XRAY T3

1/10 LUXURY TOURING CAR

WORLD'S BEST LUXURY
PREMIUM QUALITY
PRESTIGE
PURE RACING DESIGN

25x USA NATIONAL CHAMPION
12x CAR OF THE YEAR
US SNOWBIRD Nationals WINNER '04-'05-'06-'07-'08-'09
IIC INTERNATIONAL INDOOR CHAMPION 05'-06'-07'-08'-09'
car action Reader's Choice Award
5x JUNIOR EUROPEAN CHAMPION
200+ NATIONAL CHAMPION TITLES

T3

INSTRUCTION MANUAL

XRAY

BEFORE YOU START

The T3 is a high-competition, high-quality, 1/10-scale touring car intended for persons aged 16 years and older with previous experience building and operating RC model racing cars. This is not a toy; it is a precision racing model. This model racing car is not intended for use by beginners, inexperienced customers, or by children without direct supervision of a responsible, knowledgeable adult. If you do not fulfill these requirements, please return the kit in unused and unassembled form back to the shop where you have purchased it.

Before building and operating your T3, YOU MUST read through all of the operating instructions and instruction manual and fully understand them to get the maximum enjoyment and prevent unnecessary damage. Read carefully and fully understand the instructions before beginning assembly.

Make sure you review this entire manual, the included set-up book, and examine all details carefully. If for some reason you decide The T3 is not what you wanted or expected, do not continue any further. Your hobby dealer cannot accept your T3 kit for return or exchange after it has been partially or fully assembled.

Contents of the box may differ from pictures. In line with our policy of continuous product development, the exact specifications of the kit may vary without prior notice.

CUSTOMER SUPPORT

We have made every effort to make these instructions as easy to understand as possible. However, if you have any difficulties, problems, or questions, please do not hesitate to contact the XRAY support team at info@teamxray.com. Also, please visit our Web site at www.teamxray.com to find the latest updates, set-up information, option parts, and many other goodies. We pride ourselves on taking excellent care of our customers.

You can join thousands of XRAY fans and enthusiasts in our online community at:
www.teamxray.com

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Failure to follow these instructions will be considered as abuse and/or neglect.

SAFETY PRECAUTIONS

Contains:
LEAD (CAS 7439-92-1) ANTIMONY (CAS 7440-36-0)
WARNING: This product contains a chemical known to the state of California to cause cancer and birth defects or other reproductive harm.
CAUTION: CANCER HAZARD
Contains lead, a listed carcinogen. Lead is harmful if ingested. Wash thoroughly after using. DO NOT use product while eating, drinking or using tobacco products. May cause chronic effects to gastrointestinal tract, CNS, kidneys, and blood. MAY CAUSE BIRTH DEFECTS.

When building, using and/or operating this model always wear protective glasses and gloves.

Take appropriate safety precautions prior to operating this model. You are responsible for this model's assembly and safe operation! Please read the instruction manual before building and operating this model and follow all safety precautions. Always keep the instruction manual at hand for quick reference, even after completing the assembly. Use only genuine and original authentic XRAY parts for maximum performance. Using any third party parts on this model will void guaranty immediately.

Improper operation may cause personal and/or property damage. XRAY and its distributors have no control over damage resulting from shipping, improper construction, or improper usage. XRAY assumes and accepts no responsibility for personal and/or property damages resulting from the use of improper building materials, equipment and operations. By purchasing any item produced by XRAY, the buyer expressly warrants that he/she is in compliance with all applicable federal, state and local laws and regulation regarding the purchase, ownership and use of the item. The buyer expressly agrees to indemnify and hold harmless XRAY for all claims resulting directly or indirectly from the purchase, ownership or use of the product. By the act of assembling or operating this product, the user accepts all resulting liability. If the buyer is not prepared to accept this liability, then he/she should return this kit in new, unassembled, and unused condition to the place of purchase.

IMPORTANT NOTES – GENERAL

- This product is not suitable for children under 16 years of age without the direct supervision of a responsible and knowledgeable adult.
- Carefully read all manufacturers warnings and cautions for any parts used in the construction and use of your model.
- Assemble this kit only in places away from the reach of very small children.
- First-time builders and users should seek advice from people who have building experience in order to assemble the model correctly and to allow the model to reach its performance potential.
- Exercise care when using tools and sharp instruments.
- Take care when building, as some parts may have sharp edges.
- Keep small parts out of reach of small children. Children must not be allowed to put any parts in their mouth, or pull vinyl bag over their head.
- Read and follow instructions supplied with paints and/or cement, if used (not included in kit).
- Immediately after using your model, do NOT touch equipment on the model such as the motor and speed controller, because they generate high temperatures. You may seriously burn yourself seriously touching them.
- Follow the operating instructions for the radio equipment at all times.
- Do not put fingers or any objects inside rotating and moving parts, as this may cause damage or serious injury as your finger, hair, clothes, etc. may get caught.
- Be sure that your operating frequency is clear before turning on or running your model, and never share the same frequency with somebody else at the same time. Ensure that others are aware of the operating frequency you are using and when you are using it.
- Use a transmitter designed for ground use with RC cars. Make sure that no one else is using the same frequency as yours in your operating area. Using the same frequency at the same time, whether it is driving, flying or sailing, can cause loss of control of the RC model, resulting in a serious accident.
- Always turn on your transmitter before you turn on the receiver in the car. Always turn off the receiver before turning your transmitter off.
- Keep the wheels of the model off the ground when checking the operation of the radio equipment.
- Disconnect the battery pack before storing your model.
- When learning to operate your model, go to an area that has no obstacles that can damage your model if your model suffers a collision.
- Remove any sand, mud, dirt, grass or water before putting your model away.
- If the model behaves strangely, immediately stop the model, check and clear the problem.
- To prevent any serious personal injury and/or damage to property, be responsible when operating all remote controlled models.
- The model car is not intended for use on public places and roads or areas where its operation can conflict with or disrupt pedestrian or vehicular traffic.
- Because the model car is controlled by radio, it is subject to radio interference from many sources that are beyond your control. Since radio interference can cause momentary loss of control, always allow a safety margin in all directions around the model in order to prevent collisions.
- Do not use your model:
  - Near real cars, animals, or people that are unaware that an RC car is being driven.
  - In places where children and people gather
  - In residential districts and parks
  - In limited indoor spaces
  - In wet conditions
  - In the street
  - In areas where loud noises can disturb others, such as hospitals and residential areas.
  - At night or anytime your line of sight to the model may be obstructed or impaired in any way.

To prevent any serious personal injury and/or damage to property, please be responsible when operating all remote controlled models.

IMPORTANT NOTES – ELECTRICAL

- Insulate any exposed electrical wiring (using heat shrink tubing or electrical tape) to prevent dangerous short circuits. Take maximum care in wiring, connecting and insulating cables. Make sure cables are always connected securely. Check connectors for if they become loose. And if so, reconnect them securely. Never use R/C models with damaged wires. A damaged wire is extremely dangerous, and can cause short-circuits resulting in fire. Please have wires repaired at your local hobby shop.
- Low battery power will result in loss of control. Loss of control can occur due to a weak battery in either the transmitter or the receiver. Weak running battery may also result in an out of control car if your car's receiver power is supplied by the running battery. Stop operation immediately if the car starts to slow down.
- When not using RC model, always disconnect and remove battery.
- Do not disassemble battery or cut battery cables. If the running battery short-circuits, approximately 300W of electricity can be discharged, leading to fire or burns. Never disassemble battery or cut battery cables.
- Use a recommended charger for the receiver and transmitter batteries and follow the instructions correctly. Over-charging, incorrect charging, or using inferior chargers can cause the batteries to become dangerously hot. Recharge battery when necessary. Continual recharging may damage battery and, in the worst case, could build up heat leading to fire. If battery becomes extremely hot during recharging, please ask your local hobby shop for check and/or repair and/or replacement.
- Regularly check the charger for potential hazards such as damage to the cable, plug, casing or other defects. Ensure that any damage is rectified before using the charger again. Modifying the charger may cause short-circuit or overcharging leading to a serious accident. Therefore do not modify the charger.
- Always unplug charger when recharging is finished.
- Do not recharge battery while battery is still warm. After use, battery retains heat. Wait until it cools down before charging.
- Do not allow any metal part to short circuit the receiver batteries or other electrical/electronic device on the model.
- Immediately stop running if your RC model gets wet as may cause short circuit.
- Please dispose of batteries responsibly. Never put batteries into fire.

R/C & BUILDING TIPS

- Make sure all fasteners are properly tightened. Check them periodically.
- Make sure that chassis screws do not protrude from the chassis.
- For the best performance, it is very important that great care is taken to ensure the free movement of all parts.
- Clean all ball-bearings so they move very easily and freely.
- Tap or pre-thread the plastic parts when threading screws.
- Self-tapping screws cut threads into the parts when being tightened. Do not use excessive force when tightening the self-tapping screws because you may strip out the thread in the plastic. We recommended you stop tightening a screw when you feel some resistance.
- Ask your local hobby shop for any advice.

Please support your local hobby shop. We at XRAY Model Racing Cars support all local hobby dealers. Therefore we ask you, if at all possible, to purchase XRAY products at your hobby dealer and give them your support like we do. If you have difficulty finding XRAY products, please check out www.teamxray.com to get advice, or contact us via email at info@teamxray.com, or contact the XRAY distributor in your country.

WARRANTY

XRAY guarantees this model kit to be free from defects in both material and workmanship within 30 days of purchase. The total monetary value under warranty will in no case exceed the cost of the original kit purchased. This warranty does not cover any components damaged by use or modification or as a result of wear. Part or parts missing from this kit must be reported within 30 days of purchase. No part or parts will be sent under warranty without proof of purchase. Should you find a defective or missing part, contact the local distributor. Service and customer support will be provided through local hobby store where you have purchased the kit, therefore make sure to purchase any XRAY products at your local hobby store. This model racing car is considered to be a high-performance racing vehicle. As such this vehicle will be used in an extreme range of conditions and situations, all which may cause premature wear or failure of any component. XRAY has no control over usage of vehicles once they leave the dealer, therefore XRAY can only offer warranty against all manufacturer's defects in materials, workmanship, and assembly at point of sale and before use. No warranties are expressed or implied that cover damage caused by what is considered normal use, or cover or imply how long any model cars' components or electronic components will last before requiring replacement.

Due to the high performance level of this model car you will need to periodically maintain and replace consumable components. Any and all warranty coverage will not cover replacement of any part or component damaged by neglect, abuse, or improper or unreasonable use. This includes but is not limited to damage from crashing, chemical and/or water damage, excessive moisture, improper or no maintenance, or user modifications which compromise the integrity of components. Warranty will not cover components that are considered consumable on RC vehicles. XRAY does not pay nor refund shipping on any component sent to XRAY or its distributors for warranty. XRAY reserves the right to make the final determination of the warranty status of any component or part.

Limitations of Liability

XRAY makes no other warranties expressed or implied. XRAY shall not be liable for any loss, injury or damages, whether direct, indirect, special, incidental, or consequential, arising from the use, misuse, or abuse of this product and/or any product or accessory required to operate this product. In no case shall XRAY's liability excess the monetary value of this product.

Take adequate safety precautions prior to operating this model. You are responsible for this model's assembly and safe operation.

Disregard of the any of the above cautions may lead to accidents, personal injury, or property damage. XRAY MODEL RACING CARS assumes no responsibility for any injury, damage, or misuse of this product during assembly or operation, nor any addictions that may arise from the use of this product.

QUALITY CERTIFICATE

XRAY MODEL RACING CARS uses only the highest quality materials, the best compounds for molded parts and the most sophisticated manufacturing processes of TQM (Total Quality Management). We guarantee that all parts of a newly-purchased kit are manufactured with the highest regard to quality. However, due to the many factors inherent in model racecar competition, we cannot guarantee any parts once you start racing the car. Products which have been worn out, abused, neglected or improperly operated will not be covered under warranty.
We wish you enjoyment of this high-quality and high-performance RC car and wish you best success on the track!

In line with our policy of continuous product development, the exact specifications of the kit may vary. In the unlikely event of any problems with your new kit, you should contact the model shop where you purchased it, quoting the part number.

CONTENTS

SYMBOLS USED

Part bags used

Assemble in the specified order

Assemble left and right sides the same way

Pay attention here

Assemble as many times as specified (here twice)

Apply thread lock

Apply CA glue

Apply oil

Apply grease

Use pliers

Ensure smooth non-binding movement

Tighten screw gently

CORRECT

WRONG

Overtightened

The threads are stripped.

Follow Set-Up Book

TOOLS REQUIRED

HUDY TOOLS: Allen: 1.5mm, 2.0mm, 3.0mm
Socket: 5.5mm, 7.0mm

Combination Pliers (HUDY #189020)

Snap Ring Pliers (HUDY #189040)

Side Cutters (HUDY #189010)

Hobby Knife

Scissors (HUDY #188990)

Turnbuckle 3mm, 4mm (HUDY #181030, HUDY #181040)

Reamer (HUDY #107600)

EQUIPMENT INCLUDED

XRAY Premium Silicone Oil 350cSt (#359235)

Diff. Grease (HUDY #106211)

Graphite Grease (HUDY #106210)

EQUIPMENT REQUIRED

Transmitter

Receiver

Steering Servo

Electric Motor & Pinion Gear and Setscrew

Bearing Oil (HUDY #106230)

Speed Controller

190mm Bodyshell

5-cell or 6-cell Battery Pack (Inline)

Lexan Paint

Battery Charger

Fibre Tape (HUDY #107870) Double-sided Tape

Wheels & Tires & Inserts

COLOR INDICATIONS

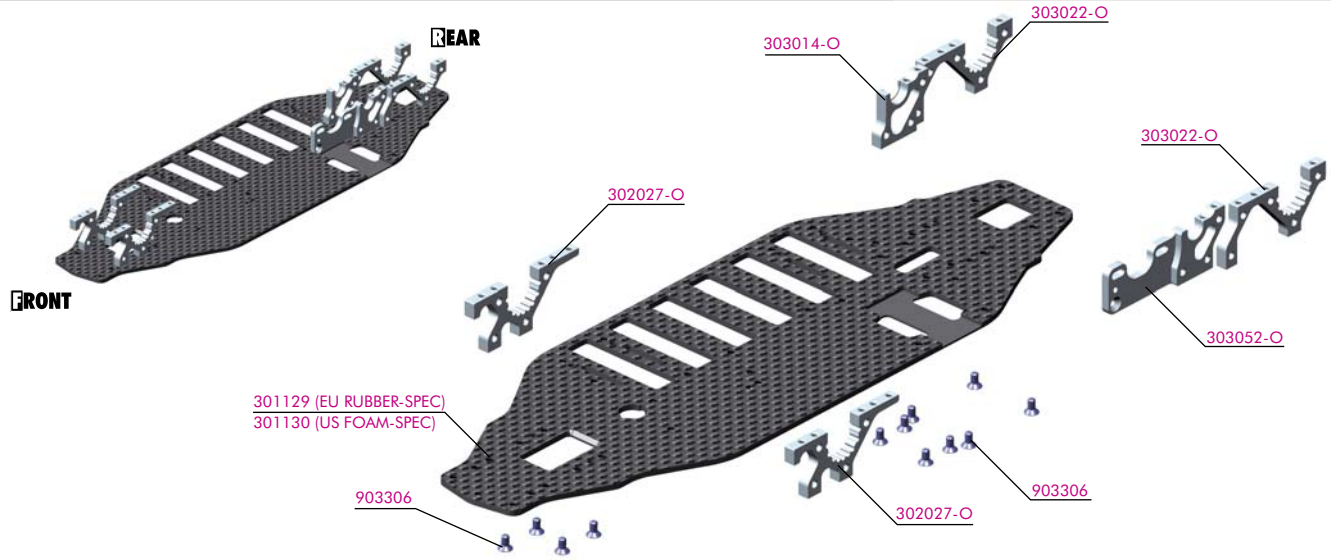
At the beginning of each section is an exploded view of the parts to be assembled. There is also a list of all the parts and part numbers that are related to the assembly of that section.

The part descriptions are color-coded to make it easier for you to identify the source of a part. Here are what the different colors mean:

STYLE A - indicates parts that are included in the bag marked for the section.

STYLE B - indicates parts that were set aside in Section 0.

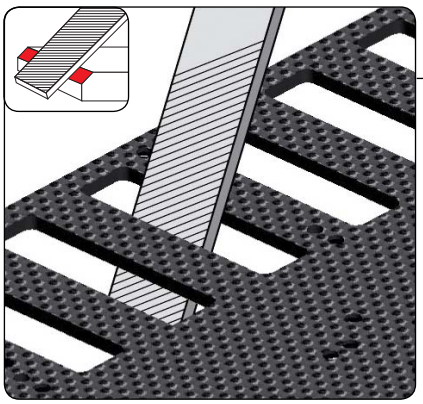
STYLE C - indicates parts that are already assembled from previous steps.

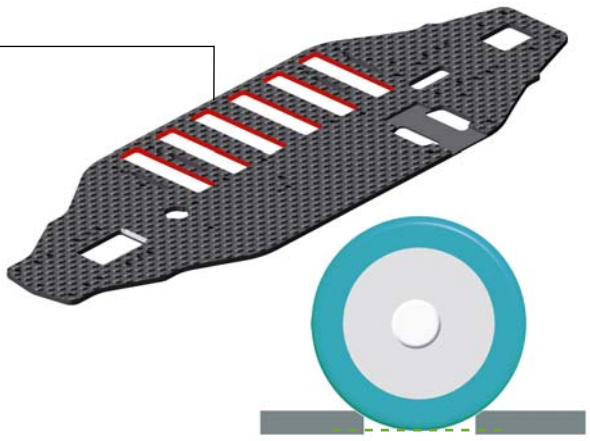


KIT

30 1129	T3 CHASSIS GRAPHITE - 6-CELL - RUBBER-SPEC	30 3022-O	T3 ALU REAR LOWER SUSP. ADJUST. BULKHEAD - ORANGE
30 1130	T3 CHASSIS GRAPHITE - 6-CELL - FOAM-SPEC	30 3052-O	T3 ALU MOTOR MOUNT BULKHEAD - ORANGE
30 2027-O	T3 ALU FRONT LOWER SUSP. ADJUST. BULKHEAD - ORANGE		
30 3014-O	T3 ALU RIGHT LAYSHAFT BULKHEAD - ORANGE	90 3306	HEX SCREW SFH M3x6 (10)

The XRAY T3 comes partially pre-assembled. Before starting assembly, disassemble the chassis parts, noting the position and orientation of the parts, particularly the bulkheads. Keep the parts, including the screw hardware, close at hand. In the assembly steps that follow, each section begins with a parts list. Parts indicated with STYLE B are from the previously disassembled chassis parts in section 0.

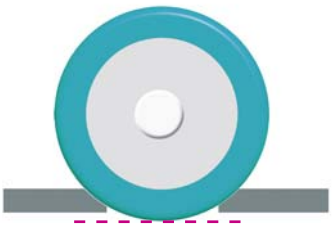




Lightly file edges of battery slots to remove sharp edges.
Please note that the US Foam-Spec 3.0mm Thick Chassis requires the battery slots to be filed more than the standard 2.5mm thick chassis.

Do not file battery slots too much, or batteries may protrude below the chassis bottom.

CORRECT ✓

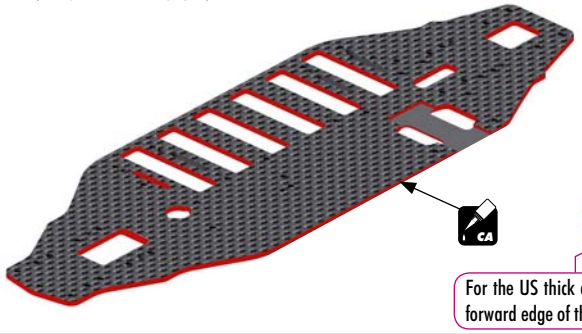


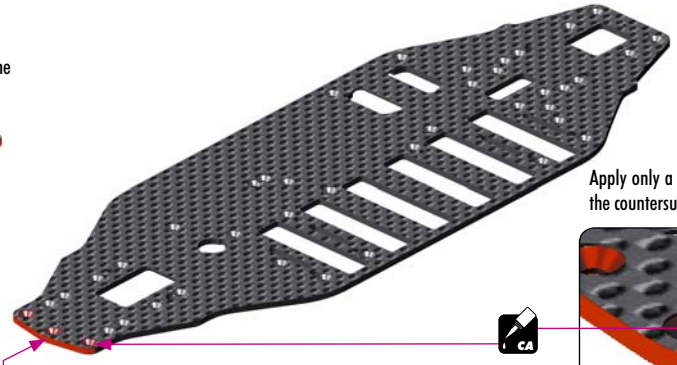
INCORRECT ✗

To protect and seal edges of graphite parts, sand edges smooth and then apply CA glue.

Do this for: chassis edges; filed battery slots, countersunk holes for front bumper screws.

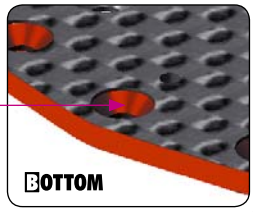
For the US extra-thick chassis, we recommend rounding the bottom forward edge of the chassis (using a file or sandpaper).



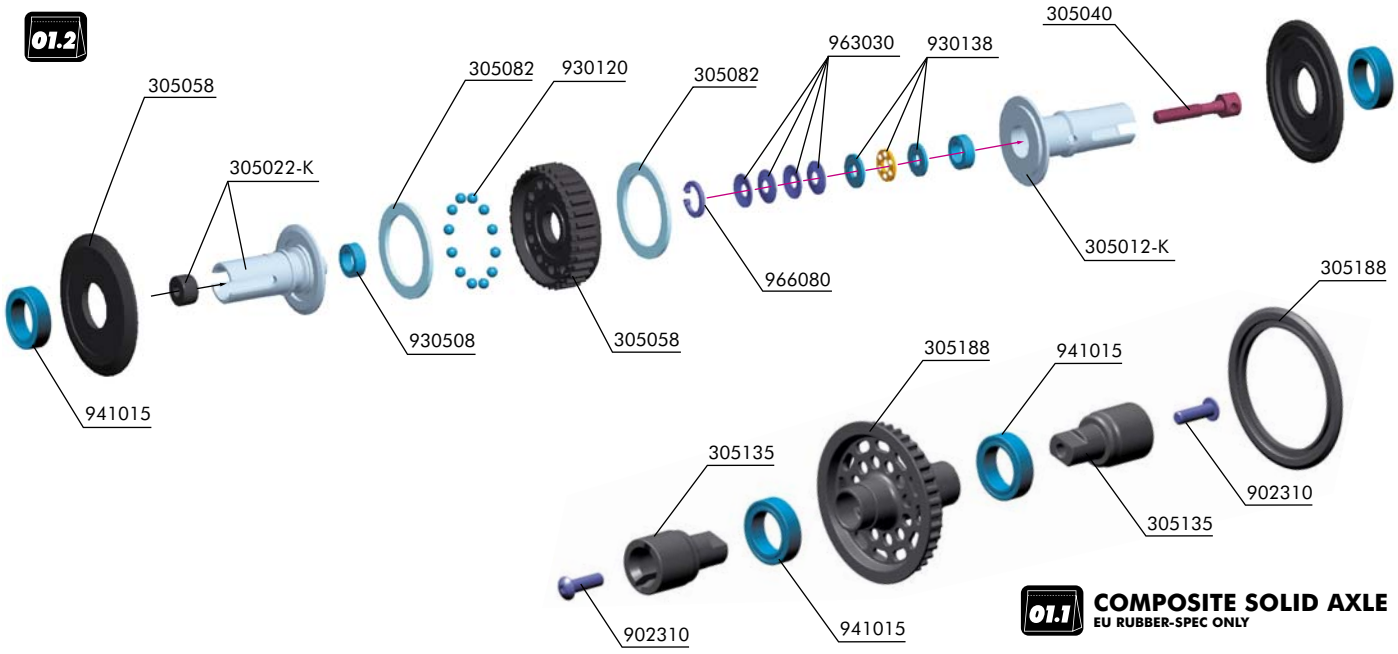


For the US thick chassis, we recommend rounding the bottom forward edge of the chassis (using a file or sandpaper).

