XRAY XB2D 2019

1/10 LUXURY ELECTRIC OFF-ROAD CAR 2WD

INSTRUCTION MANUAL

DIRT EDITION

INTRODUCTION

The XRAY XB2 is a modern, high-competition premium luxury racing 1/10 electric 2WD off-road buggy that is the epitome of high-performance and fine distinctive design. Your XB2 offers highest performance, responsive handling, and traditionally exceptional XRAY quality, engineering, and design. The superb craftsmanship and attention to detail are clearly evident everywhere on the XRAY XB2.

XB2 was designed around a no compromise platform; the attention to detail creates a low maintenance, extra long life electric buggy. The ultra-low center of gravity (CG) and optimized weight balance makes set-up, driving, and maintenance easy and quick.

The XRAY XB2 was created by blending highest-quality materials and excellent design. On high-speed flat tracks or bumpy tracks, whether driving for fun or racing to win, the XB2 delivers outstanding performance, speed, and precision handling.

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.

CUSTOMER SUPPORT

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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. We do reserve all rights to change any specification without prior notice. All rights reserved.

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 threadlock	Apply CA glue	Apply oil
Scale	Apply grease	Optional parts	Ensure smooth non-binding movement	Tighten screw gently	Completed assembly	Detail	Apply cleaner

TOOLS REQUIRED

Scissors (HUDY #188990)

Special Tool for turnbuckles, nuts (HUDY #181090)

Turnbuckle Wrench 3mm (HUDY #181030)

Pocket Hobby Knife (HUDY #188981)

Side Cutters (HUDY #189010)

Combination Pliers (HUDY #189020)

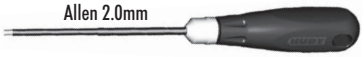
Professional Multi Tool (HUDY #183011)

Tweezer

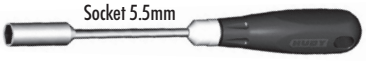
HUDY TOOLS:

Allen 1.5mm

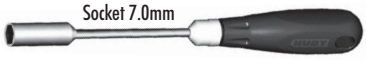
Allen 2.0mm



Socket 5.5mm



Socket 7.0mm



Arm Reamer 3.0mm

Reamer (HUDY #107600) or (HUDY #107601)

EQUIPMENT INCLUDED

HUDY Premium Silicone Oils

Oil 300cSt (#106330)

Oil 350cSt (#106335)

Graphite Grease (HUDY #106210)

NOT INCLUDED

Follow Set-Up Book

To ensure that you always have access to the most up-to-date version of the Set-up Book you can download the HUDY Set-up Book from their web site at [www.hudy.net] By offering this online version instead of including a hardcopy printed version in kits, you will always be assured of having the most current updated version.

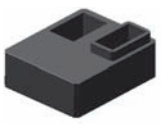
SAMPLE OF OPTIONAL PARTS	
#32XXXX	OPTION 1
#32XXXX	OPTION 2
#32XXXX	INCLUDED
#32XXXX	OPTION 3

XRAY offers wide range of optional tuning parts which are listed in a table like this. Please refer to the exploded view of each main section to verify which part is included in the kit while all other parts are available only as an optional part and must be purchased separately.

EQUIPMENT REQUIRED

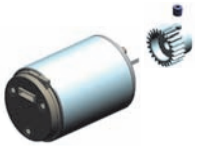
Transmitter

Receiver



Steering Servo

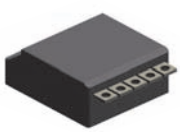
Electric Motor & Pinion Gear with Setscrew



Bearing Oil (HUDY #106230)

CA glue

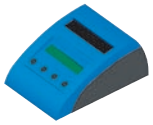
Speed Controller



LiPo Battery

Lexan™ Paint

Battery Charger

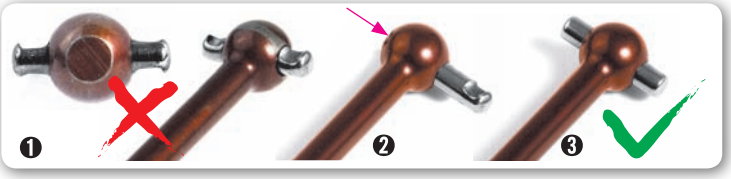


Double-sided Tape (HUDY #107875)

Tires & Inserts

TIP DRIVE SHAFT PIN SERVICING

To enjoy the longest possible lifespan of the drive shafts and diff outdrives, it is extremely important to properly service the drive shaft pins. Inspect the pins after every 3 hours of runtime. If the pins show any wear, replace them with new pins.



1. Do not use drive shafts when the pins are worn.
2. Press out the worn pins.
3. Press in new pins and regularly inspect for wear.

For quick & easy drive pin replacements use #106000 HUDY Drive Pin Replacement Tool together with #106036 Ejector Pivot Pin & Alternating Pivot 2.5mm.

To replace the worn pins use only premium HUDY drive pins #106053.

TIP GRAPHITE PARTS PROTECTION

Protect all XB2 Graphite Parts:

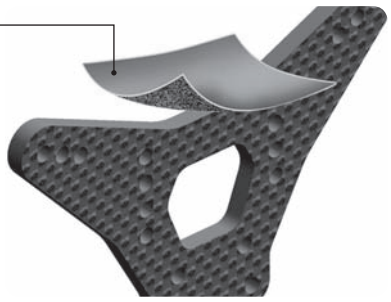
- Front shock tower
- Rear shock tower

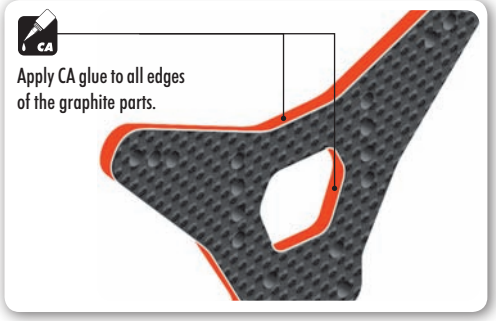
! SHOCK TOWER PROTECTION

Please follow the Instruction Manual and seal the edges of the shock towers with CA to reinforce them and help prevent delamination.

Fine sandpaper

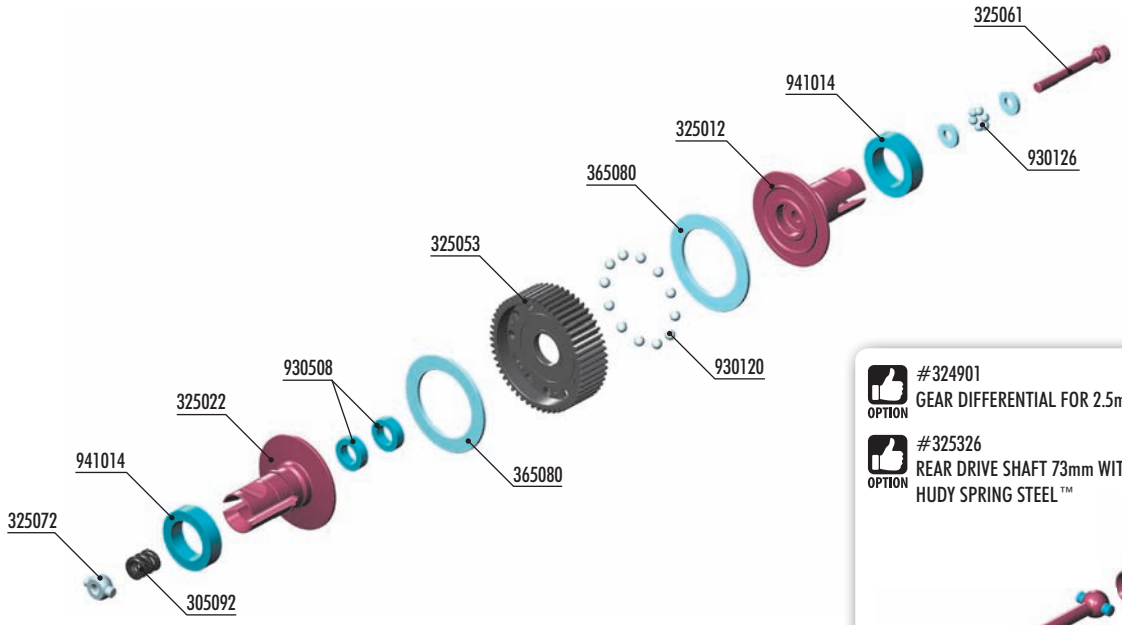
Use fine sandpaper to sand smooth the edges of all graphite parts.





Apply CA glue to all edges of the graphite parts.

1. DIFFERENTIAL



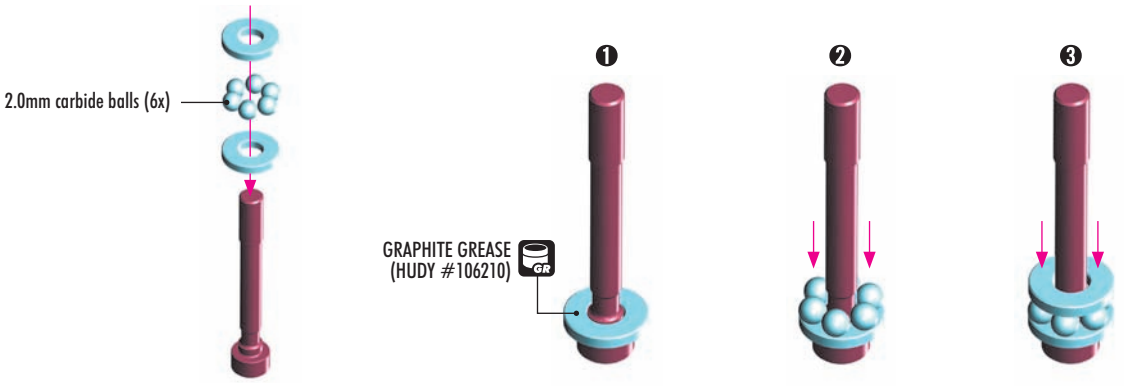
OPTION #324901
GEAR DIFFERENTIAL FOR 2.5mm PIN - SET

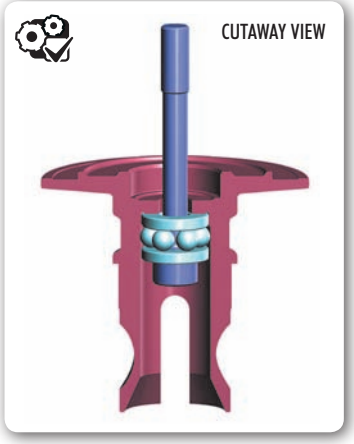
OPTION #325326
REAR DRIVE SHAFT 73mm WITH 2.5mm PIN
HUDY SPRING STEEL™

BAG 01

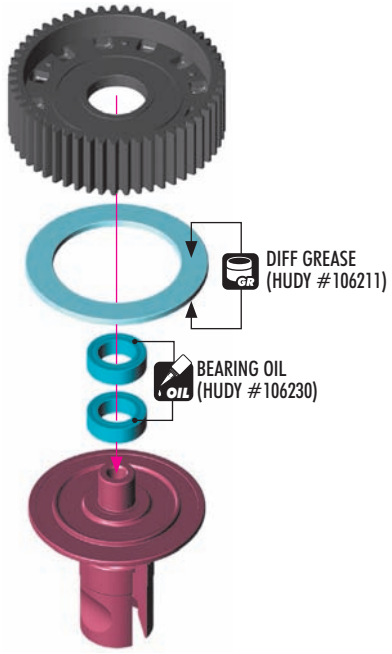
30 5092	BALL DIFFERENTIAL SPRING	32 5072	ALU BALL DIFFERENTIAL NUT
32 5002	BALL ADJUSTABLE DIFFERENTIAL FOR 2.5mm PIN SET - SPRING STEEL™	36 5080	DIFF WASHER 17 x 24.5 x 1 (2)
32 5012	BALL DIFF SHORT OUTPUT SHAFT - HUDY SPRING STEEL™	93 0120	CARBIDE BALL 2.4mm FOR BALL DIFF (12)
32 5022	BALL DIFF LONG OUTPUT SHAFT - HUDY SPRING STEEL™	93 0126	CARBIDE BALL-BEARING AXIAL 2.6x6x1
32 5053	COMPOSITE BALL DIFFERENTIAL GEAR 53T	93 0508	BALL-BEARING 5x8x2.5 STEEL SEALED - OIL (2)
32 5061	SCREW FOR BALL DIFF ADJUSTMENT - SPRING STEEL™	94 1014	BALL-BEARING 10x15x4 RUBBER SEALED - GREASE (2)

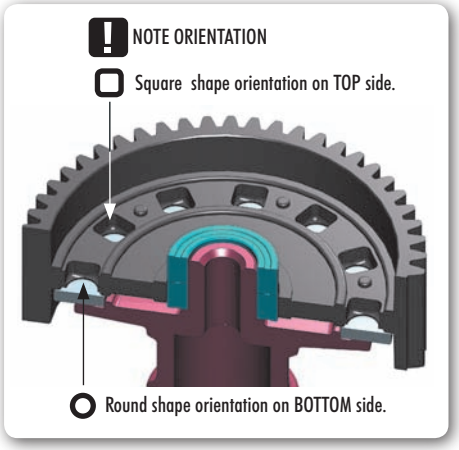
930126
BA 2.6x6x1



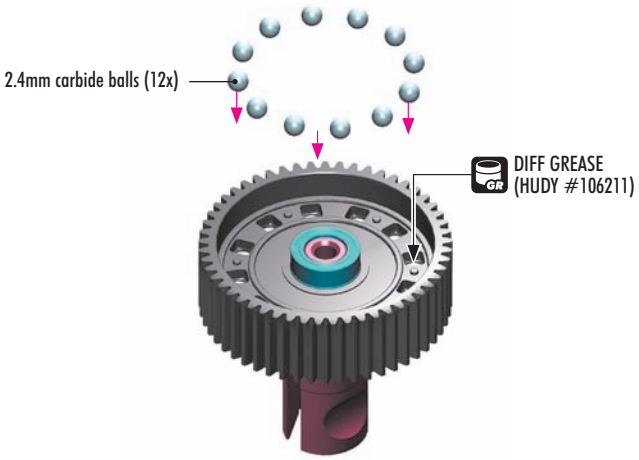


930508
BB 5x8x2.5

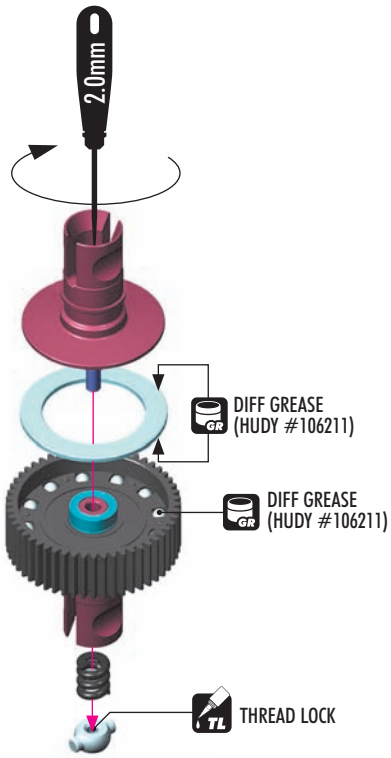


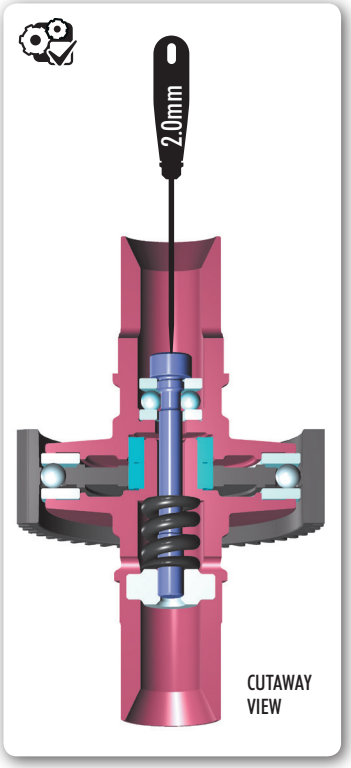


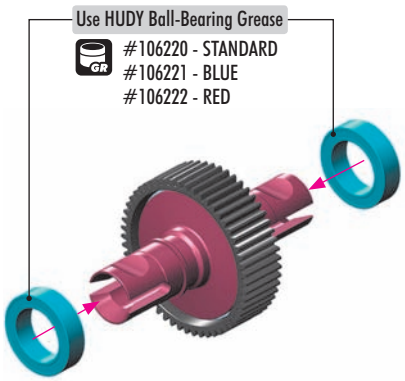
930120
B 2.4



941014
BB 10x15x4



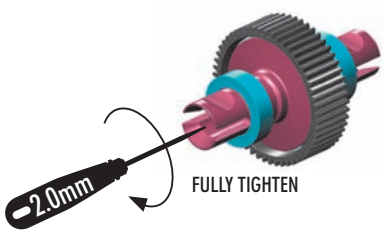




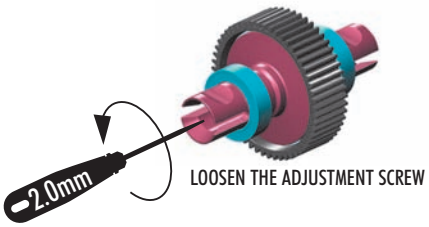
BALL DIFF BREAK-IN & SET-UP INFO

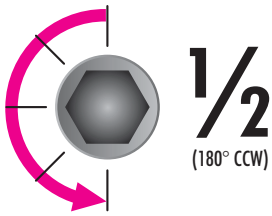
BEFORE RACING, follow these steps to properly break in the differential.

❶

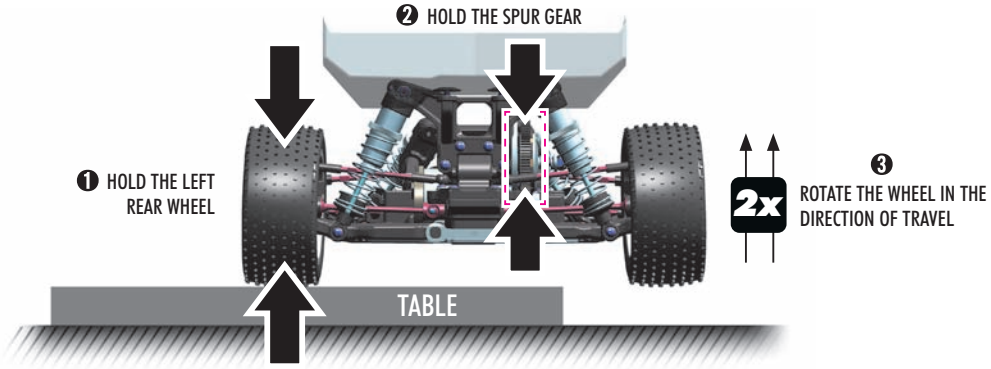


❷ Loosen the adjustment screw 1/2 turn (180° CCW).

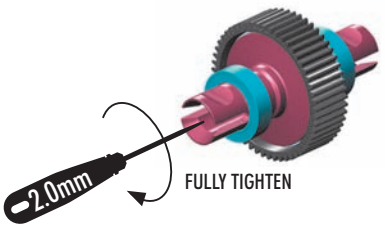




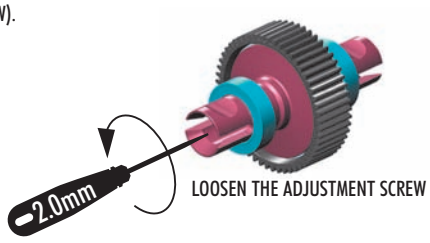
❸

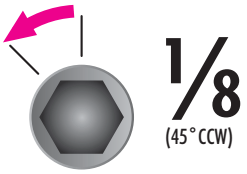


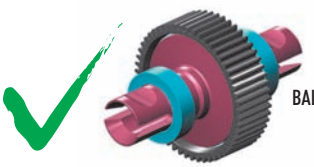
❹



❺ LOOSEN THE ADJUSTMENT SCREW 1/8 TURN (45° CCW).



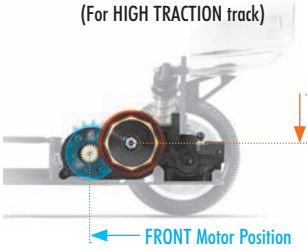


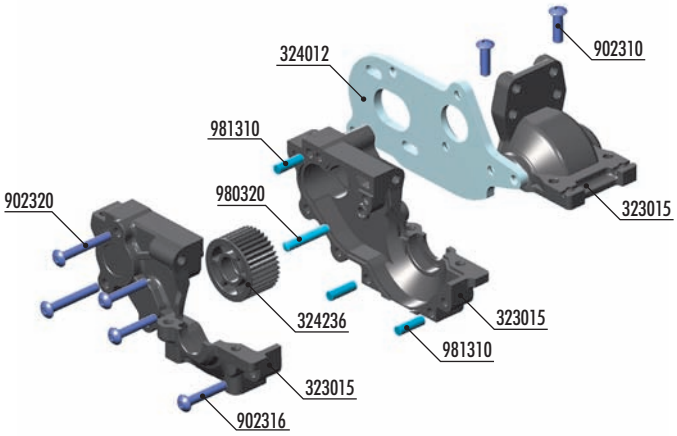


BAG 02

GEAR BOX
FRONT MOTOR POSITION

(For HIGH TRACTION track)



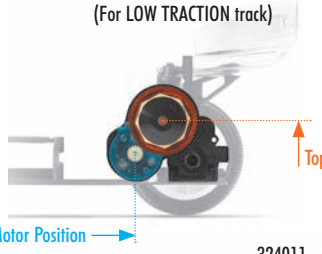


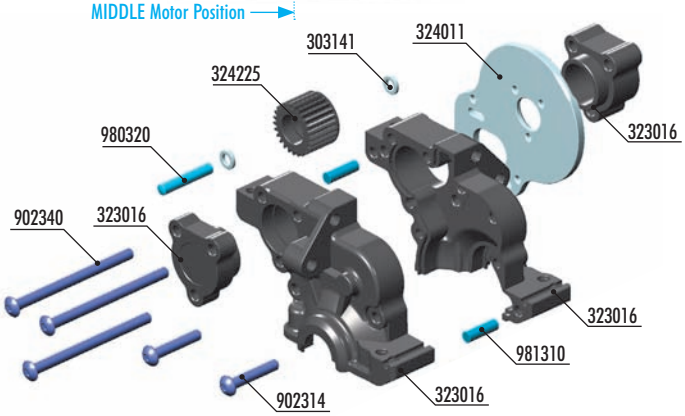
For Front motor Gear box assembly follow instructions on page 10 .

BAG 08

GEAR BOX
MIDDLE MOTOR POSITION

(For LOW TRACTION track)





For Middle motor Gear box assembly follow instructions on page 13 .

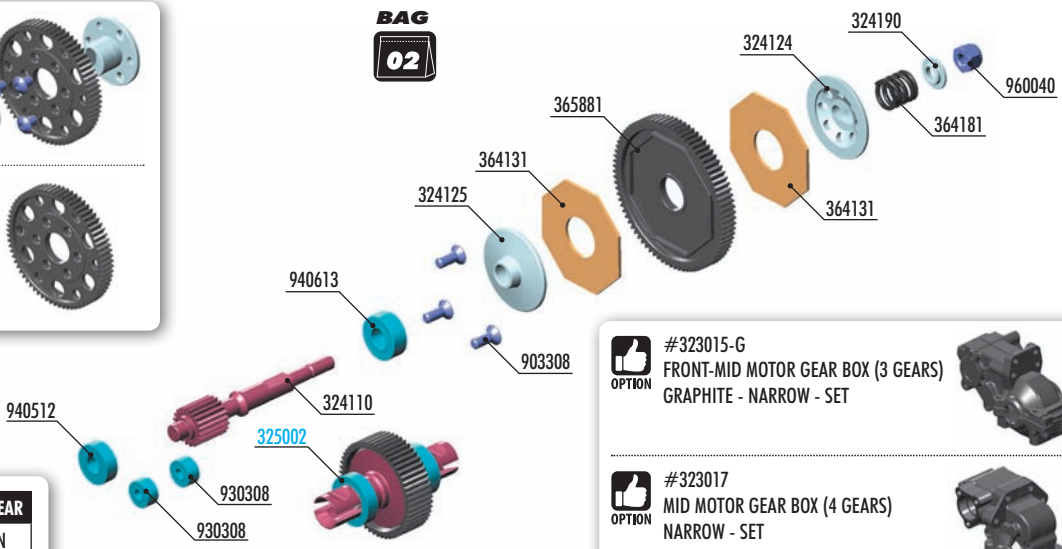
OPTION

#324100
SLIPPER ELIMINATOR - SET
(69T / 48 SPUR GEAR)

OPTION

#325872
SLIPPER ELIMINATOR
SPUR GEAR 72T / 48

BAG 02



OPTION

3-PAD SLIPPER CLUTCH SPUR GEAR		
#365875	75T / 48	OPTION
#365878	78T / 48	OPTION
#365881	81T / 48	INCLUDED
#365884	84T / 48	OPTION
#365887	87T / 48	OPTION

OPTION

#323015-G
FRONT-MID MOTOR GEAR BOX (3 GEARS)
GRAPHITE - NARROW - SET

OPTION

#323017
MID MOTOR GEAR BOX (4 GEARS)
NARROW - SET

OPTION

#980320-T
TITAN PIN 3x20 (2)

BAG 02

32 3015	COMPOSITE FRONT-MID MOTOR GEAR BOX (3 GEARS) - NARROW - SET	
32 4012	ALU FRONT-MID MOTOR (3 GEARS) PLATE - SWISS 7075 T6 (3mm)	
32 4110	ALU TOP SHAFT 20T - SWISS 7075 T6 - HARD COATED	
32 4124	ALU 2-PAD SLIPPER CLUTCH PLATE - SWISS 7075 T6	
32 4125	ALU 2-PAD SLIPPER CLUTCH PLATE WITH ADAPTER	
32 4190	ALU SLIPPER CLUTCH SHIM	
32 4236	COMPOSITE GEAR 36T - GRAPHITE	
36 4131	SLIPPER CLUTCH PAD "SLS" - V2 (2)	
36 4181	SLIPPER CLUTCH SPRING C=45 - BLACK	
36 5881	COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 81T / 48	
90 2310	HEX SCREW SH M3x10 (10)	
90 2316	HEX SCREW SH M3x16 (10)	
90 2320	HEX SCREW SH M3x20 (10)	
90 3308	HEX SCREW SFH M3x8 (10)	
93 0308	BALL-BEARING 3x8x4 STEEL SEALED - OIL (2)	
94 0512	BALL-BEARING 5x12x4 RUBBER SEALED - OIL (2)	
94 0613	BALL-BEARING 6x13x5 RUBBER SEALED - OIL (2)	
96 0040	NUT M4 (10)	
98 0320	PIN 3x20 (10)	
98 1310	PIN 3x10 (10)	
32 5002	BALL ADJUSTABLE DIFF FOR 2.5mm PIN - SET - HUDY SPRING STEEL™	

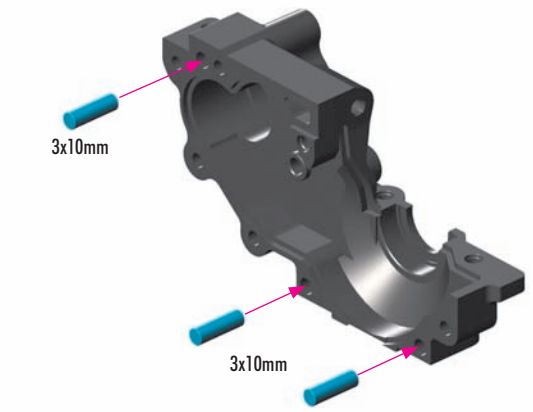
BAG 08

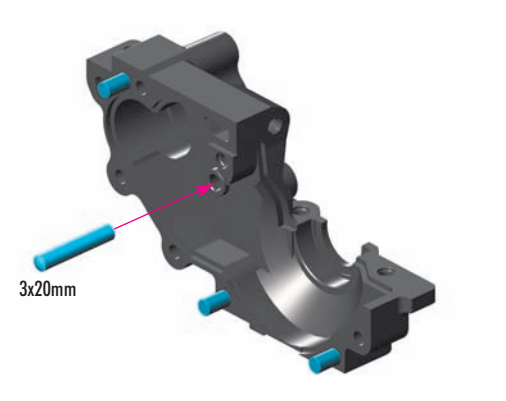
30 3141	ALU SHIM 3x5x1.0mm (10)	
32 3016	COMPOSITE MID MOTOR GEAR BOX (3 GEARS) - NARROW - SET	
32 4011	ALU MID & REAR MOTOR PLATE - SWISS 7075 T6 (3mm)	
32 4225	COMPOSITE GEAR 25T - GRAPHITE	
90 2314	HEX SCREW SH M3x14 (10)	
90 2340	HEX SCREW SH M3x40 (10)	

GEAR BOX
FRONT MOTOR POSITION
(For HIGH TRACTION track)

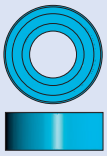

981310
P 3x10

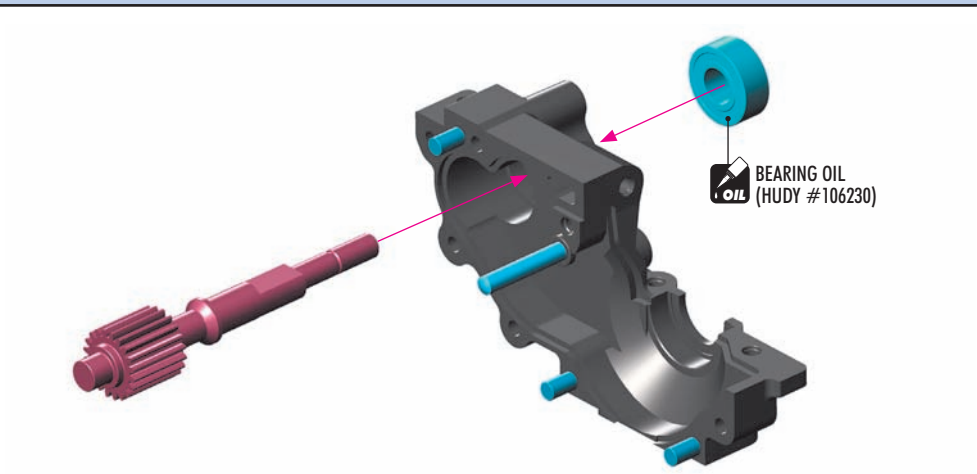

980320
P 3x20



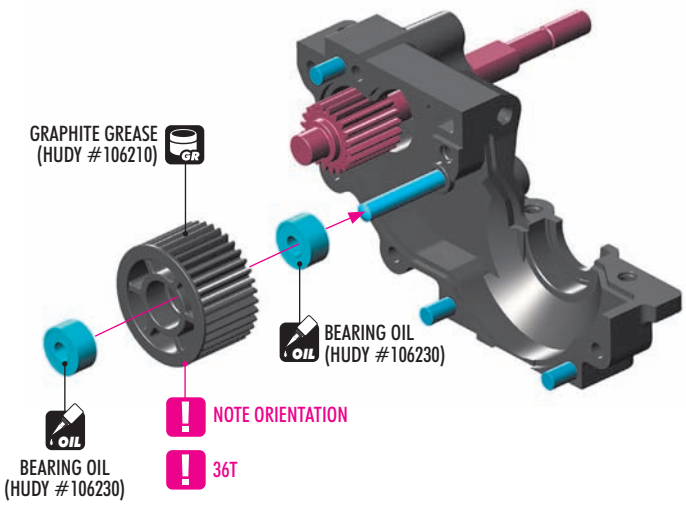


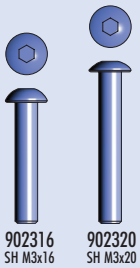
OPTION
#323015-G
COMPOSITE FRONT-MID
MOTOR GEAR BOX (3 GEARS)
GRAPHITE - NARROW - SET


