

# 999 VIPER<sub>e</sub>

INSTRUCTION  
MANUAL



WORLD  
CHAMPIONS  
10X

SERPENT



## **INTRODUCTION**

The Serpent Viper 988e is designed to be a world champion, while still being easy to use, assemble, and set up. The Serpent Viper 988e offers state of the art specifications and leads the way in chassis design, using all the knowledge we have from 1/8 scale racing into this design too. Continuously pushing the performance envelope, Serpent's engineers have added new and innovative features that help take your Serpent Viper 988e into the winner's circle.

Designed by Michael Salven

Team Serpent  
Multiple World Champions

## **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. 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.

## **PLASTIC PARTS**

The Serpent moulded parts are very durable and hard. When assembling longer screws in new composite parts, make sure to use new hex bits in your (power) tools. Pre-threading also helps to avoid screw damage.

## **SETUP**

In certain assembly steps you need to make basic adjustments, which will give you a good initial setup for your Serpent Viper 988e. Fine-tuning the initial setup is an essential part of building a high-performance racecar like your Serpent Viper 988e.

## **EXPLODED VIEWS AND PARTS LIST**

The exploded views and parts lists for the Serpent Viper 988e 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 and hotlink to the Serpent website. Part numbers in orange indicates that this part is an optional. Optionals part names and numbers are showed below.

## **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**

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## LINES DESCRIPTION

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



Connect one item to another



Gap between two items



Press/Insert one item into another

## ICONS DESCRIPTION

Each step contains a variety of symbols described below.



Carefull, read and check very well.



Apply a small amount of cyano glue. Use wear protection for eyes and hands.



Detail view to explain assembly or order of parts better.



Default set-up: This symbol indicates the default setup.



Grease: apply a small amount of grease to the parts shown.



Silicone grease: apply a small amount of grease to the parts shown.



Thread lock: apply a small amount on the parts shown. Before to apply the threadlock, make sure to degrease the parts very well, as otherwise the threadlock will not work.



Silicone oil: use the indicated silicone oil for the shocks and differentials.



Oil: apply a small amount of oil to the parts shown.



Left and right parts should be assembled in the same way.

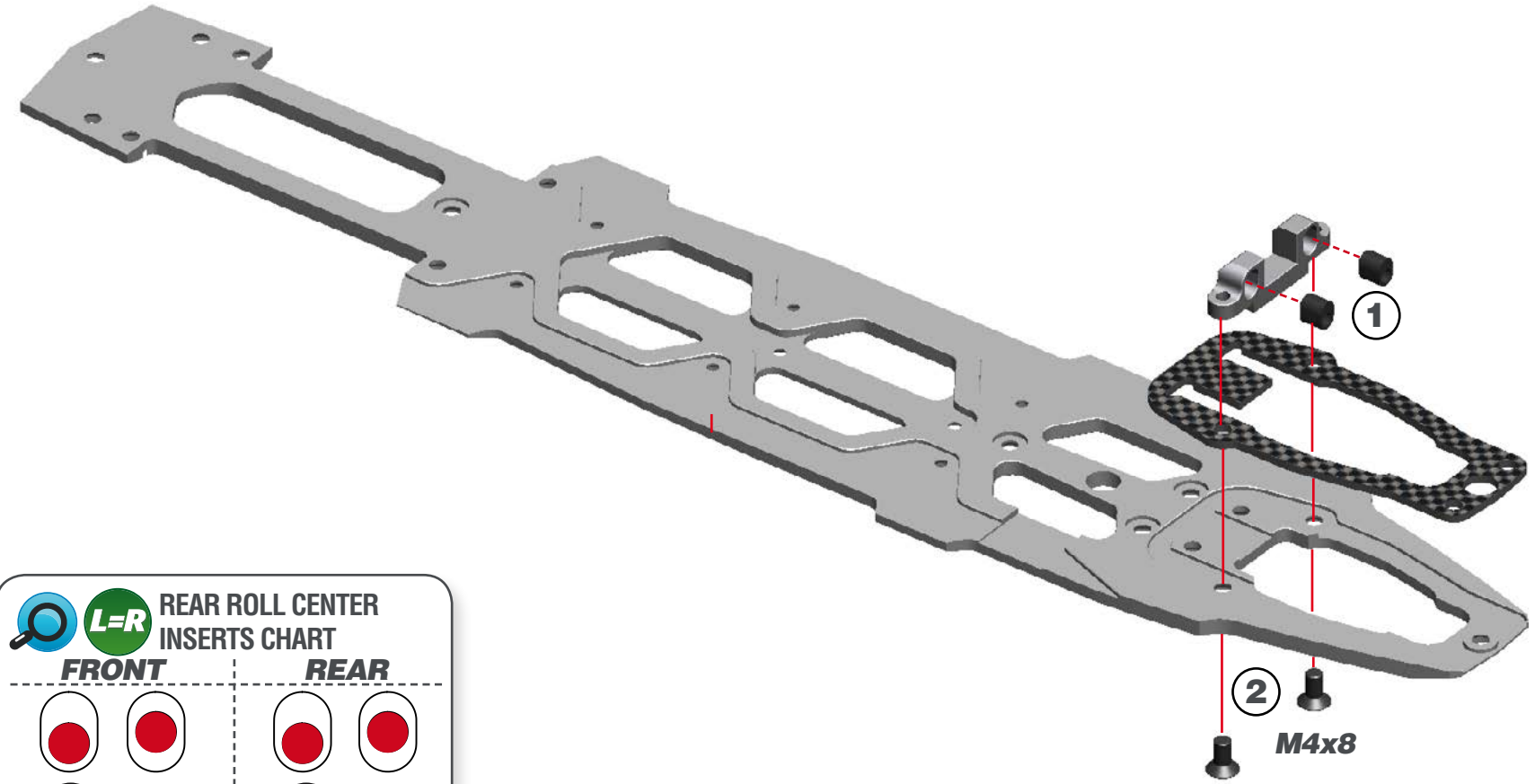


Parts or items not included in the kit.



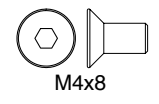
Optional part, not standard in the kit.

## STEP 1 BAG 1



**L=R** REAR ROLL CENTER  
INSERTS CHART

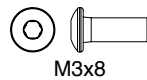
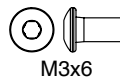
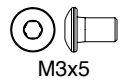
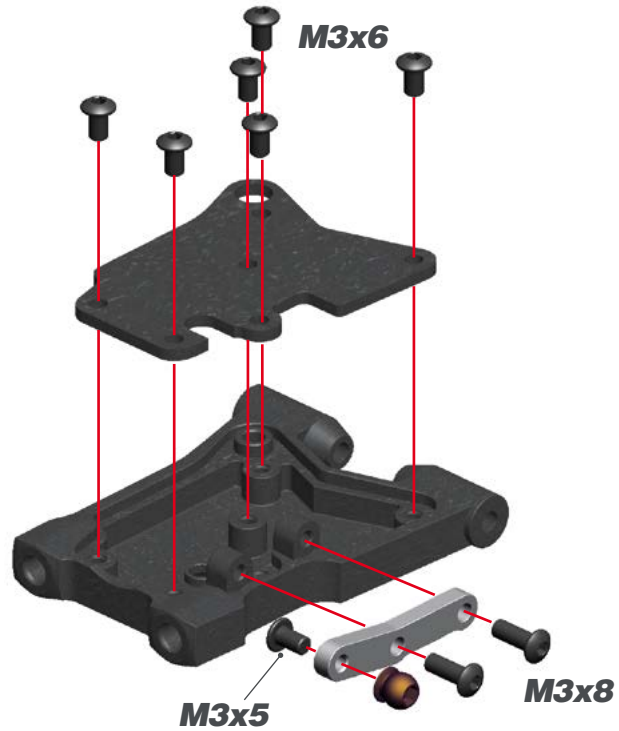
| FRONT |  | REAR |  |
|-------|--|------|--|
|       |  |      |  |
|       |  |      |  |





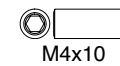
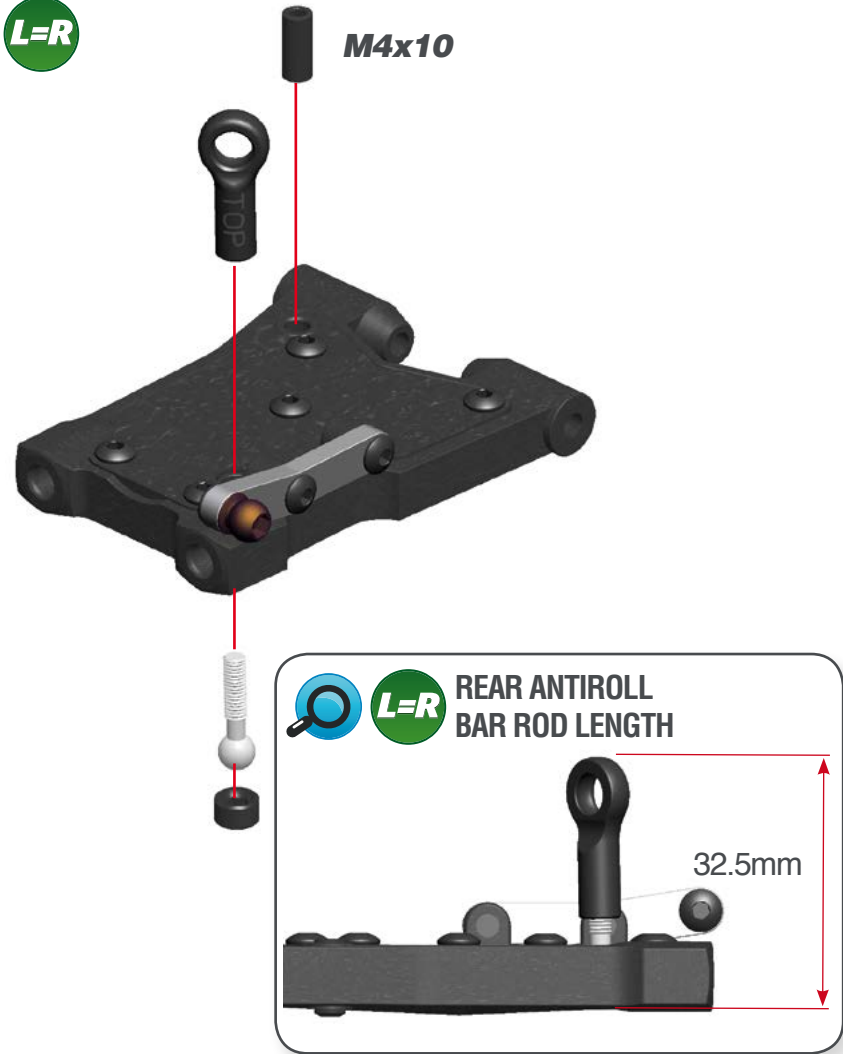
**STEP 2**

L=R

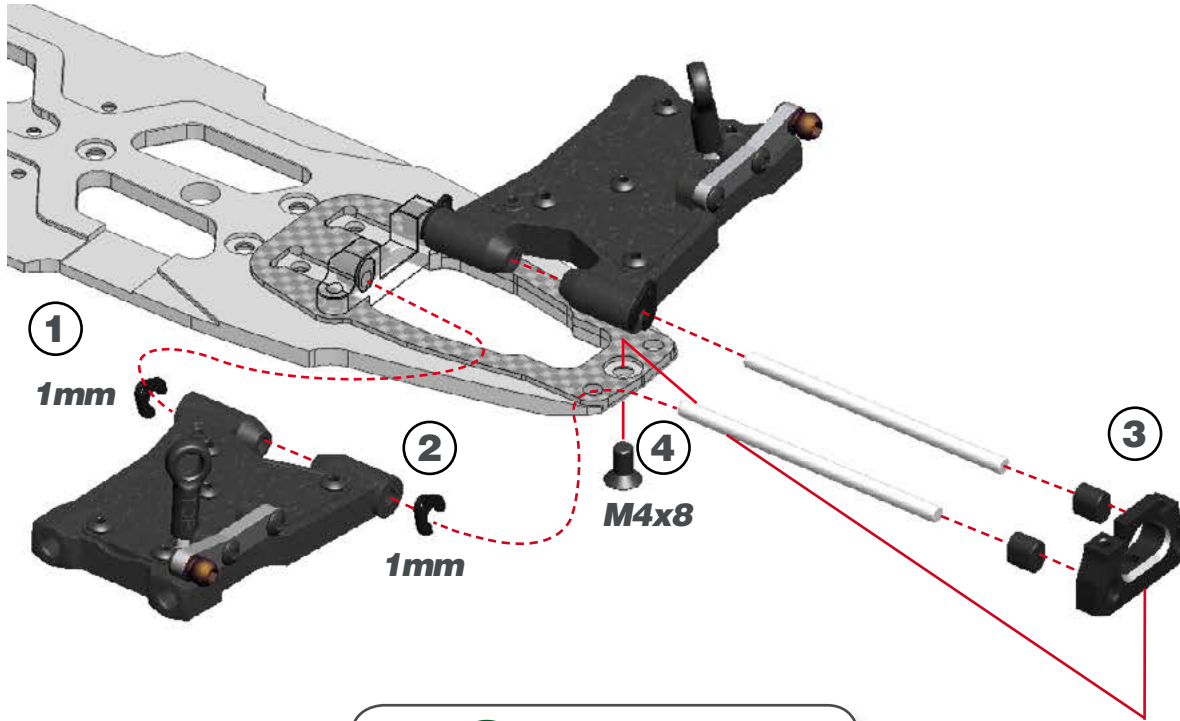


**STEP 3**

L=R



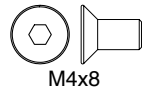
**STEP 4**



**REAR ROLL CENTER INSERTS CHART**

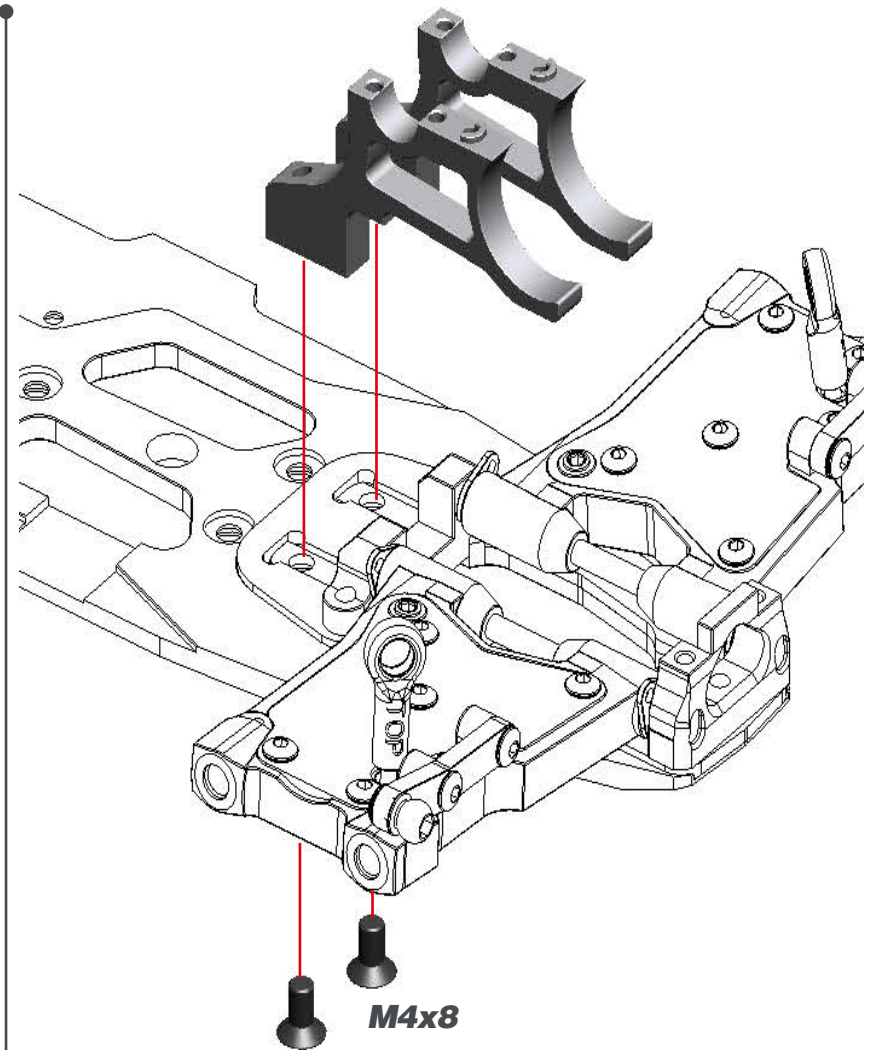
**L=R**

| FRONT |  | REAR |  |
|-------|--|------|--|
|       |  |      |  |
|       |  |      |  |



**STEP 5**

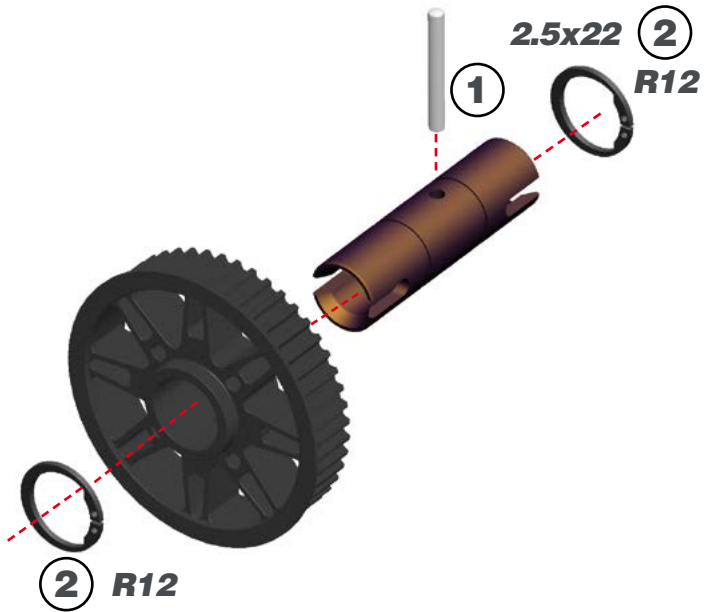
**BAG 2**





**STEP 6**

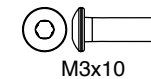
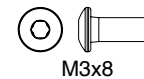
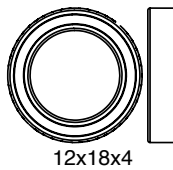
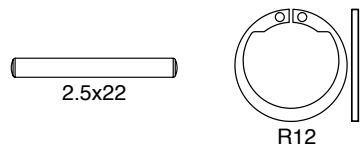
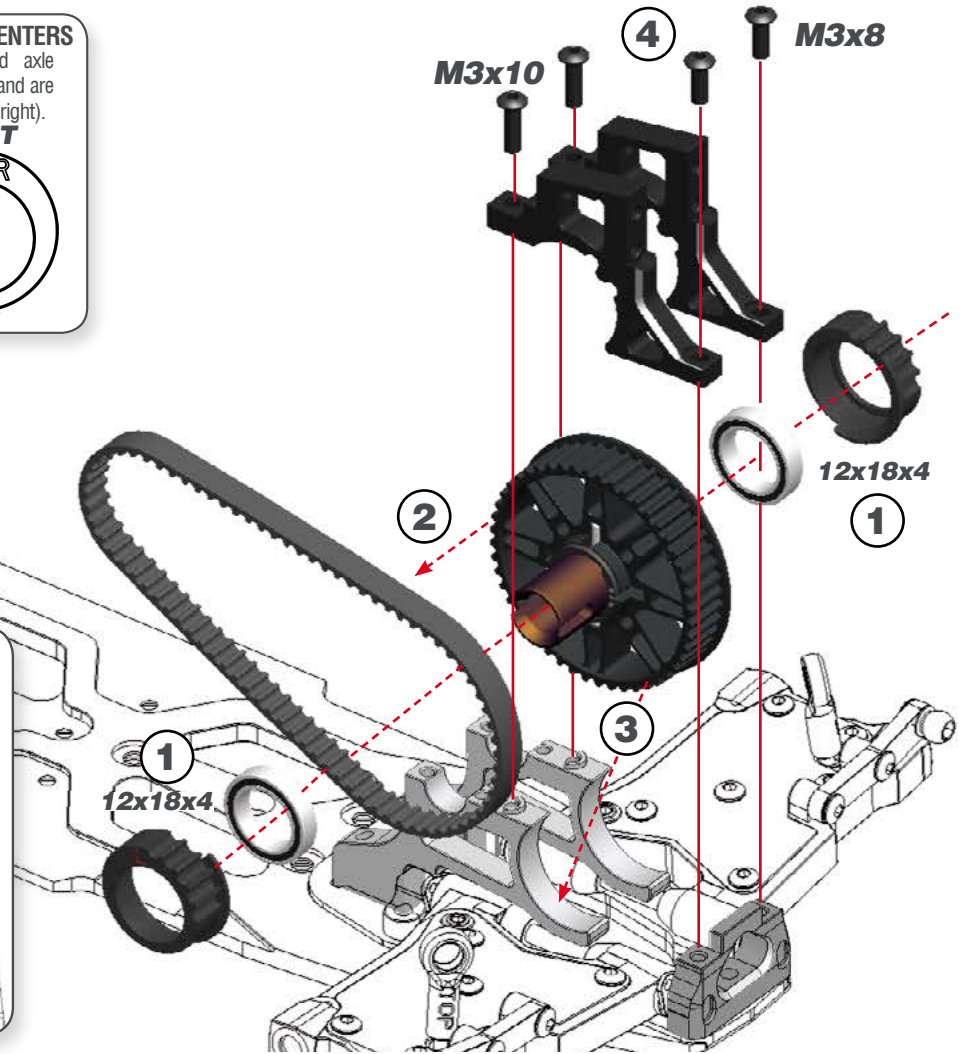
**STEP 7**



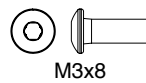
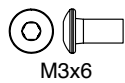
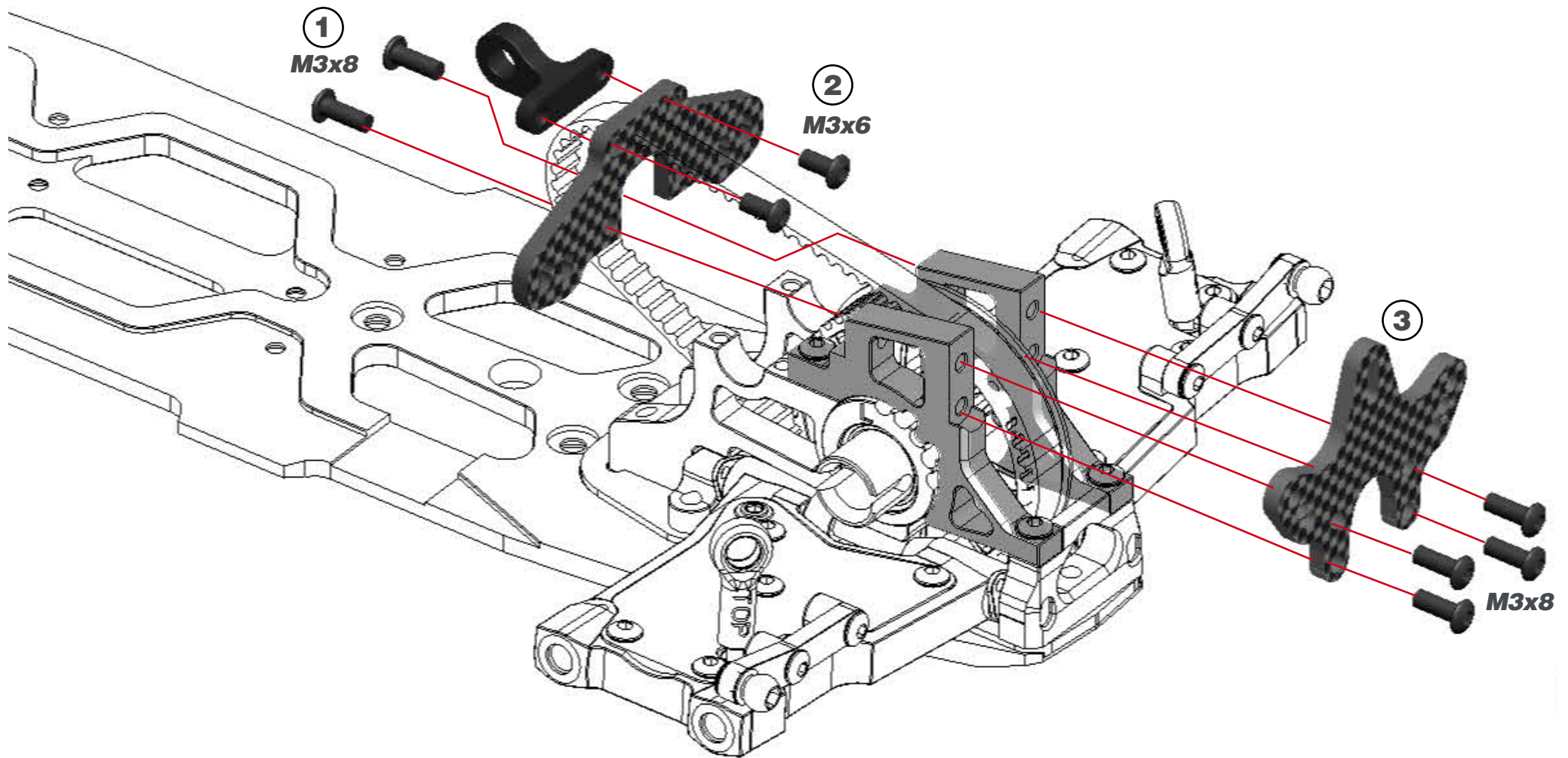
**REAR SOLID AXLE EXCENTERS**  
 Note that the rear solid axle excenters are not symmetrical and are market with L (=left) and R (=right).

**LEFT**      **RIGHT**

**REAR BELT TENSION**  
 Use the central slot as starting position



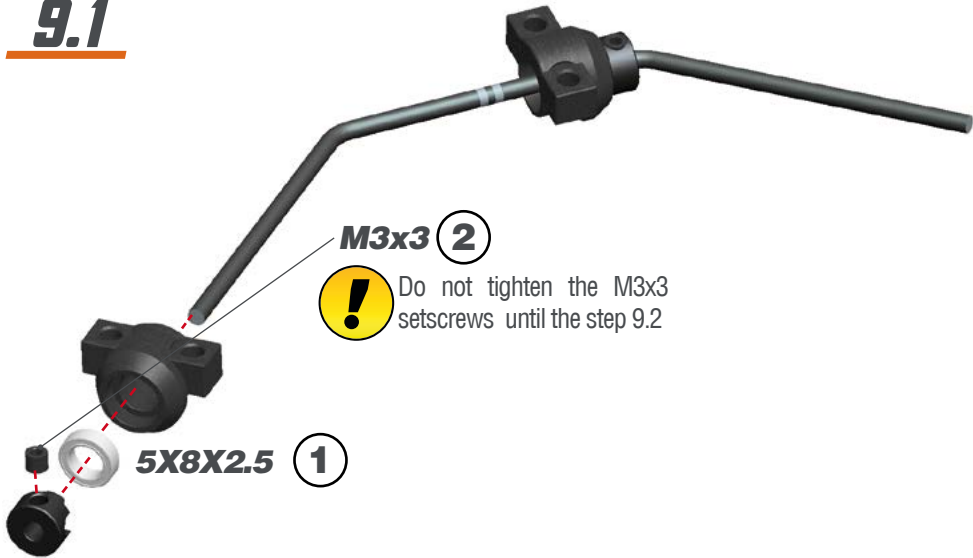
**STEP 8**





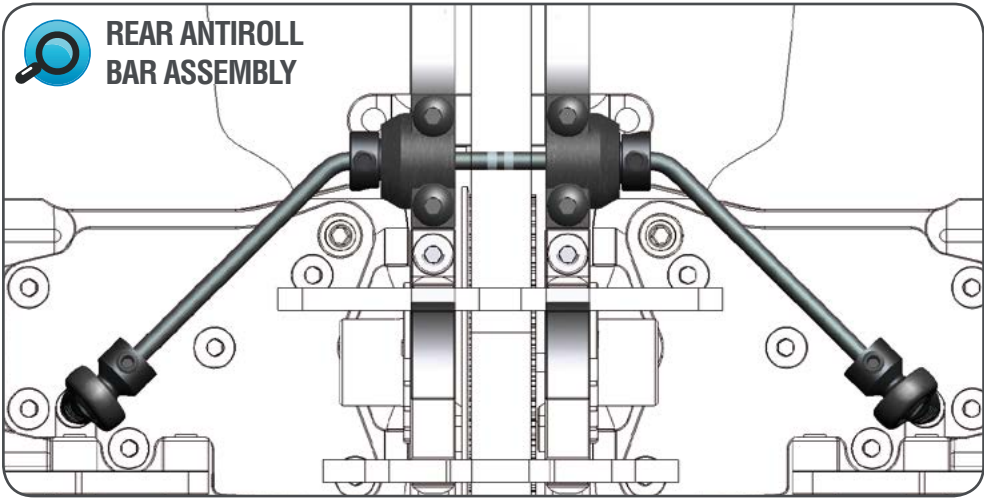
**STEP 9**

**9.1**

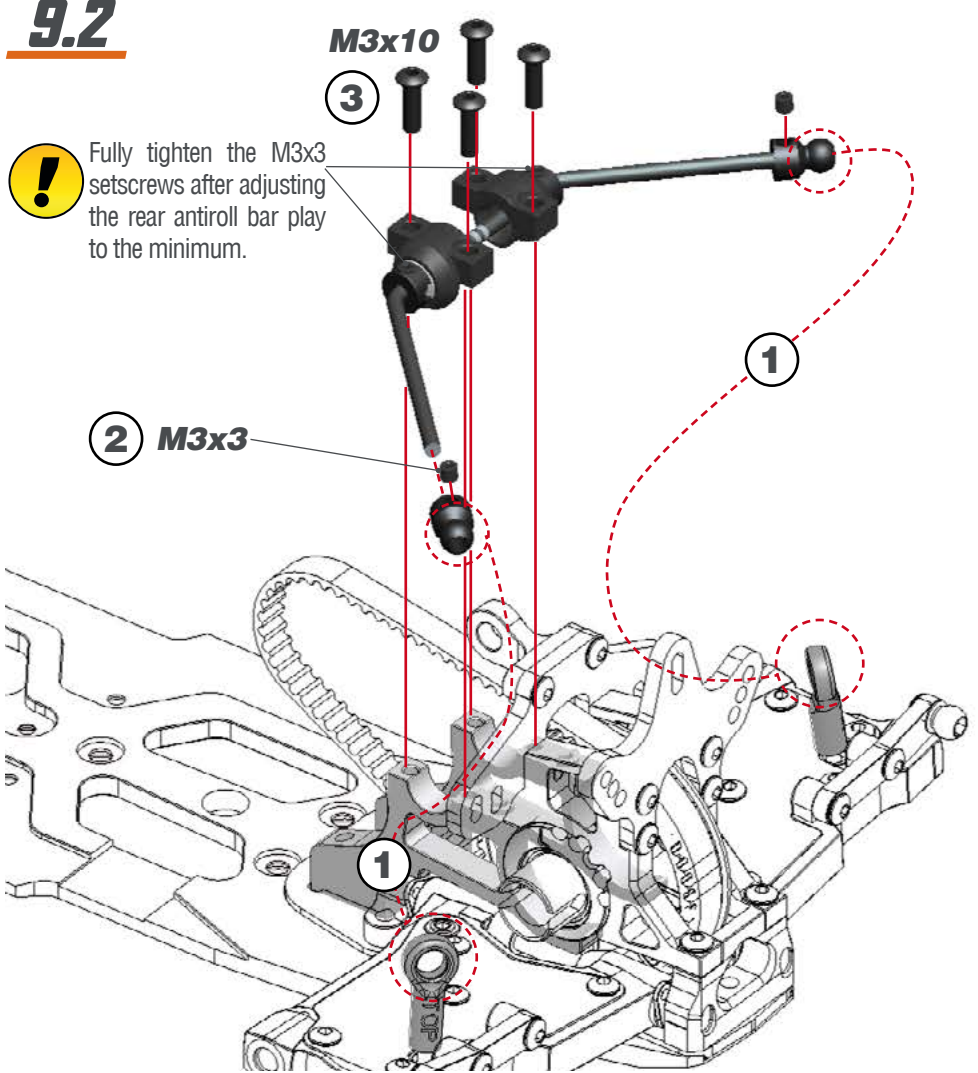


**M3x3** (2)  
! Do not tighten the M3x3 setscrews until the step 9.2

**5X8X2.5** (1)



**9.2**



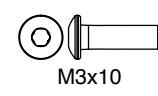
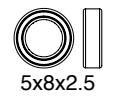
! Fully tighten the M3x3 setscrews after adjusting the rear antiroll bar play to the minimum.

