

# INSTRUCTION MANUAL

## 1/8 Scale 4WD Electric Truggy RTR



- ☐ **NO.RH819 Brushed**
- ☐ **NO.RH820 Brushless**

V21.8

Congratulations on your purchase of the VRX Racing 4WD electric cars.

This 1/8th scale model has been factory assembled and all electrics installed and set up to make it the easiest possible introduction to the sport of driving RC cars.

**WARNING:** Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and serious injury. This is not a toy and must be operated with caution and common sense. Failure to operate this product in a safe and responsible manner could result in damage, injury or damage to other property. This product is not intended for use by children without direct adult supervision. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, set-up or use, in order to operate correctly and avoid damage and serious injury

### Safety Precautions and Warnings

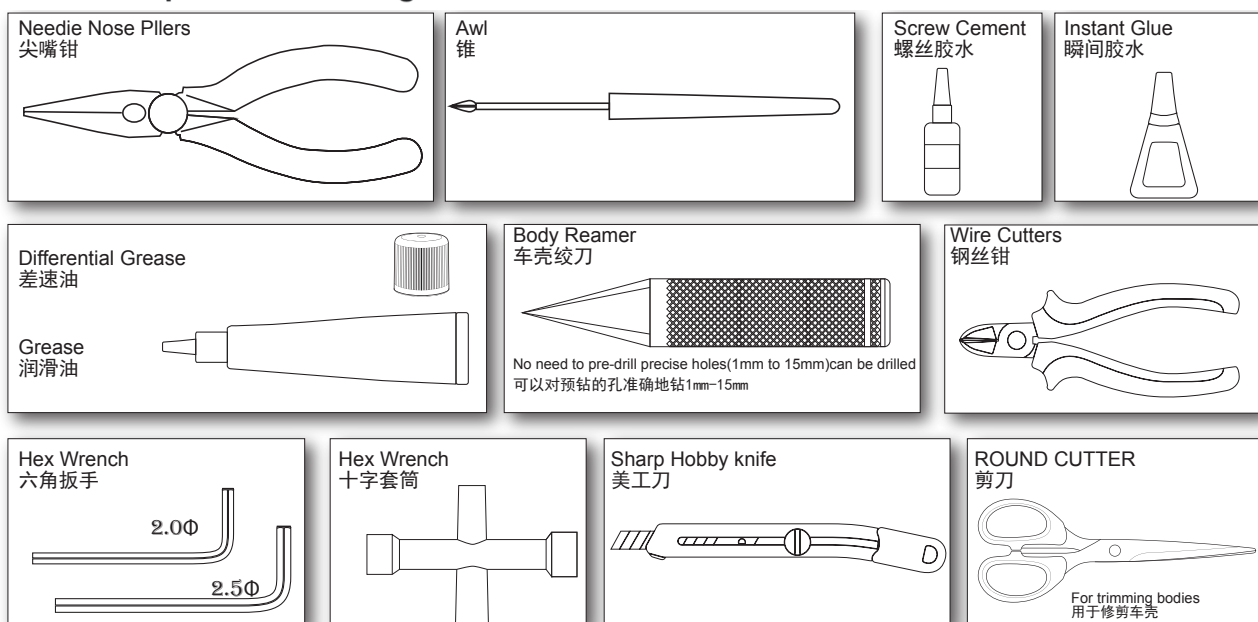
You are responsible for operating this model such that it does not endanger yourself and others, or result in damage to the product or the property of others. This model is controlled by a radio which is possibly subject to interference which can cause momentary loss of control so it is advisable to always keep a safe distance to avoid collisions and injury. Age Recommendation: 14 years or over. This is not a toy. This product is not intended for use by children without direct adult supervision.

Carefully follow these directions and warnings, plus those any additional equipment associated with the use of this model, chargers, ESC and motors, radio etc.

- Never operate your model with low transmitter batteries.
- Always operate your model in an open area away from cars, traffic or people.
- Never operate the model in the street or in populated areas.
- Always keep the vehicles in direct line of sight, you cannot control what you cannot see!
- Keep all chemicals, small parts and anything electrical out of the reach of the children.
- Avoid water exposure, moisture causes damage to electronics and may result in the loss of control or permanent damage.
- Avoid injury from high speed rotating parts, gears and axles etc.
- Novices should seek advice from more experienced people to operate the model correctly and meets its performance potential.
- Exercise caution when using tools and sharp instruments.
- Do not put fingers or any objects inside rotating or moving parts.
- Take care when carrying out repairs or maintenance as some parts may be sharp.
- Do NOT touch equipment such as motor electronic speed control and battery, immediately after using your model because they can generate high temperatures.
- Always turn on your transmitter before you turn on the receiver in the car. Always turn off the receiver before turning your transmitter off.
- Keep the wheels of the model off the ground, keep your hands away from the wheels when checking the operation of the radio equipment.
- Prolong motor life by preventing overheat conditions. Undue motor wear can result from frequent turns, rapid change of direction forwards/backwards, continuous stop/starts, pushing/pulling objects, driving in deep sand and tall grass, or driving continuously up hill.

## Required equipment for operation

### 1. Tools required for building and maintenance:

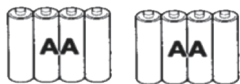




# WARNING!

Do not use a Power screw driver to install screws into nylon or plastic materials. The fast locking may heat up the screws being installed that may break the molded parts or strip the threads during installation.

## 2. Additional items needed for operation:



8 pcs AA Alkaline batteries for transmitter

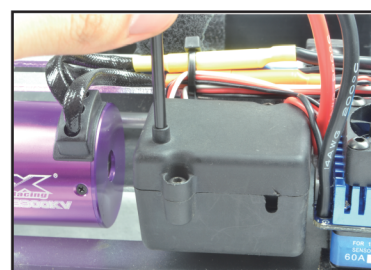
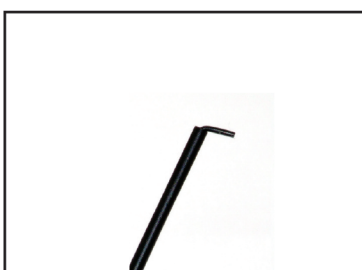
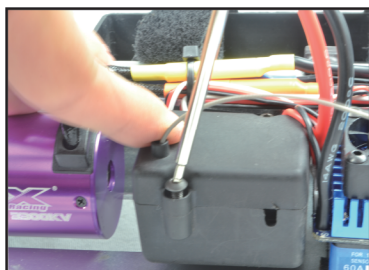
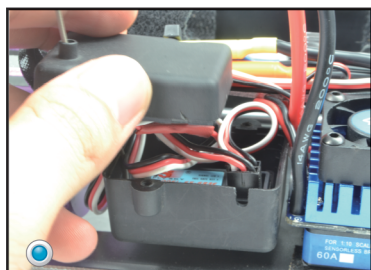
# IMPORTANT!

Check that all screws and nuts are tight before each use.

## Aerial Assembly

As the aerial wire on 2.4GHz system is so short you do not need to protrude through the body shell and it can be left to stand directly from the receiver. If you want the security of an aerial tube away simply cut it short, and insert in the usual way but do NOT bend over the last 5mm of aerial wire to retain it under the rubber cap, last two inches of aerial wire need to be straight with no kinks for maximum range and control with 2.4GHz system.

First be sure to insert the wire up through the receiver cover hole as below. Push the wire all the way through the aerial tube until the first 5mm of wire shows out of the other end. Finally make aerial tube firmly seated.



## Cobra EBL

### Charging/Installing the Battery.

Always store your model with the battery pack unplugged and removed. Always charge your battery away from the vehicle.

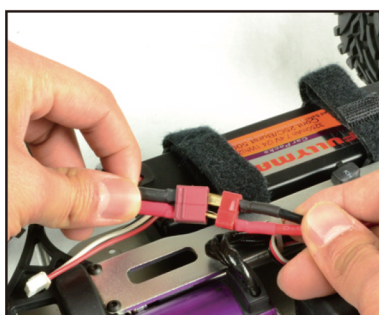
### WARNING! NEVER LEAVE THE BATTERY UNATTENDED WHILE ON CHARGE

The supplied charger can charge either 2s or 3s (cell number) Lipo batteries. The supplied battery is a 2s ensure you plug it into the correct 2s balance port.

When the charger is connected to the mains powers the power LED will turn green. Once you connect your balance connector to the charge the status LED will turn red indicating that charging is in progress. Once the battery is fully charged the status LED will turn green. If you experience the LED blinking red then there is an error with either the battery or charger.

When charging a completely discharged battery, the charger can become hot to touch. NEVER LEAVE THE BATTERY CHARGE UNATTENDED. Always disconnect the charger from the mains supply and the battery pack when not in use.

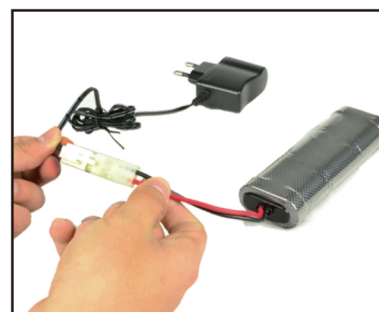
To install a charged battery, firstly remove the body shell and insert the battery into the battery case, then fasten the two Velcro straps to fix the battery stably. When connecting battery and turning car on, ensure it is off ground with wheels away from objects.



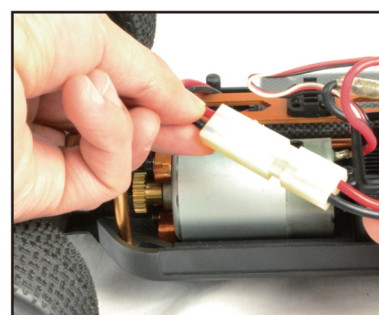
## Cobra EBD

### Charging/Installing the Battery.

Always store your model with the battery pack unplugged and removed. Always charge your battery away from the vehicle. The included 300mAh mains charger will take approx 6 hours to charge a fully discharged battery, but always remove it from the charger if it becomes warm to the touch. Always disconnect the charger from the mains supply and the battery pack when not in use. Keep children away from charger and battery during the charging process.



To install a charged battery, firstly remove the body shell and insert the battery into the battery case, then fasten the two Velcro straps to fix the battery stably. When connecting battery and turning car on, ensure it is off ground with wheels away from objects.



## Notes on Battery use:

Always allow the battery cool after use, before recharging.

Always inspect the battery before charging.

Any bare wires, split heat shrink or leakage is a sure sign of abuse.

Never attempt to charge dead or damaged batteries.

Do not disassemble the battery or cut the connector wires.

If the battery connector, battery case or cable insulation get hot enough to melt or split there is most likely a serious problem with your model, battery wires or speed controller. Find and correct the problem before installing another charged battery pack.

NEVER charge the battery unattended in case of overcharging, you need to be able to monitor the battery during charging.

Charge away from flammable objects and on a non-flammable surface in case the battery becomes too hot.

## Getting Started

Refer to 2.4ghz binding manual for radio set-up.

Switch on transmitter

Hold vehicle clear of the ground, connect battery pack and switch on receiver.

Test the transmitter to check control of the vehicle with wheels off the ground.

Start driving slowly and if the vehicle does not go straight, adjust steering trim dial on transmitter.

For the very first run use the throttle gently, to help the driver become accustomed to the vehicle's behaviour and controls.

Although this vehicle features waterproof electronics they are not designed to be submerged in water.

Potential damage can still occur to vehicle components if you do so.

## After Run.

Switch off the receiver power, switch off the transmitter. Disconnect the battery and remove it from the vehicle, allow it to cool before recharging. If you have a second charged battery all ready to use, still allow the vehicle to cool slightly before continuing.

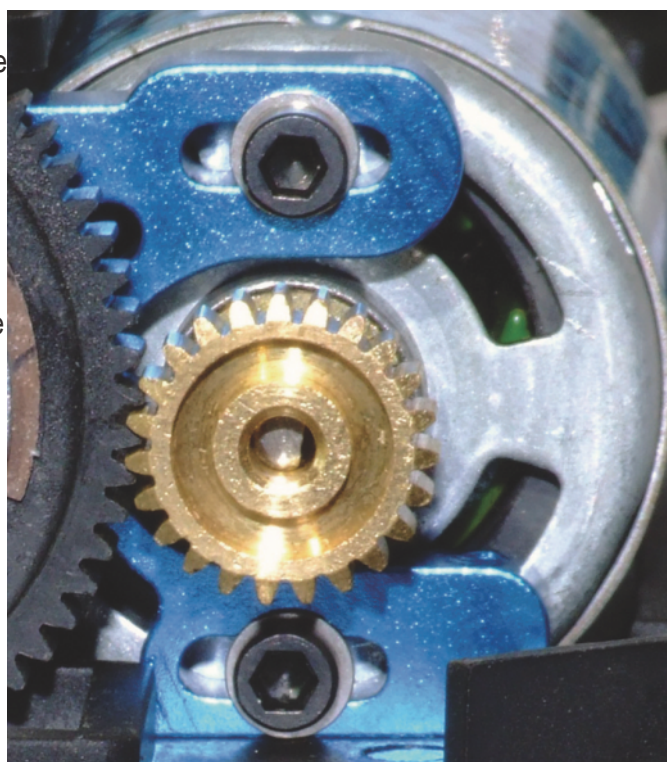
## Regular maintenance.

**Frequently check the whole vehicle for loose or missing fixings. Use thread lock on any replacement screws into metal threads.**

Frequently check rotating parts are free from grass, string etc. that might bind their motion and over stress the motor or speed controller. Remove the wheels occasionally and check behind the mounting hex for obstructions or anything that might have been wrapped around the axle and caused extra drag.

Check the gear mesh frequently and remove any stones or grit from gear teeth to prevent premature wear and damage. If the motor moves, or is removed for maintenance/exchange, the gear mesh will need to be set. Simply slacken the motor retaining screws and adjust the motor until there is just discernable backlash between pinion and spur teeth. If the gear is too tight or too loose the gears will be noisy and could be damaged.

Shock absorbers will wear prematurely if used in dirty dusty conditions. Replace oil and seals as required to keep a smooth dampening action.



## Trouble shooting guide.

Short Runtime: Battery damaged/not charged. Motor dirty or brushes worn. Drivetrain binding.	Sluggish Action: Motor damaged. Bind in drive train. Battery running low on power.	Motor/ESC overheat: Over-gearred Binding transmission. Seized axle bearing. Motor binding.	Motor spins but vehicle refuses to move: Gears damaged. Gears loose on shaft. Magnets debonded from motor armature. Slipper clutch too loose. Drive shaft broken or missing.	Poor Range or fails to operate: Transmitter batteries low. Vehicle Battery Low. Transmitter switched off. Transmitter/receiver aerial not extended. ESC switched off or battery not connected. Loose connectors/wires. 2.4ghz binding with -receiver lost
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## LIPO BATTERY-USER SAFETY AND HANDLING INSTRUCTIONS.

