

# SET-UP GUIDE

Set-up guide for all Castle Creations 1/10th Scale Car and Truck Brushless Power Systems

**Motor gearing is a recommended starting point ONLY!** Always start with the **smallest pinion and largest spur available** for your application. Pinion and spur gear sizes refer to tooth count. The pinion is the small gear on the motor and the spur is the large one attached to the car; all gears refer to 48 pitch.

Always check your motor temperature frequently on the first run after changing the gearing, motor or battery! **Never let the motor get above 200°F.** If you can't touch the motor for 2 seconds, it's too hot.

If the motor gets too hot, reduce the pinion size, increase the spur size, or reduce the pack voltage.

**Spurds are estimates only.** Actual speeds for your model may vary, depending on a variety of factors, including tire size, the car's internal gear ratio, and the battery quality.

Gearing/Spur Chart Color Key:

Sidewinder set-ups are yellow

Mamba Max applies to entire chart

6 Cell NiMH

8 Cell NiMH/2s LiPo

12 Cell NiMH/3s LiPo

STOCK SPUR GEAR OK		STOCK SPUR GEAR is NOT OPTIMAL		MUST USE LARGEST SPUR GEAR AVAILABLE	
Off-road T4/Ruettler/XXX-T	On-road TC4/XXX-5/4-Tac	Off-road T4/Ruettler/XXX-T	On-road TC4/XXX-5/4-Tac	Off-road T4/Ruettler/XXX-T	On-road TC4/XXX-5/4-Tac
Pinion: 18-24T	Pinion: 19-24T	Pinion: 16-22T	Pinion: 17-23T	Pinion: 14-19T	Pinion: 14-20T
Spur: Stock	Spur: Stock	Spur: Stock or Larger	Spur: Stock or Larger	Spur: Largest	Spur: Largest
Speed: ~ 30+ MPH	Speed: ~ 30+ MPH	Speed: ~ 35+ MPH	Speed: ~ 35+ MPH	Speed: ~ 45+ MPH	Speed: ~ 45+ MPH
Pinion: 18-23T	Pinion: 18-23T	Pinion: 16-21T	Pinion: 16-21T	Pinion: 12-17T	Pinion: 13-18T
Spur: Stock	Spur: Stock	Spur: Stock or Larger	Spur: Stock or Larger	Spur: Largest	Spur: Largest
Speed: ~ 35+ MPH	Speed: ~ 35+ MPH	Speed: ~ 40+ MPH	Speed: ~ 40+ MPH	Speed: ~ 60+ MPH	Speed: ~ 60+ MPH
Pinion: 17-21T	Pinion: 17-21T	Pinion: 15-20T	Pinion: 16-21T	<b>DO NOT USE WITH 3s LiPo!</b>	
Spur: Stock	Spur: Stock	Spur: Largest	Spur: Largest		
Speed: ~ 40+ MPH	Speed: ~ 40+ MPH	Speed: ~ 45+ MPH	Speed: ~ 45+ MPH		
Pinion: 16-20T	Pinion: 16-20T	Pinion: 14-19T	Pinion: 15-20T		
Spur: Stock	Spur: Stock	Spur: Largest	Spur: Largest	<b>DO NOT USE WITH 3s LiPo!</b>	
Speed: ~ 45+ MPH	Speed: ~ 45+ MPH	Speed: ~ 50+ MPH	Speed: ~ 50+ MPH		

# Castle



## QUICK START GUIDE

1. Solder a high quality battery connector to the ESC.
2. Mount the ESC and motor into the car.
3. Plug in the 3 motor wires to the 3 motor wires on the ESC.
4. Plug in the ESC Rx lead to CH2 on your receiver.
5. Make sure the ESC's switch is off.
6. Plug in a battery.
7. Holding full throttle on your transmitter, turn the switch ON.
8. After a few seconds you'll hear multiple tones and the red LED will come on.
9. Now hold full brake and after a few seconds you'll hear multiple tones and the yellow LED will come on.
10. Now relax to neutral and after a few seconds you'll hear multiple tones and ALL the LEDs will light up.
11. A few seconds later the ESC will arm with a double tone and you're ready to go!

## CASTLE CAR ESC PROGRAMMING REFERENCE

### 1: Brake/Reverse Type

- Option 1: Reverse Lockout (D)\*
- Option 2: Forward/Brake Only
- Option 3: Forward/Brake/Reverse

### 2: Brake Amount

- Option 1: 25%
- Option 2: 50% (D)\*
- Option 3: 75%
- Option 4: 100%

### 3: Reverse Amount

- Option 1: 25%
- Option 2: 50% (D)\*
- Option 3: 75%
- Option 4: 100%

### 4: Punch Control

- Option 1: High
- Option 2: Medium
- Option 3: Low
- Option 4: Lowest
- Option 5: Disabled (D)\*

### 5: Drag Brake

- Option 1: Disabled (D)\*
- Option 2: 10%
- Option 3: 20%
- Option 4: 30%
- Option 5: 40%

### 6: Throttle Dead Band

- Setting 1: Large - 0.1500 ms
- Setting 2: Normal - 0.1000 ms (D)\*
- Setting 3: Small - 0.0750 ms
- Setting 4: Very Small - 0.0500 ms
- Setting 5: Smallest - 0.0250 ms

### 7: Voltage Cutoff

- Option 1: None (D)\*
- Option 2: Auto-Lipo
- Option 3: 5
- Option 4: 6
- Option 5: 9
- Option 6: 12

### 8: Motor Timing

- Option 1: Lowest
- Option 2: Normal (D)\*
- Option 3: Highest

### 9: Motor Type

- Option 1: Brushless (D)\*
- Option 2: Brushed Reversing
- Option 3: Brushed High Power

\* Denotes Default Setting

## SIDEWINDER 1/10TH SCALE ESC MOTOR RECOMMENDATIONS

### MOTOR TYPES

Brushed and brushless. Please see the manual for details on the wiring required to run in BRUSHED modes.

### Brushless

**Castle:** Castle brushless 4600 with 3s lipo or 5700 with 2s lipo

**Other Manufacturers:** Motors must have Kv (RPMs per volt) same or lower than ours and the motor must be run within motor manufacturer's specs.

### BRUSHED

Forward only: Any 540 sized motor

Forward/reverse: 540 sized - 19T limit (covers ROAR 19T modified and 27T stock)

## MAMBA MAX 1/10TH SCALE ESC MOTOR RECOMMENDATIONS

Mamba Max ESCs can use any type of motor; either brushless or brushed.

### Recommended Cut-off Voltage Settings

Min:	None
2s LiPo:	6v
3s LiPo:	9v