**M3x10**

(3)

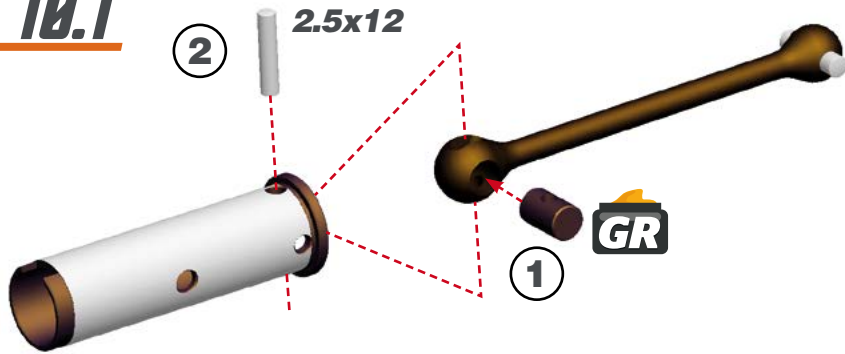
(2) **M3x3**

(1)

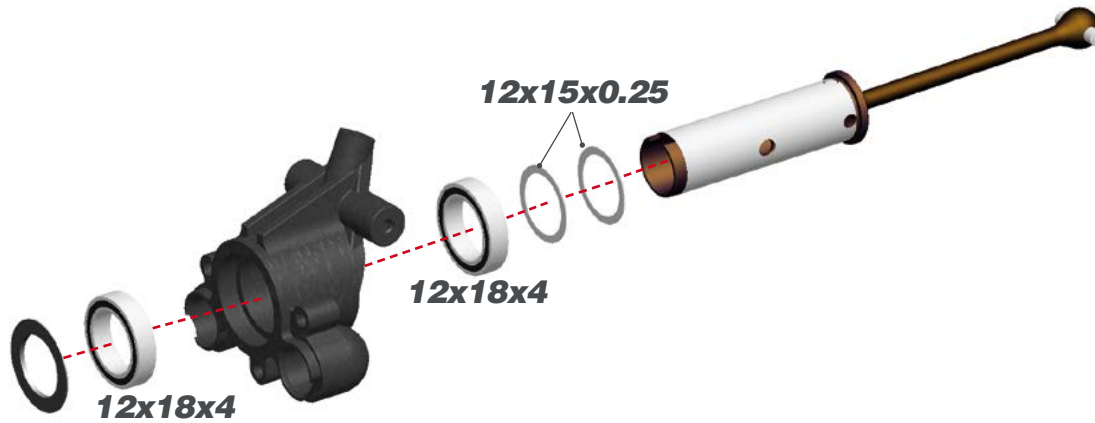


**STEP 10** **BAG 3**

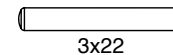
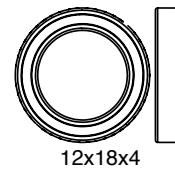
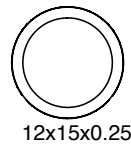
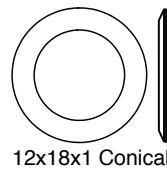
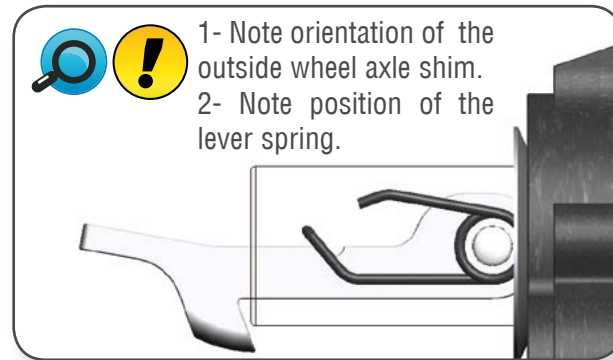
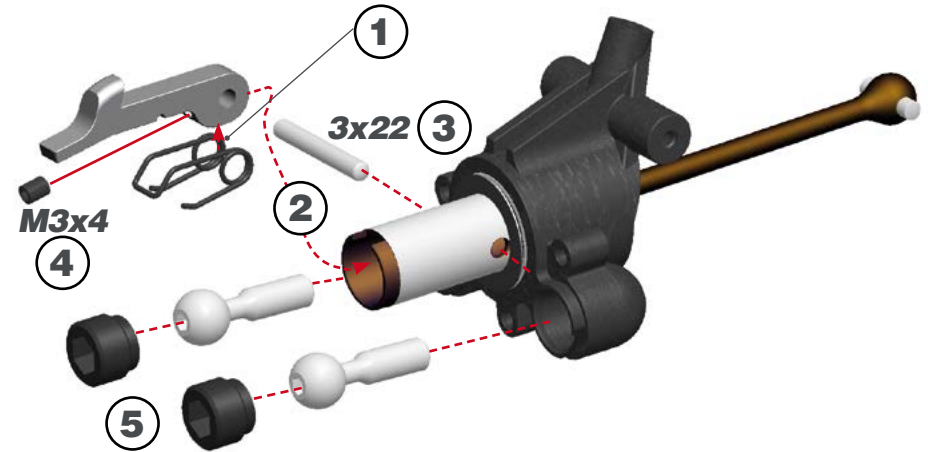
**10.1**



**10.2**

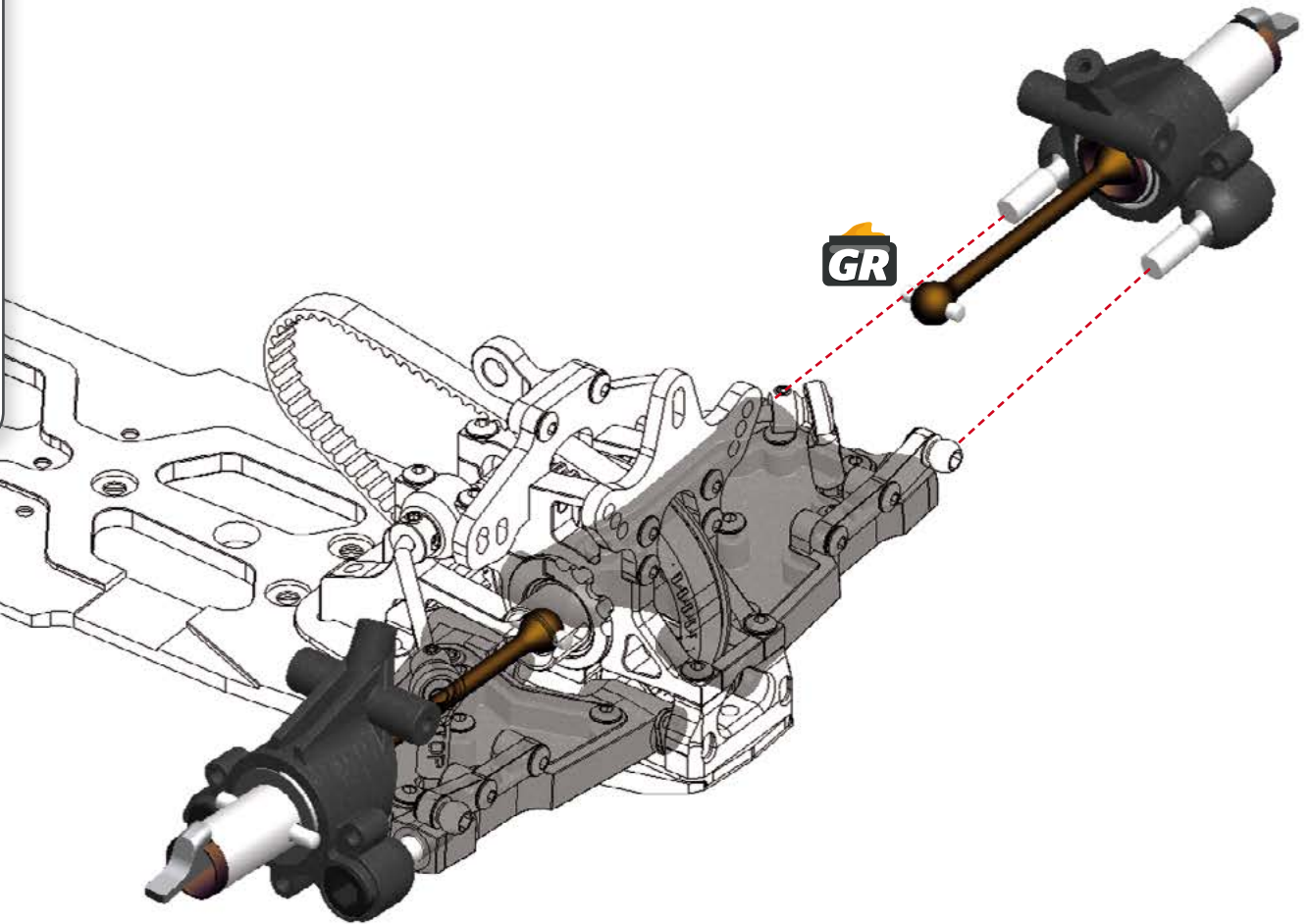
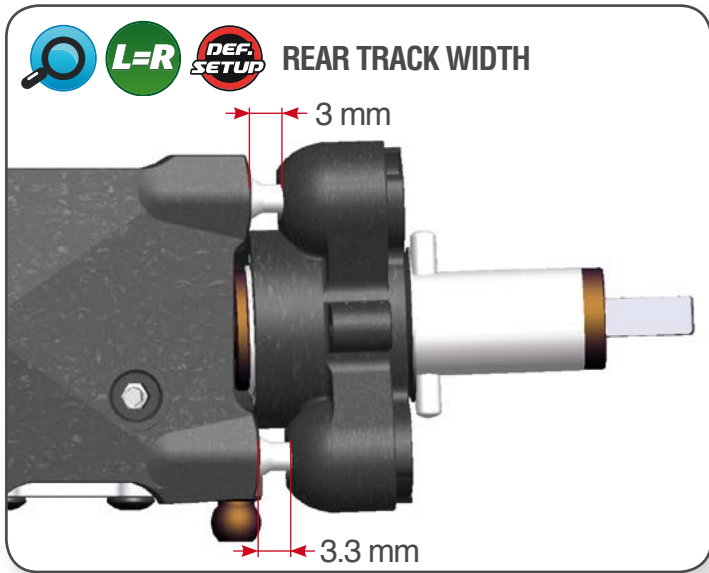


**10.3**



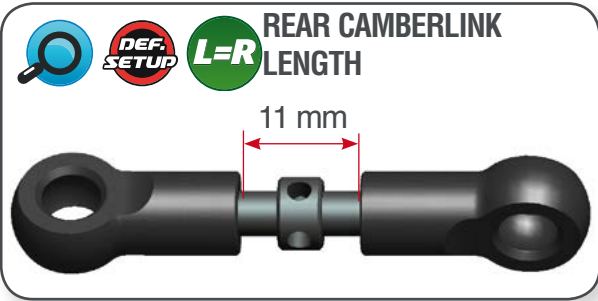
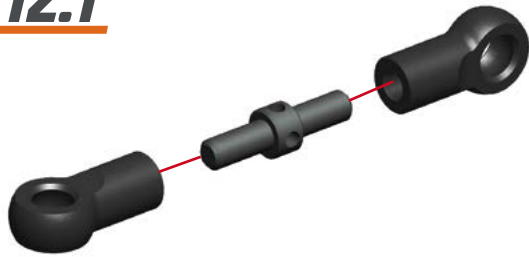


**STEP 11**

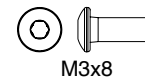
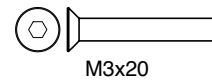
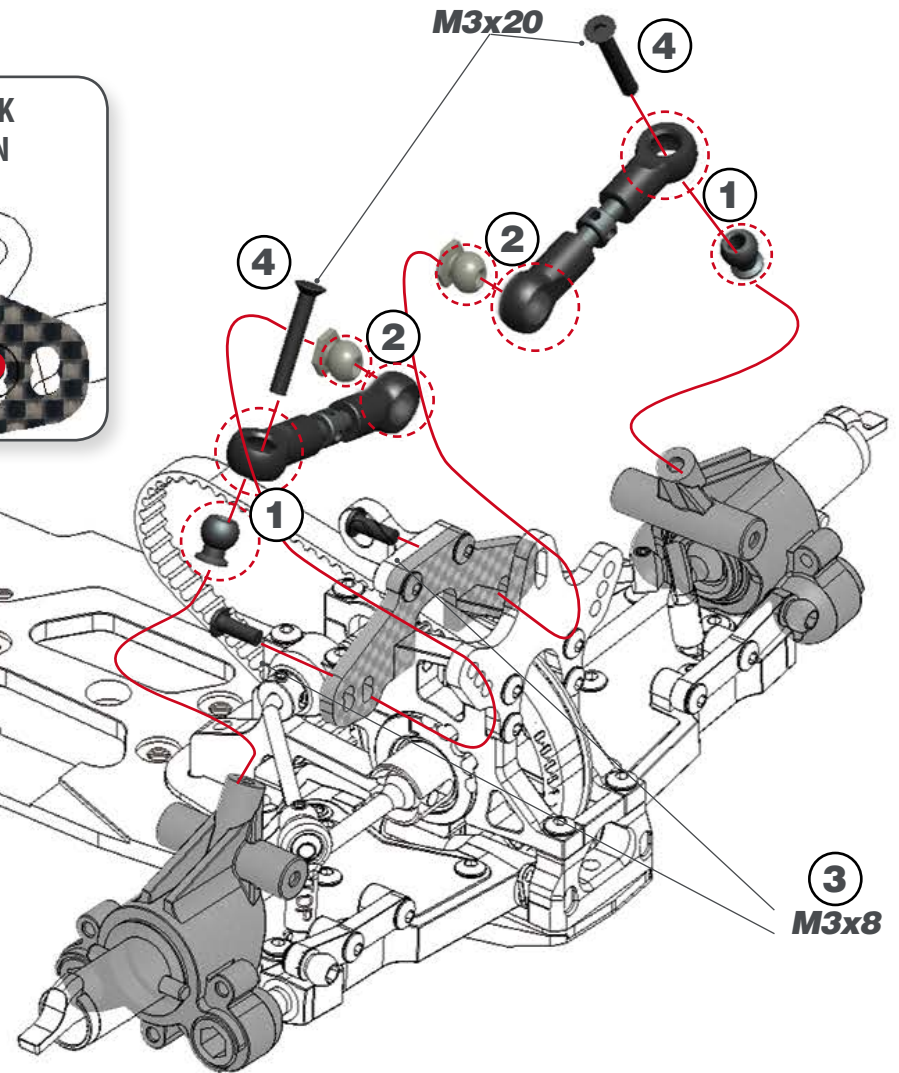
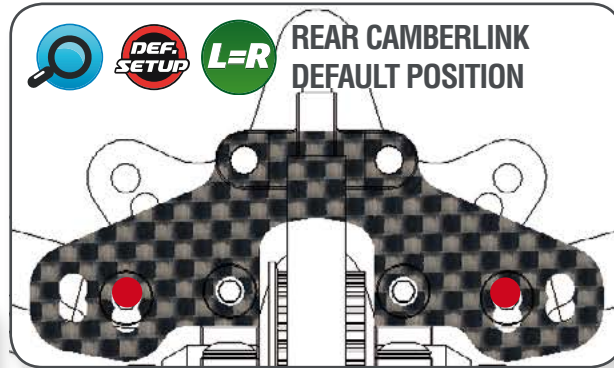


**STEP 12**

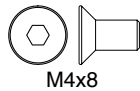
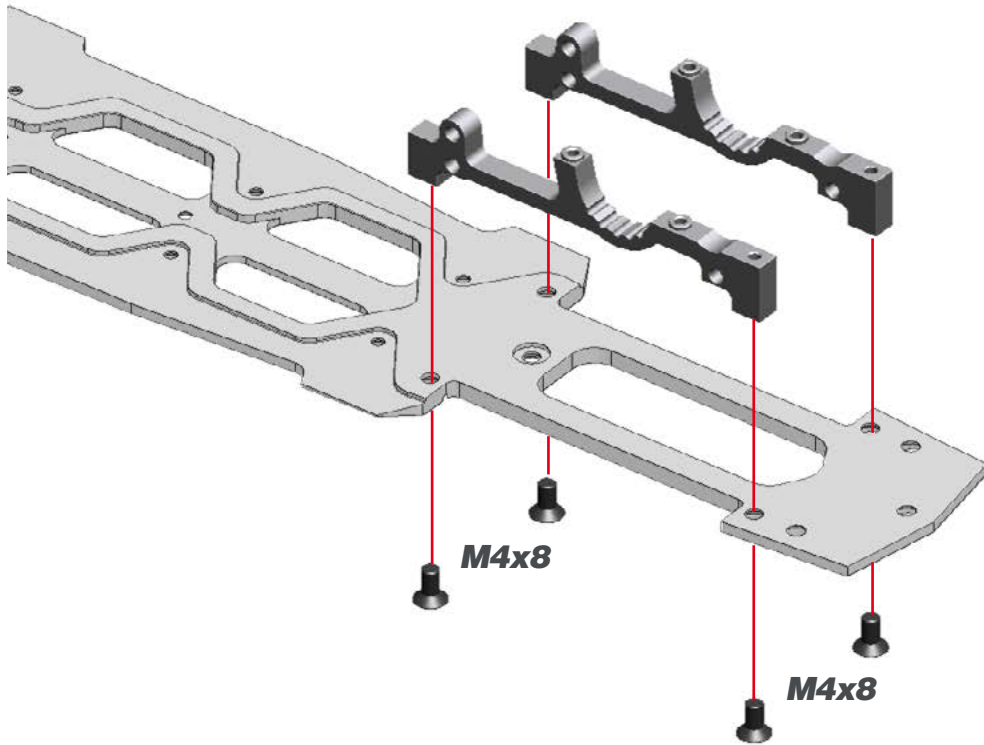
**12.1**



**12.2**



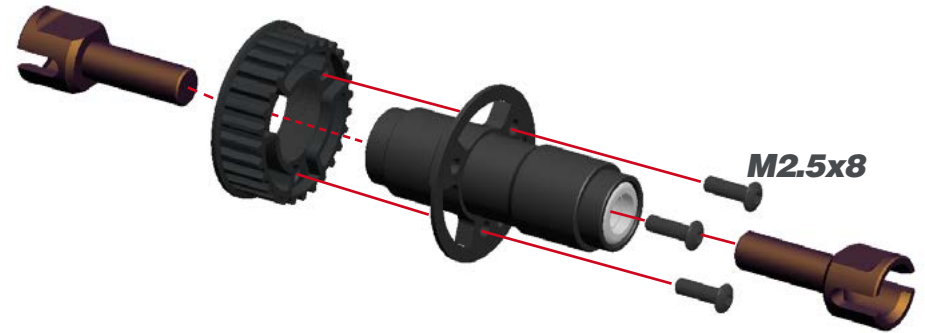
## STEP 13 BAG 4



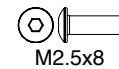
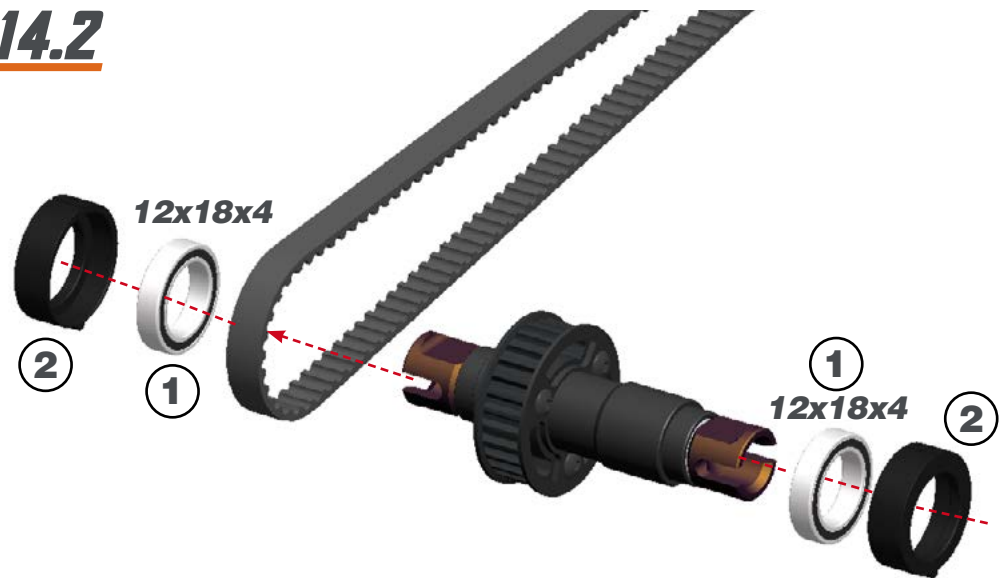
M4x8

## STEP 14

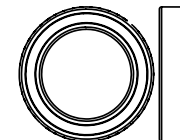
### 14.1



### 14.2



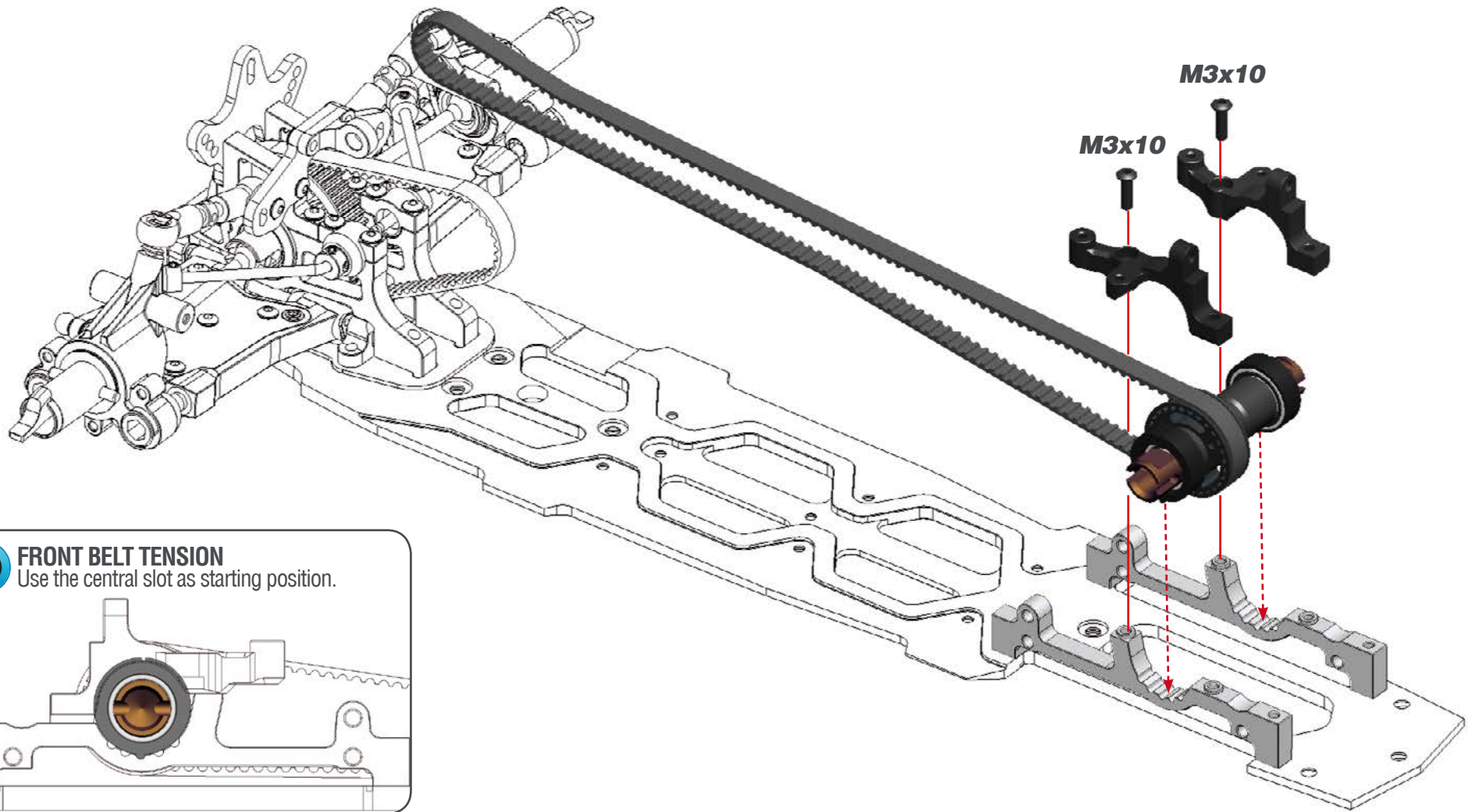
M2.5x8



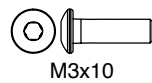
12x18x4



**STEP 15**



**FRONT BELT TENSION**  
Use the central slot as starting position.



**STEP 16** **BAG 5**

**16.1**

L=R



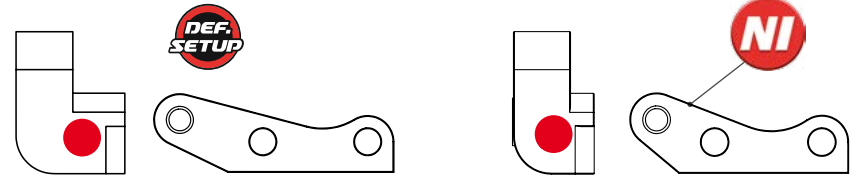
**16.3**

L=R

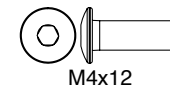
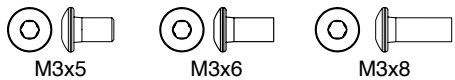
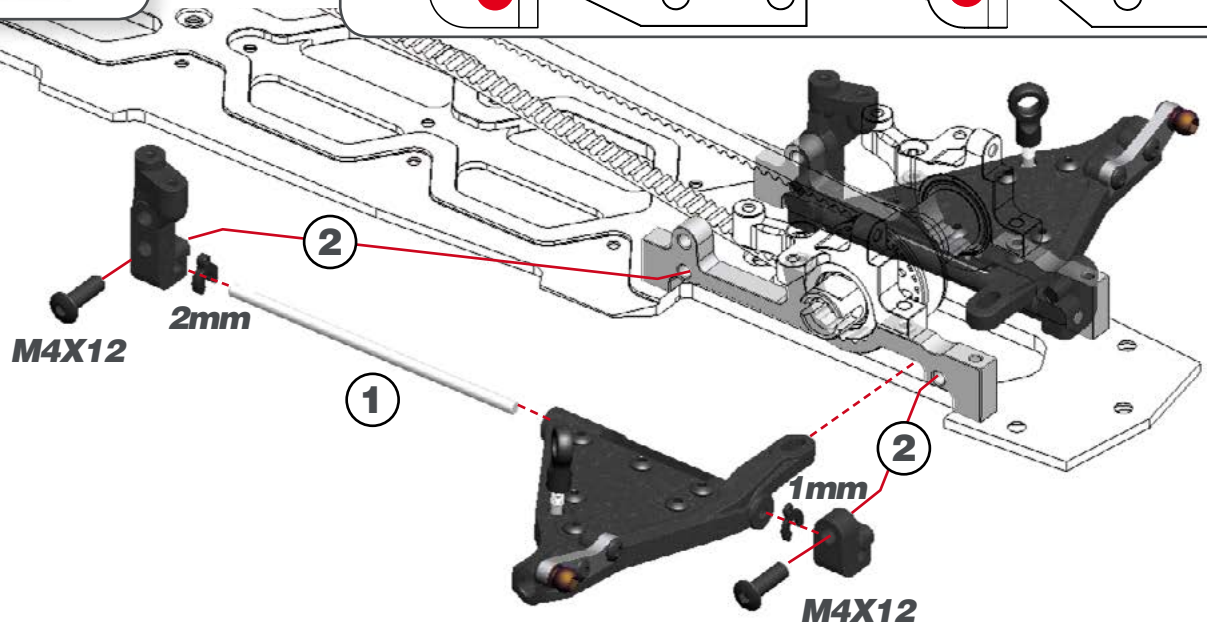
Serpent 988 allows to move front bottom arms 3 mm in (NARROW) and out (WIDE). To maintain the same shock angle, use the suspension bracket and shock bracket as shown here.