Apply only a bit of CA glue on the countersunk holes



1. ALU BALL DIFF. & FRONT SOLID AXLE



BAG

01.1

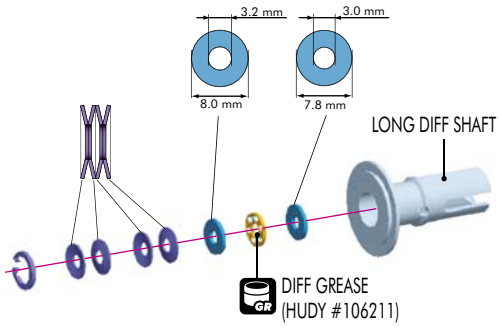
01.2

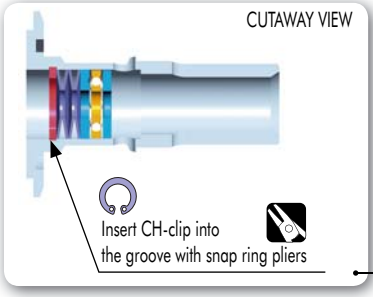
30 5003	ALU BALL DIFFERENTIAL 34T + 38T PULLEY - 7075 T6 - SET	30 5188	COMPOSITE SOLID AXLE 38T - SET
30 5012-K	ALU T6 DIFF LONG OUTPUT SHAFT - HARD COATED - BLACK		
30 5022-K	ALU T6 DIFF SHORT OUTPUT SHAFT - HARD COATED - BLACK	90 2310	HEX SCREW SH M3x10 (10)
30 5040	SCREW FOR EXTERNAL DIFF ADJUSTMENT - SPRING STEEL	93 0120	CARBIDE BALL 2.4 MM (12)
30 5058	DIFF PULLEY 38T WITH LABYRINTH DUST COVERS	93 0138	CARBIDE BALL-BEARING AXIAL F3-8 3x8x3.5
30 5082	DIFF WASHER 17 x 23 x 1 (2)	93 0508	BALL-BEARING MR85ZZ 5x8x2.5 (2)
30 5104	XRAY MULTI-DIFF™ (OPTION)	94 1015	HIGH-SPEED BALL-BEARING 10x15x4 RUBBER SEALED (2)
30 5135	COMPOSITE SOLID AXLE DRIVESHAFT ADAPTERS (2)	96 3030	CONE WASHER ST 3x8x0.5 (10)
30 5136	ALU SOLID AXLE DRIVESHAFT ADAPTERS (2) (OPTION)	96 6080	CH-CLIP 8 (10)

966080
C 8

963030
ST 3x8

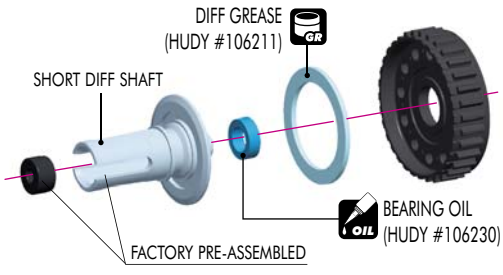
930138
BA 3x8



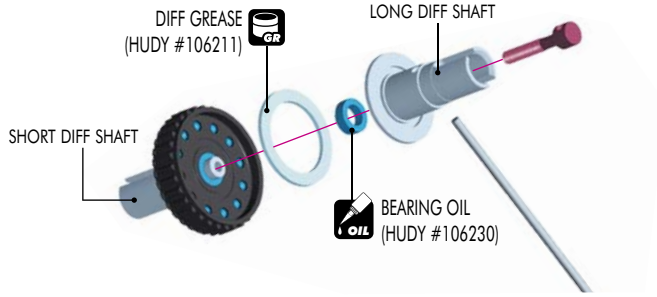


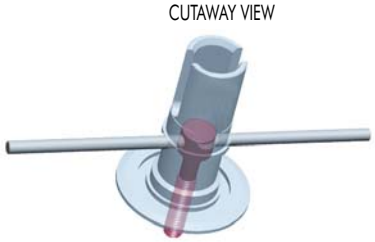
930508
BB 5x8

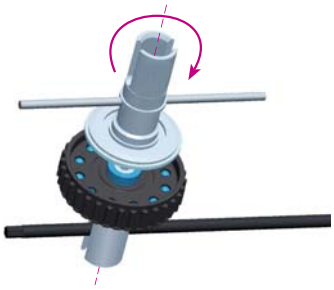
930120
B 2.4

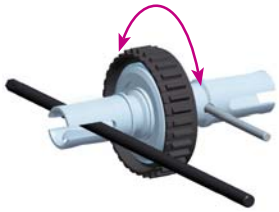


930508
BB 5x8

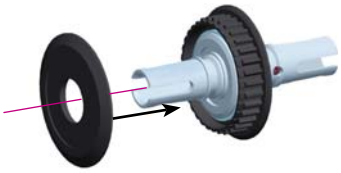


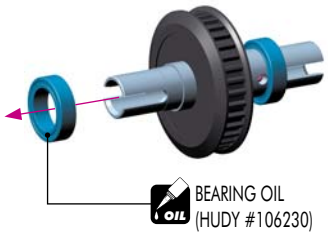






DO NOT TIGHTEN THE DIFF COMPLETELY
THE DIFF MUST BE BROKEN IN PROPERLY !

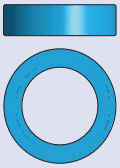




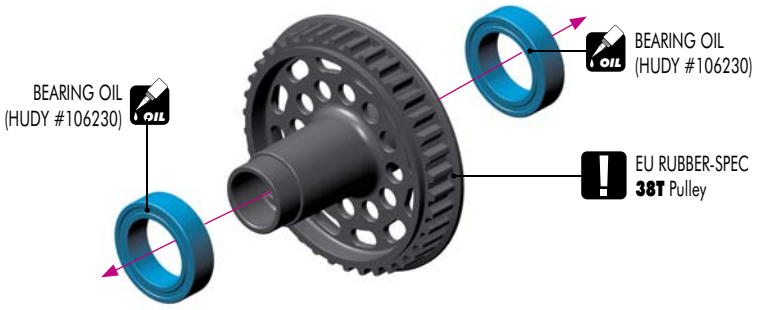
IMPORTANT: When you build the differential, do not tighten it fully initially; the differential needs to be broken in properly. When you build the diff tighten it very gently. When you put the diff in the car and complete the assembly, run the car for a few minutes, tighten the diff a little bit, and then recheck the diff. Repeat this process several times until you have the diff tightened to the point you want it. Final adjustments should ALWAYS be made with the diff in the car and on the track.

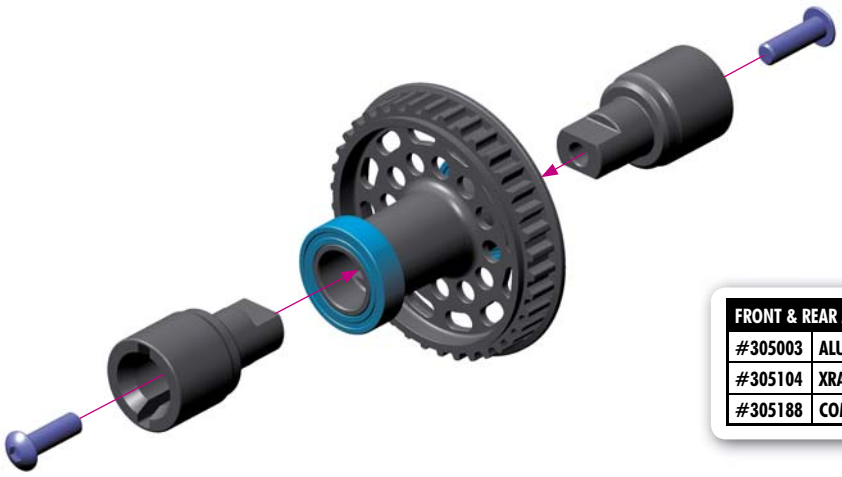
COMPOSITE FRONT SOLID AXLE (EU RUBBER-SPEC ONLY)

902310
SH M3x10



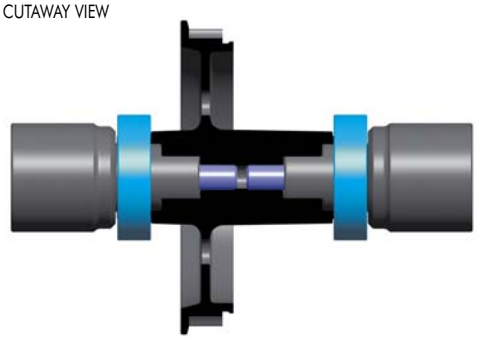
941015
BB 10x15x4





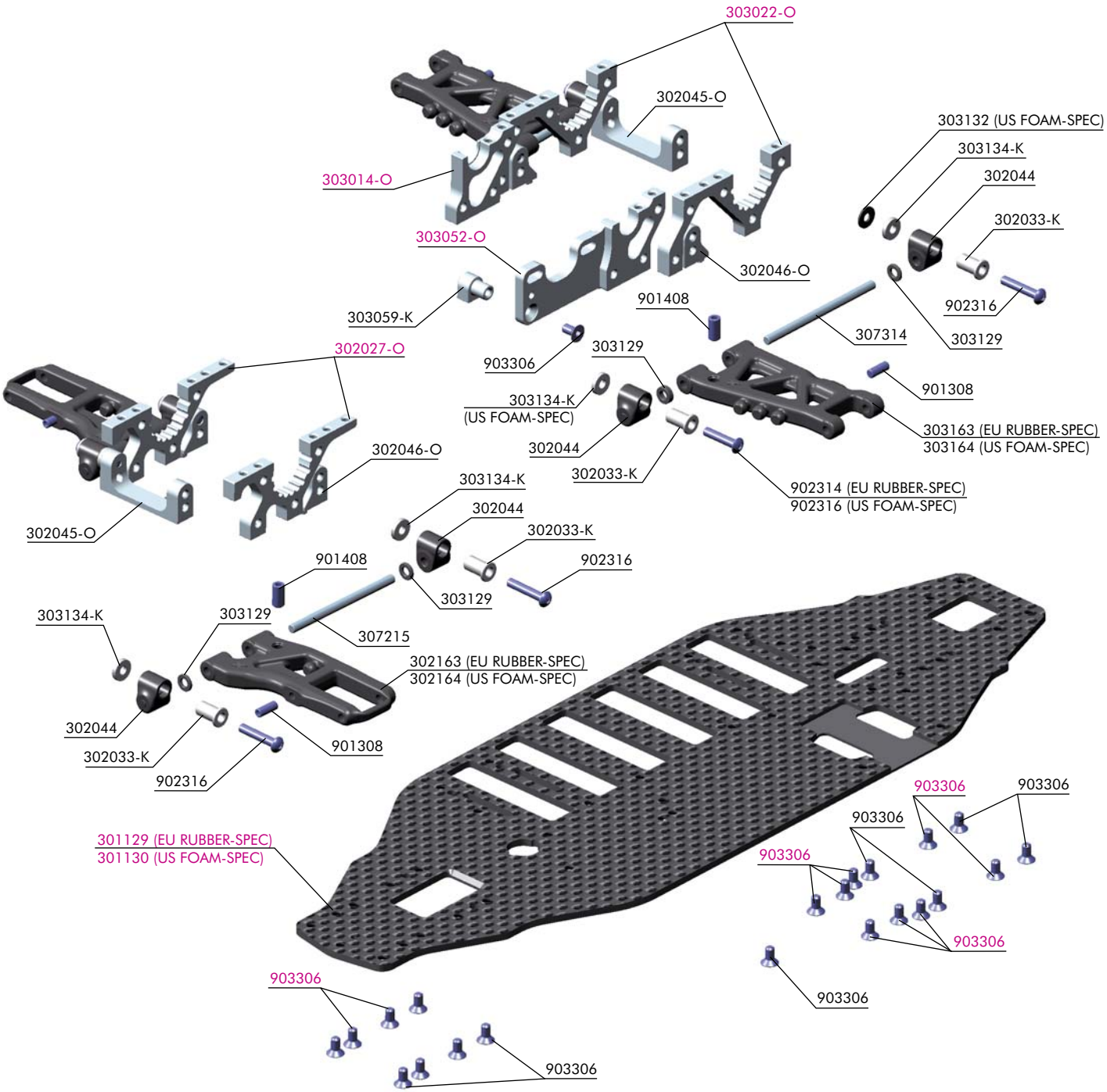
FRONT & REAR AXLES	
#305003	ALU DIFF 34T + 38T PULLEY
#305104	XRAY ALU MULTI-DIFF™
#305188	COMPOSITE SOLID AXLE 38T PULLEY

CUTAWAY VIEW



SET-UP BOOK
FRONT & REAR AXLES

2. FRONT & REAR SUSPENSION

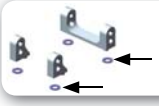


BAG 02

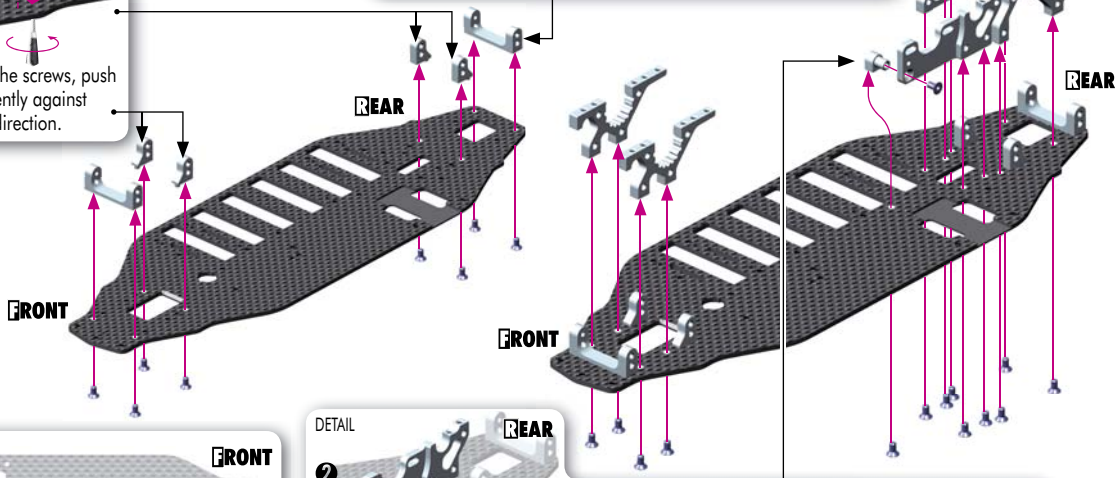
30 2033-K	ALU NUT FOR SUSPENSION HOLDER - BLACK (2)	90 1308	HEX SCREW SB M3x8 (10)
30 2044	LOWER SUSPENSION HOLDERS (2+2+2)	90 1408	HEX SCREW SB M4x8 (10)
30 2045-O	T3 ALU LOWER SUSPENSION BLOCK - ORANGE	90 2314	HEX SCREW SH M3x14 (10)
30 2046-O	T3 ALU LOWER SUSPENSION HOLDER - ORANGE	90 2316	HEX SCREW SH M3x16 (10)
30 2163	FRONT SUSPENSION ARM - HARD - RUBBER-SPEC - 1-HOLE	90 3306	HEX SCREW SFH M3x6 (10)
30 2164	FRONT SUSPENSION ARM - EXTRA-HARD - FOAM-SPEC - 1-HOLE		
30 3059-K	T3 MOTOR BULKHEAD HOLDER - BLACK	30 1129	T3 CHASSIS 2.5MM GRAPHITE - 6-CELL - RUBBER-SPEC
30 3129	COMPOSITE SET OF WHEELBASE SHIMS (3x1MM; 1x2MM) (2)	30 1130	T3 CHASSIS 3.0MM GRAPHITE - 6-CELL - FOAM-SPEC
30 3132	STEEL SHIM FOR LOWER SUSP. HOLDER 3x7.5x0.75 (10)	30 2027-O	T3 ALU FRONT LOWER SUSP. ADJUST. BULKHEAD - ORANGE
30 3134-K	ALU SHIM FOR LOWER SUSP. HOLDER 3x7.5x1.5 - BLACK (10)	30 3014-O	T3 ALU RIGHT LAYSHAFT BULKHEAD - ORANGE
30 3163	REAR SUSPENSION ARM - HARD - RUBBER-SPEC - 1-HOLE - V2	30 3022-O	T3 ALU REAR LOWER SUSP. ADJUST. BULKHEAD - ORANGE
30 3164	REAR SUSPENSION ARM - EXTRA-HARD - FOAM-SPEC - 1-HOLE - V2	30 3052-O	T3 ALU MOTOR MOUNT BULKHEAD - ORANGE
30 7215	T2 FRONT SUSPENSION PIVOT PIN (2)	90 3306	HEX SCREW SFH M3x6 (10)
30 7314	T2'008 REAR SUSPENSION PIVOT PIN (2)		

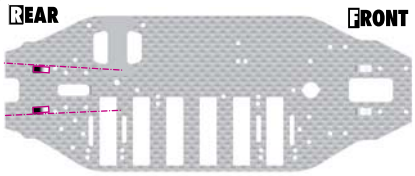
903306
SFH M3x6

When tightening the screws, push the alu holders gently against screw tightening direction.

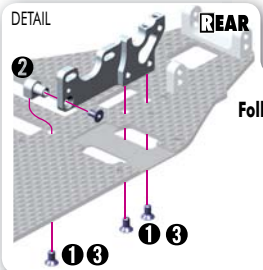


OPTIONAL FINE ROLL-CENTER ADJUSTMENT
Optional shims may be used for raising roll center.
Use 3x7 shims with thicknesses between 0.1–0.5mm





The rear aluminum holders have integrated rear toe-in (approximately 1° rear toe-in).



Follow these steps when assembling the motor mount bulkhead:

❶ Mount the screws on the motor bulkhead but do NOT tighten them fully.
❷ Mount the motor bulkhead holder to the motor bulkhead using M3x6 screw. Tighten fully.
❸ Tighten fully all screws from the bottom of the chassis.

901308
SB M3x8

901408
SB M4x8

REAR ARMS

OPTIONAL 2-HOLE REAR ARMS

inner position - more rear traction
outer position - more stable
Use the inner position for initial setting.

OPTIONAL REAR ARMS - 2-HOLE	
#303165	EU RUBBER-SPEC - HARD (H)
#303166	US FOAM-SPEC - EXTRA-HARD (XH)

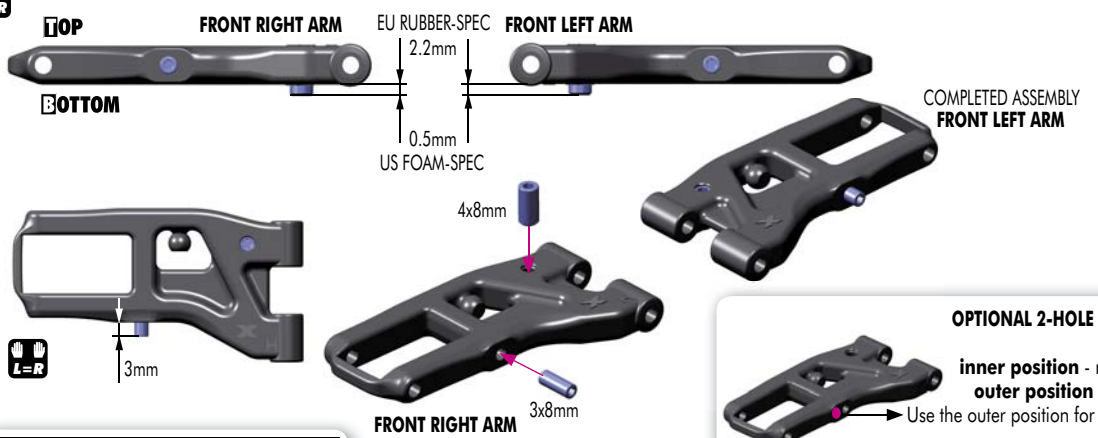
REAR ARMS	
#303163	EU RUBBER-SPEC - HARD (H)
#303164	US FOAM-SPEC - EXTRA-HARD (XH)

SET-UP BOOK
REAR DOWNSTOP ADJUSTMENT

901308
SB M3x8

901408
SB M4x8

FRONT ARMS



OPTIONAL 2-HOLE FRONT ARMS

inner position - more steering
outer position - more stable
Use the outer position for initial setting.

FRONT ARMS	
#302163	EU RUBBER-SPEC - HARD (H)
#302164	US FOAM-SPEC - EXTRA-HARD (XH)

OPTIONAL FRONT ARMS - 2-HOLE	
#302165	EU RUBBER-SPEC - HARD (H)
#302166	US FOAM-SPEC - EXTRA-HARD (XH)

