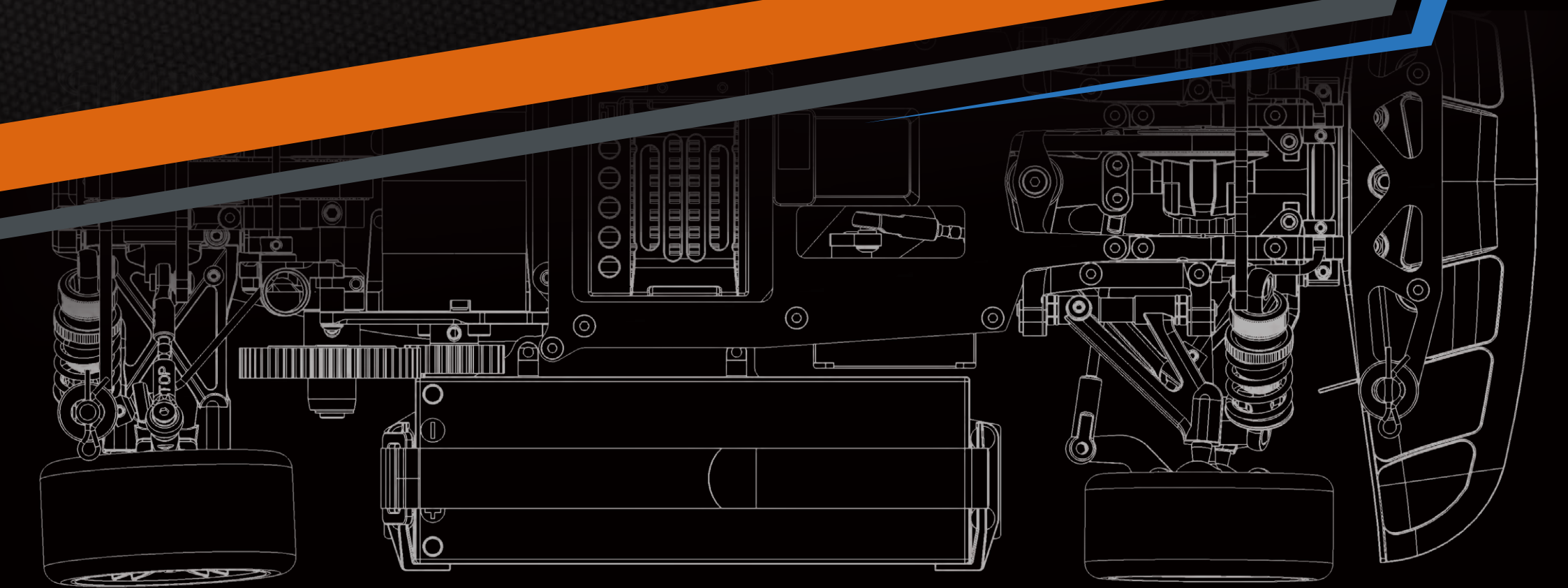
INSTRUCTION MANUAL

750 NATRIX

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 growingworldwide Serpent racing family. Serpent started in 1980 and has been growing its product-line and fan-base ever since.

The Serpent Natrix 750-E is a state of the art electricpowerd 1/10 scale onroad racing car. The assembly manual will guide youthrough 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 eas 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 bagnumbers, 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 lateron 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 Natrix 750-E. Fine-tuning the initial setup is an essential part of building a high-performance racecar like your Serpent Natrix 750-E.

EXPLODED VIEWS AND PARTS LIST

The exploded views of the Serpent Natrix 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. Partnumbers 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 cloves.
- 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

- *FRONT DIFF ASSEMBLY.....4*
- *REAR ASSEMBLY 1.....6*
- *MOTOR MOUNT ASSEMBLY.....12*
- *REAR ASSEMBLY 2.....14*
- *FRONT ASSEMBLY.....16*
- *STEERING ASSEMBLY.....23*
- *CENTER ASSEMBLY.....25*
- *BUMPER/SHOCKTOWER ASSEMBLY.....28*
- *SHOCK ASSEMBLY.....30*
- *EXPLODED VIEWS.....40*
- *TEAM SERPENT NETWORK.....48*



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.



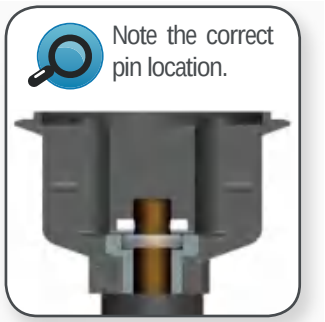
Optional part, not standard in the kit.

FRONT DIFF ASSEMBLY

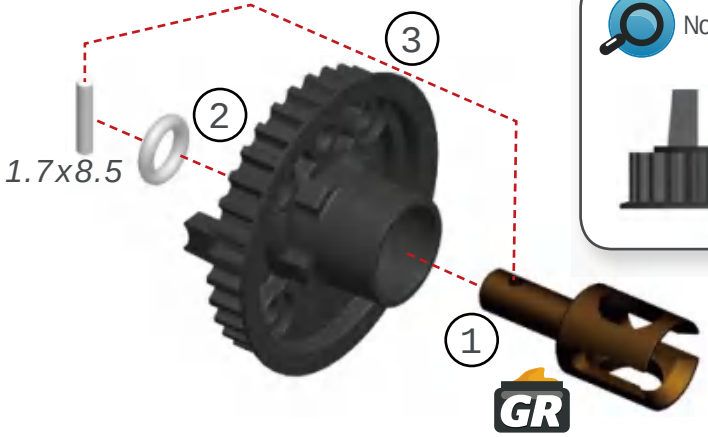
STEP 1 FRONT DIFF BAG

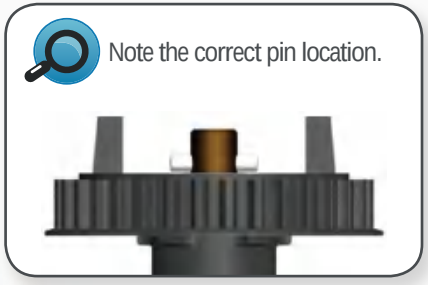
1.1





1.2





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



1.75x8.5

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

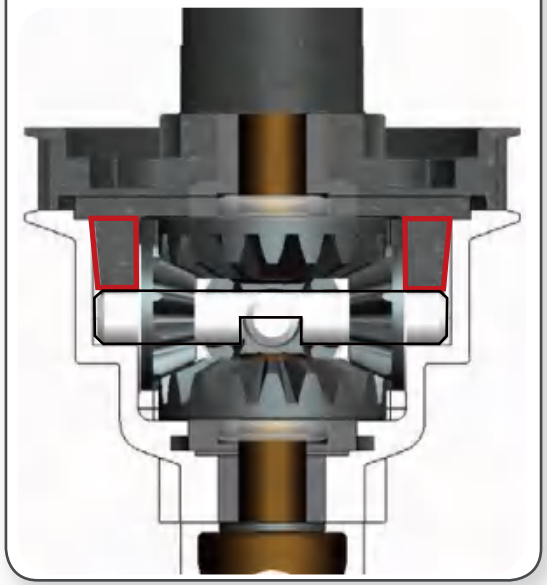
Mount the diff top-case on the lower case, make sure to follow below Detail View, and tighten the screws.

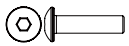
M2.5x10



HOW TO CLOSE THE FRONT DIFF

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




M2.5x10

STEP 5

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

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

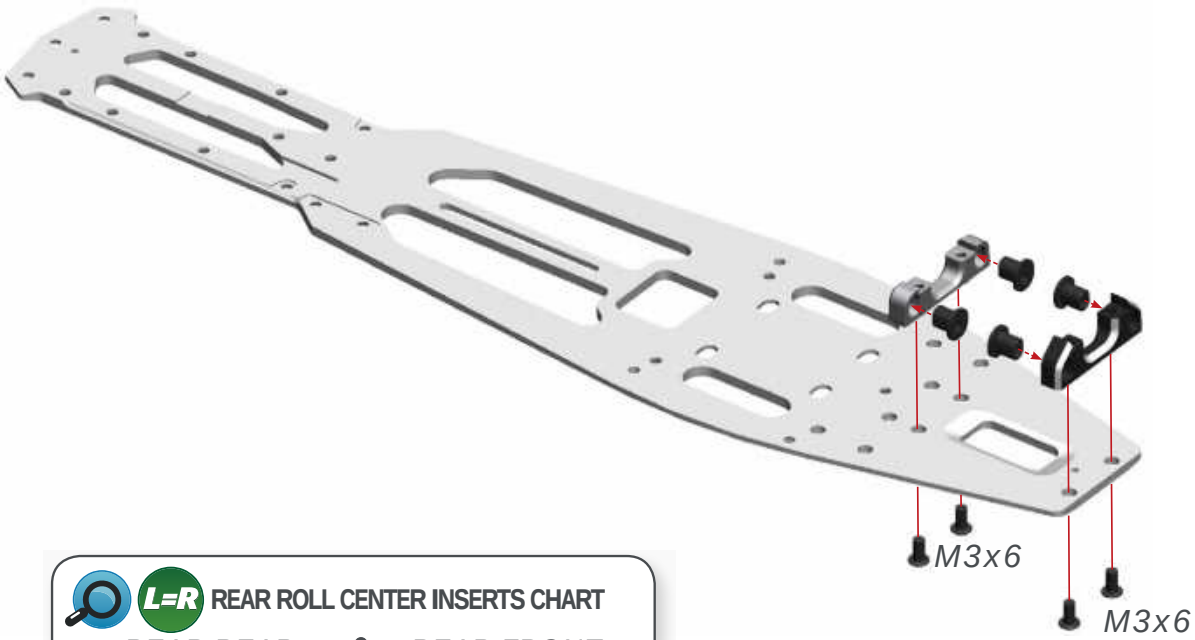
3- In case the diff feels too hard remove the M3x3 set screw and let some oils to escape and colse again. Tighten carefully.

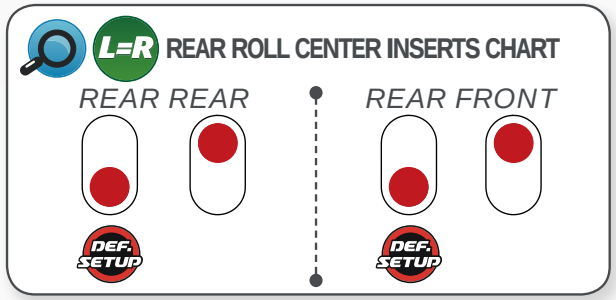
M3x3




M3x3

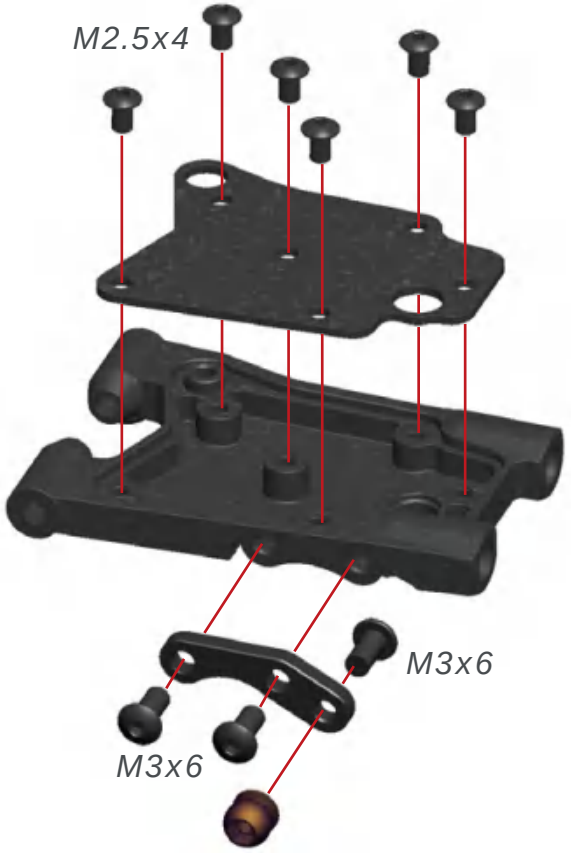
STEP 6 BAG 1





STEP 7

7.1



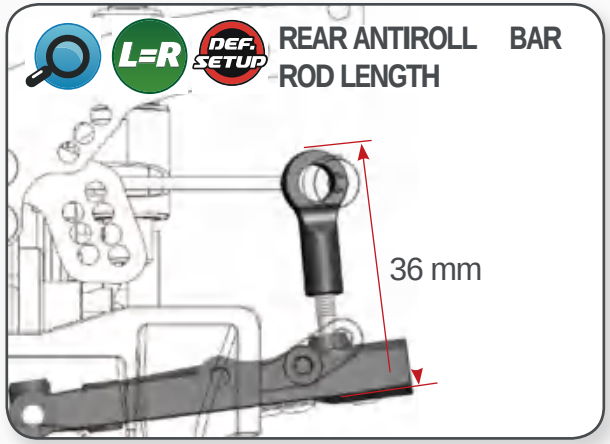
M3x6

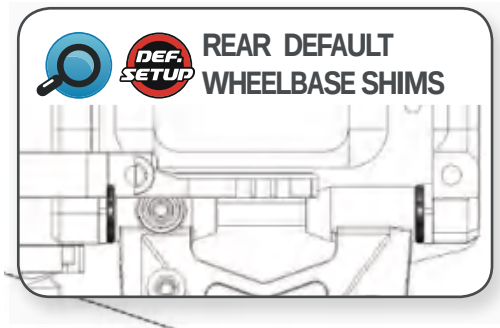
M2.5x4 M3x6

STEP 8

7.2



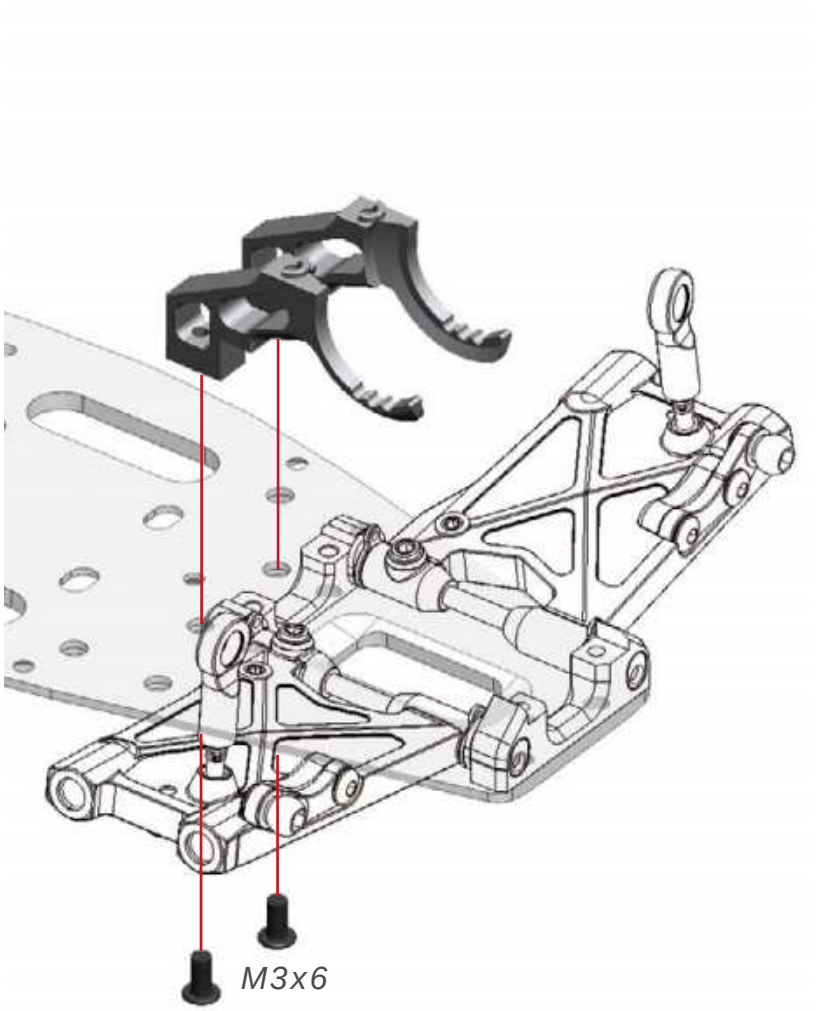




M3x8

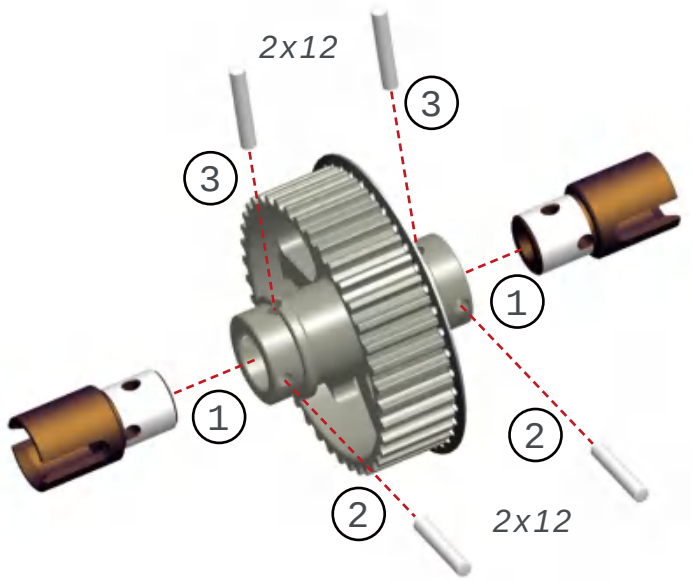
M4x4

STEP 9 BAG 2



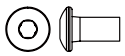
STEP 10

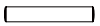
6.1



6.2

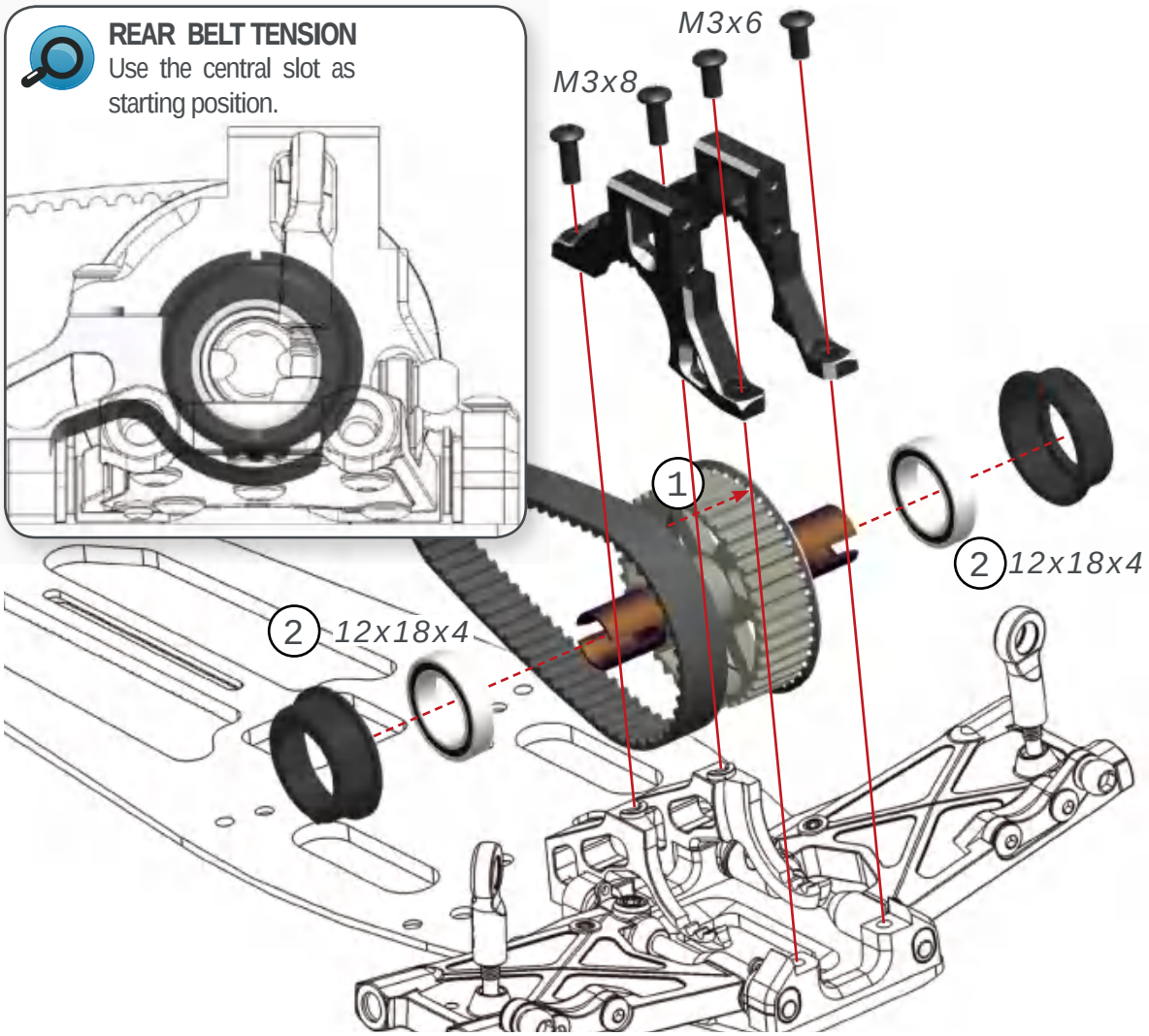



M3x6

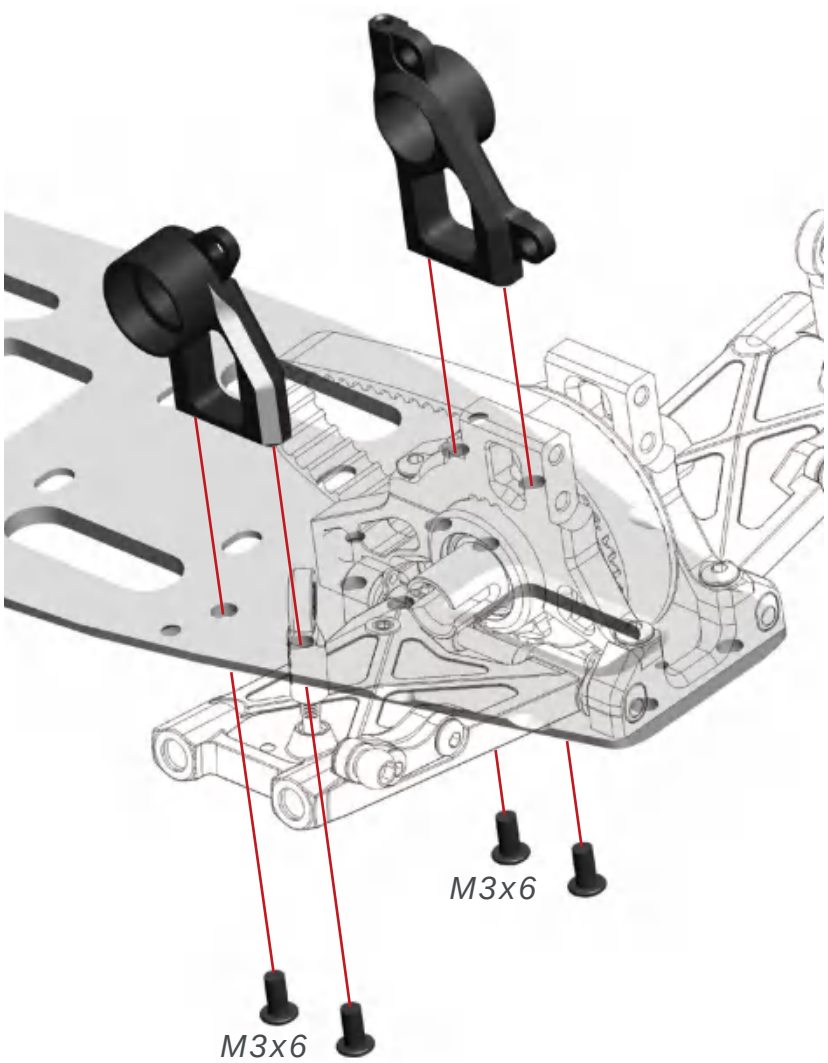

2x12

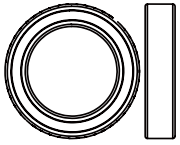
STEP 11

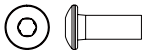
REAR BELT TENSION
Use the central slot as starting position.