**NARROW**

**WIDE**



**16.2**



**STEP 17**

**17.1**

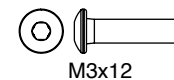
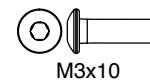
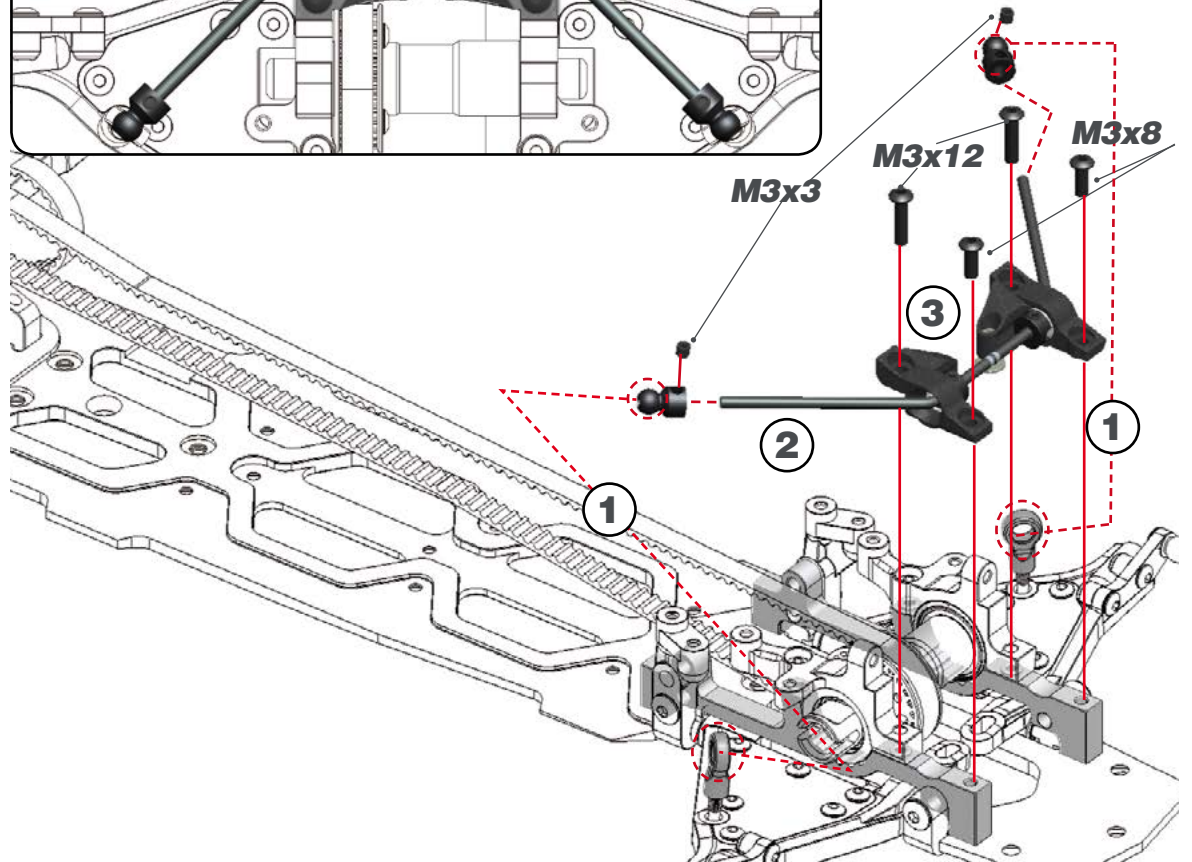
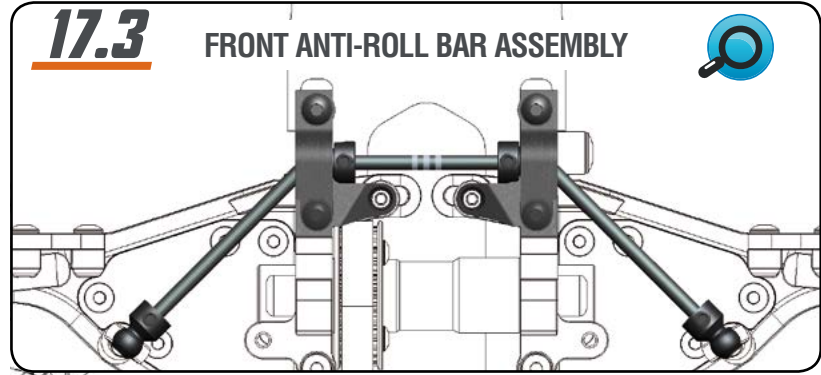


**FRONT DOWN STOPS**

**DEF. SETUP** **L=R**

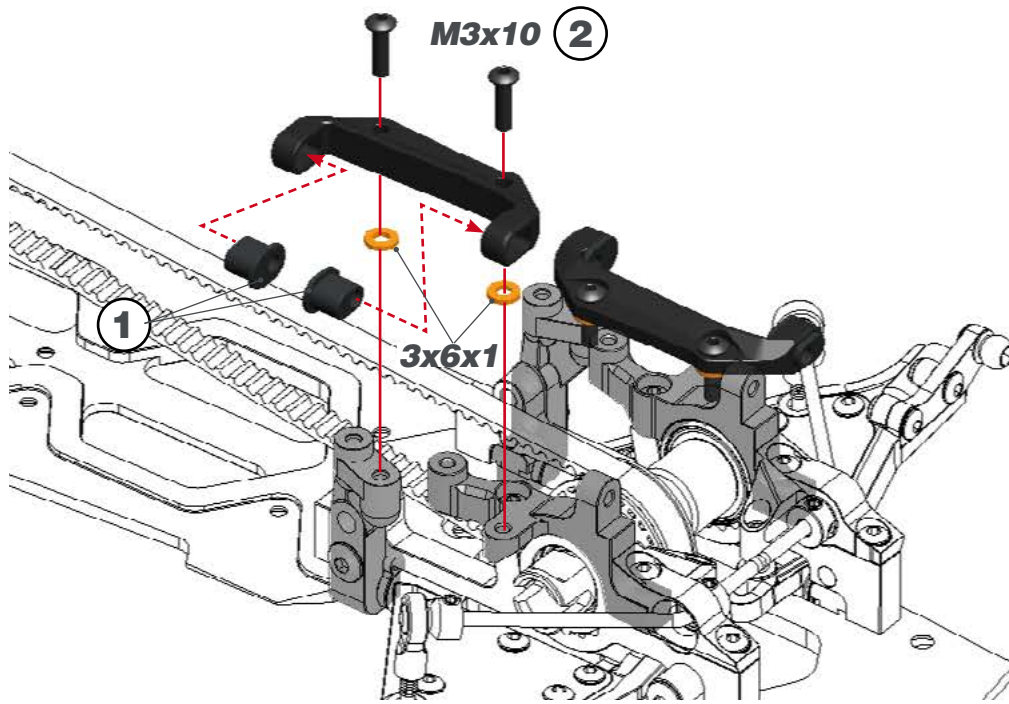
3.3 mm

**17.2**



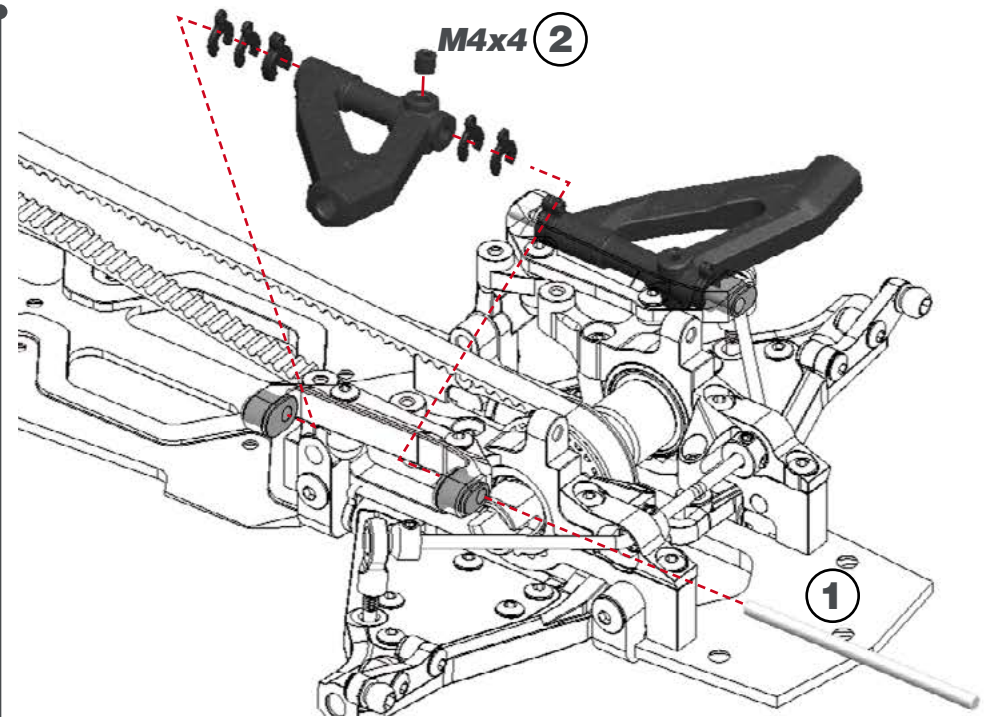
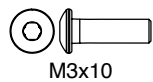


**STEP 18** **BAG 6**



**L=R** FRONT SUSPENSION INSERTS CHART

| INSIDE            |      | MID   |      | OUTSIDE |      |
|-------------------|------|-------|------|---------|------|
| RIGHT             | LEFT | RIGHT | LEFT | RIGHT   | LEFT |
|                   |      |       |      |         |      |
| <b>DEF. SETUP</b> |      |       |      |         |      |



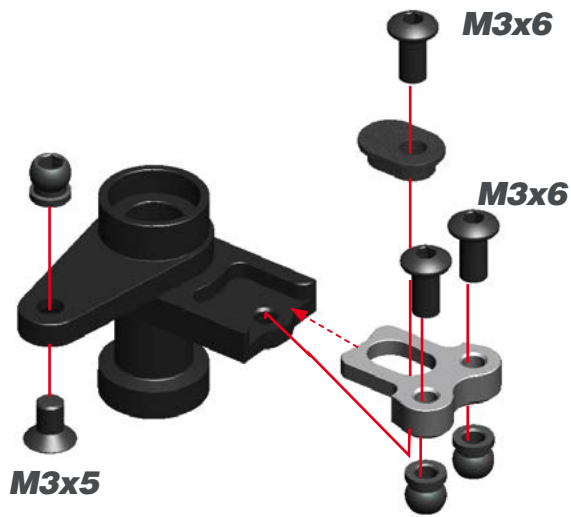
**L=R** **DEF. SETUP** FRONT CASTER DEFAULT SPACERS

2mm 1mm 2mm



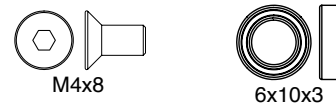
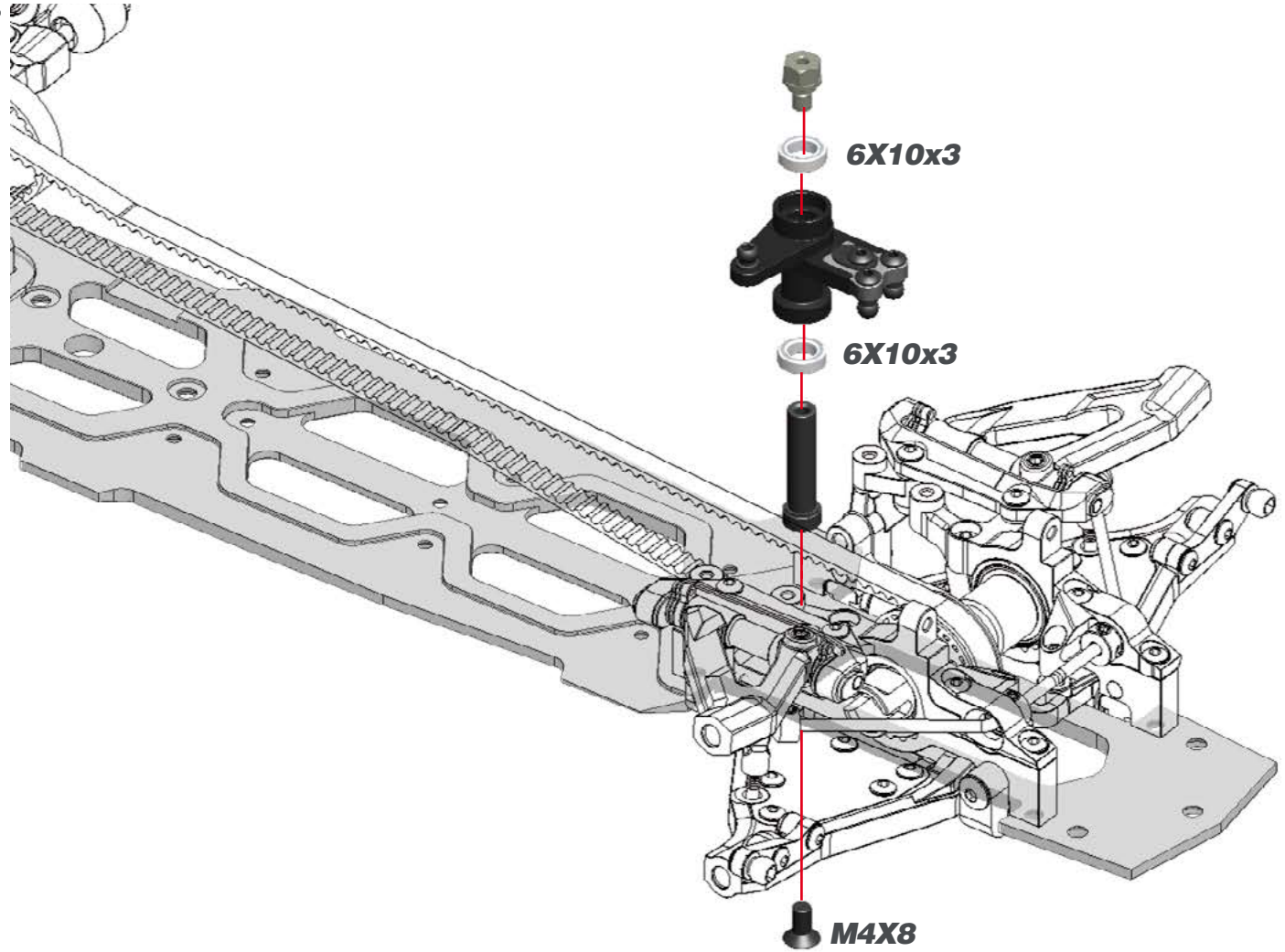
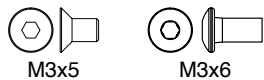
**STEP 19**

**STEP 20**



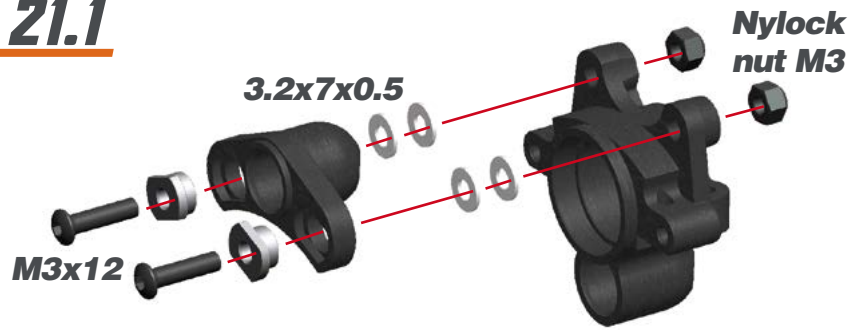
**SERVO SAVER ACKERMANN INSERTS**

**REARWARD**    **MID**    **FORWARD**

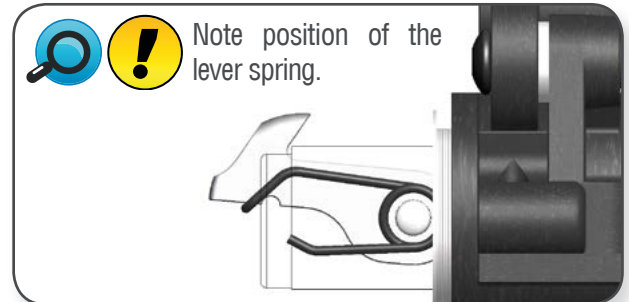
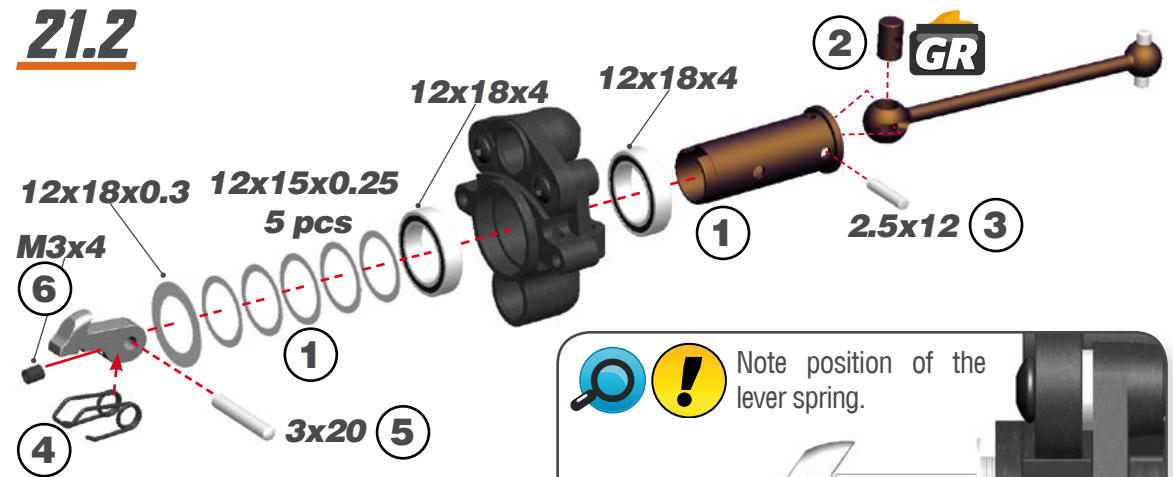


**STEP 21** **BAG 7**

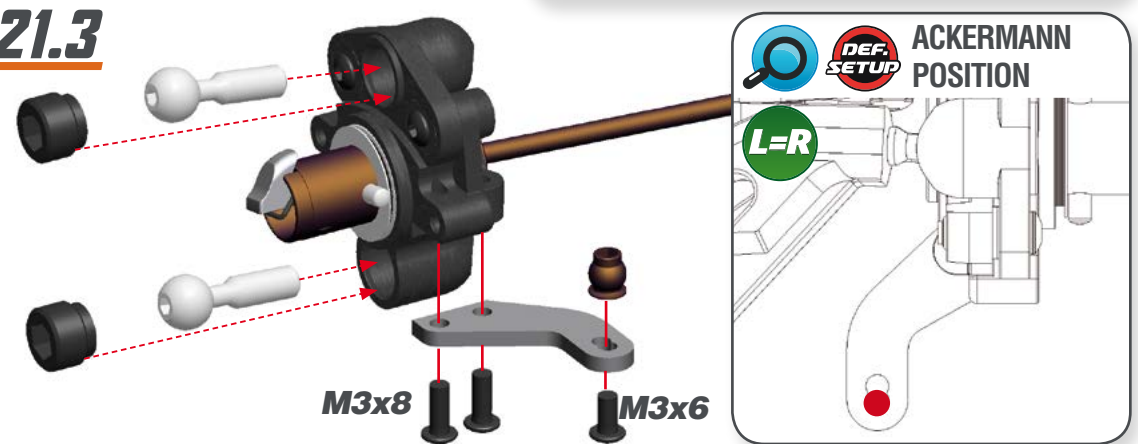
**21.1**



**21.2**

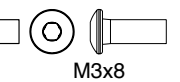
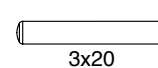
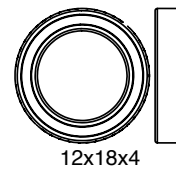
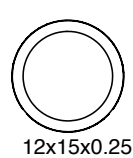
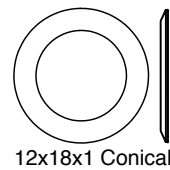
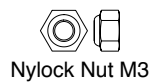
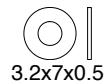
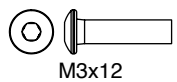


**21.3**



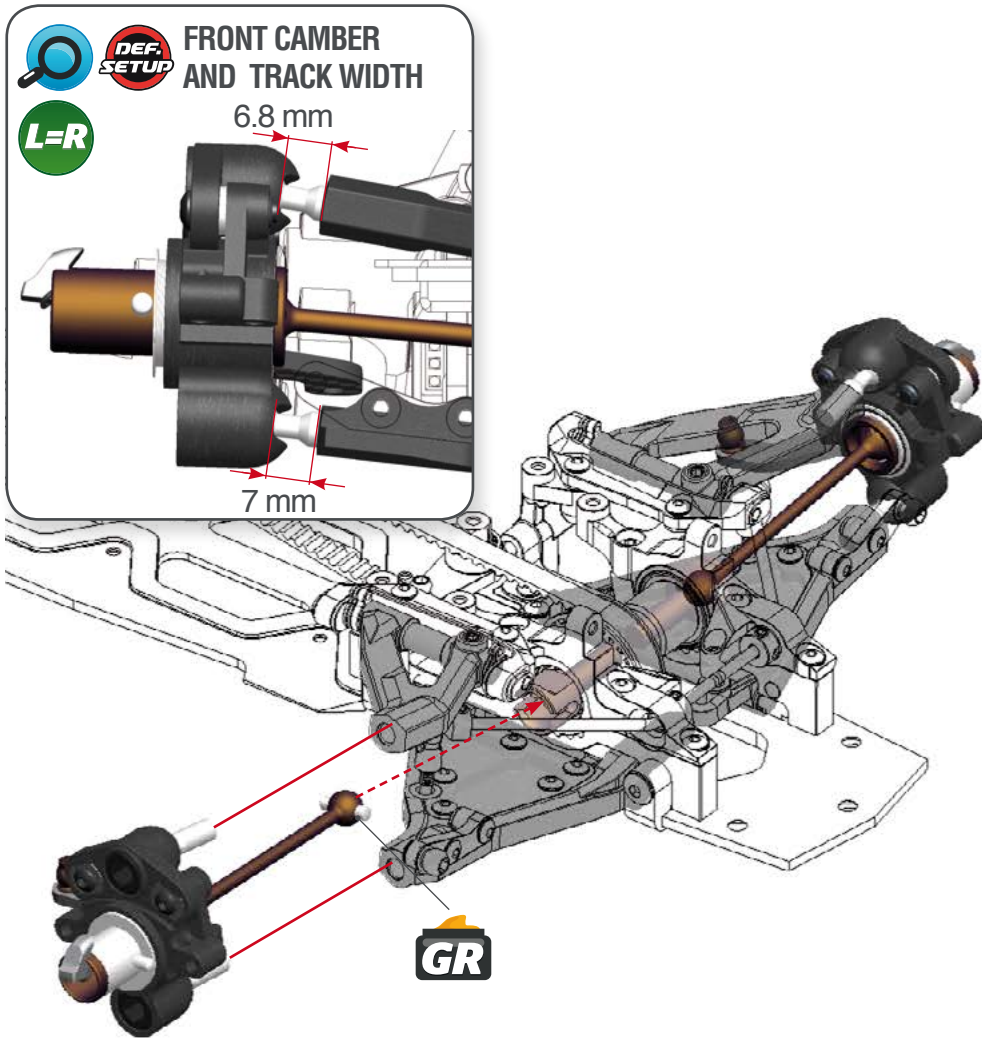
**STEERING BLOCK INSERTS CHART**

|       | LEADING | NEUTRAL <b>DEF. SETUP</b> | TRAILING |
|-------|---------|---------------------------|----------|
| RIGHT |         |                           |          |
| LEFT  |         |                           |          |





## STEP 22



## STEP 23

### 23.1

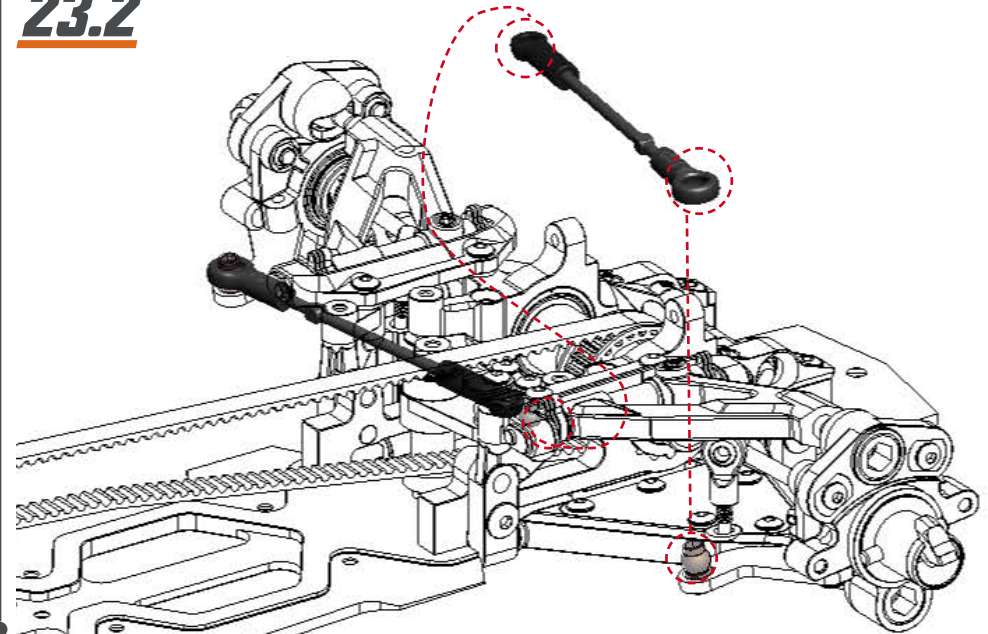


**STEERING TRACKROD LENGTH**

45.5 mm

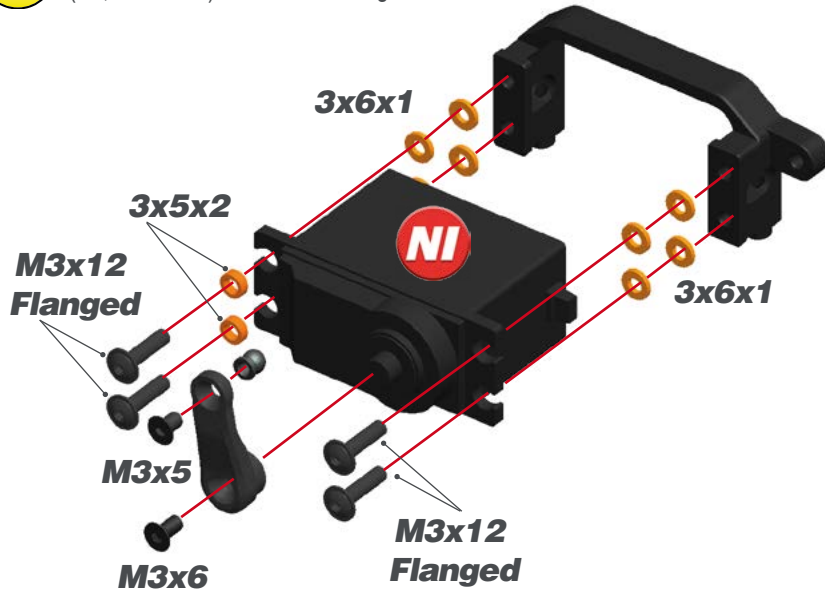


### 23.2



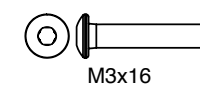
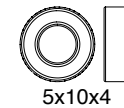
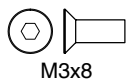
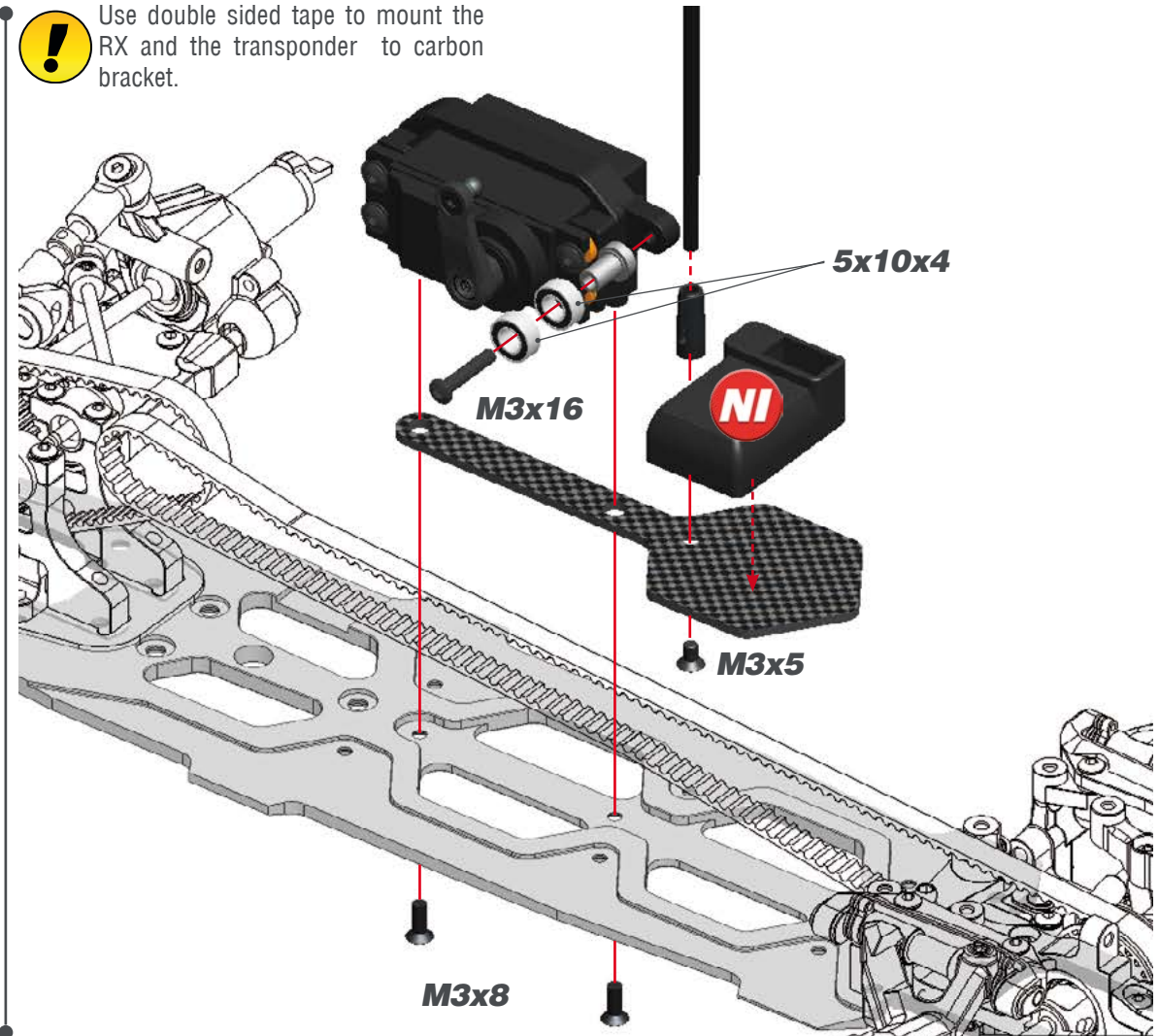
## STEP 24 BAG 8

