

COBRA SRX8e

Instruction Manual



WORLD
CHAMPIONS
10X



EP
1/8 4WD - Buggy

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 Cobra SRX8e is a state of the art 1/8 scale electric 4wd buggy which will give you the true Serpent racing experience. 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 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 Cobra SRX8e. Fine-tuning the initial setup is an essential part of building a high-performance racecar like your Serpent Cobra SRX8e.

EXPLODED VIEWS AND PARTS LIST

The exploded views and parts lists for the Serpent Cobra SRX8e are presented in the Reference Guide section in the back of this manual. The exploded views show all the parts of a particular assembly step along with the Serpent part number and hotlink to the Serpent website. 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.

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LINES DESCRIPTION

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



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



Length after assembly



Assembly path of one item into another



Group of items (within lines) should be assembled first



Direction the item should be moved



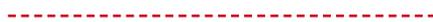
Glue one item to another



Connect one item to another



Gap between two items



Press/Insert one item into another

ICONS DESCRIPTION

Each step contains a variety of symbols described below.



Carefull, read and check very well.



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



Detail view to explain assembly or order of parts better.



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



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



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



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



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



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



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



Parts or items not included in the kit.

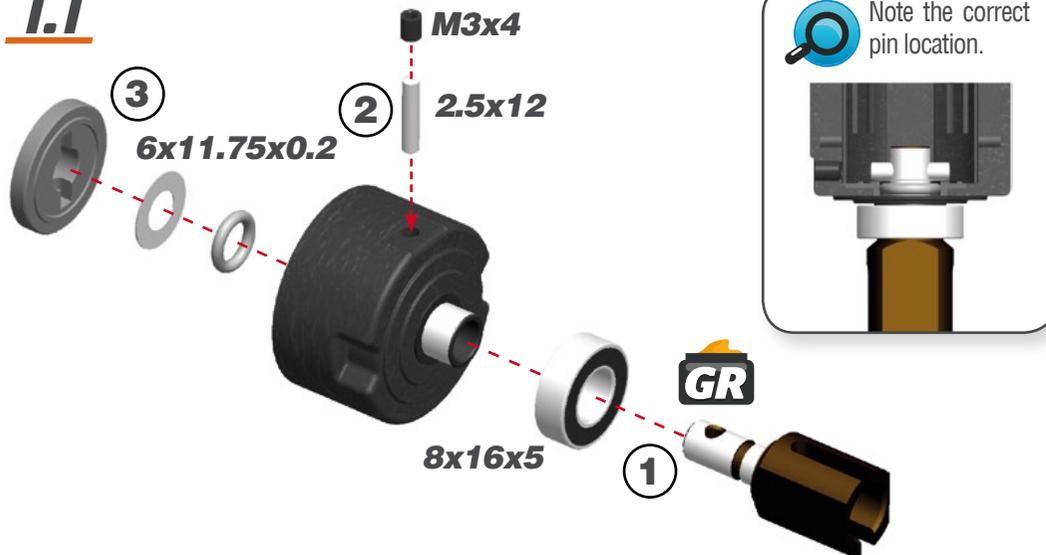


Optional part, not standard in the kit.

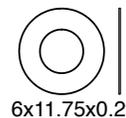
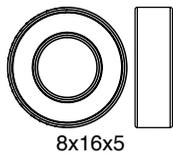
STEP 1

CENTER DIFF BAG

1.1



1.2



STEP 2

2.1

VOLUME COMPENSATORS

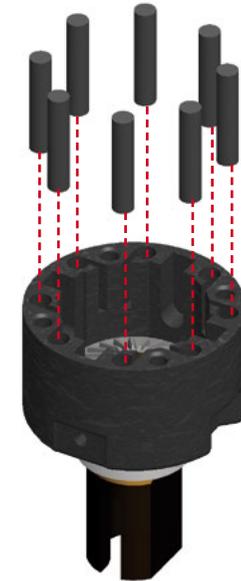
When the differential gets hotter, the foam inserts will absorb the pressure of the expansion of the oil.

1- The supplied foam tube must be cut to size as indicated here below.

2- Penetrate them fully with same differential oil.

3- Insert them in the compensator holes.

14.7 - 14.9 mm



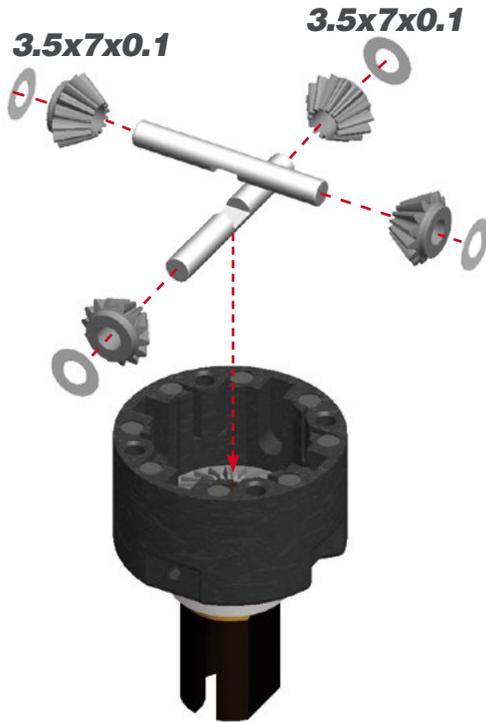
2.2

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

Use the silicone oil supplied in the kit. For the correct cst value please check the default setupsheet.



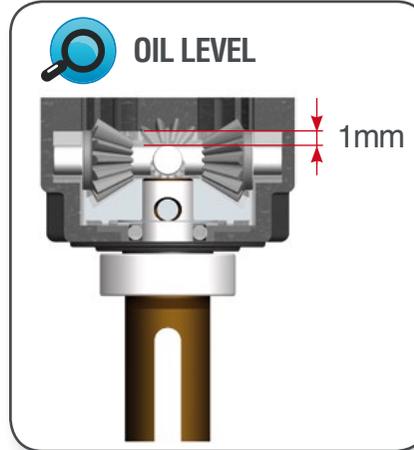
STEP 3



STEP 4



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

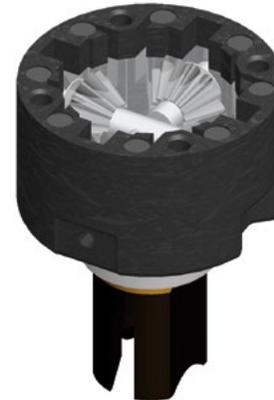


AMOUNT OF OIL IN THE DIFFS

Use a digital scale to measure the exact amount of oil in the diff.

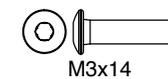
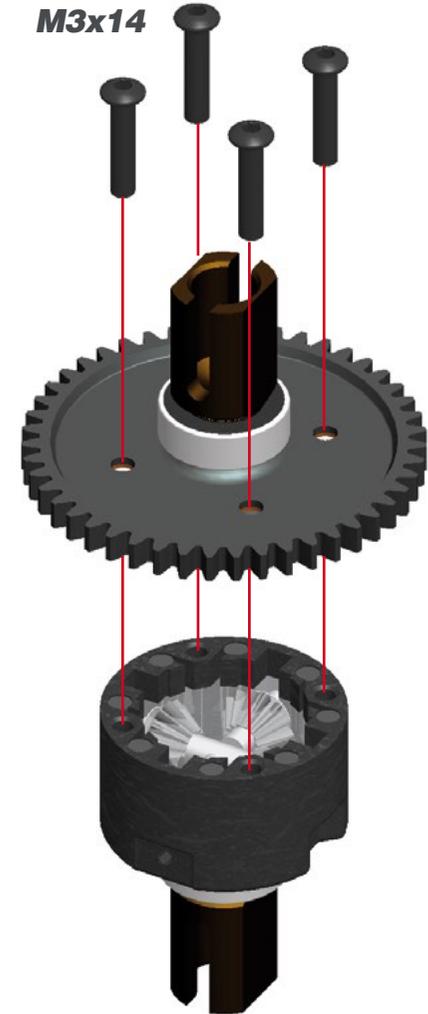
Differential weight with volume compensators = 40.8 grams

Differential weight without volume compensators = 41.0 grams



STEP 5

M3x14



STEP 6 FR/RR DIFF BAG

6.1

6x11.75x0.2

2 **2.5x12**

M3x4

8x16x5

1

GR

Note the correct pin location.

6.2

8x16x5

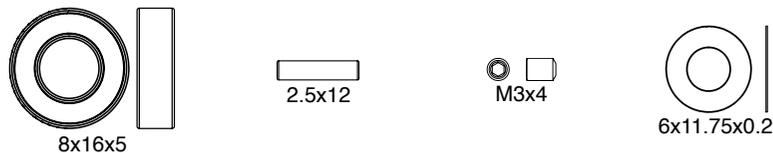
GR

SO Use silicone oil to hold seal in position.

2.5x12

6x11.75x0.2

Note the correct pin location.



STEP 7

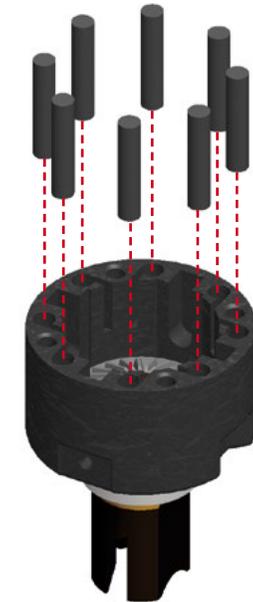
7.1

VOLUME COMPENSATORS

When the differential gets hotter, the foam inserts will absorb the pressure of the expansion of the oil.

- 1- The supplied foam tube must be cut to size as indicated here below.
- 2- Penetrate them fully with same differential oil.
- 3- Insert them in the compensator holes.

14.7 - 14.9 mm



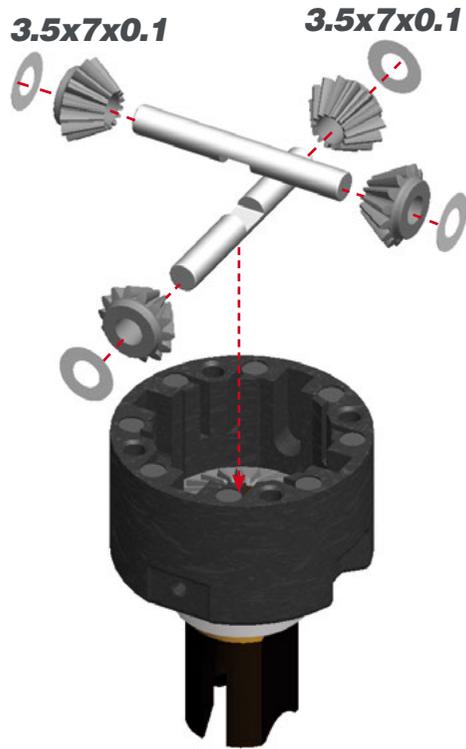
7.2

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

Use the silicone oil supplied in the kit. For the correct cst value please check the default setupsheet.



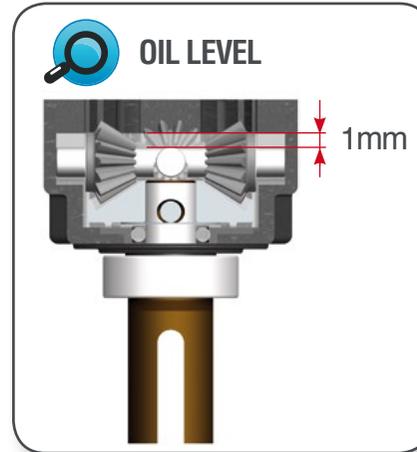
STEP 8



STEP 9



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

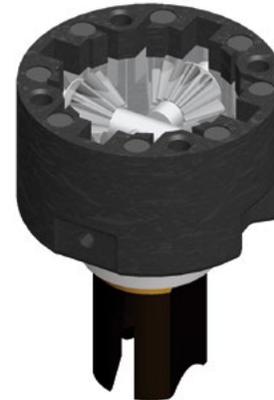


AMOUNT OF OIL IN THE DIFFS

Use a digital scale to measure the exact amount of oil in the diff.

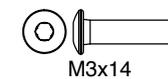
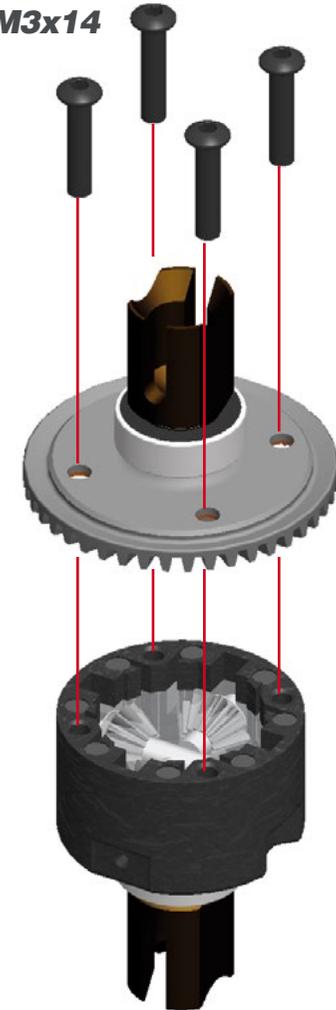
Differential weight with volume compensators = 40.15 grams

Differential weight without volume compensators = 40.35 grams



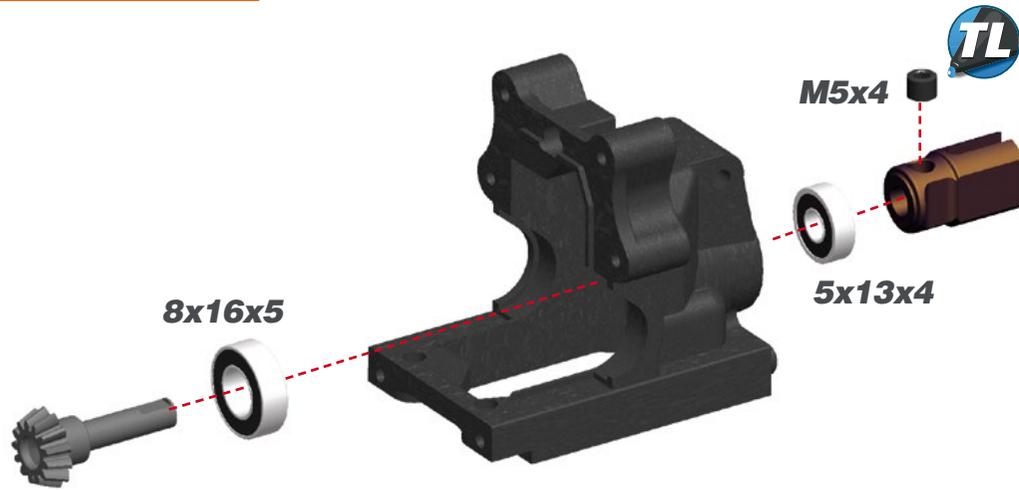
STEP 10

M3x14



STEP 11

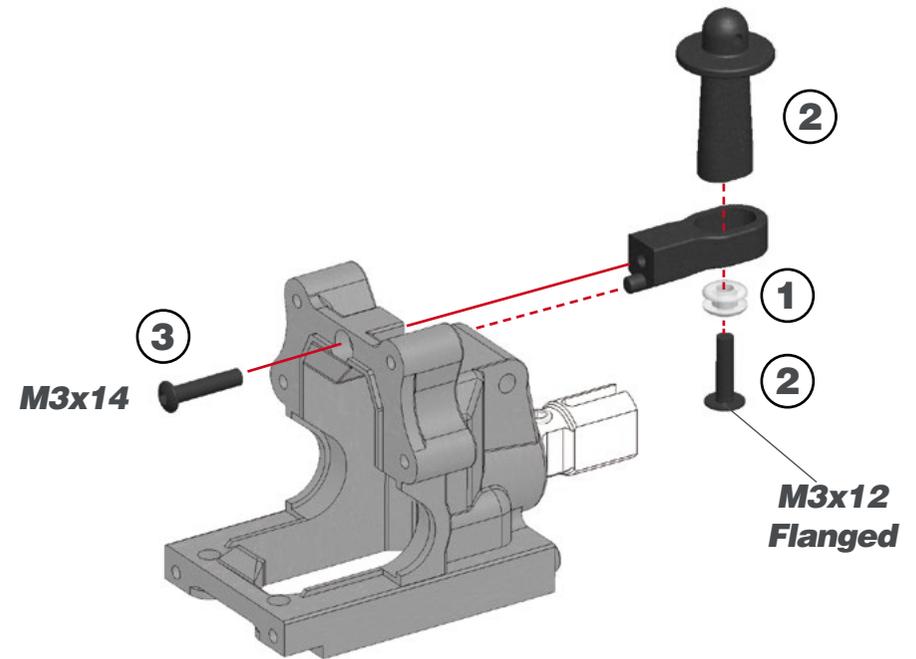
BAG 1



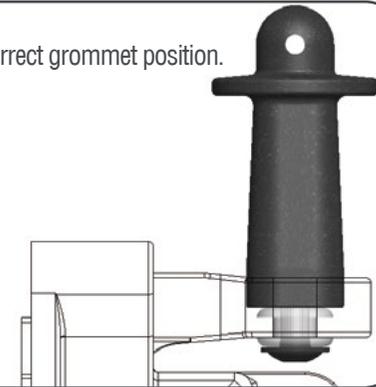
After building the differential with new gears, new differential case and bearings, the diff may feel a little tight. The connected parts need at least an hour run-time to create a perfect match. Attention: When you assemble the diff with too much initial play, the gears will not run-in properly and may wear quickly. After 1 or 2 hours of running the car, re-check the gear-mesh between the ring gear and the pinion. All parts should have run-in properly now. You may add or remove 8x11x0.1 shims as needed.



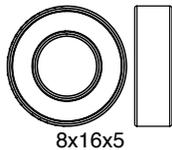
STEP 12



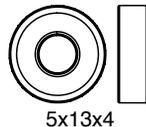
Note the correct grommet position.



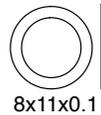
M5x4



8x16x5



5x13x4



8x11x0.1



M3x14

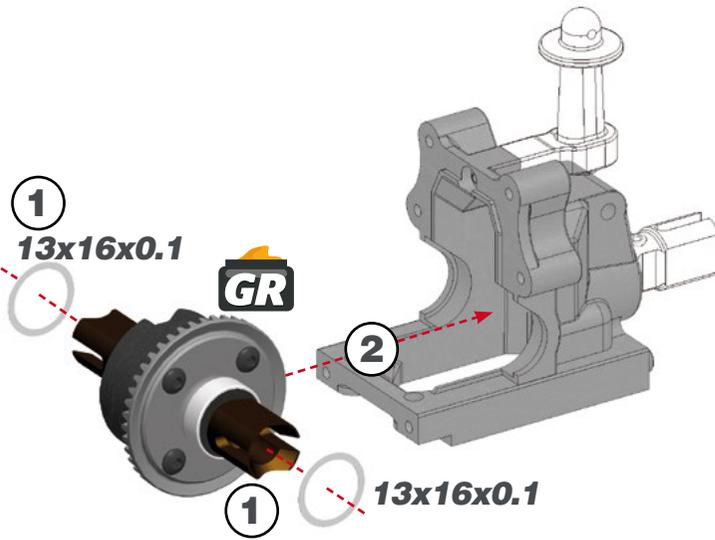


M3x12 Flanged

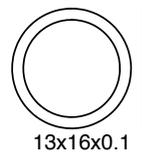
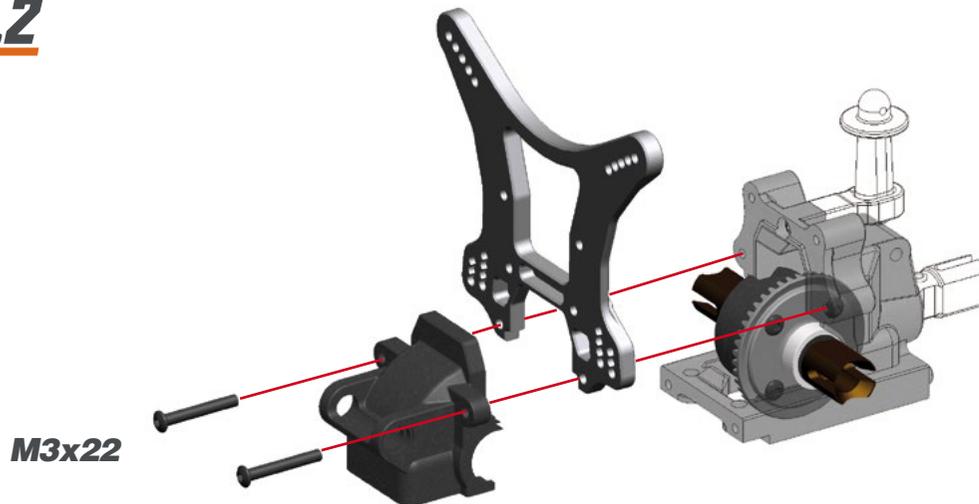
STEP 13

13.1

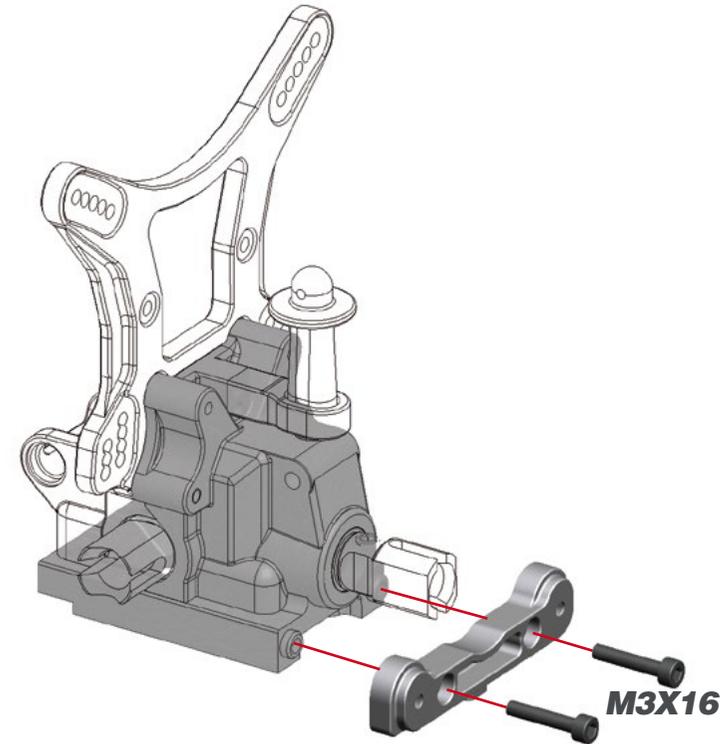
 After 1 or 2 hours of running the car, re-check the gear-mesh between the ring gear and the pinion. All parts should have run-in properly. You may add or remove 13x16x0.1 shims as needed.



13.2



STEP 14



STEP 15

BAG 2

STEP 16

15.1

L=R

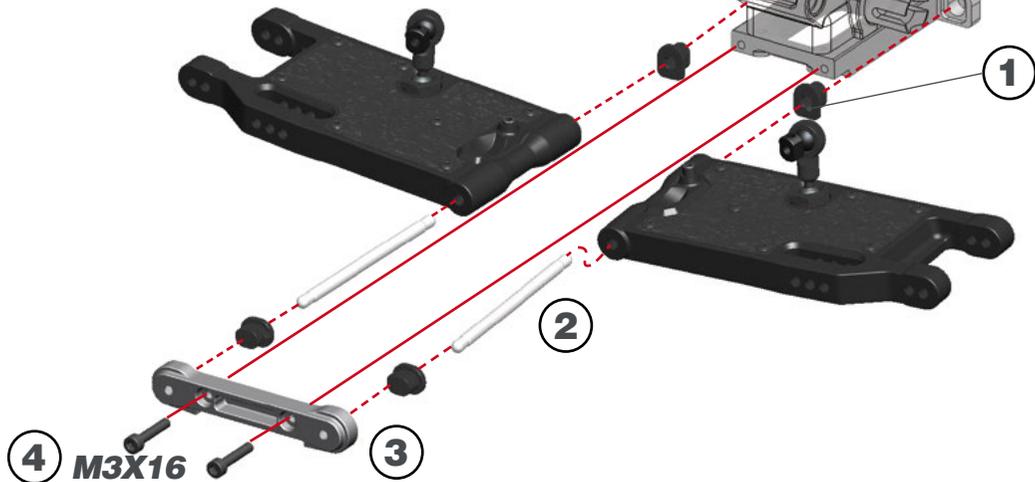


Tighten anti-roll bar cap until there is no play, and it moves freely.