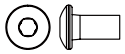


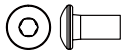
STEP 12



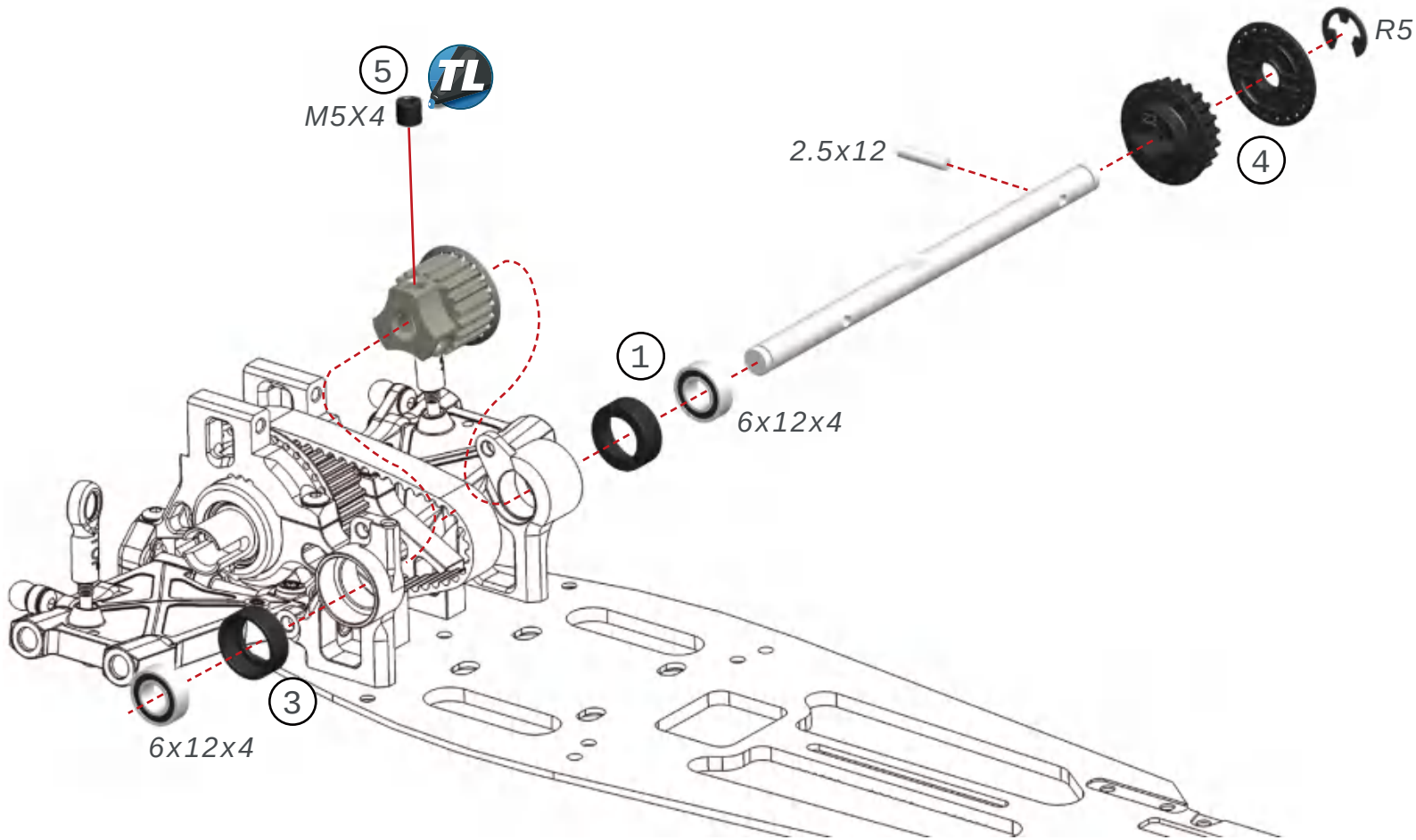

12x18x4

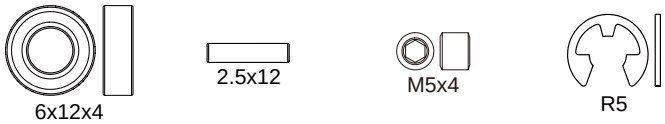

M3x8


M3x6

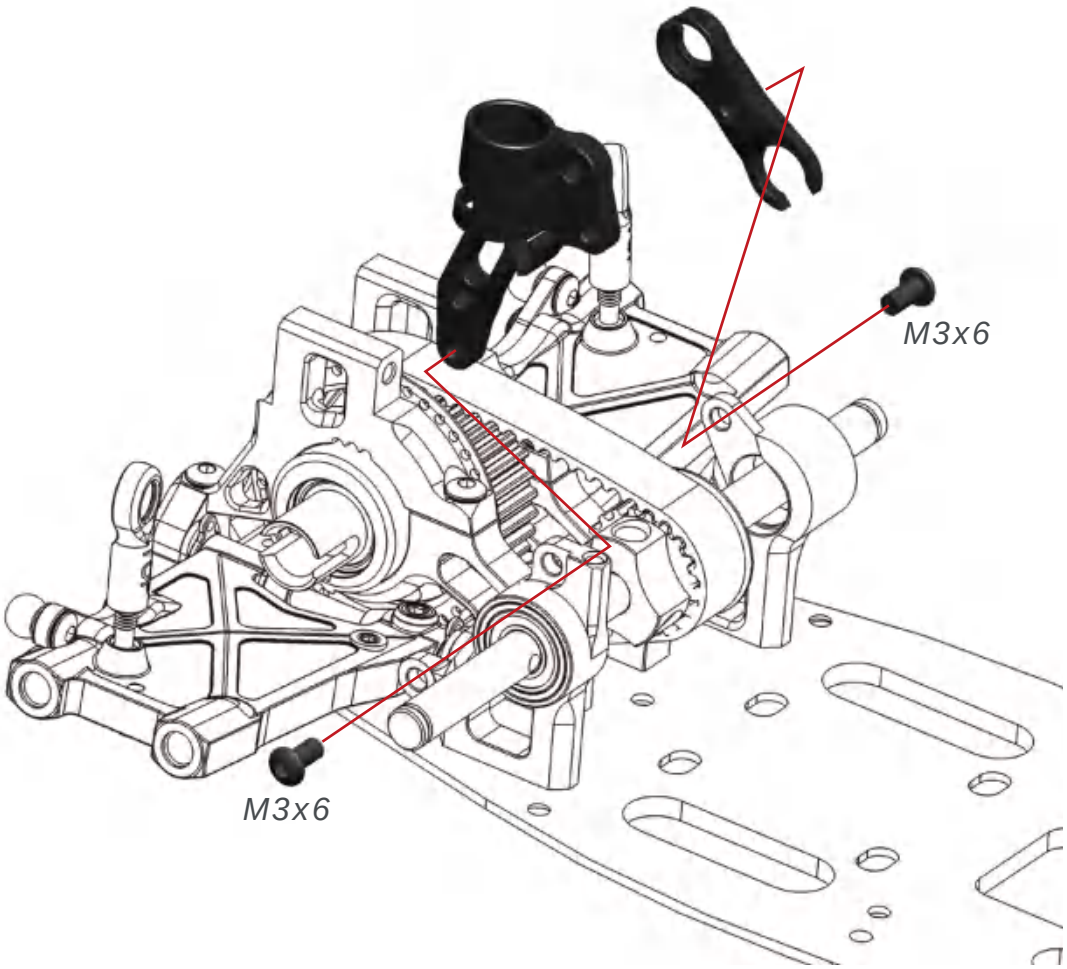

M3x6

STEP 13 BAG 3





STEP 14

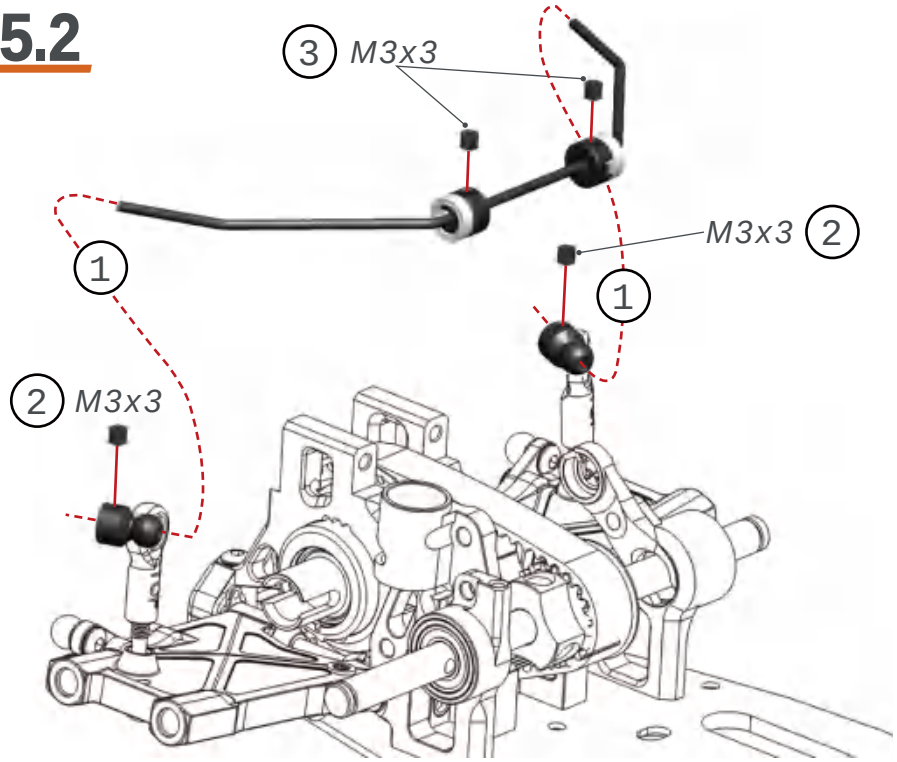


STEP 15

15.1



15.2



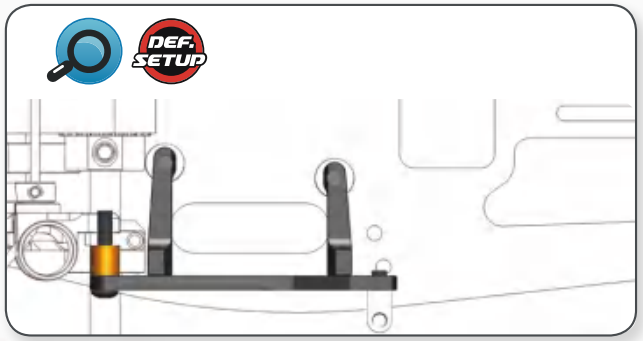
M3x6

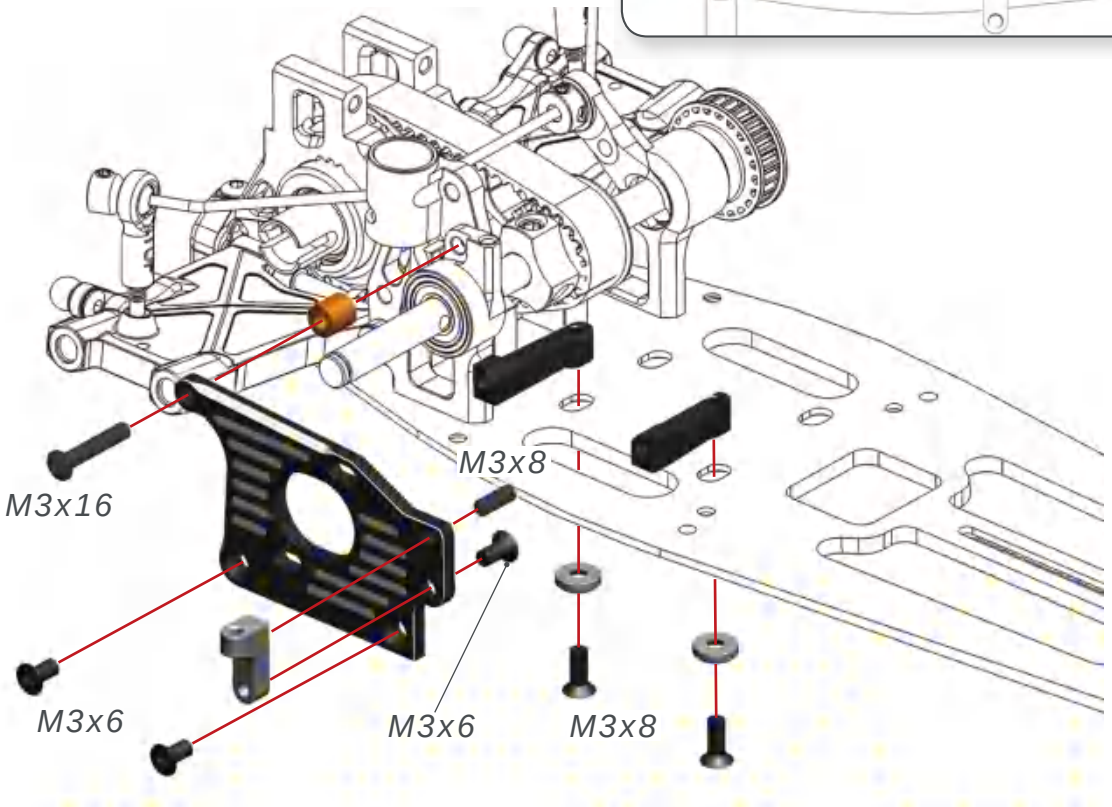
5x8x2.5

M3x3

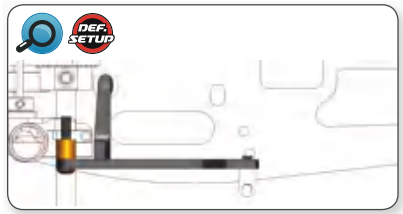
MOTOR MOUNT ASSEMBLY

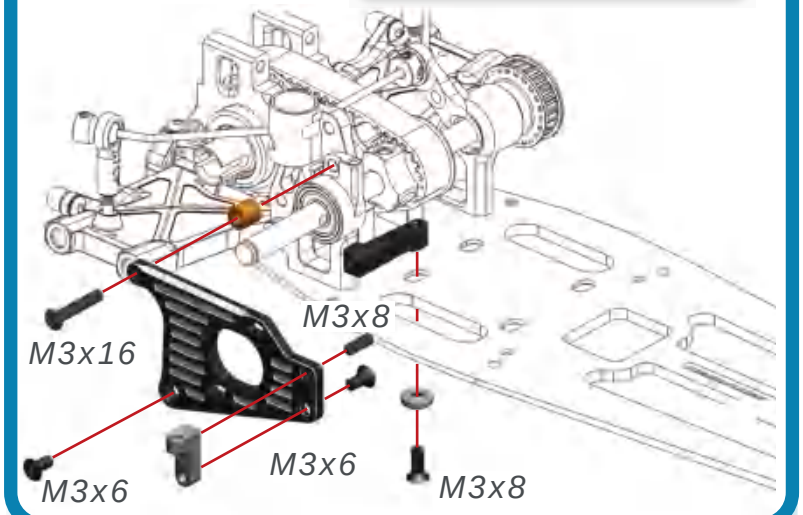
STEP 16 BAG 4





OPT 804505 MOTOR PLATE 1/8 S750E



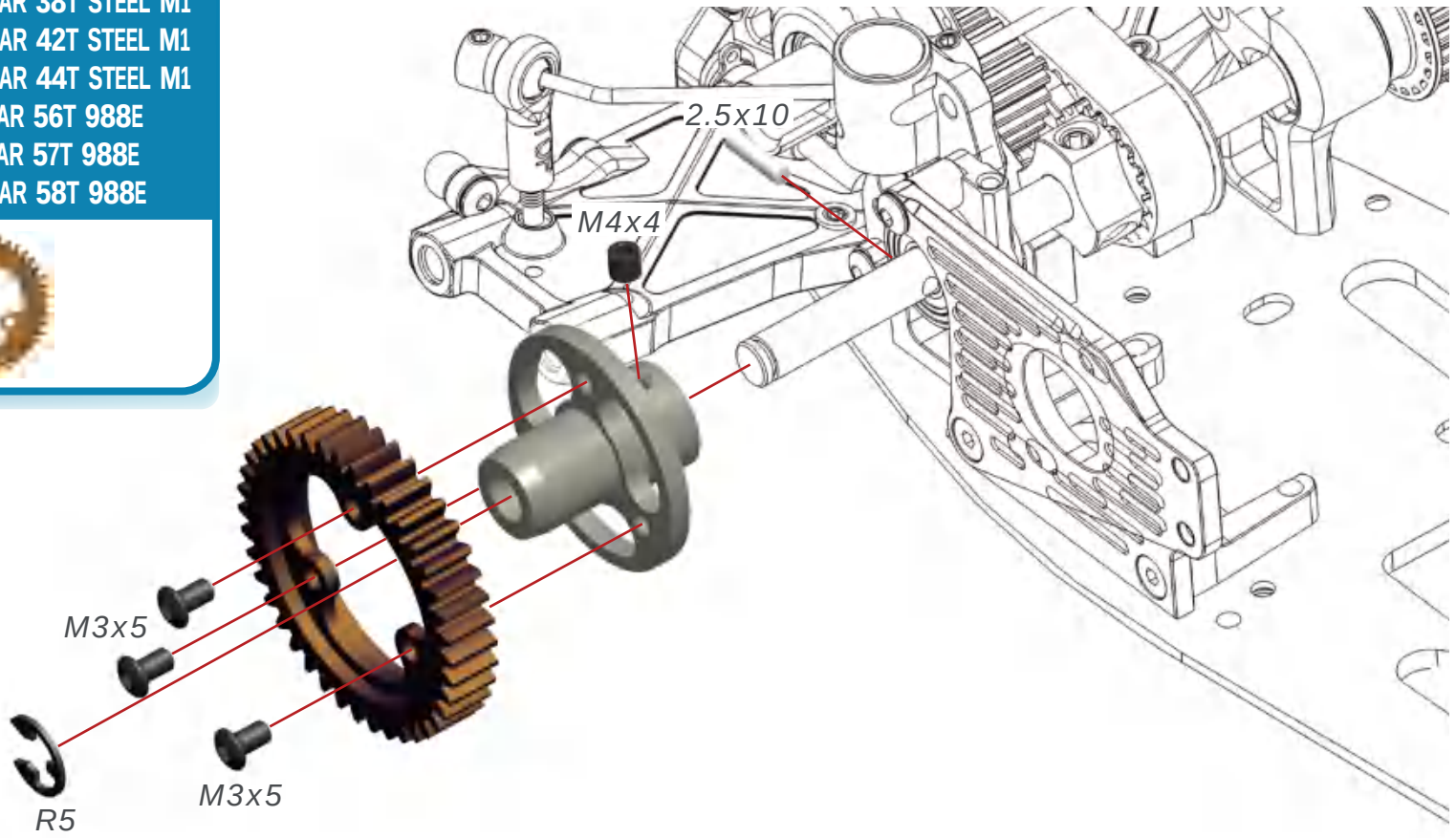




STEP 17

OPT 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 SPUR GEAR 56T 988E
904179 SPUR GEAR 57T 988E
904180 SPUR GEAR 58T 988E