SET-UP BOOK
FRONT DOWNSTOP ADJUSTMENT

2. FRONT & REAR SUSPENSION

303129
SHIM 3x6x1

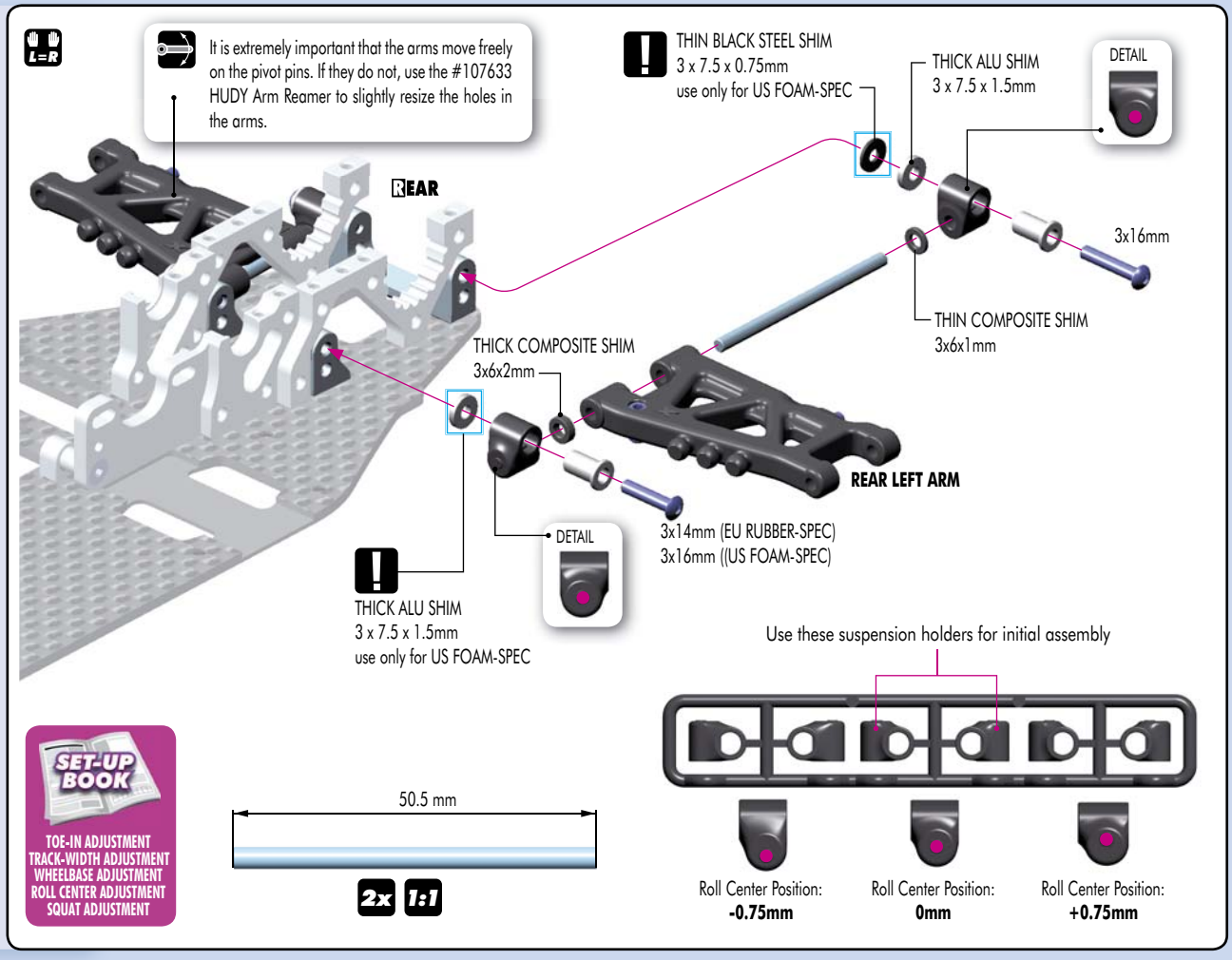
303129
SHIM 3x6x2

303132
SHIM 3x7.5x0.75

303134-K
SHIM 3x7.5x1.5

902314
SH M3x14

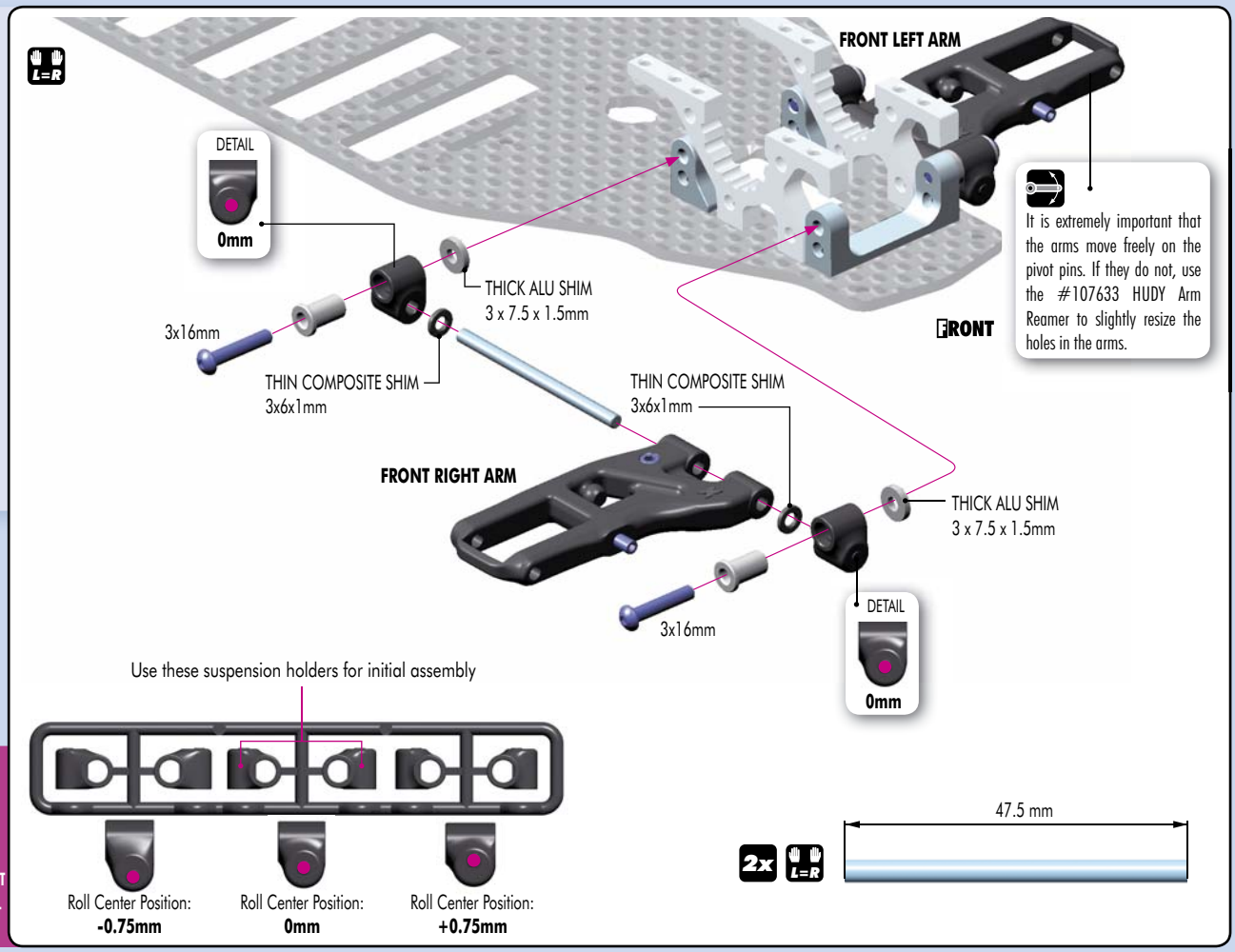
902316
SH M3x16

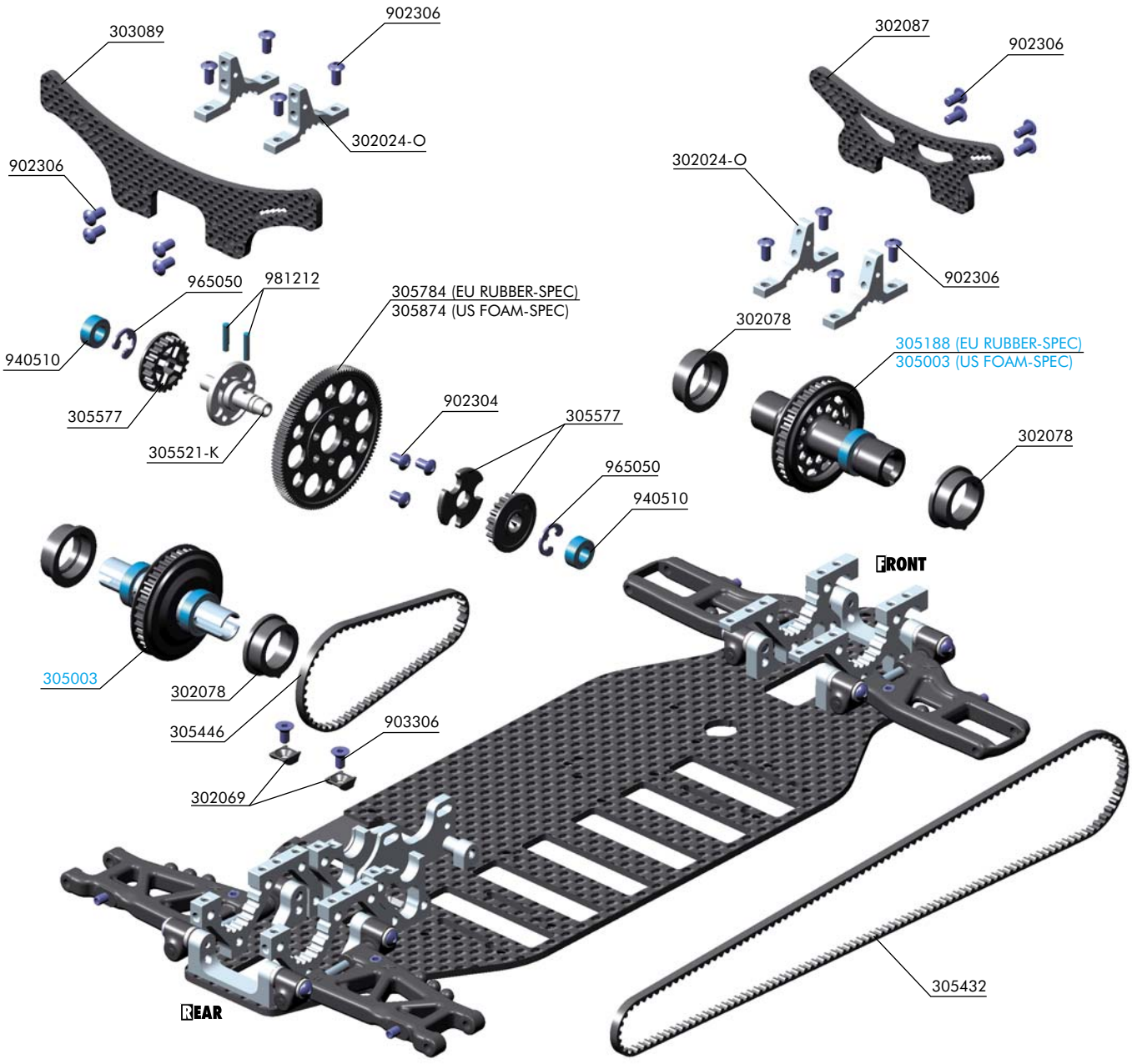


303129
SHIM 3x6x1

303134-K
SHIM 3x7.5x1.5

902316
SH M3x16





BAG 03

30 2024-O	T3 ALU UPPER CLAMP FOR BULKHEADS - ORANGE
30 2069	T3 COMPOSITE LAYSHAFT BEARING SUPPORT SHIM (2)
30 2077	SET OF COMPOSITE HUBS +1MM FOR BULKHEADS (4+2) (OPTION)
30 2078	SET OF COMPOSITE HUBS FOR BULKHEADS (4+2)
30 2087	SHOCK TOWER FRONT 3.0MM GRAPHITE - V2
30 3089	T3 SHOCK TOWER REAR 3.0MM GRAPHITE
30 5432	HIGH-PERFORMANCE KEVLAR DRIVE BELT FRONT 3 x 513 MM
30 5446	HIGH-PERFORMANCE KEVLAR DRIVE BELT REAR 3 x 189 MM
30 5521-K	ALU SOLID LAYSHAFT - BLACK
30 5577	COMPOSITE FIXED PULLEY 20T (2)
30 5778	OFFSET SPUR GEAR 78T / 48 (OPTION)
30 5781	OFFSET SPUR GEAR 81T / 48 (OPTION)
30 5784	SPUR GEAR 84T / 48
30 5787	SPUR GEAR 87T / 48 (OPTION)
30 5874	OFFSET SPUR GEAR 104T / 64
30 5876	OFFSET SPUR GEAR 106T / 64 (OPTION)
30 5878	OFFSET SPUR GEAR 108T / 64 (OPTION)
30 5880	OFFSET SPUR GEAR 110T / 64 (OPTION)
30 5882	OFFSET SPUR GEAR 112T / 64 (OPTION)
30 5884	OFFSET SPUR GEAR 114T / 64 (OPTION)
30 5886	OFFSET SPUR GEAR 116T / 64 (OPTION)
90 2304	HEX SCREW SH M3x4 - STAINLESS (10)
90 2306	HEX SCREW SH M3x6 (10)
90 3306	HEX SCREW SFH M3x6 (10)
94 0510	HIGH-SPEED BALL-BEARING 5x10x4 RUBBER SEALED (2)
96 5050	E-CLIP 5 (10)
98 1212	PIN 2x12 (10)
30 5003	ALU BALL DIFFERENTIAL 34T + 38T PULLEY - 7075 T6 - SET
30 5188	COMPOSITE SOLID AXLE 38T - SET

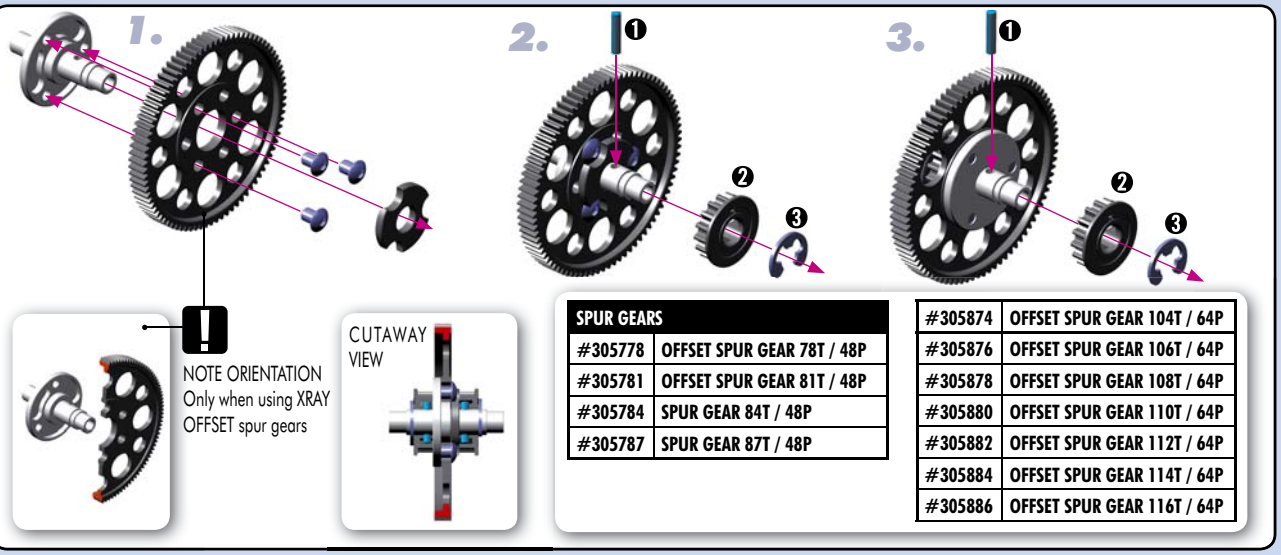
3. CENTRAL TRANSMISSION

902304
SH M3x4

965050
C5

981212
P 2x12

SET-UP BOOK
GEARING ADJUSTMENT

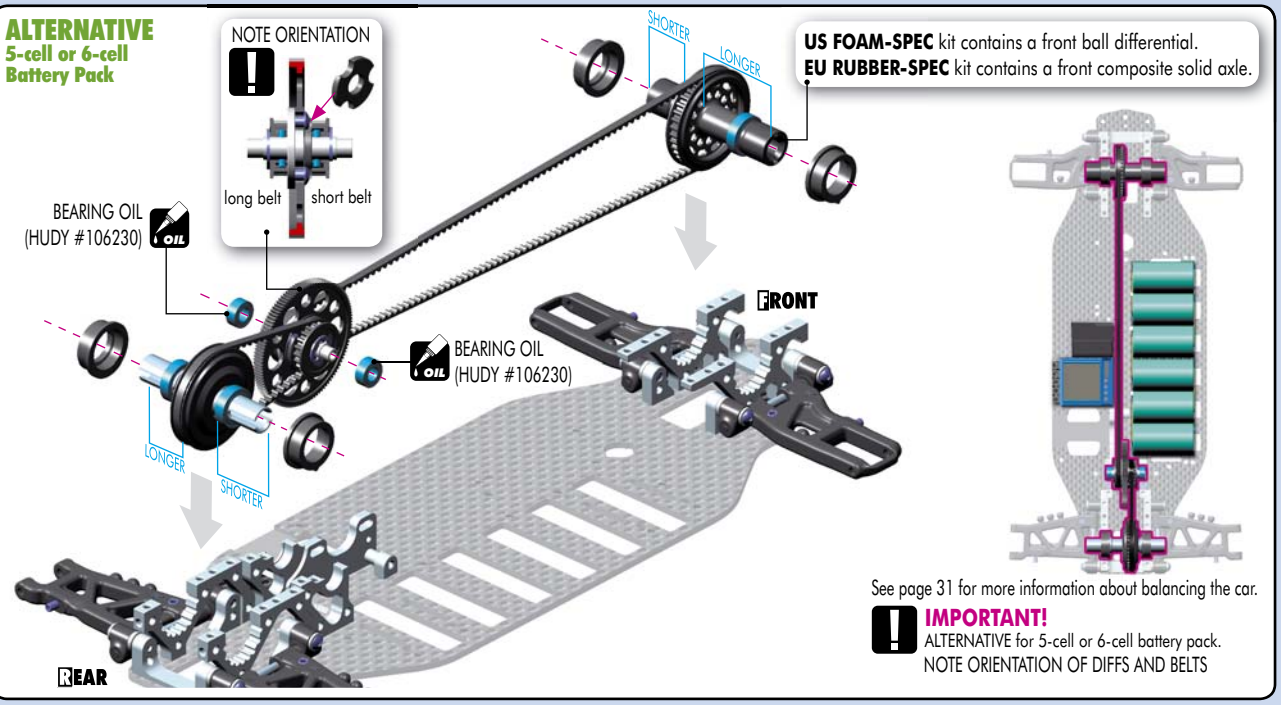


SPUR GEARS	
#305778	OFFSET SPUR GEAR 78T / 48P
#305781	OFFSET SPUR GEAR 81T / 48P
#305784	SPUR GEAR 84T / 48P
#305787	SPUR GEAR 87T / 48P

#305874	OFFSET SPUR GEAR 104T / 64P
#305876	OFFSET SPUR GEAR 106T / 64P
#305878	OFFSET SPUR GEAR 108T / 64P
#305880	OFFSET SPUR GEAR 110T / 64P
#305882	OFFSET SPUR GEAR 112T / 64P
#305884	OFFSET SPUR GEAR 114T / 64P
#305886	OFFSET SPUR GEAR 116T / 64P

940510
BB 5x10x4

ALTERNATIVE
5-cell or 6-cell Battery Pack



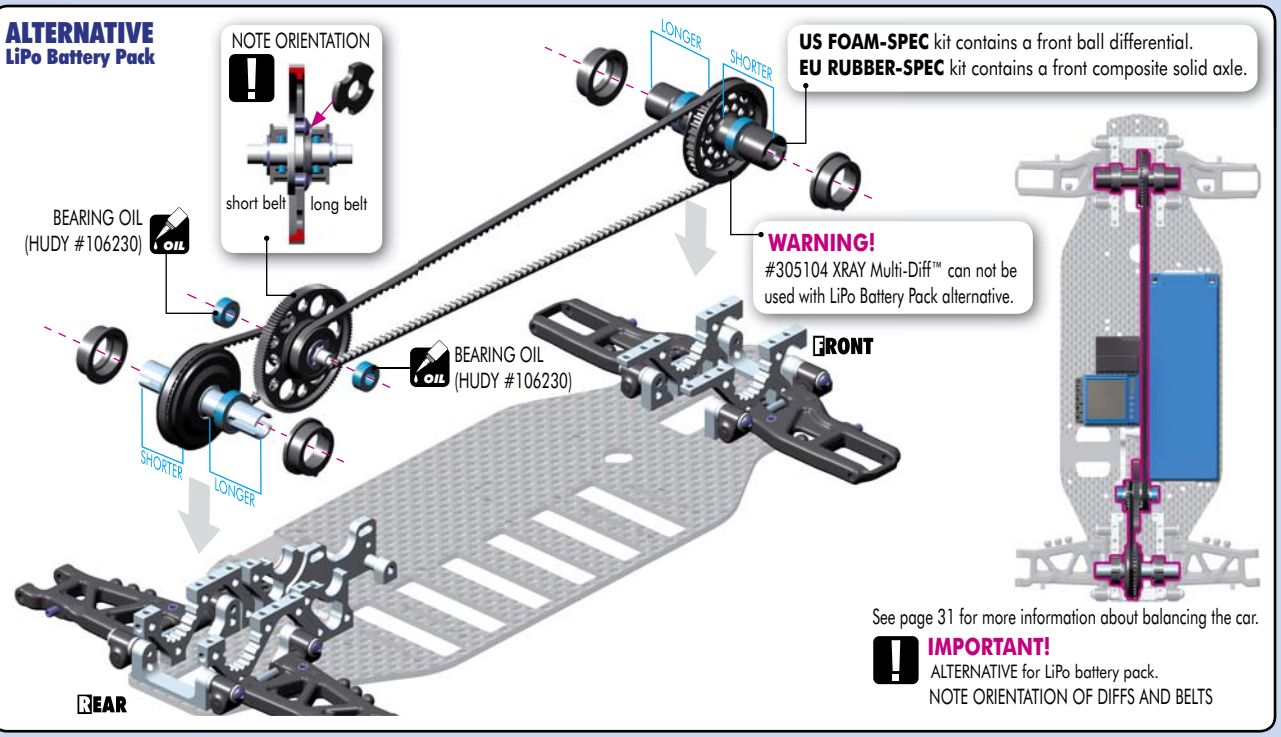
US FOAM-SPEC kit contains a front ball differential.
EU RUBBER-SPEC kit contains a front composite solid axle.

See page 31 for more information about balancing the car.

IMPORTANT!
ALTERNATIVE for 5-cell or 6-cell battery pack.
NOTE ORIENTATION OF DIFFS AND BELTS

940510
BB 5x10x4

ALTERNATIVE
LiPo Battery Pack



US FOAM-SPEC kit contains a front ball differential.
EU RUBBER-SPEC kit contains a front composite solid axle.

WARNING!
#305104 XRAY Multi-Diff™ can not be used with LiPo Battery Pack alternative.

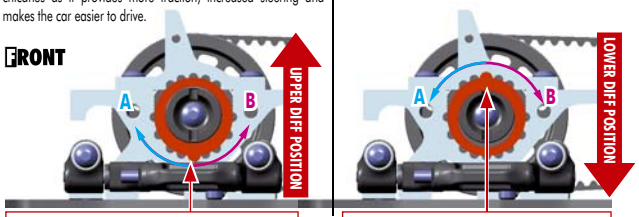
See page 31 for more information about balancing the car.

IMPORTANT!
ALTERNATIVE for LiPo battery pack.
NOTE ORIENTATION OF DIFFS AND BELTS

FRONT BELT TENSION ADJUSTMENT

Front diff upper position is recommended for tight and technical carpet tracks. The upper diff position improves handling in chicanes as it provides more traction, increased steering and makes the car easier to drive.

Front diff lower position is recommended for large open asphalt tracks with long sweepers.



INITIAL POSITION EU RUBBER-SPEC
PLACE TAB IN THIS BOTTOM NOTCH

INITIAL POSITION US FOAM-SPEC
PLACE TAB IN THIS TOP NOTCH

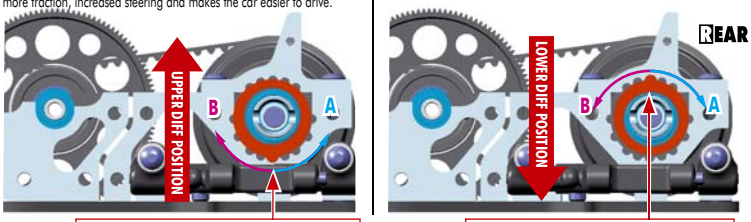
TO LOOSEN FRONT BELT: Rotate both front nylon hubs in arrow direction (A)

TO TIGHTEN FRONT BELT: Rotate both front nylon hubs in arrow direction (B)

REAR BELT TENSION ADJUSTMENT

Rear diff upper position is recommended for tight and technical carpet tracks. The upper diff position improves handling in chicanes as it provides more traction, increased steering and makes the car easier to drive.

Rear diff lower position is recommended for large open asphalt tracks with long sweepers.



INITIAL POSITION EU RUBBER-SPEC
PLACE TAB IN THIS BOTTOM NOTCH

INITIAL POSITION US FOAM-SPEC
PLACE TAB IN THIS TOP NOTCH

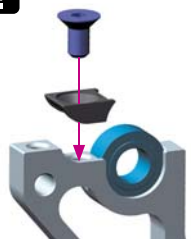
TO LOOSEN REAR BELT: Rotate both rear nylon hubs in arrow direction (A)

TO TIGHTEN REAR BELT: Rotate both rear nylon hubs in arrow direction (B)

903306
SFH M3x6

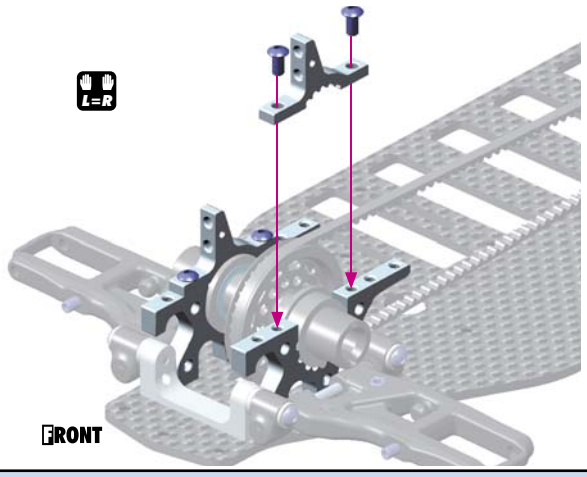
2x

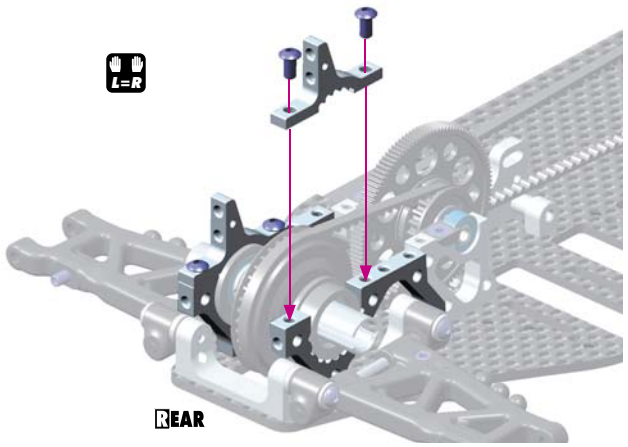
NOTE ORIENTATION



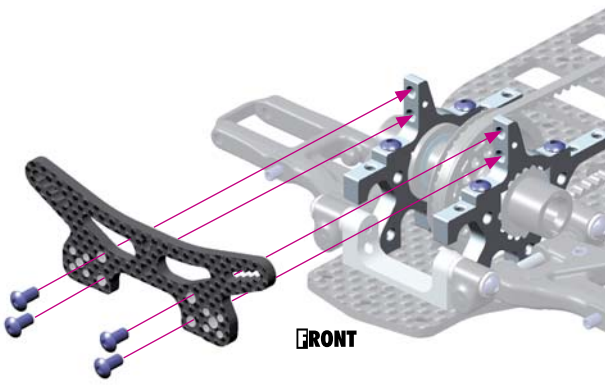
IMPORTANT!
Tighten the M3x6 screws carefully so the ball-bearing will move freely but without play.

