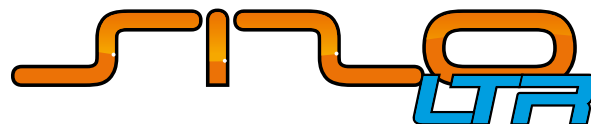


**INSTRUCTION MANUAL**  
**& REFERENCE GUIDE**



## INTRODUCTION

Serpent developed the S120 LTR model car for demanding racers in the highly competitive electric 1/12th 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 S120-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 S120-LTR check on:  
[www.serpent.com/410006](http://www.serpent.com/410006)

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 S120-LTR. Fine-tuning the initial setup is an essential part of building a high-performance racecar like your S120-LTR.

## EXPLODED VIEWS AND PARTS LIST

The exploded views and parts lists for the Serpent S120-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!

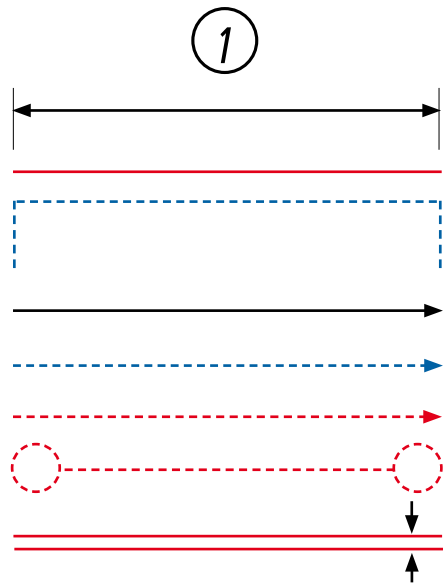
- This is a highly technical hobby product, intended to be used in a safe racing environment. This car is capable of speeds in excess of 80 km/h or 50mph. Please follow these guidelines when building and operating this model.
- Parental guidance is required when the builder/user of this car is under 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.

# CONTENTS

|                             |           |
|-----------------------------|-----------|
| <b>FRONT ASSEMBLY</b>       | <b>4</b>  |
| <b>REAR ASSEMBLY</b>        | <b>7</b>  |
| <b>BALL DIFF ASSEMBLY</b>   | <b>11</b> |
| <b>SHOCK ASSEMBLY</b>       | <b>14</b> |
| <b>ELECTRONICS ASSEMBLY</b> | <b>15</b> |
| <b>FINAL ASSEMBLY</b>       | <b>19</b> |
| <b>REFF GUIDE</b>           | <b>20</b> |

# 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

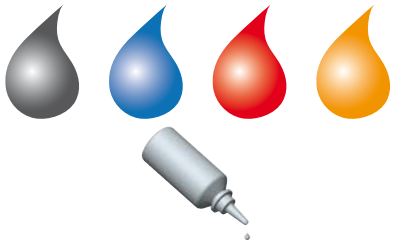
Direction the item should be moved

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

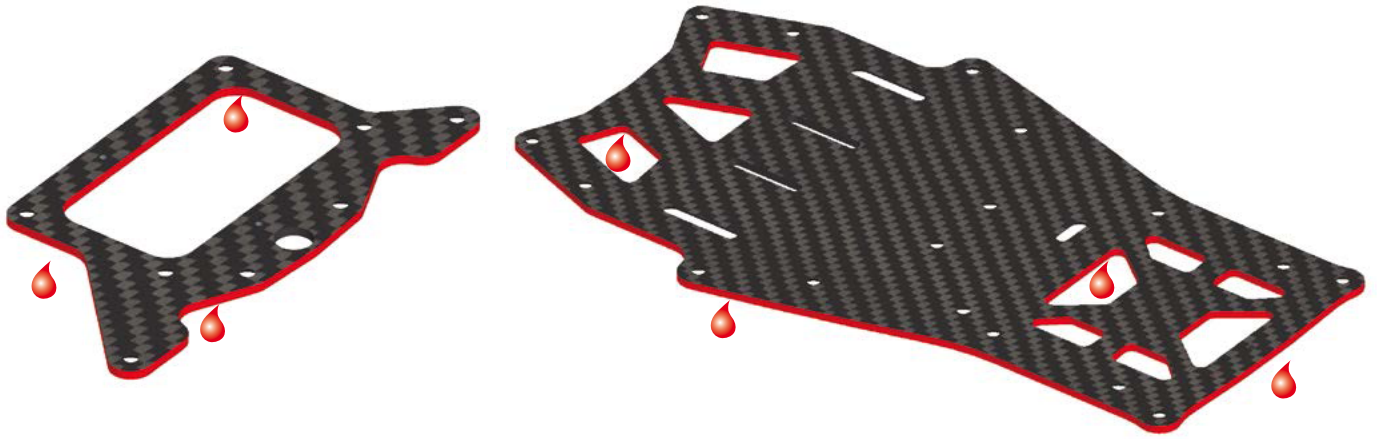
## CA Glue

クラッシュなどから生じる剥離を防止するためにカーボンパーツの切断面に瞬間接着剤を塗布することをお勧めします。

STEP

1

KIT



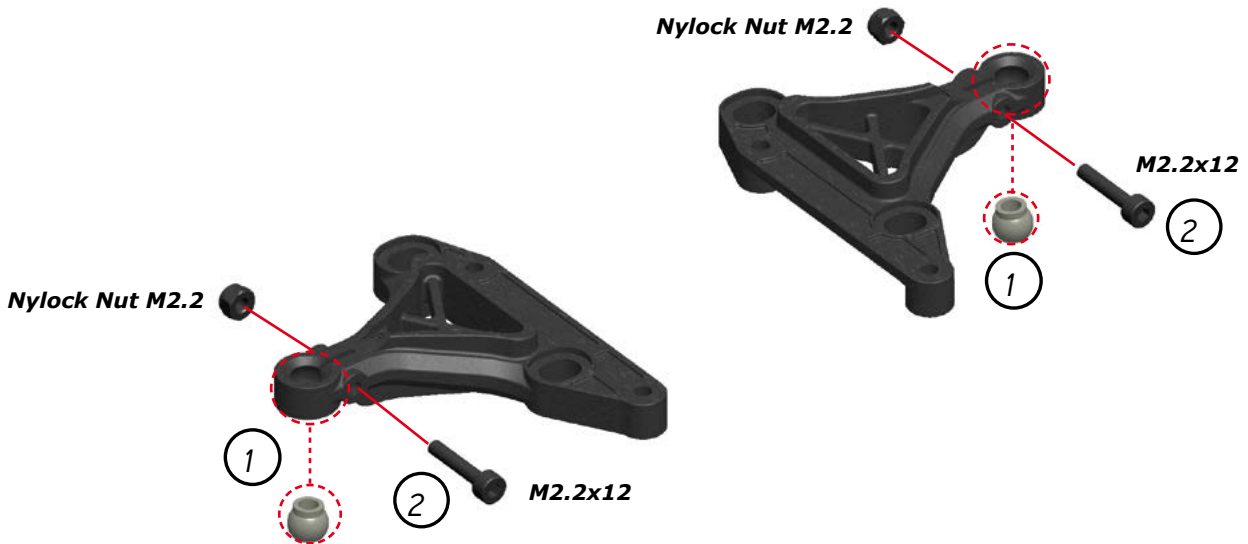
## FRONT ASSEMBLY

STEP

2

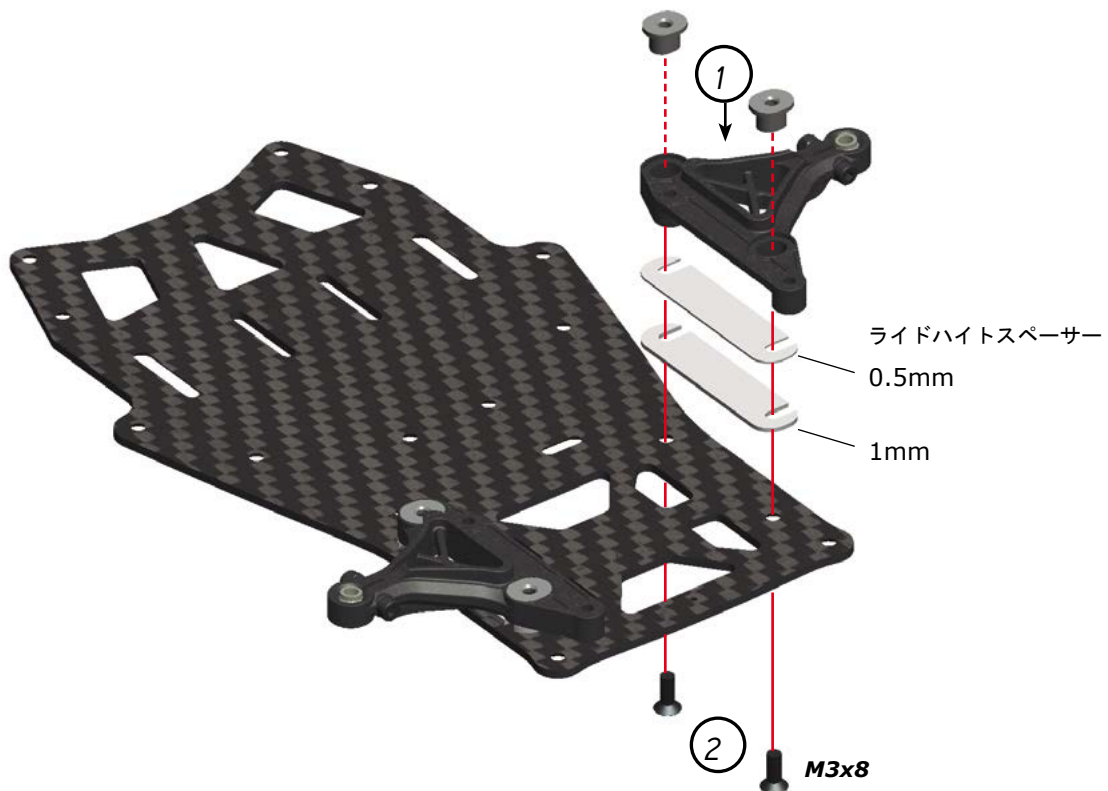
Bag

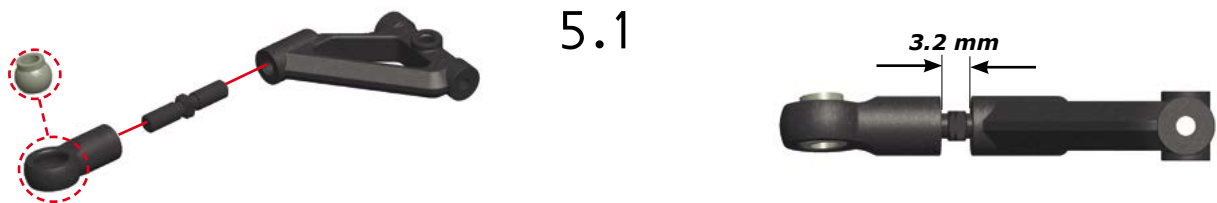
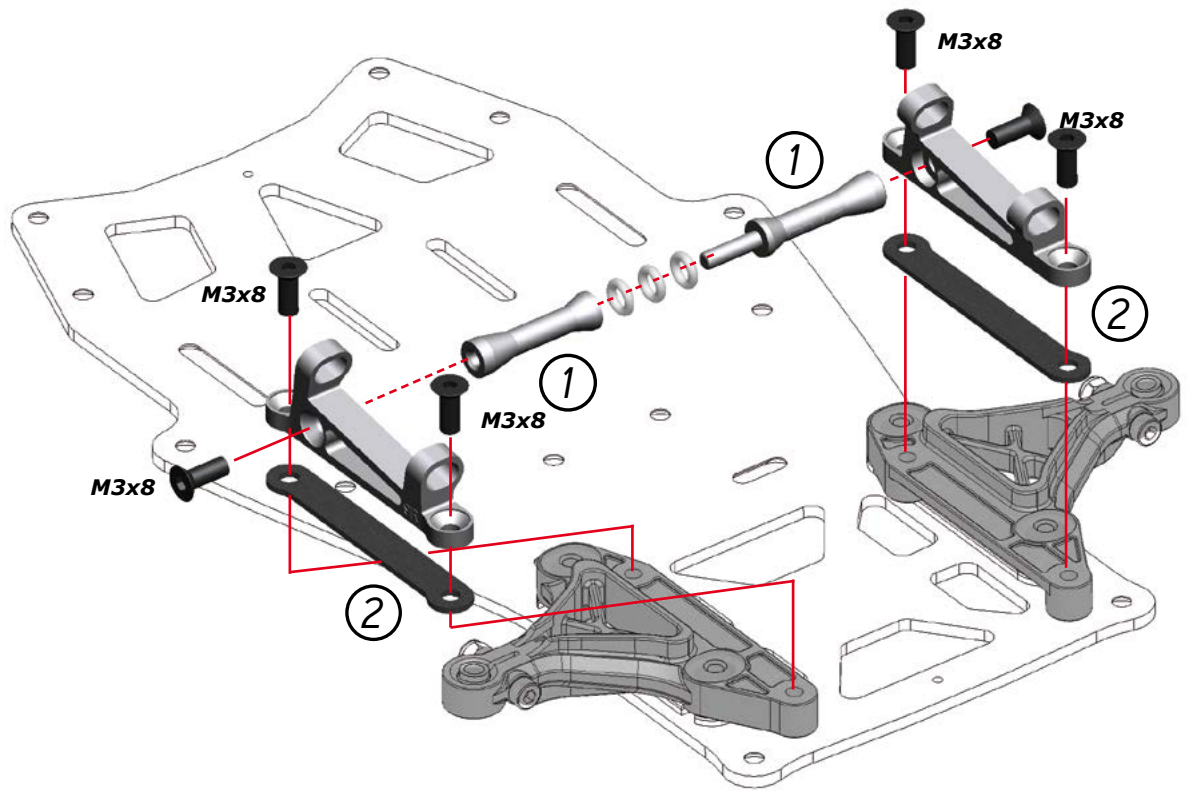
1



