



Product no:#2334, 2336, 2338  
2343, 2344, 2359, 2360

## RIPPER Sensorless Brushless Motor Instructions

Thank you for purchasing the RIPPER™ sensorless motor. This motor will provide you the benefit of the latest in brushless technology. We believe it will be to your benefit to take the time and effort to read these instructions. We are confident you will be satisfied with the performance of the RIPPER sensorless Motor.

RIPPER™ sensorless motors are our's proud contribution to Hi-Performance motor Technology. The RIPPER™ Series is a new breed of brushless motors precisely engineered to operate at the intersection of power and efficiency. No single motor can live up to that expectation under all conditions, so we designed a series of motors – each one targeting peak performance for a particular application. RIPPER™ brushless motors deliver high-end competition performance.

### Safety Precautions and Warnings

- Please read instructions before operating.
- Do Not use a Schottky Diode with this motor.
- Avoid over-gearing by monitoring temperature.
- Operating temperature should not exceed 165F – 175F (74C – 80C) degrees.
- Do Not over tighten the motor mounting screws.
- Ensure the motor screws do not go into the 540 type motor more than 0.180 in (4.5mm).
- Ensure the motor screws do not go into the 370 type motor more than 0.137 in (3.5mm).

### Specifications

Product Name	IBL22/55-370C	IBL22/70-370C	IBL22/95-370C	IBL36/33-540C	IBL36/39-540C	IBL36/49-540C	IBL36/61-540C
Item No	2334	2336	2338	2343	2344	2359	2360
Voltage range	6~8* cells	6~8* cells	6~8* cells	6~8* cells	6~8* cells	6~8* cells	6~8* cells
RPM per volt	5500 RPM/V	7000 RPM/V	9500 RPM/V	3300 RPM/V	3900 RPM/V	4900 RPM/V	6100 RPM/V
Dimensions	22.5x33.6 mm	22.5x33.6 mm	22.5x33.6 mm	36x46 mm	36x46 mm	36x46 mm	36x46 mm
Shaft Diameter	2.0mm	2.0mm	2.0mm	3.17mm	3.17mm	3.17mm	3.17mm
Max. efficiency current	2~9A	4~12A	4~15A	10~40A	10~45A	10~50A	10~55A
Max. surge current	13A/60s	17A/60s	20A/60s	45A/60s	50A/60s	55A/60s	60A/60s
Internal resistance	86mΩ	53mΩ	27mΩ	20mΩ	16mΩ	12mΩ	8mΩ
Weight(g/oz)	57g/2.0oz	57g/2.0oz	57g/2.0oz	190g/6.7oz	190g/6.7oz	190g/6.7oz	190g/6.7oz

#### NOTE:

Cautionary note are indicated by asterisk(\*) refer to "Caution" section.

### ESC & Motor Suggestions

#### FOR CARS:

The RIPPER IBL36 ultimate performance motor is for any 1/10th scale vehicle. The RIPPER IBL22 ultimate performance motor is for any 1/16th or 1/18th scale vehicle. Must be used with a brushless car ESC only. ACE RC BLC series is recommended. See below "ESC & Motor Suggestions" charts to choose the right motor for your performance needs!

MOTOR/kv	Suggested ACE RC Brushless ESC / Item No.			
	BLC-75C / 8061	BLC-40C / 8060	BLC-30C / 8059	BLC-15C / 8058
IBL36	2360/6100Kv	1/10 Touring ON ROAD		
	2359/4900Kv	1/10 Buggy OFF ROAD	1/10 Touring ON ROAD	
	2344/3900Kv	1/10 Truck OFF ROAD	1/10 Buggy OFF ROAD	
	2343/3300Kv		1/10 Truck OFF ROAD	1/10 Touring ON ROAD
IBL22	2338/9500Kv		1/18 ON ROAD	
	2336/7000Kv		1/18 OFF ROAD	1/18 ON ROAD
	2334/5500Kv		1/18 ALL	1/18 ALL

### Installation and Maintenance

- Make certain the 3mm motor screws being used do not extend into the motor more than 0.18 in (4.5mm)/0.13 in (3.5mm). Otherwise, you can internally damage the stator windings.
- With a sensorless motor you will need to connect the 3 ESC motor leads from the Electronic Speed Control (ESC), one to each tab.
- If the motor runs in the opposite direction desired, swap any two motor wires, it will reverse the location of the motor.
- Brush off dirt and dust frequently from the bearings. Place a drop of oil on each bearing at the same time.

### Caution

Changing to a higher voltage battery will require a lower Kv motor and/or a lower gear ratio, unless the original motor has a low enough Kv rating to begin with. The ESC will be burn out if the motor and gear ratio does not match the input voltage properly. See the example below showing how battery voltage affects power output.

Input 7.2V, internal resistance 0.18Ω --- 40A

(V/R=I 7.2/0.18=40A)

Input 11.1V internal resistance 0.18Ω --- 61.6A

(V/R=I 11.1/0.18=61.6A)

### Safety Precautions

This is a sophisticated hobby Product and not a toy. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this product in a safe and responsible manner could result in injury or damage to the Product or other property. This product is not intended for use by children without direct adult supervision. The Product manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or injury.