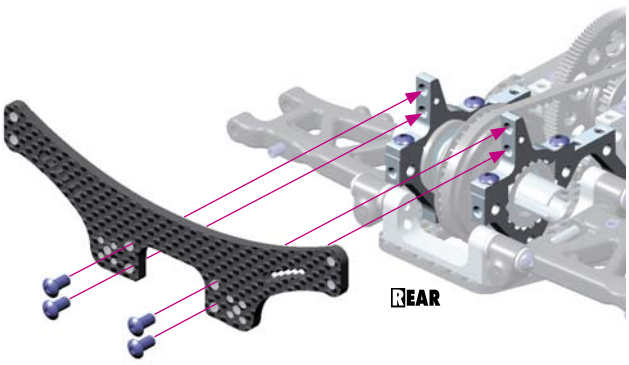
902306
SH M3x6



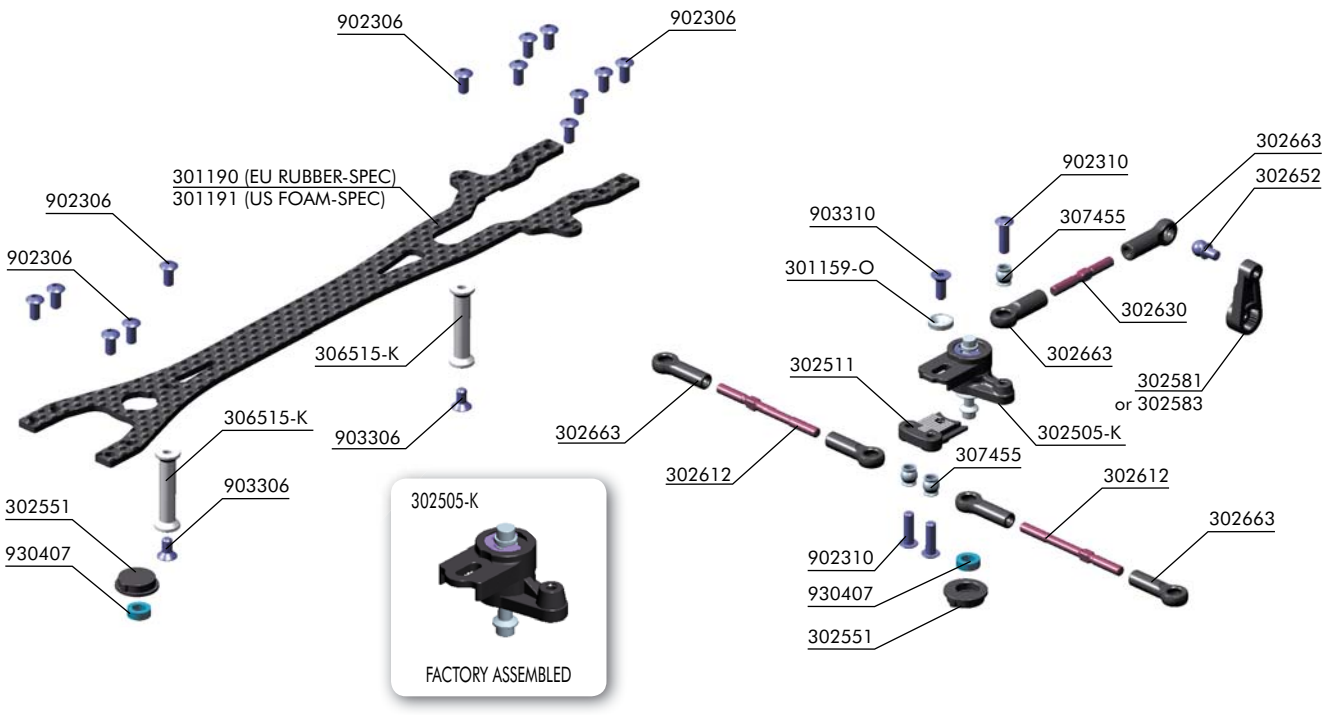


902306
SH M3x6





4. STEERING



BAG 04

30 1159-O	ALU COUNTERSUNK SHIM - ORANGE (4)	30 2652	BALL END 5 MM WITH THREAD (2)
30 1190	T3 RUBBER-SPEC UPPER DECK GRAPHITE	30 2663	COMPOSITE BALL JOINT 5 MM - OPEN - V2 (8)
30 1191	T3 FOAM-SPEC UPPER DECK GRAPHITE	30 6515-K	T3 ALU LOW TOP DECK MOUNT - BLACK (2)
30 2505-K	XRAY QUICK-SAVER™ - ADJUSTABLE SERVO SAVER SET - BLACK	30 7455	PIVOT BALL 5.0 MM DOUBLE BEVEL SHOULDERS (10)
30 2511	XRAY QUICK-SAVER™ - COMPOSITE SERVO SAVER PARTS		
30 2551	SERVO SAVER PLASTIC COVER - ECCENTRIC (2)	90 2306	HEX SCREW SH M3x6 (10)
30 2581	COMPOSITE SERVO HORN - KO, JR, AIRTRONICS	90 2310	HEX SCREW SH M3x10 (10)
30 2583	COMPOSITE SERVO HORN - FUTABA, ROBE	90 3306	HEX SCREW SFH M3x6 (10)
30 2610	ADJ. TURNBUCKLE M3 L/R 40 MM - HUDY SPRING STEEL (2) (OPTION)	90 3310	HEX SCREW SFH M3x10 (10)
30 2612	ALU ADJ. TURNBUCKLE M3 L/R 39 MM - SWISS 7075 T6 (2)	93 0407	BALL-BEARING MR74ZZ 4x7x2.5 (2)
30 2630	ADJ. TURNBUCKLE L/R 20 MM - HUDY SPRING STEEL (2)		

SET-UP BOOK
FRONT TOE-IN ADJUSTMENT


903310
SFH M3x10

SET-UP BOOK
ACKERMANN ADJUSTMENT

There are 5 different Ackermann settings possible with the Quick-Saver™


INITIAL POSITION #2

For initial Ackermann setting, use Step 2 (2nd shortest length).

Step 1 gives the most Ackermann and makes the car understeer more into and out of corners. It offers good cornering speed and creates very good traction mainly in chicanes, because the car will be more stable.

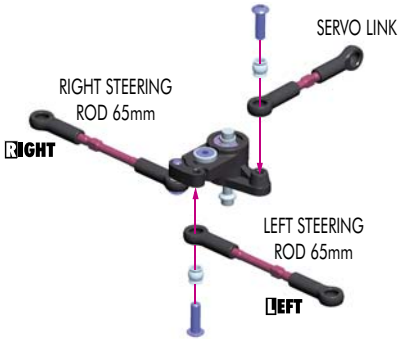
We recommend using Step 1 on low-traction carpet tracks with a lot of chicanes.

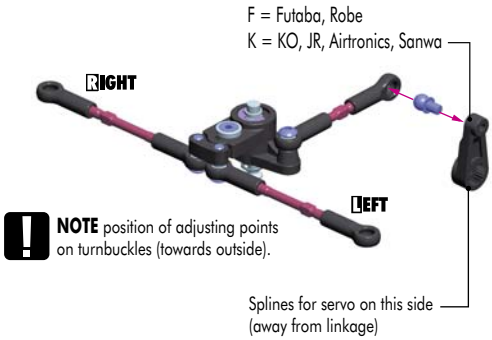
Step 5 gives the least Ackermann and creates a lot of steering into and out of corners. However, the car is more difficult to drive in chicanes because there is less traction and stability.

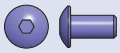
We recommend using Step 5 on high-traction asphalt tracks.


307455
PB 5mm


902310
SH M3x10






902306
SH M3x6


903306
SFH M3x6


930407
BB 4x7x2.5

EU RUBBER-SPEC

BASIC SET-UP FOR EU RUBBER-SPEC

INITIAL POSITION

Install this stand when using the EU Edition car on carpet; the stand will decrease front traction so that the front tires do not overheat too quickly, thus preventing the car from stopping quickly in corners.

The stand is not necessary on asphalt tracks because the car will understeer more.

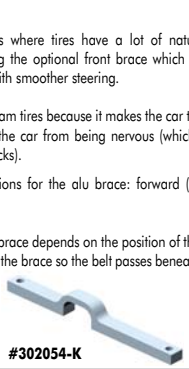
ALU CHASSIS BRACE

For super-high traction tracks where tires have a lot of natural traction, we recommend using the optional front brace which will make the car easier to drive with smoother steering.

The brace is also helpful for foam tires because it makes the car turn more smoothly and prevents the car from being nervous (which is typical on high-grip carpet tracks).

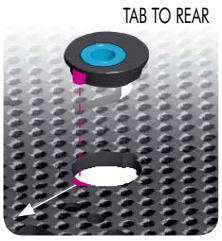
There are two positions for the alu brace: forward (1) or rearward (2).

As well, the orientation of the brace depends on the position of the front (long) belt. Always orient the brace so the belt passes beneath the brace without rubbing.

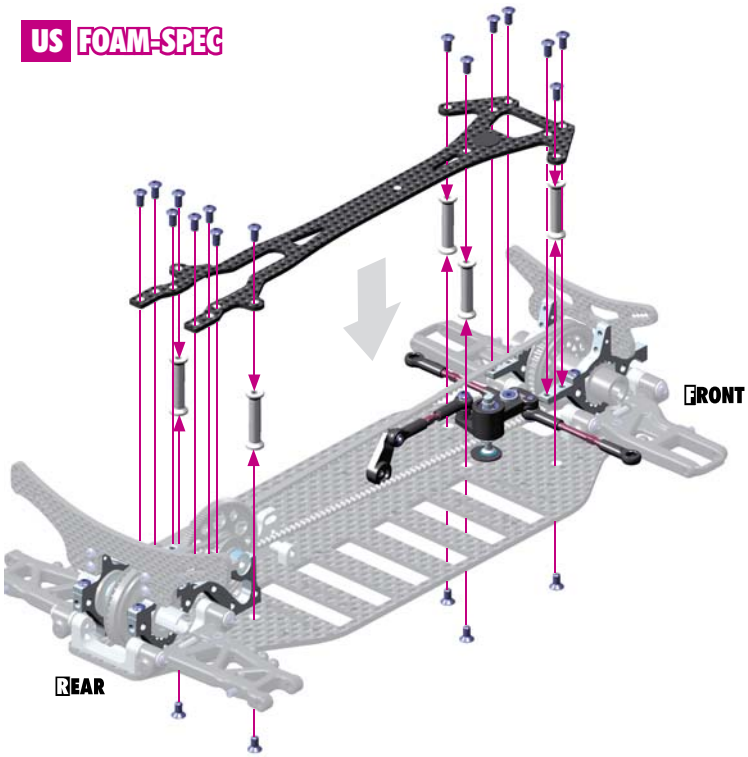


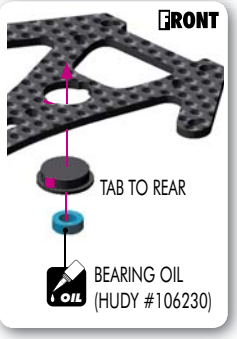
#302054-K

NOTE ORIENTATION TAB TO REAR FOR **EU RUBBER-SPEC** & **US FOAM-SPEC**



US FOAM-SPEC



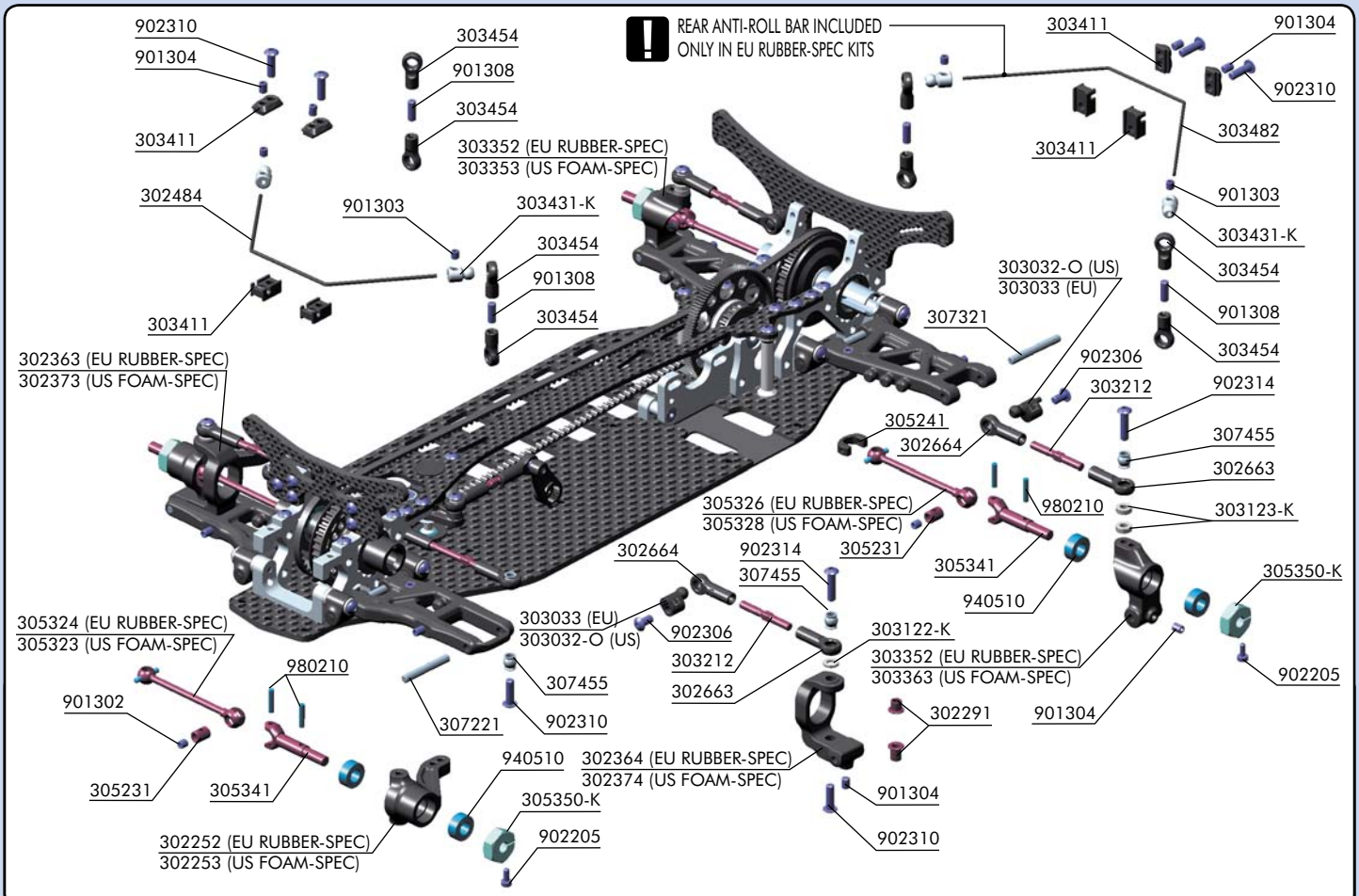


BASIC SET-UP FOR US FOAM-SPEC

INITIAL POSITION

SET-UP BOOK
ACKERMANN ADJUSTMENT
STEERING THROW SYMMETRY
CHASSIS FLEX SETTING
TOP DECK FLEX SETTING

5. FRONT & REAR TRANSMISSION



BAG 05

30 2252	COMPOSITE STEERING BLOCK - MEDIUM - RUBBER-SPEC - V2
30 2253	COMPOSITE STEERING BLOCK - HARD - FOAM-SPEC
30 2291	STEEL STEERING BUSHING (2+2)
30 2363	COMPOSITE C-HUB RIGHT - 4° DEG. - MEDIUM - RUBBER-SPEC
30 2364	COMPOSITE C-HUB LEFT - 4° DEG. - MEDIUM - RUBBER-SPEC
30 2373	COMPOSITE C-HUB RIGHT - 4° DEG. - HARD - FOAM-SPEC
30 2374	COMPOSITE C-HUB LEFT - 4° DEG. - HARD - FOAM-SPEC
30 2484	ANTI-ROLL BAR FRONT 1.4 MM
30 2663	BALL JOINT 5 MM - OPEN - V2 (8)
30 2664	BALL JOINT 5 MM UNIDIRECTIONAL - OPEN (4)
30 3032-O	ALU QUICK ROLL-CENTER HOLDER™ 4.9MM - ORANGE (2)
30 3033	ALU QUICK ROLL-CENTER HOLDER 4.9MM - L1 + L2
30 3122-K	ALU SHIM 3x6x1.0MM - BLACK (10)
30 3123-K	ALU SHIM 3x6x2.0MM - BLACK (10)
30 3212	ALU ADJ. TURNBUCKLE M3 L/R 26 MM - SWISS 7075 T6 (2)
30 3352	UPRIGHT 0° OUTBOARD TOE-IN - MEDIUM - RUBBER-SPEC
30 3353	UPRIGHT 1° OUTBOARD TOE-IN - RIGHT - HARD - FOAM-SPEC
30 3363	UPRIGHT 1° OUTBOARD TOE-IN - LEFT - HARD - FOAM-SPEC
30 3411	COMPOSITE ANTI-ROLL BAR HOLDERS - V2
30 3431-K	ALU 5 MM BALL END - BLACK (2)
30 3454	BALL JOINT 5 MM - OPEN (4)
30 3482	ANTI-ROLL BAR REAR 1.2 MM
30 5231	DRIVE SHAFT COUPLING - HUDY SPRING STEEL
30 5241	DRIVE SHAFT REPLACEMENT PLASTIC CAP 3.5 MM (4)
30 5323	DRIVE SHAFT 50MM - HUDY SPRING STEEL
30 5324	DRIVE SHAFT 52MM - HUDY SPRING STEEL
30 5325	EQUALIZED CORNERING SPEED (ECS) DRIVE SHAFT 50MM (OPTION)
30 5326	ALU DRIVE SHAFT SWISS 7075 T6 - HARD COATED - 52MM
30 5327	EQUALIZED CORNERING SPEED (ECS) DRIVE SHAFT 52MM (OPTION)
30 5328	ALU DRIVE SHAFT SWISS 7075 T6 - HARD COATED - 50MM
30 5341	DRIVE AXLE - LIGHTWEIGHT - HUDY SPRING STEEL
30 5350-K	ALU WHEEL HUB - BLACK (2)
30 7221	FRONT ARM PIVOT PIN (2)
30 7321	REAR ARM PIVOT PIN (2)
30 7455	PIVOT BALL 5.0 MM DOUBLE BEVEL SHOULDERS (10)
90 1302	HEX SCREW SB M3x2.5 (10)
90 1303	HEX SCREW SB M3x3 (10)
90 1304	HEX SCREW SB M3x4 (10)
90 1308	HEX SCREW SB M3x8 (10)
90 2205	HEX SCREW SH M2x5 (10)
90 2306	HEX SCREW SH M3x6 (10)
90 2310	HEX SCREW SH M3x10 (10)
90 2314	HEX SCREW SH M3x14 (10)
94 0510	HIGH-SPEED BALL-BEARING 5x10x4 RUBBER SEALED (2)
98 0210	PIN 2x10 (10)

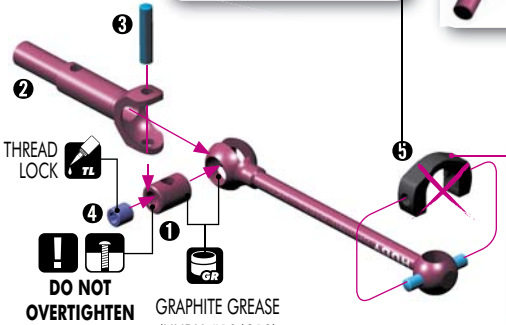

901302
SB M3x2.5


980210
P 2x10

4x

TIP

For easy and comfortable installation of the #305241 plastic caps use pliers as shown.



IMPORTANT!

DO NOT use the plastic caps with composite solid axle included in the kits.

The new #305241 3.5mm plastic caps are for use ONLY with ALU ball diffs or the XRAY Multi-Diff™.

OPTIONAL ECS DRIVE SHAFTS

ECS shafts are available optionally in both 50mm and 52mm lengths. The ECS drive shafts were developed to decrease front wheel vibration when racing with a solid front axle, thus providing a much smoother and quieter ride and increased steering.

DRIVE SHAFTS	
#305323	US FOAM-SPEC - 50MM - STEEL
#305324	EU RUBBER-SPEC - 52MM - STEEL
#305325	US FOAM-SPEC - 50MM - ECS
#305326	EU RUBBER-SPEC - 52MM - ALU
#305327	EU RUBBER-SPEC - 52MM - ECS
#305328	US FOAM-SPEC - 50MM - ALU

Drive shafts may be combined. For example, you may use the longer 52mm shafts in the US Foam-Spec edition, and the standard 50mm shafts in the EU Rubber-Spec edition. However, we recommend using the drive shafts that are included in the kit since the drive shaft lengths have been carefully chosen to optimize speed and ease of driving.

Longer drive shafts (52mm) make the car easier to drive because they give more traction and better stability, mainly in chicanes. However, the car will understeer more than with shorter (50mm) shafts which give a lot of steering and impart aggression to the car. You may also combine different lengths of shafts in front and rear (for example, using long shafts in the rear and short shafts in the front) depending on track conditions.

Both left & right shafts should ALWAYS be the same length at one end of the car (front or rear).

902205
SH M2x5

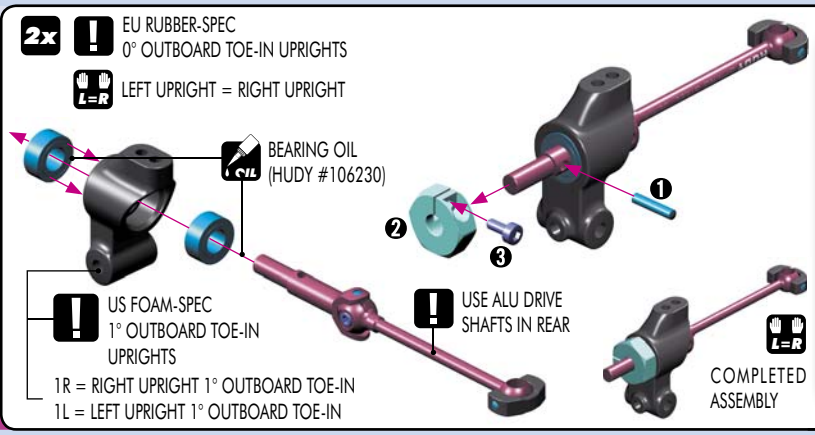
940510
BB 5x10x4

980210
P 2x10

SET-UP BOOK
REAR TOE-IN ADJUSTMENT

2x EU RUBBER-SPEC
0° OUTBOARD TOE-IN UPRIGHTS

L=R LEFT UPRIGHT = RIGHT UPRIGHT



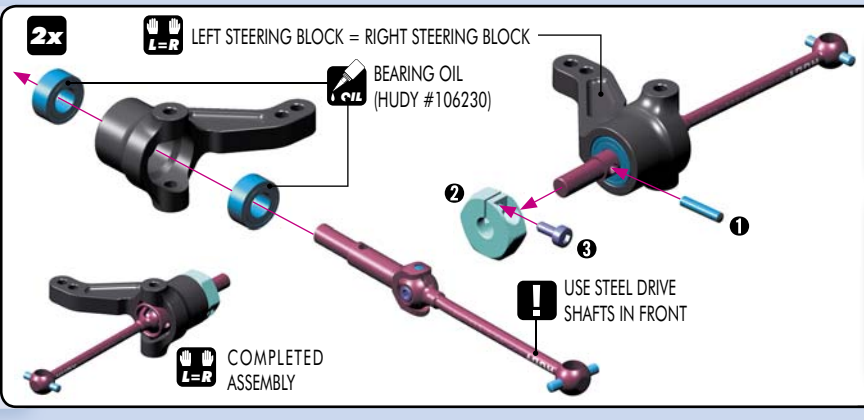
UPRIGHTS	
#303351	1° - R - MEDIUM - RUBBER-SPEC - 2-HOLE
#303352	0° - R/L - MEDIUM - RUBBER-SPEC - 2-HOLE
#303353	1° - R - HARD - FOAM-SPEC - 2-HOLE
#303354	0° - R/L - HARD - FOAM-SPEC - 2-HOLE
#303361	1° - L - MEDIUM - RUBBER-SPEC - 2-HOLE
#303362	0° - R/L - MEDIUM - RUBBER-SPEC - 1-HOLE
#303363	1° - L - HARD - FOAM-SPEC - 2-HOLE
#303364	0° - R/L - HARD - FOAM-SPEC - 1-HOLE
#303358	ALU 1° - R/L - 4-HOLE
#303359	ALU 2° - R/L - 4-HOLE

902205
SH M2x5

940510
BB 5x10x4

980210
P 2x10

2x L=R LEFT STEERING BLOCK = RIGHT STEERING BLOCK



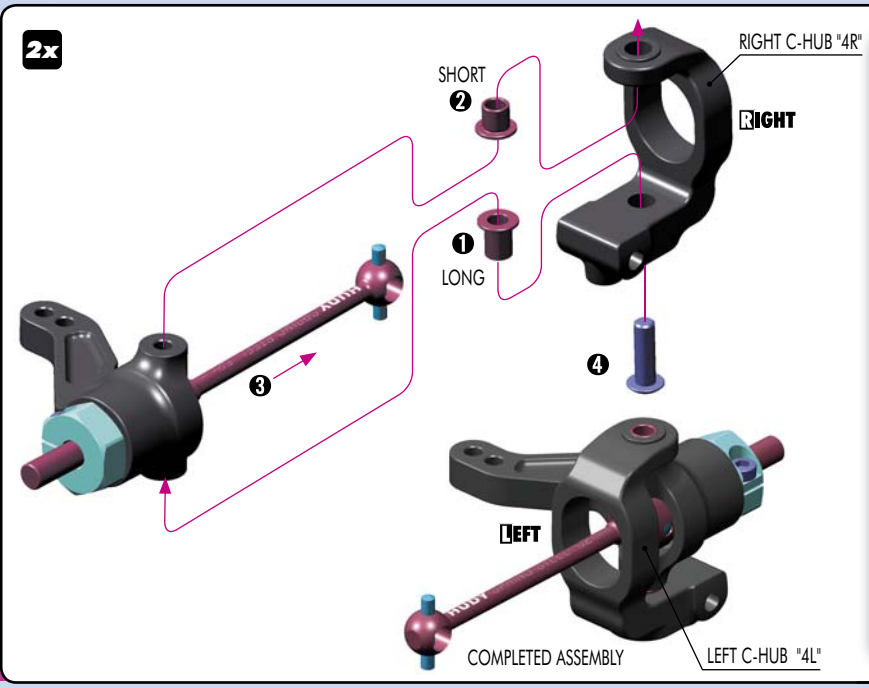
STEERING BLOCKS	
#302252	MEDIUM - RUBBER-SPEC
#302253	HARD - FOAM-SPEC
#302256	ALU

WHEEL HUBS	
#305350	ALU - OFFSET 0 MM
#305351	ALU - OFFSET -0.75 MM
#305352	ALU - OFFSET +0.75 MM
#305353	ALU - OFFSET +1.5 MM