15.2

M2.5X6



L=R REAR TOE IN INSERTS CHART

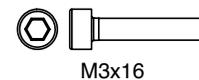
2	2.5	2.75	3	3.25	3.5	4
●	●	●	●	●	●	●

DEF. SETUP

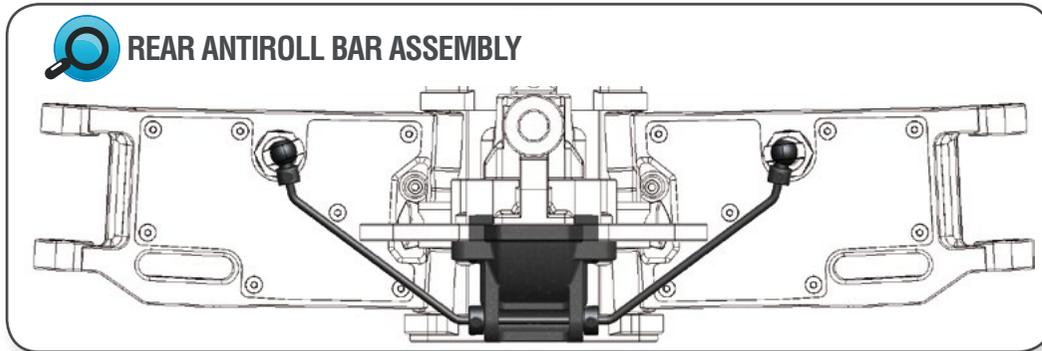
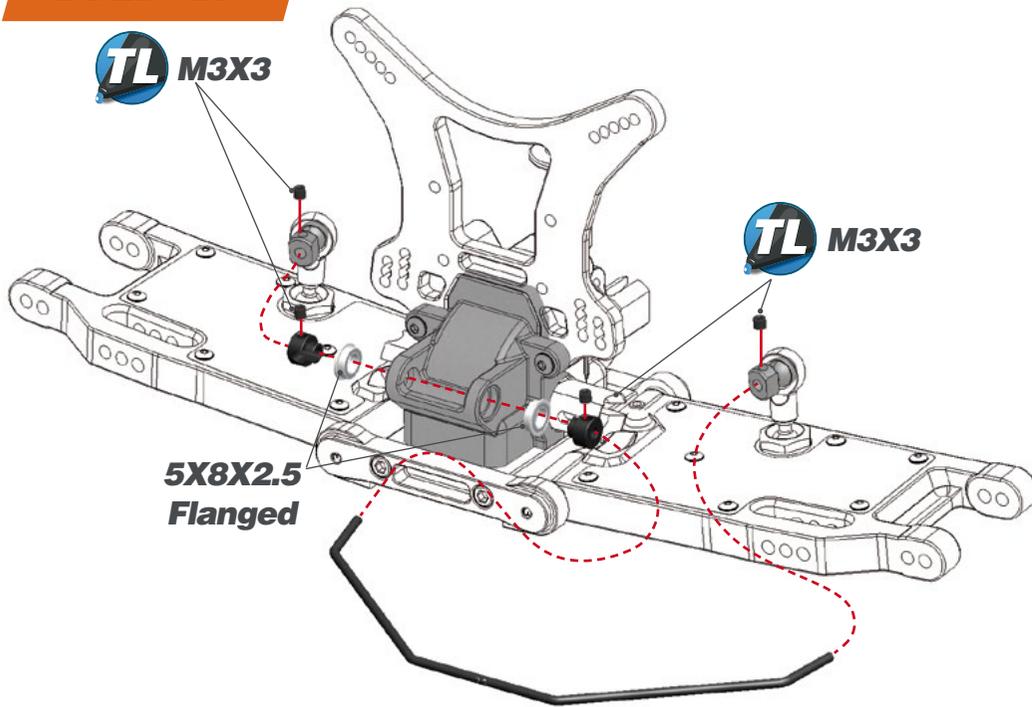
L=R REAR ANTISQUAT INSERTS CHART

1	1.5	2	2.5	3
●	●	●	●	●

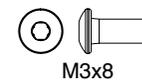
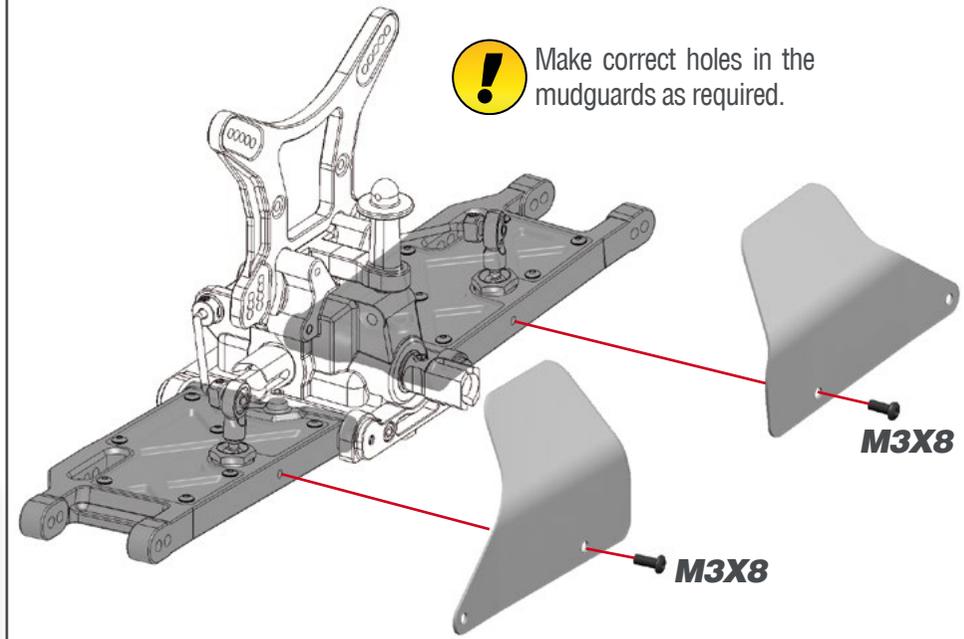
DEF. SETUP



STEP 17



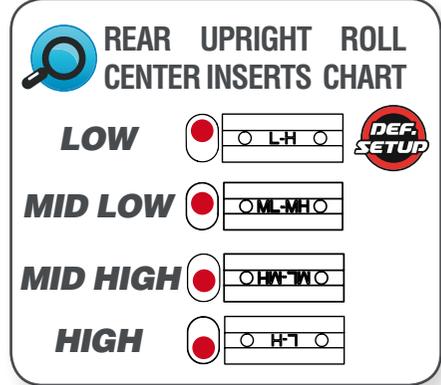
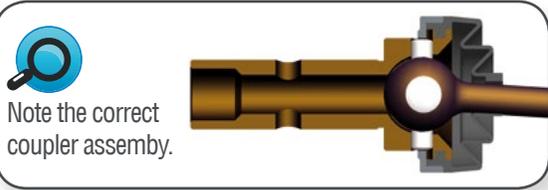
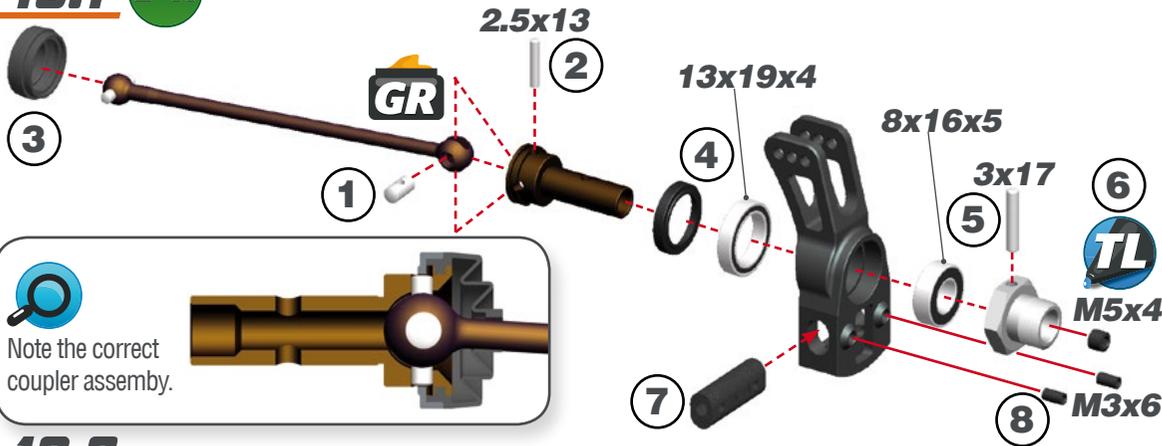
STEP 18



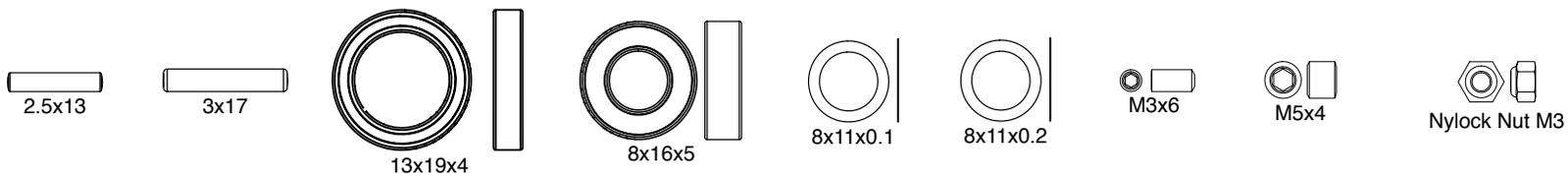
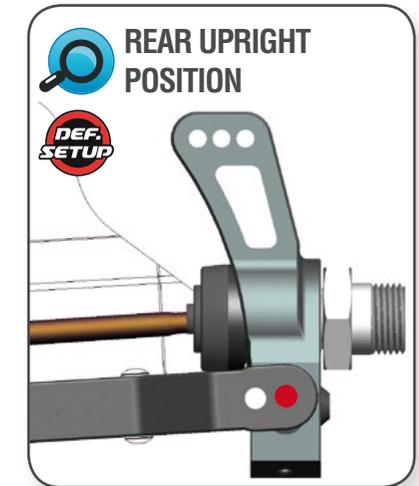
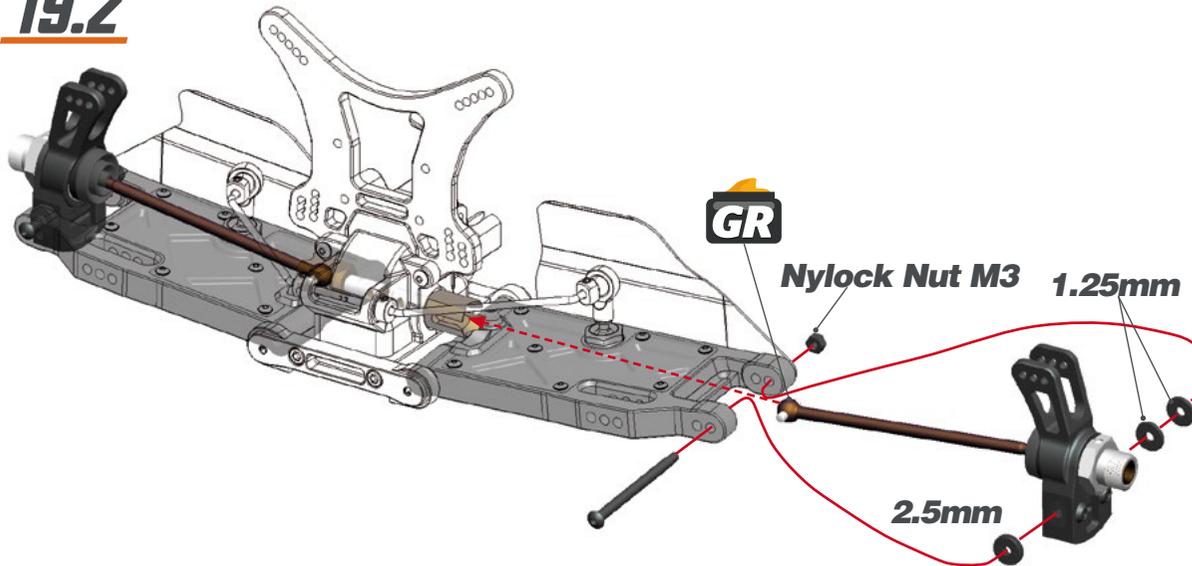
STEP 19

BAG 3

19.1 L=R

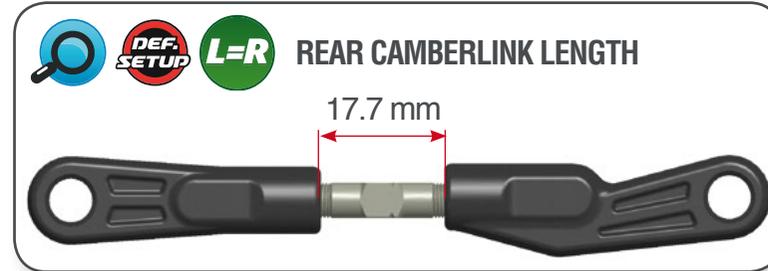


19.2

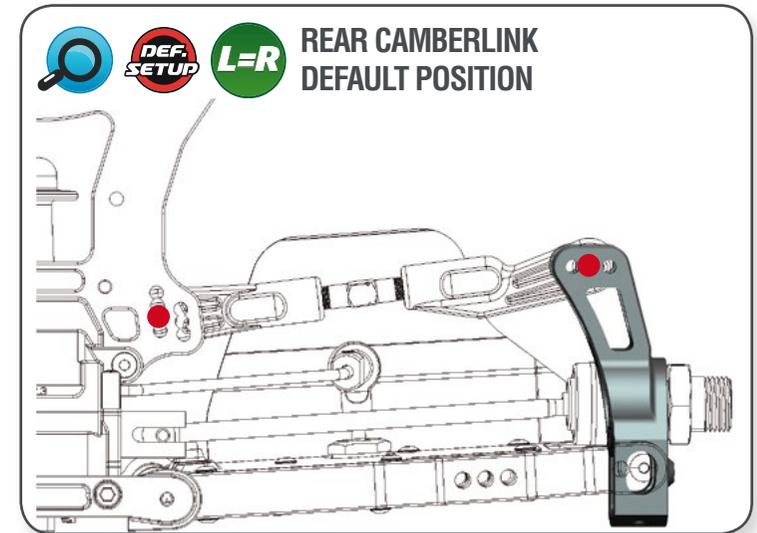
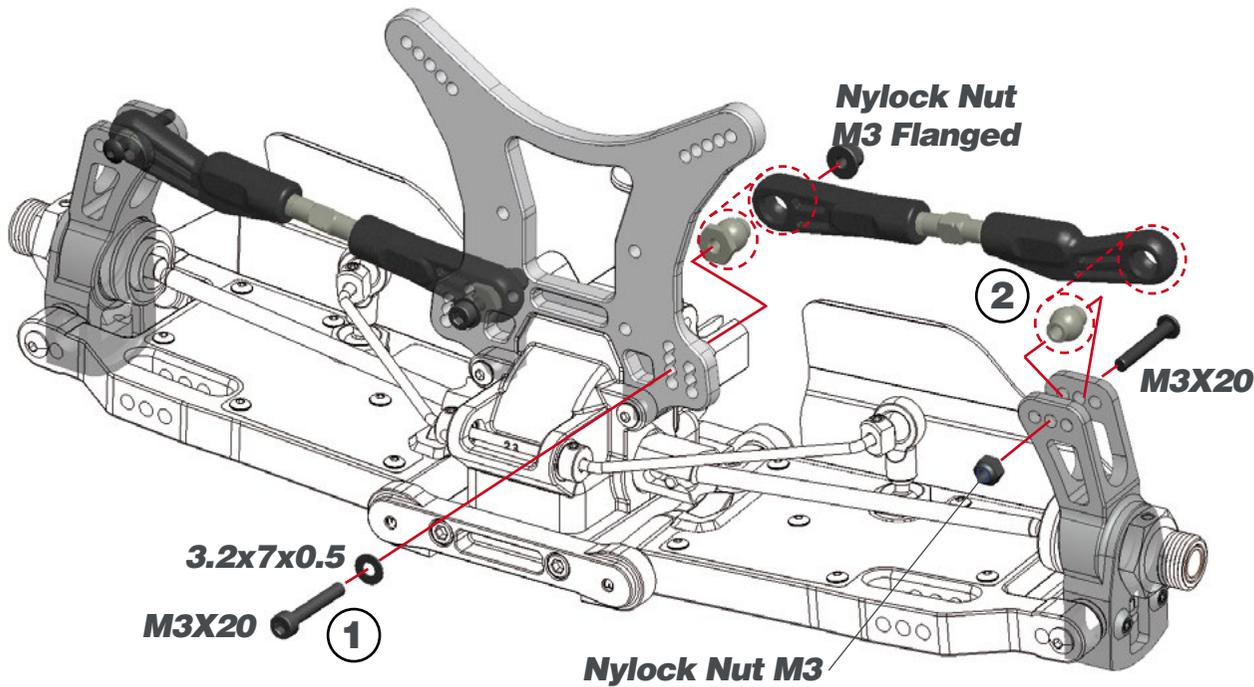


STEP 20 **BAG 4**

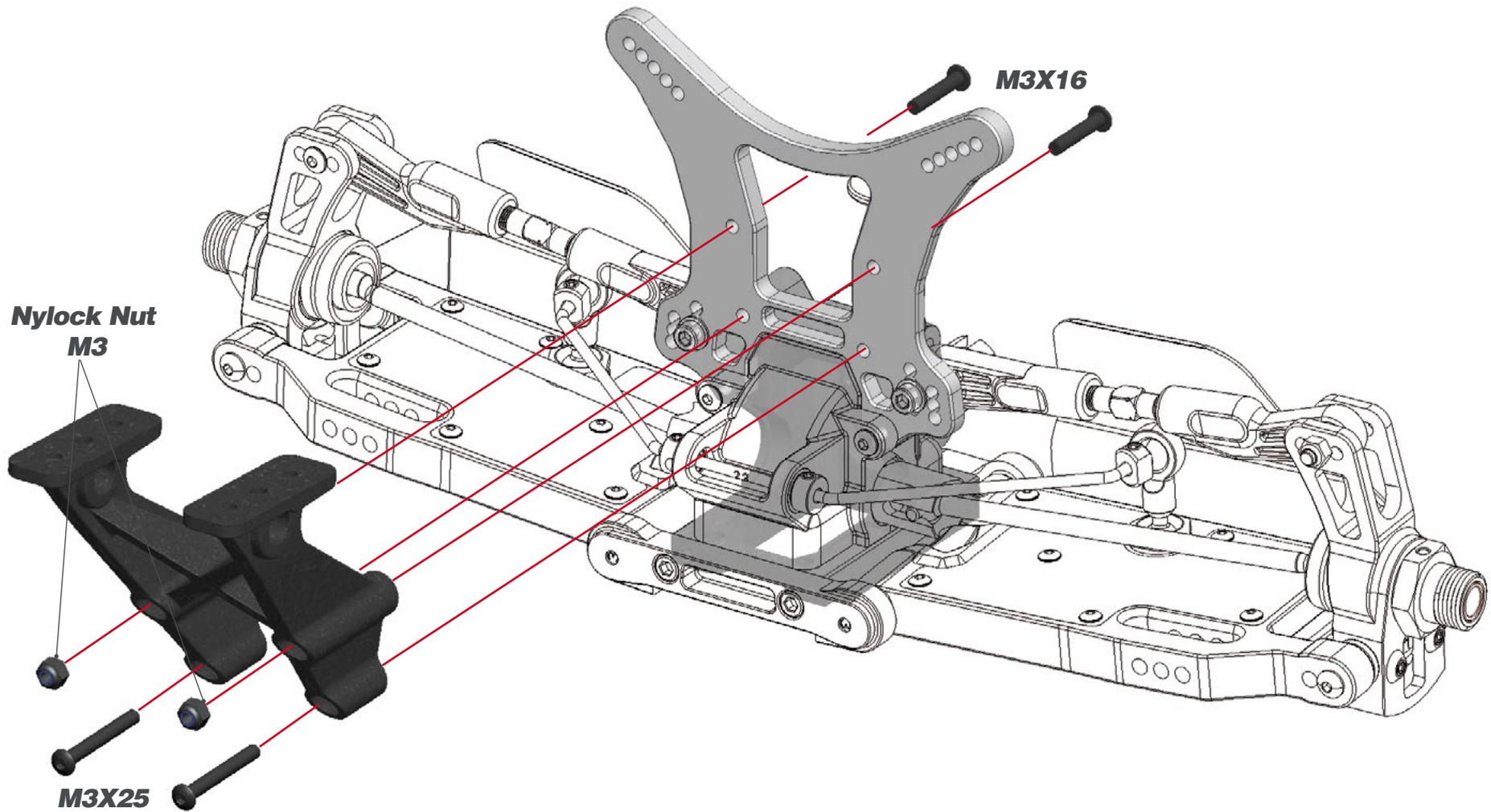
20.1



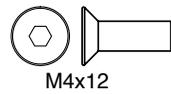
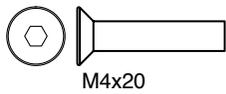
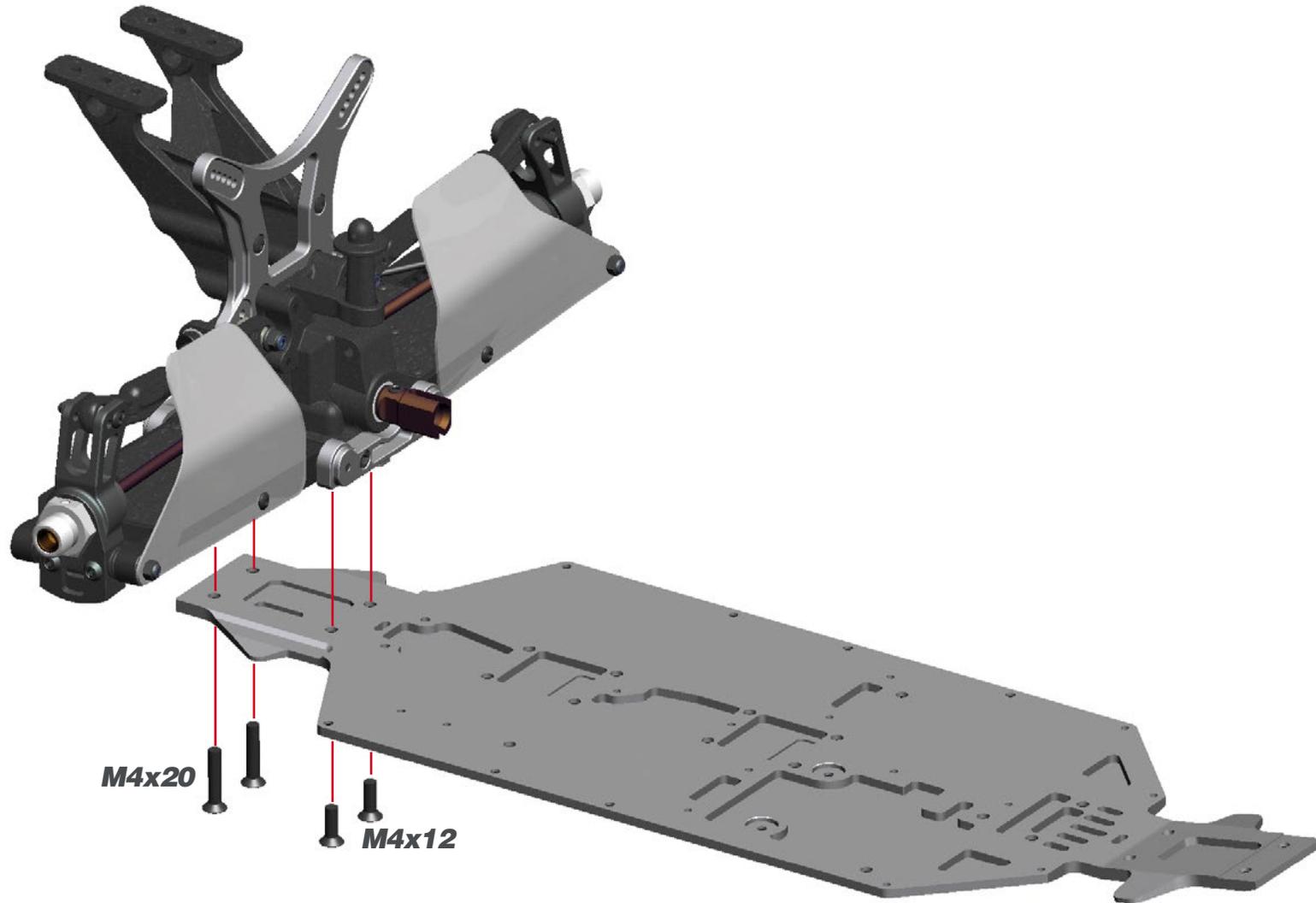
20.2



STEP 21

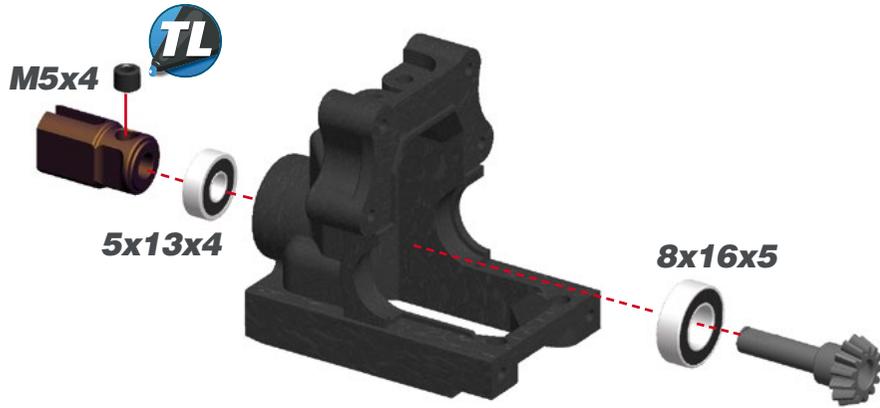


STEP 22



STEP 23

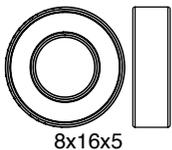
BAG 5



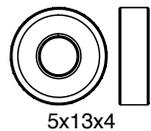
After building the differential with new gears, new differential case and bearings, the diff may feel a little tight. The connected parts need at least an hour run-time to create a perfect match. Attention: When you assemble the diff with too much initial play, the gears will not run-in properly and may wear quickly. After 1 or 2 hours of running the car, re-check the gear-mesh between the ring gear and the pinion. All parts should have run-in properly now. You may add or remove 8x11x0.1 shims as needed.