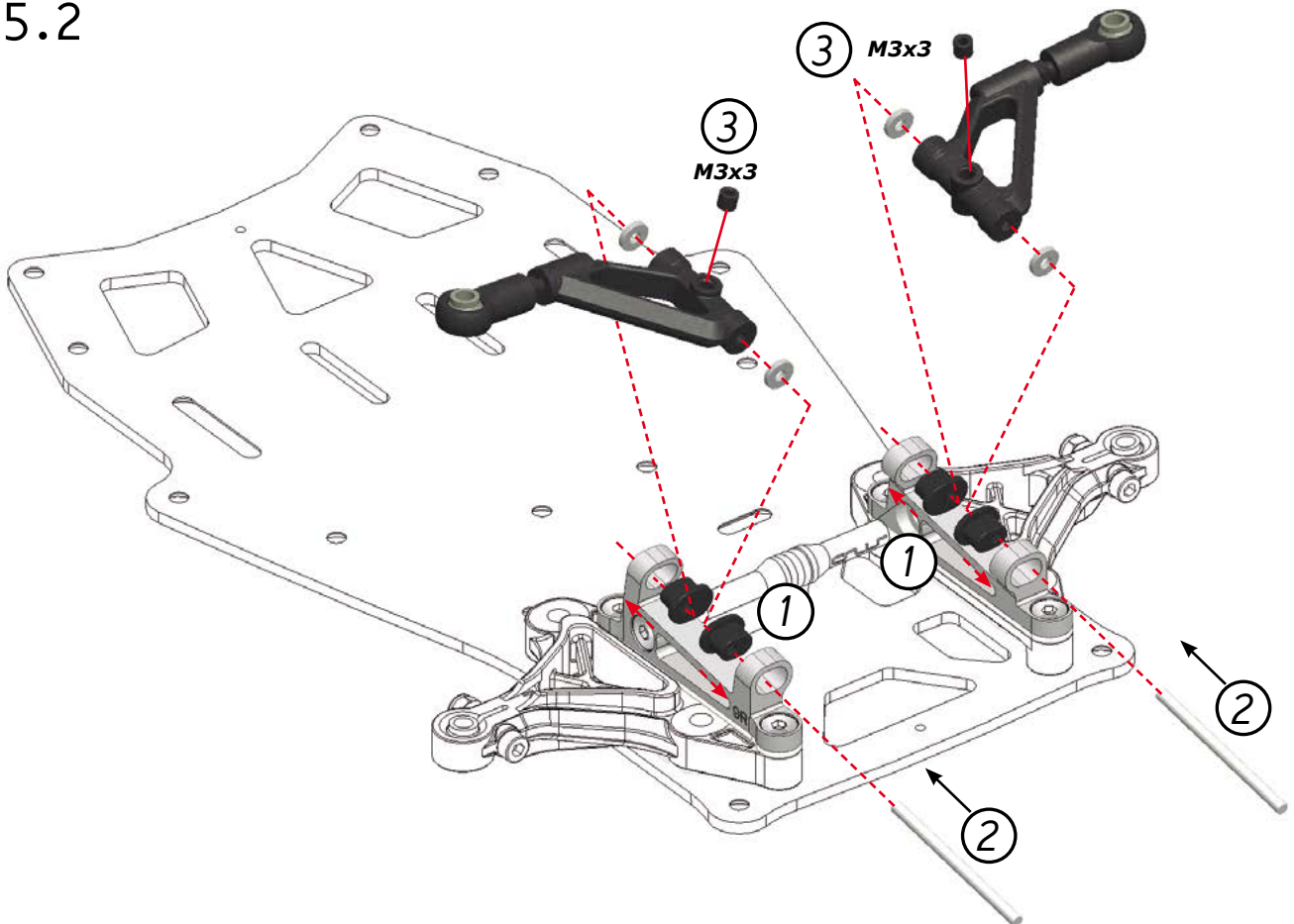
STEP

3





5.2



**6.1**

**NOTES:**  
 1) インサートの向きに注意  
 2) キングピンアングルの初期設定は2度です。0度から4度まで変更できます。

3x5x2  
 3x5x4  
 Nylock Nut M3  
 M3x12

**6.2**

R2.3  
 1  
 2  
 3x5x0.3  
 3x5x1  
 3x5x2  
 3  
 4  
 R2.3

**7.1**

4  
 3  
 M2.5x5  
 M2.5x5  
 M3x5  
 1  
 M3x3  
 2  
 M3x8  
 3  
 M3x5  
 4

ボールの種類に注意

**7.2**

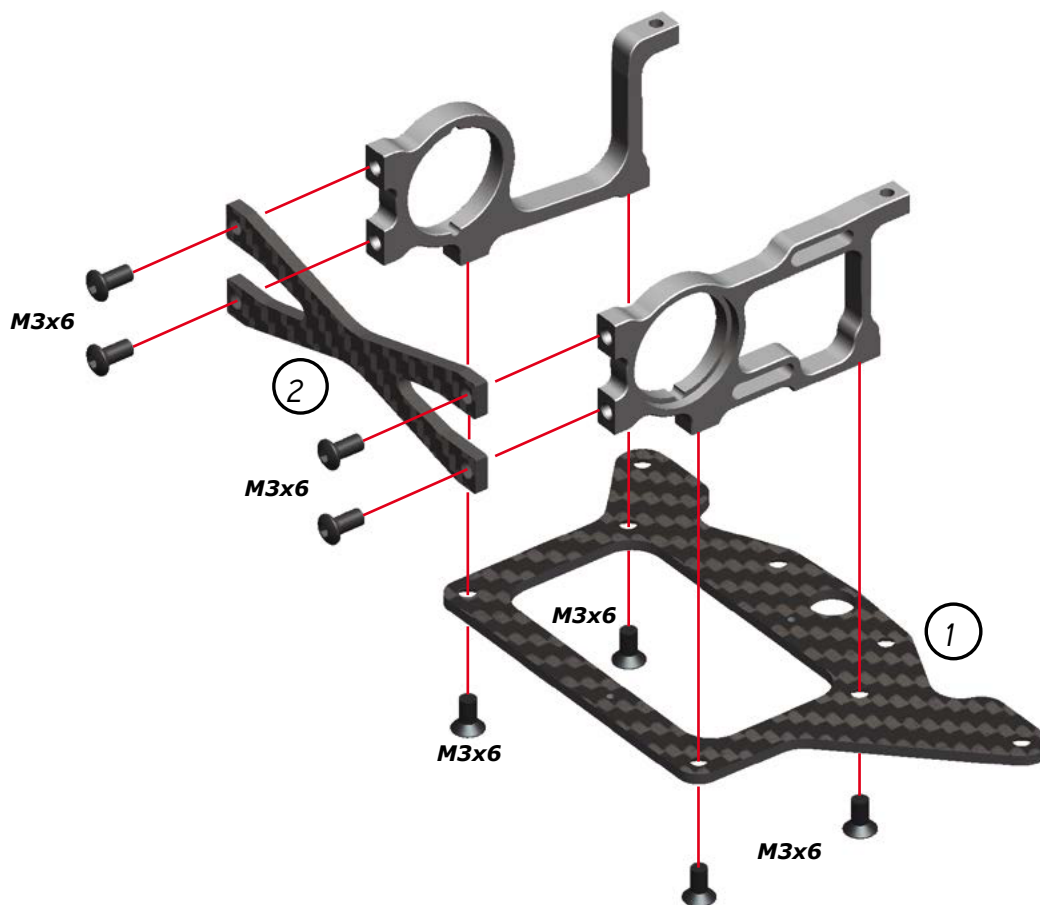
M3x6  
 M3x6  
 M3x6  
 M3x6  
 1  
 2  
 3  
 4

4 mm

# REAR ASSEMBLY

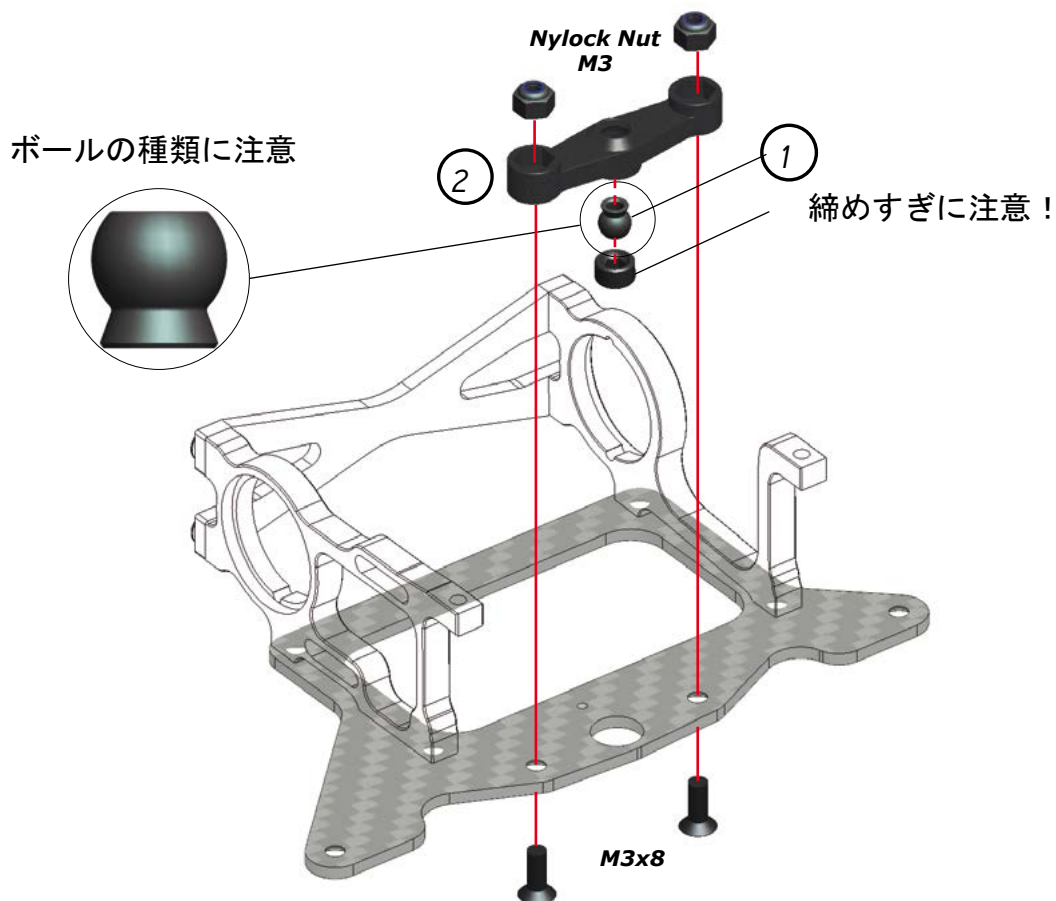
STEP

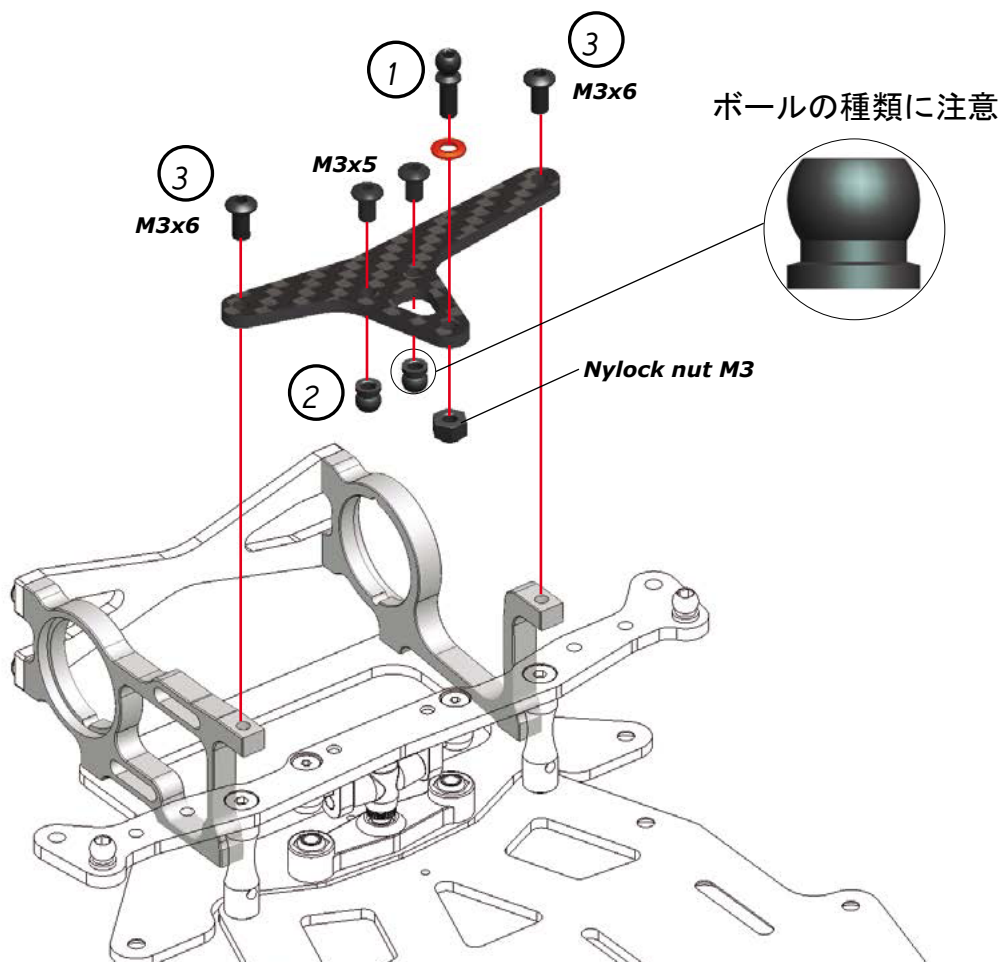
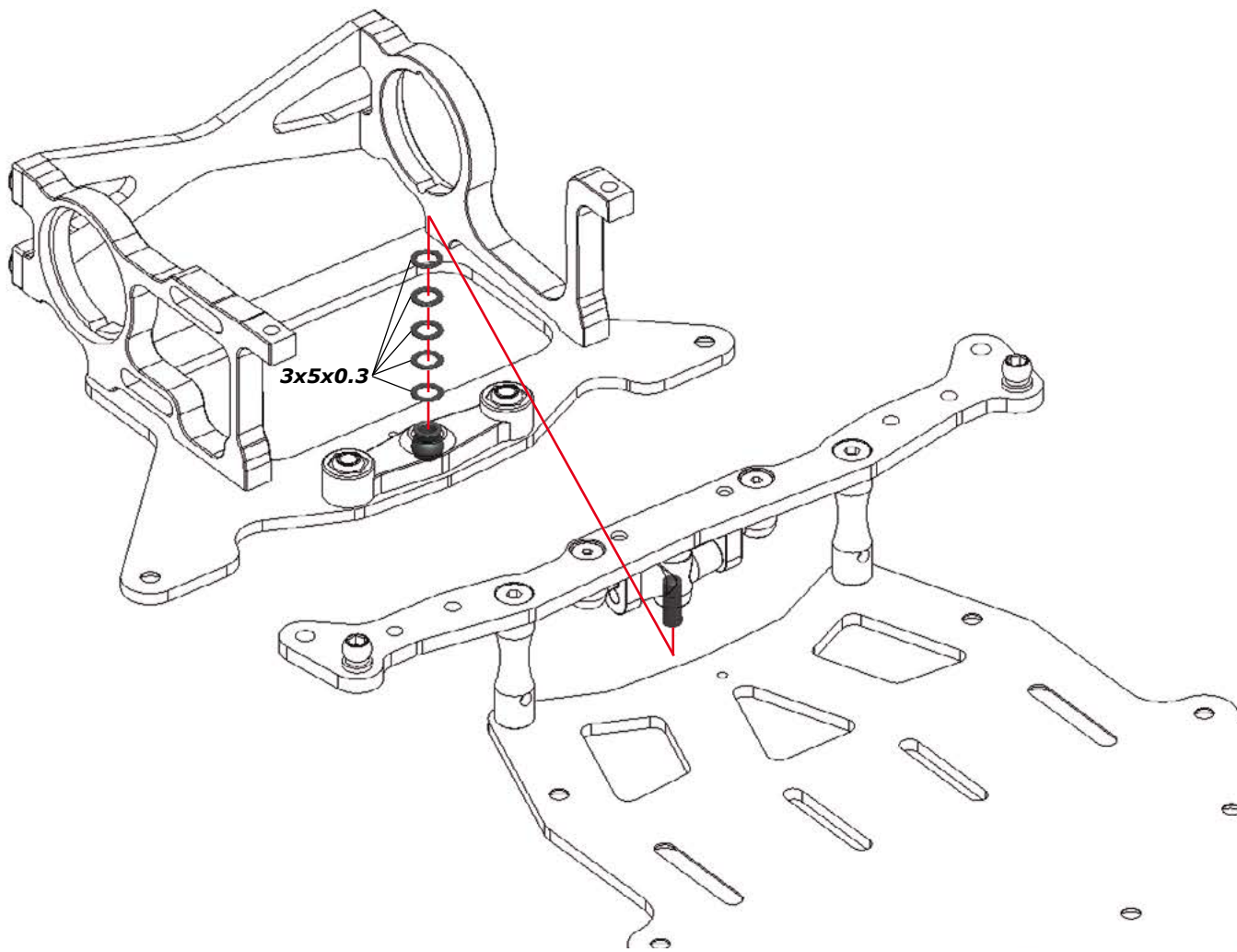
8