Read all safety instructions before charging or using your batteries for the first time. Lipo batteries require completely different charging and care than Nicd and NIMH batteries. Misuse can result in fire, personal injury and/or damage to property. The buyer assumes all Liability and risk associated with the use of Lithium-Polymer (Li-Po) batteries. Immediately return the battery, unused, if you do not agree with these terms.

### General guidelines and warnings:

1. Use a Lithium Polymer specific chargers only! Do not use a NiCd or NiMH charger.
2. NEVER charge unattended. Always charge in safety sack or metal tin with lid and away from other flammable materials.
3. During the charge process watch for swollen or ballooning cells. If this happens immediately disconnect the charger and move the battery to a fire proof place for 15 minutes. Do not attempt to charge again.
4. A short circuit can cause a rapid discharge of high currents. Avoid short circuits, and be aware of short circuits on jewelery.
5. Any Lithium Polymer battery involved in a crash should be removed and observed in a fireproof space for 15 minutes before continuing to use or charge the battery.
6. If rewiring the battery pack, rewire the leads one at a time. Do not cut both leads. Do not short circuit on tools.
7. Do not expose battery packs to direct sunlight for extended periods.
8. Do not attempt to tamper with or open the LiPo Hardcase. The case is protection against possible battery swelling.

Before charging:

Visually inspect the pack checking for damaged leads, connectors, cracked heat shrink covering, swelling or other abnormalities. Do not charge if the pack is damaged.

### Charging process:

1. NEVER charge unattended.
2. Charge away from flammable materials and inside a Lipo safe sack or metal tin with lid.
3. Allow battery to cool before charging.
4. Use the battery label for setting charger cell count and voltage.
5. Do not exceed 5C MAX charge rate. (Example, charge a 1000mAH pack at 5A MAX)

If disposing of a Lipo battery proceed as follows:

Submerge the battery into a container filled with about 10 litres of salt water (one cup of salt in 10L). Leave the battery submerged for 2 weeks, this will slowly and safely discharge the battery until the voltage has dropped to zero volts which eliminates the risk of any chemical reaction. It can then be disposed off in the general waste collection.



前避震器



## 后避震器

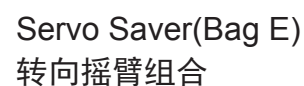
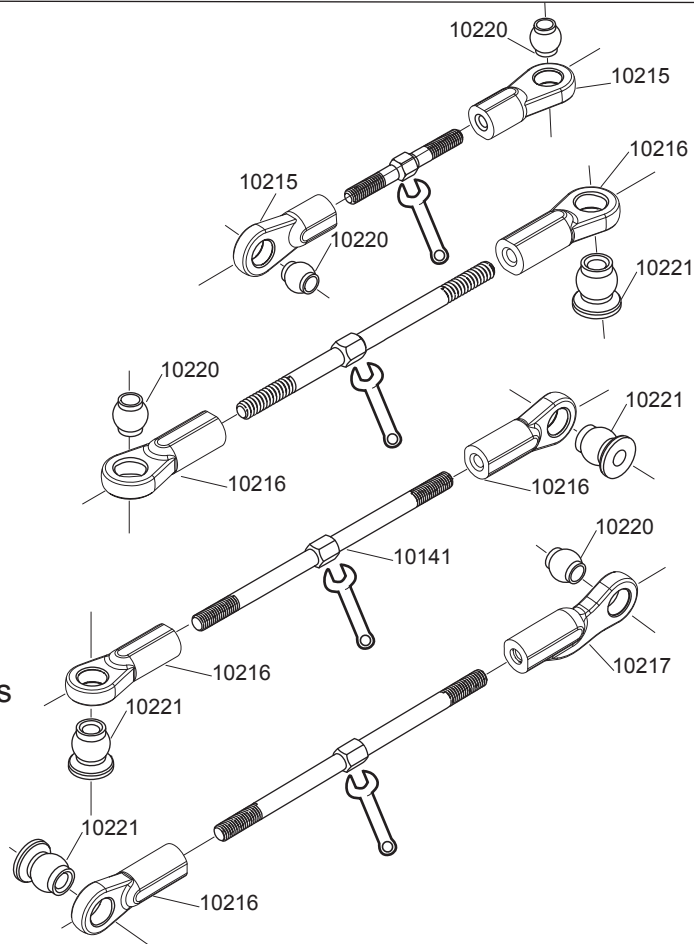


差速器 10003

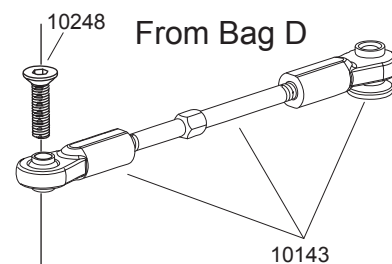




拉杆组

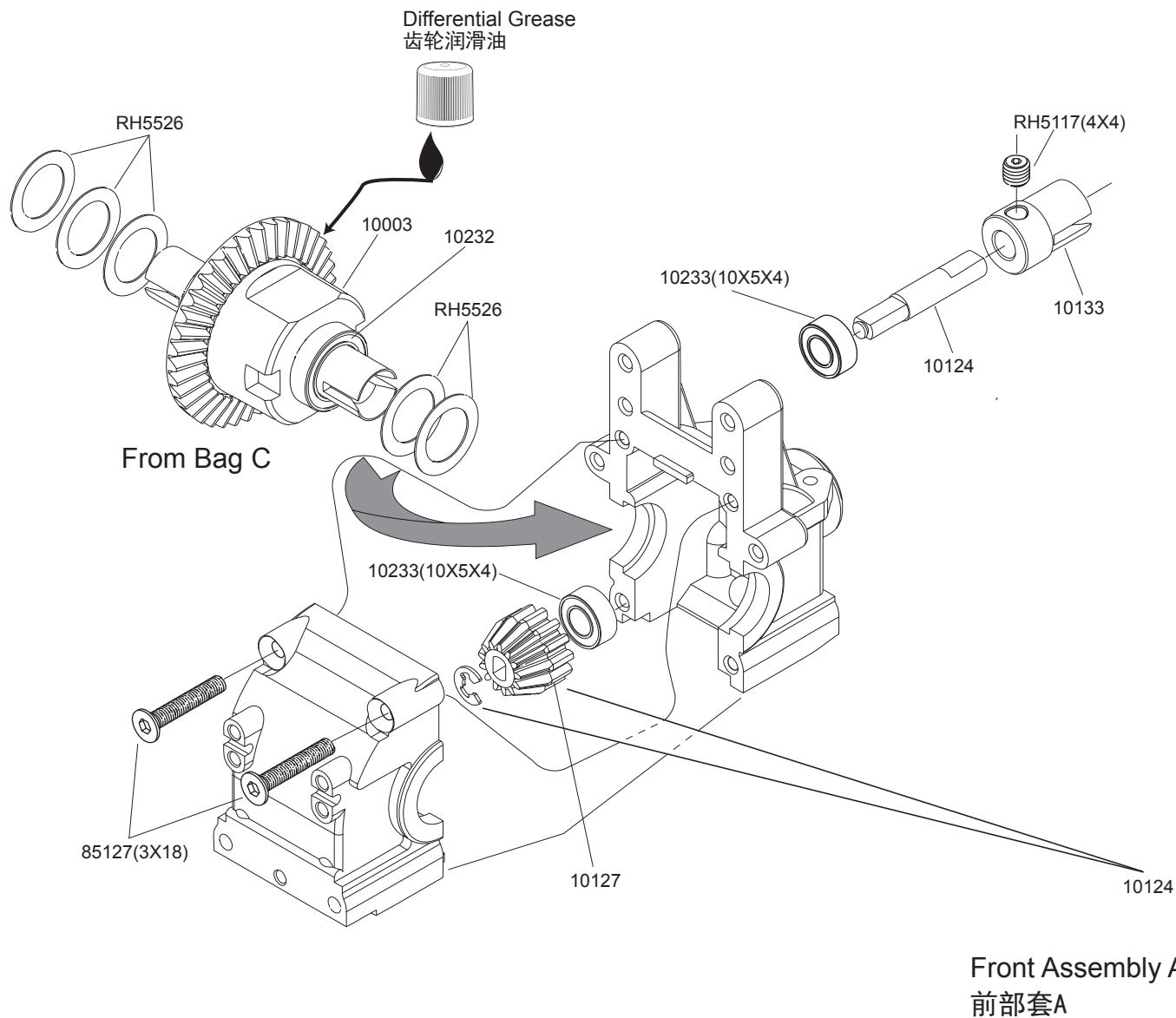


Assemble steering arms.  
组装转向拉杆到转向摇臂组上



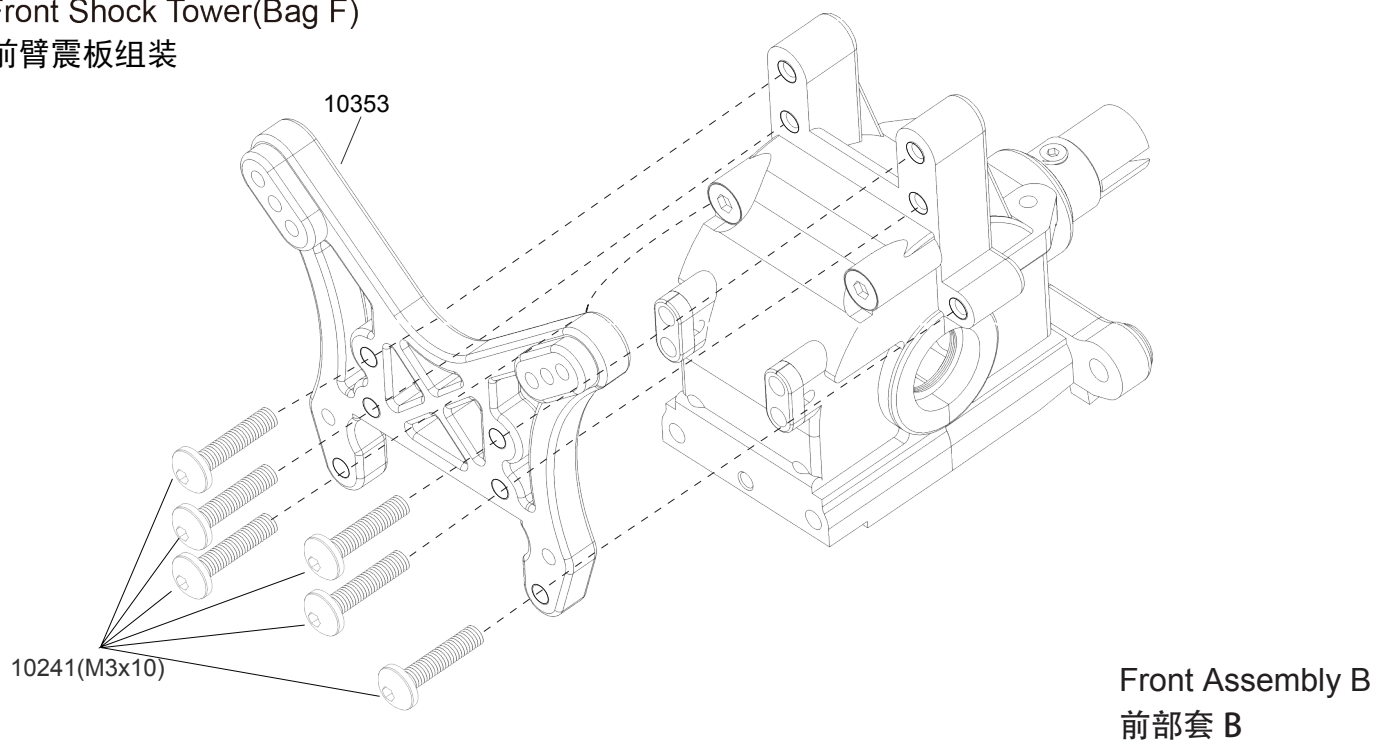
## Front Gear Box Assembly(Bag F)