**!** Check how many teeth your servo spline has (23, 24 or 25) and use the right lever.



## STEP 25

**!** Use double sided tape to mount the RX and the transponder to carbon bracket.



**STEP 26**




**26.1**

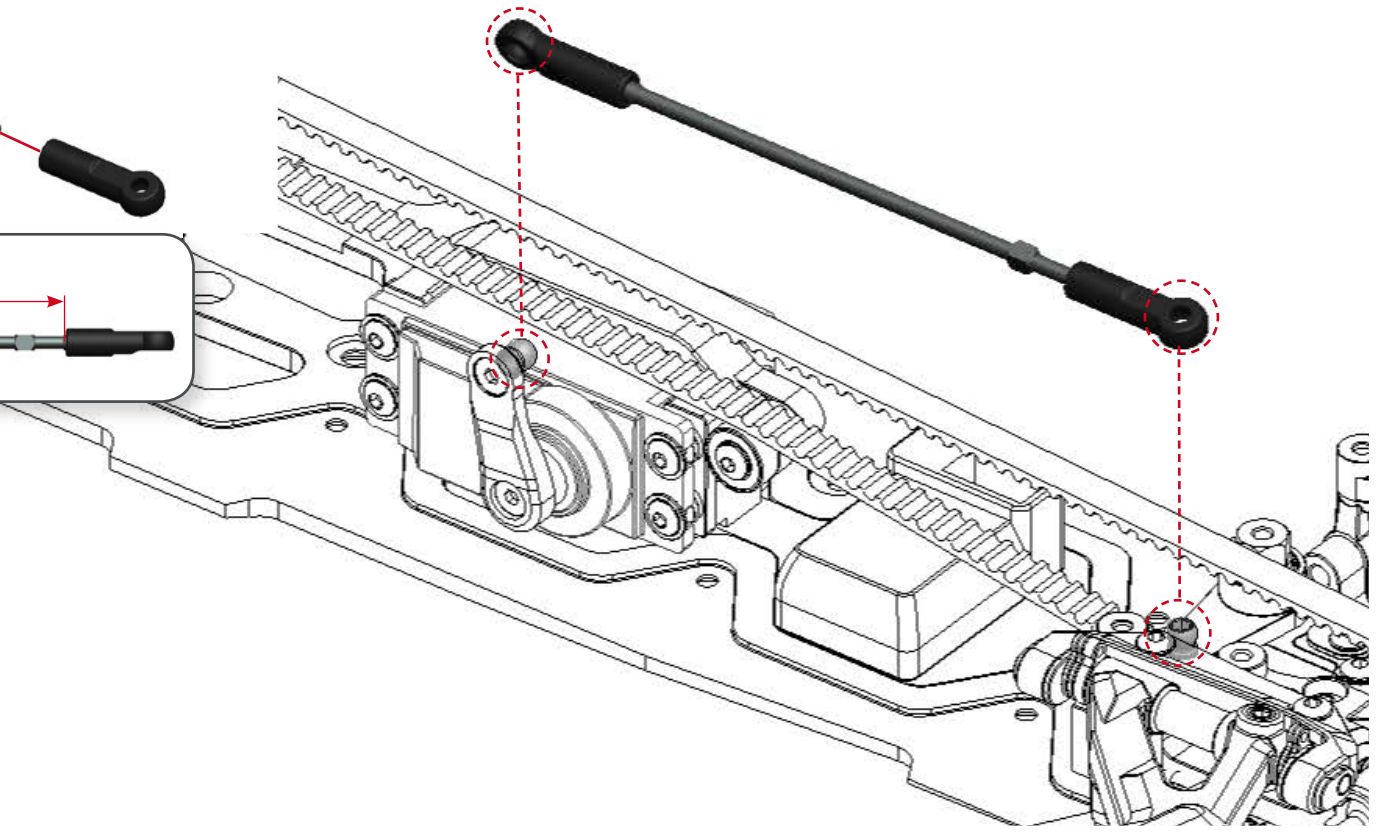


**26.2**

**STEERING TRACKROD LENGTH**

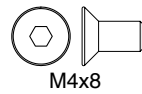
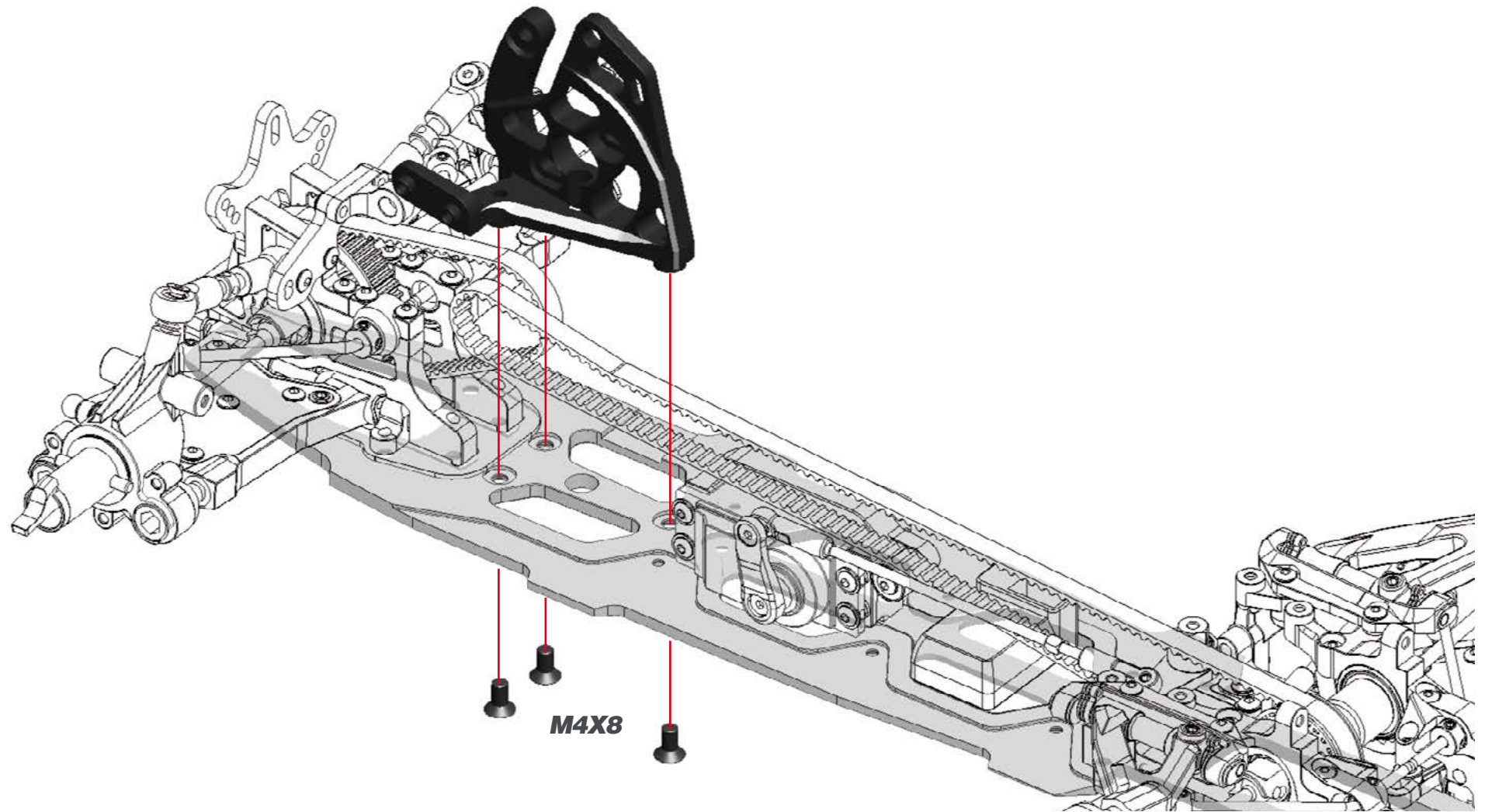
73.5 mm



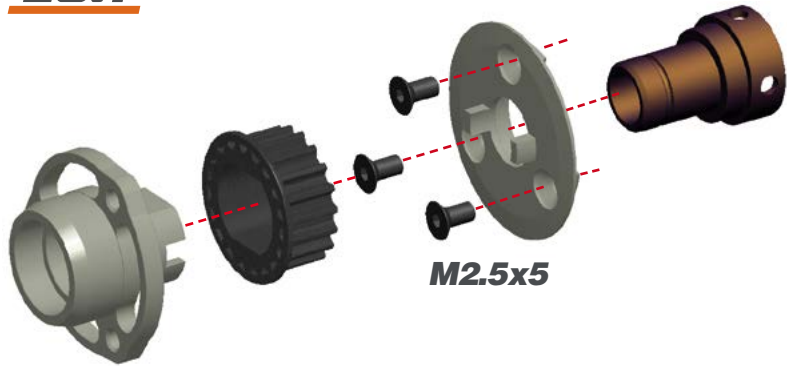


**STEP 27** **BAG 9**



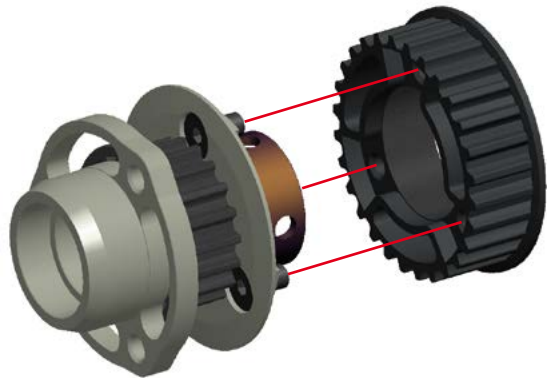
**STEP 28**

**28.1**

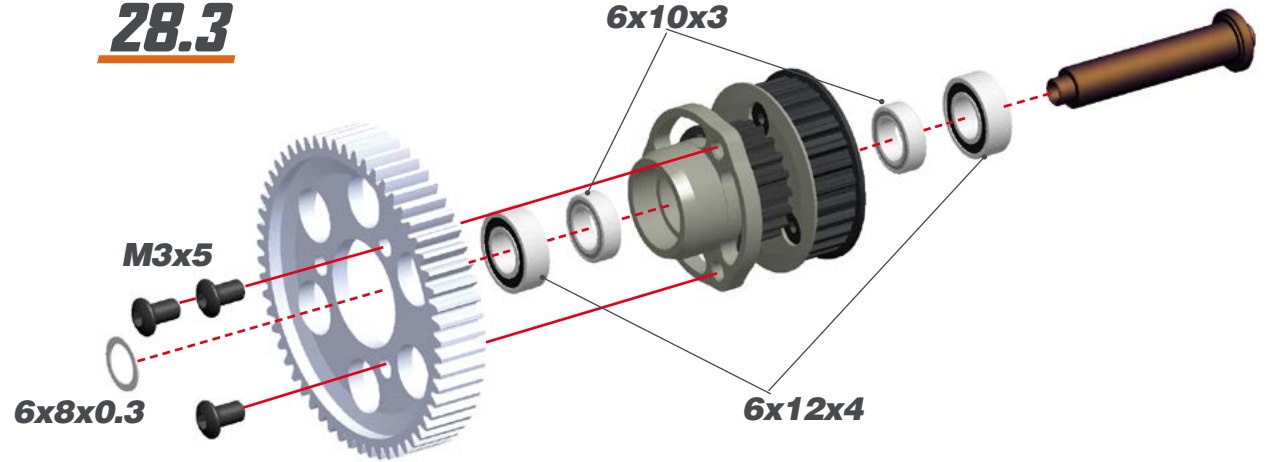


M2.5x5

**28.2**



**28.3**

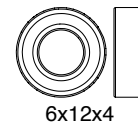
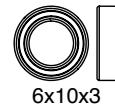


M3x5

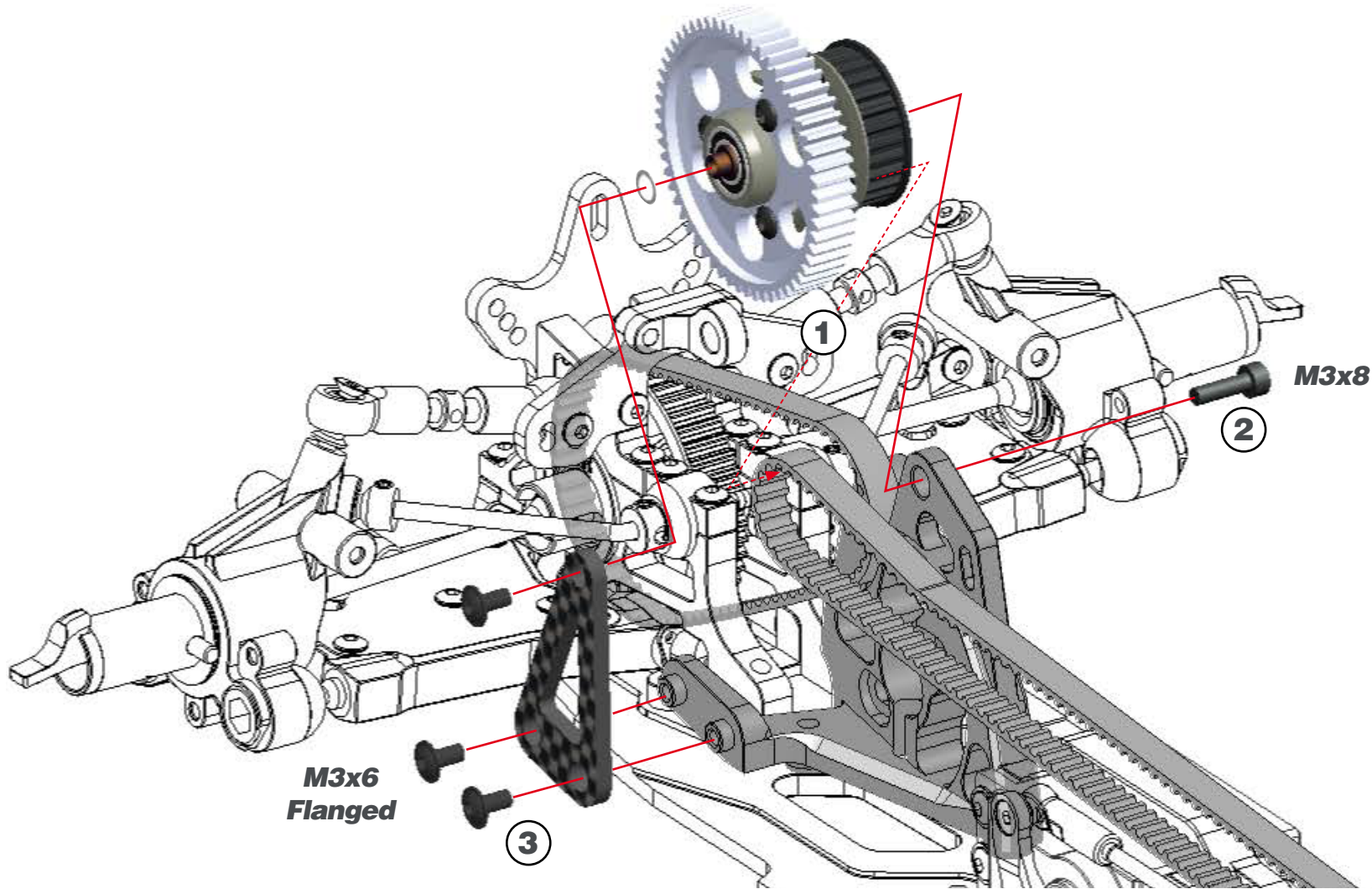
6x8x0.3

6x10x3

6x12x4

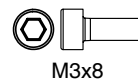
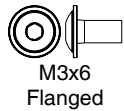


**STEP 29**



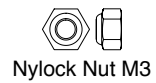
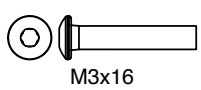
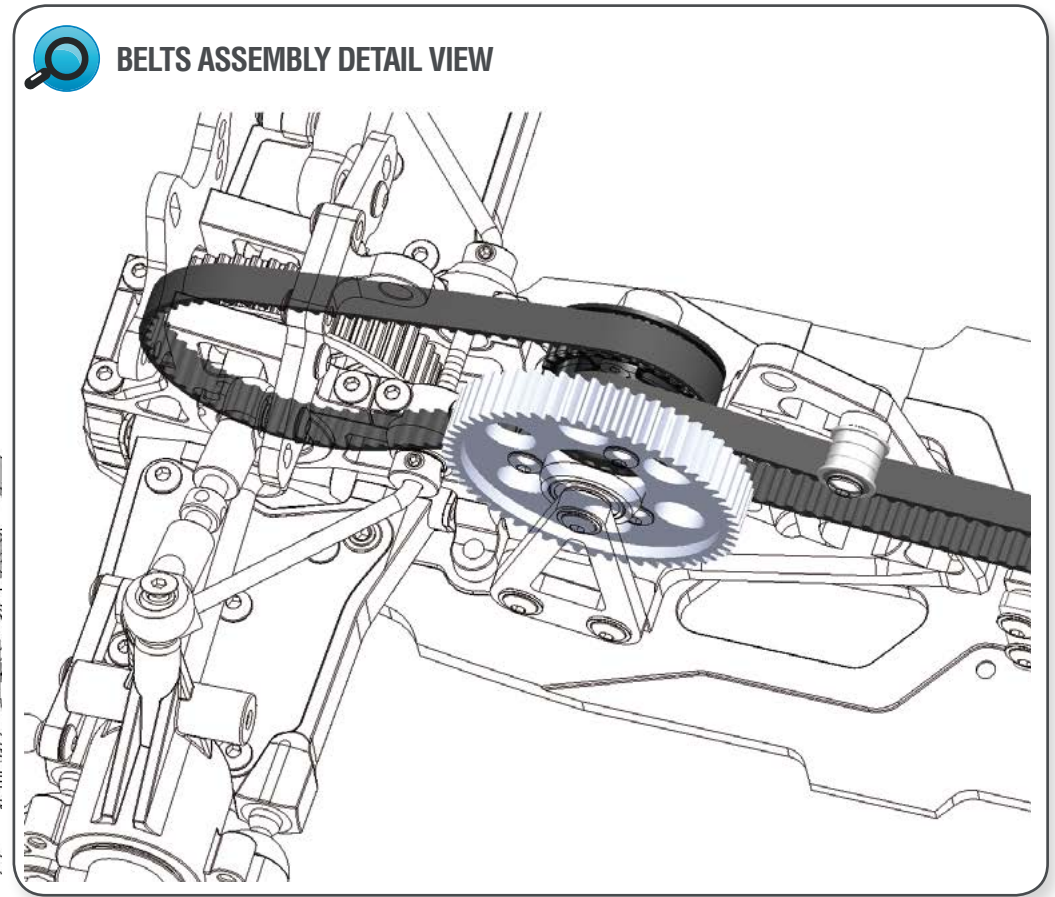
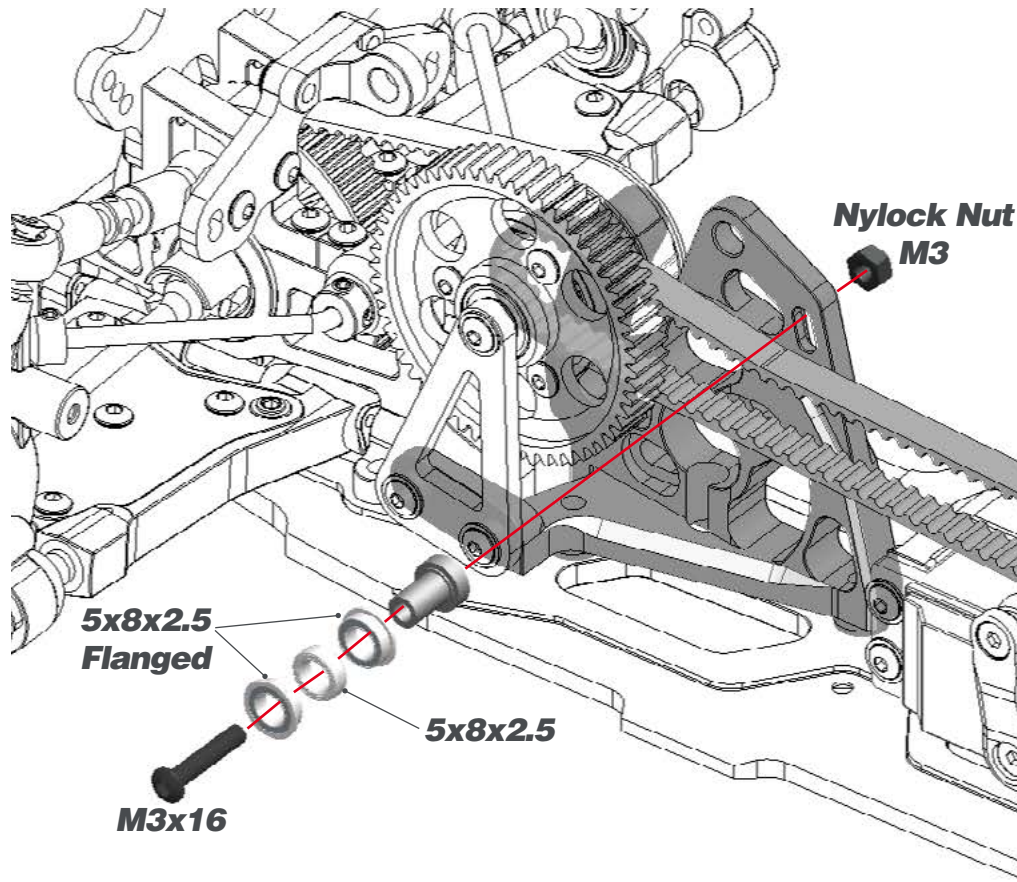
**M3x6  
Flanged**

**M3x8**





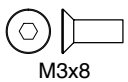
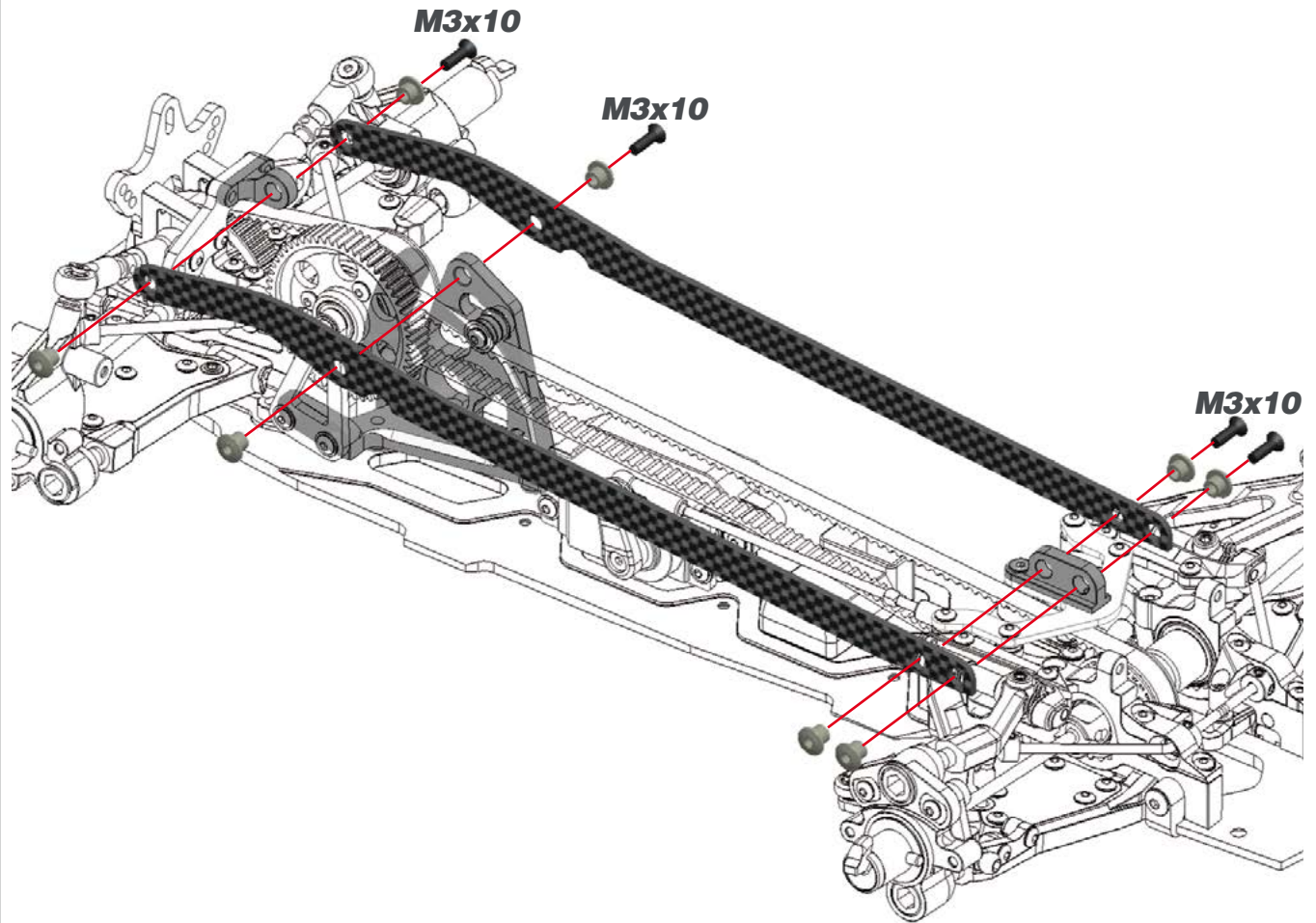
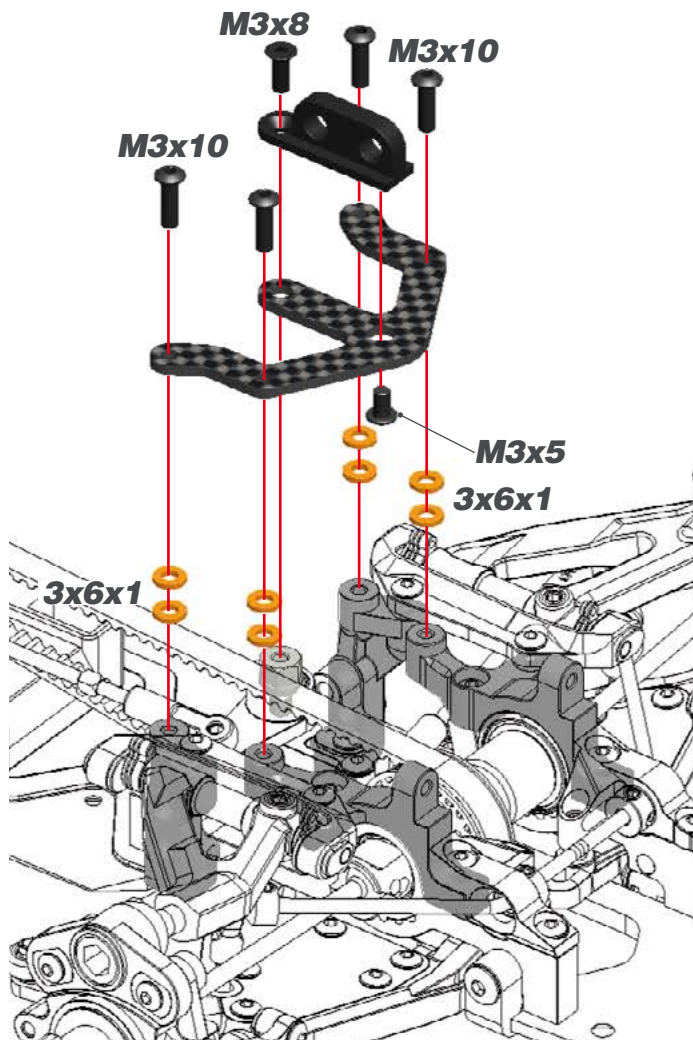
**STEP 30**



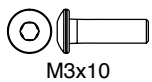
**STEP 31**

**BAG 10**

**STEP 32**



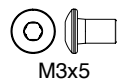
M3x8



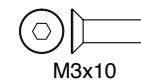
M3x10



3x6x1



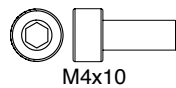
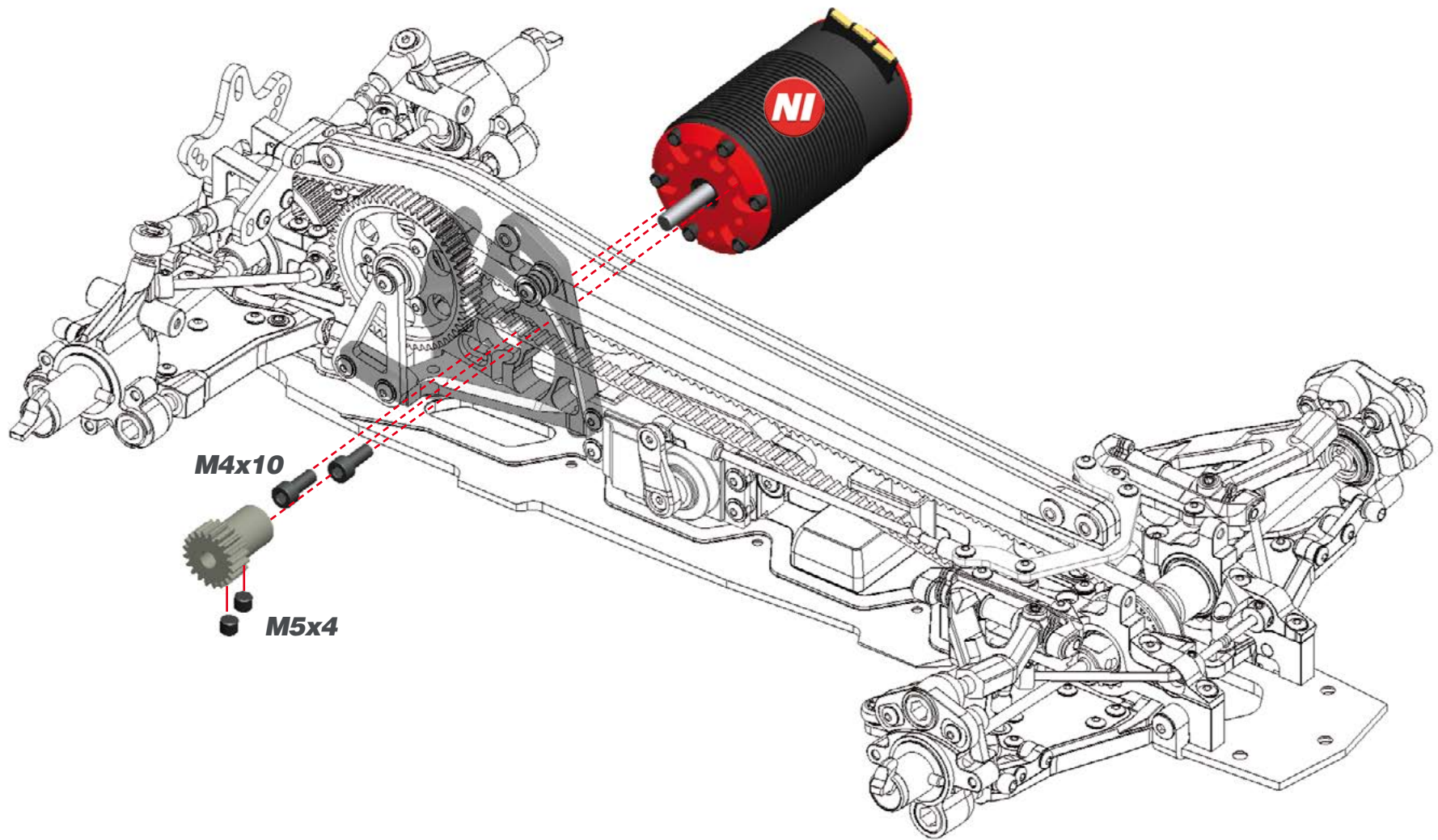
M3x5