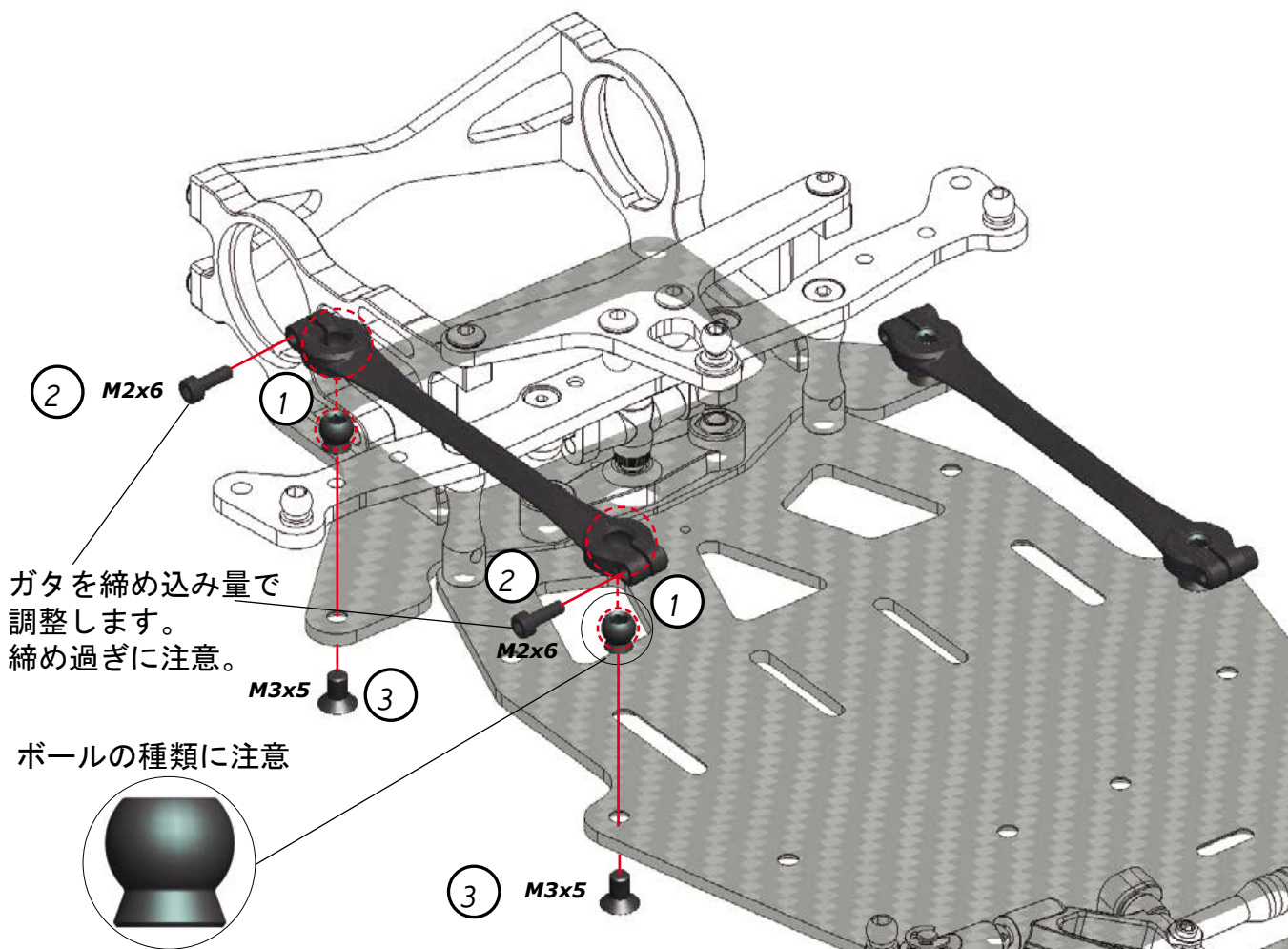
STEP

9

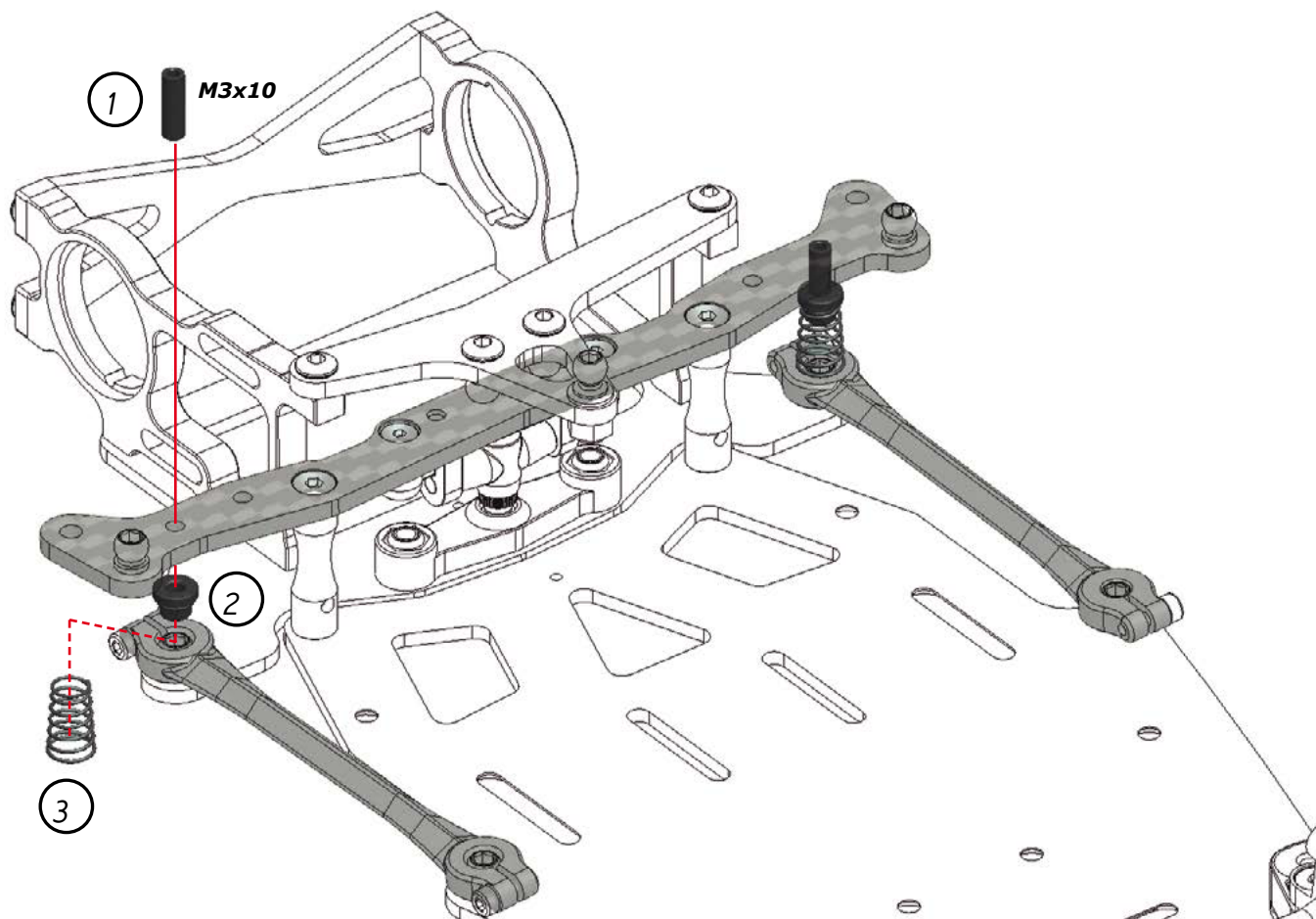






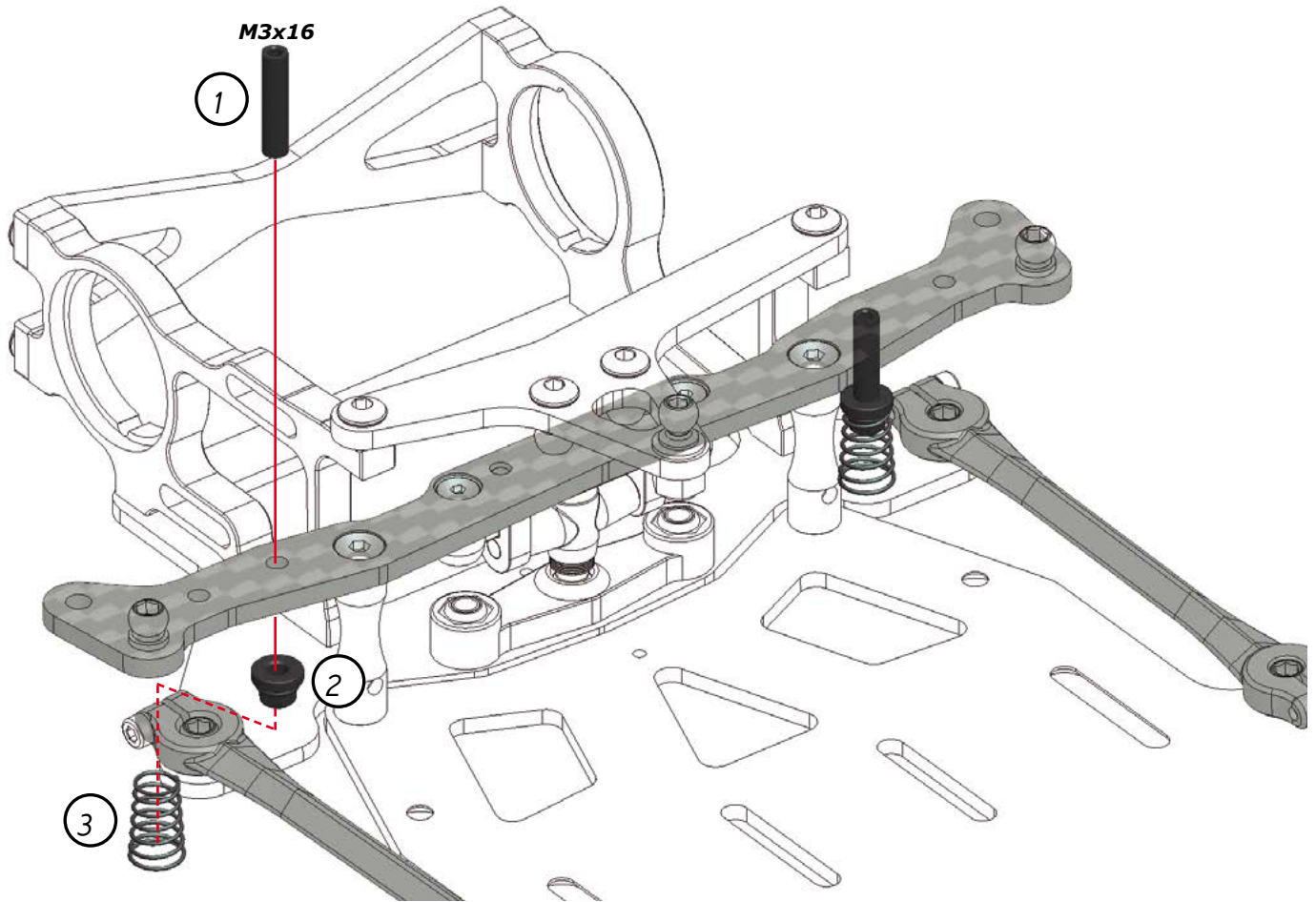


### A) OUTSIDE SIDE SPRING CONFIGURATION (DEFAULT)



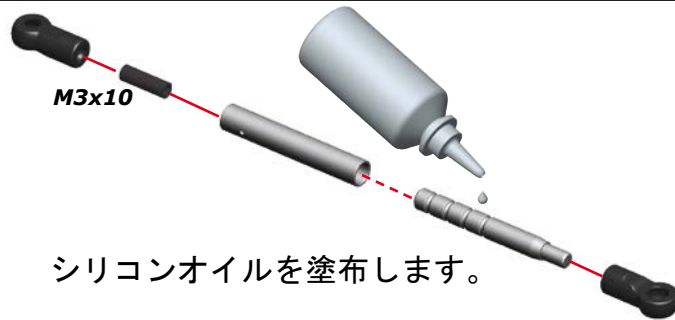
## B) INSIDE SIDE SPRING CONFIGURATION

STEP  
13B



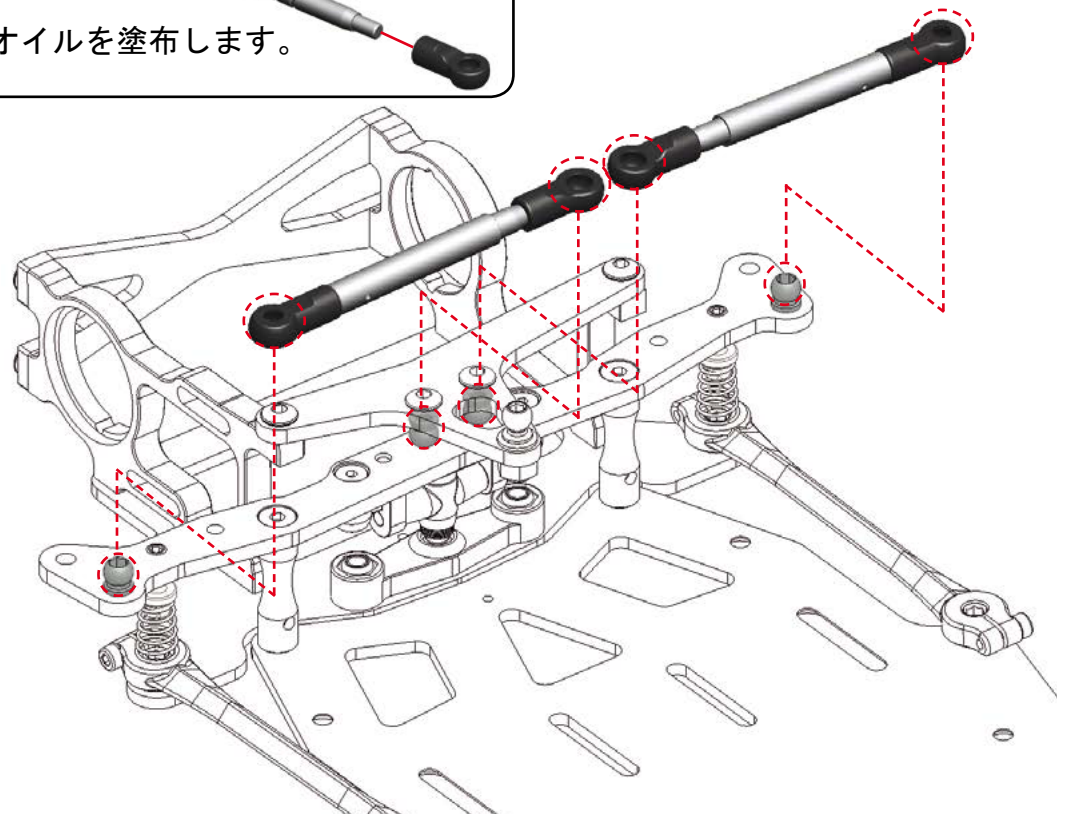
STEP  
14

14.1



シリコンオイルを塗布します。

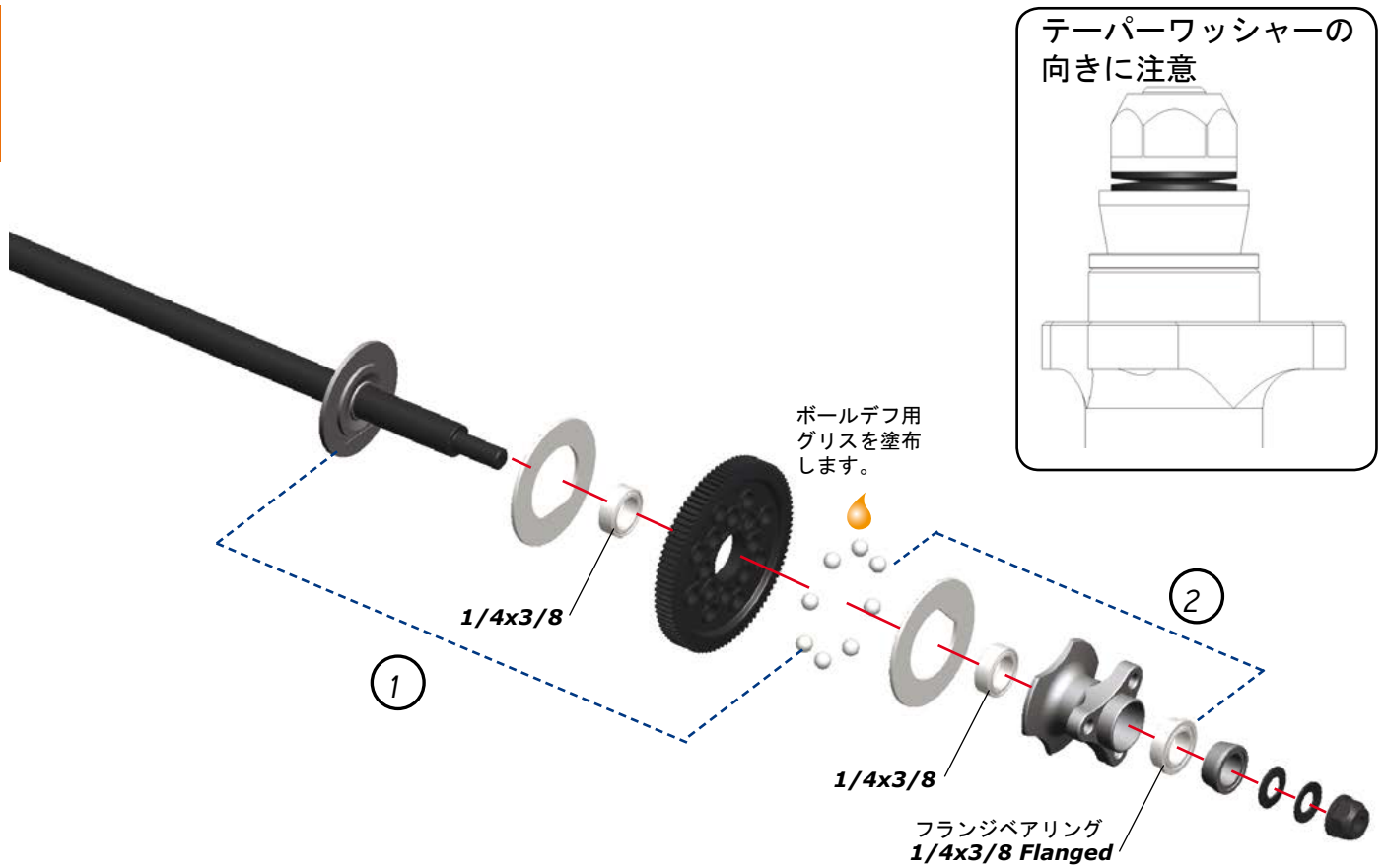