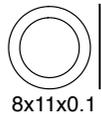
M5x4



8x16x5



5x13x4



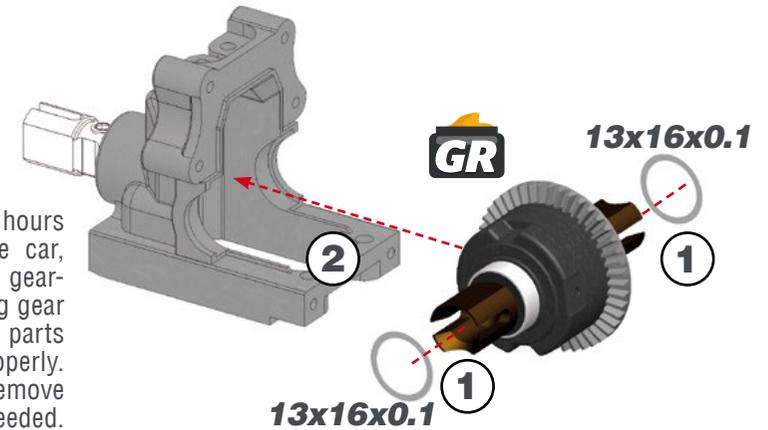
8x11x0.1

STEP 24

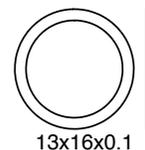
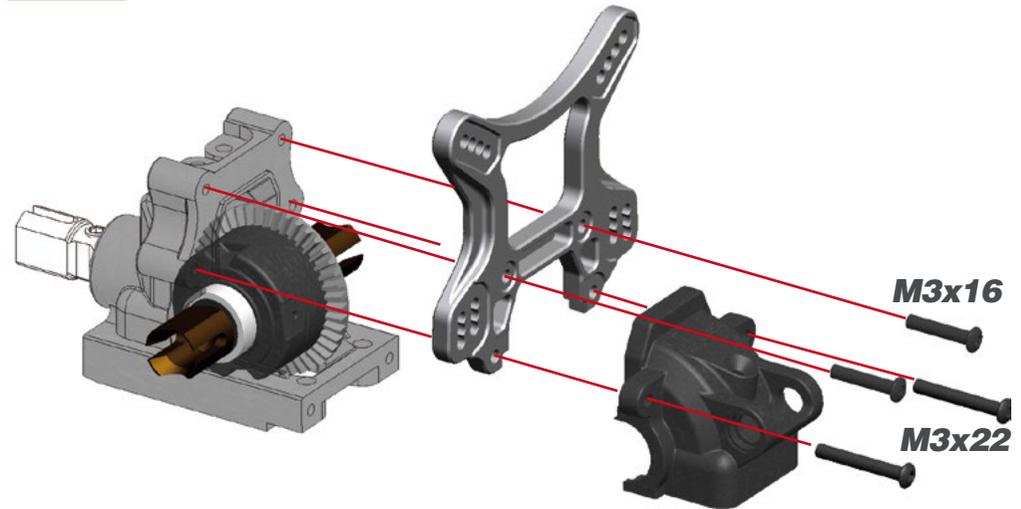
24.1



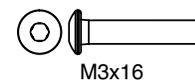
After 1 or 2 hours of running the car, re-check the gear-mesh between the ring gear and the pinion. All parts should have run-in properly. You may add or remove 13x16x0.1 shims as needed.



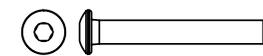
24.2



13x16x0.1

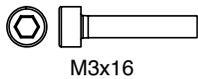
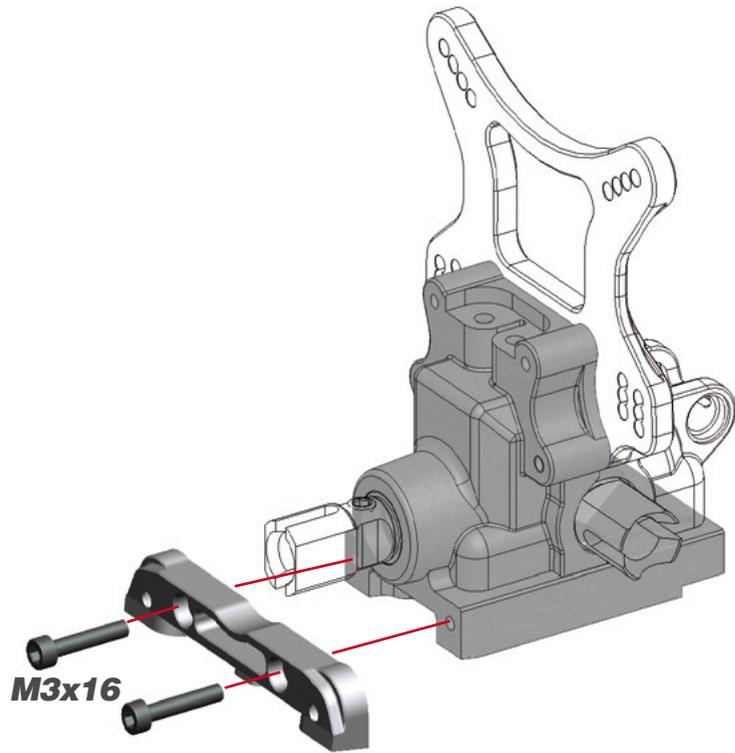


M3x16



M3x22

STEP 25



STEP 26 **BAG 6**

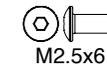
26.1



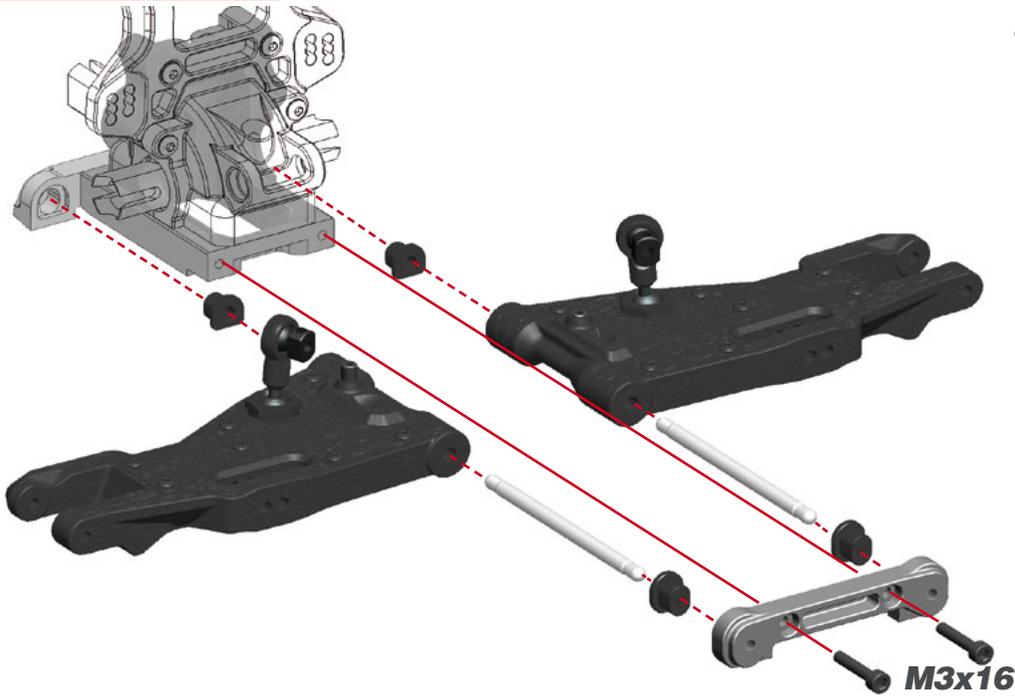
Tighten anti-roll bar cap until there is no play, and it moves freely.



26.2



STEP 27

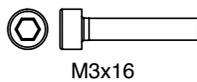


L=R FRONT REAR INSERTS

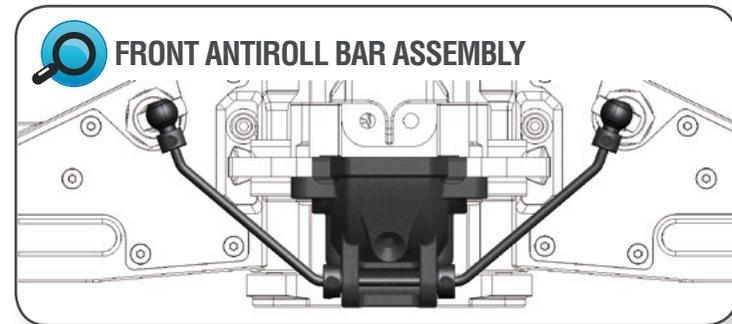
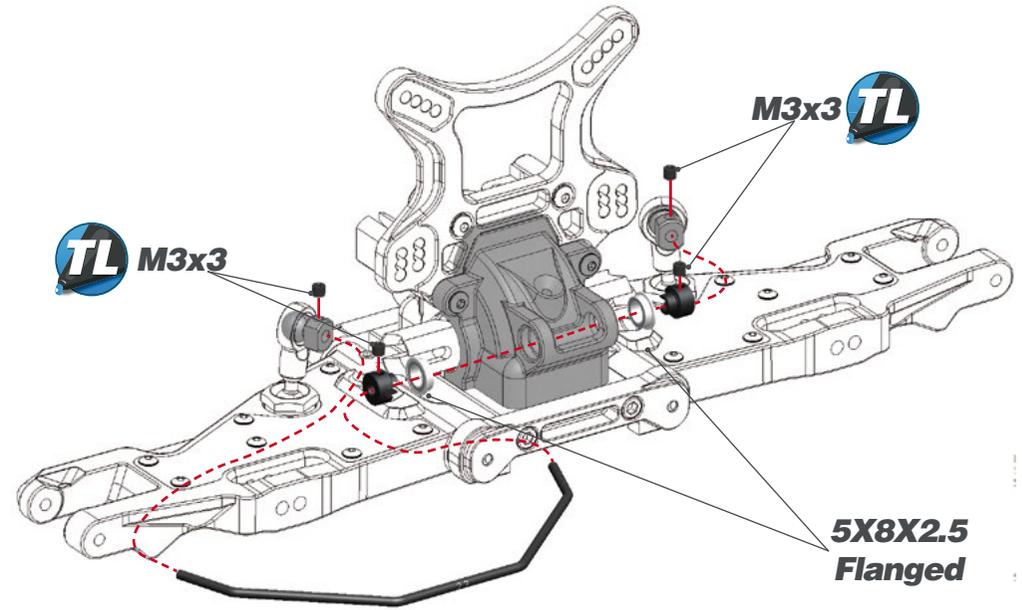
L=R FRONT SUSPENSION KICKUP INSERTS

9	9.5	10	10.5	11
●	●	●	●	●

DEF. SETUP



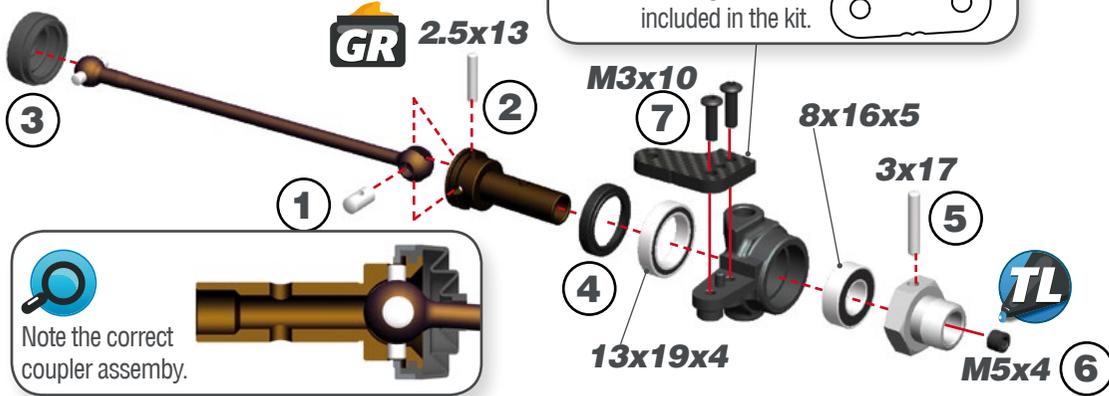
STEP 28



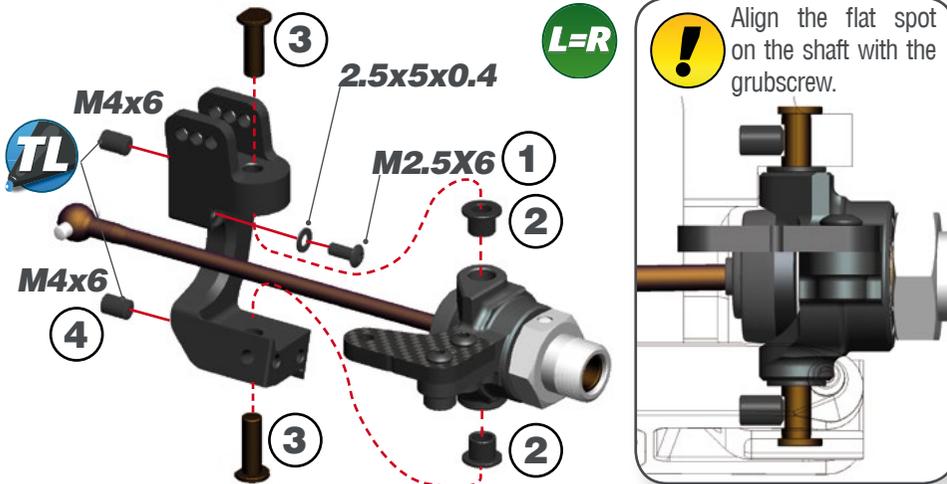
STEP 29

BAG 7

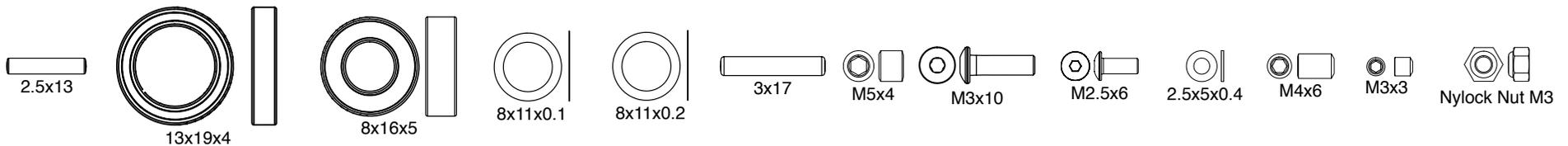
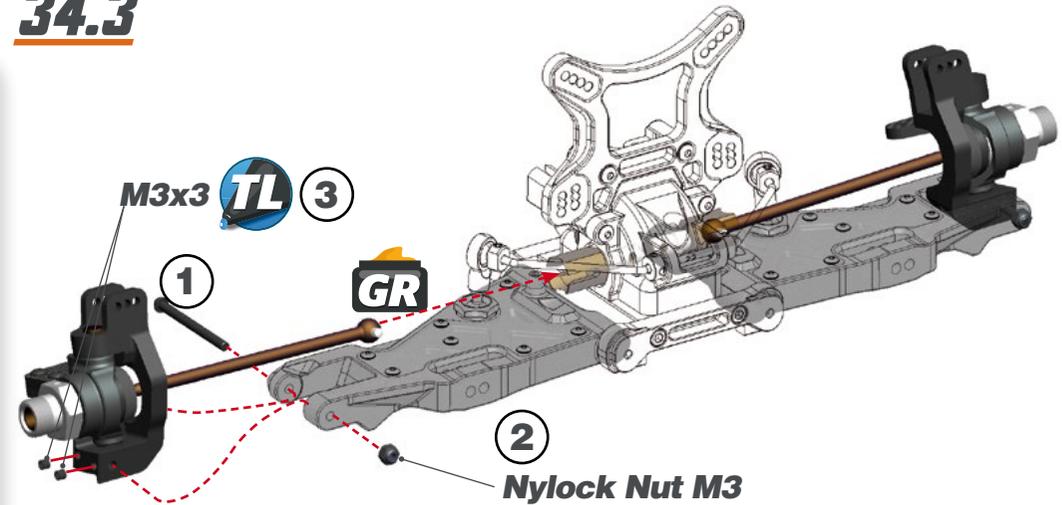
29.1 L=R



29.2

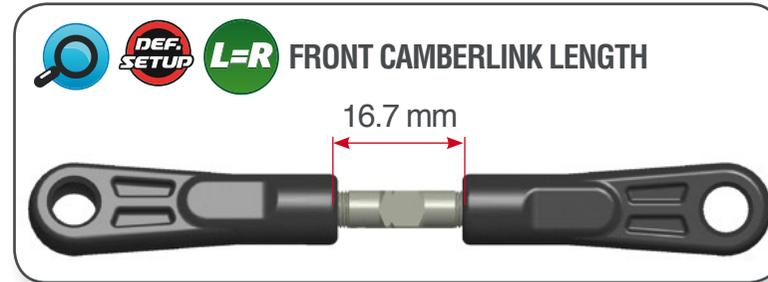
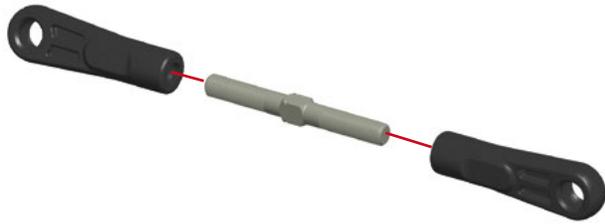


34.3

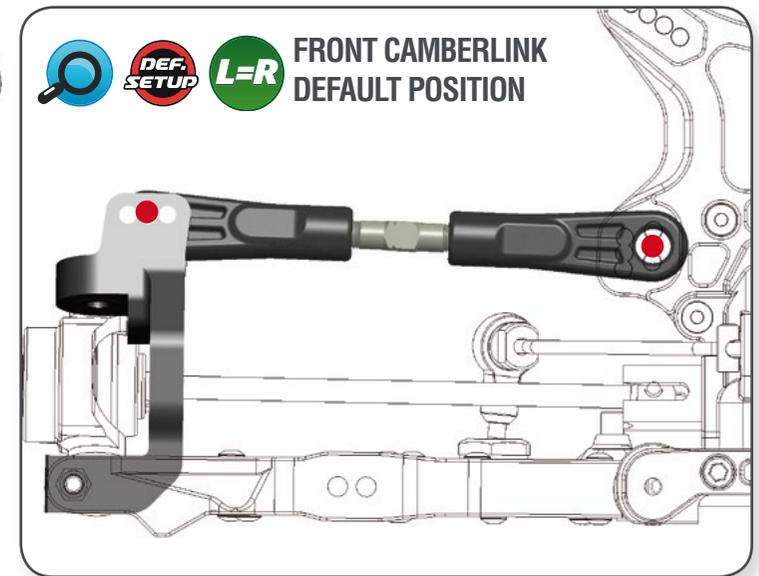
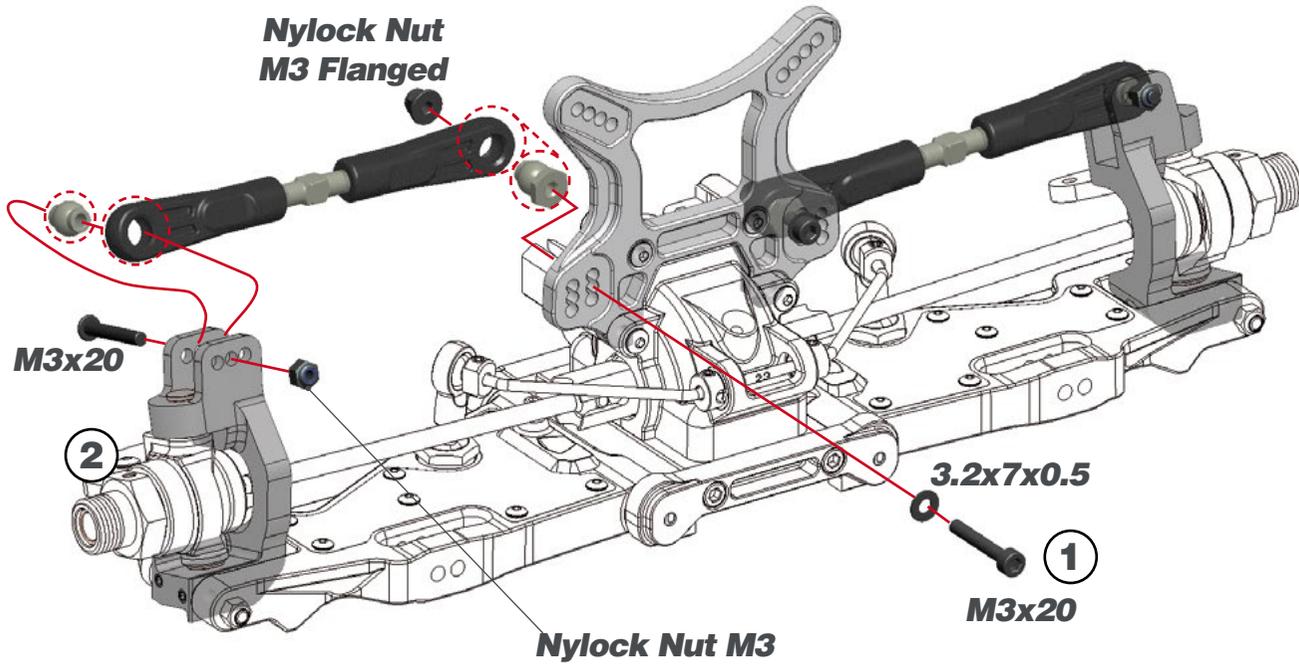


