THE POWER OF TEAM MAGIC

RTR

BBER

BUGGY

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INSTRUCTION MANUAL

Thank you for choosing the Team Magic B8ER. The B8ER includes a large selection of the important specialty parts when compared to the previous versions. Before you start building your new B8ER, we suggest you read though the instruction manual first. Be sure to check all assembly and performance tips before you start. We hope you enjoy the building processes.

General Building Tips:

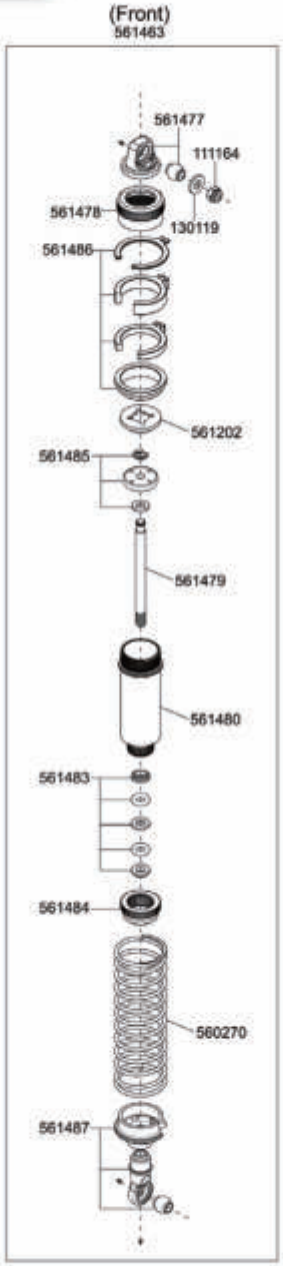
- Read the instruction manual before building.
- Clear a work area and try to work on a light color towel to avoid missing dropped parts.
- Don't over-tighten fasteners. Many assembly problems are caused by over-tightening screws or nuts. Don't use too large a grip. Please go slowly and feel the resistance build. Just snug it up.
- When it doesn't fit, please double check. If an assembly is not going together correctly, then either there really is a bad fit (e.g. a part is damaged or defective) or a mistake in assembly. Always re-read the instructions when there are any problems. If you cannot figure out what's wrong, always ask dealer, distributor or Team Magic. Don't use force beyond what the instructions call for.
- Using the right tools makes assembly much easier. The instructions below finely indicate you what tools to get to make things easier. We don't want to scare you by saying that all these tools are required, but you will have a easier time if you have them. Borrow them from a friend to check if necessary.
- The assembly is arranged so that you will open the bag and finish that bag before you go on to the next bag. Sometimes, you will have parts remaining at the end of a bag. These will become part of the following bags.

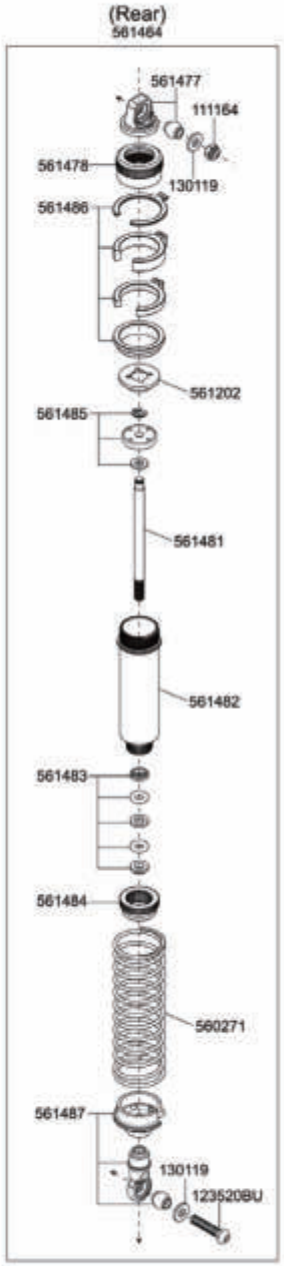
A Good Dealer Is Extremely Important!!

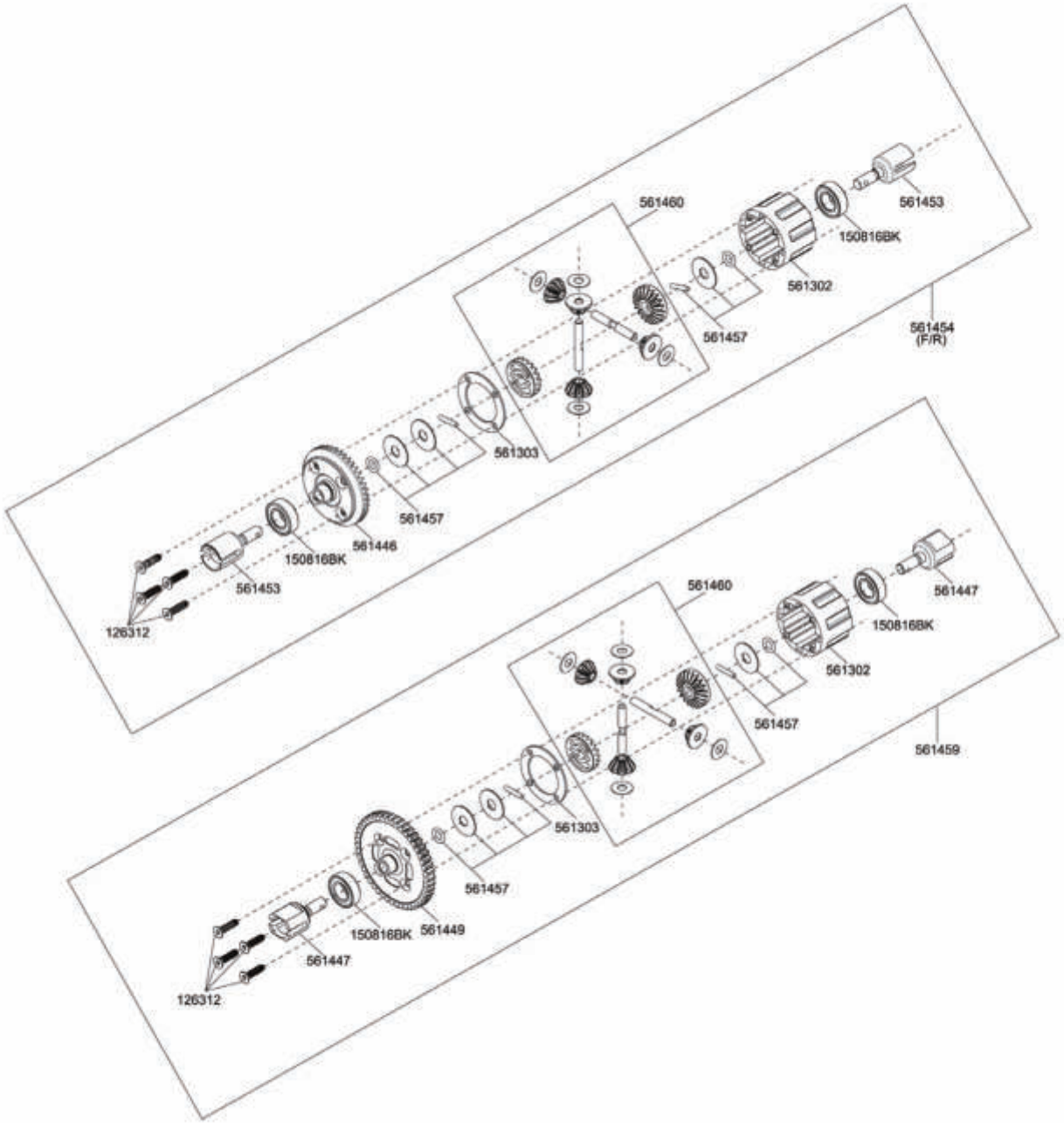
A good hobby dealer can help you with most assembly problems you might encounter. This is the main reason why you should buy your kits from a good dealer rather than from the cheapest dealer. Bring your problematic parts to the dealer and, most likely, you'll walk away soon thereafter with the problem solved. If you think that you really don't have the mechanical skills to complete the assembly, you may pay your dealer to finish the job for you.