14.2



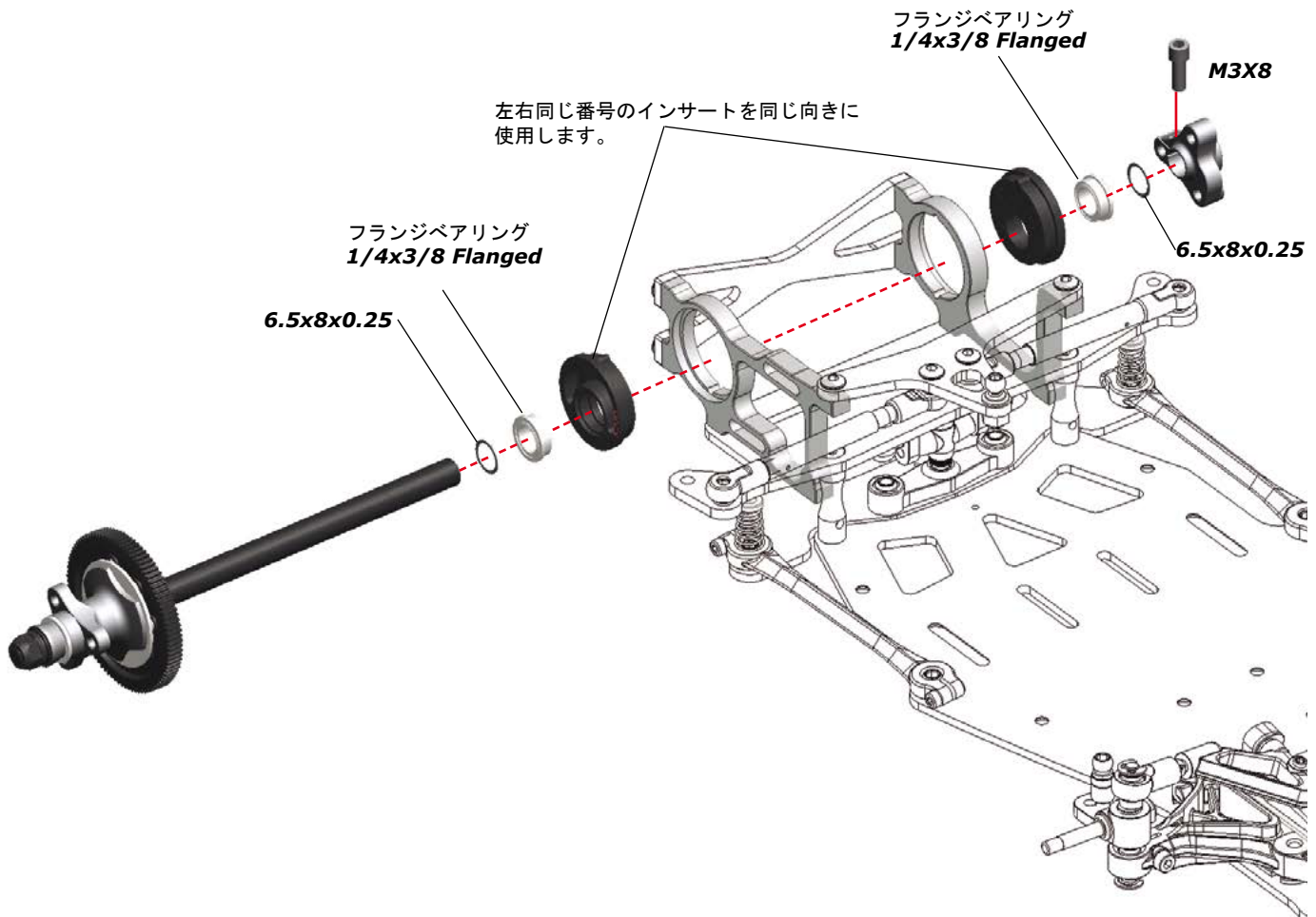
# BALL DIFF ASSEMBLY

STEP  
15

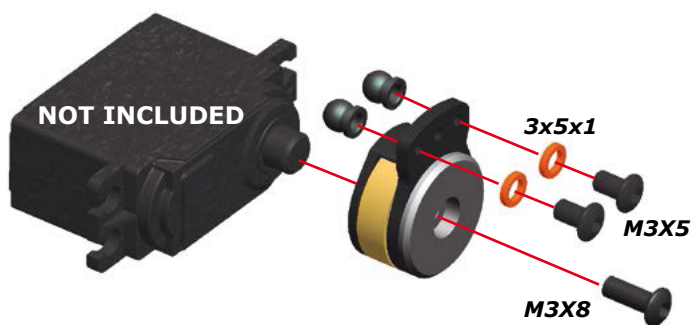
Bag  
5



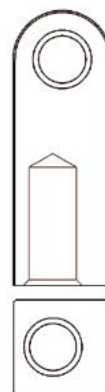
STEP  
16



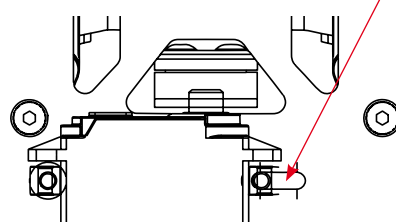
17.1 ご使用のサーボギアにあったアダプターを使用して下さい。



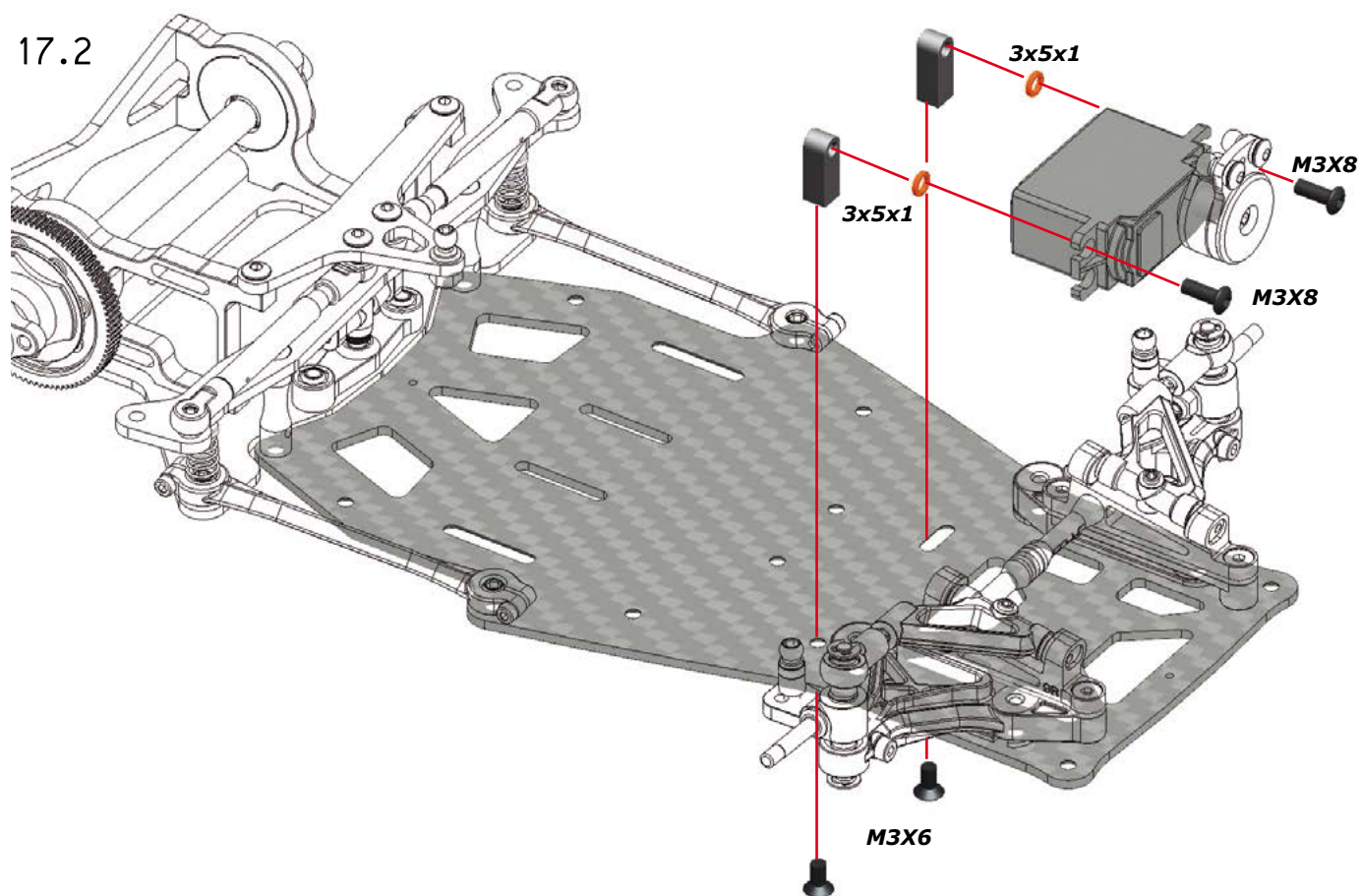
NOTE: サーボマウントは偏心しています。ご使用のサーボがセンターに来るだけ位置するよう任意に向きを設定して下さい。