### 前齿轮箱组装

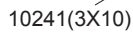


## Front Shock Tower(Bag F)

### 前臂震板组装



## 右转向组



## 左转向组



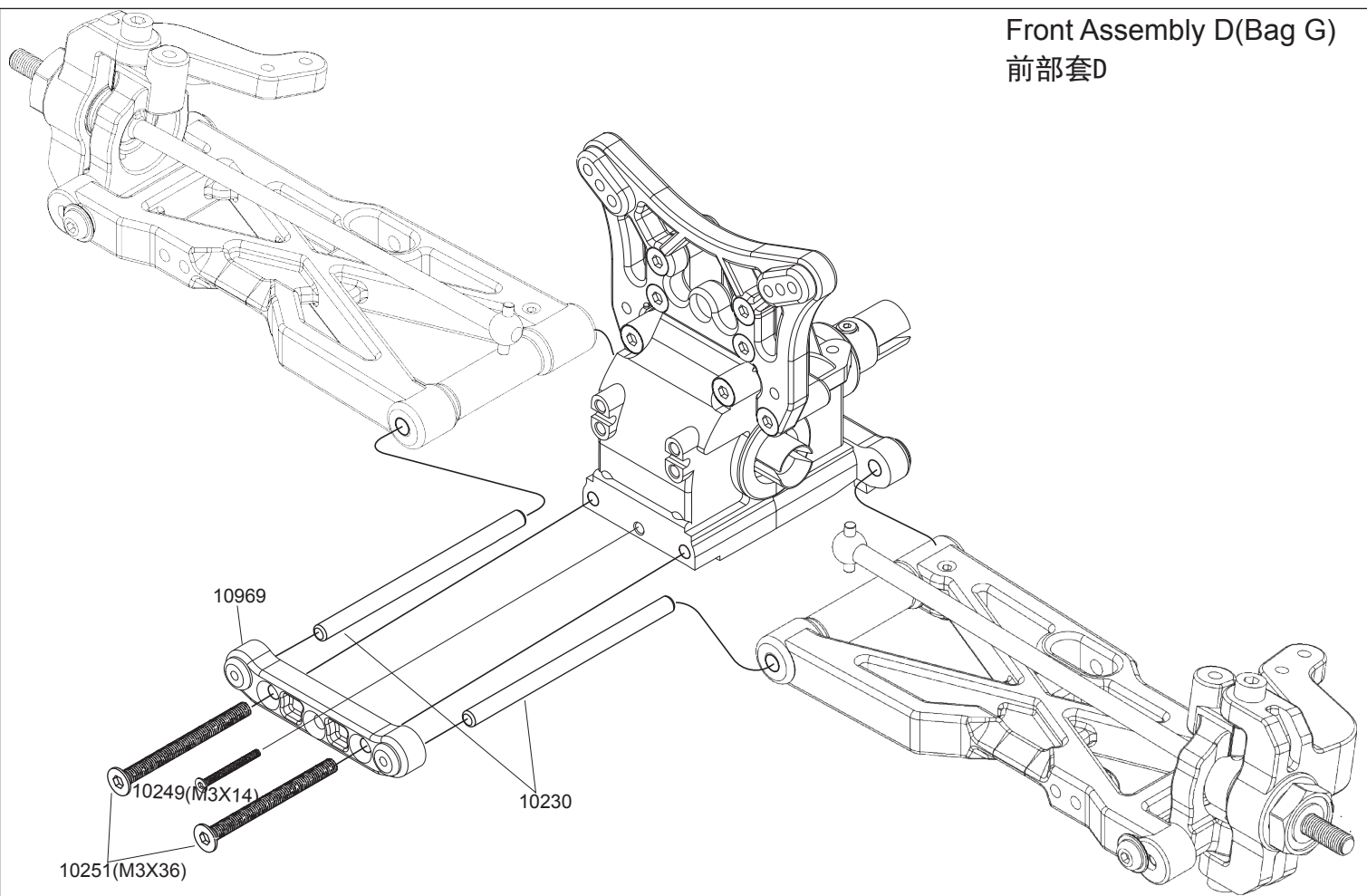
### 右转向组和前下摆臂组合

(Bag G)  
前部套C



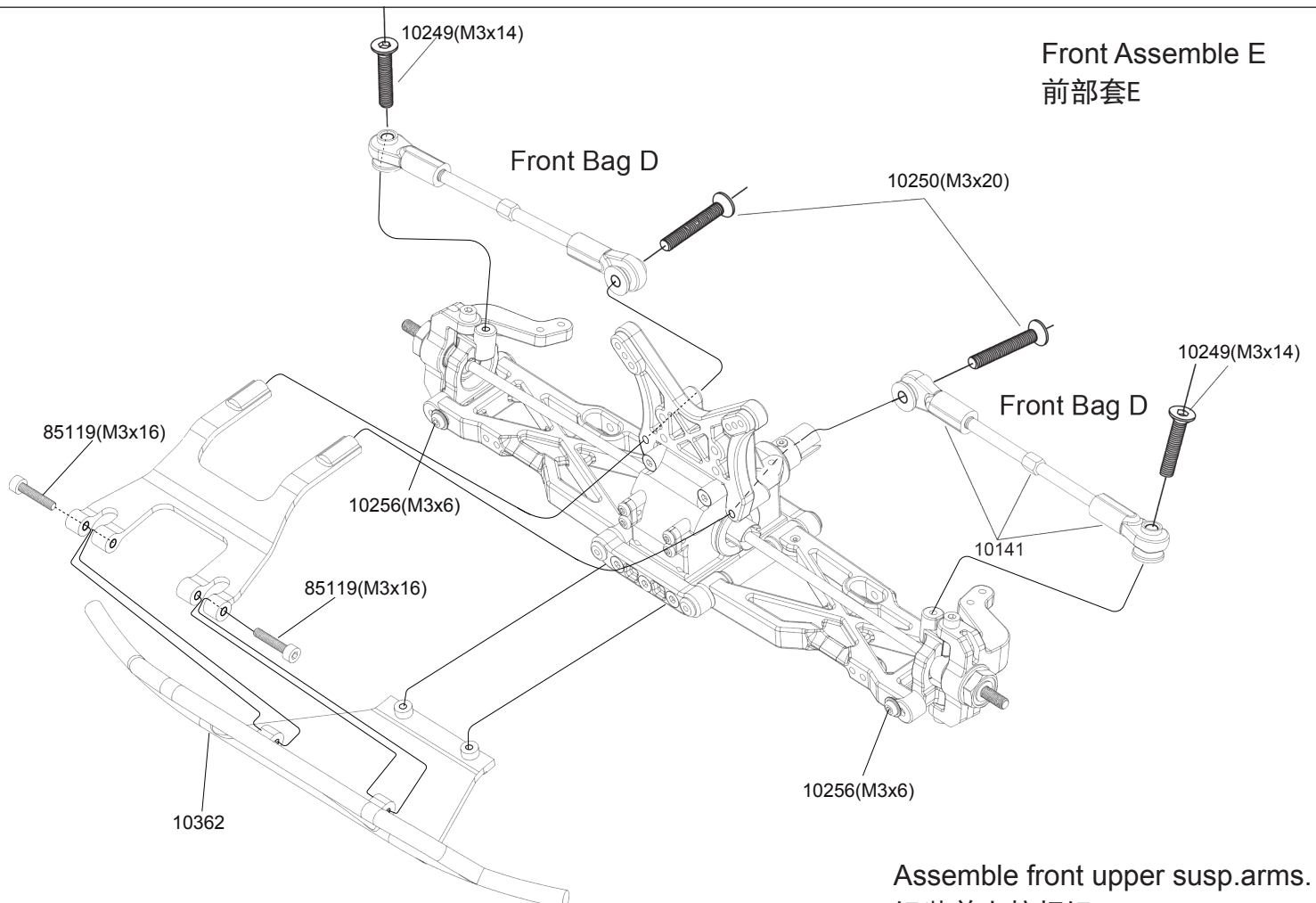
Assemble left steering set with front suspension arm.

Front Assembly D(Bag G)  
前部套D



Assemble front susp arm sets to front diff.set.  
组装前摆臂组与前差速箱组

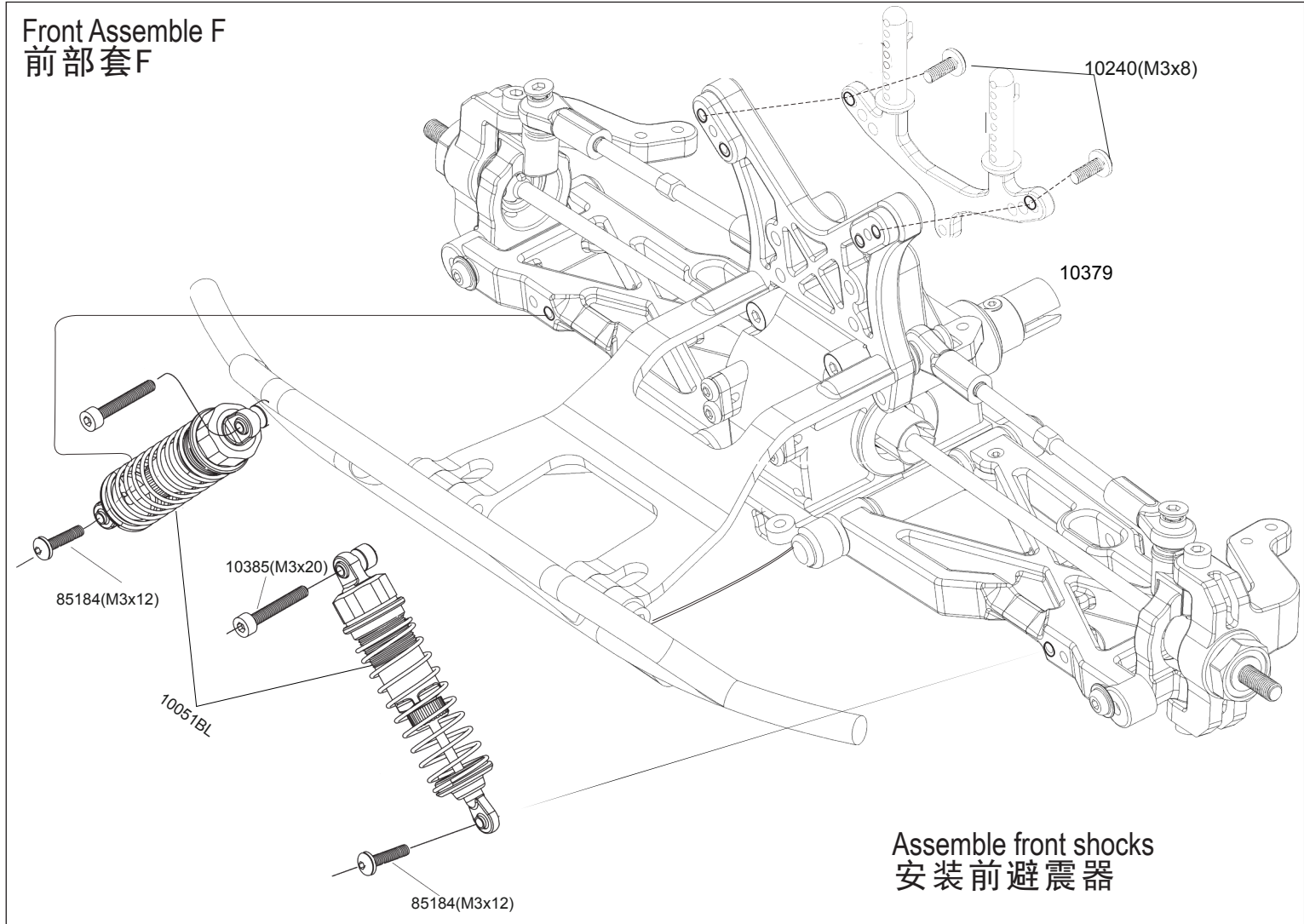
Front Assemble E  
前部套E



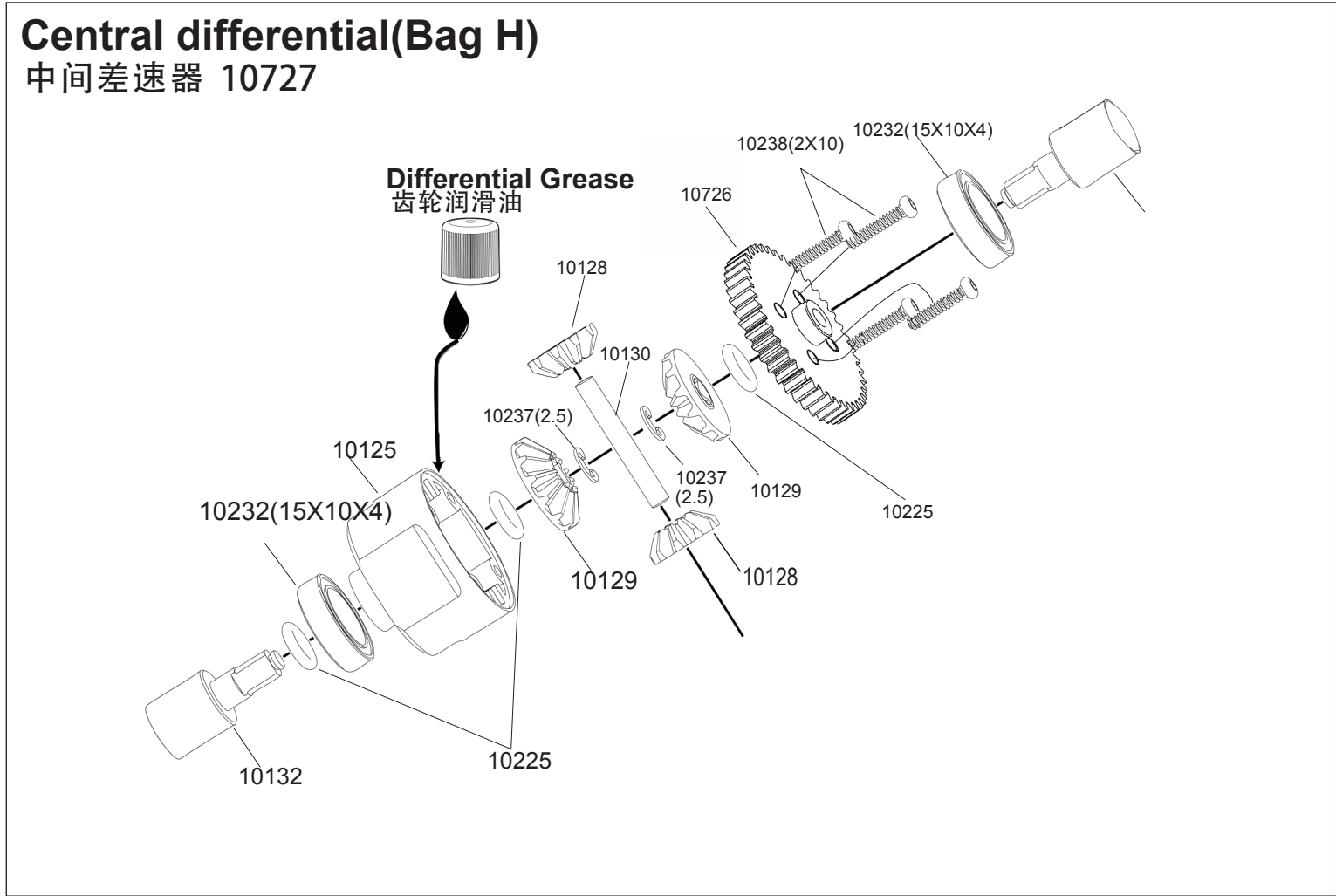
Assemble front upper susp.arms.  
组装前上拉杆组