Thank you for purchasing the B8ER. To drive the car, you will need to check the following procedures.

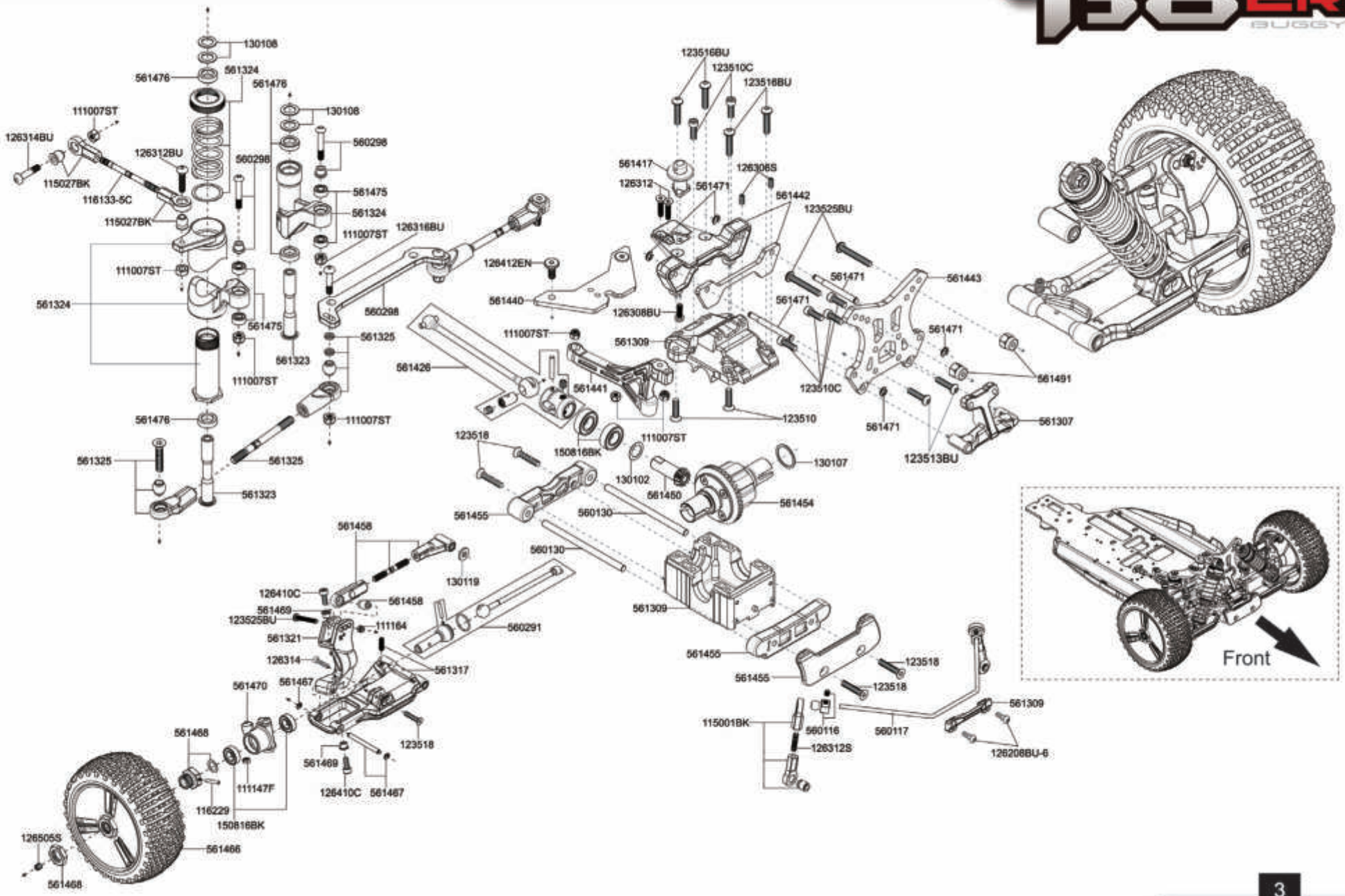
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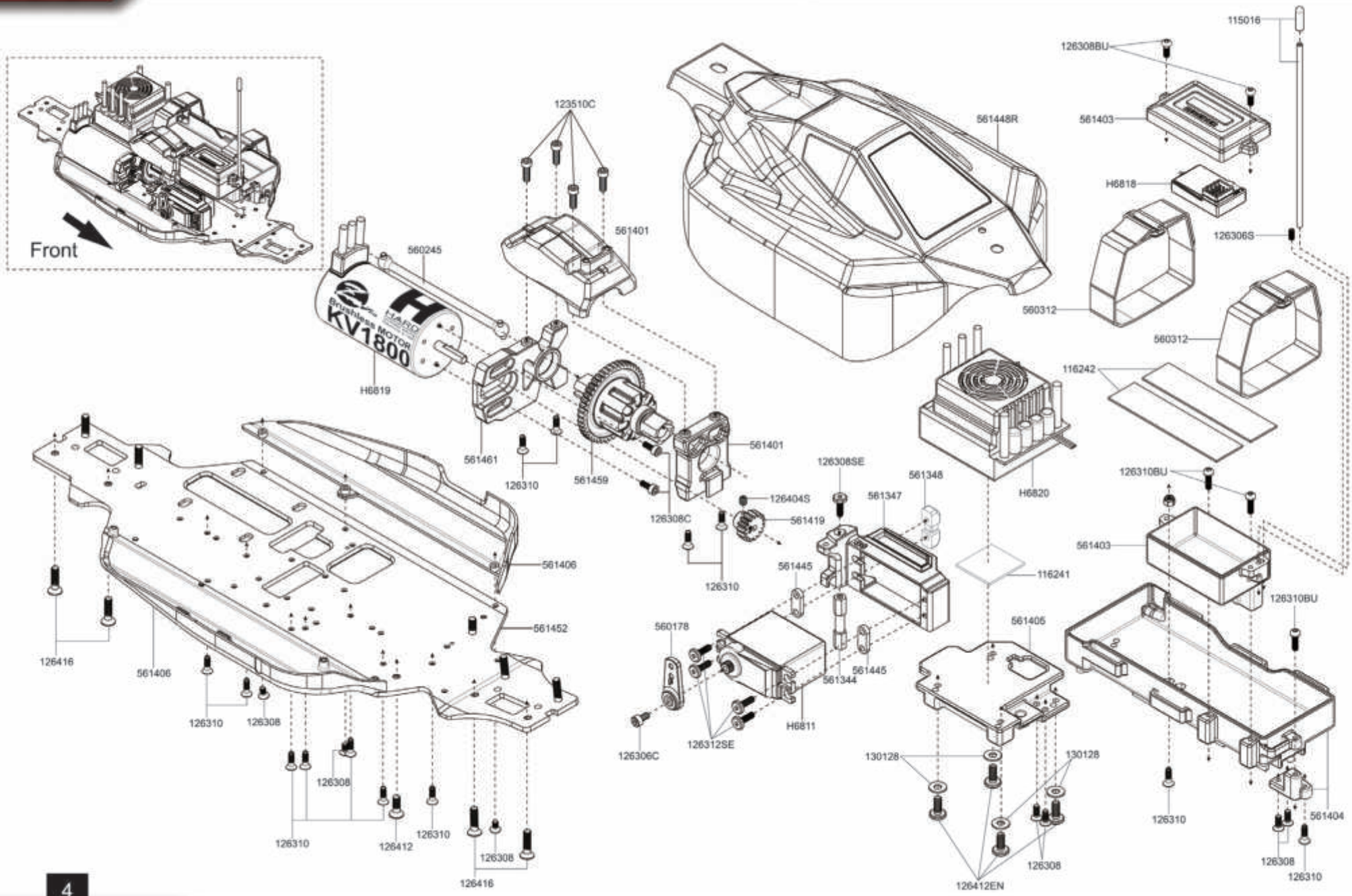