STEP 35 **BAG 8**

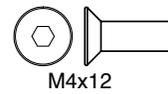
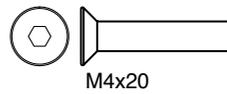
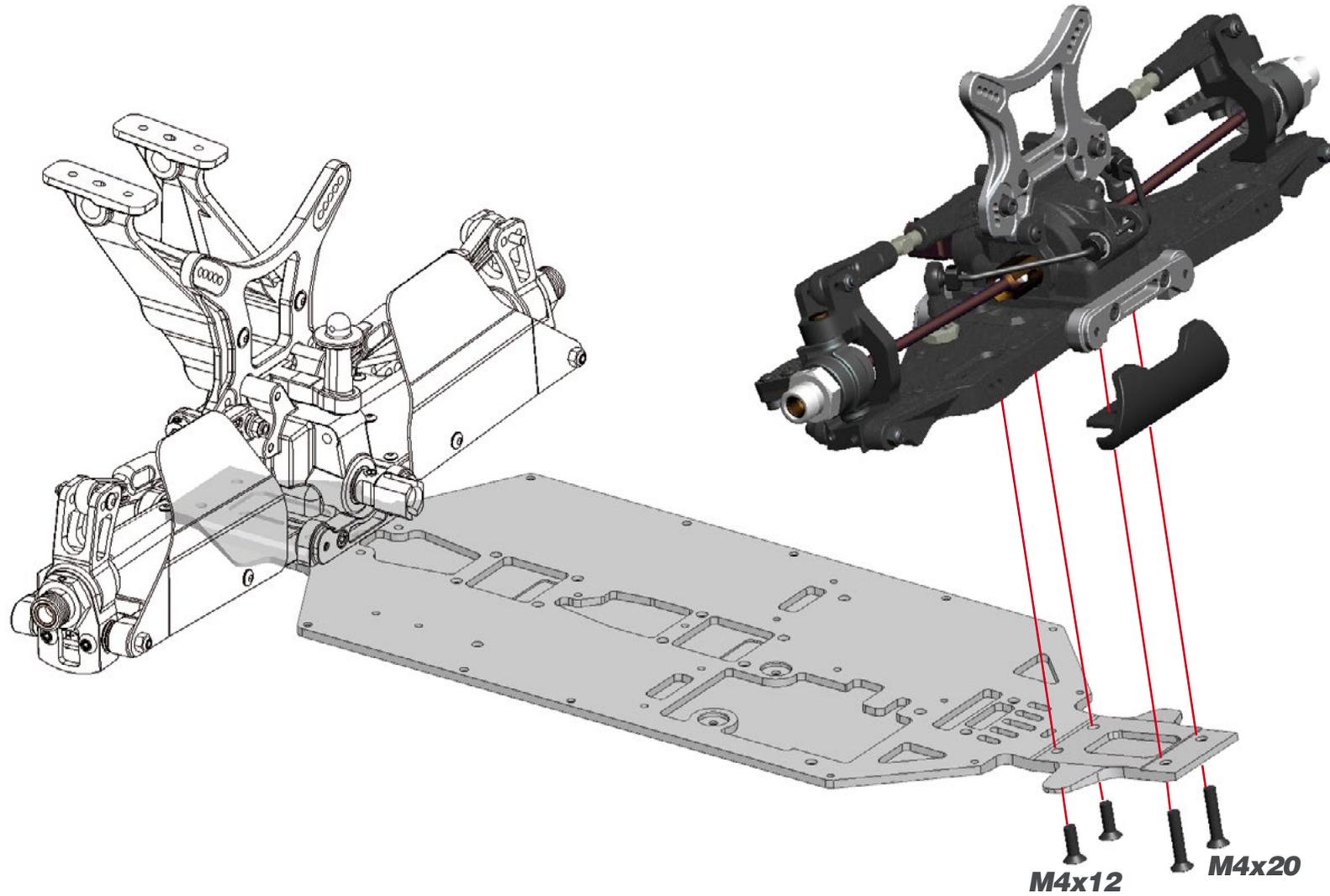
35.1



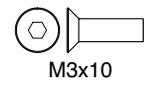
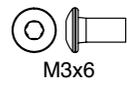
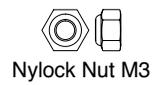
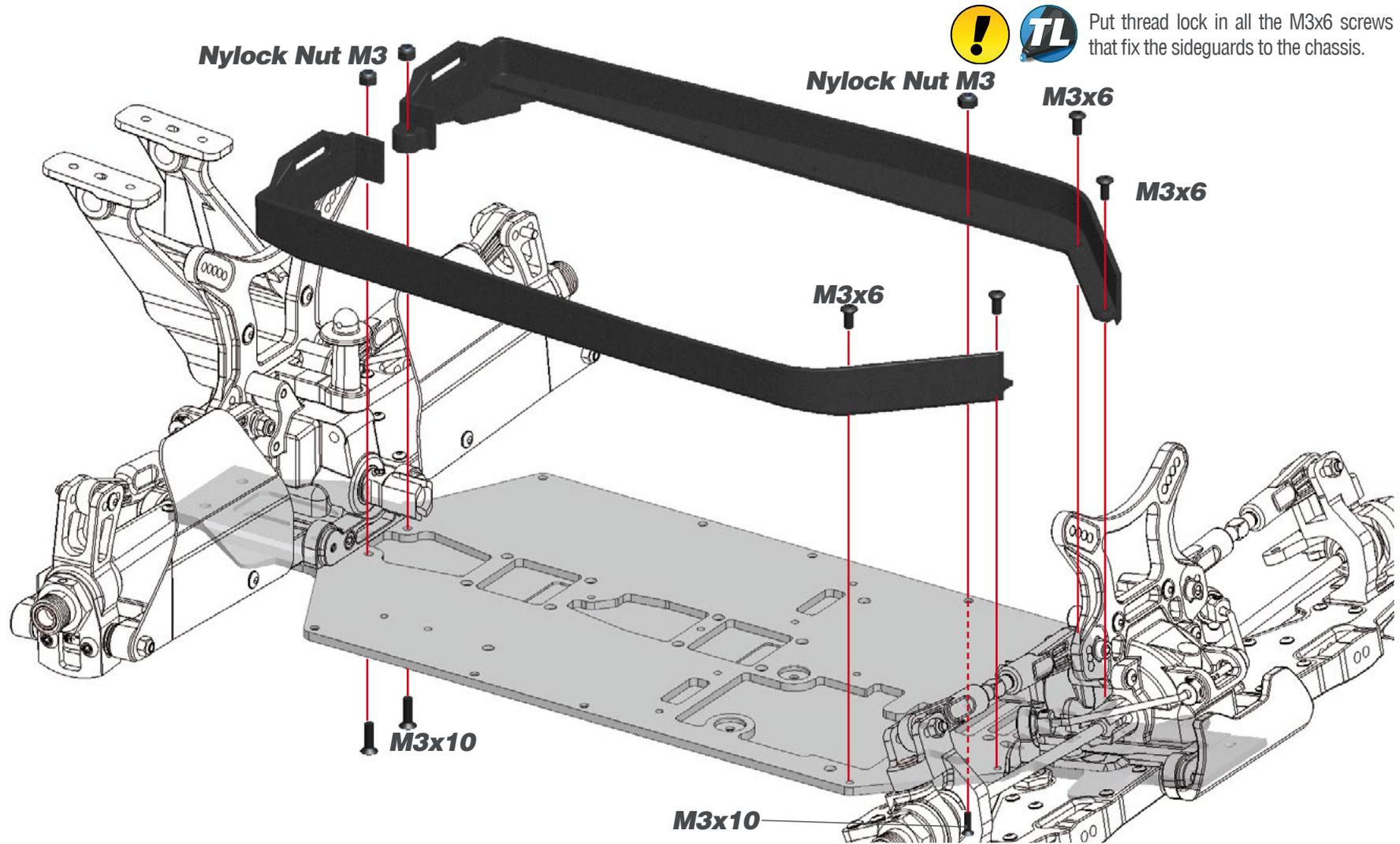
35.2



STEP 36

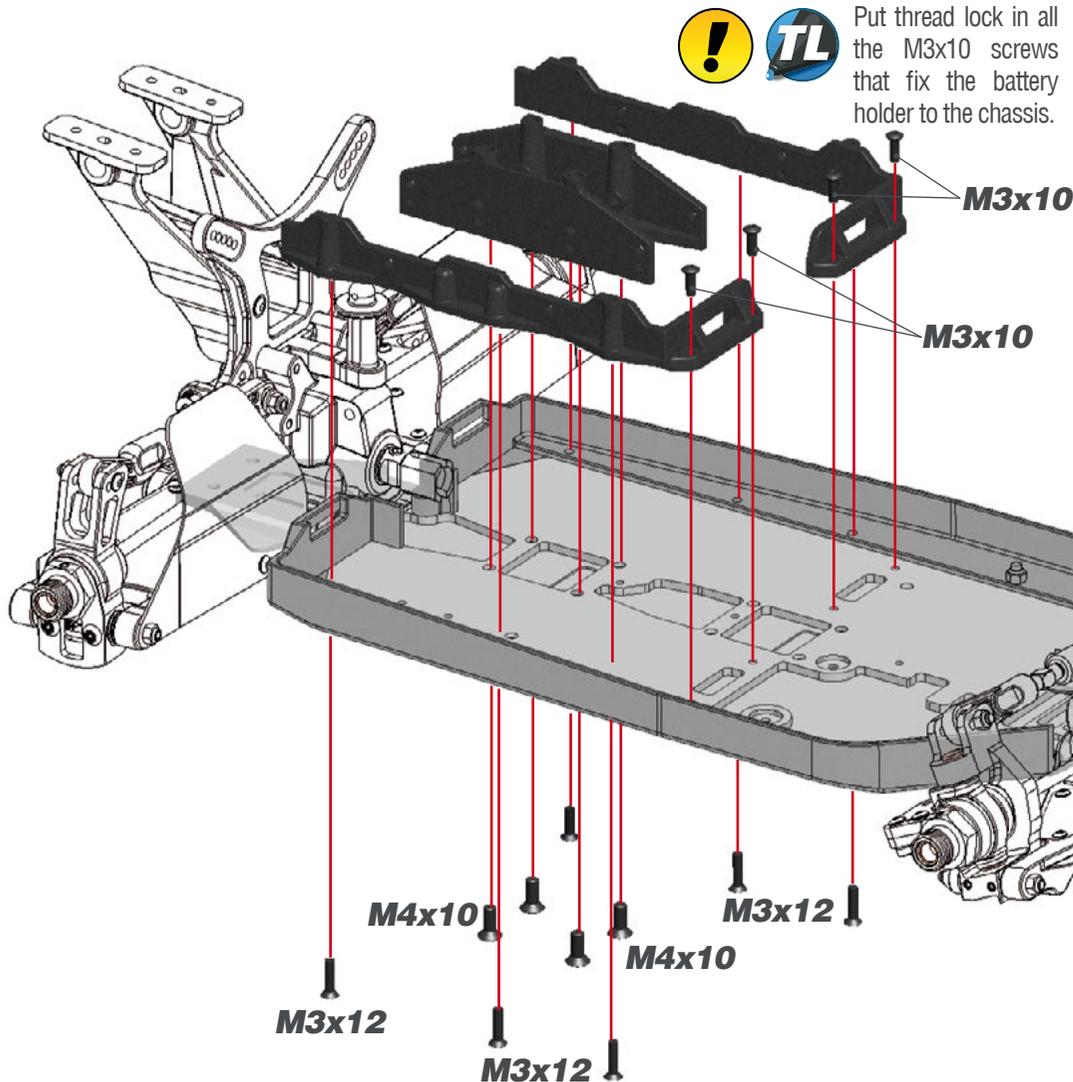


STEP 37



STEP 38

BAG 9



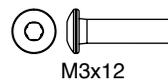
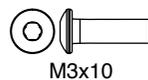
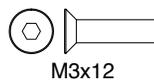
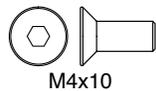
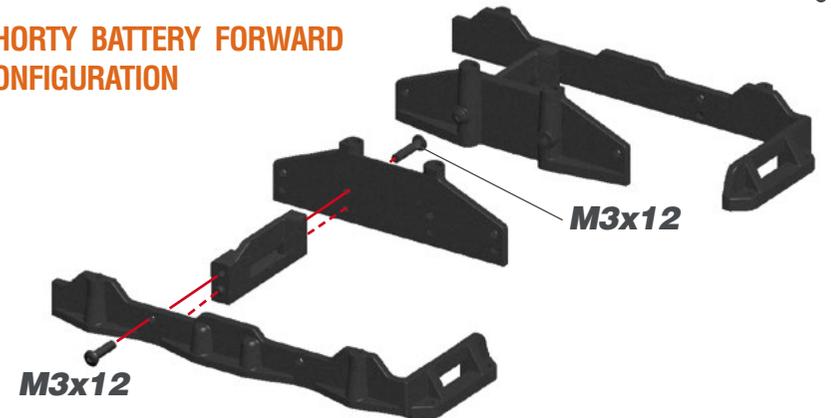
SHORTY BATTERY CONFIGURATION

With the SRX8e saddle configuration it is possible to use 2S STANDARD LIPOS, and 2S SHORTY LIPOS in forward and rearward position to change the weight distribution. Step 38 shows the parts to be assembled to use 2S STANDARD LIPOS. To use SHORTY batteries it is needed to pre-assemble two battery spacers as shown below to use them in forward or rearward position.

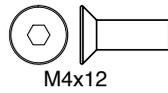
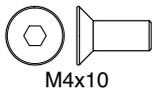
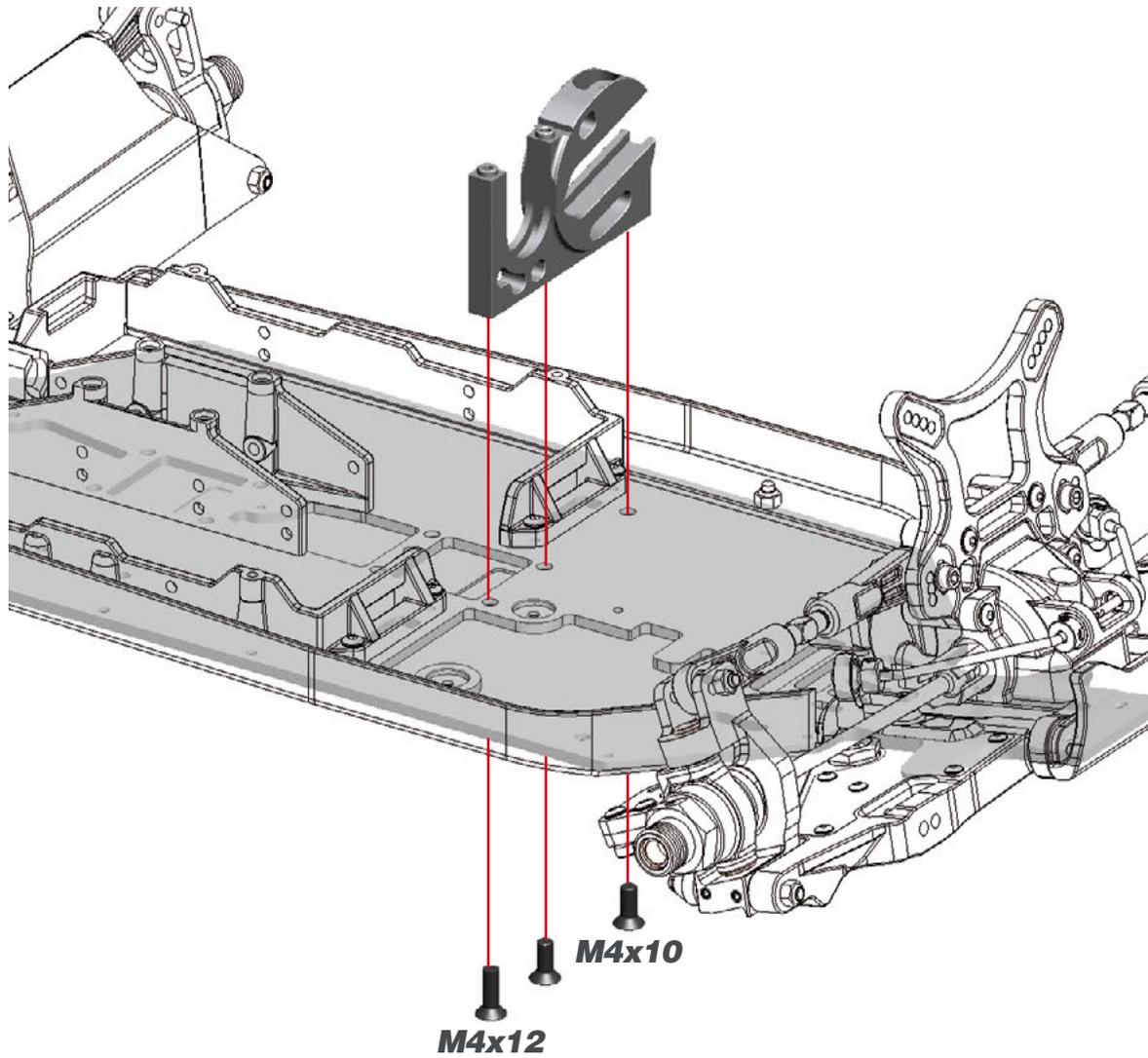
SHORTY BATTERY REARWARD CONFIGURATION



SHORTY BATTERY FORWARD CONFIGURATION

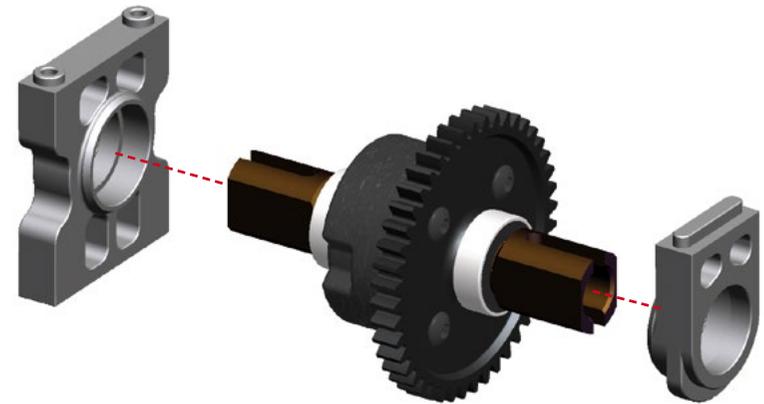


STEP 39

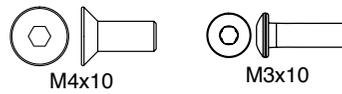
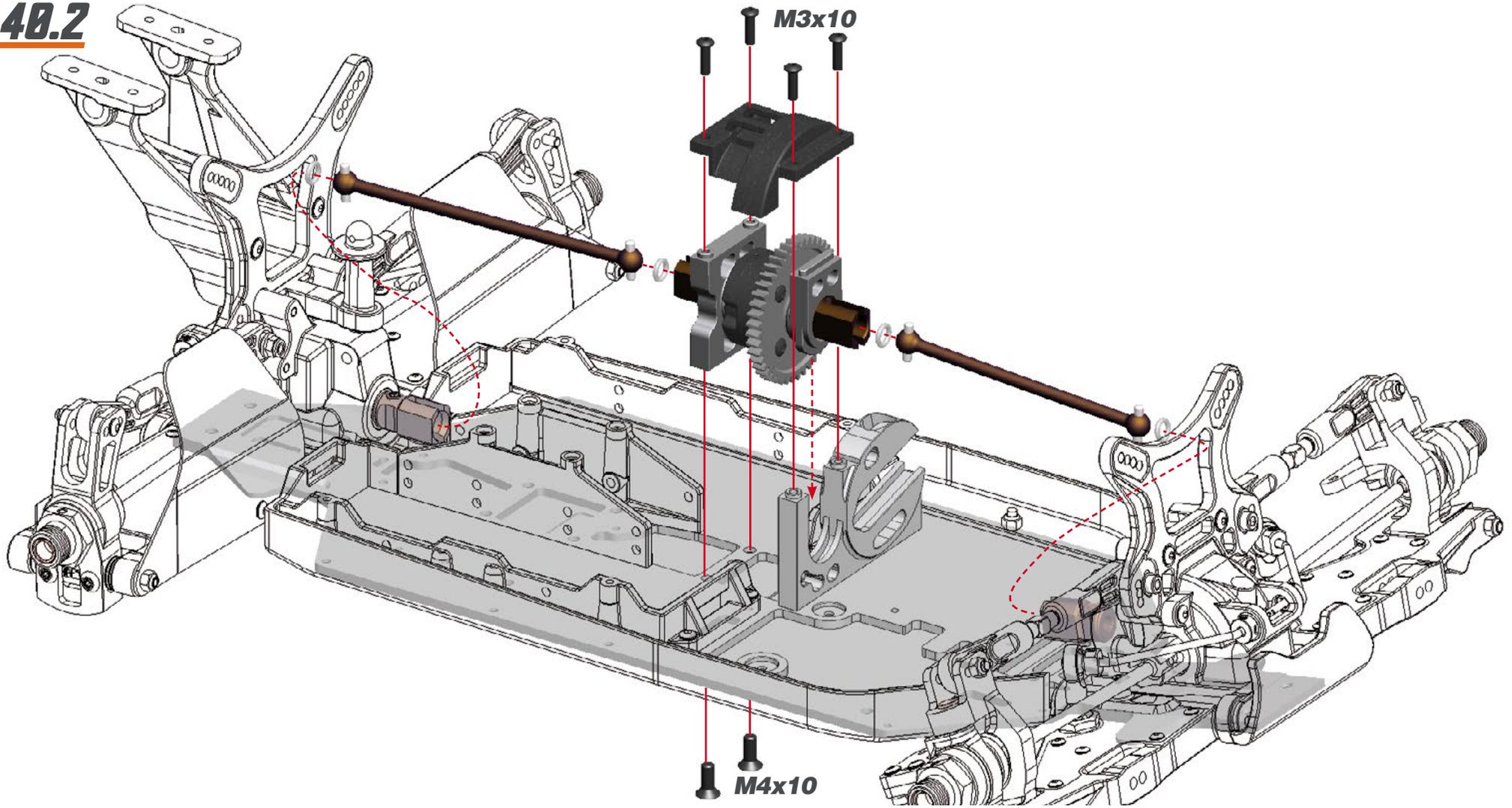