940613
BB 6x13x5



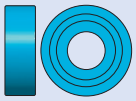

930308
BB 3x8x4



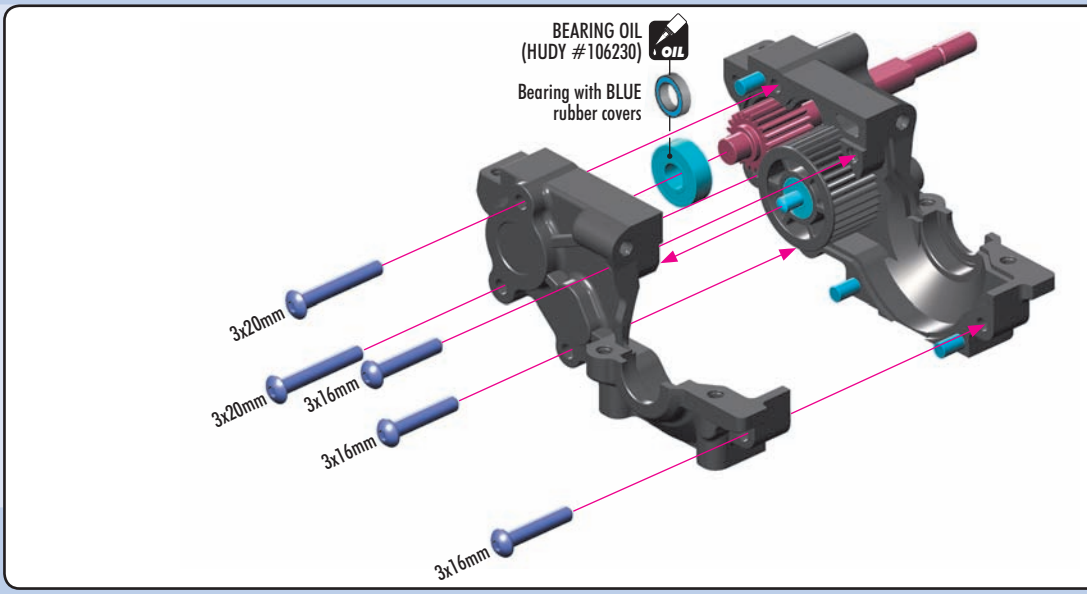


902316
SH M3x16

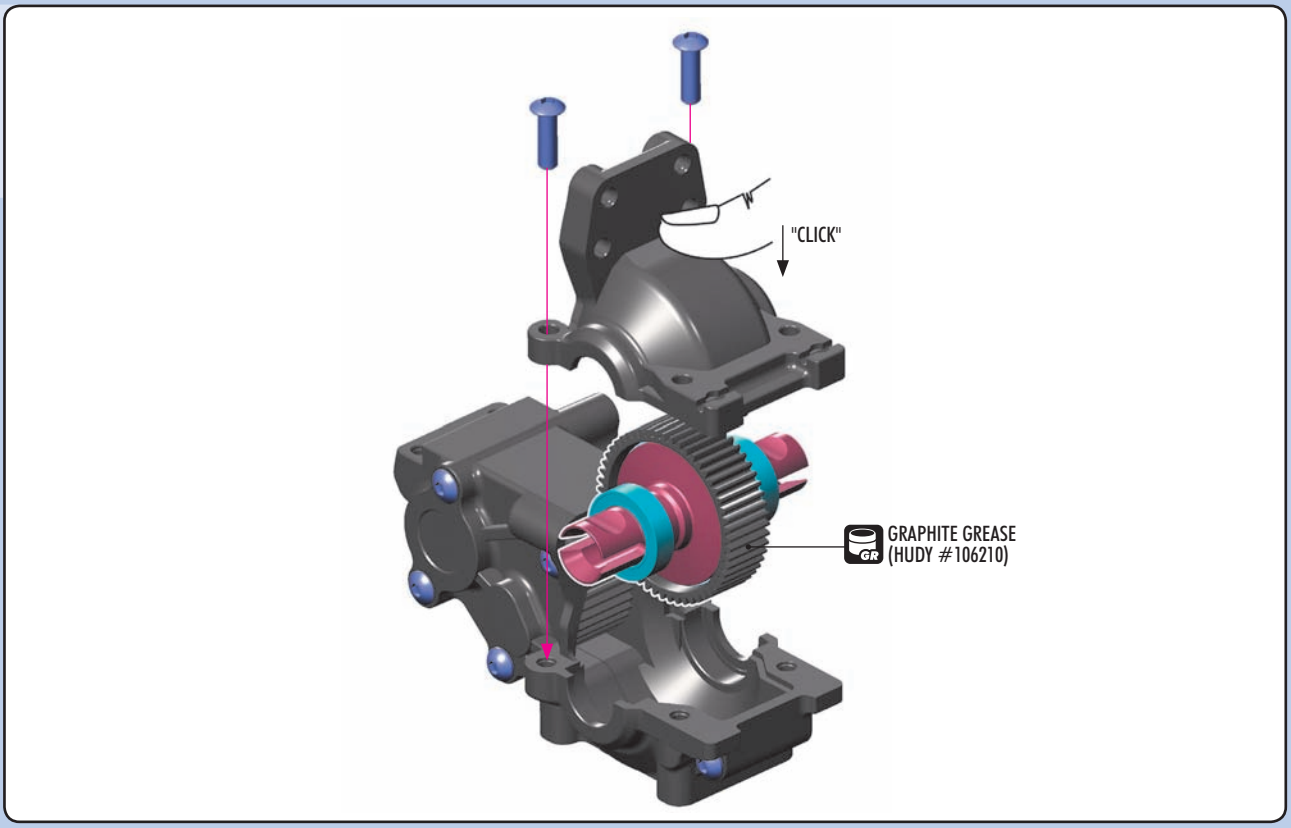
902320
SH M3x20

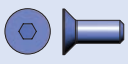


940512
BB 5x12x4

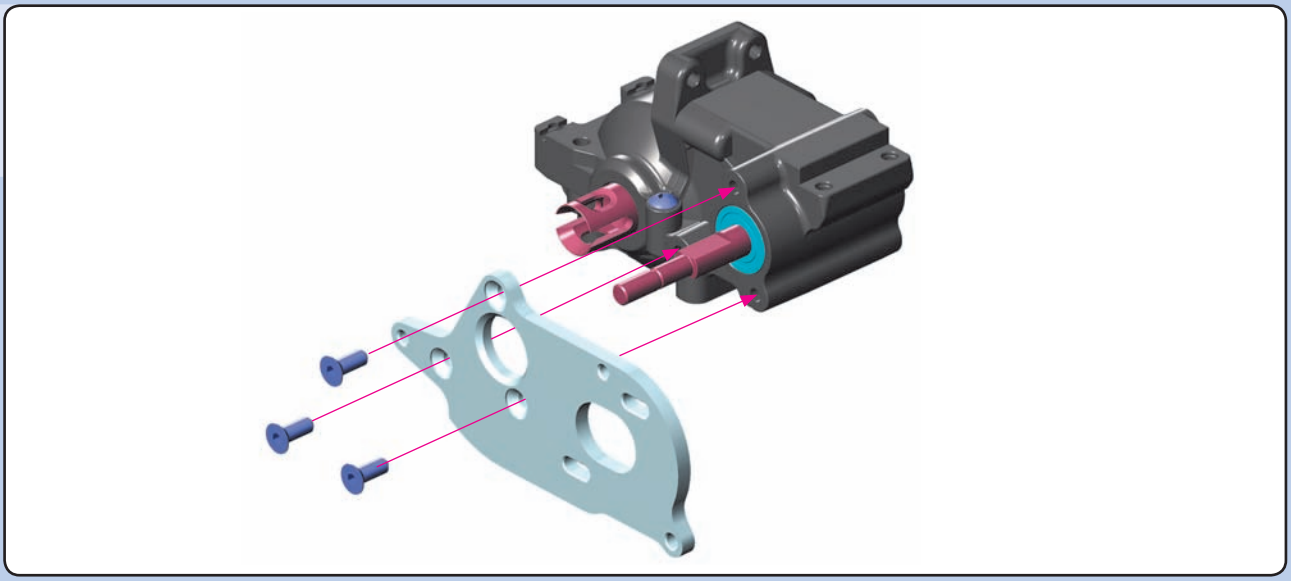


902310
SH M3x10

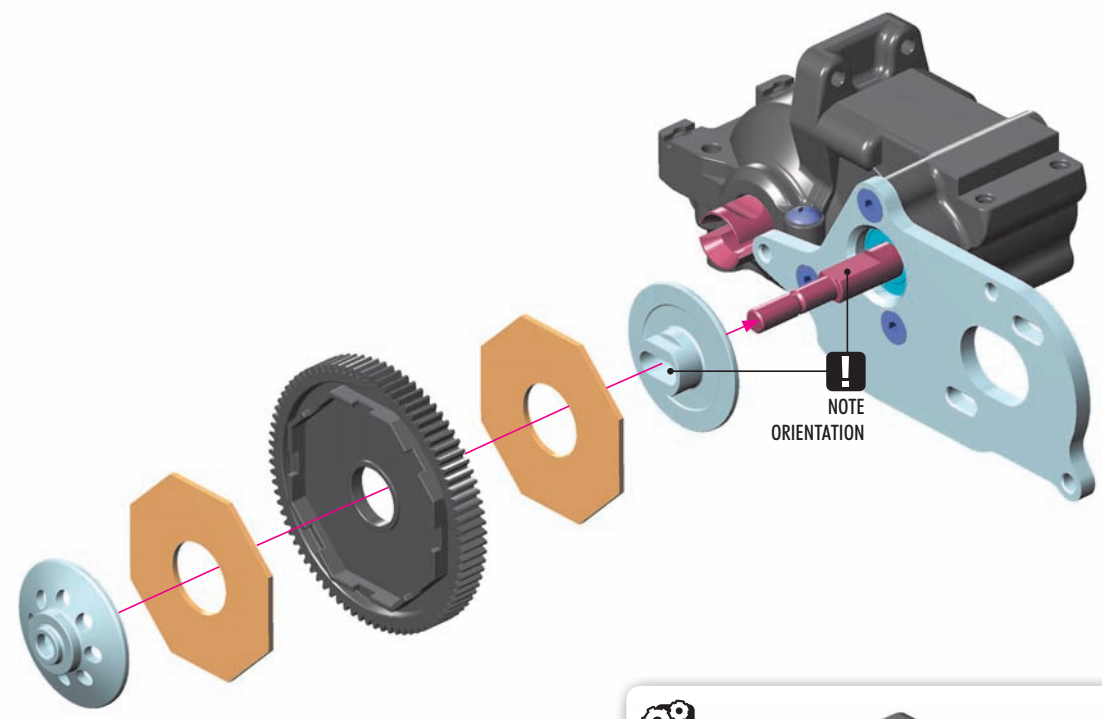


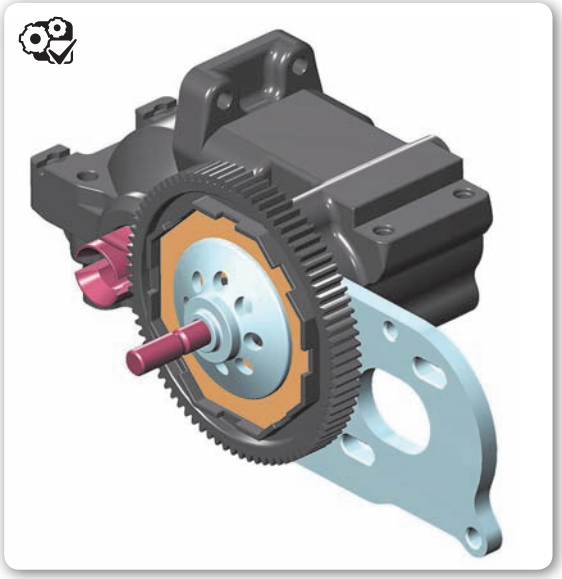


903308
SFH M3x8



2. REAR TRANSMISSION

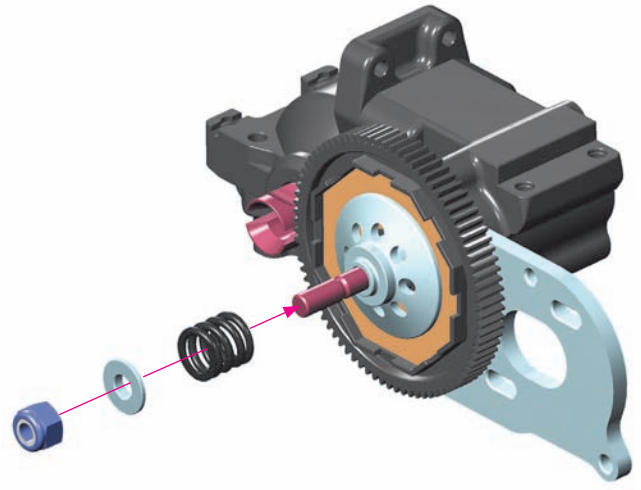


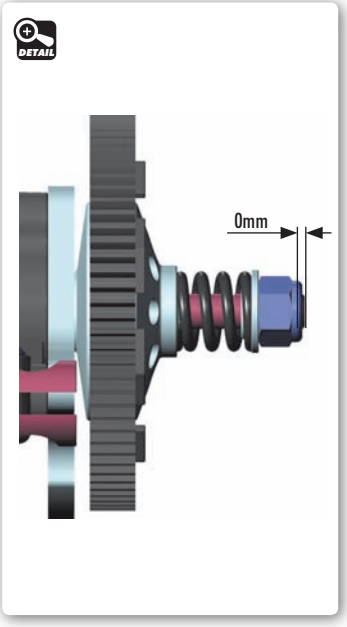


OPTION

3-PAD SLIPPER CLUTCH SPUR GEAR		
#365875	75T / 48	OPTION
#365878	78T / 48	OPTION
#365881	81T / 48	INCLUDED
#365884	84T / 48	OPTION
#365887	87T / 48	OPTION

960040
N M4





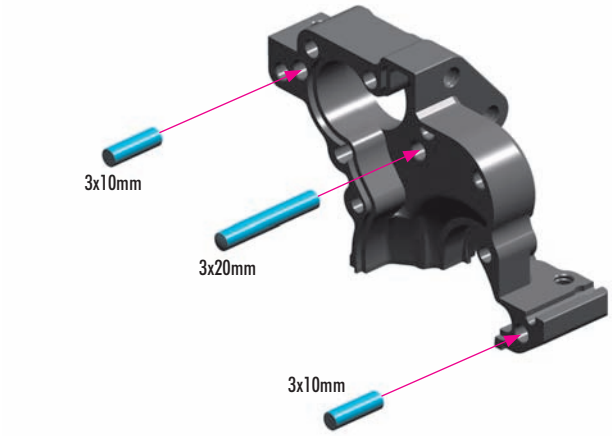
BAG 08

GEAR BOX
MIDDLE MOTOR POSITION

(For LOW TRACTION track)

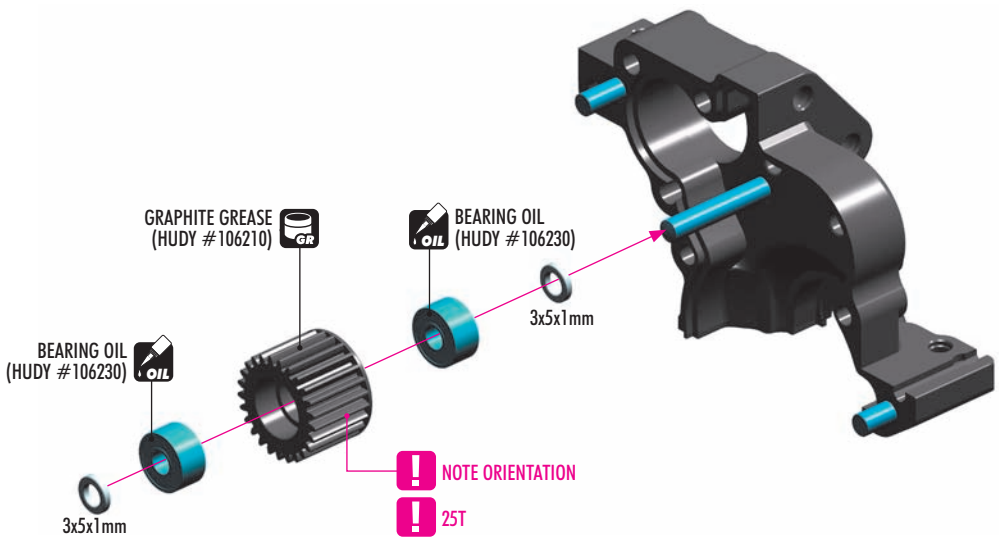
981310
P 3x10

980320
P 3x20



930308
BB 3x8x4

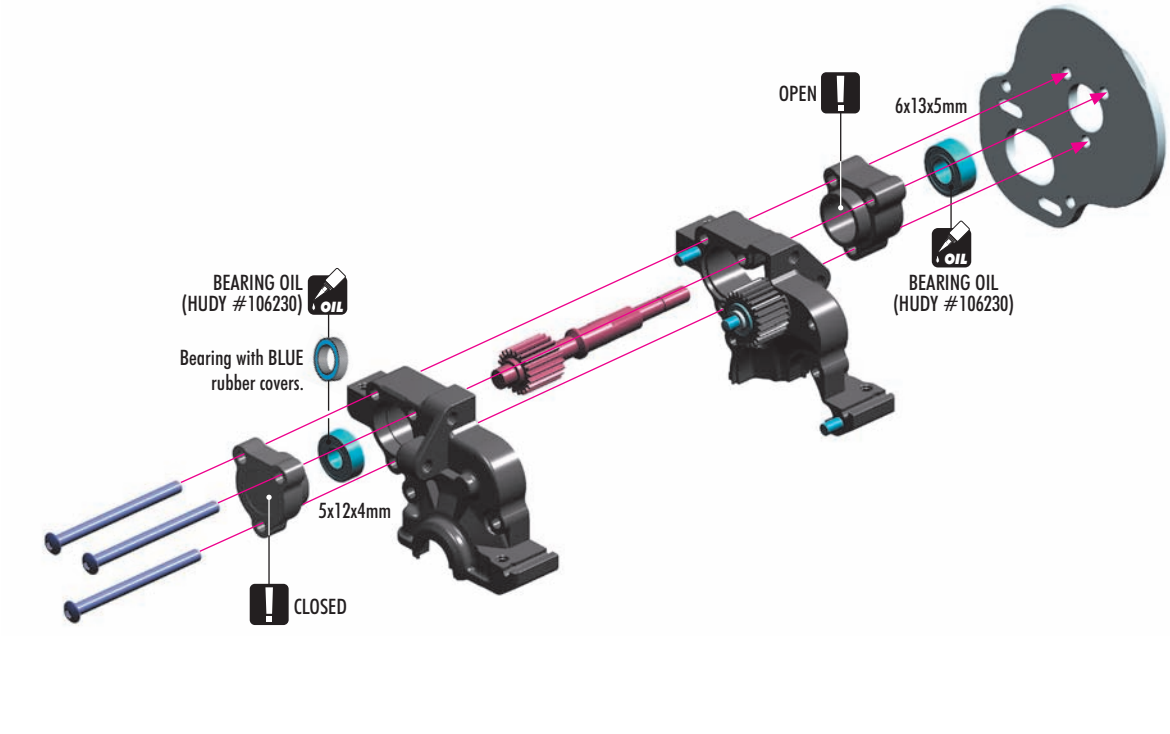
303141
SHIM 3x5x1



940512
BB 5x12x4

940613
BB 6x13x5

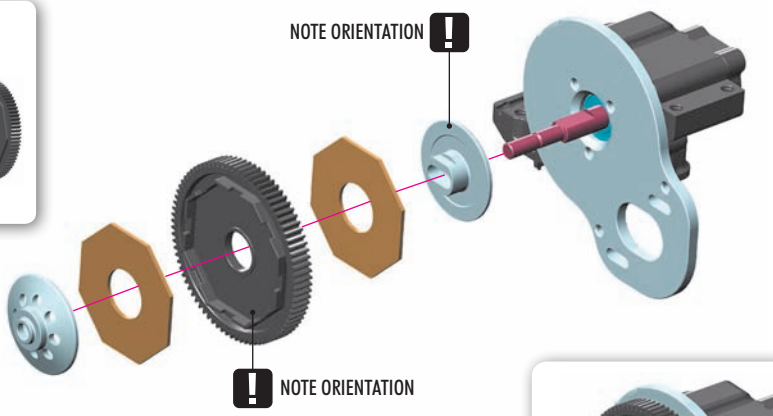
902340
SH M3x40

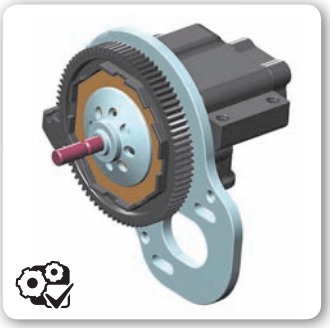


2. REAR TRANSMISSION

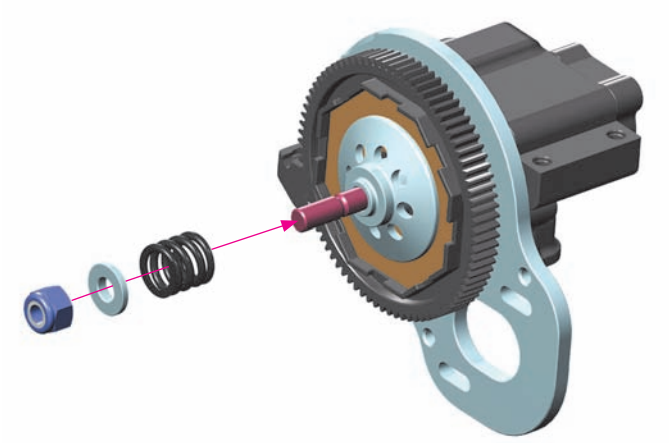
OPTION

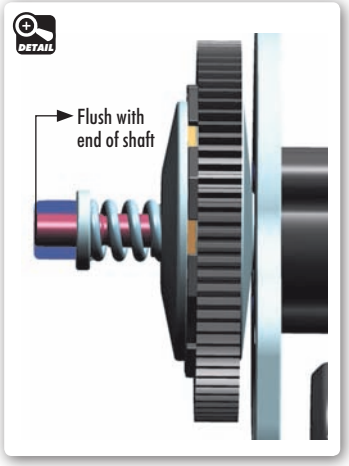
SLIPPER CLUTCH SPUR GEARS		
#365875	75T / 48	OPTION
#365878	78T / 48	OPTION
#365881	81T / 48	INCLUDED
#365884	84T / 48	OPTION
#365887	87T / 48	OPTION



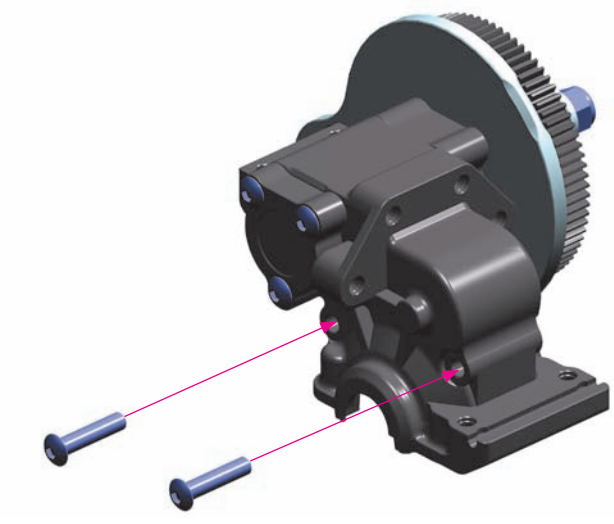


960040
N M4





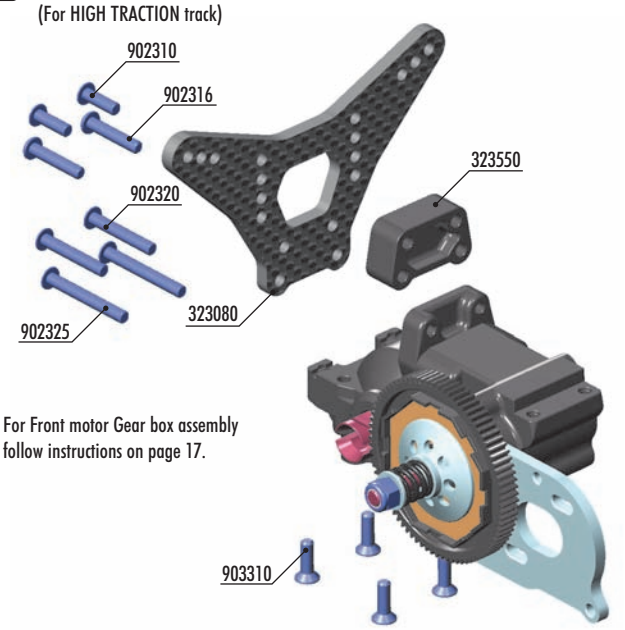
902314
SH M3x14



BAG 03

GEAR BOX
FRONT MOTOR POSITION

(For HIGH TRACTION track)

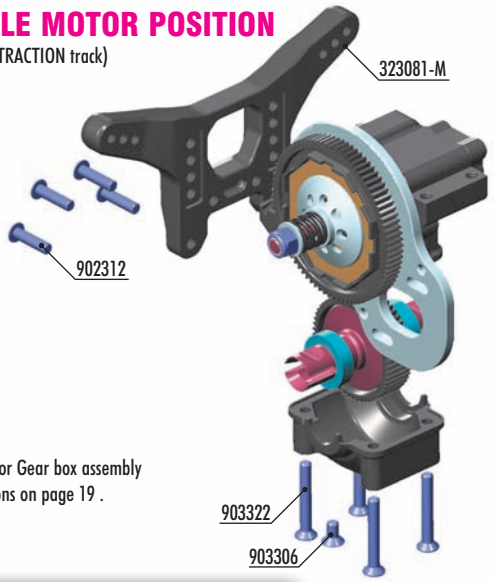


For Front motor Gear box assembly follow instructions on page 17.

BAG 08

GEAR BOX
MIDDLE MOTOR POSITION

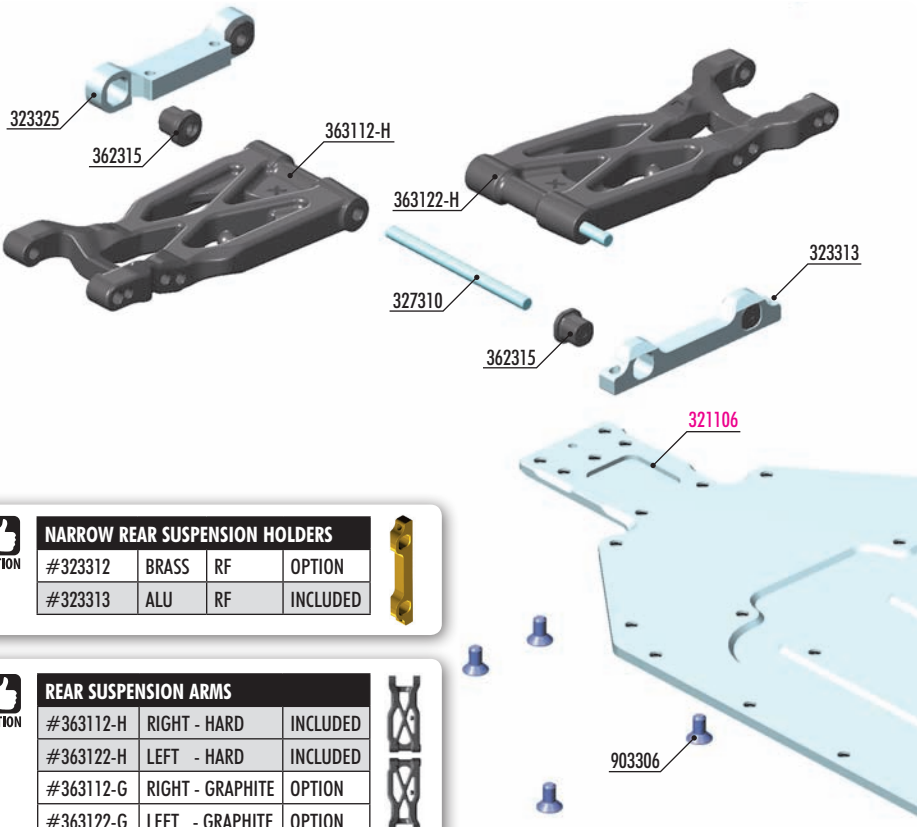
(For LOW TRACTION track)



For Middle motor Gear box assembly follow instructions on page 19 .