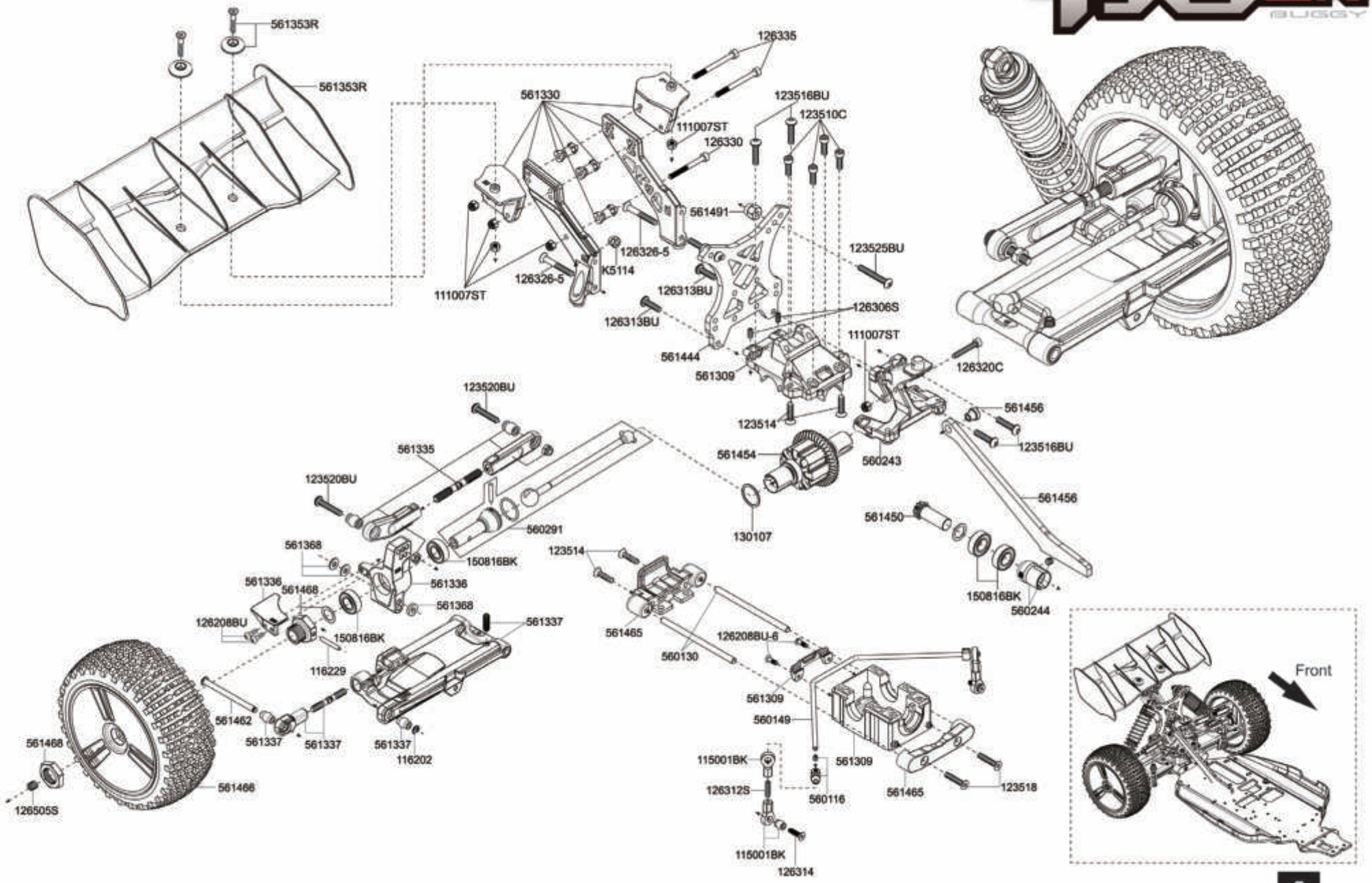
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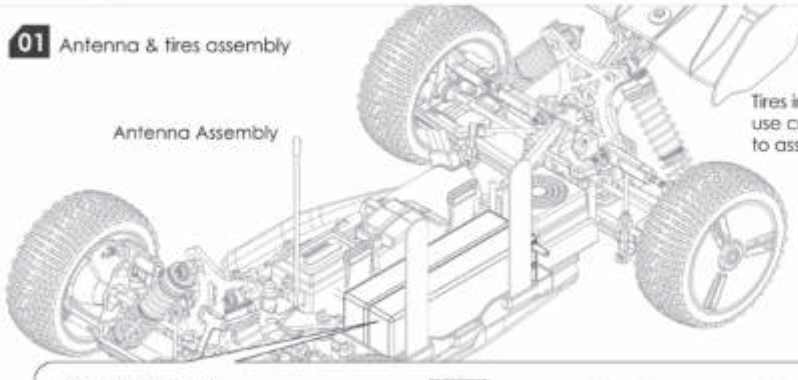


