VRX Racing

# MIZAR

## INSTRUCTION BOOK AND COMPONENT LISTING

1:10 SCALE

ELECTRIC

FOUR-WHEEL DRIVE

2.4Hz RADIO

THE MAXIMUM ANGLE IS 60°

Mizar

- RH1071 BRUSHED ■
- RH1072 BRUSHLESS ■

Megrez

- RH1073 BRUSHED ■
- RH1074 BRUSHLESS ■

MEGREZ

DOMINANT DRIVE

SPEED DEMON

congratulations on your purchase of the VRX Racing 1/10 4WD electric cars
This 1/10th 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.

WARNNING: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

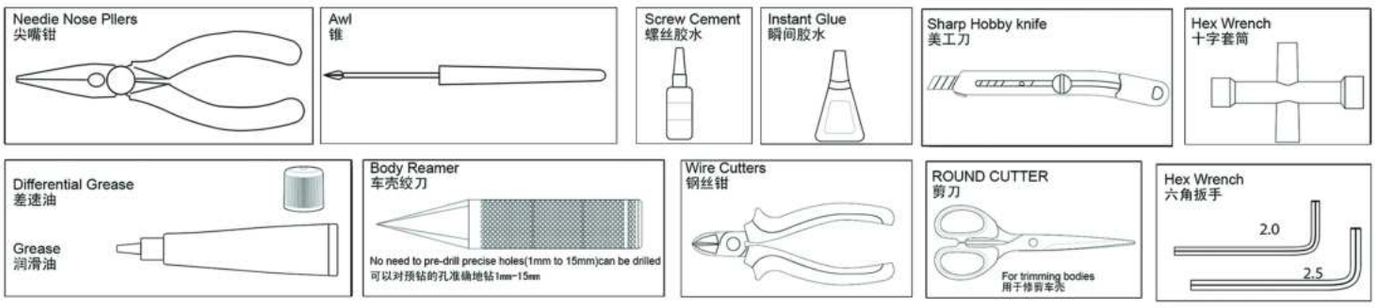
Safety Precautions and Warnings
You are responsible for operating this model such that it does not endanger yourself and others,or result in damage to the product or the property of others.This model is controlled by a radio which is possibly subject to interference which can cause momentary loss of control so it is advisable to always keep a safe distance to avoid collisions and injury.Age Recommendation:14years 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 turming your transmittler 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

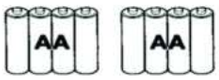
### 1.Tools required for building and maintenance:



## 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.

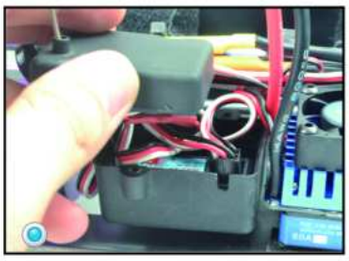
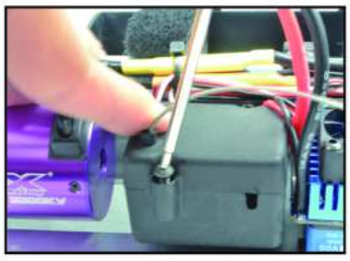
### 2.Additional items needed for operation:

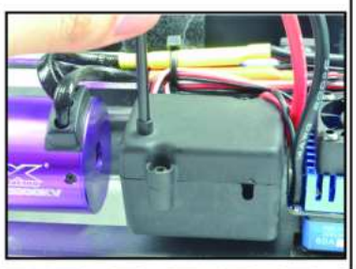



*AA Alkaline batteries for transmitter*

## IMPORTANT!

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



## EBL VERSION

### 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 your 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 binking red then there is an error with either the battery or charger.

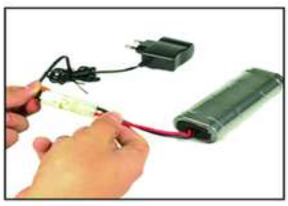
when charging a completely discharged battery,the charger can become hot to touch.NEVER LEAVE THE BATTERY CHARGE UNATTENDED.Always disconnect the charger from the mains supply and the battery pack when not in use.

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 caron,ensure it is off ground with wheels away from objects.

## EBD VERSION

### 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 500mAh mains charger will take approx 4 hours to charge a fully charger if it becomes warm to 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 incase of overcharging,you need to able to monitor the battery during charging.
Charge away from flammable objects and on a non-flammable surface incase the battery becomes too hot.

## Getting Started

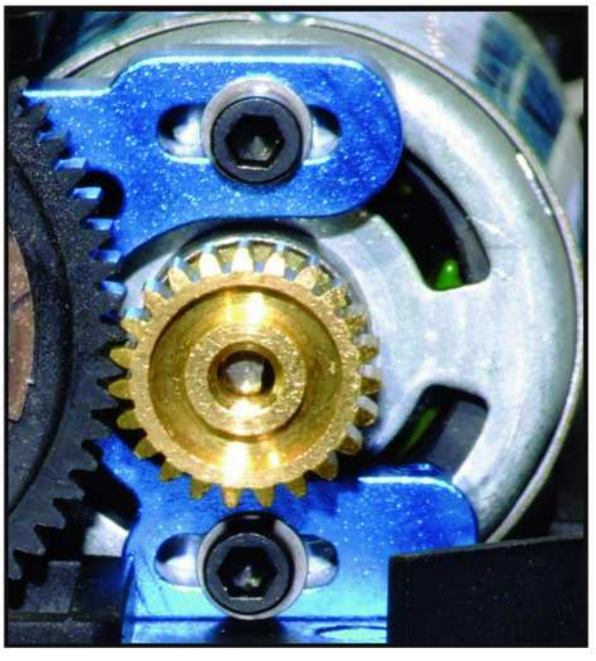
Refer to 2.4ghz binding manual for radio set-up.
Switch on transmitter
Hold vehicle clear of the ground,connect battery pack and switch on receiver.
Test the transmitter to check control of the vehicle with wheels off the ground.
Start driving slowly and if the vehicle of the vehicle with wheels off the ground.
For the very first run use the throttle gently,to help the driver become accustomed to the vehicles behaviour and controls.
Although this vehicle features waterproof electronics they are not designed to be submerged in water. Potential damage can still occur to vehicles 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 themotor or speed controller.Remove the wheels occasionally and checkbehind the mounting hex for obstructions oranything that might have been wrapped around the axleand caused extra drag.



Check the gear mesh frequently and remove any stones or 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.Simplyslacken the motor retaining screws and adjust the motor untill there is just discemable 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:<br>Battery damaged/not Charged.<br>Motor dirty or brushes worn.<br>Drivetrain binding. | Sluggish Action:<br>Motor damaged.<br>Bind in drive train.<br>Battery running low on power. | Motor/ESC overheat:<br>Over-geared<br>Binding transmission.<br>Seized axle bearing.<br>Motor binding | Motor spins but vehicle refuses to move:<br>Gears damaged.<br>Gears loose on shaft.<br>Magnets debonded from motor armature.<br>Slipper clutch too loose.<br>Drive shaft broken or missing. | Poor Range or fails to operate:<br>Transmitter batteries low.<br>Vehicle Battery Low.<br>Transmitter switched off.<br>Transmitter/receiver aerial not extended.<br>ESC switched off or battery not connected.<br>Loose connectors/wires.<br>2.4ghz binding with-receiver lost |

## 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,personalinjury and/or damage to property.The buyer assumes all Liability and risk associated with the use of Lithium-Polymer(Li-Po)batteries.Immediately retum the battery,unused,if you do not agree with these terms.

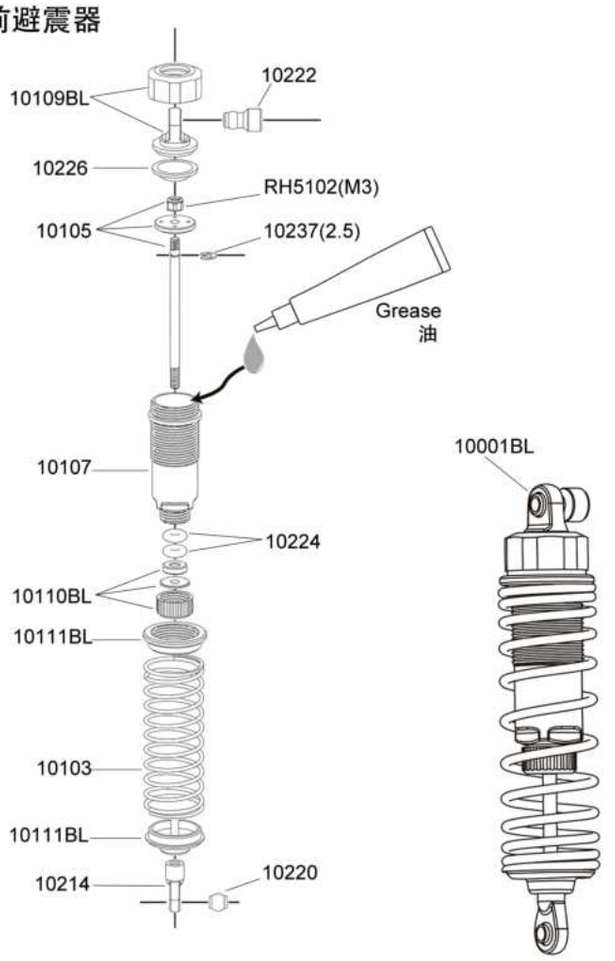
## General guidelines and warnings:

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 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.

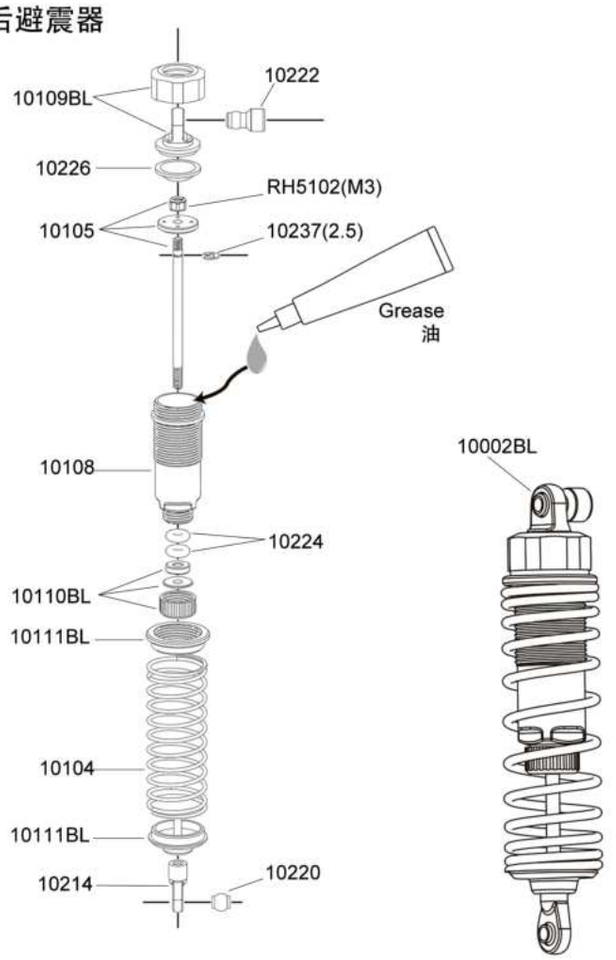
## Charging process:

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 call 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:
Submerse 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.

