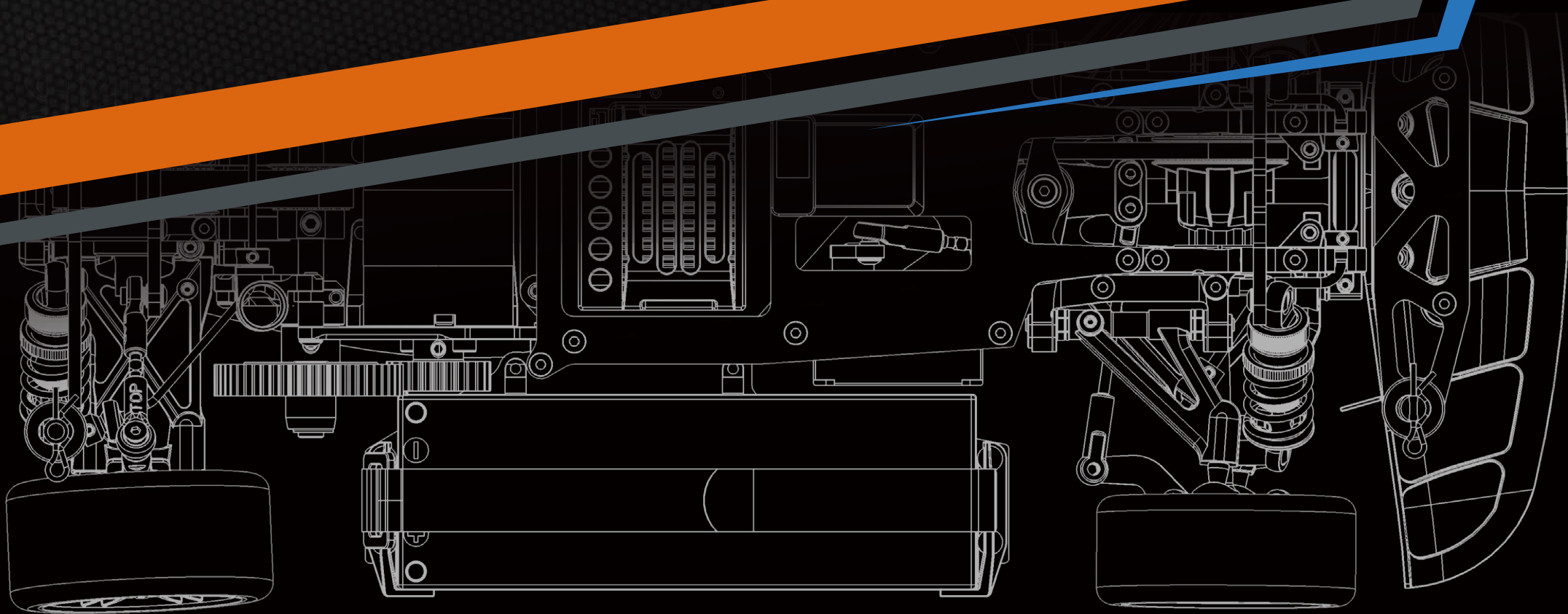


INSTRUCTION MANUAL

750 **NATRIX** EP

EP 1/10 SCALE ONROAD



SERPENT

INTRODUCTION

Thank you very much for selecting this Serpent rc car and thus become a member of the ever growing worldwide Serpent racing family. Serpent started in 1980 and has been growing its product-line and fan-base ever since.

The Serpent Matrix 750-E is a state of the art electric powered 1/10 scale onroad racing car. The assembly manual will guide you through all the steps to complete the car, so you can hit the track with a good base-set-up soonest. The Serpent design department succeeded to create a superbly performing car combined with ease of assembly and maintenance. The high quality standards of all parts and hardware will make racing your Serpent car a very rewarding activity !

Through our team, website and social media we will keep you up-to-date on all developments of the Serpent cars. We hope to meet you on the track and through our various media!
Enjoy the drive !

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 Matrix 750-E. Fine-tuning the initial setup is an essential part of building a high-performance racecar like your Serpent Matrix 750-E.

EXPLODED VIEWS AND PARTS LIST

The exploded views of the Serpent Matrix 750-E are located in the back of the 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 or you may ask your dealer or the Serpent distributor for advice, or email Serpent direct: 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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• REAR ASSEMBLY 1.....	6
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750-E
MATRIX

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



Press/Insert one item into another



Connect one item to another



Gap between two items

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.



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



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.



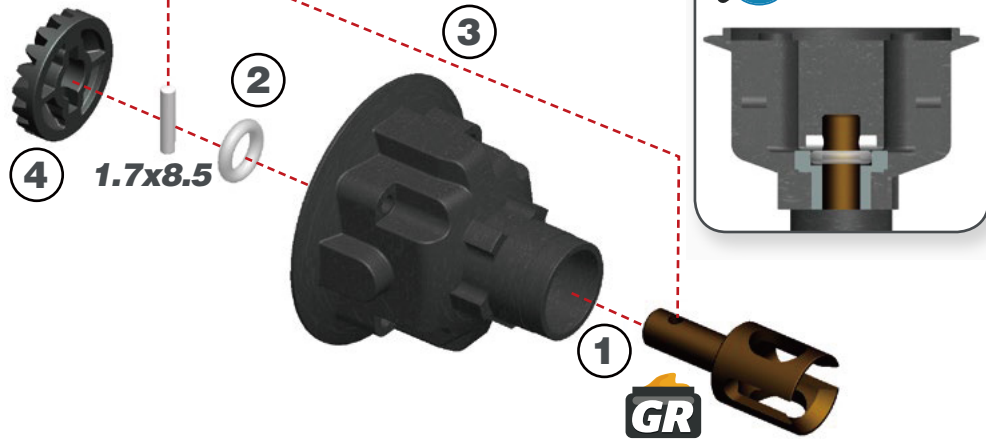
Parts or items not included in the kit.



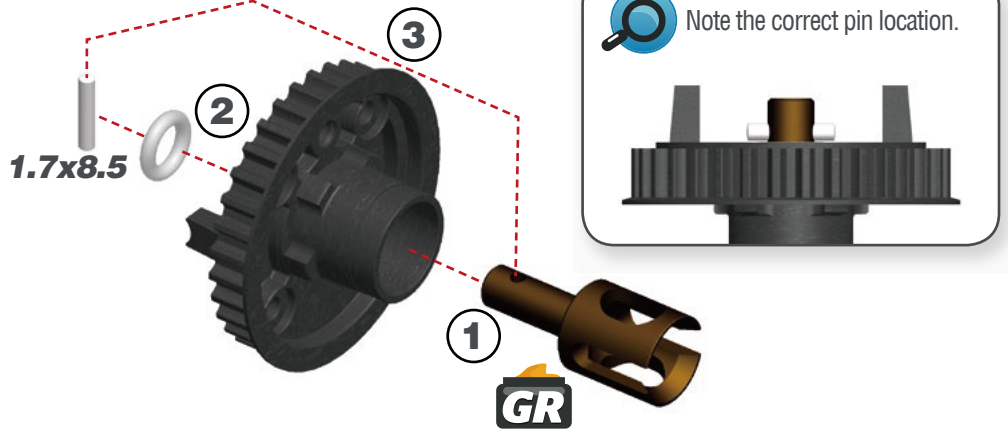
Optional part, not standard in the kit.

STEP 1 FRONT DIFF BAG

1.1



1.2



1.75x8.5

STEP 2

2.1

Add just enough oil to cover the large gear before assembling the small satellite gears and cross pins.

For the correct cst value please check the default setupsheet.




2.2



4x10x0.2

STEP 3

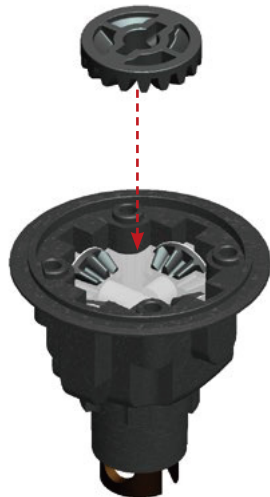
3.1

 Fill the differential with silicone oil 1 mm above the crosspin, do NOT overfill. For the correct cst value please check the default setupsheet.



3.2

 Add the big gear.

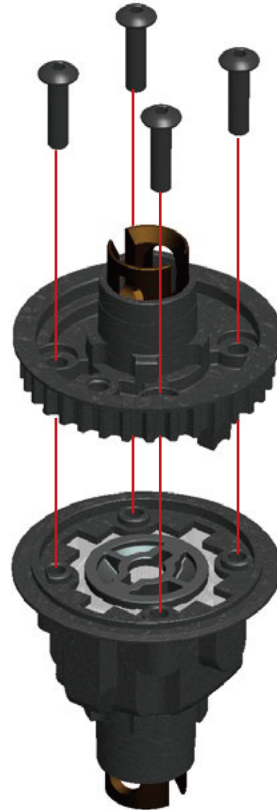


STEP 4



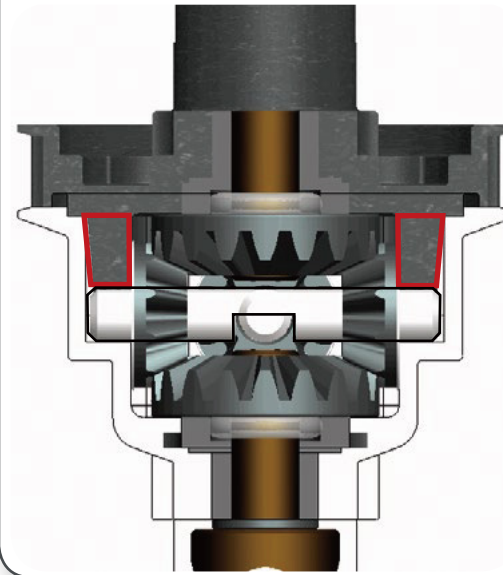
Mount the diff top-case on the lower case, make sure to follow below Detail View, and tighten the screws.

M2.5x10



HOW TO CLOSE THE FRONT DIFF

The front diff top case has two protrusions (see below picture in red) to hold the gear/diff shafts in the correct position. The two protrusions press on the upper shaft and thus secure the shafts in position.

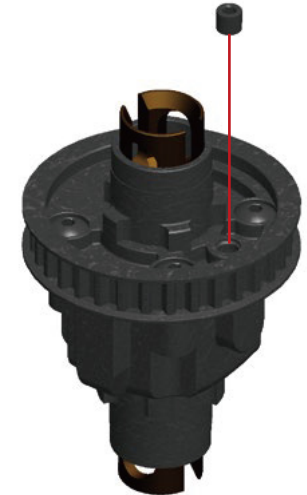


1- Allow the excess of oil to escape through the escape hole.

2- Close the hole with the 3x3 setscrew. Tighten carefully.

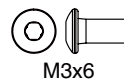
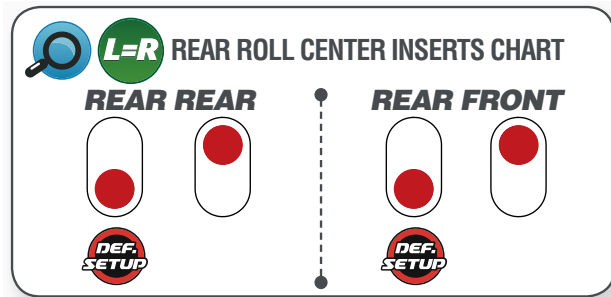
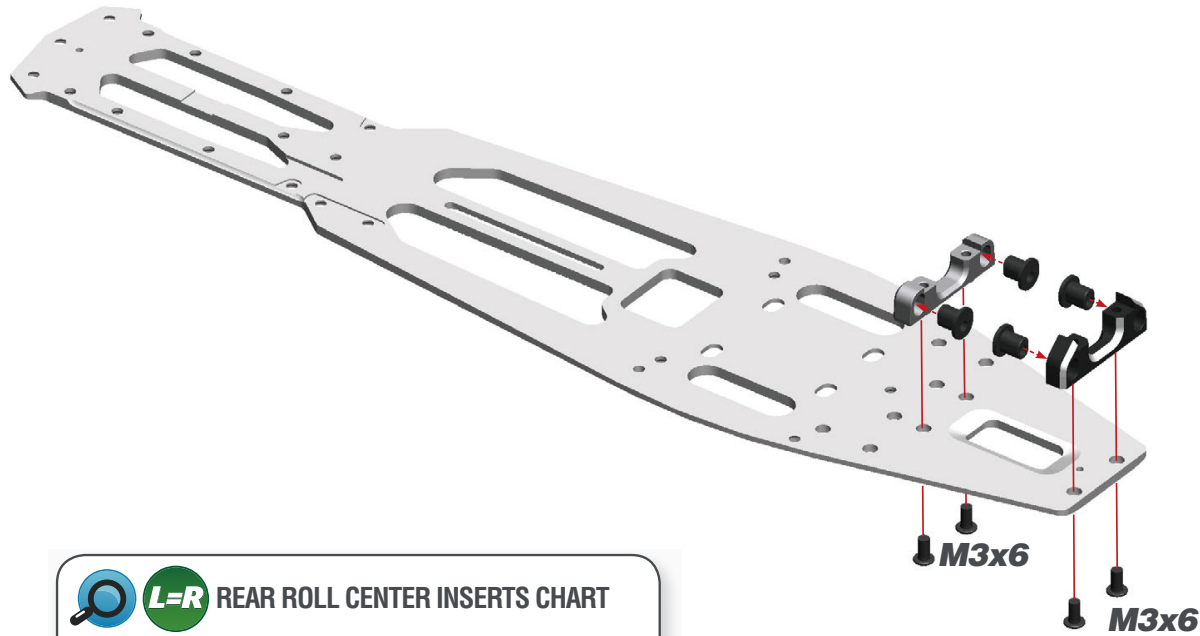
3- In case the diff feels too hard remove the M3x3 set screw and let some oils to escape and colse again. Tighten carefully.

M3x3



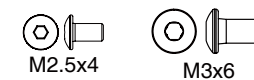
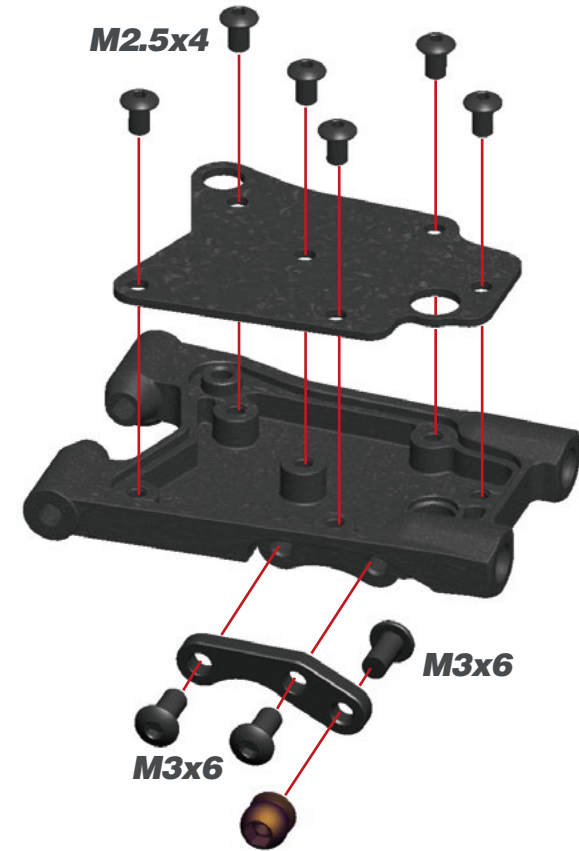
STEP 6

BAG 1



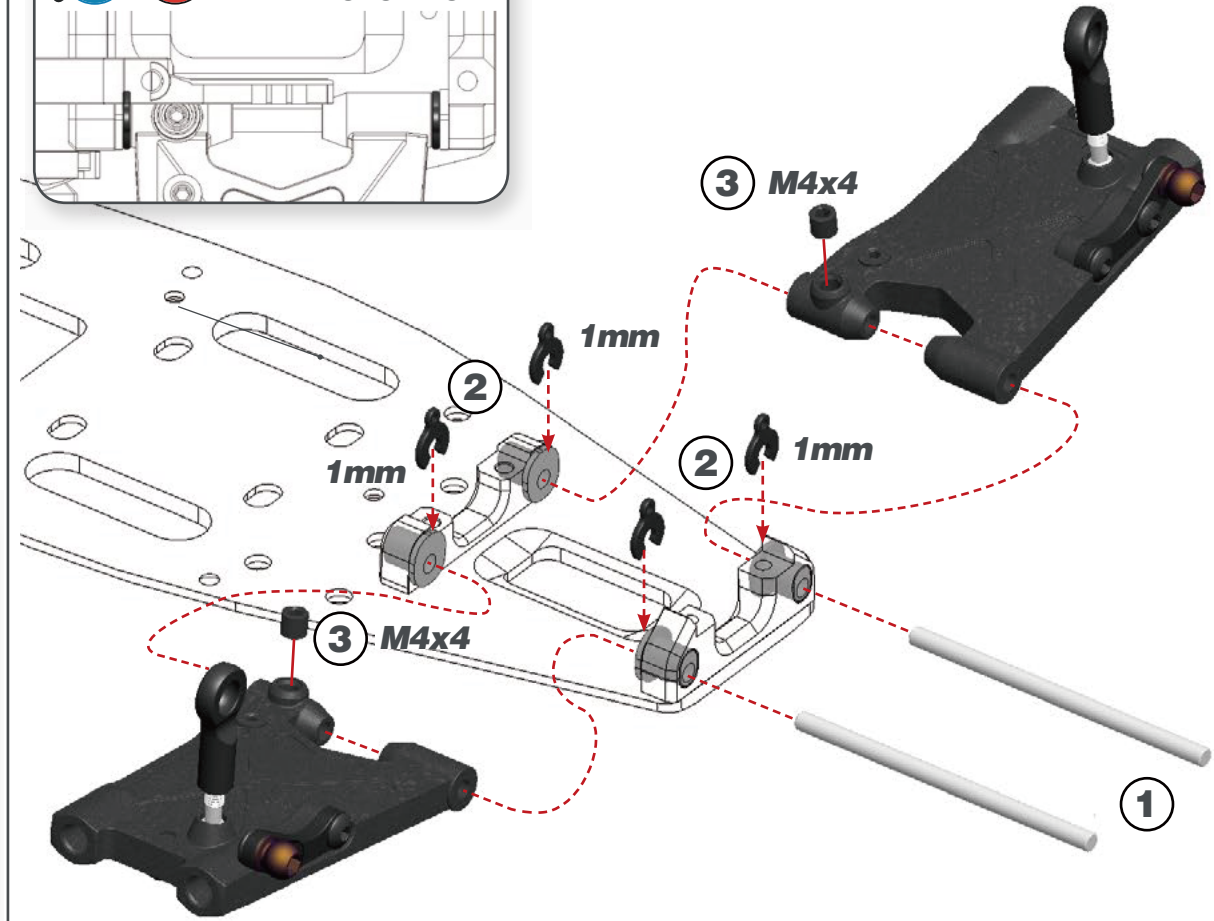
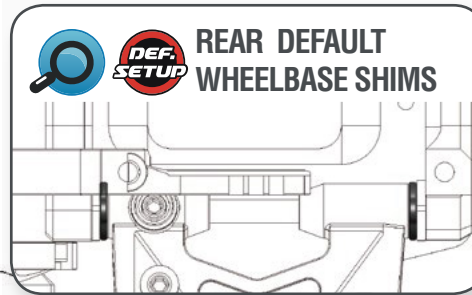
STEP 7

7.1



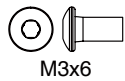
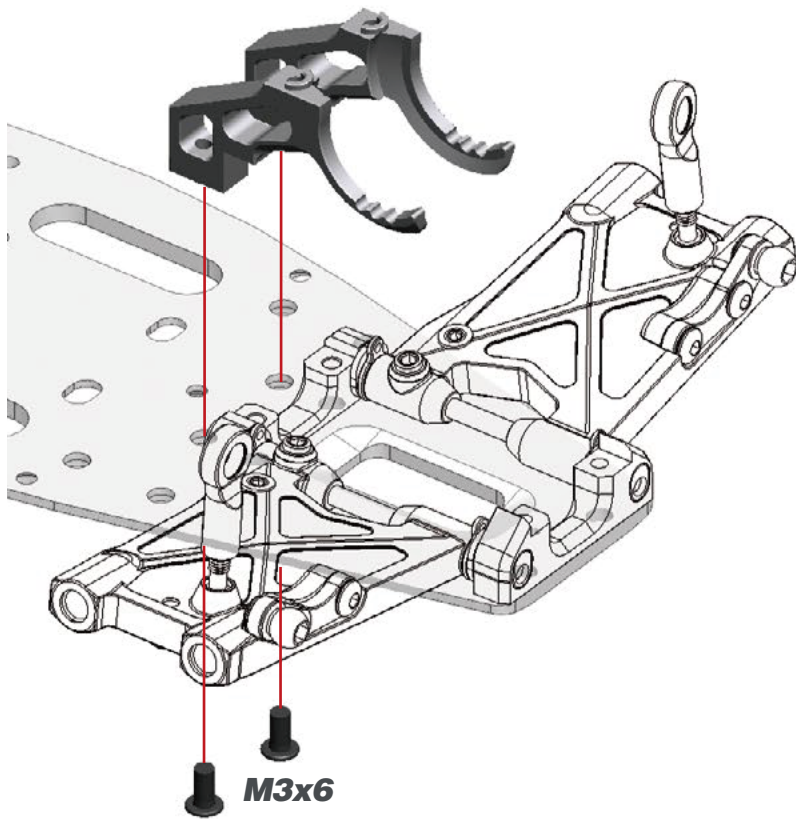
STEP 8

7.2



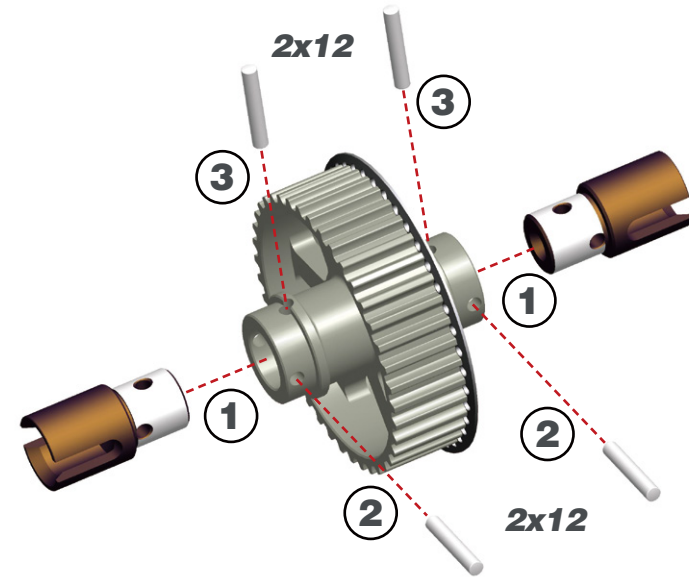
STEP 9

BAG 2

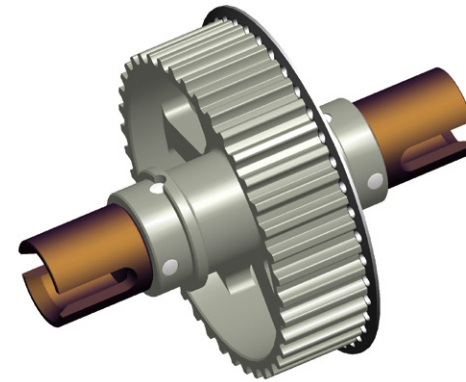


STEP 10

6.1



6.2

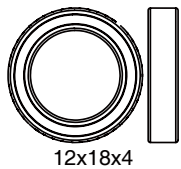
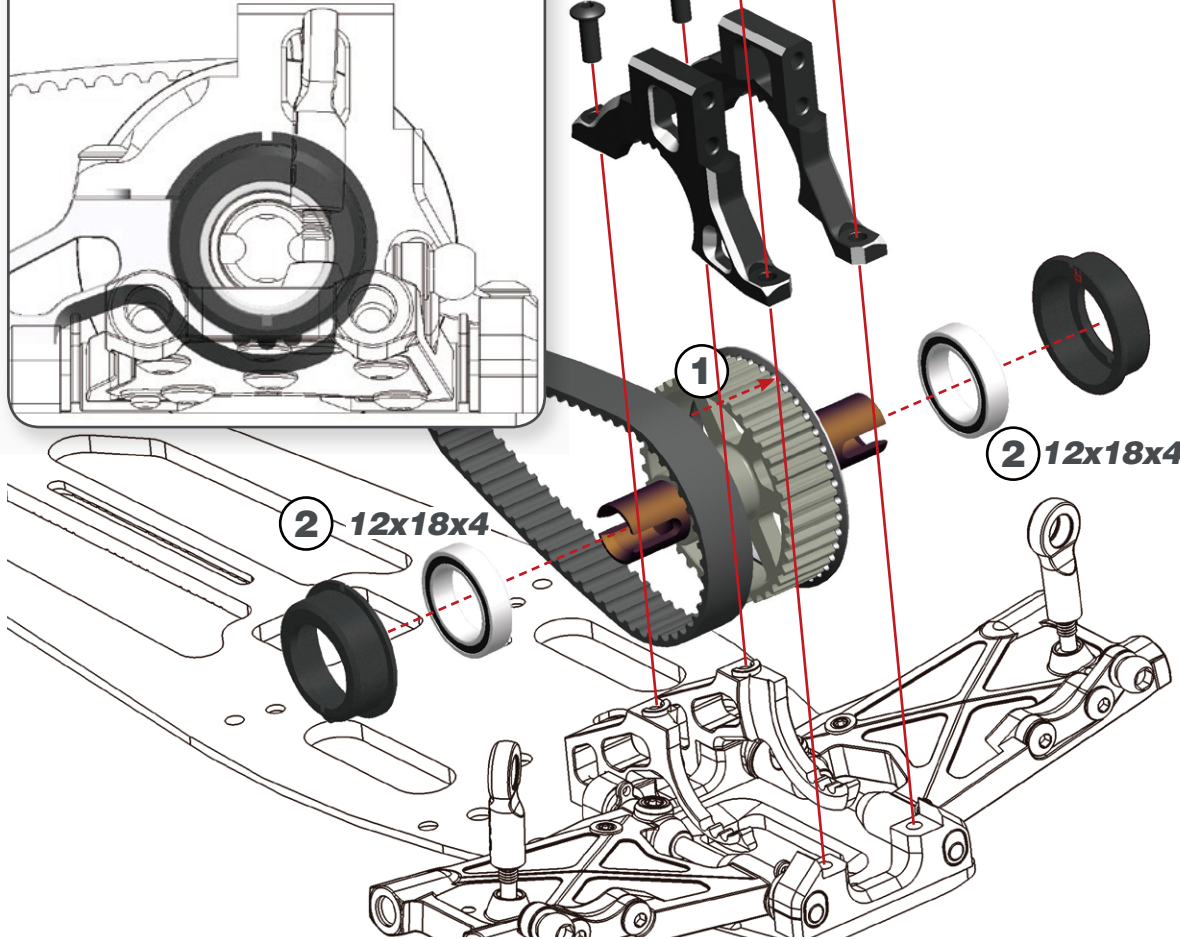


STEP 11

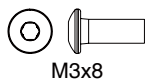


REAR BELT TENSION

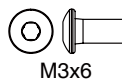
Use the central slot as starting position.