M3x10



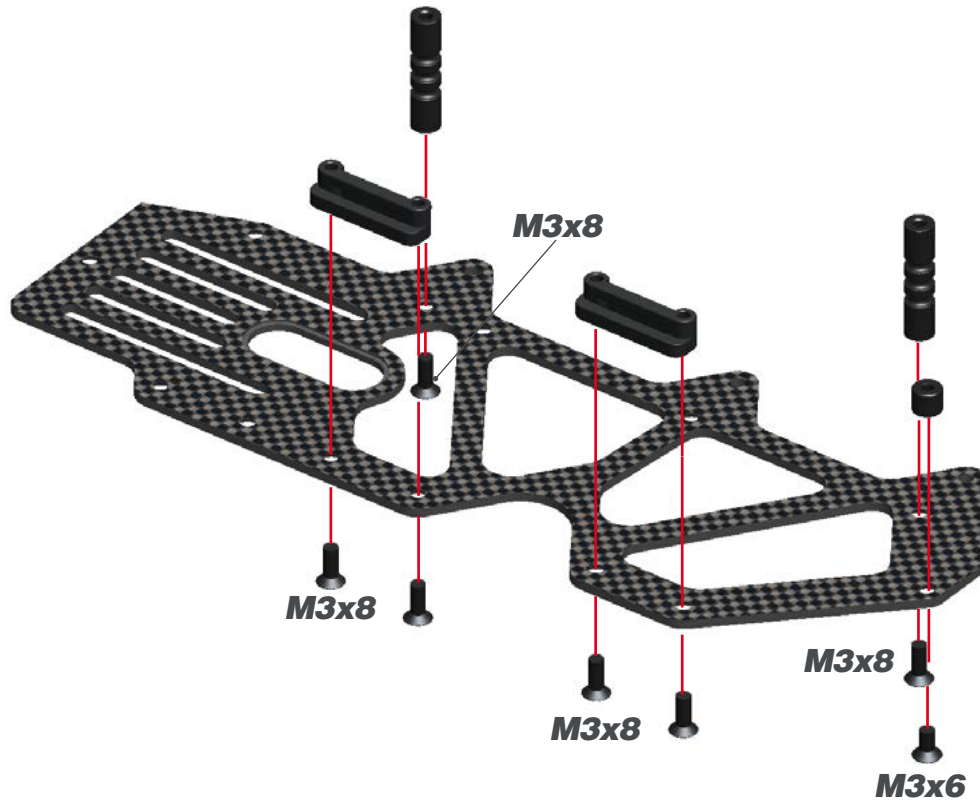
**STEP 33**



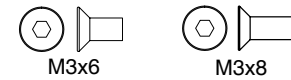
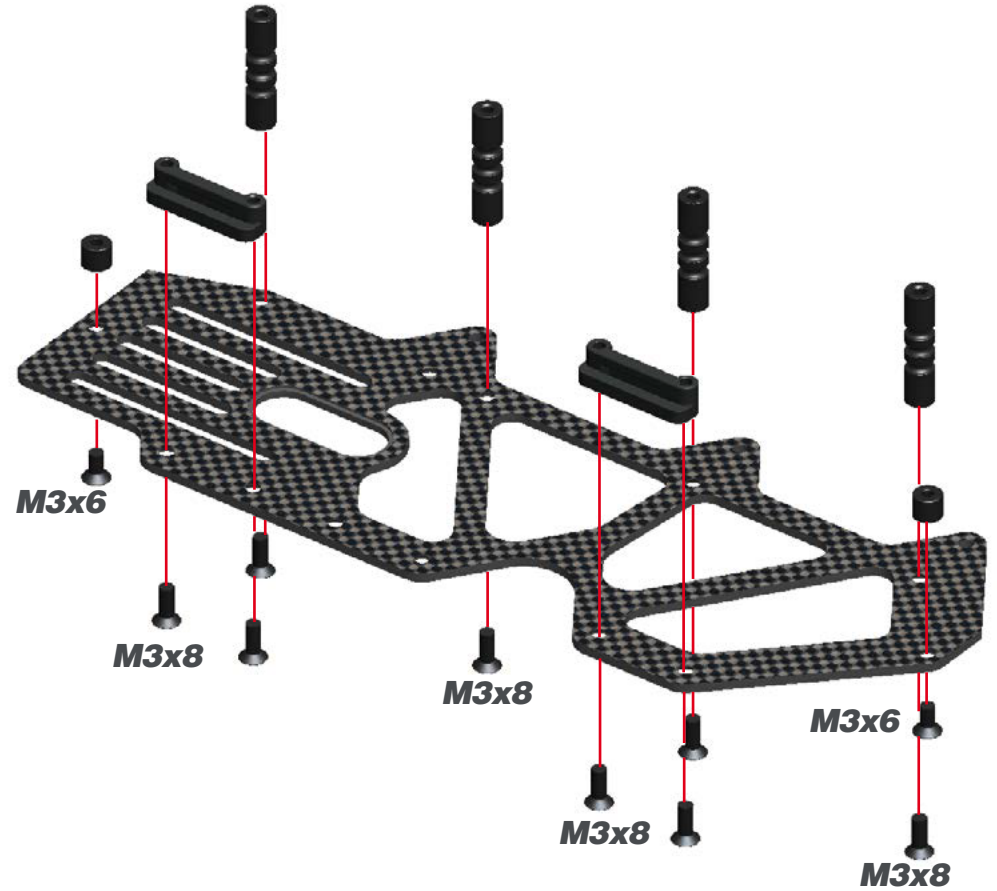


## STEP 34 BAG 11

### 4S BATTERY CONFIGURATION *DEFAULT*

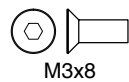
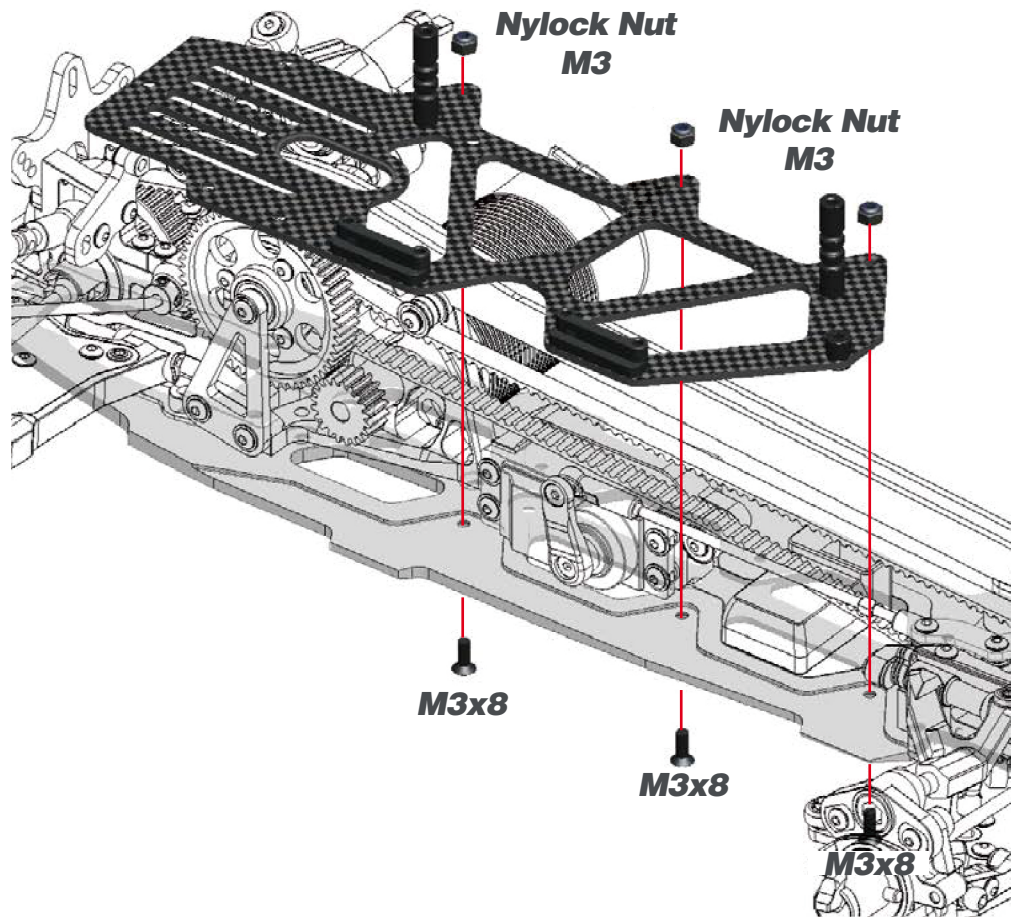


### 6S BATTERY CONFIGURATION *OPTIONAL*

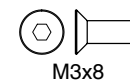
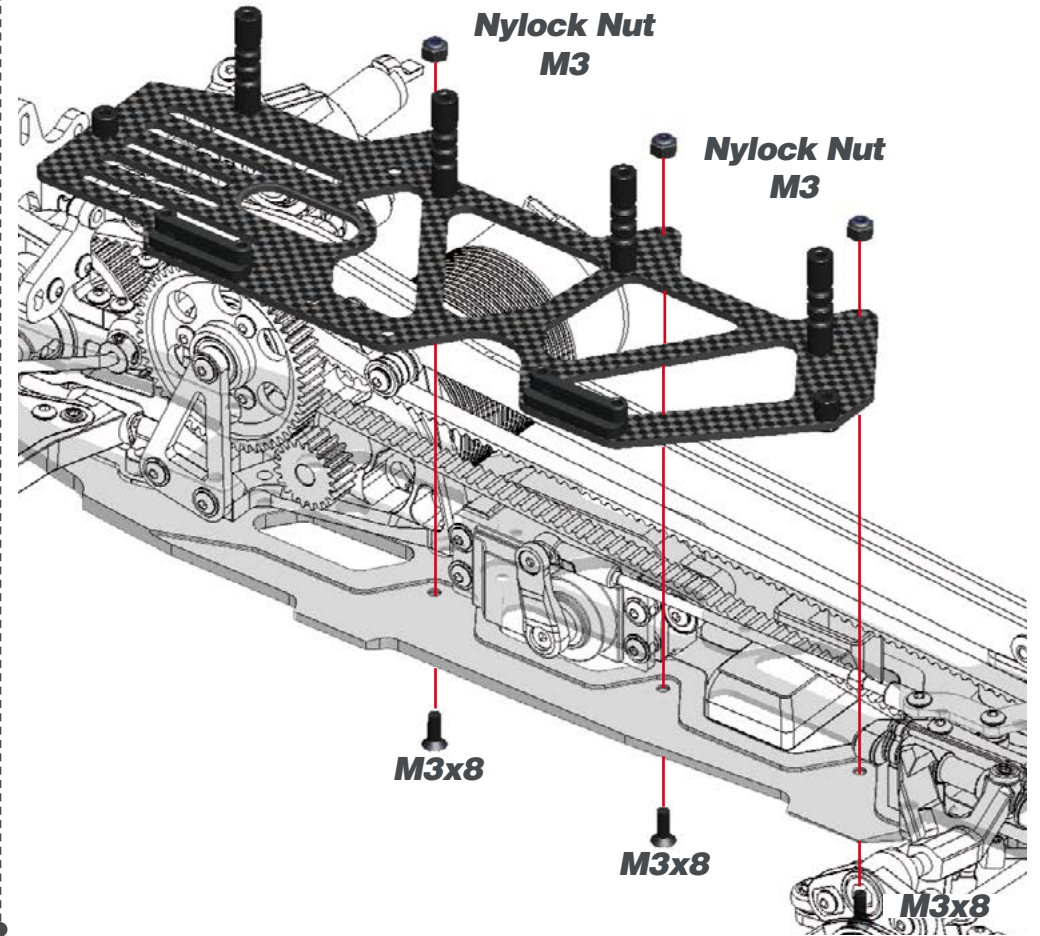


**STEP 35**

**4S BATTERY CONFIGURATION** *DEFAULT*



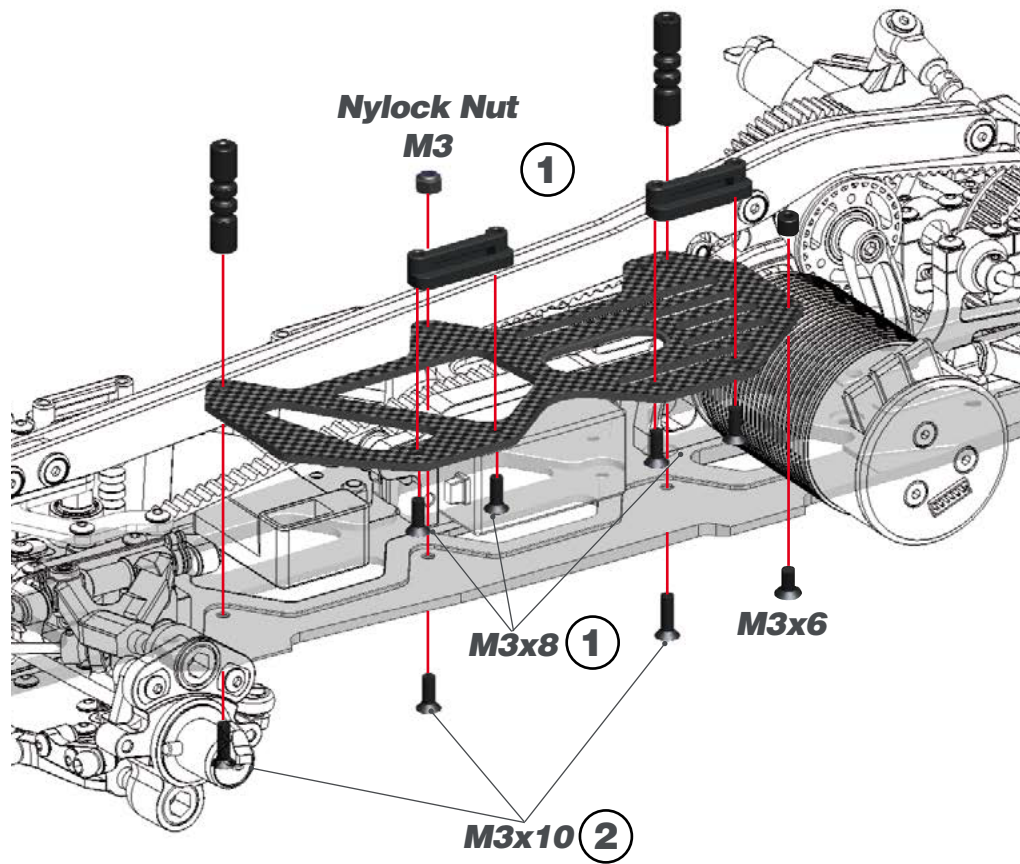
**6S BATTERY CONFIGURATION** *OPTIONAL*



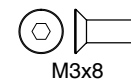
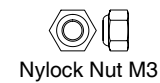
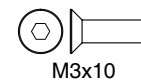
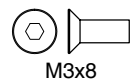
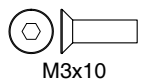
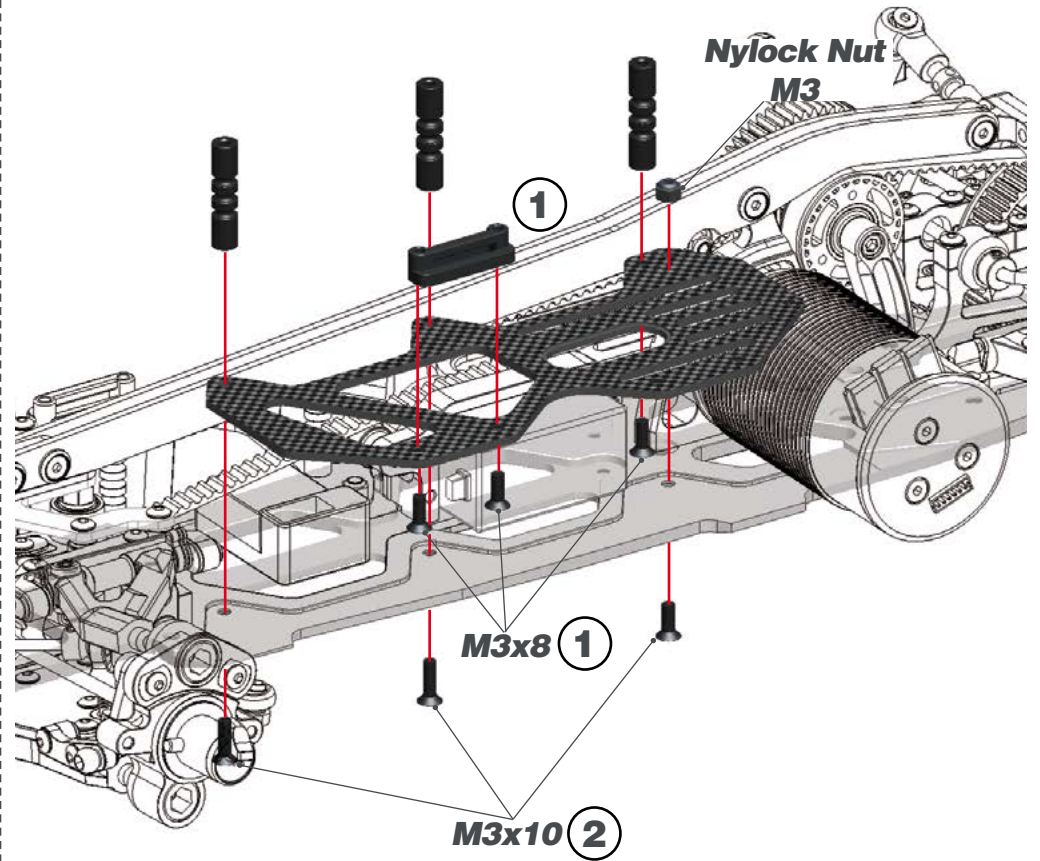


**STEP 36**

**45 BATTERY CONFIGURATION *DEFAULT***



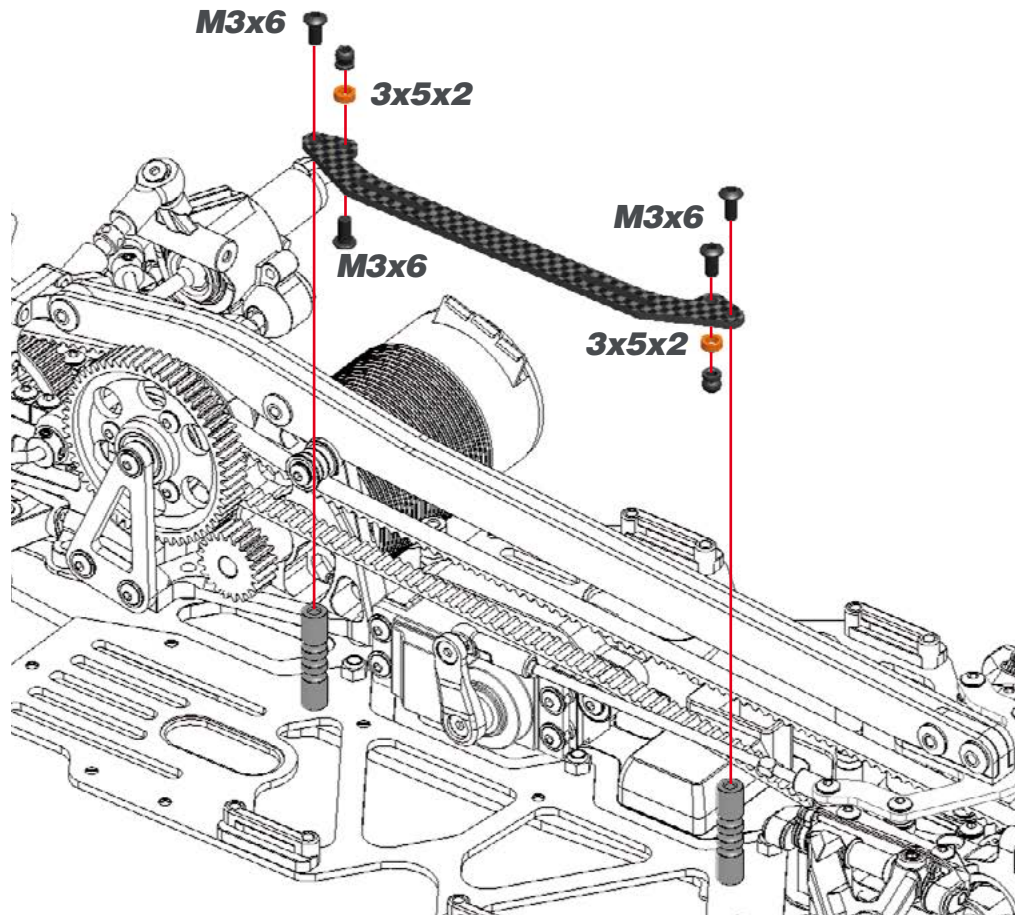
**65 BATTERY CONFIGURATION *OPTIONAL***



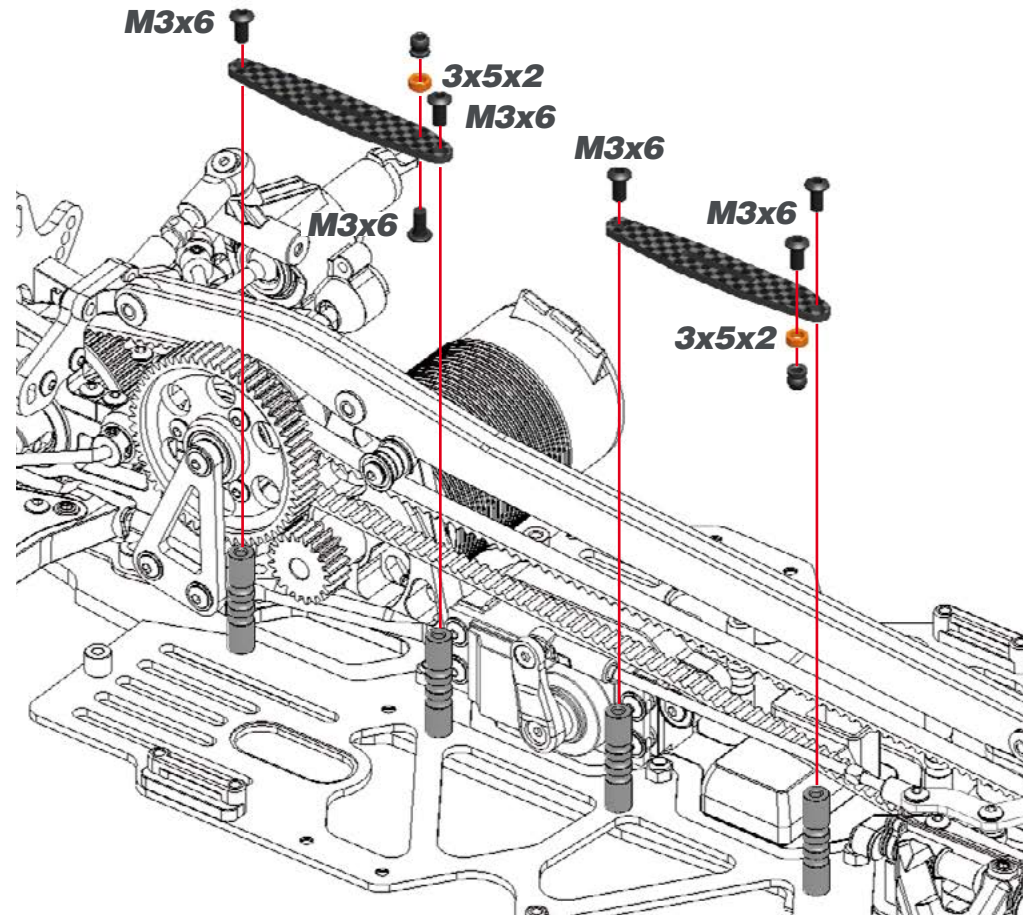


**STEP 37**

**45 BATTERY CONFIGURATION *DEFAULT***

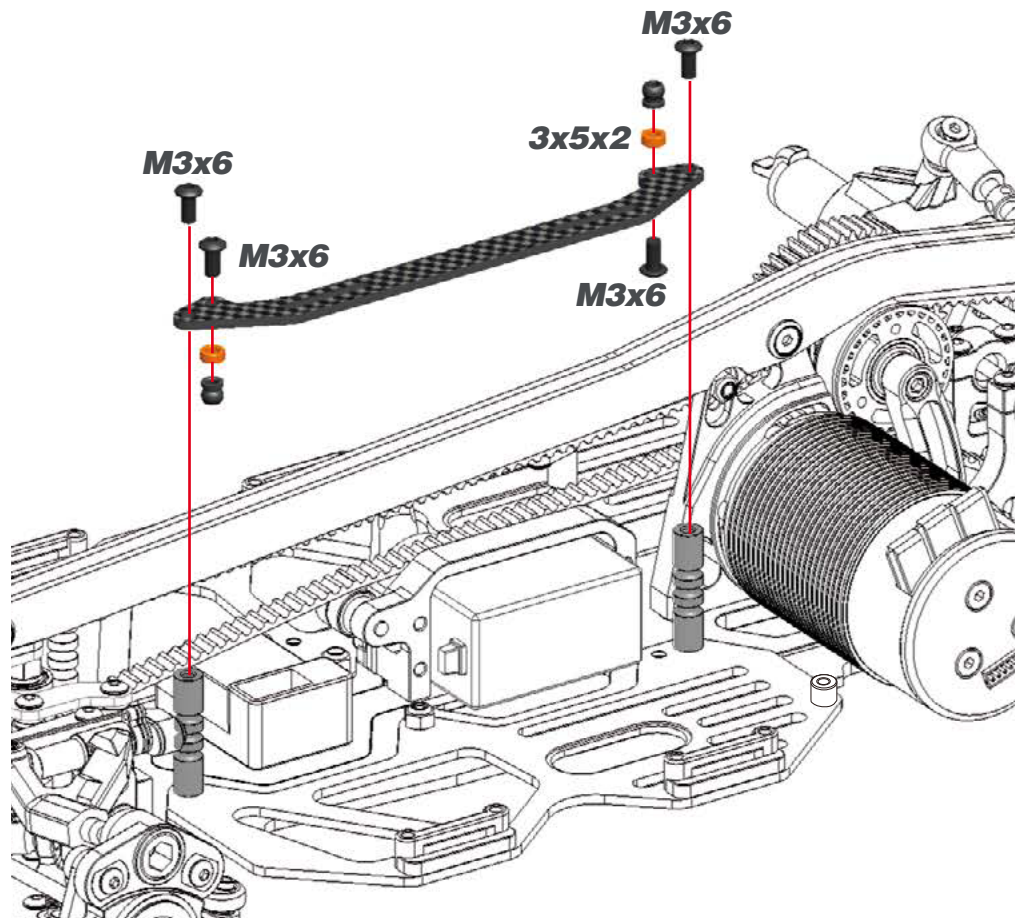


**65 BATTERY CONFIGURATION *OPTIONAL***

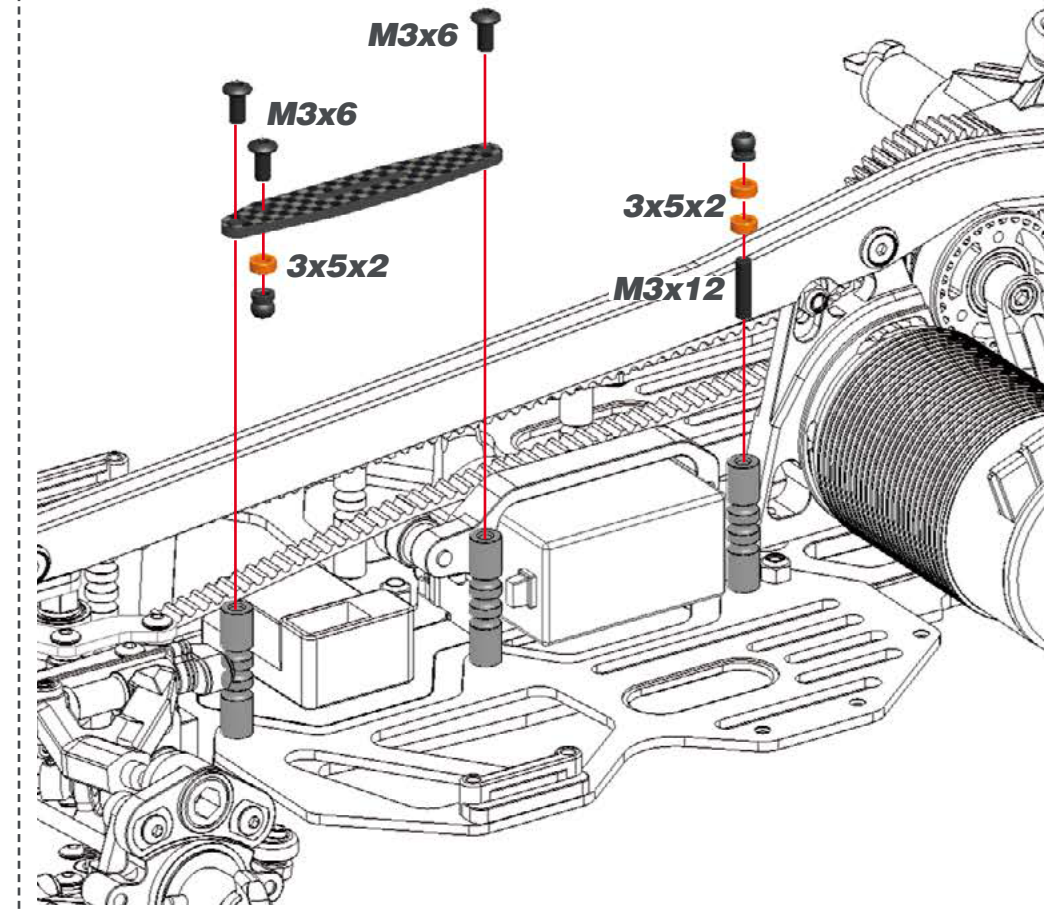


**STEP 38**

**45 BATTERY CONFIGURATION *DEFAULT***



**65 BATTERY CONFIGURATION *OPTIONAL***





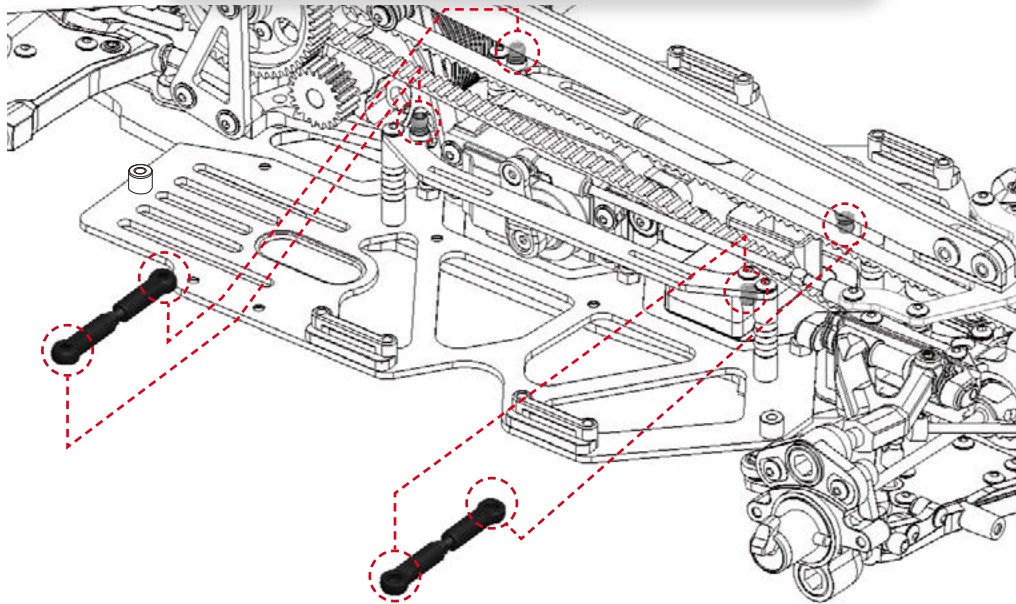
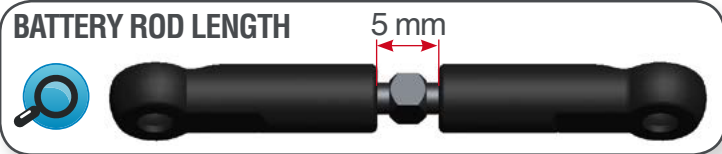
**STEP 39**

**45 BATTERY CONFIGURATION** *DEFAULT*

**39.1**



**39.2**

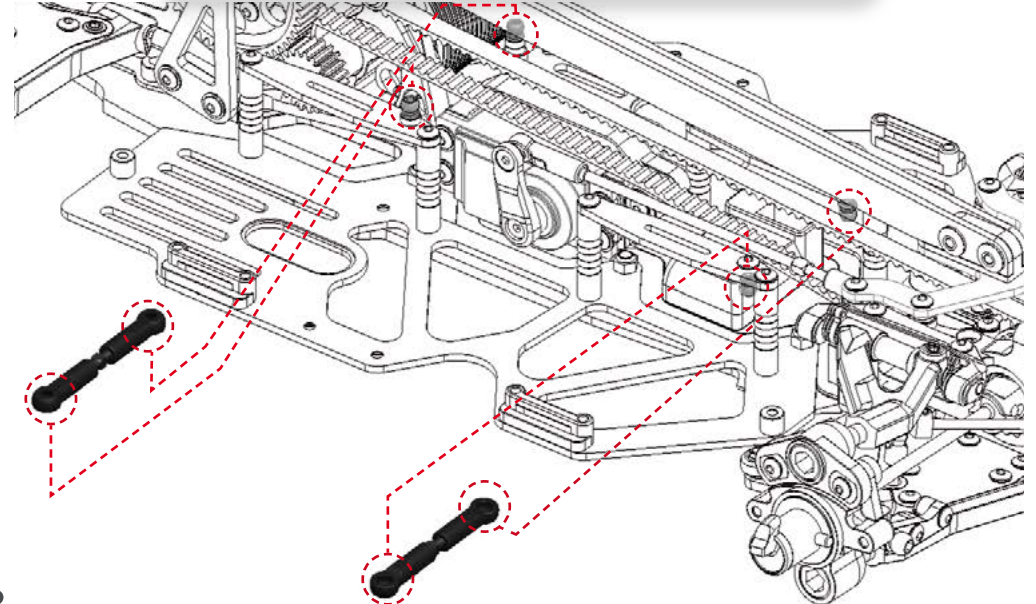
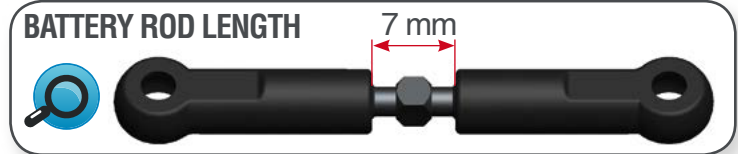


