

# INSTRUCTION MANUAL

& REFERENCE GUIDE



## INTRODUCTION

Serpent developed the S100 LTR model car for demanding racers in the highly competitive electric 1/10th scale pan car market, which like all our previous cars, has been designed to win straight from the box.

Featuring a number of very effective features such as a fully adjustable front end, machined aluminium rear pod, side-links combined with ball-link tube-system to control chassis roll and grip, top-mounted shock-absorber, quick and easy tweak adjustment and top quality materials throughout, the S100 LTR should see you in the winners circle in no time. In fact everything associated with this car is of the highest quality, from the packaging and supplied manuals, right through to the product and race support.

For latest information about S100 LTR check on:  
[www.serpent.com/410052](http://www.serpent.com/410052)

Enjoy racing !

Team Serpent

## INSTRUCTIONS

Serpent's long tradition of excellence extends to the instruction manuals, and this instruction manual is no exception. The easy-to-follow layout is richly illustrated with 3D-rendered full-color images to make your building experience quick and easy. Following the instructions will result in a well-built, high-performance race-car that will soon be able to unleash its full potential at the racetrack.

## INSTRUCTIONS, HOW TO USE

The kit includes bags, with bag numbers, which refer to the same step in the manual. Open only the indicated bag(s) per step and finish that part of the assembly. Remaining parts will be needed later on in the assembly process.

## SETUP

In certain assembly steps you need to make basic adjustments, which will give you a good initial setup for your Serpent S100 LTR. Fine-tuning the initial setup is an essential part of building a high-performance racecar like your S100 LTR.

## EXPLODED VIEWS AND PARTS LIST

The exploded views and parts lists for the Serpent S100 LTR are presented in the Reference Guide section in the back of this manual. The exploded views show all the parts of a particular assembly step along with the Serpent part number. The parts lists indicate the part number and name of each part for easy reference when ordering.

## CUSTOMER SERVICE

Serpent has made a strong effort to make this manual as complete and clear as possible. Additional info may be published in our website: [www.serpent.com](http://www.serpent.com) or you may ask your dealer or the Serpent distributor for advice, or email Serpent direct: [info@serpent.com](mailto:info@serpent.com)

The Serpent Facebook, Twitter and Youtube pages give additional means of support and communications.

## SAFETY

Read and take note of the 'Read this First section' before proceeding to assemble the car-kit. This car-kit is intended for persons aged 16 or older.

## Read this first!

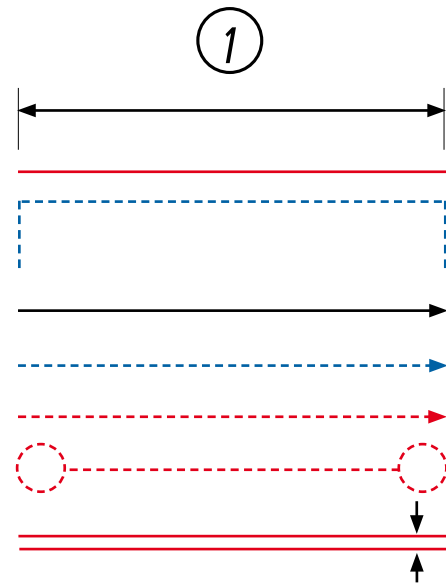
- This is a highly technical hobby product, intended to be used in a safe racing environment. This car is capable of speeds in excess of 80 km/h or 50mph. Please follow these guidelines when building and operating this model.
- Parental guidance is required when the builder/user of this car is under 16.
- Follow the building instructions. If in doubt, contact your dealer or importer.
- Be sure to use the proper tools when assembling the car. Always exercise caution when using electric tools, knives and other sharp objects.
- Be careful when using liquids like lubrication oil, fuel or glue. Do not swallow.
- Follow the manufacturer's instruction in case you experience irritation after using the product.
- Be careful when operating the car. Stay away from any rotating parts such as wheels, gears and transmission. Stay away from motor, engine and exhaust pipe system or speedo during and immediately after use, as these parts may be very hot. We advise to use protective hand gloves.
- Only operate this car in a safe environment, like a special racing track or a closed parking lot. Avoid using this car on public roads, crowded places or near infants.
- Before operating this car, always check the mechanical status of the car. Also check that the transmitter and receiver frequencies correspond and are not used by any other racer at the same time. Check that the batteries of the transmitter and receiver- are fully charged.
- After use, always check all the mechanics of the car. We advise to clean the car immediately after use, and inspect the parts for wear or fractures. Replace when necessary. Do not use water, methanol, thinner or other solvents to clean the car.
- Empty the fuel tank (depending on model) if needed and disconnect the receiver battery.
- Store the car in a dry and heated place to avoid corrosion of metal parts.
- Avoid using this car in wet conditions as the water will cause corrosion on the metal parts and bearings and these parts will cease to function properly. If driven in the wet, ensure that all the electric equipment is waterproofed and after use, that all moving parts are dried immediately.

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# USING THE MANUAL

Each step contains a variety of numbers, lines, and symbols. The numbers represent the order in which the parts should be assembled. The lines and symbols are described below.



Step number; the order in which you should assemble the indicated parts

Length after assembly

Assembly path of one item into another

Group of items (within lines) should be assembled first

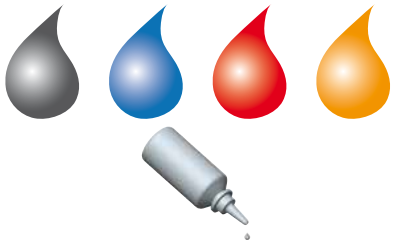
Direction the item should be moved

Glue one item to another

Press/Insert one item into another

Connect one item to another


Gap between two items



Apply transmission grease (Grey), threadlock\* (Blue), CA glue\* (Red) or silicone grease (Orange). (\*Items not included.)

Apply silicone oil,

## ASSEMBLY INSTRUCTIONS

 **CA Glue** To prevent the risk of the carbon fibre splitting in the event of a crash you should apply CA Glue around the chassis' edge and the power pod plate external and internal edge as shown in red below.

STEP  
1

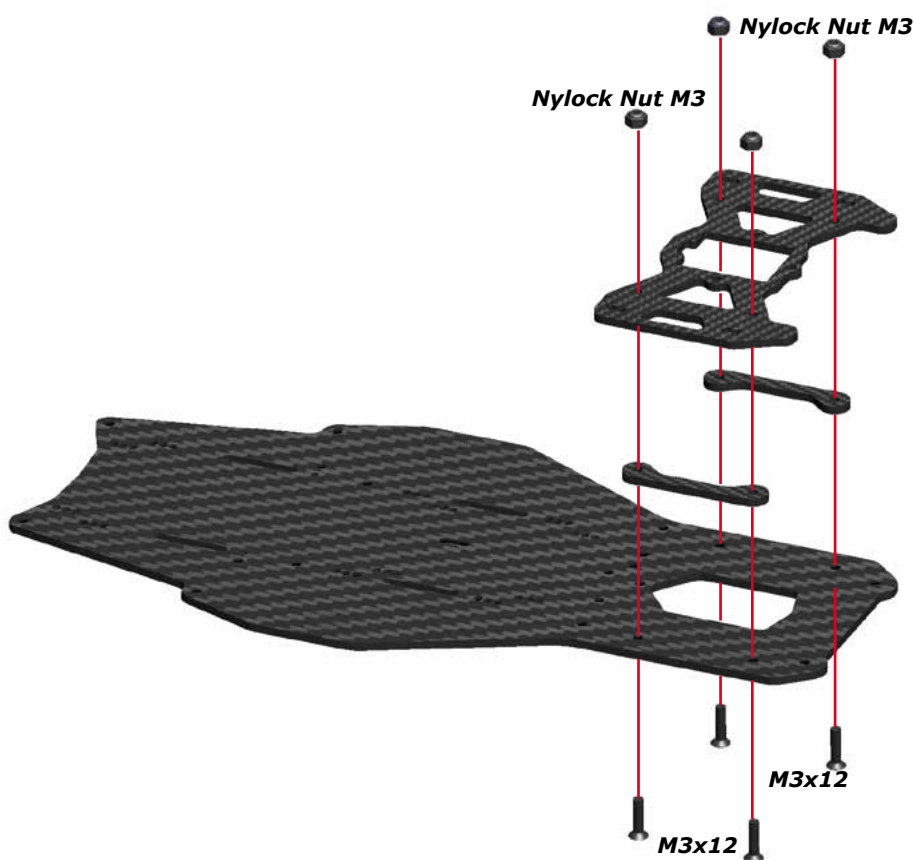
KIT



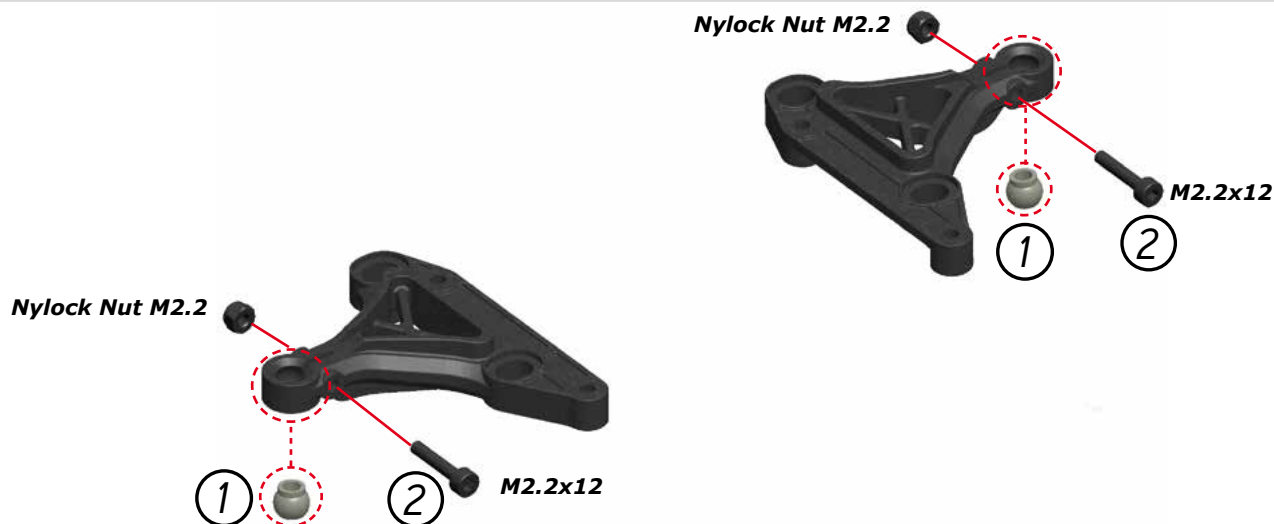
## FRONT ASSEMBLY

STEP  
2

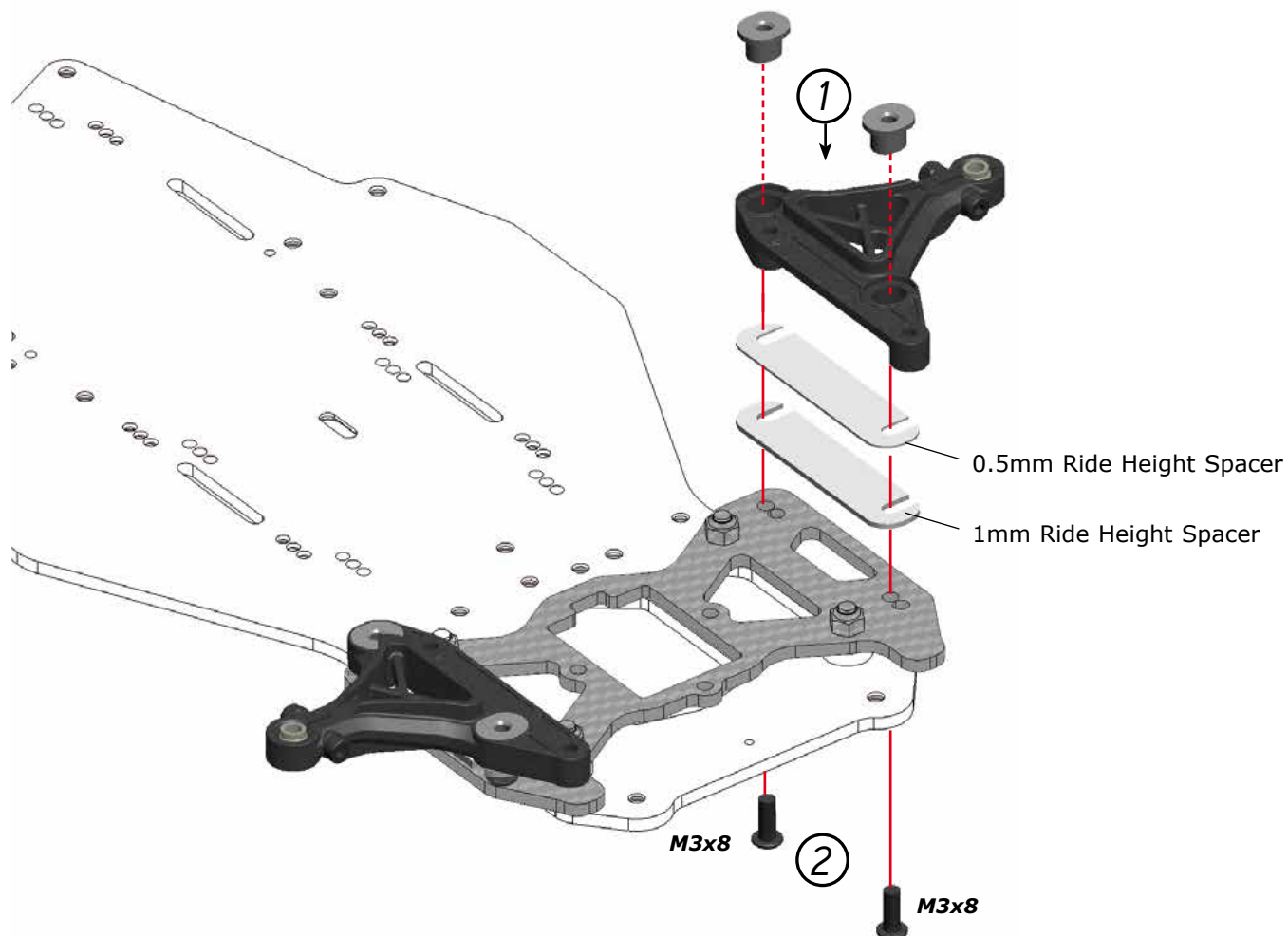
Bag  
1



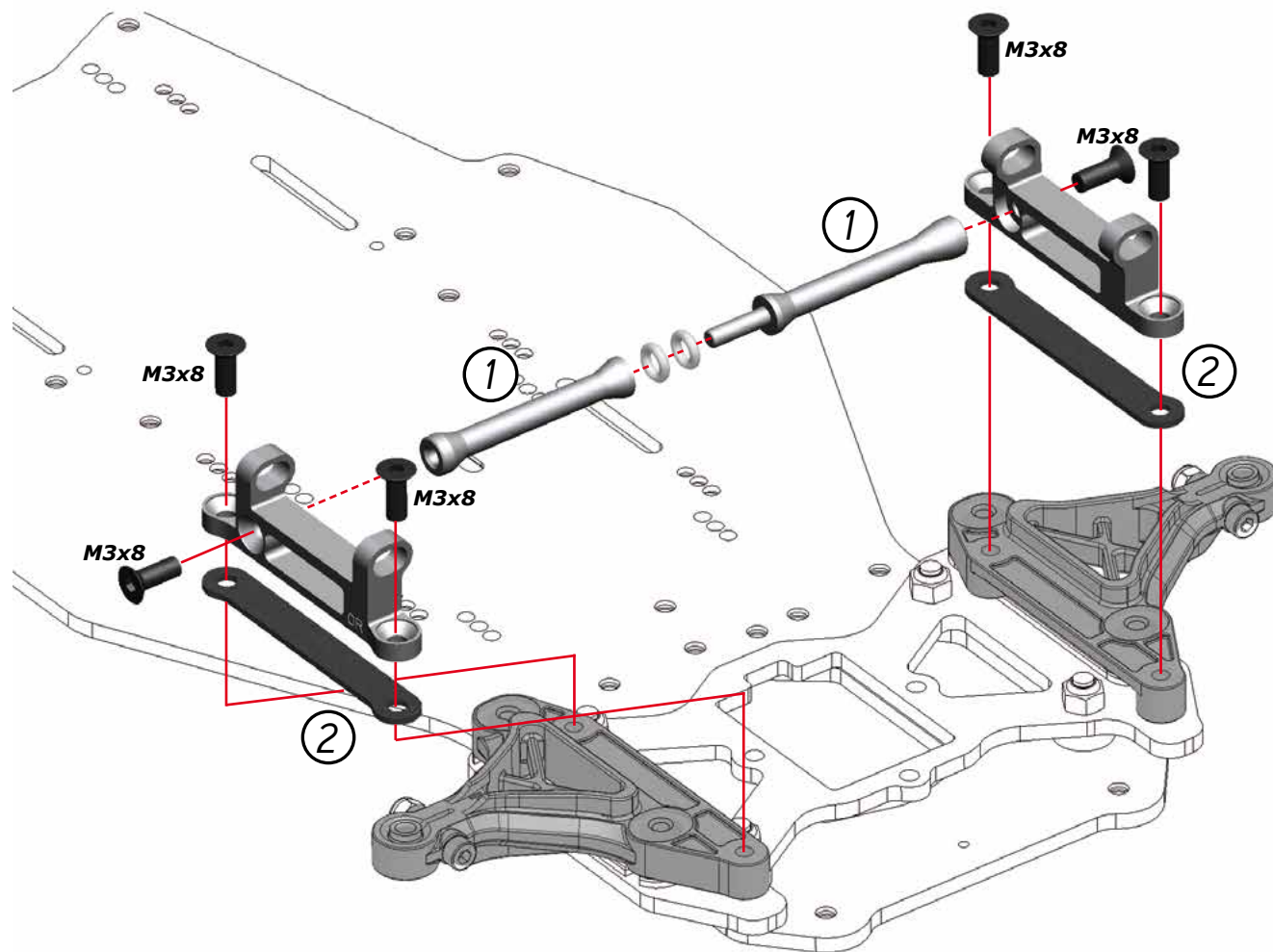
STEP  
3



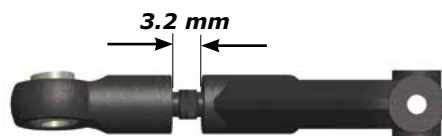
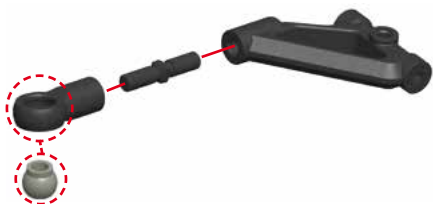
# STEP 4