OPTION

REAR SHOCK TOWER		
#323081-M	MEDIUM	INCLUDED
#323081-H	HARD	OPTION



OPTION

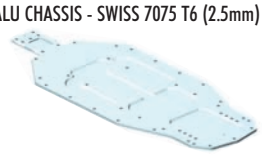
NARROW REAR SUSPENSION HOLDERS			
#323312	BRASS	RF	OPTION
#323313	ALU	RF	INCLUDED

OPTION

REAR SUSPENSION ARMS		
#363112-H	RIGHT - HARD	INCLUDED
#363122-H	LEFT - HARD	INCLUDED
#363112-G	RIGHT - GRAPHITE	OPTION
#363122-G	LEFT - GRAPHITE	OPTION

OPTION

#321104
ALU CHASSIS - SWISS 7075 T6 (2.5mm)



OPTION

SHORT REAR SUSPENSION

OPTION

REAR SUSPENSION ARMS			
#323110-M	MEDIUM	RIGHT	OPTION
#323120-M	MEDIUM	LEFT	OPTION
#323110-H	HARD	RIGHT	OPTION
#323120-H	HARD	LEFT	OPTION
#323110-G	GRAPHITE	RIGHT	OPTION
#323120-G	GRAPHITE	LEFT	OPTION

OPTION

NARROW SUSPENSION HOLDERS			
#323323	BRASS	RR	OPTION
#323324	ALU	RR	OPTION

OPTION

#357330 REAR LOWER OUTER PIVOT PIN (2)

BAG 03

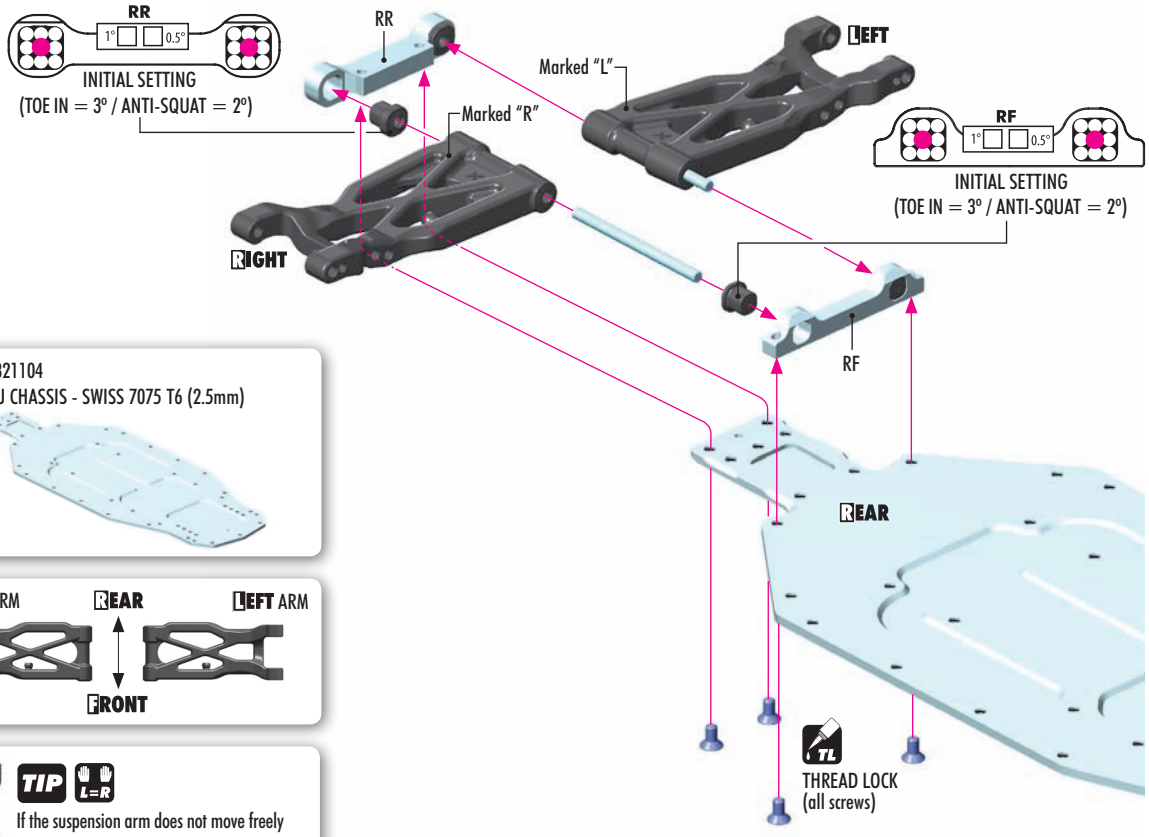
32 3080	GRAPHITE SHOCK TOWER REAR 3.5mm	90 2310	HEX SCREW SH M3x10 (10)
32 3313	ALU REAR LOWER SUSP. HOLDER - NARROW - FRONT - 7075 T6 (5mm)	90 2316	HEX SCREW SH M3x16 (10)
32 3325	ALU REAR LOWER SUSP. HOLDER - NARROW - REAR - (10mm)	90 2320	HEX SCREW SH M3x20 (10)
32 3550	COMPOSITE REAR SHOCK TOWER ADJUSTING SHIM	90 2325	HEX SCREW SH M3x25 (10)
32 7310	REAR SUSPENSION PIVOT PIN 3x46mm (2)	90 3306	HEX SCREW SFH M3x6 (10)
36 2315	ECCENTRIC BUSHING SET (2)	90 3310	HEX SCREW SFH M3x10 (10)
36 3112-H	COMPOSITE SUSPENSION ARM REAR LOWER RIGHT - HARD		
36 3122-H	COMPOSITE SUSPENSION ARM REAR LOWER LEFT - HARD	32 1106	XB2 ALU CHASSIS - SWISS 7075 T6 (2.5mm) - SHORT

BAG 08

32 3081-M	COMPOSITE SHOCK TOWER REAR - MEDIUM	90 2312	HEX SCREW SH M3x12 (10)
32 3081-H	COMPOSITE SHOCK TOWER REAR - HARD (OPTION)	90 3306	HEX SCREW SFH M3x6 (10)
		90 3322	HEX SCREW SFH M3x22 (10)

3. REAR SUSPENSION

903306
SFH M3x6



OPTION

#321104
ALU CHASSIS - SWISS 7075 T6 (2.5mm)

RIGHT ARM REAR LEFT ARM

FRONT

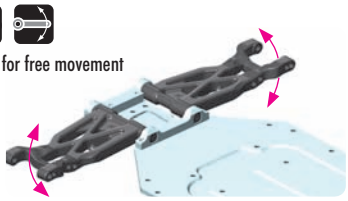
TIP L=R

If the suspension arm does not move freely use a HUDY Arm Reamer to size the holes of the arms

Arm Reamer 3.0mm
(HUDY #107633)

DETAIL

Check for free movement

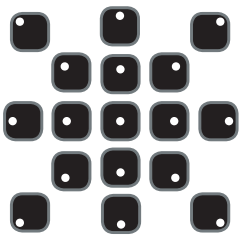


SET-UP BOOK
TOE-IN
ANTI-SQUAT
ROLL CENTER
TRACK-WIDTH

OPTION

NARROW REAR SUSPENSION HOLDERS			
#323312	BRASS	FRONT	OPTION
#323313	ALU	FRONT	INCLUDED

All possible mounting alternatives of eccentric bushings



OPTION

REAR SUSPENSION ARMS			
#363112-H	RIGHT	HARD	INCLUDED
#363122-H	LEFT	HARD	INCLUDED
#363112-G	RIGHT	GRAPHITE	OPTION
#363122-G	LEFT	GRAPHITE	OPTION

MEDIUM - For very-low & low traction
HARD - For medium & high traction
GRAPHITE - For high & very-high traction

ECCENTRIC BUSHINGS HAVE TWO DIFFERENT OFFSETS FROM THE CENTER.

Middle position = 0.5° or 0.375mm from center.

Outer position = 1° or 0.75mm from center.

The XRAY rear alu lower suspension holders provide great range of adjustment for the rear suspension. Using different combinations of eccentric bushings, fine adjustment of rear anti-squat, rear toe-in, rear roll center, and rear track-width can be obtained. For more information about the influence of rear anti-squat, rear toe-in, rear roll center and rear track width on car handling, please refer to HUDY Set-up Book (#209100).

ANTI-SQUAT

RR	RF	(°)
		=2°
		=3°
		=1°
		=3°
		=2°
		=4°
		=1°
		=2°
		=0°

ROLL CENTER

RR	RF	(mm)
		=+0.75mm
		=0mm
		=-0.75mm

TRACK-WIDTH

RR	RF	(mm)
		=+1.5mm
		=0mm
		=-1.5mm

The track-width is directly influenced by the size of the wheels and tires used.

TOE-IN

RR	RF	(°)
		=4°
		=5°
		=3°
		=3°
		=4°
		=2°
		=5°
		=6°
		=4°

The tables describe the amounts of adjustment using the center and outside positions of the eccentric bushings. The middle position eccentric bushings allow for finer adjustment increments.

Example:

0(RR) - 0 (RF) = 2° = 2°

0(RR) - 0.5 (RF) = 2.5° = 2.5°

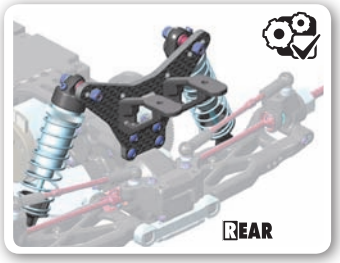
0(RR) - 1 (RF) = 3° = 3°

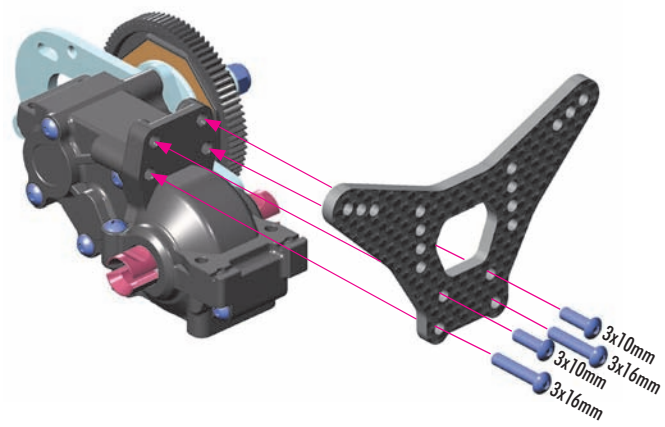
GEAR BOX
FRONT MOTOR POSITION
(For HIGH TRACTION track)

902310
SH M3x10

902316
SH M3x16

ALTERNATIVE 1
SHOCKS MOUNTED IN FRONT OF REAR SHOCK TOWER
(INITIAL SETTING)

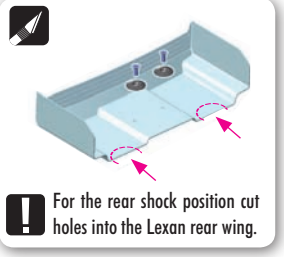




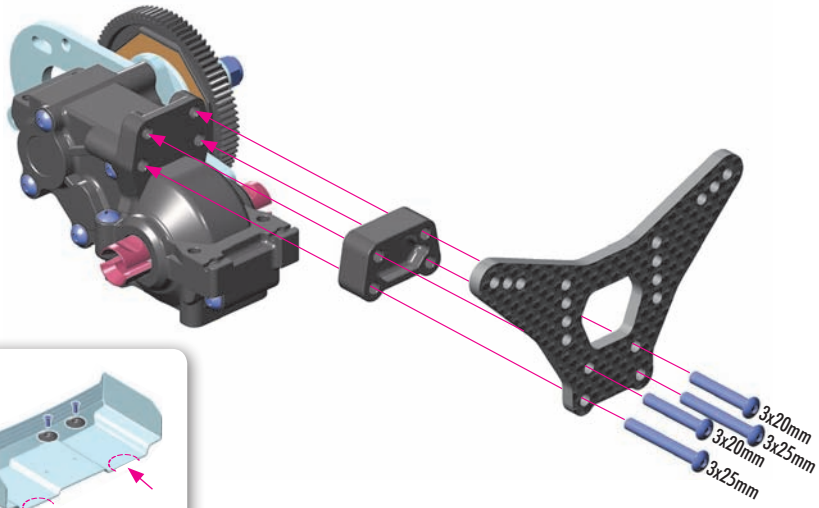
902320
SH M3x20

902325
SH M3x25

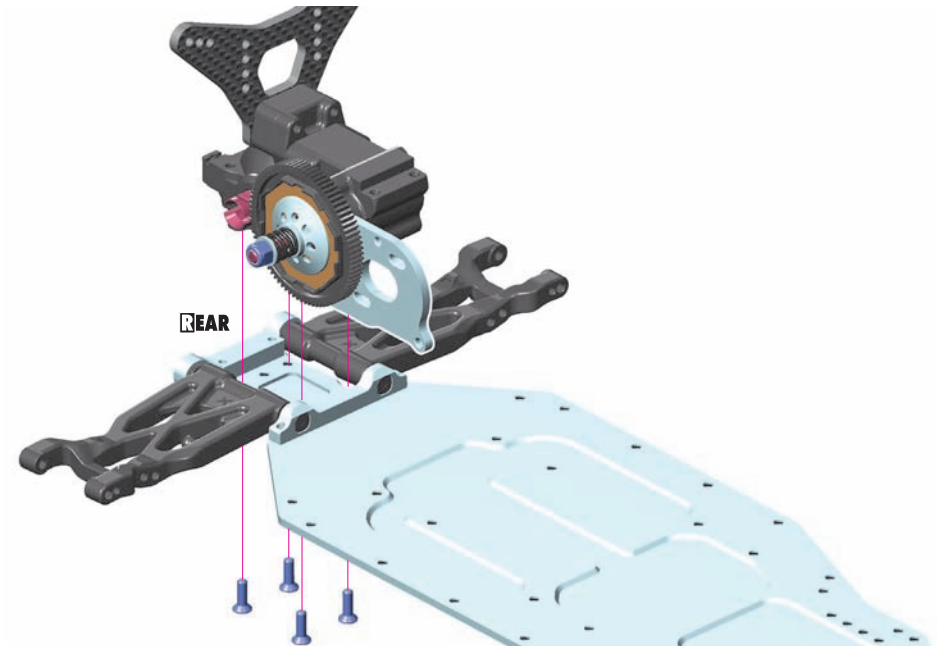
ALTERNATIVE 2
SHOCKS MOUNTED BEHIND REAR SHOCK TOWER
DO NOT USE FOR BASIC SET-UP



For the rear shock position cut holes into the Lexan rear wing.



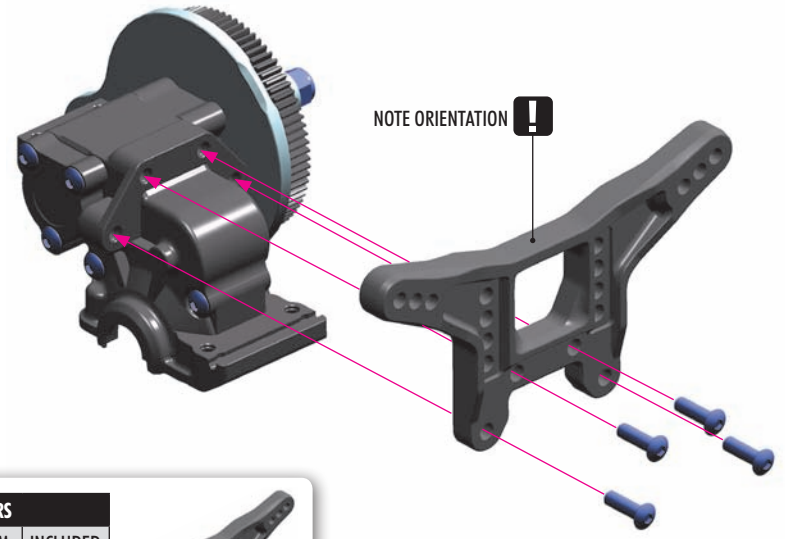
903310
SFH M3x10



BAG 08

GEAR BOX
MIDDLE MOTOR POSITION
(For LOW TRACTION track)

902312
SH M3x12



OPTION

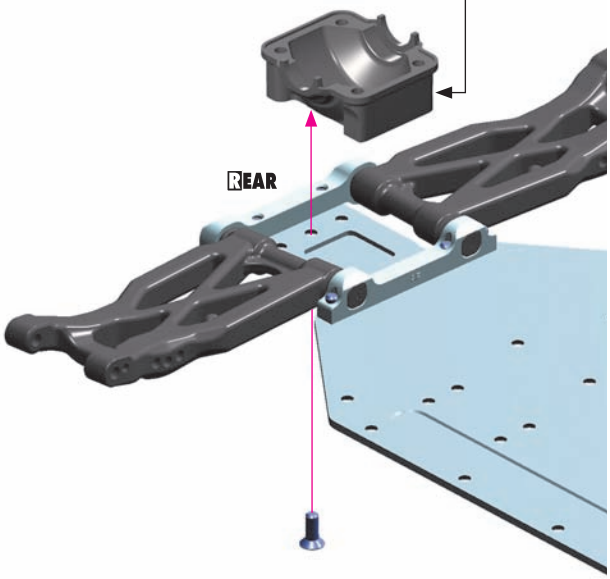
REAR SHOCK TOWERS		
#323081-M	MEDIUM	INCLUDED
#323081-H	HARD	OPTION

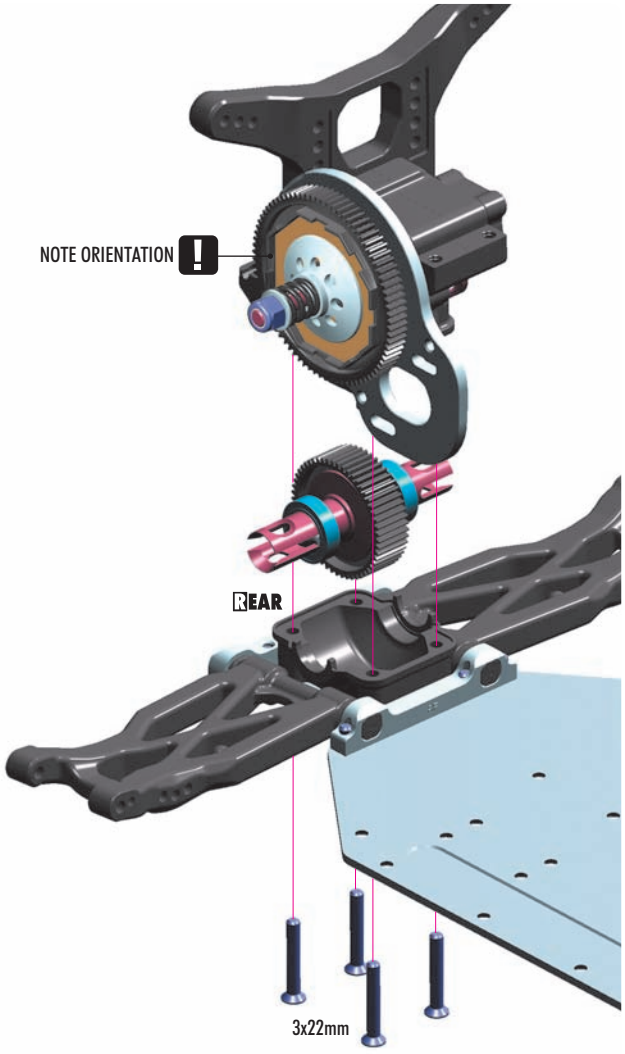
MEDIUM - For very-low & low traction
HARD - For medium & high traction

903306
SFH M3x6

903322
SFH M3x22

DETAIL BOTTOM VIEW





BAG 03

GEAR BOX
FRONT MOTOR POSITION
(For HIGH TRACTION track)

OPTION

REAR ROLL CENTER HOLDER		
#323040	COMPOSITE	INCLUDED
#323041	ALU	OPTION

BAG 08

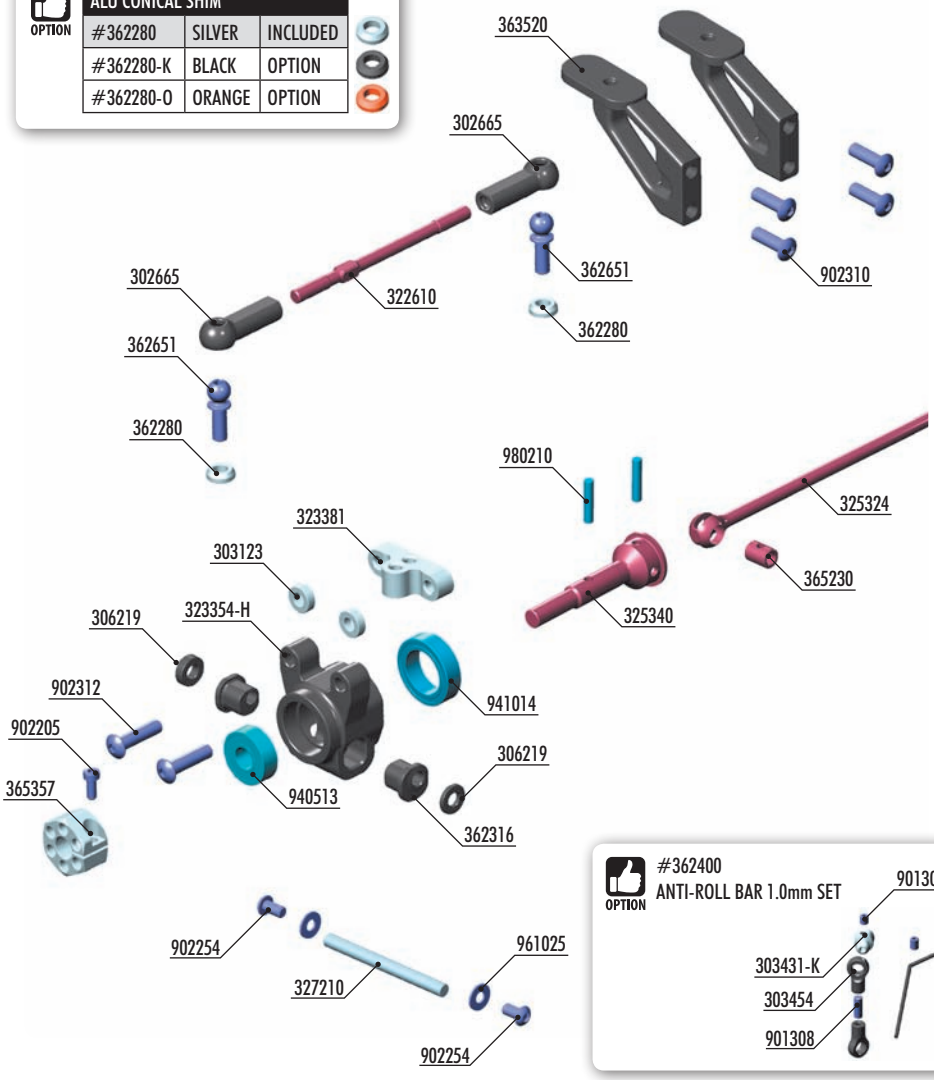
GEAR BOX
MIDDLE MOTOR POSITION
(For LOW TRACTION track)

OPTION

REAR ROLL CENTER HOLDER		
#323042-M	MEDIUM	INCLUDED
#323042-H	HARD	OPTION
#323041	ALU	OPTION

OPTION

ALU CONICAL SHIM		
#362280	SILVER	INCLUDED
#362280-K	BLACK	OPTION
#362280-O	ORANGE	OPTION



OPTION

#323382
ALU REAR HUB PLATE FOR MULTI ADJ.
UPRIGHT - 1-HOLE - SWISS 7075 T6

OPTION

REAR UPRIGHTS		
#323354-H	HARD	INCLUDED
#323354-G	GRAPHITE	OPTION
#323355	ALU	OPTION

OPTION

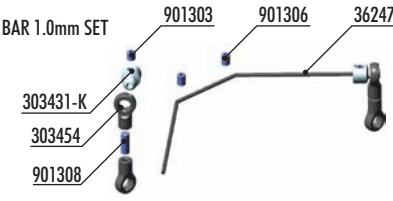
WHEEL HUBS 12mm		
#365360	+4.5mm - 6 slots	OPTION
#365359	+3.75mm - 5 slots	OPTION
#365358	+3.0mm - 4 slots	OPTION
#365357	+2.25mm - 3 slots	INCLUDED
#365356	+1.5mm - 2 slots	OPTION
#365355	+0.75mm - 1 slot	OPTION
#365353	0mm - 0 slots	OPTION
#365354	-0.75mm - Lightw.	OPTION

OPTION

XRAY BALL-BEARING			
#940512	5x12x4	OIL	OPTION
#941015	10x15x4	OIL	OPTION
#940513	5x12x4	GREASE	INCLUDED
#941014	10x15x4	GREASE	INCLUDED

OPTION

#362400
ANTI-ROLL BAR 1.0mm SET



OPTION

ANTI-ROLL BARS	
#362470	1.0mm
#362471	1.1mm
#362472	1.2mm

BAG 03

30 2665	COMPOSITE BALL JOINT 4.9mm - CLOSED WITH HOLE (4)	36 5230	DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
30 3123	ALU SHIM 3x6x2.0mm (10)	36 5357	ALU WHEEL HUB 12mm - OFFSET "+2.25mm" (2)
30 6219	COMPOSITE SET OF SERVO SHIMS (4)		
32 2610	ADJUSTABLE TURNBUCKLE 55mm M3 L/R - HUDY SPRING STEEL™ (2)	90 2205	HEX SCREW SH M2x5 (10)
32 3040	COMPOSITE REAR ROLL CENTER HOLDER - CARPET EDITION	90 2254	HEX SCREW SH M2.5x4 (10)
32 3354-H	COMPOSITE UPRIGHT REAR - HARD	90 2310	HEX SCREW SH M3x10 (10)
32 3381	ALU REAR HUB PLATE - SWISS 7075 T6	90 2312	HEX SCREW SH M3x12 (10)
32 5324	REAR DRIVE SHAFT 75mm - HUDY SPRING STEEL™	90 2316	HEX SCREW SH M3x16 (10)
32 5340	REAR DRIVE AXLE - HUDY SPRING STEEL™	94 0513	BALL-BEARING 5x12x4 RUBBER SEALED - GREASE (2)
32 7210	FRONT SUSPENSION PIVOT PIN (2)	94 1014	BALL-BEARING 10x15x4 RUBBER SEALED - GREASE (2)
36 2280	ALU CONICAL SHIM 3x6x2.0mm (10)	96 1025	WASHER S 2.5 (10)
36 2316	ECCENTRIC BUSHING SET - OPEN (2)	98 0210	PIN 2x9.8 (10)
36 2651	BALL END 4.9mm WITH THREAD 8mm (2)		
36 3520	REAR WING POST - V2 (2)		

BAG 08

32 3042-M	COMPOSITE REAR ROLL-CENTER HOLDER - DIRT EDITION - MEDIUM	90 2312	HEX SCREW SH M3x12 (10)
32 3042-H	COMPOSITE REAR ROLL-CENTER HOLDER - DIRT EDITION - HARD (OPTION)		

902205
SH M2x5

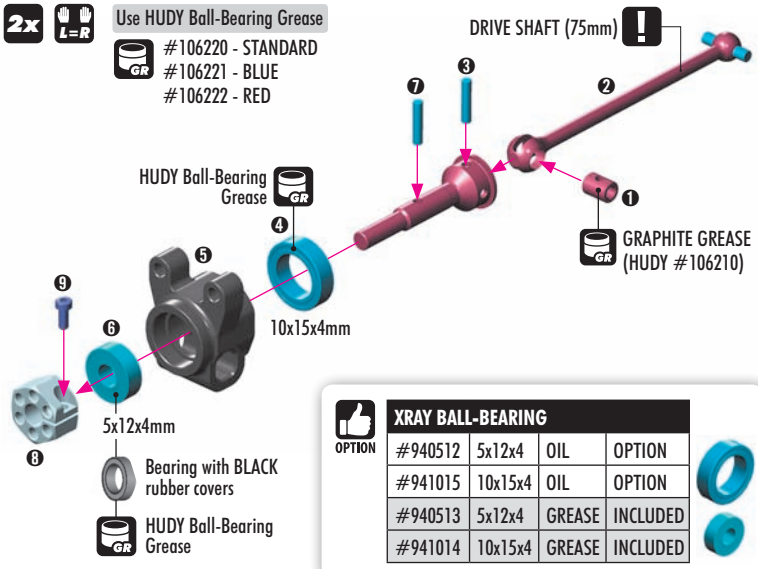
940513
BB 5x12x4

941014
BB 10x15x4

980210
P 2x10

2x L=R

Use HUDY Ball-Bearing Grease (GR)
#106220 - STANDARD
#106221 - BLUE
#106222 - RED



OPTION

XRAY BALL-BEARING			
#940512	5x12x4	OIL	OPTION
#941015	10x15x4	OIL	OPTION
#940513	5x12x4	GREASE	INCLUDED
#941014	10x15x4	GREASE	INCLUDED

OPTION

WHEEL HUBS 12mm		
#365360	+4.5mm - 6 slots	OPTION
#365359	+3.75mm - 5 slots	OPTION
#365358	+3.0mm - 4 slots	OPTION
#365357	+2.25mm - 3 slots	INCLUDED
#365356	+1.5mm - 2 slots	OPTION
#365355	+0.75mm - 1 slot	OPTION
#365353	0mm - 0 slots	OPTION
#365354	-0.75mm - Lightw.	OPTION

OPTIONAL HEX HUB EFFECTS

Different offset hex hubs are used to increase or decrease the track-width.

