TrakPower™
SPEED EQUIPMENT

BRUSHLESS MOTOR

Thank you for making TrakPower your choice in brushless power systems. TrakPower brushless motors are built with the finest raw materials available to provide the best and most efficient power possible. CNC machined aluminum ribbed cans and cooling vents provide excellent heat dissipation, keeping the operating temperatures low for better performance and longevity. The high temperature resistant rotor is coated to prevent breakdown of the magnet strength. The TrakPower MS series motors are a perfect match for the TrakPower MS-1 Brushless Racing ESC.

Specifications

PART NUMBER	TKPC5015	TKPC5025	TKPC5035	TKPC5040	TKPC5045	TKPC5050
TURN	6.5T	8.5T	10.5T	13.5T	17.5T	21.5T
INPUT VOLTAGE	2–3S LiPo					
MOUNT HOLE DEPTH	4mm					
SHAFT DIAMETER	3.175mm					
SHAFT LENGTH	15mm					
DIMENSIONS	35.9 x 52.4mm					
WEIGHT	167g		175g			

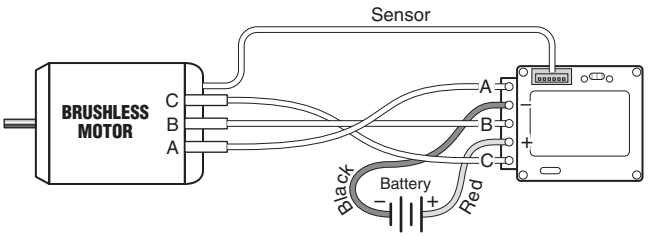
Warnings ⚠

Please read thoroughly before installation and operation.

- DO NOT apply an input voltage that exceeds the maximum specifications of each motor.
- DO NOT allow the input connectors to touch each other while power is applied to the motor. Make sure all input connections are insulated electrically.
- DO NOT attempt to modify this motor.
- DO NOT allow water or moisture to enter the motor, as it can cause permanent damage to the motor and possibly short out the attached ESC.
- Allow the motor to cool down after each run.
- DO NOT attempt to use a damaged motor (having mechanical or electrical defects).

Installation

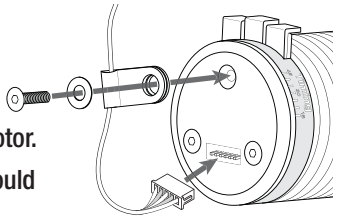
Please reference the diagram below for the correct wiring configuration. The solder posts located on the ESC should be labeled “A”, “B” and “C”. These posts will correspond to the “A”, “B” and “C” tabs on the motor. “A” wire goes to “A” tab on the motor, “B” goes to “B” and “C” goes to “C”. Pay special attention when soldering the ESC wires to the motor tabs not to allow the tabs and/or wires to become soldered together.



After the main motor power wires are installed, the included sensor wire can be connected. This sensor wire will connect between the ESC and motor. Connect one end of the sensor wire to the motor and the other end to the ESC. Be sure that the connections are tight.

Once the above steps are completed, it is recommended to install the included sensor clip.

A longer screw is included for the installation of the sensor clip. This sensor clip secures the sensor wire and prevents it from disconnecting during use.



1. Remove one screw from rear of motor.
2. Insert sensor wire into clip.
3. Use included screw and washer to secure clip to rear of motor.

Note: Do not pinch the sensor wire during installation. This could cause intermittent operation or performance issues.

Mechanical Timing

This motor is equipped with adjustable timing. The timing is advanced 30° from the factory. Timing can be advanced or retarded by loosening the three end bell screws by one full turn. Rotate clockwise to retard the timing (more bottom end, less top end) or rotate counter-clockwise to advance the timing (less bottom end, more top end). Re-tighten the screws and be careful not to over tighten.

It is recommended to only adjust timing in 5° increments (one mark) at a time. Motor gearing may also change due to the advancement or retardation of motor timing. It is recommended to run in 1 minute increments to carefully monitor motor and ESC temperatures. The motor temperature should NEVER exceed 180°F (83°C). TrakPower offers a reliable temperature gauge to monitor motor and ESC temperatures. This temperature gauge also includes a stop watch to monitor run times (TKPP9000, TrakPower Infrared Temperature Gauge w/ Stopwatch).