Front Assemble F  
前部套F

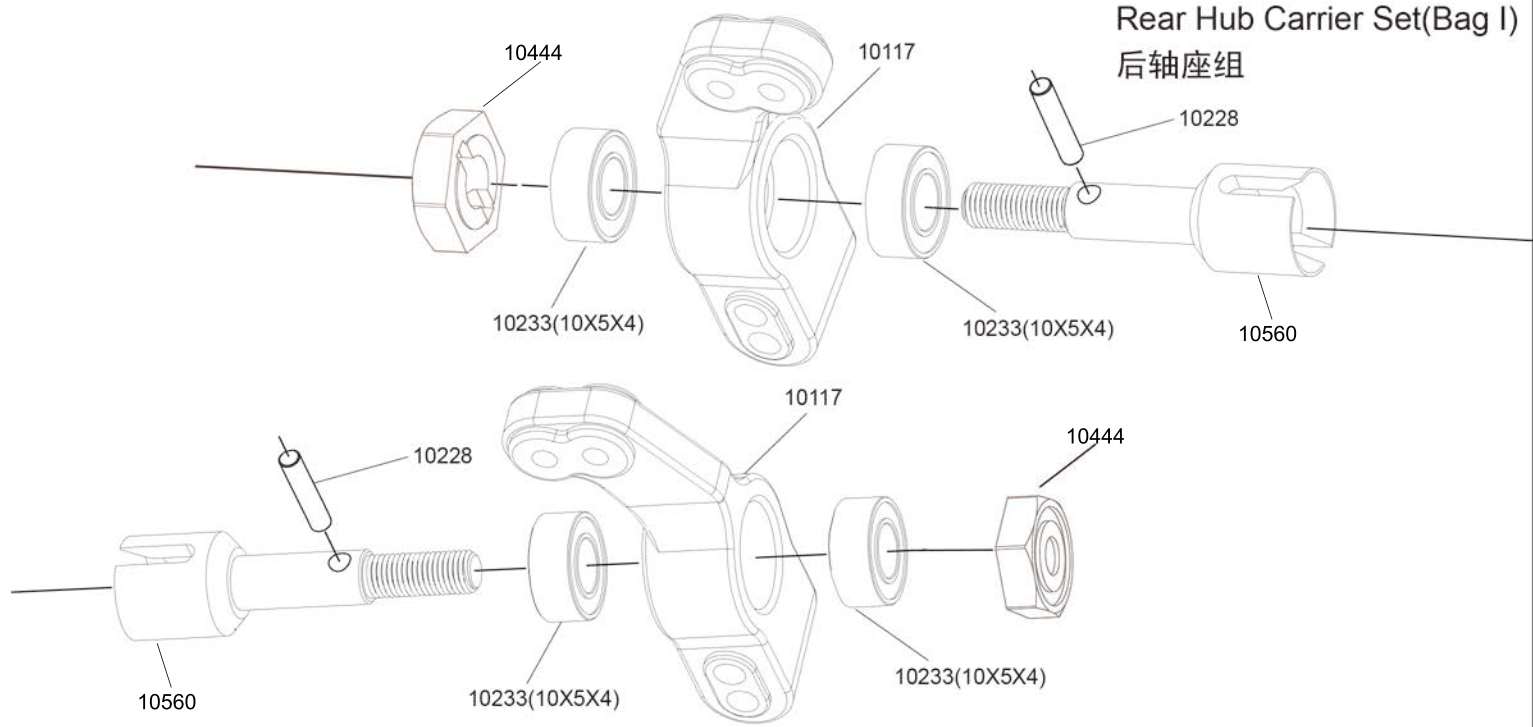


Central differential(Bag H)  
中间差速器 10727



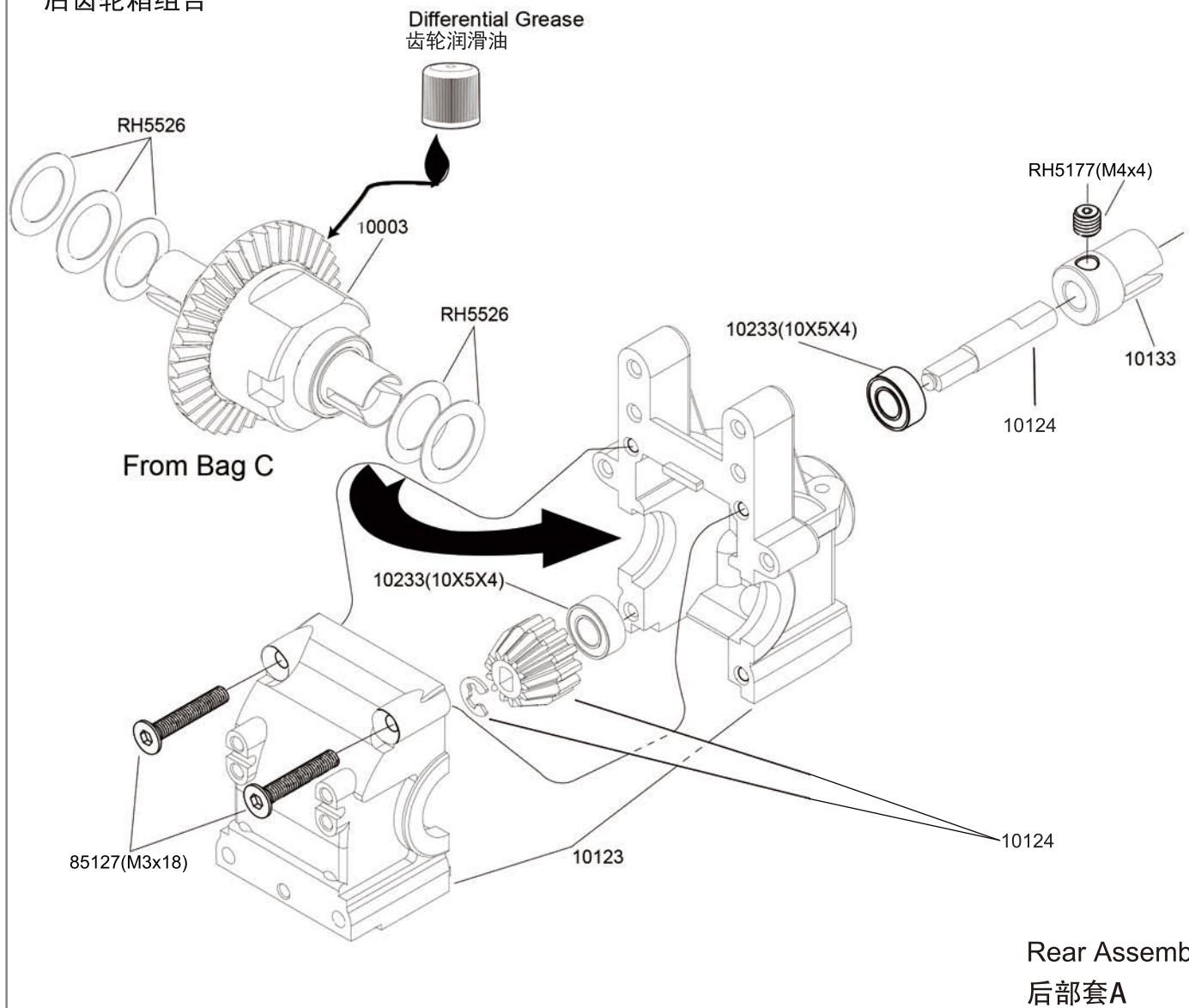
## Rear Hub Carrier Set(Bag I)

### 后轴座组



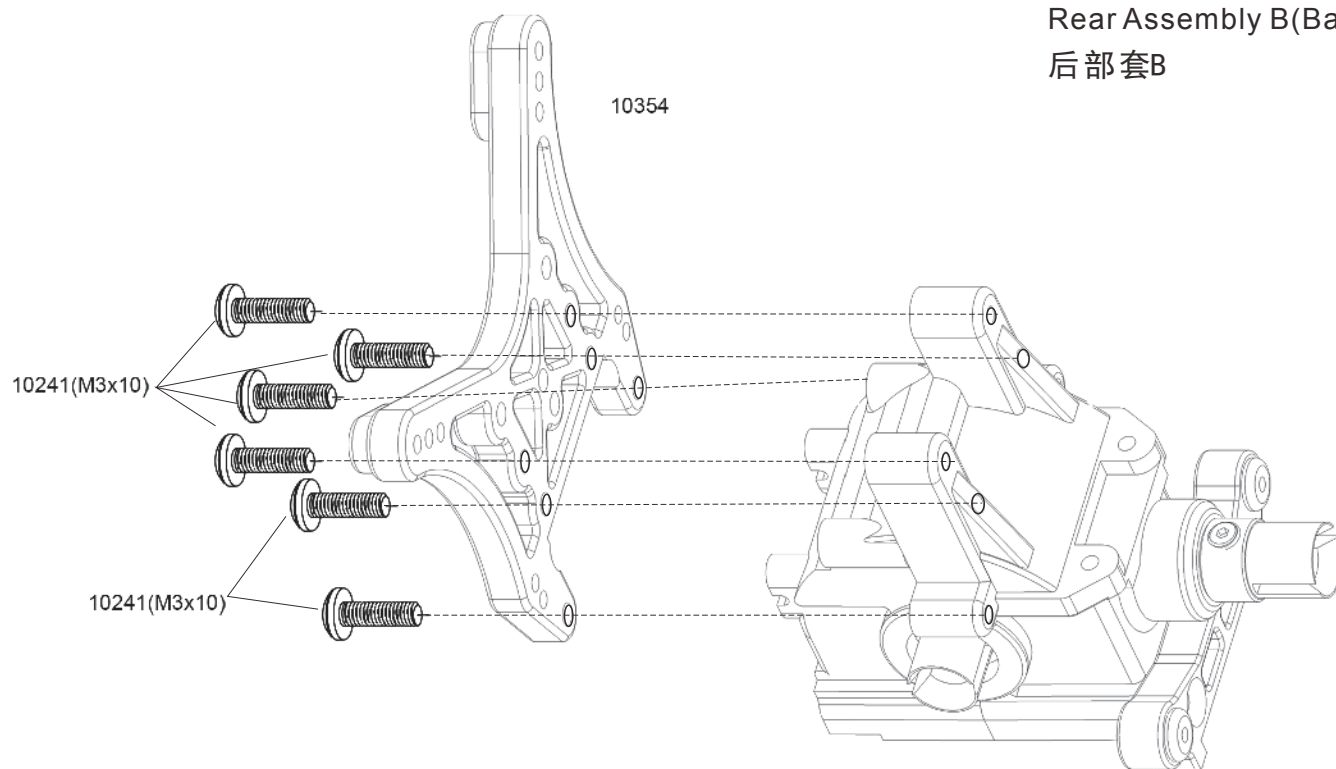
## Rear Gera Box Assembly(Bag J)

### 后齿轮箱组合



## Rear Assembly B(Bag J)

### 后部套B

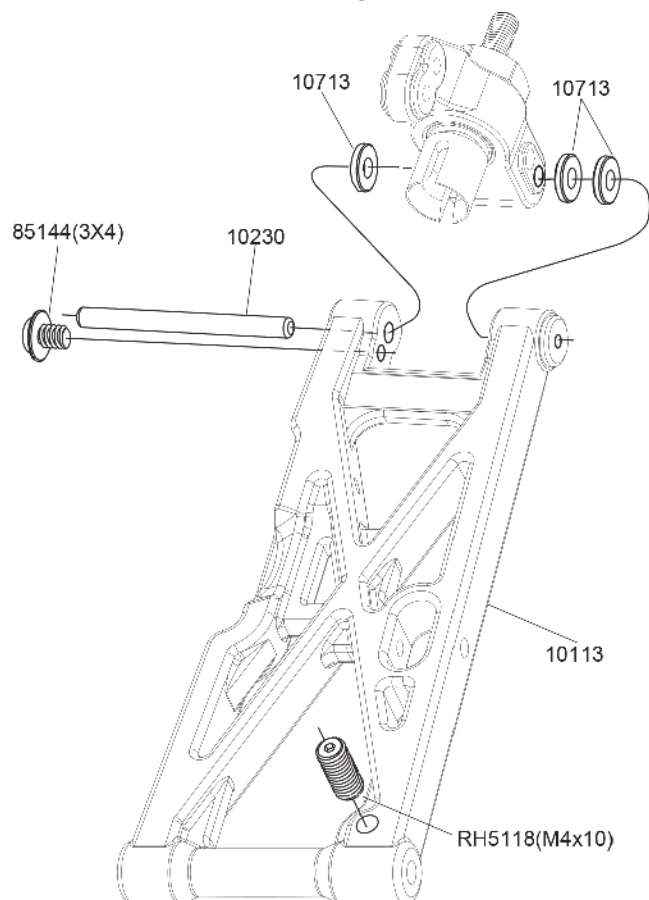


## Rear Shock Tower Assembly

### 后臂震板组装

## Bag J

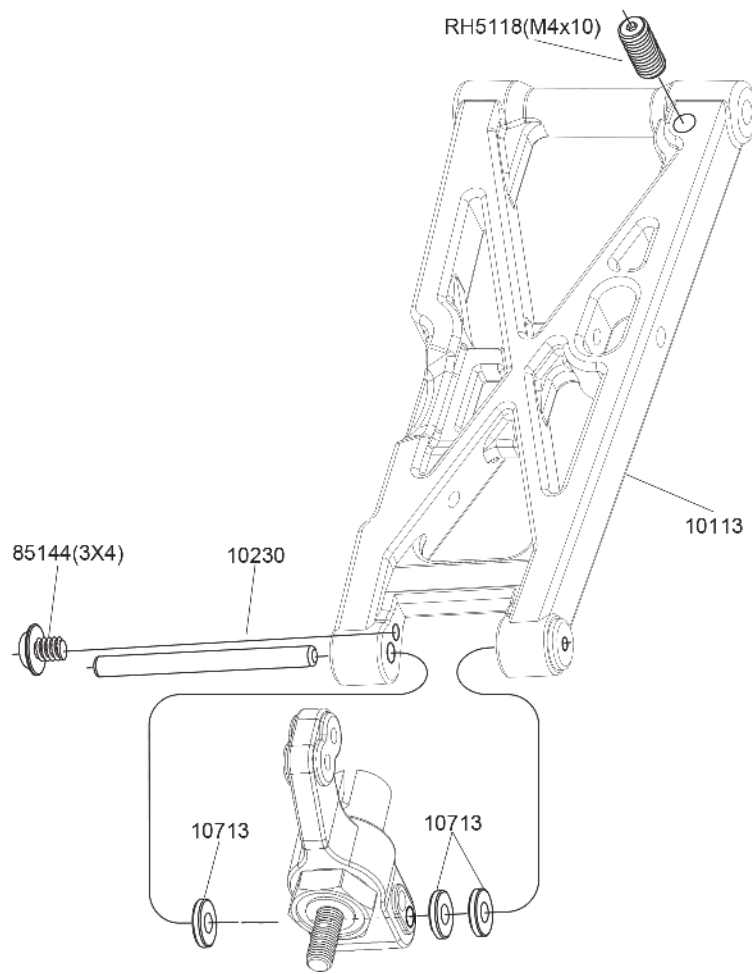
From Bag I



Assembly rear hub carrier set with rear lower  
susp arm.