902310
SH M3x10

SET-UP BOOK
CASTER ADJUSTMENT

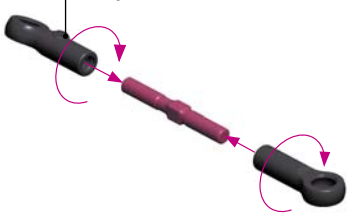
2x



C-HUBS	
#302334	ALU 0° - R+L
#302335	ALU 2° - RIGHT
#302336	ALU 2° - LEFT
#302337	ALU 4° - RIGHT
#302338	ALU 4° - LEFT
#302339	ALU 6° - RIGHT
#302340	ALU 6° - LEFT
#302361	2°- RIGHT - MEDIUM - RUBBER-SPEC
#302362	2°- LEFT - MEDIUM - RUBBER-SPEC
#302363	4°- RIGHT - MEDIUM - RUBBER-SPEC
#302364	4°- LEFT - MEDIUM - RUBBER-SPEC
#302365	6°- RIGHT - MEDIUM - RUBBER-SPEC
#302366	6°- LEFT - MEDIUM - RUBBER-SPEC
#302371	2°- RIGHT - HARD - FOAM-SPEC
#302372	2°- LEFT - HARD - FOAM-SPEC
#302373	4°- RIGHT - HARD - FOAM-SPEC
#302374	4°- LEFT - HARD - FOAM-SPEC
#302375	6°- RIGHT - HARD - FOAM-SPEC
#302376	6°- LEFT - HARD - FOAM-SPEC

SET-UP BOOK
CAMBER ADJUSTMENT

4x SPECIAL UNIDIRECTIONAL BALL-JOINT WITH MOLDED DOT



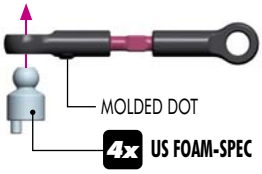
L=R FRONT RIGHT = FRONT LEFT

2x FRONT

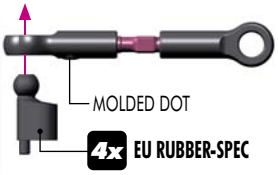
US FOAM-SPEC (52.1 mm)
EU RUBBER-SPEC (54.5 mm)

2x REAR REAR RIGHT = REAR LEFT L=R

US FOAM-SPEC (56.5 mm)
EU RUBBER-SPEC (54 mm)



OPTIONAL FOR EU RUBBER-SPEC
#303032-O
ALU QUICK ROLL-CENTER HOLDER™



303123-O
SHIM 3x6x2

307455
PB 5mm

901304
SB M3x4

902306
SH M3x6

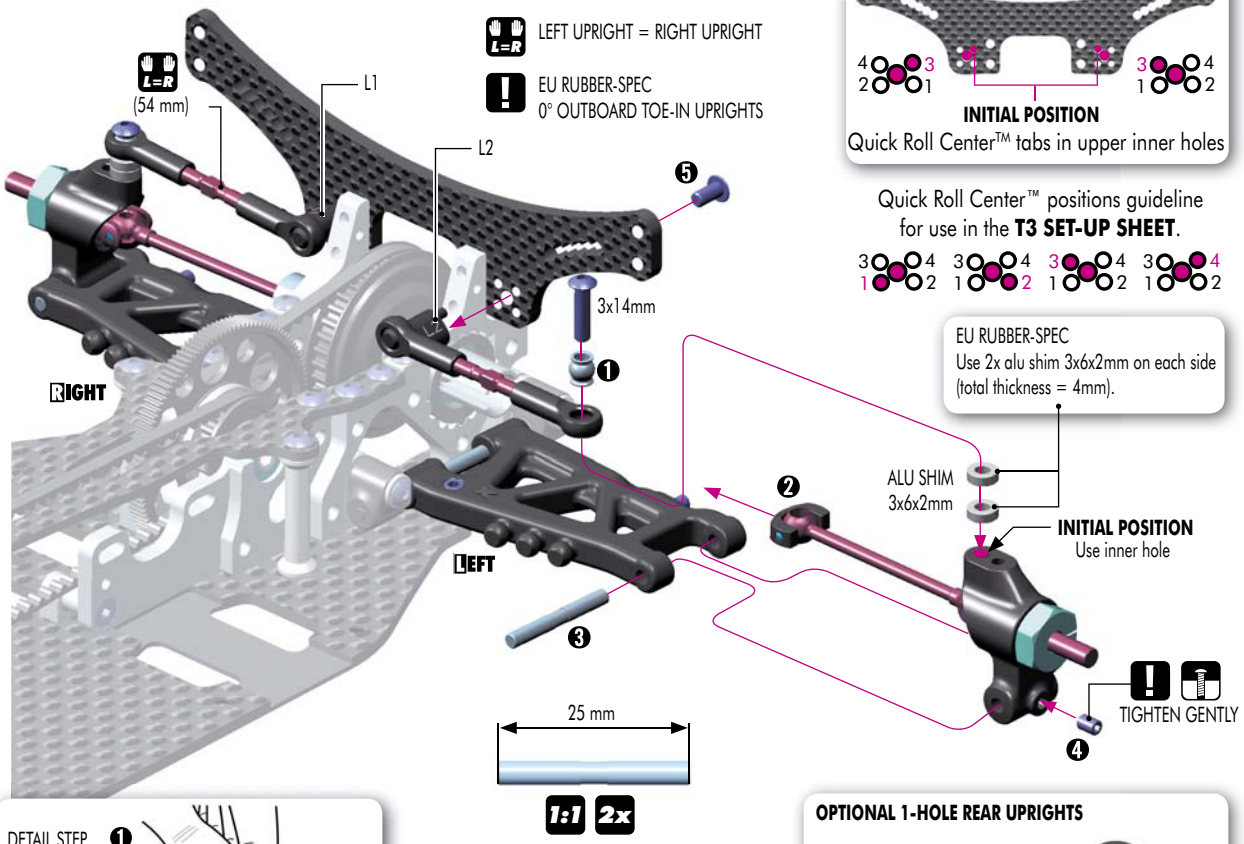
902310
SH M3x10

902314
SH M3x14

EU RUBBER-SPEC

LEFT UPRIGHT = RIGHT UPRIGHT

EU RUBBER-SPEC
0° OUTBOARD TOE-IN UPRIGHTS



EU RUBBER-SPEC

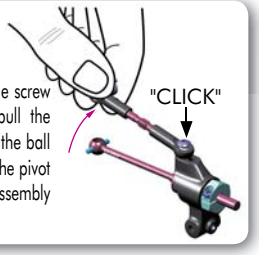
INITIAL POSITION
Quick Roll Center™ tabs in upper inner holes

Quick Roll Center™ positions guideline for use in the **T3 SET-UP SHEET**.

EU RUBBER-SPEC
Use 2x alu shim 3x6x2mm on each side (total thickness = 4mm).

DETAIL STEP 1

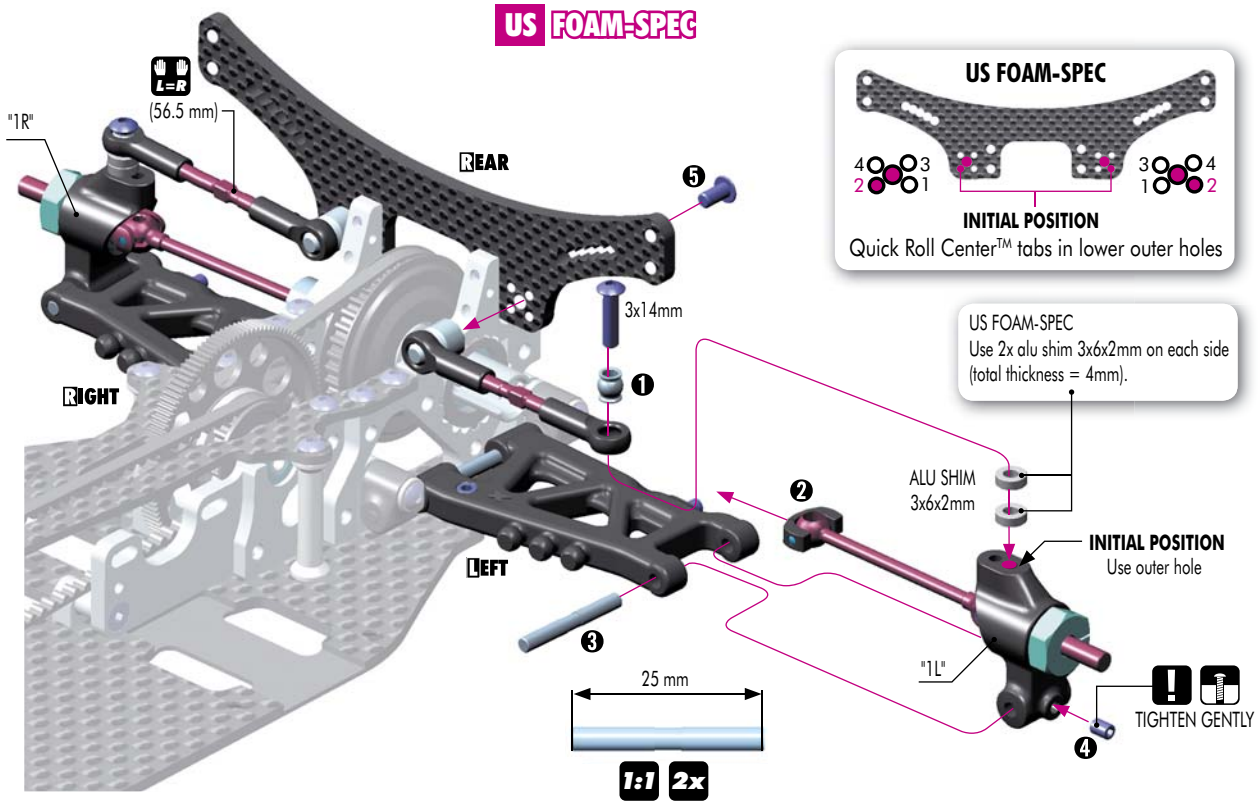
After you tighten the screw into the upright, pull the linkage upward so the ball joint "snaps" onto the pivot ball. The whole assembly should move freely.



OPTIONAL 1-HOLE REAR UPRIGHTS

An optional 1-hole rear upright is available for fine tuning. This optional upright may be used on high-traction tracks or tracks with long sweepers, since the position of the center hole will allow faster driving through those corners because of better cornering speed.

US FOAM-SPEC



US FOAM-SPEC

INITIAL POSITION
Quick Roll Center™ tabs in lower outer holes

US FOAM-SPEC
Use 2x alu shim 3x6x2mm on each side (total thickness = 4mm).

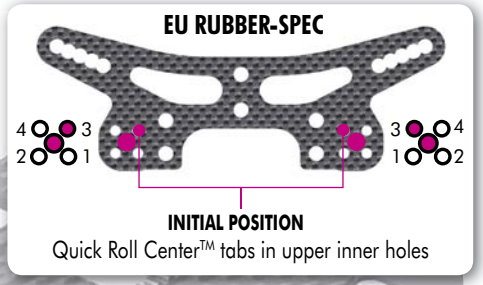

307455
PB 5mm

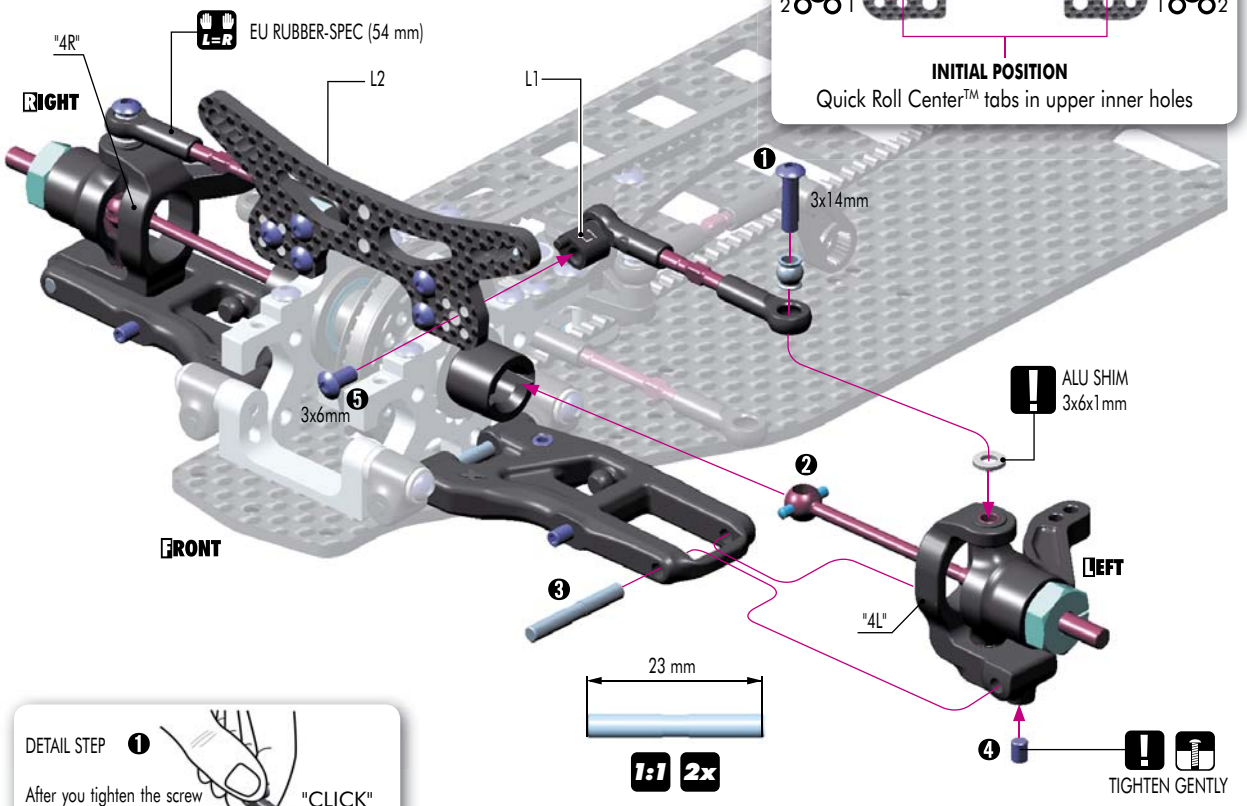

901304
SB M3x4


902306
SH M3x6


902314
SH M3x14

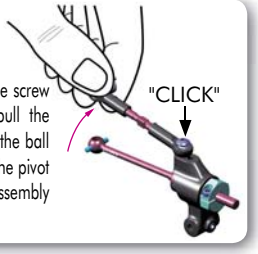
EU RUBBER-SPEC



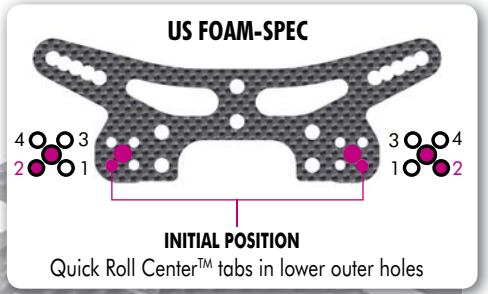


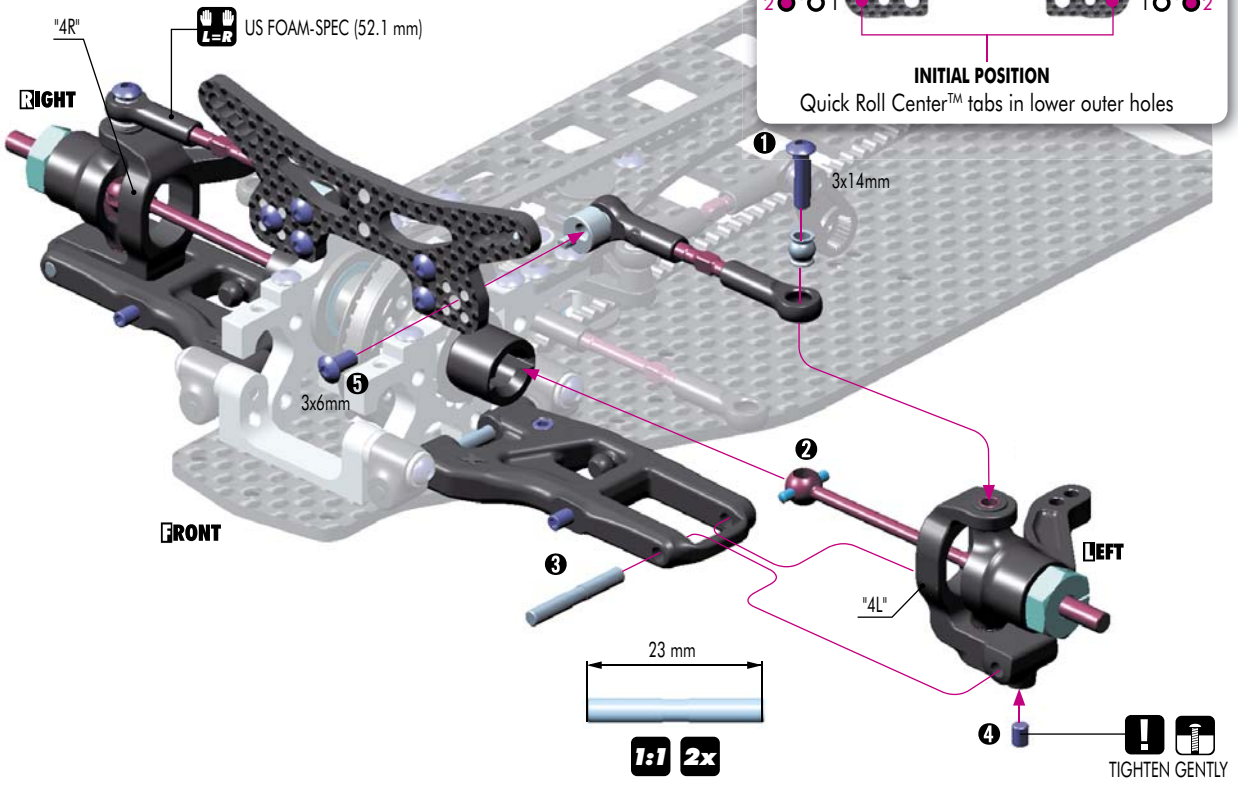
DETAIL STEP 1

After you tighten the screw into the upright, pull the linkage upward so the ball joint "snaps" onto the pivot ball. The whole assembly should move freely.