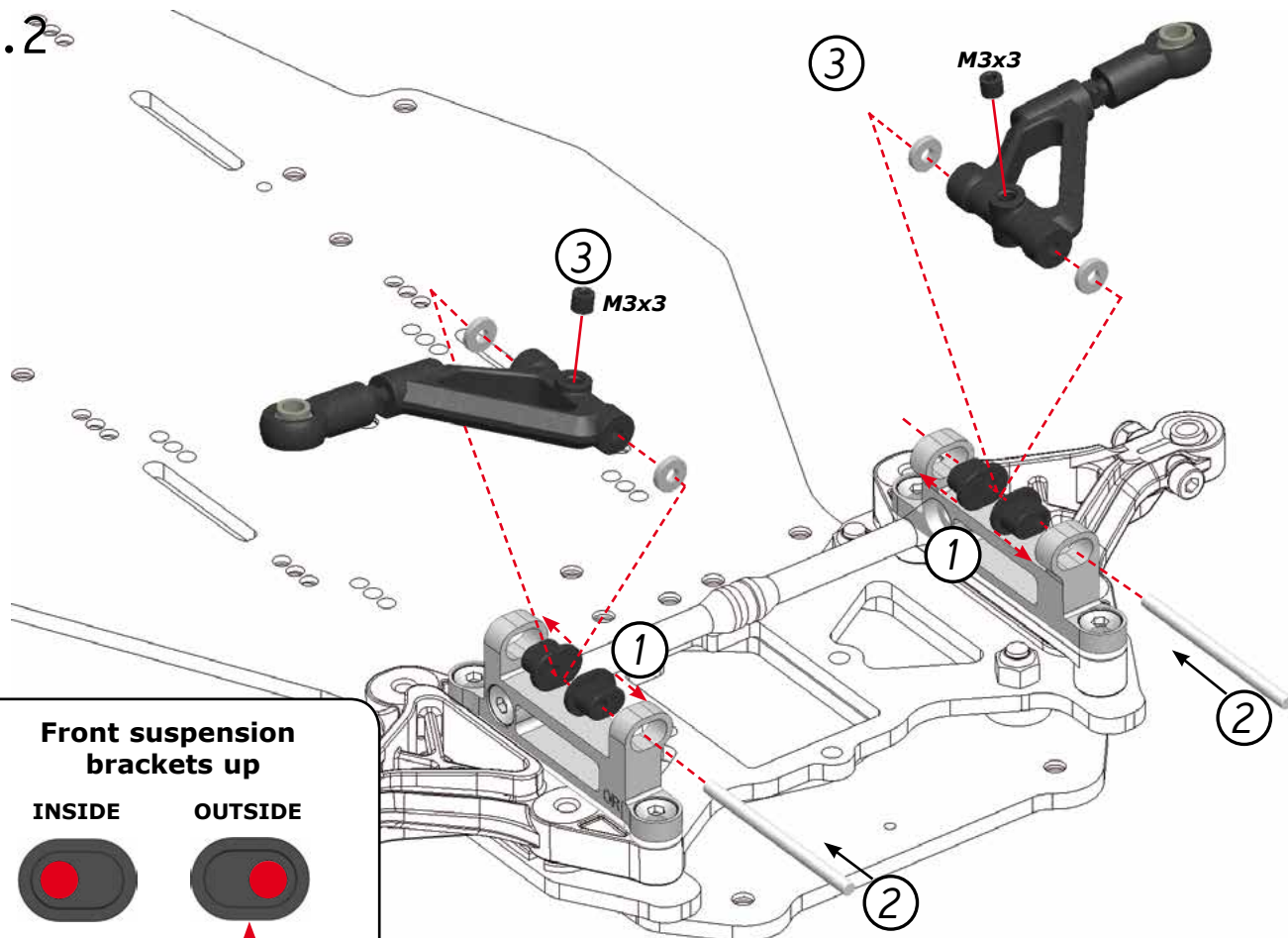
# STEP 5



6.1



6.2



### Front suspension brackets up

INSIDE

OUTSIDE



Default setup

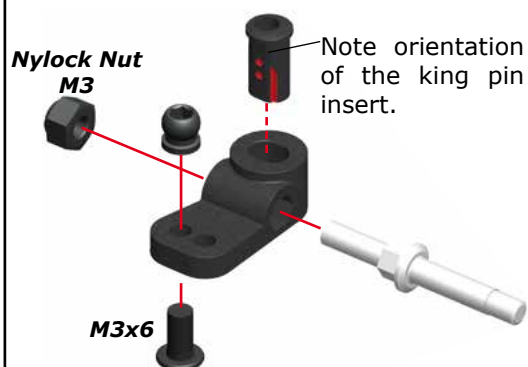


7.1

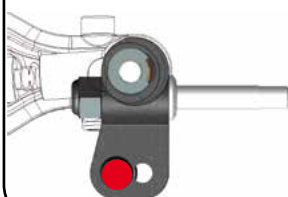
Nylock Nut  
M3

Note orientation  
of the king pin  
insert.

M3x6



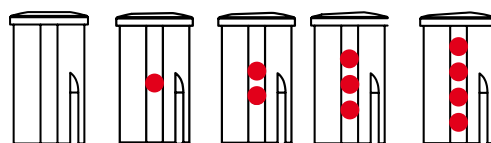
Default ackermann  
position in  
the steering  
block lever.



### Steering block King pin inserts

King pin angle adjustable from 0 to 4 degrees.

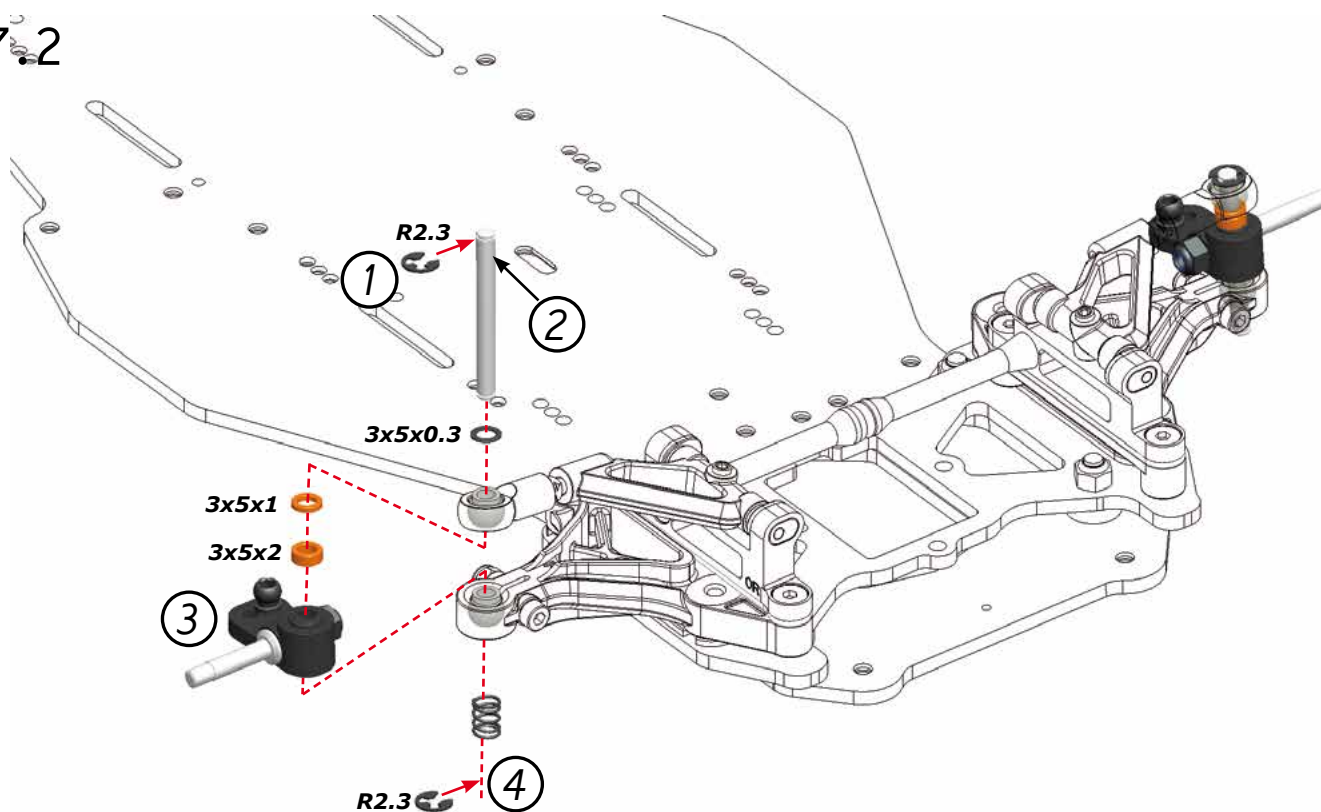
0° 1° 2° 3° 4°



Default setup



7.2

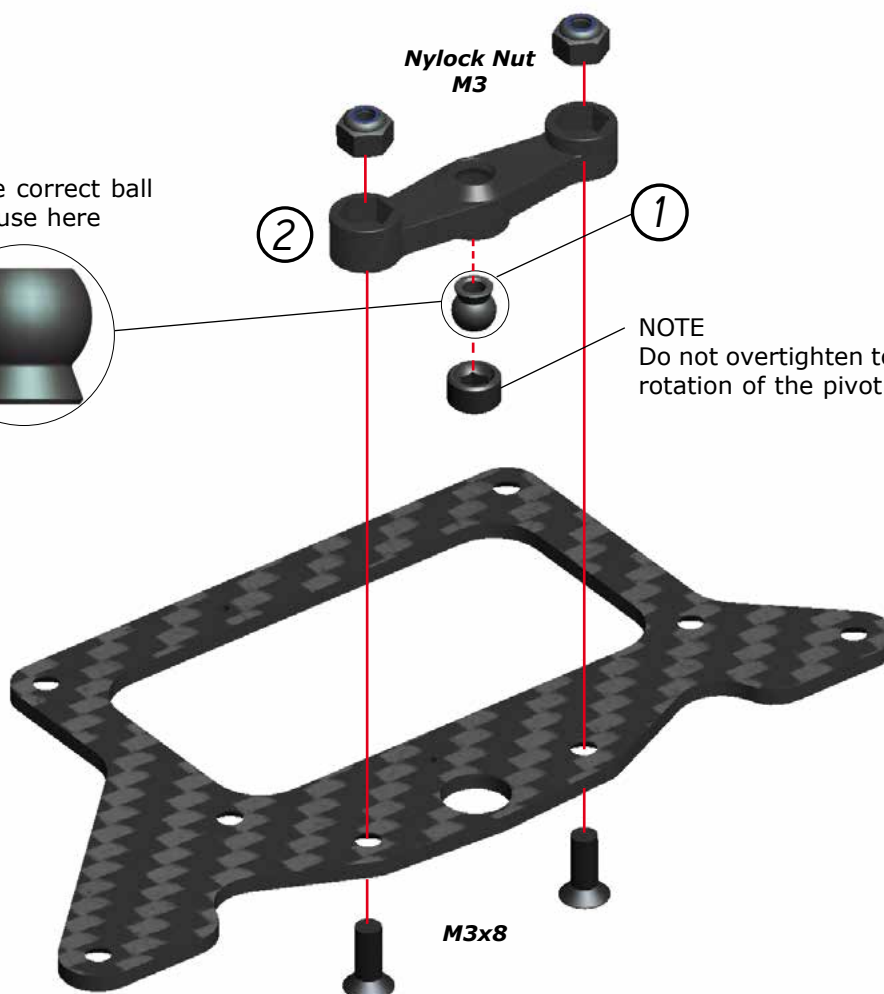
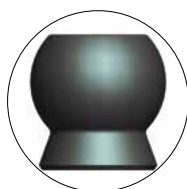


## REAR ASSEMBLY

STEP  
8

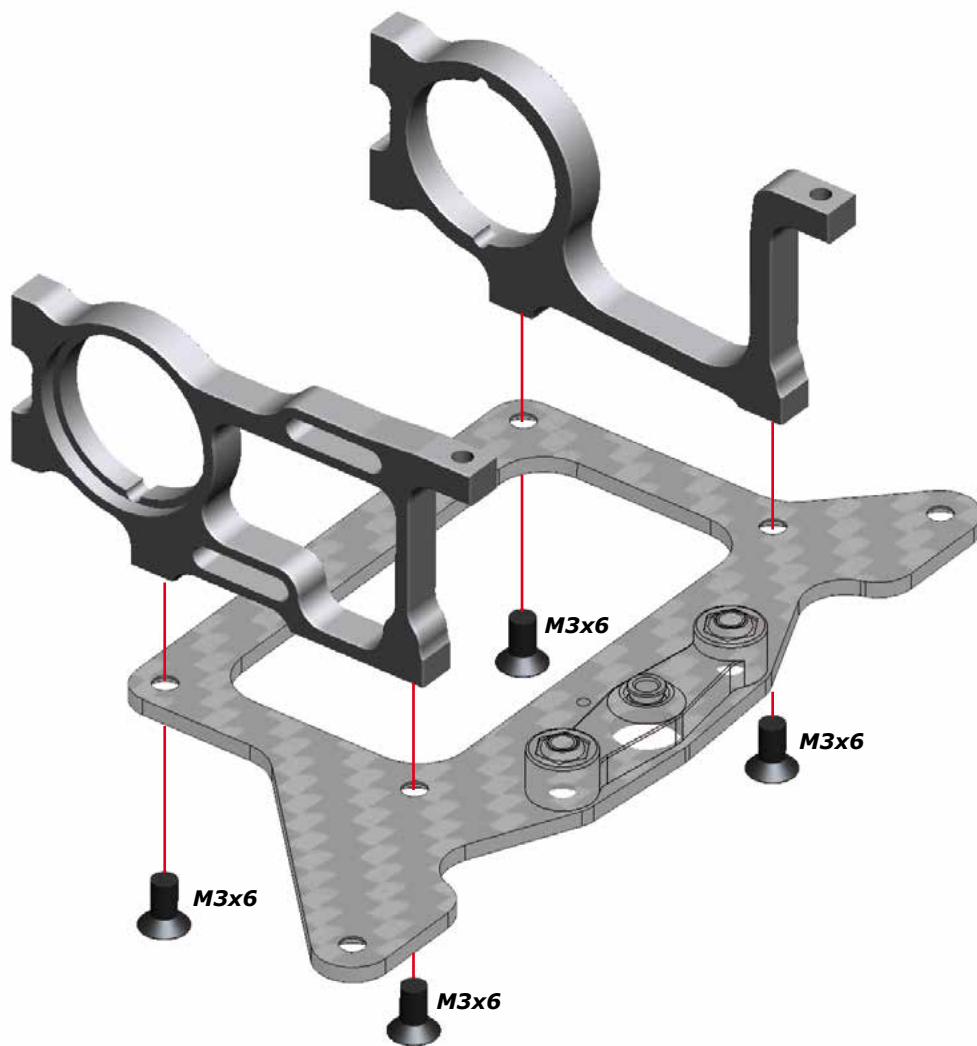
Bag  
3

Note the correct ball  
type to use here

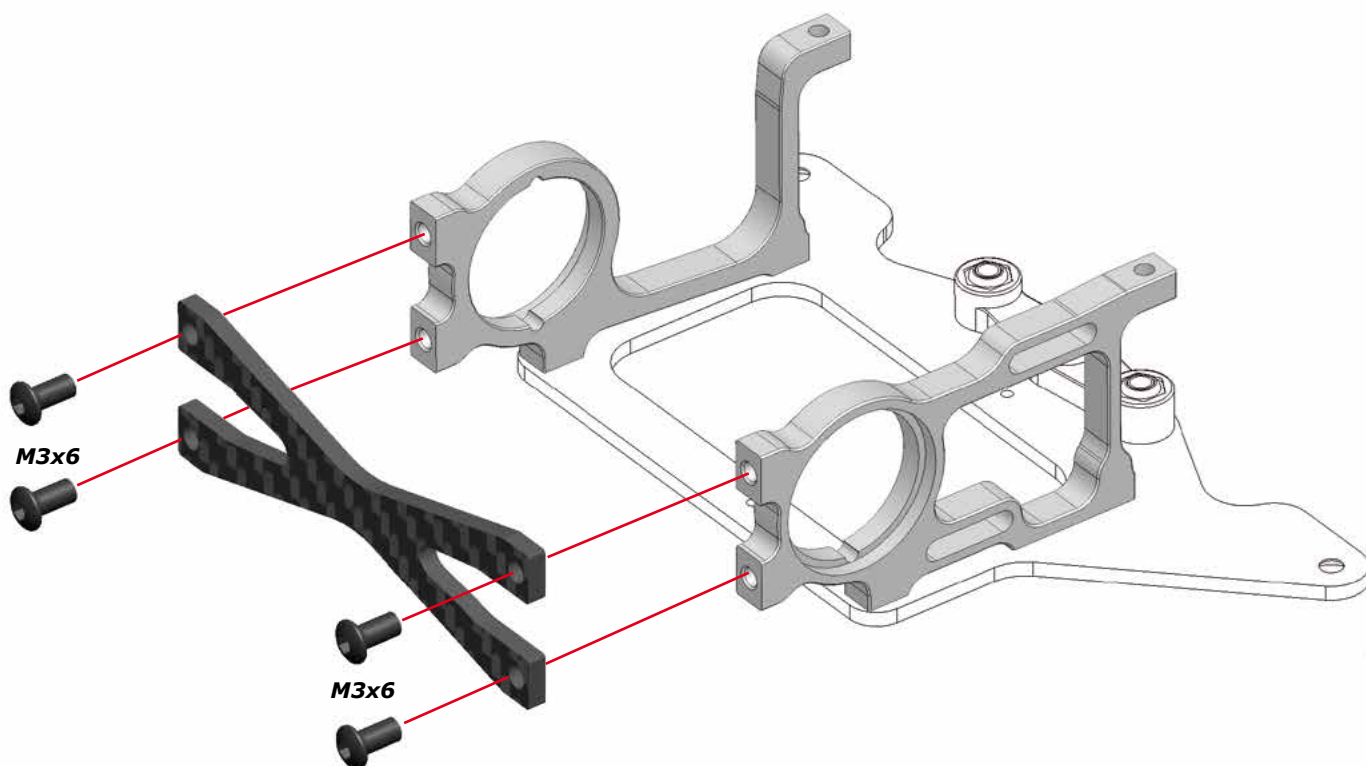


NOTE  
Do not overtighten to ensure free  
rotation of the pivot ball.

