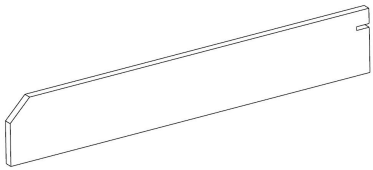
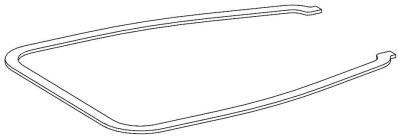
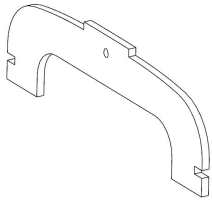
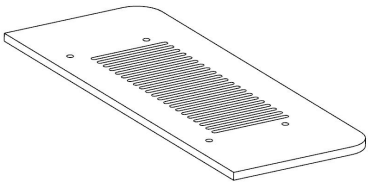
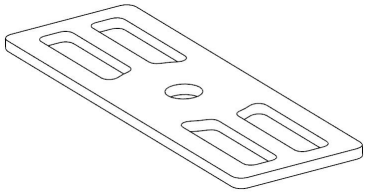
塑料部件 Plastic parts

1 机翼连接件*2 Wings connecting parts*2 	2 尾翼连接件*2 Tails connecting parts*2 
3 机头连接件 Head Connector 	4 机翼舵机固定件*4 Wing servo fixing part*4 
5.垂尾舵机固定件*3 Tail servo fixing parts*3  舵机安装座 servo installing base 舵机压片 servo presser 舵机盖板 servor covering plate	6 机身透气板*2 Fuselage vent plate*2 
7 电池固定板 Battery fixing board 	8 天线固定板*5 Antenna fixing board*5 

9 空速管*2 Airspeed pitot tube*2 	10 机翼接线舱盖板*2 Wing wiring hatch cover*2 
11 机身套管加强件*2 Fuselage sleeve reinforcement*2 	12 机身线材固定板*2 Fuselage wire plate *2 
13 电调盖板 ESC cover plate 	14 巡航电机安装座 Motor mounting mount 
15 机身尾部支撑件 Fuselage tail support 	16 腹部舱盖固定板 Belly hatch fixing plate 

17 舱盖固定板 Cabin cover fixing board 	18 舱盖固定板 Cabin cover fixing board 

木板部件 Wooden parts

1 机头加强板 Head Reinforcement Plate 	2 机身尾部加强层板*2 Fuselage Tail Reinforcement Plate *2 
3 机舱口加强版 Canopy opening reinforcing plate 	4 舱盖固定板 module cover fixing plate 
5 机舱底板 Power distribution board base 	6 放置板 Mounting plate 

其他配件 Other fittings

编号 NO.	名称及型号 Name &Model	数量 Qty	备注 Notes
1	割尾圆头螺丝 M2*8 Round head flat tail screw M2*8	87	
2	割尾圆头螺丝 M2*10 Round head flat tail screw M2*10	17	
3	带垫螺丝 M2.6*8 Gasket screw M2.6*8	33	
4	重心挂环*2 Center of gravity suspension ring*2	2	测量重心 Measuring the center of gravity
	沉头螺丝 M2*8 Countersunk self-tapping screwM2*8		
5	一字螺柱 Plastic stud	20	
	尼龙螺柱 Hexagon nylon stud	25	
6	铰链 Hinge	18	
7	金属锁钩 Metal latching hook	10	
8	球头 Ball head	6	球头连杆 Ball link rod
	连杆 Link rod	3	
	圆头螺钉 Button head screw M2*10	7	
	自锁螺母 Block nut M2	7	
9	舵角 Helmangle	5	
10	平尾传动螺柱 4.2-M2*8 Horizontal tail drive stud4.2-M2*8	2	平尾部分 The part of the horizontal tail
	圆头螺钉 Button head screw M2*10	3	

	平尾传动舵角 The transmission leg of the horizontal tail		2	
11	热缩管 heat shrink tubing	直径 5mm*15mm	26	
		直径 2mm*15mm	100	
12	舱盖锁扣 Plastic latch		3	
13	机臂固定件（大&小） Boom locking mount（L&S）		4	
14	空速管 Airspeed pitot tube		2	
15	大电流连接器 7W2 High-current connector 7W2		4	
	D-SUB 连接器 DB9P D-SUB connector DB9P		2	
16	魔术扎带 Magic tie straps		3	与电池固定板搭配使用 Matching the battery fixing board
17	舵机固定件 Servo fixing parts		5	
18	舵机线材 The servo wire	单端公头线 30cm Single head servo wire(male) 30cm	7	尾翼部分 Tails section
		单端母头线 33cm Single head servo wire(Female)33cm	7	机身部分 Fuselage section
19	硅胶线 Siliconewire	12 AWG 红色 3.5 米 12 AWG Silicone wire (red) 3.5M	1	
		12 AWG 黑色 3.5 米 12 AWG Silicone wire (black) 3.5M	1	

辅助安装工具和材料（自备）Auxiliary installation tools and materials (Self-provided)

工具 Tools	用途 Usage
3.0mm 十字螺丝刀 3.0mm cross screwdriver	安装螺丝 Installing the screws
1.5mm-3mm 内六角 1.5mm-3mm Hexagon socket head cap screw	电机座安装 Installing the motor frame
电烙铁、焊锡丝 Electric iron,solder wire	焊接电源、舵机线 Welding the power line and servowire
打火机 Lighter	固定热缩管 Fix heat shrink tube
小刀 Knife	剥线 Wire stripping tool
纸胶、透明胶、纤维胶带 (Transparent) adhesive tape,fabric adhesive tape	飞机粘合辅助定位、飞机局部加强 Aircraft bonding and temporary positioning,local reinforcement

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