US FOAM-SPEC





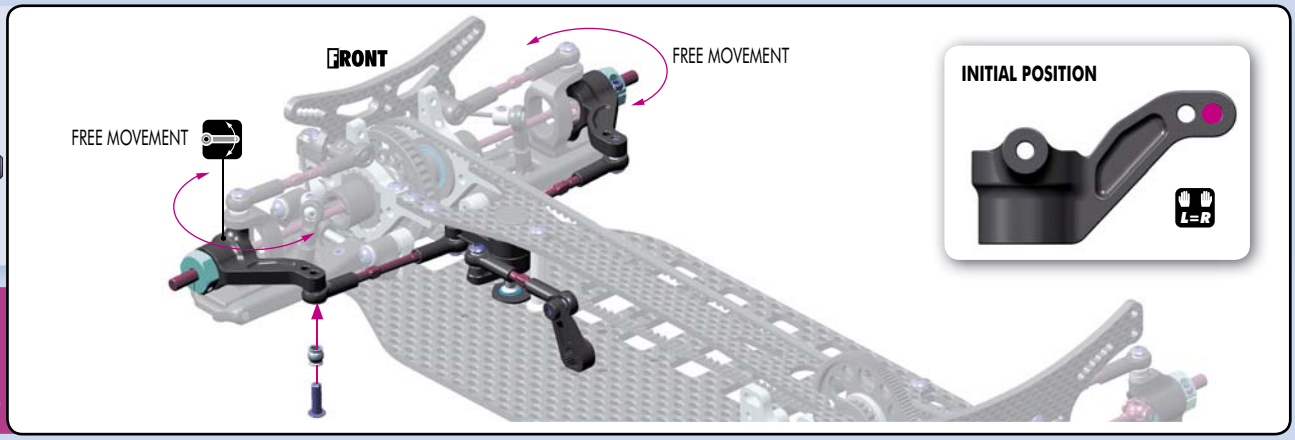
SET-UP BOOK
ROLL CENTER ADJUSTMENT

5. FRONT & REAR TRANSMISSION

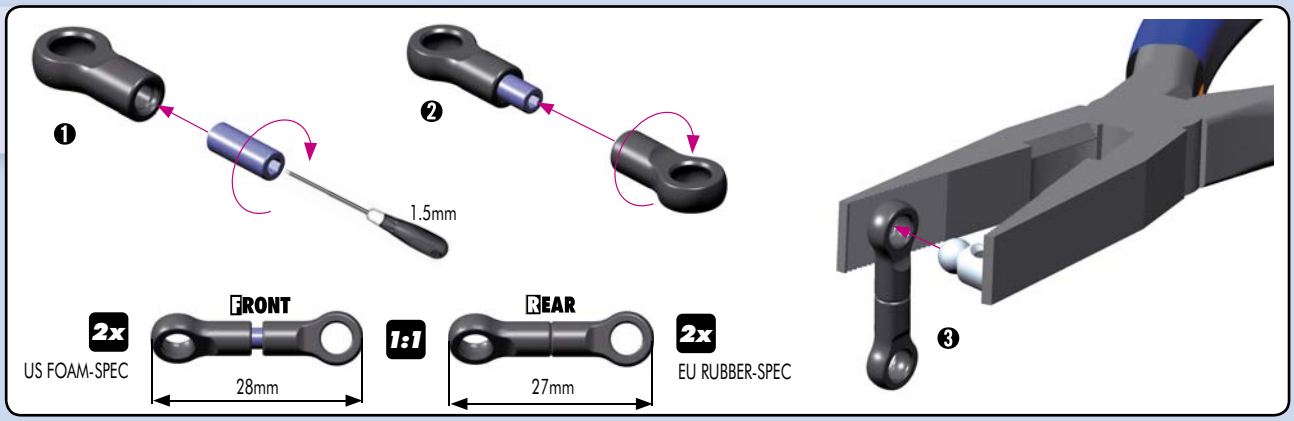
307455
PB 5mm

902310
SH M3x10

SET-UP BOOK
ACKERMANN ADJUSTMENT



901308
SB M3x8

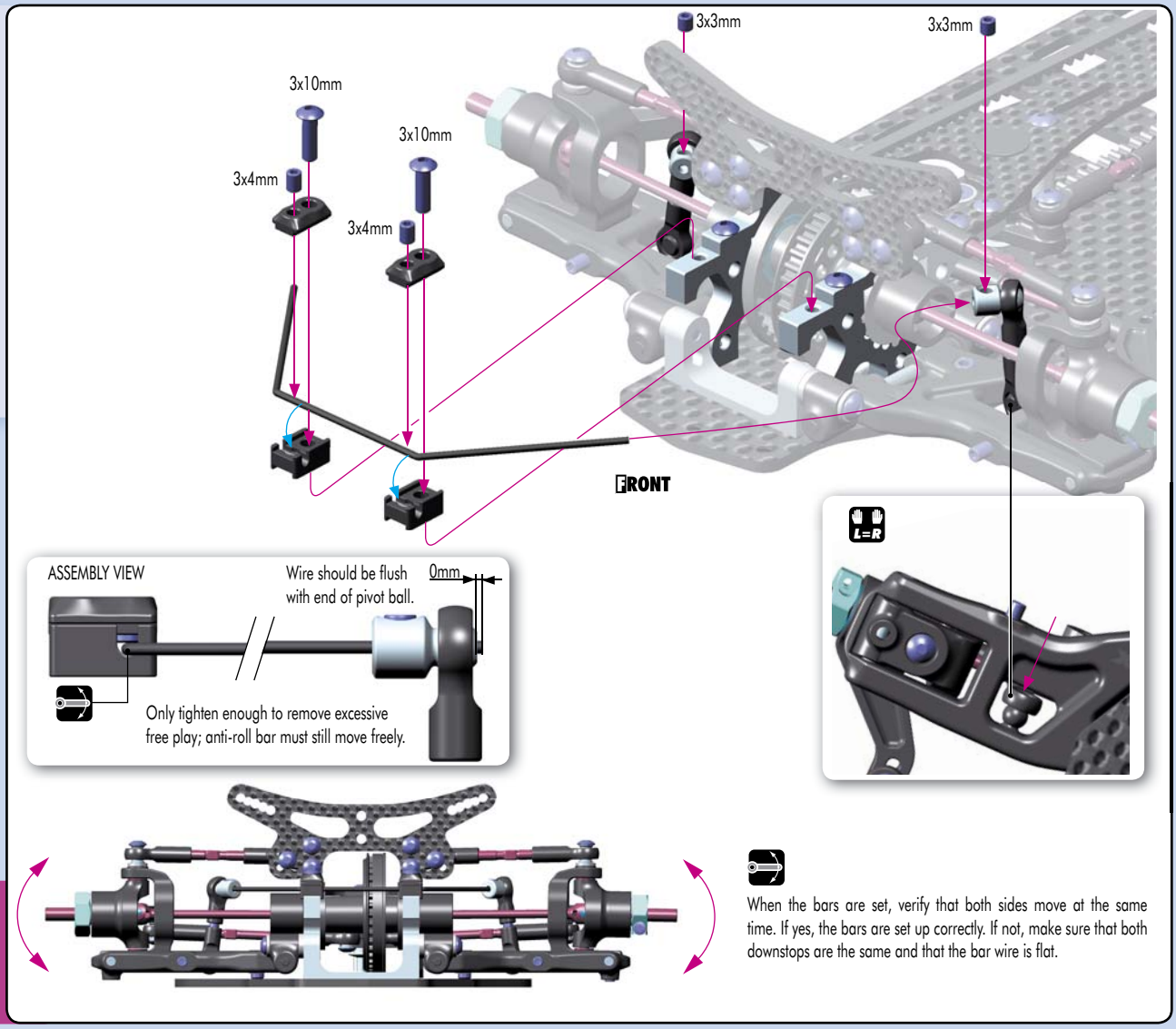


901303
SB M3x3

901304
SB M3x4

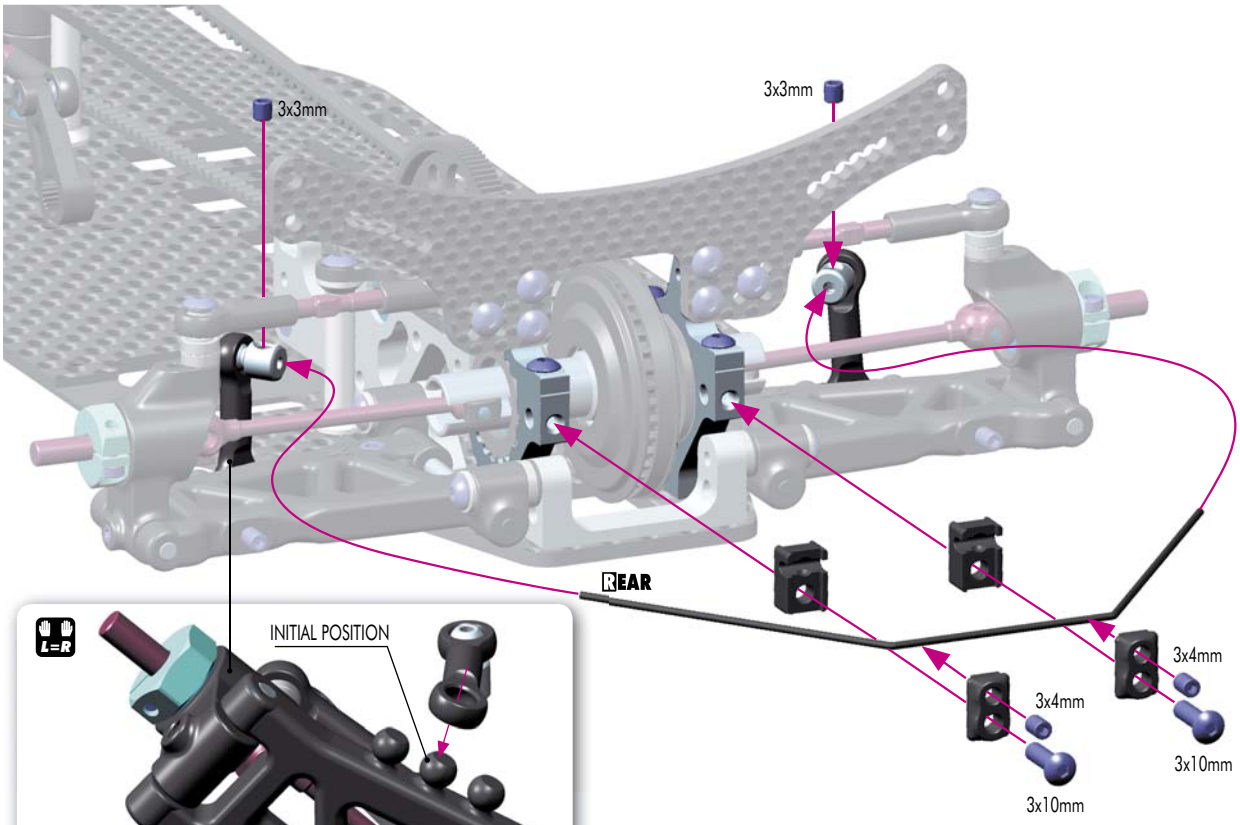
902310
SH M3x10

SET-UP BOOK
ANTI-ROLL BARS ADJUSTMENT



When the bars are set, verify that both sides move at the same time. If yes, the bars are set up correctly. If not, make sure that both downstops are the same and that the bar wire is flat.

REAR ANTI-ROLL BAR (EU RUBBER-SPEC ONLY)

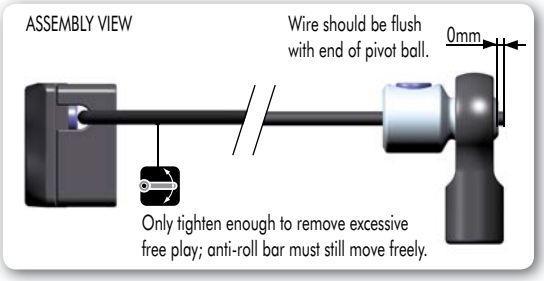


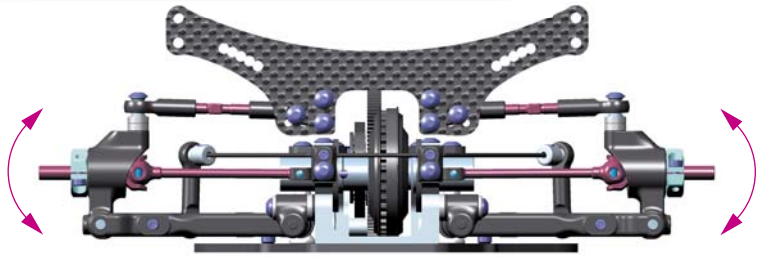
Initial position = **MIDDLE** ball

Use the **INNER** ball on low-traction tracks (mainly low-traction carpet tracks). The car will have more traction & more steering, but will be more difficult to drive because the car will roll more. Recommended on chicane tracks.

Use the **MIDDLE** ball on low- to medium-traction tracks (asphalt, carpet). The car will have a little less rear traction and the car will roll little less which will make it easier to drive with more cornering speed.

Use the **OUTER** ball on high-traction tracks (mainly high-traction asphalt tracks). The car will roll even less which will allow the use of more throttle in the corners, however the car will have less traction.





When the bars are set, verify that both sides move at the same time. If yes, the bars are set up correctly. If not, make sure that both downstops are the same and that the bar wire is flat.

SET-UP BOOK
ANTI-ROLL BARS ADJUSTMENT

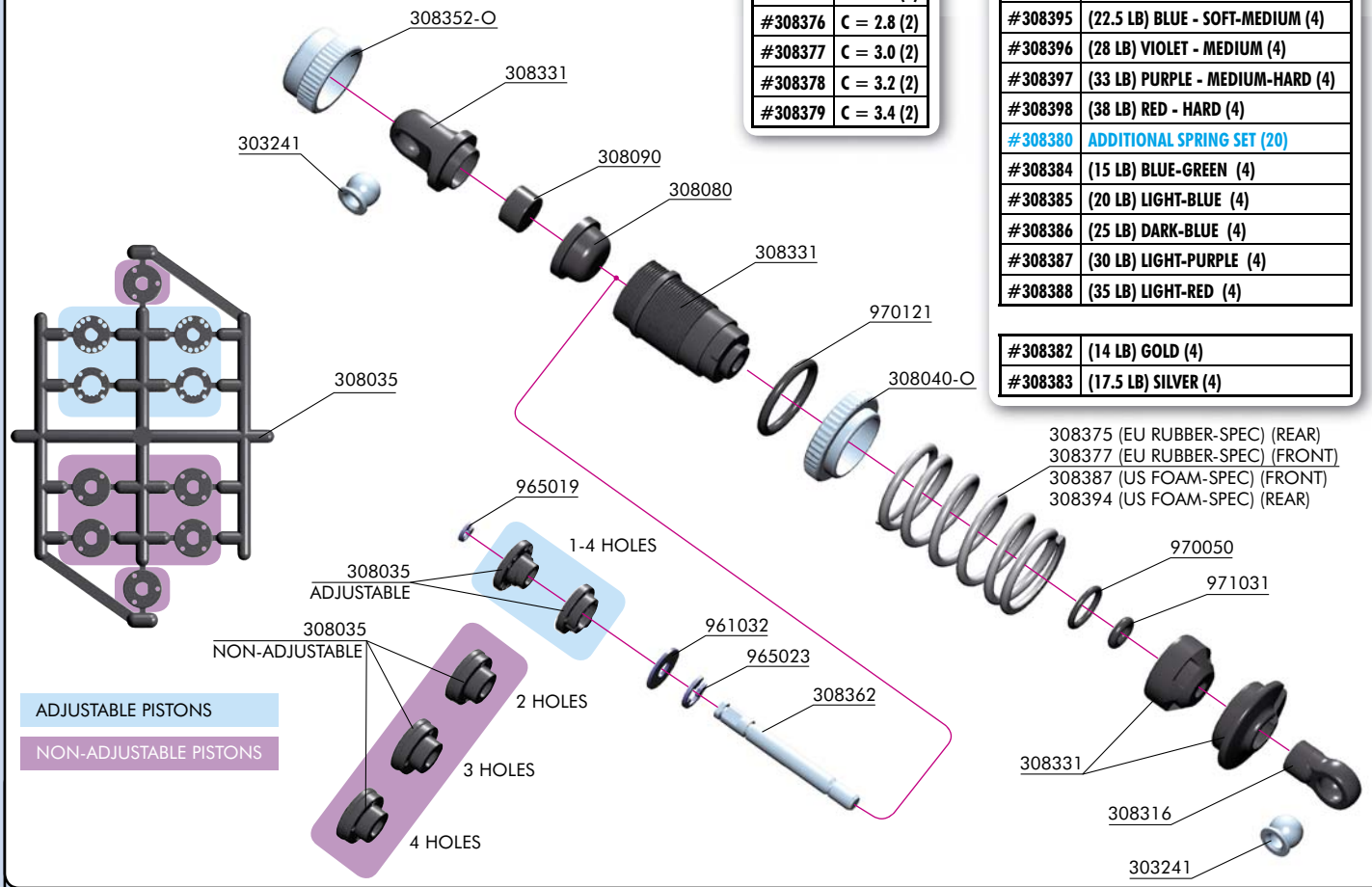
FRONT ANTI-ROLL BARS	
#302482	FRONT 1.2 MM
#202483	FRONT 1.3 MM
#302484	FRONT 1.4 MM
#302485	FRONT 1.5 MM
#302486	FRONT 1.6 MM
#302488	FRONT 1.8 MM

REAR ANTI-ROLL BARS	
#303481	REAR 1.1 MM
#303482	REAR 1.2 MM
#203483	REAR 1.3 MM
#303484	REAR 1.4 MM
#303485	REAR 1.5 MM
#303486	REAR 1.6 MM

6. SHOCK ABSORBERS

XRAY SPRINGS	
#308373	C = 2.2 (2)
#308374	C = 2.4 (2)
#308375	C = 2.6 (2)
#308376	C = 2.8 (2)
#308377	C = 3.0 (2)
#308378	C = 3.2 (2)
#308379	C = 3.4 (2)

XRAY SPRINGS	
#308390	SPRING SET (24)
#308393	(14 LB) YELLOW - SUPER-SOFT (4)
#308394	(17.5 LB) WHITE - SOFT (4)
#308395	(22.5 LB) BLUE - SOFT-MEDIUM (4)
#308396	(28 LB) VIOLET - MEDIUM (4)
#308397	(33 LB) PURPLE - MEDIUM-HARD (4)
#308398	(38 LB) RED - HARD (4)
#308380	ADDITIONAL SPRING SET (20)
#308384	(15 LB) BLUE-GREEN (4)
#308385	(20 LB) LIGHT-BLUE (4)
#308386	(25 LB) DARK-BLUE (4)
#308387	(30 LB) LIGHT-PURPLE (4)
#308388	(35 LB) LIGHT-RED (4)
#308382	(14 LB) GOLD (4)
#308383	(17.5 LB) SILVER (4)



BAG 06

30 3241	BALL UNIVERSAL 5.8 MM HEX (4)	30 8390	XRAY SELECTED ULTIMATE RACING SPRINGS (24)
30 8035	COMPOSITE PISTONS ADJUSTABLE + NON-ADJUST. (SET 2+6)	30 8375	XRAY SPRING-SET C=2.6
30 8040-O	SHOCK ADJ. NUT ALU - ORANGE + O-RING (4+4)	30 8377	XRAY SPRING-SET C=3.0
30 8080	SHOCK ABSORBER MEMBRANES (4)	30 8387	XRAY SPRING-SET D=1.8 (30 LB) LIGHT-PURPLE (4)
30 8090	SHOCK FOAM INSERTS (4)	30 8394	XRAY SPRING-SET D=1.5 (17.5 LB) WHITE - SOFT (4)
30 8302	XRAY SHOCK ABSORBER-SET 4-STEP - SHORT (2)		
30 8306-O	XRAY ALU SHOCK ABSORBER-SET - ORANGE (2) (OPTION)	96 1032	WASHER S 3.2 (10)
30 8316	SHOCK BALL JOINT - OPEN (4)	96 5019	E-CLIP 1.9 (10)
30 8331	COMPOSITE FRAME SHOCK PARTS 4-STEP - SHORT	96 5023	E-CLIP 2.3 (10)
30 8352-O	ALU SHOCK CAP-NUT WITH VENT HOLE - ORANGE (2)	97 0050	O-RING 5x1 (10)
30 8362	HARDENED SHOCK SHAFT - SHORT (2)	97 0121	O-RING 12.1x1.6 (10)
30 8380	ADDITIONAL XRAY ULTIMATE RACING SPRINGS (20)	97 1031	SILICONE O-RING 3.1x1.6 (10)

ADJUSTABLE PISTONS

4x

SHOCK OIL

Carefully remove the shock pistons from the frame, and remove all excess plastic flash

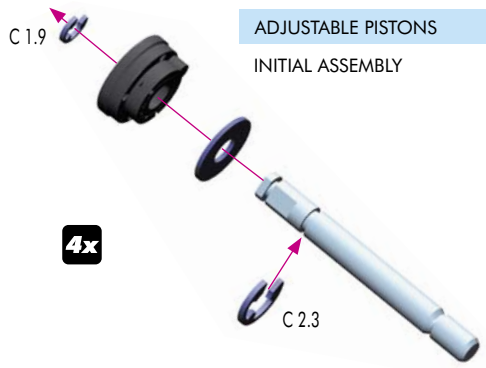
961032
S 3.2

965019
C 1.9

965023
C 2.3

ADJUSTABLE PISTONS

INITIAL ASSEMBLY

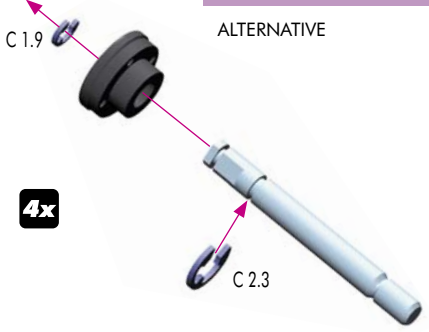


965019
C 1.9

965023
C 2.3

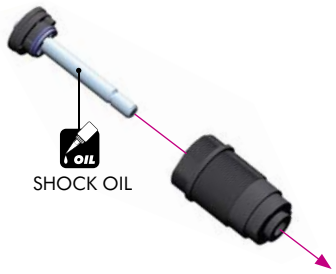
NON-ADJUSTABLE PISTONS

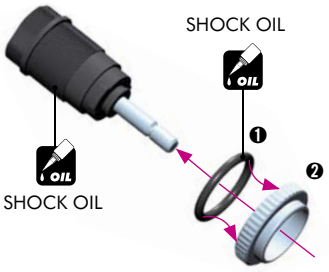
ALTERNATIVE



970121
O 12.1x1.6

4x





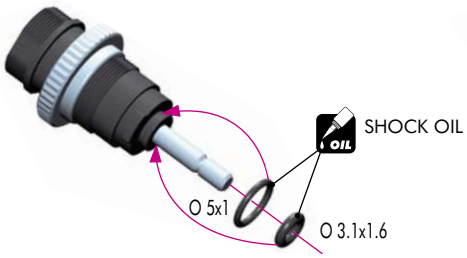
CUTAWAY VIEW

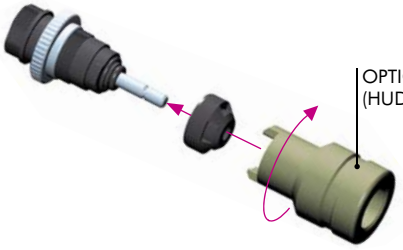
Be careful not to cross-thread the collar on the shock body.

970050
O 5x1

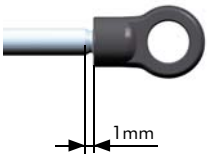
971031
O 3.1x1.6

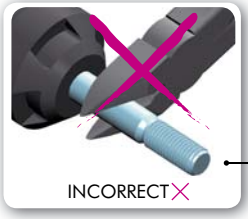
4x

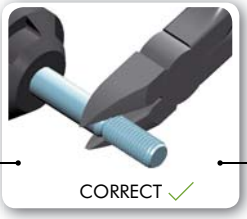


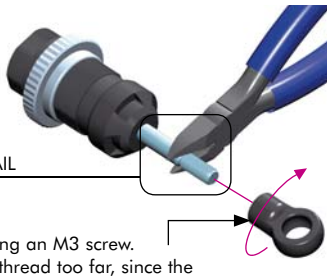


4x









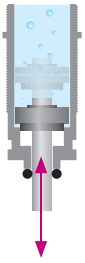
USE ONLY separate ball-joints (part #308316).

HINT: Pre-thread the ball joint using an M3 screw. WARNING! Be careful not to pre-thread too far, since the ball joint may split or the plastic threads may strip out

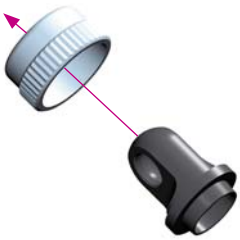
4x

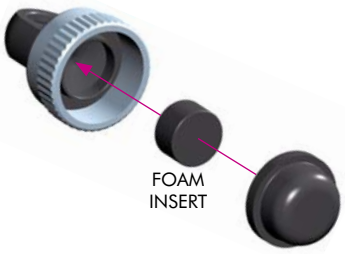
SHOCK FILLING

1. Fully extend the piston rod so the piston is at the bottom of the shock body.
2. Hold the shock upright and slightly overfill the shock body with shock oil.
3. Let the oil settle and allow air bubbles to rise to the top. Slowly move the piston up and down until no more air bubbles appear. Add shock oil as necessary.
4. Pull the piston rod most of the way out of the shock body. Let the shock rest for 5 minutes to allow the air bubbles to escape.



4x





CUTAWAY VIEW

After you insert the membrane ensure that it sits properly all around the alu cup.

4x

When installing the shock cap assembly on the shock body, some oil will leak out... this is normal.

Fully tighten the cap and clean off any excess oil.

After the shock is assembled, the shock rod will push itself out of the shock body fairly quickly.

Follow the next procedure to adjust the rebound.

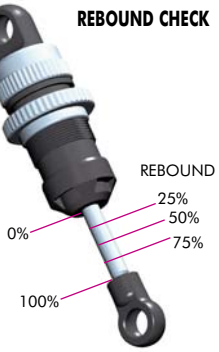
SHOCK OILS			
#359210	100cSt (XRAY 20W)	#359245	450cSt
#359215	150cSt	#359250	500cSt
#359220	200cSt (XRAY 25W)	#359260	600cSt (XRAY 35W)
#359225	250cSt	#359270	700cSt
#359230	300cSt	#359280	800cSt
#359235	350cSt (XRAY 30W)	#359290	900cSt
#359240	400cSt	#359301	1000cSt (XRAY 40W)
		#359302	2000cSt (XRAY 50W)

SET-UP BOOK
SHOCK DAMPING
EFFECTS OF SHOCK DAMPING

6. SHOCK ABSORBERS

REBOUND ADJUSTMENT

REBOUND CHECK



After the shock is assembled you have to set the Shock Rebound.

1. Release the shock composite lower cap.

2. VERY SLOWLY do the following: Fully pull out the shock rod, push it back in fully, and then fully pull it out once more. Repeat this procedure the following number of times to achieve the desired Shock Rebound setting:
10 times - approximately 75% rebound (high rebound - suggested for very low traction track)
15 times - approximately 50% rebound (medium rebound - suggested for standard track)
20 times - approximately 25% rebound (low rebound - suggested for very high traction track)

During the Rebound Adjustment procedure shock oil will leak out of the shock body through the O-ring on the shock rod... this is normal. During the Rebound Adjustment procedure DO NOT open the upper shock cap.

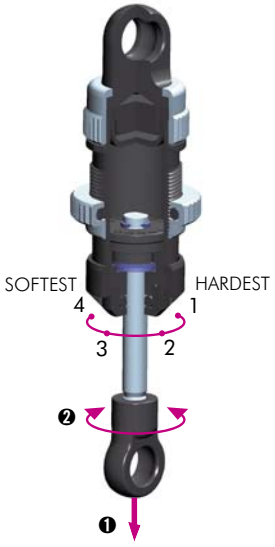
3. After you have set the Rebound Adjustment, re-install the shock lower composite cap.

4. Check the Shock Rebound setting by pushing the shock rod fully into the shock body, releasing it, and observing how far the shock rod extends by itself:
* 25% out of the shock body (low rebound)
* 50% out of the shock body (medium rebound)
* 75% out of the shock body (high rebound).
If the shock rod rebounds too much, return to Step 1 and repeat the procedure.

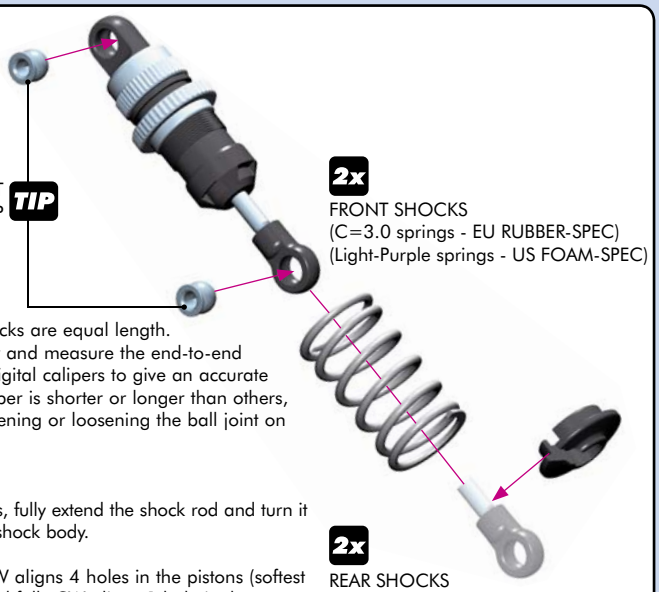
If the shock rod does not rebound enough, you will have to refill the shock with shock oil, and then repeat the bleeding and Shock Rebound procedures.

SET-UP BOOK
SHOCK DAMPING ADJUSTMENT
SPRING RATE SELECTION

Cutaway view of assembled shock absorber



CHECK NEXT TECH TIP TIP



2x
FRONT SHOCKS
(C=3.0 springs - EU RUBBER-SPEC)
(Light-Purple springs - US FOAM-SPEC)

2x
REAR SHOCKS
(C=2.6 springs - EU RUBBER-SPEC)
(White springs - US FOAM-SPEC)

Shock length adjustment:
It is VERY important that all shocks are equal length.
Fully extend the shock absorber and measure the end-to-end length; we recommend using digital calipers to give an accurate measurement. If a shock absorber is shorter or longer than others, adjust the shock length by tightening or loosening the ball joint on the shock rod.

Damping adjustment:
If you built the adjustable shocks, fully extend the shock rod and turn it slightly to lock the piston in the shock body.

Turning the shock rod fully CCW aligns 4 holes in the pistons (softest damping). Turning the shock rod fully CW aligns 1 hole in the pistons (hardest damping). The shocks have four settings, each of which can be felt by a slight "click".

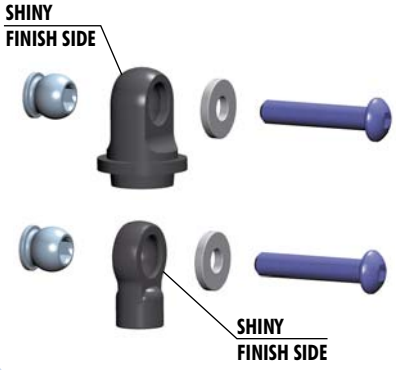
Set all four shocks initially to position 3 (3 holes open): turn fully CCW, then turn CW by 1 click.

TECH TIP

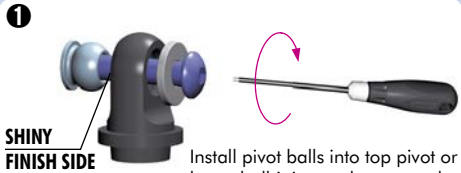
Follow this tech tip to properly install pivot balls into the top pivot and bottom ball joint.

Parts Needed:
• M3 x 16 SH screw
• M3 shim

Note that the composite parts have two sides, noticeable around the pivot ball hole: one side has a shiny finish, the other side has a regular finish.