STEP  
9



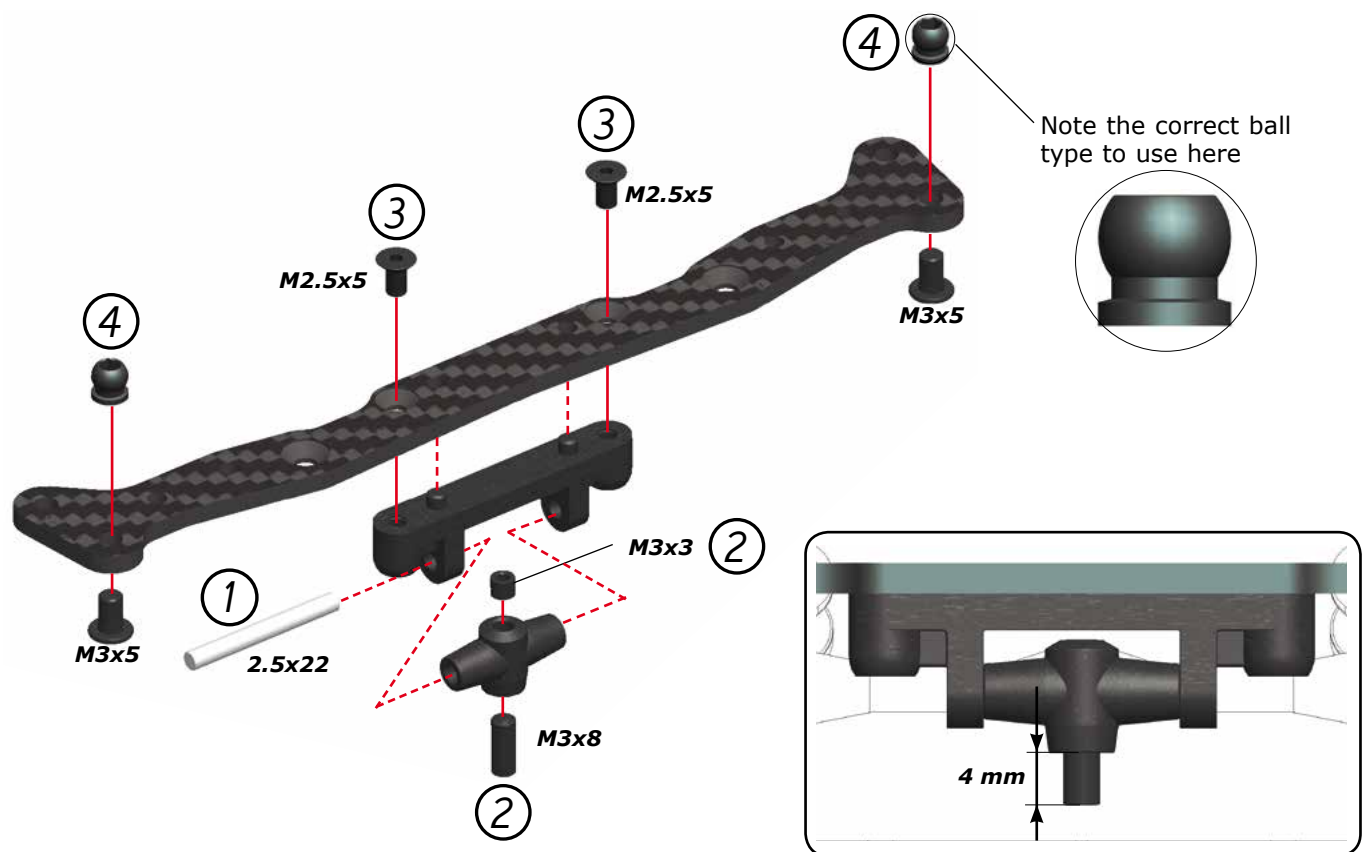
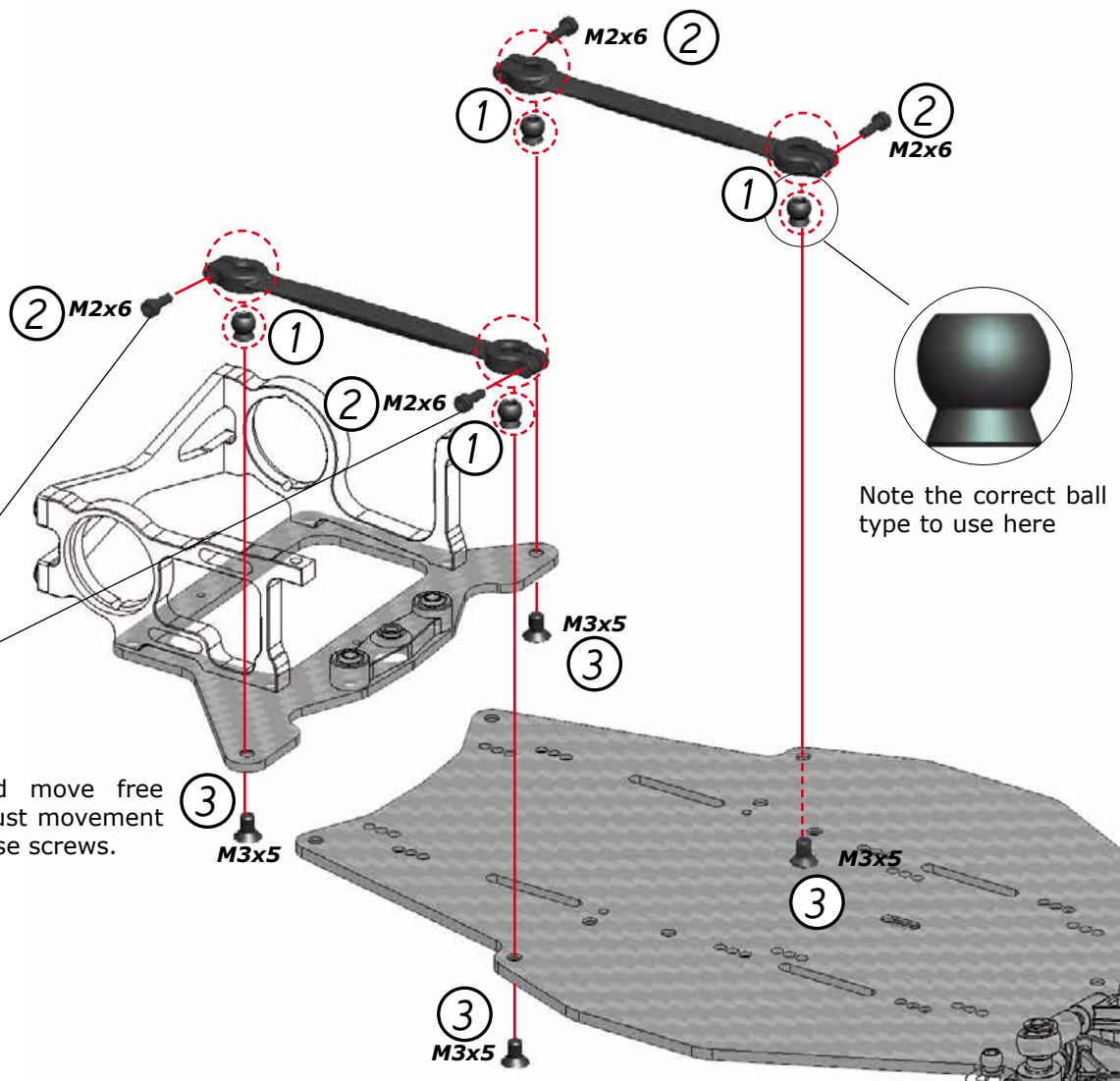
STEP  
10



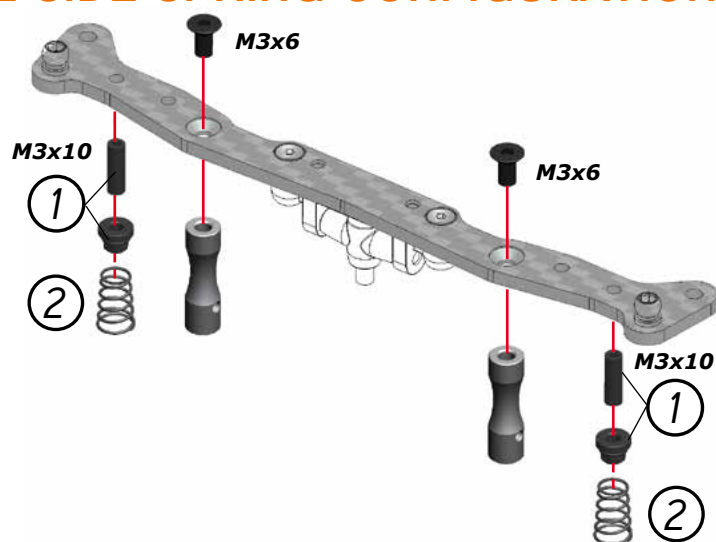


NOTE:

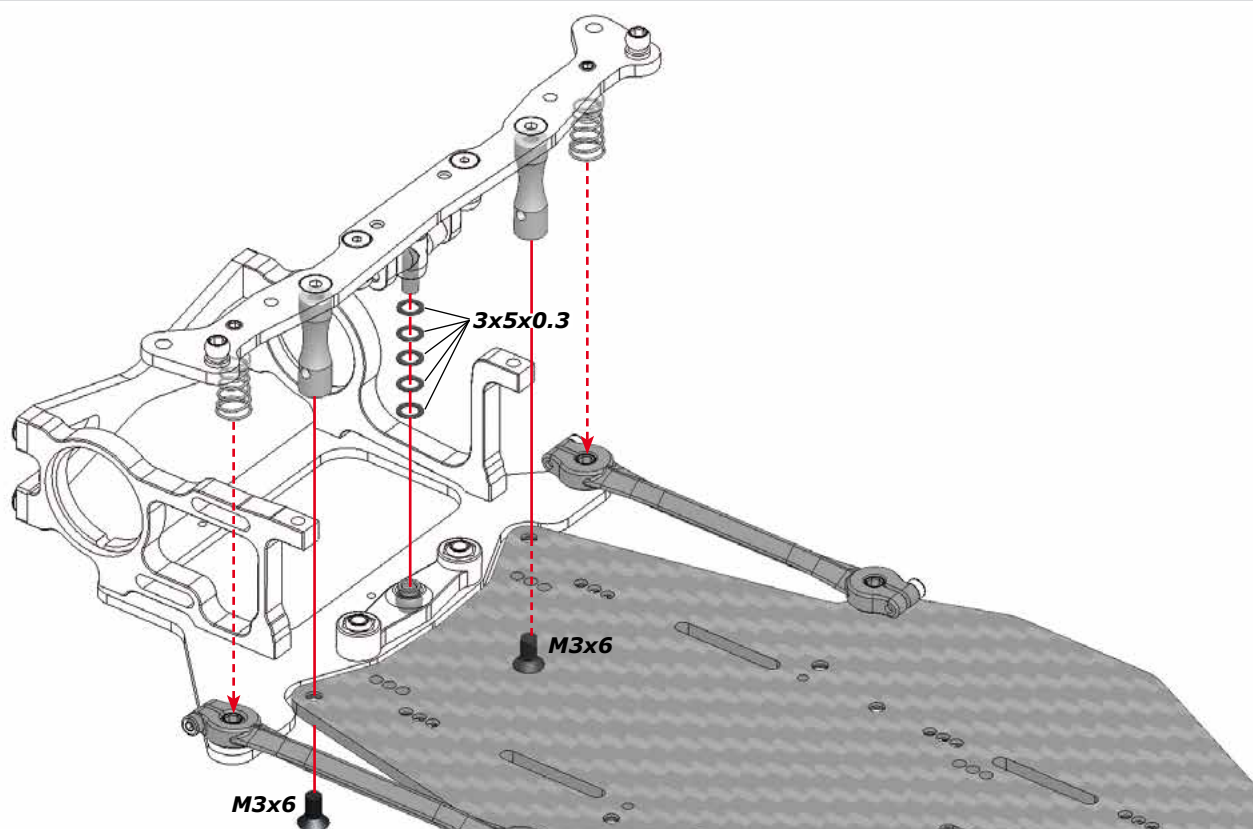
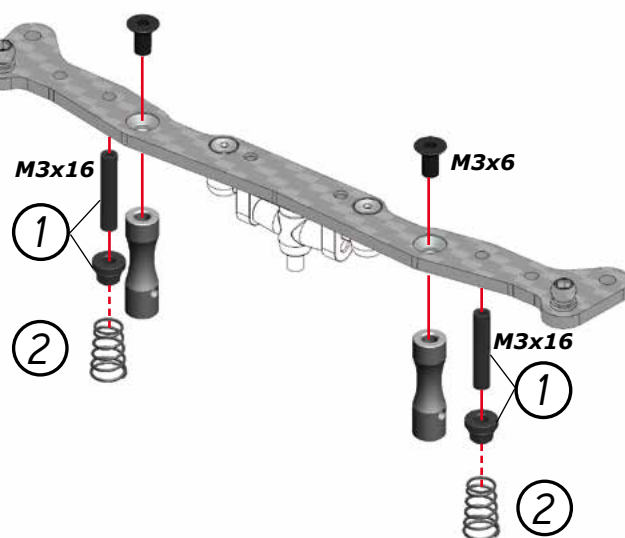
The links should move free without play. Adjust movement and play with these screws.