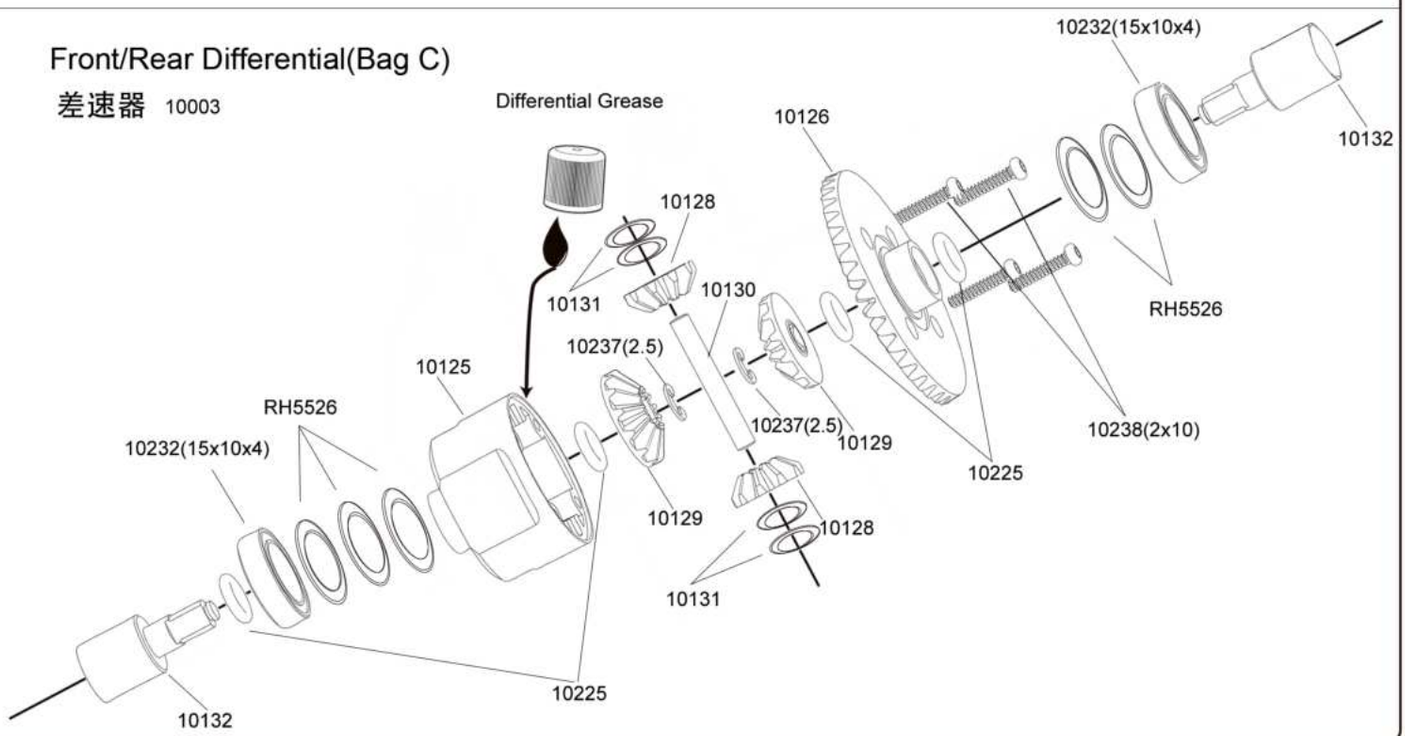
## Front Shocks(Bag A)
前避震器



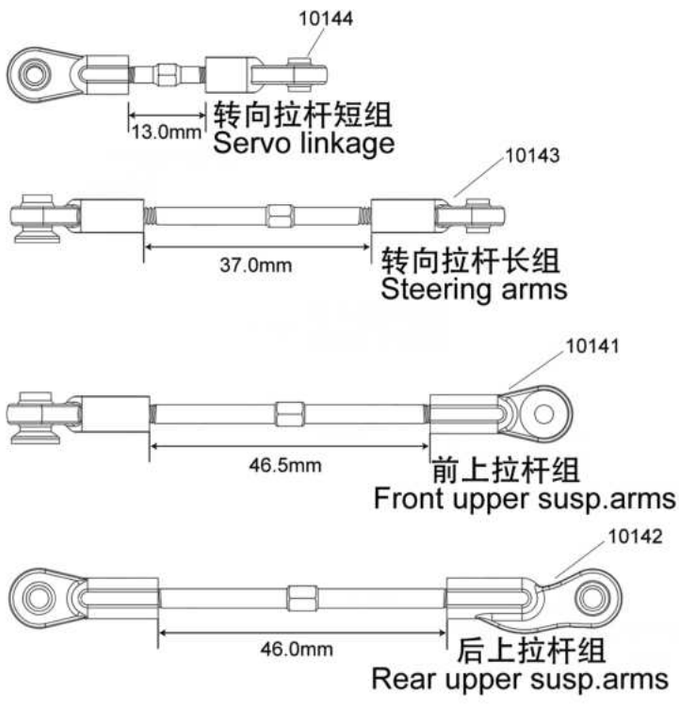

## Rear Shocks(Bag B)
后避震器

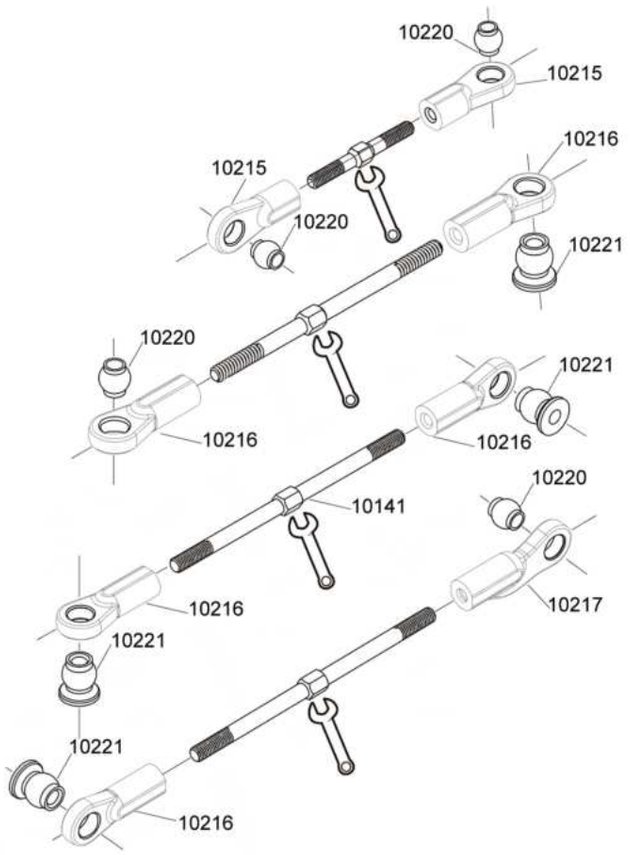



## Front/Rear Differential(Bag C)
差速器 10003

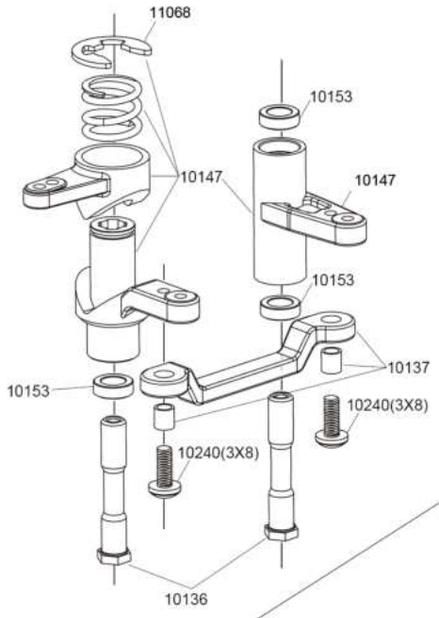


## 拉杆组

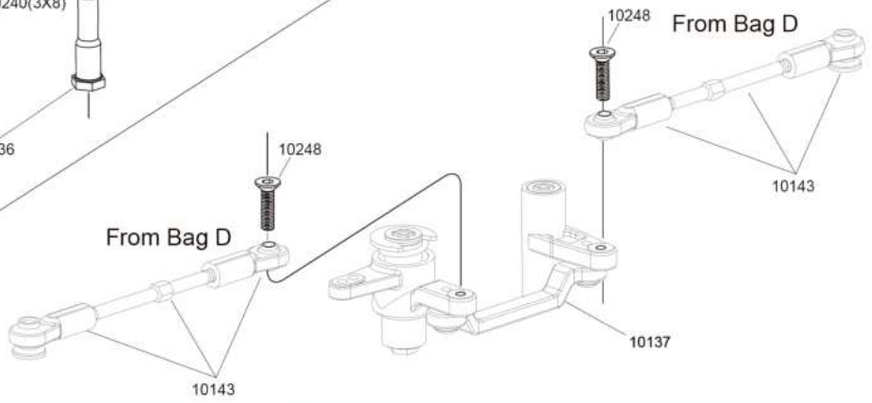


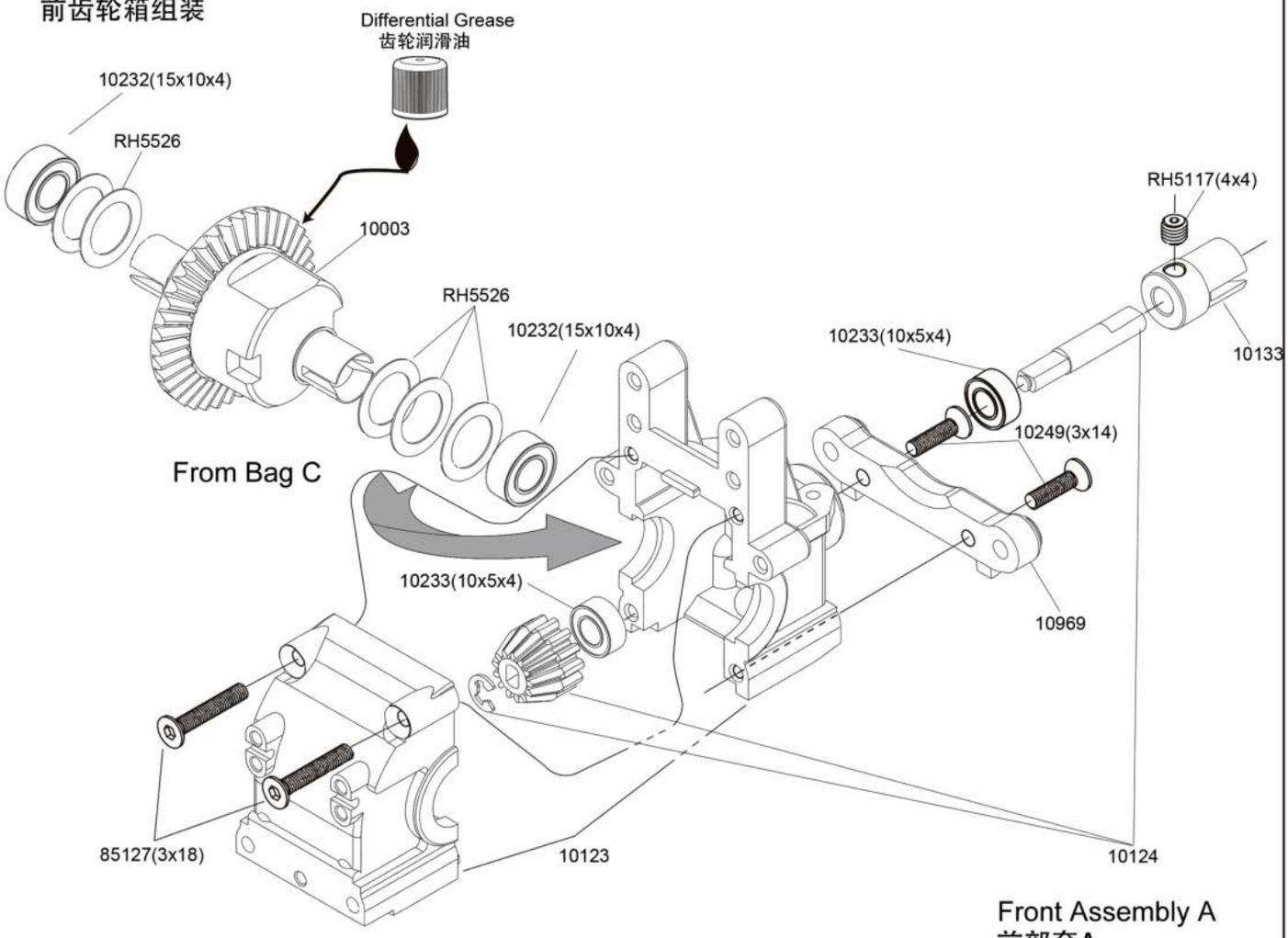

Servo Saver(Bag E)
转向摇臂组合




Assemble steering arms.
组装转向拉杆到转向摇臂组上

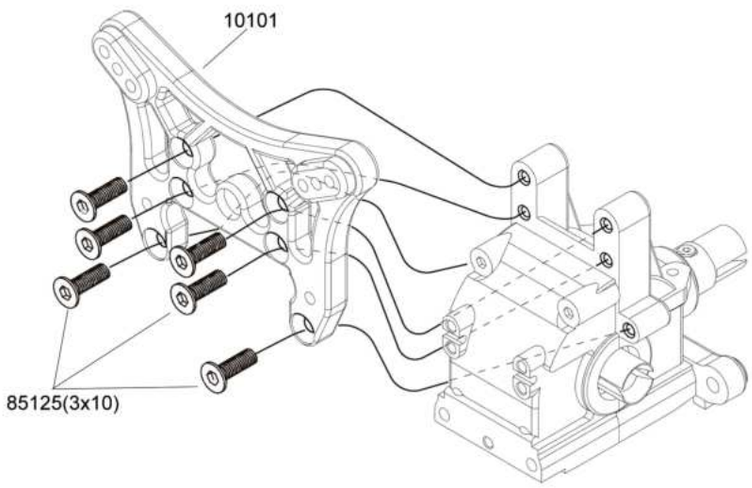


## Front Gear Box Assembly(Bag F)
## 前齿轮箱组装

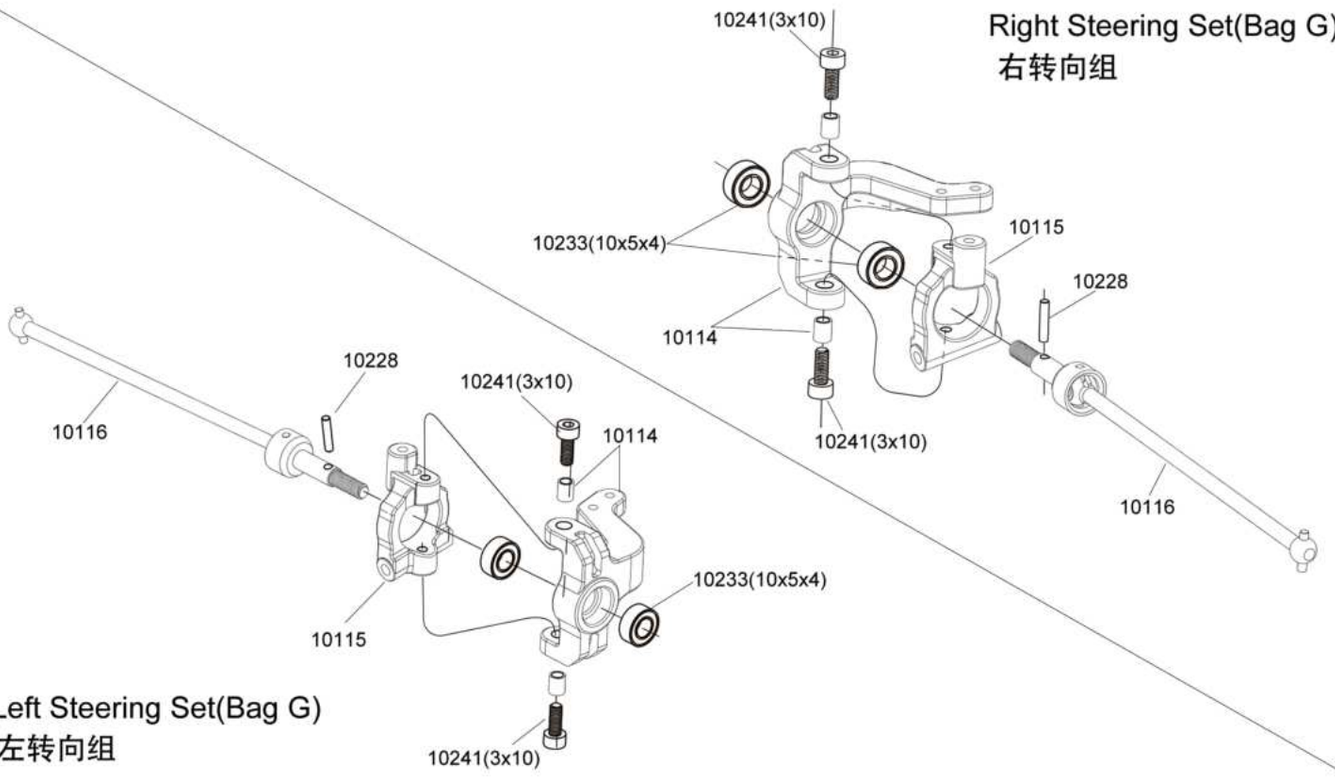


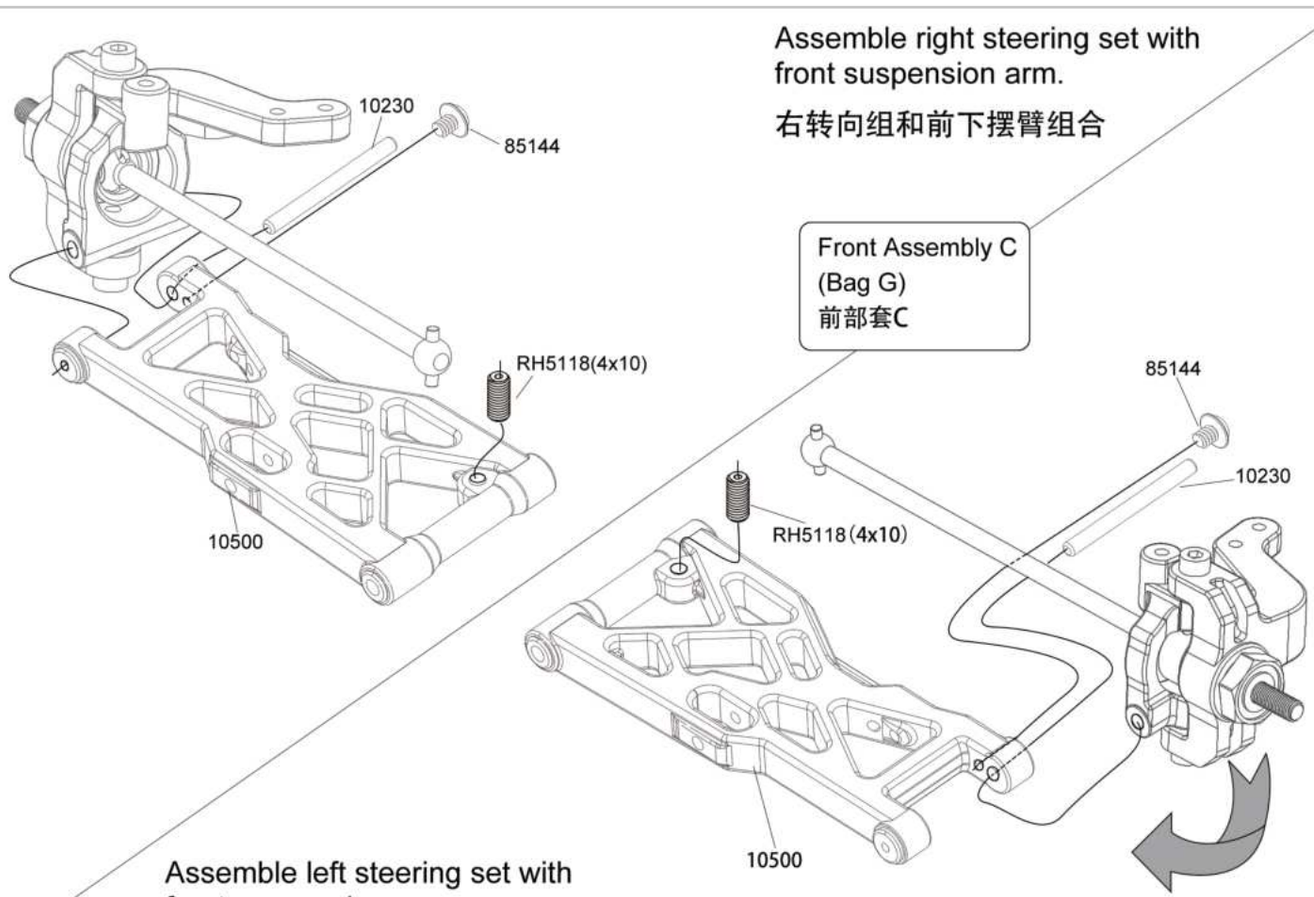