**65 BATTERY CONFIGURATION** *OPTIONAL*

**39.1**



**39.2**

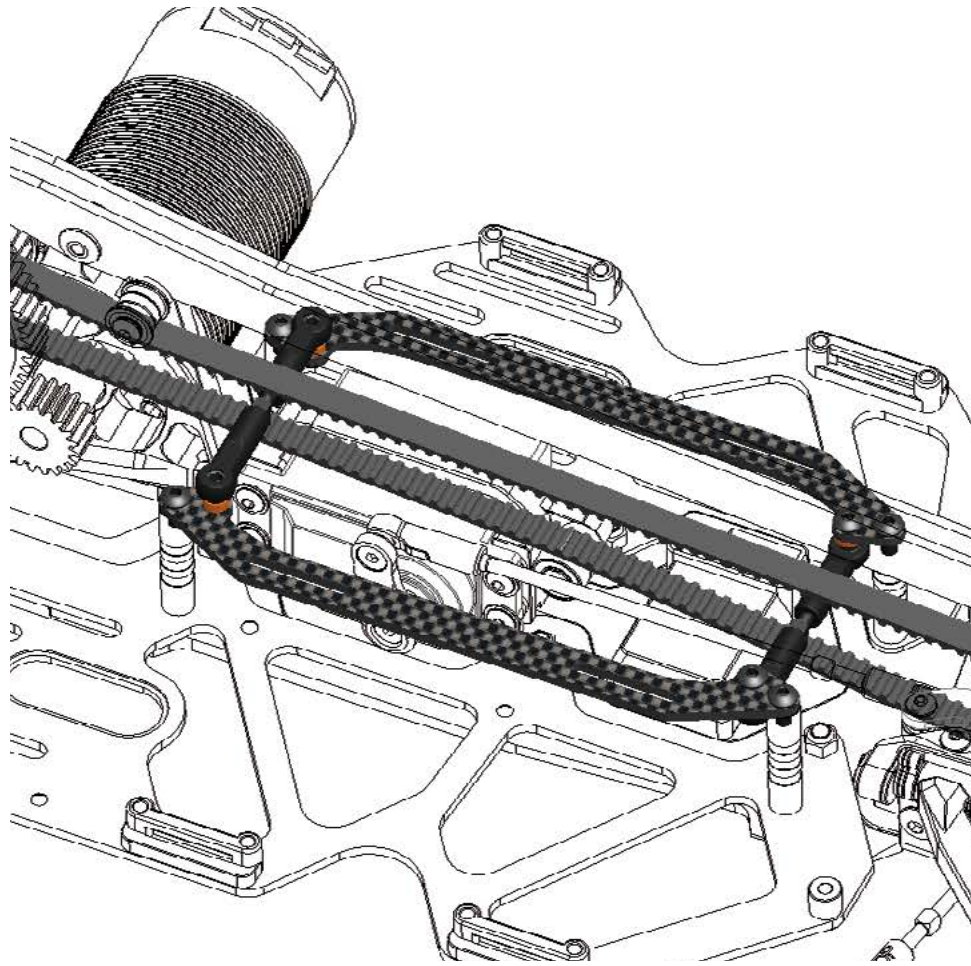




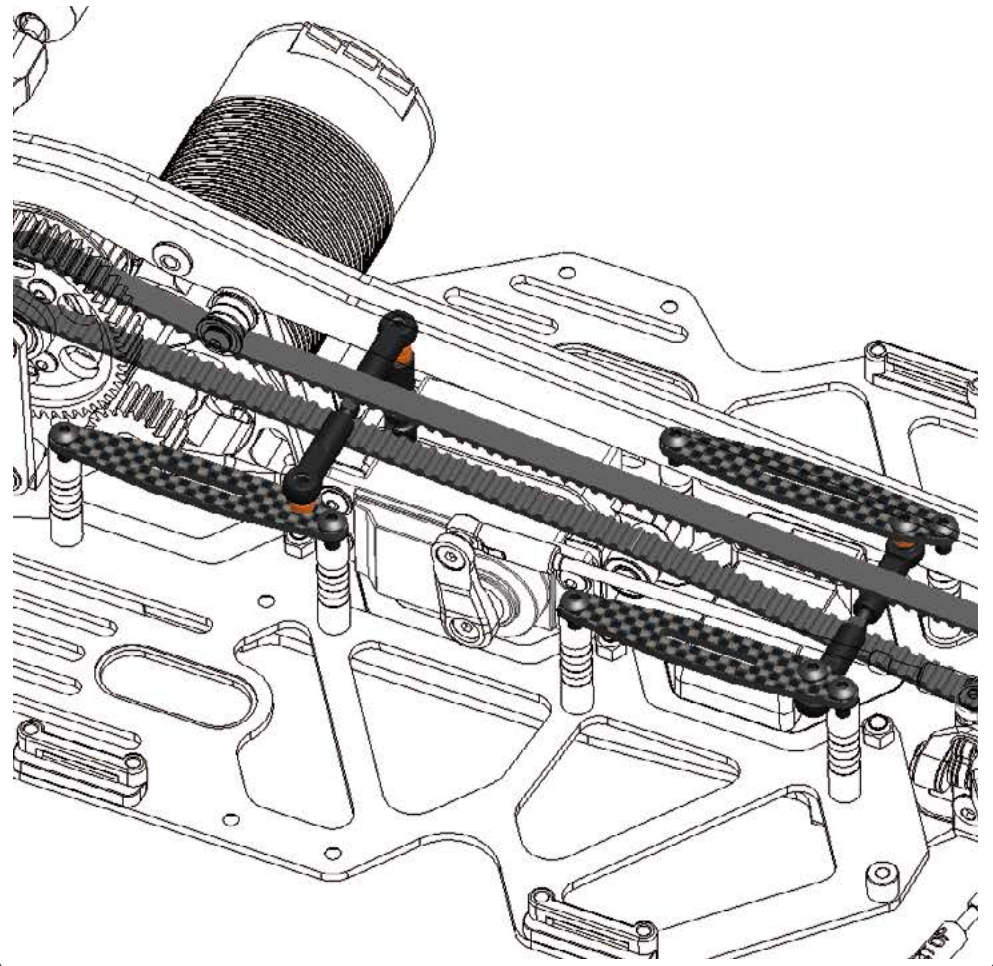
**STEP 39**



**45 BATTERY CONFIGURATION DETAIL VIEW *DEFAULT***

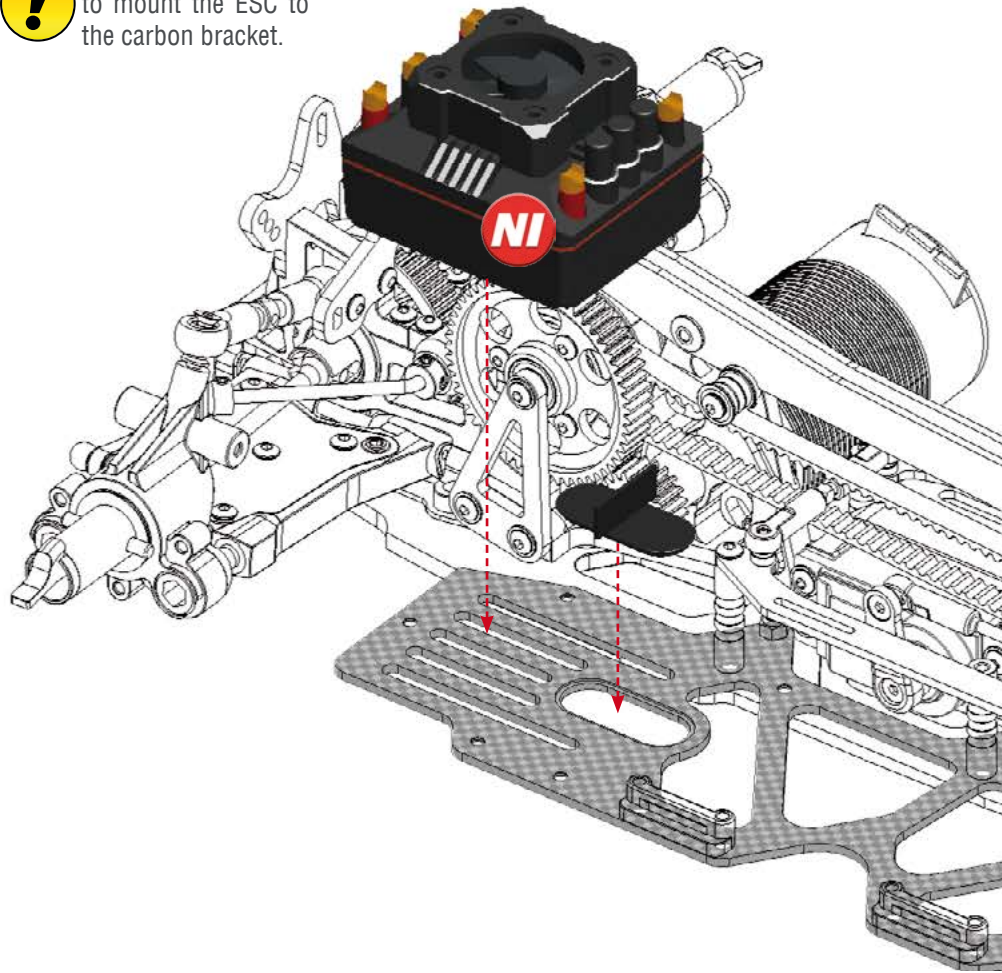


**65 BATTERY CONFIGURATION DETAIL VIEW *OPTIONAL***

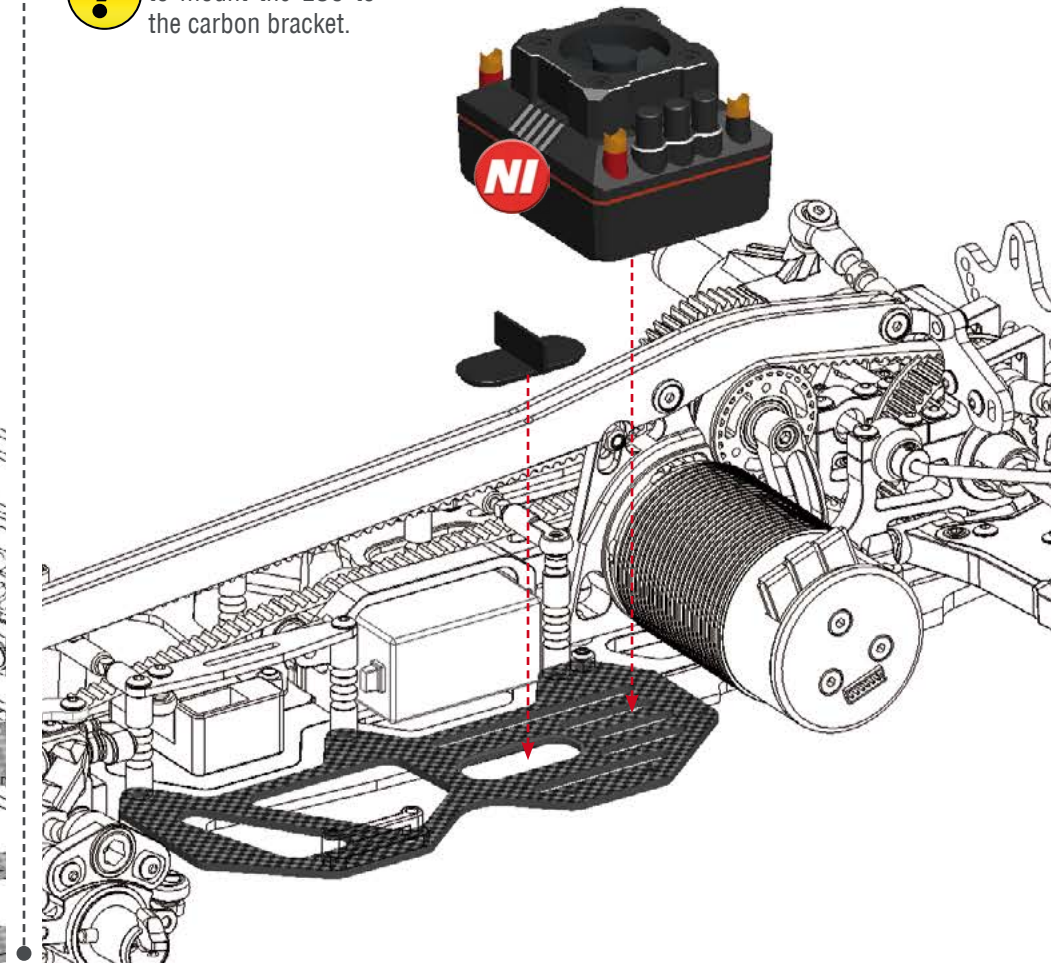


**STEP 40****45 BATTERY CONFIGURATION DEFAULT**

Use double sided tape to mount the ESC to the carbon bracket.

**65 BATTERY CONFIGURATION OPTIONAL**

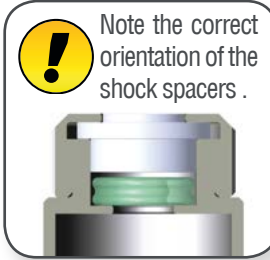
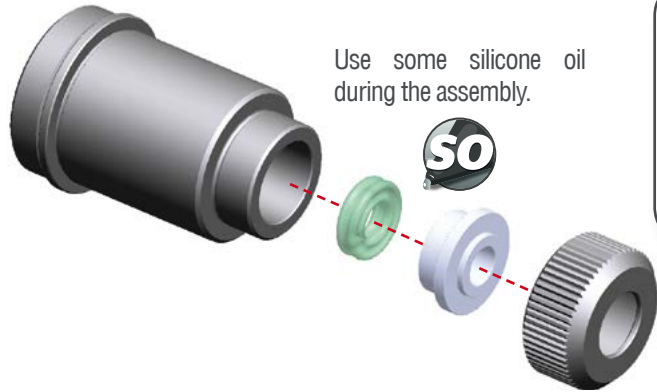
Use double sided tape to mount the ESC to the carbon bracket.



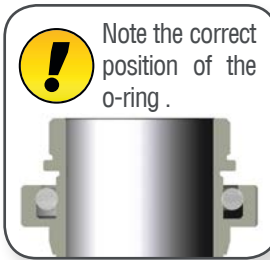
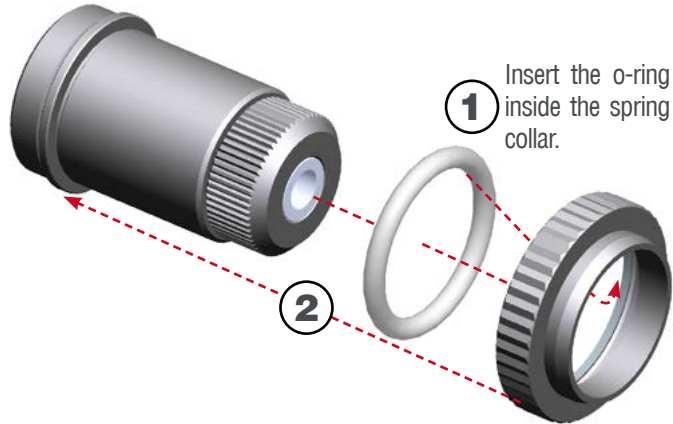


## STEP 41 SHOCKS BAG

### 41.1



### 41.2

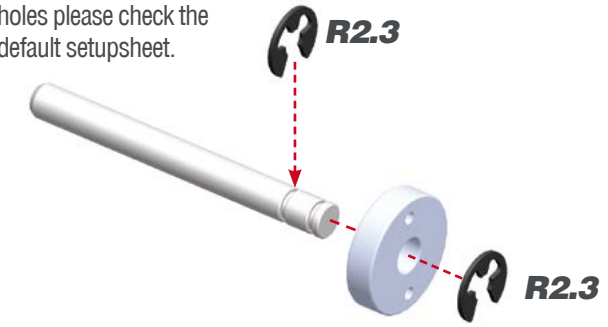


## STEP 42

### 42.1



For the correct piston holes please check the default setupsheet.



### 42.2



Use some silicone oil during the assembly.

FRONT



REAR



Use some silicone oil during the assembly.





## STEP 43

### 43.1

Push the shock top and the membrane into the shock cap.



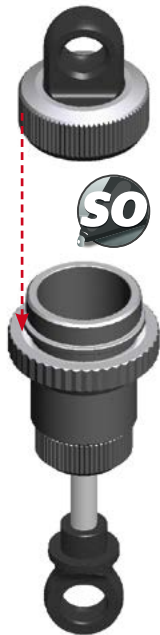
### 43.2

1- Fill up with silicone oil fully using the silicone oil supplied in the kit. For the correct cst value please check the default setupsheet.

2- Extend the shockrod fully

3- Move the shockrod slowly up and down to let ALL air bubbles escape.

4- Close top only 3/4.



### 43.3

1-Bleed: push the shockrod all the way in slowly, to allow excessive oil to escape.

2- Close the shock cap completely.



**SHOCKS LENGTH:**  
Measure the shock length fully extended.

**FRONT**

14 mm

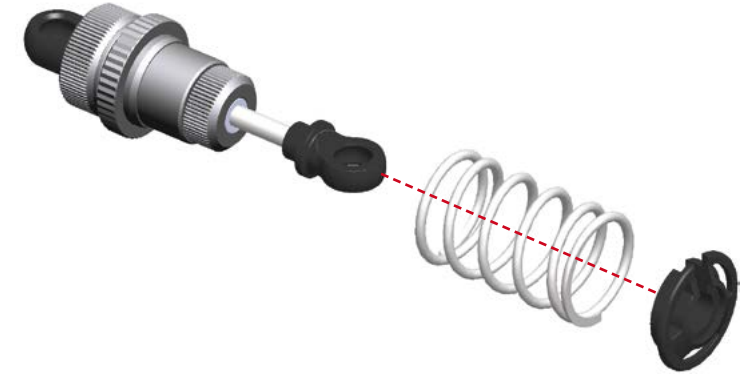
**REAR**

14.5 mm

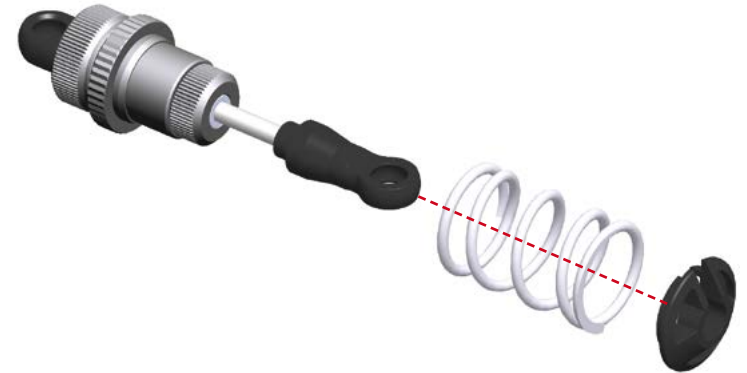
## STEP 44

Assemble the spring and spring-cup (align correctly) to complete the shock.

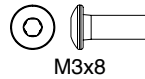
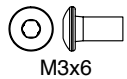
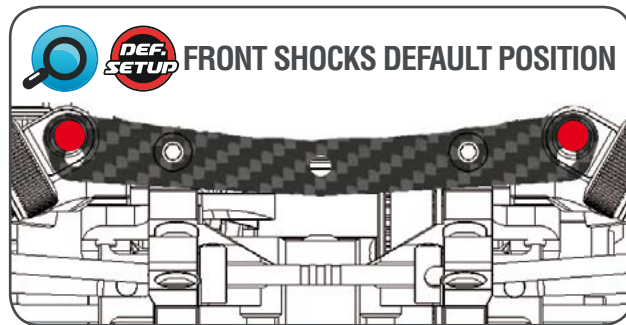
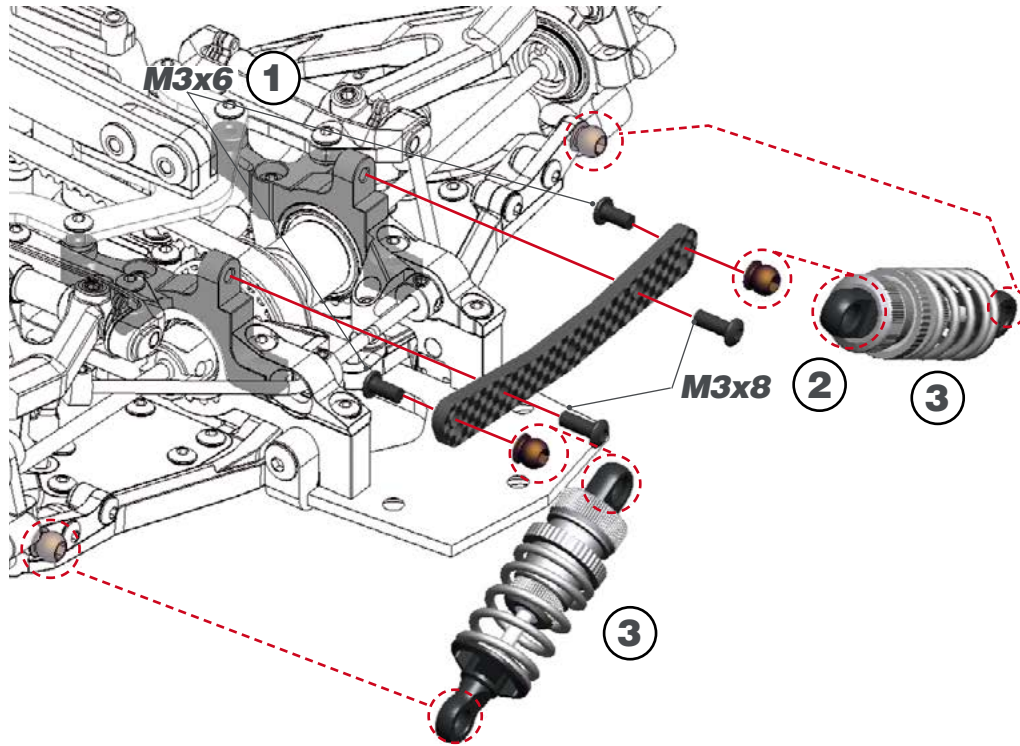
**FRONT**



**REAR**

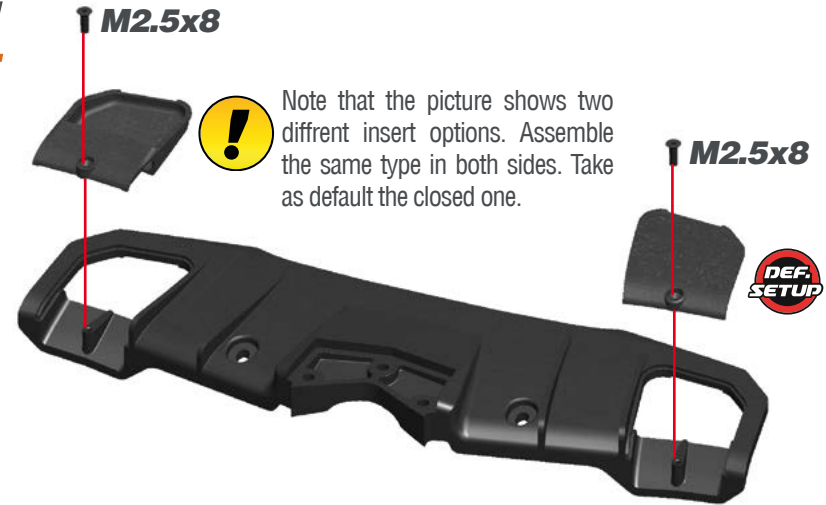


## STEP 45 BAG 12

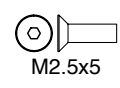
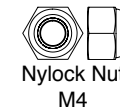
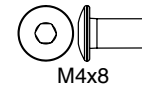
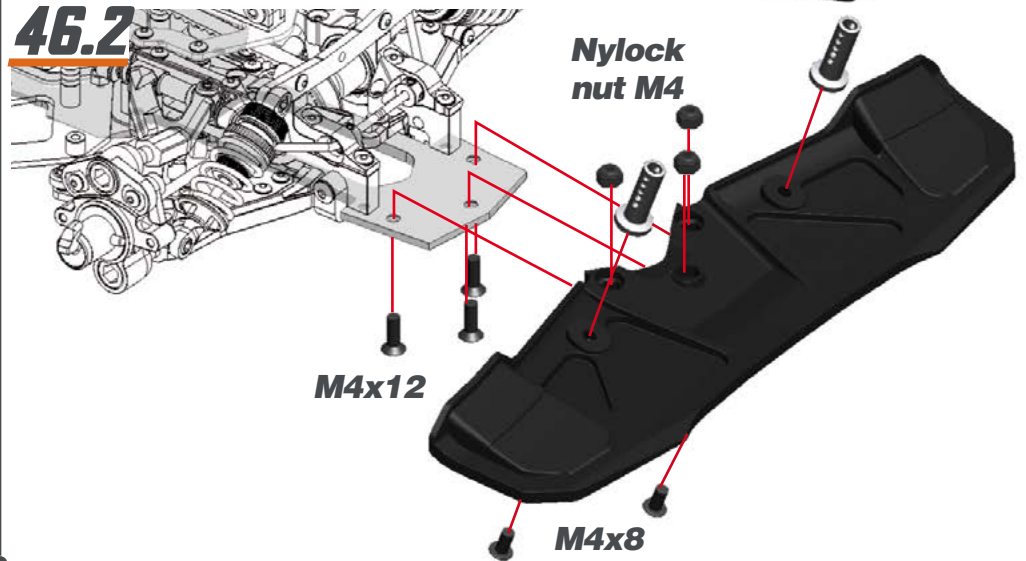


## STEP 46

### 46.1

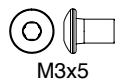
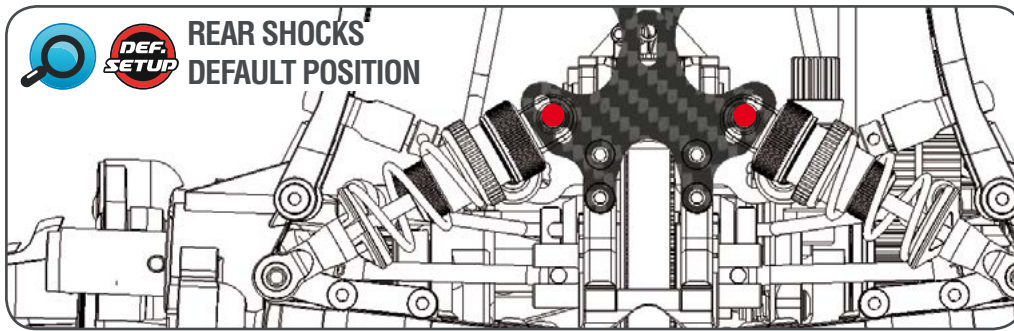
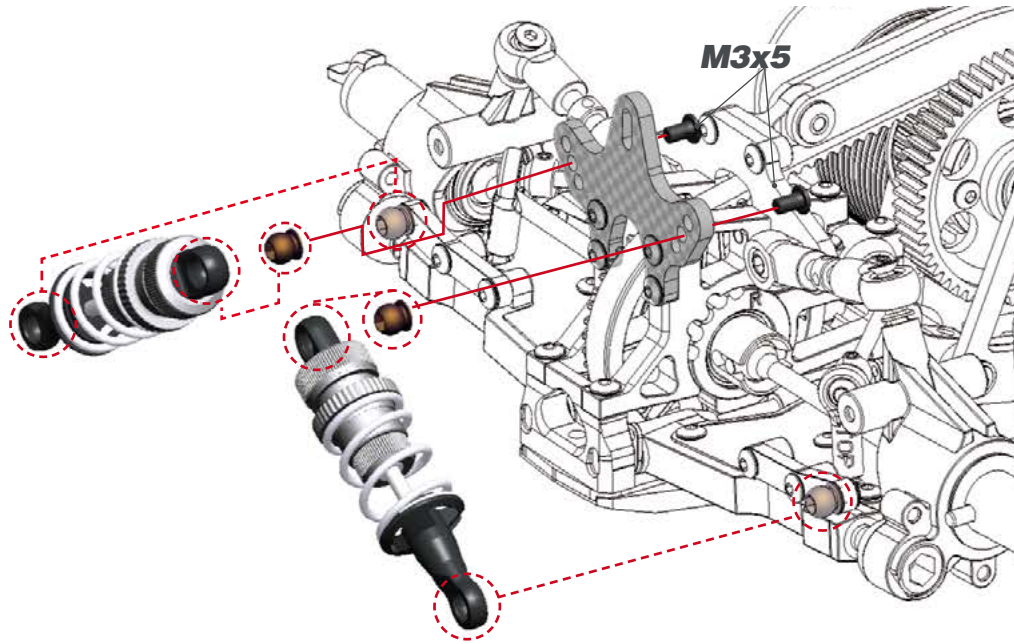


### 46.2

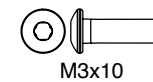
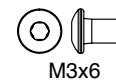
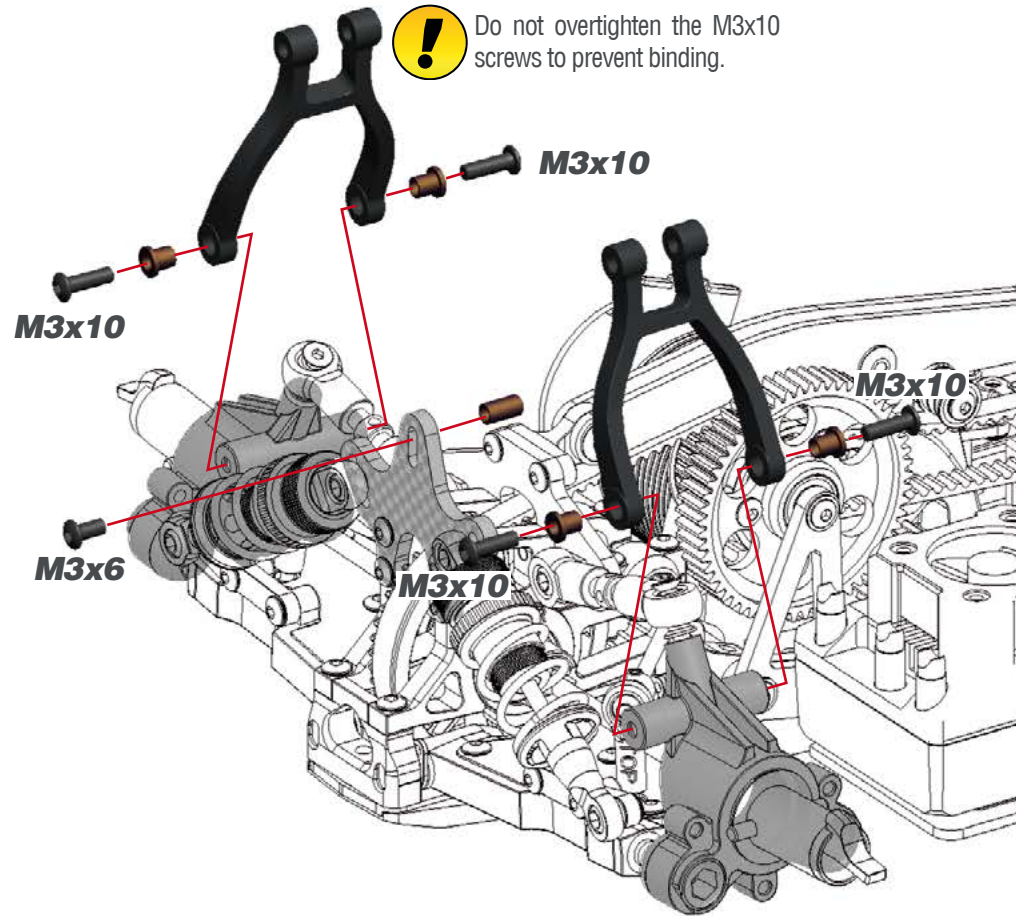