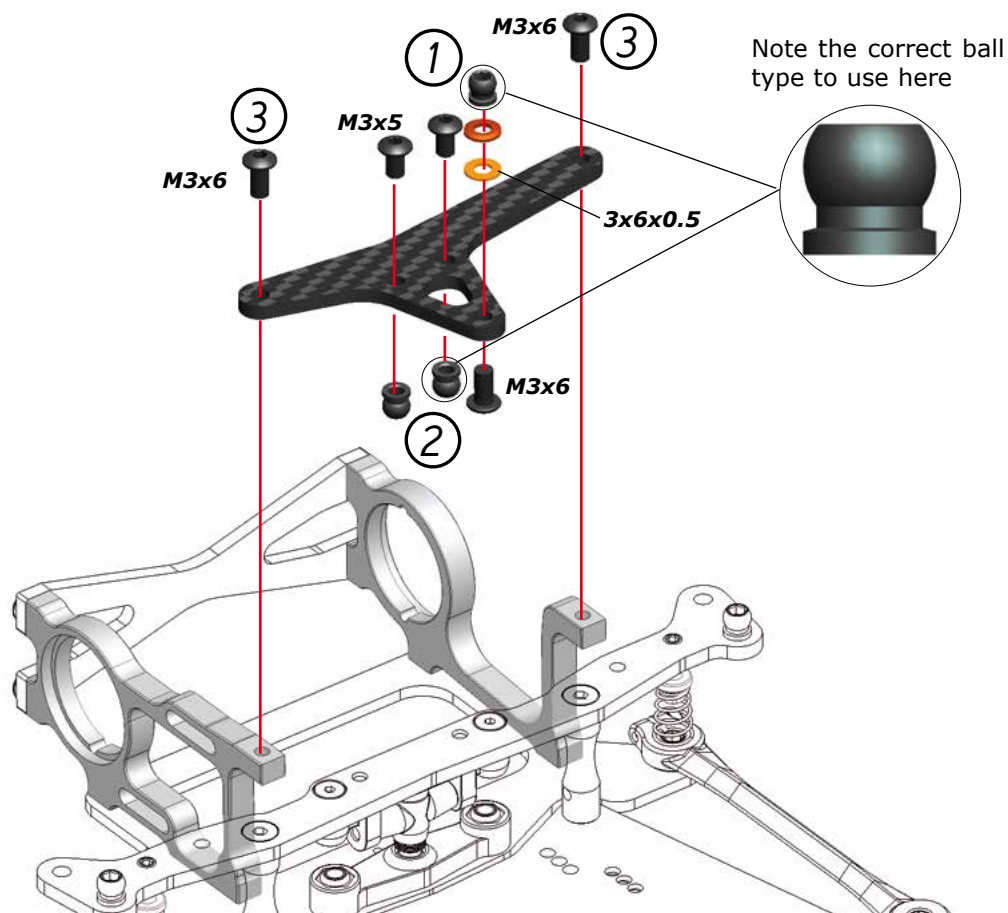


## A) OUTSIDE SIDE SPRING CONFIGURATION (DEFAULT)

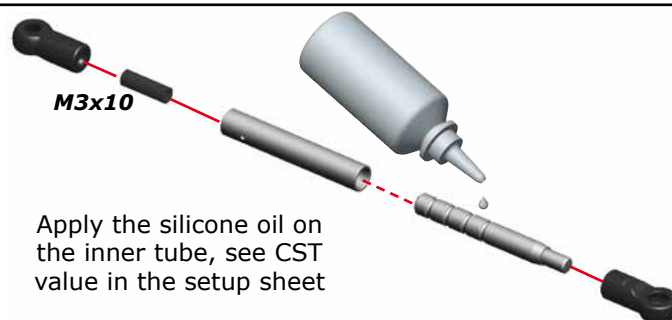


## B) INSIDE SIDE SPRING CONFIGURATION



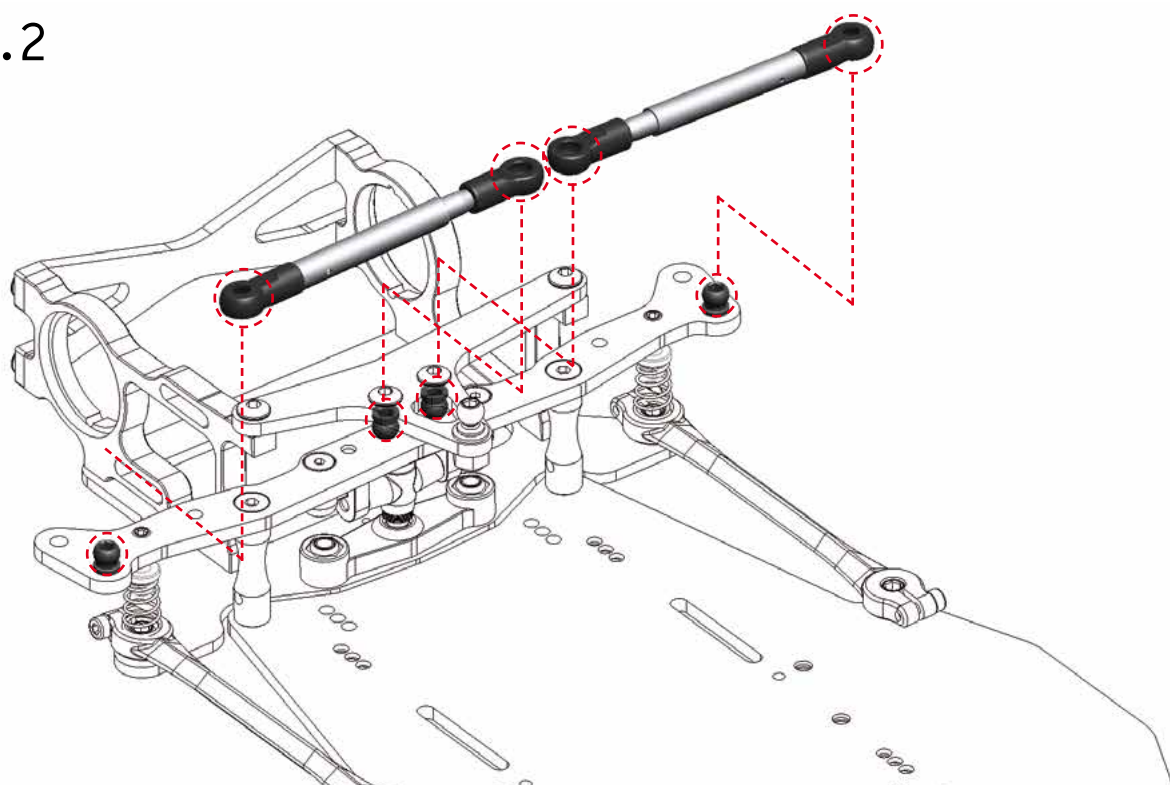


16.1



Apply the silicone oil on the inner tube, see CST value in the setup sheet

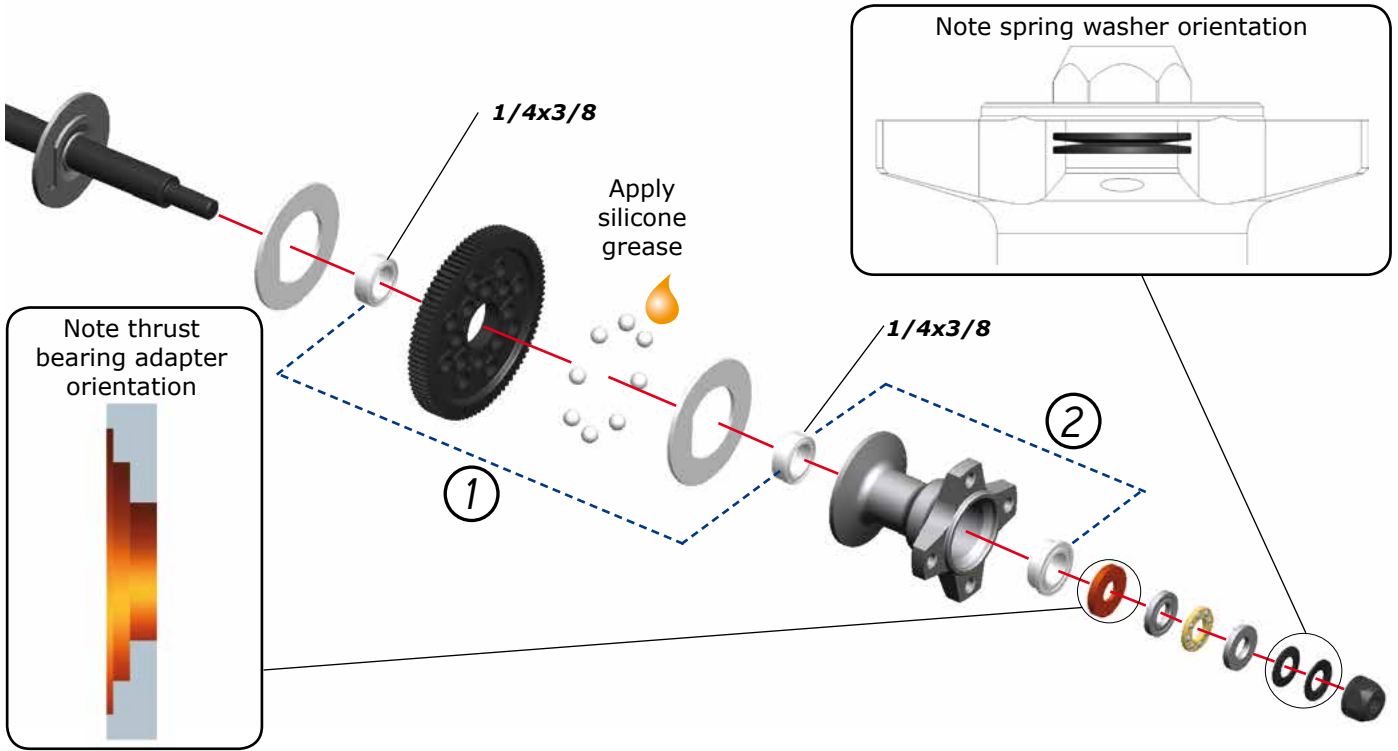
16.2



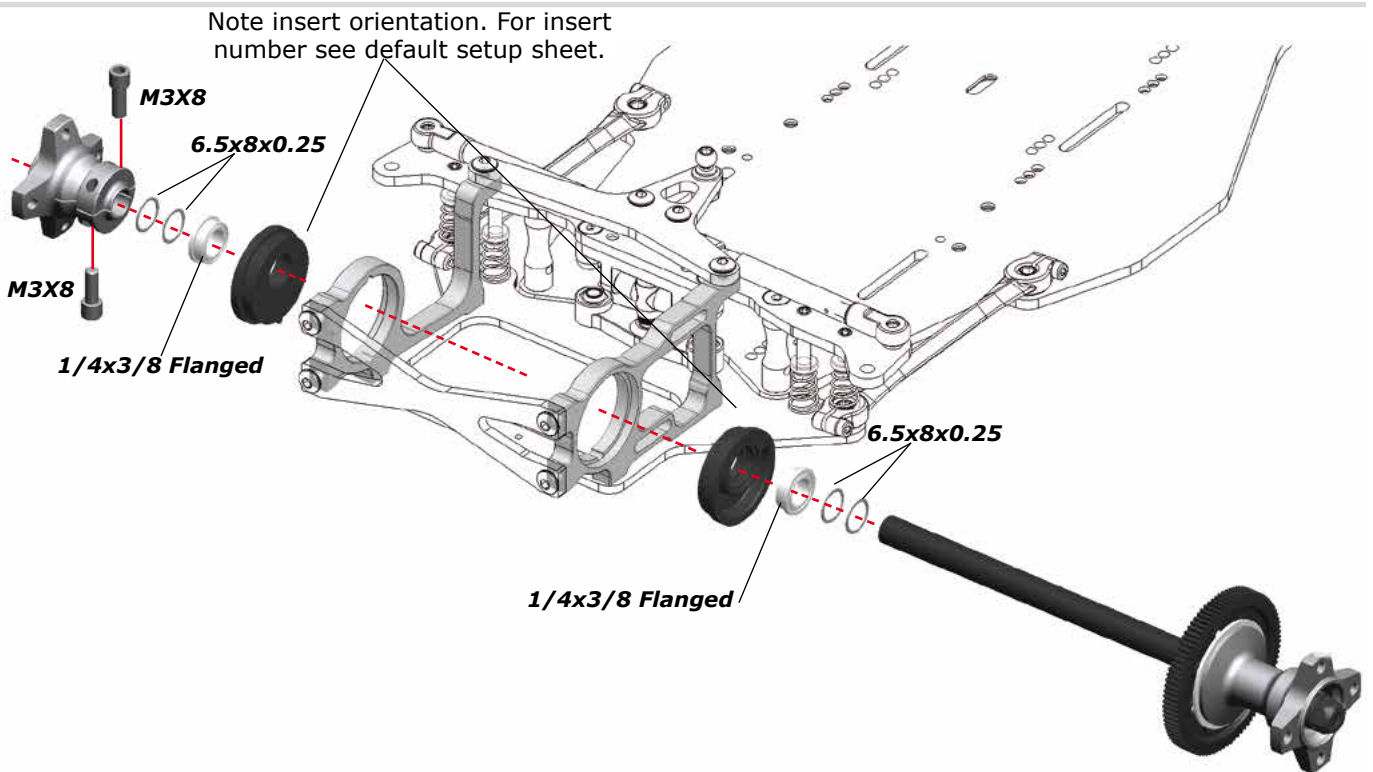
# BALL DIFF ASSEMBLY

STEP  
17

Bag  
5

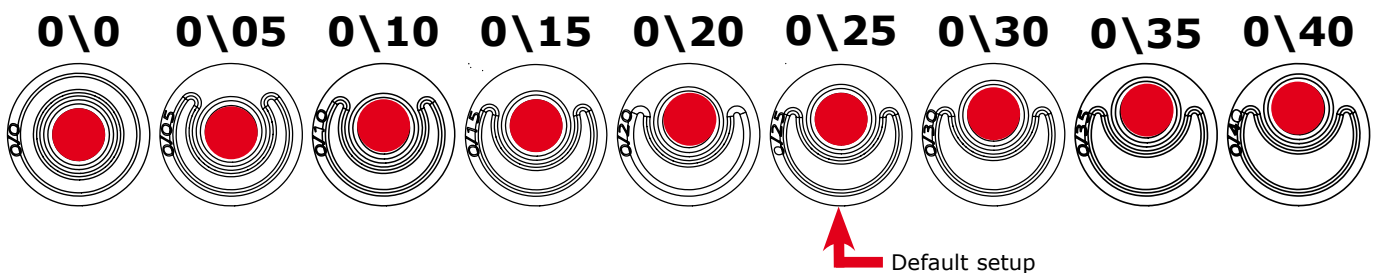


STEP  
18



## Rear ride height inserts

The rear ride height is adjustable in steps of 0.5mm increments using different rear axle bearing adapters. The ride height decreases if the axle is placed higher.





# SERVO AND BATTERY ASSEMBLY

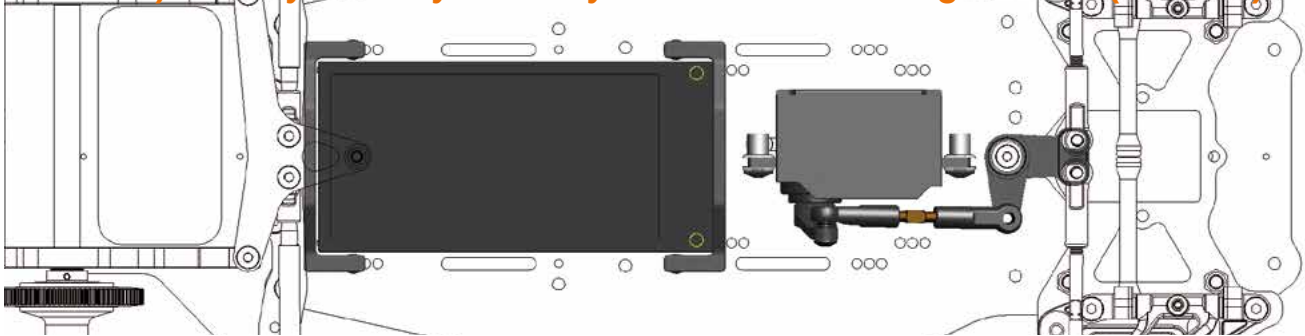
## NOTE:

Serpent S100 LTR is designed to create two different battery/servo configurations:

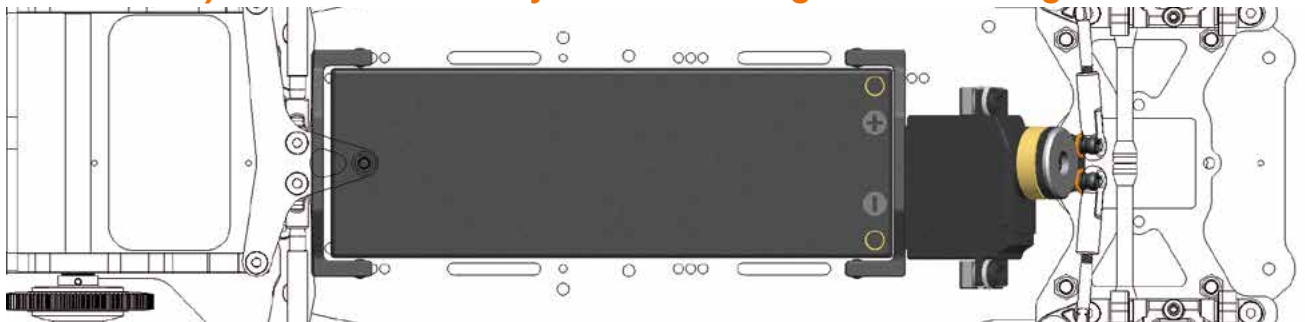
- A) Detail view shorty battery and laydown servo configuration (default)
- B) Detail view standard battery and standing servo configuration.

Below you can see a detail view of both configurations. Please follow the right steps for the choosen configuration: A or B