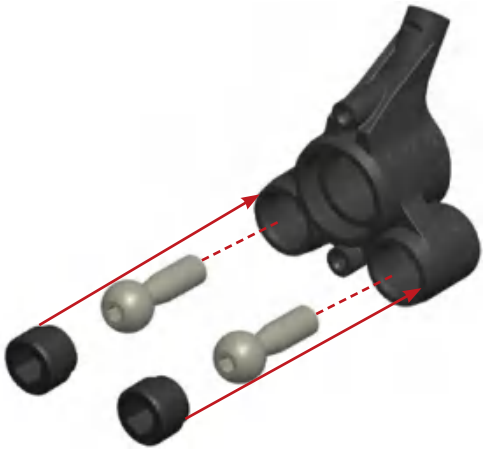




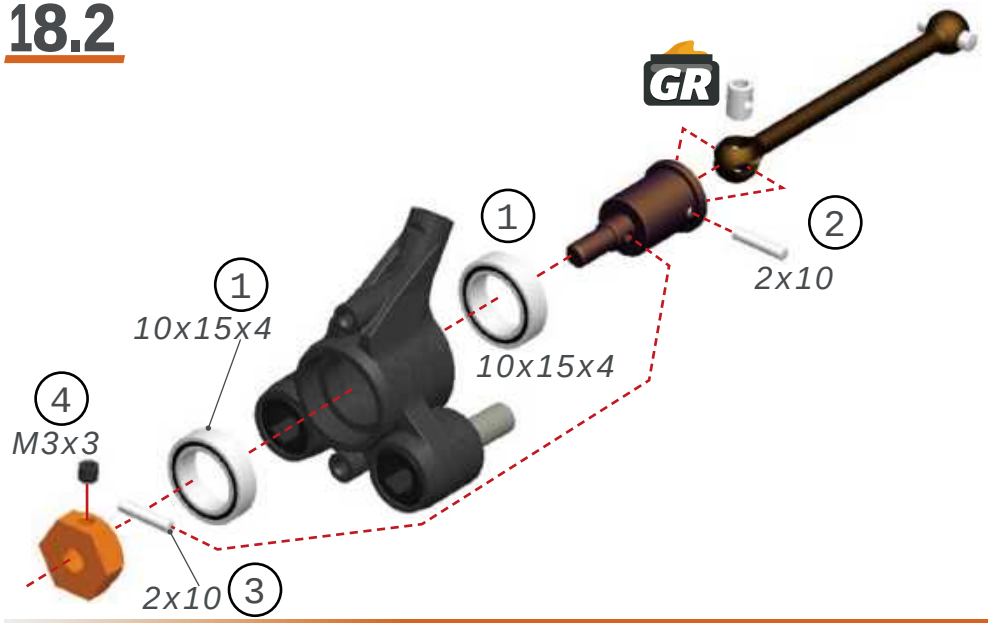


STEP 18 BAG 5

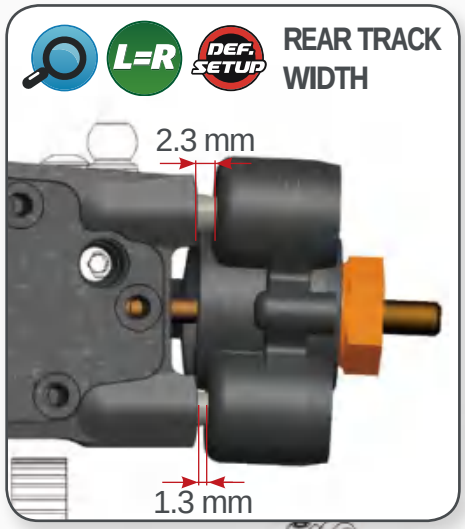
18.1

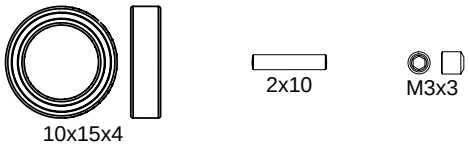


18.2

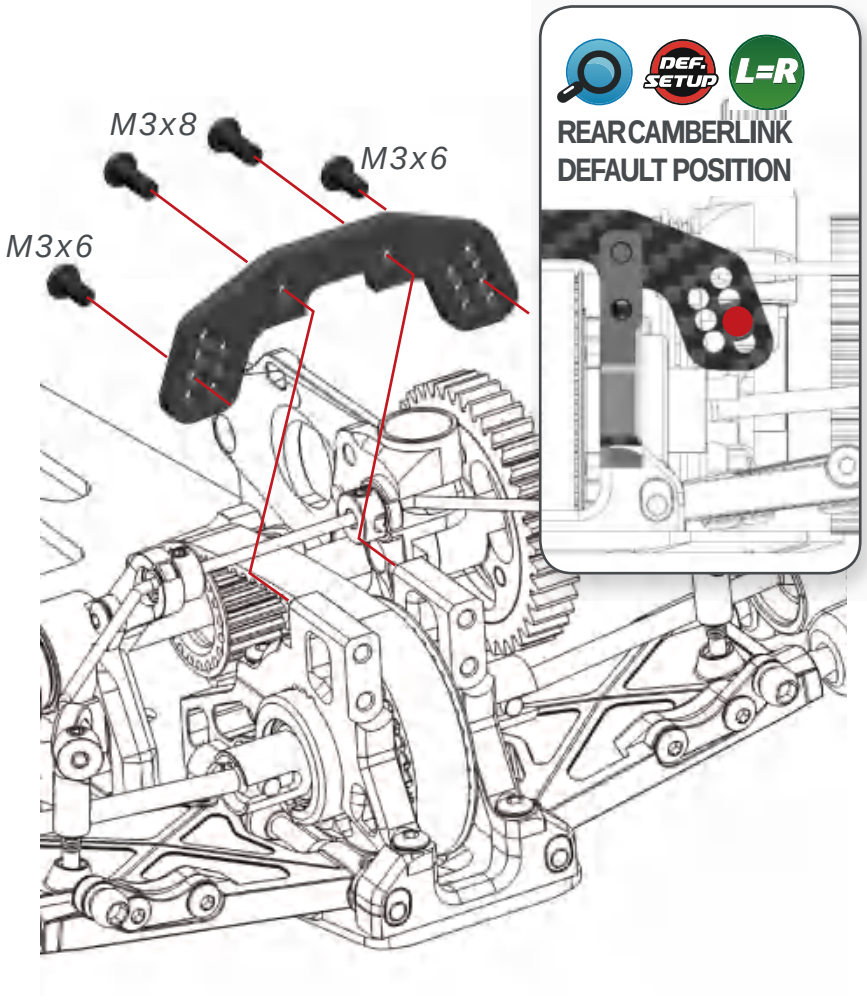


18.3





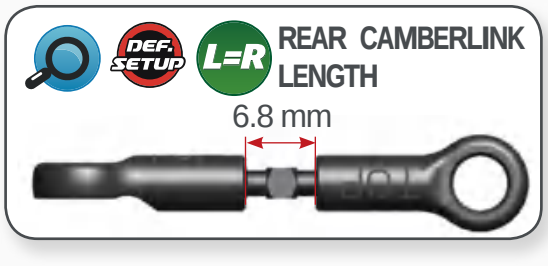
STEP 19



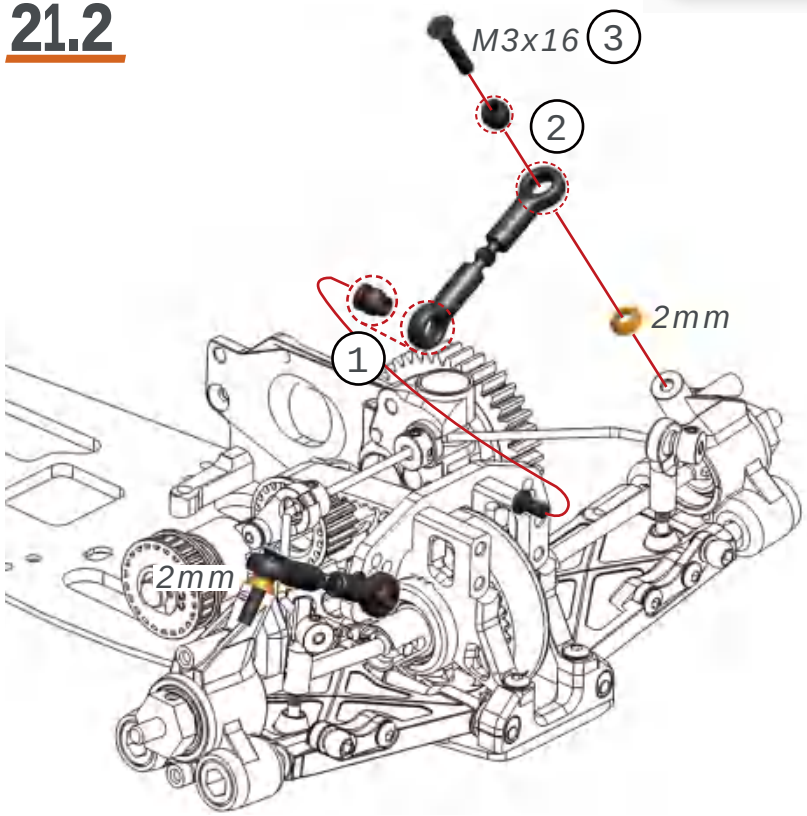
STEP 20

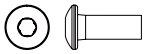
21.1

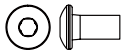


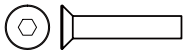


21.2




M3x8

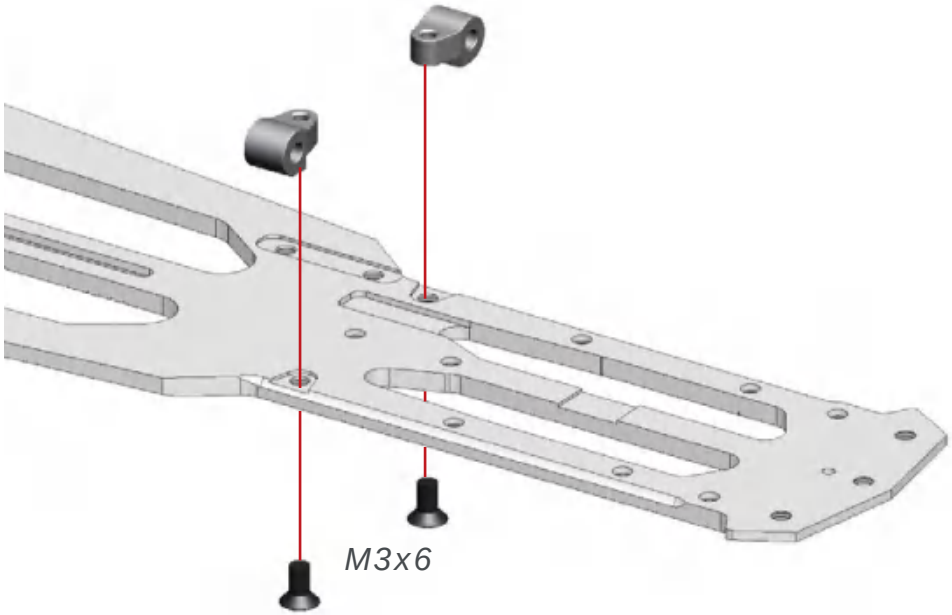

M3x6


M3x16

STEP 21 BAG 6

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

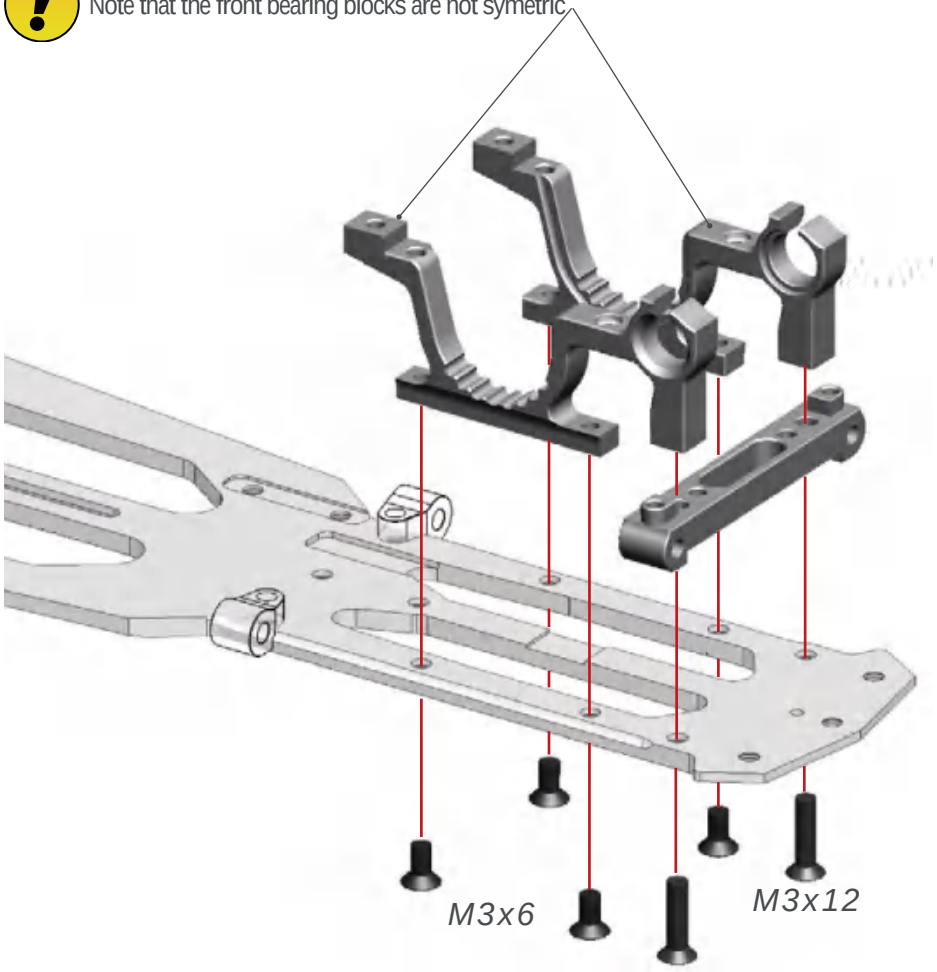
RIGHT LEFT



M3x6

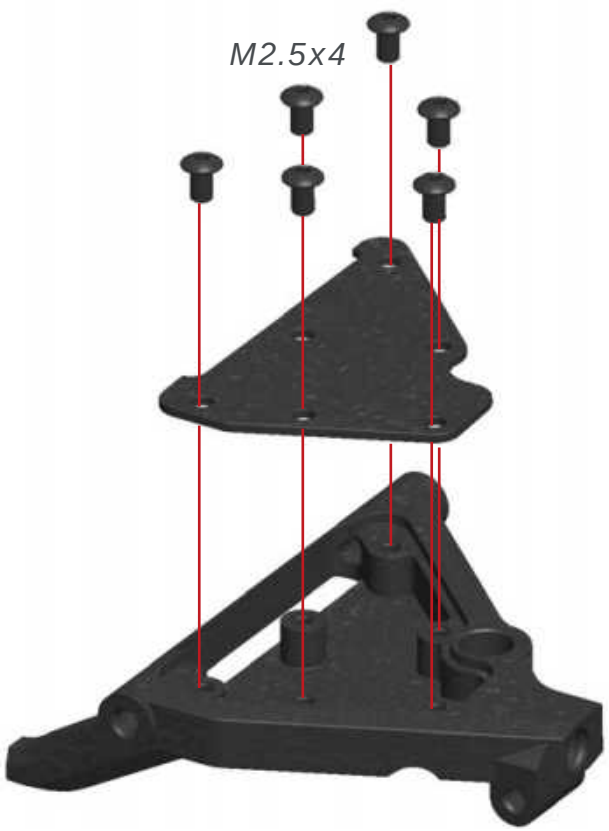
STEP 22

Note that the front bearing blocks are not symetric.

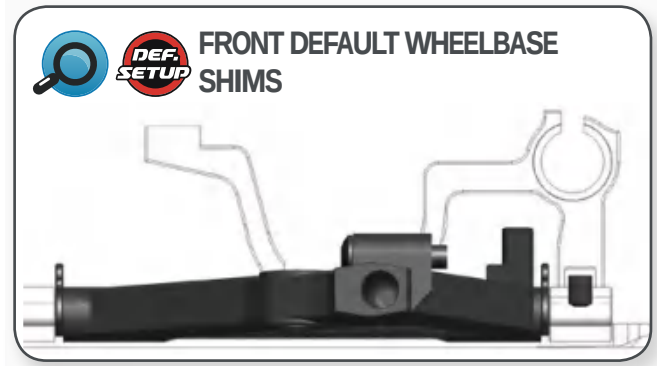


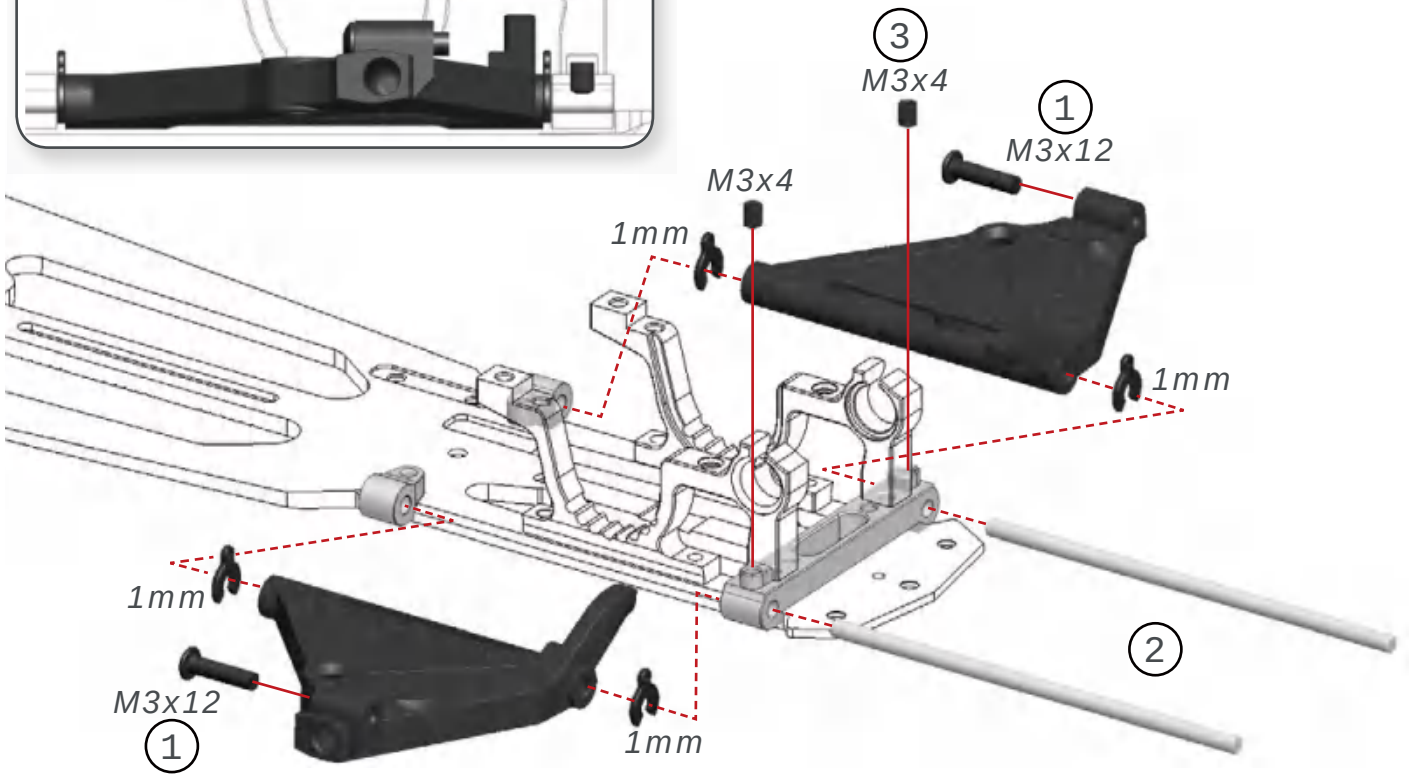
M3x6 M3x12

STEP 23



STEP 24





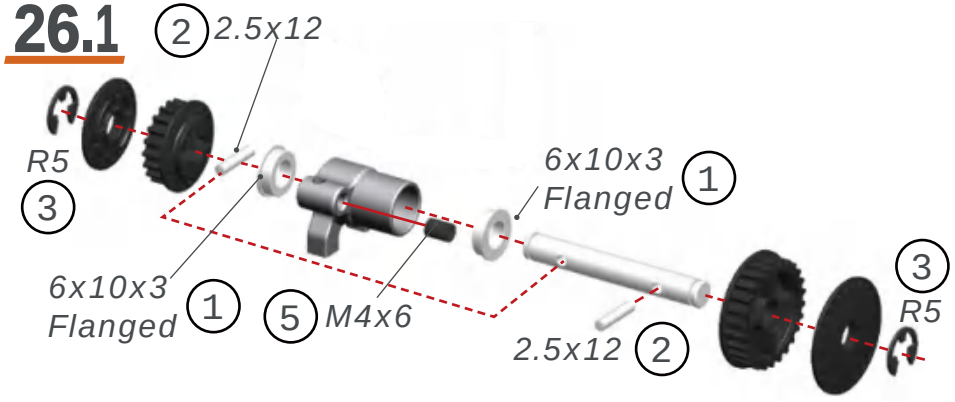
M2.5x4

M3x12

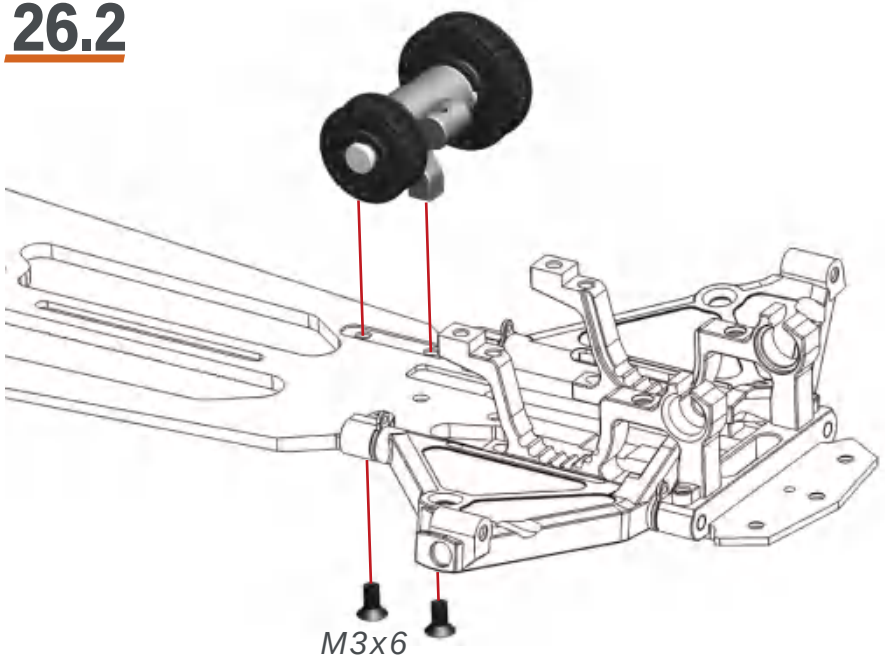
M3x4

STEP 25

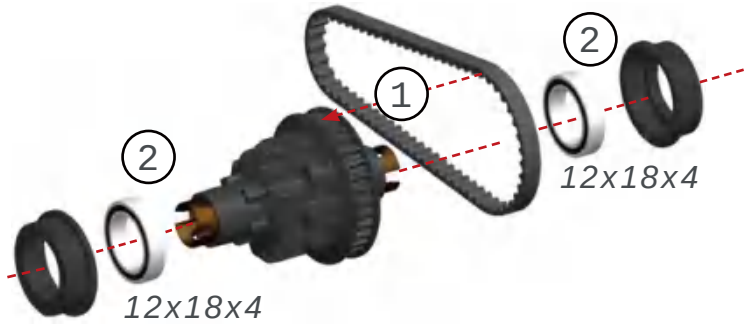
26.1

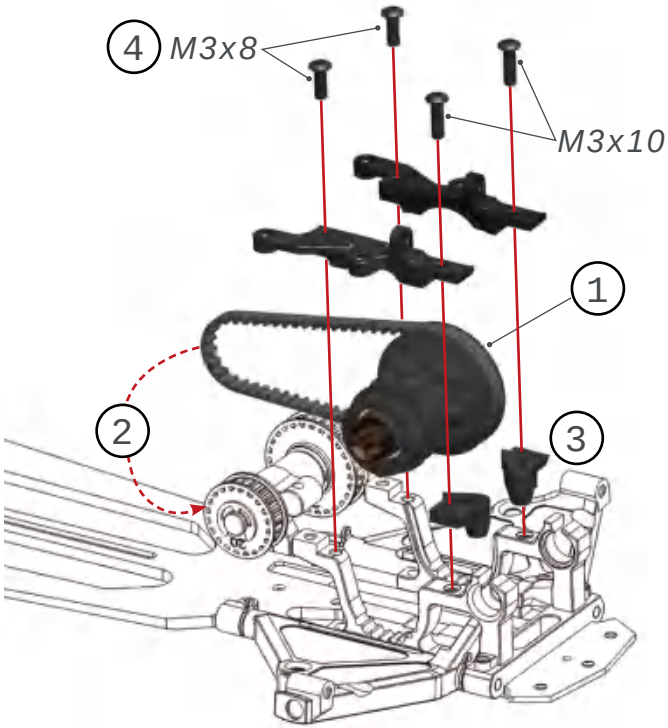


26.2

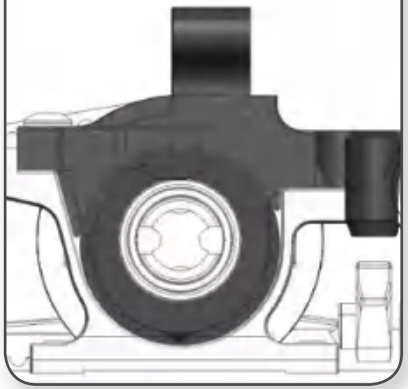


STEP 26 BAG 7

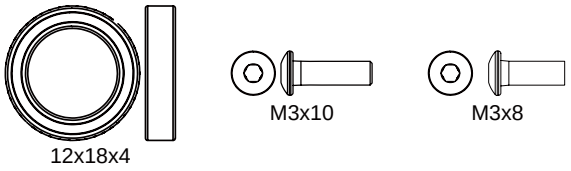




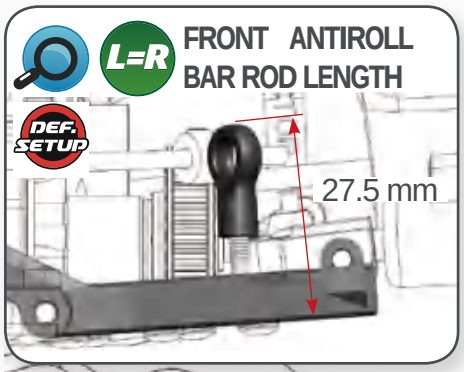
FRONT BELT TENSION
Use the central slot as starting position.