Front Assembly A
前部套A

## Front Shock Tower(Bag F)
## 前避震板组装

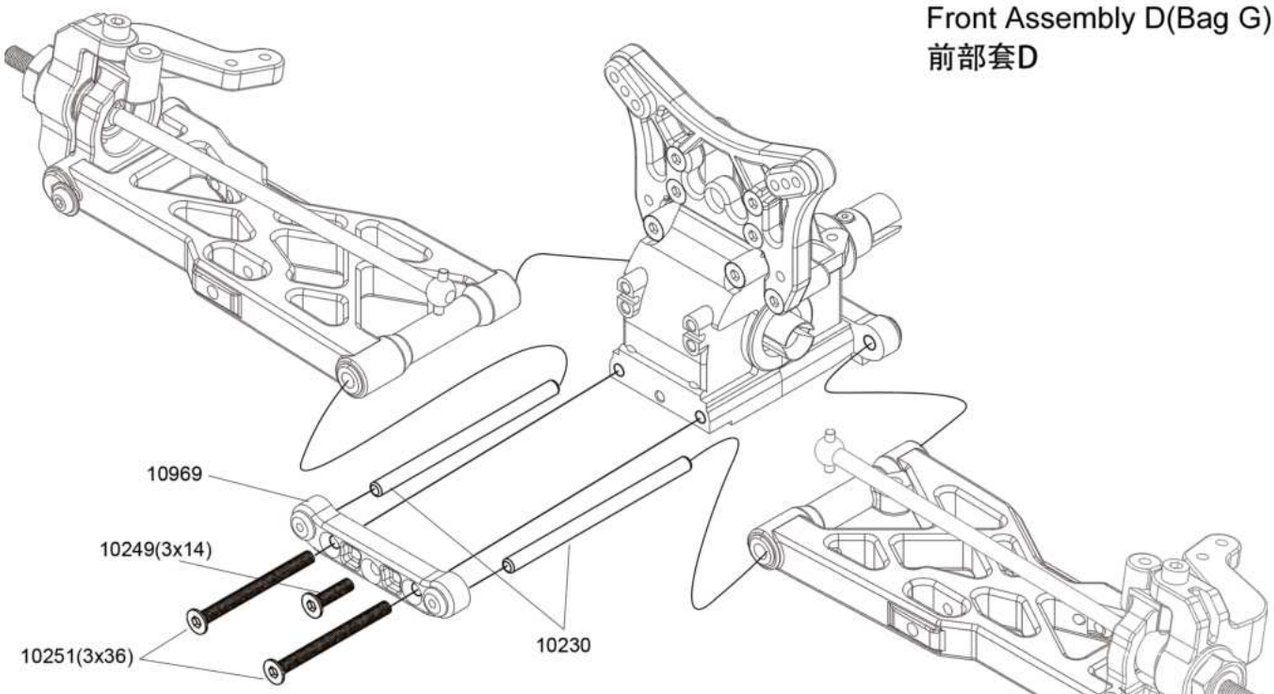



Front Assembly B
前部套B


10241(3x10)
Right Steering Set(Bag G)
右转向组
10233(10x5x4)
10115
10228
10114
10241(3x10)
10116
10228
10241(3x10)
10116
10114
10233(10x5x4)
10115
10241(3x10)
Left Steering Set(Bag G)
左转向组

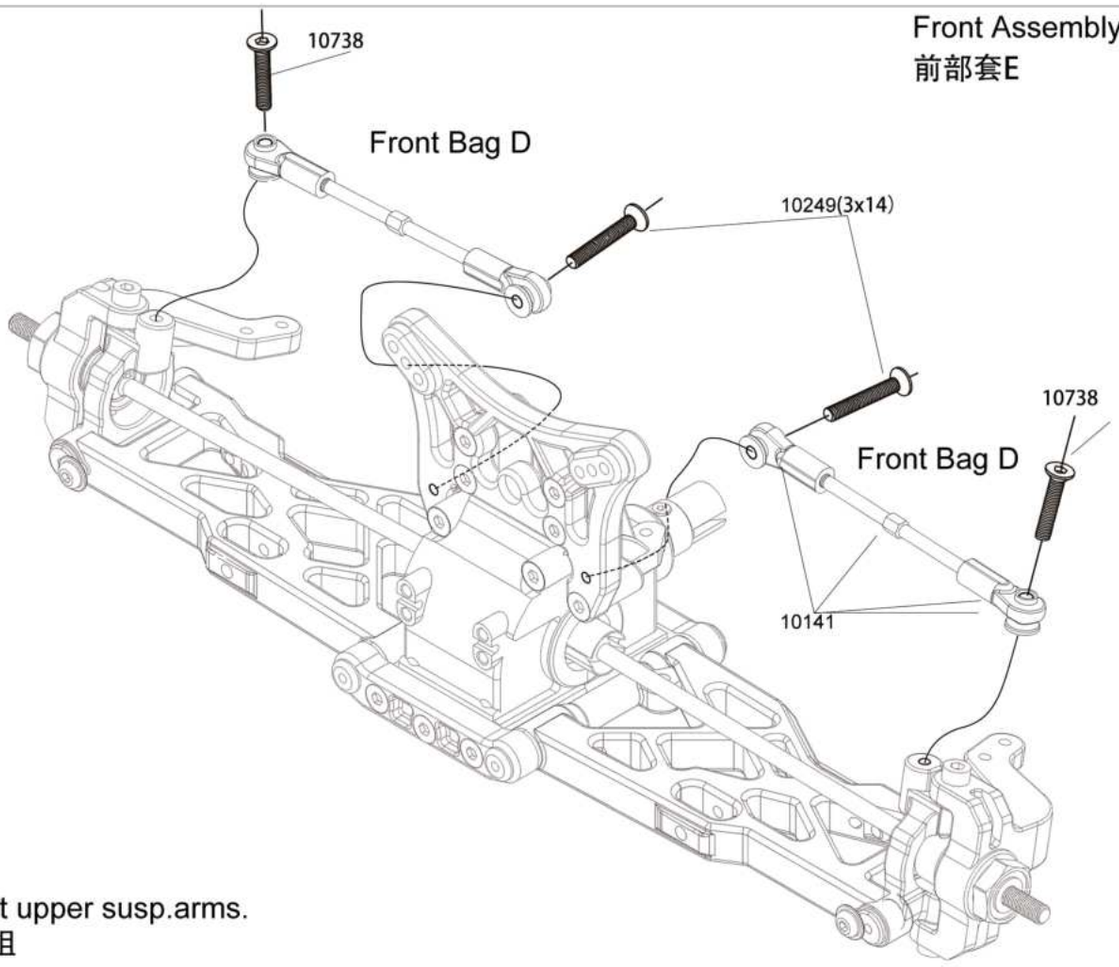

Assemble right steering set with front suspension arm.
右转向组和前下摆臂组合
10230
85144
Front Assembly C (Bag G)
前部套C
RH5118(4x10)
85144
10230
10500
RH5118(4x10)
10500
Assemble left steering set with front suspension arm.
左转向组和前下摆臂组合