サーボに合わせて位置を決めます。

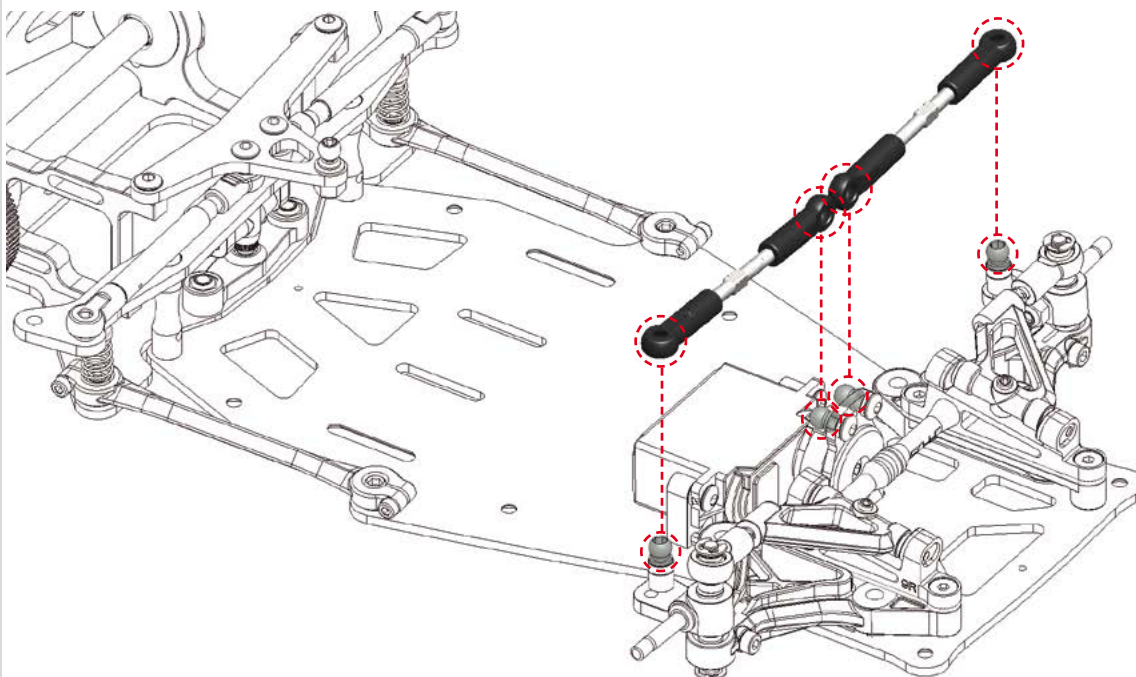


17.2

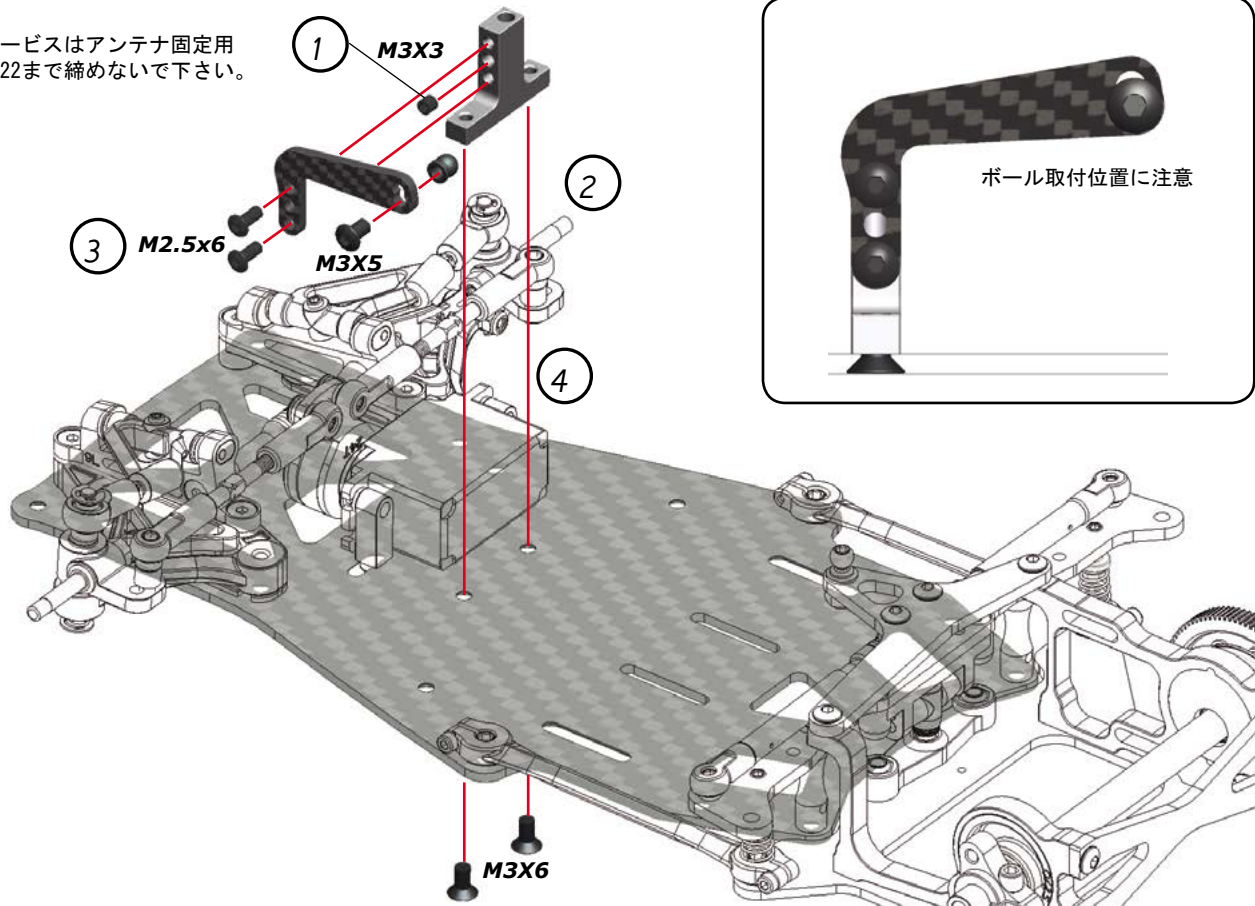




18.2



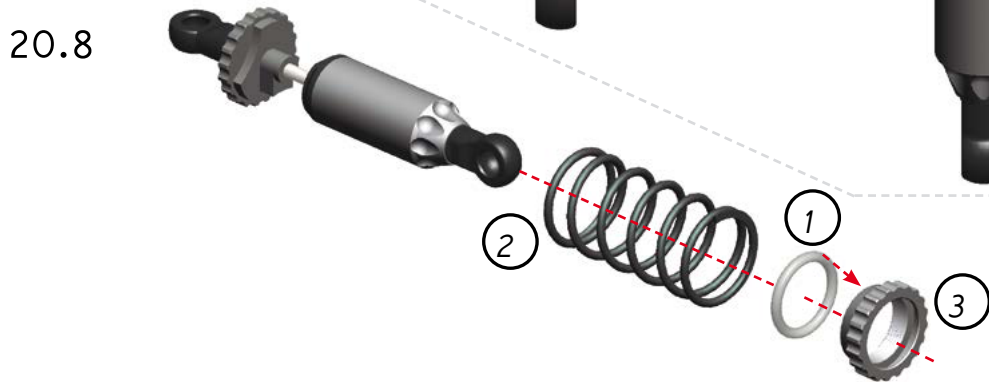
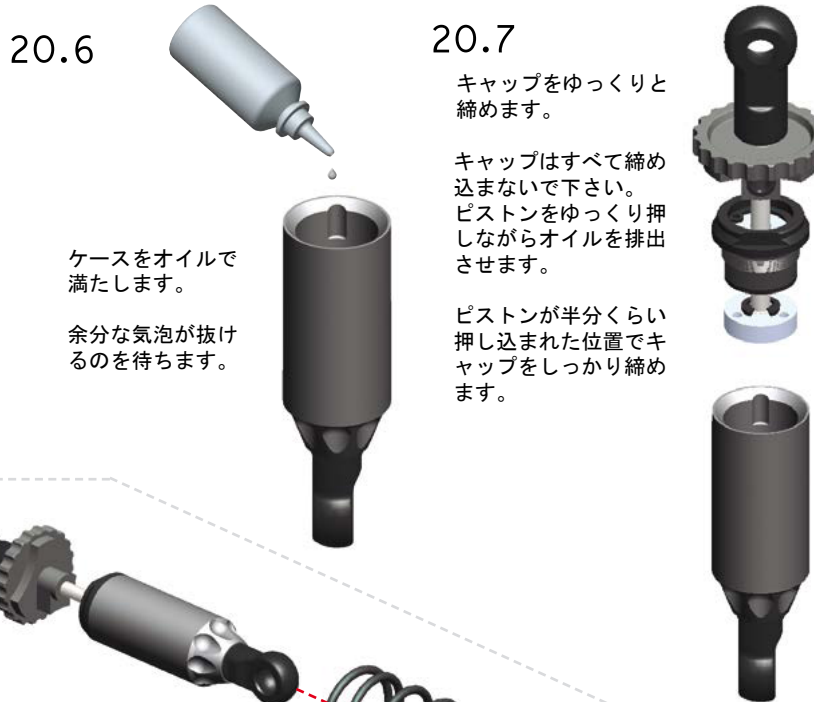
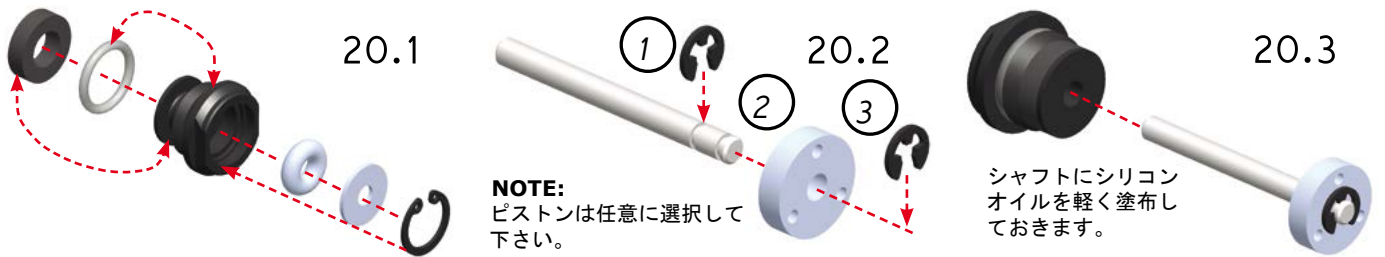
M3x3ホーロービスはアンテナ固定用です。Step22まで締めないで下さい。