## A) Shorty battery and laydown servo configuration (default)

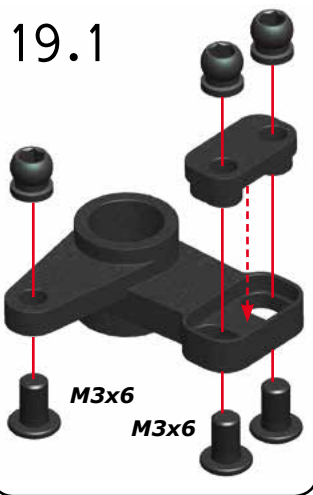


## B) Standard battery and standing servo configuration.



## A) Shorty battery and laydown servo configuration (default)

19.1



**Servosaver ackermann  
inserts**

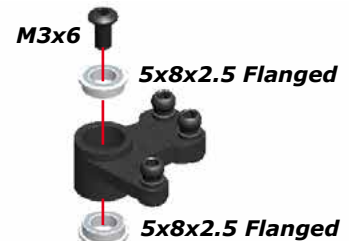
**FORWARD**

**REARWARD**



Default setup

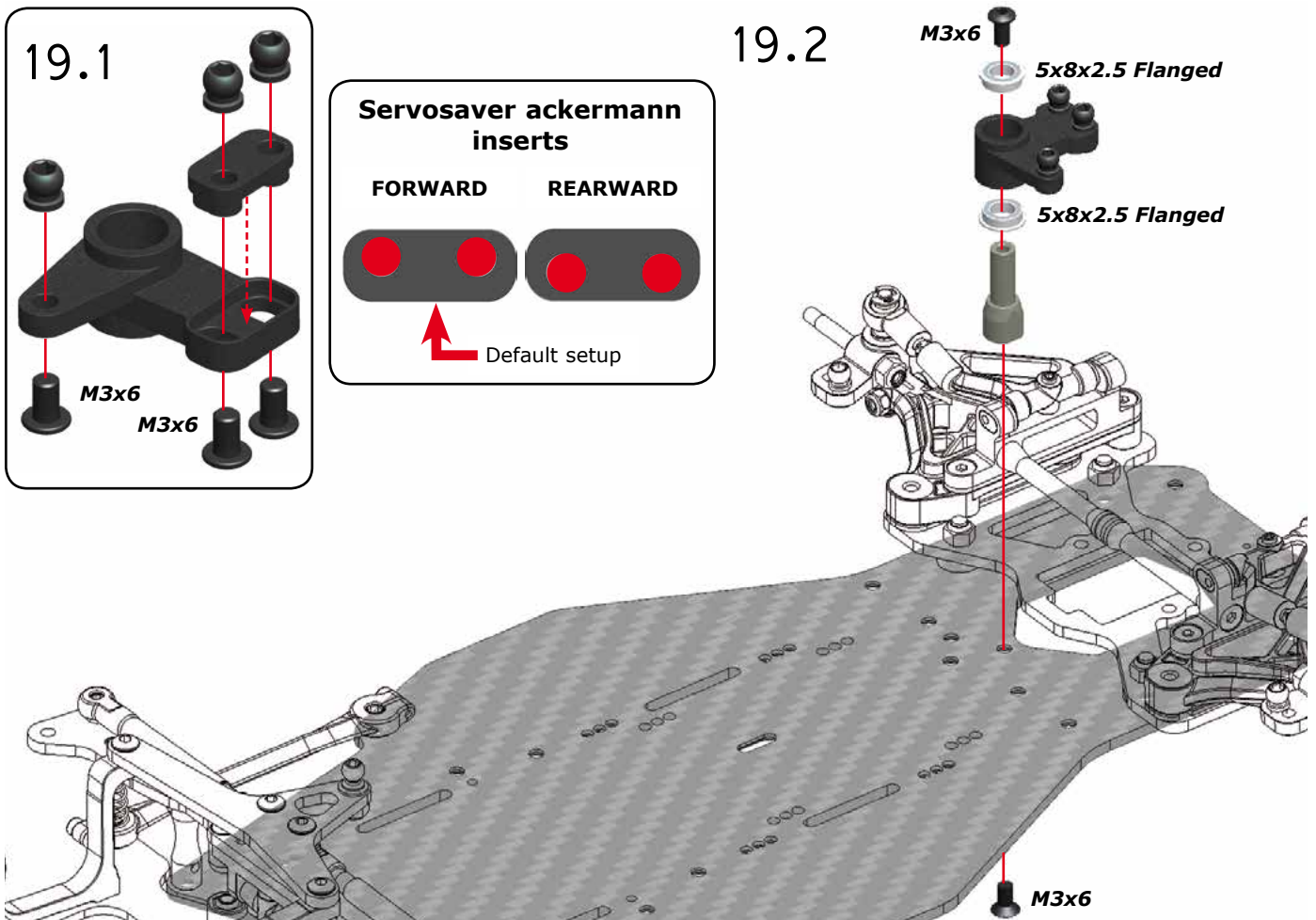
19.2



M3x6

5x8x2.5 Flanged

5x8x2.5 Flanged



M3x6

STEP  
19A

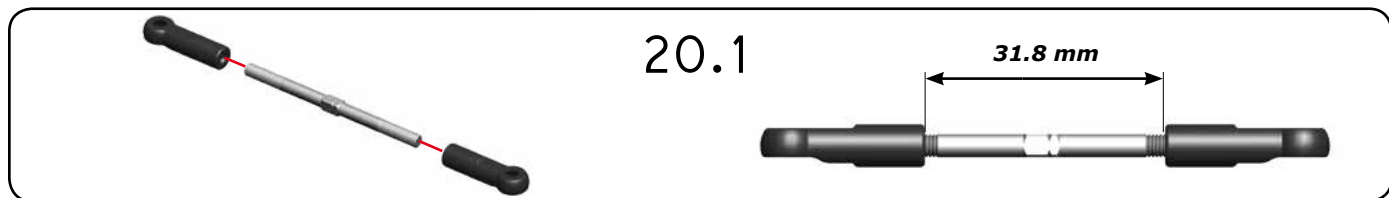
Bag  
6

Serpent

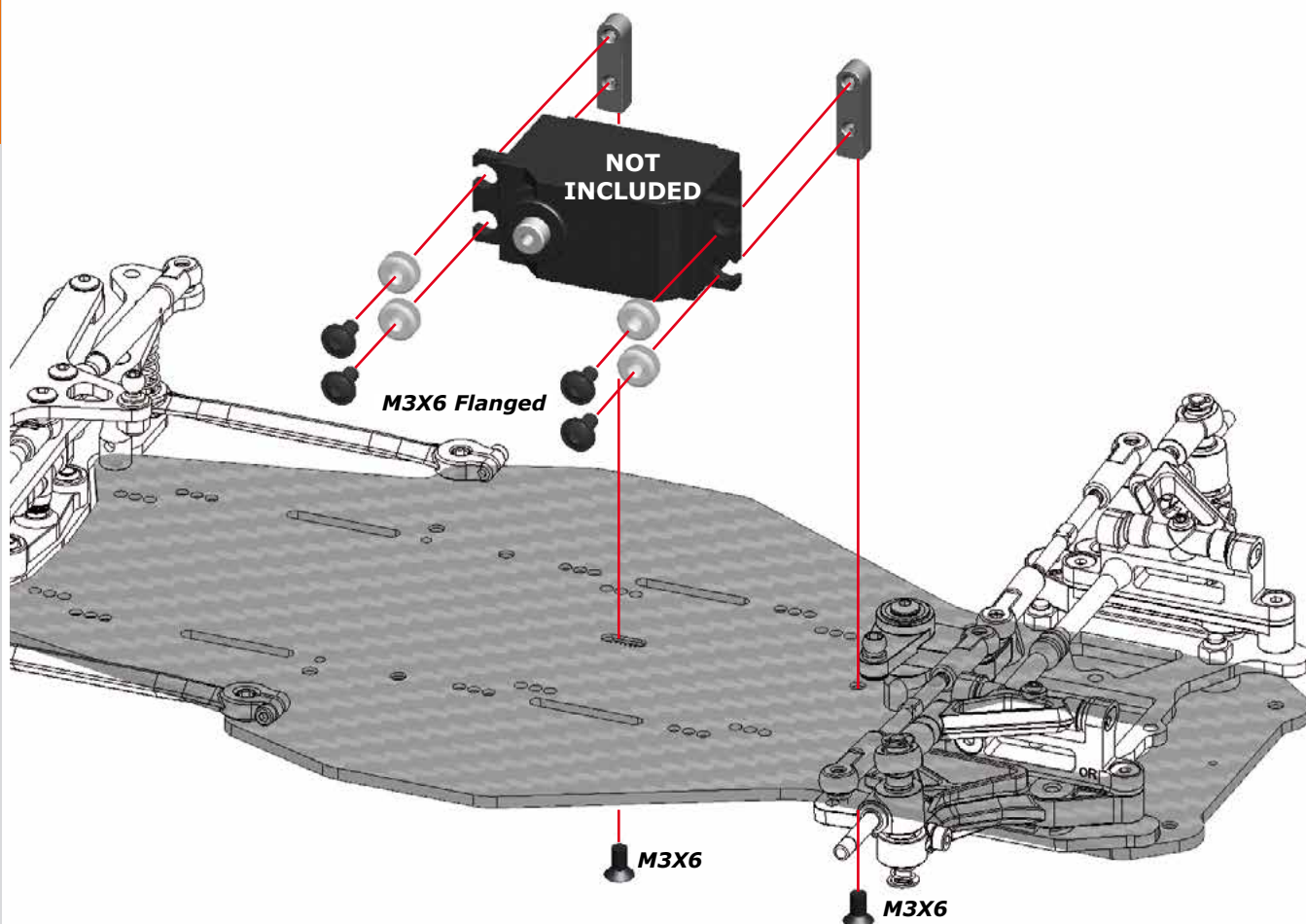
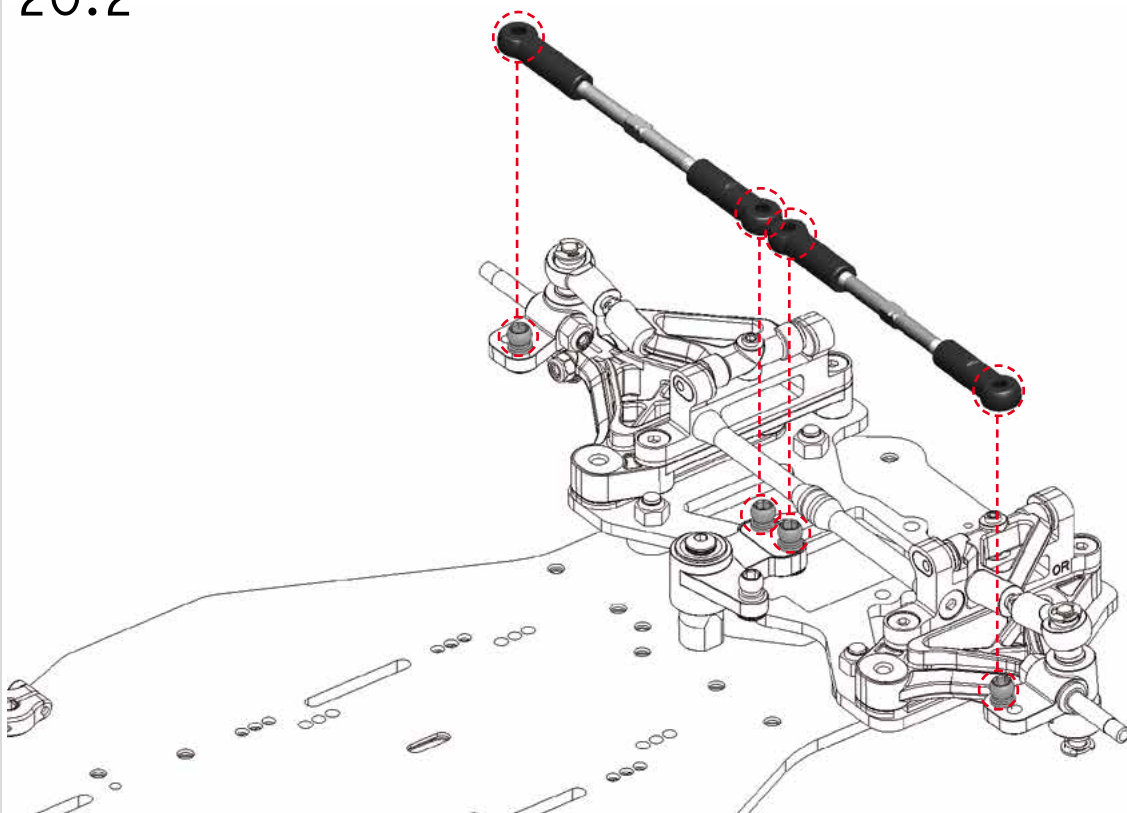
Page  
13

S100  
LTR

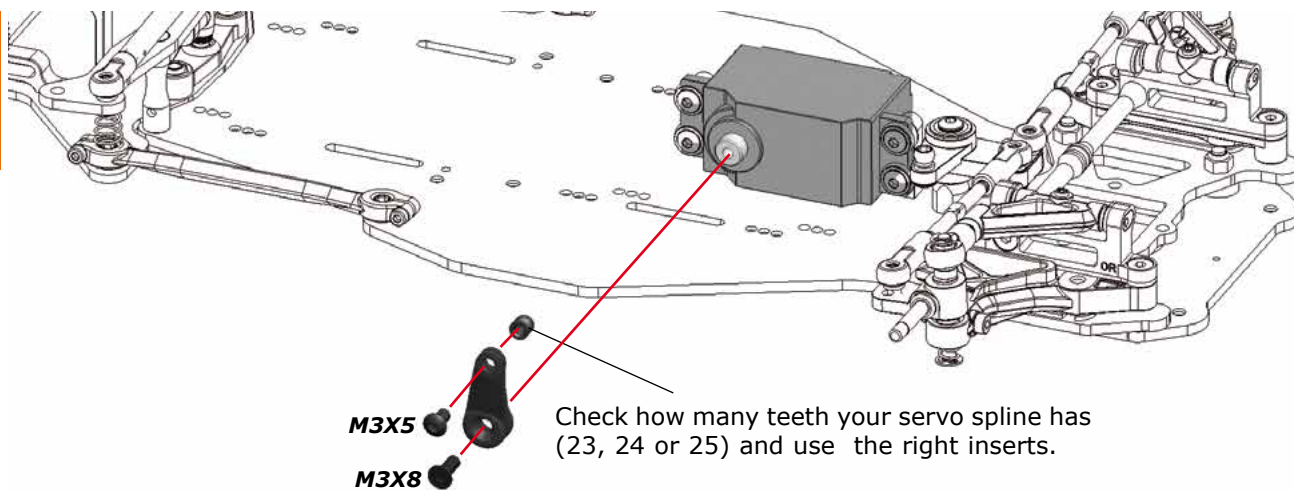




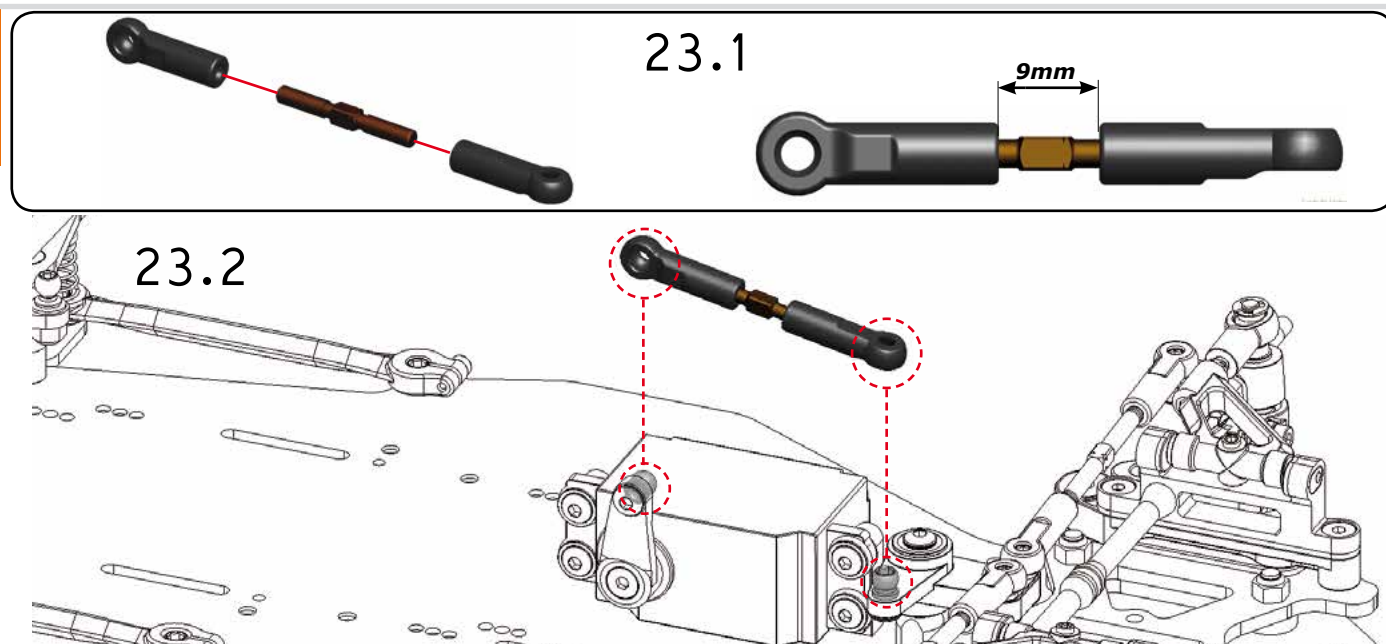
20.2



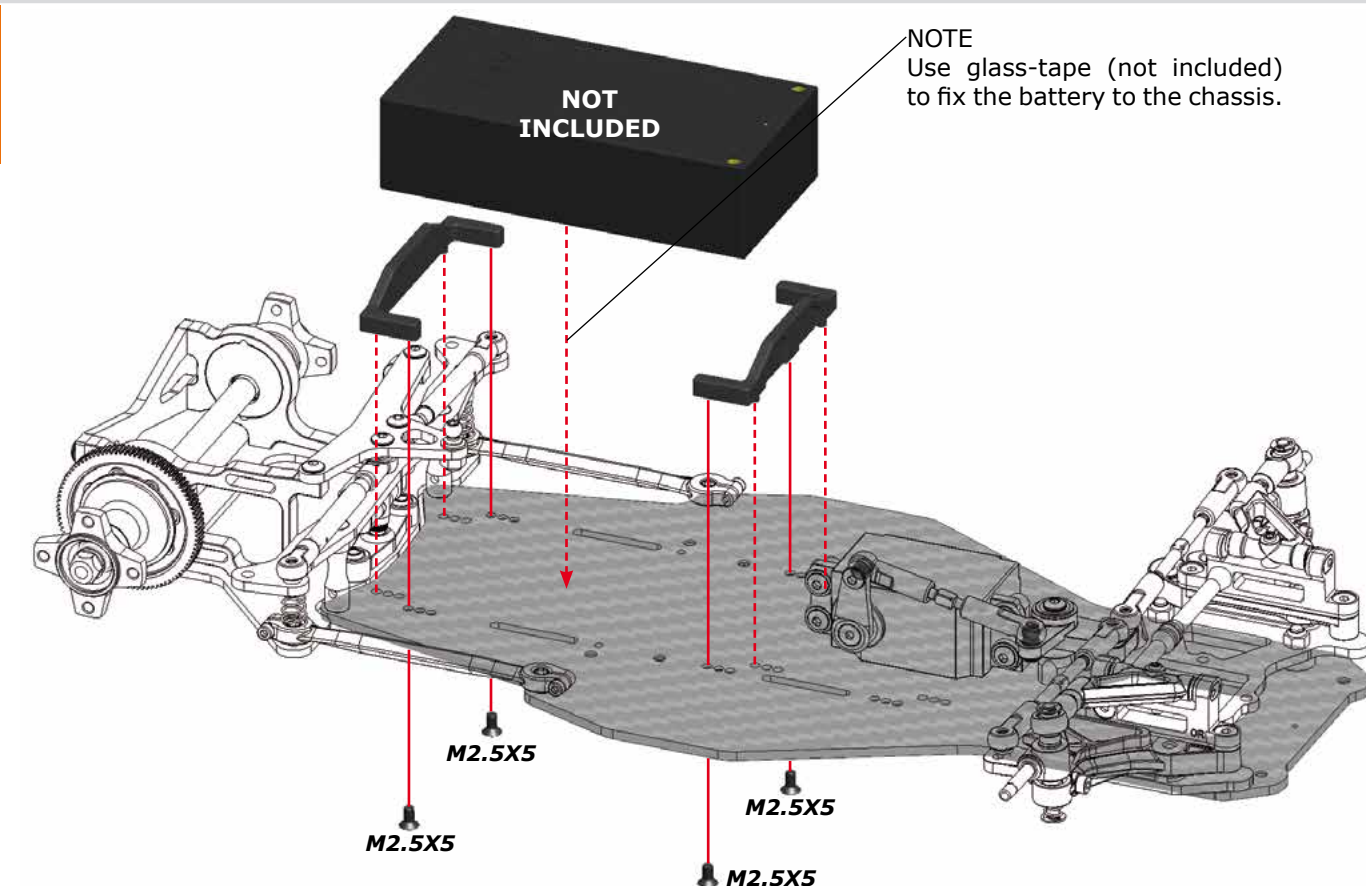
# STEP 22A



# STEP 23A



# STEP 24A

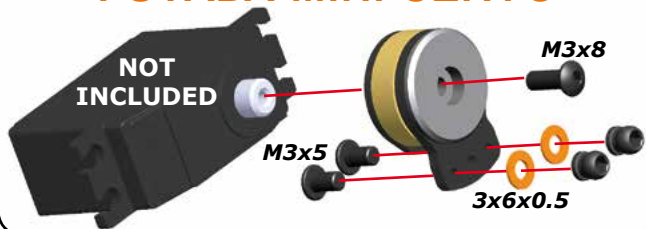




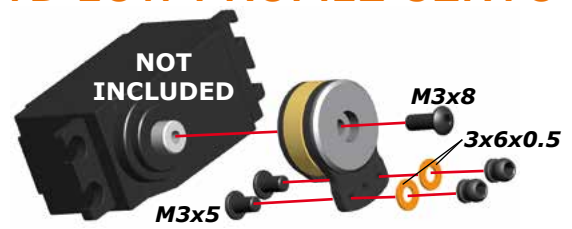
## B) Standard battery and standing servo configuration.

STEP  
19B

### FUTABA MINI SERVO



### STD LOW PROFILE SERVO



### JR SERVO



STEP  
20B

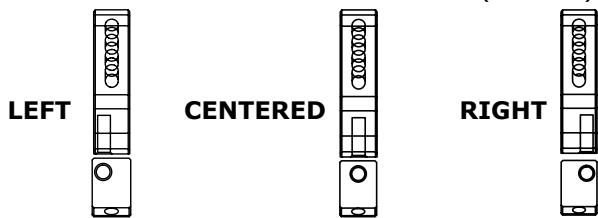
### FUTABA MINI SERVO



### STD LOW PROFILE SERVO



NOTE:  
There are three different servo mounts (FR view).