STEP 40

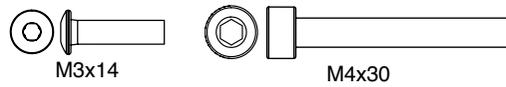
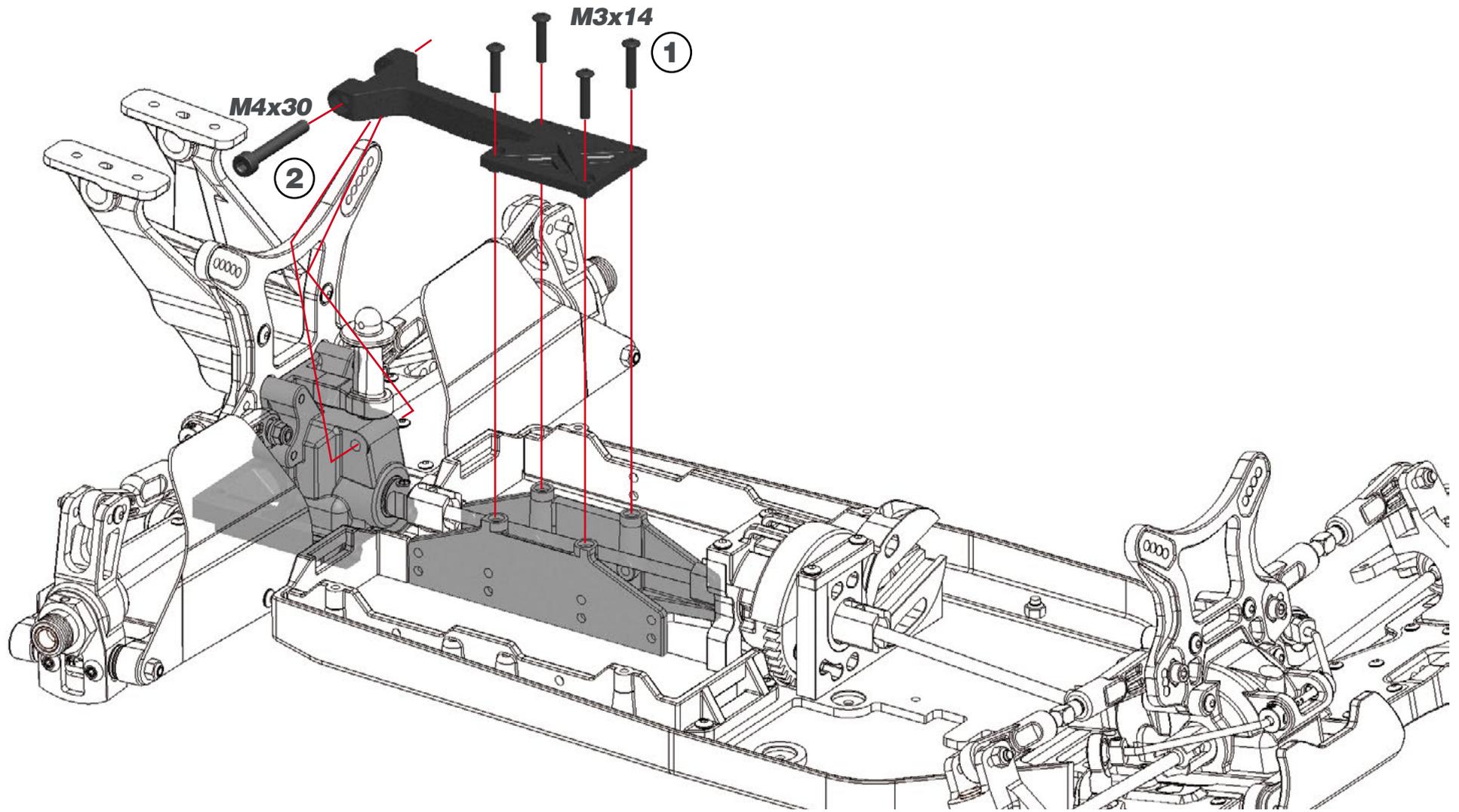
40.1



40.2

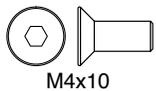
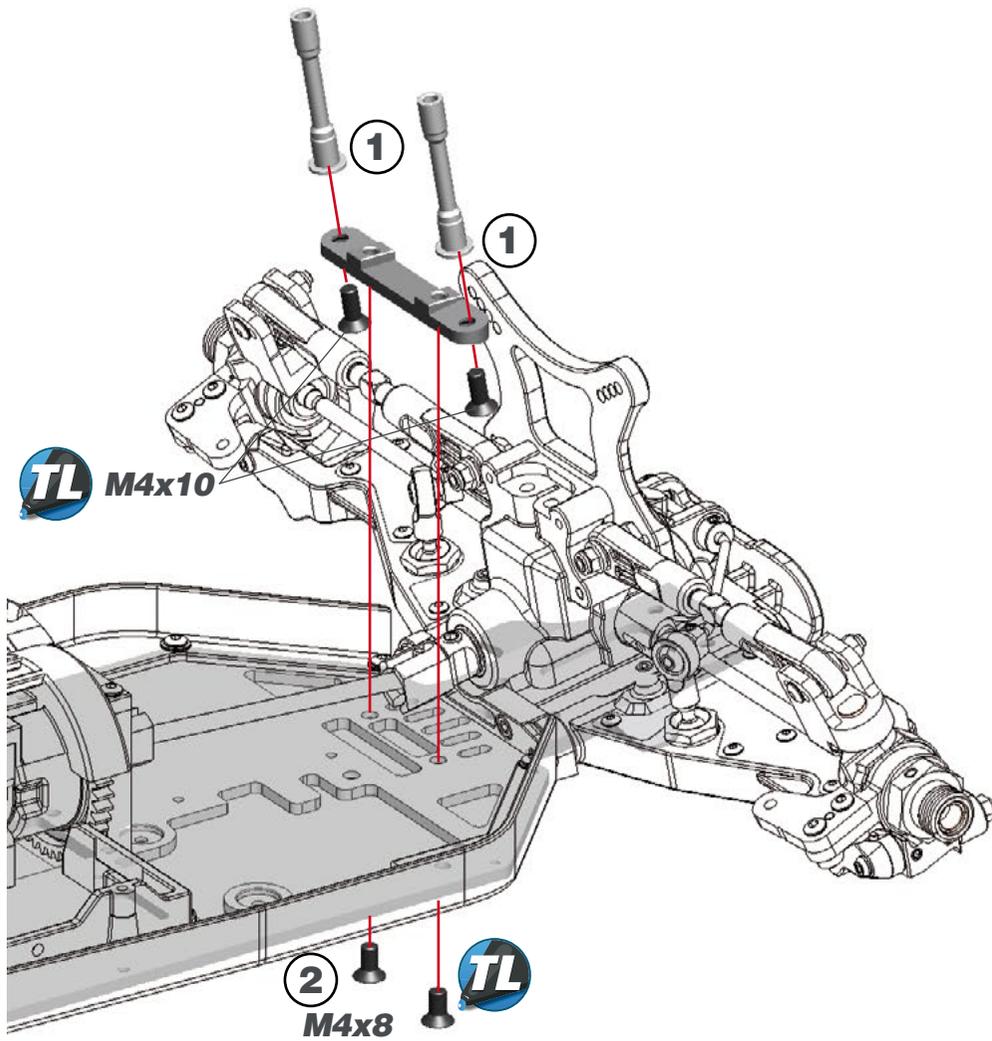


STEP 41



STEP 42 BAG 10

STEP 43

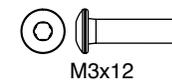
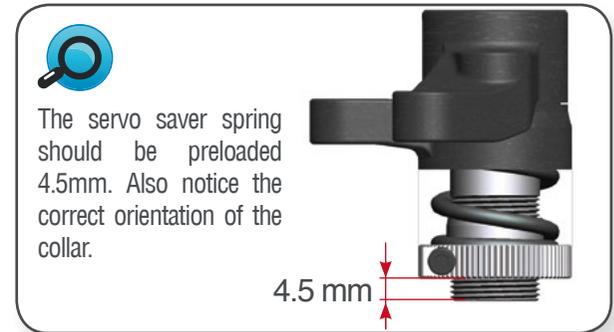
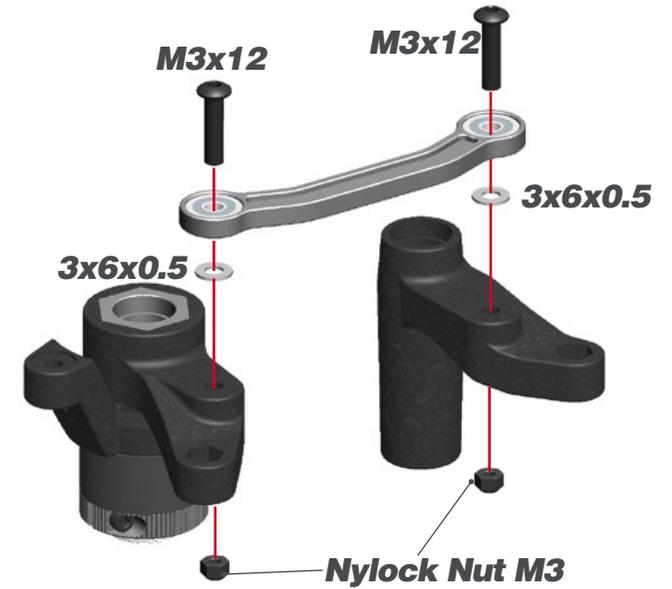


43.1



M2x10

43.2



STEP 44

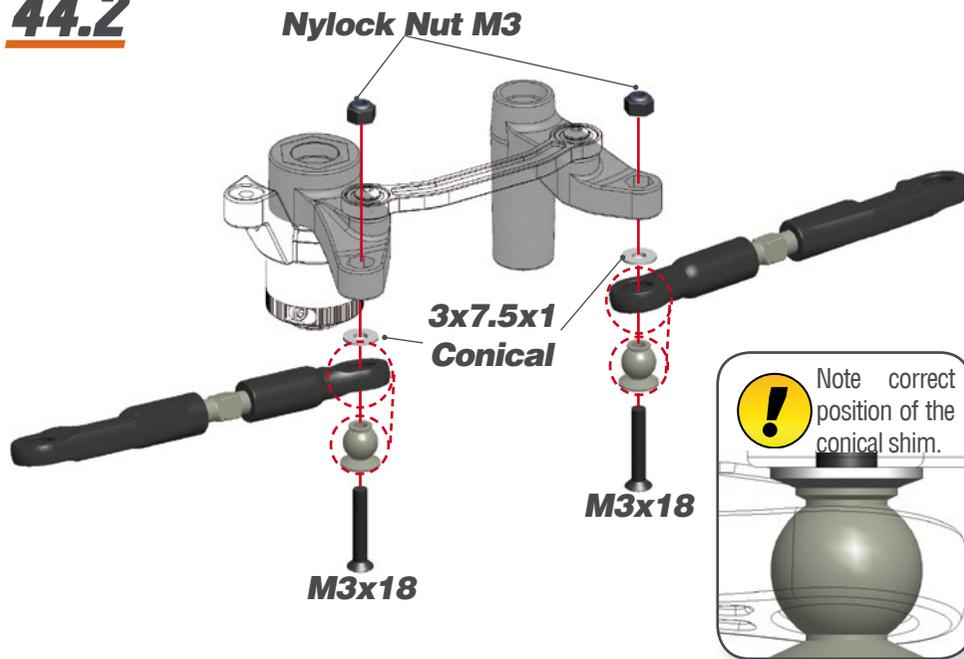
44.1



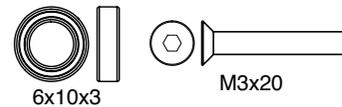
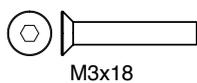
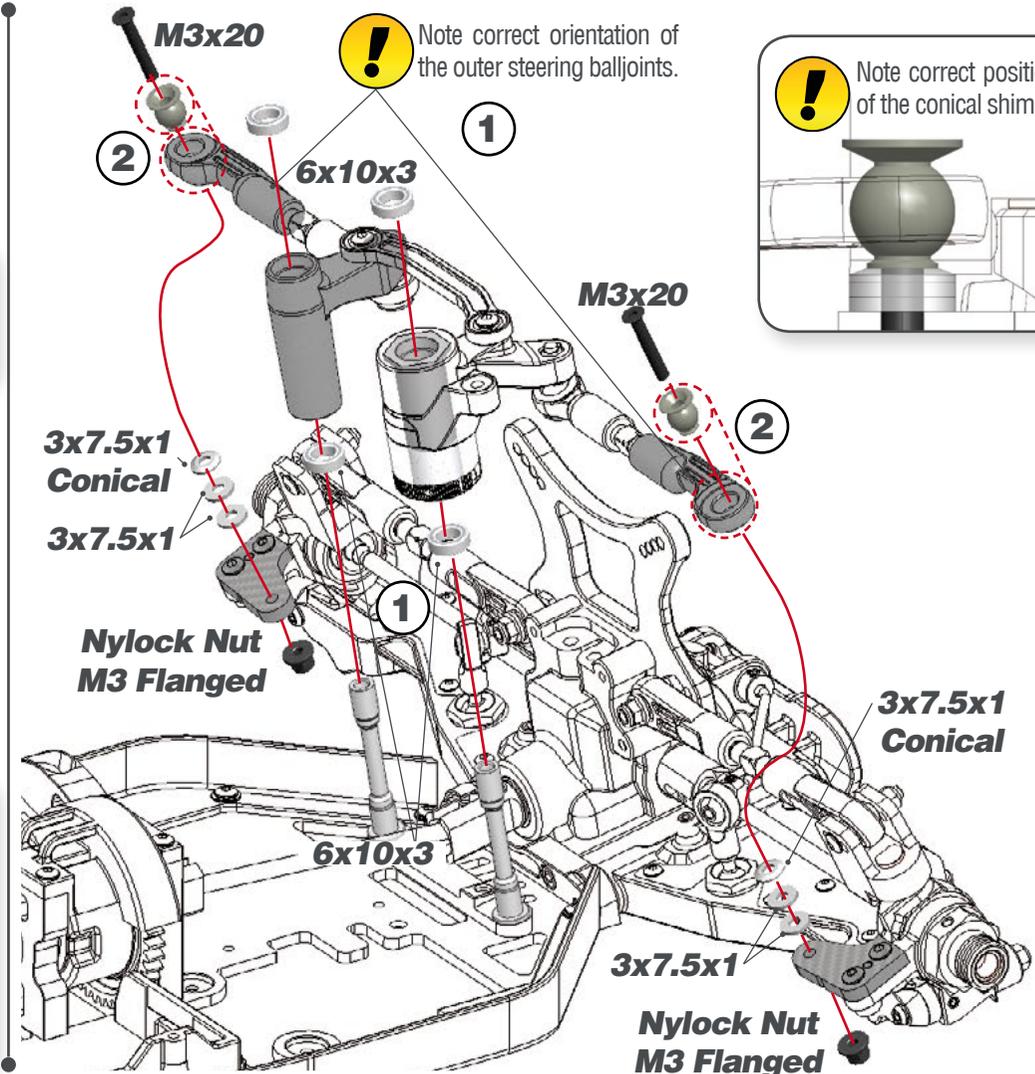
STEERING TRACKROD LENGTH



44.2



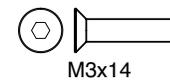
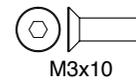
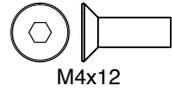
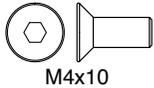
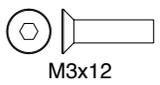
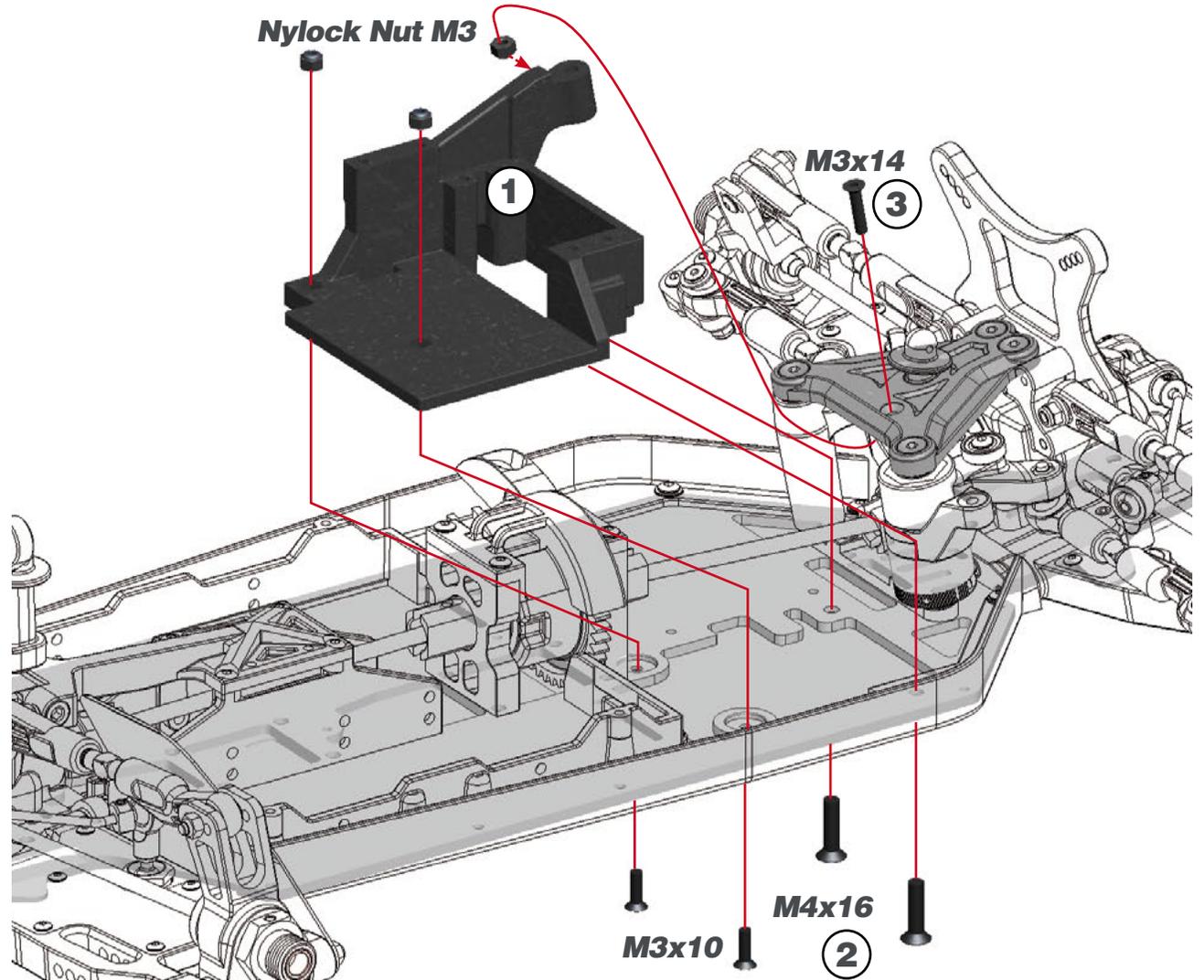
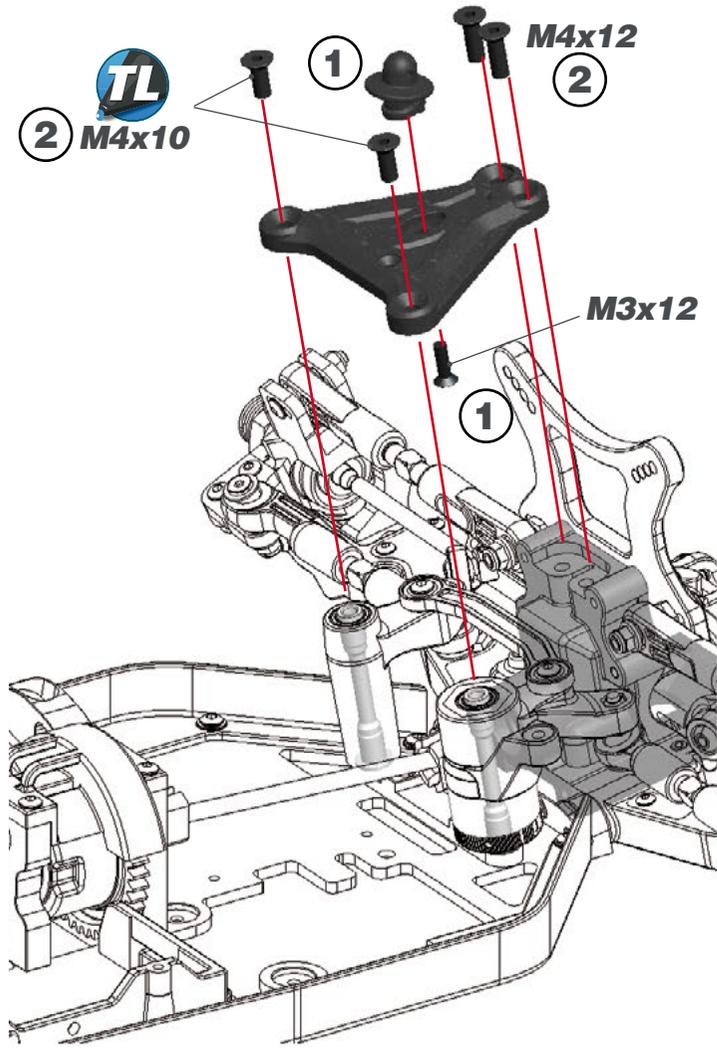
STEP 45



STEP 46

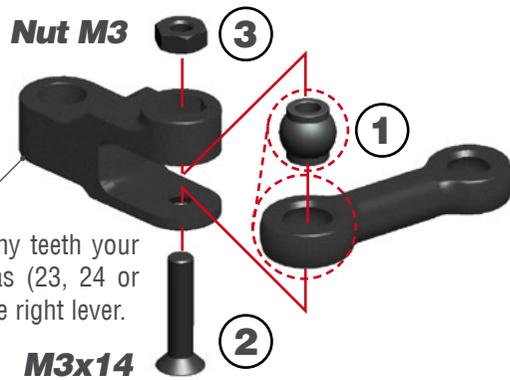
BAG 11

STEP 47



STEP 48

48.1

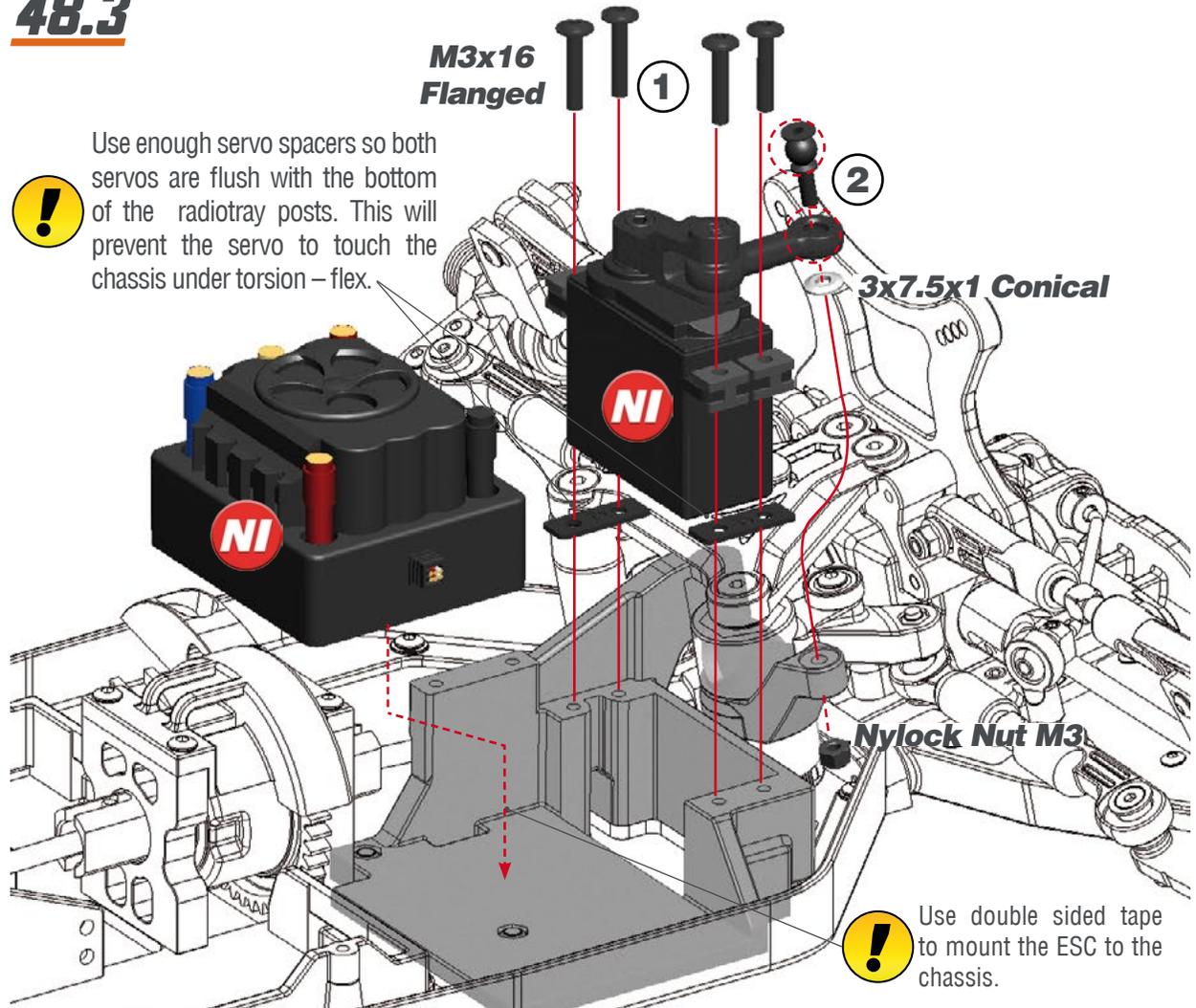


! Check how many teeth your servo spline has (23, 24 or 25) and use the right lever.