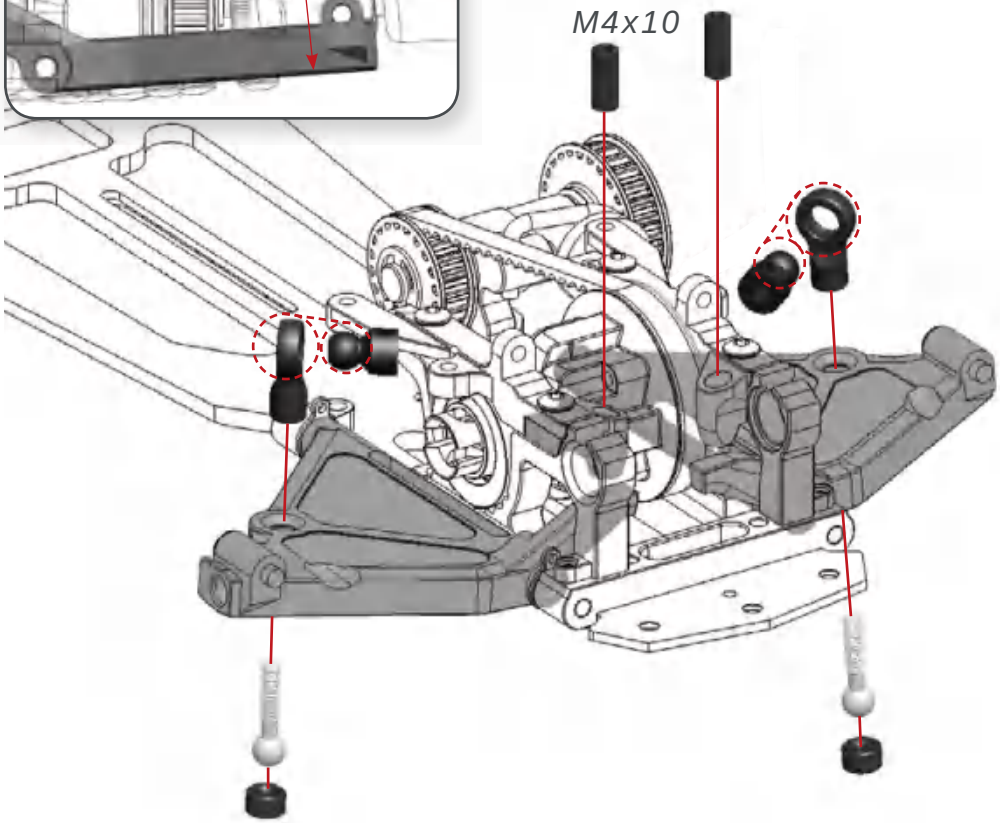






STEP 27





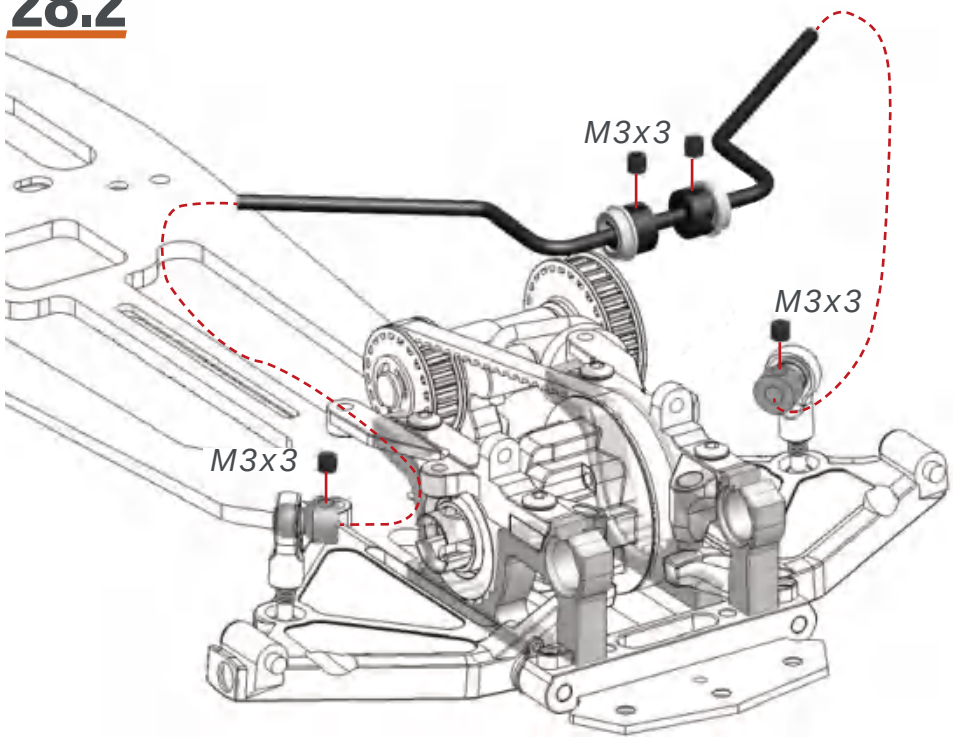
M4x10

STEP 28

28.1



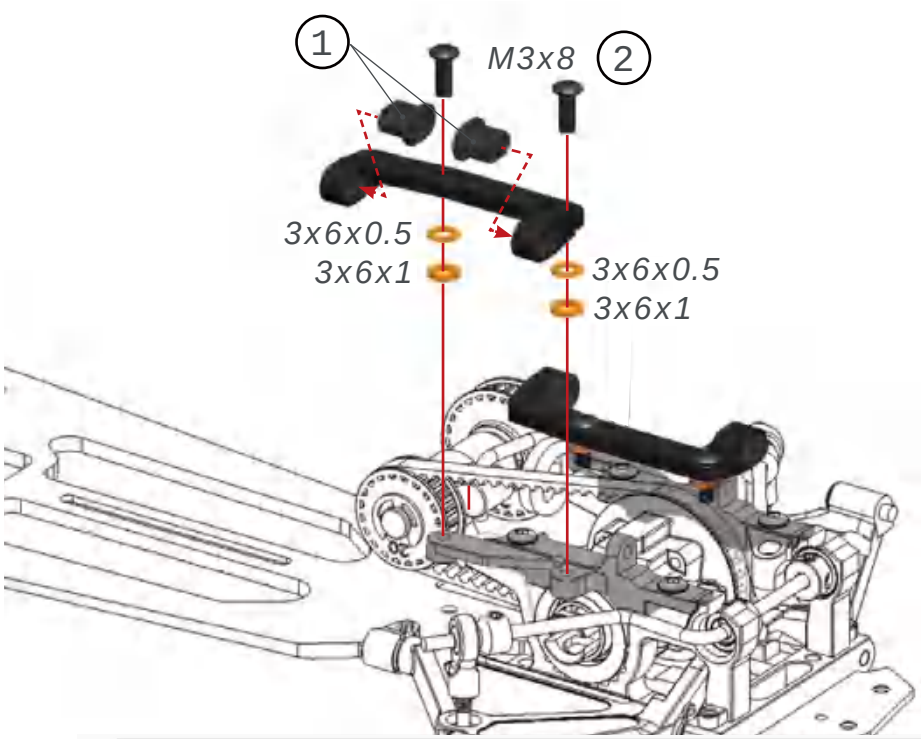
28.2




5X8X2.5 Flanged


M3x3

STEP 29 BAG 8

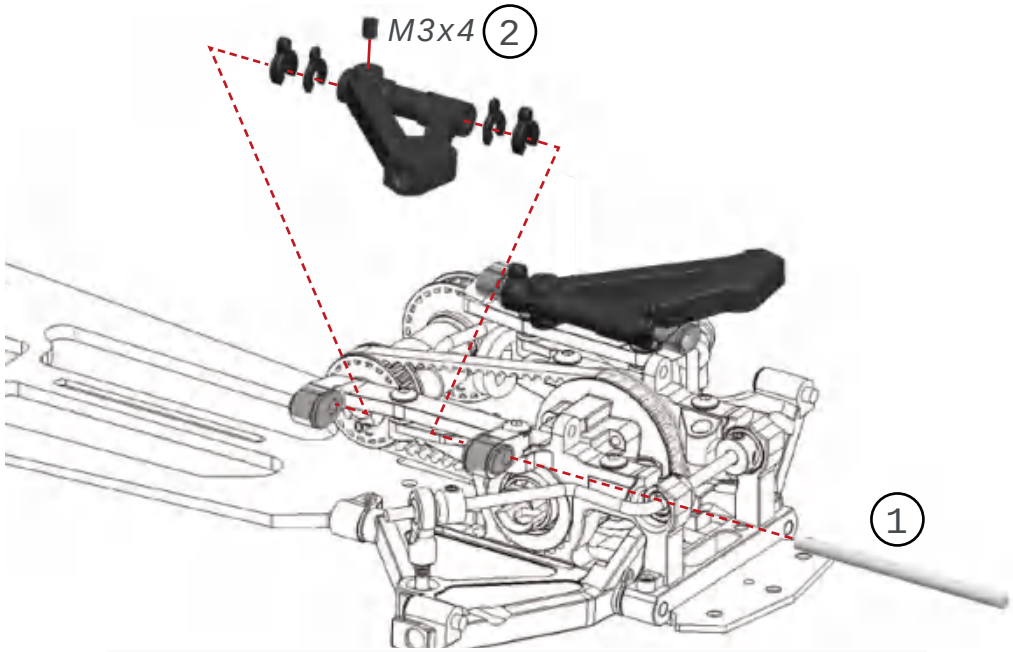


L=R FRONT SUSPENSION INSERTS CHART

INSIDE		MID		OUTSIDE	
RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT
●	●	●	●	●	●

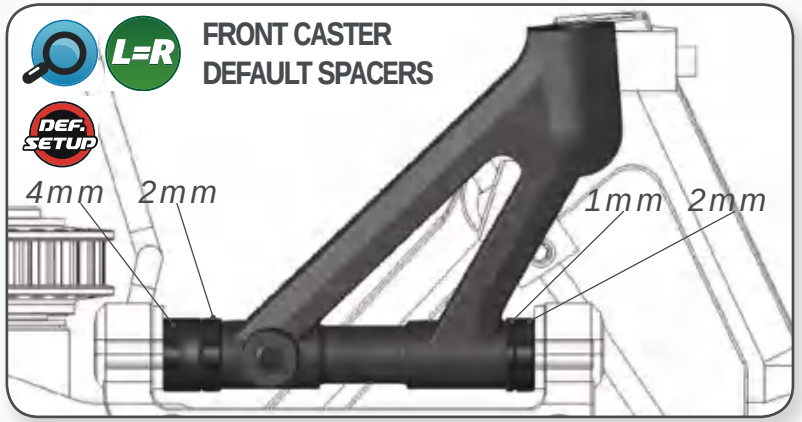
DEF. SETUP

STEP 30



L=R FRONT CASTER DEFAULT SPACERS

DEF. SETUP

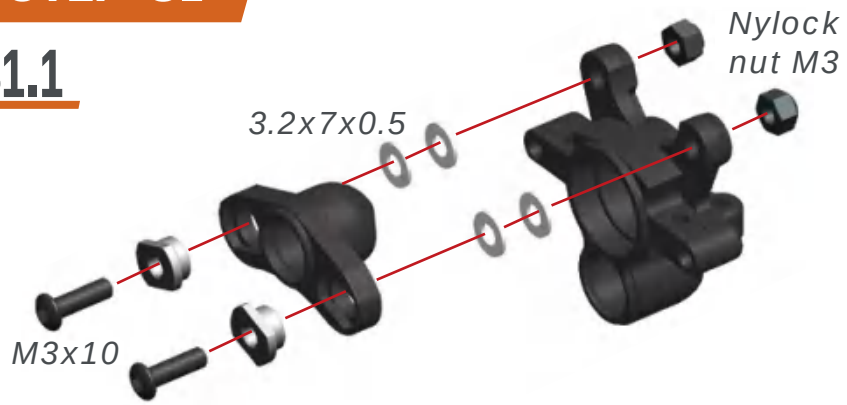


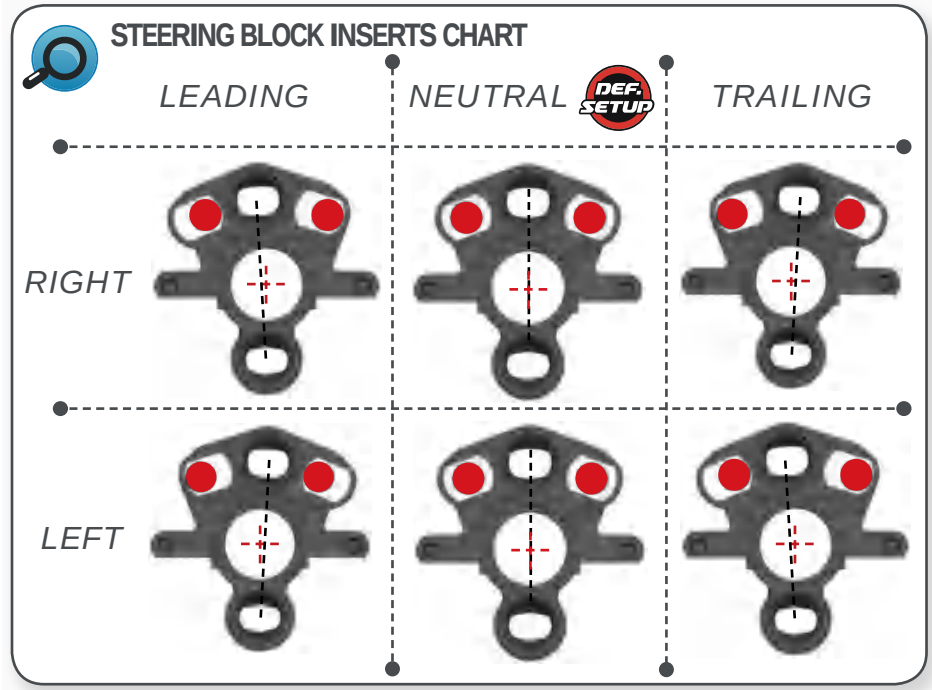




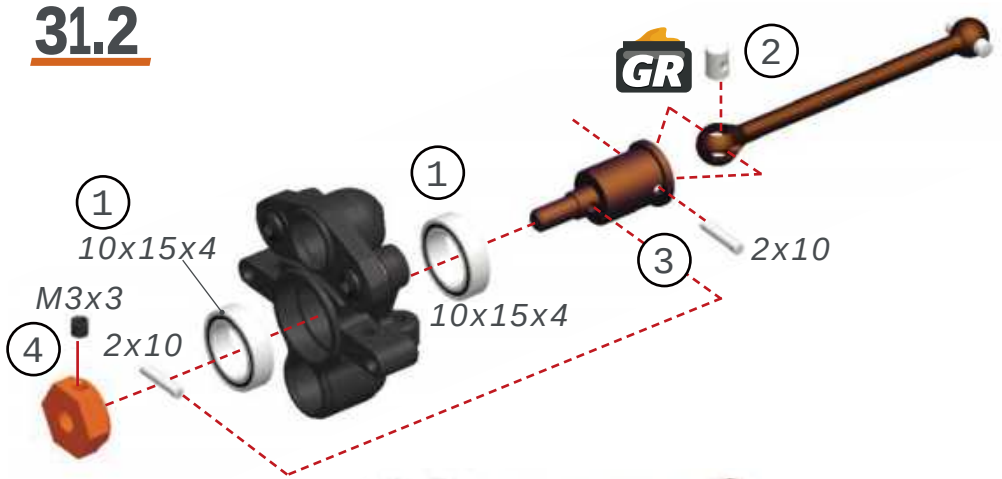
STEP 31

31.1

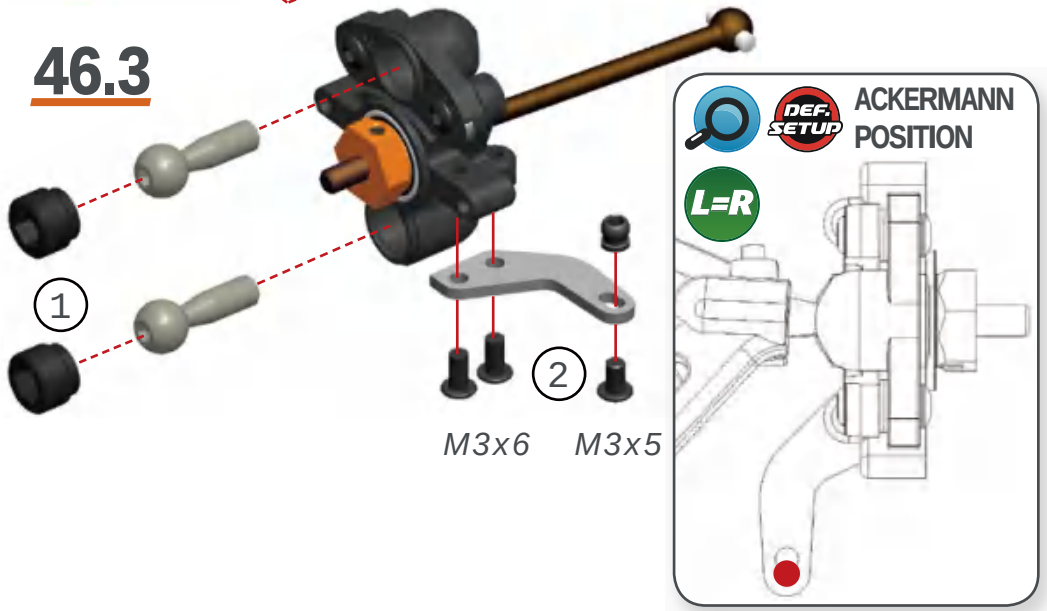


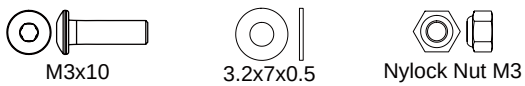


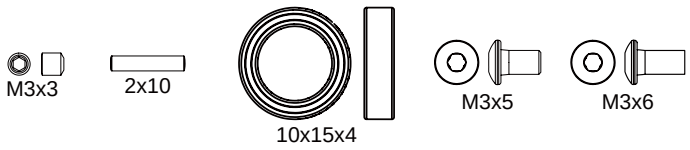
31.2



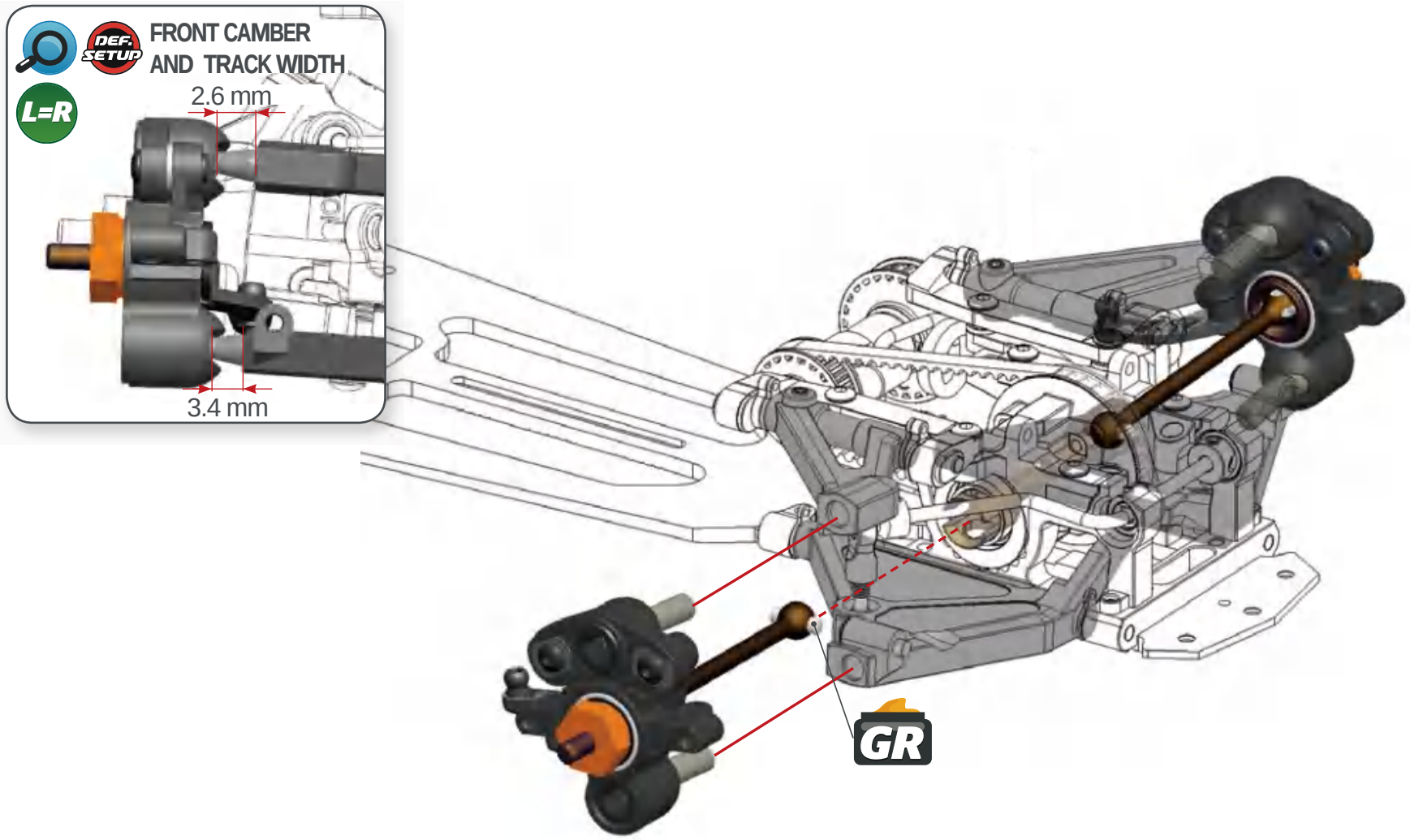
46.3







STEP 32

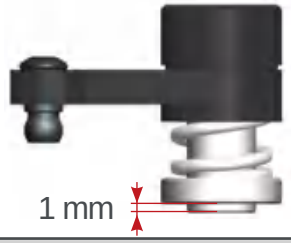


STEP 33 BAG 9

33.1



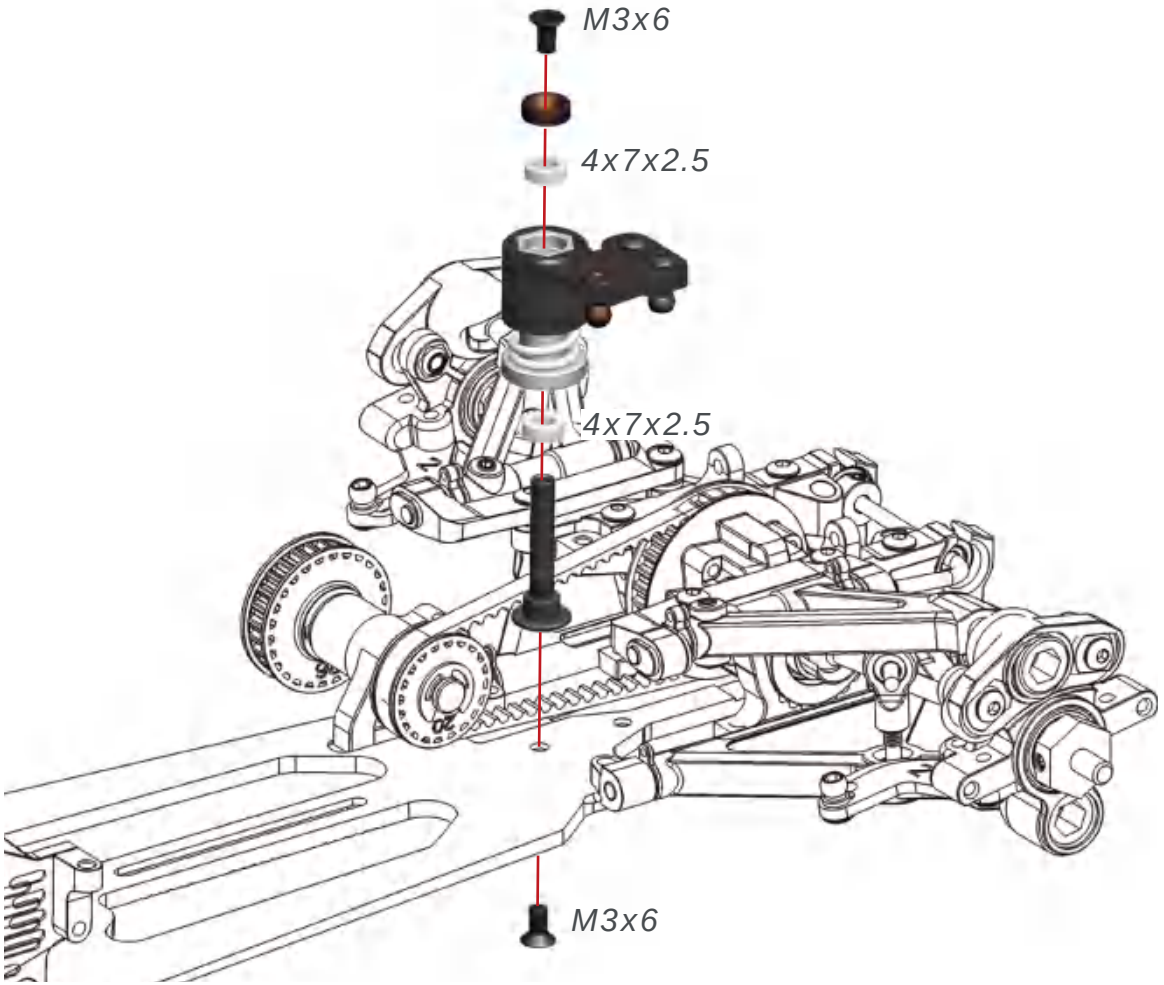
Preload the servo-saver-spring 1mm.