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01 Antenna & tires assembly



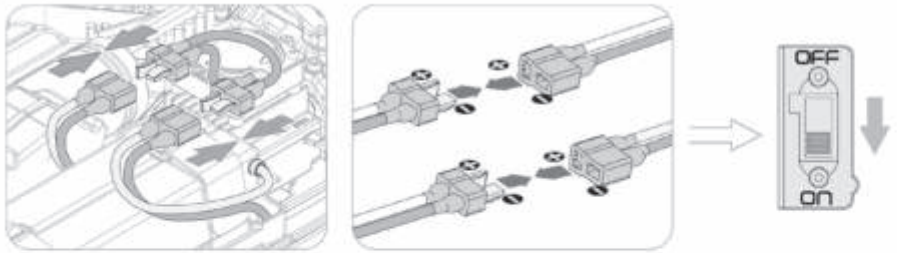
Battery installation

- Input voltage: 7.2V~14.8V DC Ni-Cd / Ni-Mh / Lipo battery
- Turn off the ESC before you connect the plugs.
- Do not use white plastic plug due to the voltage problem, please use ultra plug (T plug) for the safety concern.

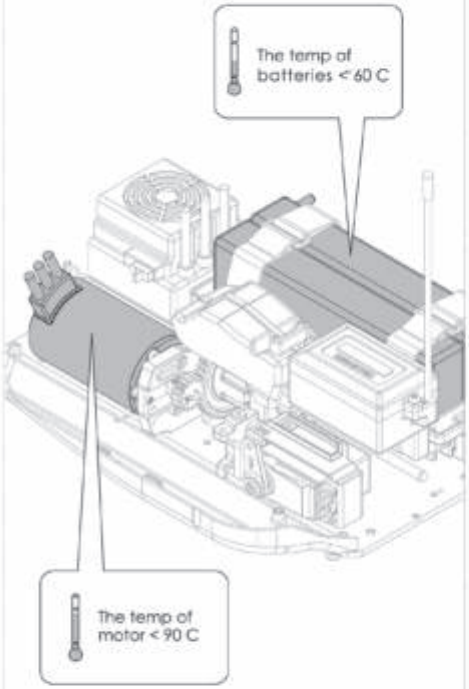
Caution: make sure ESC is turned off before connecting the battery



02 Connect the plugs & turn on the ESC.

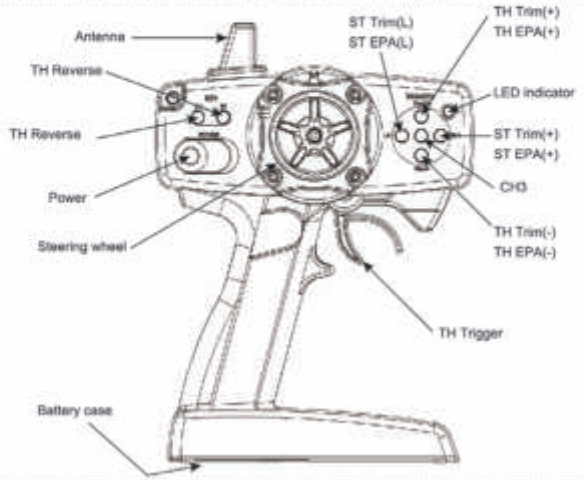


03 Temperature cautions.



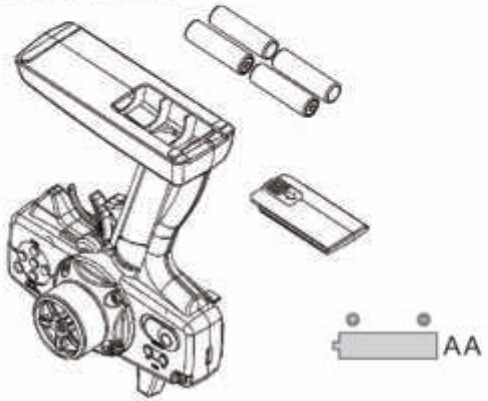
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1 Tramsmitter Function



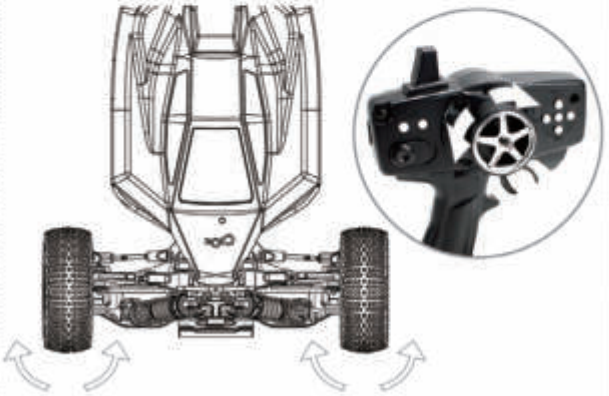
2 Operating Procedure

01 Install 4pcs AA batteries to the H.A.R.D transmitter.



02

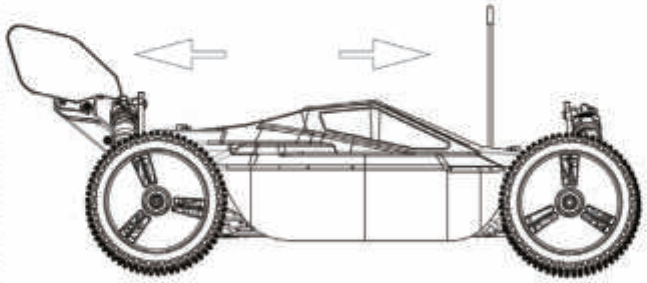
- Turn the steering wheel right to turn the front tires go right.
- Turn the steering wheel left to turn the front tires go left.



03

- Press the throttle trigger to moving forward the vehicle
- Push forward the throttle trigger to brake and reverse the vehicle.