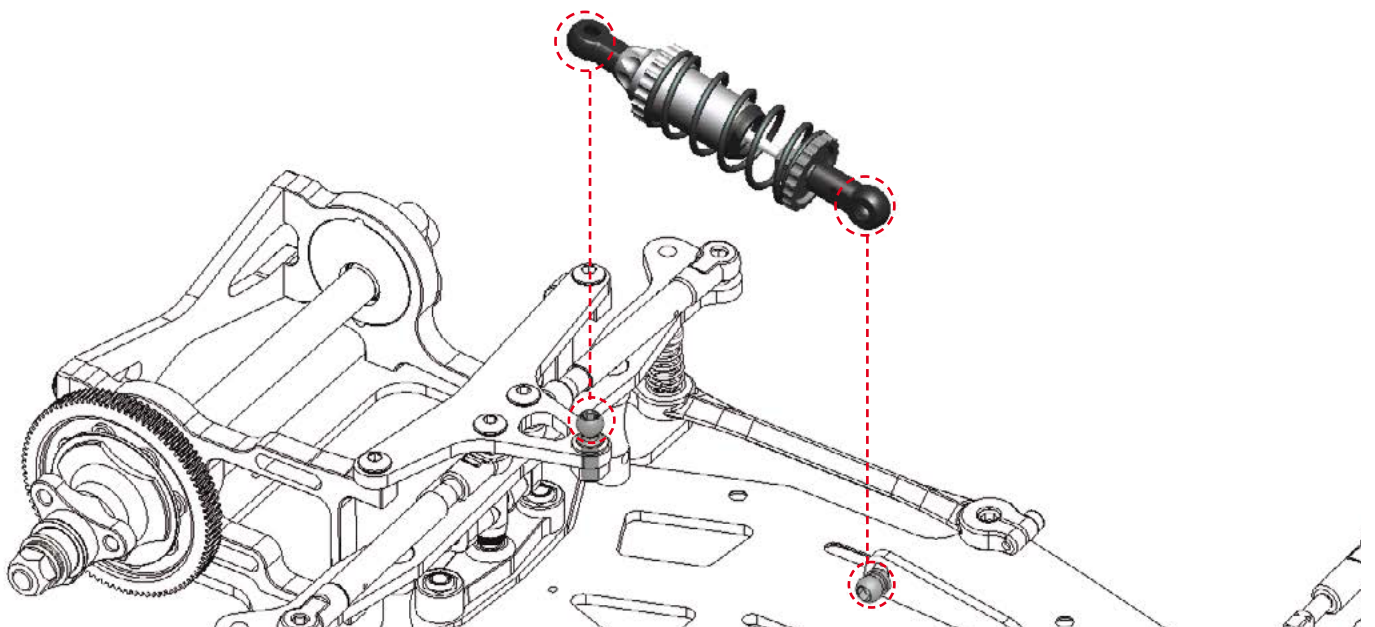
# SHOCK ASSEMBLY

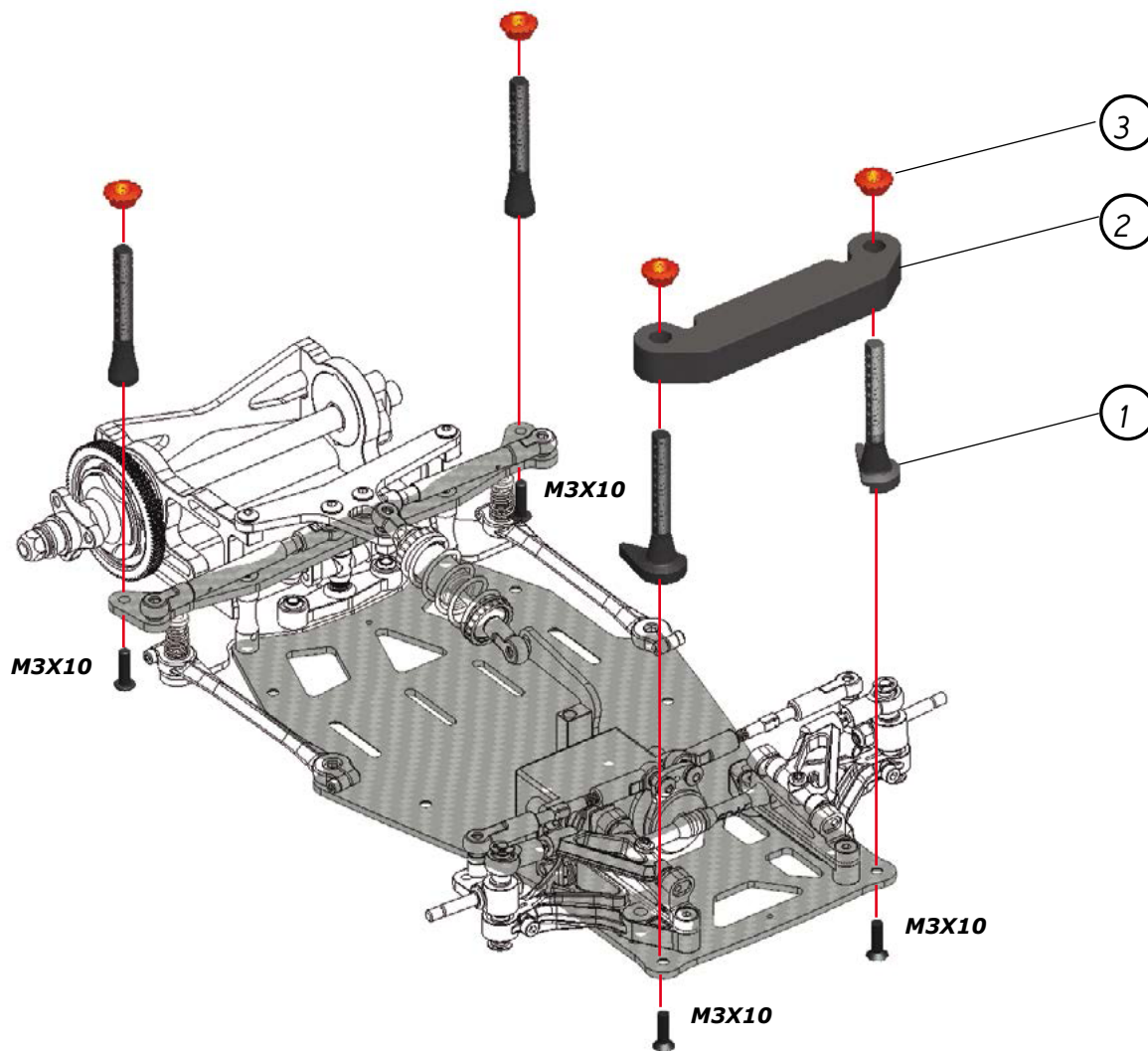
STEP  
20

Bag  
7

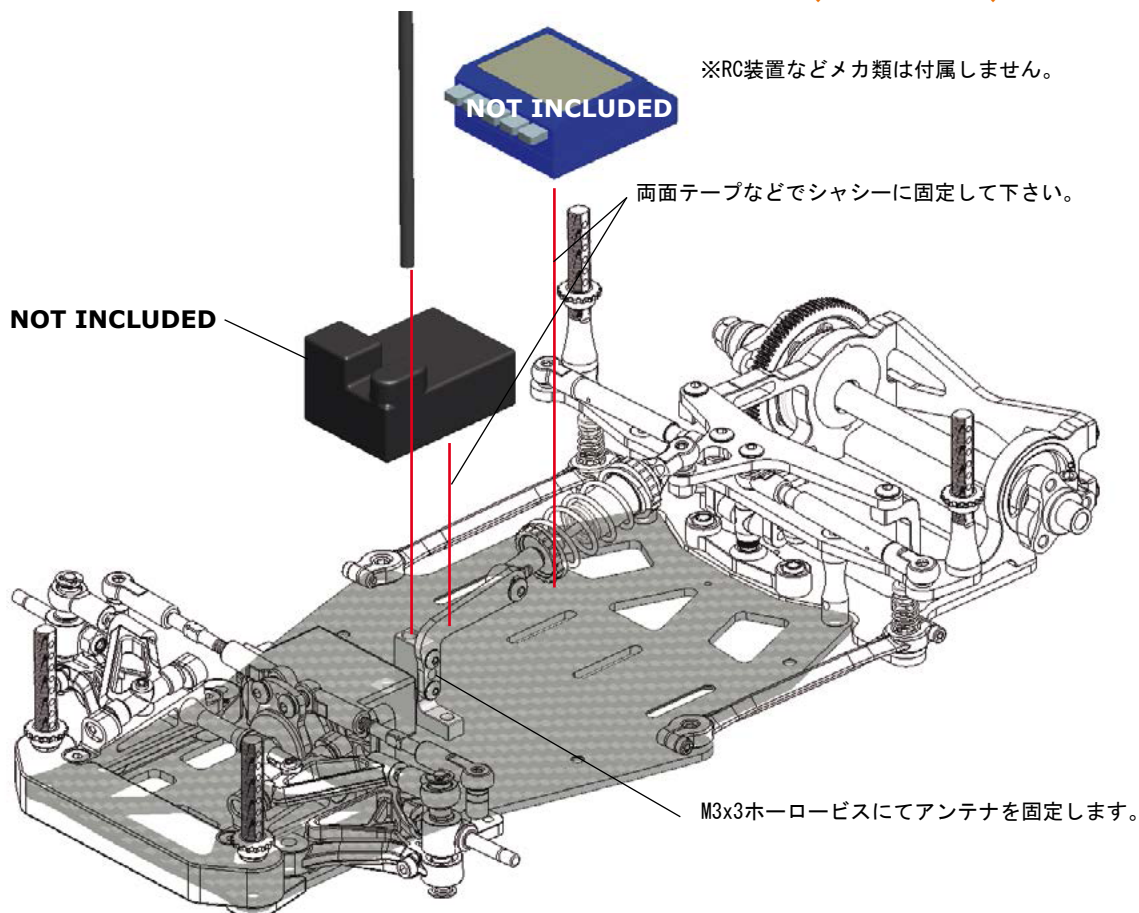


STEP  
21



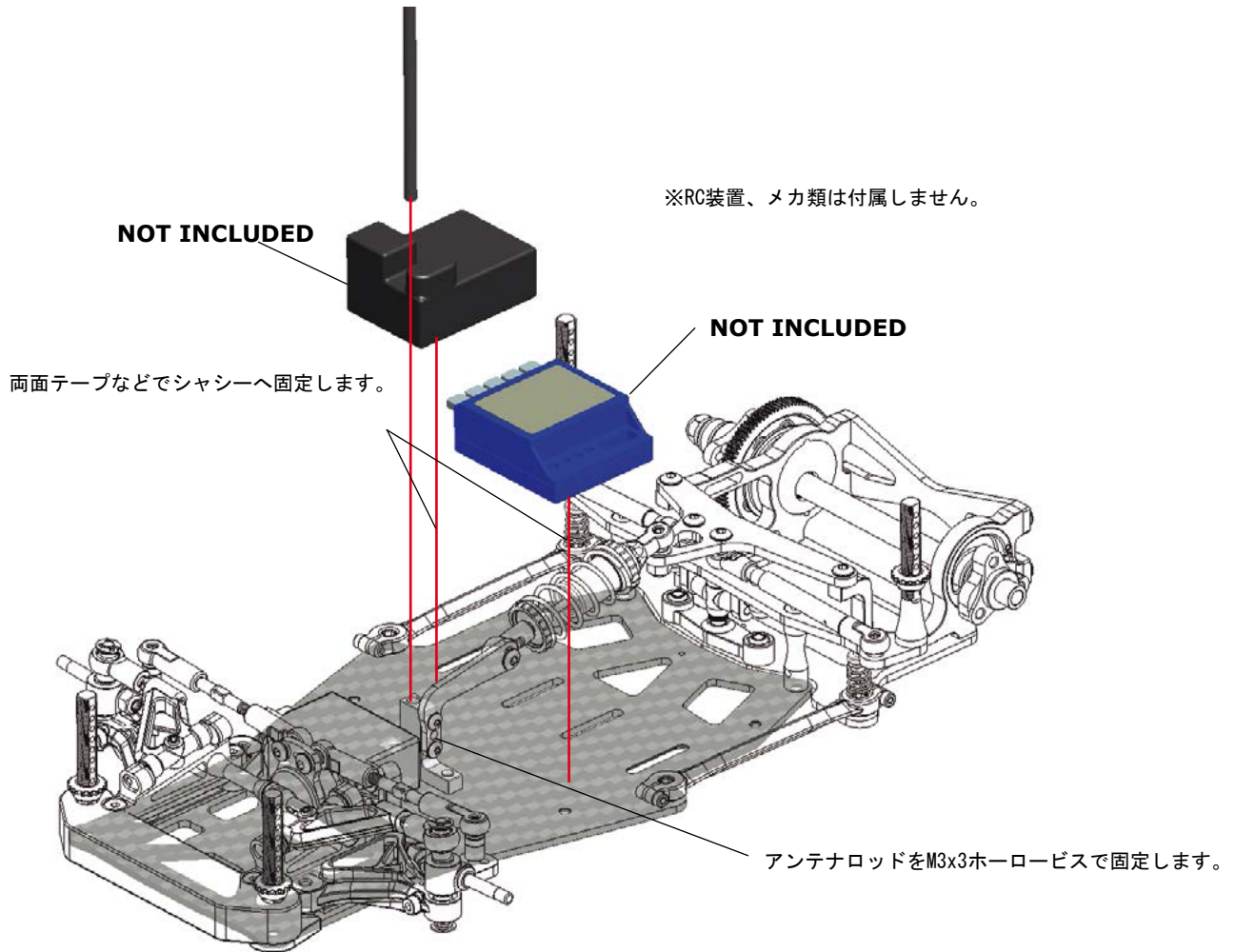


## A) LONGITUDINAL BATTERY CONFIGURATION (DEFAULT)



## B) TRANSVERSAL BATTERY CONFIGURATION

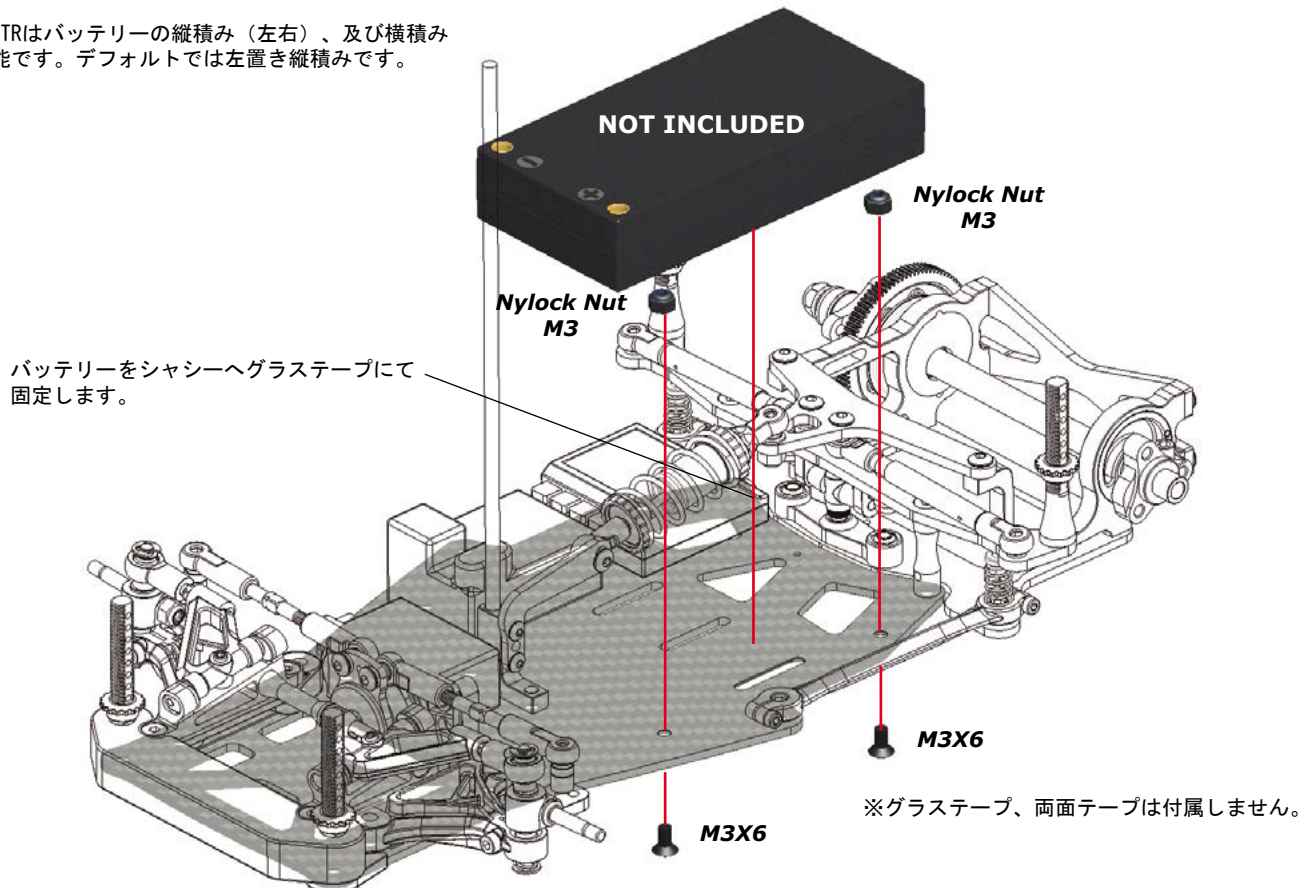
STEP  
23B



## A) LONGITUDINAL BATTERY CONFIGURATION (DEFAULT)

STEP  
24A

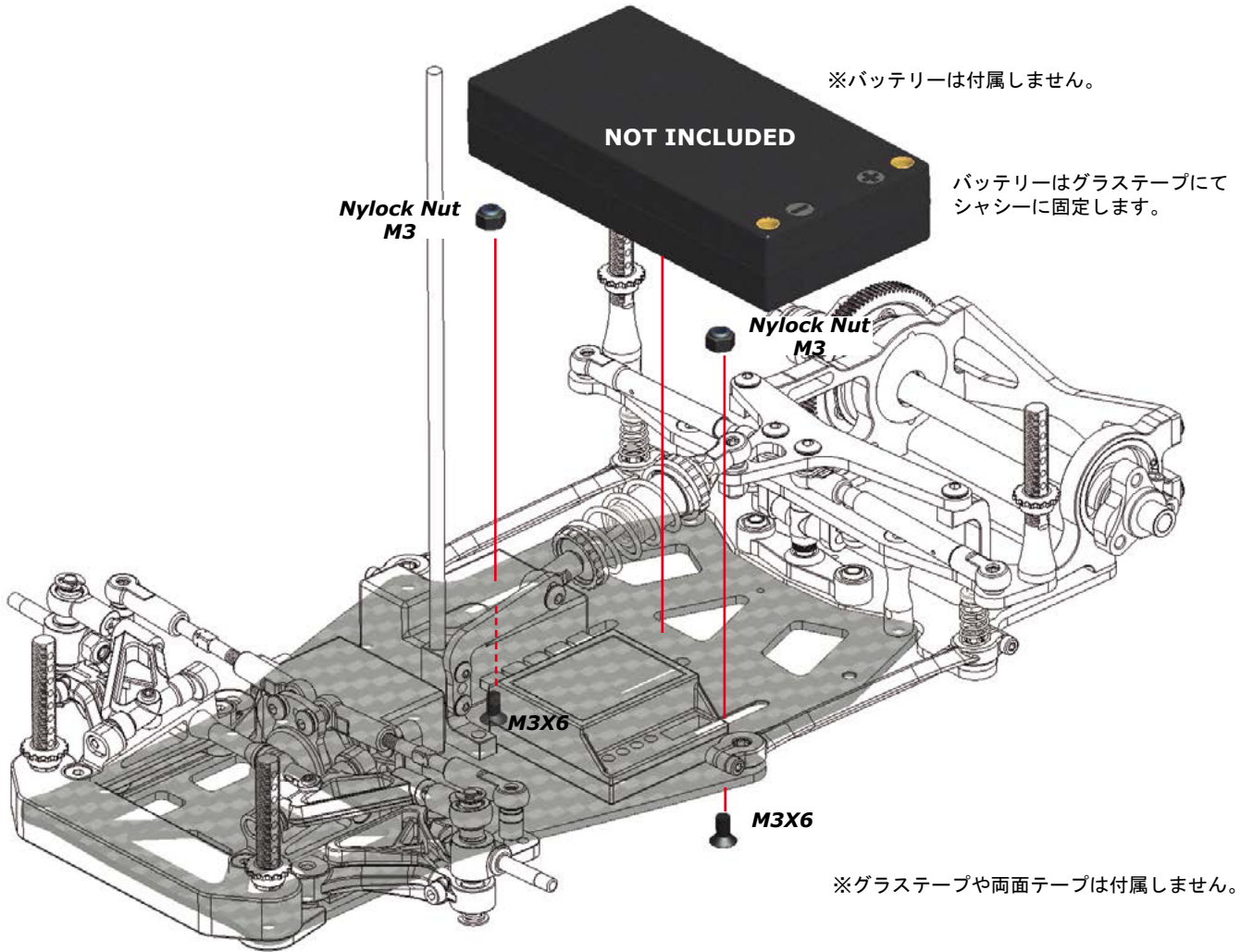
S120LTRはバッテリーの縦積み（左右）、及び横積みが可能です。デフォルトでは左置き縦積みです。