组装后轴座组与后下摆臂

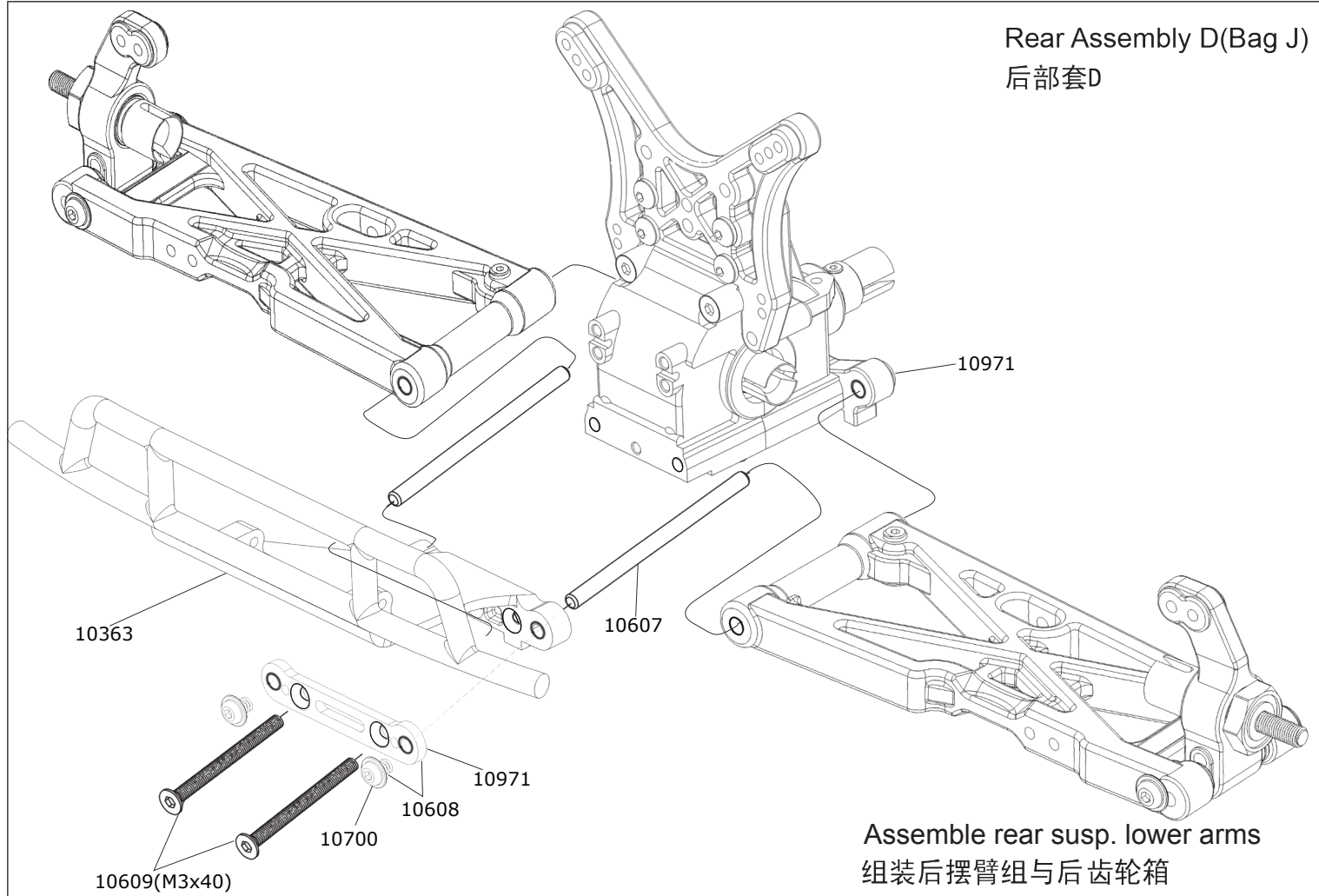
RH5118(M4x10)