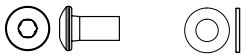


SERVOSAVER ACKERMANN INSERTS

- FORWARD NARROW (DEF. SETUP)
- REARWARD NARROW
- FORWARD WIDE
- REARWARD WIDE

33.2



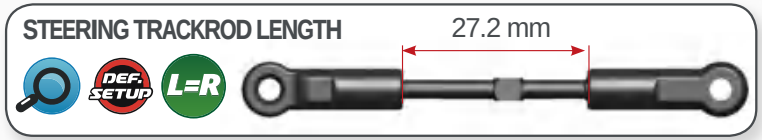




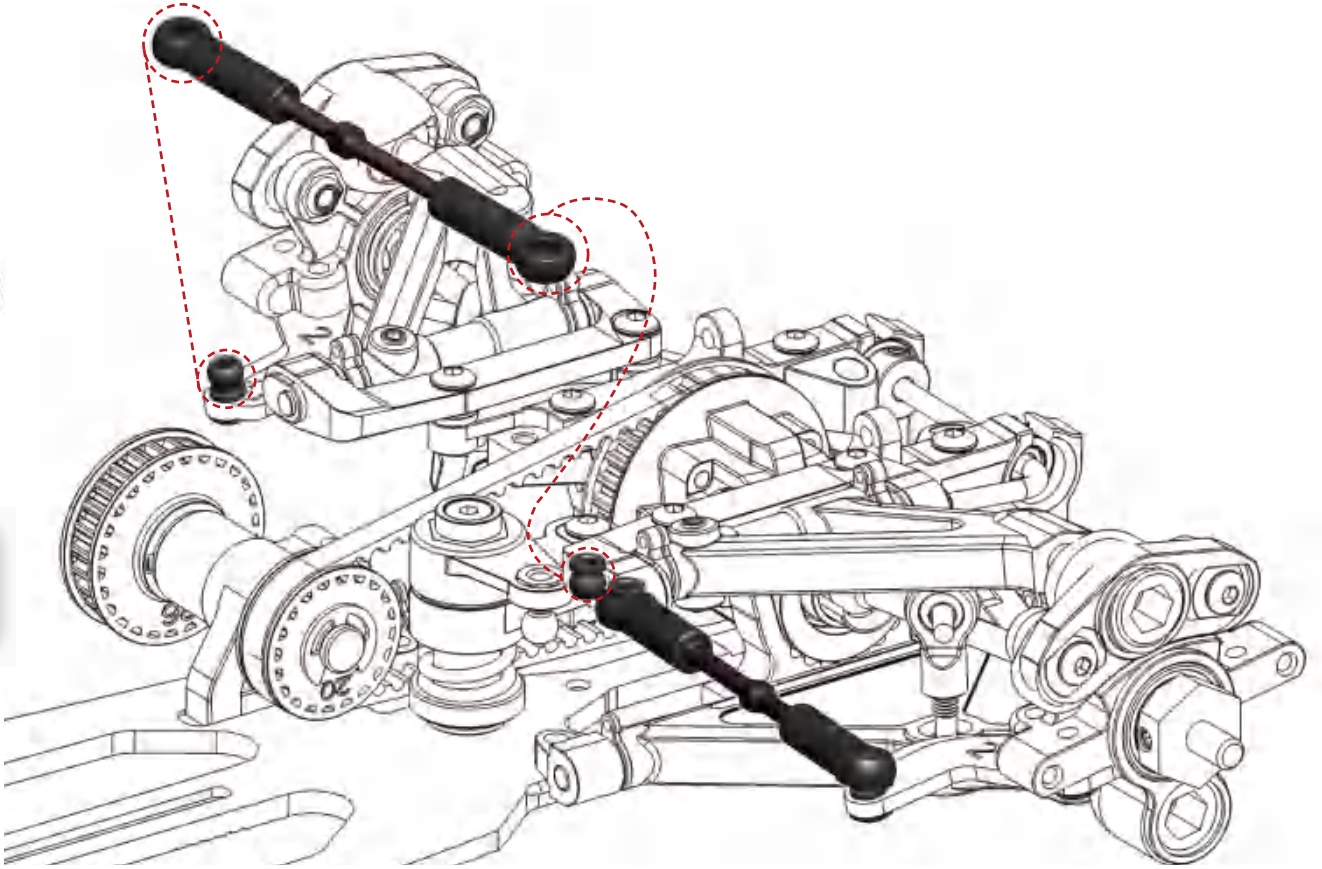
STEP 34

34.1





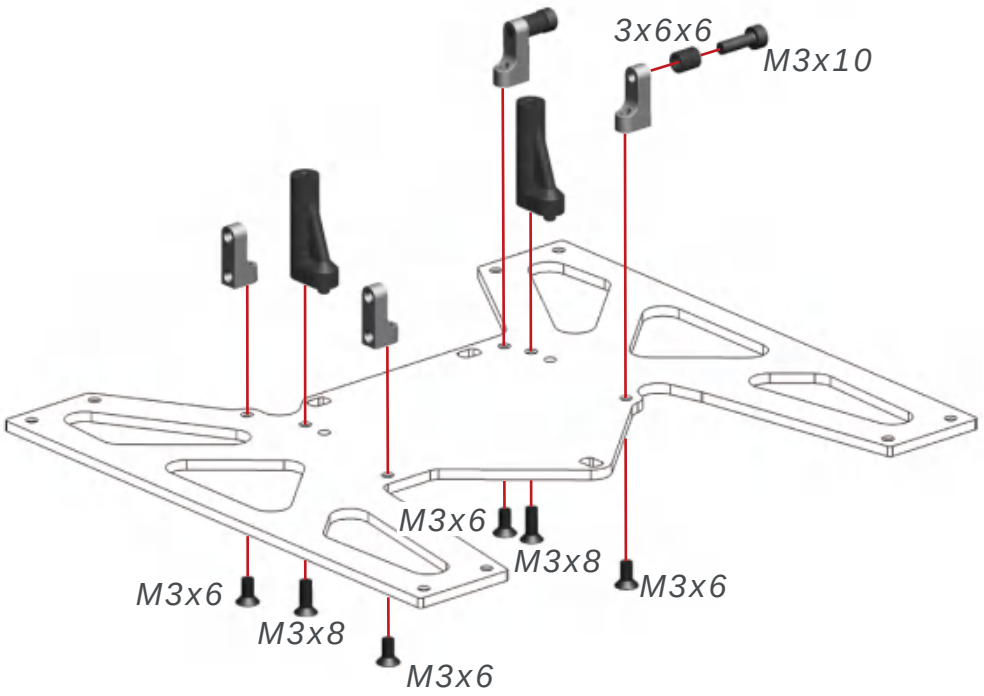
34.2



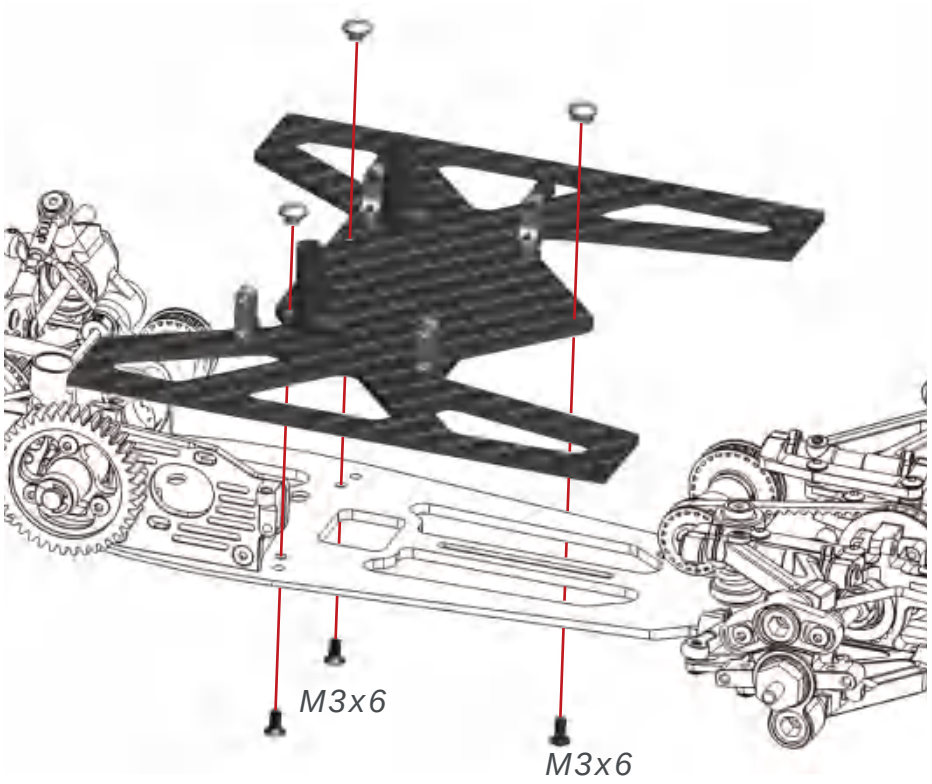
STEP 35

35.1





35.2





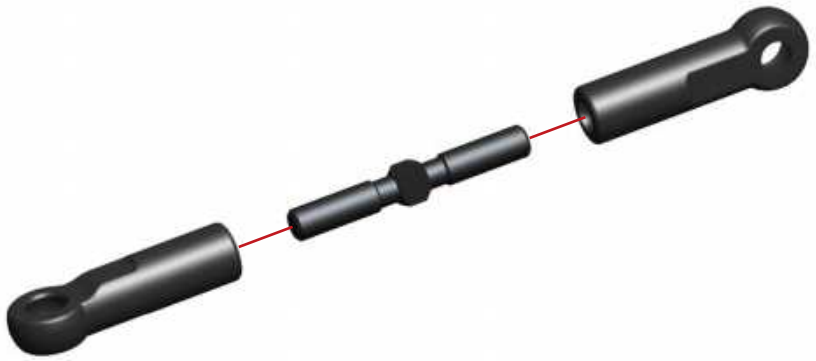


STEP 36 BAG 10

36.1

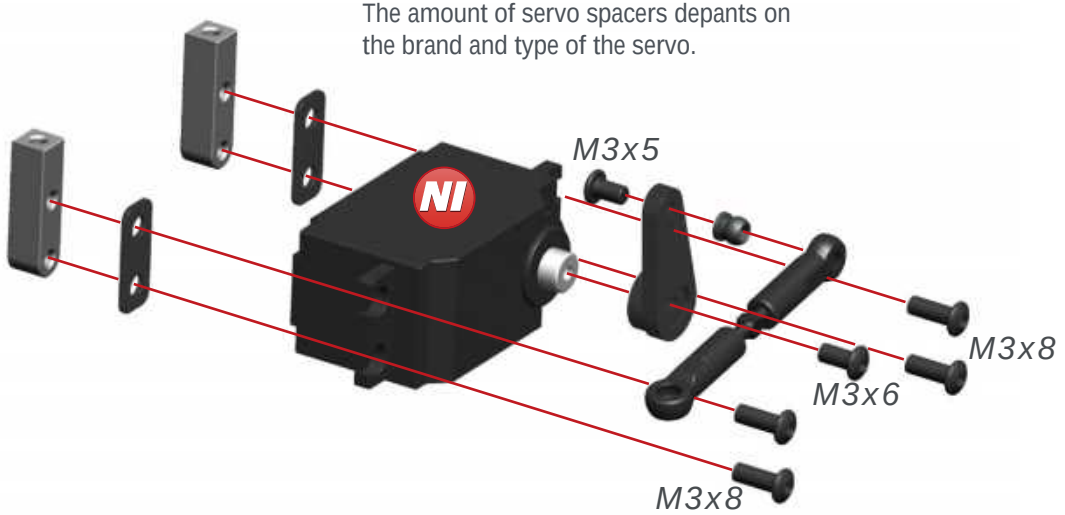
STEERING TRACKROD LENGTH

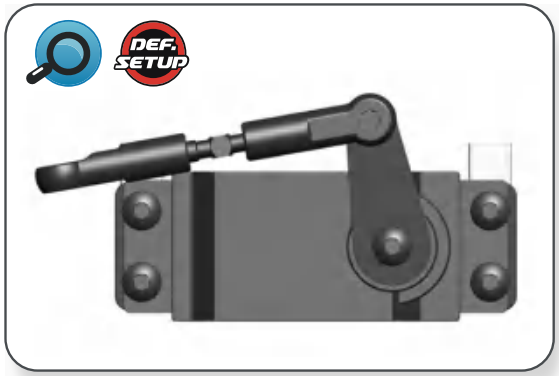


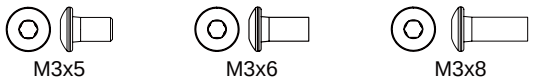


36.2

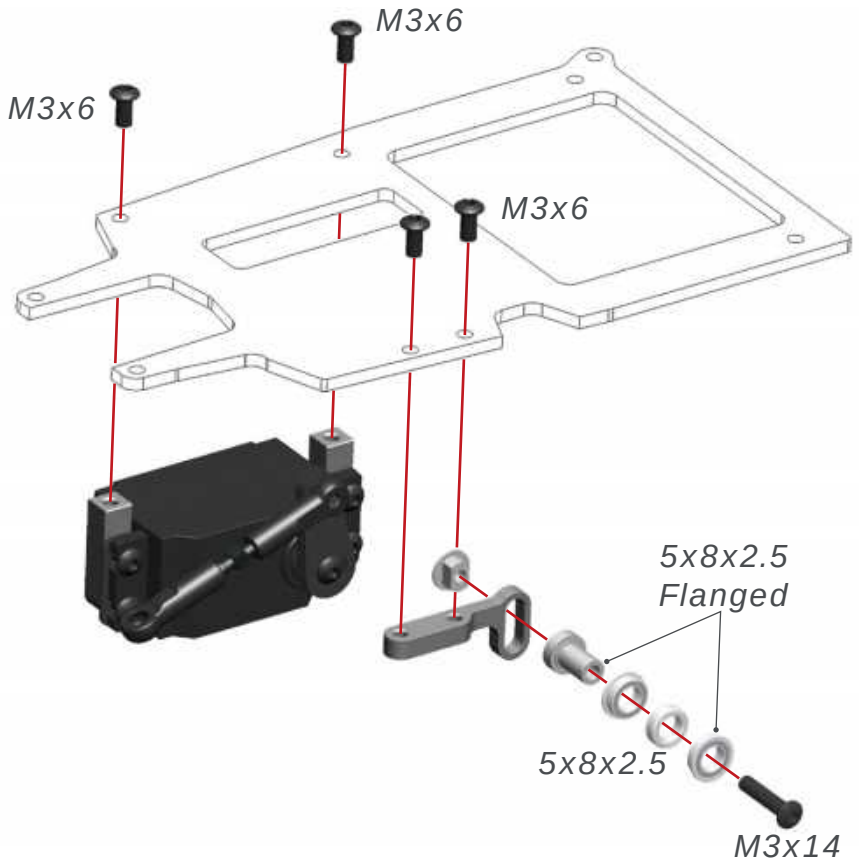
The amount of servo spacers depants on the brand and type of the servo.