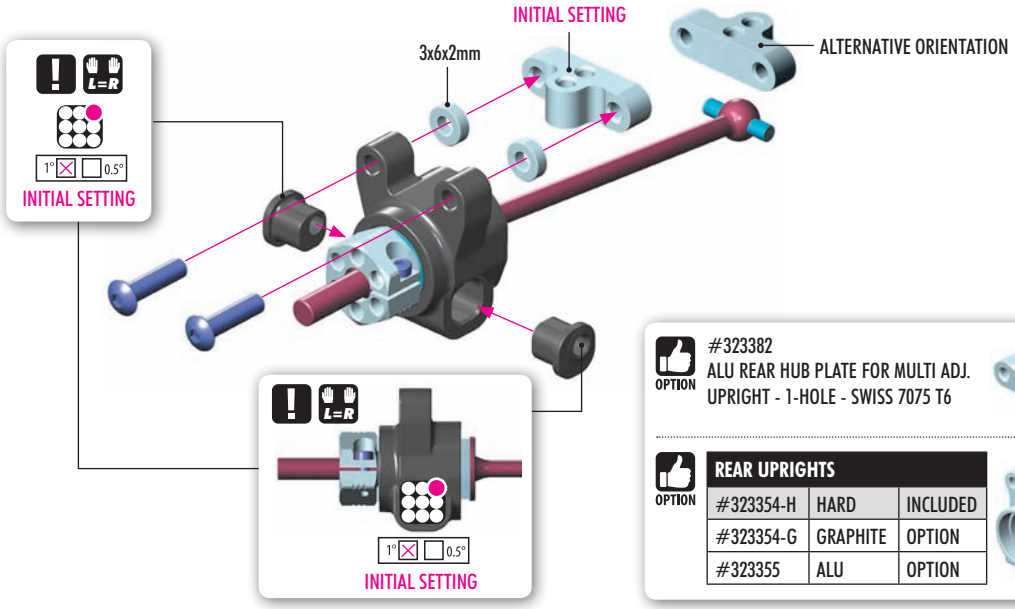
LESS OFFSET
Rear - more traction
Front - more steering

MORE OFFSET
Rear - less traction
Front - less steering

303123
SHIM 3x6x2

902312
SH M3x12

2x L=R



OPTION
#323382
ALU REAR HUB PLATE FOR MULTI ADJ. UPRIGHT - 1-HOLE - SWISS 7075 T6

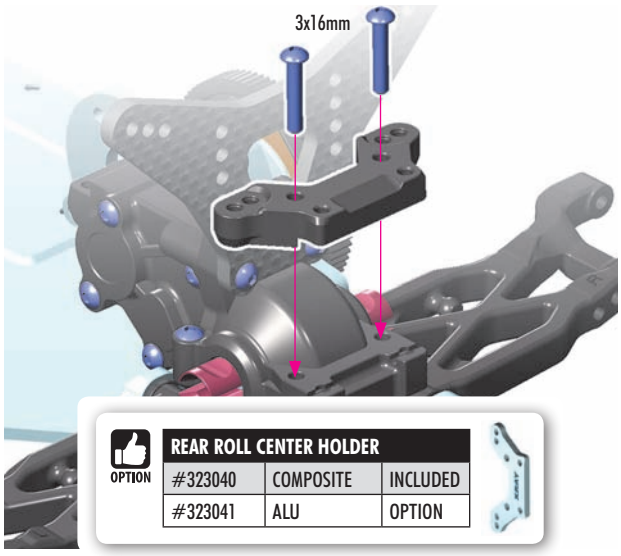
OPTION

REAR UPRIGHTS		
#323354-H	HARD	INCLUDED
#323354-G	GRAPHITE	OPTION
#323355	ALU	OPTION

902312
SH M3x12

902316
SH M3x16

GEAR BOX
FRONT MOTOR POSITION
(For HIGH TRACTION track)

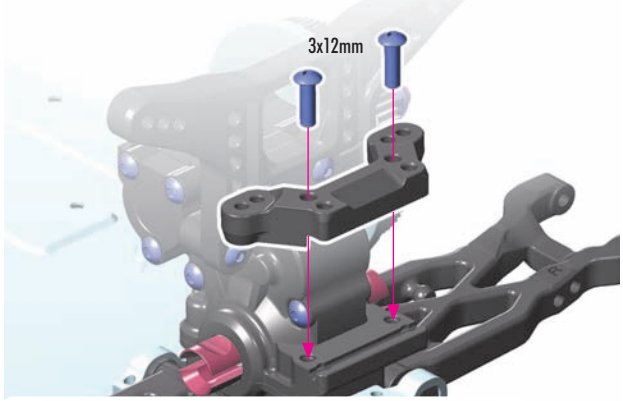


OPTION

REAR ROLL CENTER HOLDER		
#323040	COMPOSITE	INCLUDED
#323041	ALU	OPTION

BAG 08

GEAR BOX
MIDDLE MOTOR POSITION
(For LOW TRACTION track)



OPTION

REAR COMPOSITE ROLL CENTER HOLDER		
#323042-M	MEDIUM	INCLUDED
#323042-H	HARD	OPTION

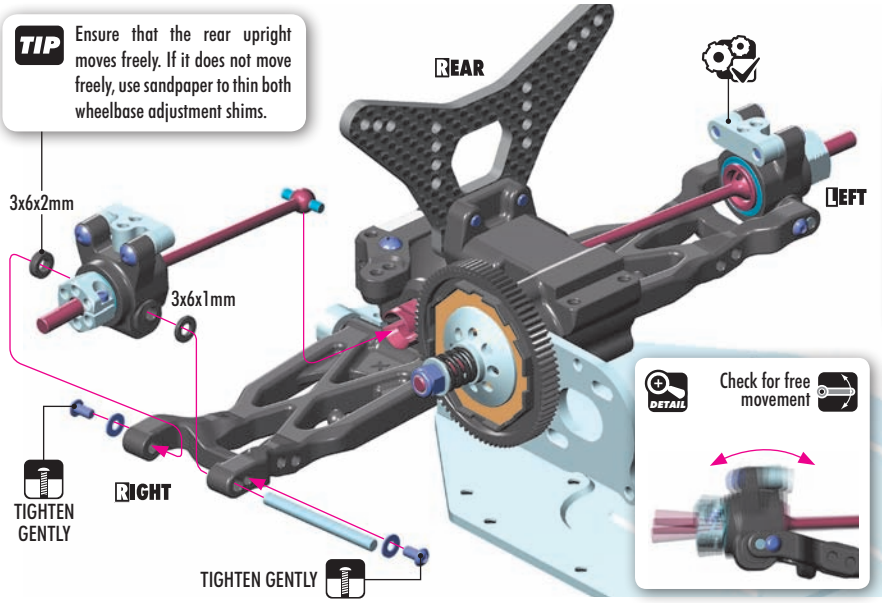
306219
SHIM 3x6x1

306219
SHIM 3x6x2

902254
SH M2.5x4

961025
S 2.5

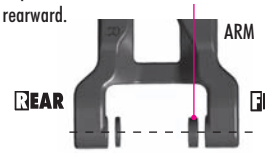
TIP Ensure that the rear upright moves freely. If it does not move freely, use sandpaper to thin both wheelbase adjustment shims.



DETAIL Check for free movement

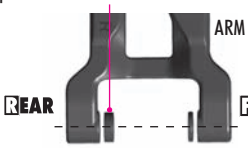
LONGER WHEELBASE

Adjustment Shim IN FRONT OF HUB moves hub rearward.

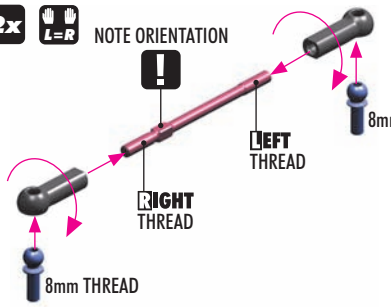


SHORTER WHEELBASE (INITIAL SETTING)

Adjustment Shim BEHIND HUB moves hub forward.



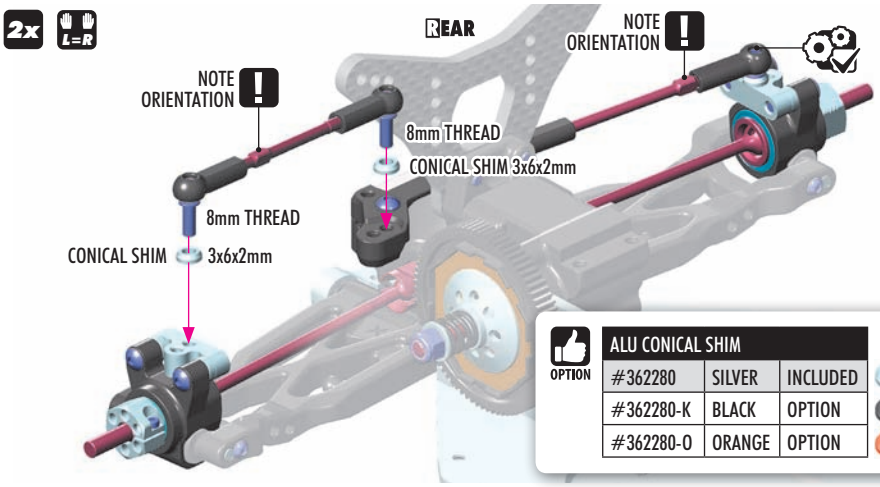
2x L=R NOTE ORIENTATION



TIP Install the pivot balls with Professional Multi Tool (HUDY #183011)

362280
CON. SHIM 3x6x2

2x L=R

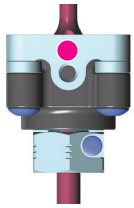


OPTION

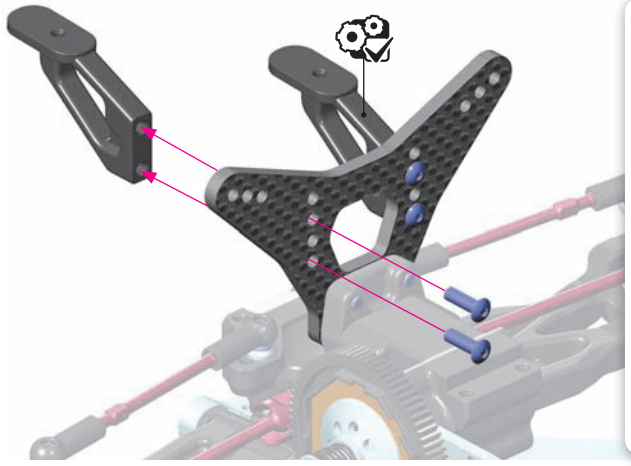
ALU CONICAL SHIM		
#362280	SILVER	INCLUDED
#362280-K	BLACK	OPTION
#362280-O	ORANGE	OPTION

DETAIL INITIAL SETTING L=R

DETAIL INITIAL SETTING L=R



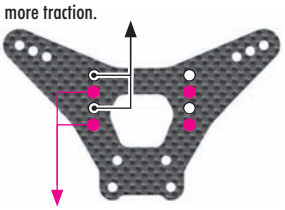
902310
SH M3x10



GEAR BOX
FRONT MOTOR POSITION

UPPER WING POSITION

Higher position gives more roll, generates more traction.



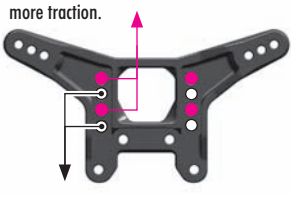
LOWER WING POSITION
(INITIAL SETTING)

Lower position recommended for use on medium- to high-traction tracks.

GEAR BOX
MIDDLE MOTOR POSITION

UPPER WING POSITION
(INITIAL SETTING)

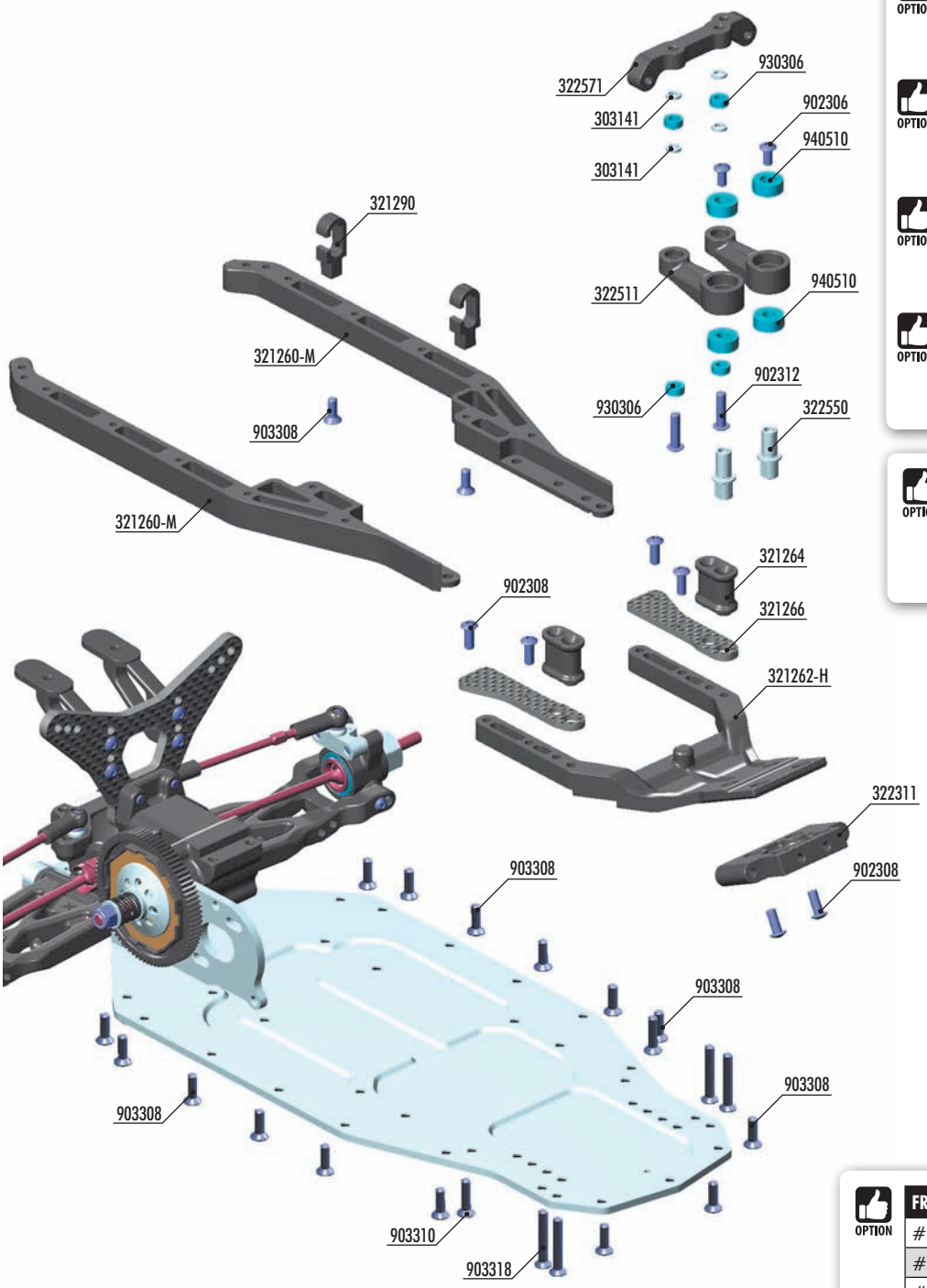
Higher position gives more roll, generates more traction.



LOWER WING POSITION

Lower position recommended for use on medium- to high-traction tracks.

4. FRONT ASSEMBLY



OPTION	STEERING PLATE		
	#322570	ALU	OPTION
	#322571	COMPOSITE	INCLUDED

OPTION	STEERING ARMS		
	#322510	ALU	OPTION
	#322511	COMPOSITE	INCLUDED

OPTION	FRONT LOWER CHASSIS BRACE		
	#321262-M	MEDIUM	OPTION
	#321262-H	HARD	INCLUDED

OPTION	SIDE CHASSIS GUARDS		
	#321260-M	MEDIUM	INCLUDED
	#321260-H	HARD	OPTION

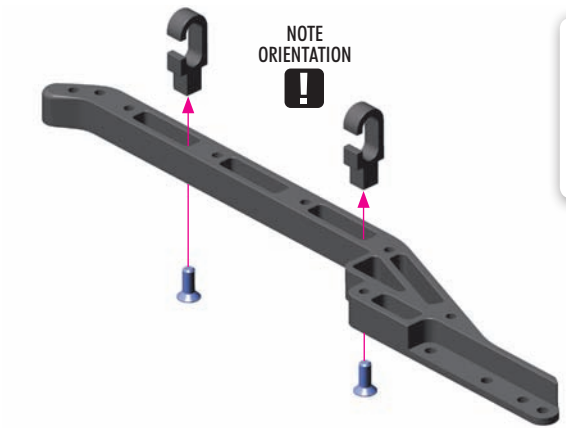
OPTION	GRAPHITE SIDE GUARD BRACE		
	#321266	SOFT	INCLUDED
	#321263	MEDIUM	OPTION
	#321267	STIFF	OPTION

OPTION	FRONT LOWER ARM MOUNT		
	#322310	ALU 26°	OPTION
	#322311	COMPOSITE 26°	INCLUDED
	#322312	BRASS 26°	OPTION
	#322313	ALU 23°/29°	OPTION
	#321211	SUSP. HOLDER BRACE 23°/29°	OPTION
	#322314	BRASS 23°/29°	OPTION
	#321211	SUSP. HOLDER BRACE 23°/29°	OPTION

BAG 04

30 3141	ALU SHIM 3x5x1.0mm (10)
32 1260-M	COMPOSITE CHASSIS SIDE GUARDS L+R - MEDIUM - V2
32 1262-H	COMPOSITE CHASSIS FRONT GUARD - HARD
32 1264	COMPOSITE FRONT CHASSIS SIDE BRACE - SHORT (2)
32 1266	GRAPHITE CHASSIS SIDE GUARD BRACE - SOFT (2)
32 1290	COMPOSITE WIRE HOLDER (2)
32 2311	COMPOSITE FRONT LOWER ARM MOUNT 26° KICK-UP
32 2571	COMPOSITE STEERING PLATE
32 2511	COMPOSITE STEERING ARM (2)
32 2550	ALU SERVO SAVER PIVOT SHAFT (2)
90 2306	HEX SCREW SH M3x6 (10)
90 2308	HEX SCREW SH M3x8 (10)
90 2312	HEX SCREW SH M3x12 (10)
90 3308	HEX SCREW SFH M3x8 (10)
90 3310	HEX SCREW SFH M3x10 (10)
90 3318	HEX SCREW SFH M3x18 (10)
93 0306	BALL-BEARING 3x6x2.5 STEEL SEALED - OIL (2)
94 0510	BALL-BEARING 5x10x4 RUBBER SEALED - OIL (2)

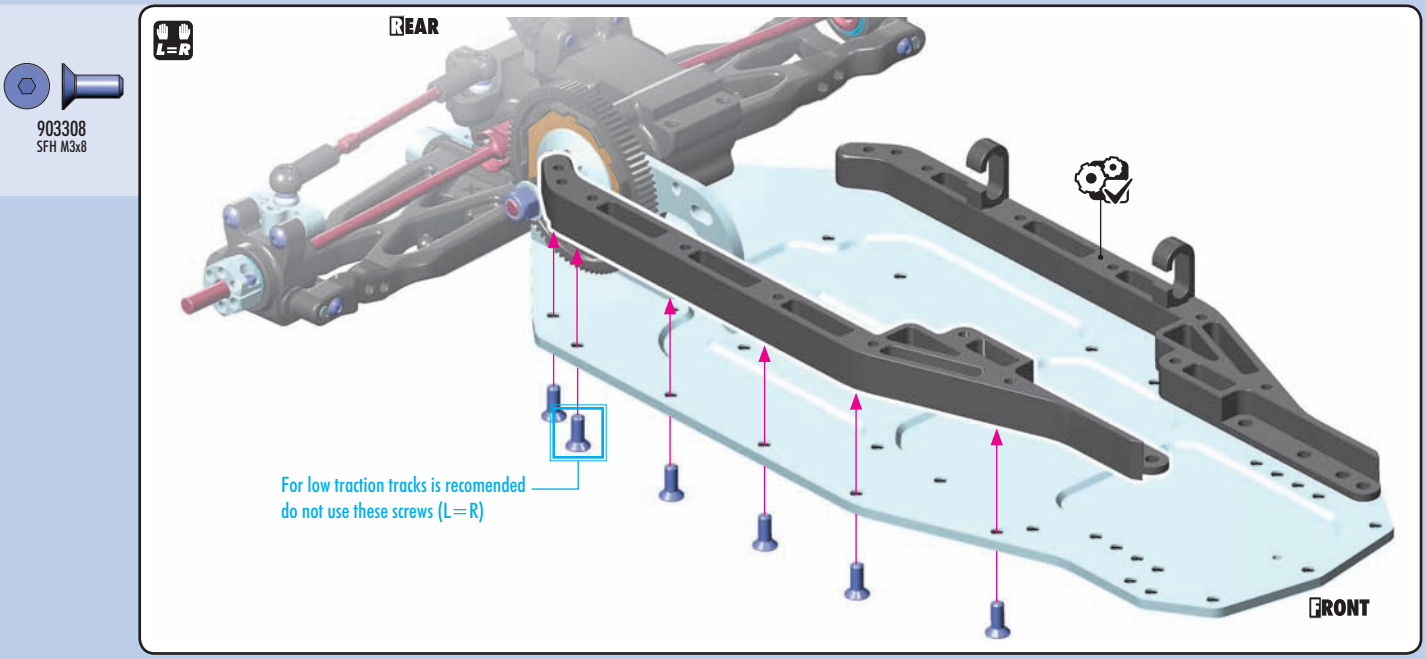
903308
SFH M3x8



OPTION

SIDE CHASSIS GUARDS		
#321260-M	MEDIUM	INCLUDED
#321260-H	HARD	OPTION

MEDIUM - For low & medium traction
HARD - For high traction



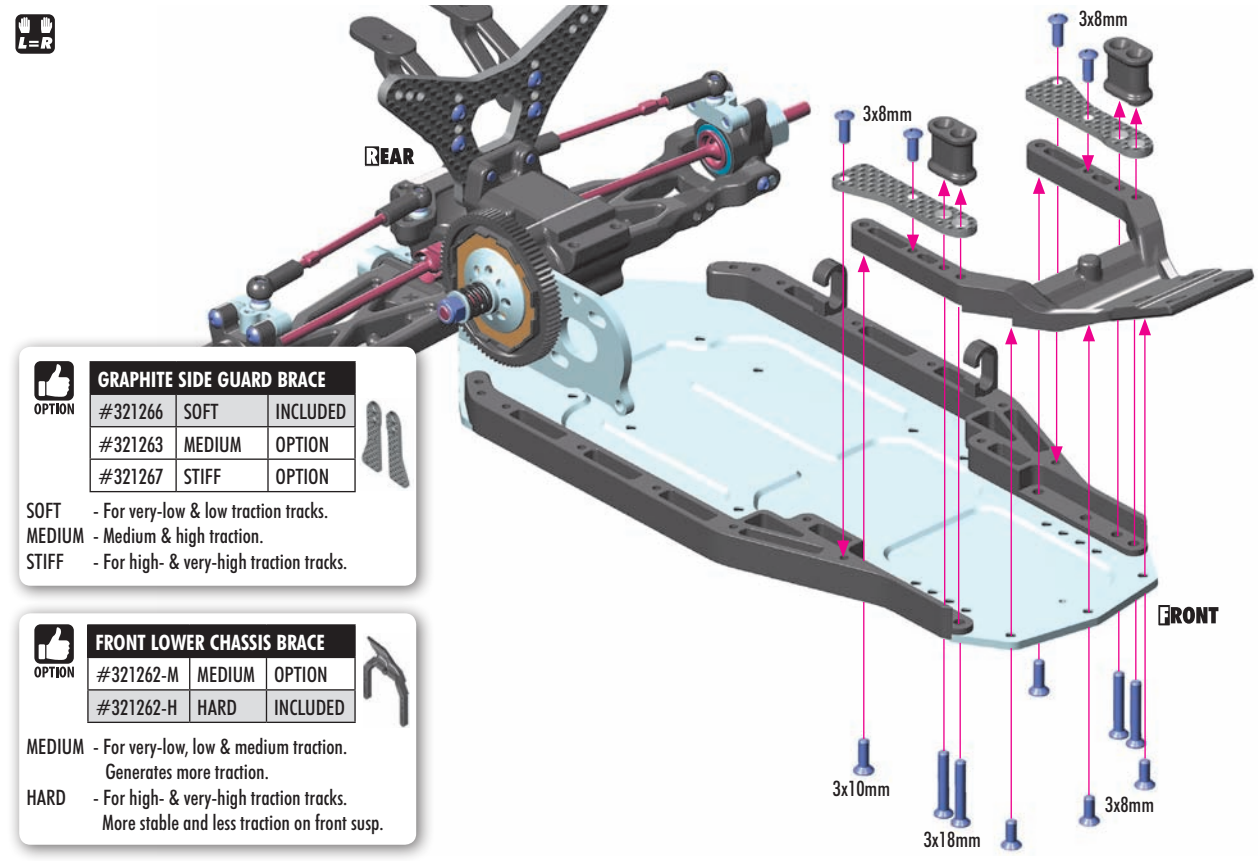
903308
SFH M3x8

902308
SH M3x8

903308
SFH M3x8

903310
SFH M3x10

903318
SFH M3x18



OPTION

GRAPHITE SIDE GUARD BRACE		
#321266	SOFT	INCLUDED
#321263	MEDIUM	OPTION
#321267	STIFF	OPTION

SOFT - For very-low & low traction tracks.
MEDIUM - Medium & high traction.
STIFF - For high- & very-high traction tracks.

OPTION

FRONT LOWER CHASSIS BRACE		
#321262-M	MEDIUM	OPTION
#321262-H	HARD	INCLUDED

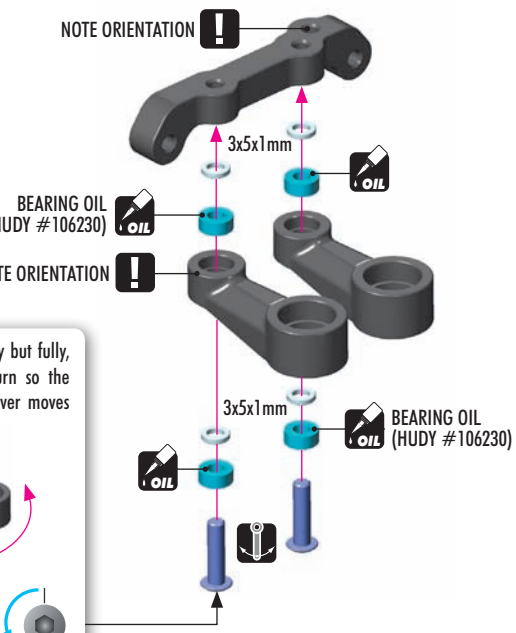
MEDIUM - For very-low, low & medium traction. Generates more traction.
HARD - For high- & very-high traction tracks. More stable and less traction on front susp.

4. FRONT ASSEMBLY

303141
SHIM 3x5x1

902312
SH M3x12

930306
BB 3x6x2.5



Tighten the screws gently but fully, and then loosen 1/3 turn so the composite dual servo saver moves freely.

❶ tighten fully
❷ loosen 1/3 ccw
❸ check moves freely

1/3 (120° CCW)

OPTION

STEERING PLATE		
#322570	ALU	OPTION
#322571	COMPOSITE	INCLUDED

COMPOSITE - Easy to drive, more forgiving, less steering
ALU - More aggressive, more steering, more precise steering

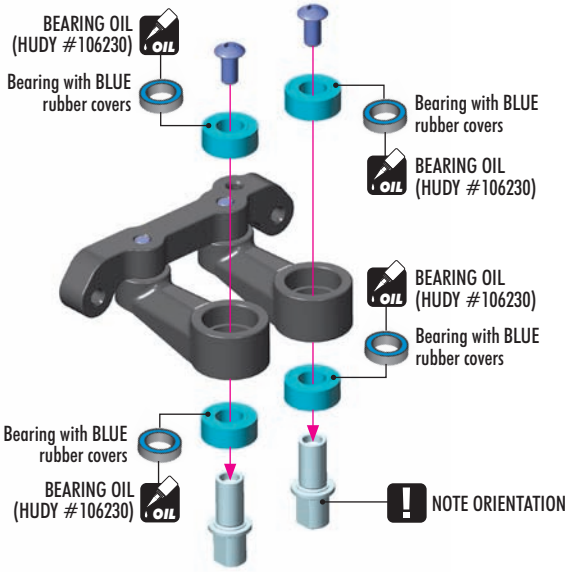
OPTION

STEERING ARMS		
#322510	ALU	OPTION
#322511	COMPOSITE	INCLUDED

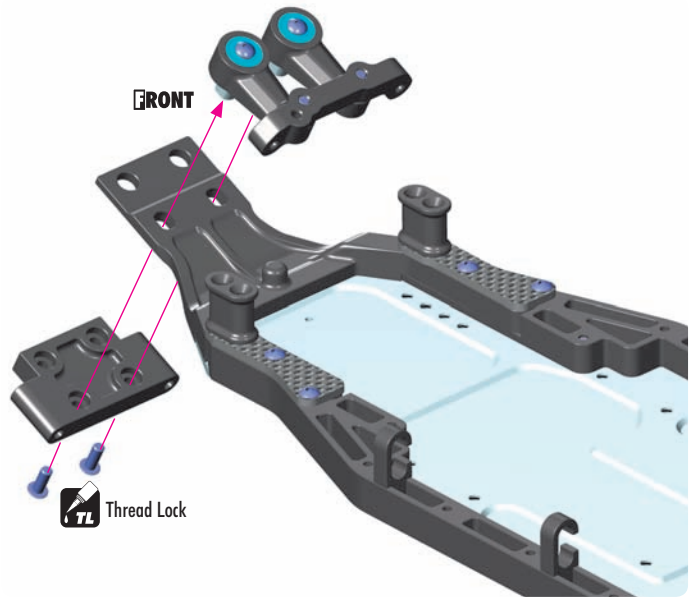
COMPOSITE - Easy to drive, more forgiving
ALU - More aggressive, more steering, more precise steering