Front Assembly D(Bag G)
前部套D



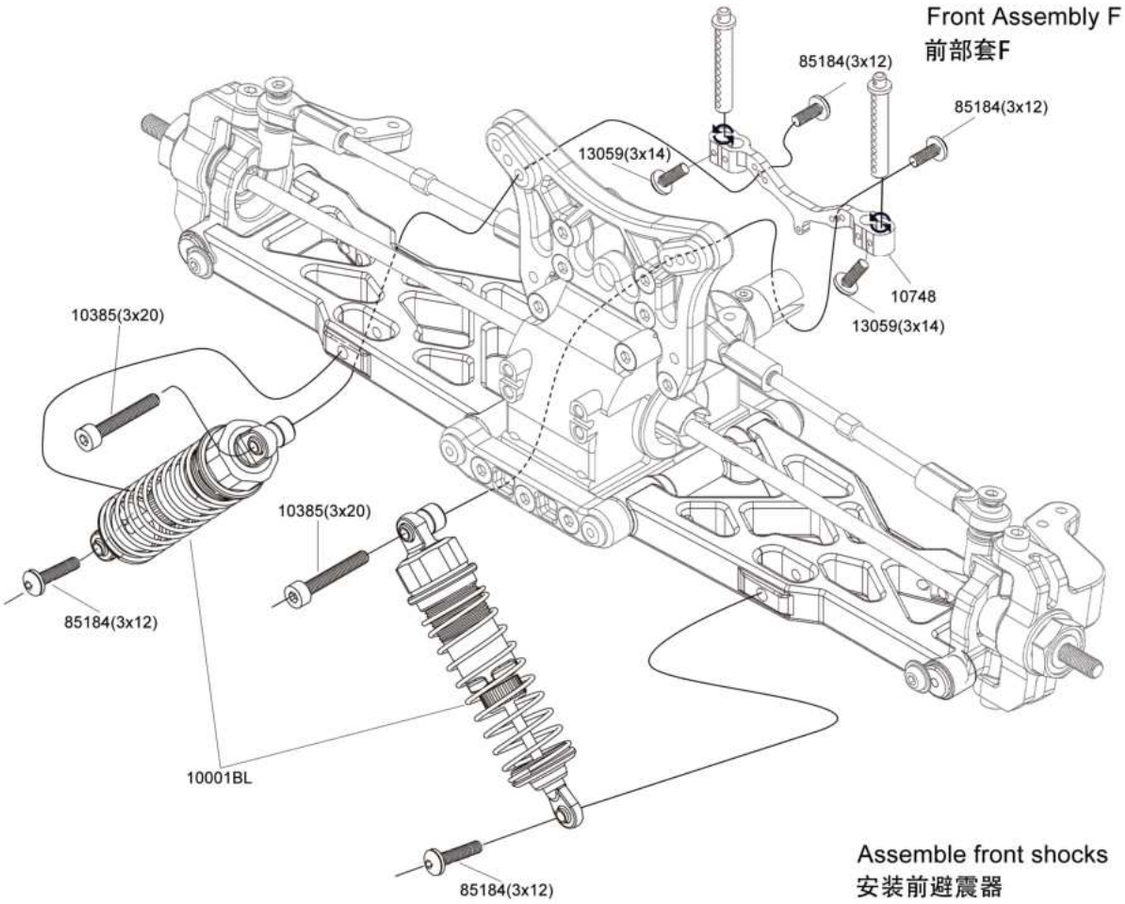

Assemble front susp arm sets to front diff.set.
组装前摆臂组与前齿轮箱组

Front Assembly E
前部套E



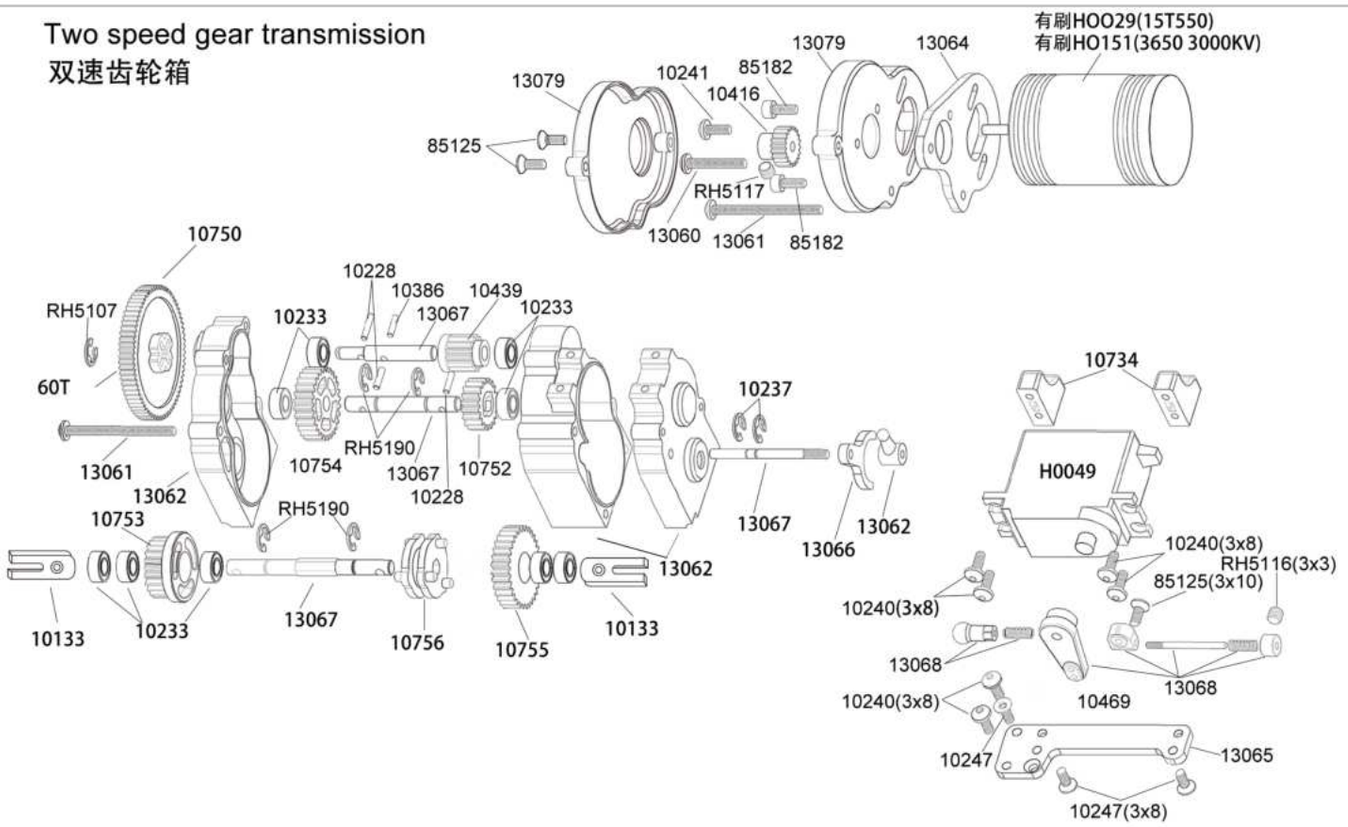

Assemble front upper susp.arms.
组装前上拉杆组

## Front Assembly F
## 前部套F

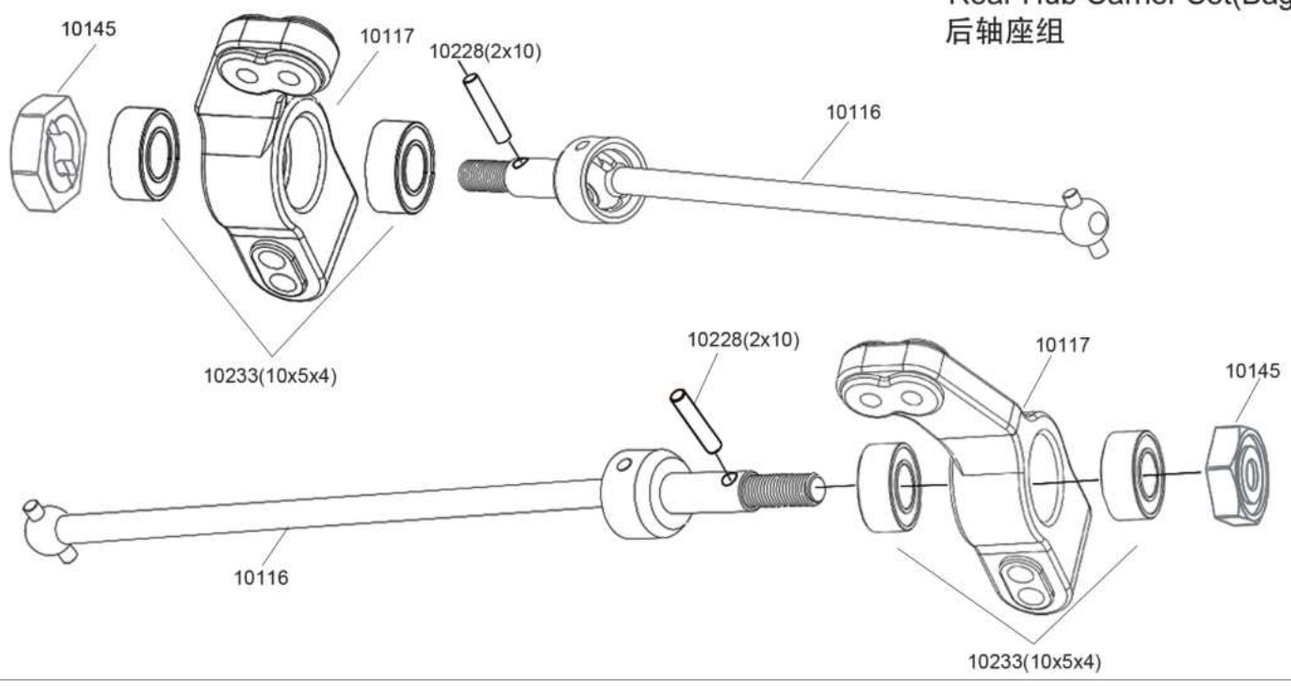



Assemble front shocks
安装前避震器

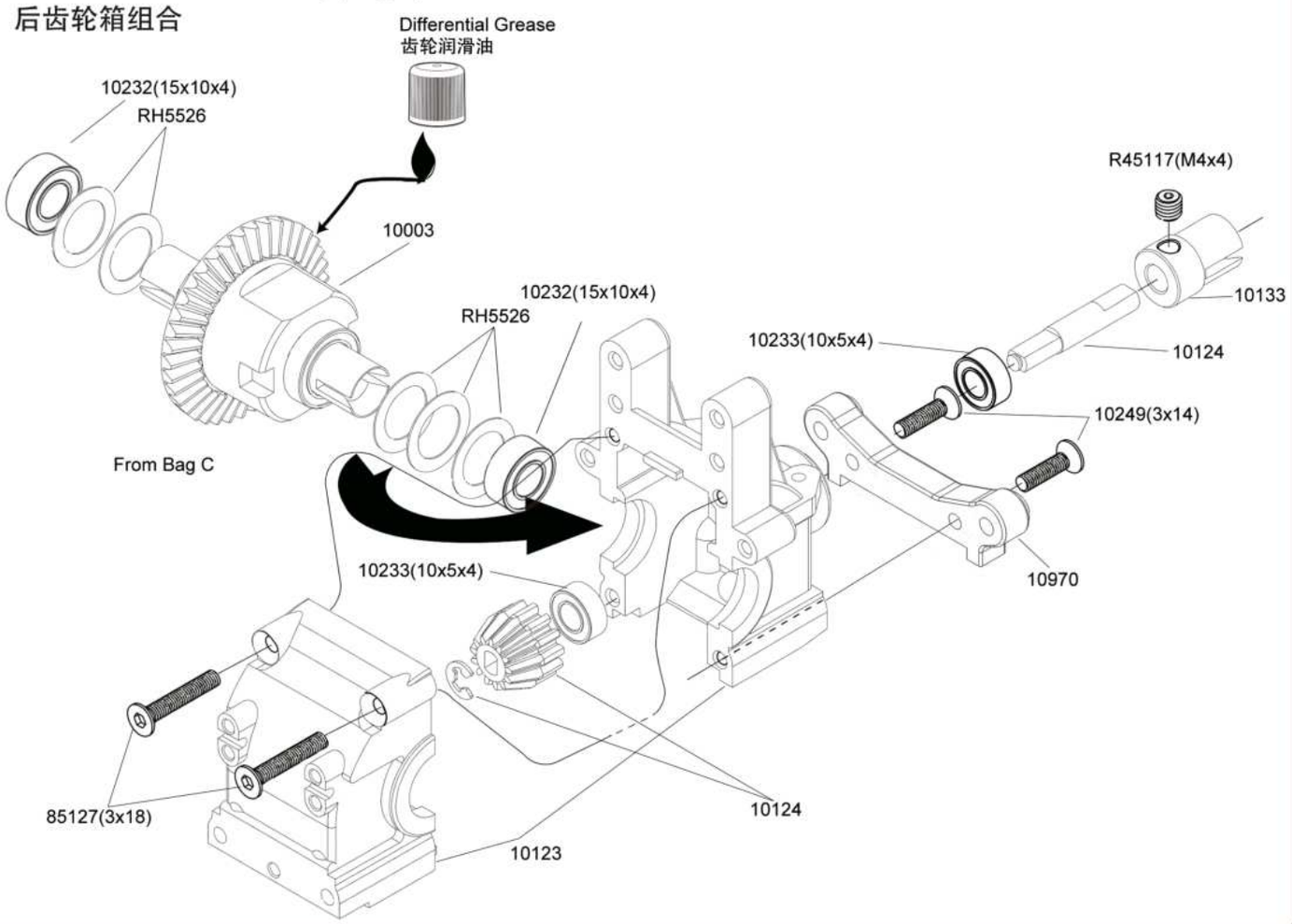
## Two speed gear transmission
## 双速齿轮箱



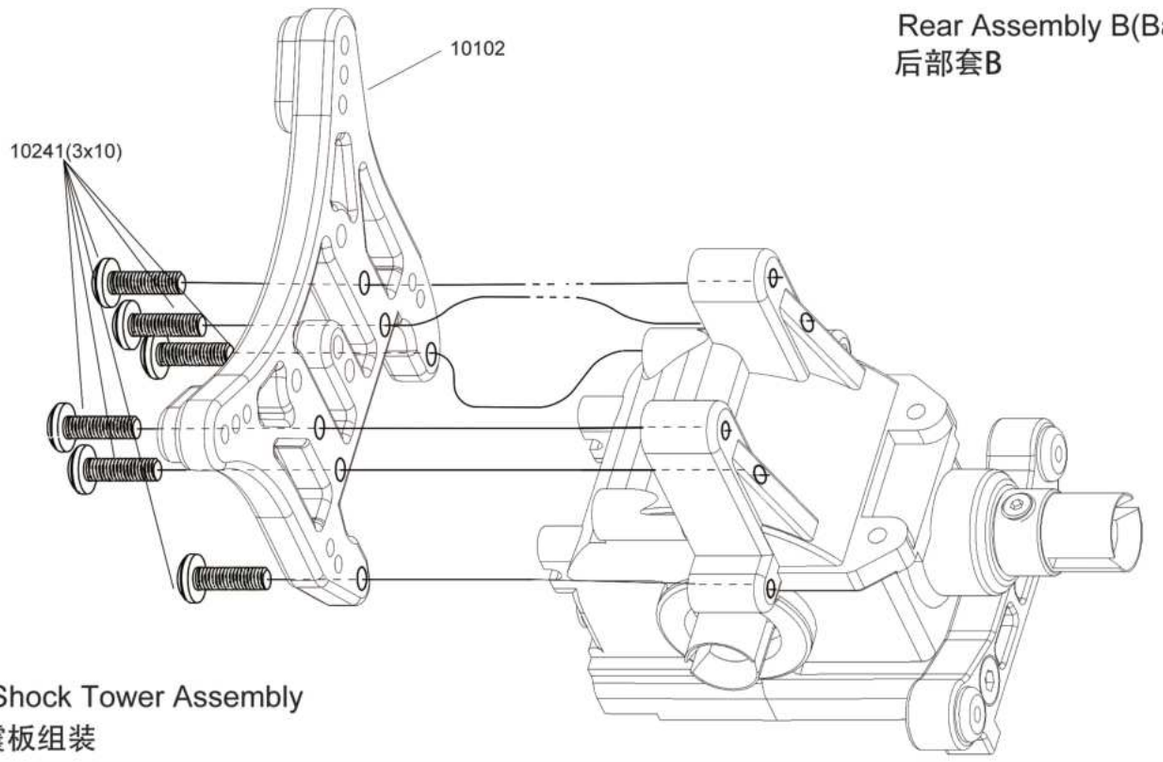