**STEP 47**



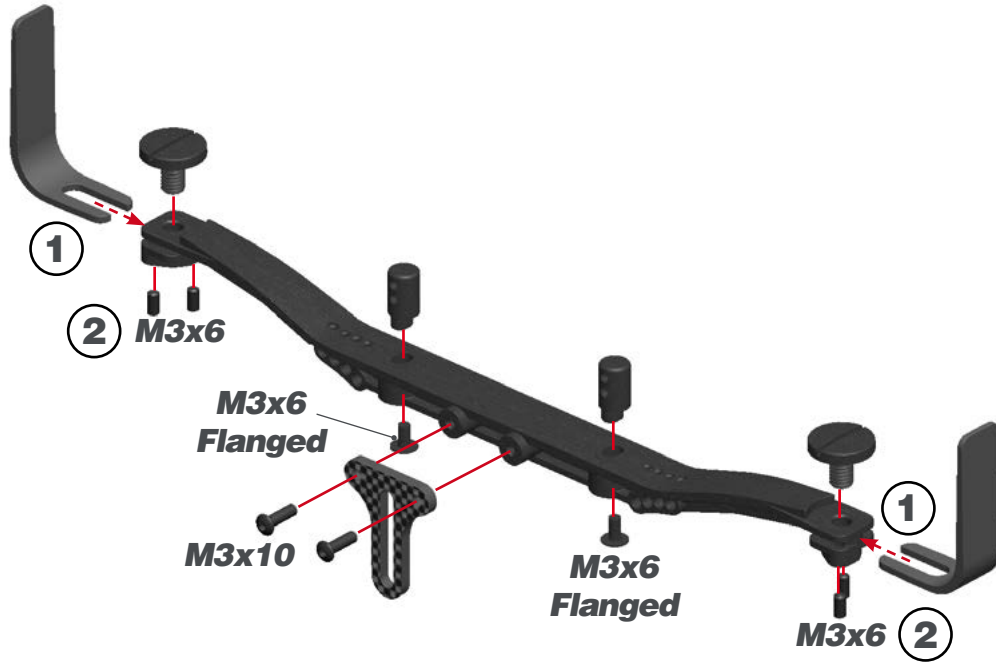
**STEP 48**



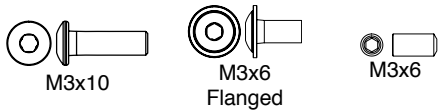
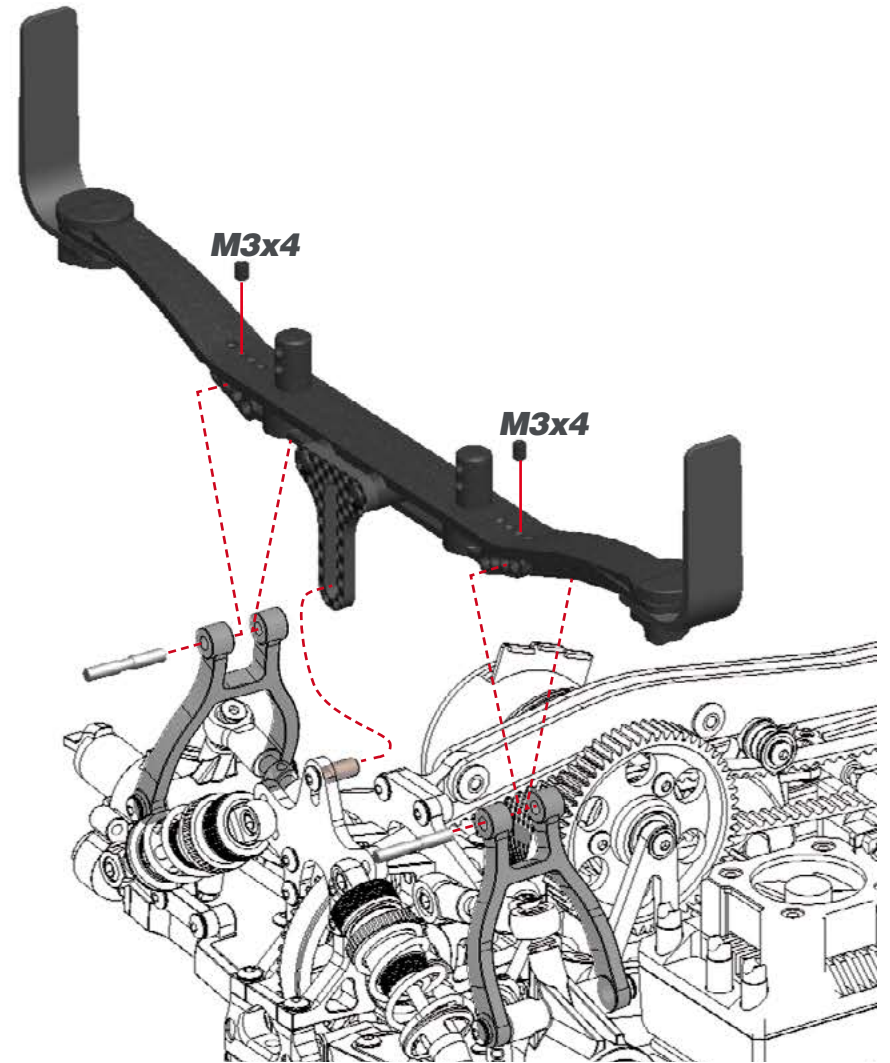


**STEP 49**

**49.1**

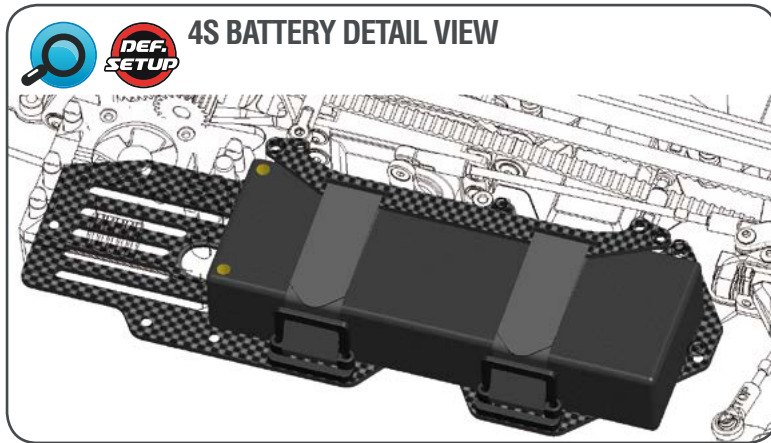
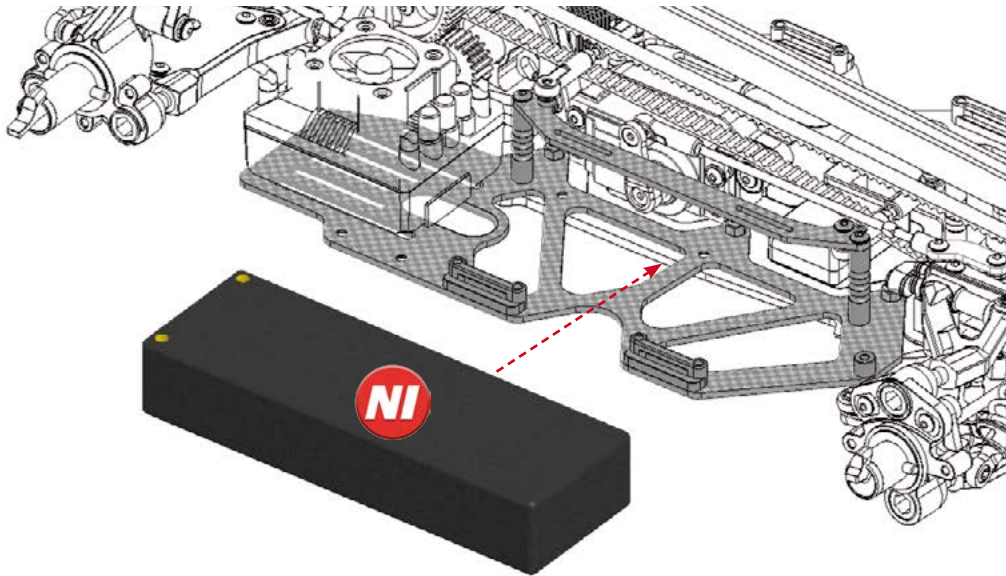


**49.2**

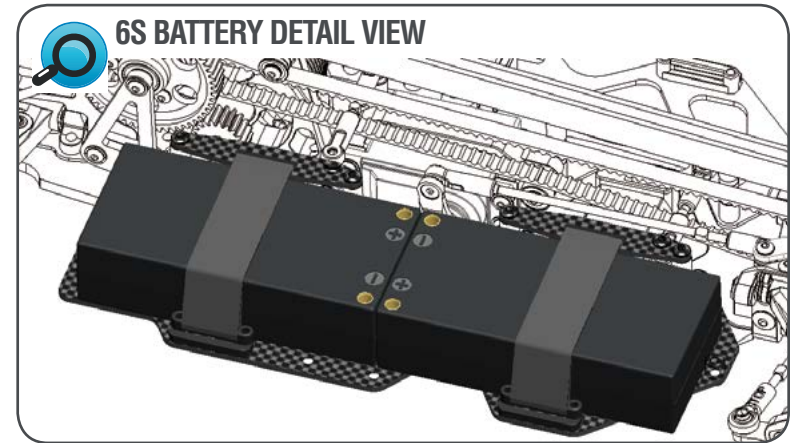
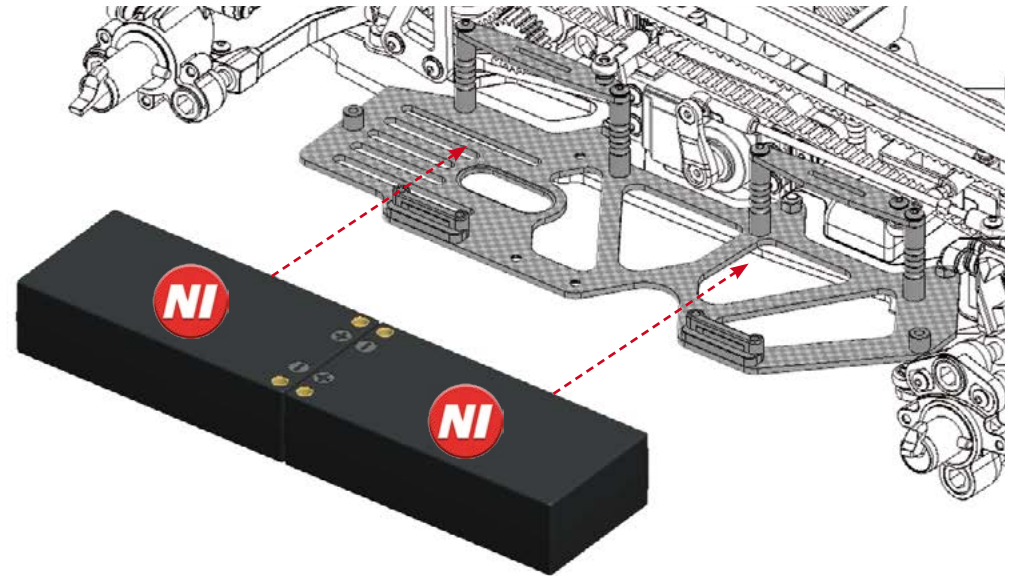


**STEP 50**

**4S BATTERY CONFIGURATION *DEFAULT***



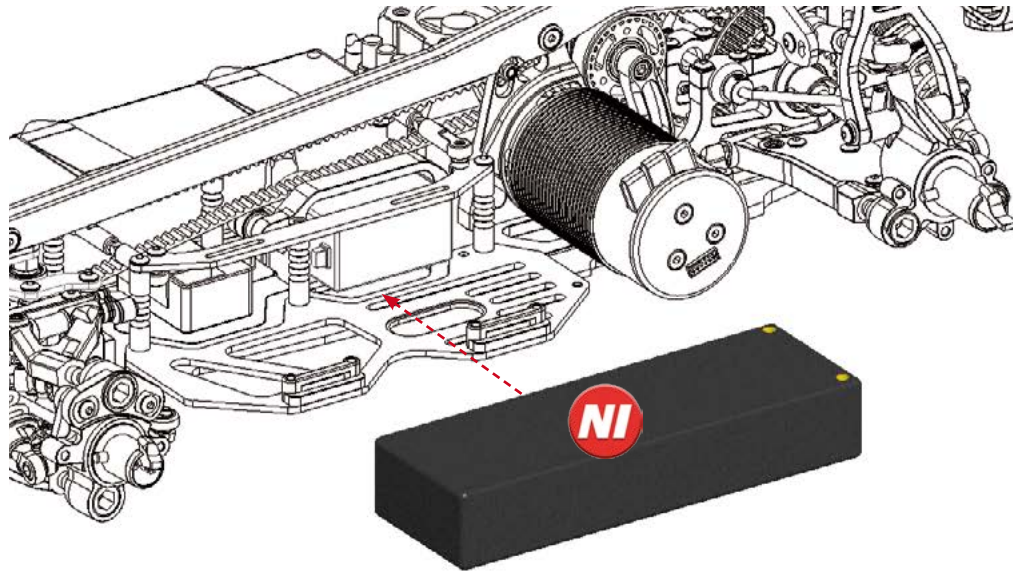
**6S BATTERY CONFIGURATION *OPTIONAL***



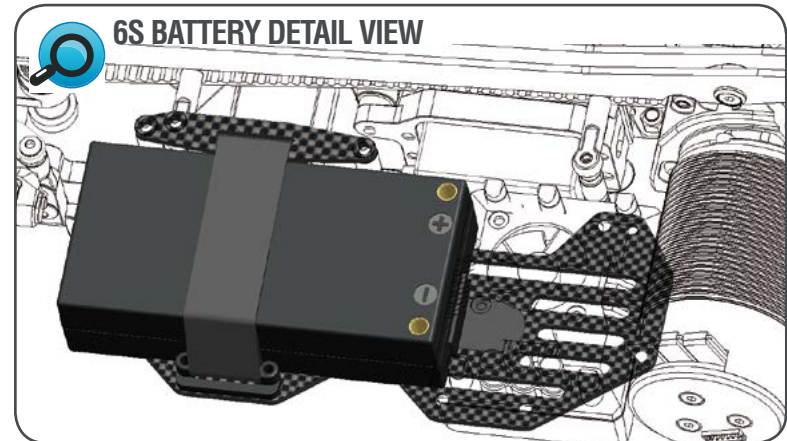
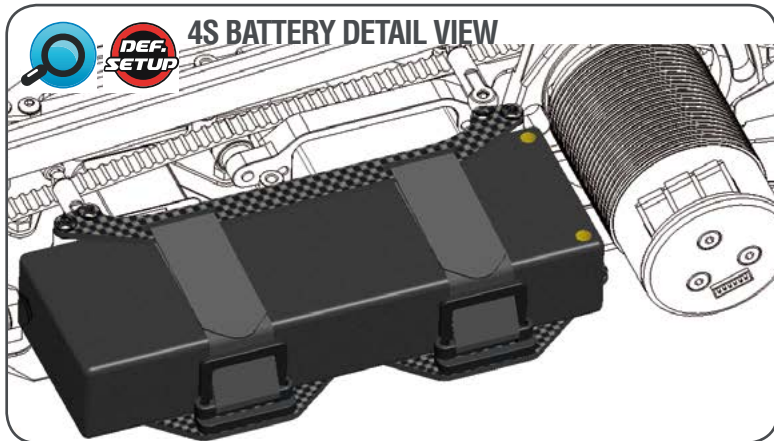
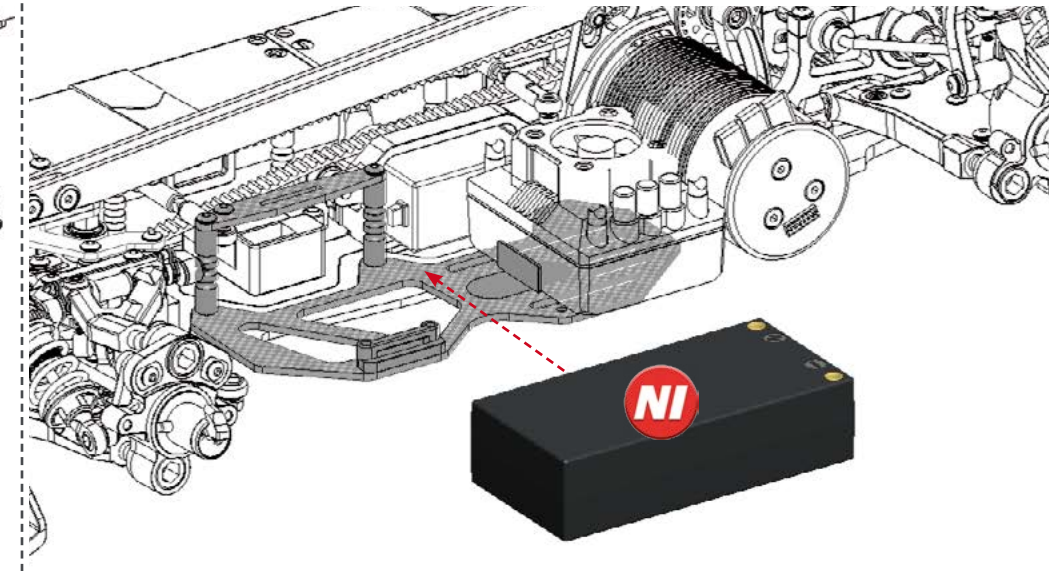


**STEP 51**

**4S BATTERY CONFIGURATION *DEFAULT***

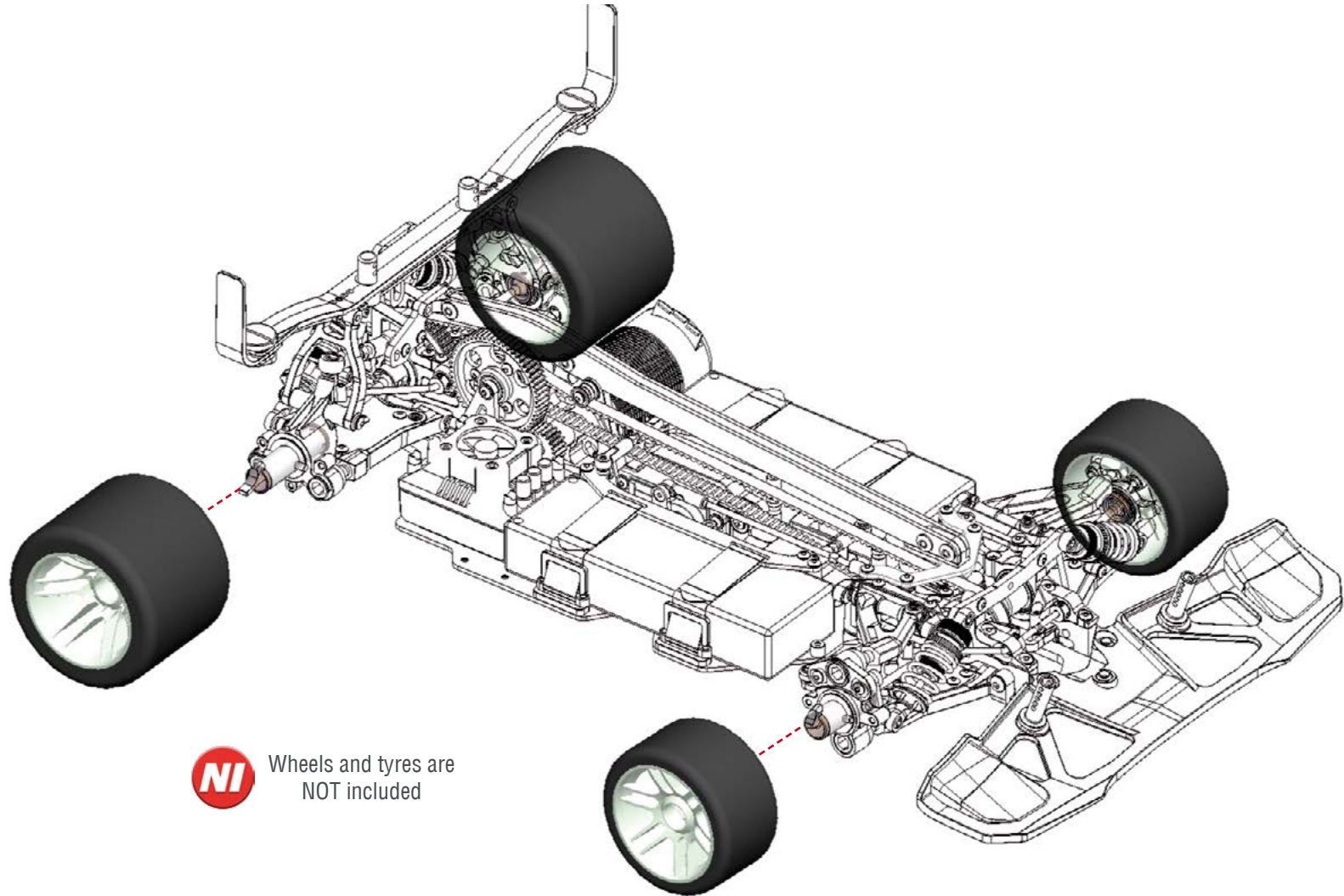


**6S BATTERY CONFIGURATION *OPTIONAL***





**STEP 52**

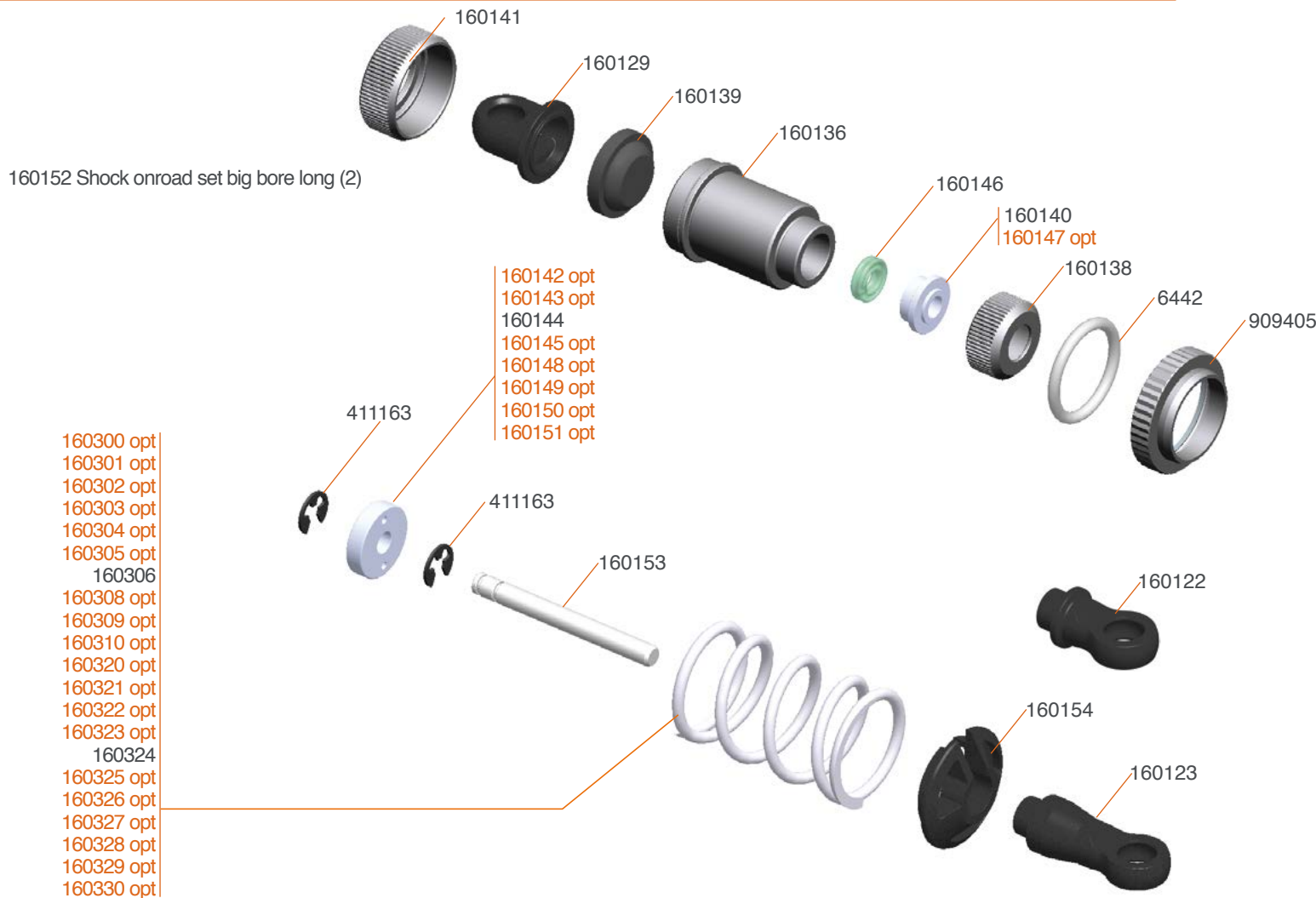


**NI** Wheels and tyres are NOT included

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# SHOCKS EXPLODED VIEW



- 160142 Shock onroad big bore piston 1 hole (4)
- 160143 Shock onroad big bore piston 2 hole (4)
- 160145 Shock onroad big bore piston 4 hole (4)
- 160148 Shock onroad big bore piston 1 hole LF (2)
- 160149 Shock onroad big bore piston 2 hole LF (2)
- 160150 Shock onroad big bore piston 3 hole LF (2)
- 160151 Shock onroad big bore piston 4 hole LF (2)
- 160147 Shock onroad big bore bushing LF (4)
- 160300 Spring white L23 (2.3/13) (2)
- 160301 Spring yellow L23 (2.8/16) (2)

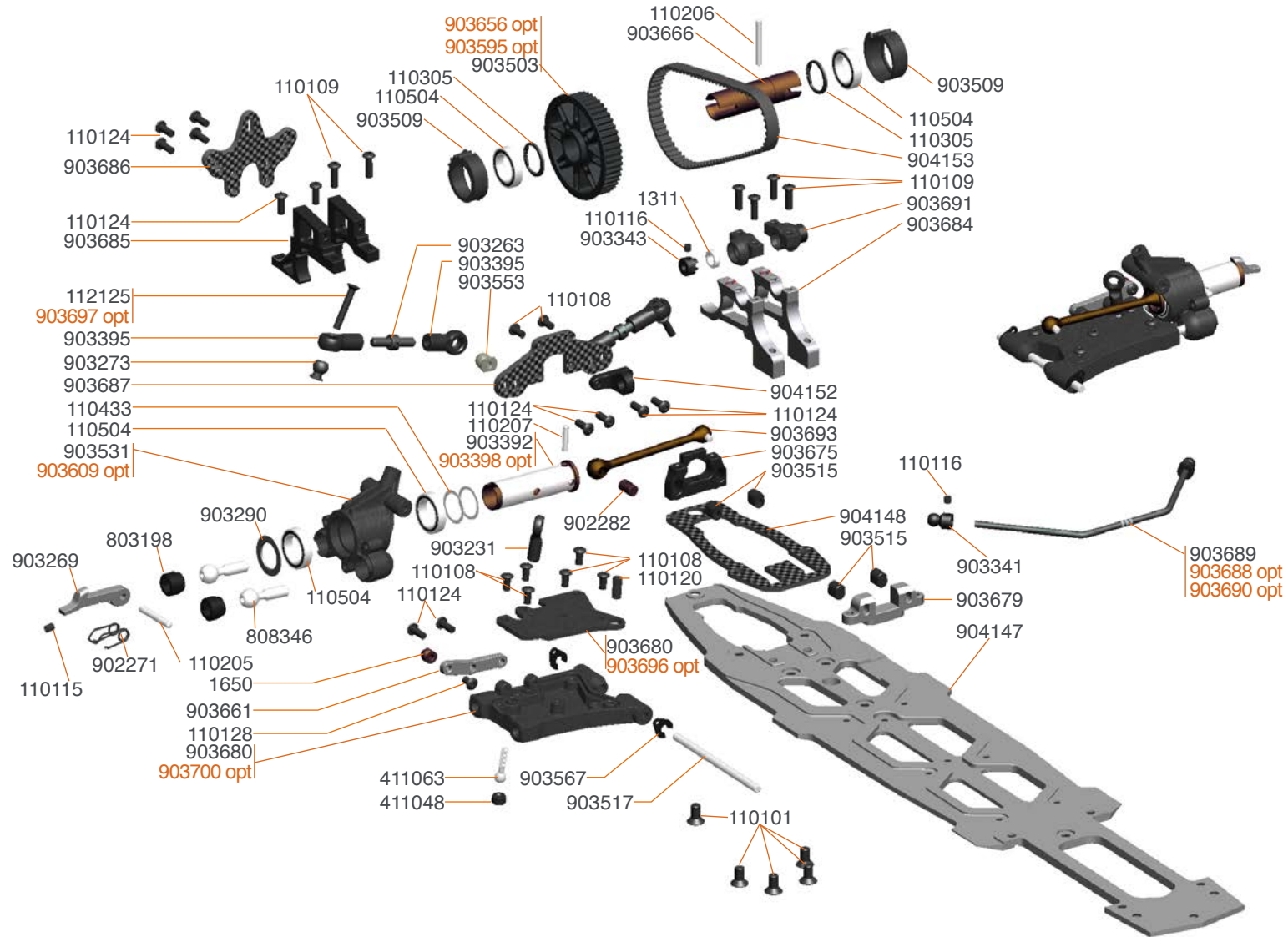
- 160302 Spring orange L23 (3.4/19.5) (2)
- 160303 Spring red L23 (4.1/23.5) (2)
- 160304 Spring pink L23 (4.0/28) (2)
- 160305 Spring blue L23 (5.8/33) (2)
- 160307 Spring green L23 (8/45.5) (2)
- 160308 Spring grey L23 (9/51.5) (2)
- 160309 Spring orange L23 (10/57) (2)
- 160310 Spring-set short (5x2)
- 160320 Spring white L27 (2.3/13) (2)
- 160321 Spring yellow L27 (2.8/16) (2)

- 160322 Spring orange L27 (3.4/19.5) (2)
- 160323 Spring red L27 (4.1/23.5) (2)
- 160325 Spring blue L27 (5.8/33) (2)
- 160326 Spring purple L27 (6.8/39) (2)
- 160327 Spring green L27 (8/45.5) (2)
- 160328 Spring grey L27 (9/51.5) (2)
- 160329 Spring black L27 (10/57) (2)
- 160330 Spring-set L27 (5x2)