12x18x4

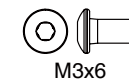
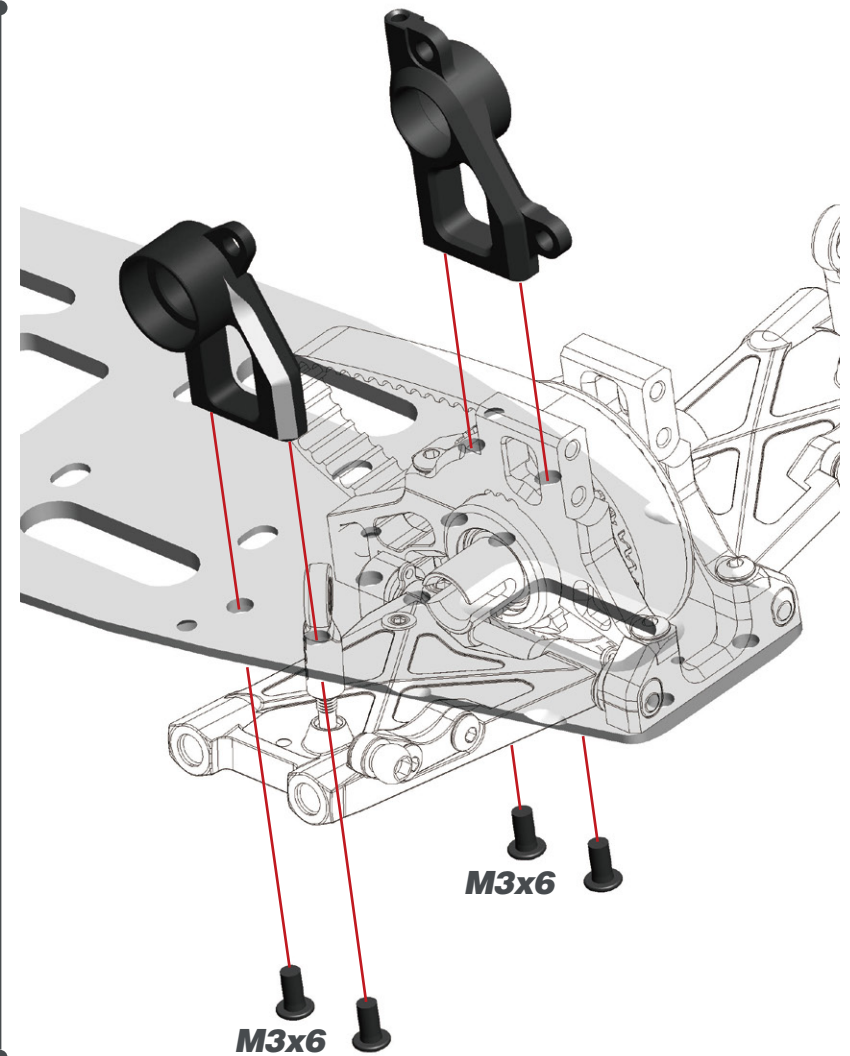


M3x8



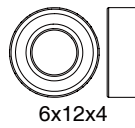
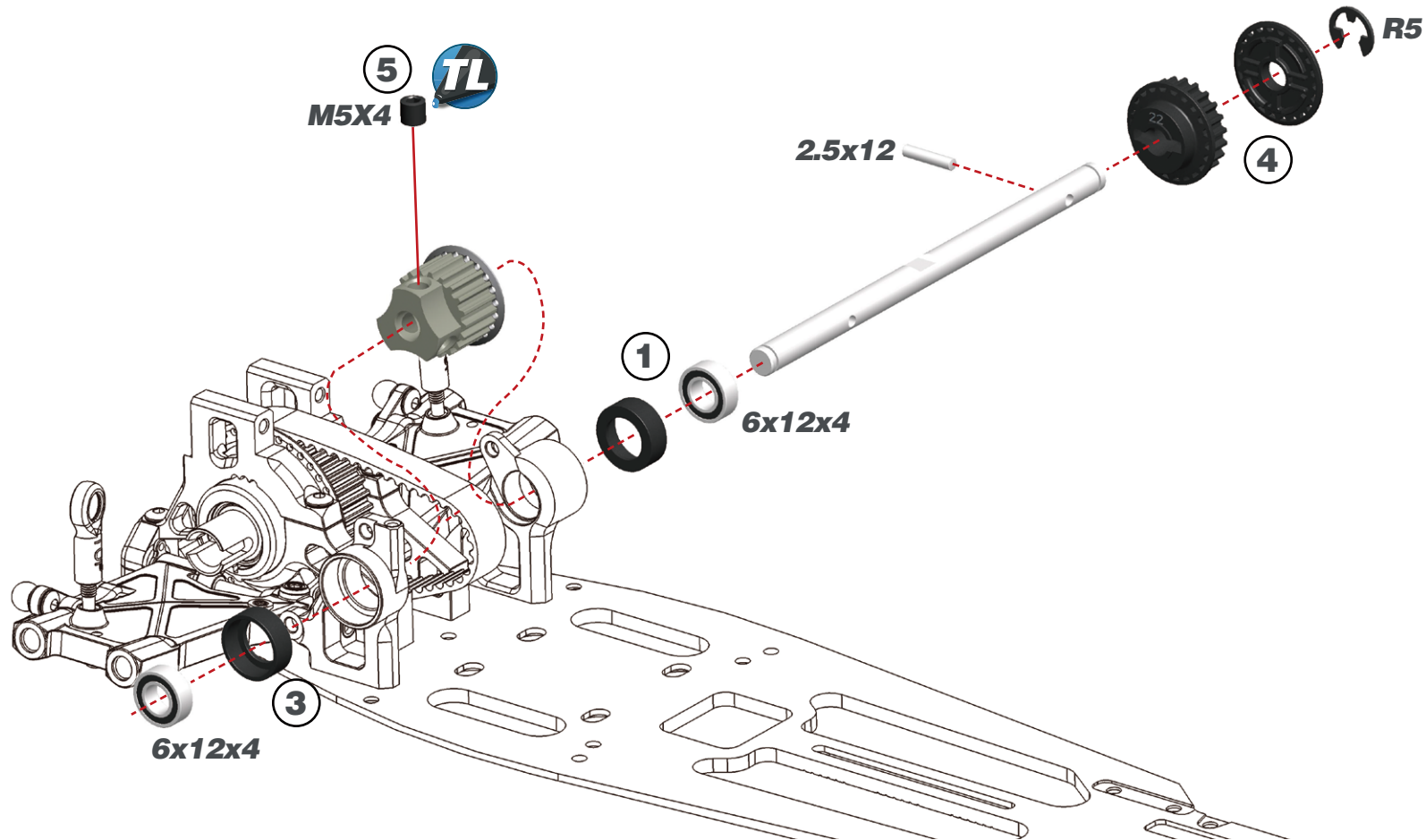
M3x6

STEP 12

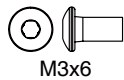
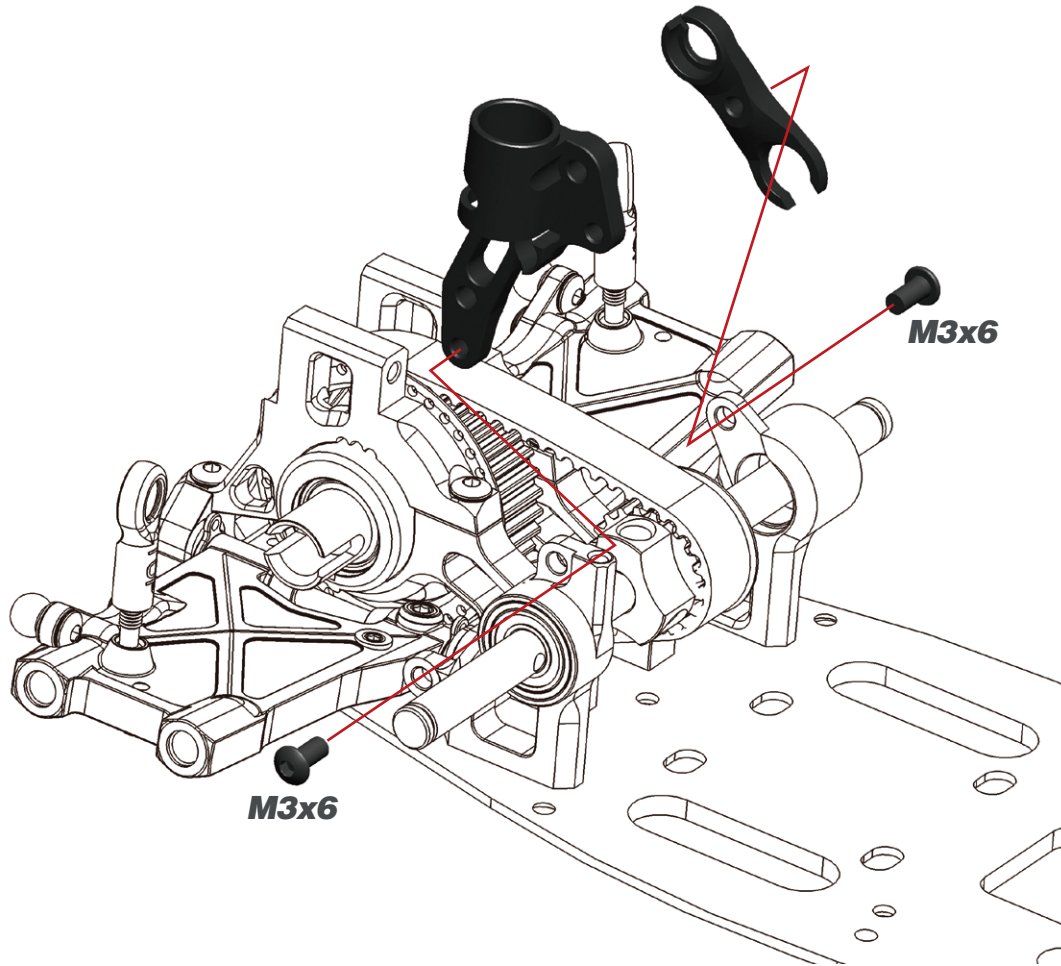


M3x6

STEP 13 BAG 3



STEP 14

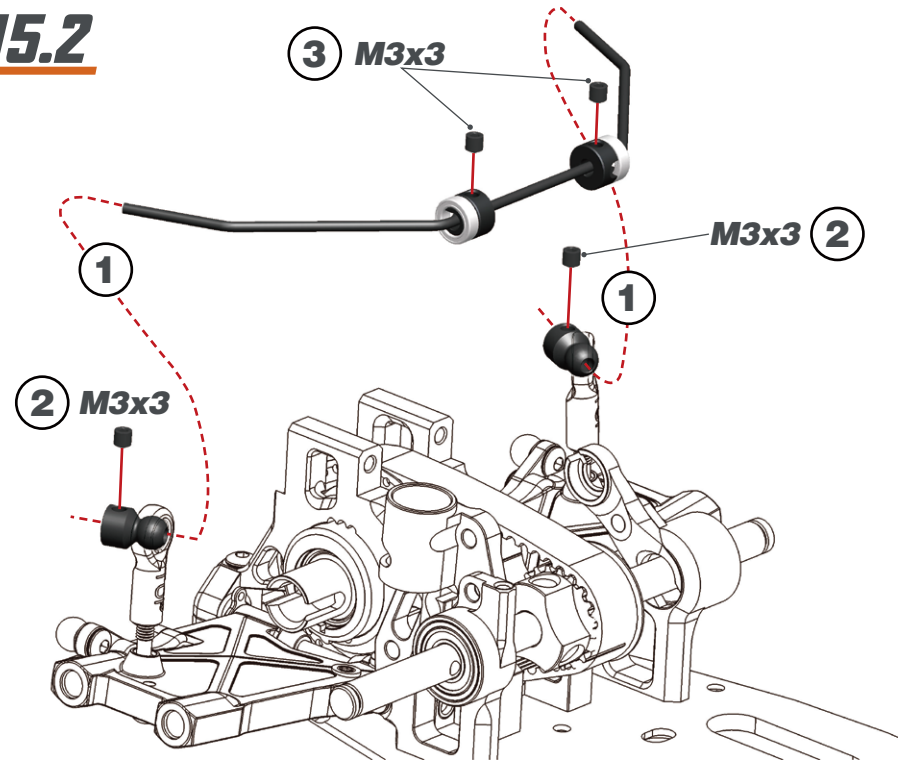


STEP 15

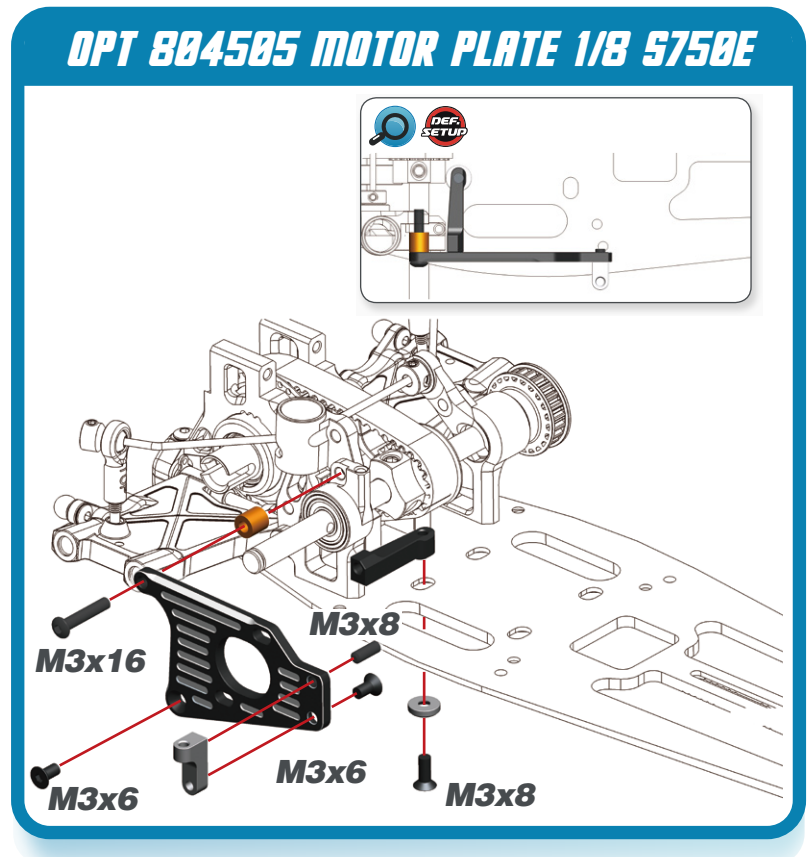
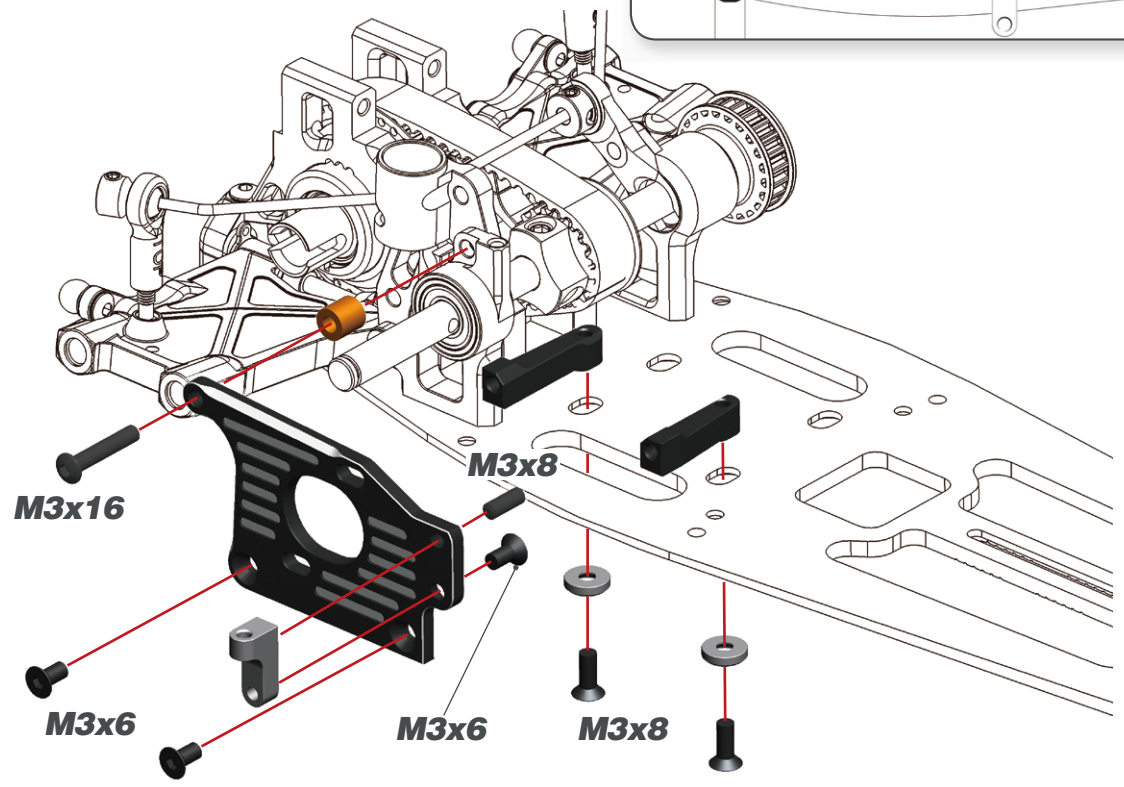
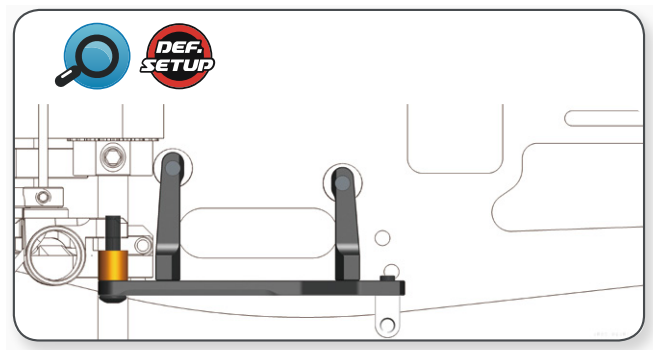
15.1



15.2

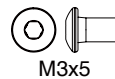
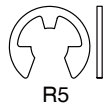
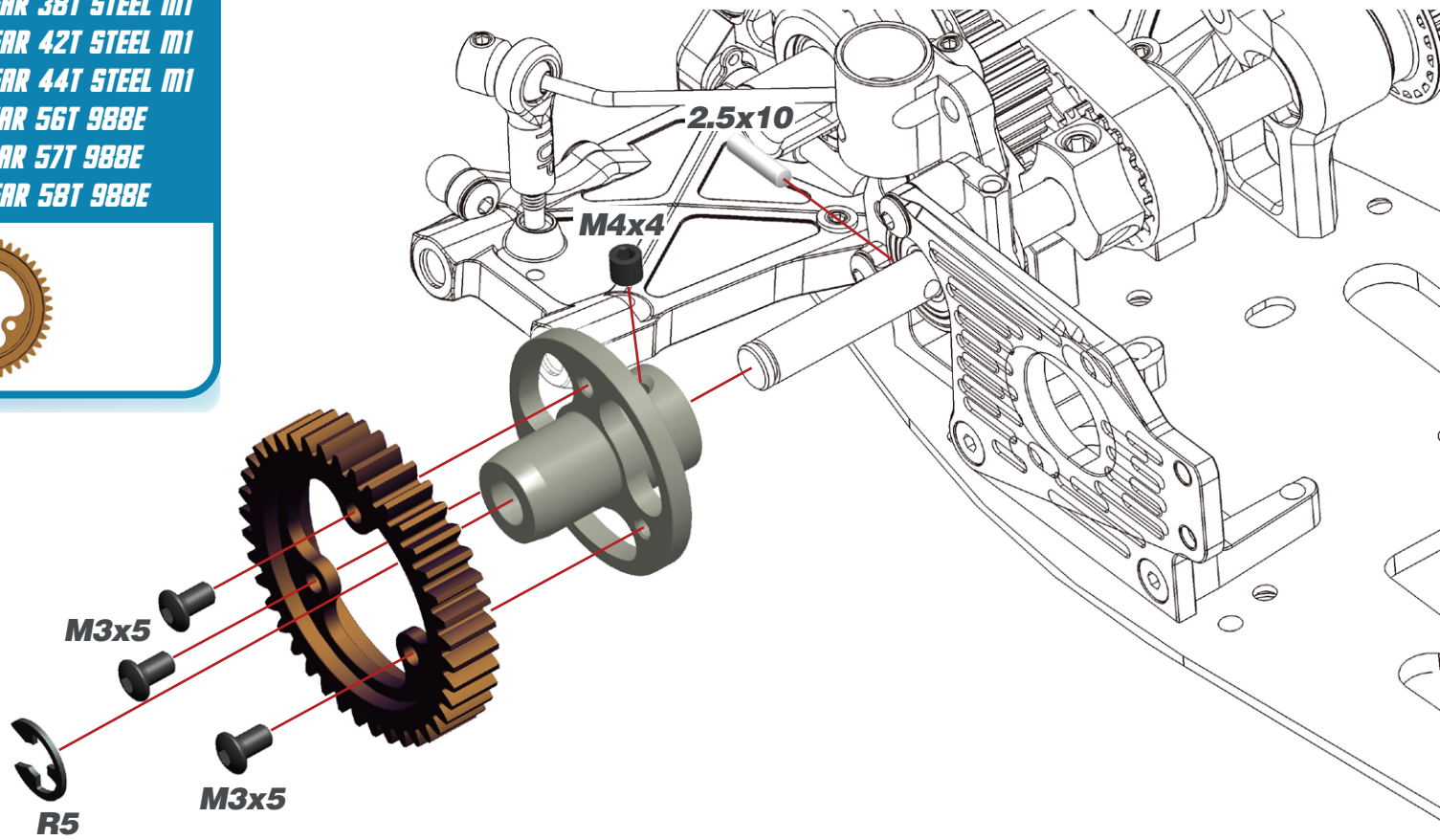


STEP 16 BAG 4



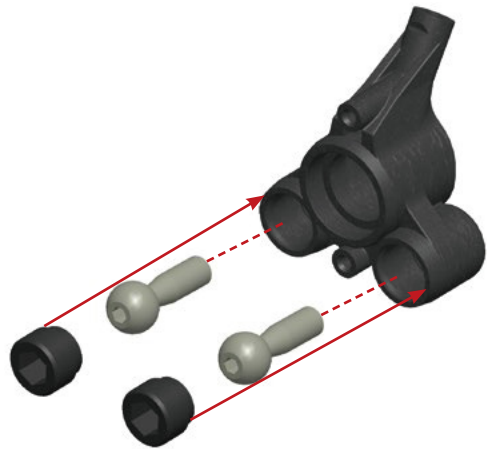
STEP 17

OPT 884512 SPUR GEAR 36T STEEL M1
884513 SPUR GEAR 38T STEEL M1
884515 SPUR GEAR 42T STEEL M1
884516 SPUR GEAR 44T STEEL M1
984178 SPUR GEAR 56T 988E
984179 SPUR GEAR 57T 988E
984180 SPUR GEAR 58T 988E