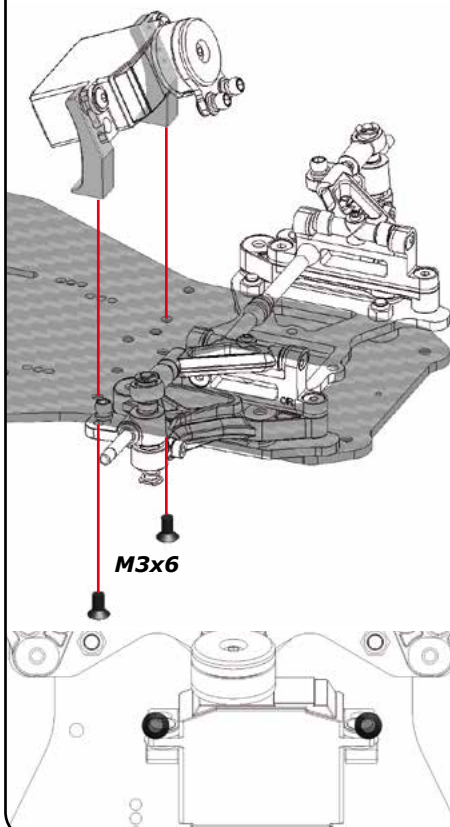


### JR SERVO

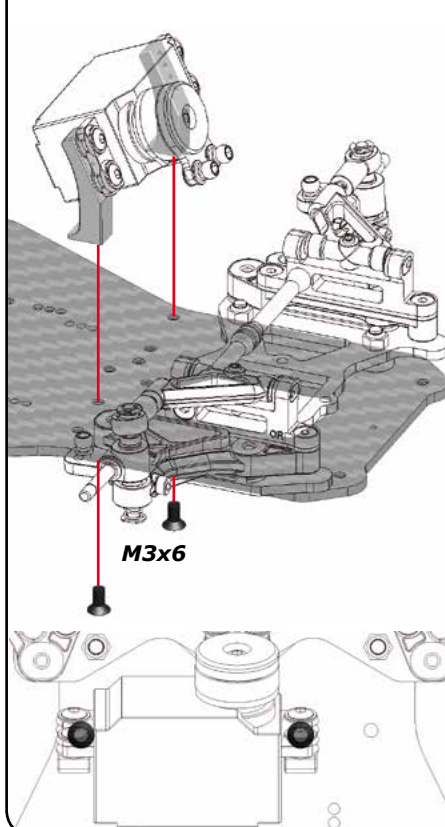


STEP  
21B

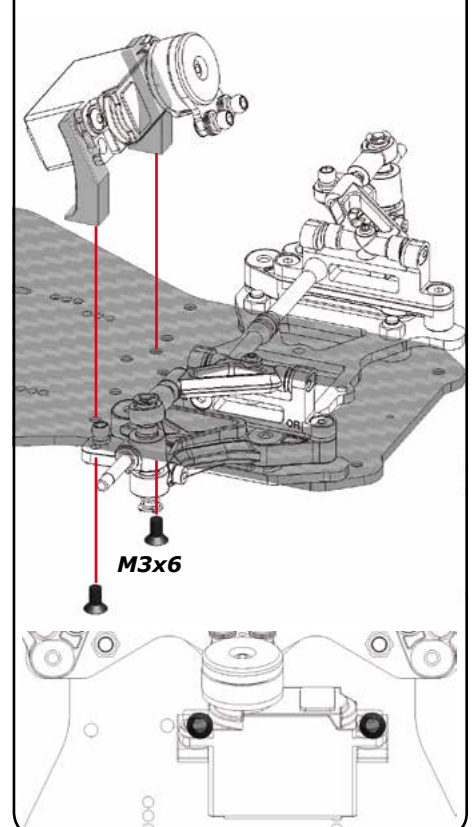
### FUTABA MINI SERVO



### STD LOW PROFILE SERVO

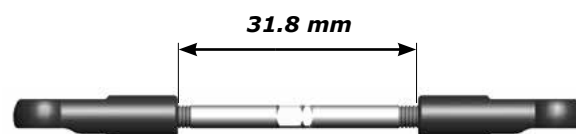


### JR SERVO

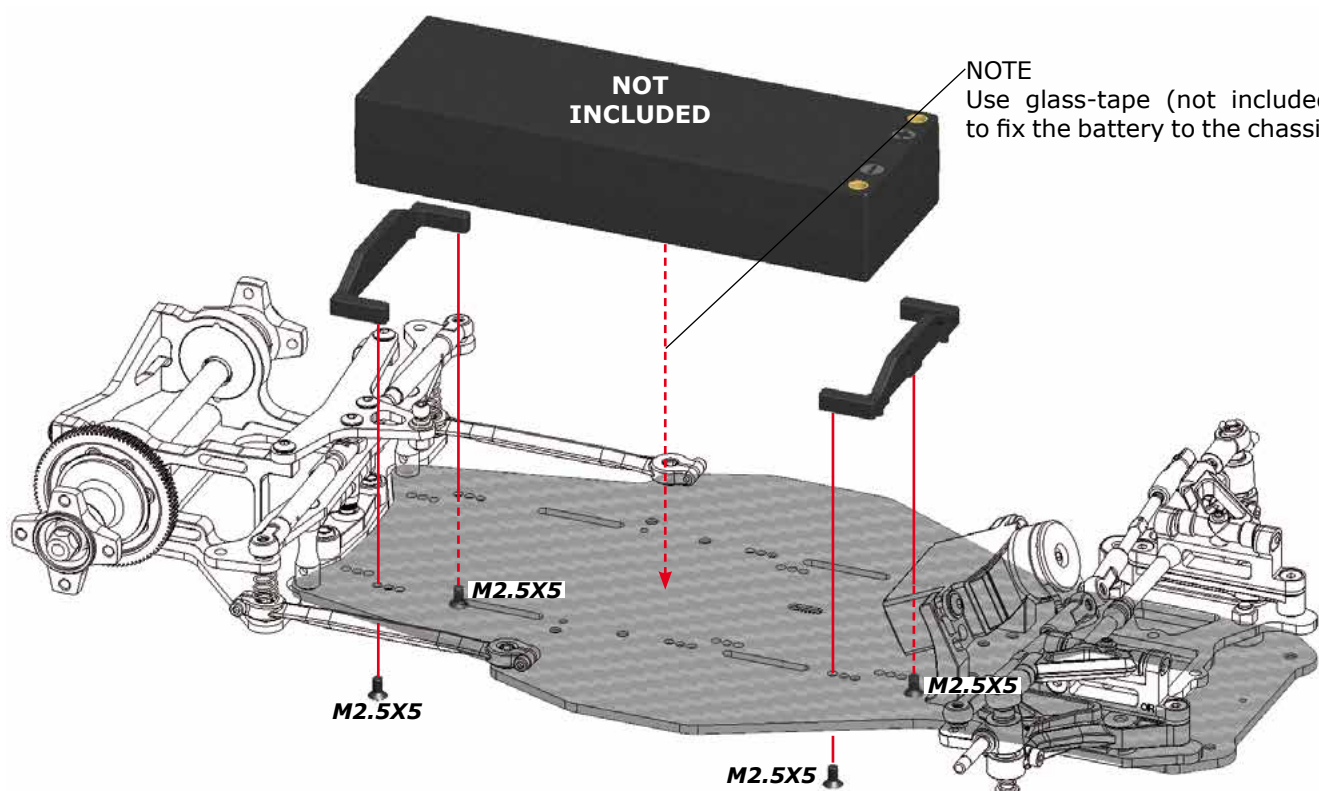
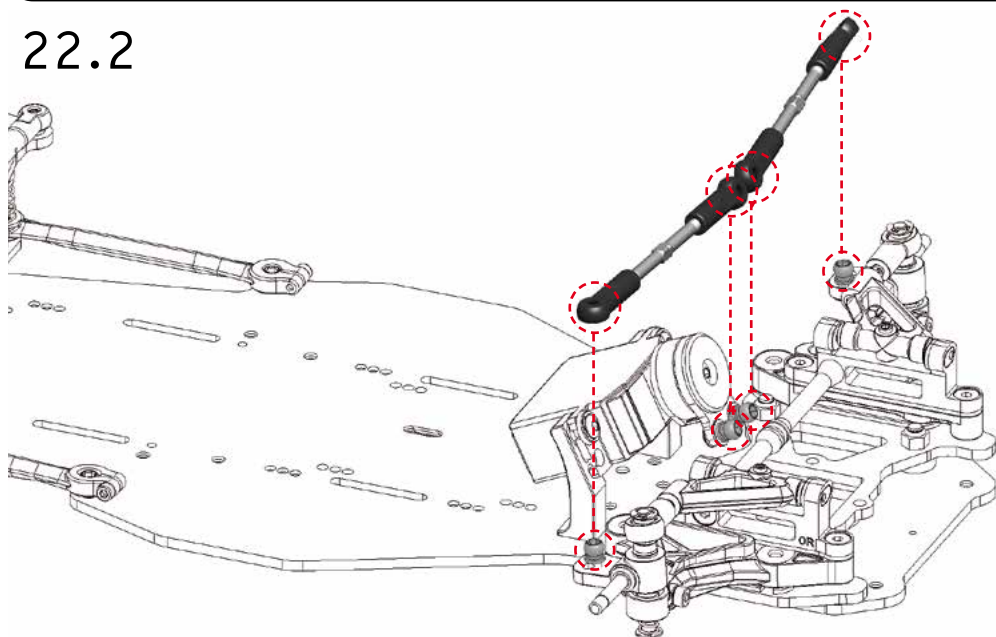


Serpent

22.1



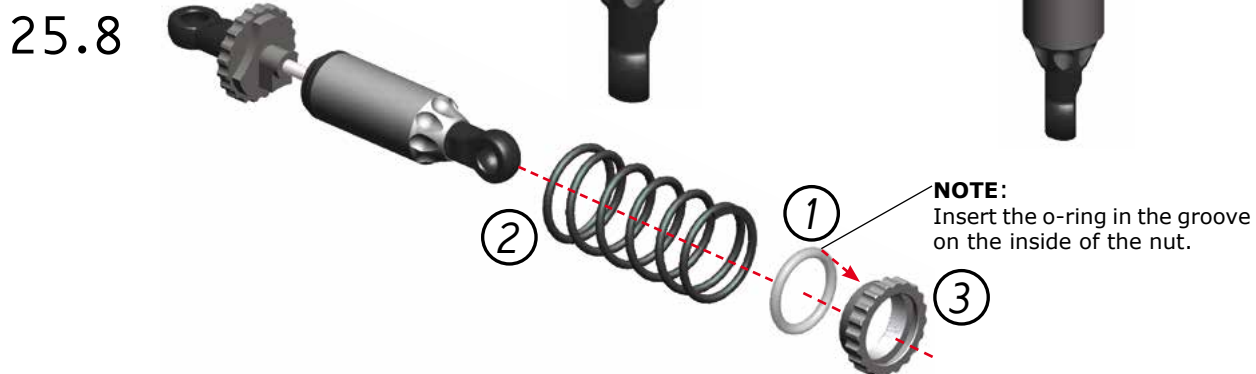
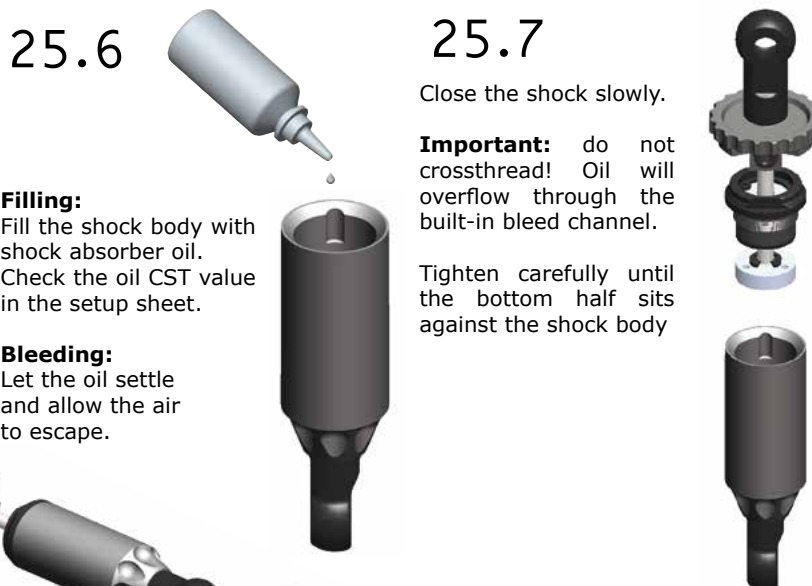
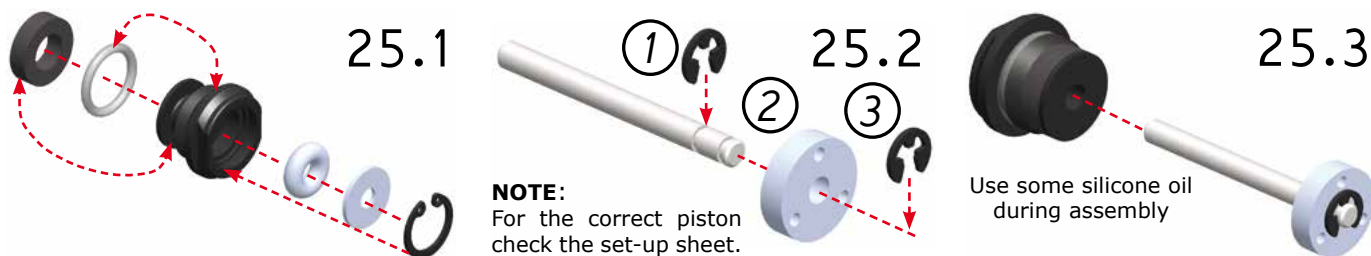
22.2



# SHOCK ASSEMBLY

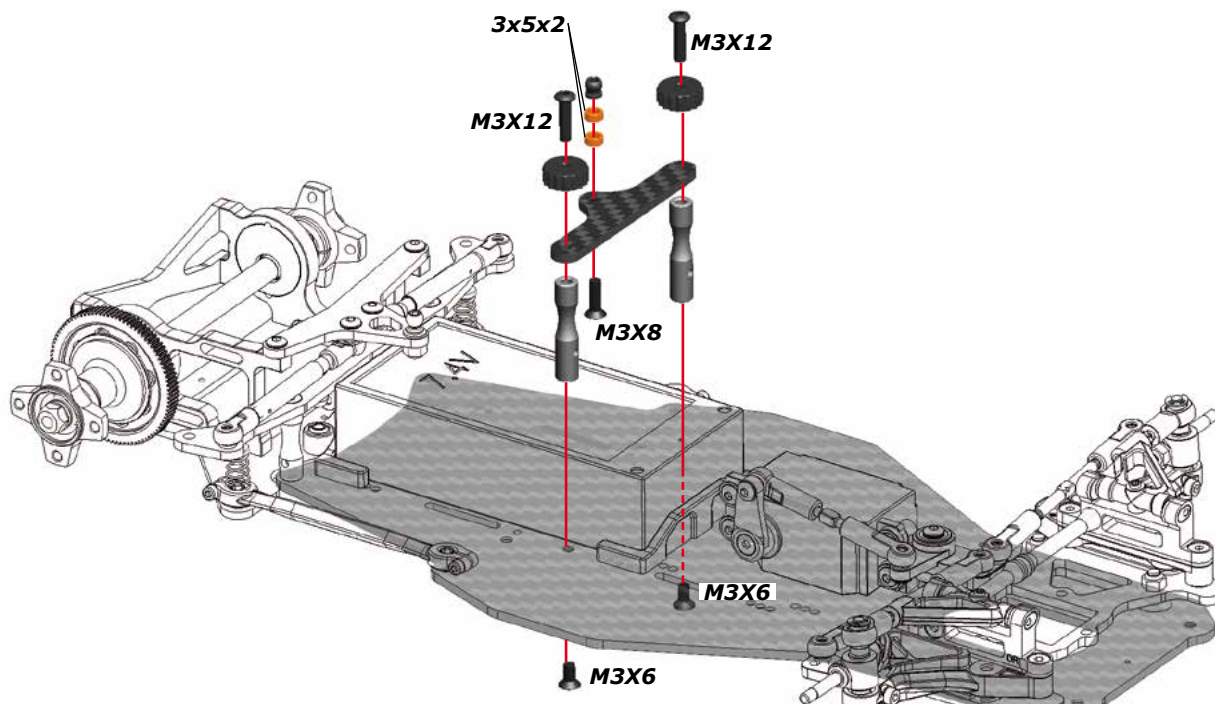
STEP  
25

Bag  
7



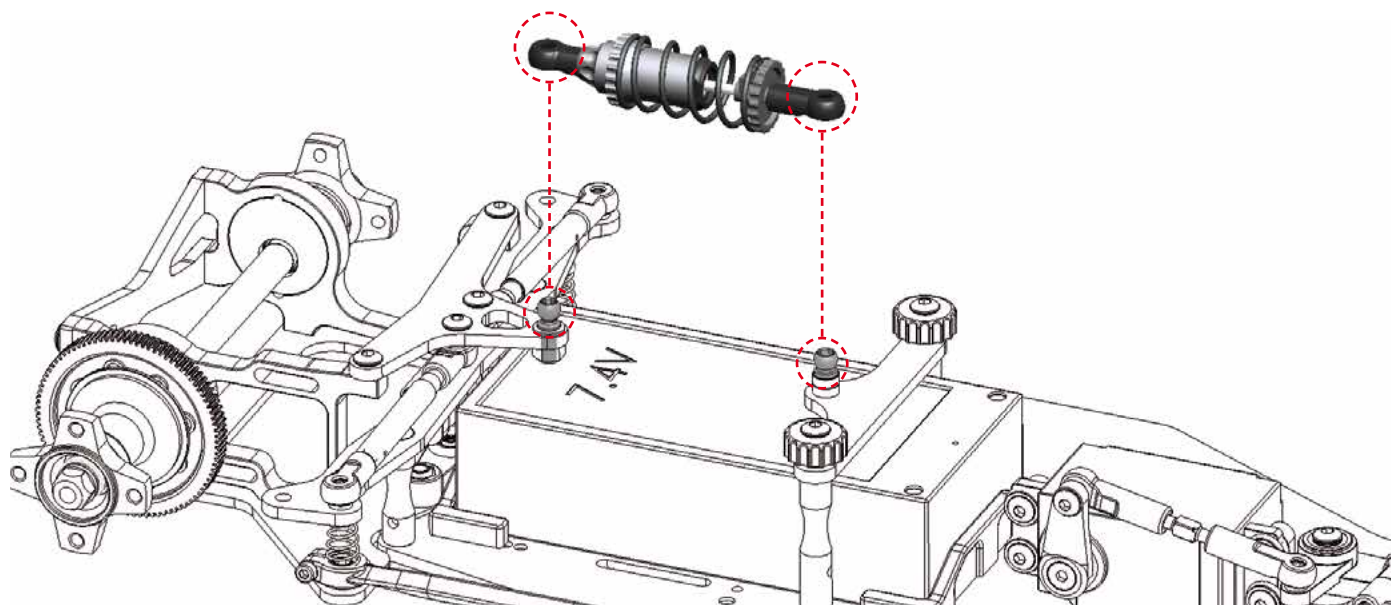
STEP  
26

Bag  
8



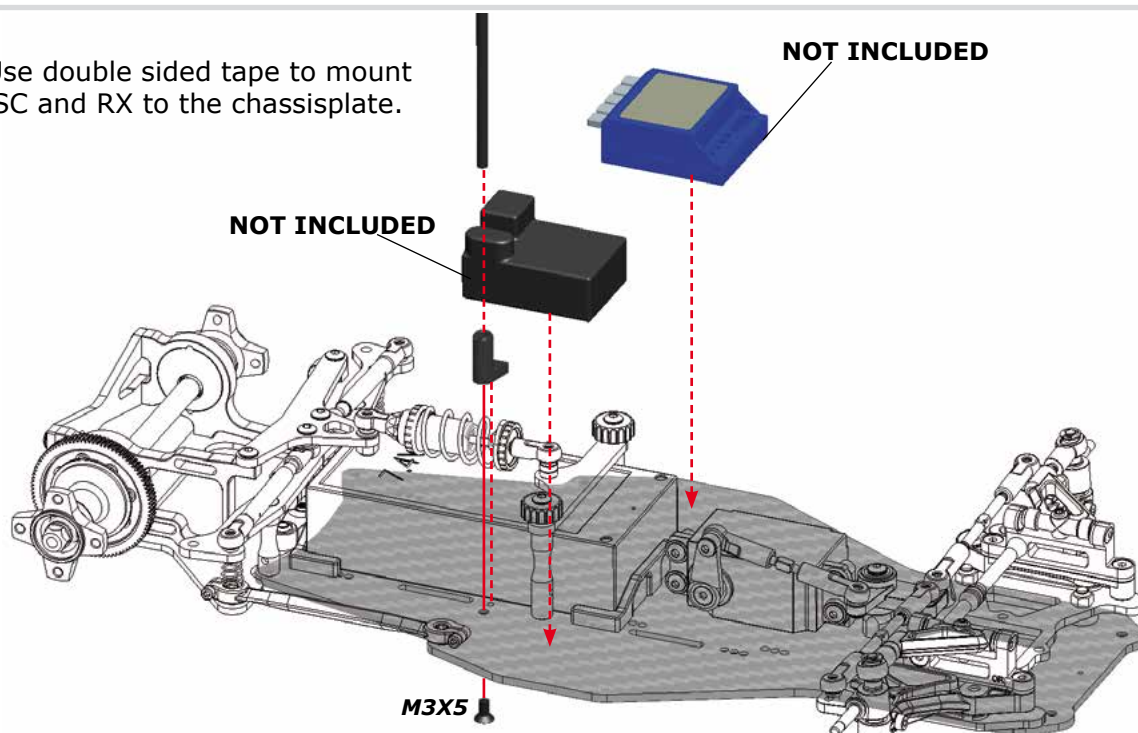


# STEP 27



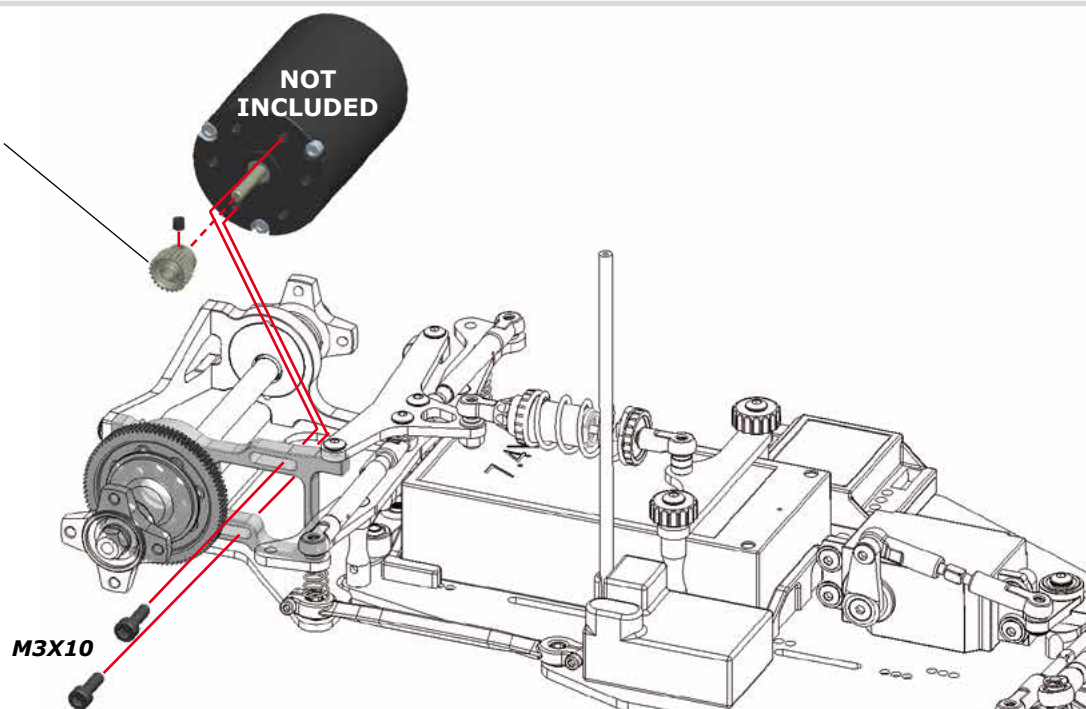
# STEP 28

Tip: Use double sided tape to mount the ESC and RX to the chassisplate.