General Maintenance

General maintenance is recommended for brushless motors to ensure they are operating efficiently and to prolong the life of the motor. Prior to maintenance, the motor should be removed from the vehicle. This includes de-soldering the three main power wires (A, B and C), disconnecting the sensor wire and removing the pinion gear.

Inspect the outside of the motor for damages including the motor shaft, can, sensor port and motor tabs. Also inspect power and sensor wires for damage. Use a cloth to wipe off any debris from the motor. Compressed air can be used to lightly blast the motor to remove any stubborn dirt/dust from hard to reach areas. **A good shot of air is usually enough to clean out the inside of the motor without disassembly.** Be careful not to blast the bearings with air. This could force dirt and debris into the bearing causing premature failure, unwanted friction and heat build-up.

IMPORTANT: Disassembly of motor will void warranty.

To further inspect for damages or to replace parts the motor must be disassembled. Start by using a 2.0mm hex driver to remove the three screws located on the motor's front plate. Once the screws are removed, the front plate and end bell can be removed. **Note:** The sensor board and timing ring will remain attached to the end bell until the three screws securing it are removed. It is not necessary to remove these three screws unless replacing the sensor board or adjusting the timing. To remove the rotor, use a pair of pliers to grip the shaft and pull out. Below is an exploded view for reference.

Inspect all surfaces for damage. Spin bearings to make sure they rotate freely. Use compressed air to remove any dust and debris from inside the motor. If compressed air is not enough to remove the debris, use electronic motor spray or contact cleaner and spray the inside of the motor until the runoff is clear. Allow the motor to completely dry out before re-assembly.

Upon re-assembly, be sure that the motor can screws are snug. **DO NOT** overtighten. Once general maintenance is completed, use a drop of light bearing oil on the front and rear bearing of the motor. Follow the installation steps at the beginning of this manual to re-install the motor.

Replacement Items

TrakPower offers a full line of replacement items for brushless motors. Below is a list of TrakPower replacement parts currently available:

TKPC7210	**MS** Brushless Motor Bearings (2)	**TKPC7106**	6.5T BL Motor Front/End Bell
TKPC7230	MS BL Motor Sensor Board	**TKPC7108**	8.5T BL Motor Front/End Bell
TKPC7240	MS BL Motor Rotor 12.5mm	**TKPC7110**	10.5T BL Motor Front/End Bell
TKPC7255	Woven Sensor Wire 175mm	**TKPC7113**	13.5T BL Motor Front/End Bell
TKPC7260	Sensor Clip/Washer/Screw	**TKPC7117**	17.5T BL Motor Front/End Bell
TKPC7270	MS BL Motor Timing Ring	**TKPC7121**	21.5T BL Motor Front/End Bell

Warranty

TrakPower warrants this product to be free from defects in materials and workmanship for a period of 120 days from the date of purchase. During that period, we will repair or replace, at our option, any product that does not meet these standards. You will be required to provide proof of purchase date (receipt or invoice). If, during the warranty period, your motor shows defects caused by abuse, misuse or accident, it will be repaired or replaced at our option, at a service charge not greater than 50% of the current retail list price. Be sure to include your daytime telephone number in case we need to contact you about your repair. This warranty does not cover components worn by use, application or reverse voltage, cross connections, poor installation, subjection of components to foreign materials, or tampering. In no case shall our liability exceed the original cost of the product. Your warranty is voided if:

- You apply an input voltage that exceeds the maximum specifications of the motor.
- You allow water or moisture to enter the motor.
- You disassemble, attempt to modify or tamper with this motor.

Under no circumstances will the purchaser be entitled to consequential or incidental damages. This warranty gives you specific legal rights, and you have other rights which vary from state to state.

For service to your TrakPower motor, either in or out of warranty, send it post-paid and insured to:

Hobby Services
3002 N. Apollo Dr. Suite 1
Champaign, IL 61822

(217) 398-0007

Email: *hobbyservices@hobbico.com*

trakpowerusa.com

TKPC5015/5025/5035/5040/5045/5050 v1.1