## Rear Hub Carrier Set(Bag I)
## 后轴座组




## Rear Gera Box Assembly(Bag J)
## 后齿轮箱组合

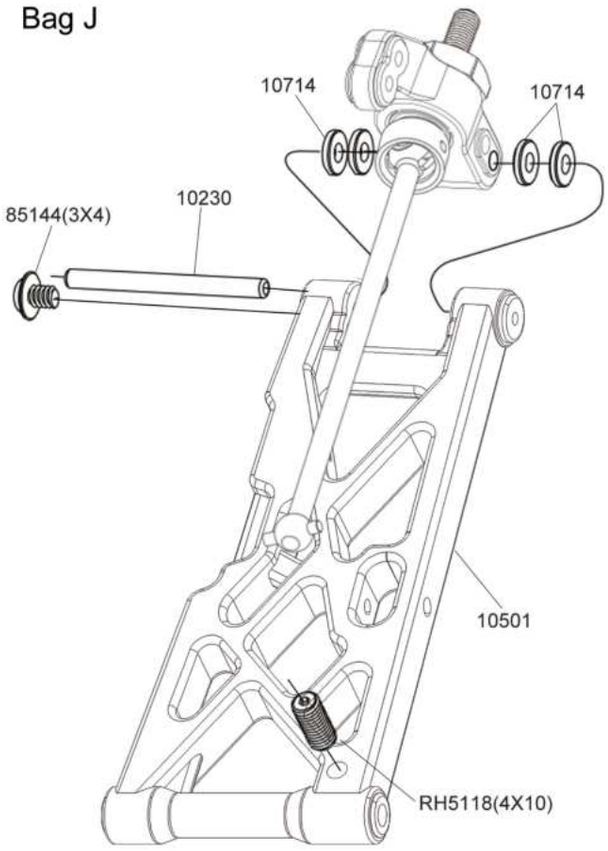


Rear Assembly B(Bag J)
后部套B

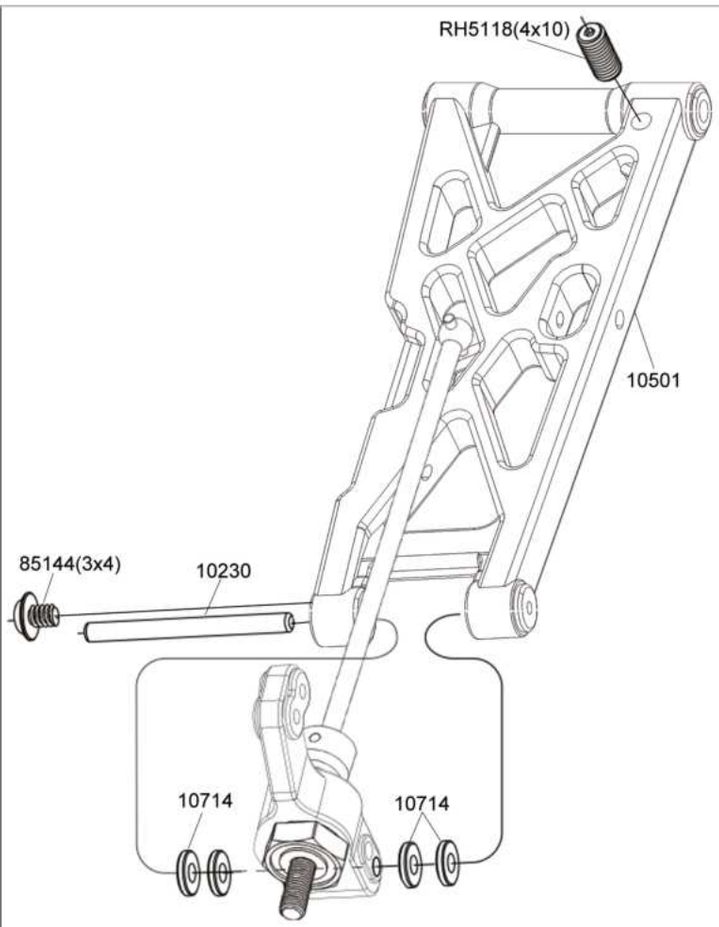



Rear Shock Tower Assembly
后臂震板组装

Bag J



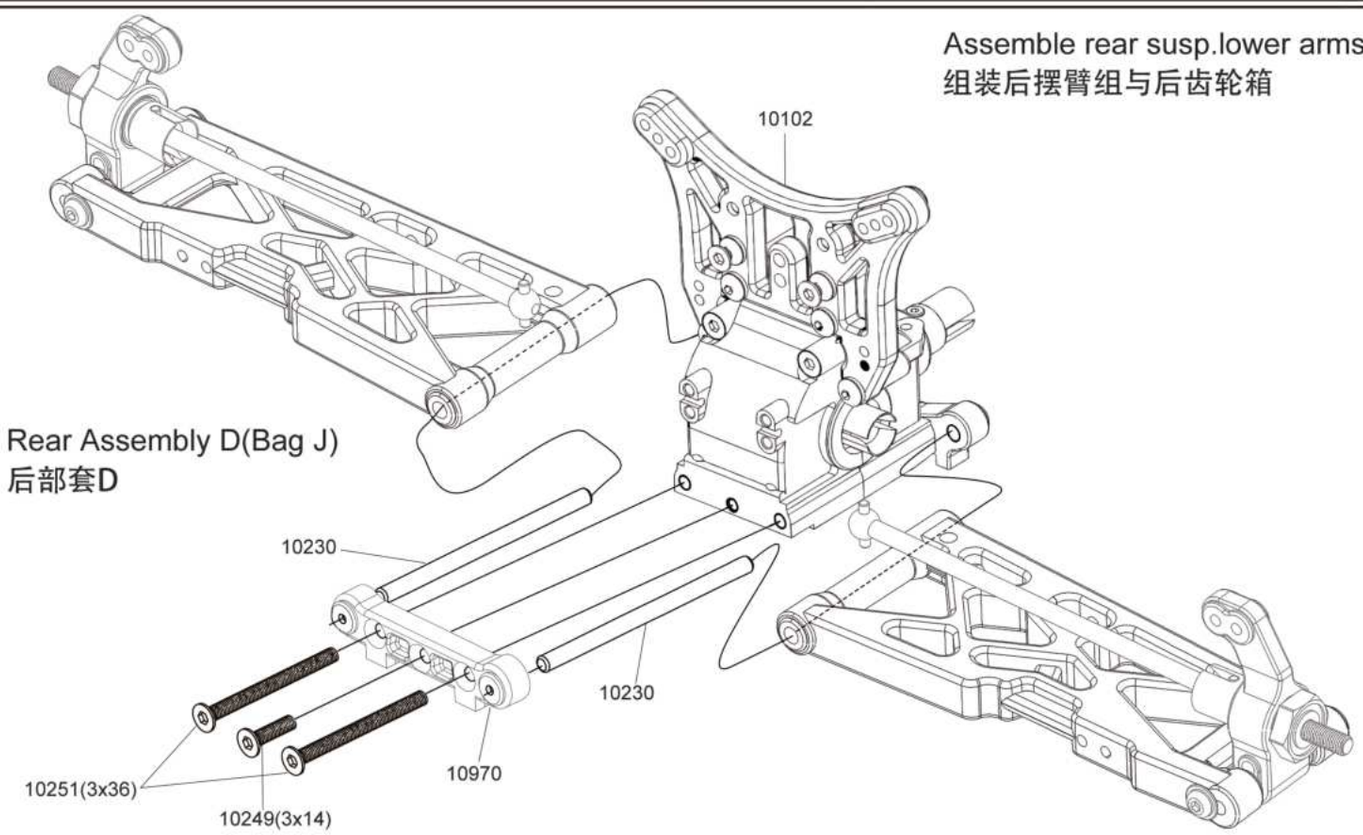

Assemble rear hub carrier set with rear lower susp arm.
组装后轴座组与后下摆臂



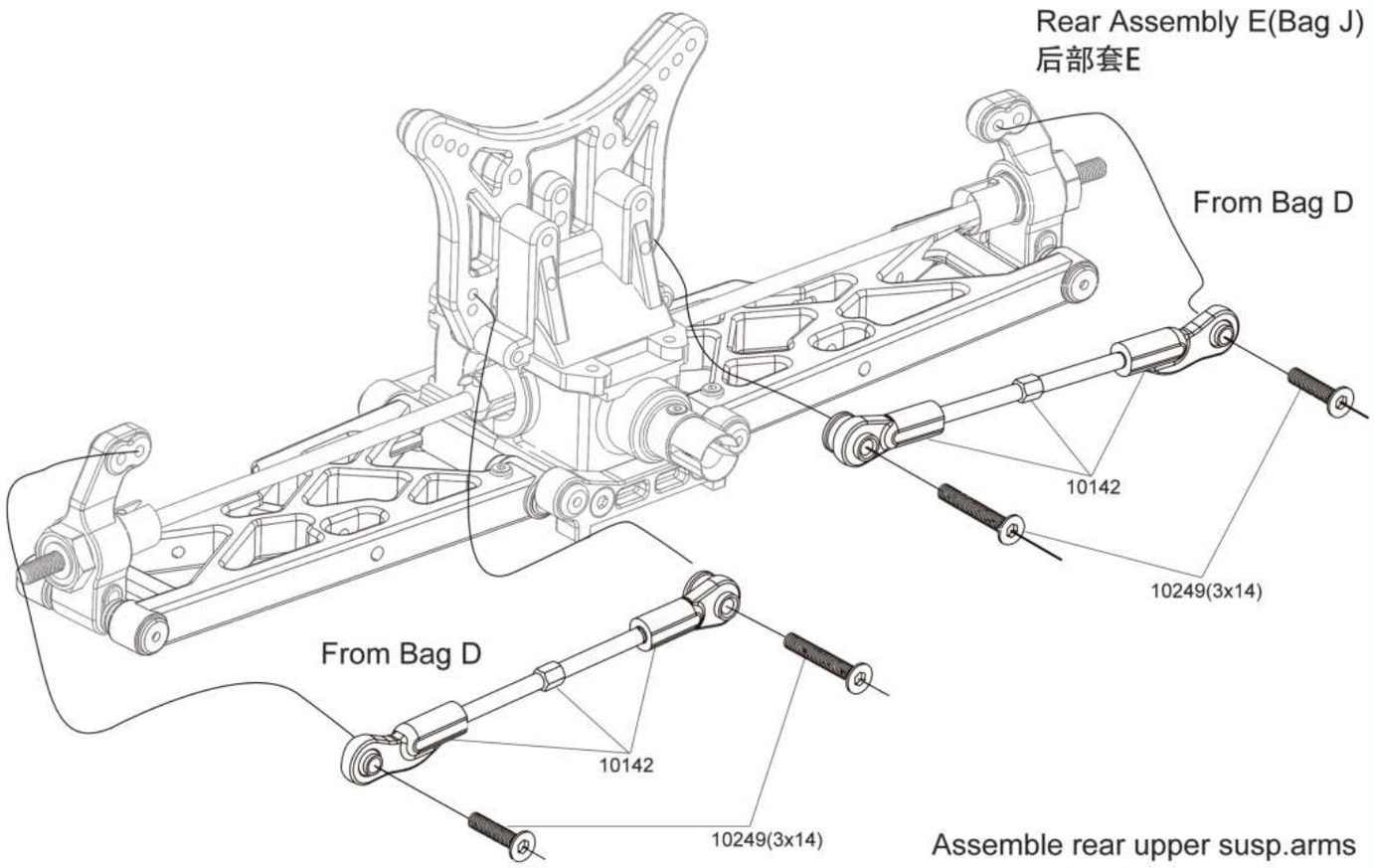

Bag I

后部套C
Rear Assembly C

Assemble rear susp.lower arms
组装后摆臂组与后齿轮箱

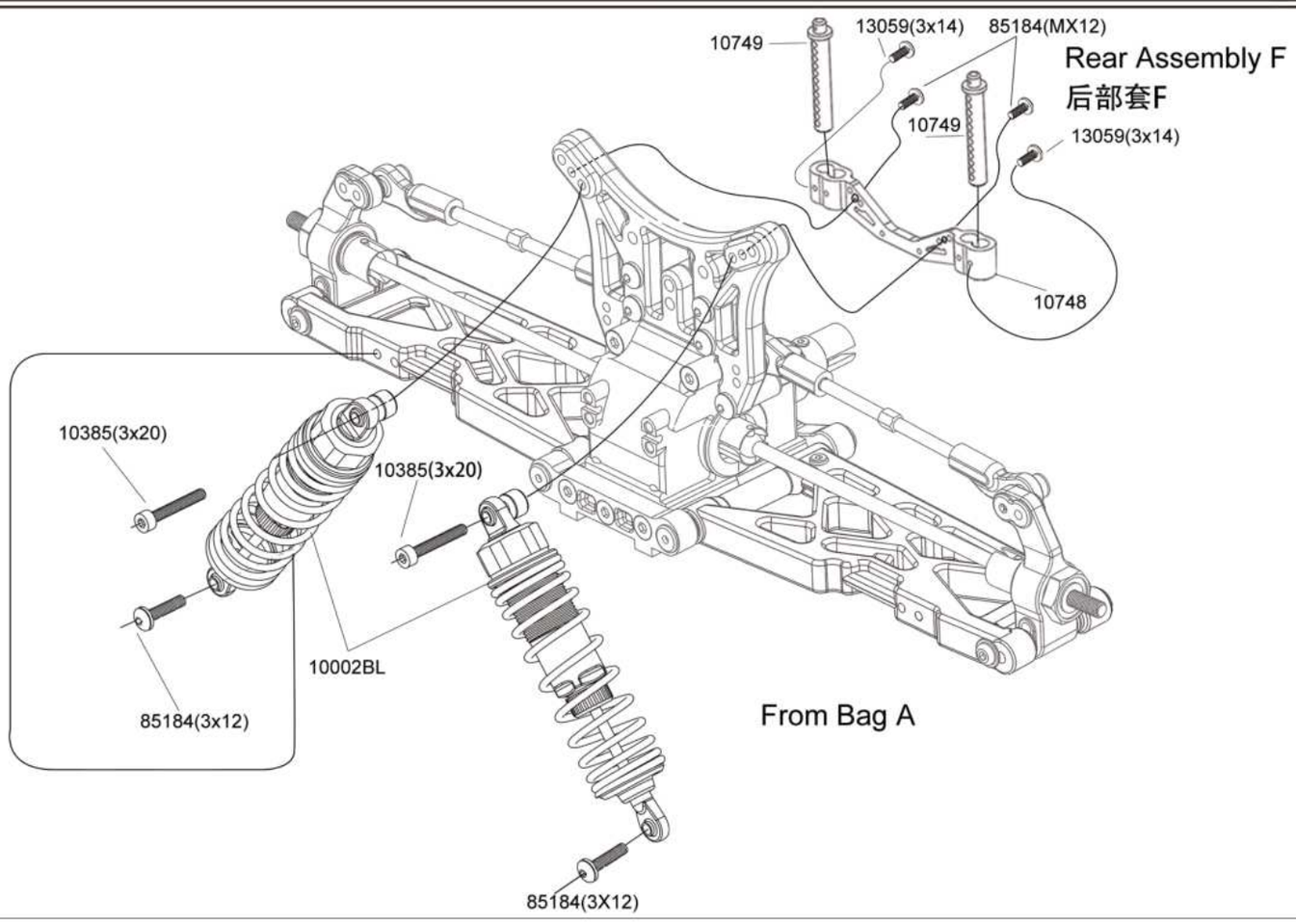



Rear Assembly E(Bag J)