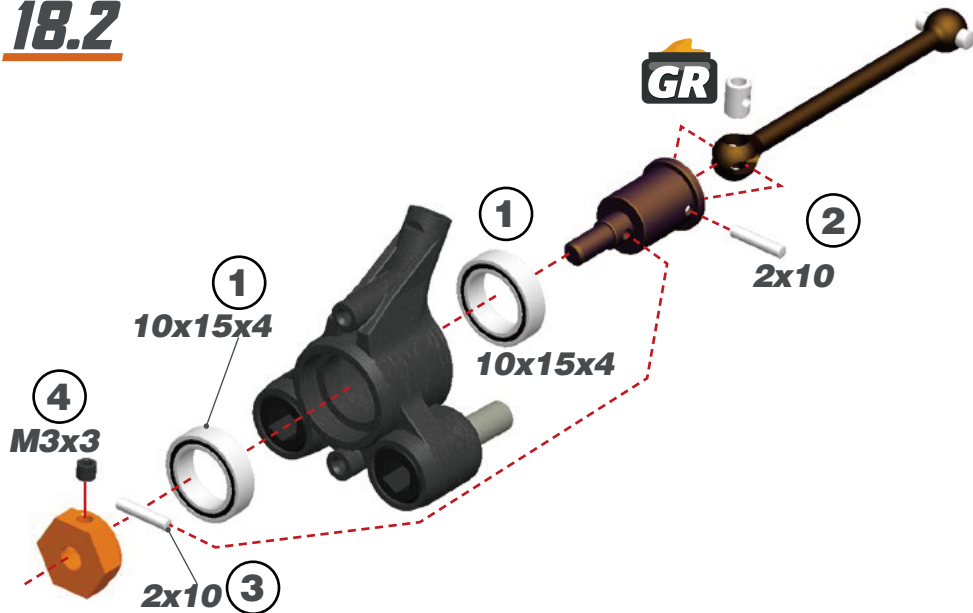


STEP 18 BAG 5

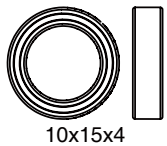
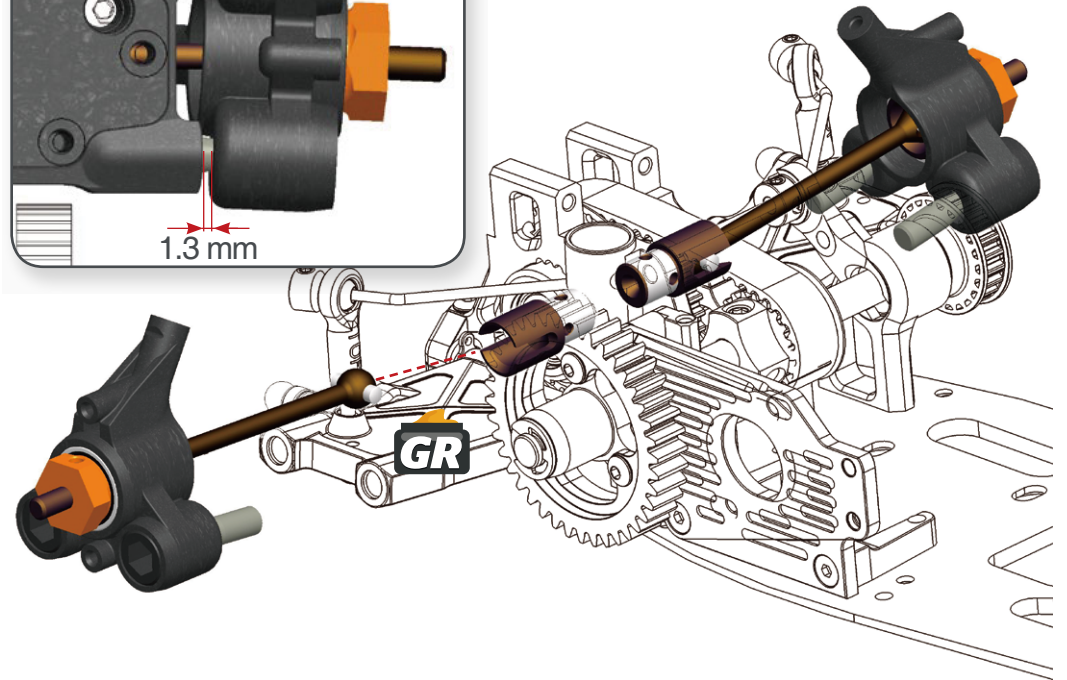
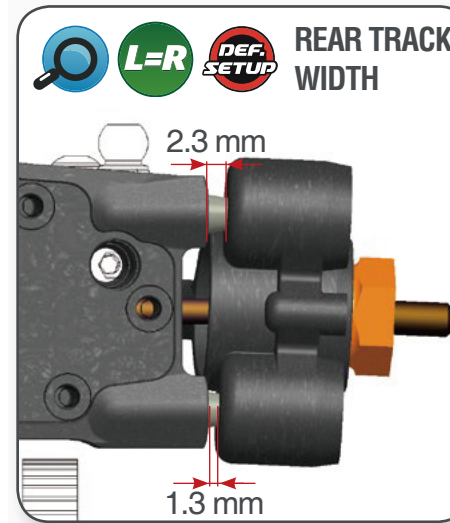
18.1



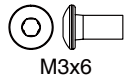
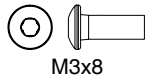
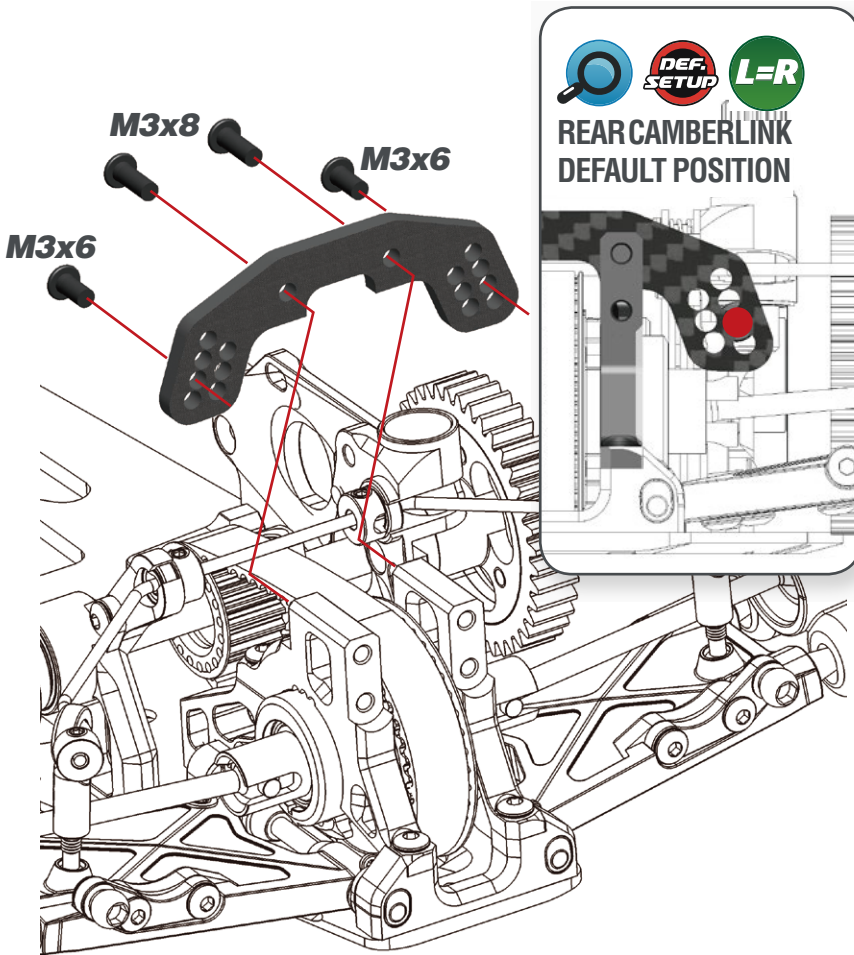
18.2



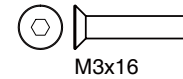
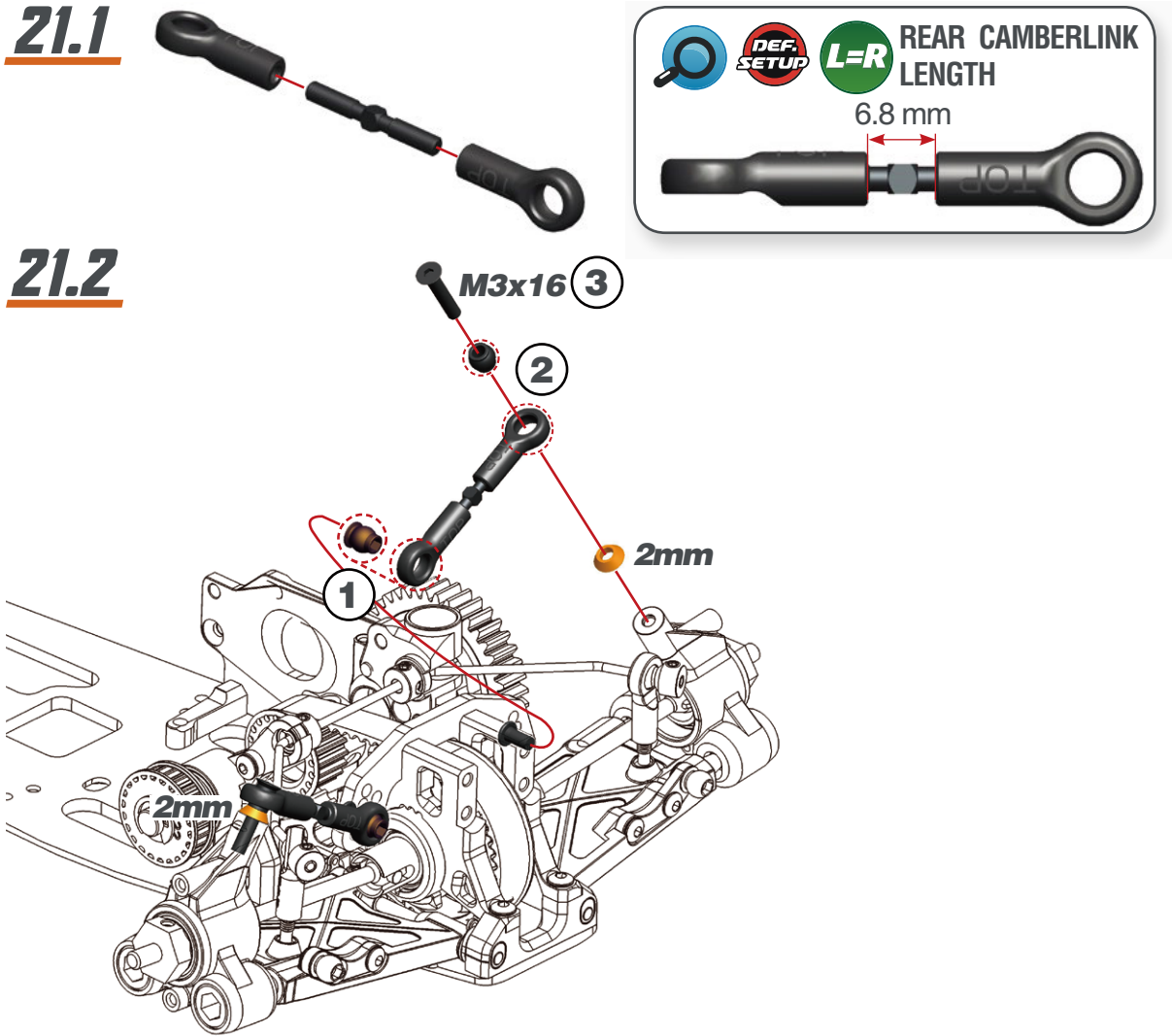
18.3





STEP 19



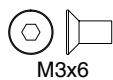
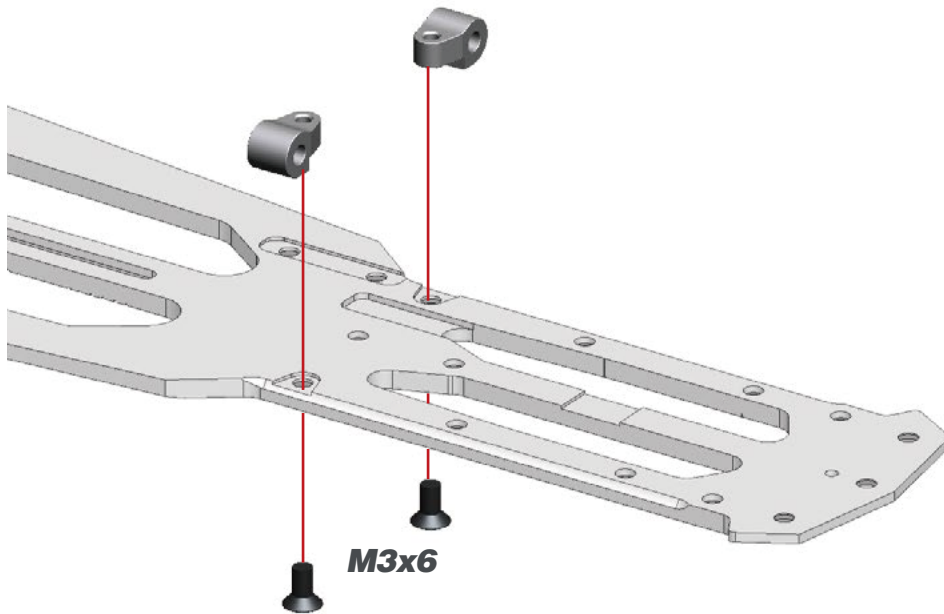
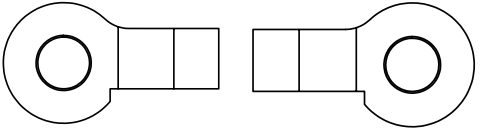
STEP 20




STEP 21 BAG 6

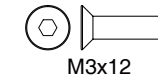
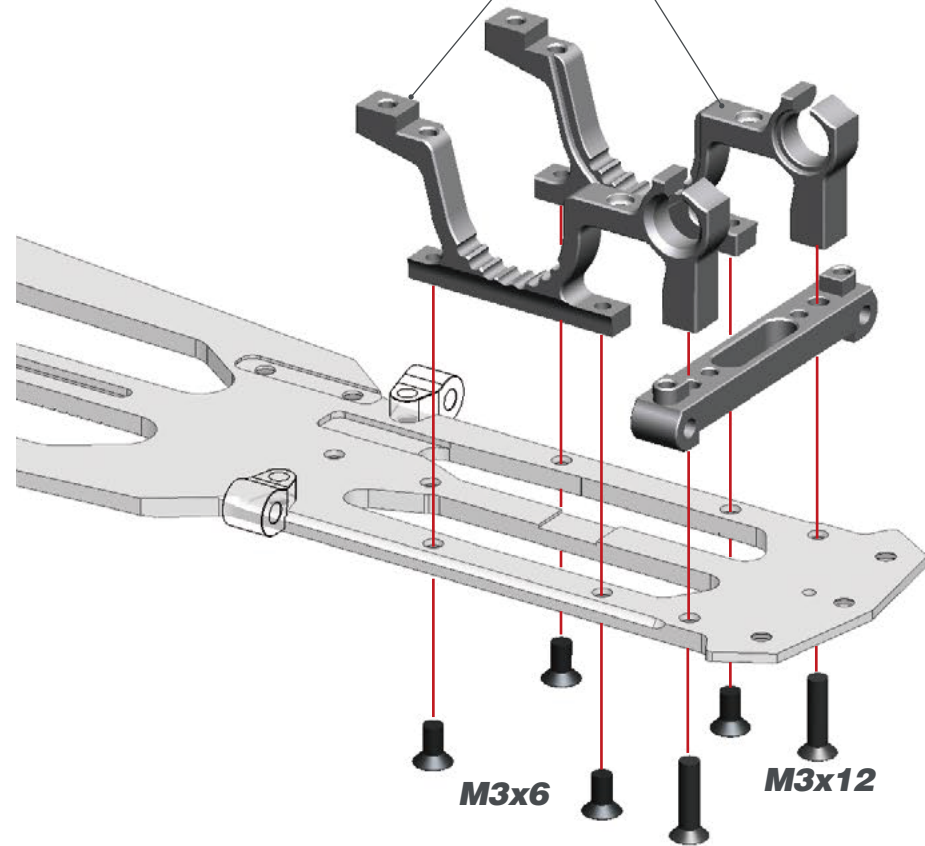
  Note that the front suspension brackets are not symmetric. Check below the correct orientation

RIGHT **LEFT**

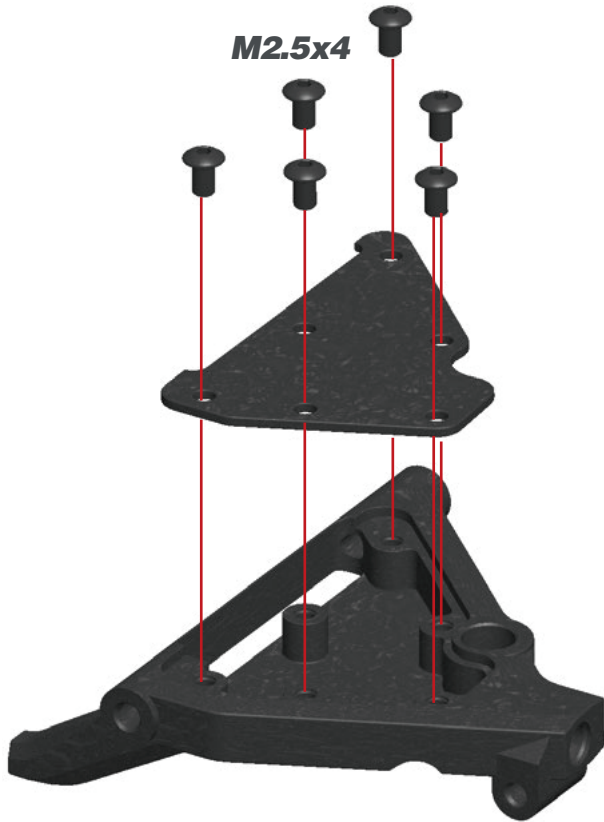


STEP 22

 Note that the front bearing blocks are not symmetric.

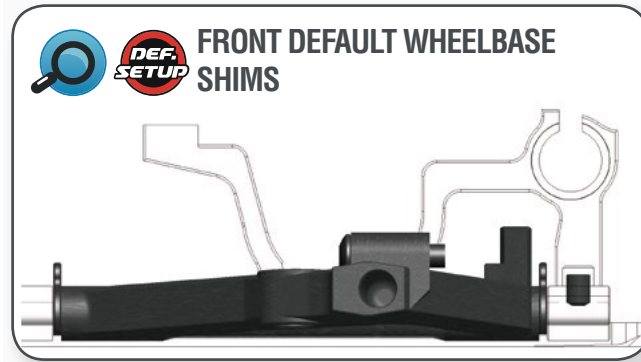


STEP 23

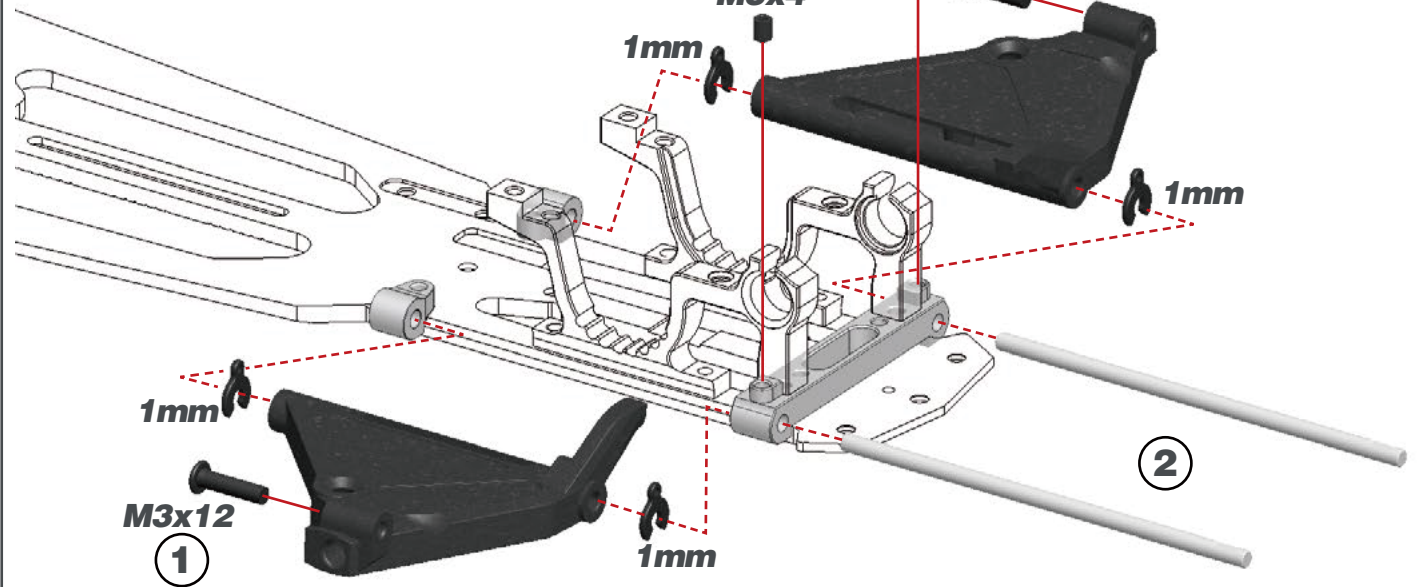


M2.5x4

STEP 24



FRONT DEFAULT WHEELBASE SHIMS



3
M3x4

1
M3x12

M3x4

1mm

1mm

1mm

M3x12

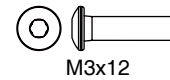
1

1mm

2



M2.5x4

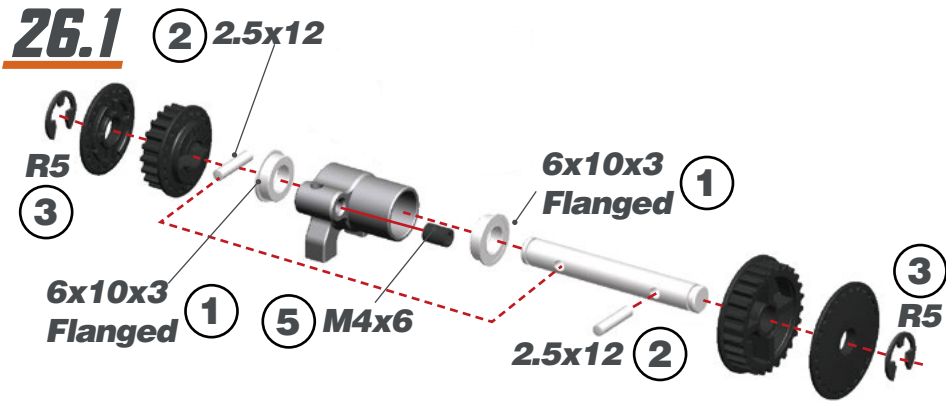


M3x12

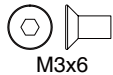
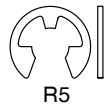
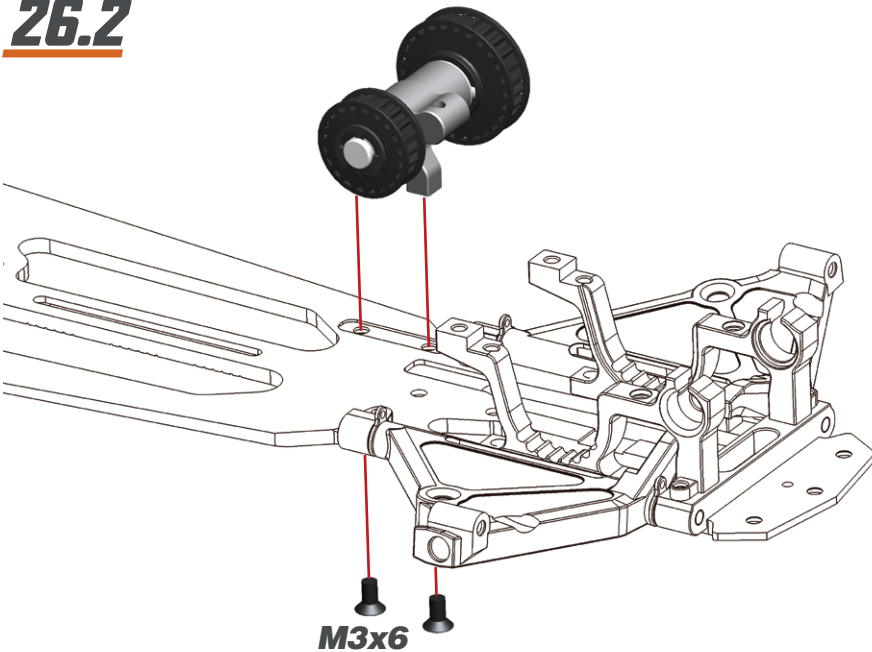