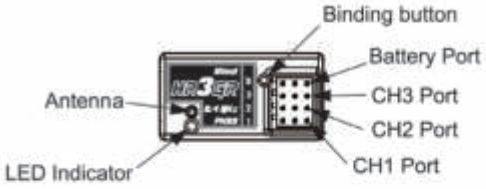




3 Binding (connecting the receiver to transmitter)

Binding the Receiver to the Transmitter

"Binding" is tuning the receiver to the frequencies used by the transmitter. Bind the receiver to the transmitter as follows:



1. With both transmitter and receiver turned off, place the units no more than 30 cm (1 ft) apart.
2. While holding down the receiver's BIND button, apply power to the receiver. Its LED will start to flash steadily, indicating that the unit is in binding mode, a state that lasts up to 30 seconds.
3. Turn the transmitter on. It will immediately go into binding mode, a state that lasts one second.
4. When the receiver's LED shines steadily, binding is complete.

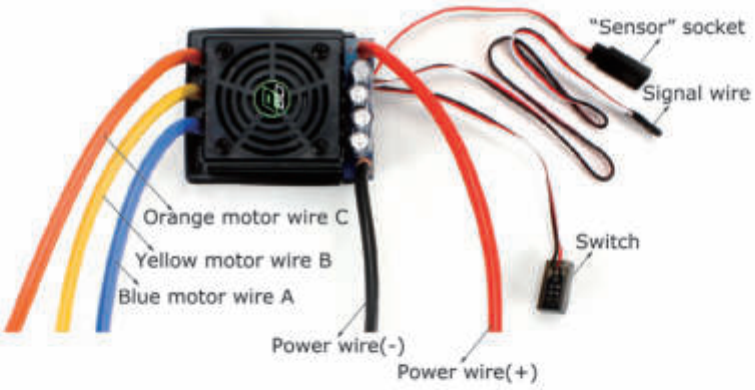
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Features:

- Enhanced throttle response, excellent acceleration, strong brakes and throttle linearity
- Using advanced software interface to set up or update the software or using programming card to make adjustments.
- Using PC or programming card to program forward or reverse throttle limit
- Using PC to program braking percent
- Multiple protection features: Low voltage cut-off protection, over-heat protection, throttle signal loss protection and motor blocked protection
- Compatible with NOVAK, LRP , ORION Sensored brushless motor

Begin to Use The New ESC:

Before using the new ESC please carefully check for whether each connections are correct or not.



onnected with Sensored Brushless motor

en using a Sensored Brushless motor, the Blue motor wire A, Yellow motor wire B and Orange motor wire C of the ESC must be connected with the Sensored motor wire A,B,C respectively. It is necessary to connect the Sensor wire to the "Sensor" socket on the ESC. Don't change the wires sequence optionally.

*** Connected with Sensoreless Brushless motor**

When using a Sensoreless Brushless motor, the Blue motor wire A , Yellow motor wire B and Orange motor wire C of the ESC can be connected with the motor wires freely. If the motor runs in the opposite direction, please swap any two wire connections.

*** Connect the ESC signal wire to the Receiver**

Black wire RX-
Red wire RX+6.0V
White wire RX-Signal

ESC's indicating LEDs:

Conversion of Sensored and Sensorless function

* When the Power wires on the ESC are connected with the battery pack, the ESC can automatically identify the motor type (Sensored/Sensorless) via indicated LEDs.
*If the ESC works at the status of Sensored, remove the Sensor wire, the ESC can be automatically changed to the status of Sensorless.

Sensored/Sensorless ESC's Indicating LED		
Status of the function	**INDICATED LED**	**Status of the LED**
Low voltage of the battery	Red LED	Blinking
Over-heat of the ESC and motor (95℃)	Orange LED	Blinking
Sensored motor	Red and Orange LED	ON
Sensorless motor	Orange LED	ON
Sensorless ESC's Indicating LED		
Status of the function	**INDICATED LED**	**Status of the LED**
Low voltage of the battery	Red LED	Blinking
Over-heat of the ESC and motor (95℃)	Orange LED	Blinking
Sensorless motor	Orange LED	ON

Throttle Range Calibration (For the first time using transmitter or changing the transmitter you must set Throttle Range Calibration)

1. Switch off the ESC, then connect ESC with the battery packs and turn on the transmitter; set the direction of the throttle channel to REV; set the EPA/ATV value of the throttle channel to 100%.
2. Hold the "Set" button and switch on the ESC, wait for about 4 seconds until the Orange LED is on solid, then release the "Set" button, pull the throttle trigger to full throttle until Red LED is on Solid and the motor beeps.
3. Push the throttle trigger to Full Brake until the Orange LED blinks and will be on solid, the motor beeps.
4. Now return the throttle trigger to the Neutral position, both of the Red LED and Orange LED blink simultaneity and will be on solid, the motor beeps, both of Red LED and Orange LED wink. The Throttle Range Calibration is confirmed.
5. Turn off the ESC power switch.
6. Turn the ESC back ON. You are ready to use the ESC now.

Programmable items and default settings
Default settings are shown in the grey boxes

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programmable Items	Programmable Value								
	1	2	3	4	5	6	7	8	9
Cut-off Voltage	2.6V/cell	2.8V/cell	3.0V/cell	3.2V/cell	3.4V/cell	No cut-off			
Running Mode	Forward w/o Reverse	Forward with pause then Reverse	Forward/ Reverse						
Motor timing	Very Low	Low	Normal	High	Very High				
Initial Acceleration	Low	Medium	High	Very High					
Throttle Percent Reverse	20%	30%	40%	50%	60%	70%	80%	90%	100%
Throttle Limit	0%	20%	30%	40%	50%	60%	70%	80%	90%
Percentage Braking	10%	20%	30%	40%	50%	60%	70%	80%	100%
Percentage Drag Brake	0%	4%	8%	12%	15%	20%	25%	30%	
Motor Rotation	Normal	Reverse							
Neutral Range	2%	3%	4%	5%	6%	10%			

Sensored/Sensorless brushless ESC general information

1. Cutoff Voltage

- **Automatically detect the number of the cells**

According to the type of your batteries , set up the type of the batteries and Low Voltage Cutoff Threshold via PC software or program card. The ESC can detect the Voltage of the battery anytime and will stop working once the Voltage of the battery is lower than the preset Low Voltage Cutoff Threshold.

- When using **NiMH or NiCd batteries** you do not need to set a cutoff voltage to protect the batteries. If you are using more than 6-cell NiMH or NiCd batteries, you must adjust the cutoff voltage, for example if you are using an 8-cell pack of NiMH batteries you would use a cutoff of 5.6V volts (8 x 0.7V = 5.6V). When the voltage of the batteries packs is within 8.4~12.6V, the ESC will automatically identify 3S LiPos. When the voltage of the batteries packs is less than 8.4V, the ESC will automatically identify 2S LiPos. When the voltage of the batteries packs is within 8.4~14.8V, the ESC will automatically identify 2~4S LiPos. When the voltage of the batteries packs is within 21~25.2V, the ESC will automatically identify 5-6S LiPos.