48.2

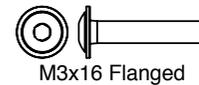
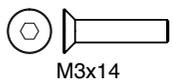


48.3

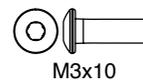
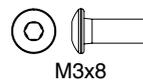
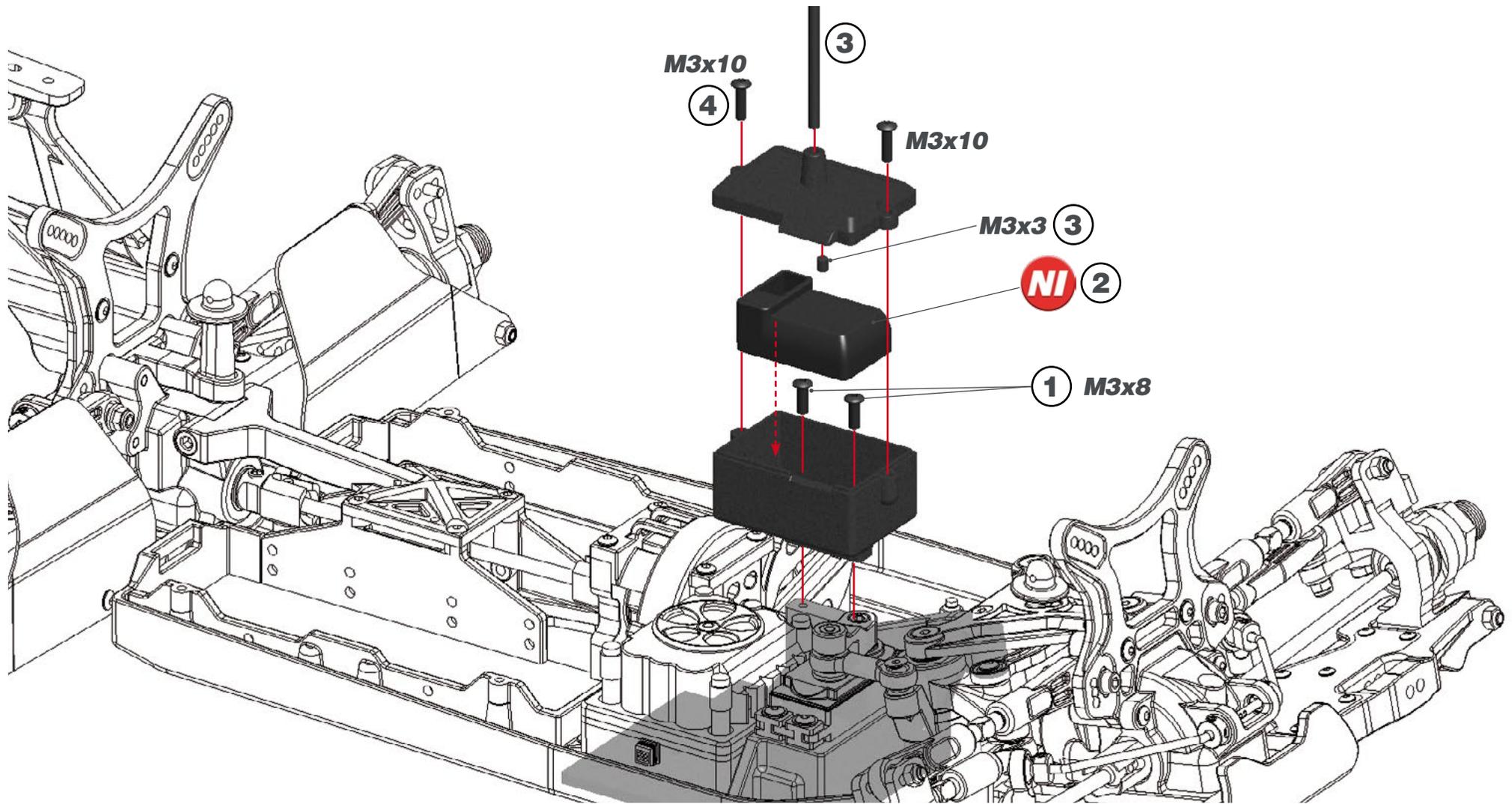


! Use enough servo spacers so both servos are flush with the bottom of the radiotray posts. This will prevent the servo to touch the chassis under torsion – flex.

! Use double sided tape to mount the ESC to the chassis.



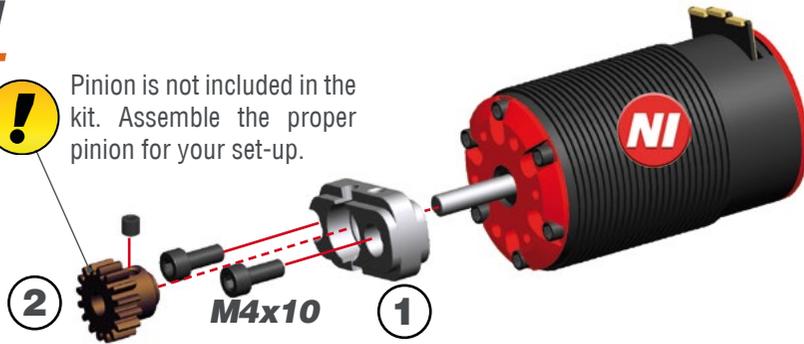
STEP 49 **BAG 12**



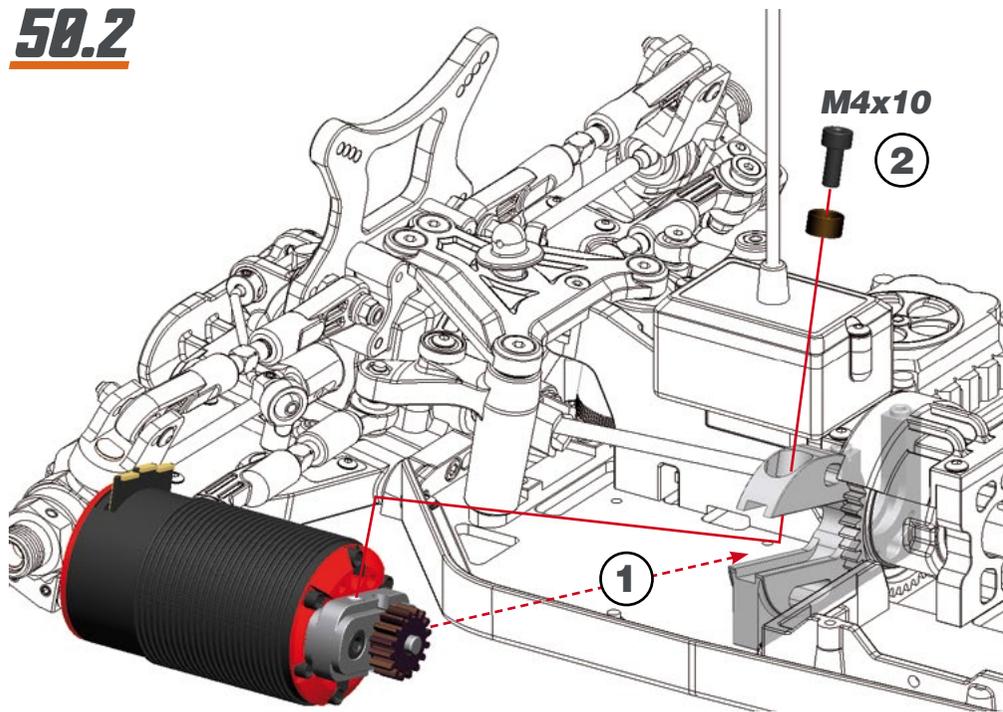
STEP 50

50.1

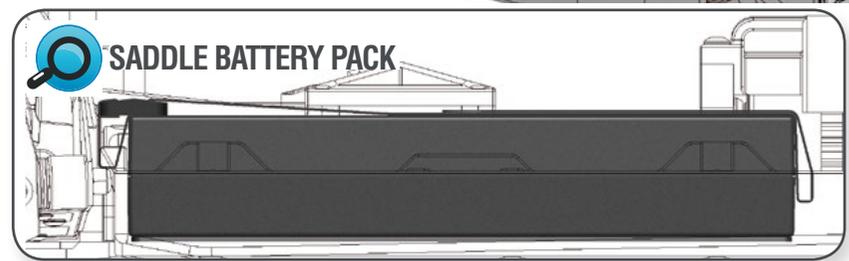
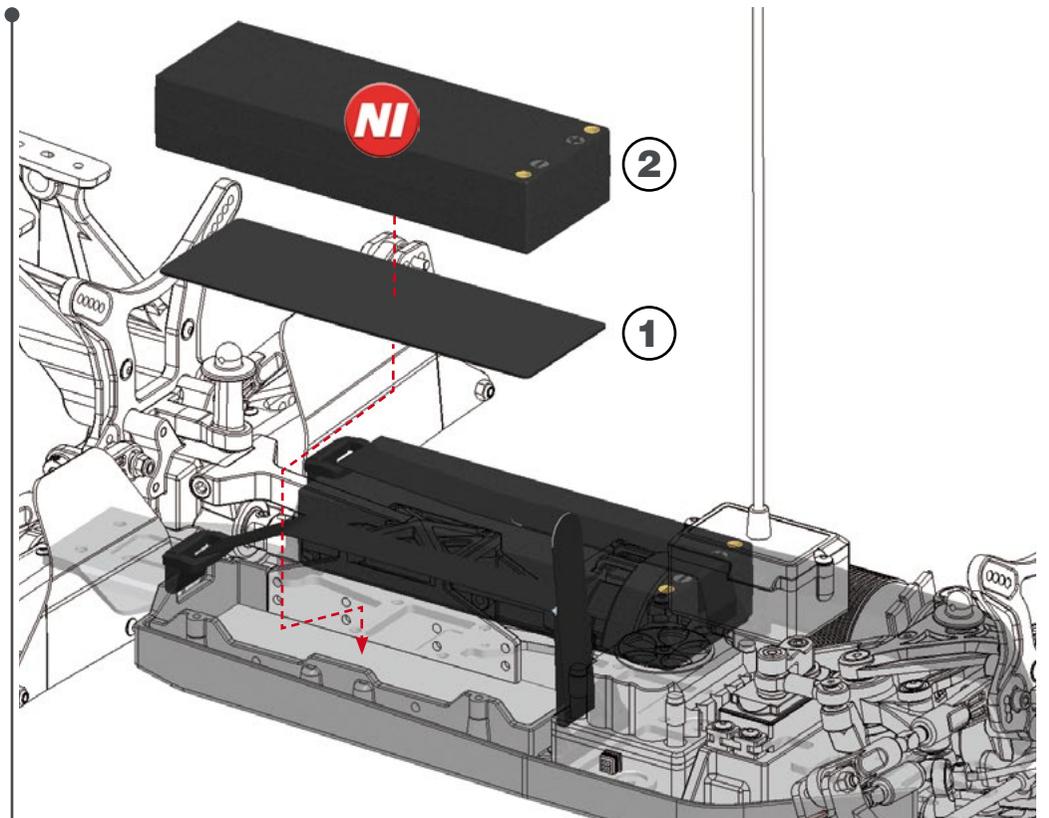
NI  Pinion is not included in the kit. Assemble the proper pinion for your set-up.



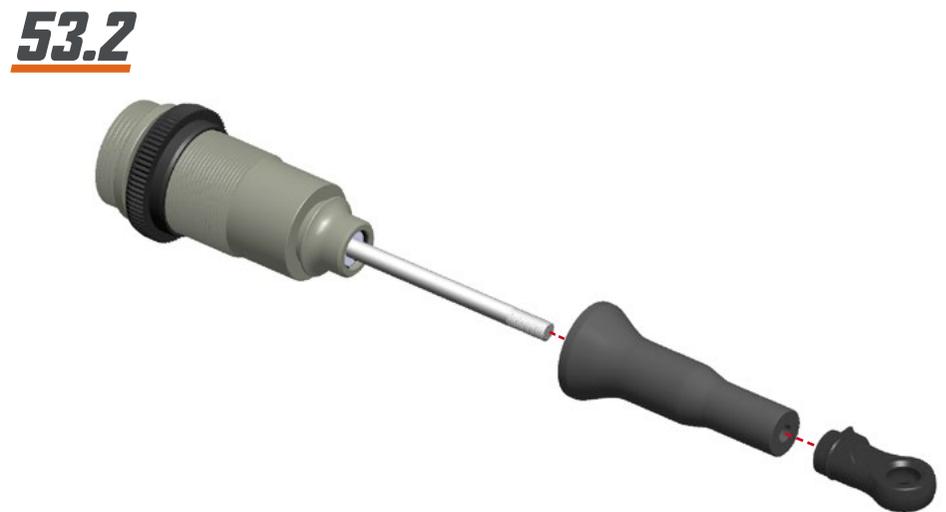
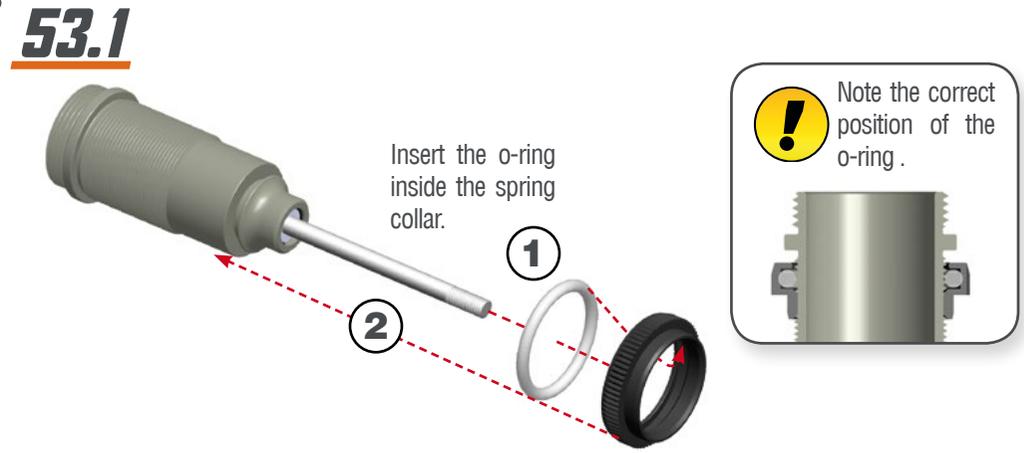
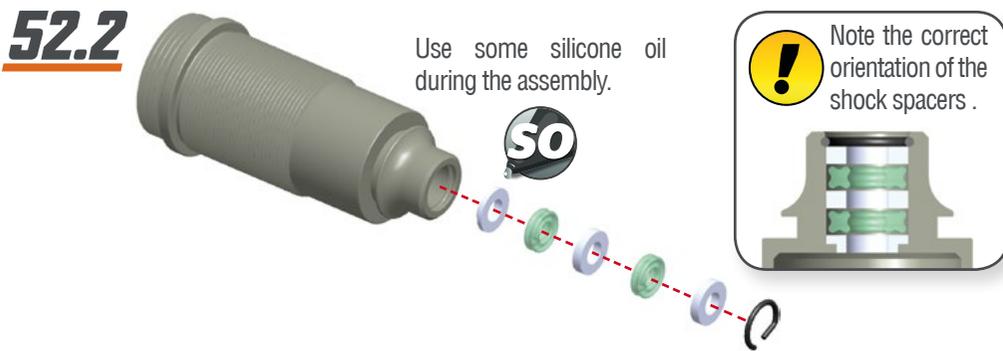
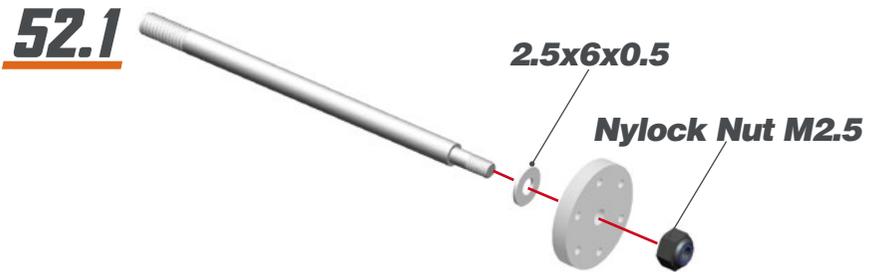
50.2



STEP 51



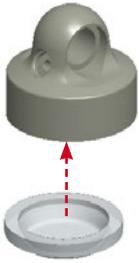
STEP 52 BAG 13 FR SHOCKS / BAG 14 RR SHOCKS | STEP 53



STEP 54

54.1

Push the membrane into the shock cap.



54.2

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- Apply the gasket and cap and close fully.



54.3

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

2- With shockrod fully in, mount the o-ring and screw.

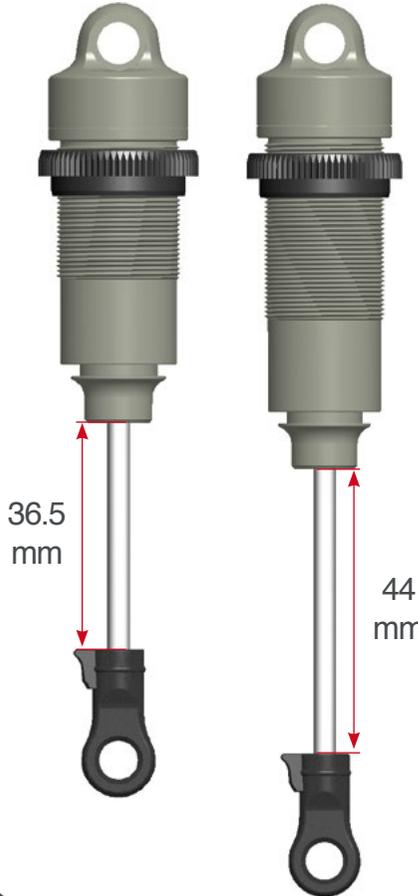
M2.3x4



SHOCKS LENGTH: Measure the shock length fully extended.

FRONT

REAR



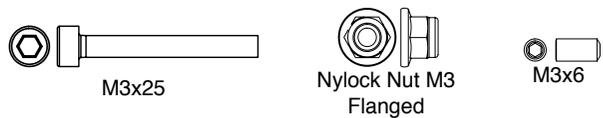
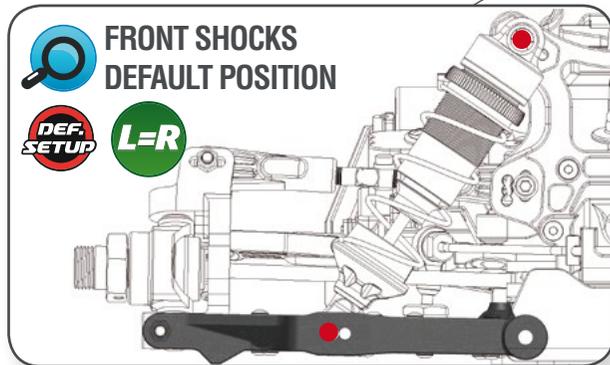
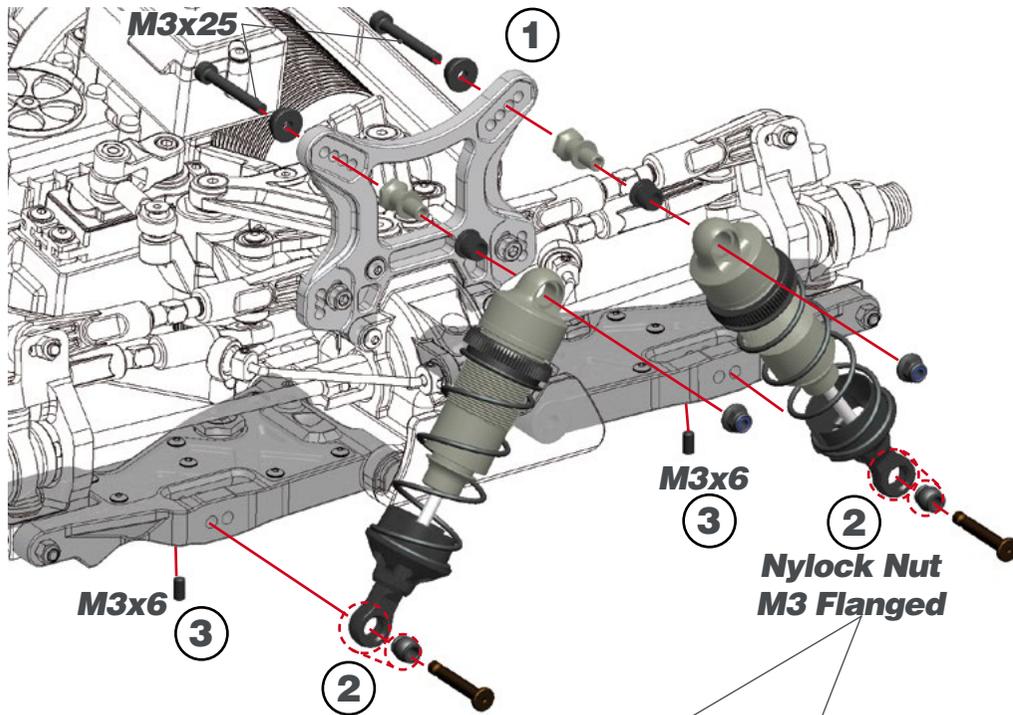
STEP 55