M3x4

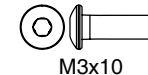
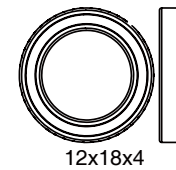
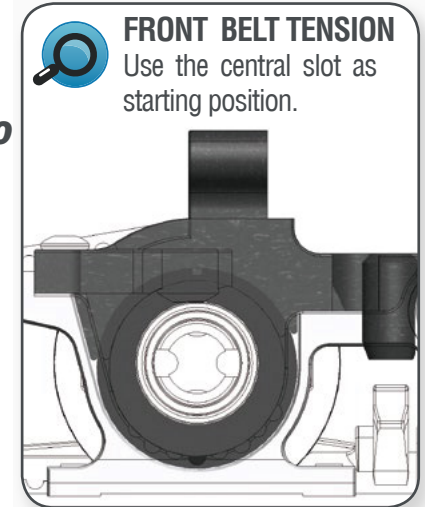
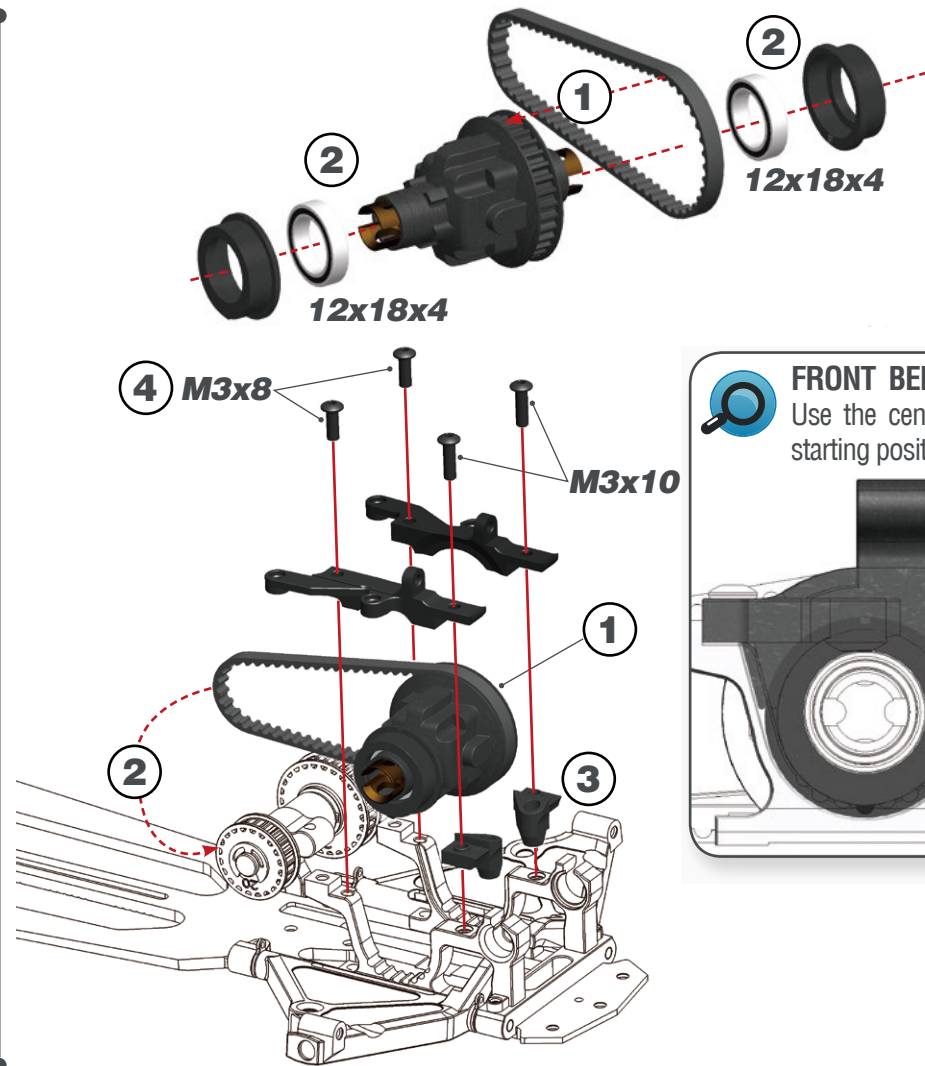
STEP 25



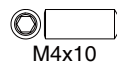
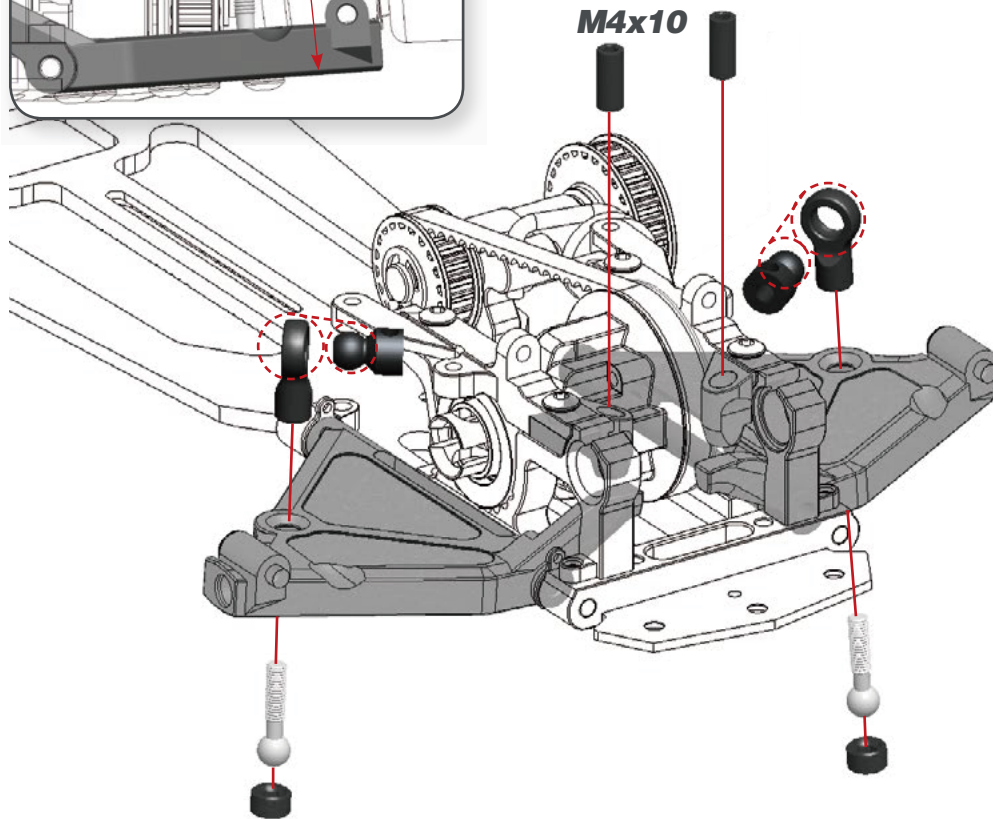
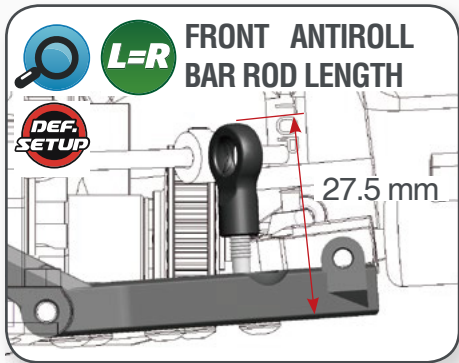
26.2



STEP 26 BAG 7



STEP 27

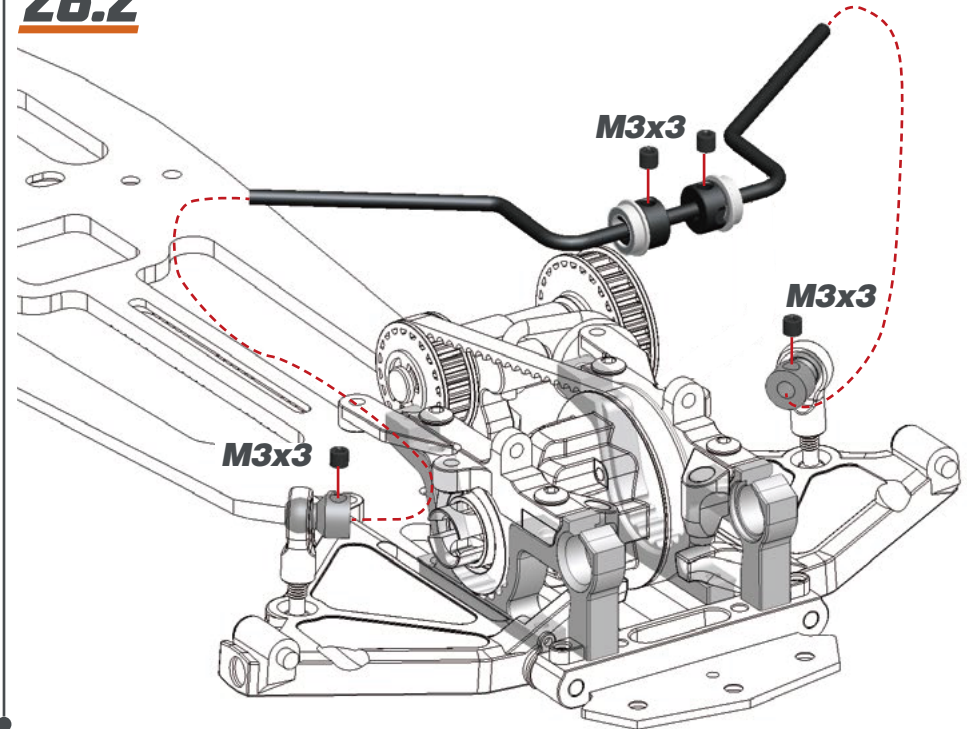


STEP 28

28.1

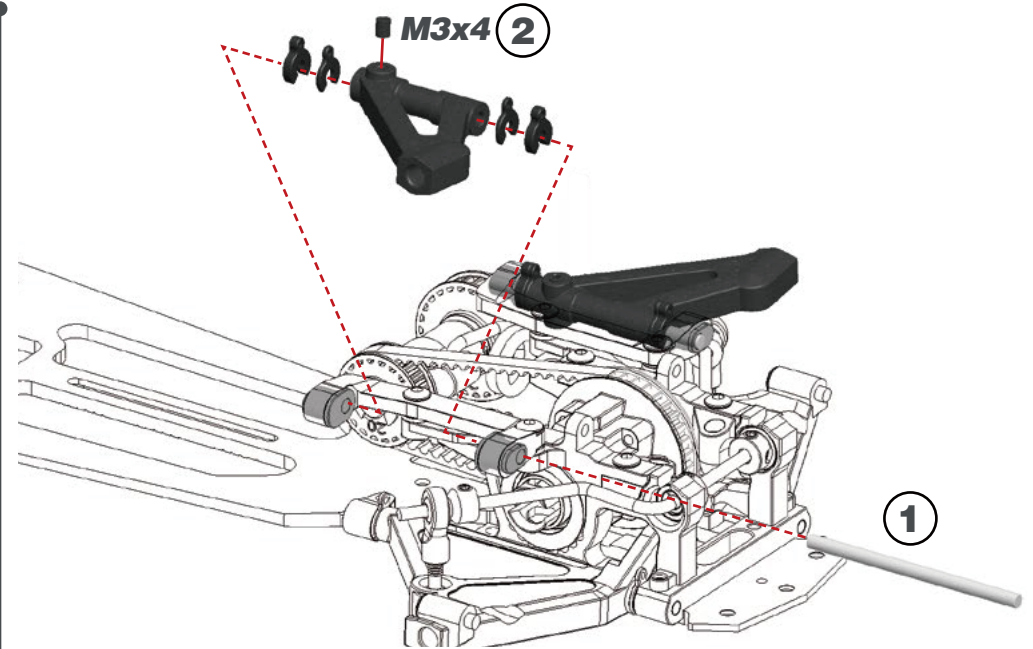
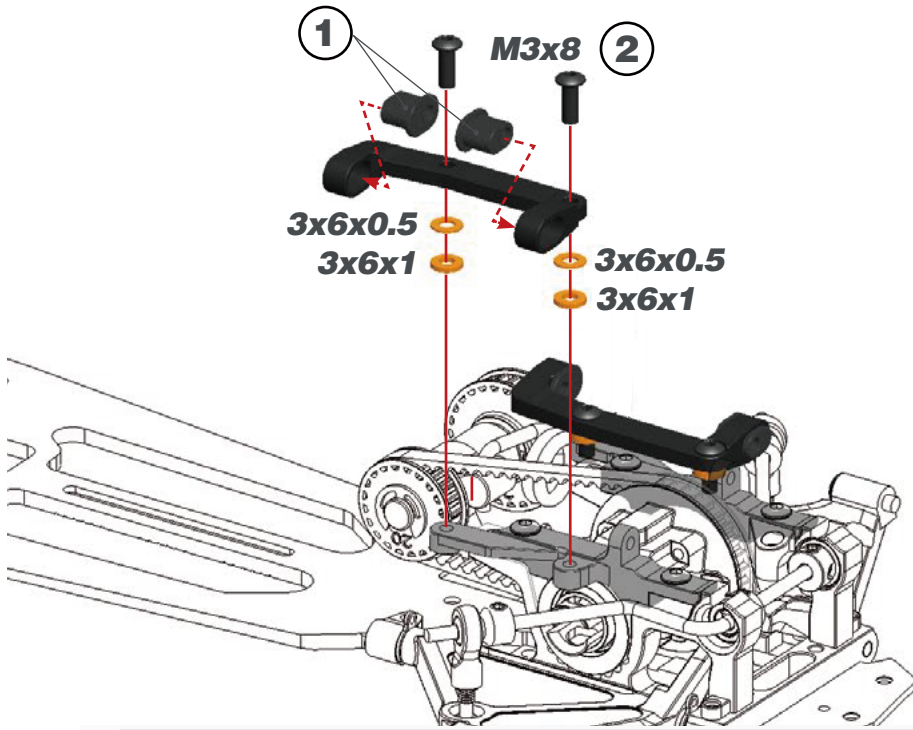


28.2



STEP 29 BAG 8

STEP 30

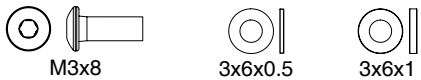


L-R FRONT SUSPENSION INSERTS CHART

INSIDE		MID		OUTSIDE	
RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT

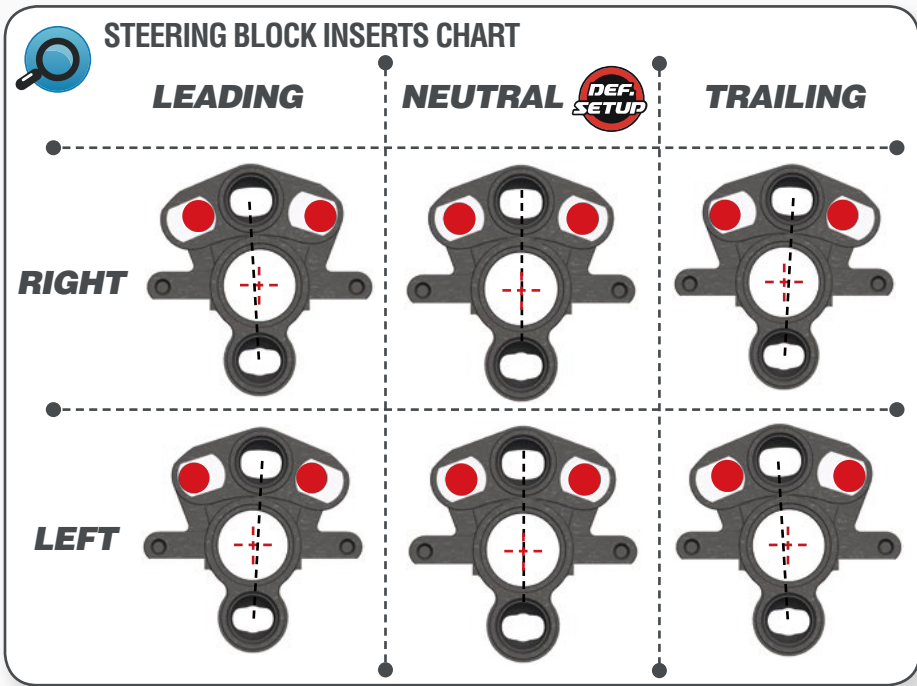
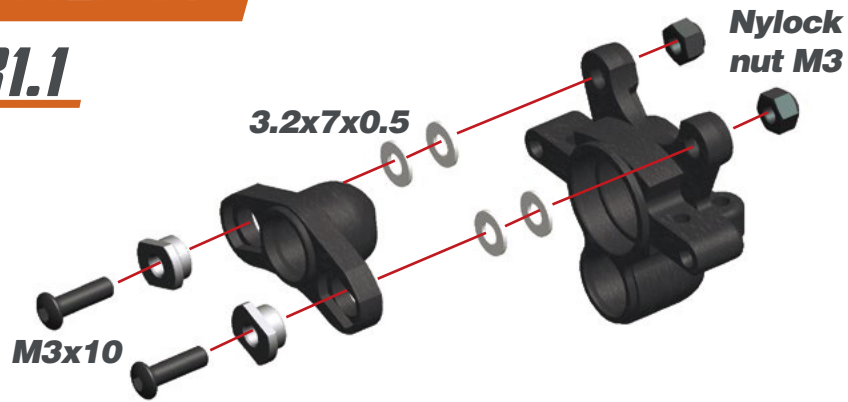
L-R FRONT CASTER DEFAULT SPACERS

4mm 2mm 1mm 2mm

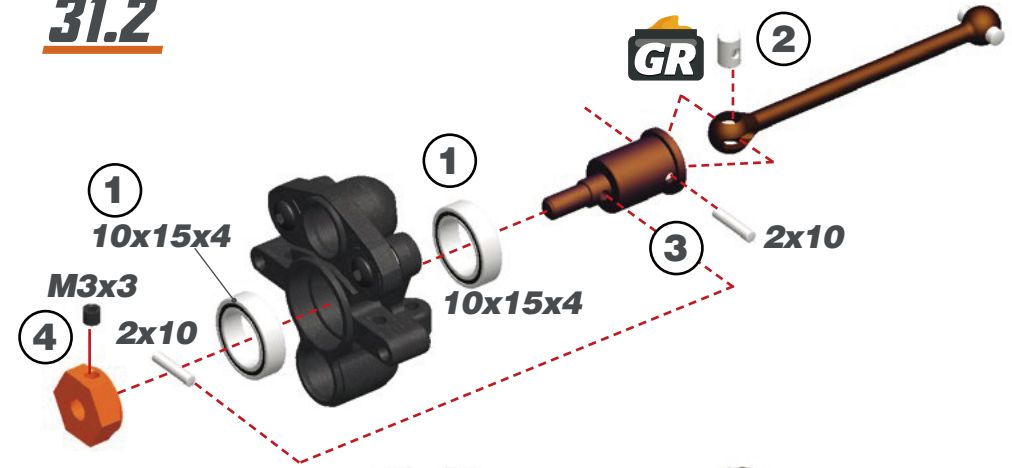


STEP 31

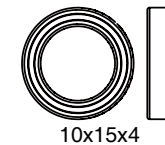
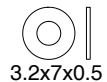
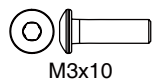
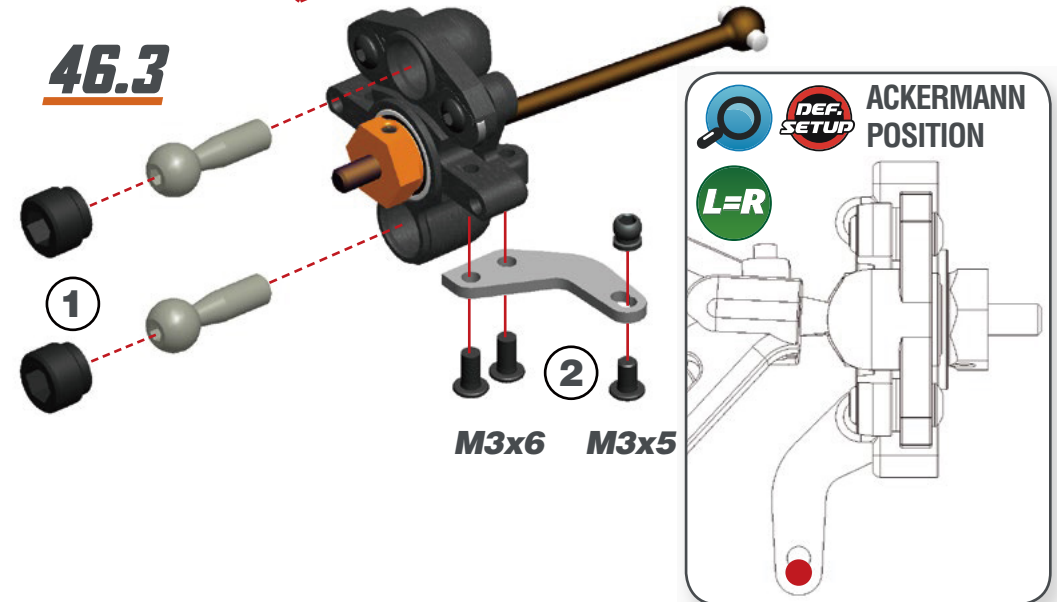
31.1



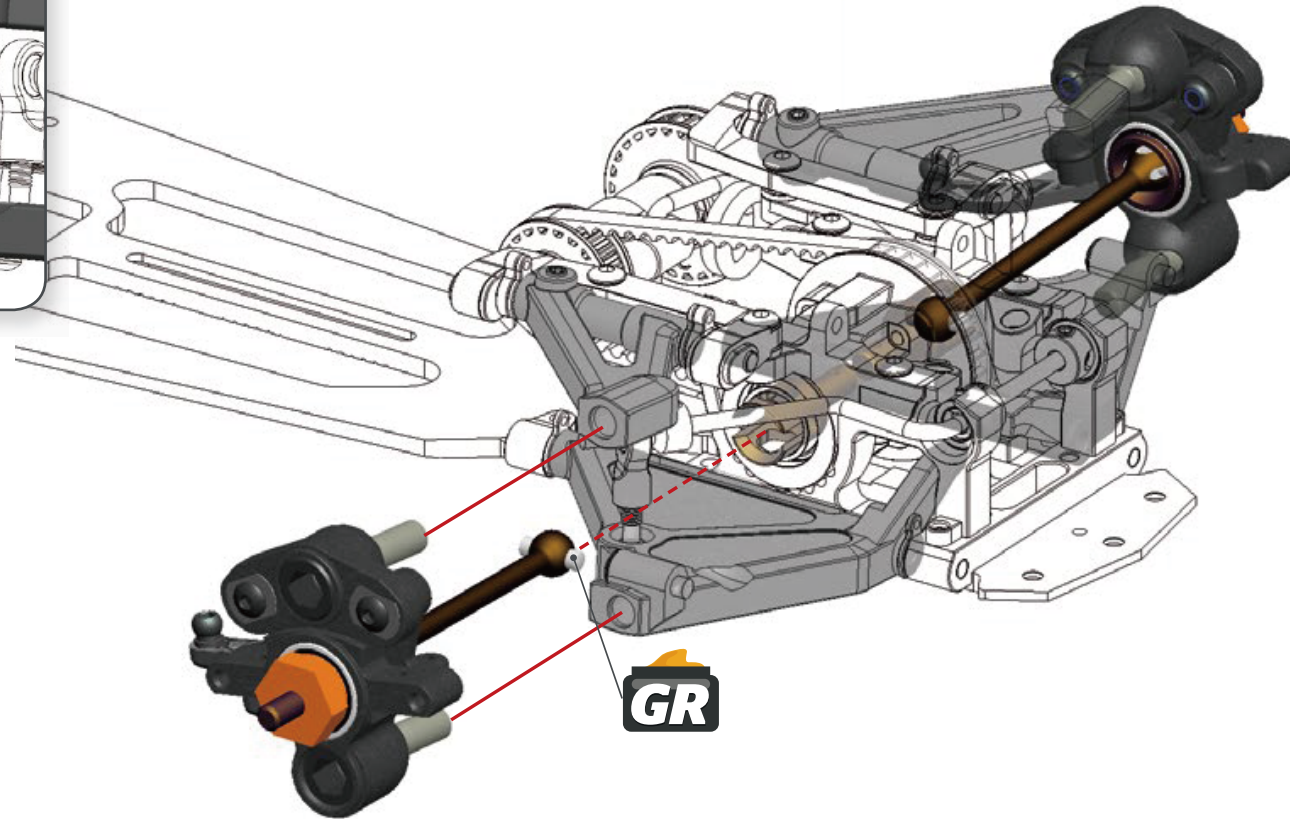
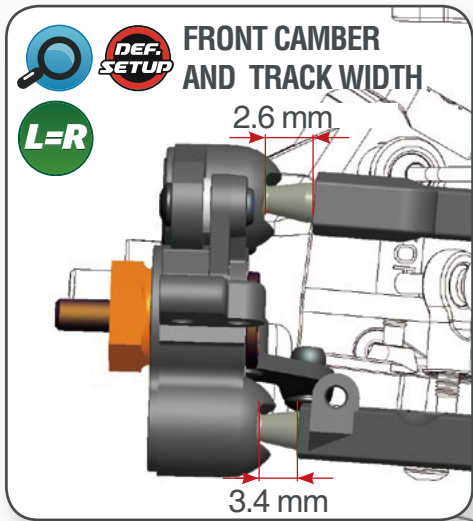
31.2



46.3



STEP 32

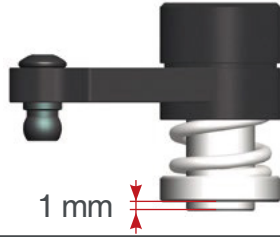


STEP 33 BAG 9










33.1

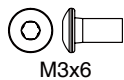


Preload the servo-saver-spring 1mm.