后部套E

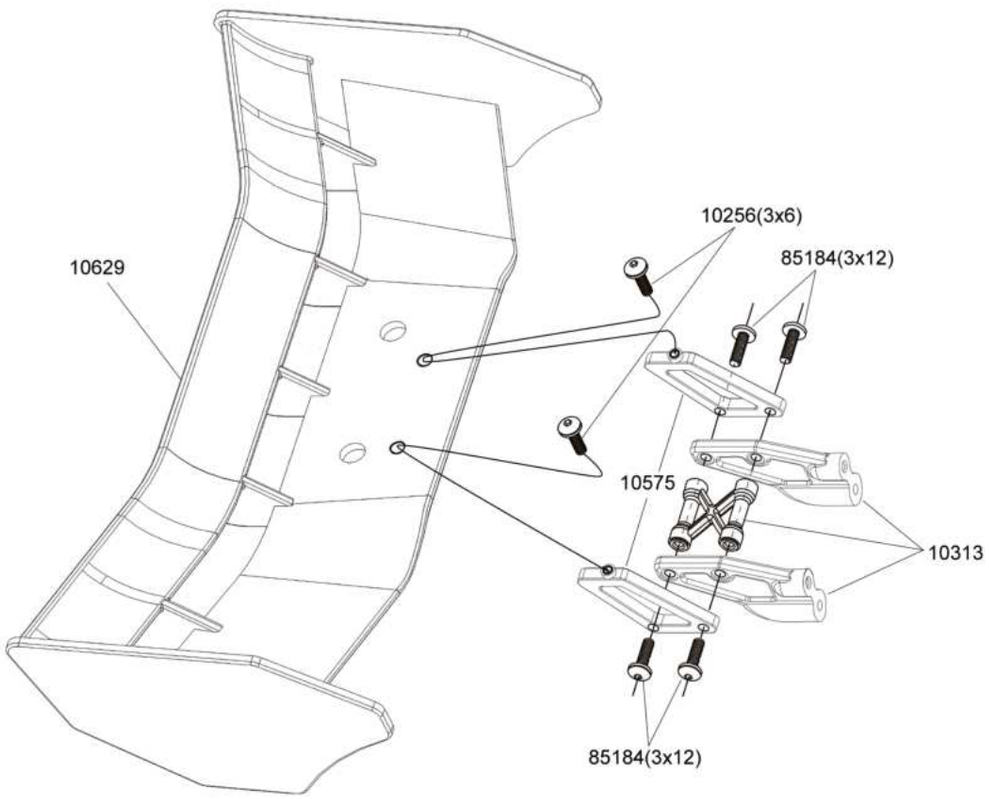



Assemble rear upper susp.arms
组装后上拉杆组

## Rear Assembly F
## 后部套F

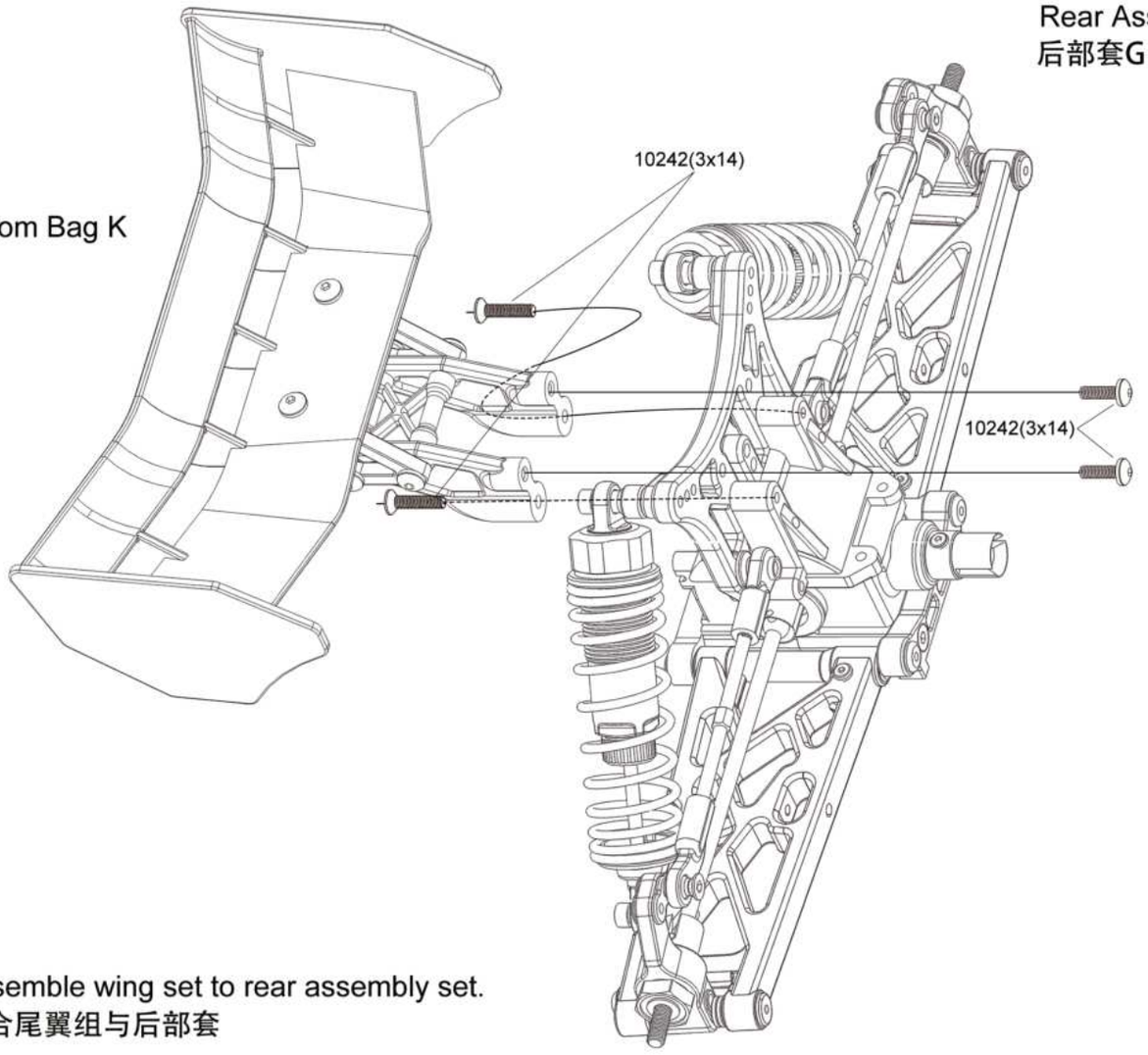



## Wing Assembly(Bag K)
## 尾翼组



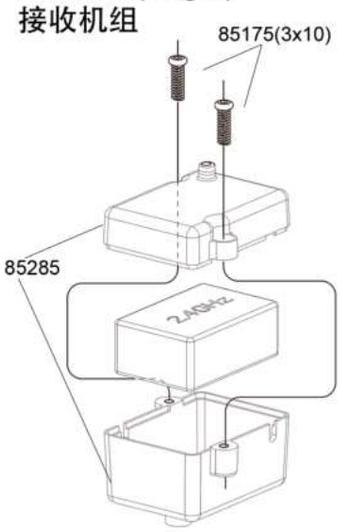
Rear Assembly G
后部套G

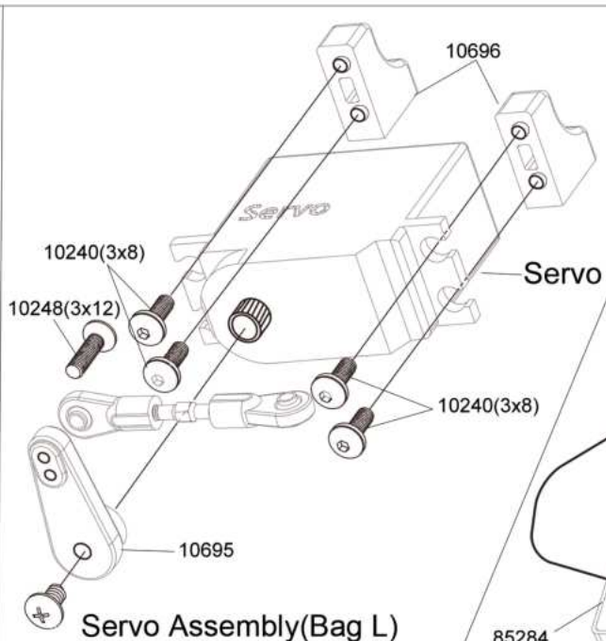
From Bag K




Assemble wing set to rear assembly set.
组合尾翼组与后部套

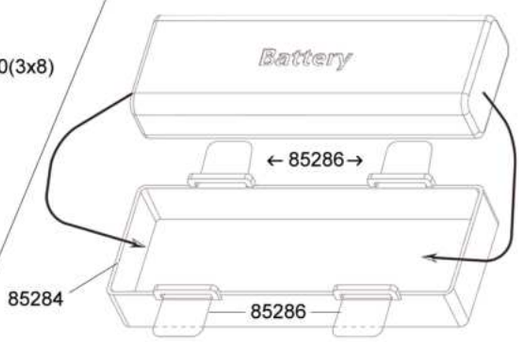
Receiver(Bag L)
接收机组

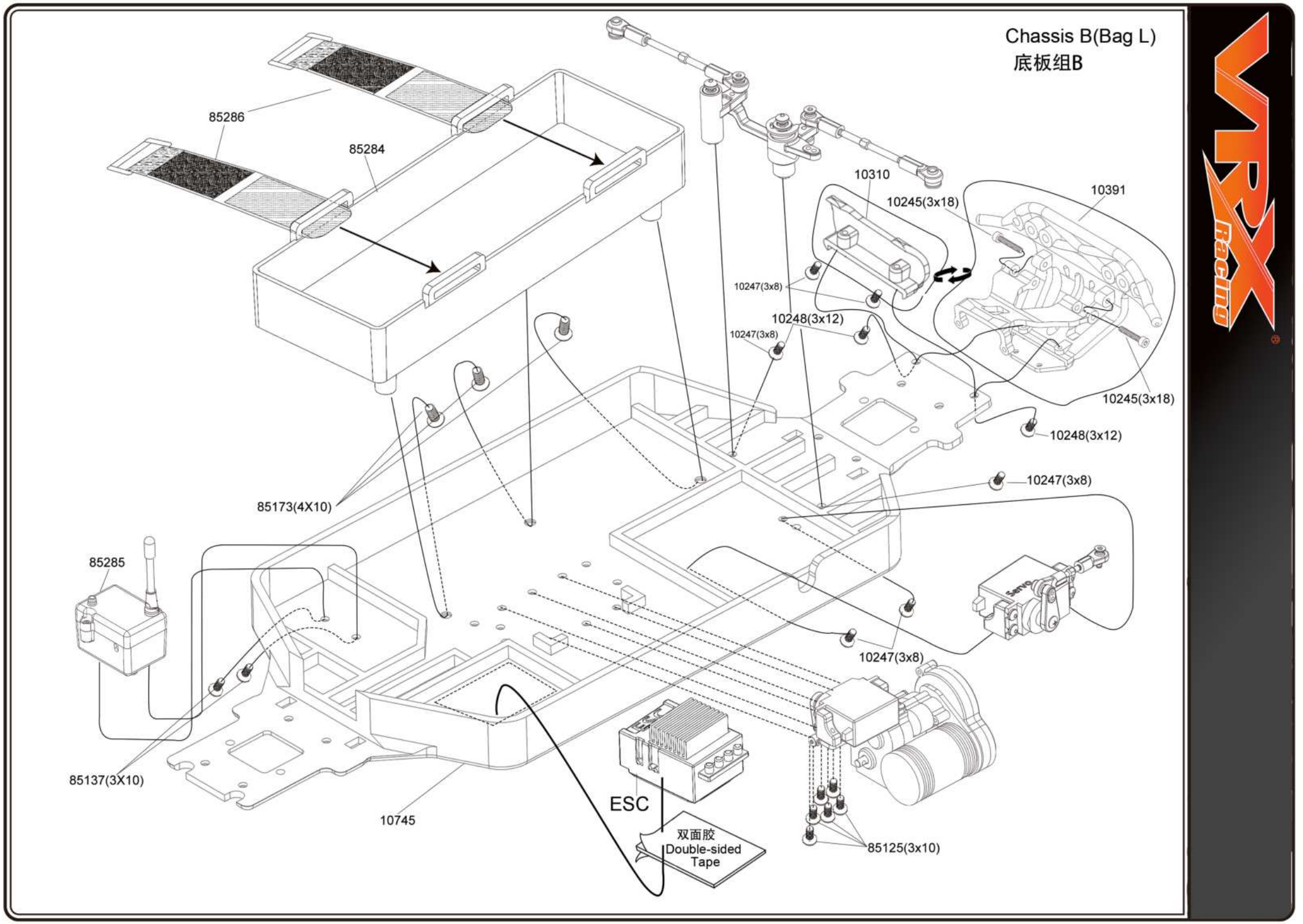



Servo Assembly(Bag L)
伺服器组