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

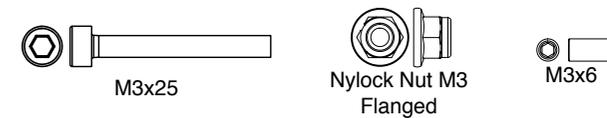
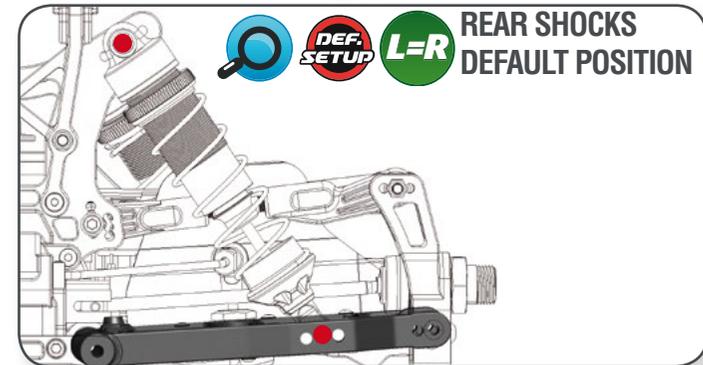
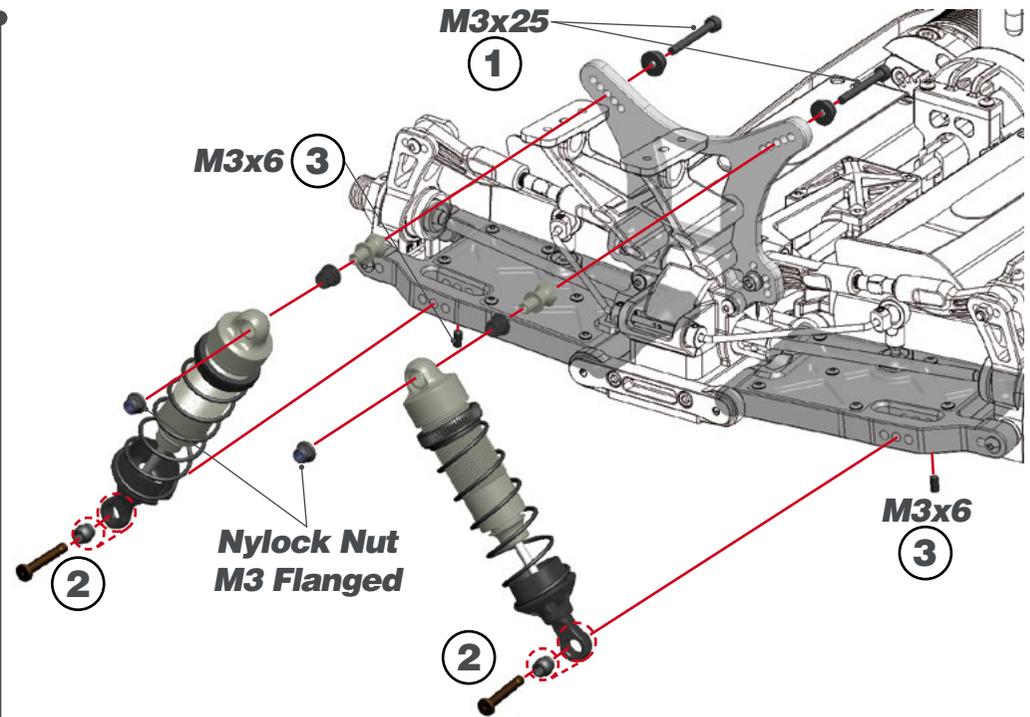


M2.3x4

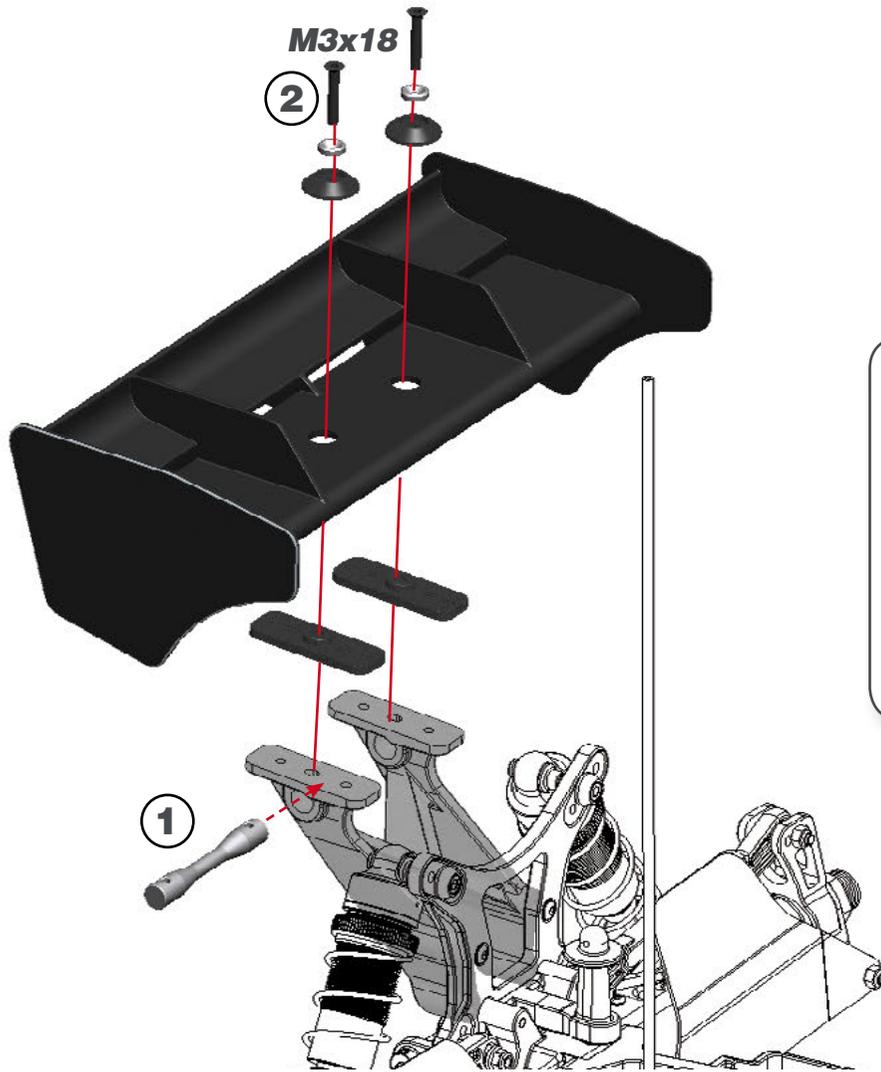
STEP 56 **BAG 15**



STEP 57



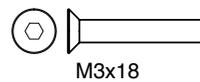
STEP 58



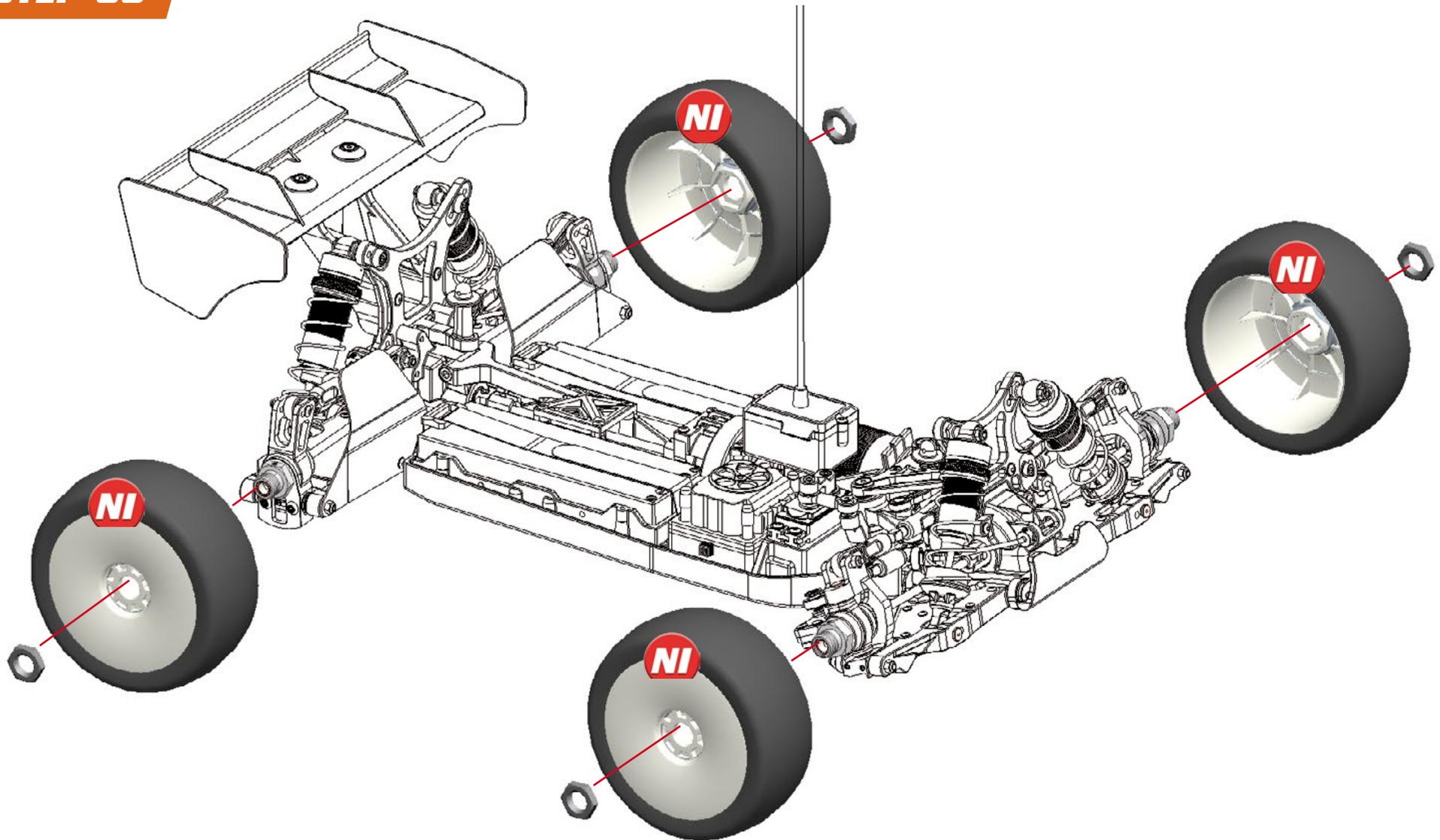
 **ANGLED WING SPACERS CHART**

2°	
4°	
6°	

REAR  **FRONT**



STEP 59

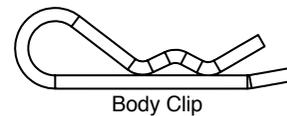
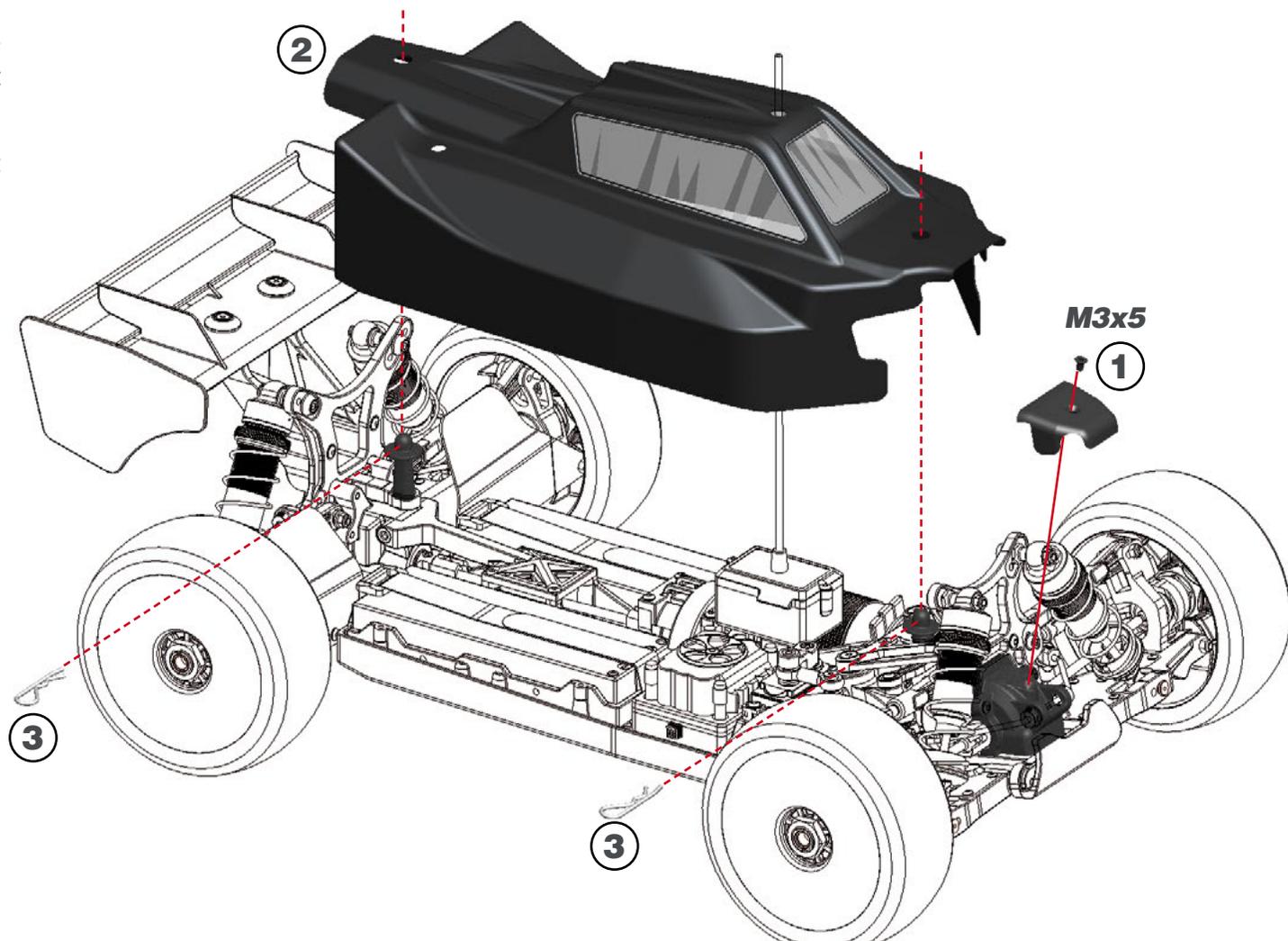


STEP 60

1- Cut the body along the cutting line with special scissors (not included). Make holes for the bodypost and antenna as needed with a body reamer (not included). Make a longer bodypost hole in the rear, to allow for chassis flex movement.

2- Before painting the body, apply the precut masking sheet elements to the inside of the body. Follow the cleaning & painting instructions supplied by the polycarbonate paint supplier you choose.

3- Apply the Serpent and Cobra logo-decals on the body and wing.



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<i>FINAL 1 EXPLODED VIEW</i>	<i>45</i>
<i>FINAL 2 EXPLODED VIEW</i>	<i>46</i>

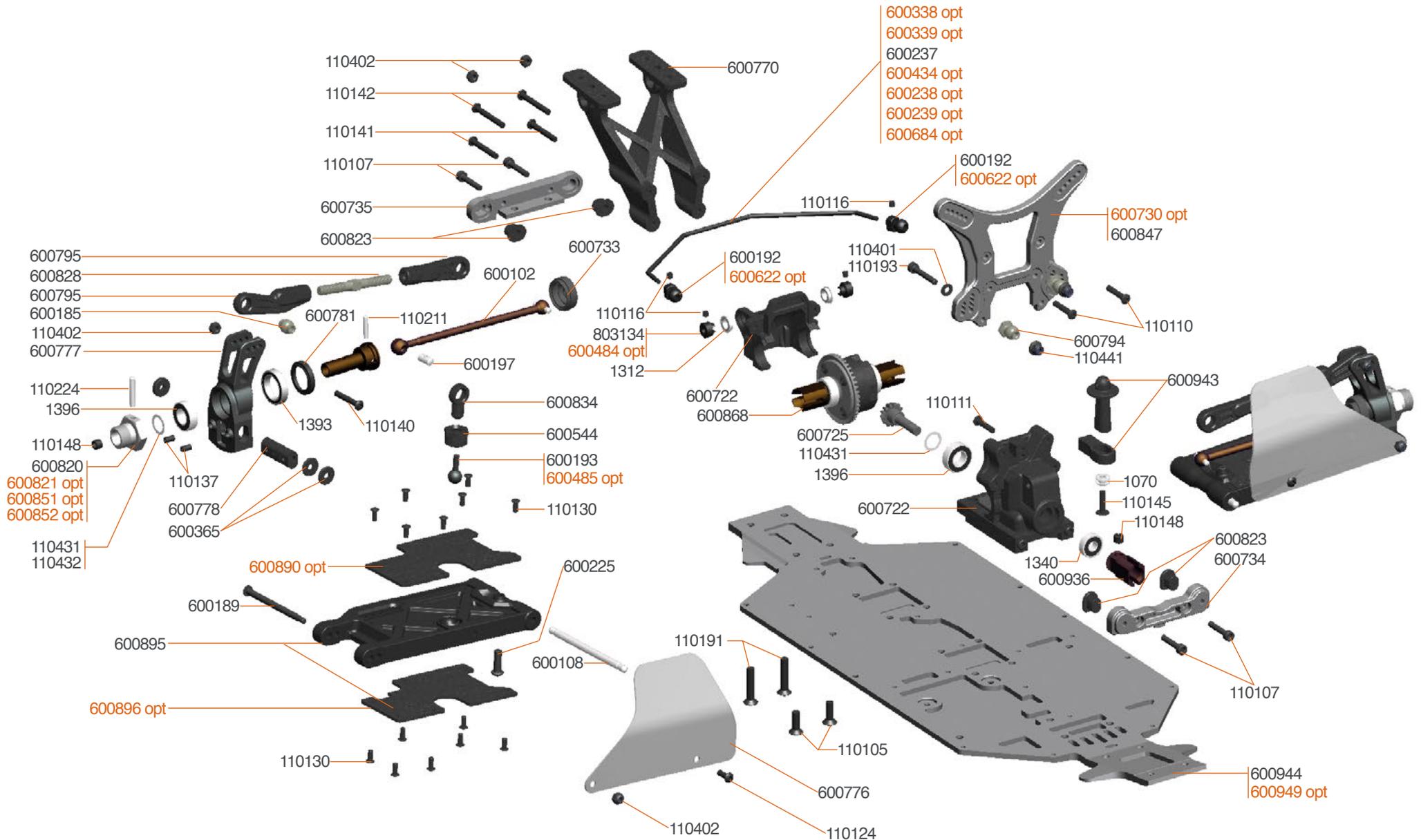
DIFFERENTIAL EXPLODED VIEW



- 600283 Diff pin 10T alu (2)
- 600868 Diff set 44T front / rear SRX8
- 600869 Diff set 46T center SRX8
- 600892 Overdrive diff gear set 43/13 SRX8

- 600893 Overdrive diff pinion 13T SRX8
- 600894 Overdrive diff gear 43T SRX8

REAR EXPLODED VIEW



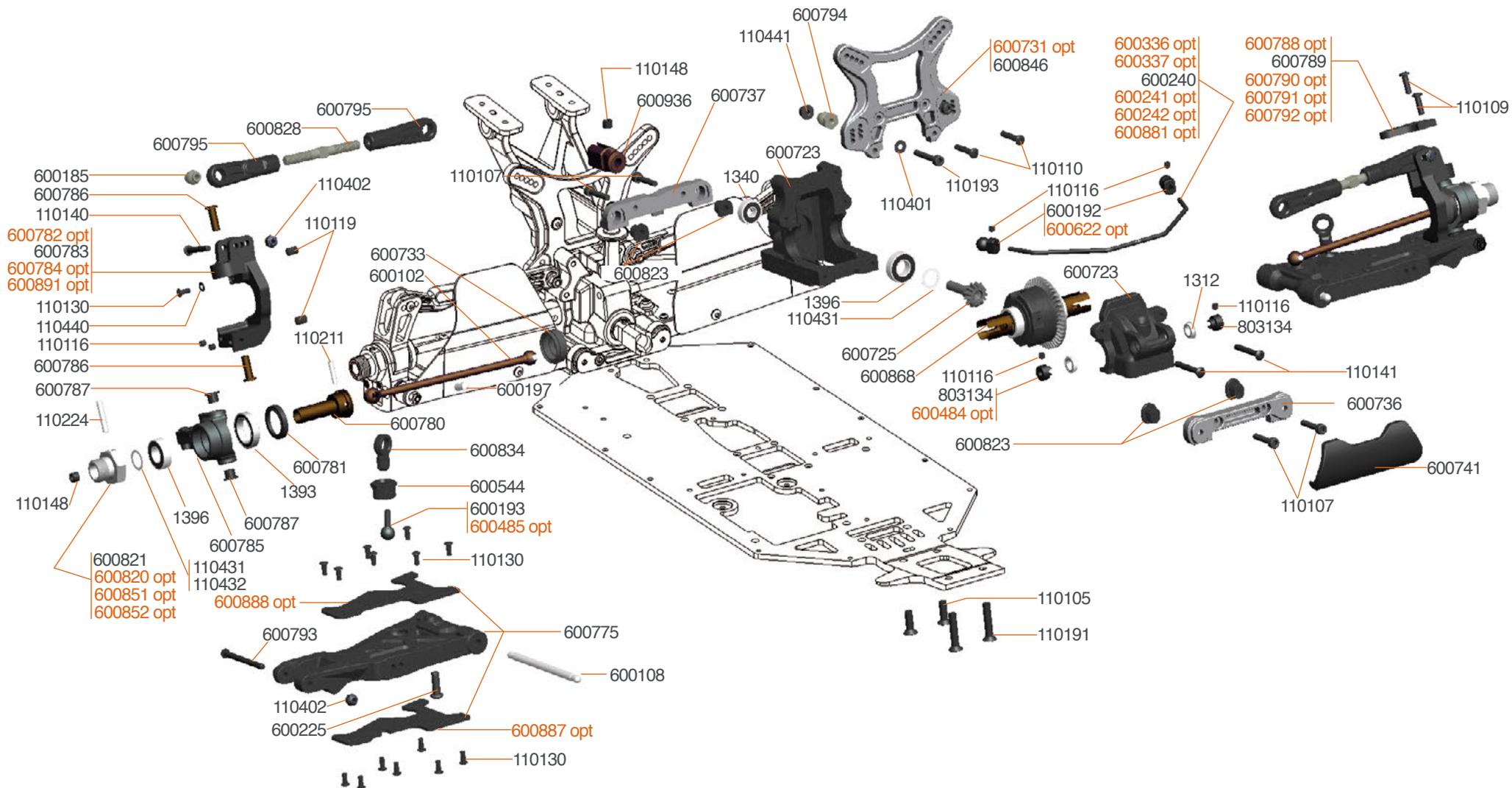
600338 Antiroll bar rear 1.8mm
600339 Antiroll bar rear 2.0mm
600434 Antiroll bar rear 2.4mm
600238 Antiroll bar rear 2.5mm
600239 Antiroll bar rear 2.7mm

600684 Antiroll bar rear 3.0mm
600484 Antirollbar spacer 3mm alu (2)
600485 Pivotball threaded anti roll bar alu (2)
600622 Pivotball antirollbar alu (4)
600730 Shocktower RR carbon SRX8

600821 Wheelhexagon +1mm (2) SRX8
600838 Upright weight brass 15gr (2) SRX8
600851 Wheelhexagon 0mm light (2) SRX8
600852 Wheelhexagon +1mm light (2) SRX8
600890 Wishbone insert carbon RR Upper

SRX8 (2)
600896 Wishbone insert carbon RR Lower V2
SRX8 (2)
600949 Chassis LW SRX8E