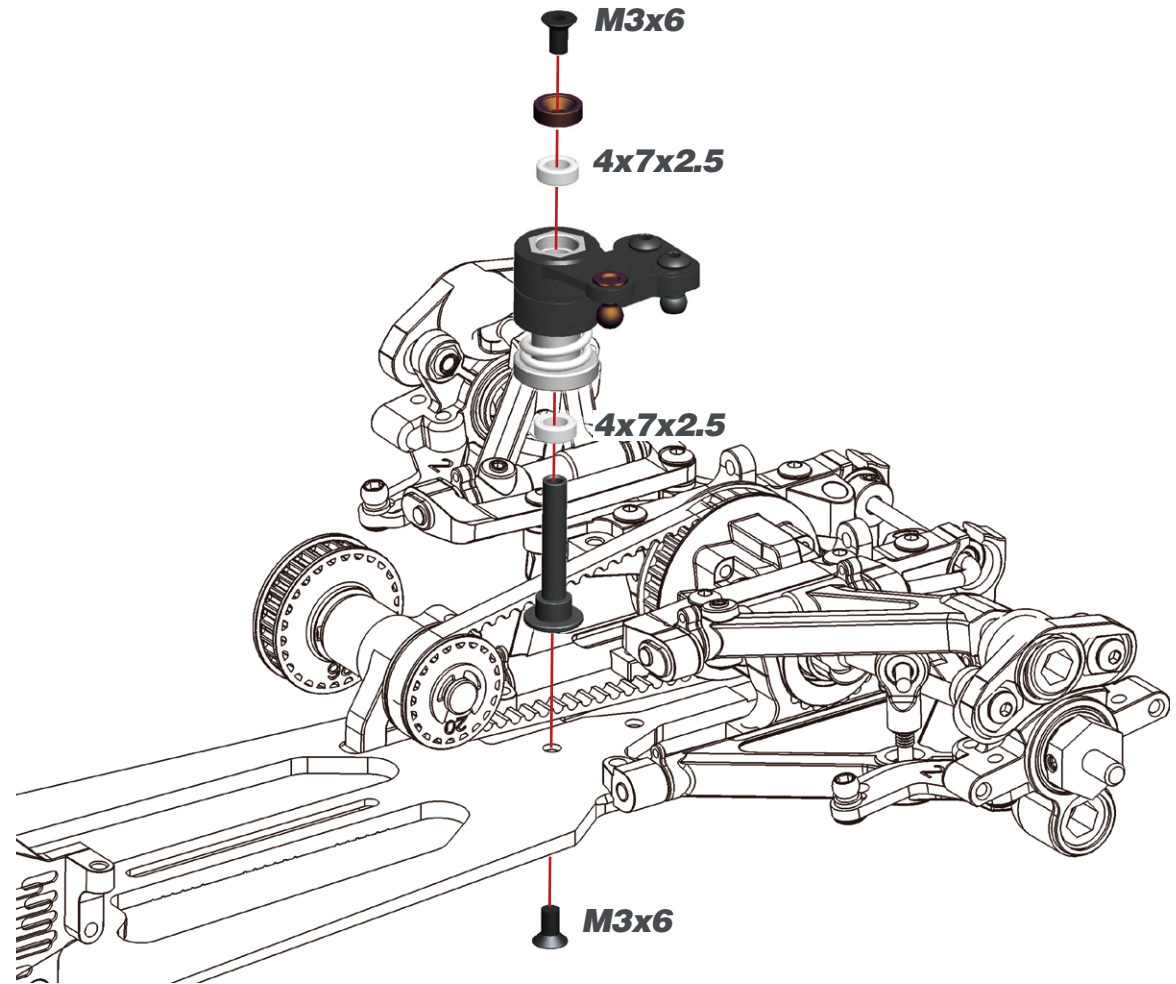


SERVOSAVER ACKERMANN INSERTS

-   **FORWARD NARROW** 
-   **REARWARD NARROW**
-   **FORWARD WIDE**
-   **REARWARD WIDE**



33.2

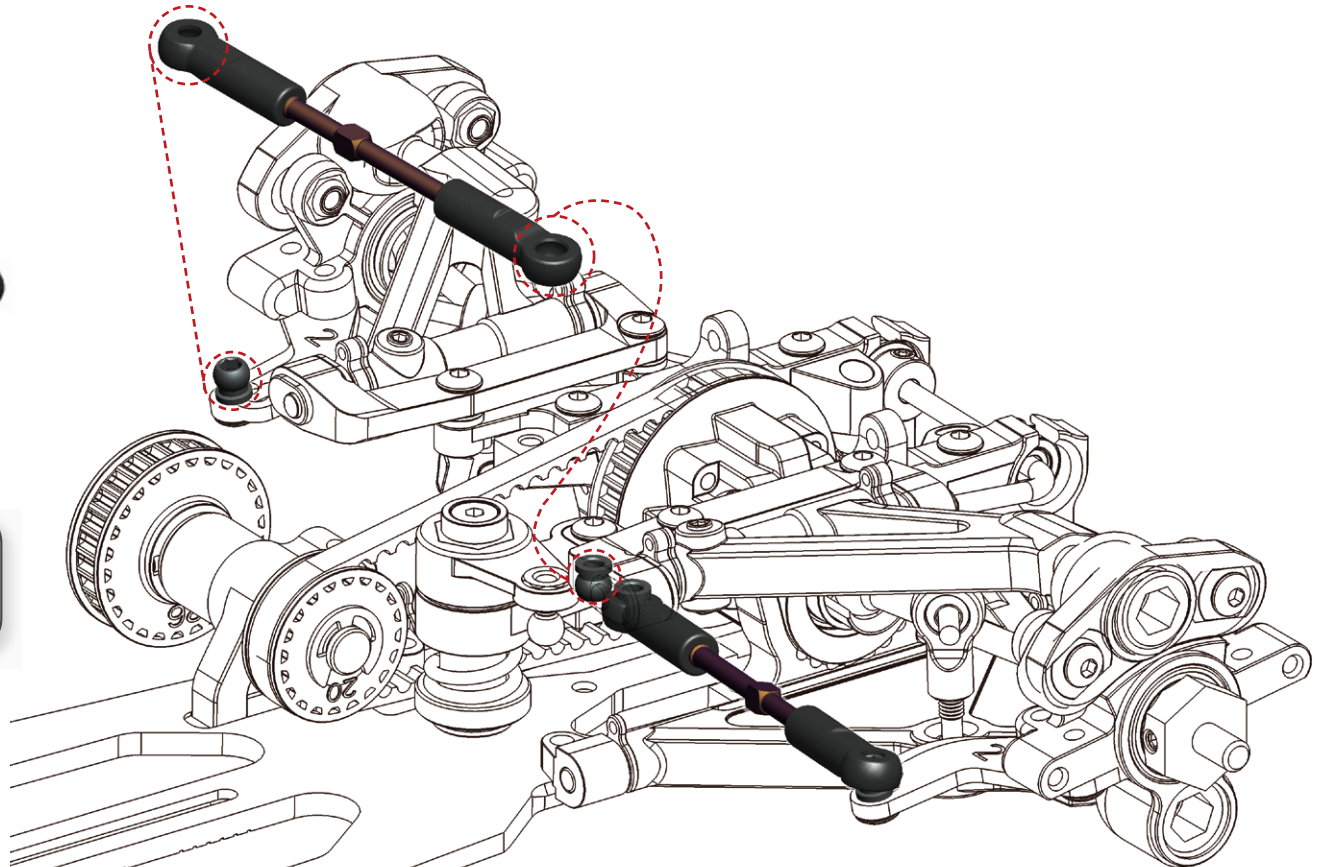


STEP 34

34.1



34.2

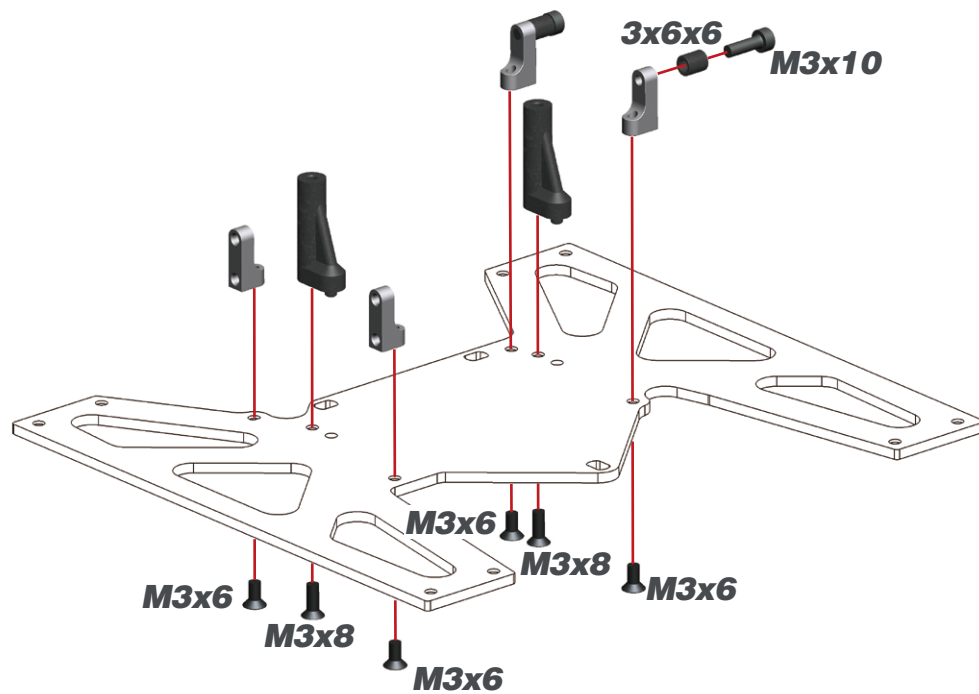
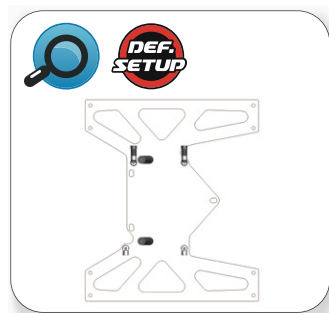


STEERING TRACKROD LENGTH

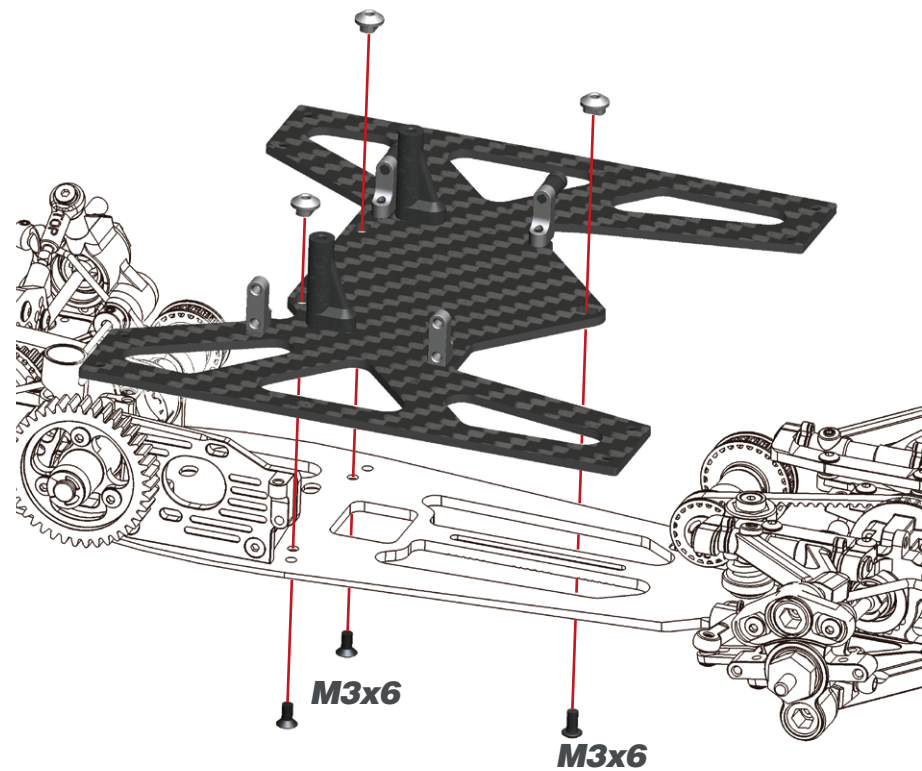
27.2 mm

STEP 35

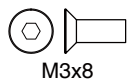
35.1



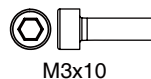
35.2



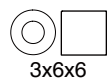
M3x6



M3x8



M3x10



3x6x6



M3x6






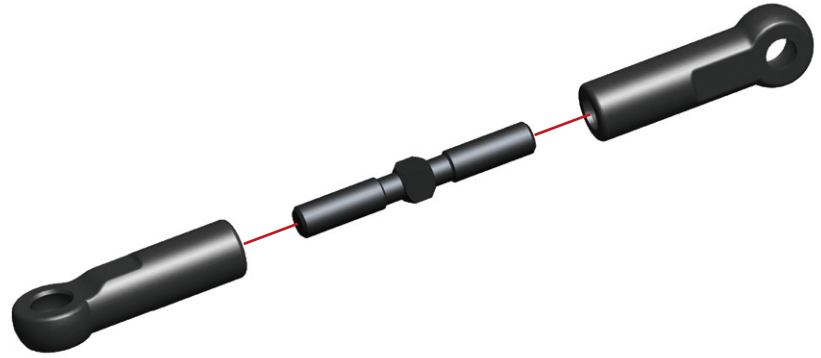

M3x6

STEP 36 BAG 10

36.1

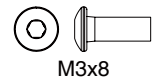
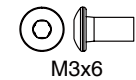
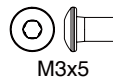
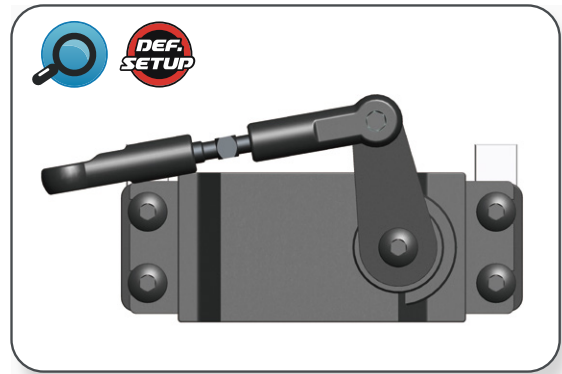
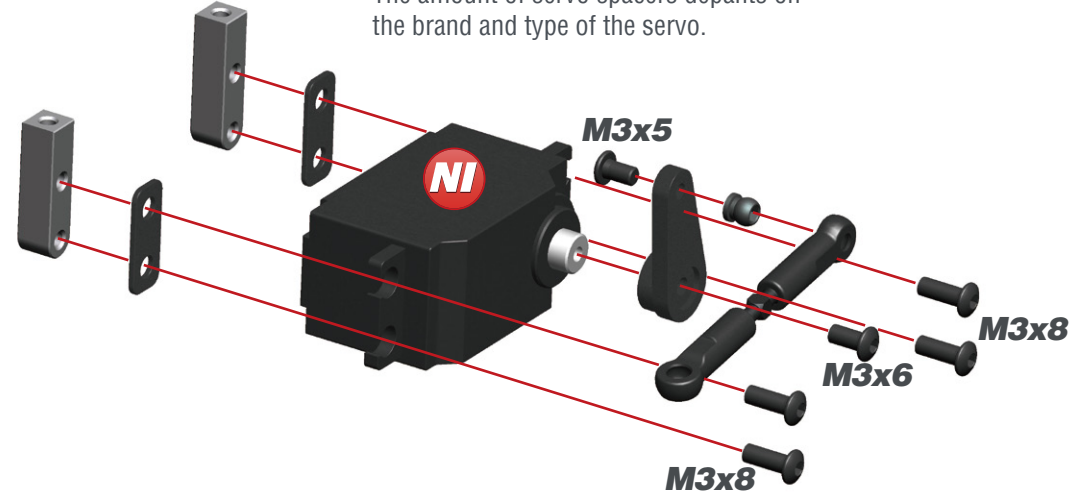
STEERING TRACKROD LENGTH

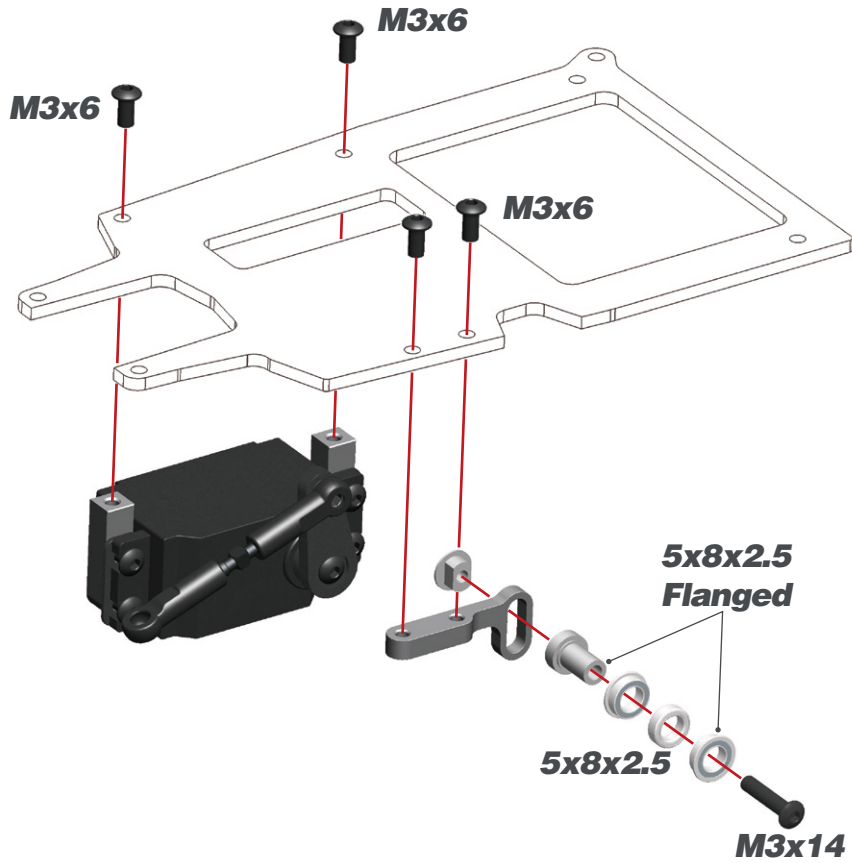


36.2

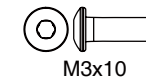
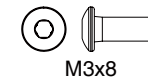
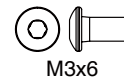
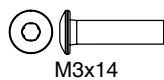
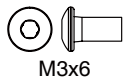
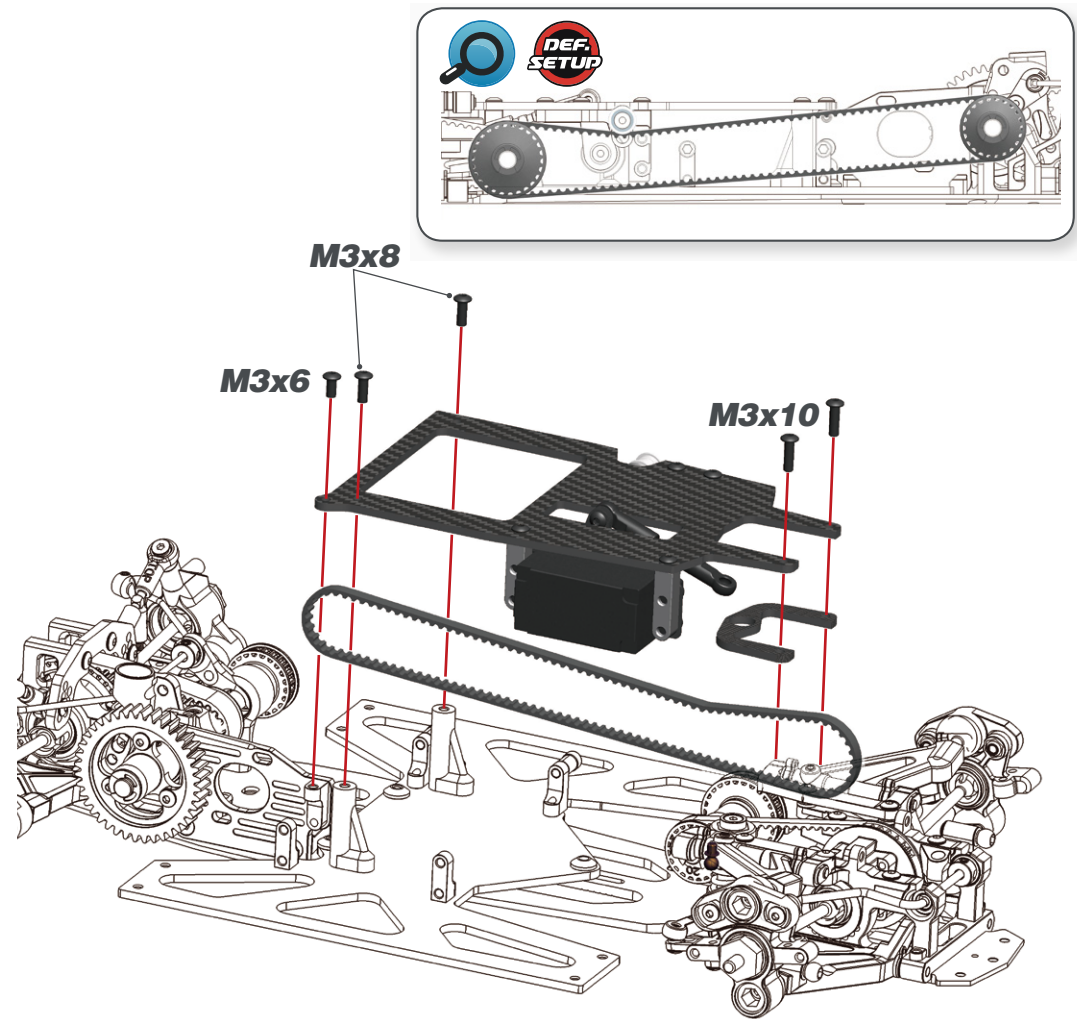
The amount of servo spacers depends on the brand and type of the servo.



STEP 37

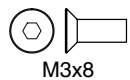
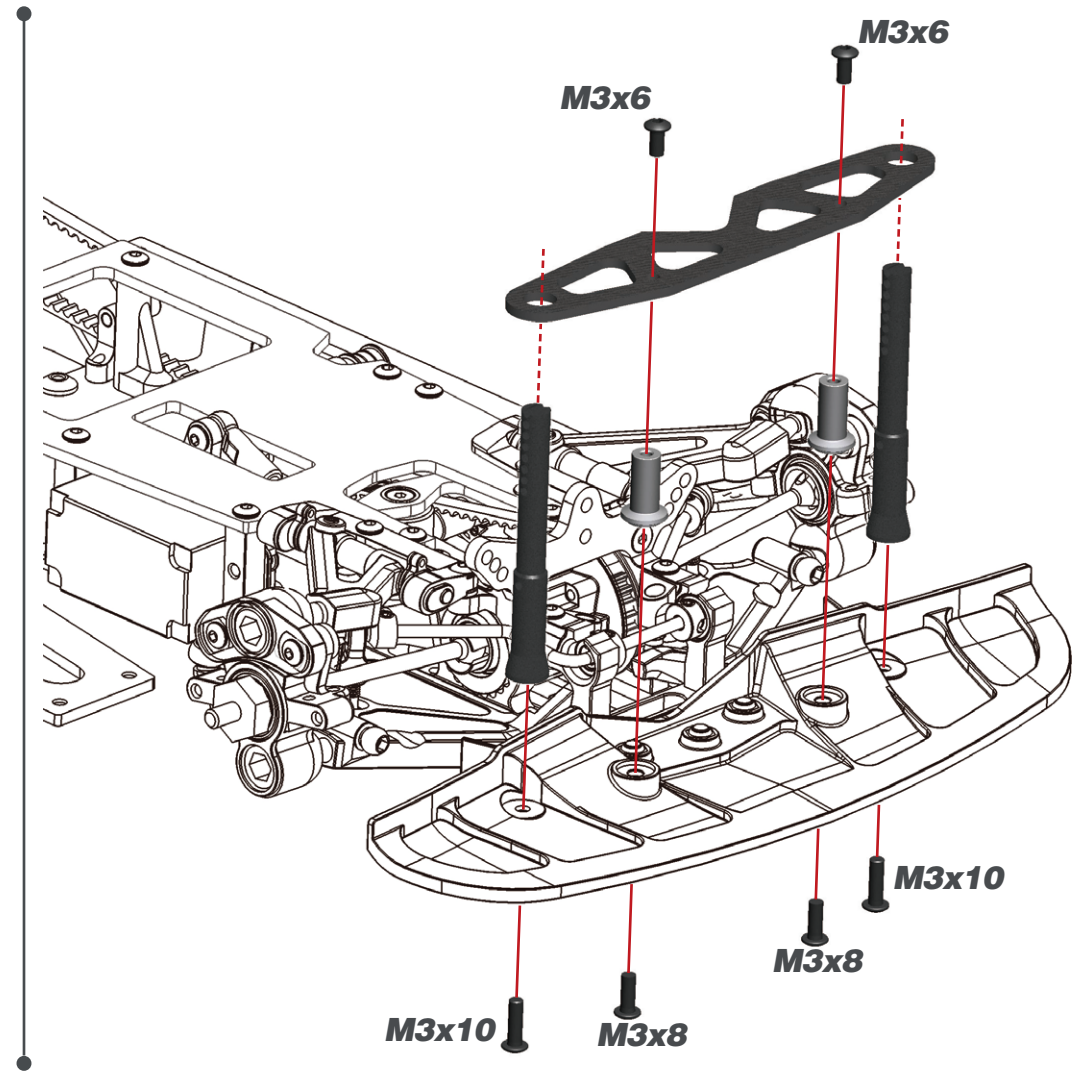
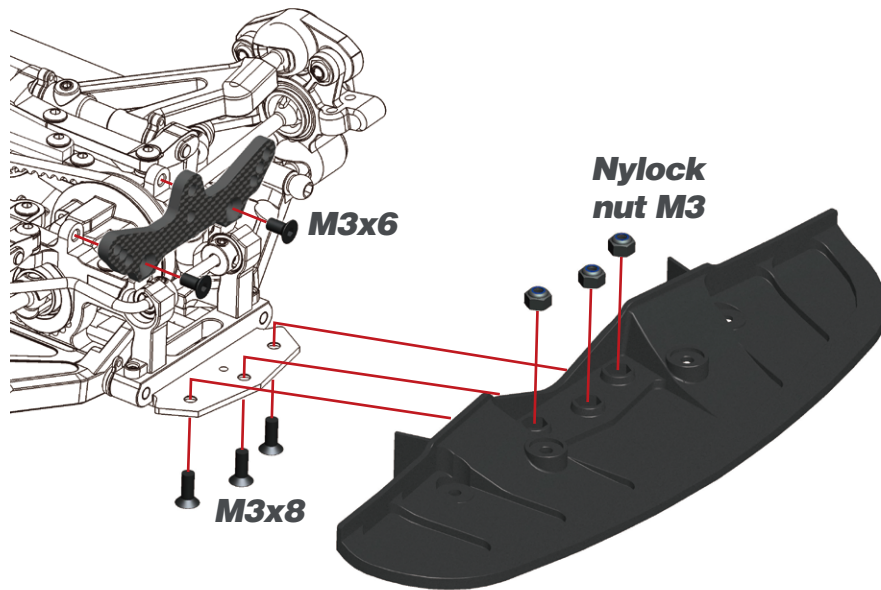