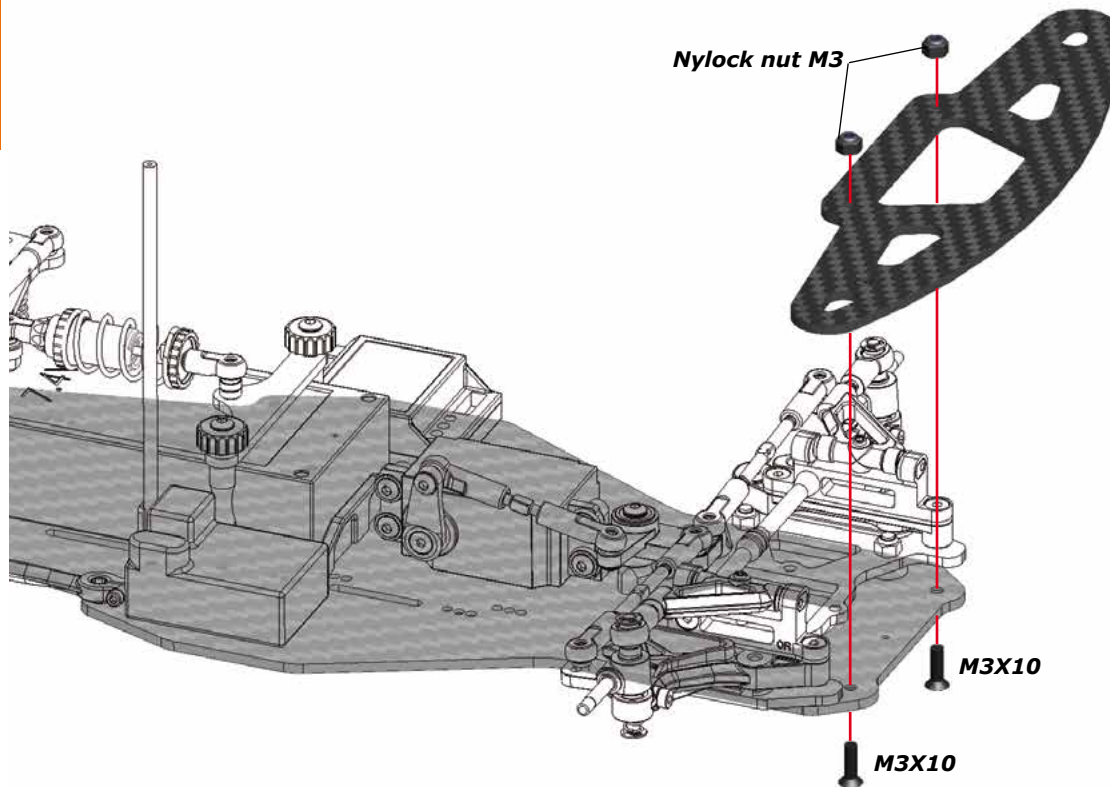
# STEP 29

Pinion is **NOT INCLUDED** in the kit. Assemble the proper pinion for your set-up