- **Customized Voltage Cutoff** (for NiMH or NiCd Batteries) you can select a starting cutoff voltage of 4, 5, 6, 9 or 12 volts. Then using the up/down to the right of the voltage you can increase the voltage stepping up 0.1V between the selectable settings.
- When using any **Lithium or M1 (A123) batteries**, they must not be discharged to less than 3.0V per cell.

2.Running Mode

- **Forward w/o Reverse**
  This is a Race setting - Reverse is disabled.
  You will find in racing, most tracks will not allow racing with reverse enabled.
- **Forward with pause then Reverse: (DEFAULT)**
  General bashing around (FUN) or racing if reverse is allowed for the event. The Electronic Speed Controller requires 2 seconds of continuous neutral from the transmitter prior to allowing reverse to operate.

Note: There is automatic protection within the ESC. Only after you have stopped and returned the trigger to neutral will reverse become available. If while traveling in reverse, pull the trigger to go forward. This is to help prevent serious damage to the drive train.

Forward / Reverse

If the option is actived, the RC car could go forward and backward, but couldn't brake.

ESC – reverse operation

Should you get into a situation that requires reverse, after you have applied any brakes you may have needed, return the throttle trigger to the neutral position. Wait a moment or two and then push the trigger forward for reverse.

3. Motor Timing - This option affects the power band and efficiency (run time) of an electric motor. The default is "Normal" and is a good starting point to deliver power and provide good run time.

- **Very Low** Provides maximum efficiency with less power. Higher timing produces significantly more power but at the expense of efficiency (less run time) and typically the motor will generate more heat. Each brushless motor will respond to timing differently. Good for running around on paved, or harder surfaces, and racing with high KV rated or low-turn motors
- **Low** Provides power for running through soft surfaces, having fun and longer run time.
- **Normal** (Default) Good mix of power and efficiency using any motor
- **High** More power than efficiency so run time will reduce, and you should be monitoring motor heat. The higher KV or lower turn motors will generate heat quickly using this setting. A safe high temperature range is 165F to 180F (74° - 82° Celsius), going higher may damage your motor.
- **Very high** This is maximum power and must be used with **caution.**

Note : Any motor has the potential to over-heat in this setting. Frequently check the motor temperature and make sure you're not operating higher than 165° and 180° Fahrenheit (74° - 82° Celsius), which may damage your motor, or damage your Electronic Speed Controller (ESC).

4. Initial Acceleration - Use this to limit the initial power that is sent to the motor when starting from a complete stop.

Using the low option, the vehicle will launch very slowly and provide the longest run times. When using the HIGH choice, you will have wheel-spinning acceleration at the cost of run time. This is also very tough on the batteries as the amperage draw can be very high. If your vehicle cuts out, hesitates or loses radio control, you should consider setting this at a lower value.

- **Low** Using this option will provide longer run times and is easiest on the batteries. It is a good choice for beginners.
- **Medium** Medium requires more from your batteries, and is good for low traction surfaces.
- **High** This option will provide full acceleration and requires stout batteries to supply the load required in this setting.
- **Very high** This option will provide full acceleration and requires stout batteries to supply the load required in this setting.

5. Throttle Percent Reverse - Use this to limit the power available using reverse throttle. The lower the percent or level the less speed will be available in reverse.

20%, 30%,40%,50%,60%(Default),70%,80%,90%,100%

6. Throttle Limit – Use this to limit the power available using forward throttle.

The lower the percent the less forward throttle speed will be available.

0%(Default), 20%,30%,40%,50%,60%,70%,80%,90%

7. Percentage Braking - Gives you the ability to have full control over the amount of brake your vehicle will have.

10%,20%,30%,40%,50%(Default),60%,70%,80%,100%

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Item No.	Item Description
111007ST	3mm Steel Locknut (10)
111147F	3.5mm Steel Flat Nut (6)
111164	3.5mm Lock Nut (10)
115001BK	Ball End & Steel Ball (6) BLACK
115016BK	Antenna Rod (2) BLACK
115027BK	Ball End & 5.8mm Single Flanged Steel Ball (6) Black
116133-5C	3x35mm Hardened Adjustable Rod (2)
116202	E-clip 2.5 (10)
116229	2.5x16.8mm PIN(10)
116241	3M Double Side Tape 4x2.2cm
116242	EVA Tape 3x14cm
123510	3.5x10mm Steel FH Screw (6)
123510C	3.5x10mm Steel Cap Screw (6)
123513BU	3.5x13mm Steel BH Screw (6)
123514	3.5x14mm Steel FH Screw (6)
123516BU	3.5x16mm Steel BH Screw (6)
123518	3.5x18mm Steel FH Screw (6)
123520BU	3.5x20mm Steel BH Screw (6)
123523BU	3.5x23mm Steel BH Screw (6)
123525BU	3.5x25mm Steel BH Screw (6)
126208BU-6	2.6x8mm Steel Button Head Screw (6)
126306C	3x6mm Cap Screw (6)
126306S	3x6mm Set Screw (6)
126308	3x8mm Steel F.H. Screw (6)
126308BU	3x8mm Steel Button Head Screw (6)
126308C	3x8mm Steel Cap Screw (6)
126308SE	3x8mm Steel Flat Round Servo Mount Screw (6)
126310	3x10mm Steel F.H. Screw (6)
126310BU	3x10mm Button Head Screw (6)
126312	3x12mm Steel F.H. Screw (6)
126312BU	3x12mm Button Head Screw (6)
126312S	3x12mm Set Screw (6)
126312SE	3x12mm Steel Flat Round Servo Mount Screw (6)
126314	3x14mm Steel FH Screw (6)
126314BU	3x14mm Button Head Screw (6)
126316	3x16mm Steel F.H. Screw (6)
126316BU	M3X16mm BH Screw(10)
126320C	3x20mm Cap Screw (6)
126326-5	3.5x26mm Steel FH Screw (6)
126330	3x30mm Cap Screw (6)
126335	3x35mm Cap Screw (6)
126404S	4x4mm Set Screw (6)
126410C	4x10mm Steel Cap Screw(6)
126412	4x12mm Steel F.H. Screw (6)
126412EN	4mm Steel Flat Round Engine Mount Screw (6)
126416	4x16mm Steel FH Screw (6)
126505S	M4x5mm Set Screw(6)