902306
SH M3x6

940510
BB 5x10x4



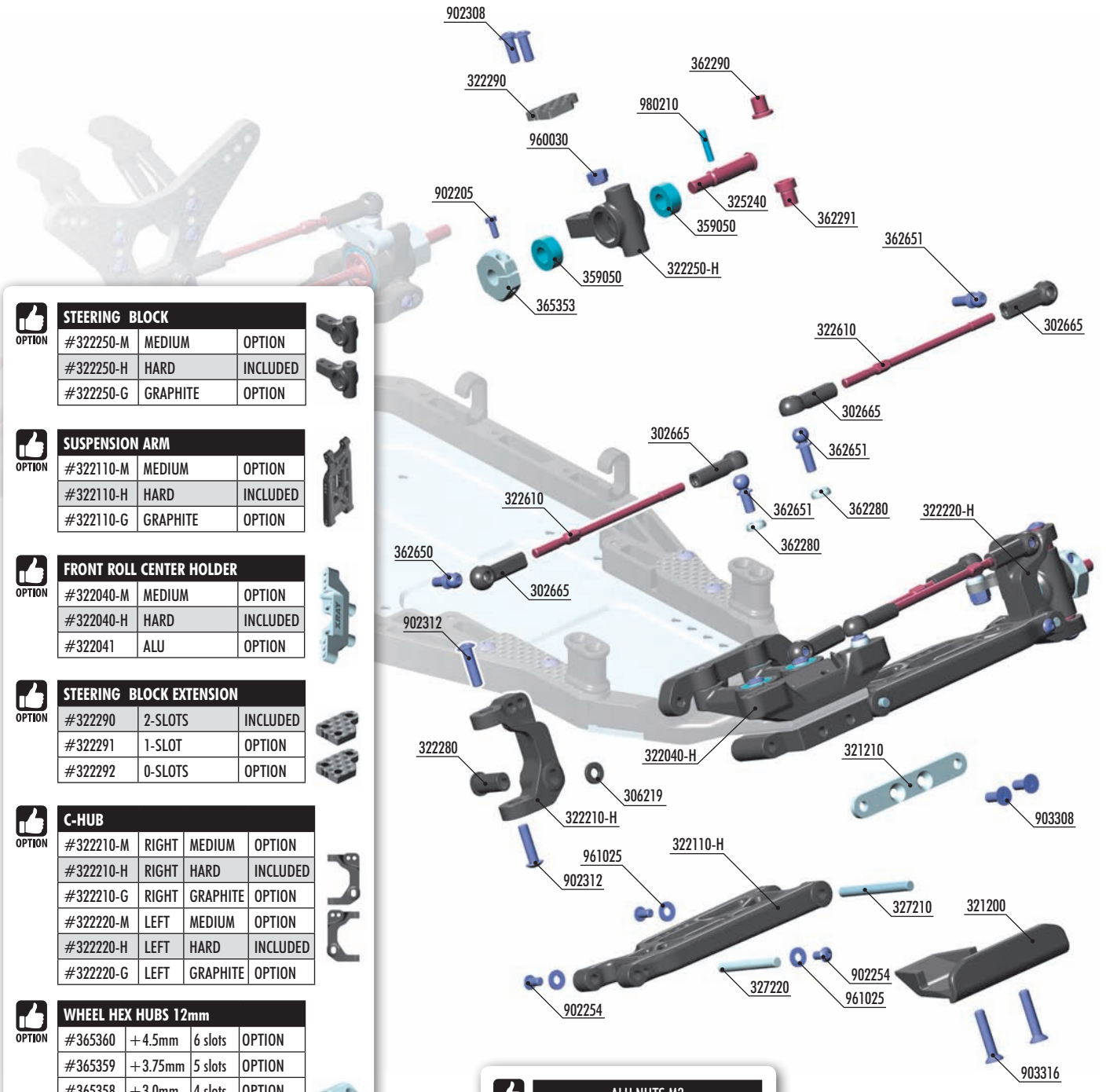
902308
SH M3x8



OPTION

FRONT LOWER ARM MOUNT		
#322310	ALU 26°	OPTION
#322311	COMPOSITE 26°	INCLUDED
#322312	BRASS 26°	OPTION
#322313	ALU 23°/29°	OPTION
#321211	SUSP. HOLDER BRACE 23°/29°	OPTION
#322314	BRASS 23°/29°	OPTION
#321211	SUSP. HOLDER BRACE 23°/29°	OPTION

COMPOSITE - Generates more traction in front
ALU - Makes car more stable
BRASS - Adds more weight in front, less weight transfer



OPTION	STEERING BLOCK		
	#322250-M	MEDIUM	OPTION
	#322250-H	HARD	INCLUDED
	#322250-G	GRAPHITE	OPTION

OPTION	SUSPENSION ARM		
	#322110-M	MEDIUM	OPTION
	#322110-H	HARD	INCLUDED
	#322110-G	GRAPHITE	OPTION

OPTION	FRONT ROLL CENTER HOLDER		
	#322040-M	MEDIUM	OPTION
	#322040-H	HARD	INCLUDED
	#322041	ALU	OPTION

OPTION	STEERING BLOCK EXTENSION		
	#322290	2-SLOTS	INCLUDED
	#322291	1-SLOT	OPTION
	#322292	0-SLOTS	OPTION

OPTION	C-HUB			
	#322210-M	RIGHT	MEDIUM	OPTION
	#322210-H	RIGHT	HARD	INCLUDED
	#322210-G	RIGHT	GRAPHITE	OPTION
	#322220-M	LEFT	MEDIUM	OPTION
	#322220-H	LEFT	HARD	INCLUDED
	#322220-G	LEFT	GRAPHITE	OPTION

OPTION	WHEEL HEX HUBS 12mm			
	#365360	+4.5mm	6 slots	OPTION
	#365359	+3.75mm	5 slots	OPTION
	#365358	+3.0mm	4 slots	OPTION
	#365357	+2.25mm	3 slots	OPTION
	#365356	+1.5mm	2 slots	OPTION
	#365355	+0.75mm	1 slot	OPTION
	#365353	0mm	0 slots	INCLUDED
	#365354	-0.75mm	Lightw.	OPTION

OPTION	ALU NUTS M3		
	#296530-B	ALU BLUE	OPTION
	#296530-K	ALU BLACK	OPTION
	#296530-O	ALU ORANGE	OPTION
	#960030	STEEL SILVER	INCLUDED
	#960031	ALU SILVER	OPTION

OPTION	ALU CONICAL SHIM		
	#362280	SILVER	INCLUDED
	#362280-K	BLACK	OPTION
	#362280-O	ORANGE	OPTION

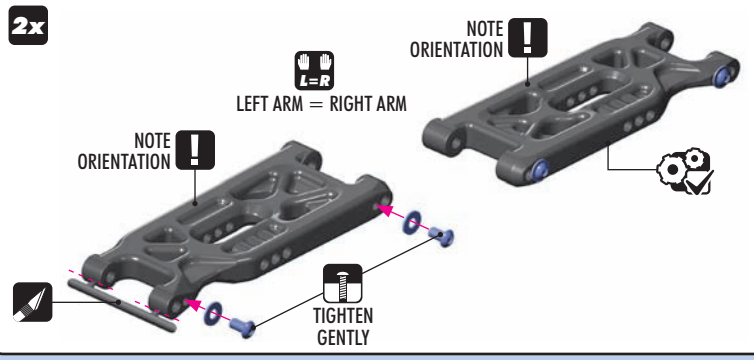
BAG 05

30 2665	COMPOSITE BALL JOINT 4.9mm - CLOSED WITH HOLE (4)	36 2290	STEEL STEERING BUSHING - SHORT (2)
30 6219	COMPOSITE SET OF SERVO SHIMS (4)	36 2291	STEEL STEERING BUSHING - LONG (2)
32 1200	COMPOSITE FRONT BUMPER	36 2650	BALL END 4.9mm WITH THREAD 6mm (2)
32 1210	ALU SUSPENSION HOLDER BRACE - SWISS 7075 T6 (3mm)	36 2651	BALL END 4.9mm WITH THREAD 8mm (2)
32 2040-H	COMPOSITE FRONT ROLL CENTER HOLDER - HARD	36 5353	ALU WHEEL HUB 12mm (2)
32 2110-H	COMPOSITE SUSPENSION ARM FRONT LOWER - HARD		
32 2210-H	COMPOSITE C-HUB 0° DEG. RIGHT - HARD	35 9050	BALL-BEARING 5x10x4 STEEL SEALED - GREASE (2)
32 2220-H	COMPOSITE C-HUB 0° DEG. LEFT - HARD	90 2205	HEX SCREW SH M2x5 (10)
32 2250-H	COMPOSITE STEERING BLOCK - HARD	90 2254	HEX SCREW SH M2.5x4 (10)
32 2280	COMPOSITE CASTER ECCENTRIC BUSHING (2+2+2)	90 2308	HEX SCREW SH M3x8 (10)
32 2290	GRAPHITE EXTENSION FOR STEERING BLOCK - 2 SLOTS (2)	90 2312	HEX SCREW SH M3x12 (10)
32 2610	ADJUSTABLE TURNBUCKLE 55mm M3 L/R - HUDY SPRING STEEL™ (2)	90 3308	HEX SCREW SFH M3x8 (10)
32 5240	FRONT DRIVE AXLE - HUDY SPRING STEEL™	90 3316	HEX SCREW SFH M3x16 (10)
32 7210	FRONT SUSPENSION PIVOT PIN (2)	96 0030	NUT M3 (10)
32 7220	FRONT ARM PIVOT PIN (2)	96 1025	WASHER S 2.5 (10)
36 2280	ALU CONICAL SHIM 3x6x2.0mm (10)	98 0210	PIN 2x9.8 (10)

5. FRONT SUSPENSION

902254
SH M2.5x4

961025
S 2.5

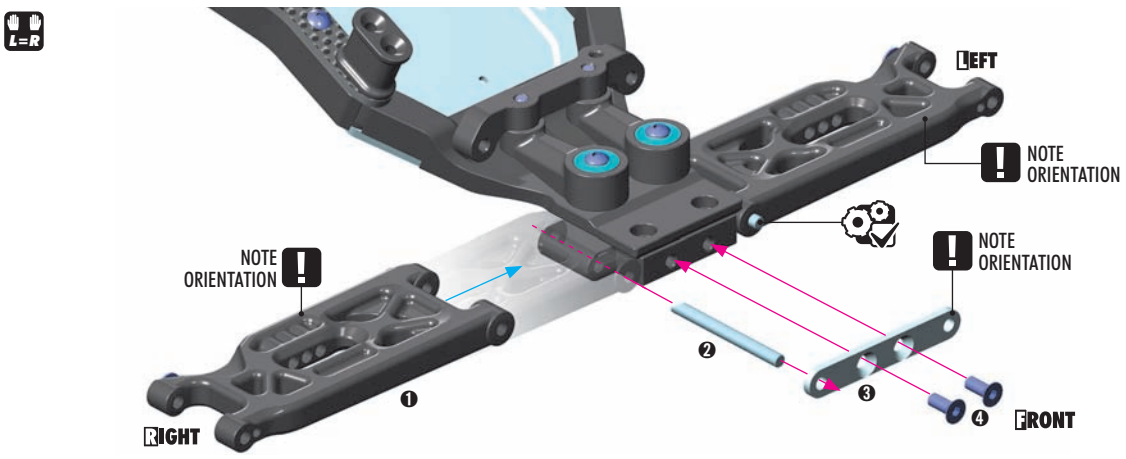


OPTION

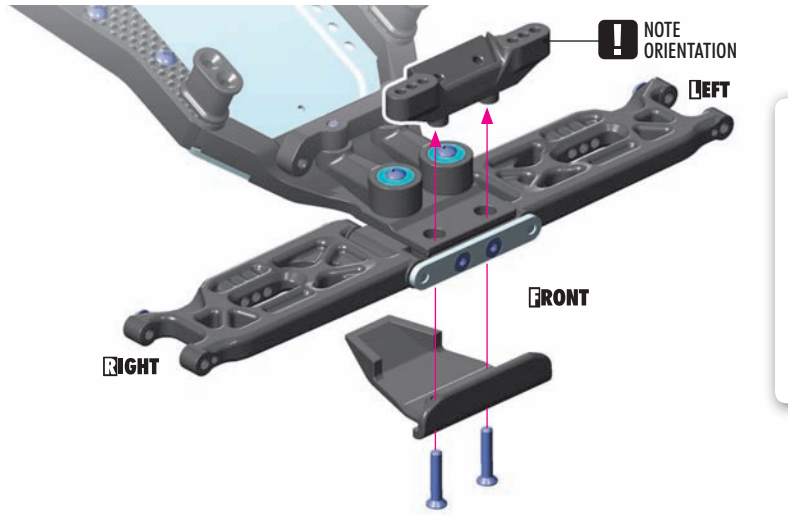
SUSPENSION ARM		
#322110-M	MEDIUM	OPTION
#322110-H	HARD	INCLUDED
#322110-G	GRAPHITE	OPTION

MEDIUM - For very-low & low traction
HARD - For medium & high traction
GRAPHITE - For high & very-high traction

903308
SFH M3x8



903316
SFH M3x16



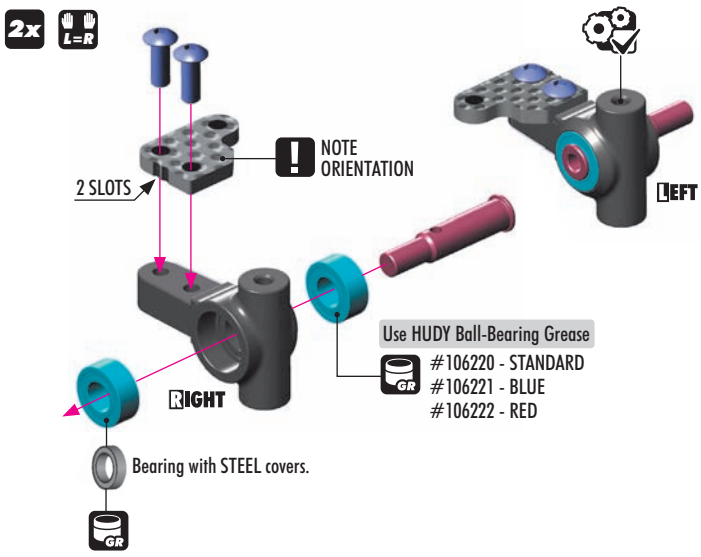
OPTION

FRONT ROLL CENTER HOLDER		
#322040-M	MEDIUM	OPTION
#322040-H	HARD	INCLUDED
#322041	ALU	OPTION

MEDIUM - Generates more traction, absorbs bumps better
HARD - More precise, absorbs less bumps than medium but still more than alu, more reactive than medium composite but less than alu
ALU - More precise, increased strength

902308
SH M3x8

359050
BB 5x10x4



OPTION

STEERING BLOCK EXTENSION		
#322290	2-SLOTS	INCLUDED
#322291	1-SLOT	OPTION
#322292	0-SLOTS	OPTION

2 SLOTS - Turns outside wheels less, easier to drive, less aggressive
1 SLOT - Between 2 and 0
0 SLOTS - Most aggressive steering, recommended for very technical small tracks

OPTION

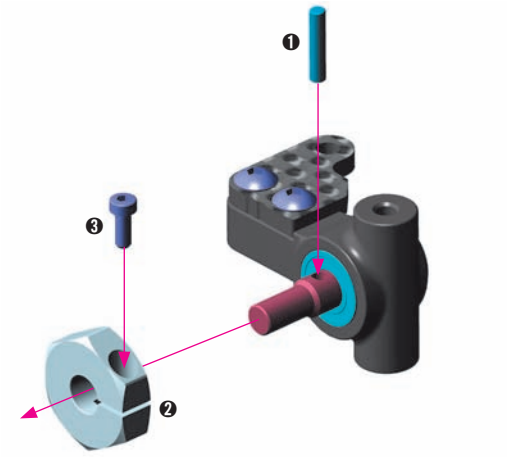
STEERING BLOCK		
#322250-M	MEDIUM	OPTION
#322250-H	HARD	INCLUDED
#322250-G	GRAPHITE	OPTION

MEDIUM - More steering on low traction
HARD - More free in corner on high grip
GRAPHITE - Less stoping in corner on high traction

902205
SH M2x5

981210
P 2x10

2x L=R



OPTION

WHEEL HEX HUBS 12mm			
#365360	+4.5mm	6 slots	OPTION
#365359	+3.75mm	5 slots	OPTION
#365358	+3.0mm	4 slots	OPTION
#365357	+2.25mm	3 slots	OPTION
#365356	+1.5mm	2 slots	OPTION
#365355	+0.75mm	1 slot	OPTION
#365353	0mm	0 slots	INCLUDED
#365354	-0.75mm	Lightw.	OPTION

OPTIONAL HEX HUB EFFECTS

Different offset hex hubs are used to increase or decrease the track-width.

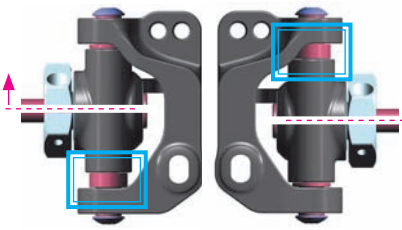
LESS OFFSET
Rear - more traction
Front - more steering

MORE OFFSET
Rear - less traction
Front - less steering

902312
SH M3x12

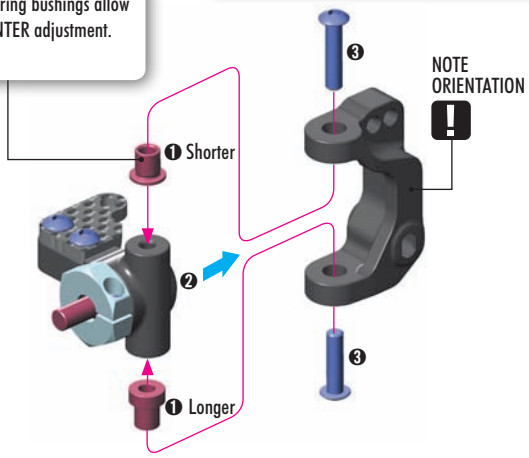
2x L=R

(INITIAL SETTING)
HIGHER ROLL CENTER
TOP = SHORTER bushing
BOTTOM = LONGER bushing
Recommended for smooth tracks to gain more steering.



LOWER ROLL CENTER
TOP = LONGER bushing
BOTTOM = SHORTER bushing
Recommended for rough tracks to improve stability.

Steel steering bushings allow ROLL CENTER adjustment.



OPTION

C-HUB			
#322210-M	RIGHT	MEDIUM	OPTION
#322210-H	RIGHT	HARD	INCLUDED
#322210-G	RIGHT	GRAPHITE	OPTION
#322220-M	LEFT	MEDIUM	OPTION
#322220-H	LEFT	HARD	INCLUDED
#322220-G	LEFT	GRAPHITE	OPTION

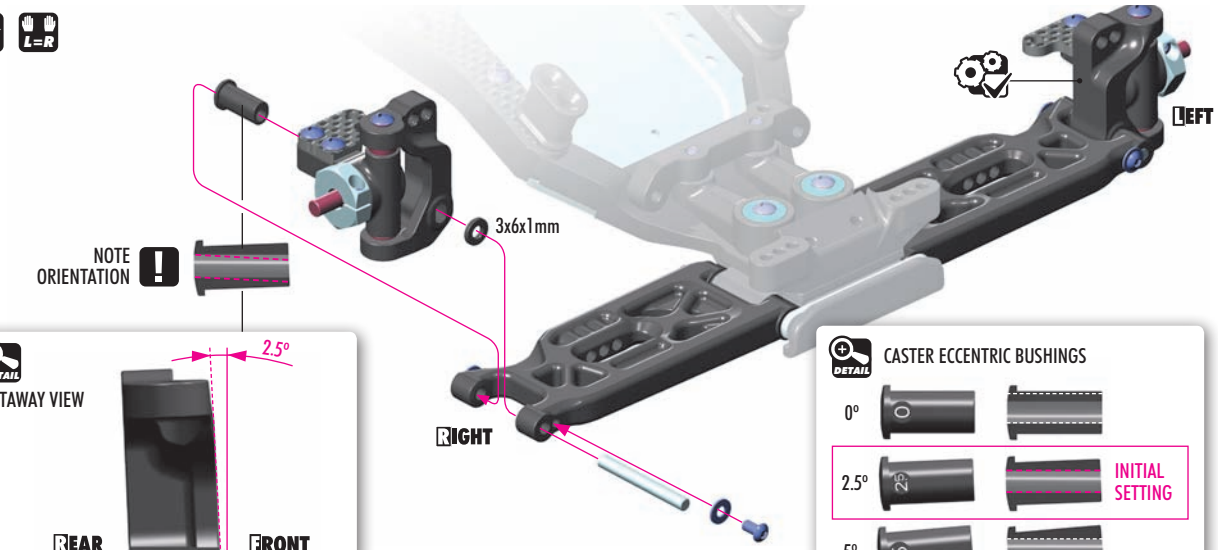
MEDIUM - For low traction. More steering on low grip.
HARD - For medium traction. More steering, more free in corners.
GRAPHITE - For high traction. More precise steering, less stoping in corners.

306219
SHIM 3x6x1

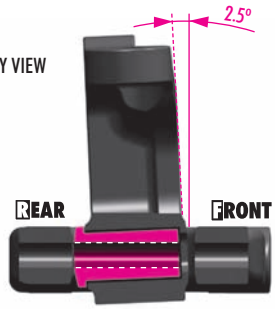
902254
SH M2.5x4

961025
S 2.5

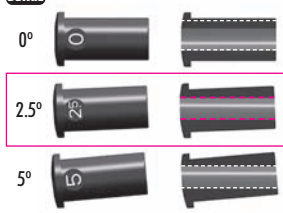
2x L=R



DETAIL
CUTAWAY VIEW

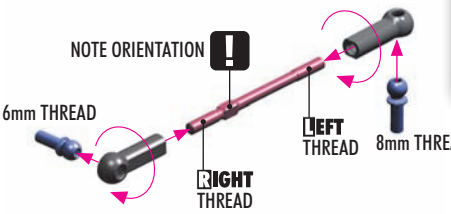


DETAIL
CASTER ECCENTRIC BUSHINGS



LESS CASTER = increased off-power steering
MORE CASTER = decreased off-power steering

2x L=R ROLL CENTER LINKS

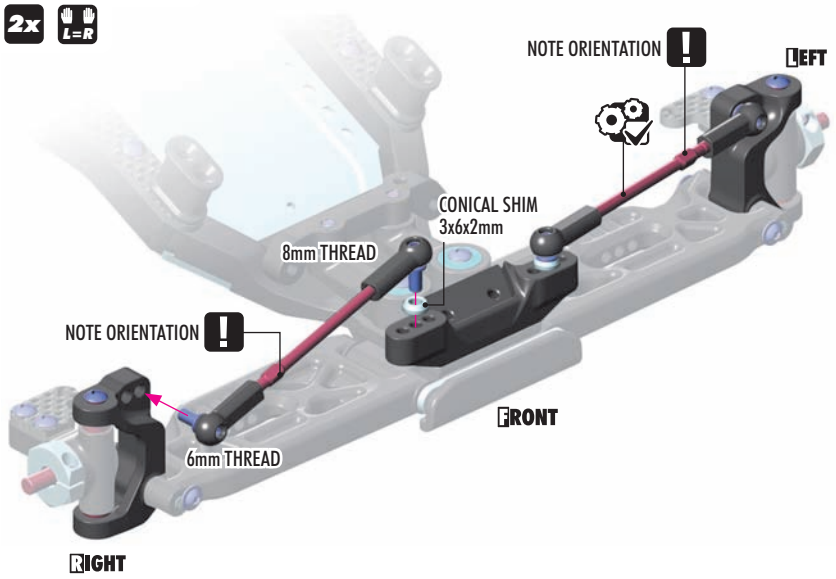


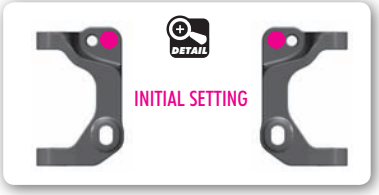
TIP Install the pivot balls with Professional Multi Tool (HUDY #183011)

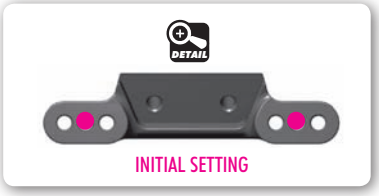
362280
CON. SHIM 3x6x2

ROLL CENTER LINKS

2x L=R



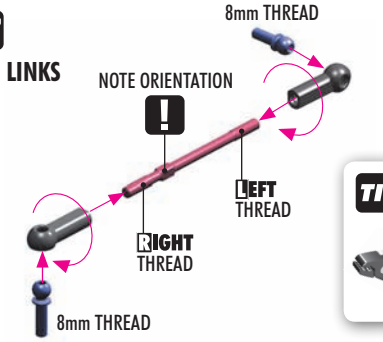




OPTION

ALU CONICAL SHIM		
#362280	SILVER	INCLUDED
#362280-K	BLACK	OPTION
#362280-O	ORANGE	OPTION

2x L=R STEERING LINKS



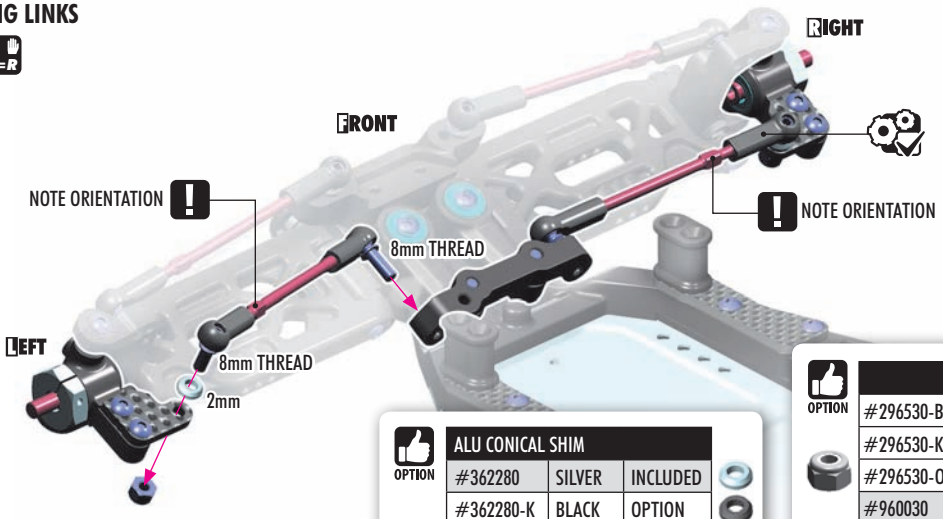
TIP Install the pivot balls with Professional Multi Tool (HUDY #183011)

362280
CON. SHIM 3x6x2

960030
NUT M3

STEERING LINKS

2x L=R



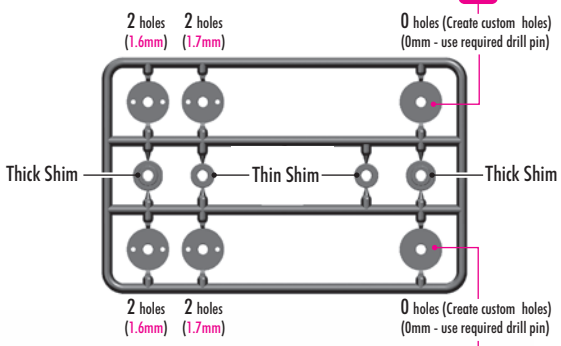
OPTION

ALU CONICAL SHIM		
#362280	SILVER	INCLUDED
#362280-K	BLACK	OPTION
#362280-O	ORANGE	OPTION

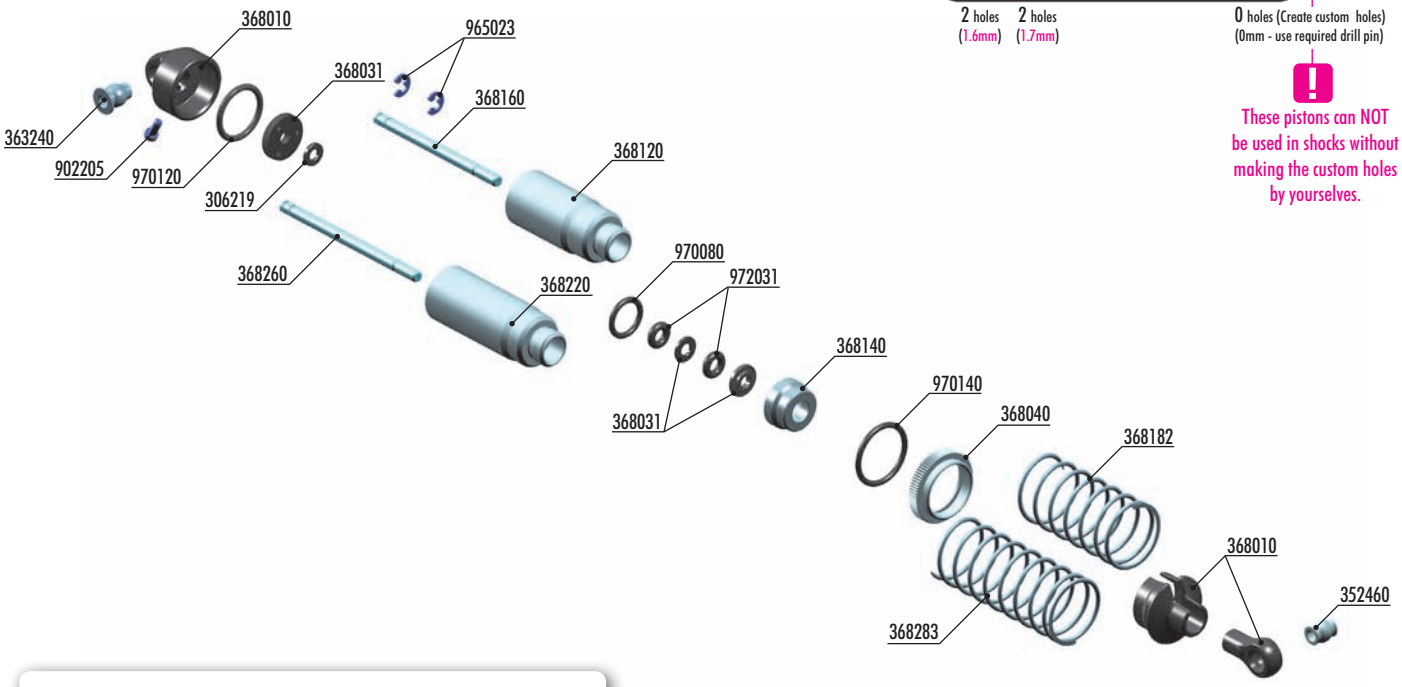
OPTION

ALU NUTS M3		
#296530-B	ALU BLUE	OPTION
#296530-K	ALU BLACK	OPTION
#296530-O	ALU ORANGE	OPTION
#960030	STEEL SILVER	INCLUDED
#960031	ALU SILVER	OPTION

PISTONS DETAIL

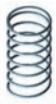


These pistons can NOT be used in shocks without making the custom holes by yourselves.