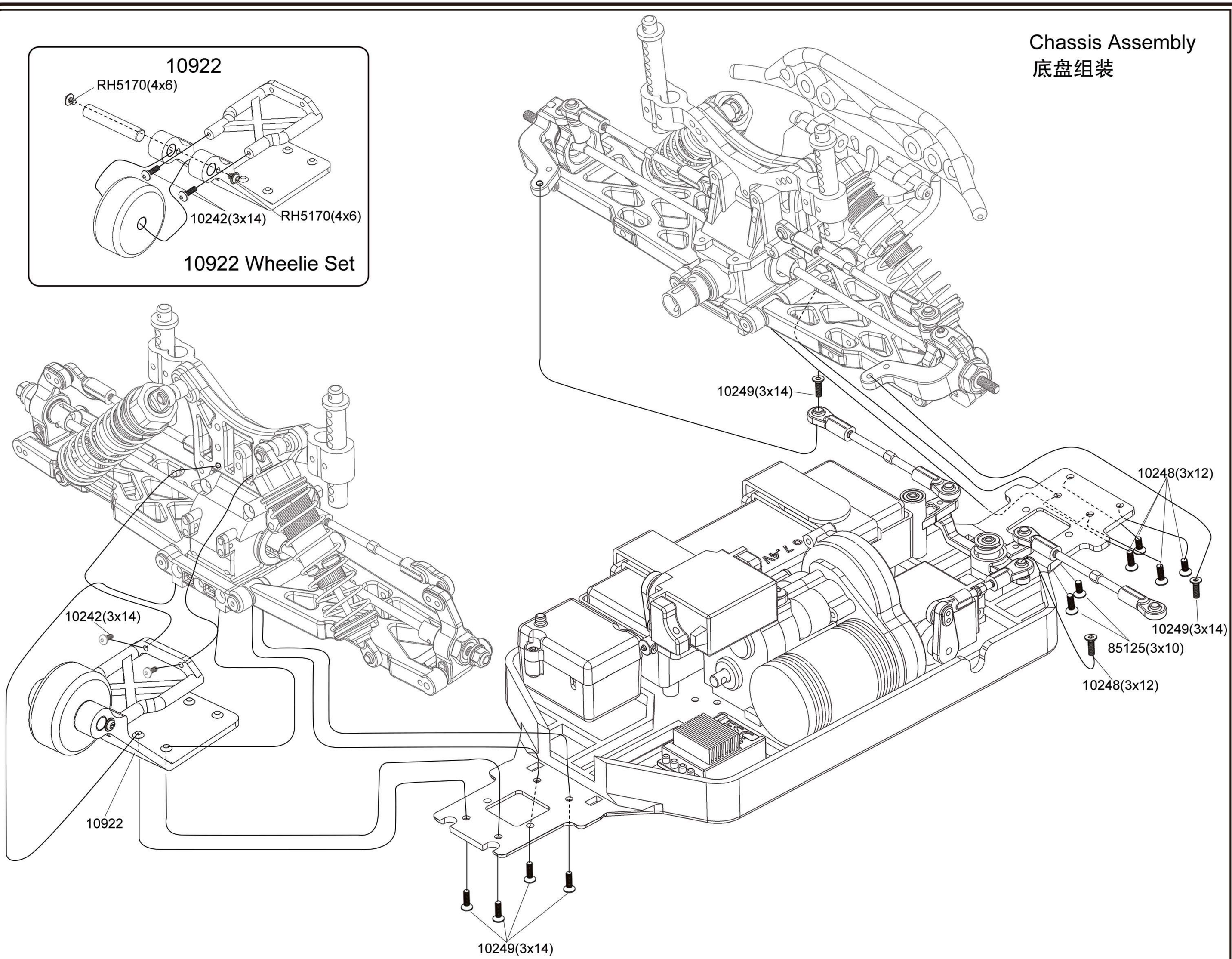
Battery(Bag L)
电池组




Chassis B(Bag L)
底板组B
85286
85284
10310
10245(3x18)
10391
10247(3x8)
10248(3x12)
10247(3x8)
10245(3x18)
10248(3x12)
85173(4X10)
10247(3x8)
85285
10247(3x8)
85137(3X10)
10745
ESC
双面胶
Double-sided
Tape
85125(3x10)

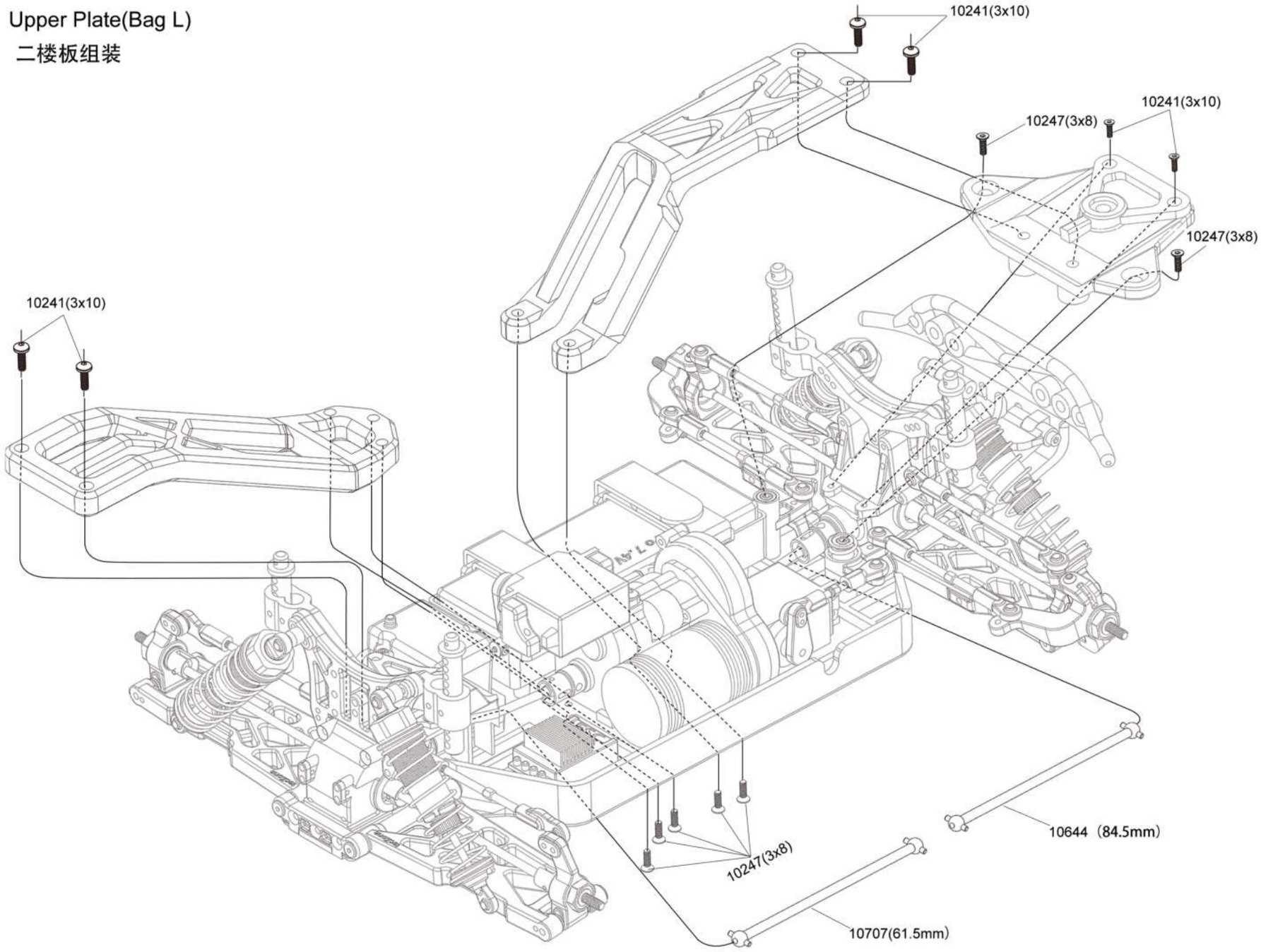
# Chassis Assembly
# 底盘组装



Upper Plate(Bag L)

二楼板组装



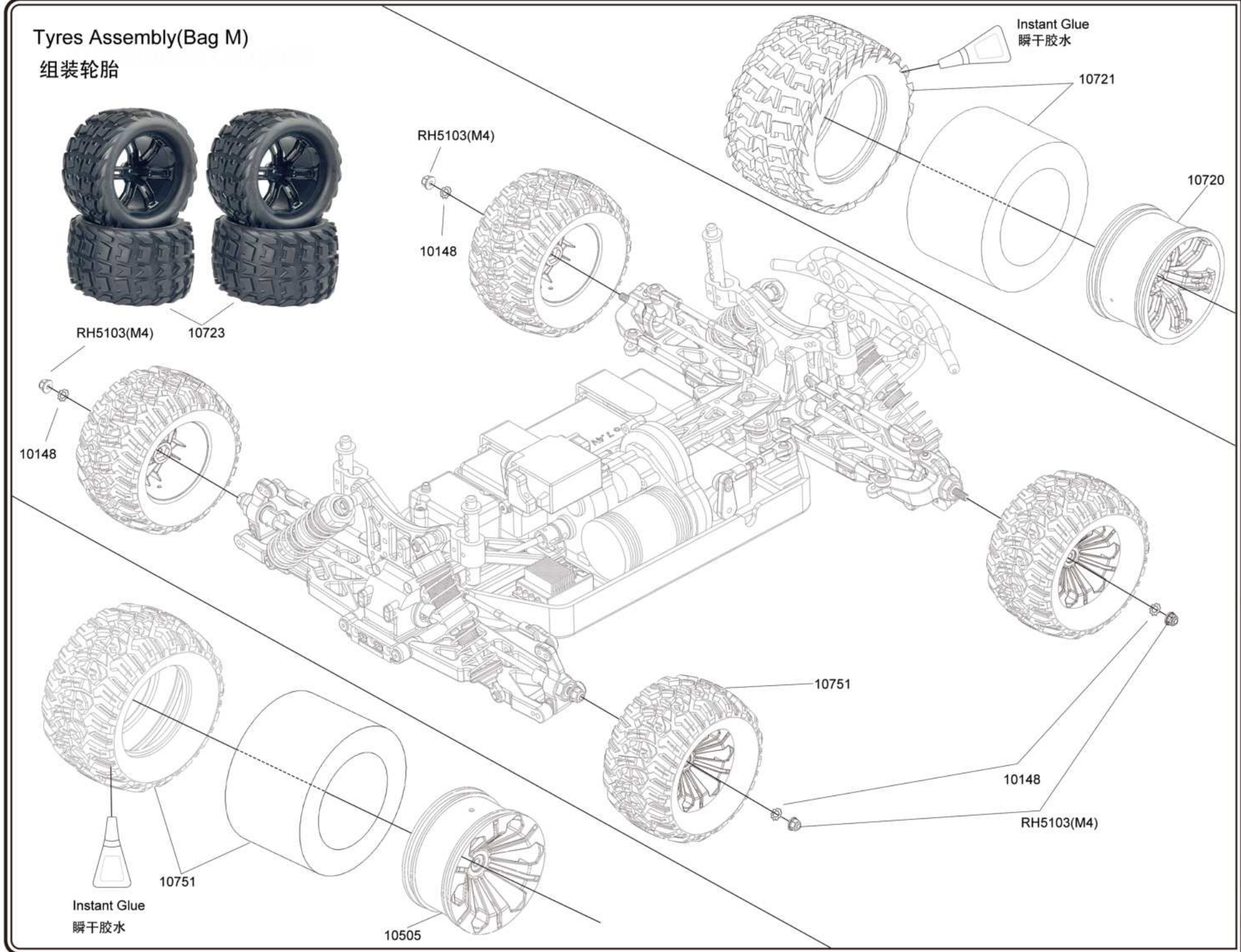
# Tyres Assembly(Bag M)

## 组装轮胎



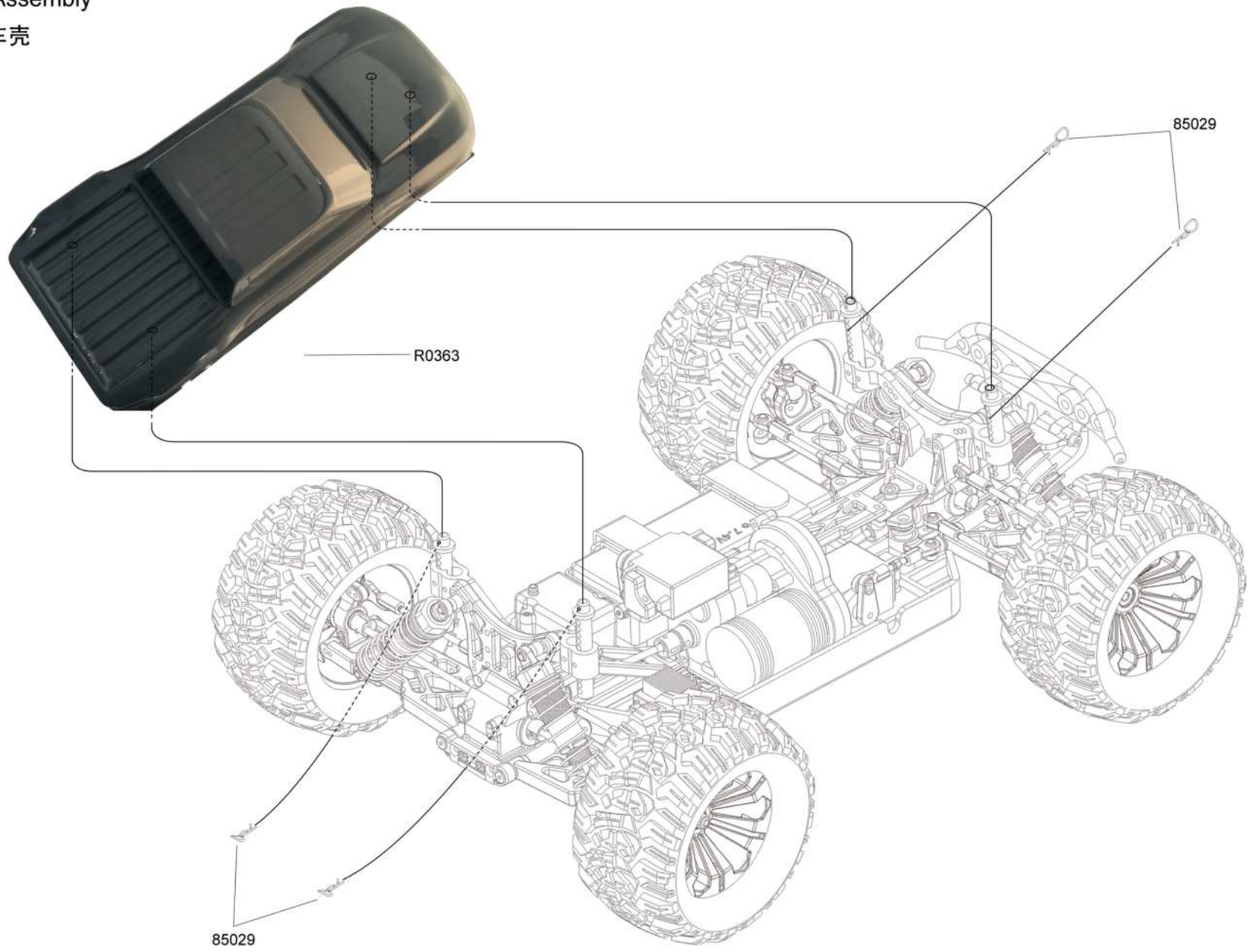
RH5103(M4)