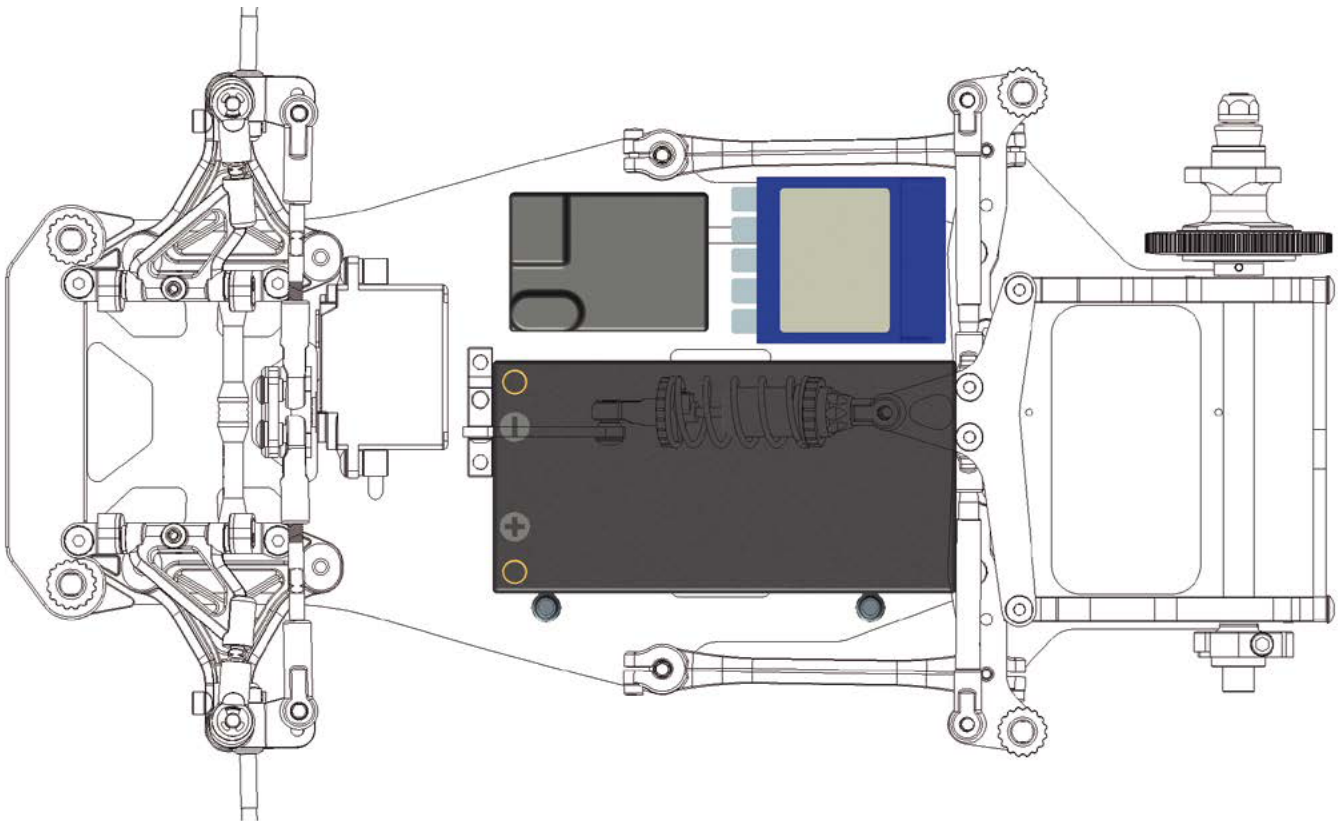
## B) TRANSVERSAL BATTERY CONFIGURATION

STEP  
24B



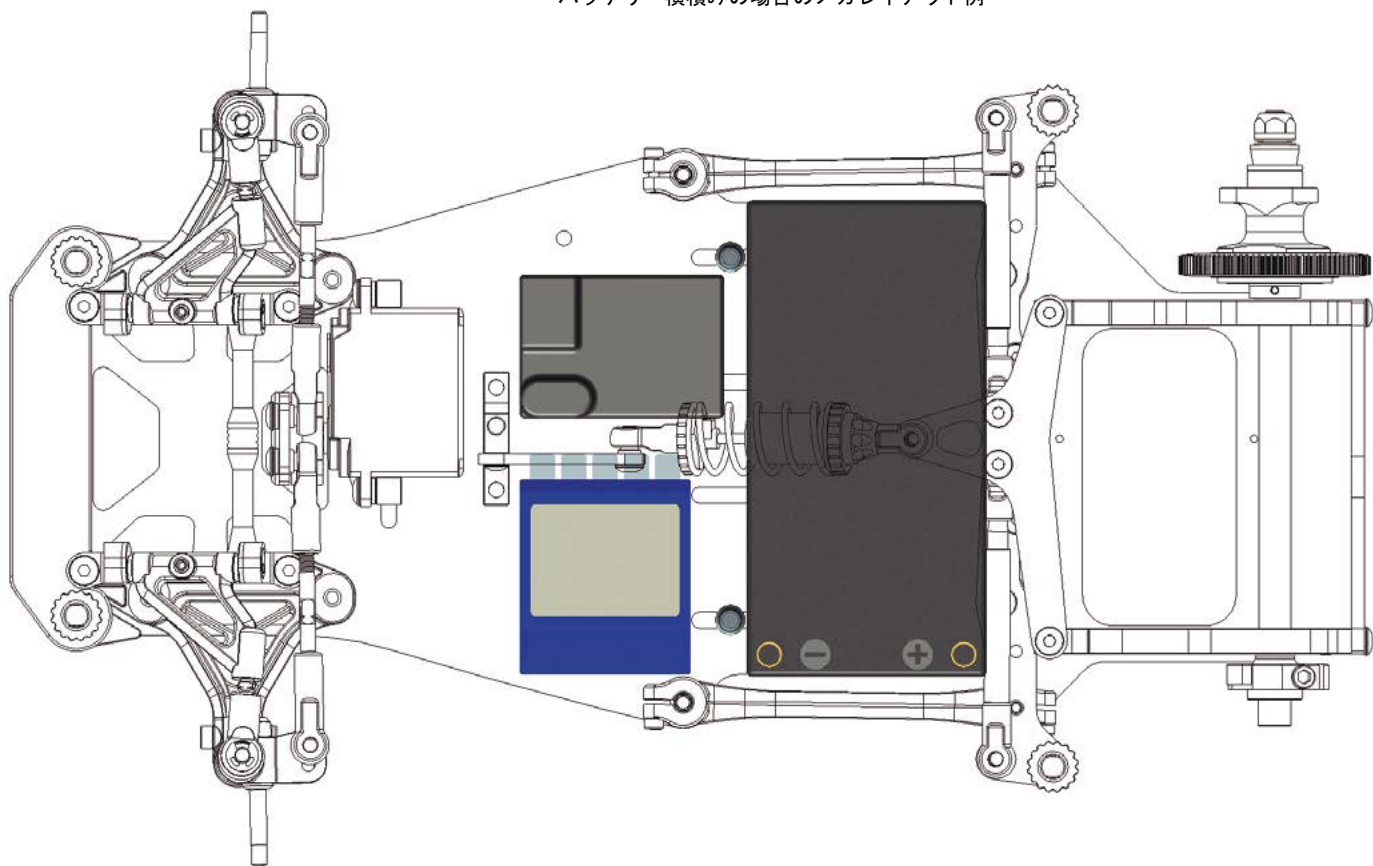
## Detail view longitudinal battery configuration (default)