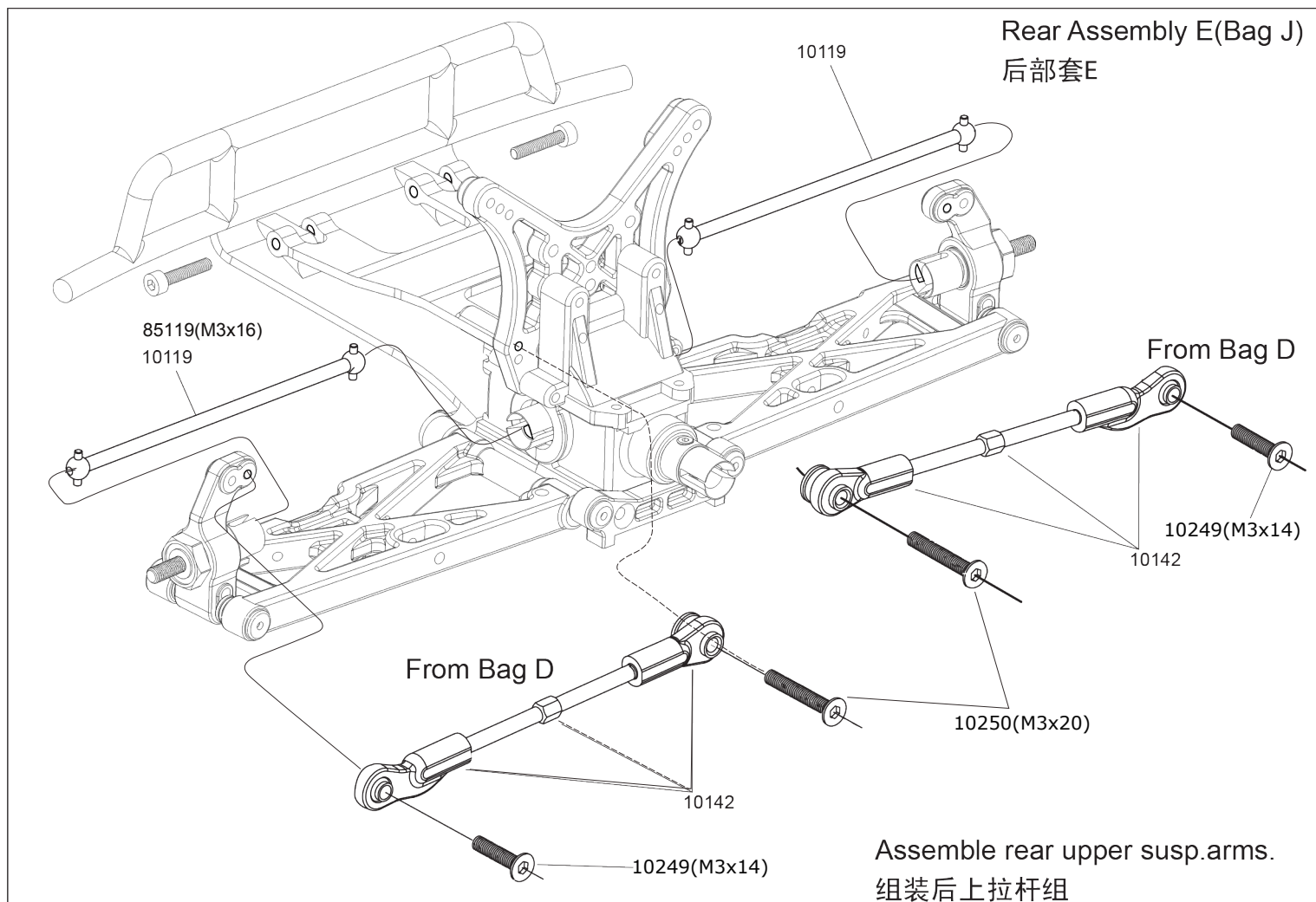
From Bag I

后部套C  
Rear Assembly C

Rear Assembly D(Bag J)  
后部套D

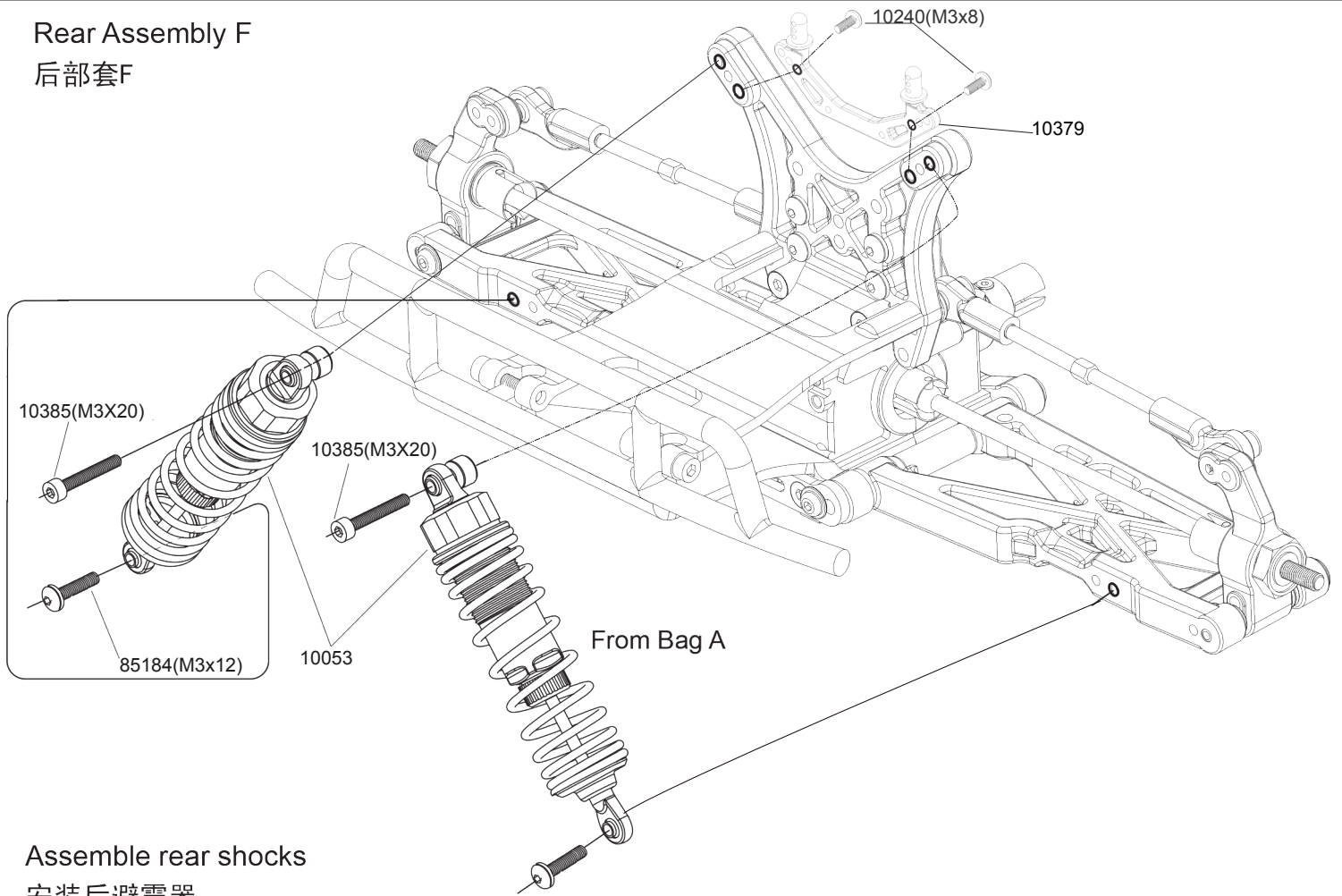


Rear Assembly E(Bag J)  
后部套E

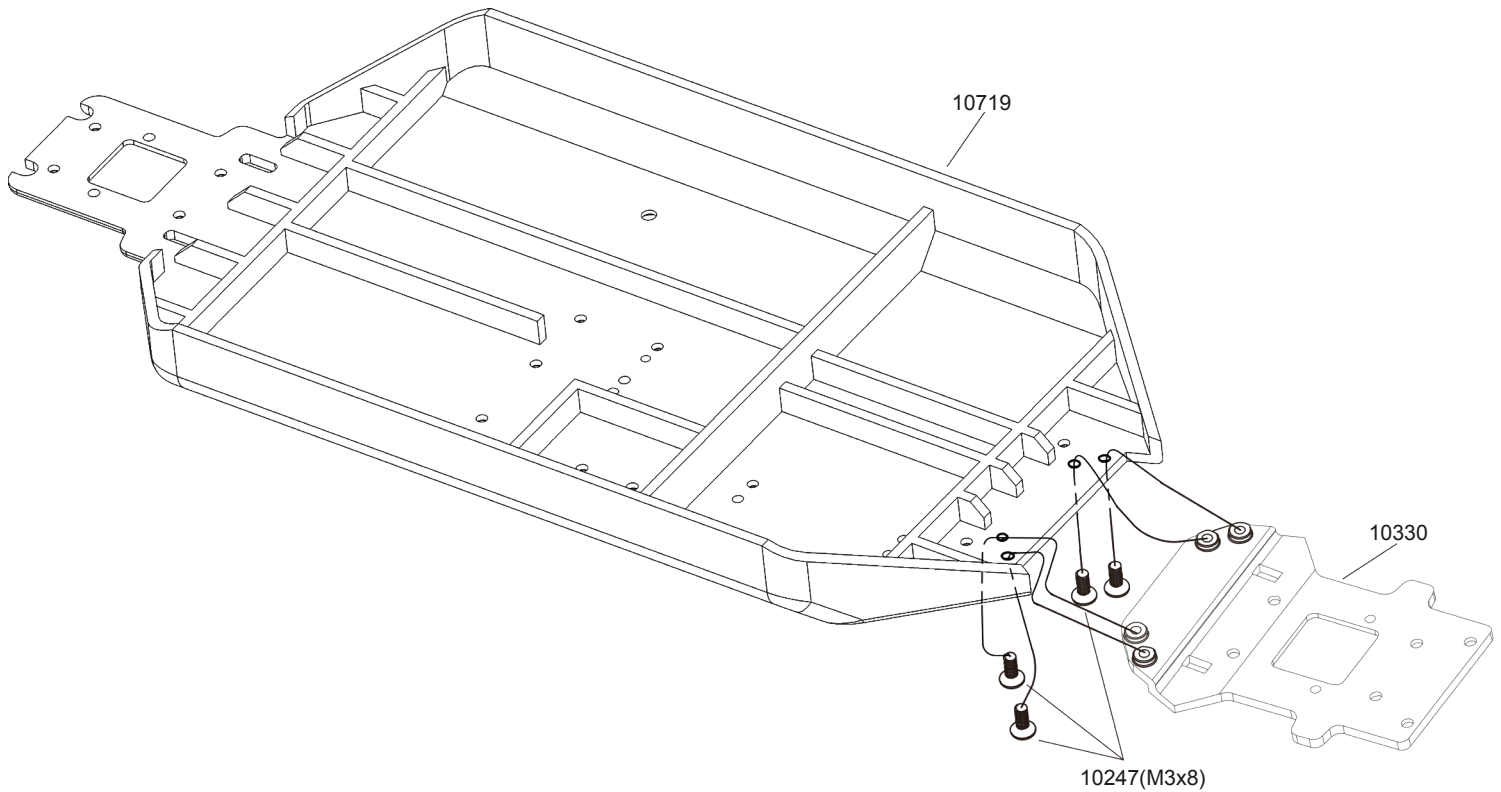


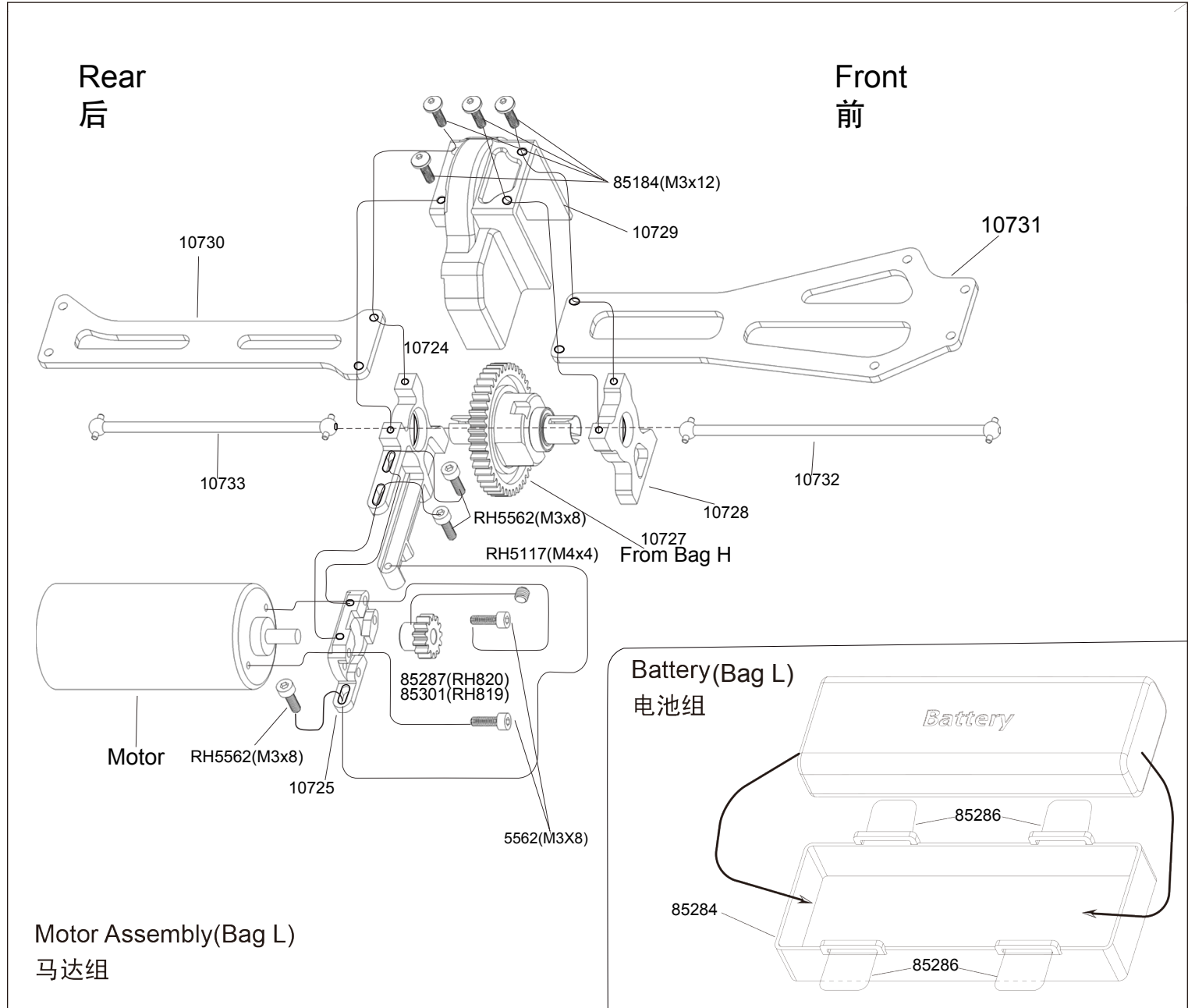
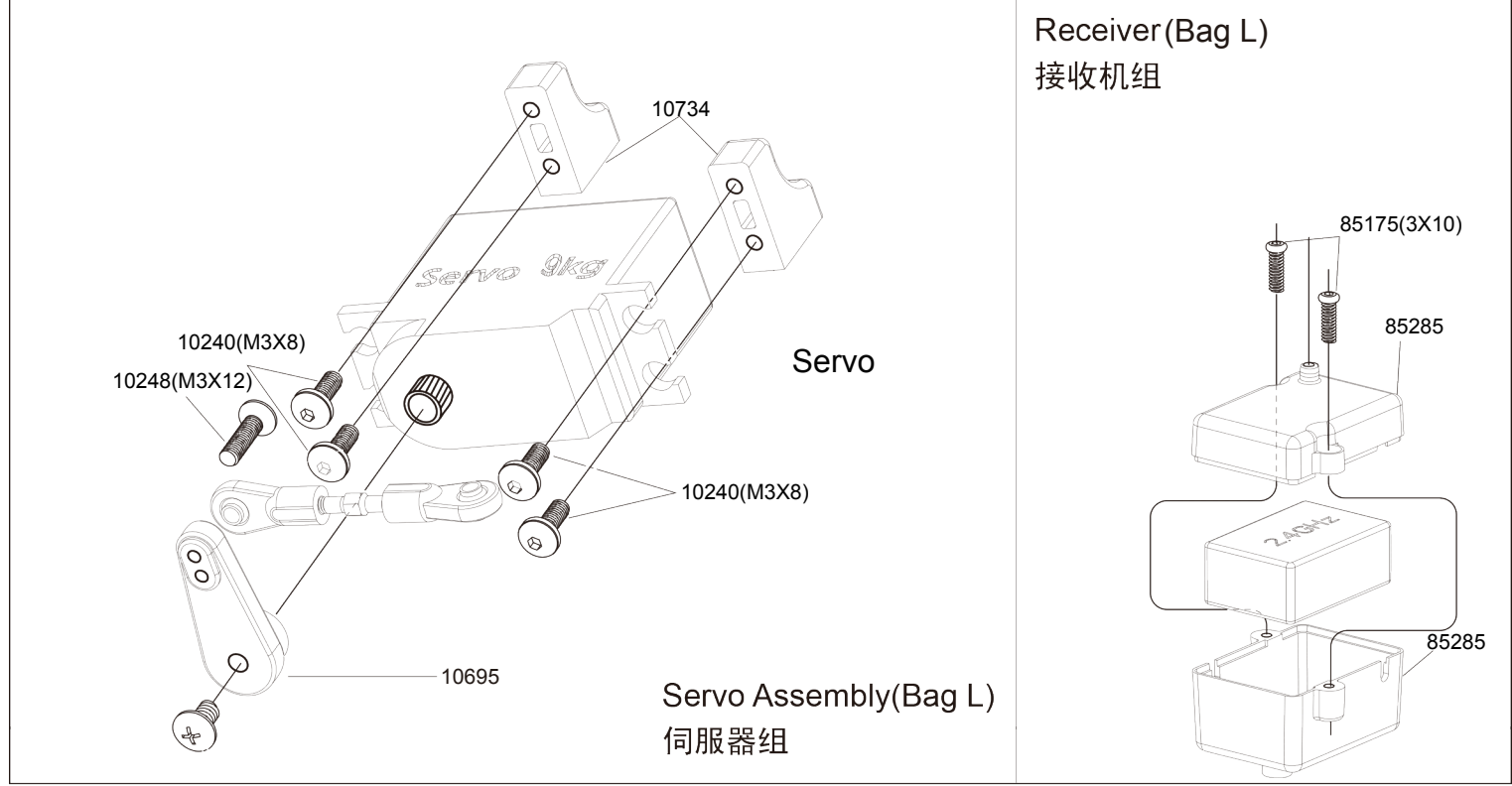


