

Gearing/Speed 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

4690

5700

6900

7700

Off-road T4/Rustler/XXX-T		On-road TC4/XXX-S/4-Tec		Off-road T4/Rustler/XXX-T		On-road TC4/XXX-S/4-Tec		Off-road T4/Rustler/XXX-T		On-road TC4/XXX-S/4-Tec	
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		DO NOT USE WITH 3s LiPo!			
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		DO NOT USE WITH 3s LiPo!			
Spur: Stock		Spur: Stock		Spur: Largest		Spur: Largest					
Speed: ~ 45+ MPH		Speed: ~ 45+ MPH		Speed: ~ 50+ MPH		Speed: ~ 50+ MPH					

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.

Speeds 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.

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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.
 - A. After a few seconds you'll hear multiple tones and the red LED will come on.
 - B. Now hold full brake and after a few seconds you'll hear multiple tones and the yellow LED will come on.
 - C. Now relax to neutral and after a few seconds you'll hear multiple tones and ALL the LEDs will light up.
 - D. 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

MOTOR TYPES

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

BRUSHLESS

3s: 4600 or 5700

2s: 6900 or 7700

BRUSHED

No limit on brushed motors in either mode.

Recommended Cut-off Voltage Settings

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