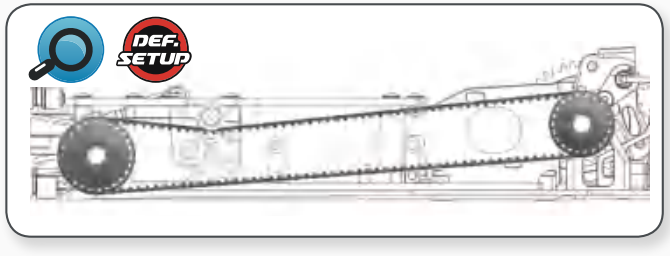


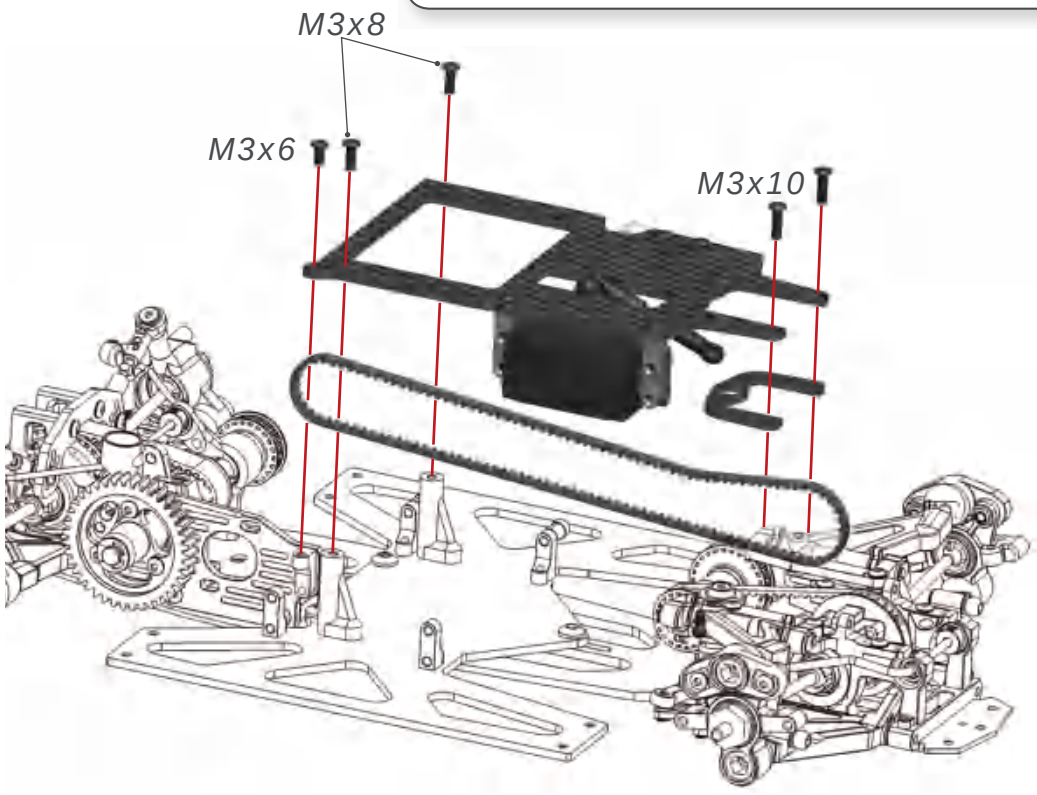
STEP 37



M3x6 M3x14

STEP 38

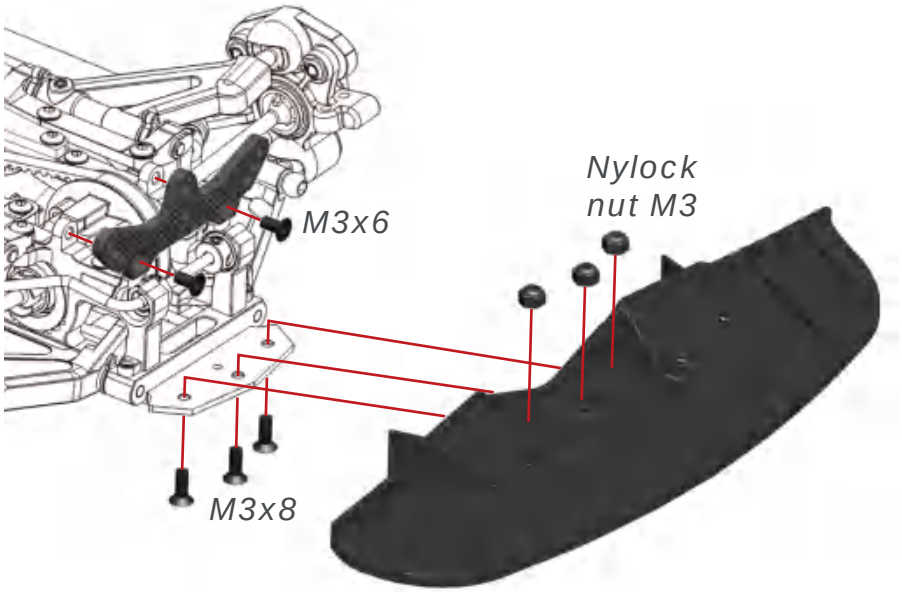




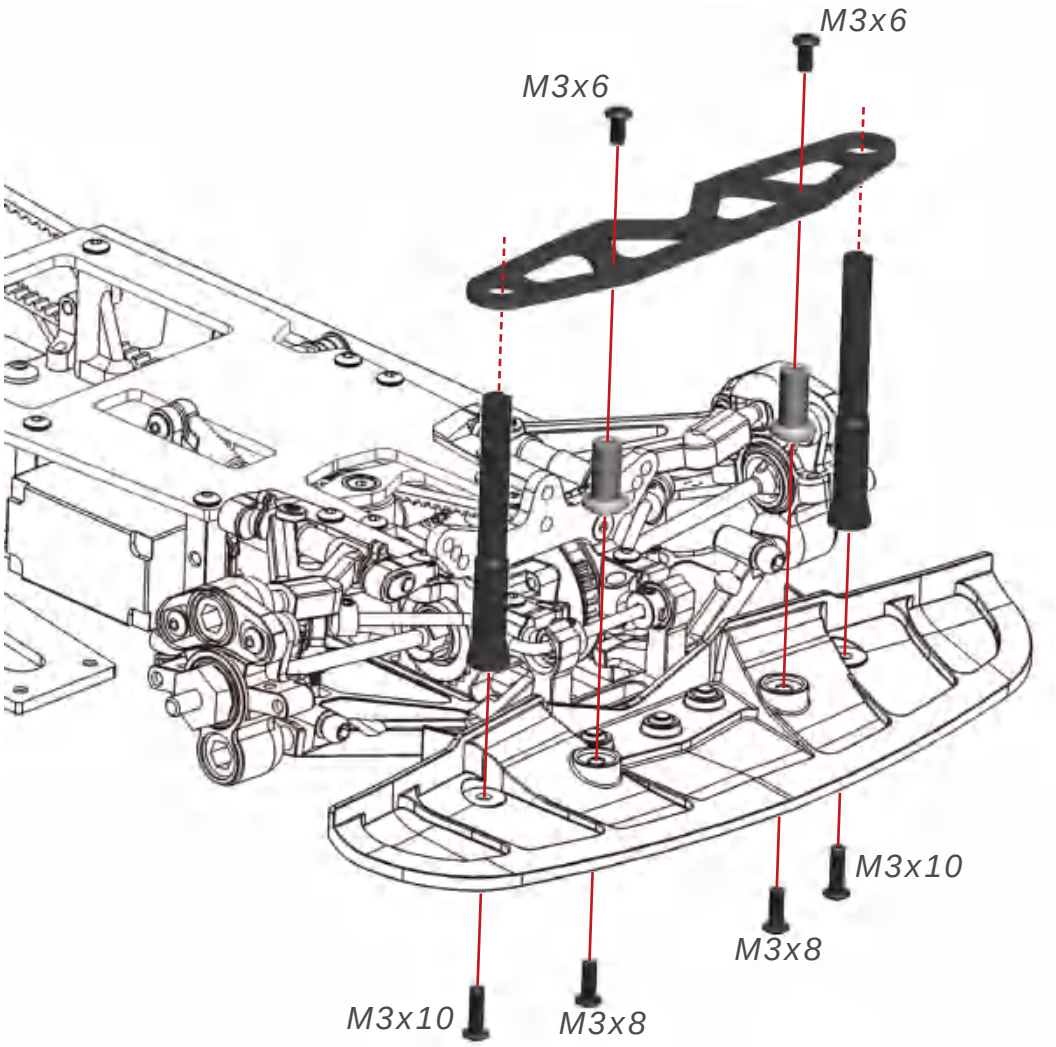
M3x6 M3x8 M3x10

BUMPER/SHOCKTOWER ASSEMBLY

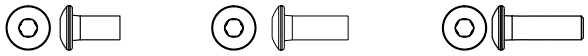
STEP 39 BAG 11



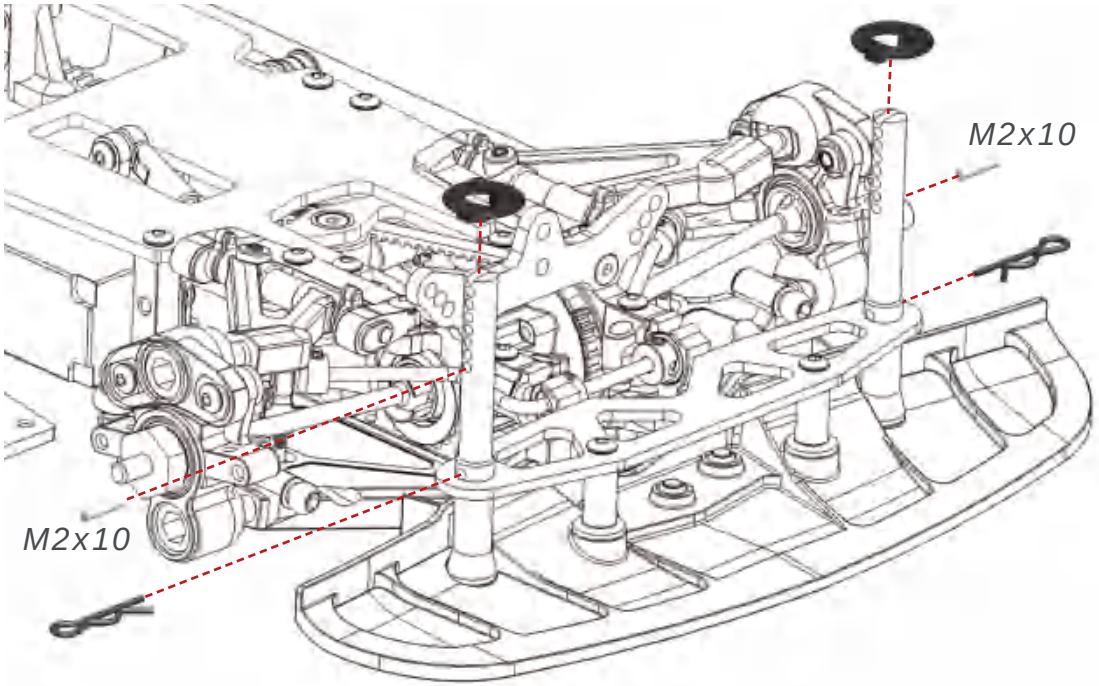
STEP 40







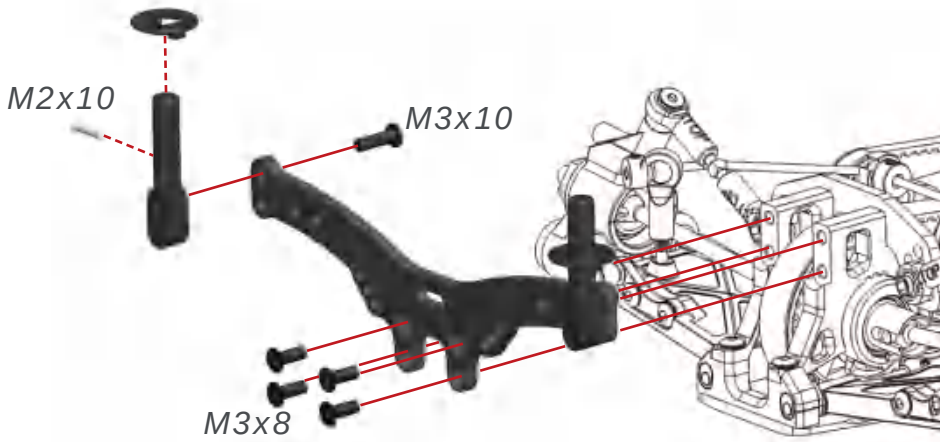
STEP 41



2x10

Body clip mid

STEP 42



M3x8

M3x10

2x10

STEP 43 SHOCK BAG

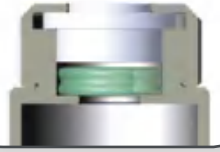
43.1



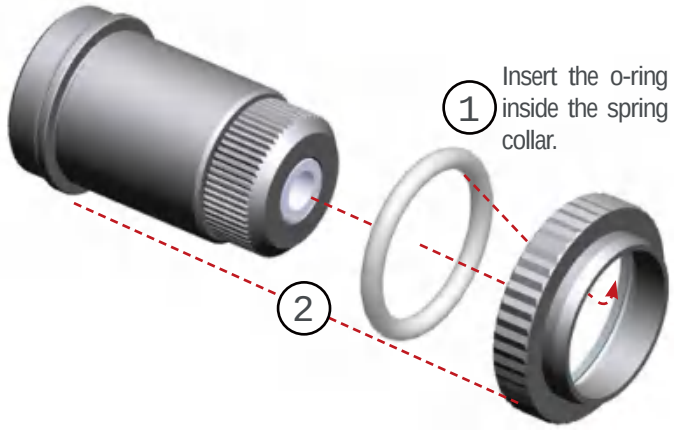
Use some silicone oil during the assembly.

SO

Note the correct orientation of the shock spacers .



43.2



1 Insert the o-ring inside the spring collar.

2

Note the correct position of the o-ring .



STEP 44

44.1



R2.3

For the correct piston holes please check the default setupsheet.

R2.3

44.2



SO

Use some silicone oil during the assembly.

R2.3

STEP 45

45.1

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



45.2

1- Fill up with sillicone 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.

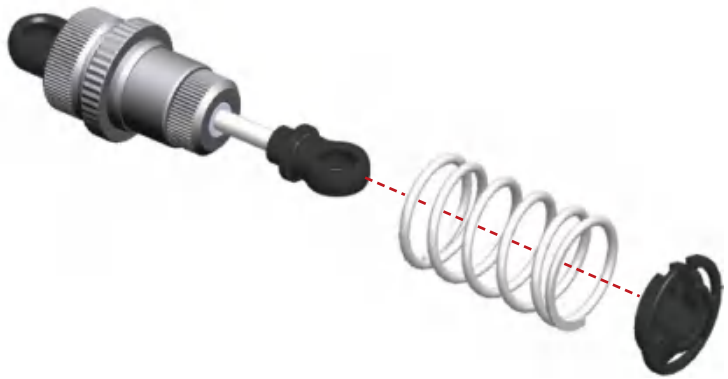


SHOCKS LENGTH:
Measure the shock length fully extended.