## Rear Assembly F 后部套F

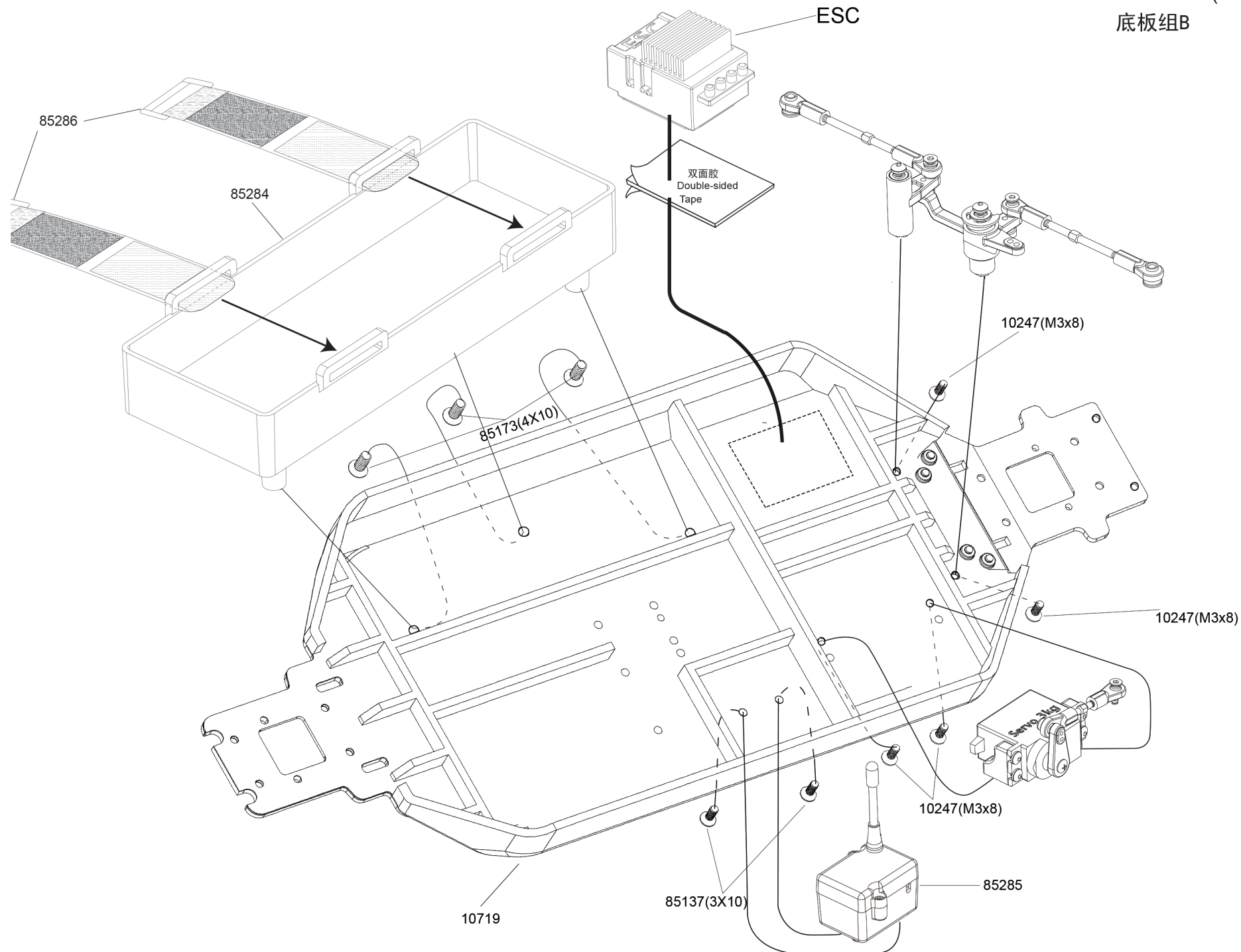


## Chassis A(Bag L) 底板组A



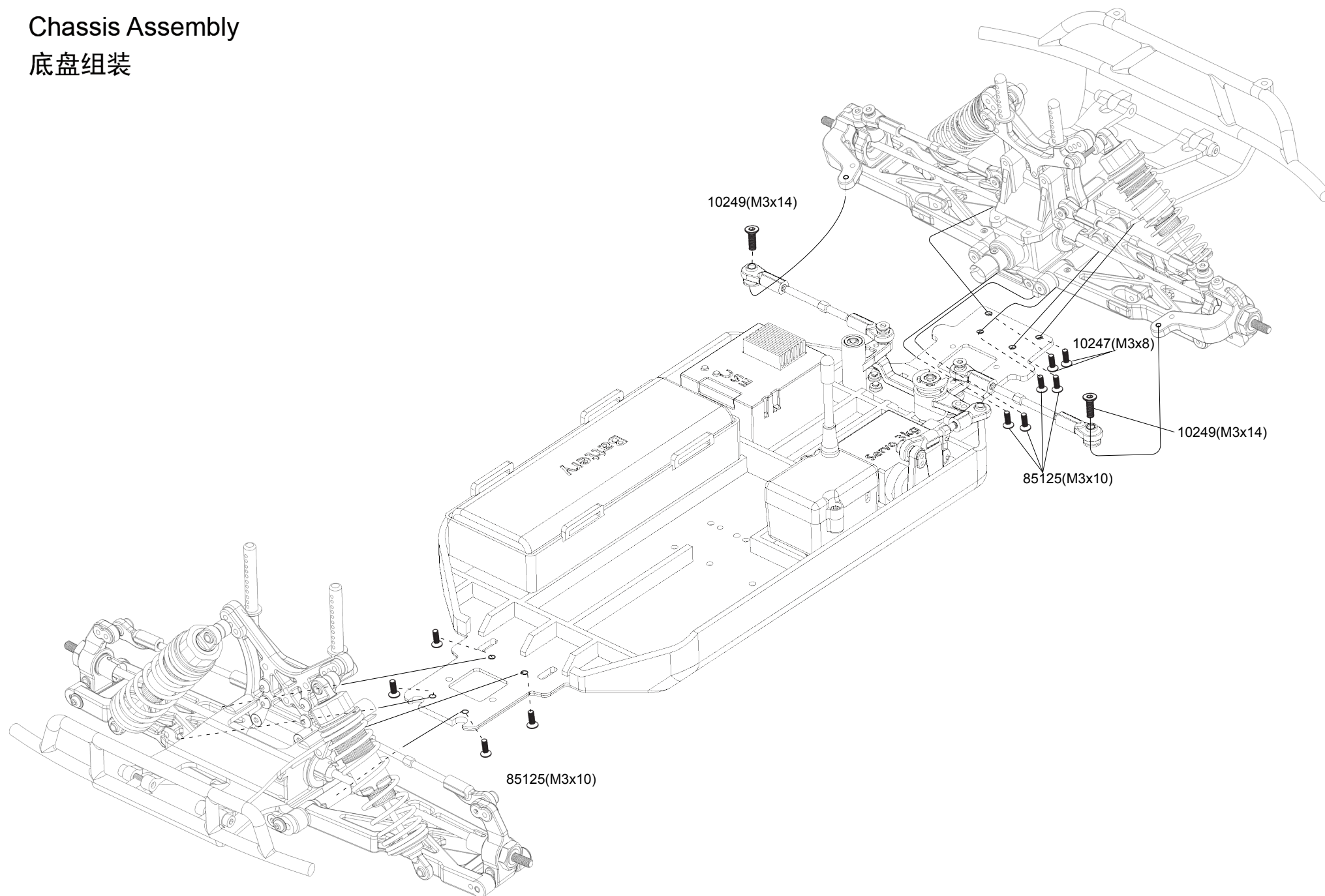


Chassis B(Bag L)  
底板组B



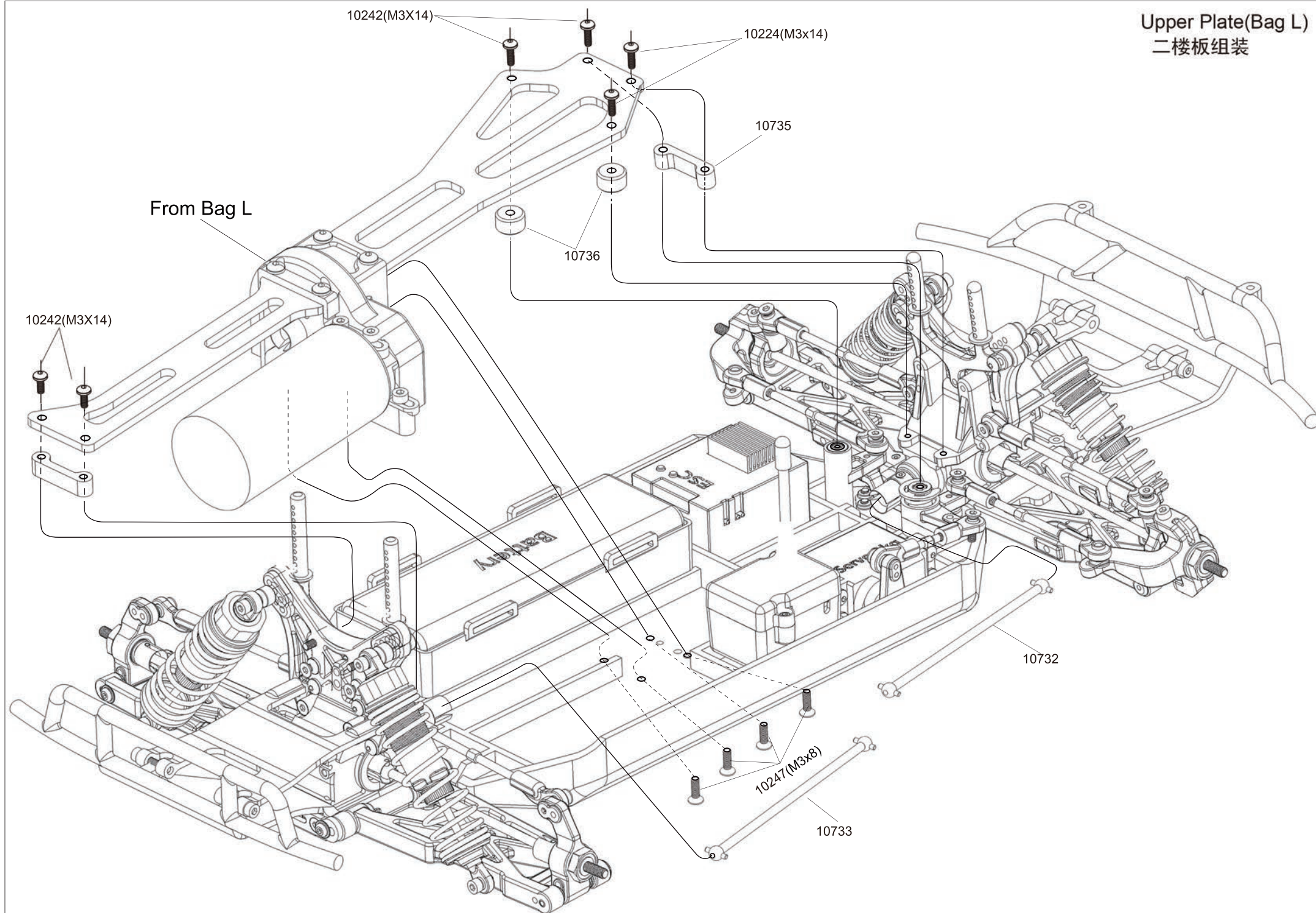
# Chassis Assembly

## 底盘组装



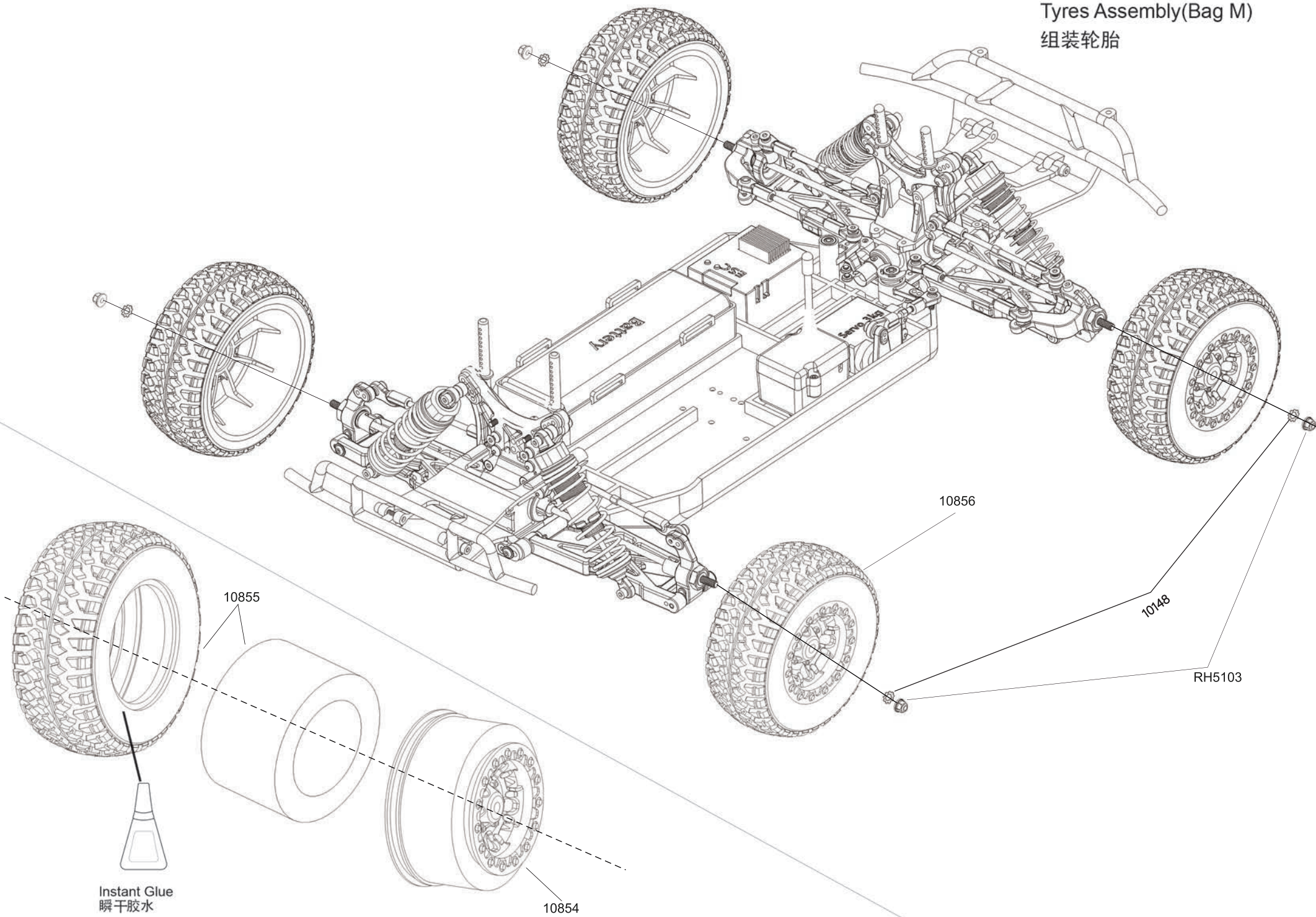


Upper Plate(Bag L)  
二楼板组装

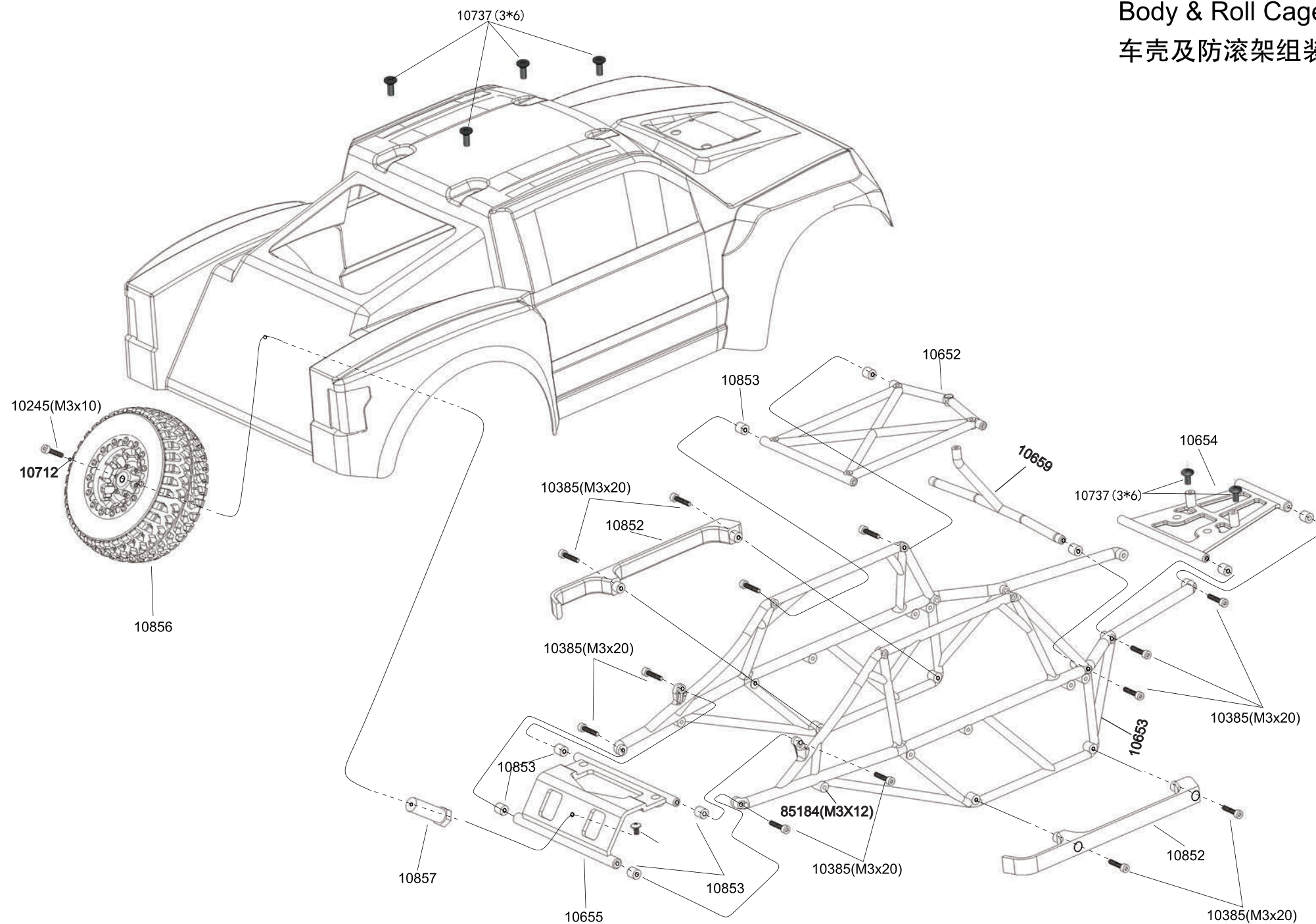




Tyres Assembly(Bag M)  
组装轮胎

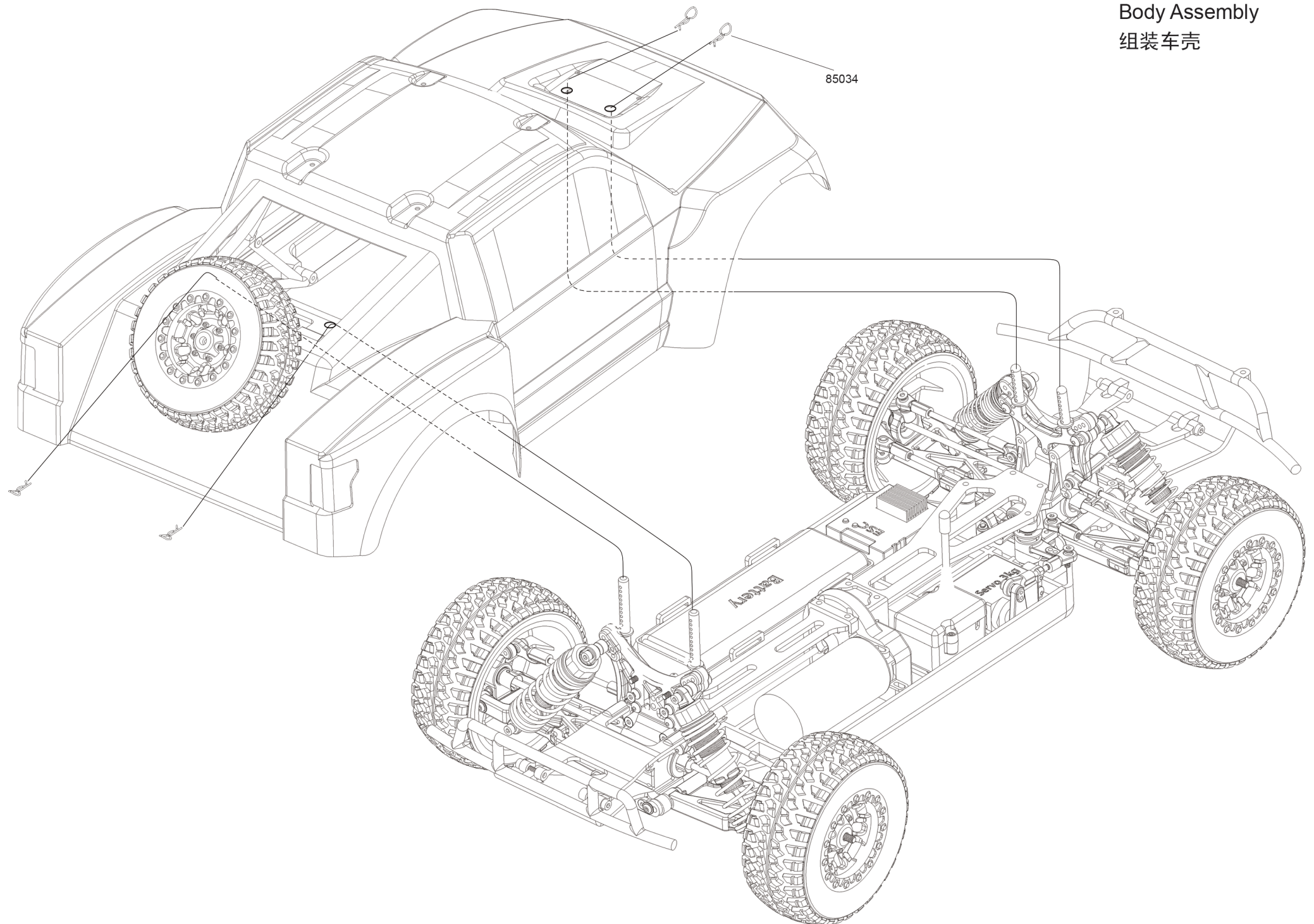


# Body & Roll Cage 车壳及防滚架组装





Body Assembly  
组装车壳





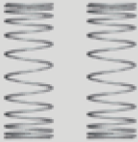
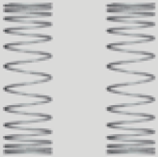