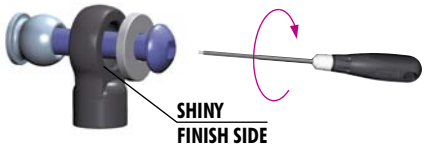


❶

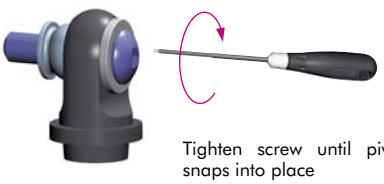


Install pivot balls into top pivot or lower ball joint as shown, on the proper sides.

Note that the lower pivot ball has an extra shoulder.

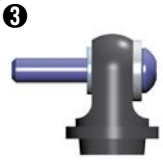


❷



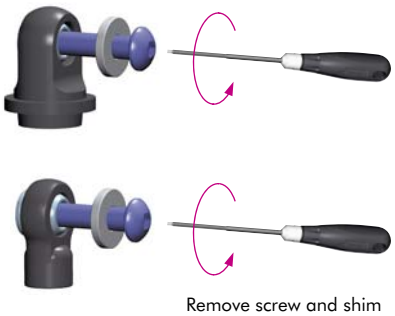
Tighten screw until pivot ball snaps into place

❸

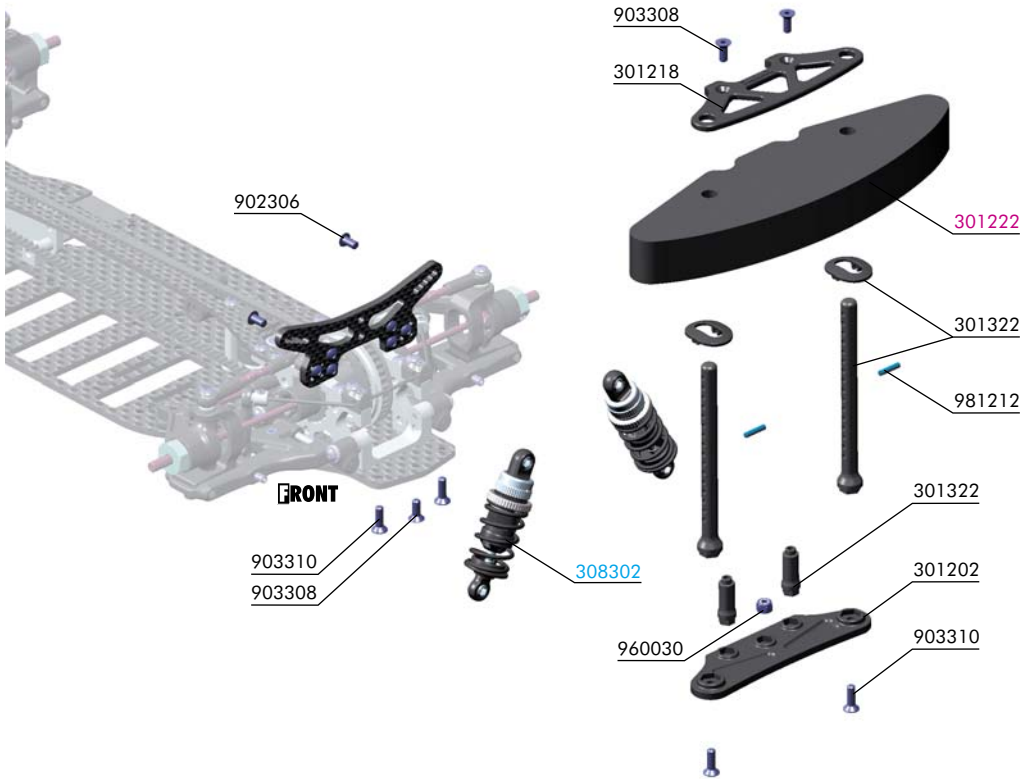


Ensure pivot balls move freely

❹



Remove screw and shim



BAG

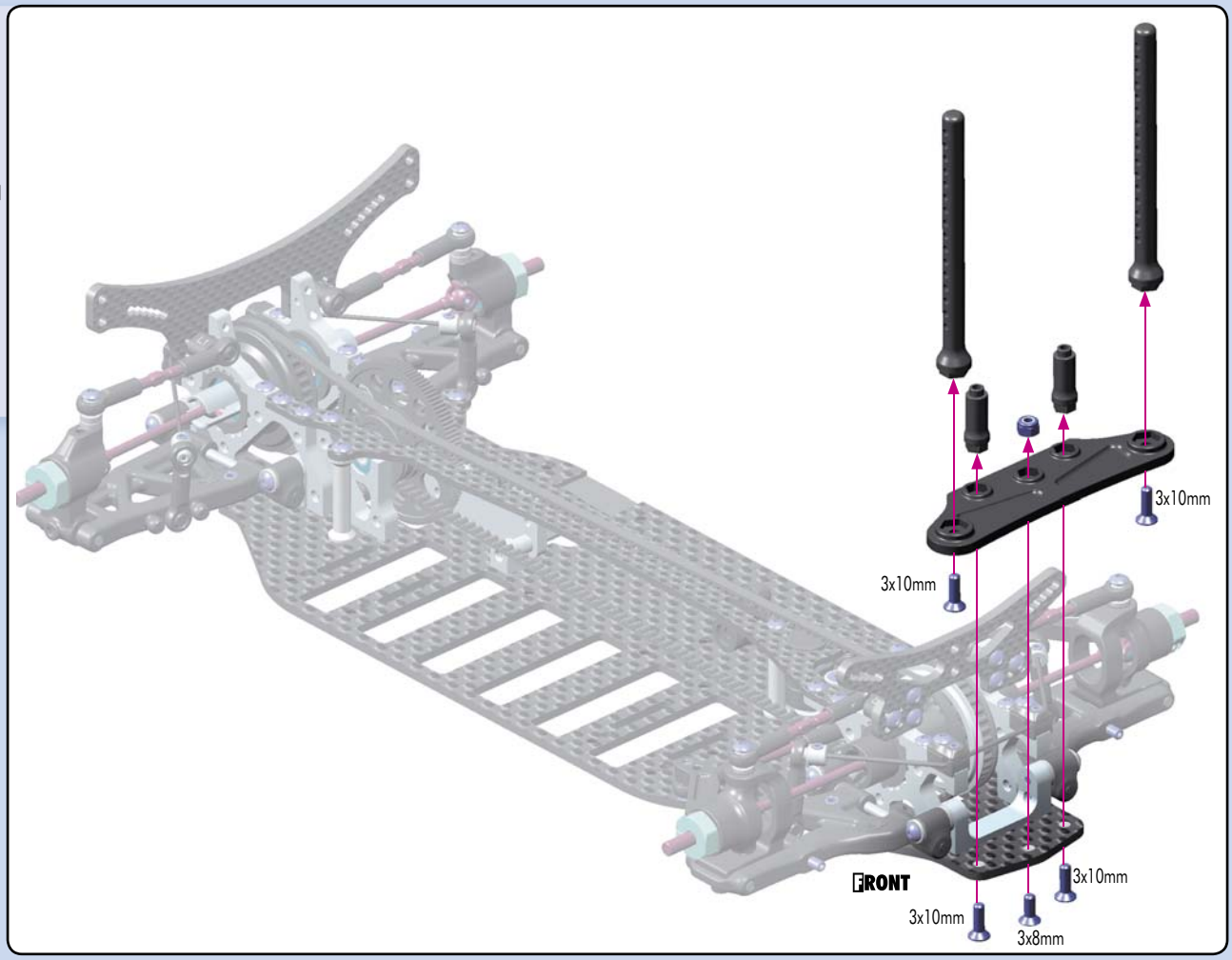
07

30 1202	COMPOSITE BUMPER
30 1218	COMPOSITE UPPER HOLDER FOR BUMPER
30 1322	FRONT BODY MOUNT SET 6MM
90 2306	HEX SCREW SH M3x6 (10)
90 3308	HEX SCREW SFH M3x8 (10)
90 3310	HEX SCREW SFH M3x10 (10)
96 0030	NUT M3 (10)
98 1212	PIN 2x12 (10)
30 1222	T2 FOAM BUMPER
30 8302	T2'008 XRAY SHOCK ABSORBER-SET 4-STEP - SHORT (2)

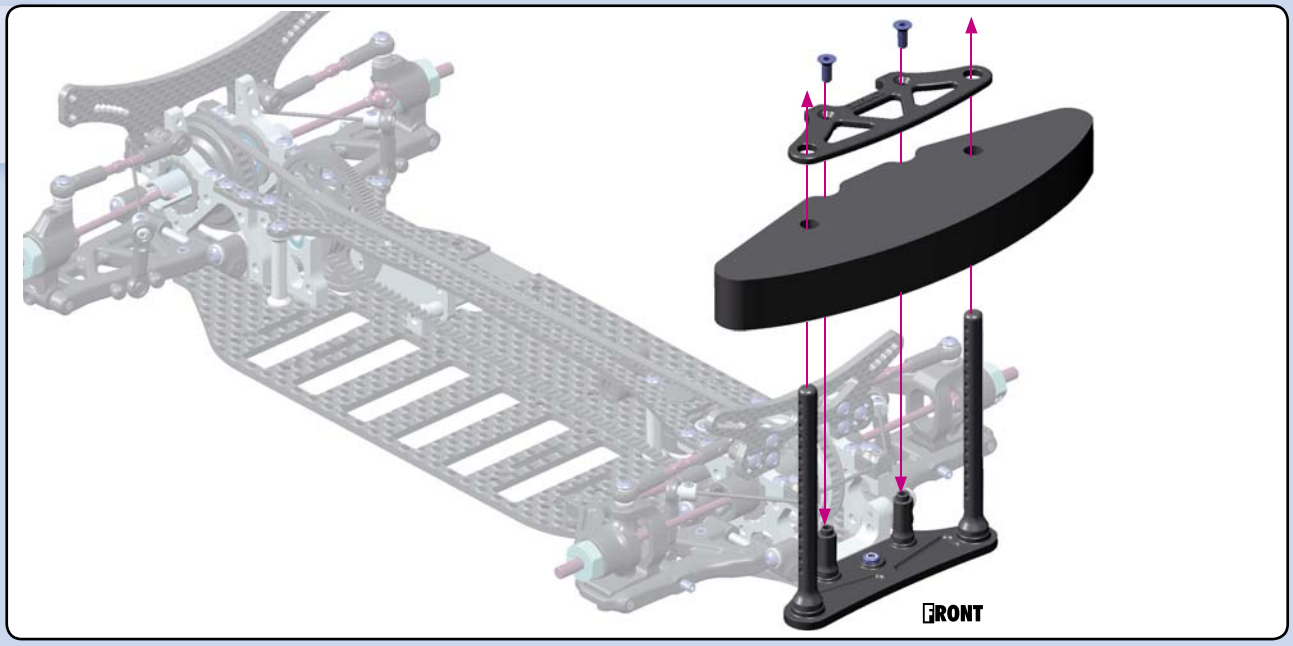
903308
SFH M3x8

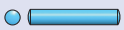
903310
SFH M3x10

960030
N M3x10

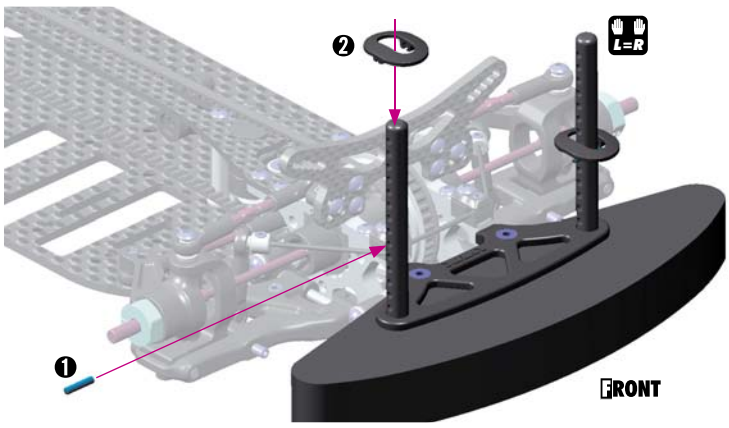


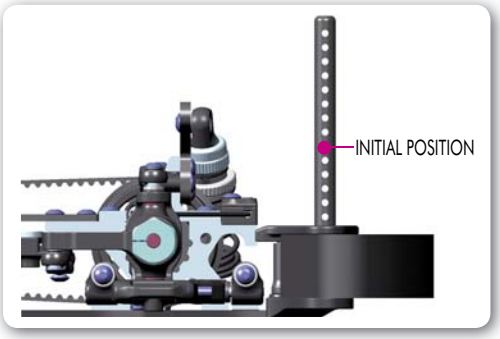
903308
SFH M3x8



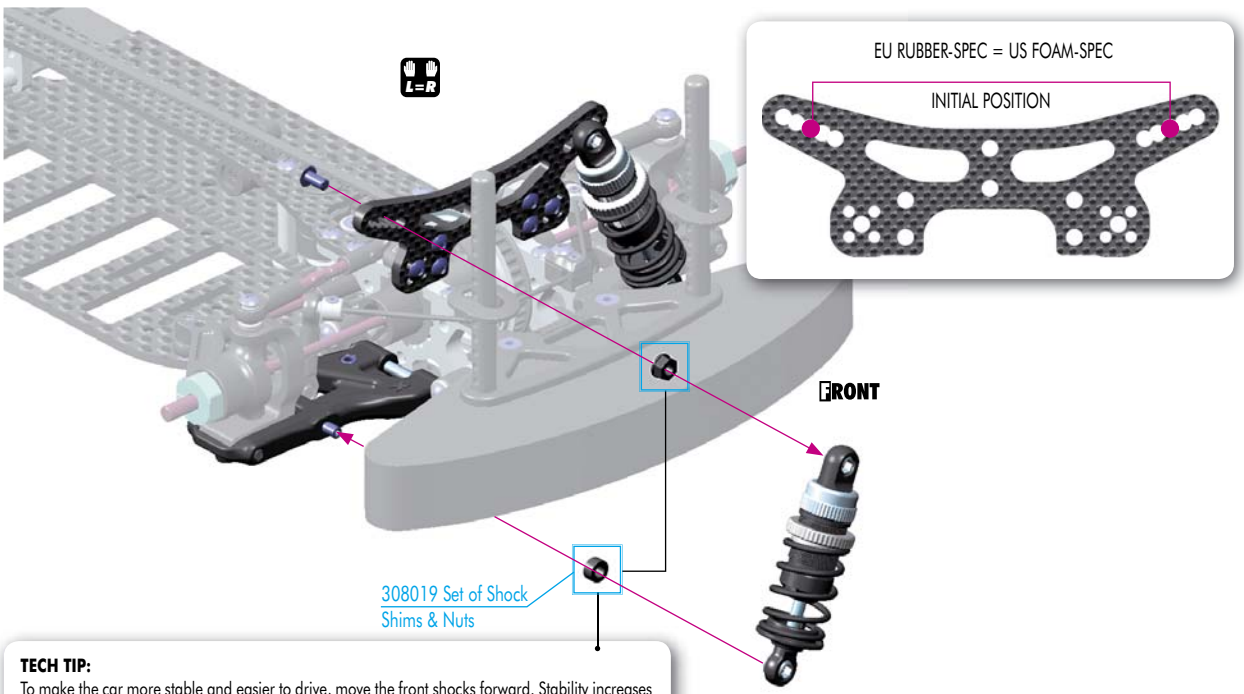


981212
P 2x12





902306
SH M3x6



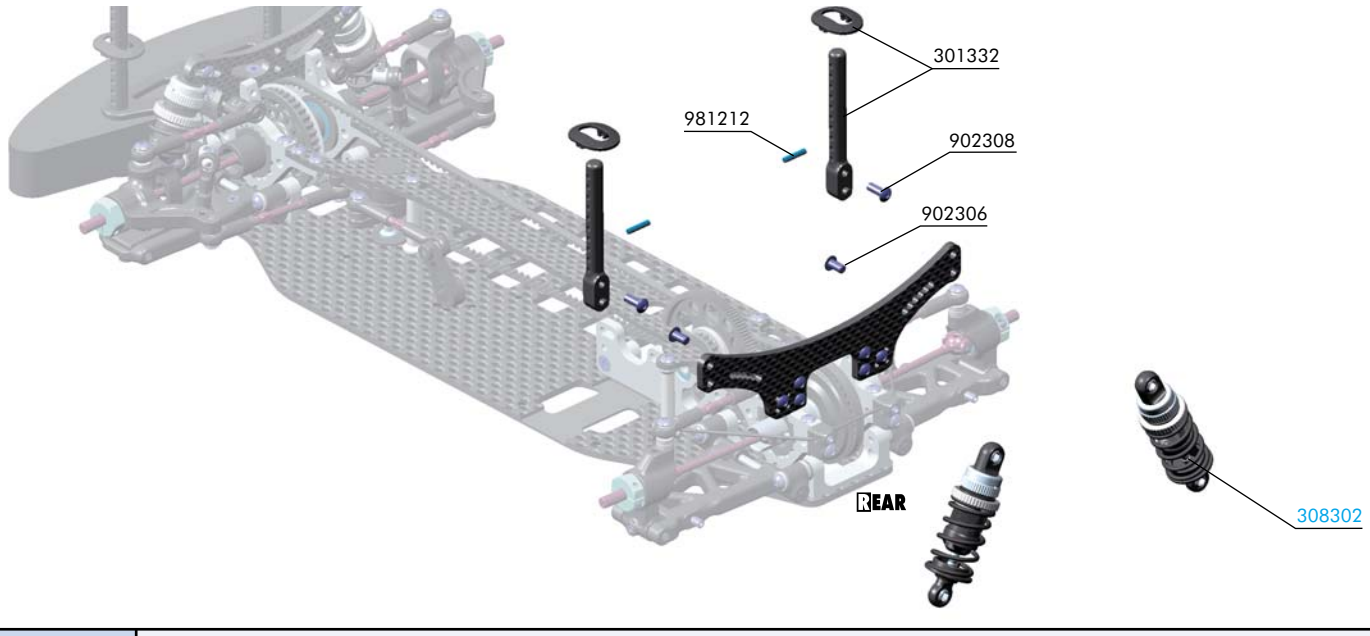
TECH TIP:
To make the car more stable and easier to drive, move the front shocks forward. Stability increases mainly in chicanes. Note that the car will have less steering into corners.

- Upper mount (shock tower): Add a plastic nut and use a longer screw 3x8mm (NOT INCLUDED) to space the upper end of the shock away from the shock tower.
- Lower mount (lower arm): Add shims and use a longer setscrew 3x10mm (NOT INCLUDED) on the lower arms to space the lower end of the shock away from the arm.

FRONT SHOCK
(C3.0 SPRING - EU RUBBER-SPEC)

FRONT SHOCK
(LIGHT-PURPLE SPRING - US FOAM-SPEC)

SHOCK POSITION ADJUSTMENT
RIDE HEIGHT ADJUSTMENT
DROOP ADJUSTMENT

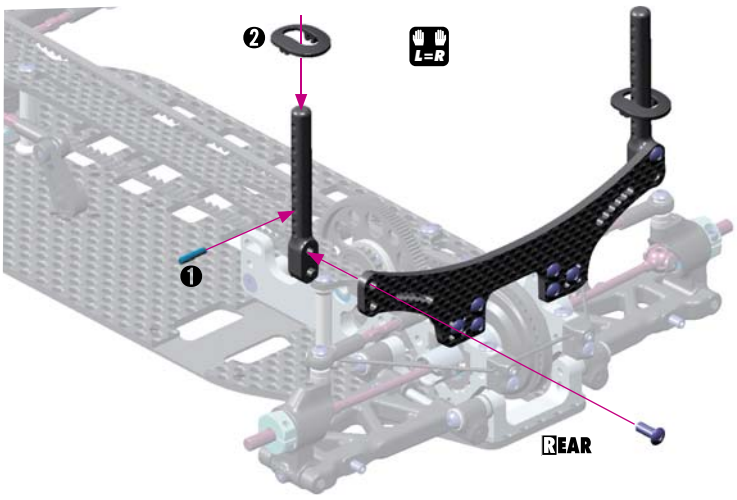


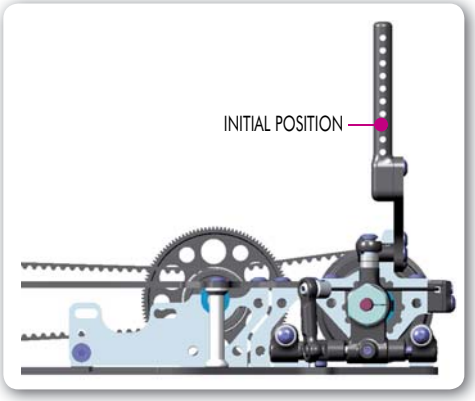
BAG 07

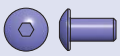
30 1332	REAR BODY MOUNT SET 6MM	98 1212	PIN 2x12 (10)
90 2306	HEX SCREW SH M3x6 (10)	30 8301	T2 XRAY SHOCK ABSORBER-SET 4-STEP - SHORT (2)
90 2308	HEX SCREW SH M3x8 (10)	30 8306	XRAY T2'008 ALU SHOCK ABSORBER-SET (2) (OPTION)

902308
SH M3x8

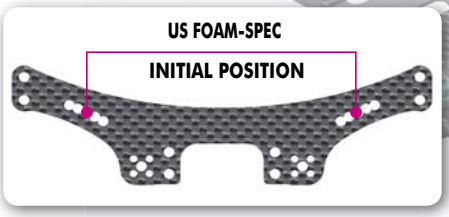
981212
P 2x12

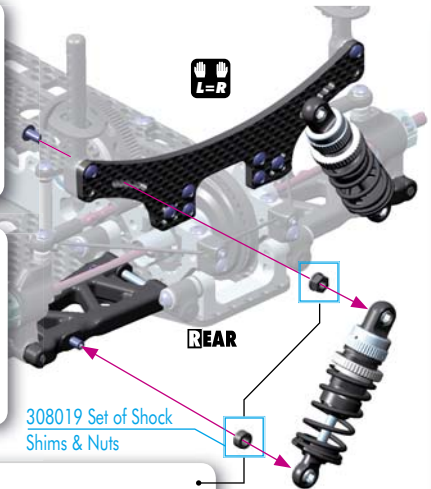






902306
SH M3x6





TECH TIP:
To make the car more stable and easier to drive, move the rear shocks rearward. Stability increases mainly in chicanes. Note that the car will have less steering into corners.

- Upper mount (shock tower): Add a plastic nut and use a longer screw 3x8mm (NOT INCLUDED) to space the upper end of the shock away from the shock tower.
- Lower mount (lower arm): Add shims and use a longer setscrew 3x10mm (NOT INCLUDED) on the lower arms to space the lower end of the shock away from the arm.

OPTIONAL INITIAL POSITION

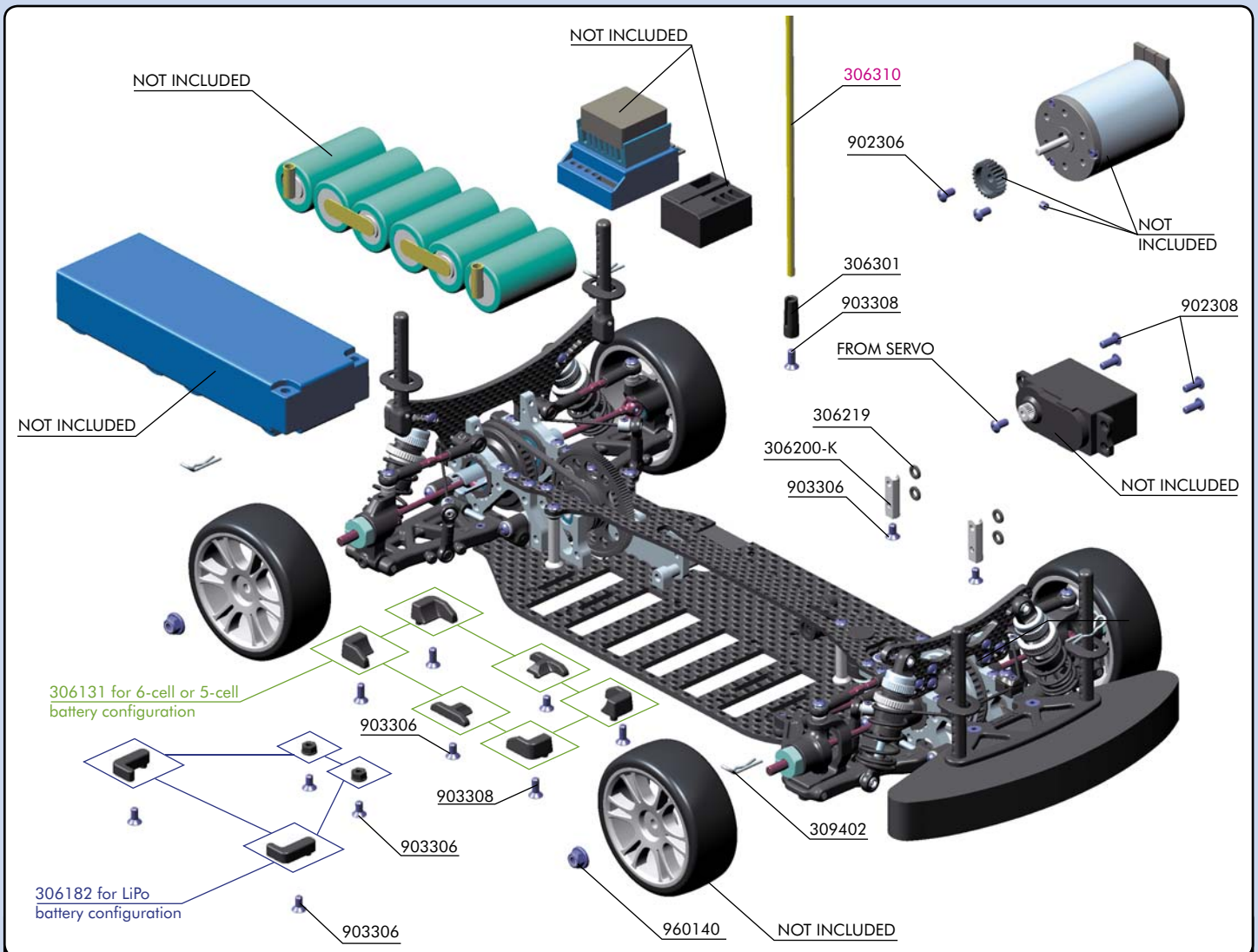
When using optional 2-hole arms and optional 1-hole rear upright, use the second hole from the bottom on the shock tower.