STEP 38

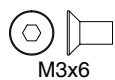


STEP 39 BAG 11

STEP 40



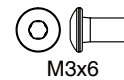
M3x8



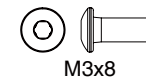
M3x6



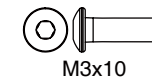
Nylock Nut M3



M3x6

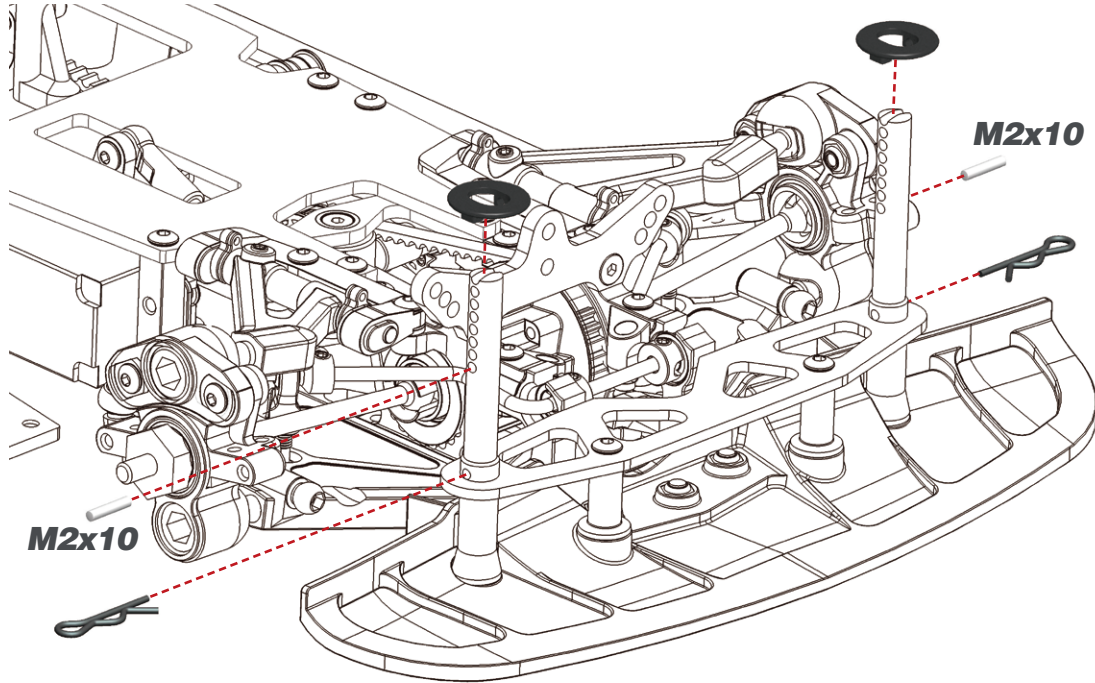


M3x8

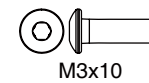
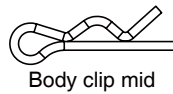
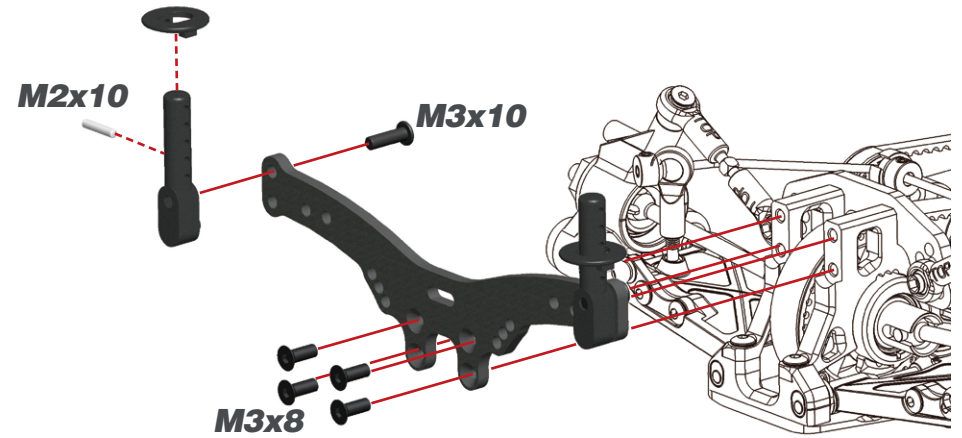


M3x10

STEP 41

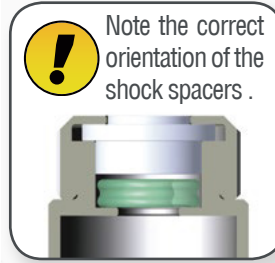
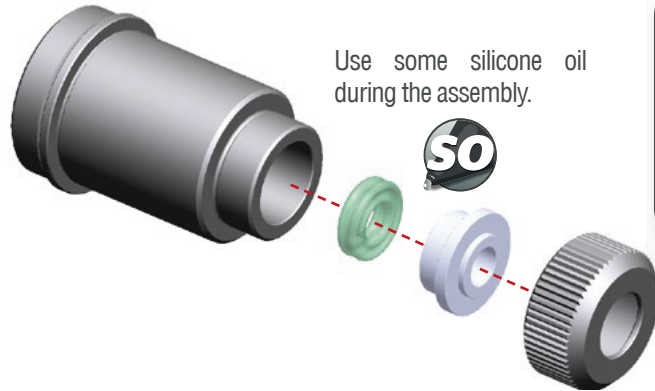


STEP 42

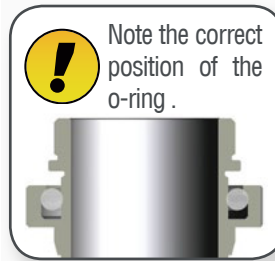
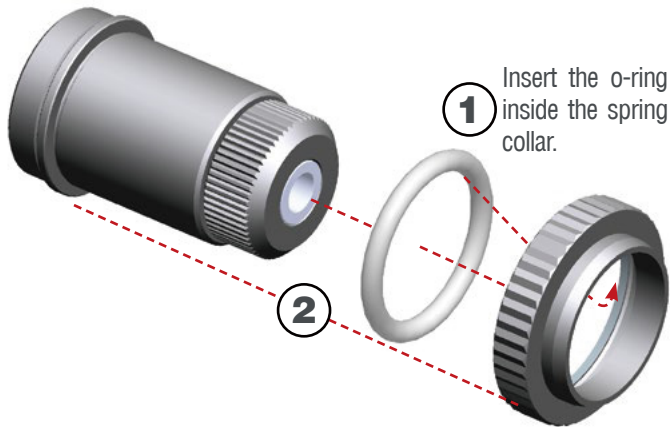


STEP 43 SHOCK BAG

43.1

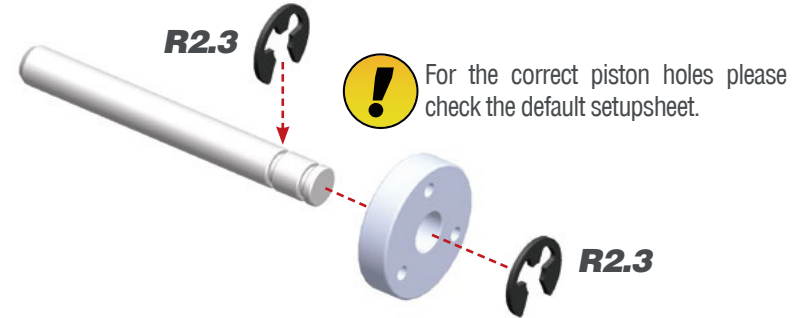


43.2



STEP 44

44.1



44.2



R2.3

STEP 45

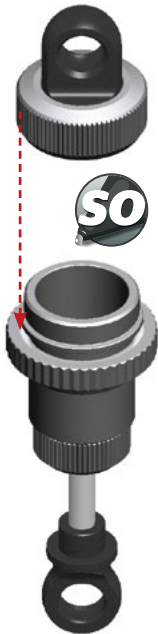
45.1

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



45.2

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.

45.3

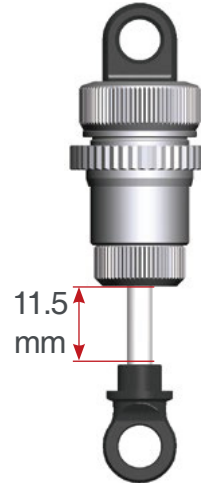
1-Bleed: push the shockrod all the way in slowly, to allow excessive oil to escape.

2- Close completely the shock cap.



SHOCKS LENGTH:

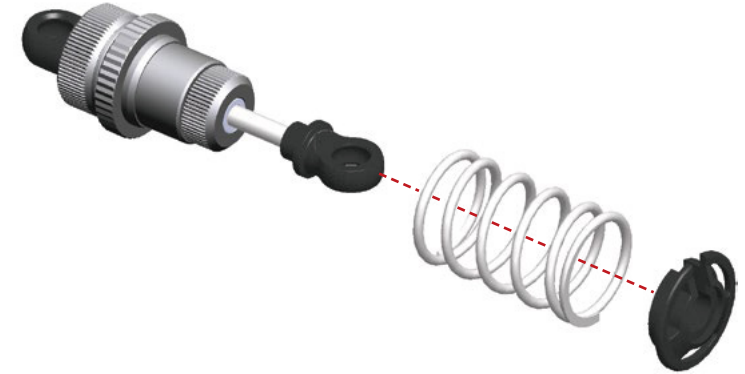
Measure the shock length fully extended.



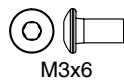
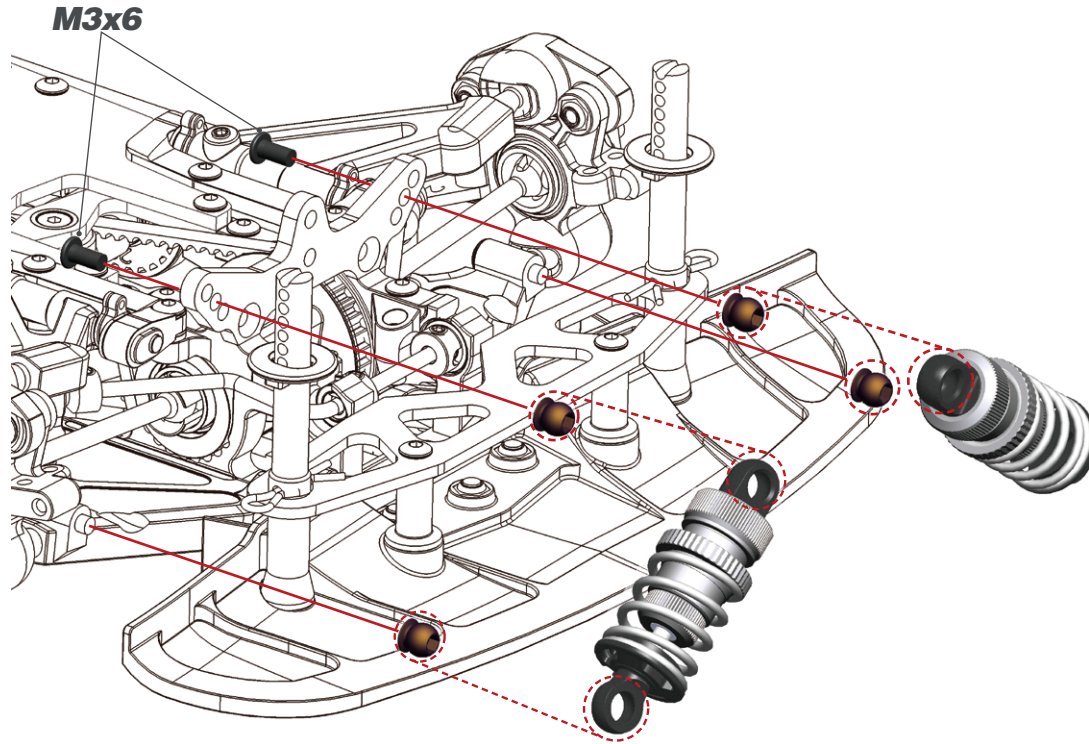
11.5 mm

STEP 46

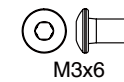
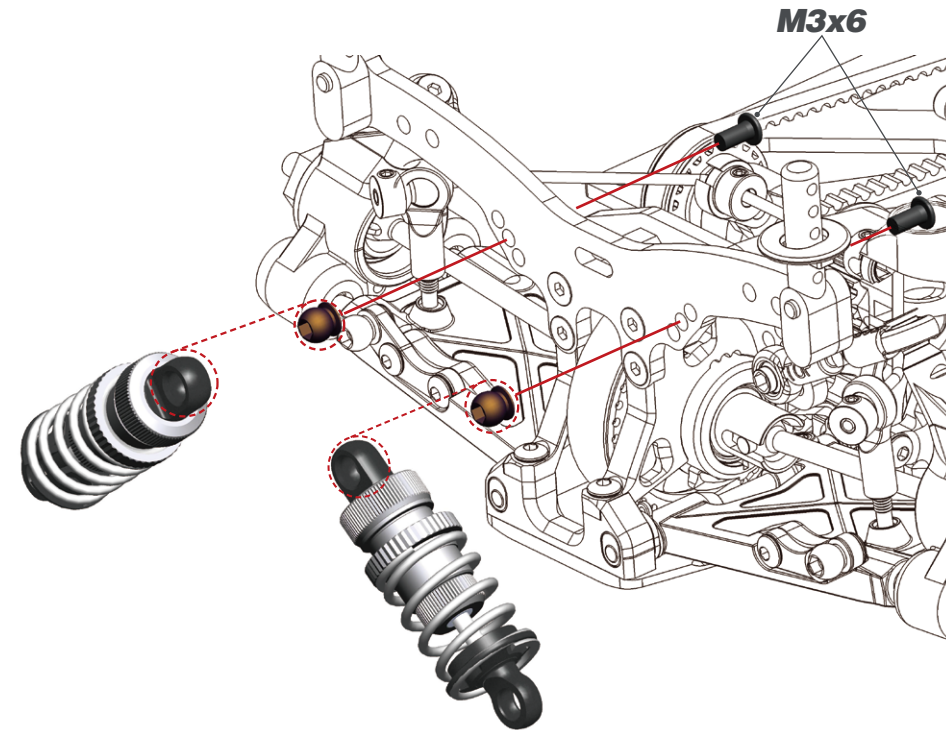
Assemble the spring and spring-cup (align correctly) to complete the shock.



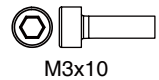
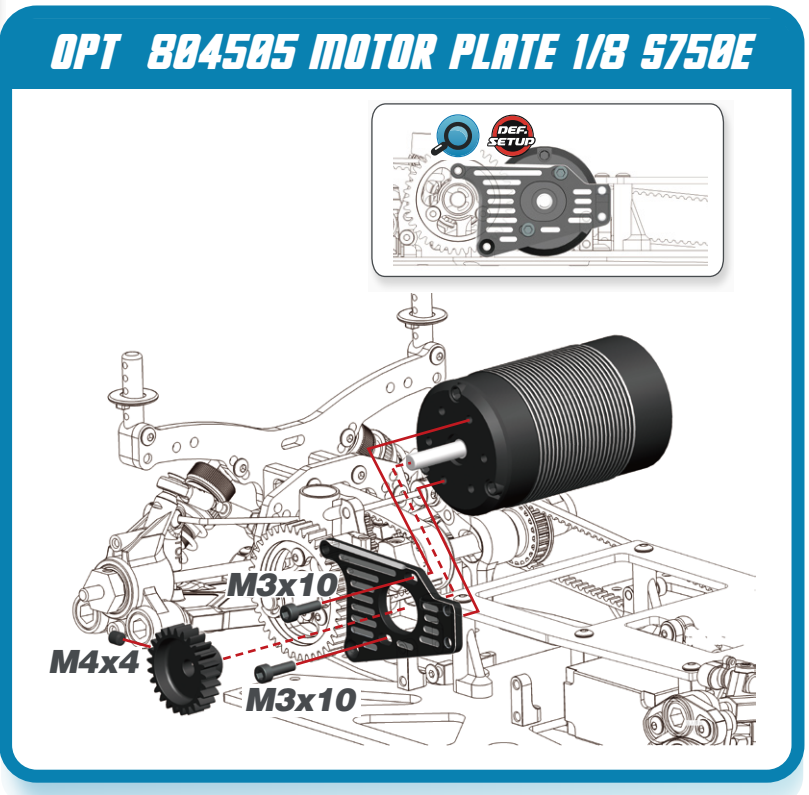
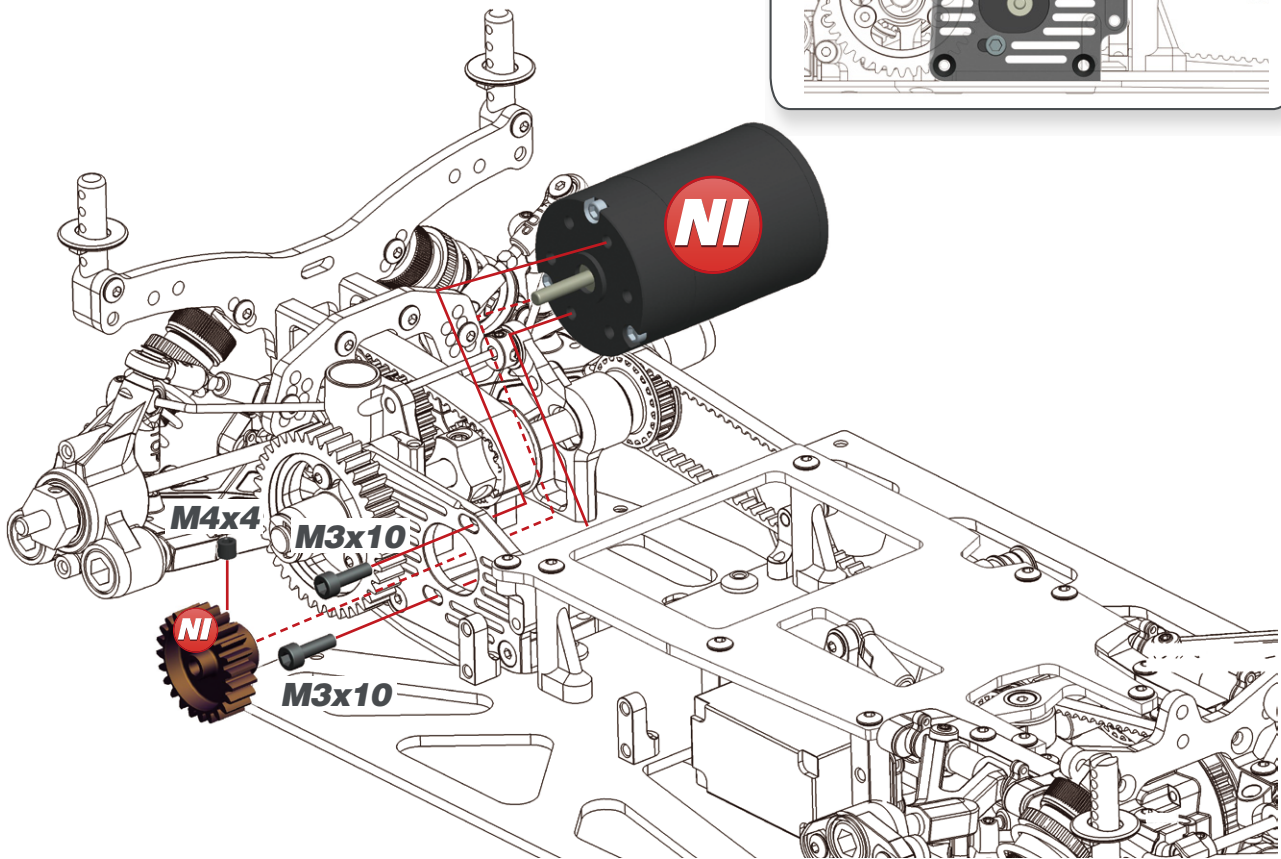
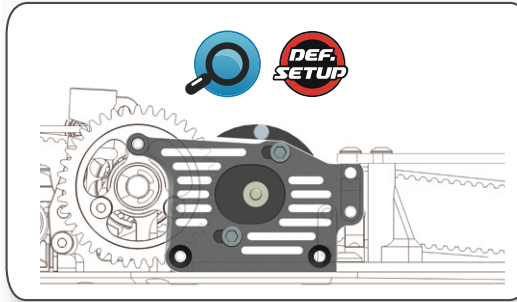
STEP 47