130102	8.1x12x0.2mm Shim (10)
130107	13.2x15.9x0.5mm Shim (6)
130108	6.05x9.5x0.5 mm Shim(10)
130119	3.6x8x1mm Washer (10)
130128	4.2x9.6x0.8mm Washer (10)
150816BK	8x16x5mm Bearing-Black
560116	Hard Anodized Aluminum Anti-Roll Bar Ball Stud (4)
560117	Front Anti-Roll Bar 2.4mm
560130	ST Steel 4x68.8mm Hinge Pin (2)
560149	Rear Anti-Roll Bar 2.8mm
560178	Servo Arm (Futaba) (2)
560243	Rear Body Mount
560244	ST Steel Small Bevel Gear Outdrive (2)
560245	Hard Coated Alum. 7075 Center Drive Shaft (2)
560270	Front 18x66mm Shock Spring (2) White
560271	Rear 18x86mm Shock Spring (2) White
560291	Front/Rear CVA Joints (2)
560298	Steering Linkage Set
560312	Velcro Battery Straps (2)
561202	Shock Bladder (4)
561302	Diff Case Set
561303	Diff Case Gasket (4)
561304	Differential Bevel Gear Set (for 1 diff)
561307	Front Shock Tower Stiffener
561309	Front & Rear Diff Gear Box (1 set)
561317	Front Lower Arm(2)
561321	Caster Block (1 pair)
561323	Servo Saver Post (2)
561324	Servo Saver Set
561325	Steering Rod Nylon Ball & Ball End Set
561330	Wing Mount & Holding Set
561335	Rear Upper Arm(2)
561336	Rear Hub Carrier & Mud Sweeper (1 pair)
561337	Rear Lower Arm(2)
561344	Aluminum Radio Plate Support (3)
561347	Steering Servo Mount
561348	Servo Mount(4)
561353R	Rear Wing-Red
561368	Rear Hub Carrier Washer
561401	Center Differential Mount
561403	Receiver Box
561404	Battery Box
561405	ESC Mount
561406	Side Guard
561417	Front Body Post Set
561419	15T Motor Gear
561426	Middle Universal Joint
561440	Triangle Plate (Front)

561441	Front Stiffener
561442	Front Upper Arm Mount
561443	Front Shock Tower
561444	Rear Shock Tower
561445	Servo Spacer (4)
561446	Large Bevel Gear-43T
561447	Brake Cup(2)
561448R	B8ER Body-Red
561449	46T Main Gear
561450	Small Bevel Gear-11T
561452	Chassis
561453	Differential Cup(F/R)
561454	Complete Differential Kit (F/R)
561455	Front Lower Arm Mount
561456	Rear Stiffener
561457	Pin & Shim for Diff.
561458	Front Upper Arm Set
561459	Middle Differential Set
561460	Differential Bevel Gear Set (for 1 diff)
561461	Motor Mount
561462	Rear Lower Outer Hinge Pin(2)
561463	Front Shock Set(2)
561464	Rear Shock Set(2)
561465	Rear Arm Mount
561466	Pre-mounted Tires (2)
561467	Front Lower Outer Hinge Pin(2)
561468	Wheel Lock Nut (4)
561469	Steering Block Carrier Bushing (4)
561470	Front Steering Block(2)
561471	Front Upper Inner Hinge Pin(2)
561475	3x7x3mm Steel Bushing(4)
561476	6x10x3mm Steel Bushing(4)
561477	Shock Upper Joint (2)
561478	Shock Upper Cap (2)
561479	Front Shock Shaft (2)
561480	Front Shock Body (2)
561481	Rear Shock Shaft (2)
561482	Rear Shock Body (2)
561483	Shock O-Ring & Washer (2)
561484	Shock Lower Cap (2)
561485	Shock Piston (2)
561486	Spring Spacer (4)
561487	Shock lower Joint (2)
K5114	Alum. 3.5mm Locknut (6)
H6811	H.A.R.D. HS3306 Steering Servo
H6818	HR3GR 3 Channel 2.4G Reveiver
H6819	H.A.R.D. Z4118 Brushless Motor
H6820	H.A.R.D. P80 ESC (2-4S,80A)

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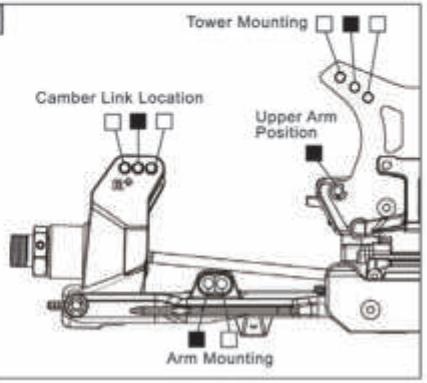
Date: _____ Driver: _____

Event: _____ Car: _____

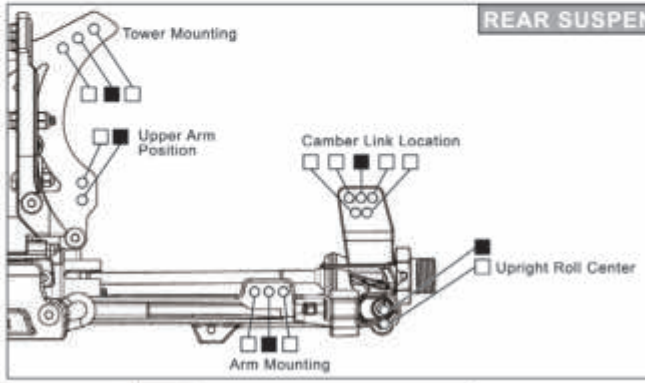
Track: _____ Weight: _____

Standard SETUP SHEET

FRONT SUSPENSION



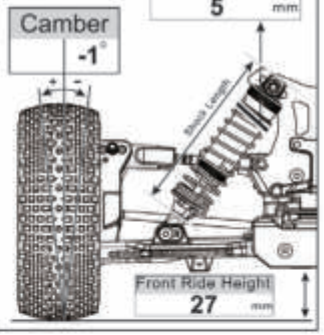
REAR SUSPENSION



FRONT SUSPENSION

Holder Position 5 mm

Camber -1°



Shocks

Shock Length 90 mm

Oil 500 wt

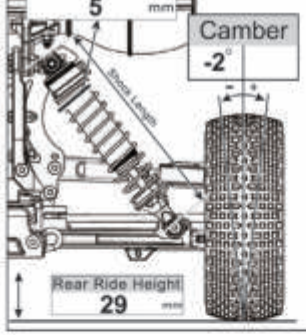
Pison Ø1.3

Spring White1.2 (Hard)

REAR SUSPENSION

Holder Position 5 mm

Camber -2°



Shocks

Shock Length 90 mm

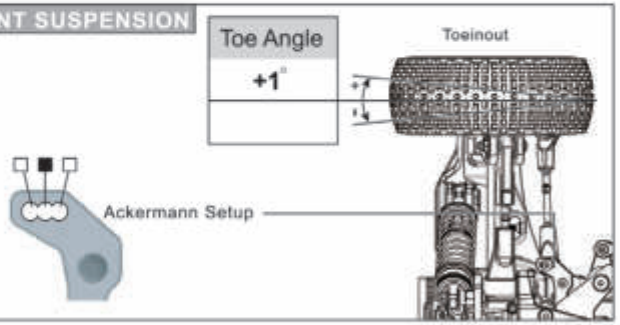
Oil 400 wt

Pison Ø1.3

Spring White1.0 (Hard)