REAR SHOCK
(C2 .6 SPRING - EU RUBBER-SPEC)

REAR SHOCK
(WHITE SPRING - US FOAM-SPEC)

SHOCK POSITION ADJUSTMENT
RIDE HEIGHT ADJUSTMENT
DROOP ADJUSTMENT

8. FINAL ASSEMBLY



BAG 08

305912~88	NARROW PINION GEAR ALU HARD COATED (OPTION)	30 9402	BODY CLIP FOR 6MM BODY POST (4)
30 6131	SET OF COMPOSITE BATTERY BACKSTOPS - V2	90 2306	HEX SCREW SH M3x6 (10)
30 6163-K	GRAPHITE BATTERY STRAP 6-CELL (SET) - BLACK - (OPTION)	90 2308	HEX SCREW SH M3x8 (10)
30 6182	COMPOSITE LIPO BATTERY BACKSTOP (1+1)	90 3306	HEX SCREW SFH M3x6 (10)
30 6200-K	ALU SERVO MOUNT - BLACK (2)	90 3308	HEX SCREW SFH M3x8 (10)
30 6219	COMPOSITE SET OF SERVO SHIMS (4)	96 0140	NUT M4 WITH FLANGE (10)
30 6301	ANTENNA MOUNT - THIN	30 6310	ANTENNA (2)

306219
SHIM 3x6x1

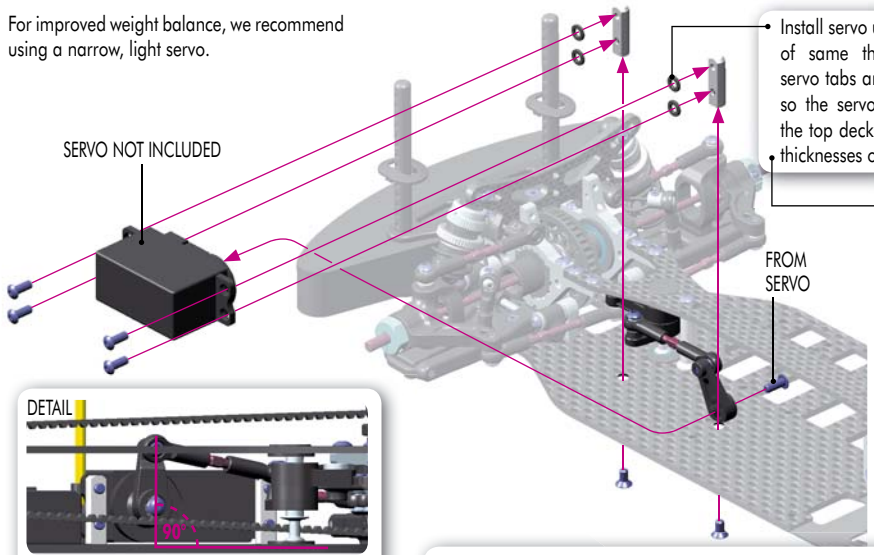
306219
SHIM 3x6x2

306219
SHIM 3x6x3

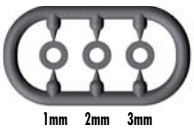
902308
SH M3x8

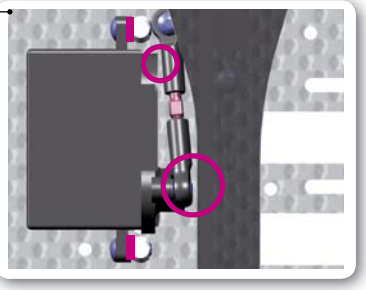
903306
SFH M3x6

For improved weight balance, we recommend using a narrow, light servo.



Install servo using 4 identical shims of same thickness between the servo tabs and the mounting posts so the servo arm does not touch the top deck. There are 3 different thicknesses of shims.





Attach servo arm to servo output shaft using screw from servo. Servo arm must be perpendicular to chassis when servo is in neutral.

IMPORTANT!

When adjusting steering on the radio, it is recommended to use full steering adjustment in order to get the best steering from the car. It is important to verify that the steering block does not touch the C-hub; that would lead to chassis tweak due to extra servo strain.

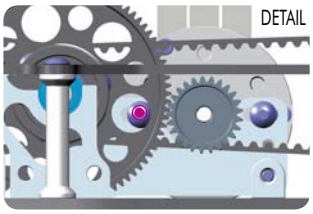
902306
SH M3x6

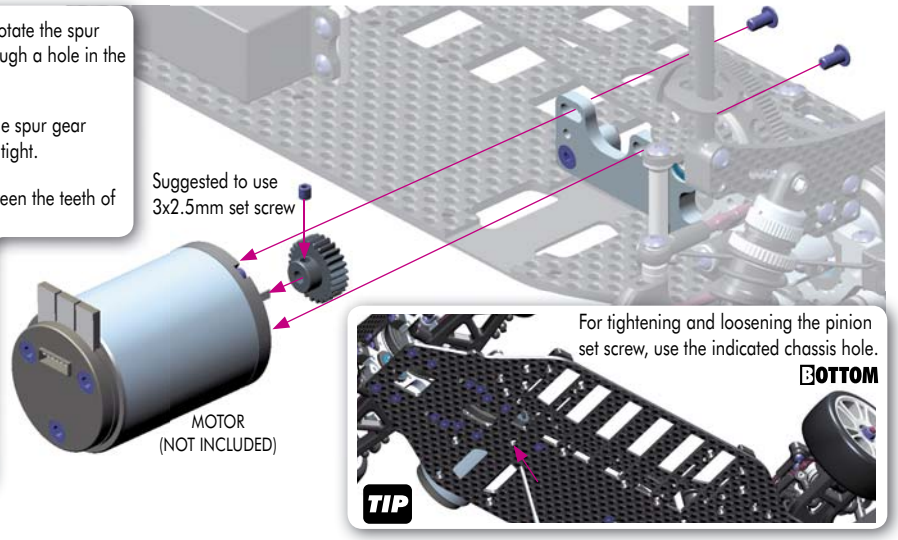
SET-UP BOOK
GEARING ADJUSTMENT

When installing the motor on the bulkhead, rotate the spur gear so the motor screw can be installed through a hole in the spur gear. See the detail image below.

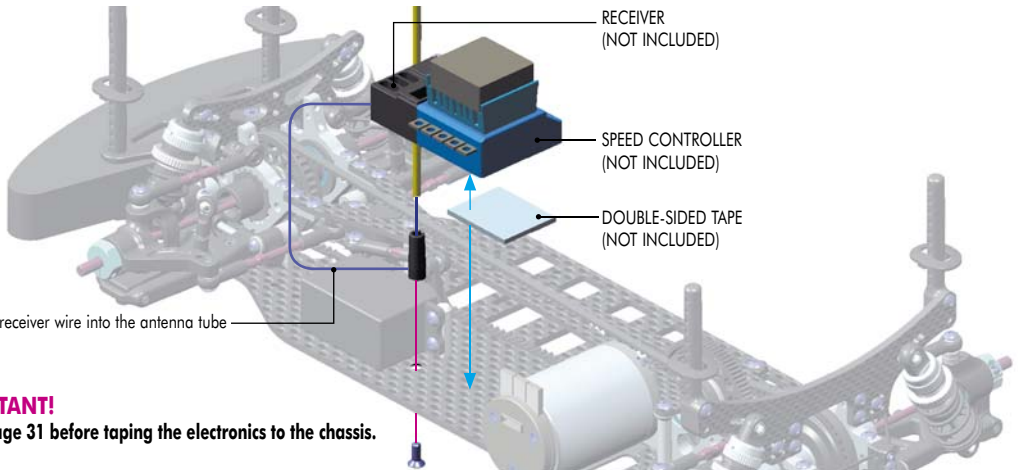
Adjust the motor so the pinion meshes with the spur gear properly. Make sure the gear mesh is not too tight.

There should be a small amount of play between the teeth of the pinion gear and the spur gear.





903308
SFH M3x8



IMPORTANT!
Check page 31 before taping the electronics to the chassis.

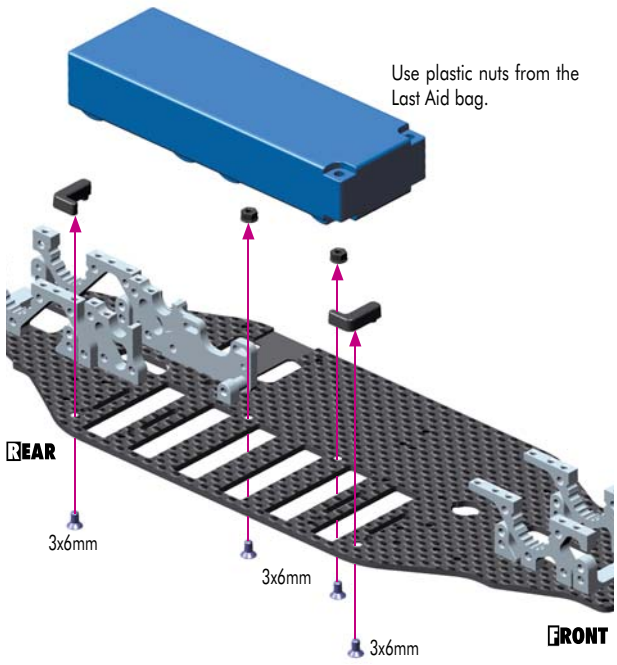
BATTERY ASSEMBLY CONFIGURATION

903306
SFH M3x6

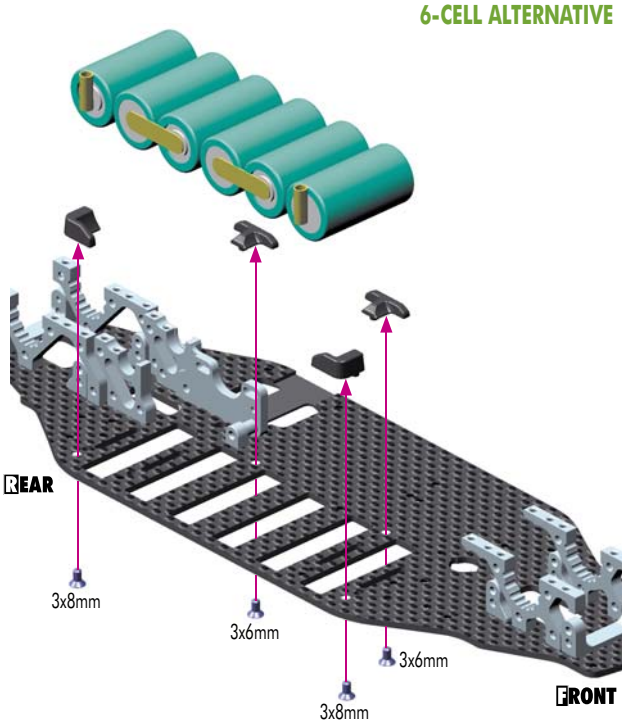
903308
SFH M3x8

LIPO ALTERNATIVE

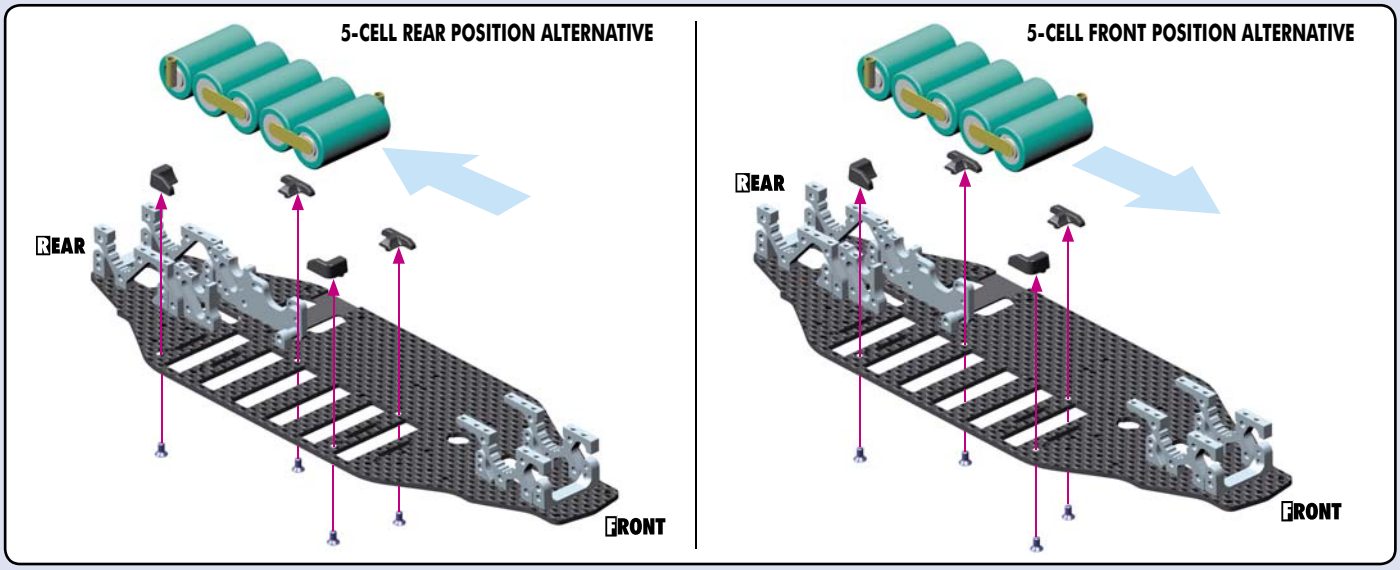
Use plastic nuts from the Last Aid bag.

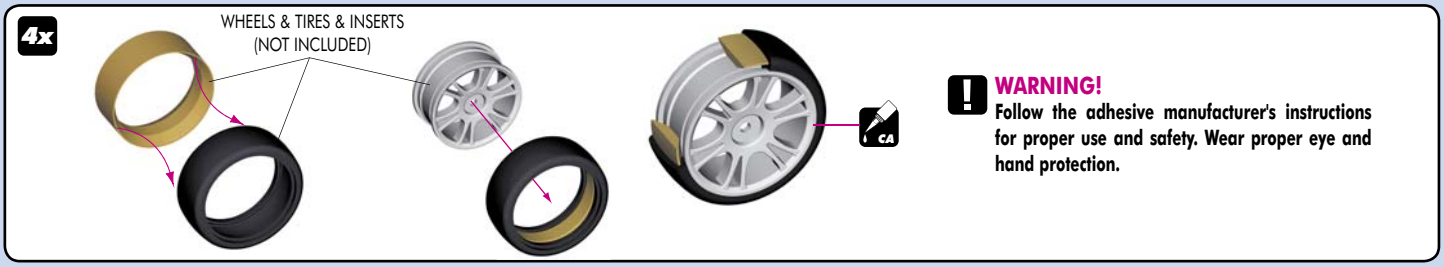


6-CELL ALTERNATIVE



BATTERY ASSEMBLY CONFIGURATION





WARNING!
Follow the adhesive manufacturer's instructions for proper use and safety. Wear proper eye and hand protection.

SET-UP BOOK
FOAM TIRE TIPS

US Foam-Spec Notice:

Some foam wheels may be slightly wider and may touch the front steering blocks. To correct this, we recommend grinding the inside edge of the wheel using a tire truer and a file. Make sure that both front tires/wheels are set to the same width, and that there are no rough edges.

Also, make sure that the front wheels and tires do not touch the steering blocks when the steering is turned, and that the wheels and tires do not touch the shocks.

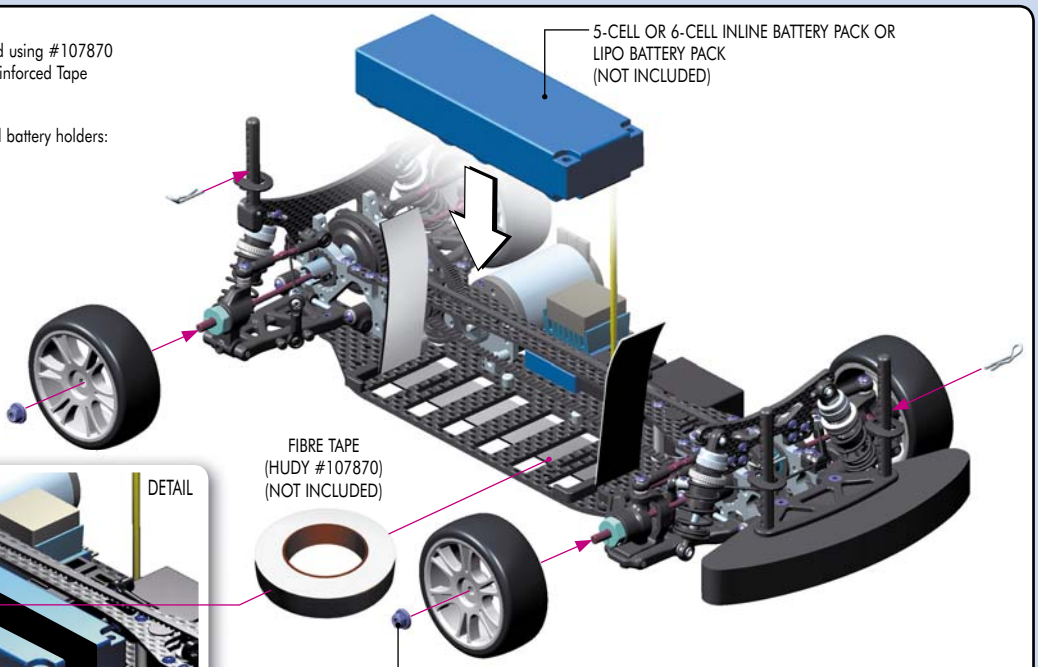
960140
N M4

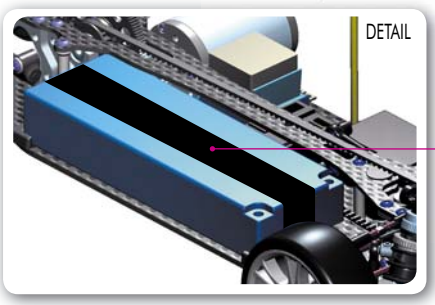
We recommend using #107870
HUDY Fibre Reinforced Tape

or the optional battery holders:

#306163-K XRAY Graphite Battery Holder (for 6-cell chassis) - Black

The XRAY Graphite Battery Holder can be used for LiPo as well. However, depending on the height of the LiPo batteries additional shims may have to be mounted below the stands.





Make sure the wheel nuts are very tight, so the wheels do not loosen during racing.

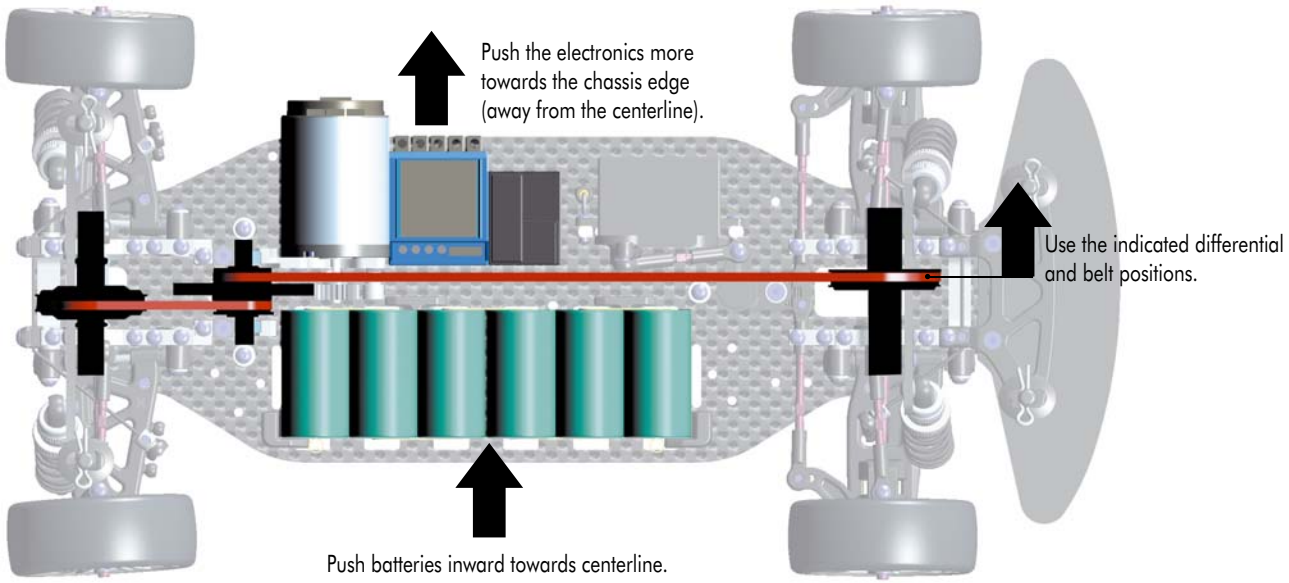
SET-UP BOOK
RIDE HEIGHT ADJUSTMENT
DROOP ADJUSTMENT

BALANCING CONFIGURATION

ALTERNATIVE
5-cell or 6-cell Battery Pack

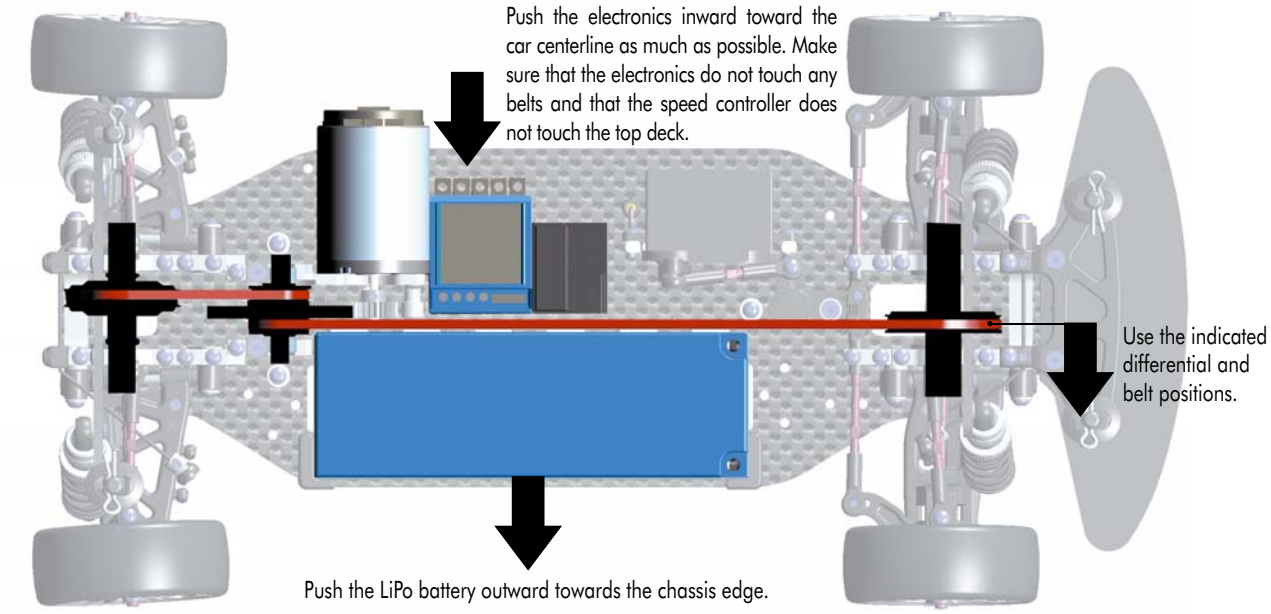
When using NiMH batteries, put the differentials and belts in the directions shown below. To balance the car, push the batteries inward towards the car centerline, and push the electronics outward toward the chassis edge.

You can check the balance on HUDY balancing tools #107880.



ALTERNATIVE
LiPo Battery Pack

When using LiPo batteries, the car balance is different than with NiMH batteries because LiPo batteries are much lighter. Therefore it is recommended to switch differential and belt positions. To balance the car, push the LiPo battery pack outward towards the chassis edge, and push the electronics inward toward the car centerline.
Approximately 30g of additional weight is needed to perfectly balance the car, depending on the electronics used.



NOTE
These battery alternatives can also be switched, meaning that you can use NiMH batteries with LiPo as alternative (and vice-versa).

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