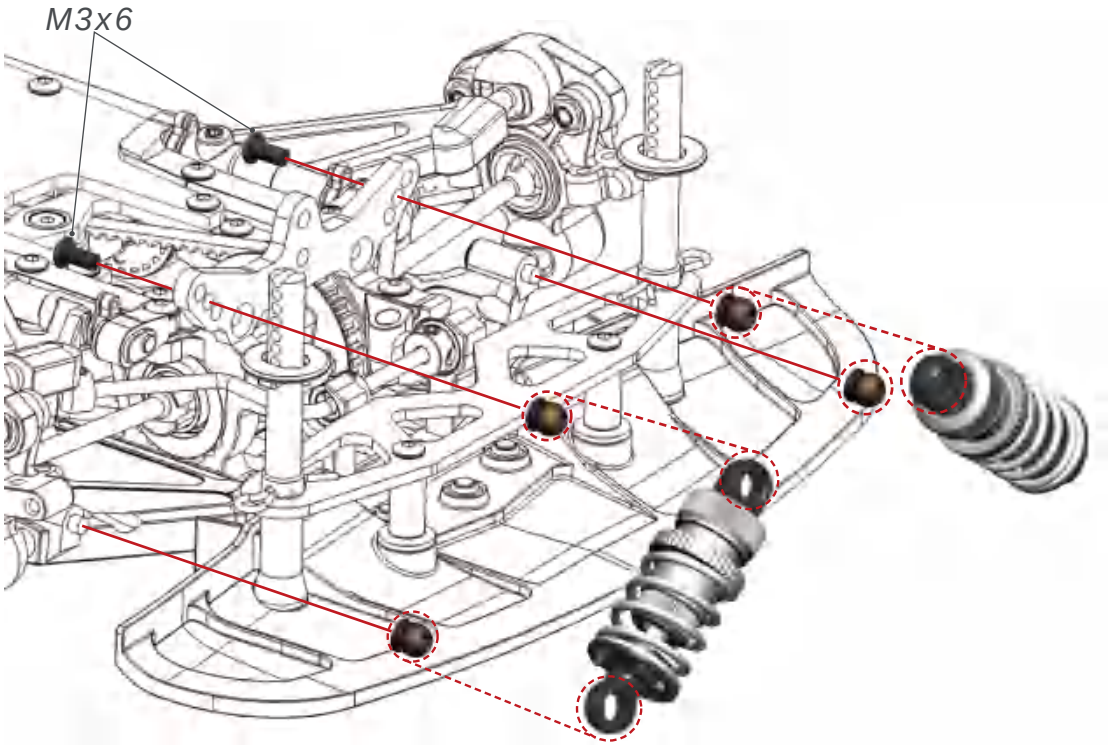


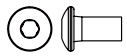
STEP 46

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

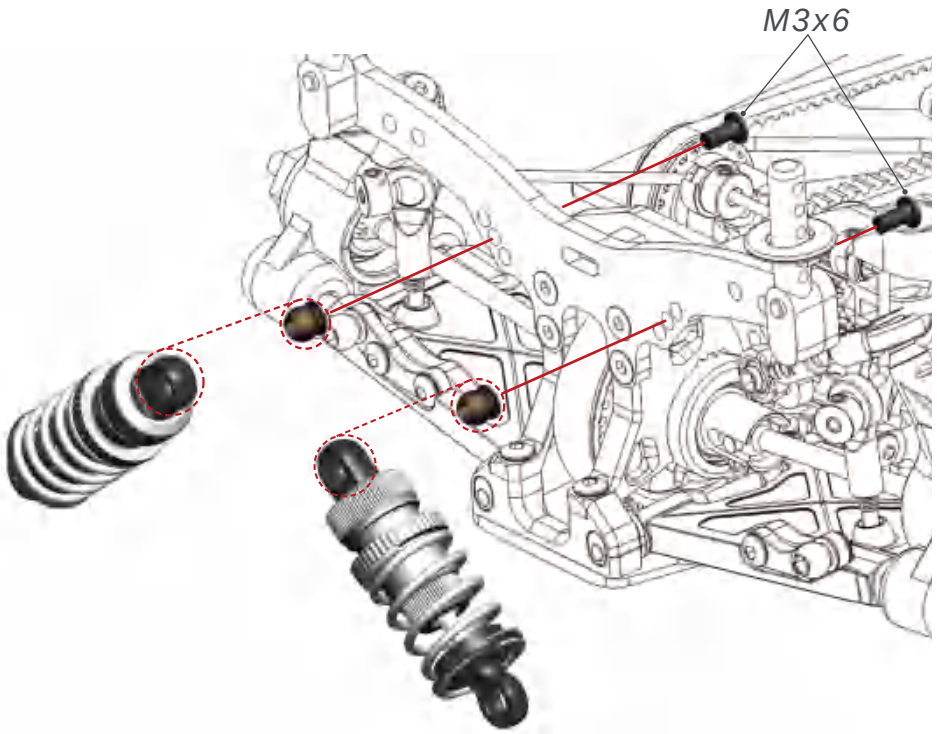


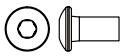
STEP 47



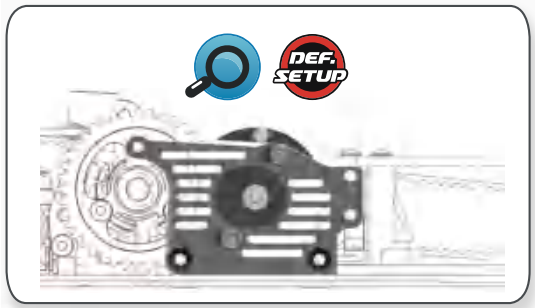


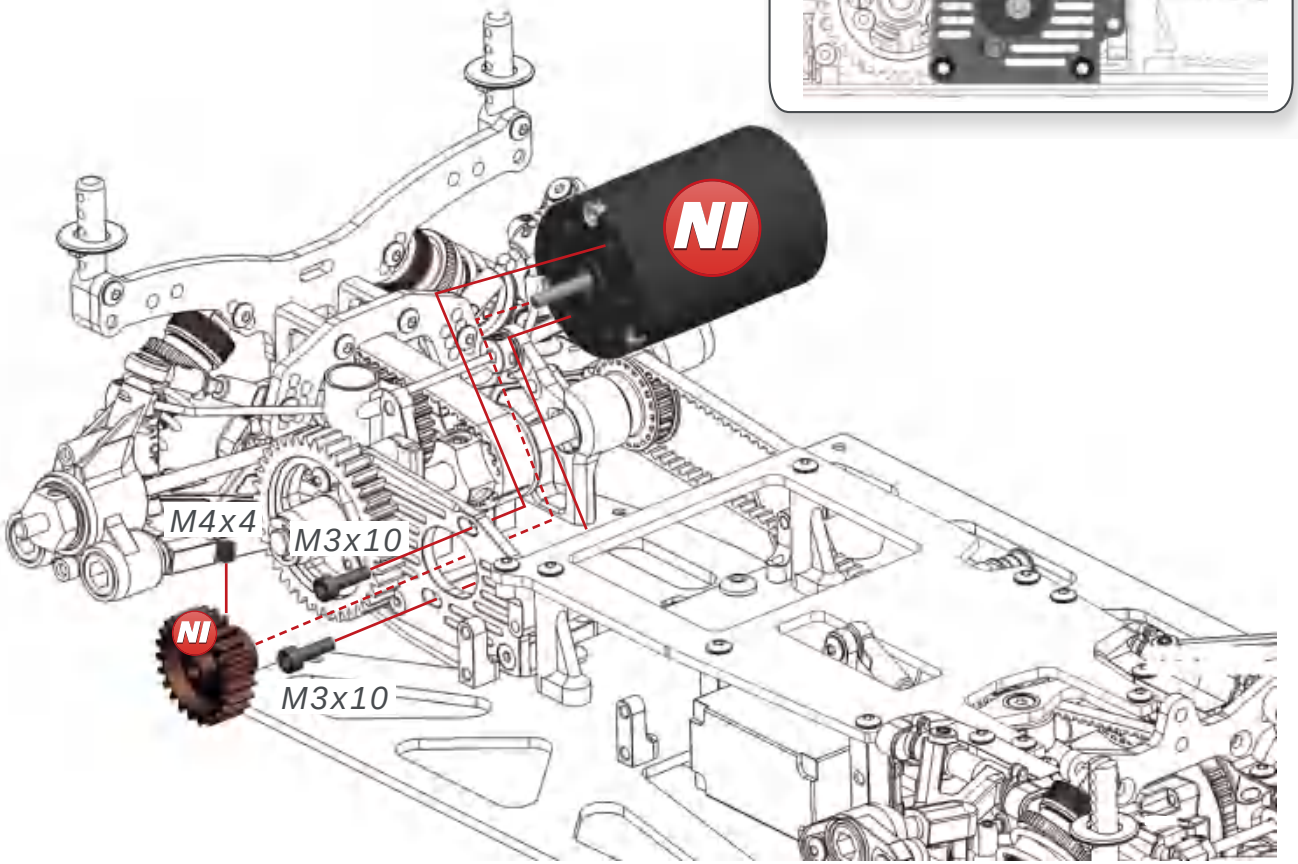
STEP 48



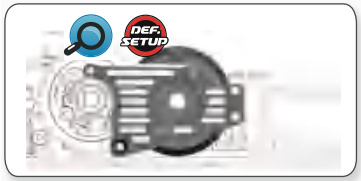


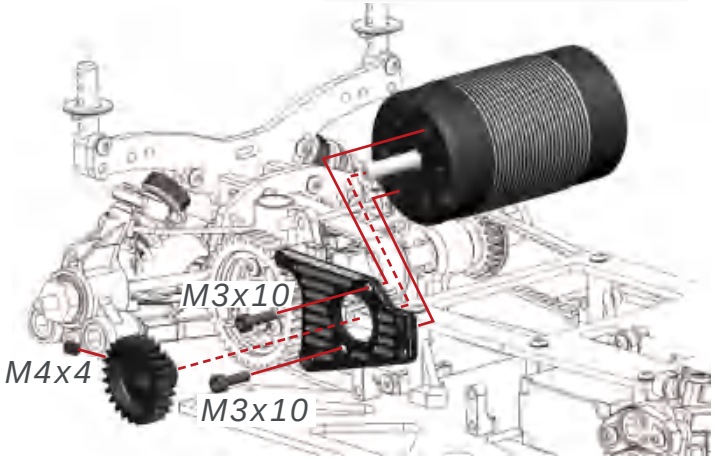
STEP 49 BAG 12





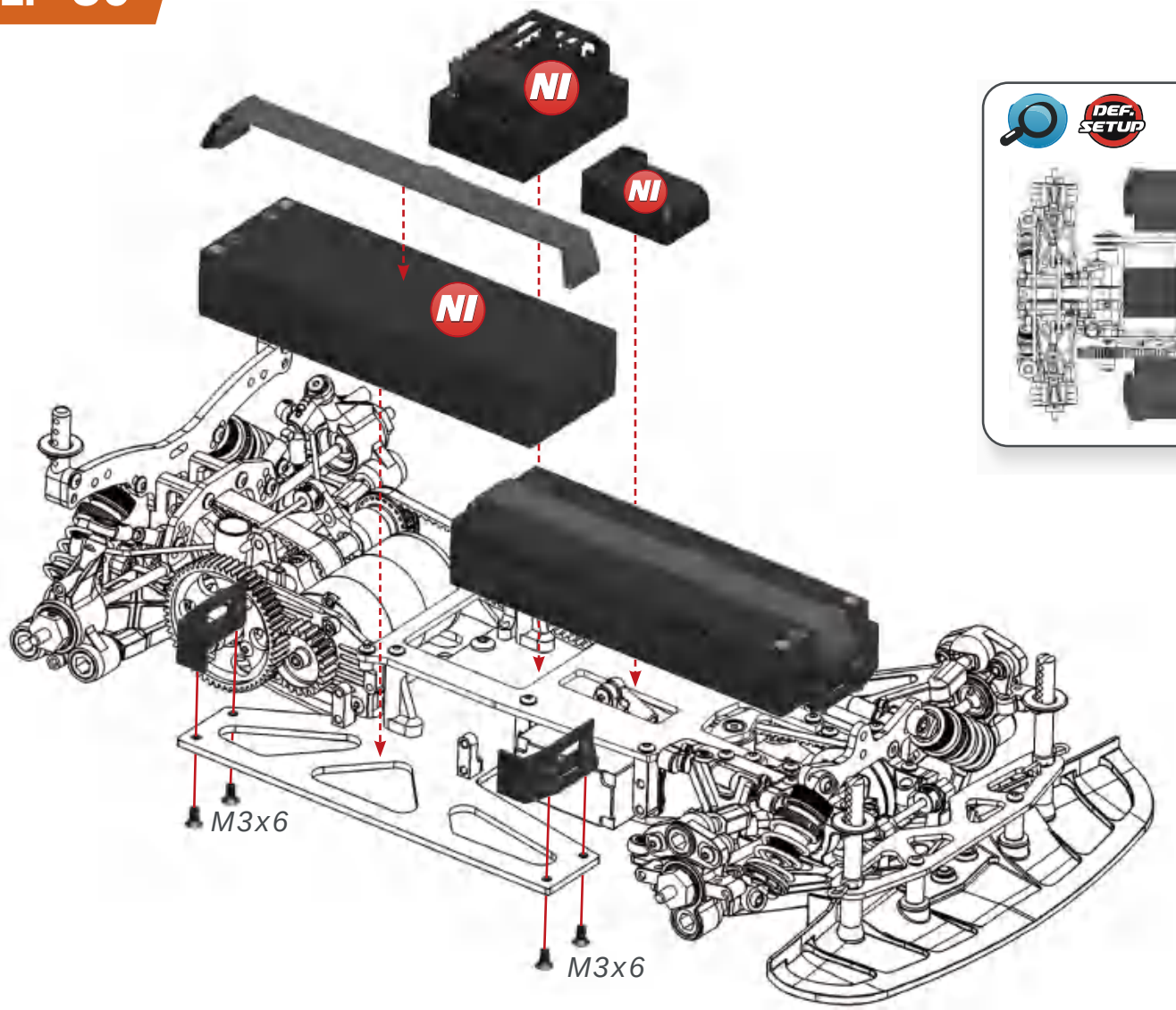
OPT 804505 MOTOR PLATE 1/8 S750E

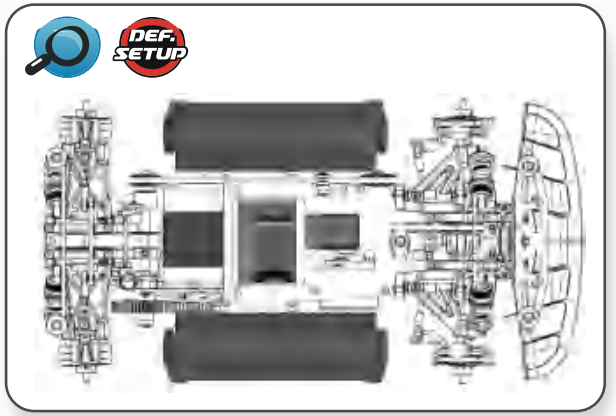






STEP 50

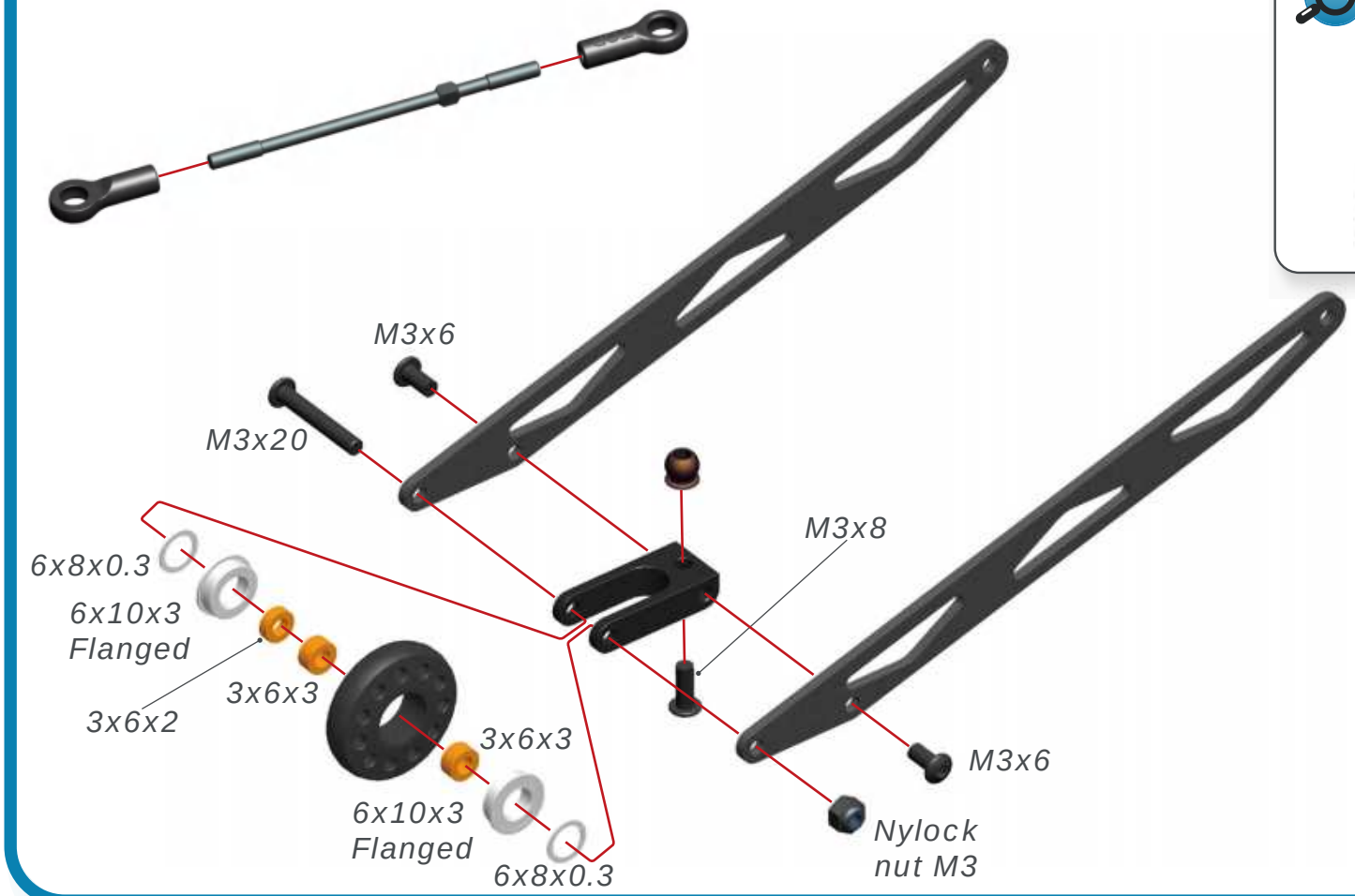


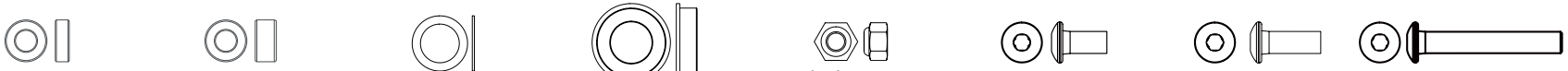




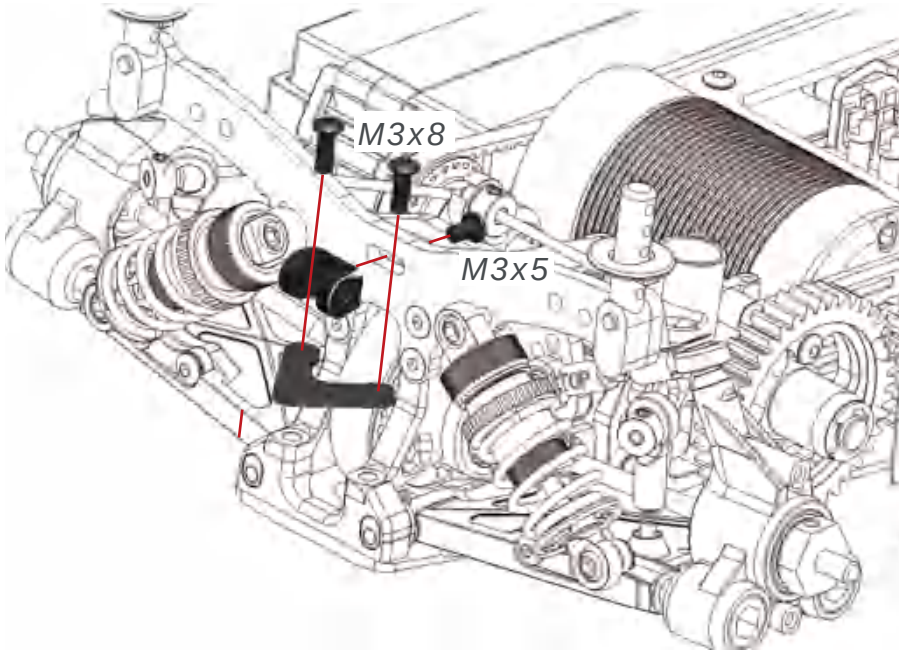
OPT 804521 WHEELIEBAR SET S750E

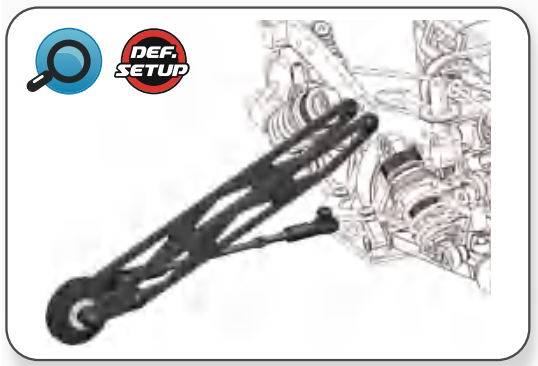


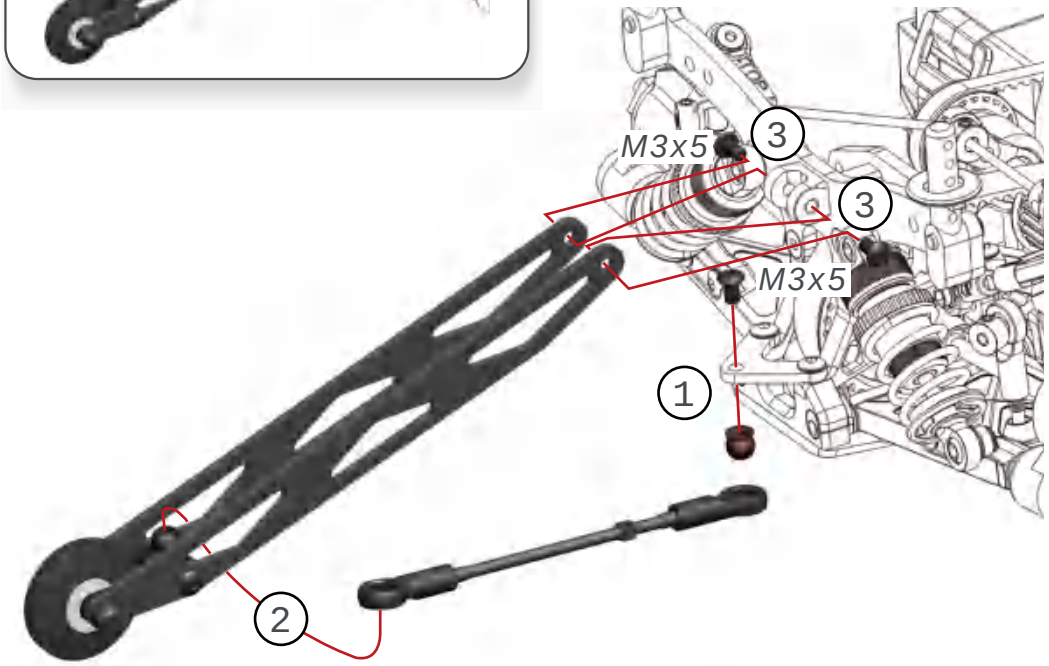




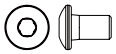
OPT 804521 WHEELIEBAR SET S750E



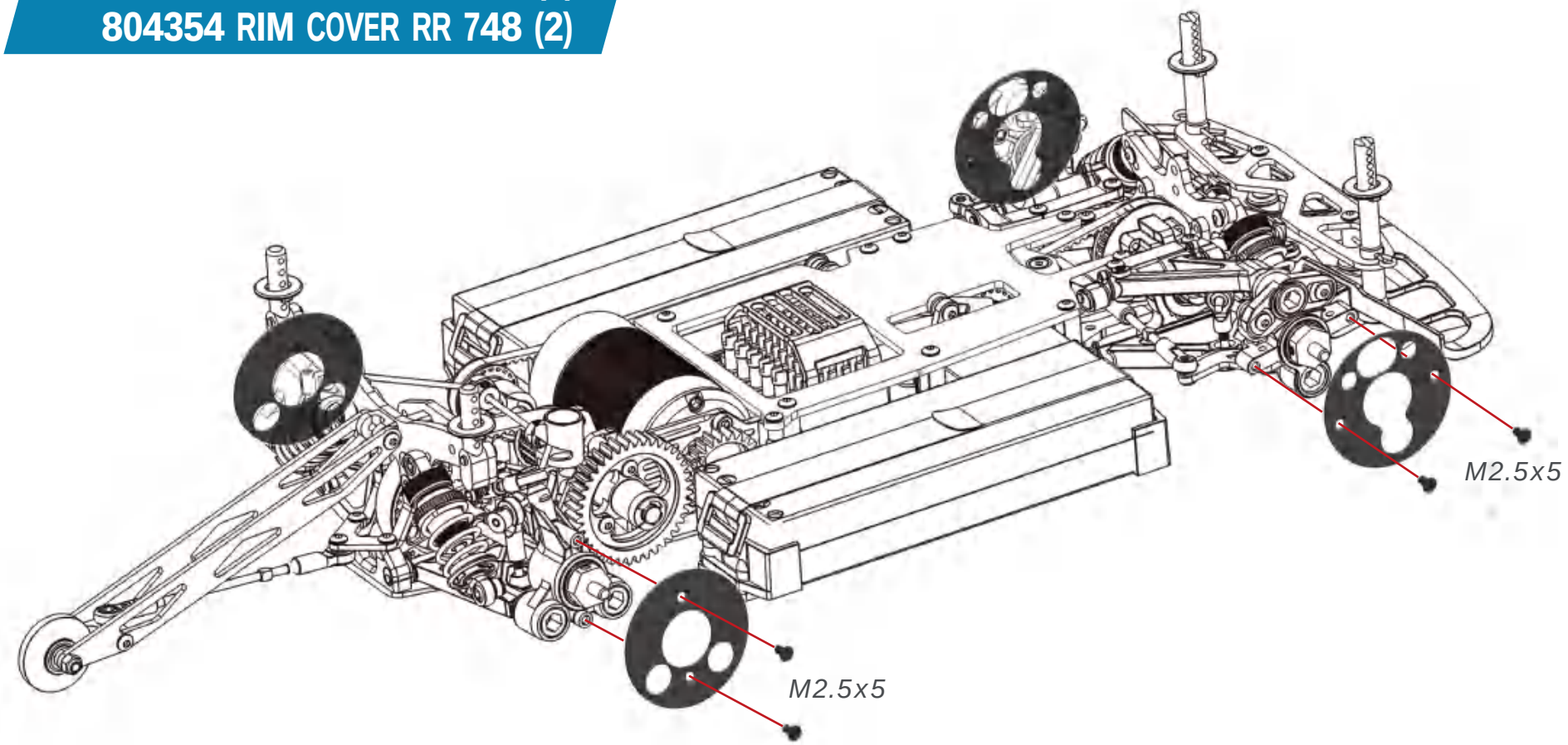






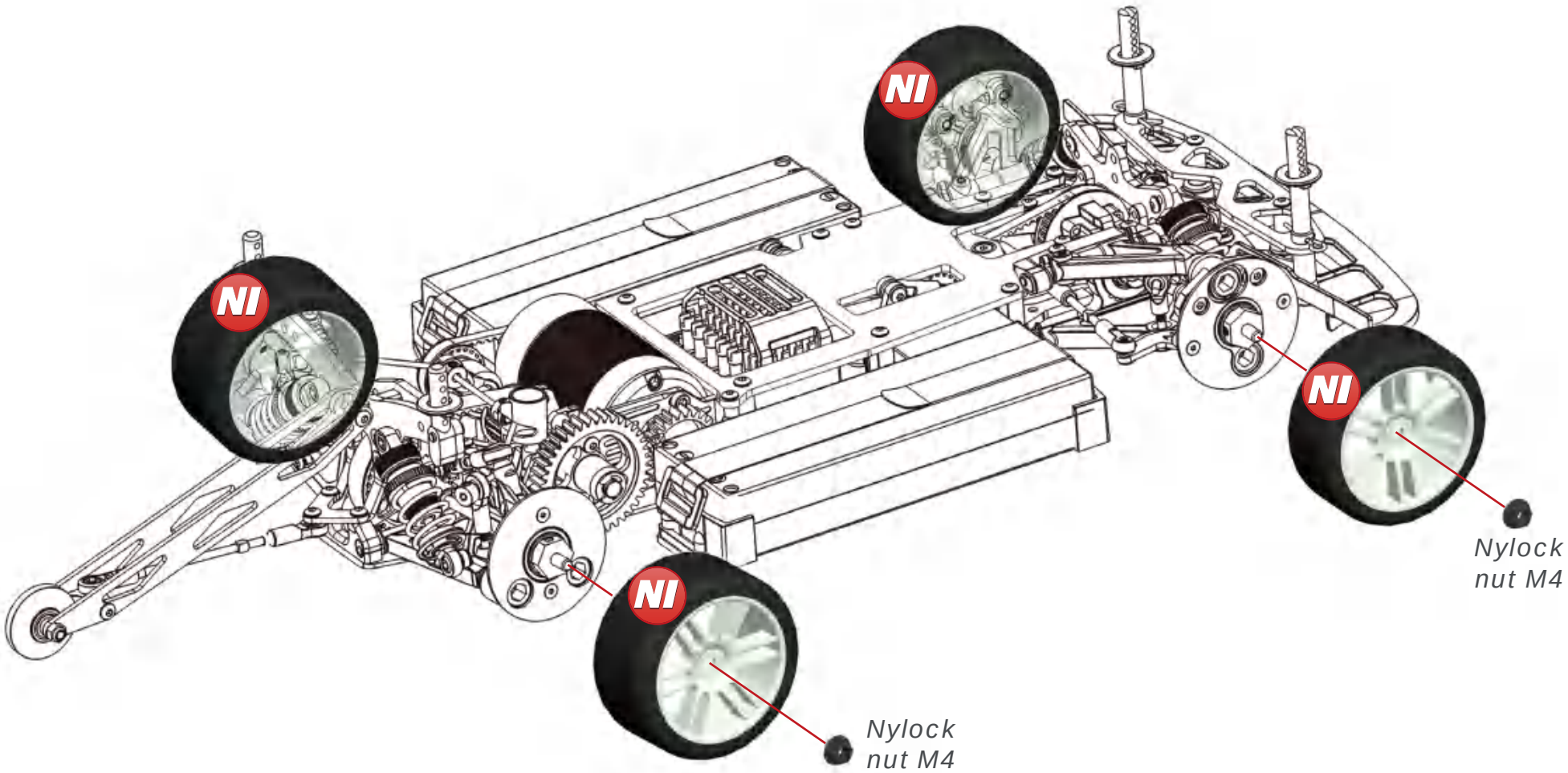


OPT 804353 RIM COVER FR 748 (2)
804354 RIM COVER RR 748 (2)