10723



Body Assembly

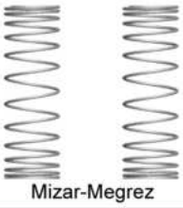
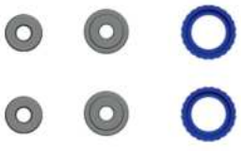
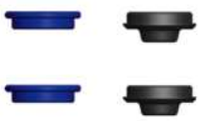
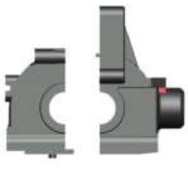
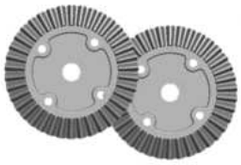
组装车壳



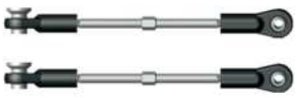
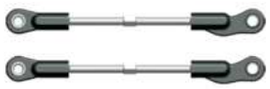
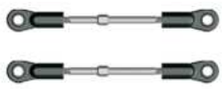
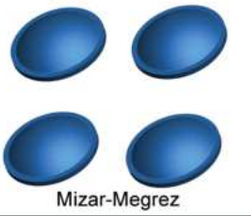
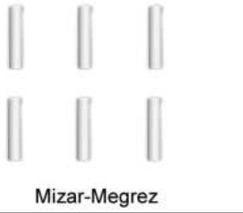
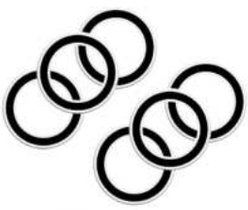
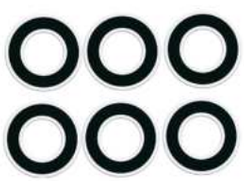
# SPARE PARTS LIST

| 10745-Chassis Plate(EP) 1pc | 10500-Front Lower Susp.Arms 2pcs | 10501-Rear Lower Susp.Arms 2pcs | 10746-Bulk Head Vorne .1 set |
|---|---|---|---|
| Mizar-Megrez | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |
| 10747-Front & Rear Brace | 10749-Body Posts .1 set | 10748-Body Posts Holder .1 set | 10750-Spur Gear.1 pc |
| Mizar-Megrez | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |
| 10751-Preassembled Tyres.2 sets | 10758-Tyres & Foam Inserts,2 pcs | 10505-Wheel Complered | 10753-Two Sped Gear 23T |
| Mizar | Mizar | Mizar | Mizar-Megrez |
| 10754-Two Sped Gear 28T | 10755-Two Sped Gear 32T | 10756-Two Sped Shift Holder | 10752-Two Sped Gear 19T |
| Mizar-Megrez | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |
| 13064-Speed Motor Plate | 13062-Gearbox Housing Set. 2 pcs | 13079-Speed Gear Cover | 13065-Speed Gear Cover |
| Mizar-Megrez | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |
| 13091-Front Bumper | 10416-Pinion Gear 30T | 10439-Gear 13T | 13066-2-Dpeed Dhift Plate |
| Mizar | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |

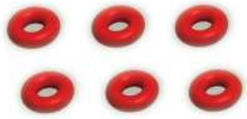
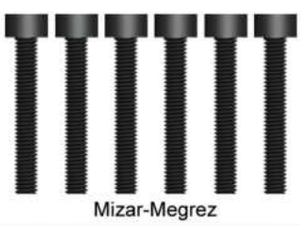
# SPARE PARTS LIST

| 10101-Front Shock Tower 1 Pc | 10102-Rear Shock Tower 1 Pc | 10001BL-Front Shocks 2 Pcs | 10002BL-Rear Shocks 2 Pcs |
|---|---|---|---|
| Mizar-Megrez | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |
| 10103-Front Shock Spring 2pc | 10104-Rear Shock Spring 2pc | 10105-Front Shock Shaft & Piston Set 2sets | 10106-Rear Shock Shaft & Piston Set 2sets |
| Mizar-Megrez |  Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |
| 10107-Front Shock Body 2pc | 10108-Rear Shock body 2pc | 10109-Shock Upper Cap 2sets | 10110-Shock Lower Caps 2sets |
| Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |  Mizar-Megrez |
| 10111-Shock Lower holder & Adjust Ring 2sets | 10114-Steering Knuckle Arm 1set | 10115-Uprights 2pc | 10116-Front CVD 2pc |
|  Mizar-Megrez | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |
| 10117-Rear Hub Carrier 2pc | 10123-Gearbox Housing Set 2pcs | 10124-Diff.Drive Gear W/Pin 2sets | 10125-Diff Case 2pcs |
| Mizar-Megrez |  Mizar-Megrez | 13T Mizar-Megrez | Mizar-Megrez |
| 10126-Diff Drive Spur Gear 2pcs | 10127-Diff Drive Gear 2pcs | 10128-Diff Bevel Gear S. 4pcs | 10129-Diff Bevel Gear B. 4pcs |
|  38T Mizar-Megrez | 13T Mizar-Megrez | 10T Mizar-Megrez | 13T Mizar-Megrez |

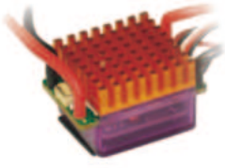
# SPARE PARTS LIST

| 10130-Diff Pin 2pcs | 10132-Diff Drive Cup 4pcs | 10133-Center Coupler 3pcs | 10136-Servo Saver Post 2pcs |
|---|---|---|---|
| Mizar-Megrez | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |
| 10137-Steering Ackerman | 10141-Front Upper Susp.Arm 2sets | 10142-Rear Upper Susp.Arm 2sets | 10143-Steering Arm 2sets |
| Mizar-Megrez |  Mizar-Megrez |  Mizar-Megrez |  Mizar-Megrez |
| 10144-Servo Linkage 1pc | 10146-Antenna Pipe Set 2sets | 10147-Servo Saver (EP) 1set | 10310-Front Bumper 1pc |
| Mizar-Megrez | Mizar-Megrez | Mizar-Megrez | Megrez |
| 10313-Wing Bracket 1set | 10214-Shock Ball End 6pcs | 10215-Servo Link Ball End 6pcs | 10216-Steering Linkage Ball End 6pcs |
| Megrez | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |
| 85034-Body Clip(Medium Size)6pcs | 10225-Diff O-ring Seal 6pcs | 10226-Shock Seal Cover 4pcs | 10228-Pin ∮ 2*10 6pcs |
| Mizar-Megrez | Mizar-Megrez |  Mizar-Megrez |  Mizar-Megrez |
| 10230-Hinge Pins(long & short)2sets | 10232-Ball Bearing 15*10*4 6pcs | 10233-Ball Bearing 10*5*4 6pcs | 10003-Diff Gearbox Set 1set |
| Mizar-Megrez |  Mizar-Megrez |  Mizar-Megrez | Mizar-Megrez |

# SPARE PARTS LIST

| 10153-Metal Bushing 8*5*2.5 6pc | 11068-C Clip 7.3mm 4pcs | 10237-E Clip-2.5mm 6pc | 10224-Shock O-ring(Lower) 6pcs |
|---|---|---|---|
| Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |  Mizar-Megrez |
| 10220-Ball A 6pcs | 10221-Ball B 6pcs | 10222-Ball C 6pcs | 10238-Round Head Self Tapping Hex Screw 2x10 6pc |
| Mizar-Megrez | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |
| 10240-Button Head Hex Screw 3x8 6pc | 10241-Button Head Hex Screw 3x10 6pc | 10242-Button Head Hex Screw 3x14 6pc | 10247-Flat Head Hex 3x8 6pc |
| Mizar-Megrez | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |
| 10248-Flat Head Hex Screw 3x12 6pc | 10249-Flat Head Hex Screw 3x14 6pc | 10251-Flat Head Hex Screw 3x36 6pc | 10256-Ring Self Tapping Screw 3x6 6pc |
| Mizar-Megrez | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |
| 10385-Cap Head Hex Screw 3x20 6pc | RH5117-Set Screw 4x4 6pc | RH5118-Button Head Hex Screw 4x10 6pc | 85125-Flat Head Hex Screw 3x10 8p |
|  Mizar-Megrez | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |
| 85127-Flat Head Hex Screw 3x18 3pc | 85144-Ring Self Tapping Screw 3x4 4pc | 85173-Flat Hex Screw 4x10 6pc | 85175-Button Head Hex Tapping Screws 3x10 8pc |
| Mizar-Megrez | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |

# SPARE PARTS LIST

| 85182-Cap Head Hex Screw 3x10 6pc | 85184-Button Head Hex Screw 3x12 6pc | RH5562-Cap Head Hex Screw 3x8 6pc | 85137-Flat Head Self Tapping Screw Set 3x10 12pc |
|---|---|---|---|
| Mizar-Megrez | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |
| 85285-RX Case 1set | 10734-Servo Mount 2pcs | 85284-Battery Case 1pc | 85286 - Velco Tape 2pcs |
| Mizar-Megrez | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |
| RH5102-Nylon Lock Nut M3 6pc | RH5103-Nylon Lock Nut-M4 6pc | 10714-Washer 6.9x3.5x1.1 6pcs | 10253-1/10 Charger CE 1pc |
| Mizar-Megrez | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |
| H0067-6kg Servo 1pc | H0079-B3 Lipo Charger | H0050-400A ESC 1pc | H0142-HW 60 Brushless ESC |
| H0029-550-15T | H0151 3650-3000KV |  H0152 — 7.4V 4500Mah Li-ion Battery | 85274-7.4V -3250mAH Battey 1pc |
| H0099-Motor Cooling Fan With Heatsink | H0011-3kg Servo 1pc | H0138-MG4 Transmitter 1pc | |
| | | | |

| 10970-Rear Susp.Holders (Alloy) 1Set | 10969-Front Susp.Holders (Alloy) 1Set | 13068-2-Speed Servo Saver Set | 10644-84.5x5.8-Central Drive Shaft F. 1pc |
|---|---|---|---|
| | | | |
| Mizar-Megrez | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |
| **10707-61.5x5.8-Central Drive Shaft R. 1pc** | **13067-2-Speed Shaft Set** | **10217-Rear Upper Link Ball End 6pcs** | **10629-Rear Wing 1pc** |
| | | | |
| Mizar-Megrez | Mizar-Megrez | Mizar-Megrez | Megrez |
| **10145-Wheel Hub 4pcs** | **10575-Wing Bracket 2pcs** | **10720-Rims 2pcs** | **10721-Tyre/Foam Insert 2pcs** |
| | | | |
| Mizar-Megrez | Megrez | Megrez | Megrez |
| **10723-Wheel 2pcs** | **13098-2-Speed Gearbox Set W/Motor & Servo** | **13099-2-Speed Gearbox Set W/O Motor & Servo** | **10922-Wheelie Set** |
| | | | |
| Megrez | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |
| **R0363-Body Shell** | **R0364-Body Shell** | **R0365-Body Shell** | |
| | | | |
| Mizar | Mizar | Megrez | |

# UPGRADE PARTS LIST

| 10902-Front Shock Plate (Carbon)1Set | 10903-Rear Shock Plate (Carbon)1Set | 10907BL-Front Shocks(AL) 2pc | 10908BL-Rear Shocks(AL) 2pc |
|---|---|---|---|
| Mizar-Megrez | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |
| **10909-Front Lower Susp. Arm (AL) 2pc** | **10910-Rear Lower Susp. Arm (AL) 2pc** | **10911-Steering Ackerman (AL) 1pc** | **10912-Front Susp. Holders (AL) 1set** |
| Mizar-Megrez | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |
| **10914-Rear Susp. Holders (AL) 1set** | **10915-Rear Hub Carrier (AL) 2pc** | **10917-Steering Knuckle Arm (AL) 2set** | **10918-Wheel Hub (AL) 4pcs** |
| Mizar-Megrez | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |
| **10923-Alum Steering Arm 2pc** | **10924-Alum Knuckle Arm 2pc** | **10210-Sway Bar 2Sets** | **11089-Aluminum Front & Rear Brace** |
| Mizar-Megrez | Mizar-Megrez | Mizar-Megrez | Mizar-Megrez |
| **11090-Aluminum Bulk Head Vorne .1 set** | **11091-Aluminum Chassis Plate(EP) 1pc** | | |
| Mizar-Megrez | Mizar-Megrez | | |

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