基本メカレイアウト



# Detail view transversal battery configuration

バッテリー横積みの場合のメカレイアウト例



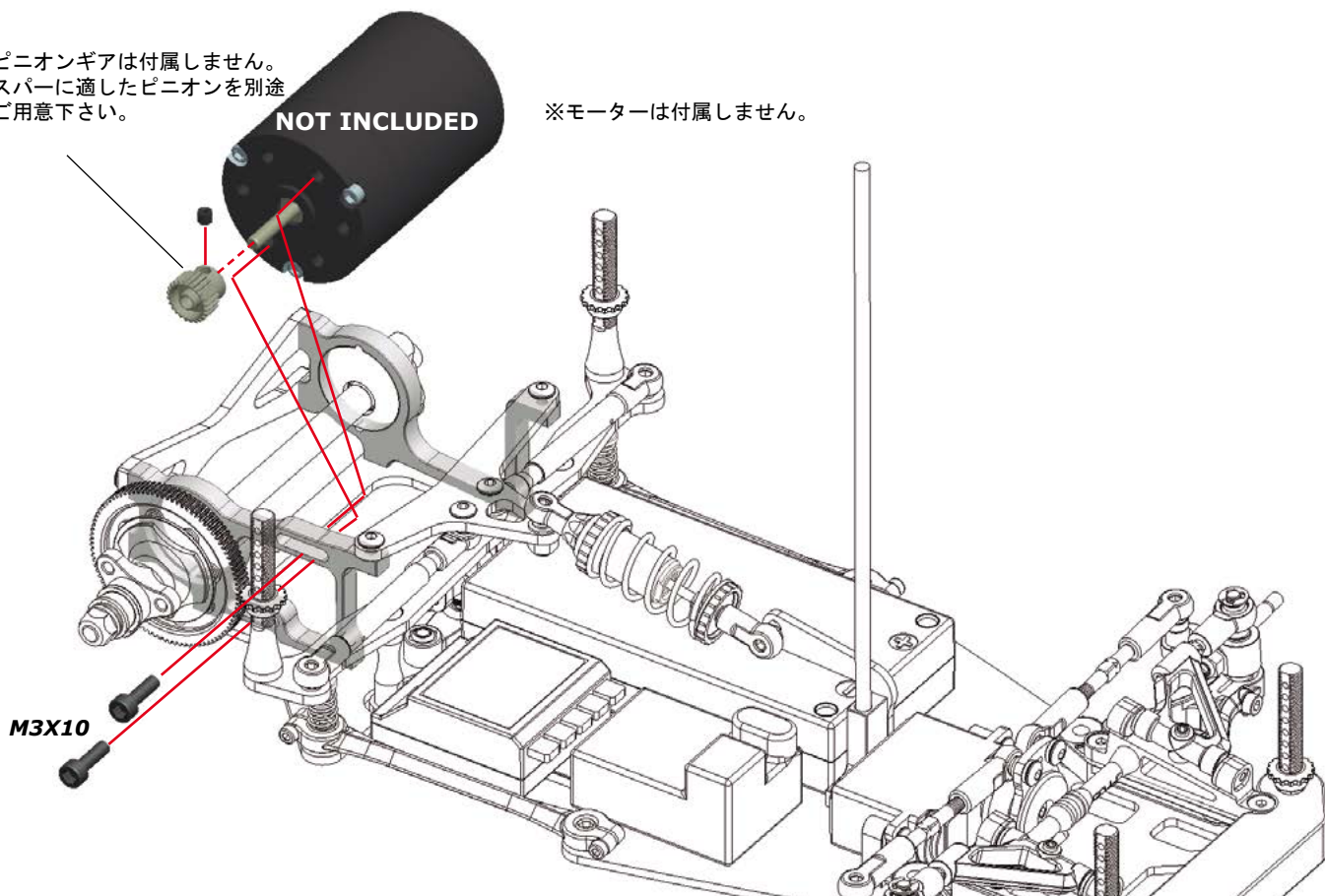
## FINAL ASSEMBLY

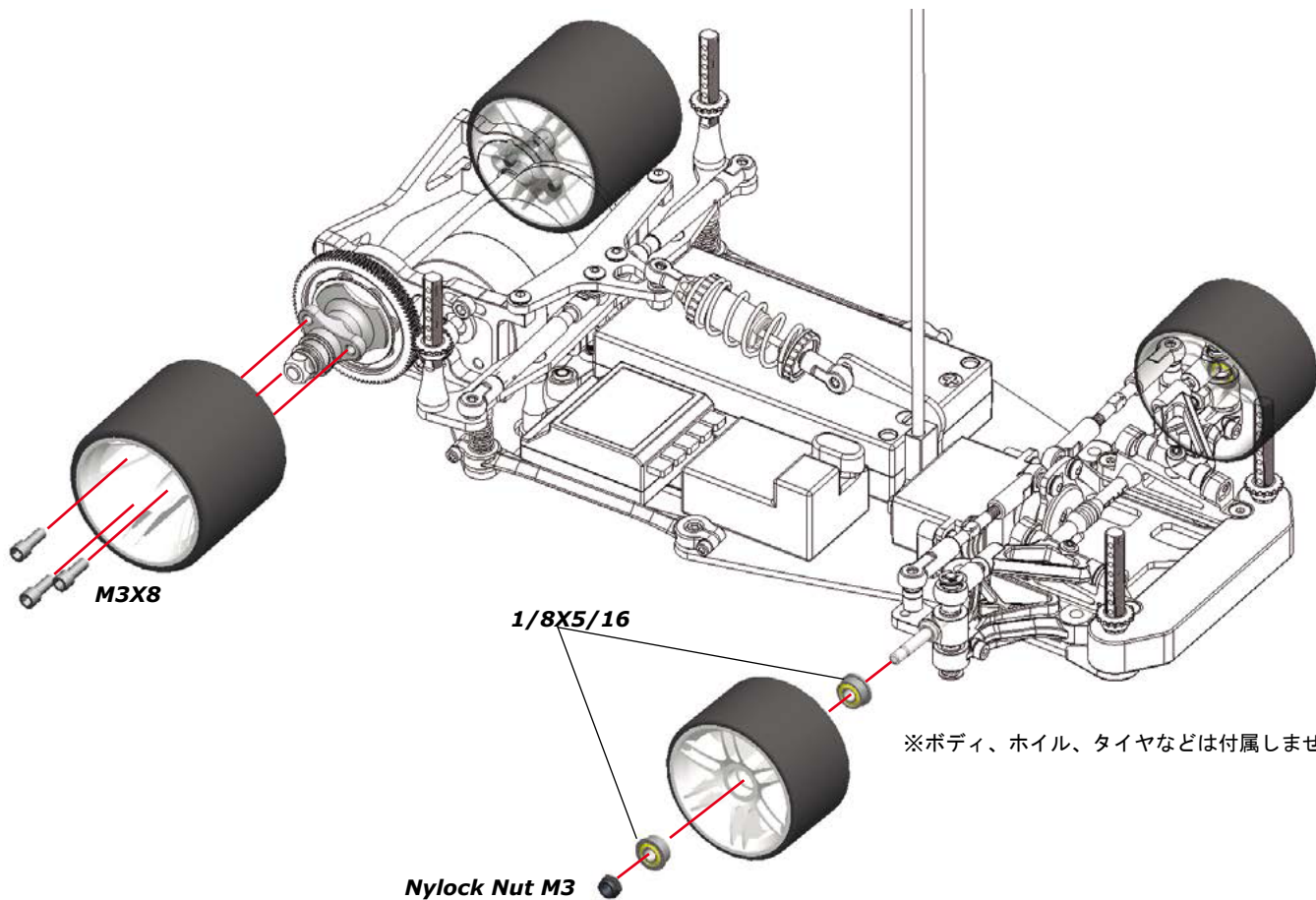
STEP  
25

ピニオンギアは付属しません。  
スパーに適したピニオンを別途  
ご用意下さい。

**NOT INCLUDED**

※モーターは付属しません。

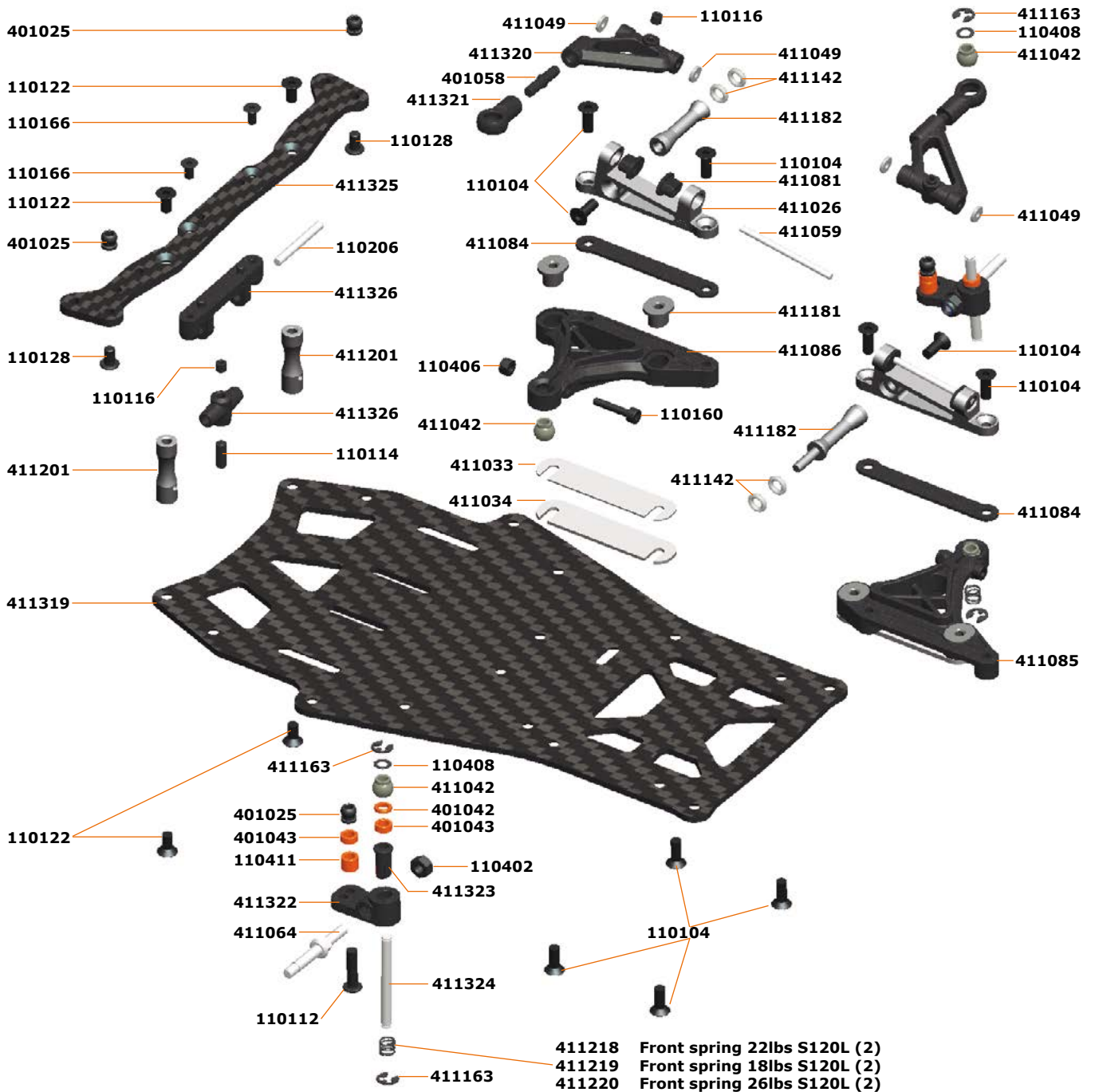




※ボディ、ホイール、タイヤなどは付属しません。

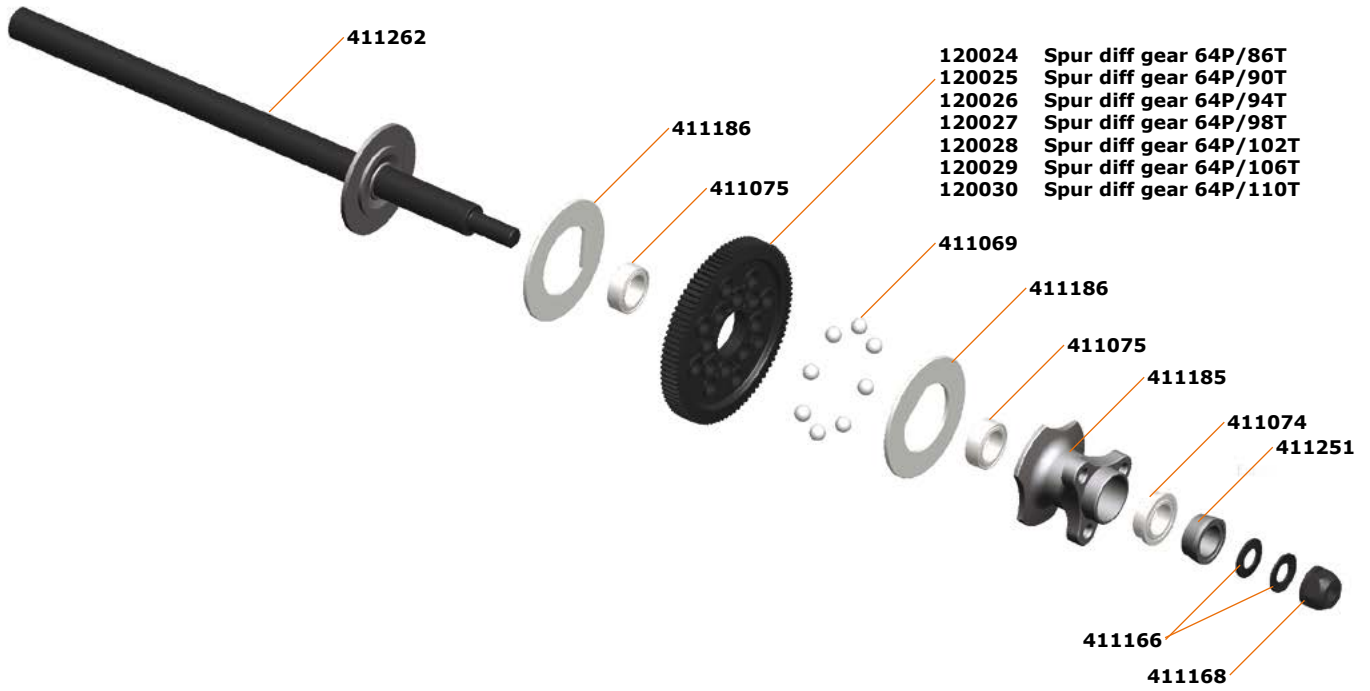
# REFERENCE GUIDE

# FRONT ASSEMBLY



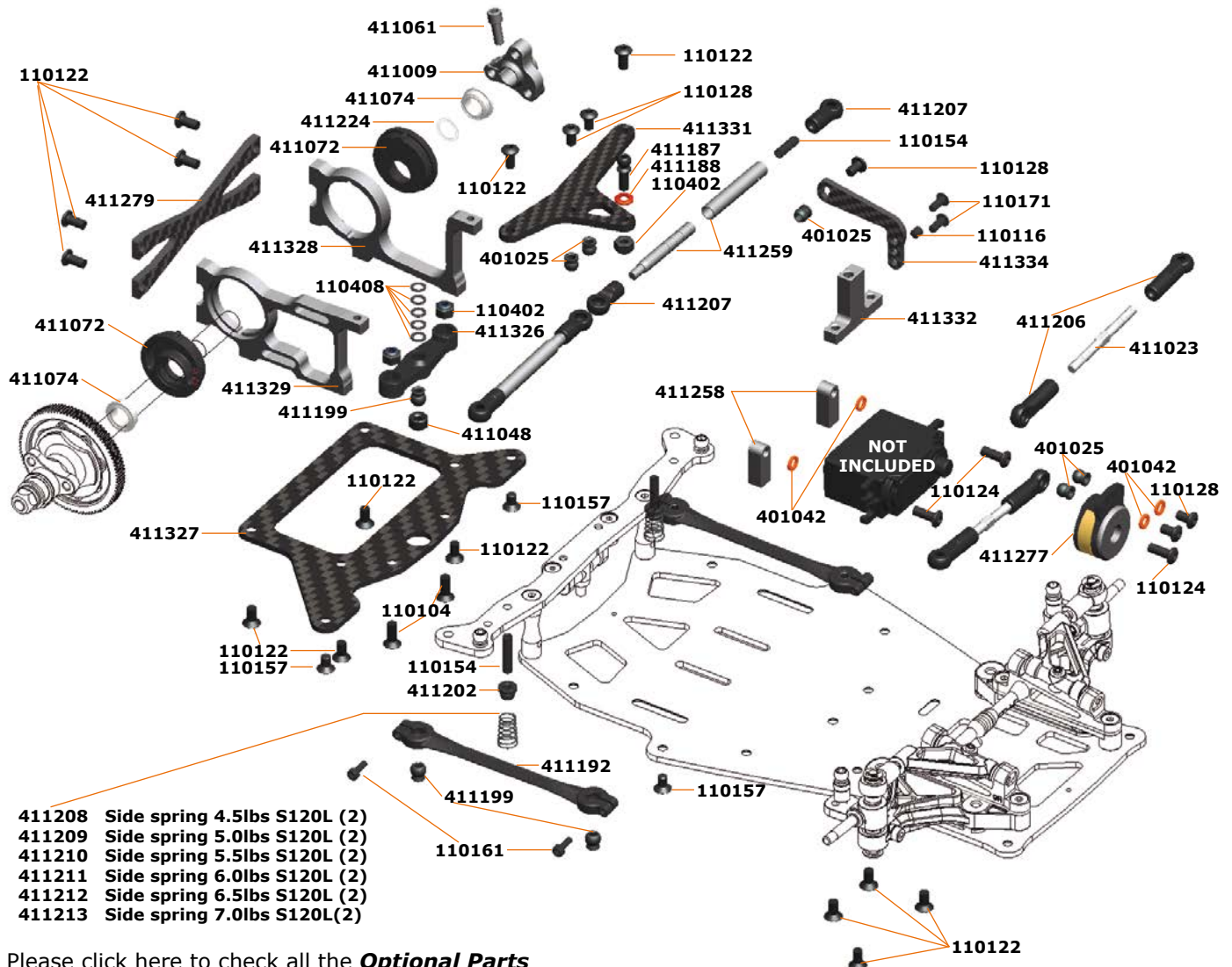
Please click here to check all the **Optional Parts**

# BALL DIFF ASSEMBLY



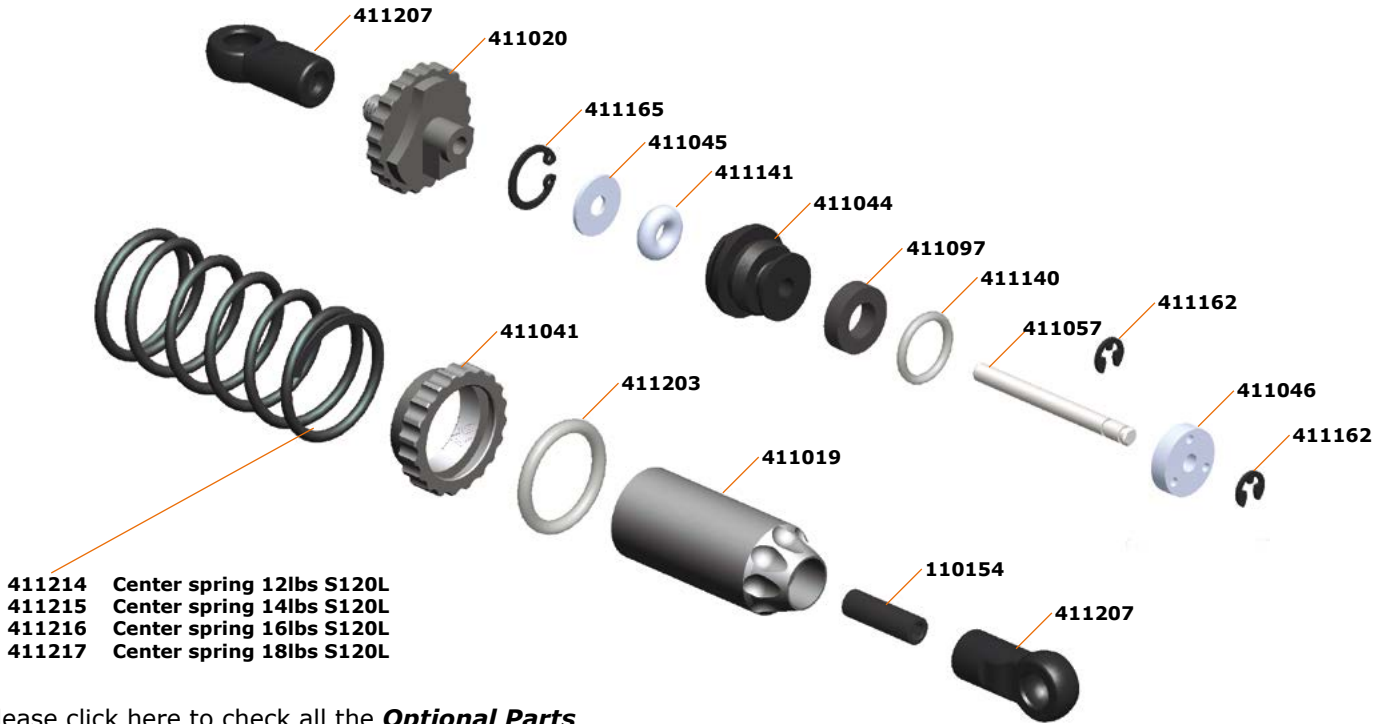
Please click here to check all the **Optional Parts**

# REAR ASSEMBLY



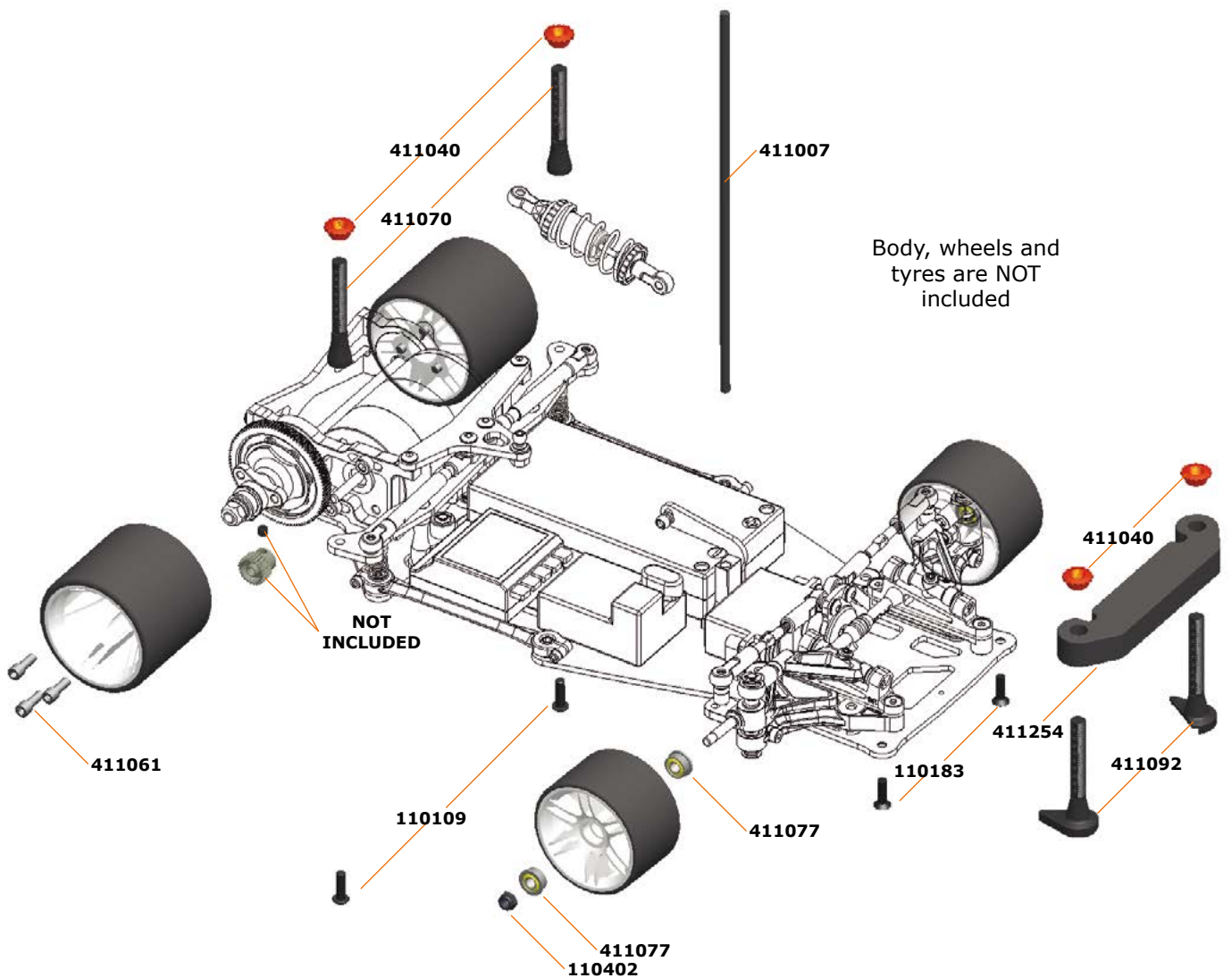
Please click here to check all the **Optional Parts**

# SHOCK ABSORBER ASSEMBLY



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

# FINAL ASSEMBLY



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

S120  
LTR



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



S120 LTR version 1