M2.5x5

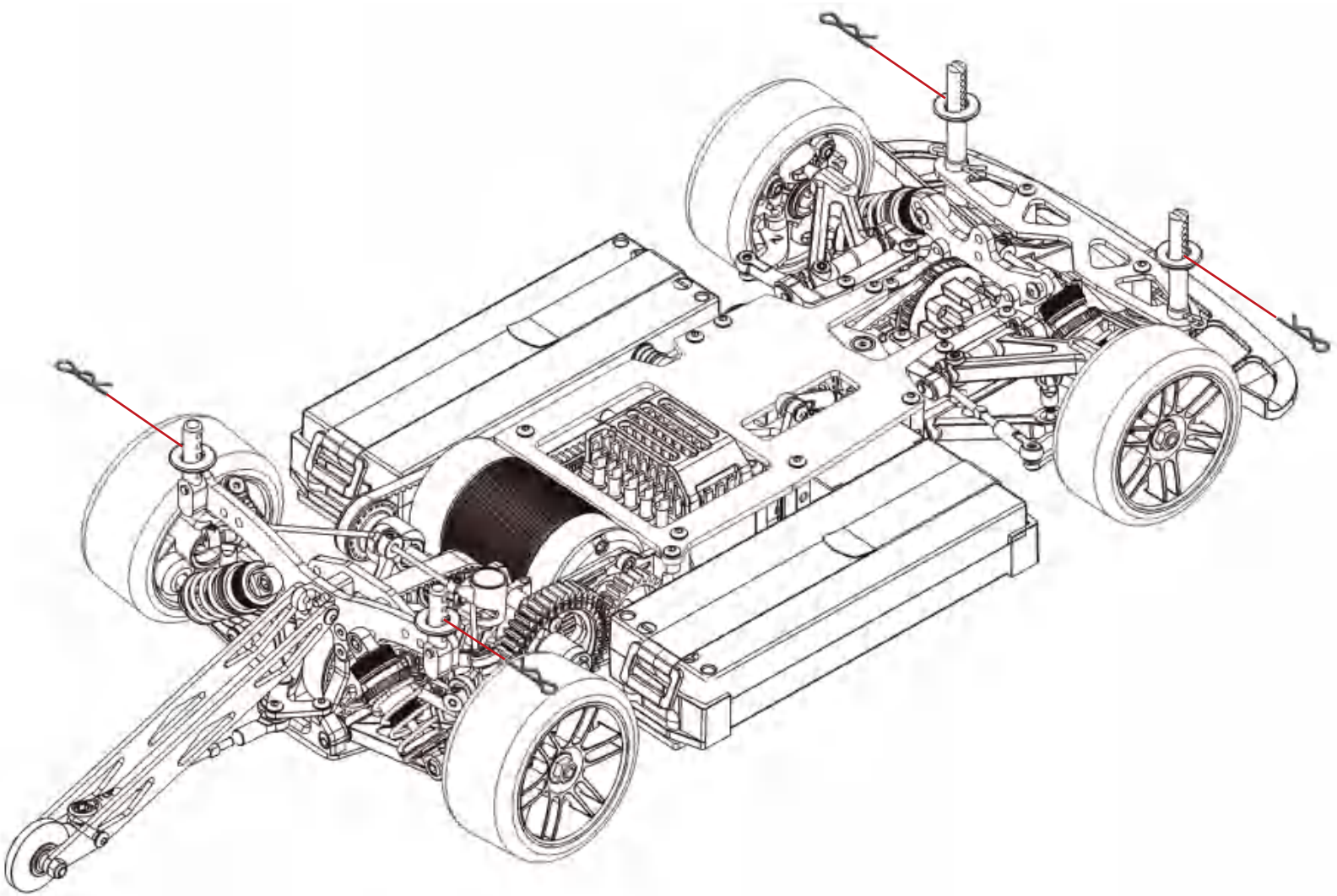
STEP 51





Nut M4
Flanged

STEP 52





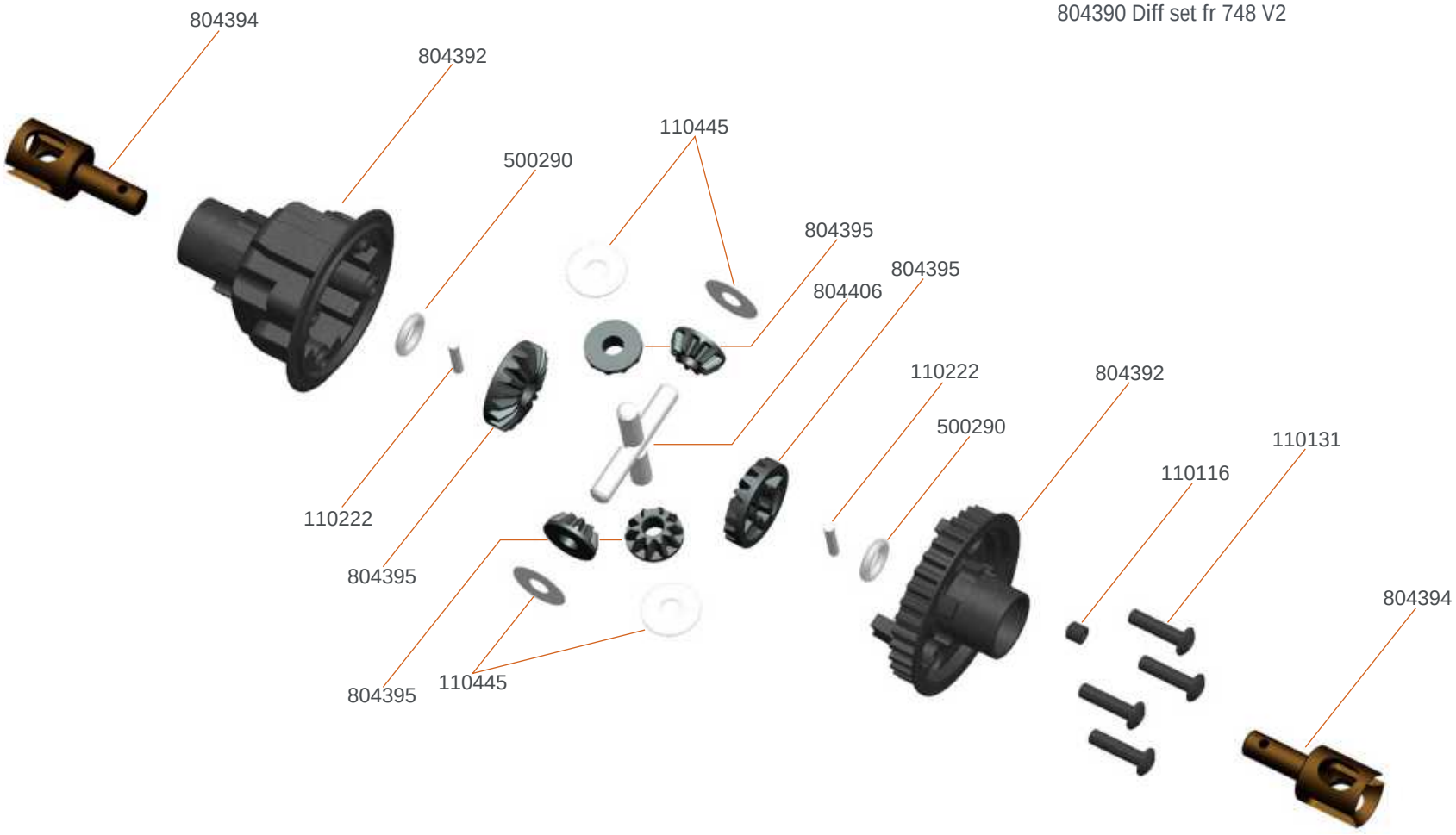
Body clip mid

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DIFFERENTIAL EXPLODED VIEW

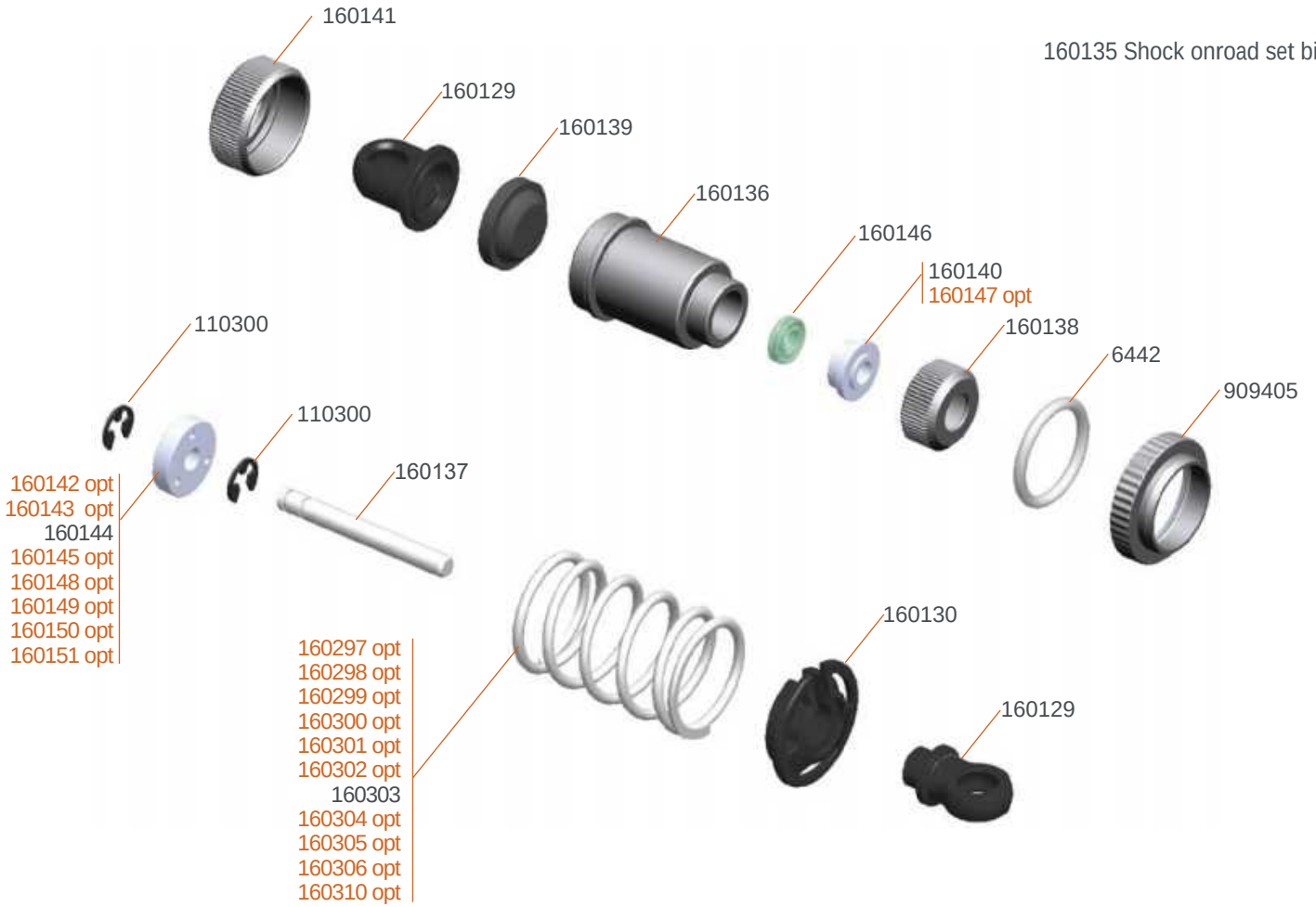
804390 Diff set fr 748 V2



OPT

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

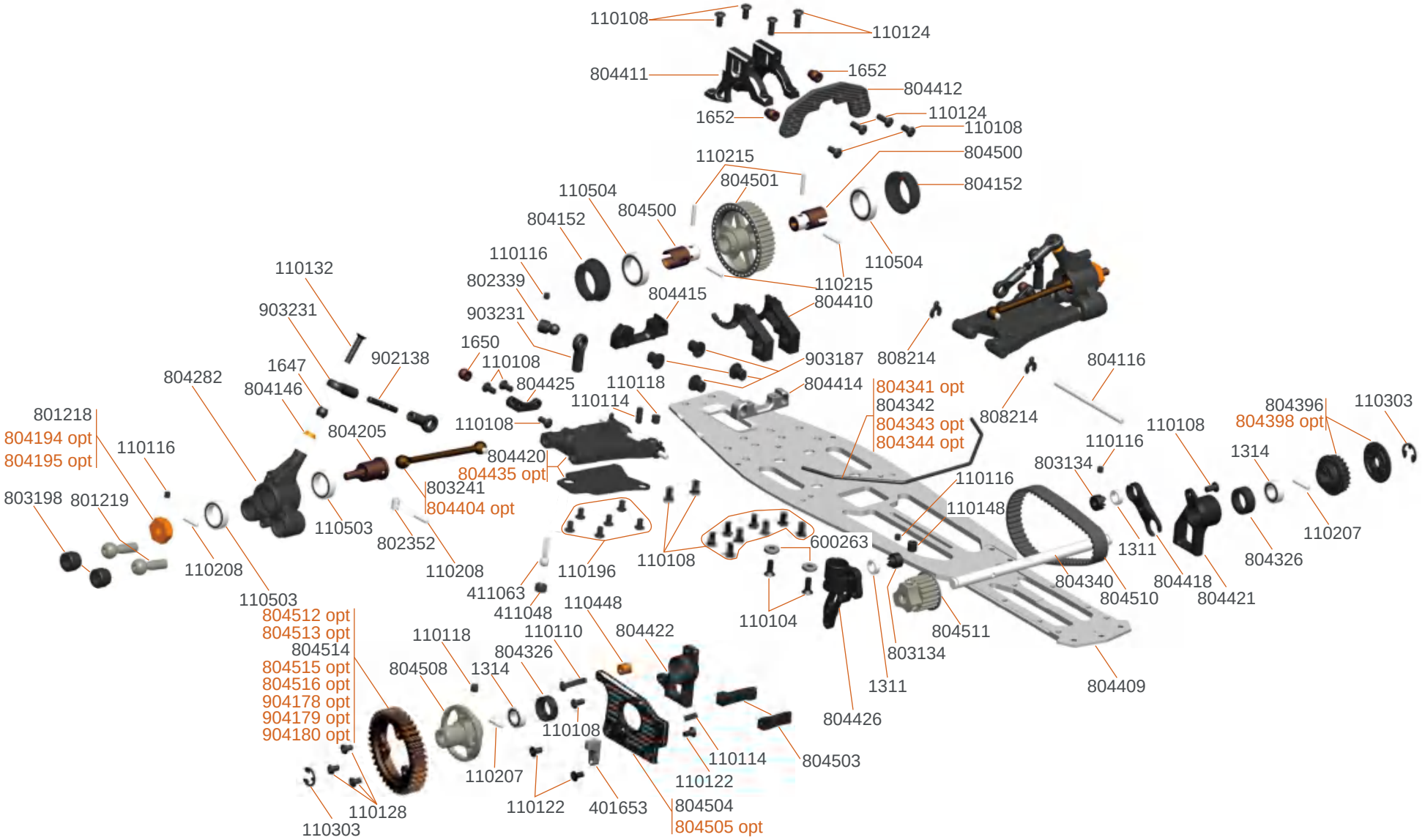
SHOCK EXPLODED VIEW



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)

OPT

REAR EXPLODED VIEW



OPT

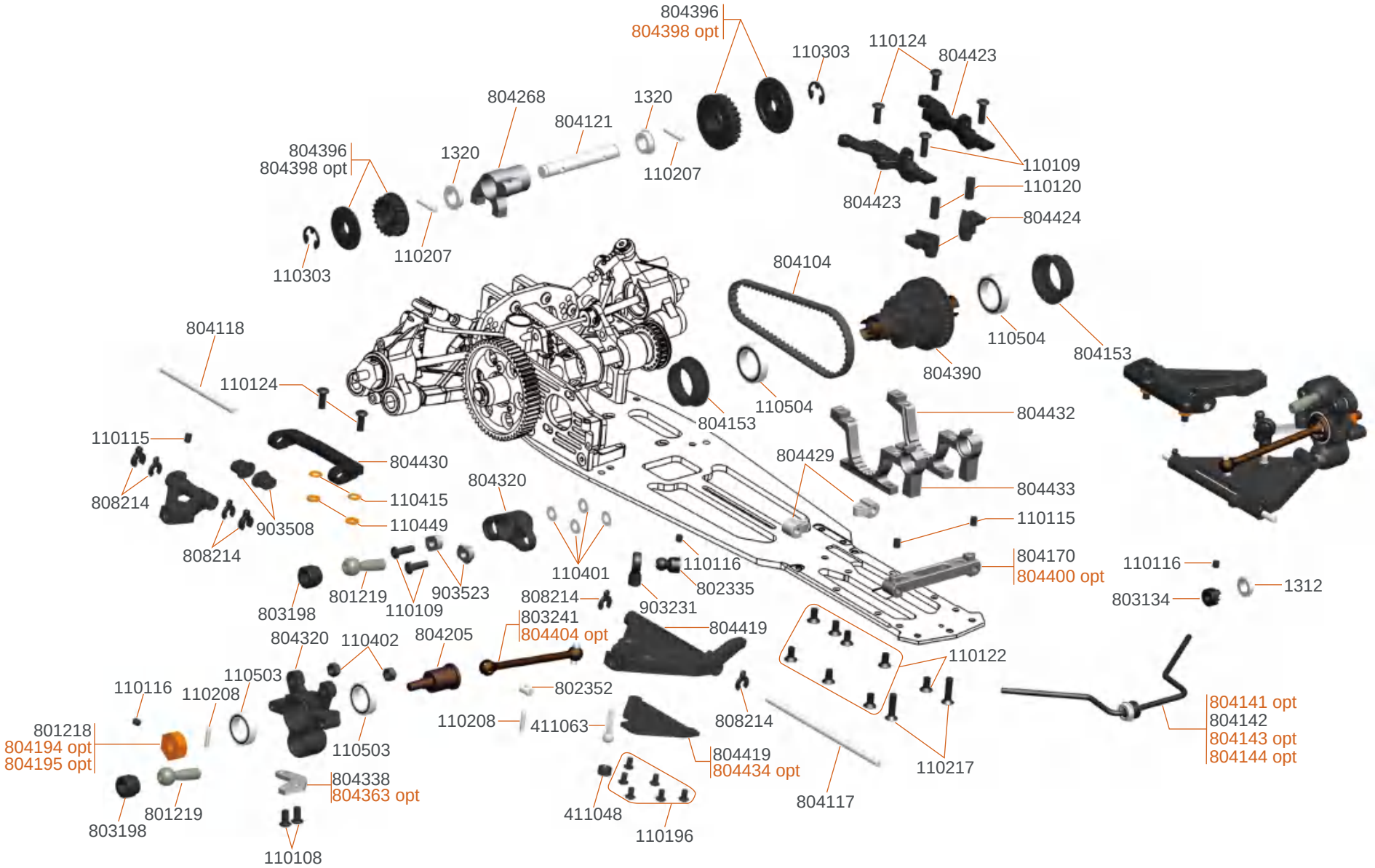
804194 Wheel hexagon +1mm (4)
804195 Wheel hexagon -1mm (4)
804341 Antiroll bar 1.6 RR 748
804343 Antiroll bar 2.0 RR 748
804344 Antiroll bar 2.2 RR 748

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

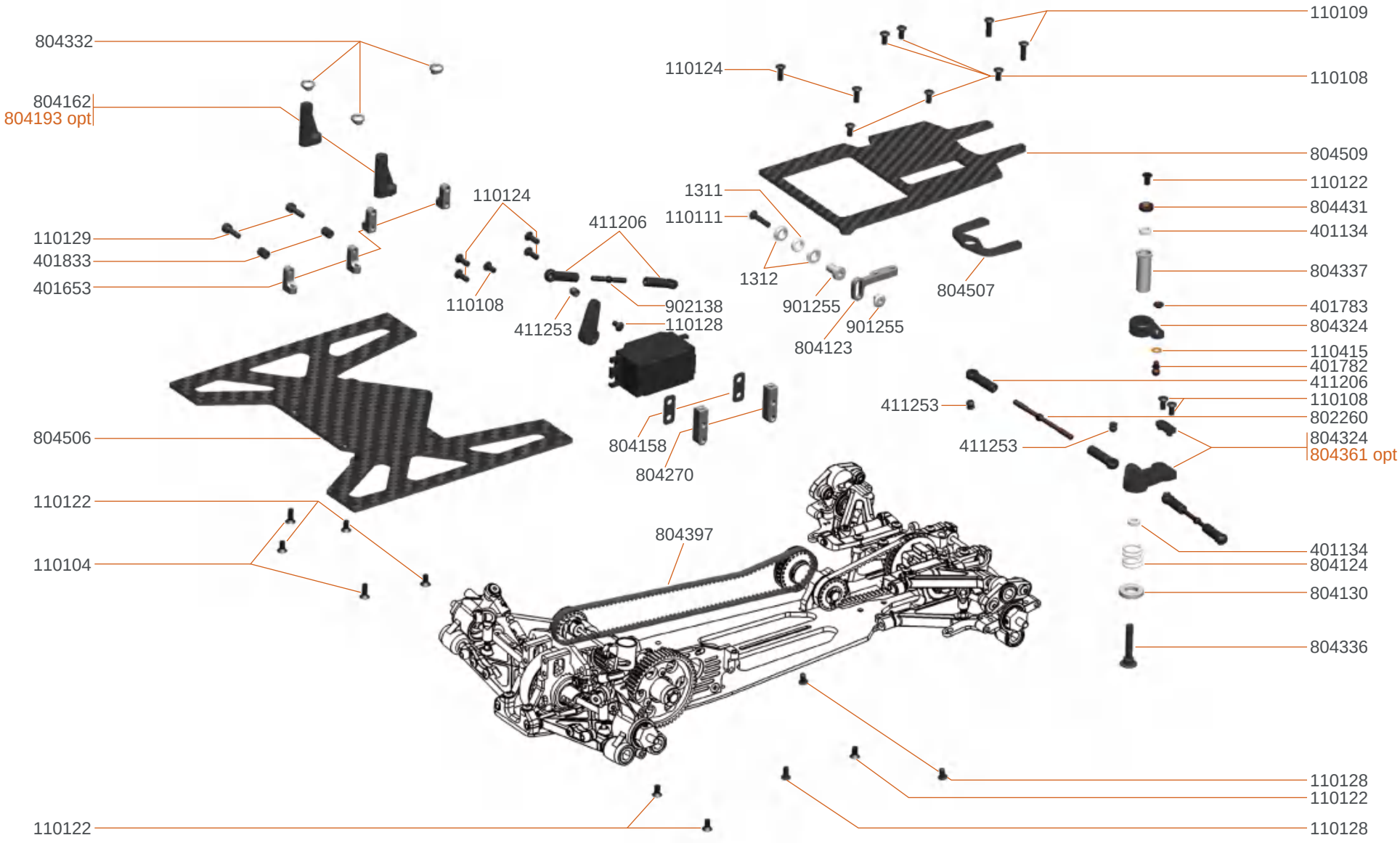
FRONT EXPLODED VIEW



OPT

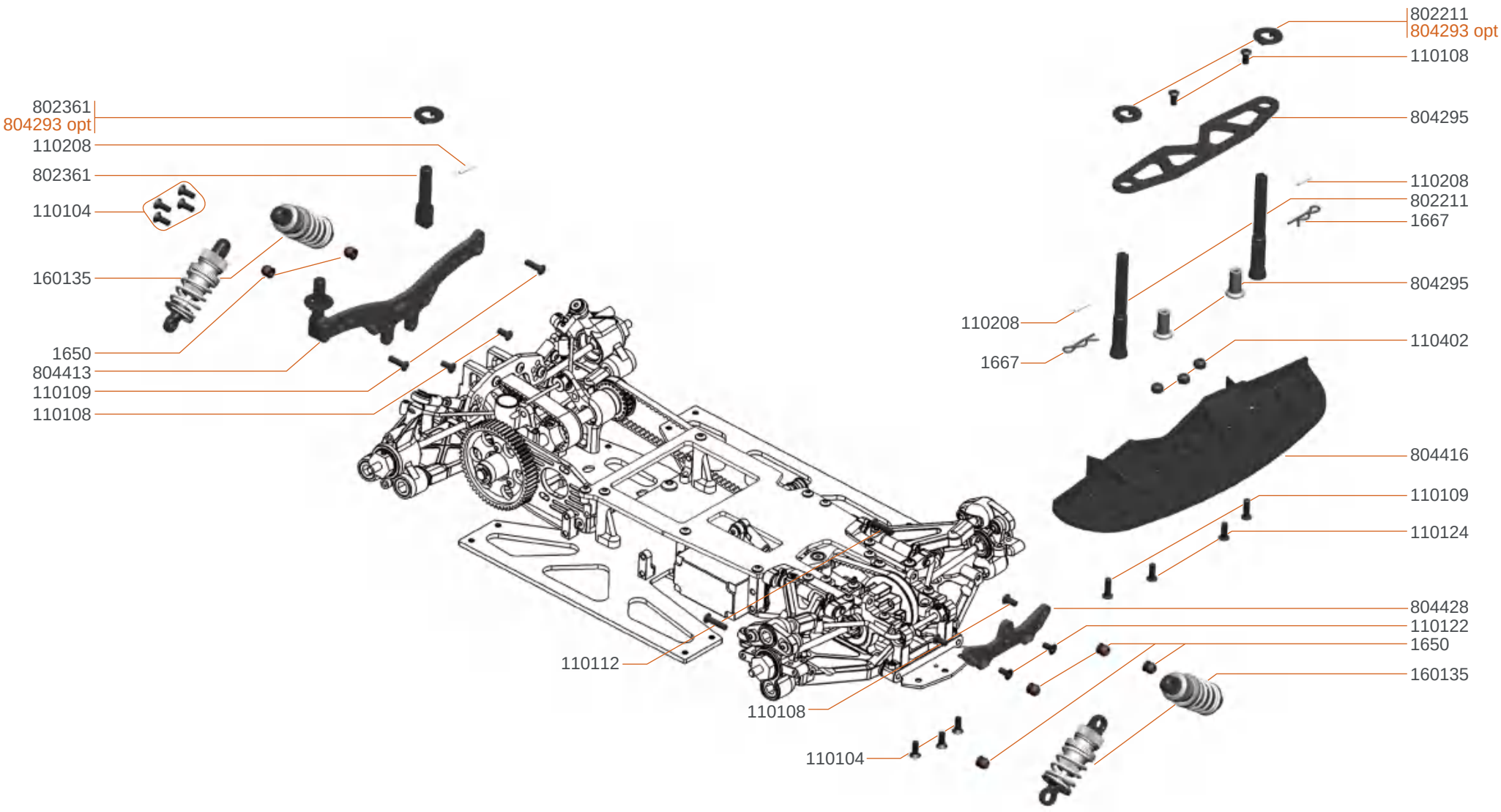
804141 Antiroll bar FR 1.8mm
804143 Antiroll bar FR 2.5mm
804144 Antiroll bar FR 2.8mm
804194 Wheel hexagons +1mm clamp (4)
804195 Wheel hexagons -1mm clamp (4)
804363 Steeringblock lever carbon 748 (2)
804400 Suspension bracket FR brass
804404 Driveshaft CVD alu (2)
804434 Wishbone insert carbon FR 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

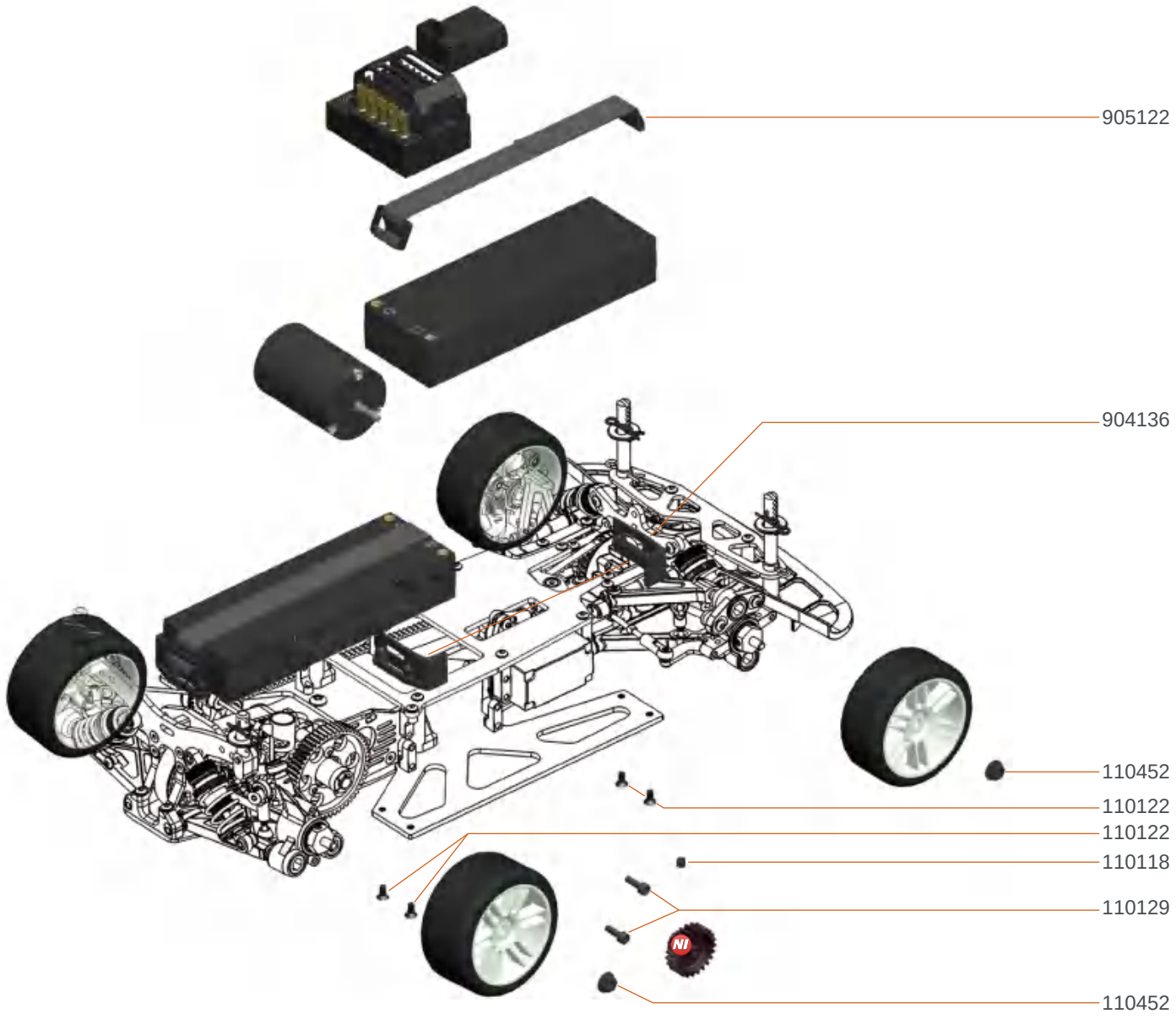
BUMPER SHOCKTOWER EXPLODED VIEW



OPT

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

FINAL EXPLODED VIEW



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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EP 1/10 SCALE ONROAD

#62941-1 Manual S750E

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