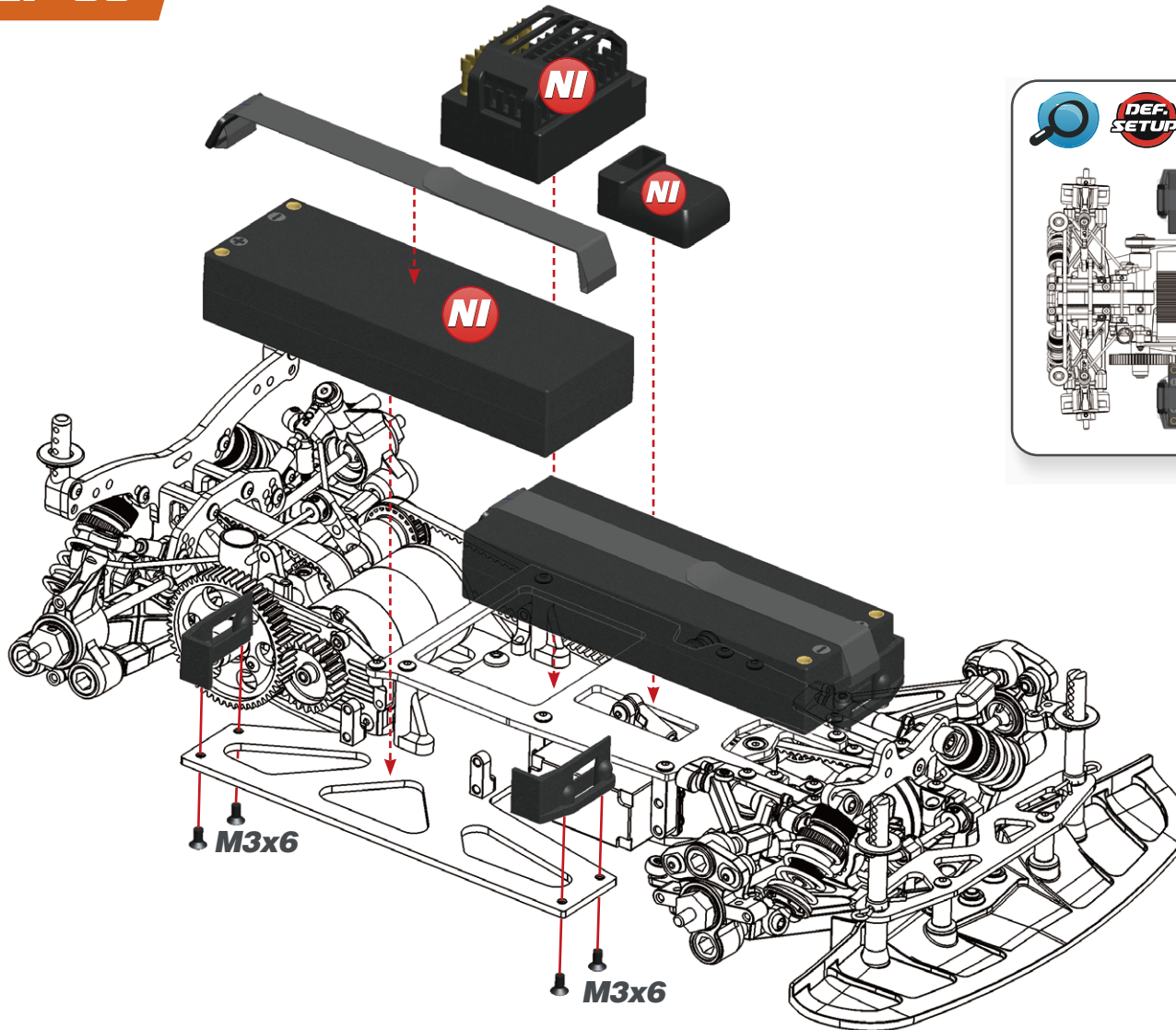
STEP 48



STEP 49 BAG 12

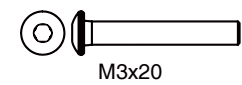
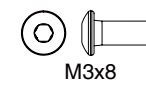
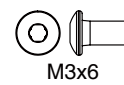
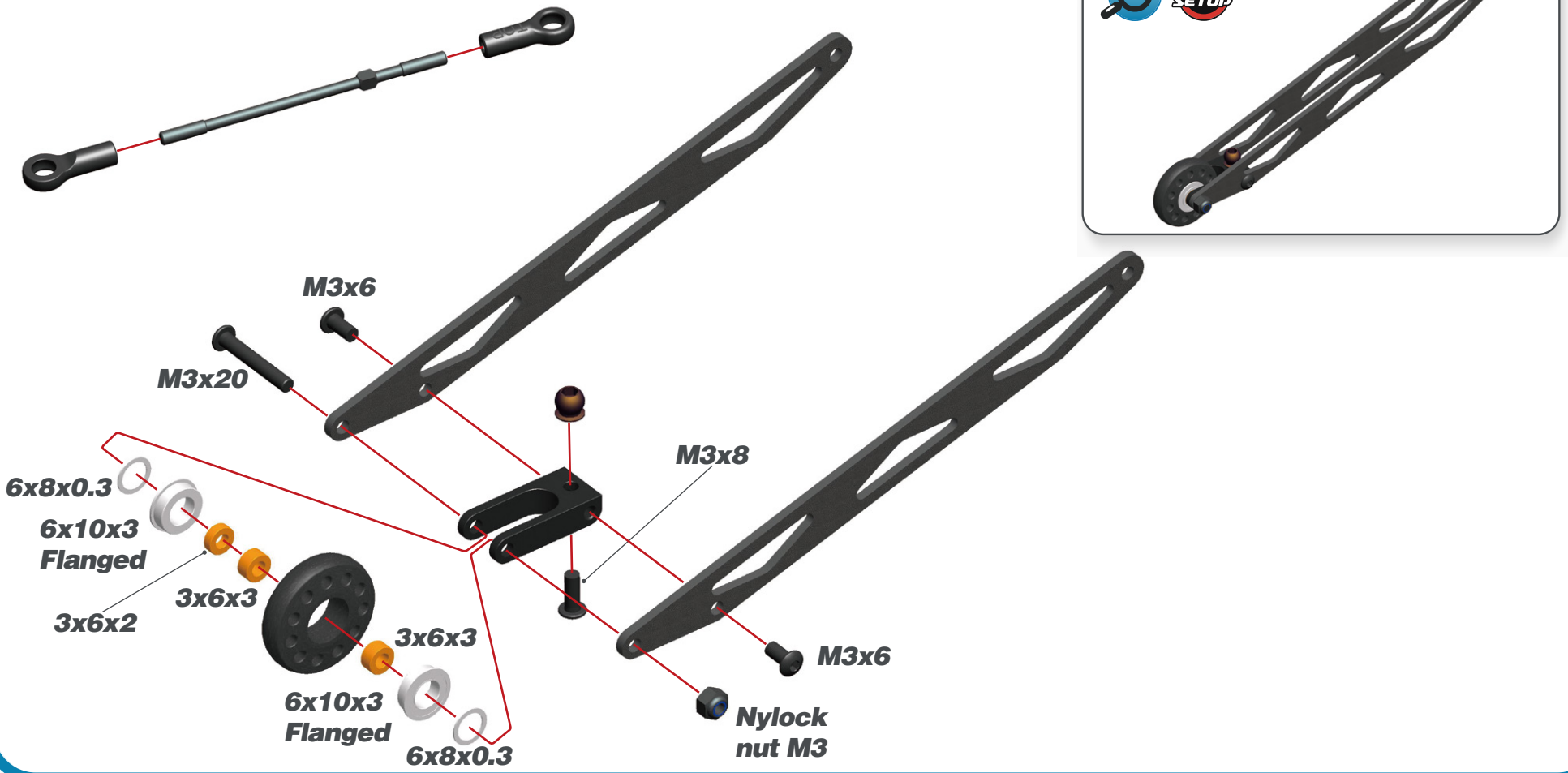


STEP 50

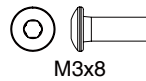
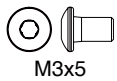
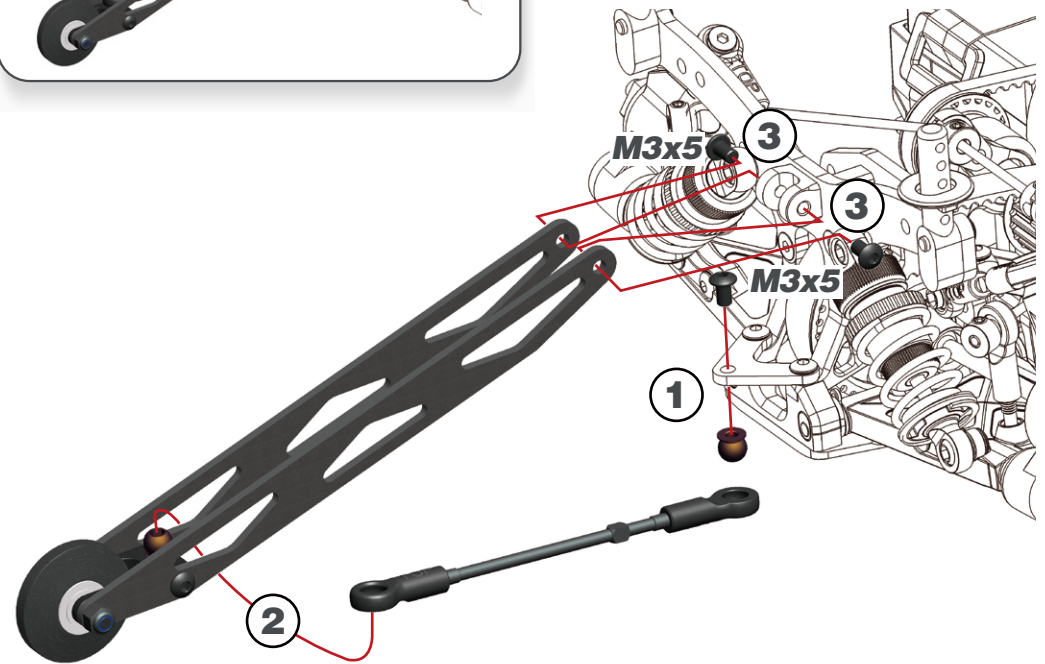
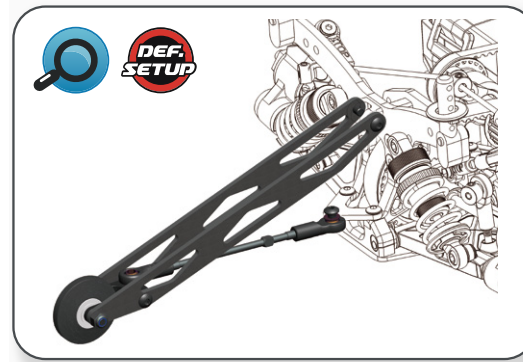
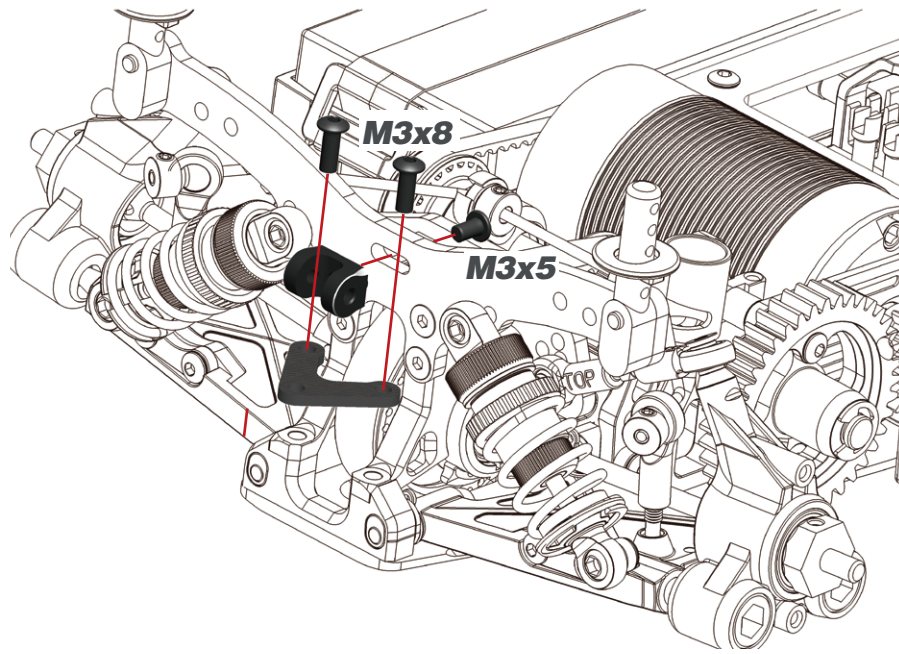


M3x6

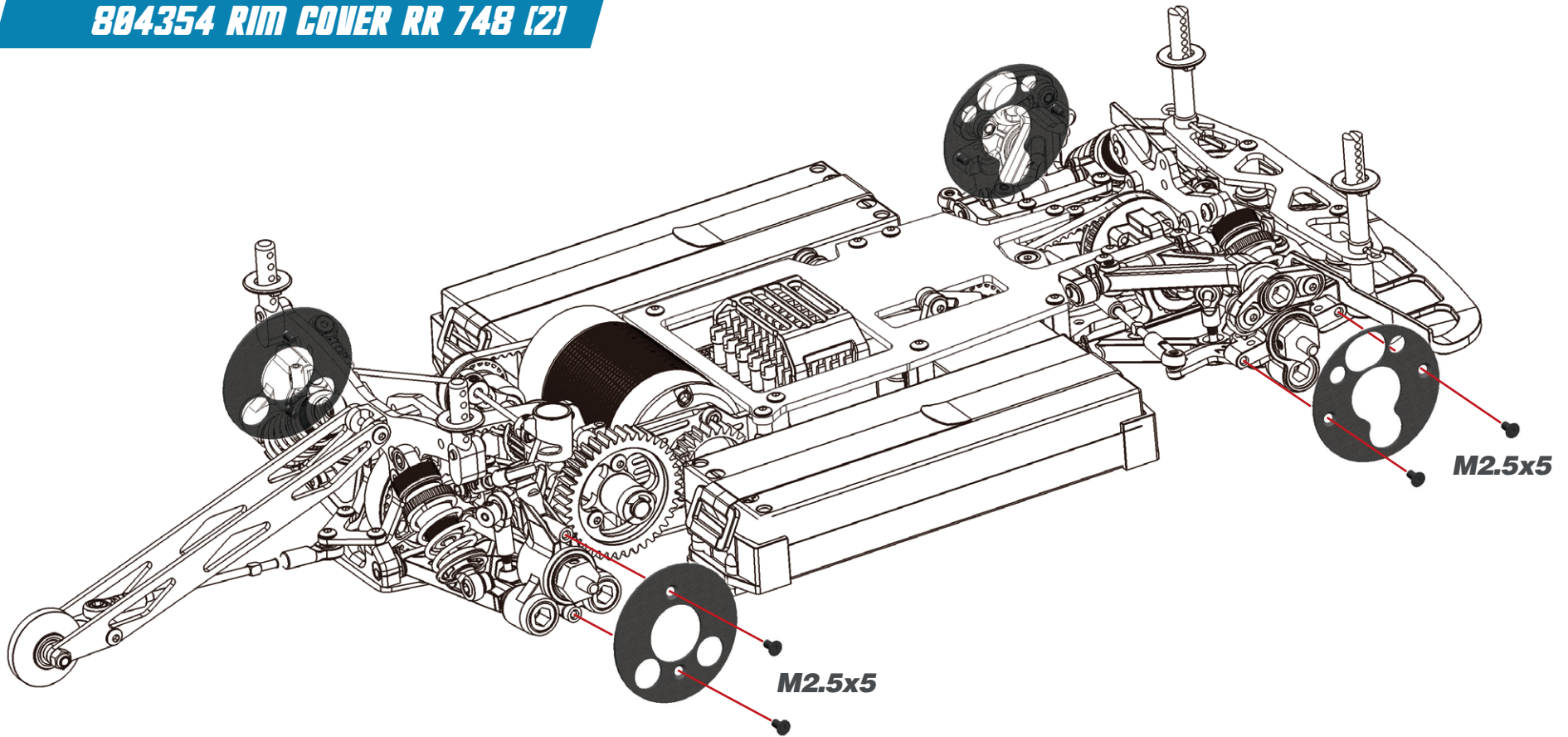
OPT 804521 WHEELIEBAR SET S750E



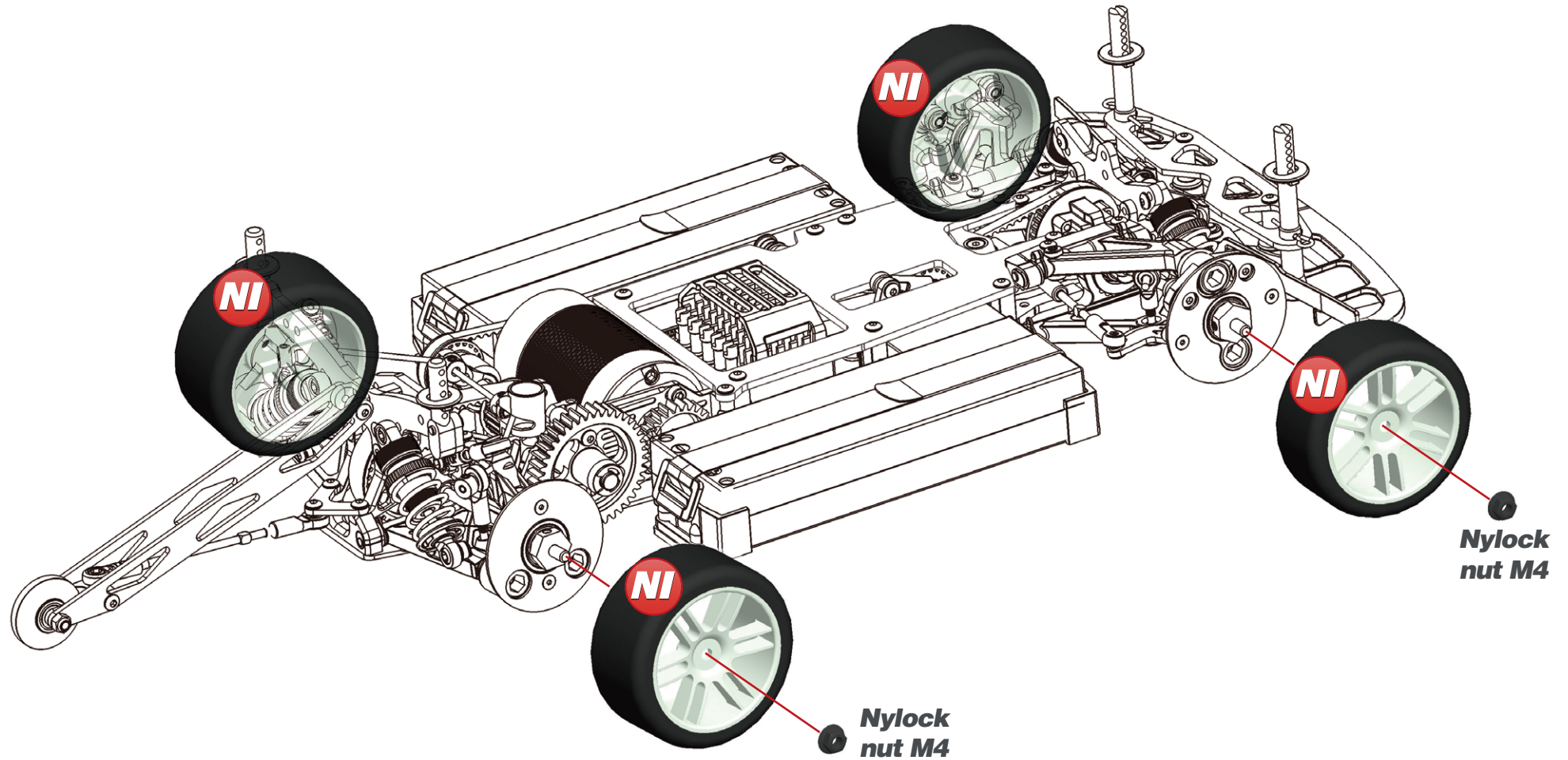
OPT 804521 WHEELIEBAR SET S750E



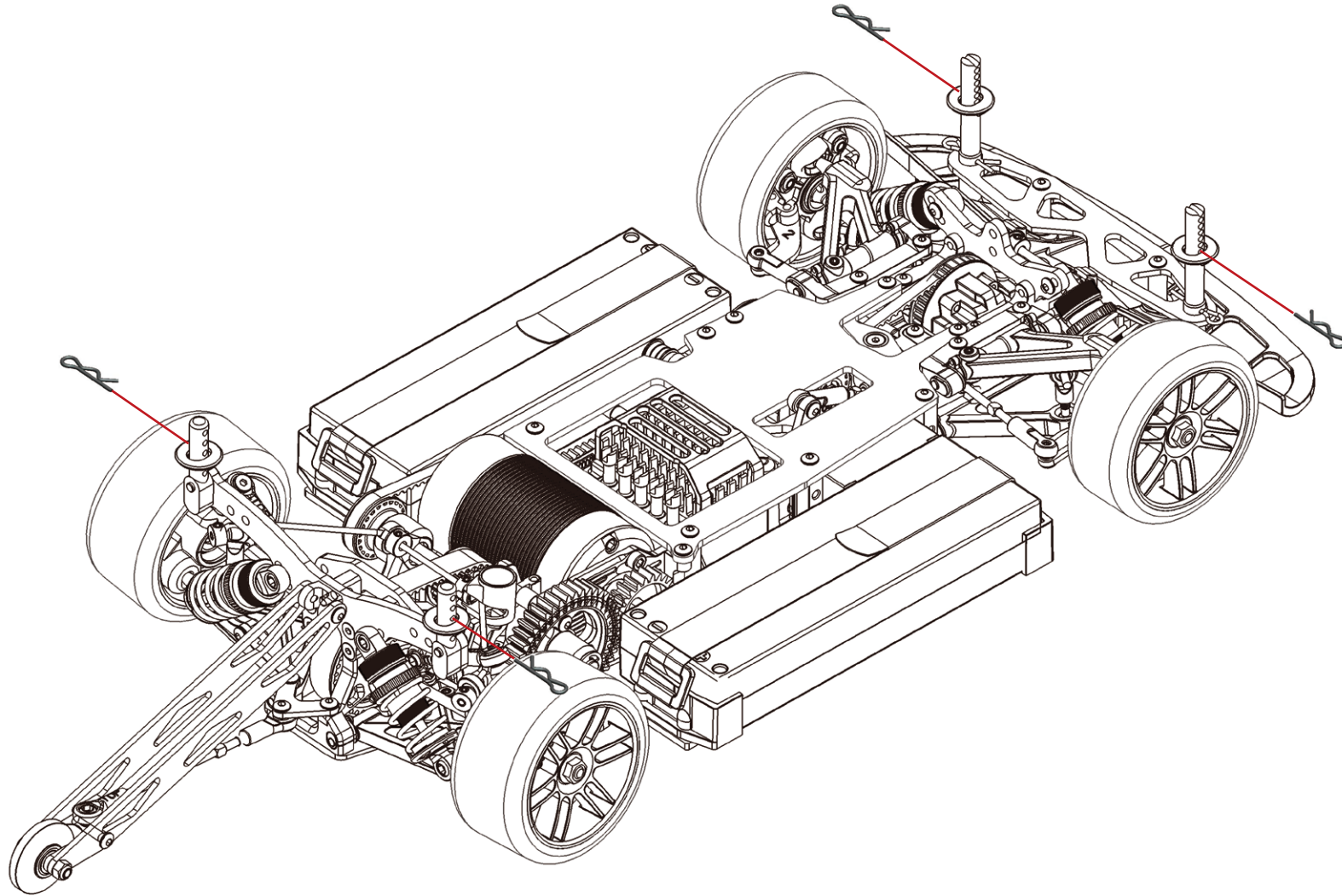
OPT 804353 RIM COVER FR 748 (2)
804354 RIM COVER RR 748 (2)



STEP 51



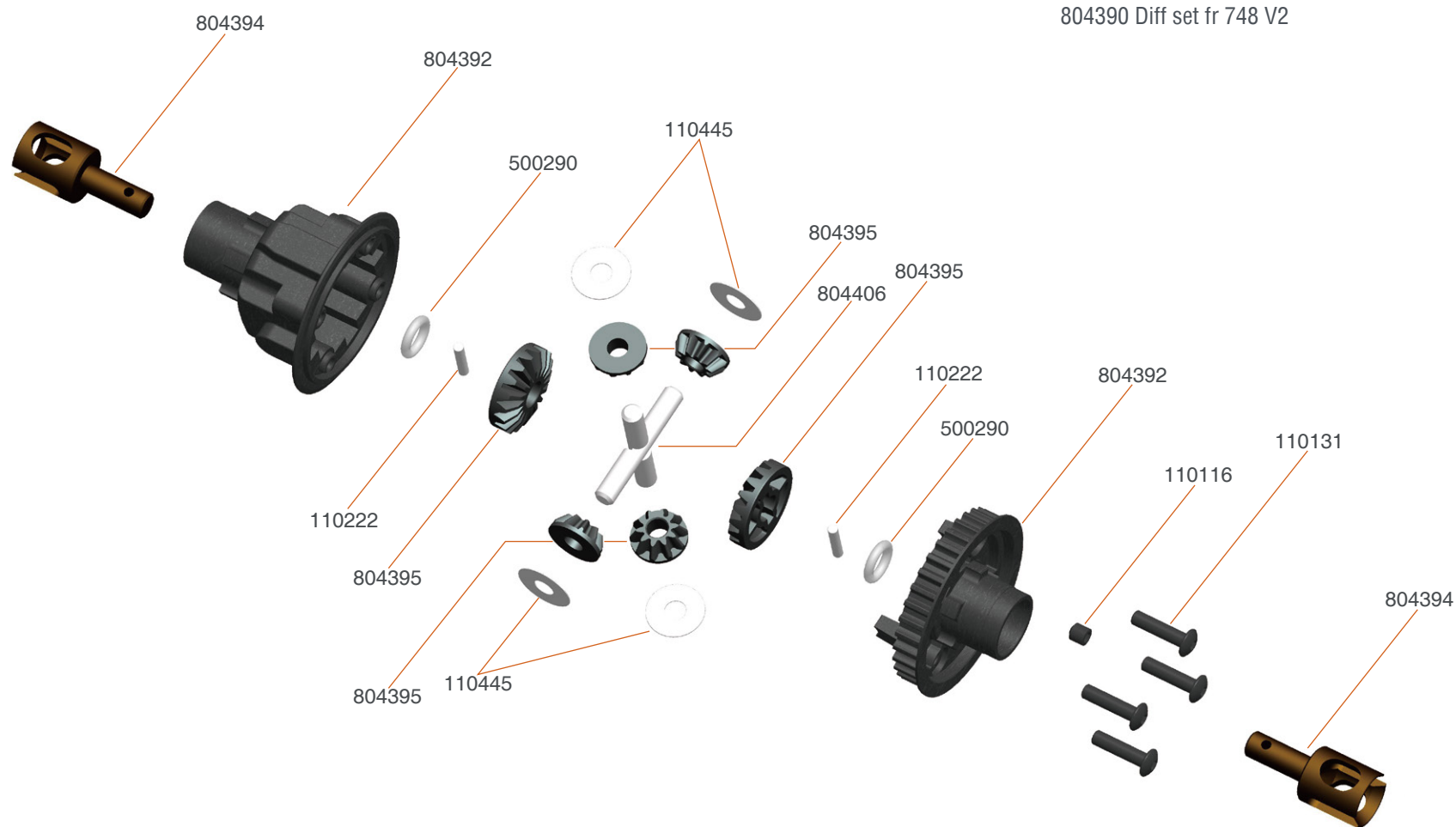
STEP 52



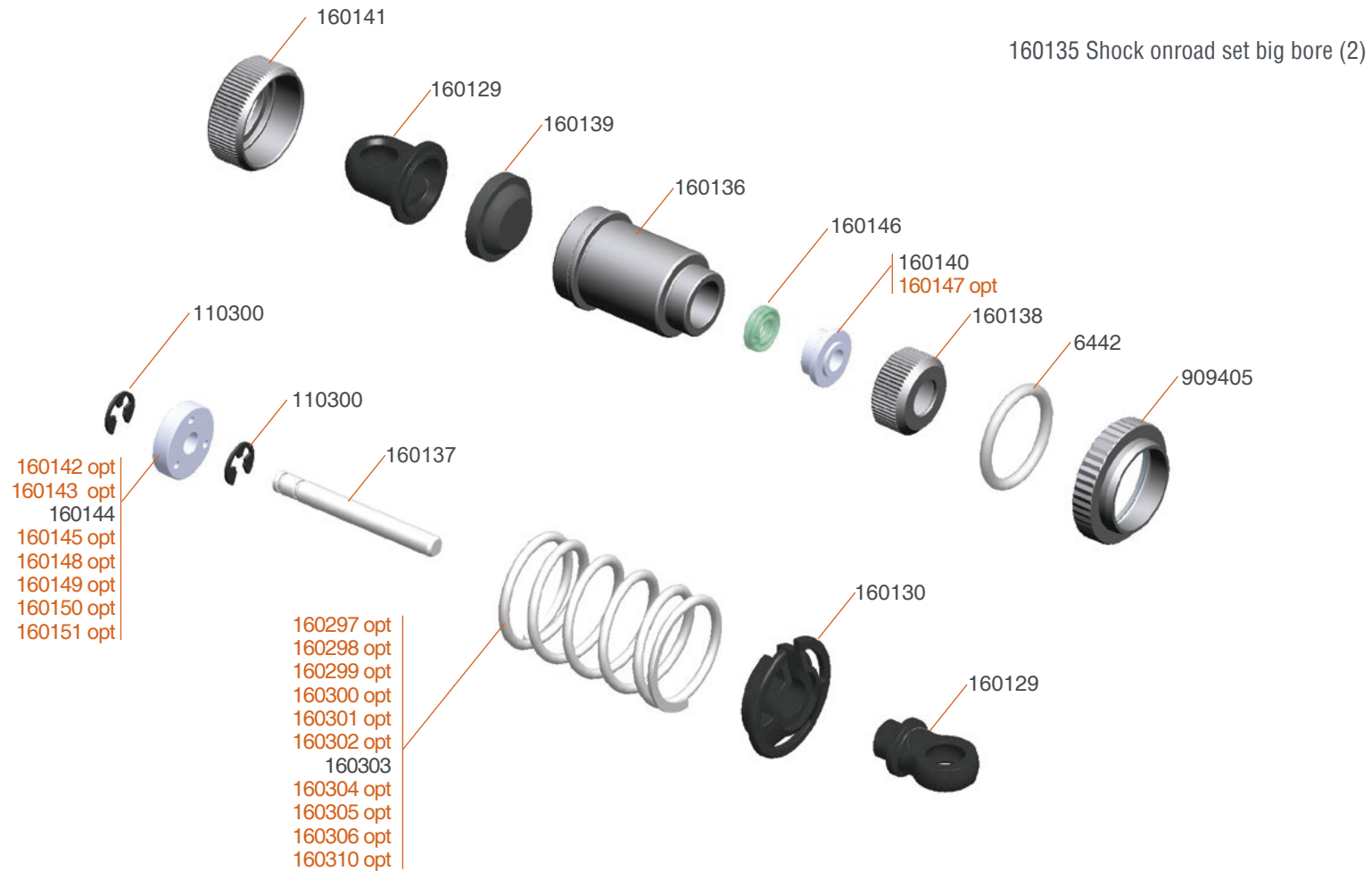
Body clip mid

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804391 Diff set rr 748 V2
804440 Diff set rr 750 arrow space magnesium
804450 Oneway diff fr S7XX