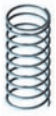
OPTION

FRONT SPRINGS			
#368174	PROGRESS.	2 STRIPES	OPTION
#368175	PROGRESS. 40mm	3 DOTS	OPTION
#368182	LINEAR	1 STRIPE & 3 DOTS	INCLUDED
#368183	LINEAR	1 DOT	OPTION
#368184	LINEAR	2 DOTS	OPTION
#368185	LINEAR	3 DOTS	OPTION
#368186	LINEAR	4 DOTS	OPTION



OPTION

REAR SPRINGS			
#368273	PROGRESS.	2 STRIPES	OPTION
#368275	PROGRESS. 55mm	2 DOTS	OPTION
#368283	LINEAR	1 STRIPE & 3 DOTS	INCLUDED
#368284	LINEAR	1 DOT	OPTION
#368285	LINEAR	2 DOTS	OPTION
#368286	LINEAR	3 DOTS	OPTION
#368287	LINEAR	4 DOTS	OPTION



OPTION #368051
ALU SHOCK CAP-NUT WITH VENT HOLE (2)

OPTION #368021
ALU SHOCK SPRING RETAINING COLLAR (4)

OPTION #328011
SHOCK BALL JOINT 21mm (2)

BAG 06

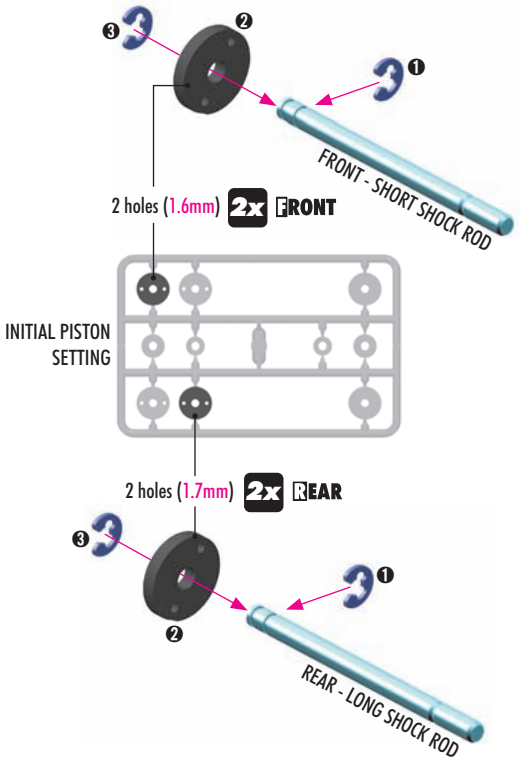
30 6219	COMPOSITE SET OF SERVO SHIMS (4)
35 2460	PIVOT BALL 5.8 - V3 (10)
36 3240	BALL UNIVERSAL 5.8mm WITH BACKSTOP (2)
36 8010	COMPOSITE SHOCK PARTS
36 8031	SHOCK PISTONS - COMPLETE SET - DERLIN - V2
36 8040	ALU SHOCK ADJUSTABLE NUT (2)
36 8100	FRONT SHOCK ABSORBERS COMPLETE SET (2)
36 8120	ALU FRONT SHOCK BODY - HARD COATED (2)
36 8140	ALU LOWER SHOCK BODY CAP (2)
36 8160	FRONT HARDENED SHOCK SHAFT (2)
36 8182	FRONT SPRING-SET LINEAR - 1 STRIPE & 3 DOTS (2)
36 8200	REAR SHOCK ABSORBERS COMPLETE SET (2)
36 8220	ALU REAR SHOCK BODY - HARD COATED (2)
36 8260	REAR HARDENED SHOCK SHAFT (2)
36 8283	REAR SPRING-SET LINEAR - 1 STRIPE & 3 DOTS (2)
90 2205	HEX SCREW SH M2x5 (10)
96 5023	E-CLIP 2.3 (10)
97 0080	O-RING 8x1 (10)
97 0120	O-RING 12 x 1.0 (10)
97 0140	O-RING 14 x 1.5 (10)
97 2031	SILICONE O-RING 3x2.1 (10)

6. SHOCK ABSORBERS

965023
C 2.3

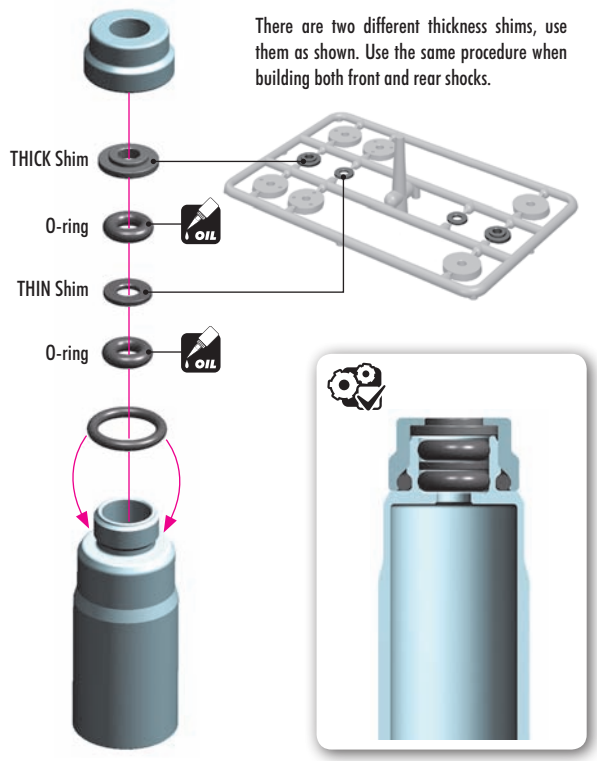
970080
O 8x1

972031
O 3x2.1



4x

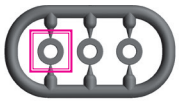
There are two different thickness shims, use them as shown. Use the same procedure when building both front and rear shocks.



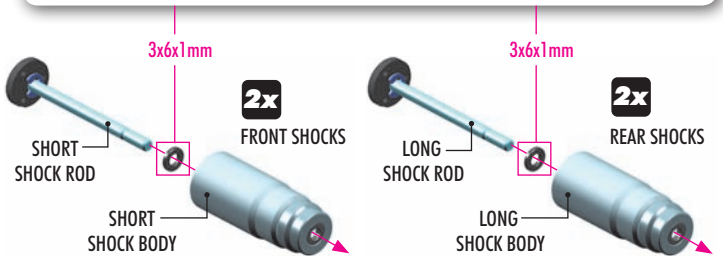
SET-UP BOOK
SHOCK DAMPING
SHOCK PISTONS

OPTION #306219 DOWNSTOP SHIMS

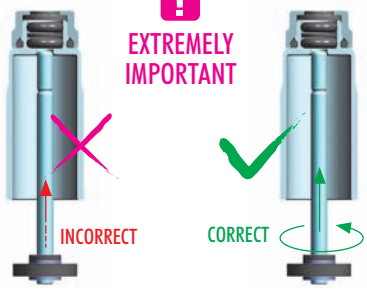
THICKER shim used, GREATER downstop is achieved.



IMPORTANT
Always use same shim thickness on right and left side to achieve same downstop.



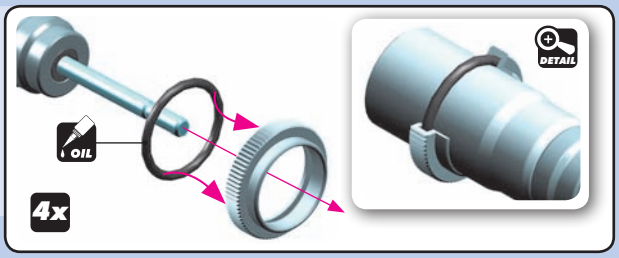
EXTREMELY IMPORTANT



Do not push the shock rod straight through the lower shock body assembly; O-ring damage may result.

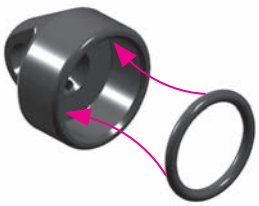
Twist the shock rod through the lower shock body assembly.

970140
O 14x1.5



970120
O 12x1

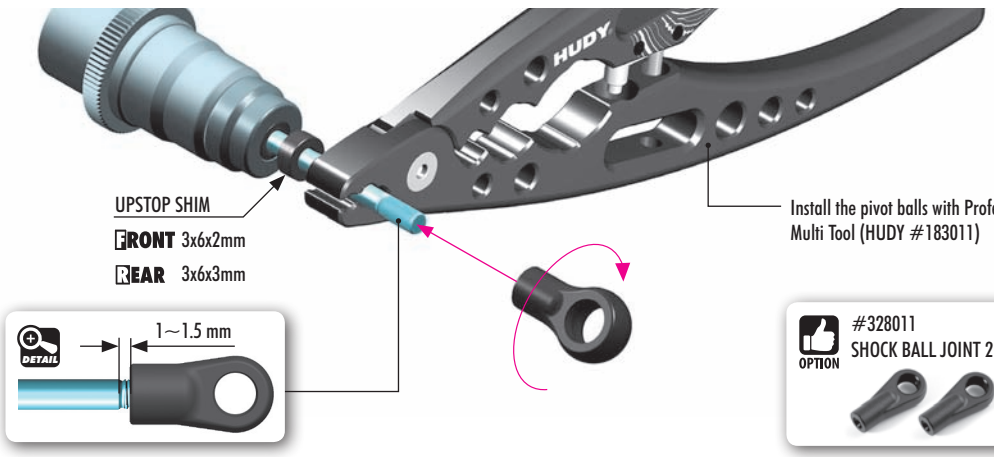
4x



306219
SHIM 3x6x2

306219
SHIM 3x6x3

4x



Install the pivot balls with Professional Multi Tool (HUDY #183011)

OPTION #328011
SHOCK BALL JOINT 21mm (2)

902205
SH M2x5

DEFAULT SHOCK REBOUND SETTING 0% REBOUND

Follow the steps below to set the shock rebound to the default setting of 0%.

2x FRONT (SHORT)
Oil 350cSt

2x REAR (LONG)
Oil 300cSt

❶ Extend the shock shaft completely. Fill the shock body with the shock oil. For the FRONT shocks (short) use 350cSt oil. For the REAR shocks (long) use 300cSt oil.

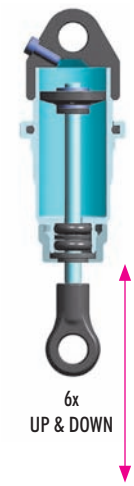
❷ Move the shock shaft up and down a few times to release the air bubbles trapped beneath the piston.

❸ Orient the filled shock vertically for several minutes with the shock shaft fully extended. The remaining air bubbles will release.

❹ Gently place the shock cap onto the filled shock body and start to tighten the cup. Tighten the cap fully.

❺ Gently push the shock shaft completely into the shock body. Excess oil will flow through the hole in the shock cap.

❻ Keep the shock shaft pushed in the shock body and insert the screw into the shock cap. Tighten gently.



❼ 6x push the shaft up and down.

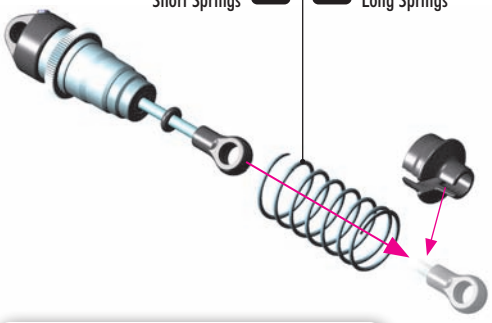
❽ Untighten the screw.

❾ Gently push the shock shaft completely into the shock body. Excess oil will flow through the hole in the shock cap.

❿ Tighten the screw.
The rebound will be at approx. 0%

SET-UP BOOK
SHOCK OIL

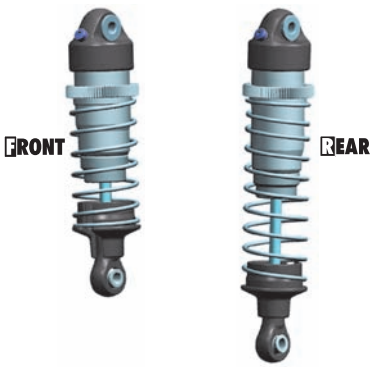
SHORT FRONT SHOCKS
Short Springs
2x 2x
LONG REAR SHOCKS
Long Springs



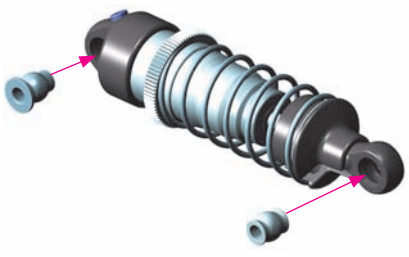
OPTION
#368021
ALU SHOCK SPRING RETAINING COLLAR (4)

IMPORTANT

Both FRONT SHOCKS must be the same overall length.
Both REAR SHOCKS must be the same overall length.



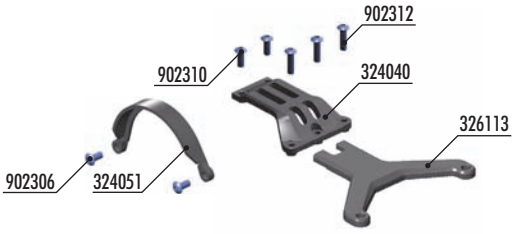
2x FRONT SHOCKS (SHORT)
2x REAR SHOCKS (LONG)



BAG 07

GEAR BOX
FRONT MOTOR POSITION

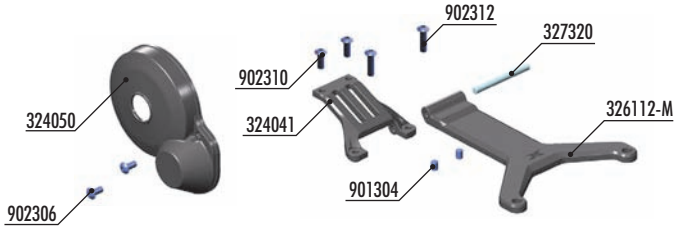
(For HIGH TRACTION track)

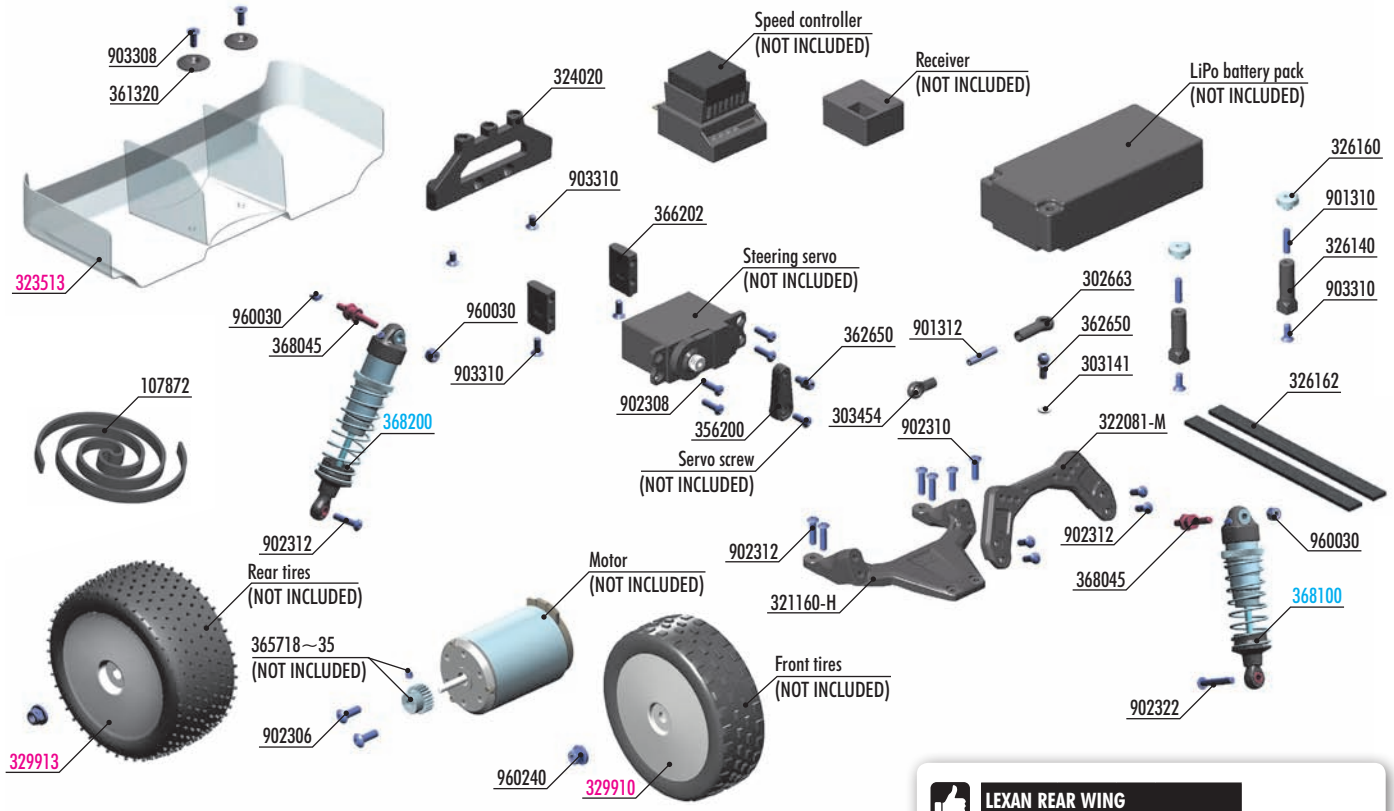


BAG 08

GEAR BOX
MIDDLE MOTOR POSITION

(For LOW TRACTION track)





OPTION

REAR WING SHIM		
#293561	SILVER	OPTION
#293561-O	ORANGE	OPTION

OPTION

FRONT UPPER DECK		
#321160-M	MEDIUM	OPTION
#321160-H	HARD	INCLUDED

OPTION

#322080
GRAPHITE SHOCK TOWER
FRONT 4.0MM

OPTION

FRONT SHOCK TOWER		
#322081-M	MEDIUM	INCLUDED
#322081-H	HARD	OPTION

OPTION

LEXAN REAR WING			
#323510	1.0mm	V1	OPTION
#323511	1.5mm	V1	OPTION
#323513	1.0mm	V2	INCLUDED
#323514	1.5mm	V2	OPTION

OPTION

XRAY LEXAN BODY			
#329700	0.75mm	V1	OPTION
#329701	0.5mm	V1	OPTION
#329706	0.75mm	V2	INCLUDED

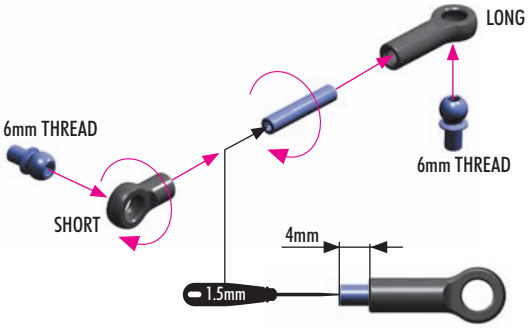
BAG 07

10 7872	VELCRO TAPE WITH DOUBLE SIDED TAPE 8x500mm
30 2663	COMPOSITE BALL JOINT 4.9mm - OPEN - V2 (8)
30 3141	ALU SHIM 3x5x1.0mm (10)
30 3454	BALL JOINT 4.9mm - OPEN (4)
32 1160-H	COMPOSITE FRONT UPPER DECK - HARD
32 2081-M	COMPOSITE SHOCK TOWER FRONT - MEDIUM
32 4020	COMPOSITE MOUNT FOR UPPER BRACE - CARPET EDITION
32 4040	COMPOSITE MOTOR UPPER BRACE - CARPET EDITION
32 4051	COMPOSITE GEAR COVER - FRONT MOTOR POSITION
32 6113	COMPOSITE BATTERY STRAP - SHORT
32 6140	COMPOSITE BATTERY HOLDER STAND (2)
32 6160	ALU BATTERY HOLDER NUT (2)
32 6162	SELF-ADHESIVE RUBBER 1.5x6.5x155mm (2)
35 6200	BRAKE/THROTTLE ARMS & STEERING SERVO ARMS - SET
36 1320	BODY MOUNT, BATTERY MOUNT - V2 & WING SHIM (2)
36 2650	BALL END 4.9mm WITH THREAD 6mm (2)
36 6202	COMPOSITE SERVO MOUNT - HIGHER
36 8045	STEEL SCREW SHOCK PIVOT BALL WITH HEX (2)
90 1310	HEX SCREW SB M3x10 (10)
90 1312	HEX SCREW SB M3x12 (10)
90 2306	HEX SCREW SH M3x6 (10)
90 2308	HEX SCREW SH M3x8 (10)
90 2310	HEX SCREW SH M3x10 (10)
90 2312	HEX SCREW SH M3x12 (10)
90 2322	HEX SCREW SH M3x22 (10)
90 3308	HEX SCREW SFH M3x8 (10)
90 3310	HEX SCREW SFH M3x10 (10)
96 0030	NUT M3 (10)
96 0240	NUT M4 WITH SERRATED FLANGE (10)
36 8100	FRONT SHOCK ABSORBERS COMPLETE SET (2)
36 8200	REAR SHOCK ABSORBERS COMPLETE SET (2)
32 3513	LEXAN REAR WING - LOW TRACTION
32 9706	XRAY XB2 BODY - LOW TRACTION
32 9910	2WD FRONT WHEEL AERODISK WITH 12mm HEX - WHITE (2)
32 9913	4WD/2WD REAR WHEEL AERODISK 12mm HEX - WHITE (2)

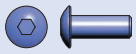
BAG 08

32 4041	COMPOSITE MOTOR UPPER BRACE - DIRT EDITION
32 4050	COMPOSITE GEAR COVER - DIRT EDITION
32 6112-M	COMPOSITE BATTERY STRAP - MEDIUM - DIRT EDITION
32 7320	REAR ARM PIVOT PIN (2)
90 1304	HEX SCREW SB M3x4 (10)
90 2306	HEX SCREW SH M3x6 (10)

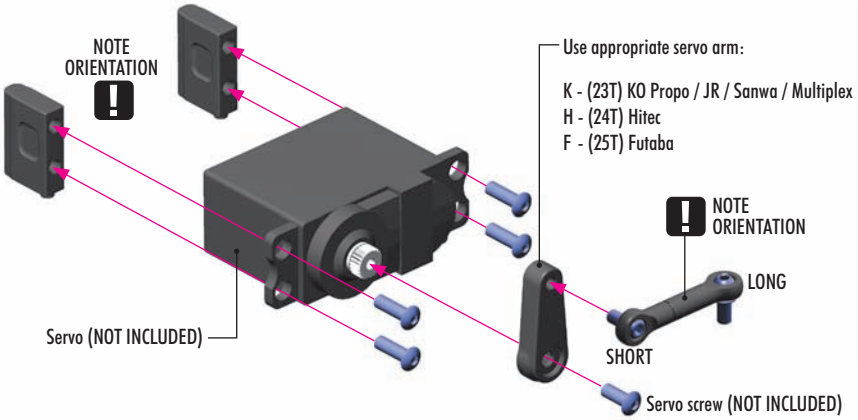
901312
SB M3x12



TIP Install the pivot balls with Professional Multi Tool (HUDY #183011)



902308
SH M3x8



OPTION

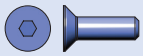
HUDY ALU SERVO HORNS	
#293497	23T
#293498	24T
#293499	25T

OPTION

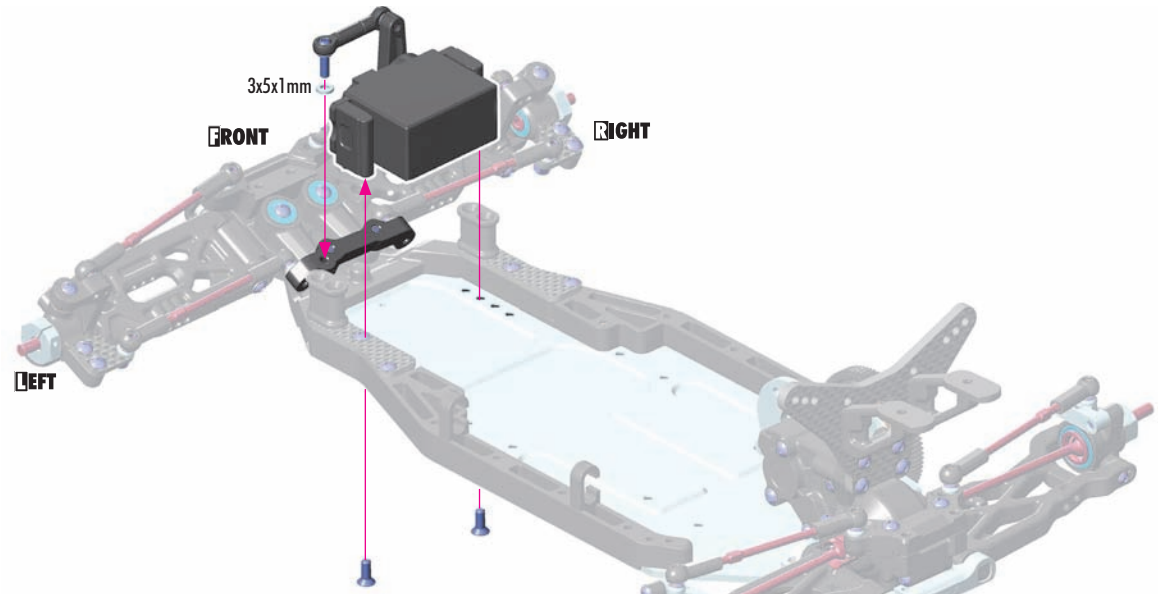
HUDY CLAMP ALU SERVO HORNS	
#293404	23T
#293405	24T
#293406	25T

For more in-corner steering and better steering response, aluminum servo horns may be used.

303141
SHIM 3x5x1



903310
SFH M3x10



902310
SH M3x10

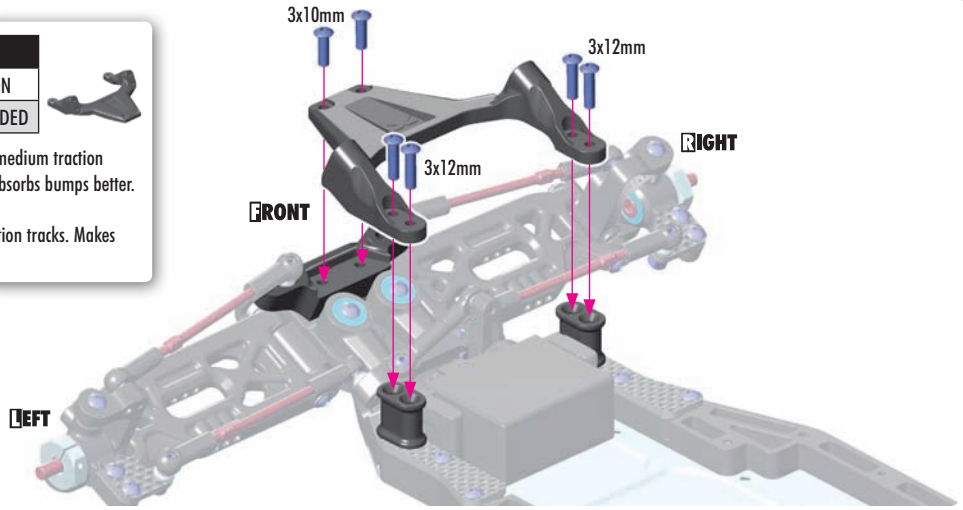
902312
SH M3x12

OPTION

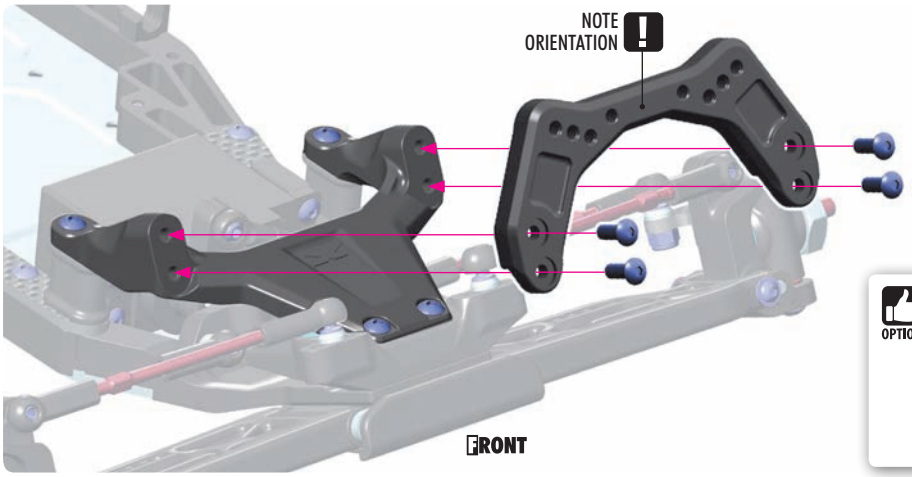
FRONT UPPER DECK		
#321160-M	MEDIUM	OPTION
#321160-H	HARD	INCLUDED

MEDIUM - For very-low, low and medium traction tracks. Generates more traction, absorbs bumps better.

HARD - For high & very-high traction tracks. Makes the car more precise.



902312
SH M3x12

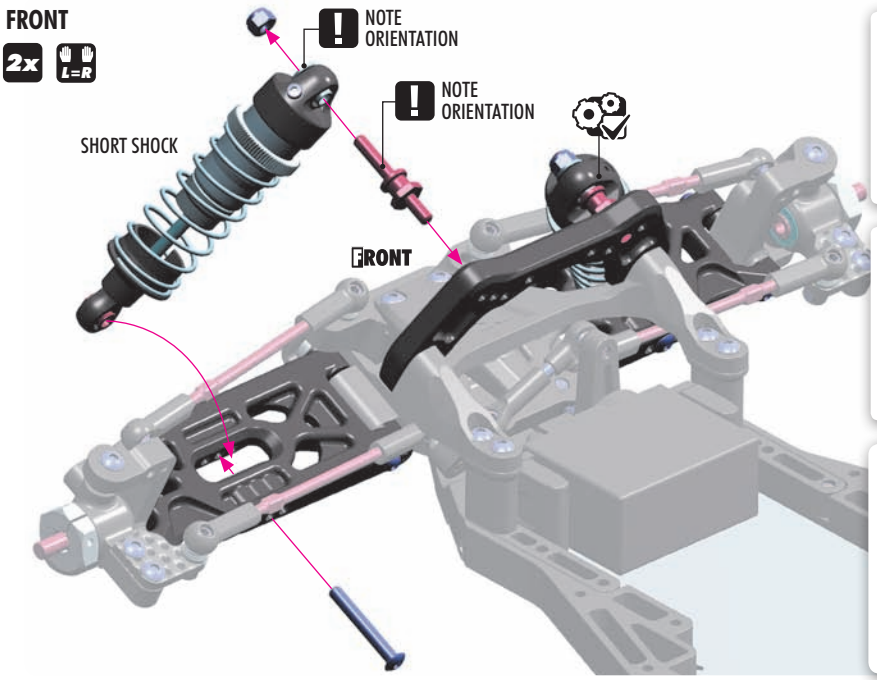


OPTION #322080
GRAPHITE SHOCK TOWER FRONT 4.0mm

902322
SH M3x22

960030
NUT M3

FRONT
2x L=R



DETAIL
INITIAL SETTING

DETAIL L=R

INITIAL SETTING

OPTION

ALU NUTS M3		
#296530-B	ALU BLUE	OPTION
#296530-K	ALU BLACK	OPTION
#296530-O	ALU ORANGE	OPTION
#960030	STEEL SILVER	INCLUDED
#960031	ALU SILVER	OPTION

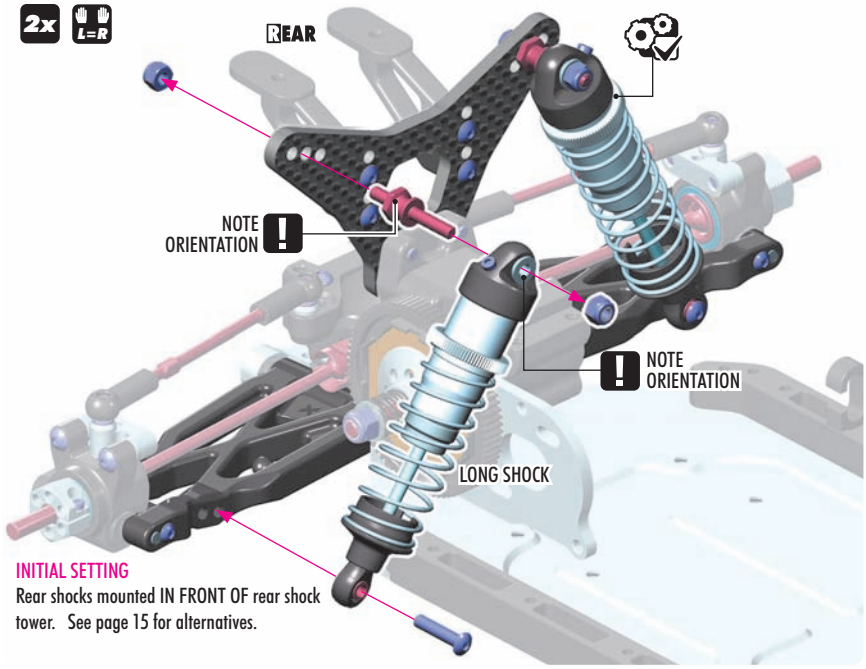
GEAR BOX FRONT MOTOR POSITION

page 34 ~ 37

902312
SH M3x12

960030
NUT M3

2x L=R

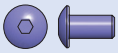


INITIAL SETTING
Rear shocks mounted IN FRONT OF rear shock tower. See page 15 for alternatives.