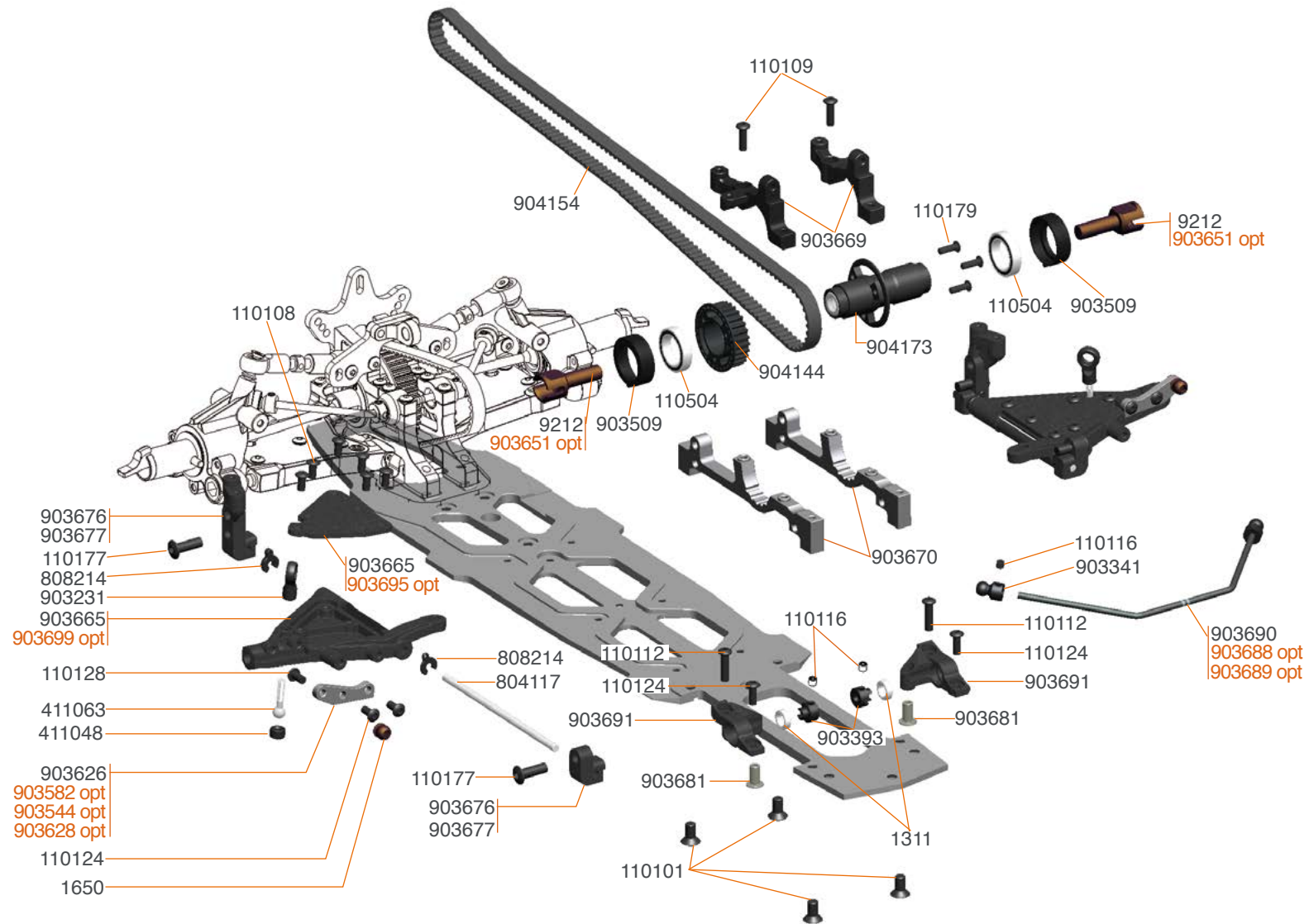
# REAR EXPLODED VIEW



903398 Rear wheelaxle cvd alu (2)  
903688 Antiroll bar FR/RR soft S988  
903690 Antiroll bar FR/RR hard S988

903595 Pulley rear axle 48T alu  
903609 Upright (2) hard  
903697 Camberlink riser 1/8 (2)

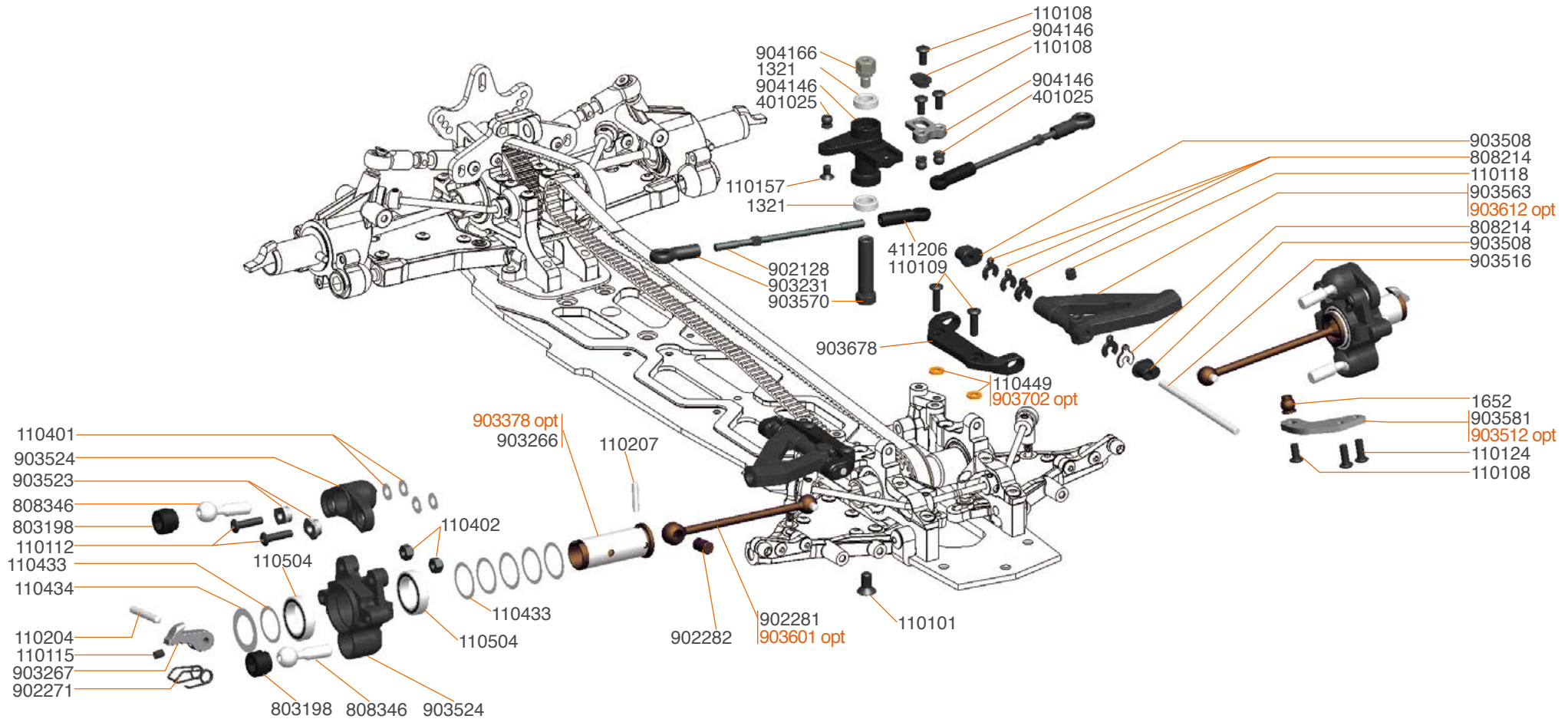
903696 Wishbone insert carbon RR lw (2)  
903700 Wishbone RR lw L+R hard S988



- 903544 Shock extension bracket FR alu (2)
- 903582 Shock extension bracket FR carbon (2)
- 903628 Shock extension bracket FR wide carbon (2)
- 903651 Inner driveshaft adapter light

- 903688 Antiroll bar FR/RR soft S988
- 903689 Antiroll bar FR/RR medium S988
- 903695 Wishbone insert carbon FR lw (2)
- 903699 Wishbone FR lw L+R hard S988

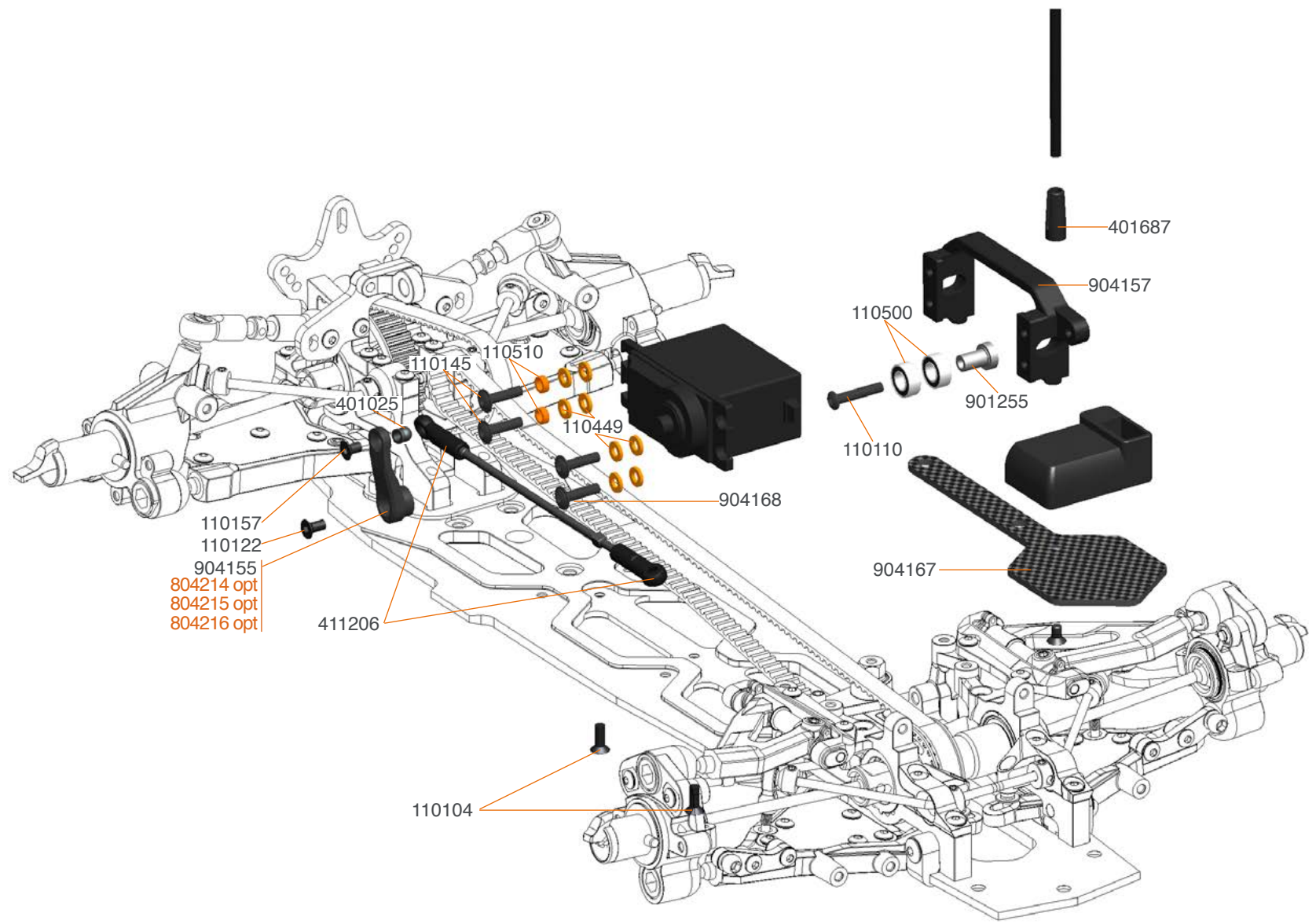
# FRONT II EXPLODED VIEW



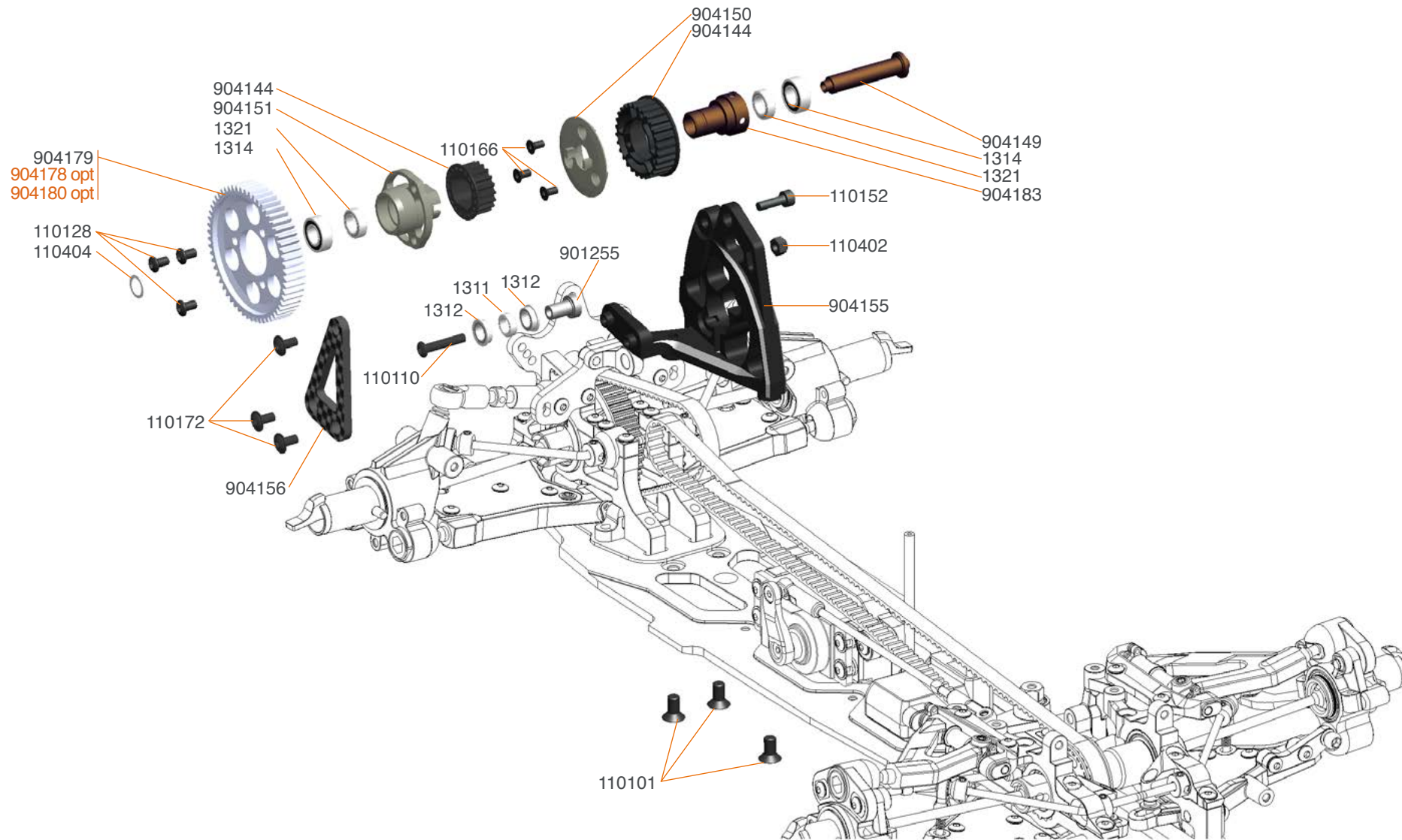
903378 Wheelaxle front OS2 Alu (2)  
903512 Steeringblock lever alu (2)  
903601 Driveshaft cvd FR alu (2)

903612 Wishbone FR up (2) hard  
903702 Rollcenter spacer fr (2) S988

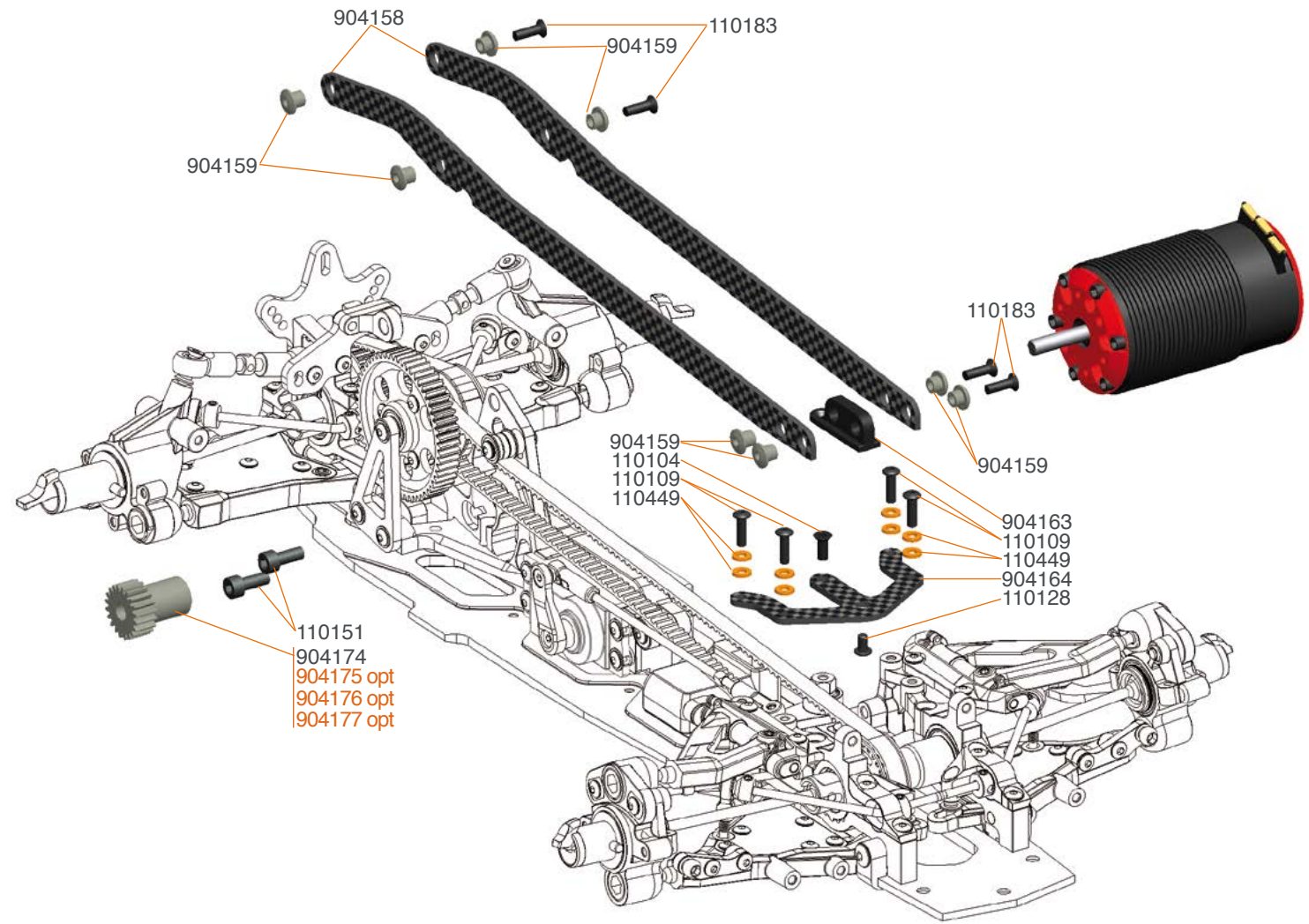




- OPT** 804214 Steering lever 23T alu
- 804215 Steering lever 24T alu
- 804216 Steering lever 25T alu



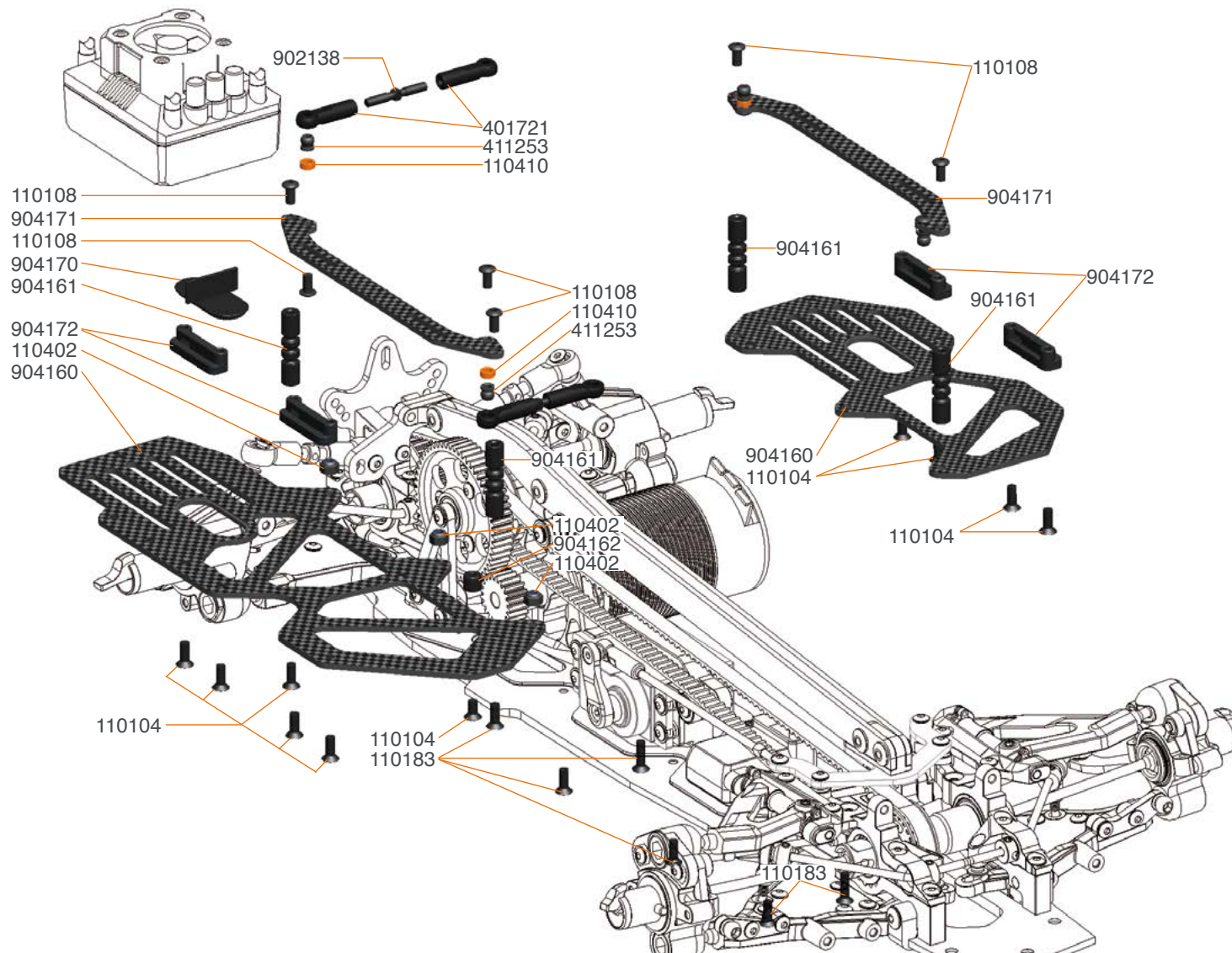
**OPT** 904178 Spurgear 56T 988E  
904180 Spurgear 58T 988E



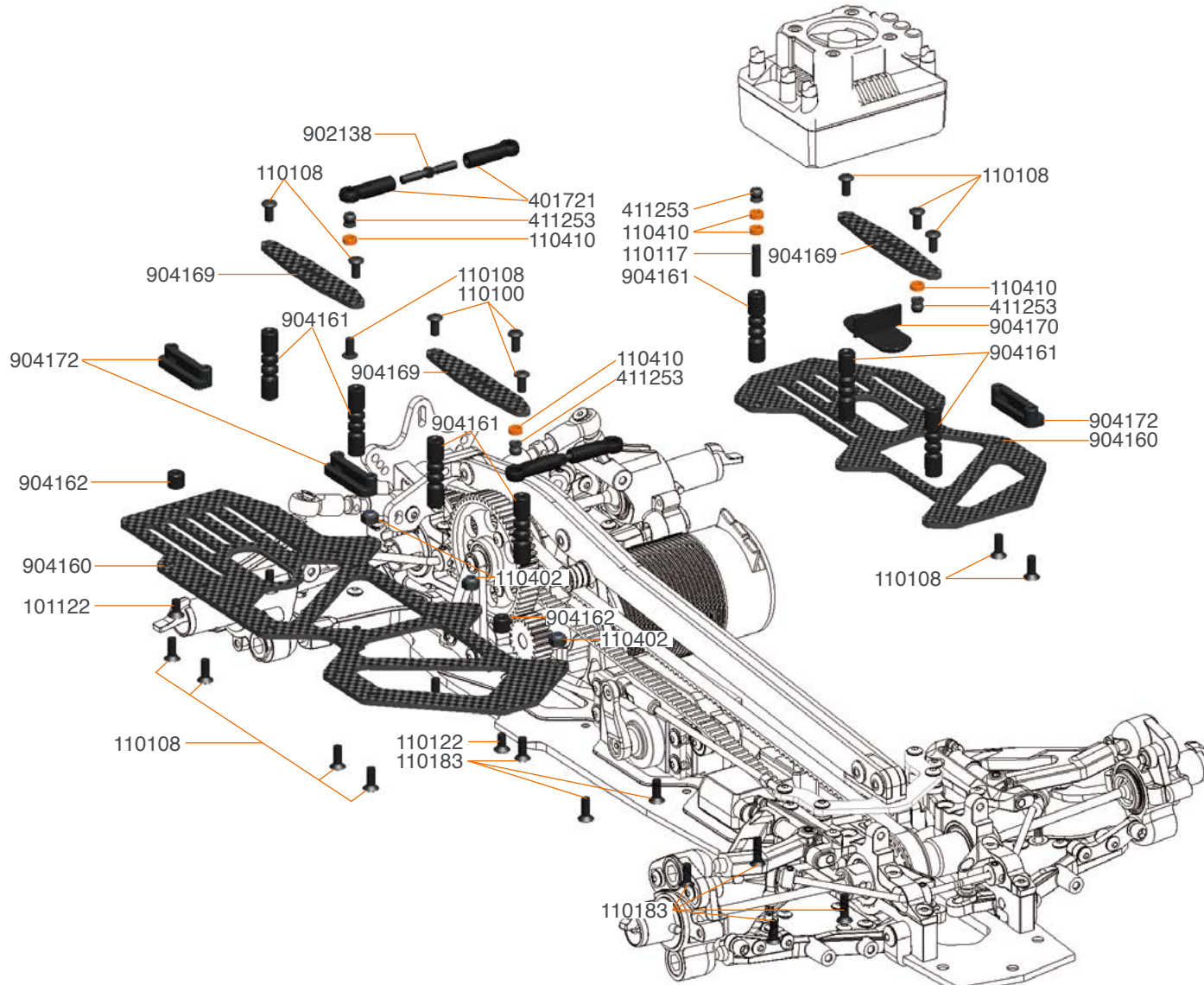
- OPT** 904175 Pinion 20T 988E
- 904176 Pinion 21T 988E
- 904176 Pinion 22T 988E

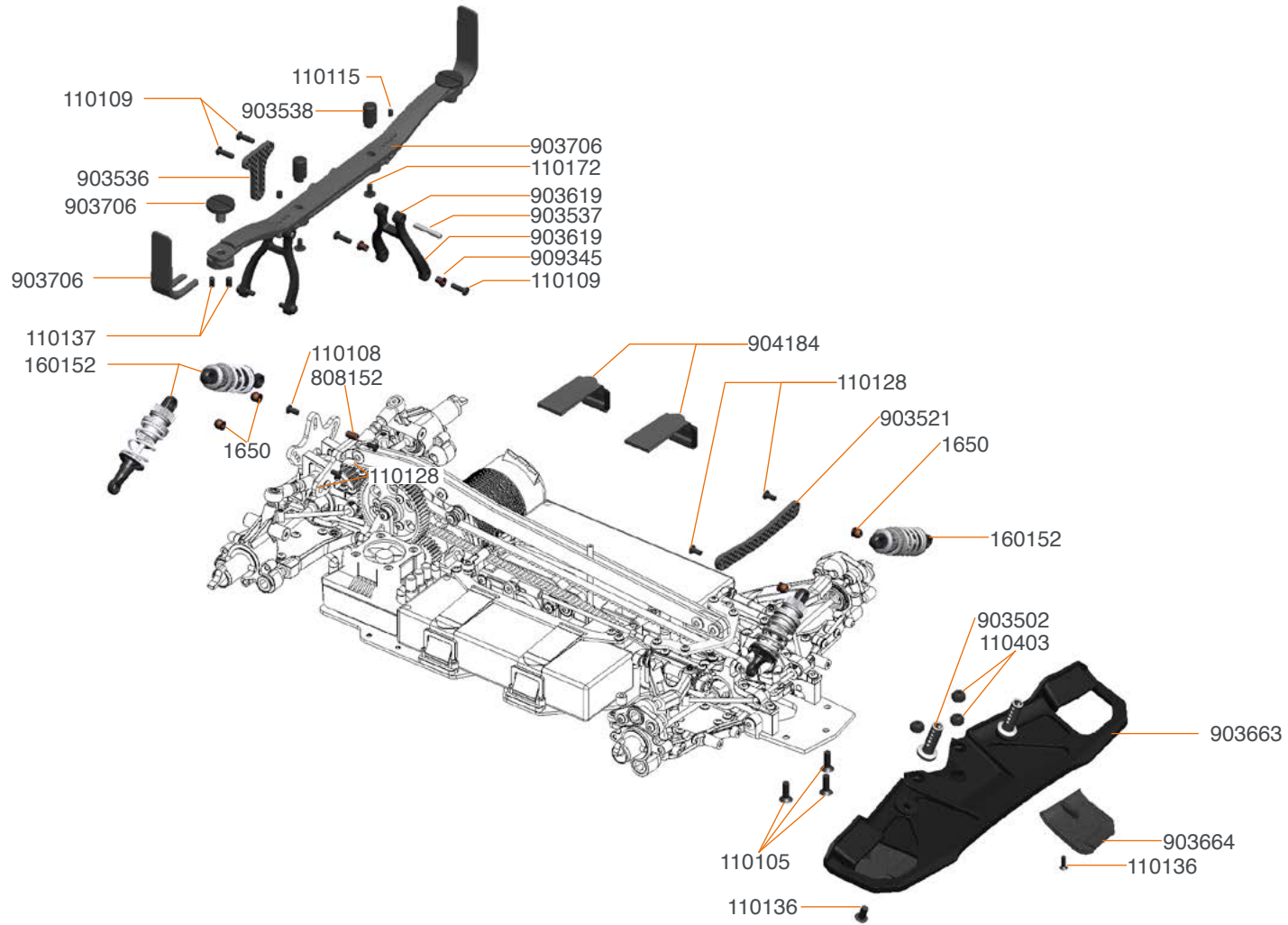


# BATTERY LONG EXPLODED VIEW



# BATTERY SHORTY EXPLODED VIEW







# TEAM SERPENT NETWORK

**988e SPARE PARTS** [www.serpent.com/904004/spares/](http://www.serpent.com/904004/spares/)



**988e OPTIONALS PARTS** [www.serpent.com/904004/Optionals/](http://www.serpent.com/904004/Optionals/)



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**EP** 1/8 scale onroad

**SPT**  
**SERPENT**  
**INNOVATIONS**



Manual 988e #57555 1