FRONT SUSPENSION

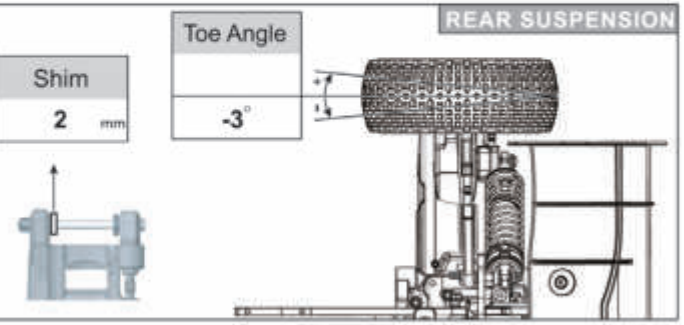
Toe Angle +1°



REAR SUSPENSION

Shim 2 mm

Toe Angle -3°



ANTI ROLL BAR

FRONT 2.4 /mm — Thickness/mm — REAR 2.8 /mm

DIFF OIL

Front	5000	wt	Other	
Center	7000	wt	Other	
Rear	1000	wt	Other	

TIRE

Front		Rear
Standard	Type	Standard
Sponge	Inserts	Sponge
	Wheels	

ELECTRONICS

Motor	2~4S,1800KV
ESC	2~4S,80A
Pinion Gear	15T
Spur Gear	46T

COMMENTS

Race Time / Lap: _____

Best Lap Time: _____

Position: _____

Notes: _____

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Date: _____ Driver: _____

Event: _____ Car: _____

Track: _____ Weight: _____

TM sTandard SETUP SHEET

ANTI ROLL BAR

FRONT **2.4** /mm — Thickness/mm — REAR **2.8** /mm

DIFF OIL

Front **5000** wt Other _____

Center **7000** wt Other _____

Rear **1000** wt Other _____

TIRE

Front		Rear
Standard	Type	**Standard**
Sponge	Inserts	**Sponge**
_____	Wheels	_____

ELECTRONICS

Motor **2~4S,1800KV**

ESC **2~4S,80A**

Pinion Gear **15T**

Spur Gear **46T**

COMMENTS

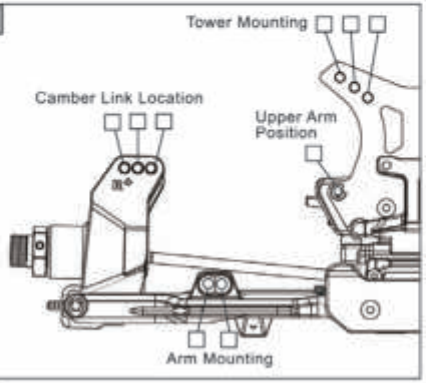
Race Time / Lap: _____

Best Lap Time: _____

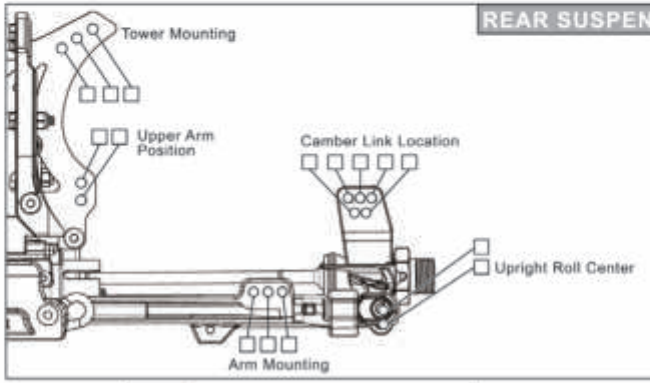
Position: _____

Notes: _____

FRONT SUSPENSION



REAR SUSPENSION



FRONT SUSPENSION

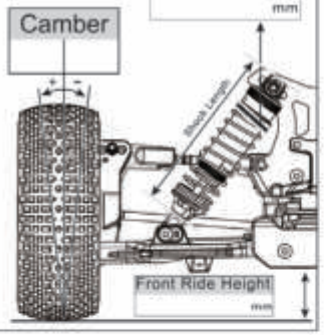
Shocks

Shock Length _____ mm

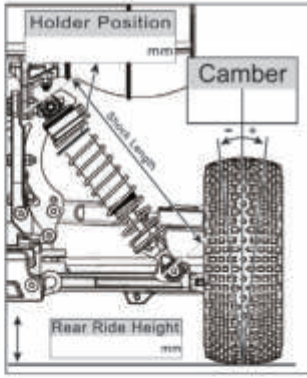
Oil _____ wt

Pison _____

Spring _____



REAR SUSPENSION



Shocks

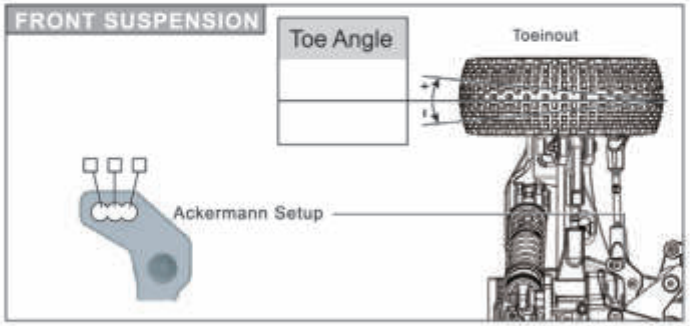
Shock Length _____ mm

Oil _____ wt

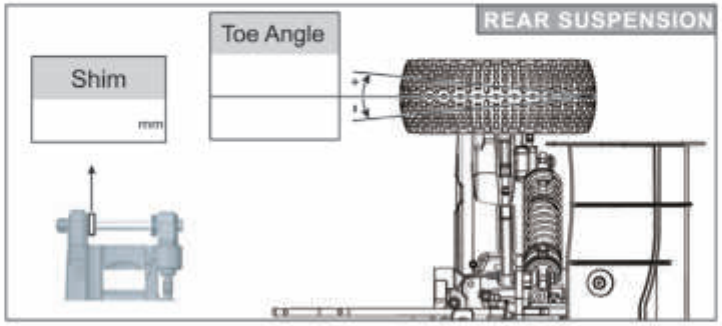
Pison _____

Spring _____

FRONT SUSPENSION



REAR SUSPENSION



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THE POWER OF TEAM MAGIC

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