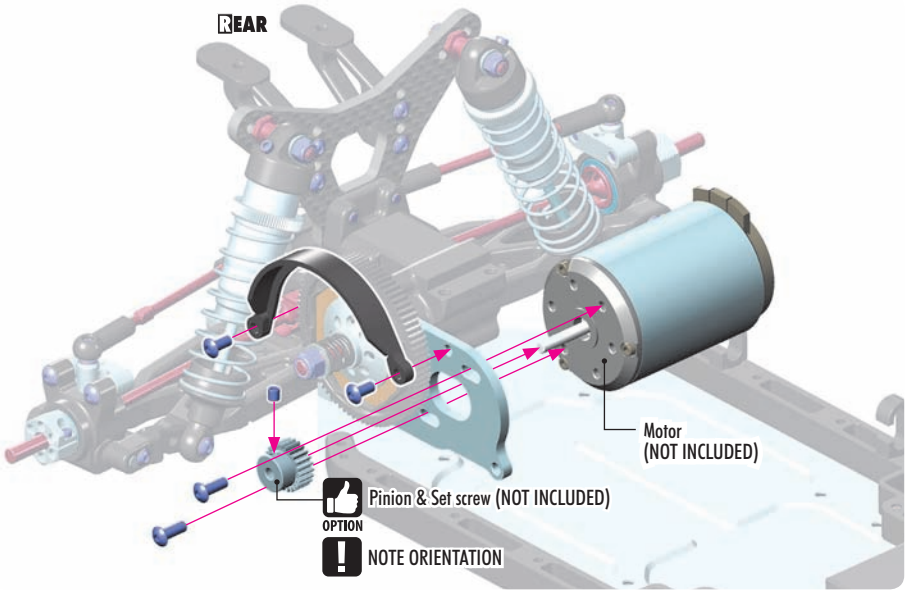
DETAIL
INITIAL SETTING

DETAIL L=R

INITIAL SETTING



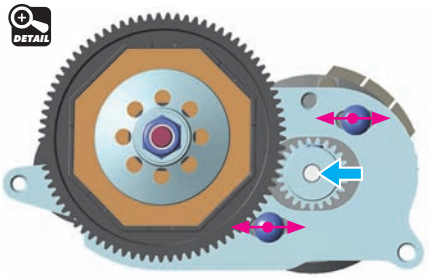
902306
SH M3x6



OPTION

XRAY PINIONS (48P)	
#365718	18T
#365719	19T
#365720	20T
#365721	21T
#365722	22T
#365723	23T
#365724	24T
#365725	25T
#365726	26T
#365727	27T
#365728	28T
#365729	29T
#365730	30T
#365731	31T
#365732	32T
#365733	33T
#365734	34T
#365735	35T
#365736	36T
#365737	37T
#365738	38T

DETAIL



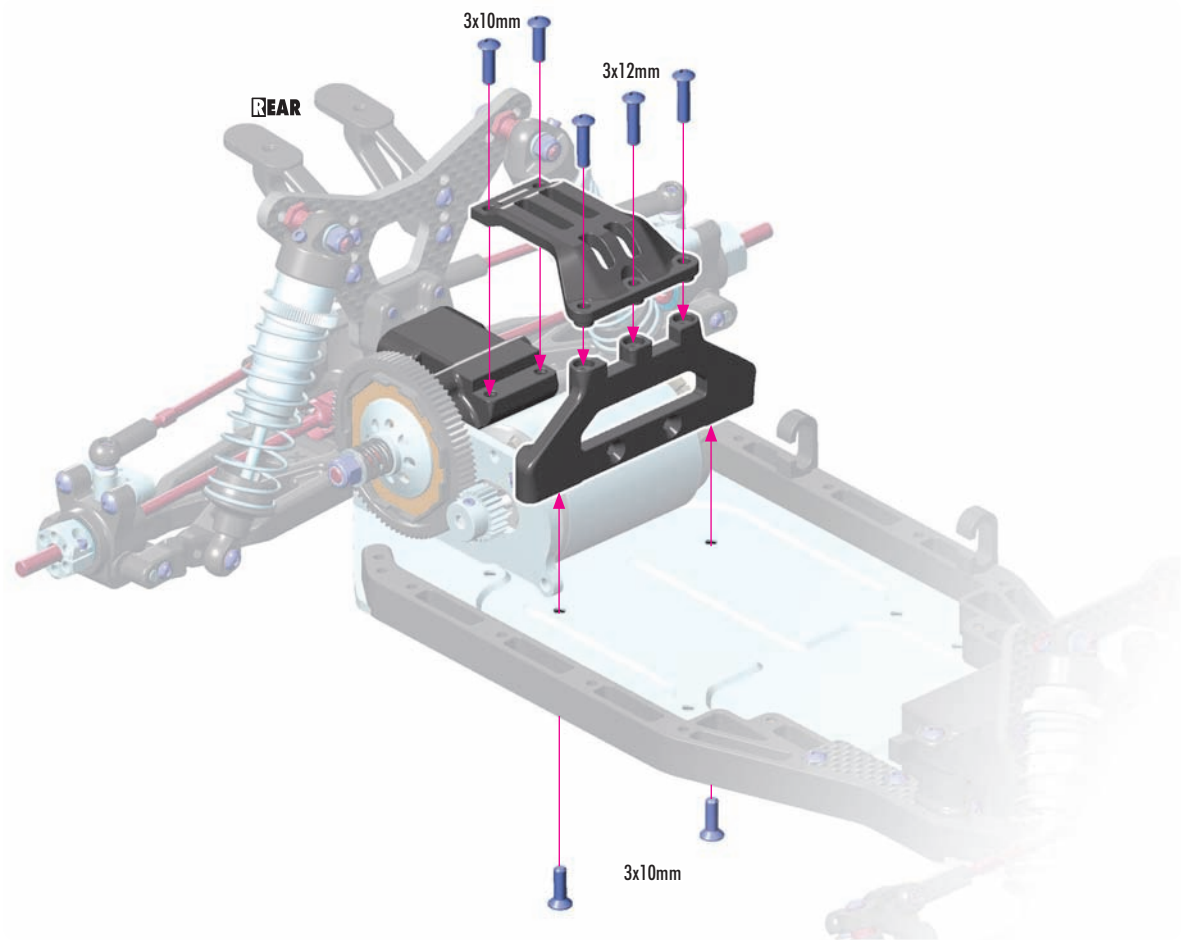
Adjust the motor so the pinion meshes with the spur gear properly. Make sure the gear mesh is not too tight.

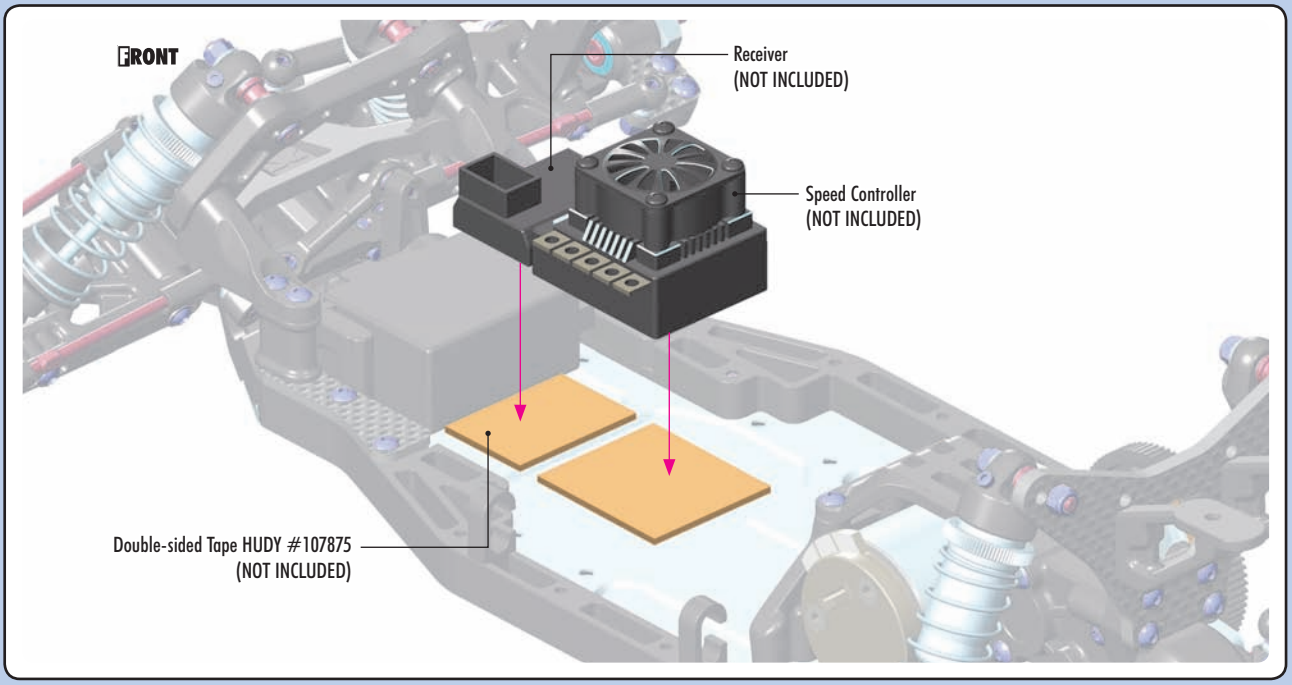
There should be a small amount of play between the teeth of the pinion gear and the spur gear.

902310
SH M3x10

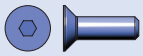
903310
SFH M3x10

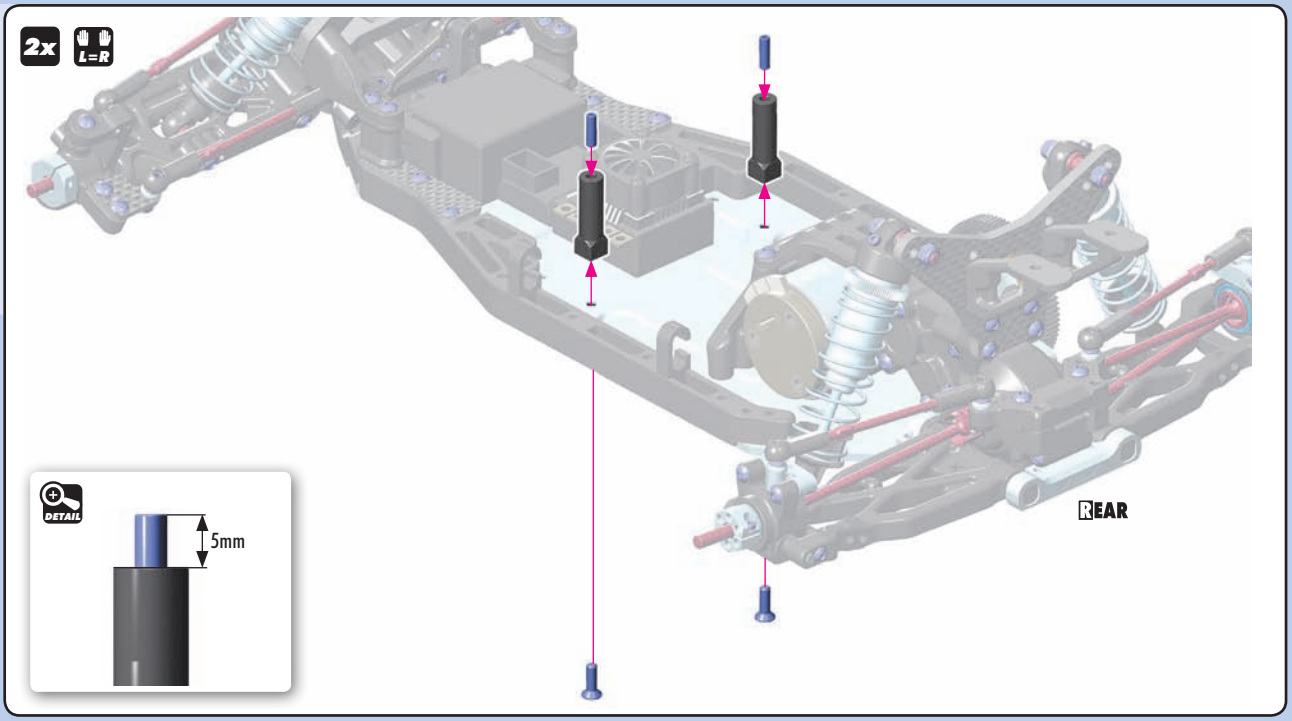
902312
SH M3x12

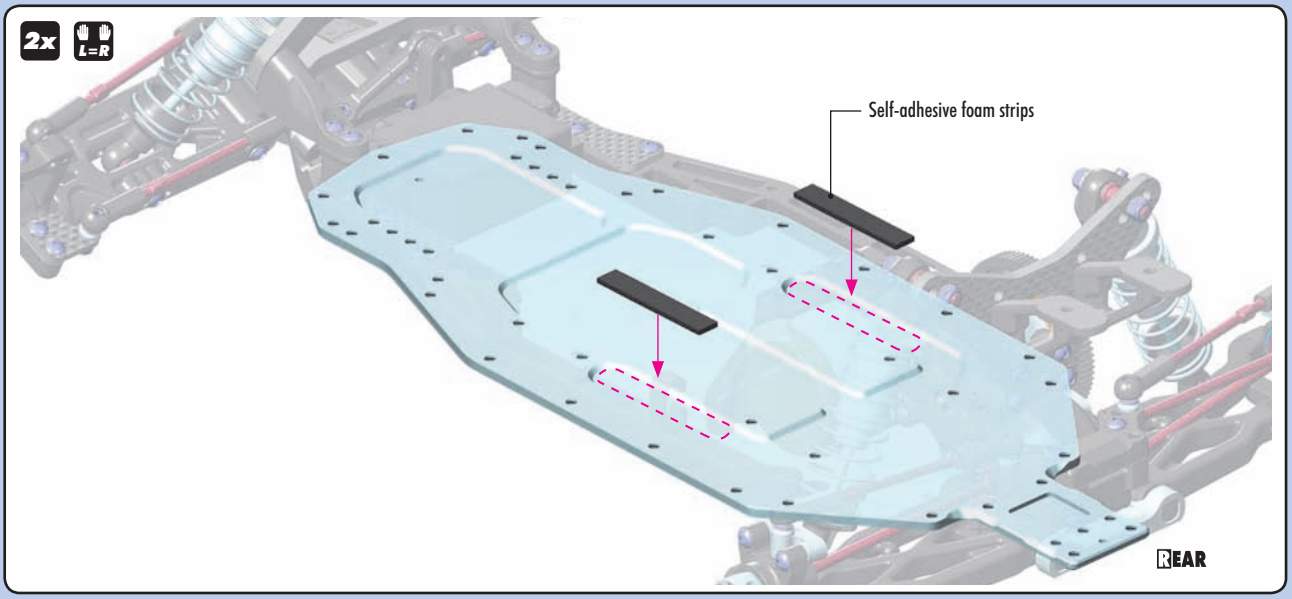


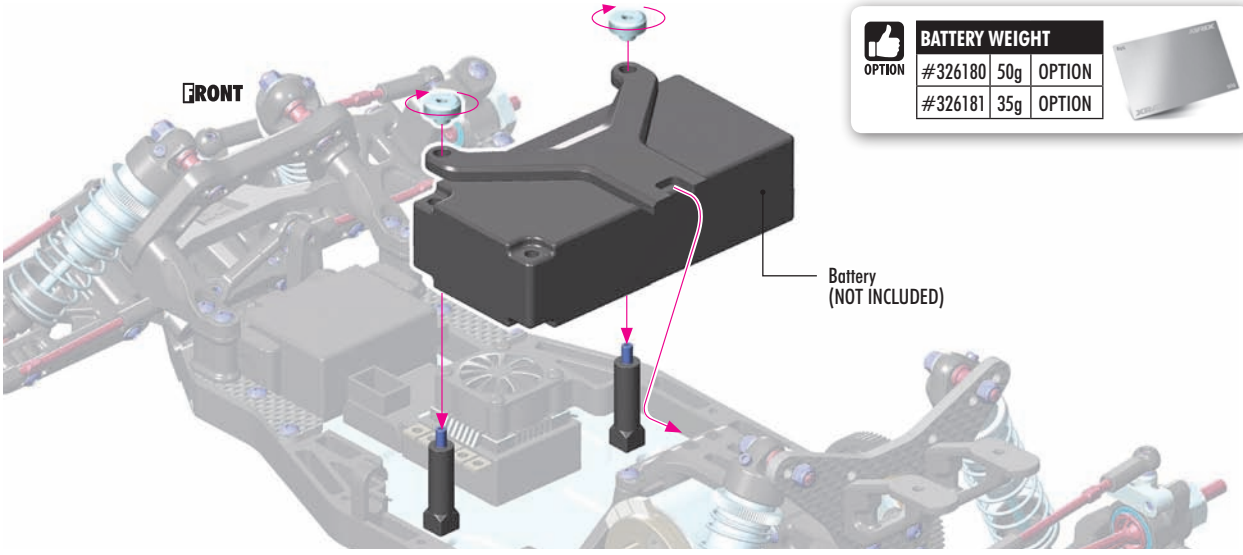



901310
SB M3x10


903310
SFH M3x10







OPTION

BATTERY WEIGHT		
#326180	50g	OPTION
#326181	35g	OPTION

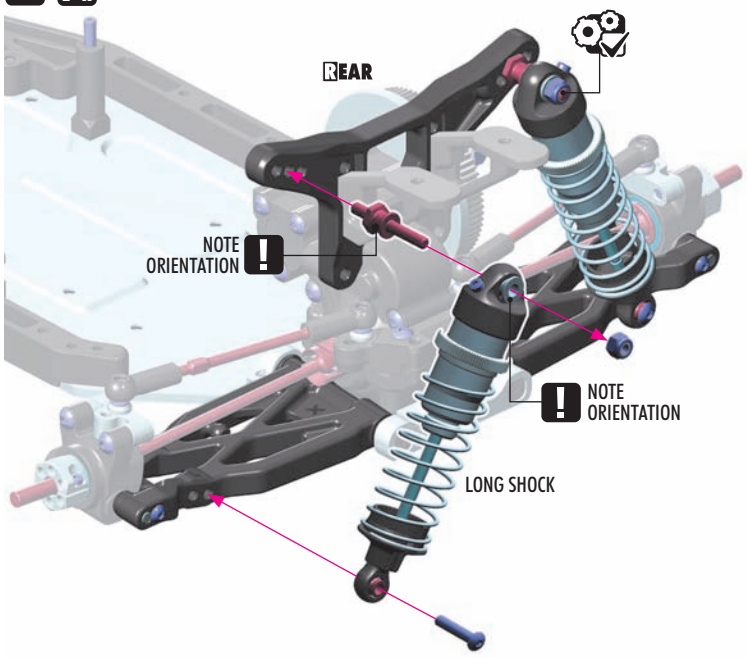
GEAR BOX MIDDLE MOTOR POSITION

page 37 ~ 40

902312
SH M3x12

960030
NUT M3

2x L=R

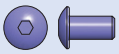


DETAIL

DETAIL L=R

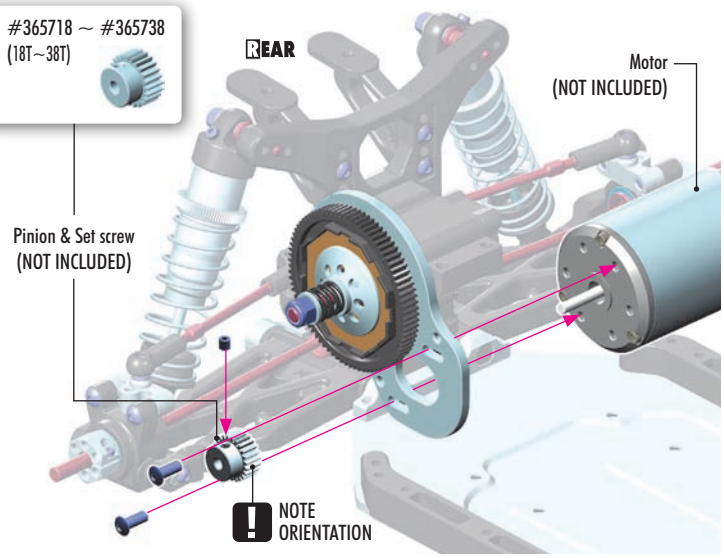
OPTION

ALU NUTS M3		
#296530-B	ALU BLUE	OPTION
#296530-K	ALU BLACK	OPTION
#296530-O	ALU ORANGE	OPTION
#960030	STEEL SILVER	INCLUDED
#960031	ALU SILVER	OPTION

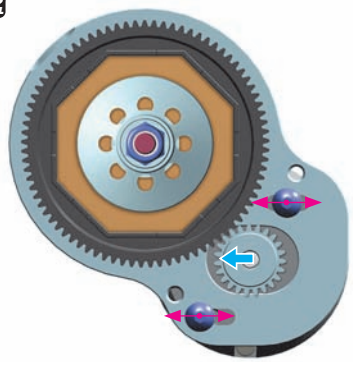


902306
SH M3x6

OPTION #365718 ~ #365738 (18T~38T)



DETAIL

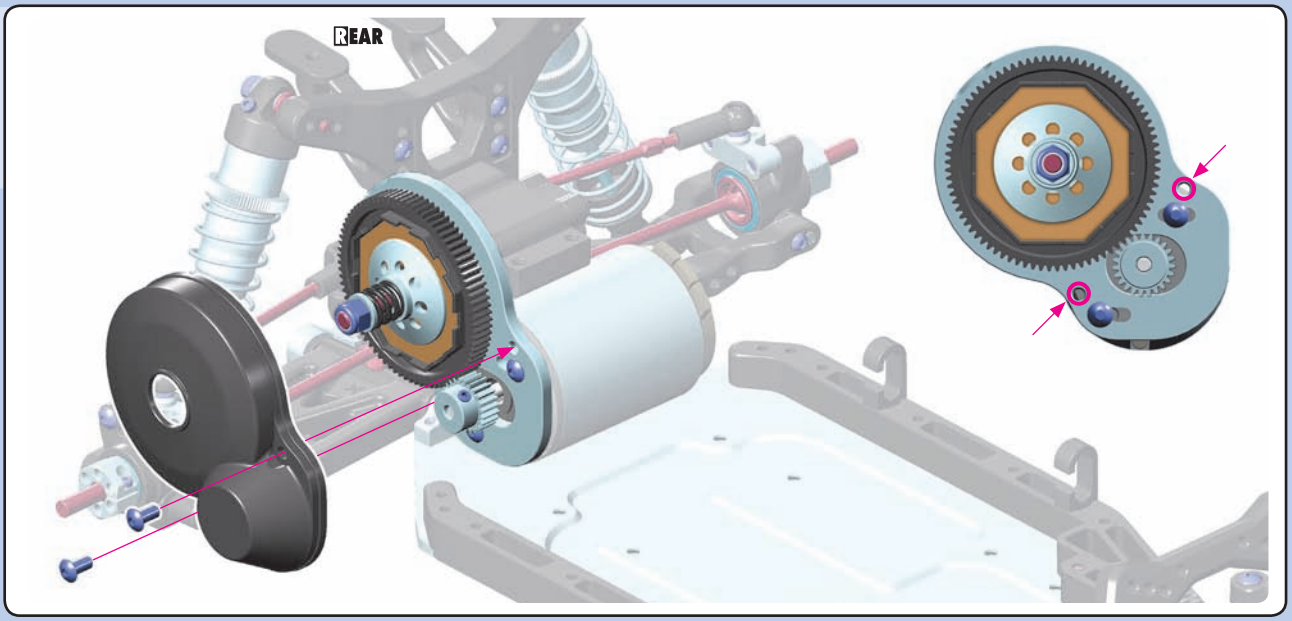


Adjust the motor so the pinion meshes with the spur gear properly. Make sure the gear mesh is not too tight.

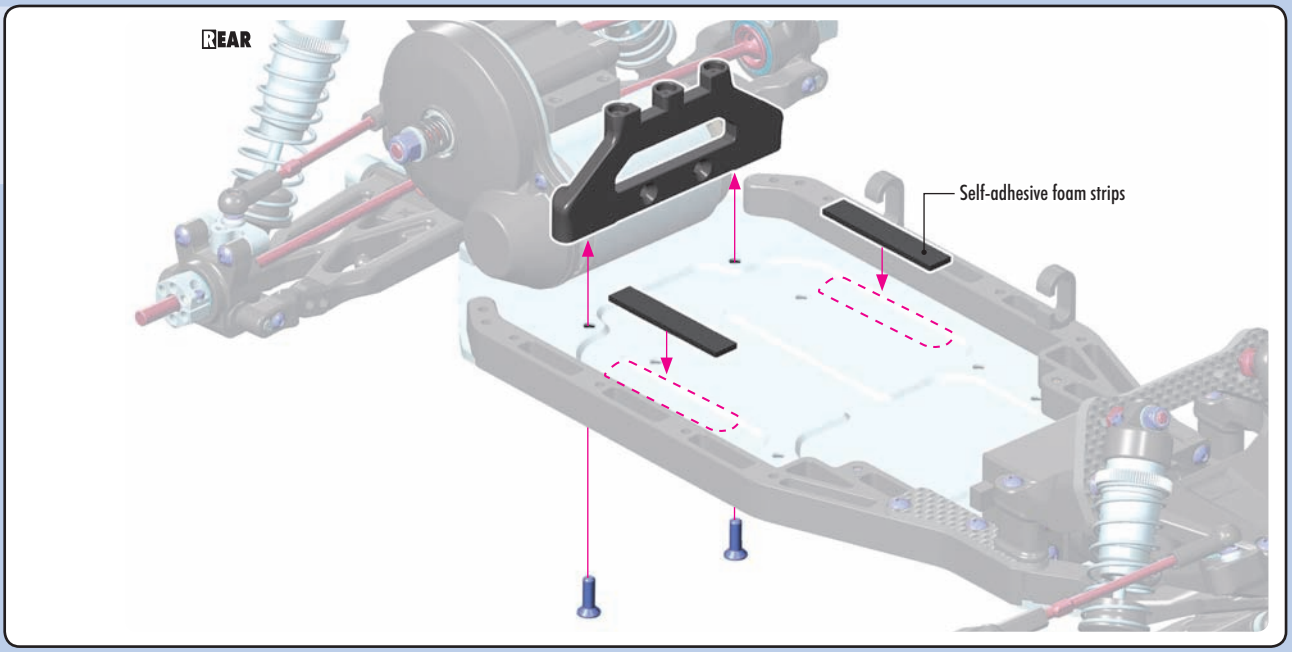
There should be a small amount of play between the teeth of the pinion gear and the spur gear.

