



## MP JET ELECTROMOTOR AC 22/7-60 D Mk2

We thank you for having bought our product and hope that it will quite comply with your requirements. We recommend you to study this instruction. Observance of the directions stated here will ensure you operating without problems, achieving of a good output and a corresponding service life of the engine.

### TECHNICAL SPECIFICATION OF ELECTROMOTOR

- three-phase AC brushless motor
  - recommended for direct drive
  - with external rotor
  - FeNdB magnets
  - winding impregnated high-temperature epoxy resin
  - dual ball bearing with long life grease
  - high speed ball bearings
  - rotor turned from bar stock on CNC machine
  - heat treated shaft 3 mm dia
  - the version Mk2 make easy the change of damaged shaft
  - the possibility to use the flexible propeller mount
  - recommended connectors MP JET 1,8 mm size (MPJ 21011)
- Recommend regulator: three-phase, sensorless (with EMF detection version), suitable version 8A.

### MOUNTING DRIVE UNIT TO MODEL KIT

The electromotor mounting on the firewall with three Pan Head screws 2,2x6,5. The firewall must be rigid and with the holes for cables from electromotor to ESC. Please make the holes in the front of the motor cover for air ventilation for cooling the electromotor.

#### The mounting of the propeller:

For folding propeller use one of the propeller spinners with a collet 3 mm dia, for non folding propeller a collet prop adapter MPJ 4698

The set MPJ 20243 is for the possibility to use the flexible propeller mount. In this set is shorter motor shaft and Pan Head screw M2x6 (for change).

For APC propeller use the correct adapter from set MPJ 20243. The propeller is taken one or two "O" rings 16x1,8.

### CONNECTING ELECTROMOTOR TO REGULATOR

The electromotor has a soldering points for direct soldering of the cables from ESC. The second possibility is use MP JET connectors and cables set (MPJ 20226). The soldering must be under temperature control, power heating of the soldering point can damage rear cover. Recommended temperature is under 280°C and short cycle (the same condition like soldering of electronic chips). Connectors must be disconnected by being pulled from the connector parts, without applying any force on the cable (or being pulled from the motor unit). For change of the direction of run change please two from three cables between ESC and electromotor.

### COOLING

It is necessary to ensure cooling - inlet and outlet holes. The outlet holes must be approx. 1,5 bigger than the inlet ones.

### MAINTENANCE OF ELECTROMOTOR

The ball bearings have a longlife high quality grease, they can be changed if necessary. For this change is recommended MPJ 20308. Avoid penetration of magnetic parts, dirt or water into the electromotor.

### IMPORTANT SAFETY ADVICE

- the propeller must be undamaged and balanced
- propeller driver must be all metal, collet type. The flexible propeller mount is not suitable for high power.
- make sure that the onlookers stay at a safe distance when the motor runs
- use only propellers recommended for this power
- first switch on your transmitter, check the position of the throttle stick (and related switches if there are any). Only then connect your power pack to the speed controller and switch on the receiver.
- follow the manual of your regulator
- do not use the motor for other applications (non modeling use).
- this position product and this manual are subject to change without notice

### GUARANTEES

All electromotors are controlled and tested before purchase. Full guarantee for manufacturing and material defects is valid one year from the purchase date. The guarantee covers none of the following:

- improper mounting and overheating
- using the motor for other purposes than recommended
- periodic maintenance and repair or replacement of parts due to normal wear
- repair costs by non-authorized services or the customer himself

Number of cells LiPol	3
RPM per Volt	1070
Maximum recommend speed (min <sup>-1</sup> )	12000
Maximum speed (min <sup>-1</sup> )	15000
Maximum efficiency (%)	approx. 77
Current for maximum efficiency (A)	to 5
Short time current (A)	8
Internal resistance (mΩ)	400
Dimensions - diam./ length/length with shaft (mm)	28/29/38
Shaft diameter (mm)	3
Number of turns	60
Weight of electromotor (g)	26
Recommend propeller range	7/3 - 9/6
Maximum weight of acrobatic model (g)	to 300

Notice: for 3 LiPol cells is necessary control the motor temperature and current. Do not use the cells with bigger capacity than 1250 mAh.

Cat.No.	Description	Qty.
MPJ 20224	Motor mount for AC 22/7 - standard	1 pc
MPJ 20225	Motor mount for AC 22/7 - for carbon tube	1 pc
MPJ 20226	Cables for AC 22/7	1 set
MPJ 20243	Conversion set for flexible prop.mounting on AC 22/7	1 set
MPJ 20241	Adapter for flexible propeller mount APC 9x6	1 pc
MPJ 4609	"O" rings 16x1,8 for flexible propeller mount	6 pcs
MPJ 4611	PH Pan Head screw M2x6	4 pcs
MPJ 0446	Hexagon socket set screw M2x2,5	4 pcs
MPJ 0906	Hexagon wrench key 0,9 mm	1 pc
MPJ 8030	Collet prop adapter short - 3 mm shaft, M5	1 pc
MPJ 8031	Collet prop adapter long - 3 mm shaft, M5	1 pc
MPJ 4698	Collet prop adapter small - 3 mm shaft, M5	1 pc
MPJ 4612	Flexible propeller mount size 5,5/3	1 pc
Spare parts		
MPJ 20310	Rotor for 22/7-60 D Mk2 complete	1 pc
MPJ 20311	Rotor for 22/7-45 D Mk2 complete	1 pc
MPJ 20312	Stator for 22/7-60 D complete	1 pc
MPJ 20313	Stator for 22/7-45 D complete	1 pc
MPJ 20314	Shaft for 22/7 Mk2 long (for collet prop adapter)	1 pc
MPJ 20315	Shaft for 22/7 Mk2 short (for flexible propeller mount)	1 pc
MPJ 20316	Shaft for 22/7 Mk2 long (for collet prop adapter) + ball bearings	1 set
MPJ 20317	Shaft for 22/7 Mk2 short (for flexible propeller mount) + ball bearings	1 set
MPJ 20308	Ball bearings 3x7x3	2 pcs