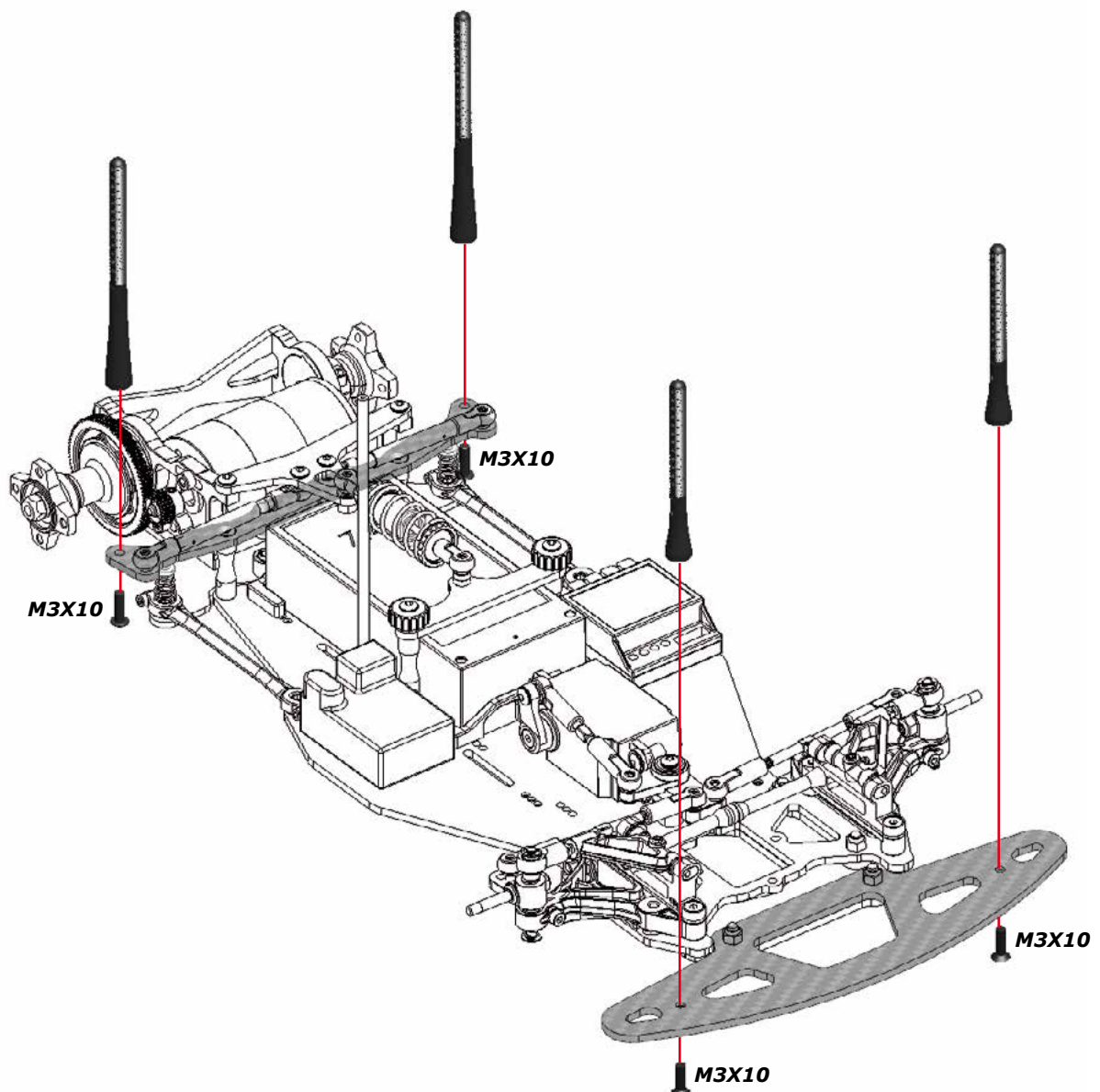


# FINAL ASSEMBLY

STEP  
30

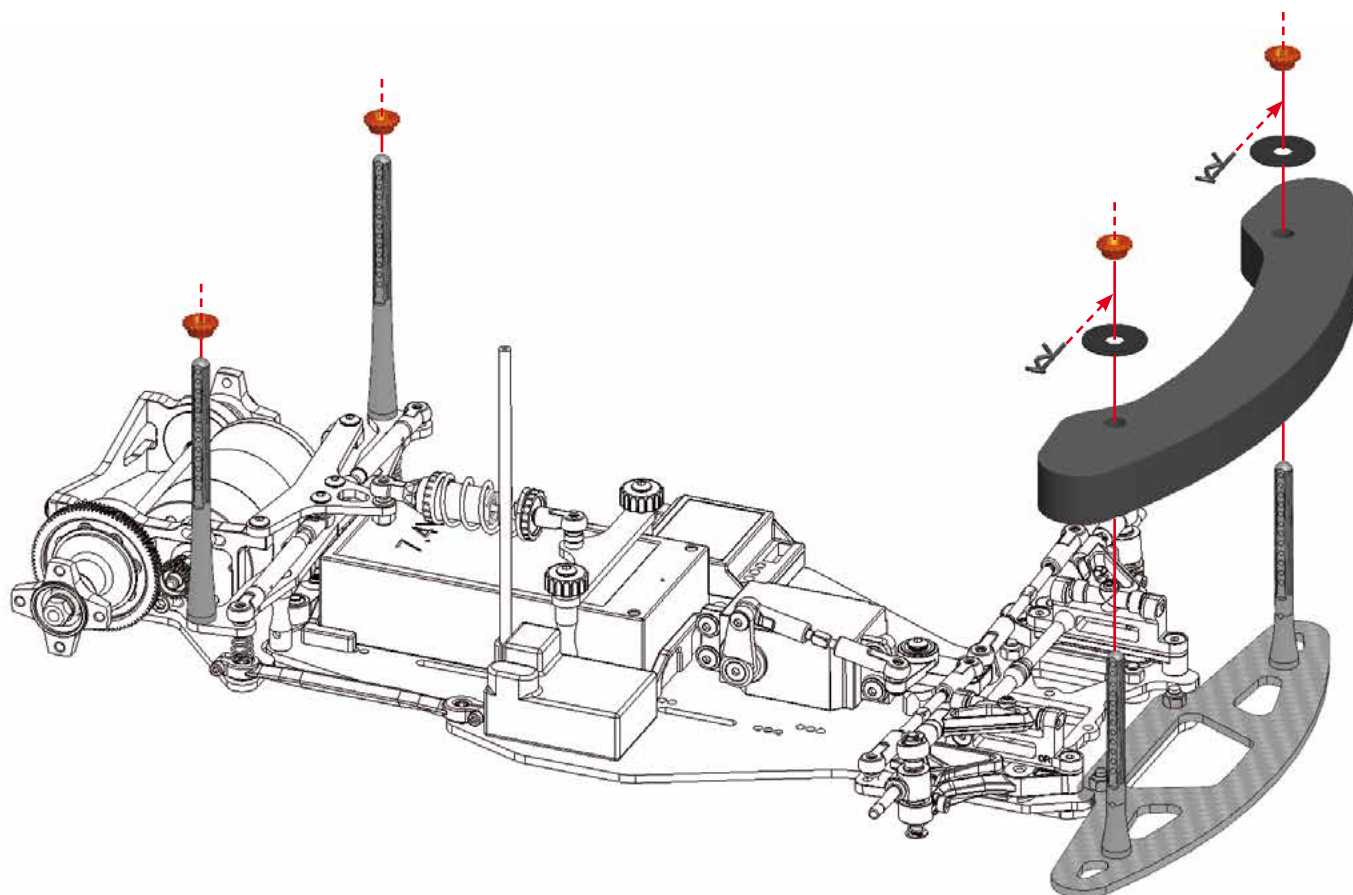


STEP  
31



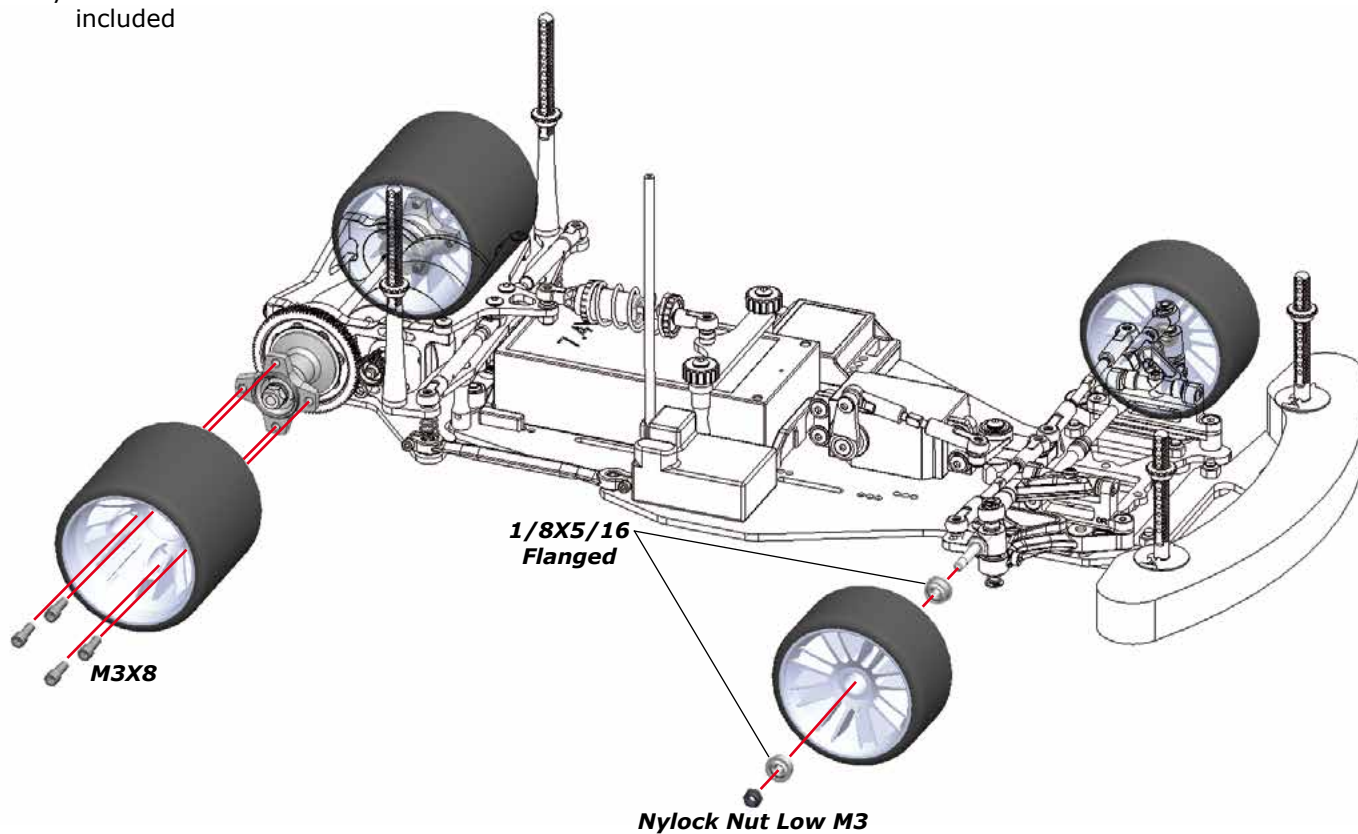


# STEP 32



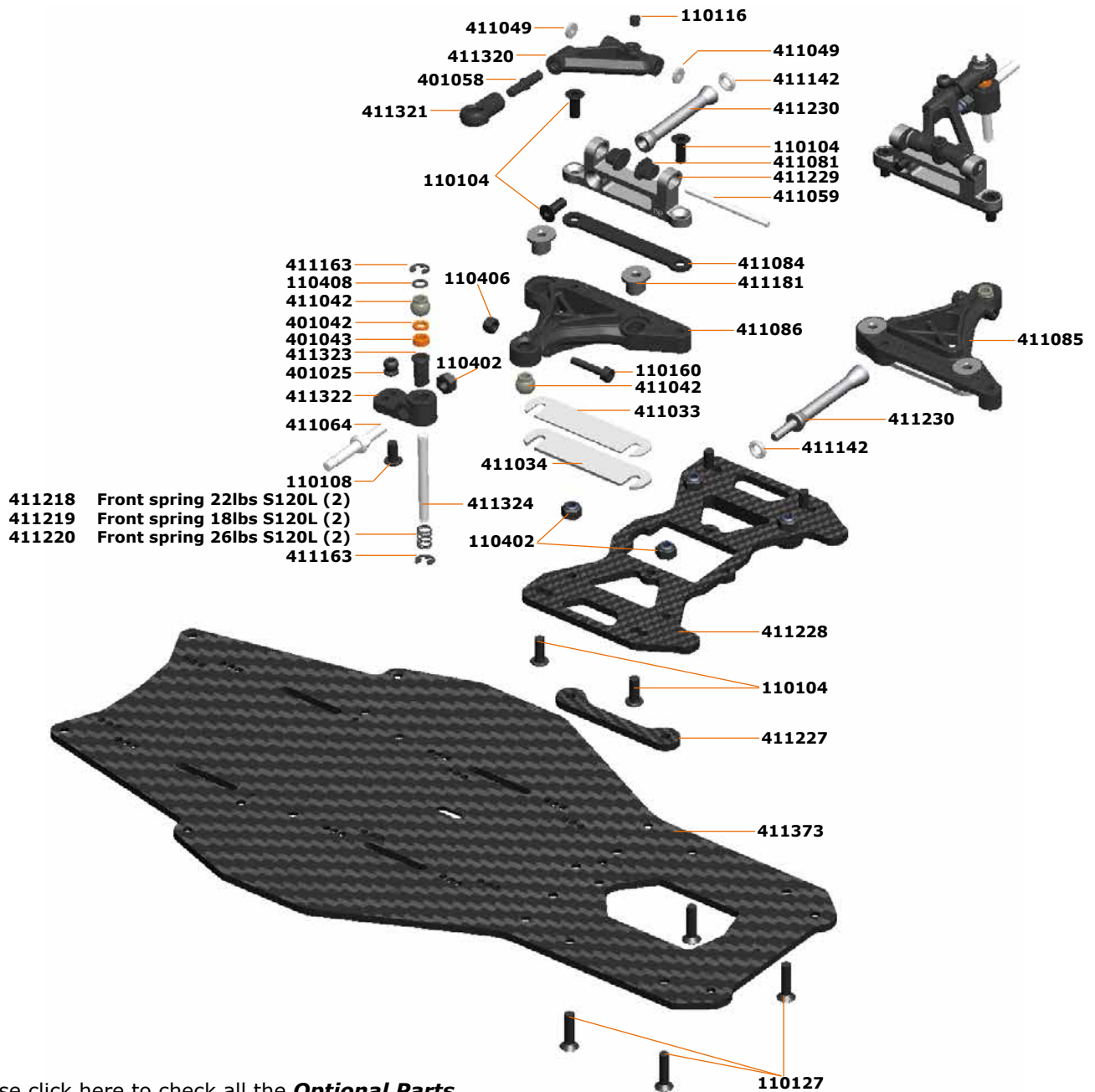
# STEP 33

Body, wheels and  
tyres are NOT  
included



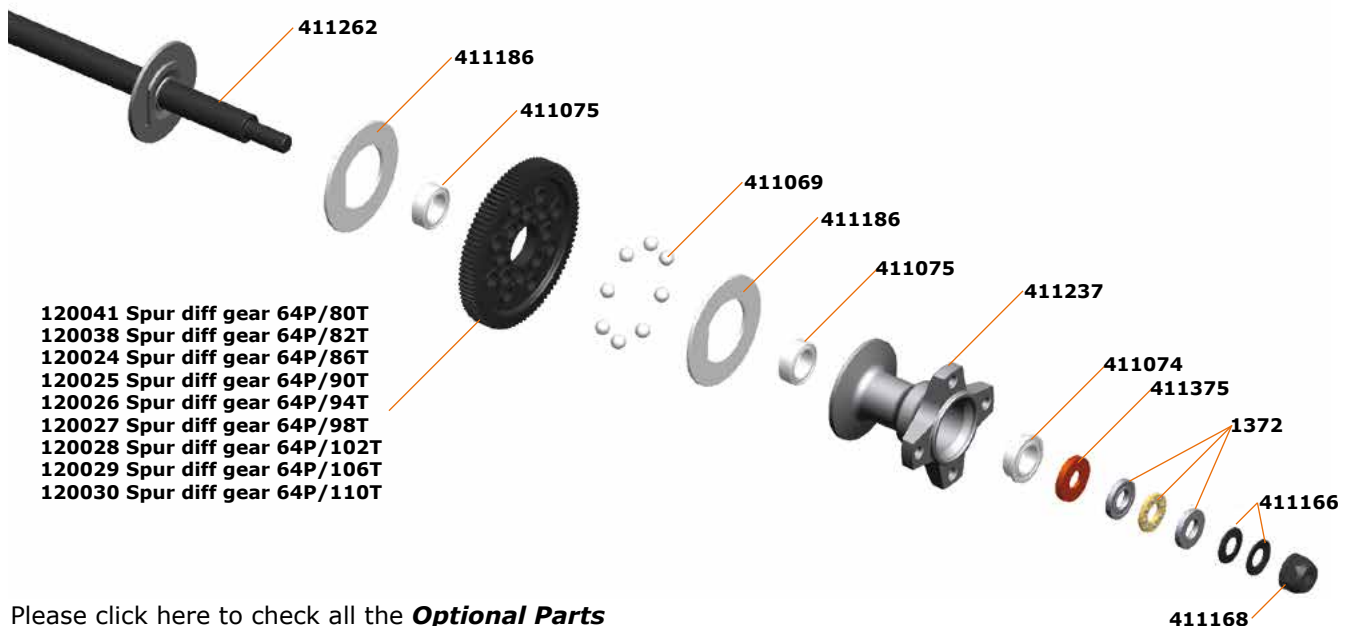
# REFERENCE GUIDE

# FRONT ASSEMBLY



Please click here to check all the **Optional Parts**

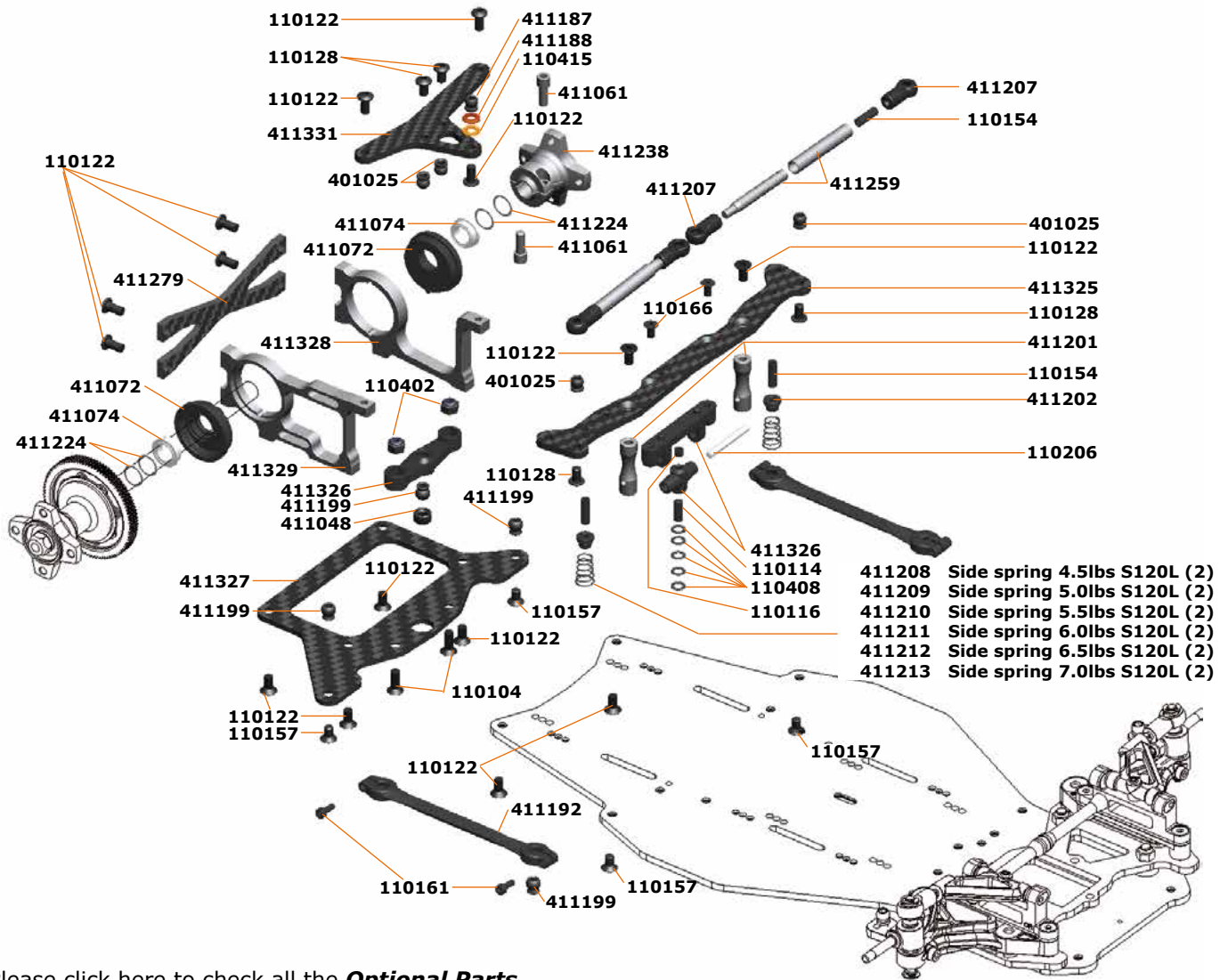
# BALL DIFF ASSEMBLY



Please click here to check all the **Optional Parts**



# REAR ASSEMBLY



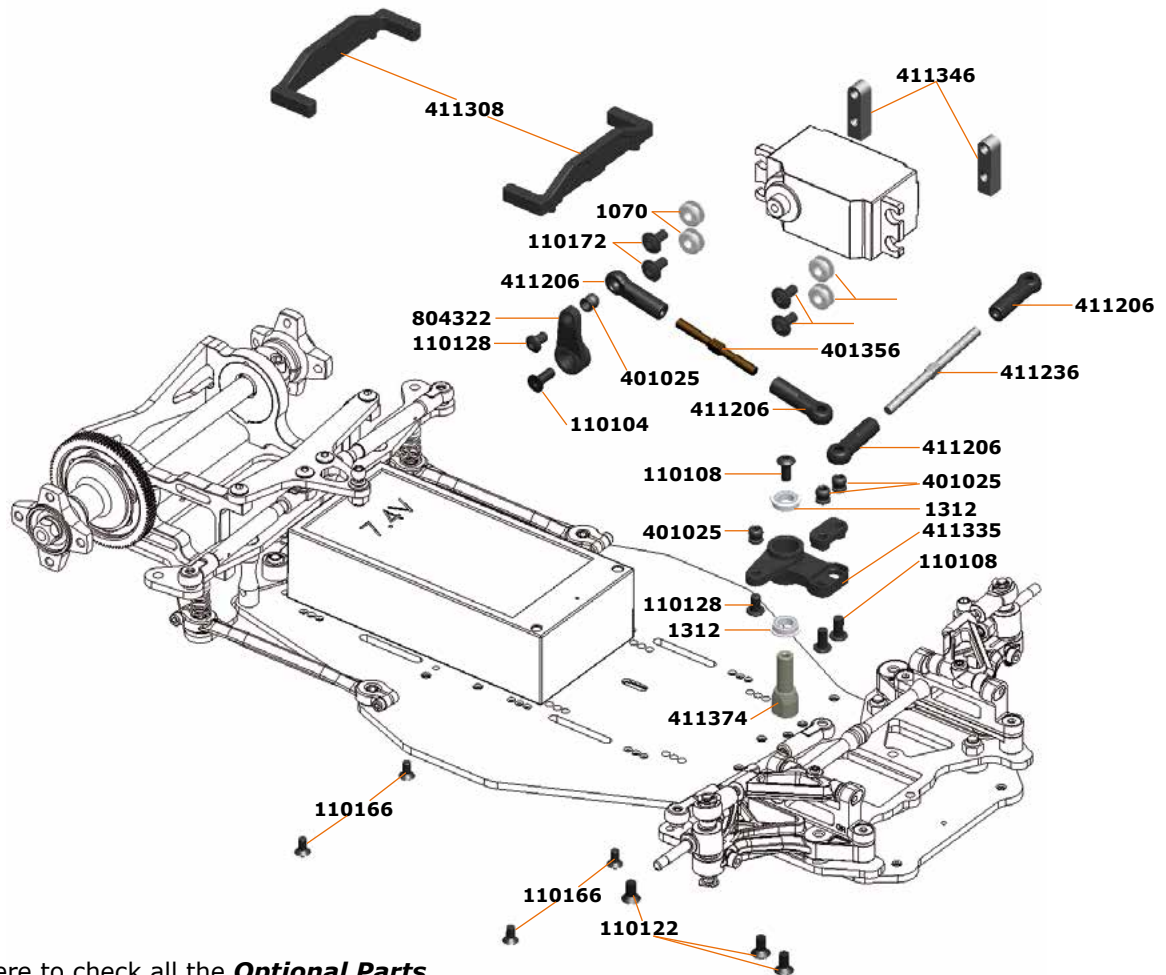
Please click here to check all the **Optional Parts**

# SHOCK ABSORBER ASSEMBLY



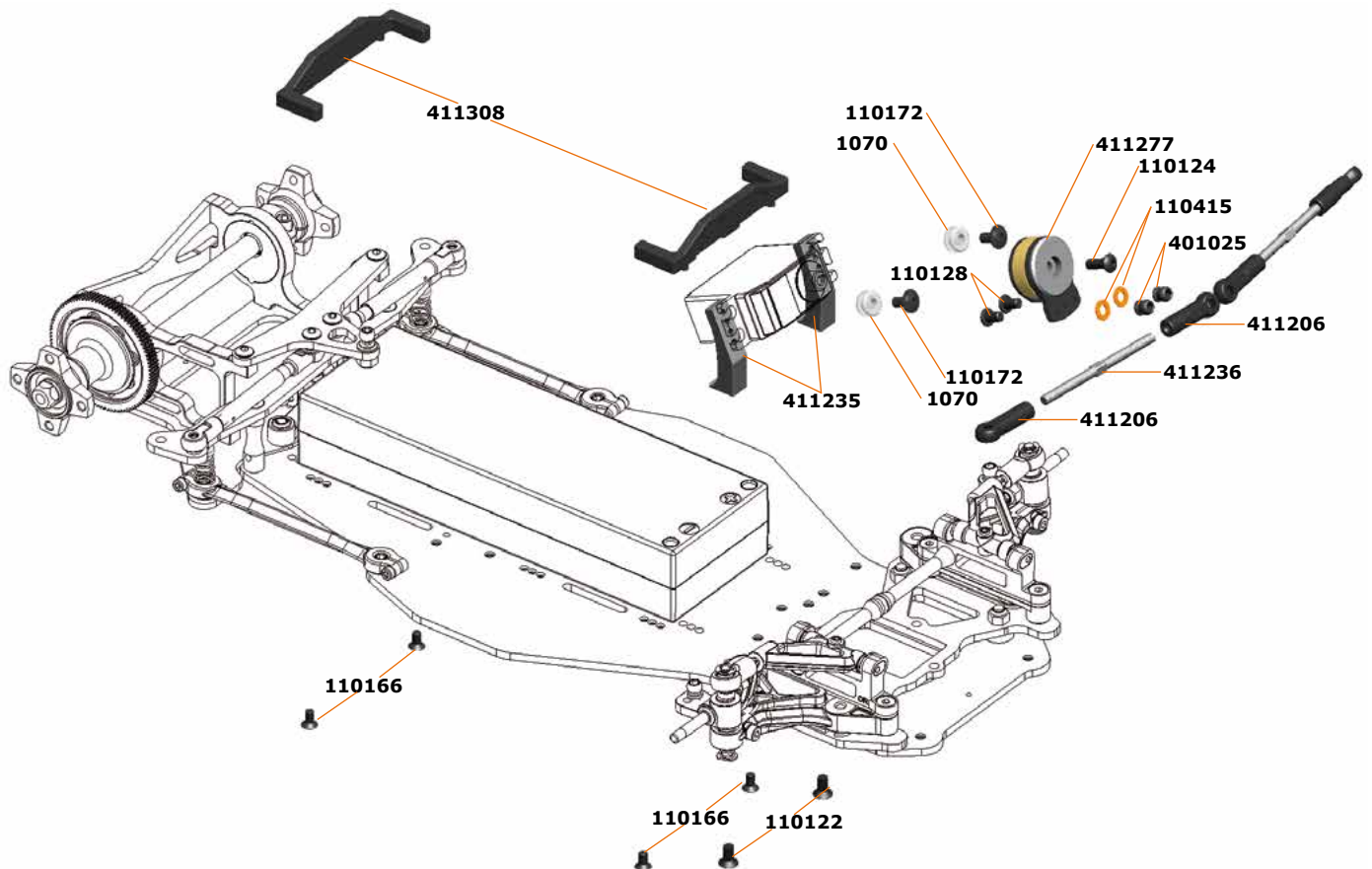
Please click here to check all the **Optional Parts**

# STEERING ASSEMBLY A



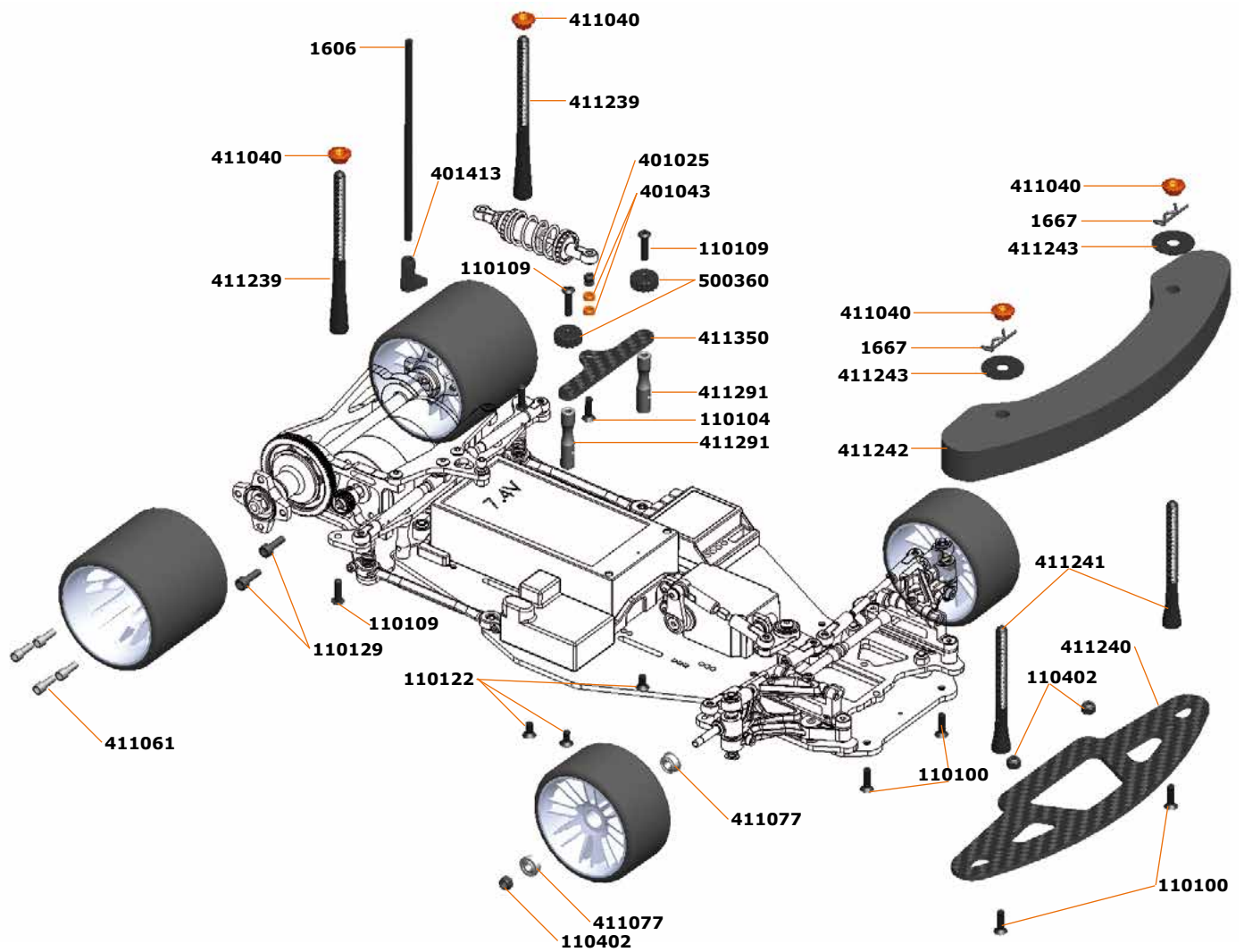
Please click here to check all the **Optional Parts**

# STEERING ASSEMBLY B



Please click here to check all the **Optional Parts**

# FINAL ASSEMBLY



Please click here to check all the **Optional Parts**



# TEAM SERPENT NETWORK

## S100 LTR SPARE PARTS



## S100 LTR OPTIONAL PARTS



## SERPENT TOOLS



## SERPENT MERCHANDISING



## WEBSITE AND BLOG



## SOCIAL MEDIA





# S100 LTR



[www.serpent.com](http://www.serpent.com) - [info@serpent.com](mailto:info@serpent.com)



S100 LTR version 1