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## 無刷馬達使用說明書

感謝您選購RIPPER™系列無刷馬達。使用前，請詳閱此使用說明與注意事項。

### 使用前安全須知

- 本產品非一般玩具，未滿14歲之使用者請由成人陪同操作，並於使用前詳閱操作說明書。
- 操作此產品前請先詳讀操作說明及安全須知。
- 請勿使用碳刷馬達（蕭基）二極體於馬達上，以避免無刷速控器損壞。
- 請勿使用過大之齒比以避免馬達溫度過熱。
- 馬達溫度最高建議控制在攝氏74-80度之間。
- 請勿過度鎖付馬達固定螺絲，以免螺牙受損。
- 請注意540馬達固定螺絲請勿鎖進馬達固定座內超過4.5mm，370馬達固定螺絲請勿鎖進馬達固定座內超過3.5mm。

### 規格

產品名	IBL22/55-370C	IBL22/70-370C	IBL22/95-370C	IBL36/33-540C	IBL36/39-540C	IBL36/49-540C	IBL36/61-540C
產品型號	2334	2336	2338	2343	2344	2359	2360
適用電池數量	6~8* cells	6~8* cells	6~8* cells	6~8* cells	6~8* cells	6~8* cells	6~8* cells
每伏特轉速	5500 RPM/V	7000 RPM/V	9500 RPM/V	3300 RPM/V	3900 RPM/V	4900 RPM/V	6100 RPM/V
馬達尺寸	22.5x33.6 mm	22.5x33.6 mm	22.5x33.6 mm	36x46 mm	36x46 mm	36x46 mm	36x46 mm
軸芯尺寸	2.0mm	2.0mm	2.0mm	3.17mm	3.17mm	3.17mm	3.17mm
最大效率電流值	2~9A	4~12A	4~15A	10~40A	10~45A	10~50A	10~55A
最大瞬時電流值	13A/60s	17A/60s	20A/60s	45A/60s	50A/60s	55A/60s	60A/60s
內部阻抗	86mΩ	53mΩ	27mΩ	20mΩ	16mΩ	12mΩ	8mΩ
重量 (克/盎司)	57g/2.0oz	57g/2.0oz	57g/2.0oz	190g/6.7oz	190g/6.7oz	190g/6.7oz	190g/6.7oz

註：「\*」記號之注意事項，請參考“注意事項”。

### 速控器與馬達搭配建議表

專供車用：

RIPPER IBL36 系列馬達可搭配1/10th規格之模型車。RIPPER IBL22 系列馬達可搭配1/16th或1/18th規格之模型車。無刷馬達之使用需搭配專用之無刷馬達速控器。ACE RC提供一系列BLC無刷馬達專用電子速控器供您搭配選擇，請參考下列圖表選擇你所要的性能需求。

馬達型號/馬達Kv值	適用無刷馬達變速器 / 產品料號			
	BLC-75C / 8061	BLC-40C / 8060	BLC-30C / 8059	BLC-15C / 8058
IBL36	2360/6100Kv	1/10 平跑房車		
	2359/4900Kv	1/10 越野車	1/10 平跑房車	
	2344/3900Kv	1/10 越野卡車	1/10 越野車	
	2343/3300Kv		1/10 越野卡車	1/10 平跑房車
IBL22	2338/9500Kv		1/18 平跑車種	
	2336/7000Kv		1/18 越野車種	1/18 平跑車種
	2334/5500Kv		1/18 全系列	1/18 全系列

### 安裝與維護

- 請注意！馬達固定螺絲請勿鎖進馬達固定座內超過4.5mm/3.5mm，否則有可能會損傷內部之定子繞線。
- 無刷馬達需使用無刷馬達之專屬速控器（配有三條馬達訊號線接頭之速控器），無法使用一般之碳刷馬達速控器。
- 如果馬達轉動方向與需求是相反的，請將馬達輸出線的任意兩條對調，即可改變馬達轉動方向。
- 使用後，請清潔馬達上之灰塵及髒污，並適時以潤滑油保養馬達轉動軸承。

### 注意事項

如改用較高電壓的電池時，一定要換較低Kv值的馬達或更換較輕馬達齒輪比，因為同一個馬達的內部阻抗是固定的，若使用不同的電壓輸入，其消耗電流會有很大的不同，沒有注意ESC的規格隨意配用馬達或變動輸入電壓，很容易使ESC燒毀，以下為一個簡例說明：  
輸入電壓7.2V時，一個內阻為0.18Ω的馬達會消耗40A的電流  
( $I=V/R$  即  $7.2/0.18=40$ ) =288W  
輸入電壓11.1V時，一個內阻為0.18Ω的馬達會消耗61.6A的電流  
( $I=V/R$  即  $11.1/0.18=61.6$ )=684W  
輸入電壓雖然只提高3.9V，但是功率卻多了一倍，所以我們強烈的建議使用者在使用較高電壓前，一定要先檢查ESC的溫度，同時，降低馬達的Kv值，再依兩者的溫昇來調整齒比。