160135 Shock onroad set big bore (2)

- 160142 opt
- 160143 opt
- 160144
- 160145 opt
- 160148 opt
- 160149 opt
- 160150 opt
- 160151 opt

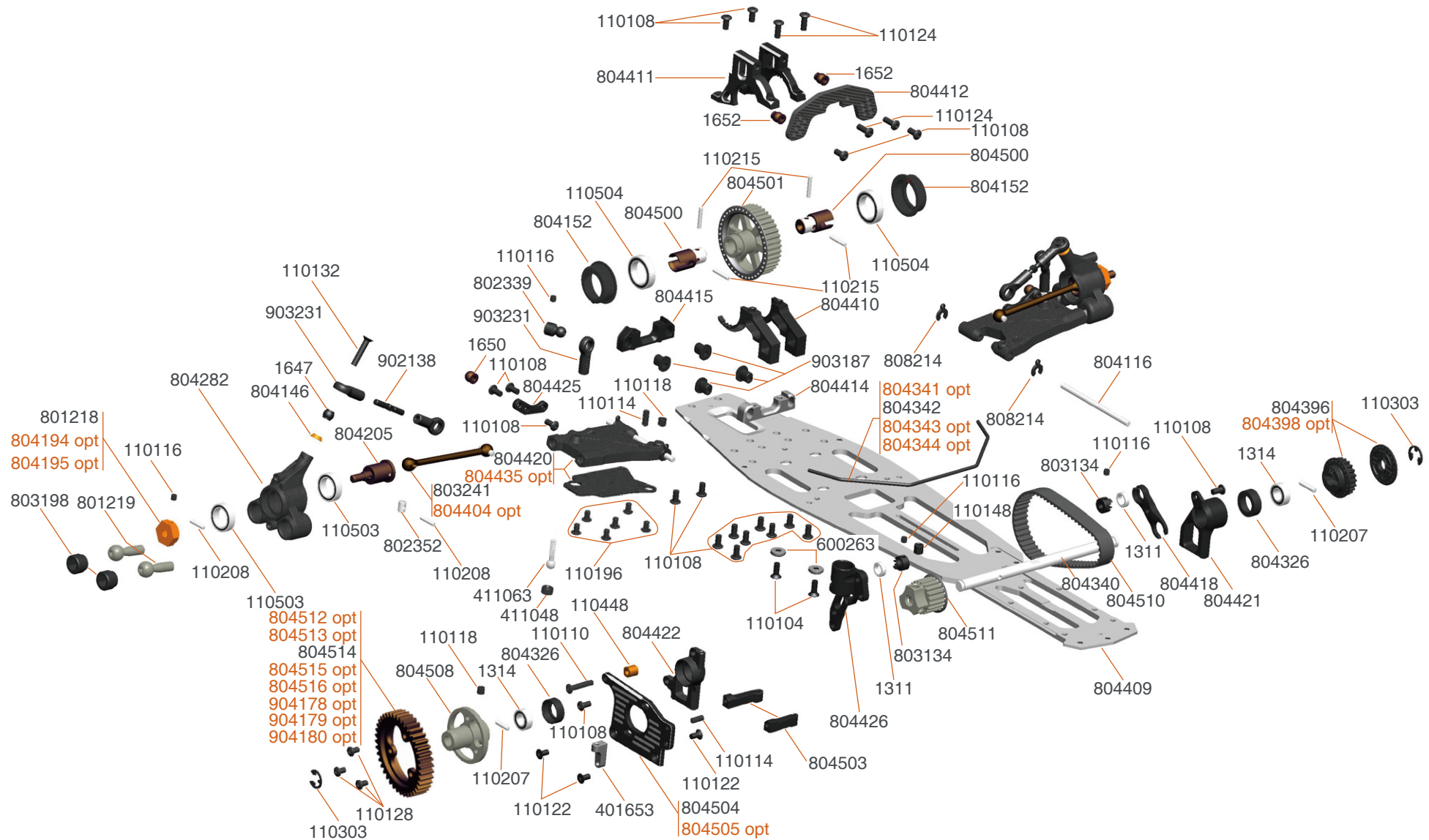
- 160297 opt
- 160298 opt
- 160299 opt
- 160300 opt
- 160301 opt
- 160302 opt
- 160303
- 160304 opt
- 160305 opt
- 160306 opt
- 160310 opt

- 160142 Shock onroad big bore piston 1 hole (4)
- 160143 Shock onroad big bore piston 2 hole (4)
- 160144 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)
- 160297 Spring grey TC
- 160298 Spring black TC
- 160299 Spring green TC
- 160300 Spring white
- 160301 Spring yellow

- 160302 Spring orange
- 160304 Spring Pink
- 160305 Spring blue
- 160306 Spring purple
- 160310 Spring-set L23 (5x2)
- 160147 Shock onroad big bore bushing LF (4)



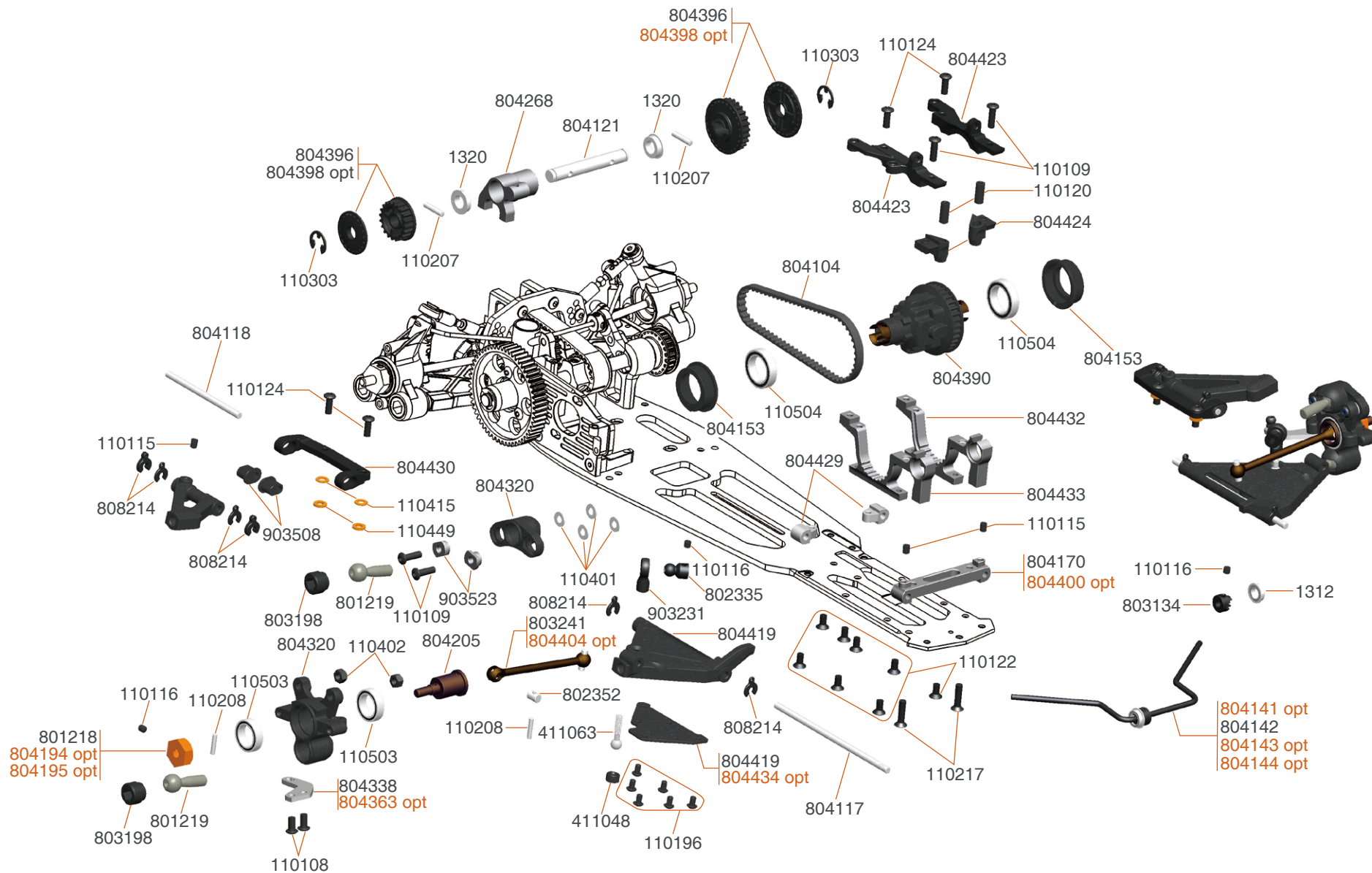


804194 Wheel hexagon +1mm (4)
 804195 Wheel hexagon -1mm (4)
 804341 Antiroll bar 1.6 RR 748
 804343 Antiroll bar 2.0 RR 748
 804344 Antiroll bar 2.2 RR 748

804398 Pulley set low friction (6) 748 V2
 804404 Driveshaft CVD alu (2)
 804435 Wishbone insert carbon RR lw (2)
 804446 Wheelaxle set CVD alu 0mm V2 (2)
 804447 Wheelaxle CVD alu V2 (2)

804448 Wheel hexacon CVD 0mm V2 (2)
 804449 Wheel hexacon CVD -1mm V2 (2)
 804505 Motor plate 1/8 S750E
 804512 Spur gear 36T steel M1
 804513 Spur gear 38T steel M1

804515 Spur gear 42T steel M1
 804516 Spur gear 44T steel M1
 904178 Spurgear 56T 988E
 904179 Spurgear 57T 988E
 904180 Spurgear 58T 988E



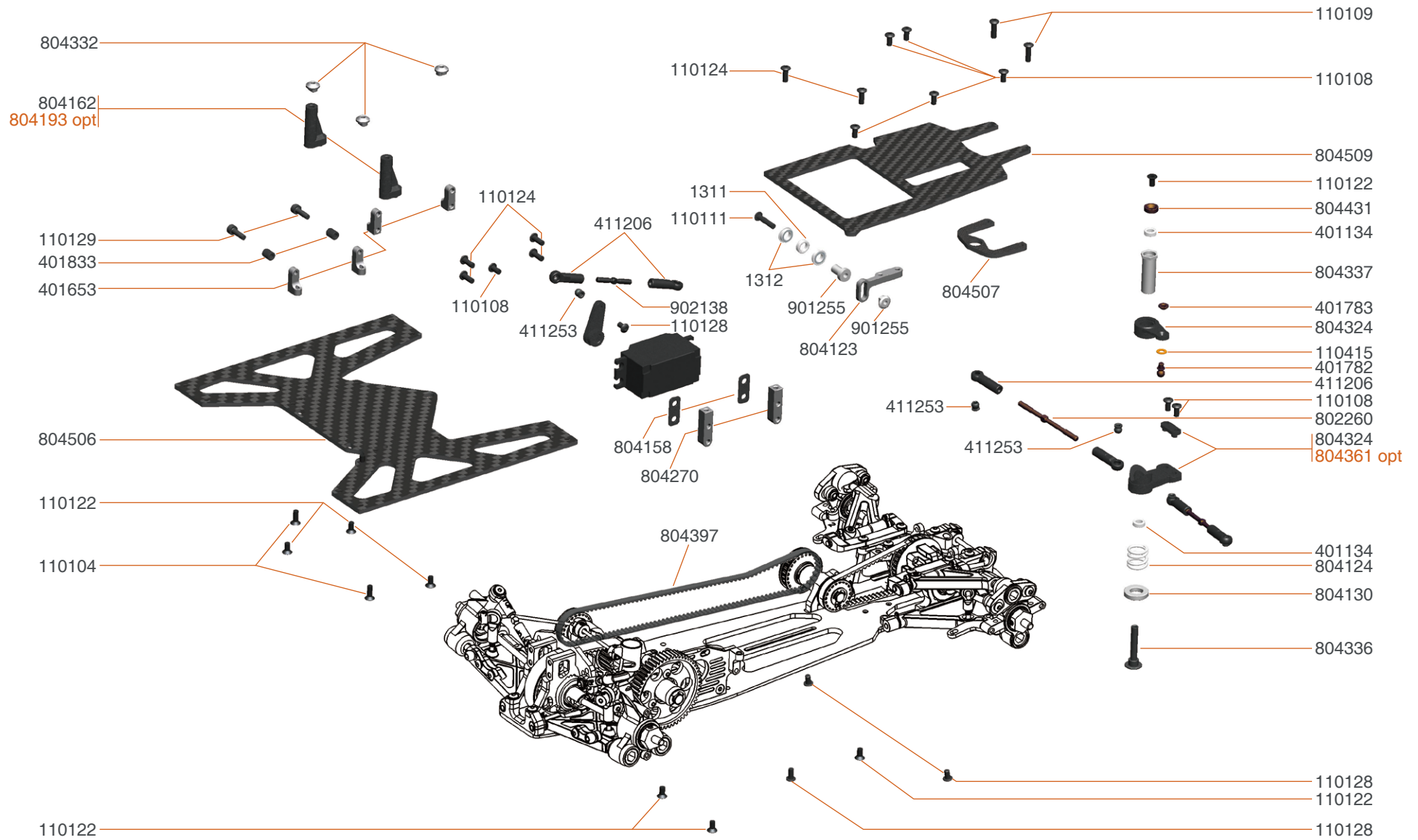
- 804141 Antirroll bar FR 1.8mm
- 804143 Antirroll bar FR 2.5mm
- 804144 Antirroll bar FR 2.8mm
- 804194 Wheel hexagons +1mm clamp (4)

- 804195 Wheel hexagons -1mm clamp (4)
- 804363 Steeringblock lever carbon 748 (2)
- 804400 Suspension bracket FR brass
- 804404 Driveshaft CVD alu (2)

- 804434 Wishbone insert carbon FR lw (2)
- 804446 Wheelaxle set CVD alu 0mm V2 (2)
- 804447 Wheelaxle CVD alu V2 (2)
- 804448 Wheel hexacon CVD 0mm V2 (2)

- 804449 Wheel hexacon CVD -1mm V2 (2)
- 804450 Oneway diff fr S7XX

CENTER EXPLODED VIEW

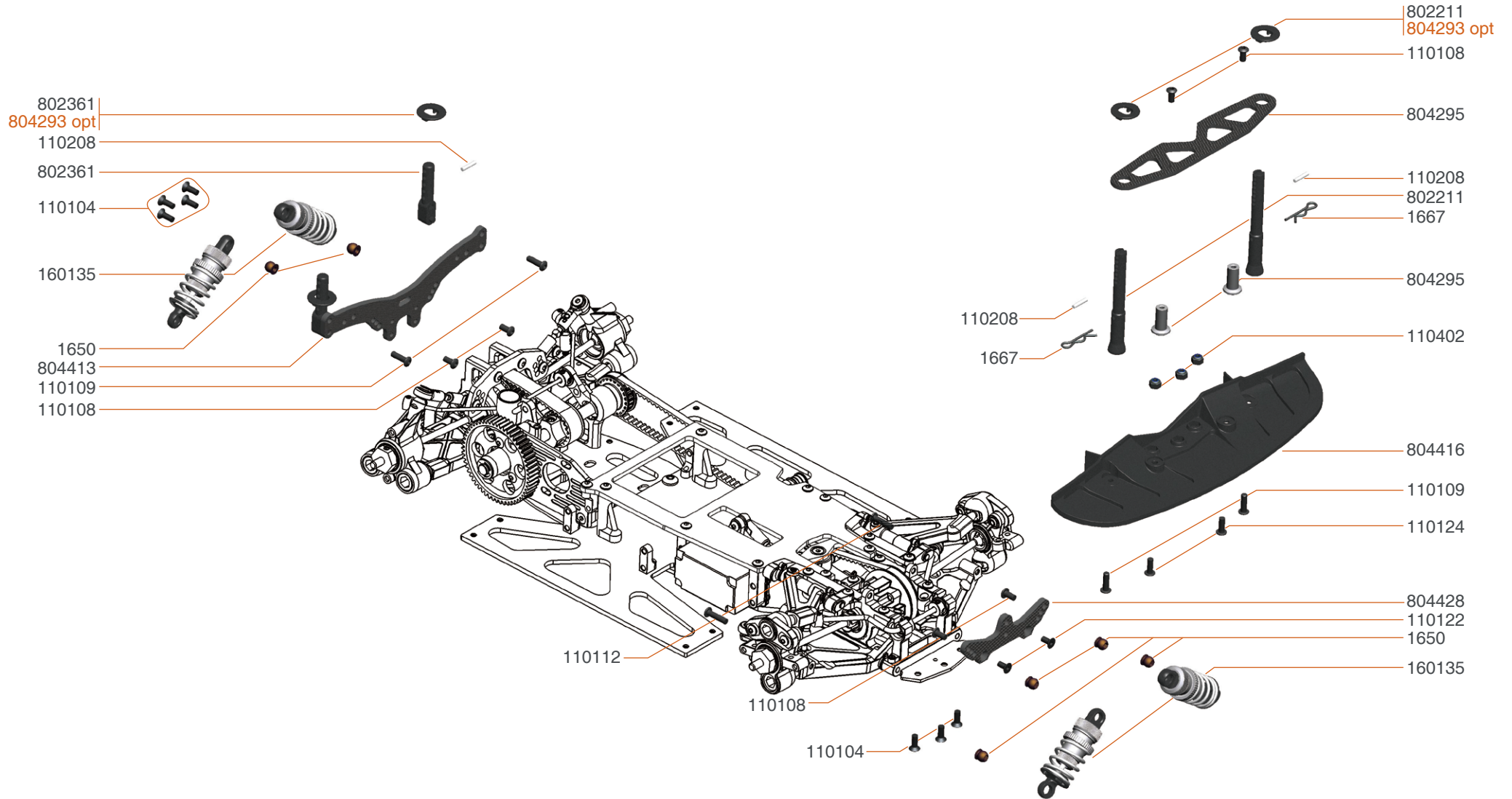


804193 Radiotray posts alu (2)
804361 Servosaver bottom alu

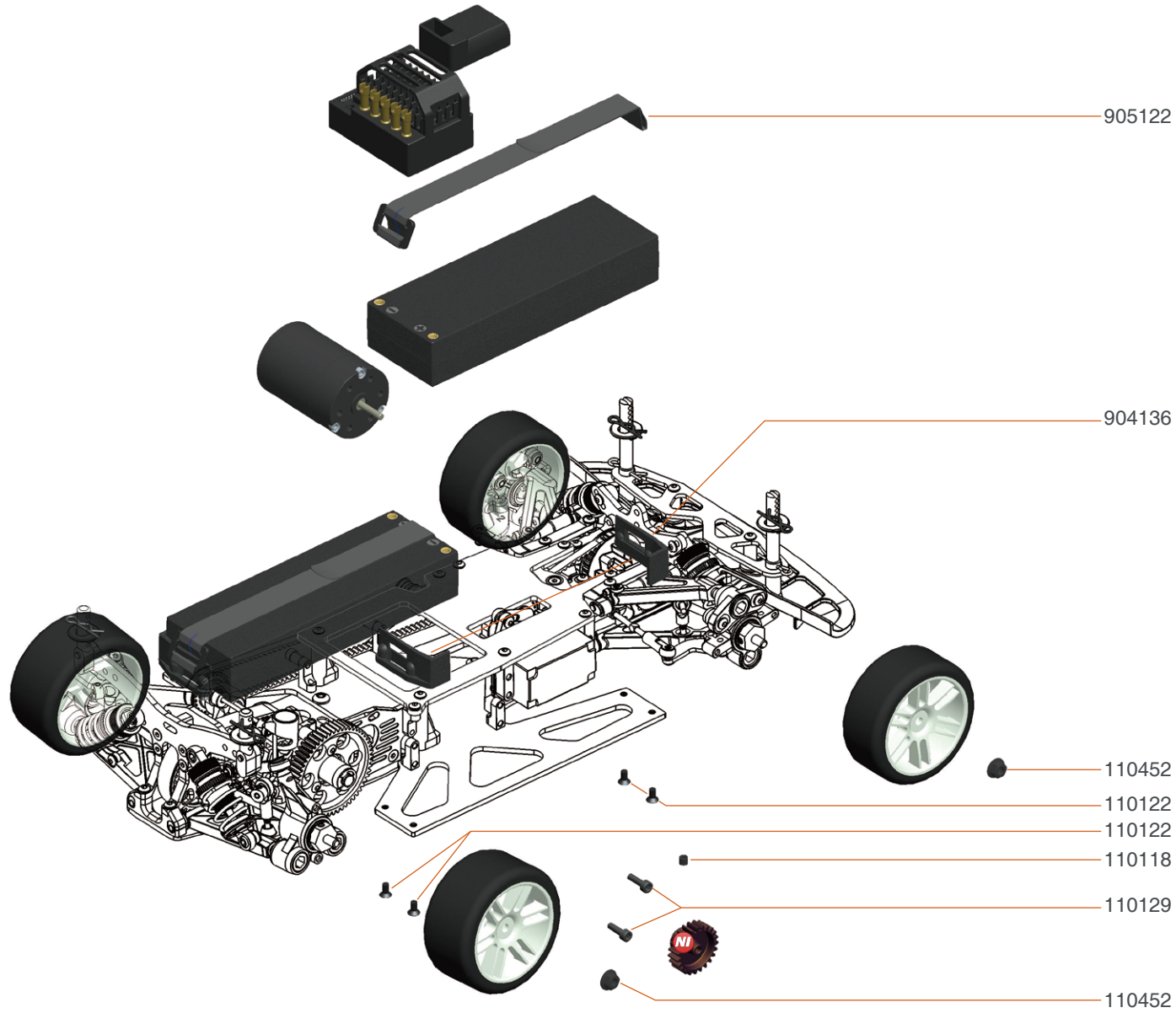


BUMPER SHOCKTOWER EXPLODED VIEW

750e
MATRIX



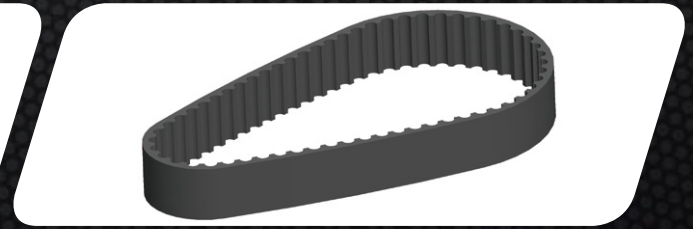
804293 Body support washers med + high (5+5)
804417 Diffusor S750
804521 Wheeliebar set S750E



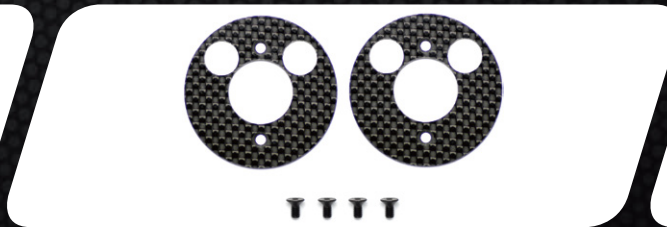
- OPT**
- 804517 Pinion 22T steel M1,3
 - 804518 Pinion 23T steel M1,3
 - 804519 Pinion 24T steel M1,3
 - 804520 Pinion 25T steel M1,3

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INSTRUCTION MANUAL

750E

EP 1/10 SCALE ONROAD **NATRIX**



#62941-1 Manual S750E

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