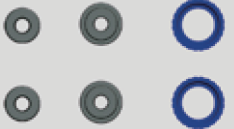

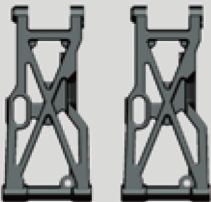
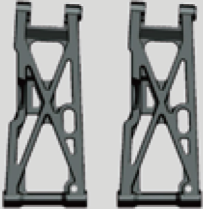
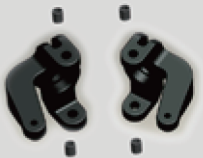



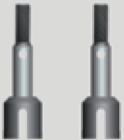

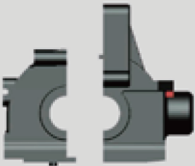




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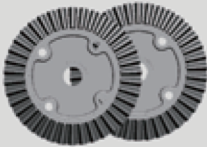














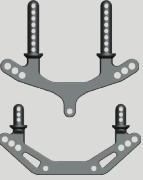

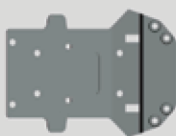





# Part List

<p>10719-Chassis Plate 1pc</p> 	<p>10724-Motor mount B 1pc</p> 	<p>10725-Motor mount S 1pc</p> 	<p>10726-Main gear 43T 1pc</p> 
<p>10727-Central transmission complete set 1set</p> 	<p>10728-Central transmission mount 1pc</p> 	<p>10729-Cover for Central transmission 1pc</p> 	<p>10730-Upper plate R. 1pc</p> 
<p>10731-Upper plate F. 1pc</p> 	<p>10732-Central drive shaft F. 1pc</p> 	<p>10733-Central drive shaft R. 1pc</p> 	<p>10735-Upper plate hightened pad 2pcs</p> 
<p>10736-Upper plate spacer 2pcs</p> 	<p>85287-Pinion gear 1pc</p>  <p>RH820</p>	<p>10444 -Wheel Hub 4pcs</p> 	<p>10607-Rear susp. arm pins w/screws</p> 
<p>10608-Rear bumper fix plate w/screw</p> 	<p>10609-Flat Hex Screw M3*40 6pcs</p> 	<p>10610-Rear bumper fix plate &amp; susp. arm pins set</p> 	<p>85303-Pinion gear 1pc</p>  <p>RH819</p>
<p>10969-Alloyfront suspension holders 1set</p> 	<p>10971-Alloy rear susp. holders 1set</p> 	<p>10362-Front bumper Set 1set</p> 	<p>10363-Rear bumper Set 1set</p> 

# Part List


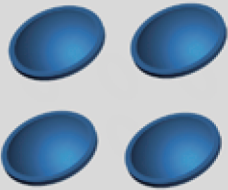


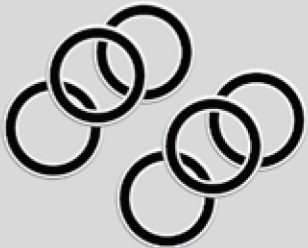











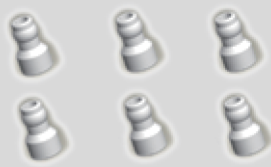
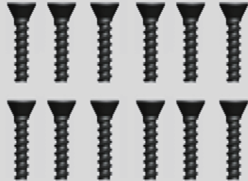





10353 - Front Shock Tower 1pc	10354 - Rear Shock Tower 1pc	10051BL-Front Shocks 2pc	10053-Rear Shock Tower 2pc
			
10859- Front Shock Spring 2pc	10849-Rear Shock Spring 2pc	10105-Front Shock Shaft & Piston Set 2sets	10106-Rear Shock Shaft & Piston Set 2sets
			
10107- Front Shock Body 2pc	10108- Rear Shock Body 2pc	10109BL- Shock Upper Cap 2sets	10110BL- Shock Lower Cap 2sets
			
10111BL-Shock Lower holder & Adjust Ring 2sets	10112- Front Lower Susp. Arm 2pc	10113- Rear Lower Susp. Arm 2pc	10114- Steering Knuckle Arm 1set
			
10115-Upr ights 2pc	10861-Front CVD 2pc	10117-Rear Hub Carrier 2pc	10560-Rear Drive Shaft 2pc
			
10119-Rear Dogbones 2pc	10123-Gear box Housing Set 2pc	RH5526-Diff 16T Gear Washer 6pcs	10124-Diff.Drive Gear w/pin 2sets
			

# Part List








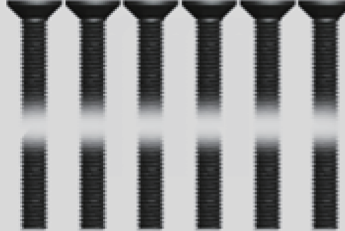




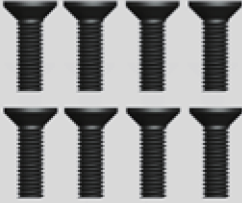




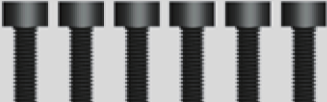

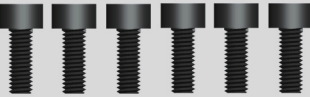
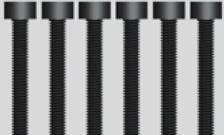



<p>10125-Diff Case 2pcs</p> 	<p>10126-Diff Drive Spur Gear 2pcs</p> 	<p>10127-Diff Drive Gear 2pcs</p> 	<p>10128-Diff Bevel Gear S. 4pcs</p> 
<p>10129-Diff Bevel Gear B. 4pcs</p> 	<p>10130-Diff Pin 2pcs</p> 	<p>10132-Diff Drive Cup 4pcs</p> 	<p>10133-Center Coupler 3pcs</p> 
<p>10136-Servo Saver Post 2pcs</p> 	<p>10137-Steering Ackerman</p> 	<p>10141-Front Upper Susp. Arm 2sets</p> 	<p>10142-Rear Upper Susp. Arm 2sets</p> 
<p>10143-Steering Arm 2sets</p> 	<p>10144-Servo Linkage 1pc</p> 	<p>10146-Antenna Pipe Set 2sets</p> 	<p>10147-Servo Saver (EP) 1set</p> 
<p>10379-Body Post 2pcs</p> 	<p>10695-Servo Horns</p> 	<p>10330-Chassis Front Part 1pc</p> 	<p>10003-Diff Gearbox Set 1set</p> 
<p>85034-Body Clip (Medium Size) 6pcs</p> 	<p>10214-Shock Ball End 6pcs</p> 	<p>10215-Servo Link Ball end 6pcs</p> 	<p>10216-Steering Linkage Ball End 6pcs</p> 



# Part List

<p>10225-Diff O-ring Seal 6pcs</p> 	<p>10226-Shock Seal Cover 4pcs</p> 	<p>10228-Pin <math>\phi 2 \times 10</math> 6pcs</p> 	<p>10230-Hinge Pins(long &amp; short) 2sets</p> 
<p>10232-Ball Bearing 15*10*4 6pcs</p> 	<p>10233-Ball Bearing 10*5*4 6pcs</p> 	<p>10153-Metal Bushing 8.5*2.5 6pcs</p> 	<p>11068-C clip-7.3mm 4pc</p> 
	<p>10237-E clip-2.5mm 6pc</p> 	<p>10224-Shock O-ring(Lower) 6pcs</p> 	<p>85285-RX case 1set</p> 
<p>10734-Servo mount 2pcs</p> 	<p>85284-Battery case 1pc</p> 	<p>85286 Velcro Tape 2pcs</p> 	<p>10220-Ball A 6pcs</p> 
<p>10221-Ball B 6pcs</p> 	<p>10222-Ball C 6pcs</p> 	<p>85137-Flat head self Tapping screw set 3*10mm 12pcs</p> 	<p>RH5103-Nylon Lock Nut-M4 6pc</p> 
<p>RH5102-Nylon Lock Nut M3 6pc</p> 	<p>18074-Ring Self Tapping Screw 2.5*4 4pc</p> 	<p>10852 - Body supporting bar 1set</p> 	<p>10853 - Roll cage spacer 14pcs</p> 













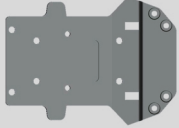


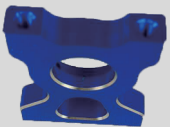


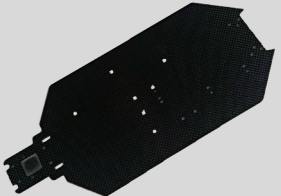
# Part List

<p>10238-Round Head Self Tapping Hex Screw 2*10 6pc</p> 	<p>10240-Button Head Hex Screw M3*8 6pc</p> 	<p>10241-Button Head Hex Screw M3*10 6pc</p> 	<p>10242-Button Head Hex Screw M3*14 6pc</p> 
<p>10247-Flat Head Hex M3*8 6pc</p> 	<p>10248-Flat Head Hex Screw M3*12 6p</p> 	<p>10249-Flat Head Hex Screw M3*14 6p</p> 	<p>10251-Flat Head Hex Screw M3*36 6p</p> 
<p>10256-Ring Self Tapping Screw 3*6 6pc</p> 	<p>10385-Cap Head Hex Screw M3*20 6pce</p> 	<p>RH5117-Set Screw M4*4 6pc</p> 	<p>RH5118-Button Head Hex Screw M4*10 6pc</p> 
<p>85125-Flat Head Hex Screw M3*10 8p</p> 	<p>85127-Flat Head Hex Screw M3*18 3p</p> 	<p>85144-Ring Self Tapping Screw 3*4 4pc</p> 	<p>85173-Flat Head Hex Screw M4*10 6p</p> 
<p>85175-Button Head Hex Tapping Screws.3*10 8P</p> 	<p>85182-Cap Head Hex Screw M3*10 6pc</p> 	<p>85184-Button Head Hex Screw M3*12 6pc</p> 	<p>RH5562-Cap Head Hex Screw M3*8 6pc</p> 
<p>85119-Cap Head Hex Screw M3*16 6pce</p> 	<p>10250-Flat Head Hex Screw M3*20 6pc</p> 	<p>10713-Washer 6.9*3.5*1.1 6pcs</p> 	<p>H0101 - 590 Motor 1pc</p> 

# Part List

<p>H0072 - 45A KS Brushless ESC H0082 - 60A KS Brushless ESC</p> 	<p>85262 - 3660 3000KV Motor 1pc</p> 	<p>85260 - 11.1V 3250mAH</p> 	<p>H0067 - 6kg/cm Servo 1pc</p> 
<p>H0079-V3 Lipo Charger</p> 	<p>H0068 - 2.4GHz Transmitter 1pc</p> 	<p>H0089 - 8.4v1800mAh N1-MH battery 1pc</p> 	<p>H0050-400A ESC 1pc</p> 
<p>H0110 - 1/v10 Charger CE 1pcs H0111 - 1/10 Charger CE 1pcs H0112 - 1/10 Charger CE 1pcs</p> 	<p>H0099 - Motor Cooling Fan Wita Heatsink</p> 	<p>85265 - Heatsink 1pc</p> 	<p>10688 - Driver helmet 2pcs</p> 
<p>R0260 - Driver Blister set w/decal</p> 	<p>R0253 - clear body</p> 	<p>R0254 - Printed body(white/red/blue)</p> 	<p>R0253R - Printed body(blue/white/red)</p> 
<p>10652 - Roll cage Top Frame</p> 	<p>10653 - Roll cage side Frame 2pcs</p> 	<p>10654 - Roll cage Front 1pc</p> 	<p>10655 - Roll cage rear plate 1pc</p> 
<p>10857 - Spare wheel support</p> 	<p>10659 - Roll cage window frame 1pc</p> 	<p>10854 - Rim 2pcs</p>  <p>10855 - Tyres &amp; foam 2sets</p> 	<p>10856 - Preassembled Tyres 2sets</p> 

# Upgrade Parts List

<p>10961- Front Shock Platr (Carbon) 1set</p> 	<p>10962- Rear Shock Platr (Carbon) 1set</p> 	<p>11067- Front Shock (AL) 2pc</p> 	<p>11025BL- Rear Shocks (Al) 2pc</p> 
<p>10911 - Steering Ackerman (AL) 1pc</p> 	<p>11027- Wheel Hub(AL) 4pc</p> 	<p>10924 - Alum Knuckle Arm 2pc</p> 	<p>10909 - Front Lower Susp. Arm (AL) 2pc</p> 
<p>10910 -Rear Lower Susp. Arm (AL) 2pc</p> 	<p>10912 - Front Susp. Holders (AL) 1Set</p> 	<p>10915 - Rear Hub Carrier (AL) 2pc</p> 	<p>10917 - Steering Knuckle Arm (AL) 2Set</p> 
<p>10210-Sway Bar 2Sets</p> 	<p>10932 - Alum Chassis Front Part 1pc</p> 	<p>10923 - Alum Steering Arm 2pc</p> 	<p>10999-Steel 43T gear 1pc</p> 
<p>11020-Alum Central transmission mount 1pc</p> 	<p>11021-Alum Upper Plate hightened pad 2pc</p> 	<p>11022-Alum Upper Plate spacer 2pc</p> 	<p>11023-Carbon Chassis Plate 1pc</p> 
<p>11024-Alum Chassis Plate</p> 