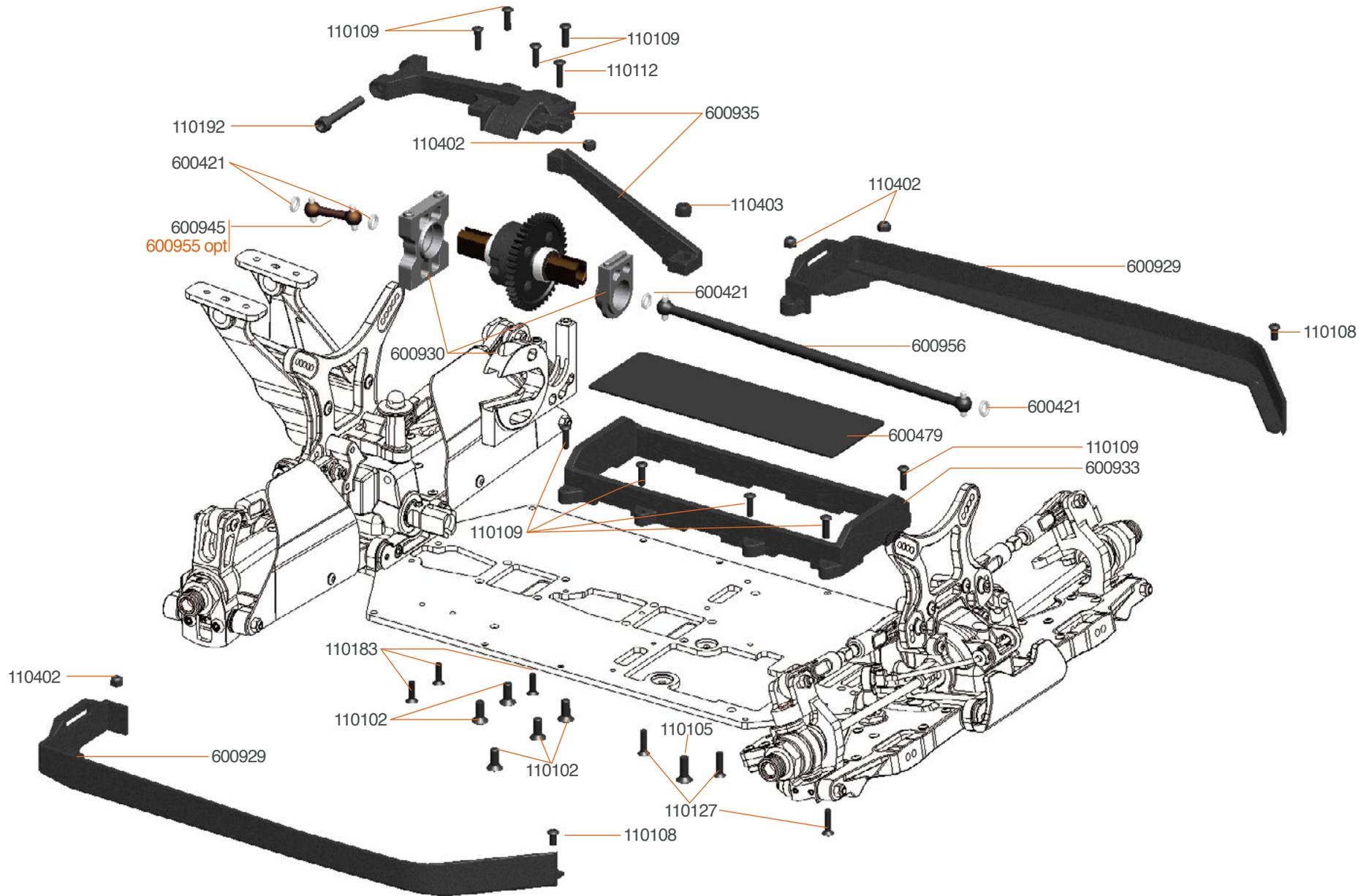


600336 Antirroll bar front 1.8mm
 600337 Antirroll bar front 2.0mm
 600241 Antirroll bar front 2.5mm
 600242 Antirroll bar front 2.7mm
 600881 Antirroll bar front 3.0mm
 600484 Antirrollbar spacer 3mm alu (2)

600485 Pivotball threaded anti roll bar alu (2)
 600622 Pivotball antirollbar alu (4)
 600782 C-hub 13deg L+R alu SRX8
 600784 C-hub 17deg L+R alu SRX8
 600891 C-hub 19deg L+R alu SRX8
 600788 Steering arm 0 carbon (2) SRX8

600789 Steering arm 1 carbon (2) SRX8
 600791 Steering arm 3 carbon (2) SRX8
 600792 Steering arm 4 carbon (2) SRX8
 600820 Wheelhexagon 0mm (2) SRX8
 600846 Shocktower FR alu SRX8
 600851 Wheelhexagon 0mm light (2) SRX8

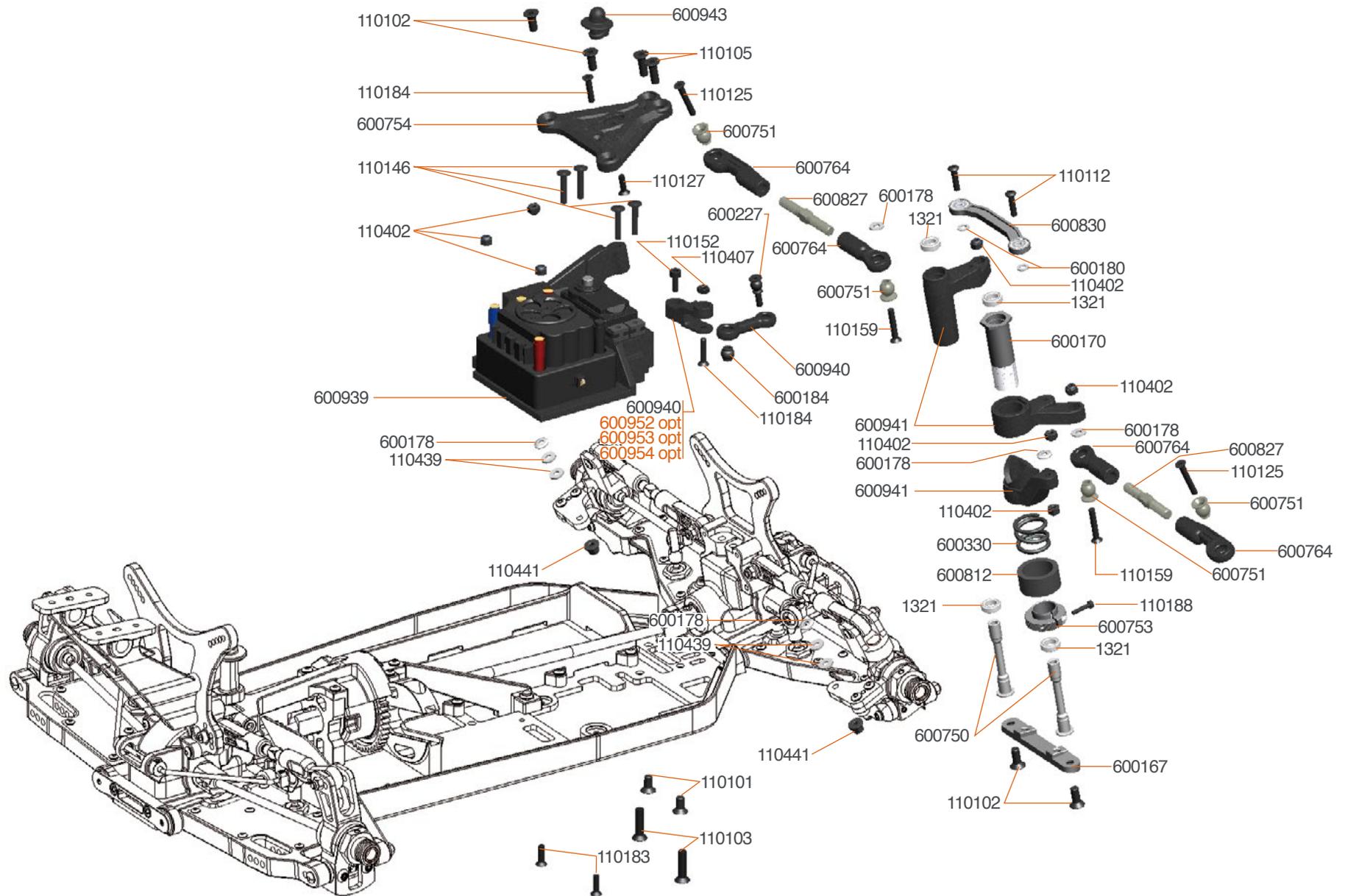
600852 Wheelhexagon +1mm light (2) SRX8
 600887 Wishbone insert carbon FR Lower SRX8 (2)
 600888 Wishbone insert carbon FR Upper SRX8 (2)



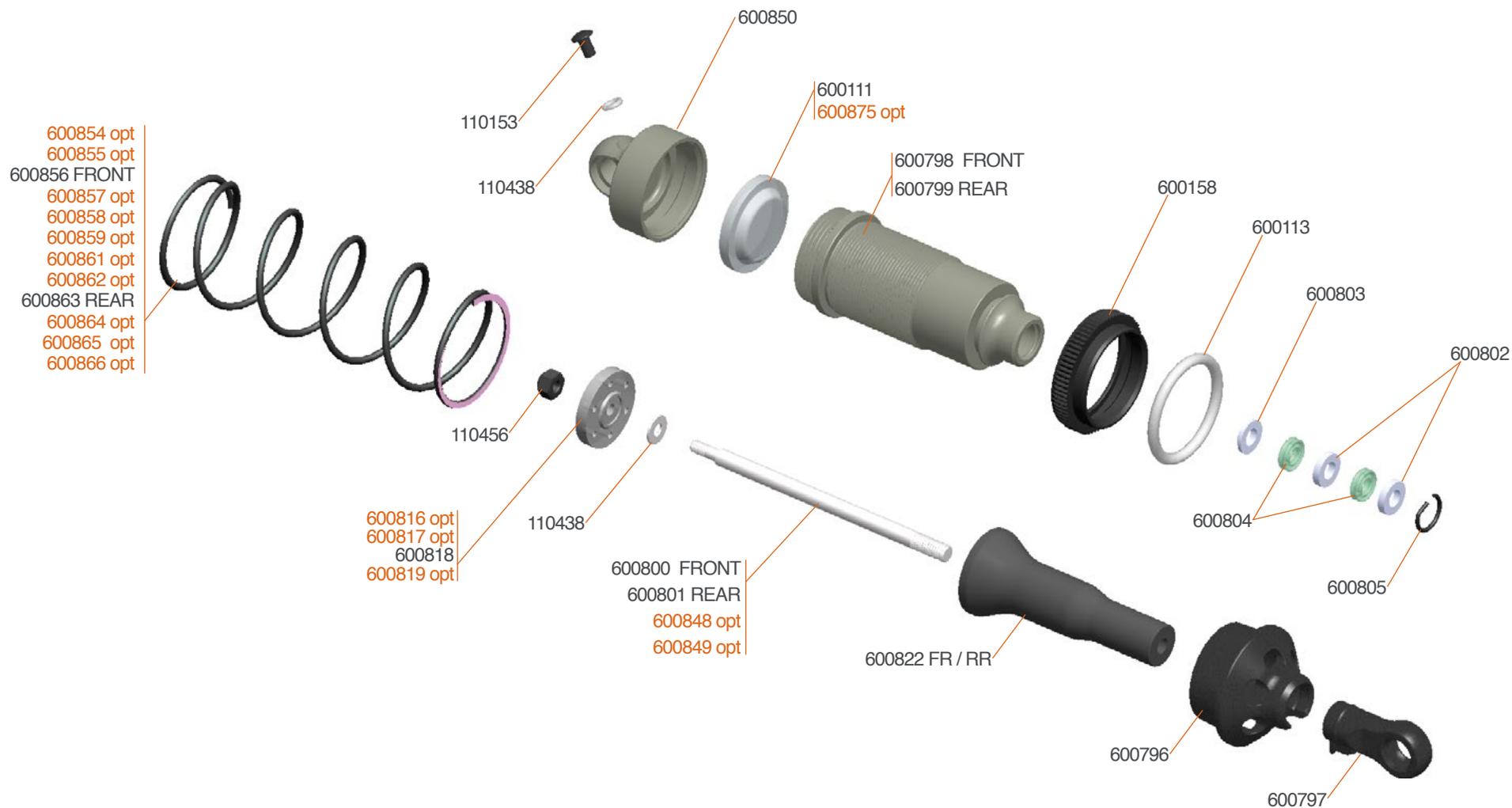
600955 Driveshaft center rr alu block layout SRX8E

600959 Saddle pack layout set SRX8E





- OPT** 600952 Servo lever alu 23T SRX8E
- 600953 Servo lever alu 24T SRX8E
- 600954 Servo lever alu 25T SRX8E



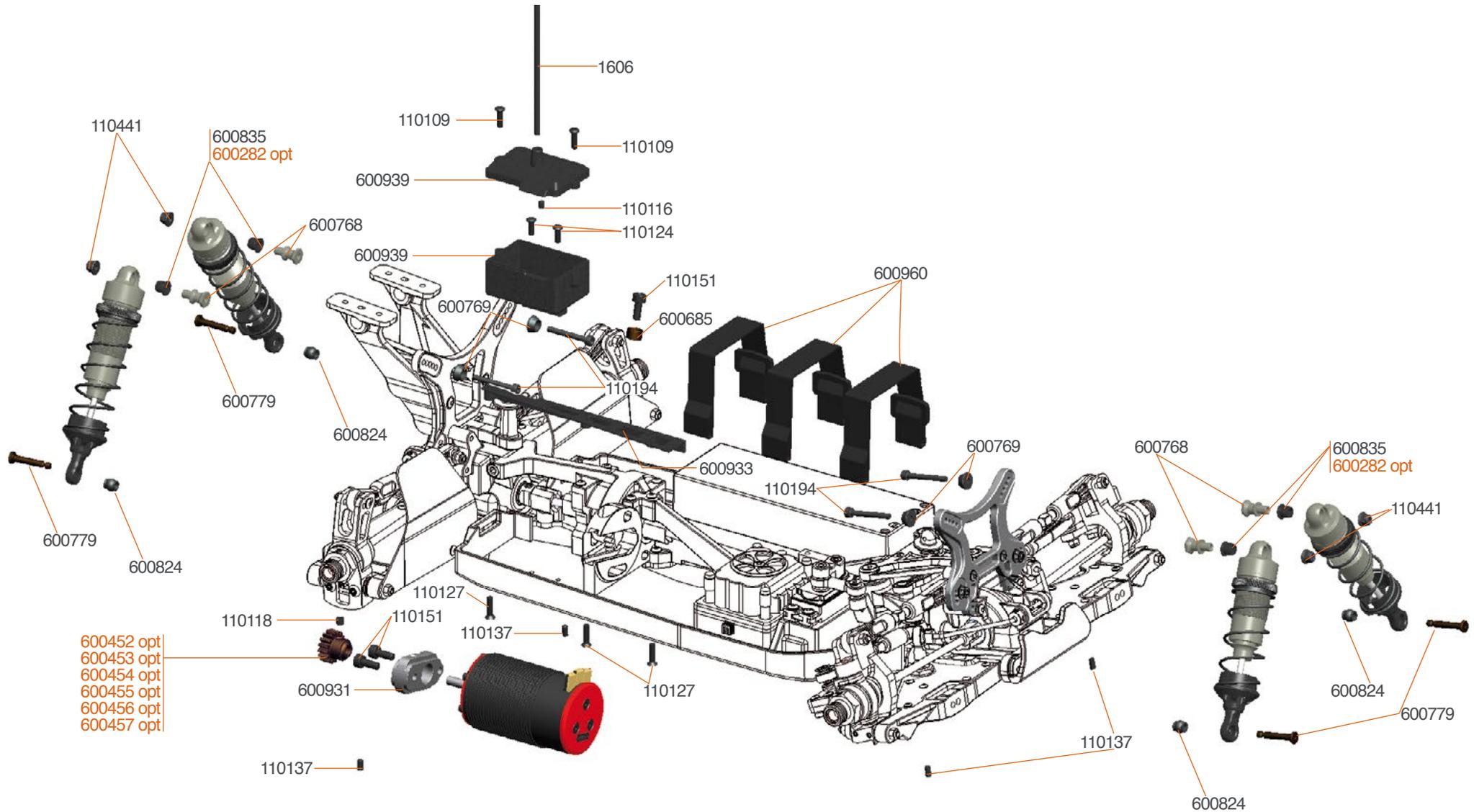
600854 Shockspring FR 4.5 lbs orange (2)
600855 Shockspring FR 4.7 lbs red (2)
600857 Shockspring FR 5.1 lbs blue (2)
600858 Shockspring FR 5.3 lbs purple (2)
600859 Shockspring FR 5.5 lbs green (2)
600860 Shockspring set FR (6x2)

600861 Shockspring RR 3.0 lbs orange (2)
600862 Shockspring RR 3.2 lbs red (2)
600864 Shockspring RR blue 3.6lbs (2)
600865 Shockspring RR 3.8 lbs purple (2)
600866 Shockspring RR 4.0 lbs green (2)
600867 Shockspring set RR (6x2)

600357 Membrane webbed silicone (4)
600816 Shock piston blank (4) SRX8
600817 Shock piston 5 holes (4) SRX8
600819 Shock piston 8 holes (4) SRX8
600848 Shock shaft FR TIN coated (2) SRX8
600849 Shock shaft RR TIN coated (2) SRX8

600870 Shock set Pro front (2) SRX8
600871 Shock set Pro rear (2) SRX8
600875 Shock top gasket (4) SRX8

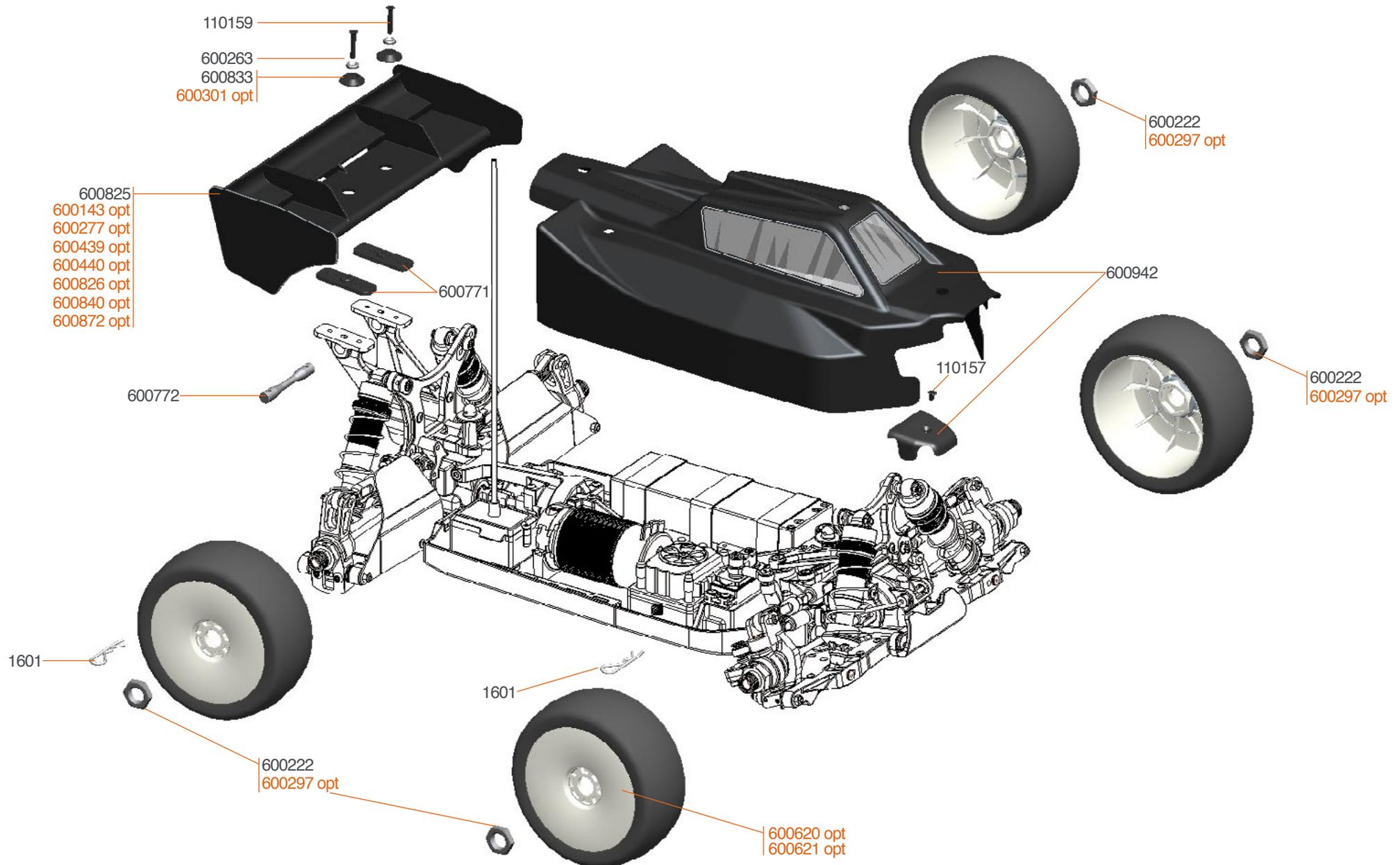




600282 Shock-pivot bushing delrin (4)
 600452 Pinion 12T
 600453 Pinion 13T

600454 Pinion 14T
 600455 Pinion 15T
 600456 Pinion 16T

600457 Pinion 17T
 600870 Shock set Pro front (2) SRX8
 600871 Shock set Pro rear (2) SRX8



OPT	600297 Wheel-nut 17mm flanged/light (4)	600439 Wing white low 811	600840 Wing lexan HD with gurney 1/8	600621 Rim 1/8 buggy Yellow (4)
	600143 Wing white nylon	600440 Wing black low 811	600872 Wing gurney	
	600277 Wing black nylon	600826 Wing straight MD white 1/8	600620 Rim 1/8 buggy White (4)	

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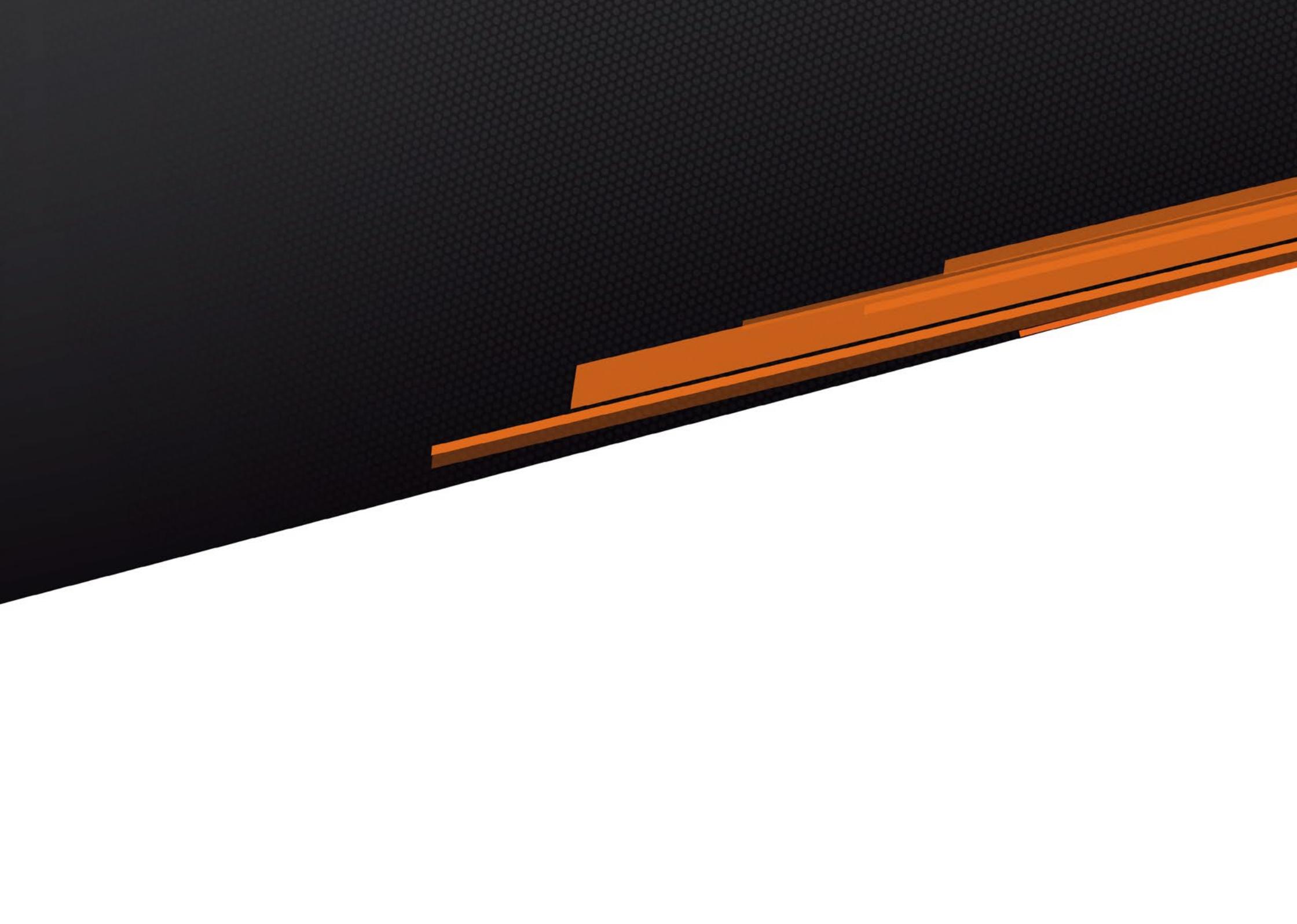
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