7. FINAL ASSEMBLY

902306
SH M3x6

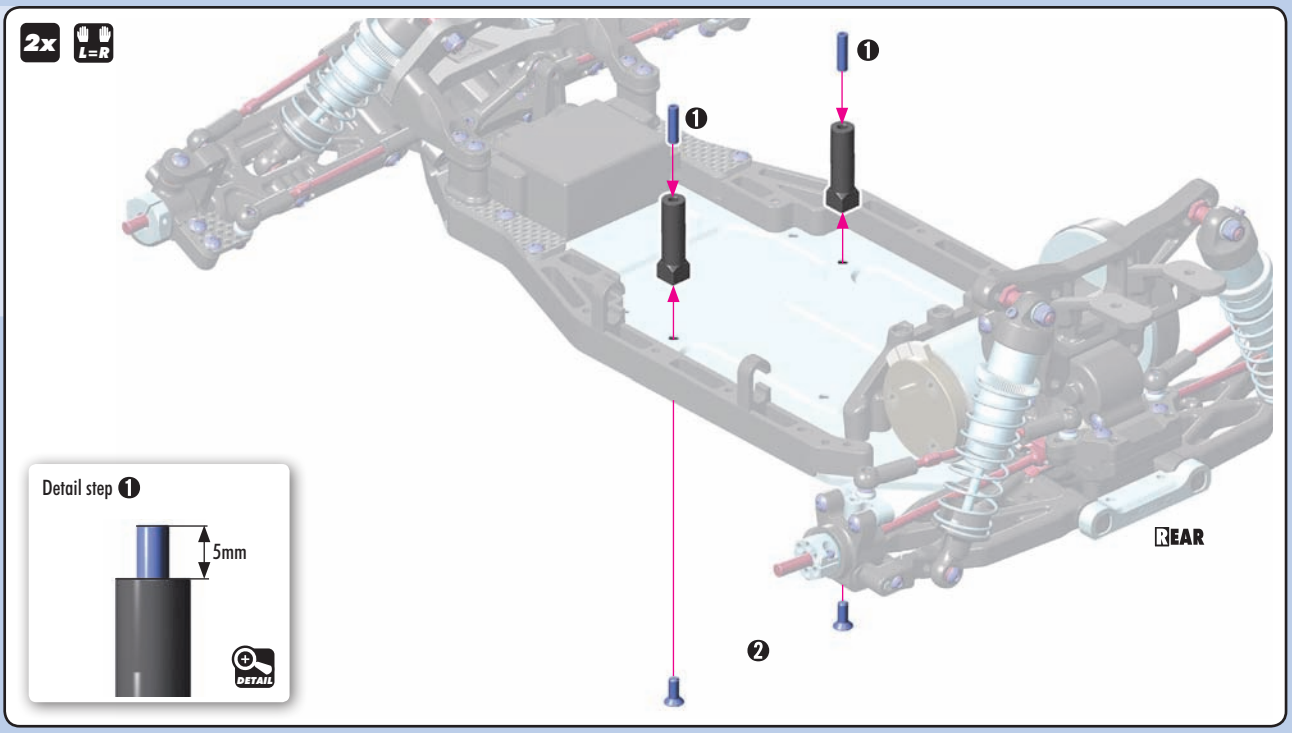


903310
SFH M3x10

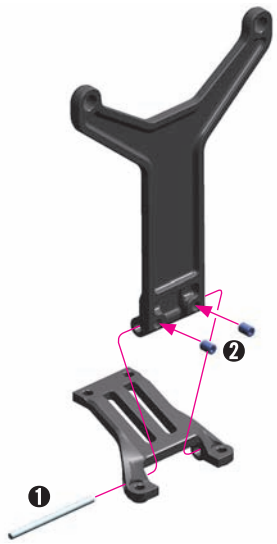


901310
SB M3x10

903310
SFH M3x10



901304
SB M3x4

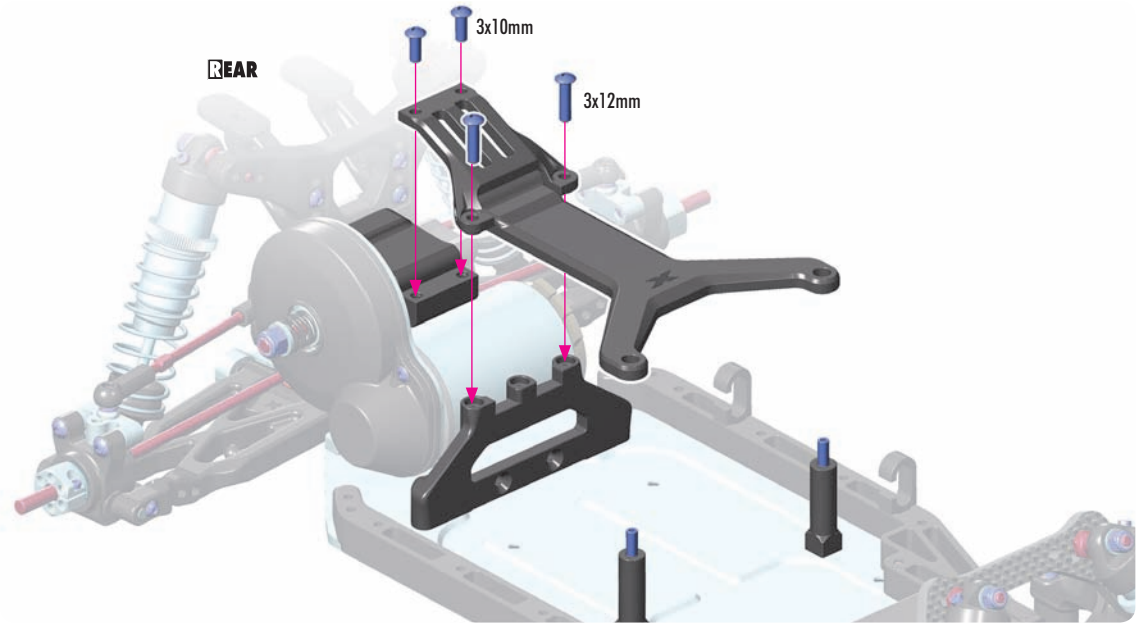


OPTION

BATTERY STRAP		
#326112-M	MEDIUM	INCLUDED
#326112-H	HARD	OPTION

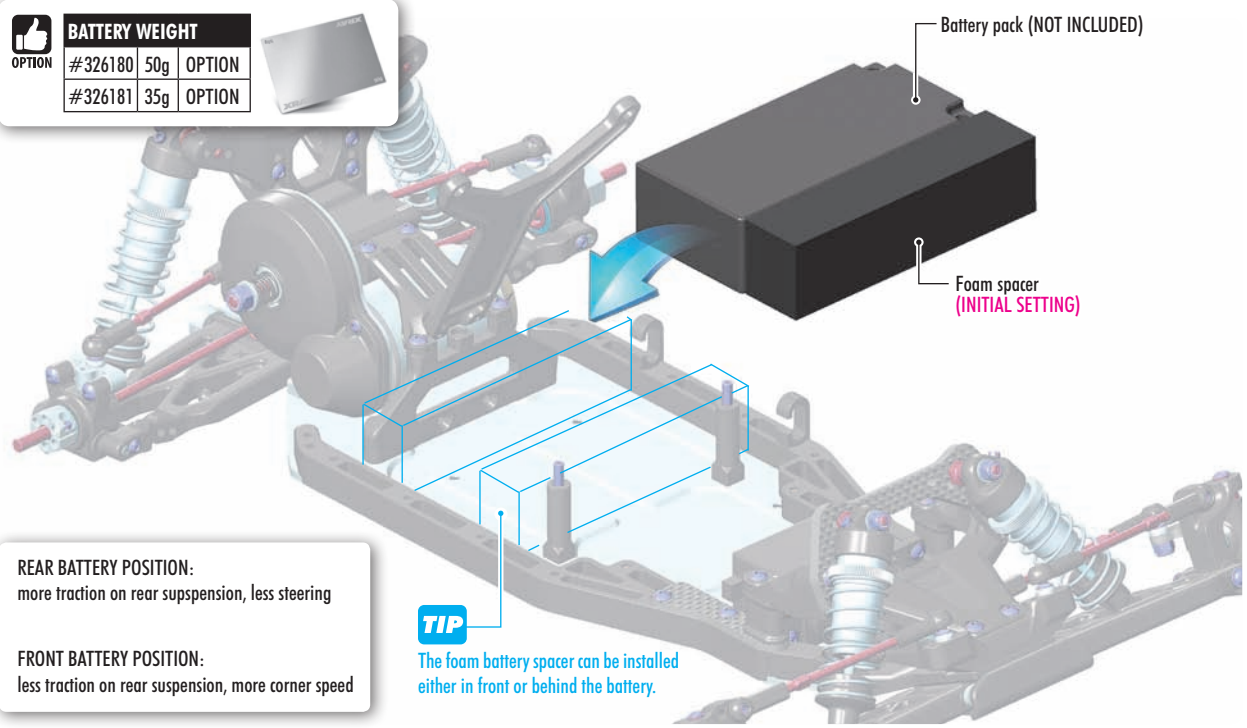
902310
SH M3x10

902312
SH M3x12



OPTION

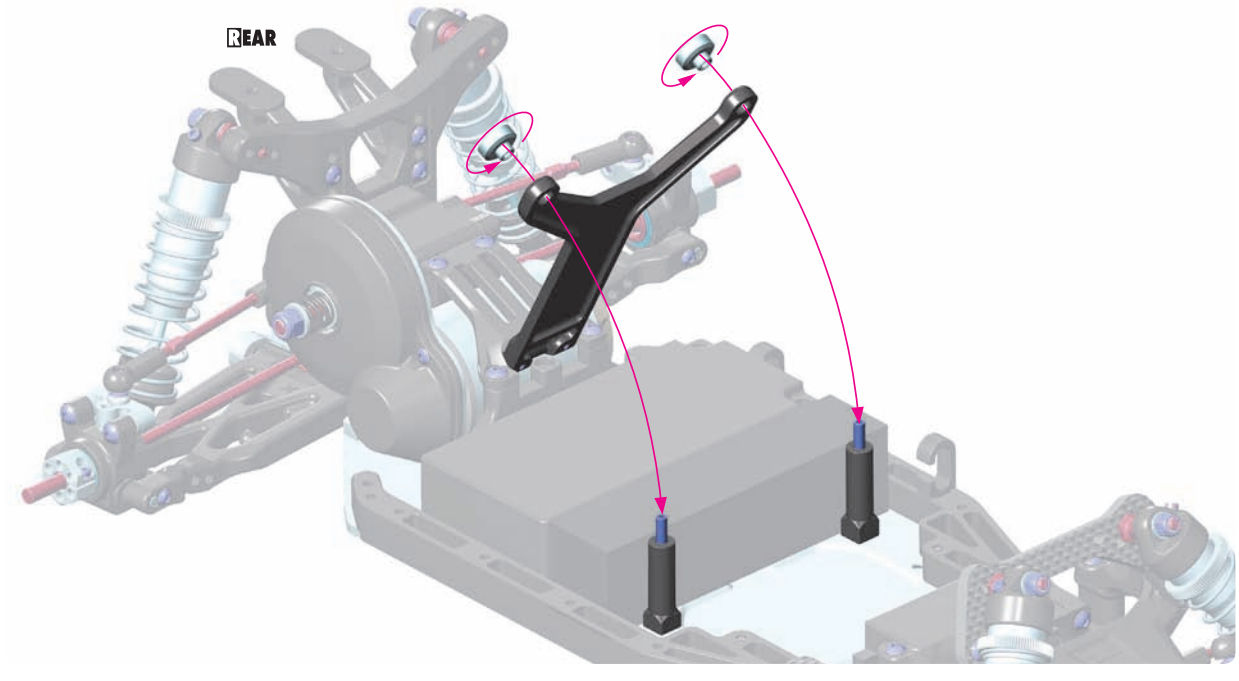
BATTERY WEIGHT		
#326180	50g	OPTION
#326181	35g	OPTION

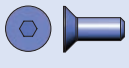


REAR BATTERY POSITION:
more traction on rear supspension, less steering

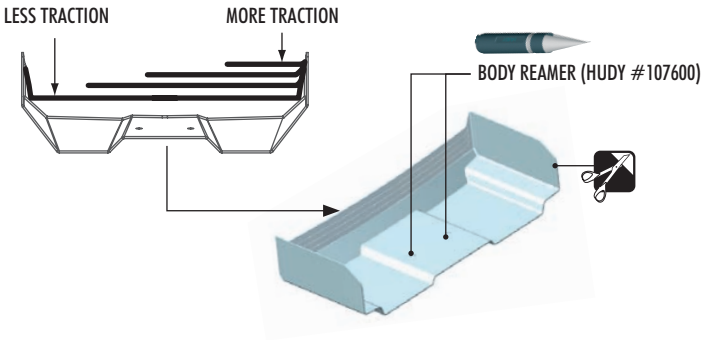
FRONT BATTERY POSITION:
less traction on rear suspension, more corner speed

TIP
The foam battery spacer can be installed either in front or behind the battery.





903308
SFH M3x8



OPTION

REAR WING SHIM		
#293561	SILVER	OPTION
#293561-O	ORANGE	OPTION

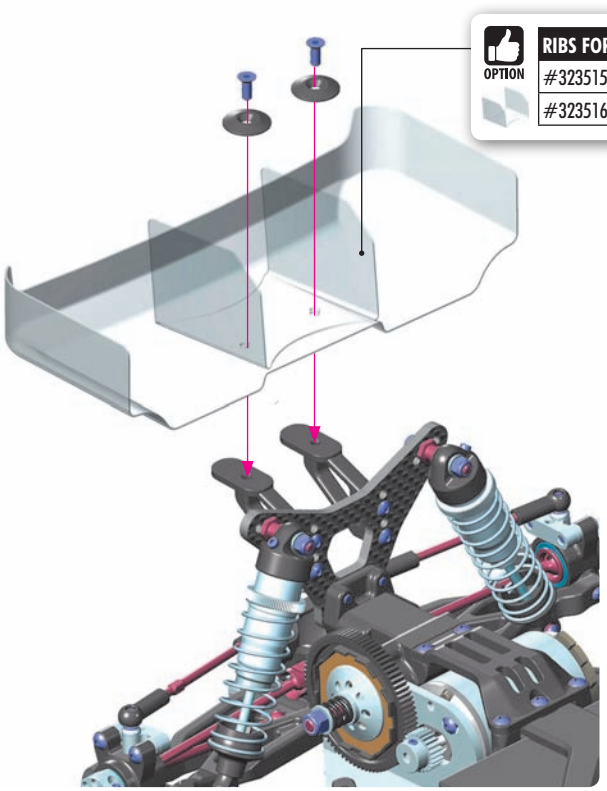
OPTION

LEXAN REAR WING			
#323510	1.0mm	V1	OPTION
#323511	1.5mm	V1	OPTION
#323513	1.0mm	V2	INCLUDED
#323514	1.5mm	V2	OPTION

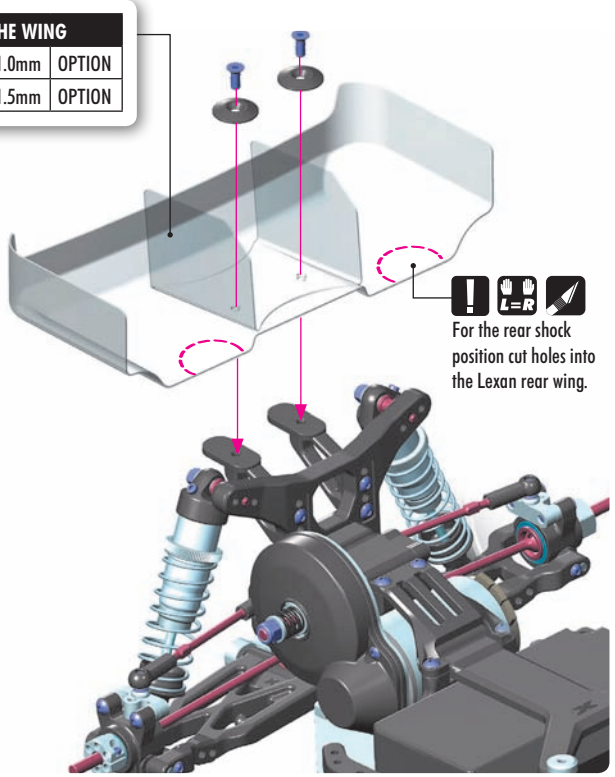
GEAR BOX
FRONT MOTOR POSITION

OPTION

RIBS FOR THE WING		
#323515	1.0mm	OPTION
#323516	1.5mm	OPTION



GEAR BOX
MIDDLE MOTOR POSITION

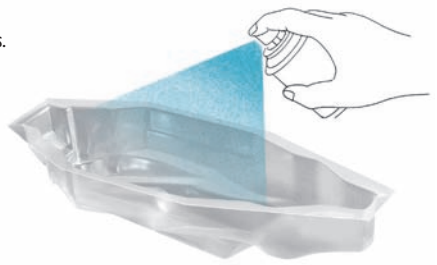


For the rear shock position cut holes into the Lexan rear wing.

❶ Before cutting and making holes on the BODY, put the unpainted body on the chassis to confirm the mounting position and location for holes and cutouts. Before cutting and making holes on the WING, put the unpainted wing on the wing holders to confirm the mounting position and location for holes and cutouts.

❷ Before painting, wash the inside of the body with mild detergent, and then rinse and dry thoroughly.

❸ Mask all windows.



❹ Apply paint masks as appropriate.

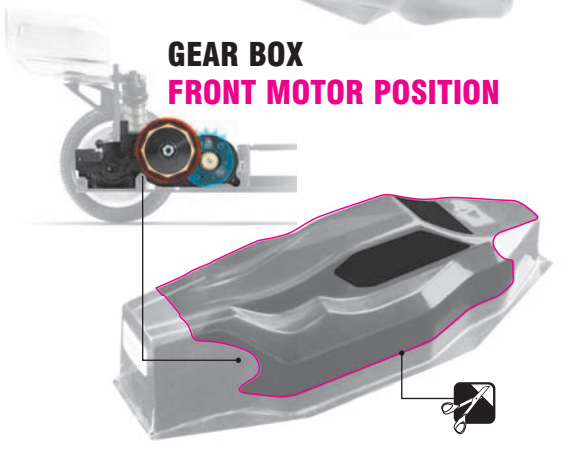
❺ Paint the body using paints formulated for polycarbonate bodies.

❻ When the paint is dry, remove the masking.

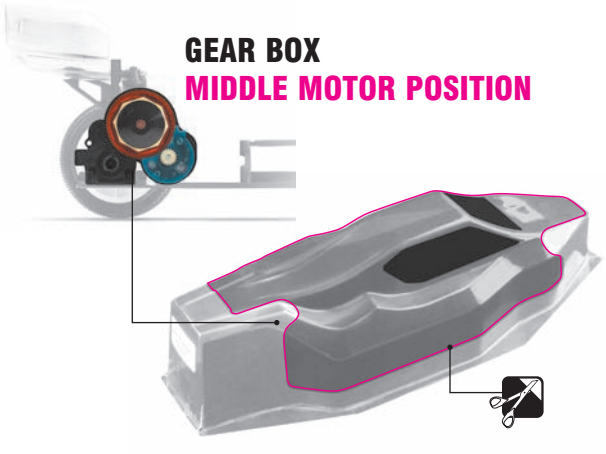
❼ Carefully cut out the body using appropriate scissors or cutting tools.

❽ When you have finished cutting, peel off the external protective films.

GEAR BOX
FRONT MOTOR POSITION

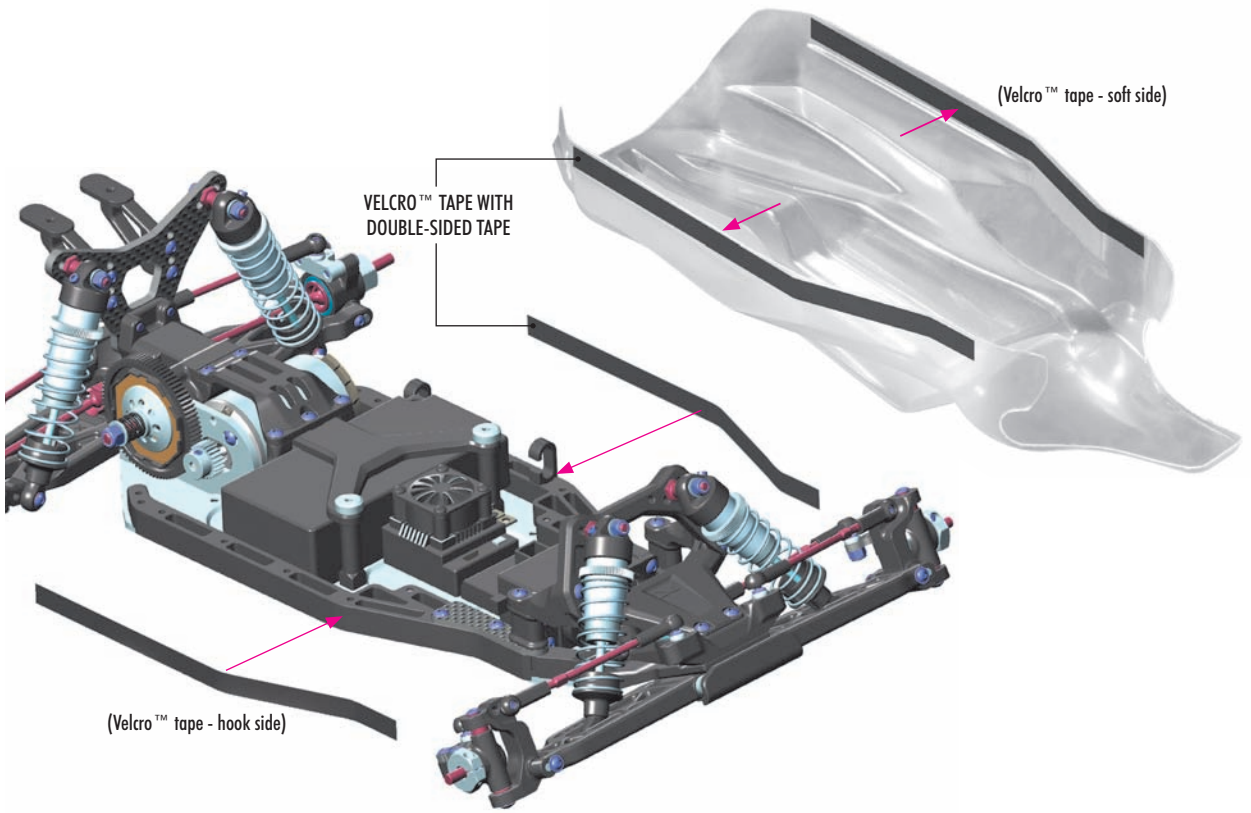


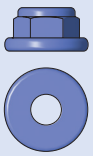
GEAR BOX
MIDDLE MOTOR POSITION



OPTION

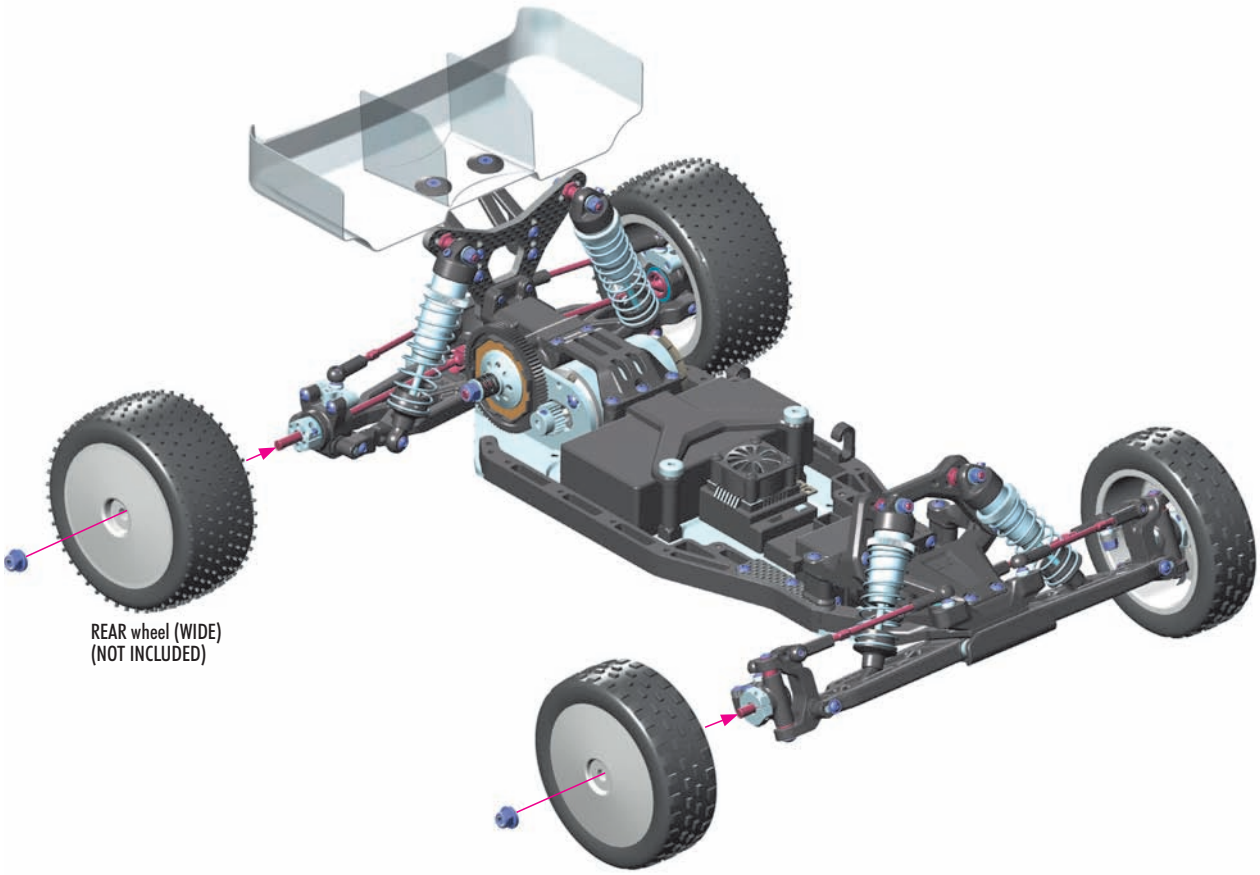
XRAY LEXAN BODY			
#329700	0.75mm		OPTION
#329701	0.5mm		OPTION
#329706	0.75mm	ALPHA 2	INCLUDED
#329707	0.75mm	BETA 2	OPTION
#329708	0.50mm	BETA 2	OPTION





960240
N M4

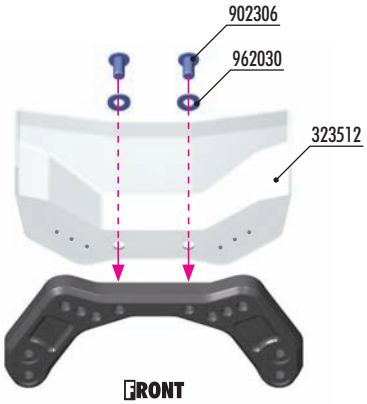
4x L=R



OPTION

#323512
FRONT LEXAN® WING

ALTERNATIVE 1 UPPER POSITION

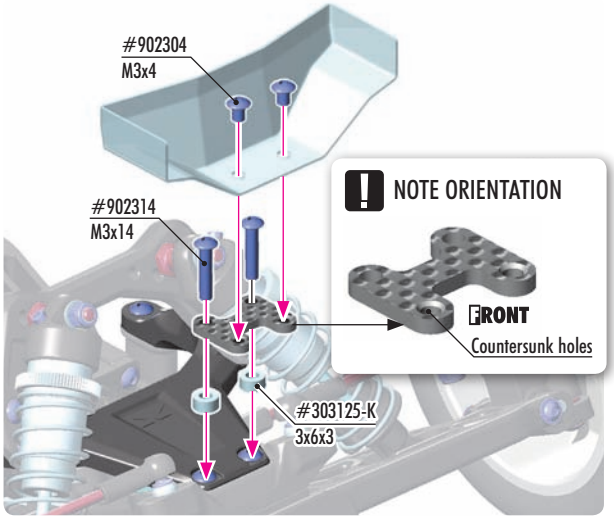


Using front wing in upper position gives more steering but also more role.

OPTION

#321190
XB2 GRAPHITE FRONT WING HOLDER

ALTERNATIVE 2 LOWER POSITION



Cut the holes on the front wing based on your wing holder.
Using front wing in lower postion gives more steering and less roll.

SHOCK MAINTENANCE

The most important maintenance task for keeping consistent shock performance is refilling and bleeding them correctly. If built correctly, it will not be necessary to re-build them often. Replacing warped/hard o-rings, scarred piston rods, or shaved/split/loose composite upper and lower ball joints are also important.

- For club racing, it is recommended to check the shocks for air inside before each race and only re-fill and bleed them if necessary. Before each race day, make sure you take the spring off of each shock, hold it up to your ear, and quickly compress the shock rod fully into the body while listening for any air making a "whistling" or "squishy" sound as it passes through the piston holes. If you hear any air, refill and bleed your shocks. For high-competition racing, it is recommended that the shocks be re-filled and bled before a large event.
- If building or pairing new shocks, always make sure they are the same length using a shock length measuring tool and adjust the lower ball joints as needed.
- During regular shock operation, oil naturally gets on the shock shaft and drop-by-drop slightly gets out of the shock body. Shocks should be inspected regularly after each race, and oil replaced as required.

BEARING MAINTENANCE

Ball-bearings in an off-road car must be properly maintained for smooth operation and long lifespan.

The XB2 ball-bearings are degreased and are lubricated with HUDY Bearing Oil or HUDY Grease. The following procedures are recommended to clean all of the bearings in your off-road car. For high-competition racing, we recommended doing this every 3-4 weeks, or before a major race.

❶ Remove the seals on both sides of the bearing (if present). If the seals bend a little and you can see a kink, carefully flatten the kink out by hand.

❷ Spray the seals with motor cleaner and blow dry with compressed air.

❸ Spray the bearing on both sides with motor cleaner.

❹ Spin the bearing while it is still wet to dislodge any particles with the cleaner.

❺ Spray the bearing on both sides again.

❻ Blow both sides of the bearing dry with compressed air to make sure particles come out.

❼ Hold the inner part of the bearing with my left thumb/forefinger and spin it to make sure it spins free without any abnormal vibrations or sounds.

❽ Place one drop of bearing oil into each side of the bearing.

❾ Replace both seals at the same time by lining them up on each side of the bearing and lightly pressing them in all the way around the bearings circumference with your thumb and forefinger. Do not press too hard or use any type of tool, such as a wrench tip, to push the blue seals in as they will push in too far, bend and cause drag.

If you spin test the bearing after you have re-oiled and sealed it, it will not spin freely for an extended period of time. The lightest of oils may allow it to spin for 1-2 seconds. This is normal and once you have mounted the bearings in the car again, the drive train will spin freely.

Make sure you use a motor cleaner that does not leave a residue after it dries as this may cause drag and wear in the bearings.

RECOMMENDED PRODUCTS

- Use correct oil or grease to lubricate the bearings:

#106230 HUDY Bearing Oil
#106220 HUDY Bearing Grease - Standard
#106221 HUDY Bearing Grease - Blue
#106222 HUDY Bearing Grease - Red

HUDY #106230

HUDY #106220

HUDY #106221

HUDY #106222

SUSPENSION & DRIVETRAIN MAINTENANCE

- Check suspension for free movement during building and operation, and especially after running and if you have crashed the car. If the suspension does not move freely, use the appropriate HUDY Arm Reamer to clean and resize the holes of the suspension arms.
- Regularly inspect and replace the pins that connect the wheel drive shafts with wheel axles. Use HUDY Graphite Grease to lubricate the drive shaft connecting joints and the diff gears.
- Pivot balls and ball-joints will naturally wear for some time and will generate play. If there is too much play the pivot balls and ball joints need to be replaced.
- If the car is run in wet conditions, apply WD-40® on all drivetrain parts before the run. After the run, clean and dry the parts again.

#106210 HUDY GRAPHITE GREASE

or

#106213 HUDY JOINT GREASE

HUDY SPRING STEEL™

The HUDY Spring Steel™ used in the car is the strongest and most durable steel material on the RC market. While items made from HUDY Spring Steel™ are still subject to wear, the lifespan is considerably longer than any other material. As parts made from HUDY Spring Steel™ wear, the brown color will fade (get lighter) but it will not affect the strength of the material. The brown color is only a surface treatment and if the brown color will wear the durability of the part will be still strong.

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