



**XTRAXX**  
1/10 LUXURY OFF-ROAD CAR 2WD

**DIRT EDITION**

MADE IN EUROPE

**INSTRUCTION MANUAL**



# 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.

## CUSTOMER SUPPORT

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

You can join thousands of XRAY fans and enthusiasts in our online community at:  
**[www.teamxray.com](http://www.teamxray.com)**

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](mailto:info@teamxray.com). Also, please visit our web site at [www.teamxray.com](http://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.

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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.

## **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

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](http://www.teamxray.com) to get advice, or contact us via email at [info@teamxray.com](mailto:info@teamxray.com), or contact the XRAY distributor in your country.

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 exceed 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 additions that may arise from the use of this product.**

**All rights reserved.**

## **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) 	Side Cutters (HUDY #189010) 	Hobby Knife 	Combination Pliers (HUDY #189020) 	Reamer (HUDY #107600) or (HUDY #107601) 
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### HUDY TOOLS:

Tweezer 	Allen 1.5mm 	Socket 5.5mm 	Arm Reamer 3.0mm 
	Allen 2.0mm 	Socket 7.0mm 	

## EQUIPMENT INCLUDED

HUDY Premium Silicone Oils Oil 350cSt (#106335) Oil 500cSt (#106350) Oil 3000cSt (#106430) 	Graphite Grease (HUDY #106210) 
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## 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 <a href="http://www.hudy.net">www.hudy.net</a> 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.
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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 	Tires & Inserts 



## XB2 TECH TIPS

### **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.



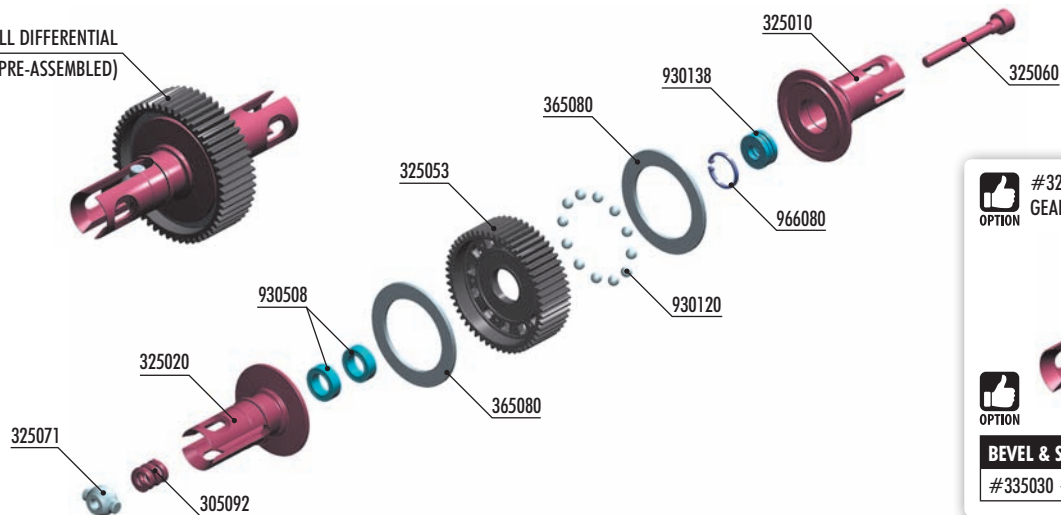
For quick & easy drive pin replacements use #106000 HUDY Drive Pin Replacement Tool.



To replace the worn pins use only premium HUDY drive pins #106051.

# 1. DIFFERENTIAL

325000 BALL DIFFERENTIAL  
(FACTORY PRE-ASSEMBLED)



**BAG**

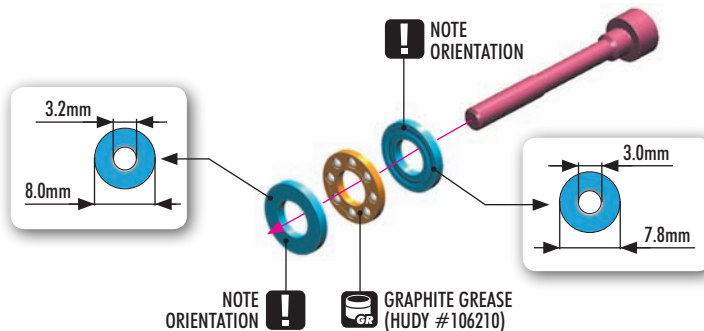
**01**

30 5092 BALL DIFFERENTIAL SPRING  
32 5000 BALL ADJUSTABLE DIFFERENTIAL - SET - HUDY SPRING STEEL™  
32 5010 BALL DIFF SHORT OUTPUT SHAFT - HUDY SPRING STEEL™  
32 5020 BALL DIFF LONG OUTPUT SHAFT - HUDY SPRING STEEL™  
32 5053 COMPOSITE BALL DIFFERENTIAL GEAR 53T  
32 5060 SCREW FOR BALL DIFF ADJUSTMENT - SPRING STEEL™

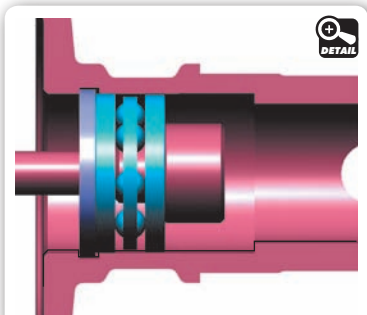
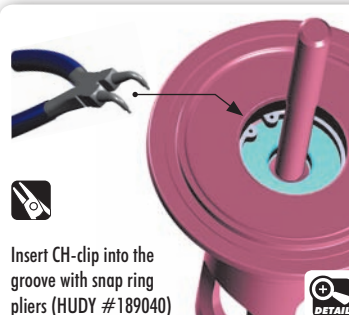
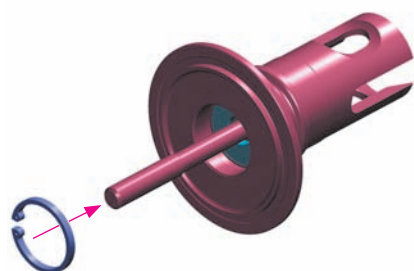
32 5071 ALU BALL DIFFERENTIAL NUT  
36 5080 DIFF WASHER 17 x 24.5 x 1 (2)  
93 0120 CARBIDE BALL 2.4MM FOR BALL DIFF (12)  
93 0138 CARBIDE BALL-BEARING AXIAL F3-8 3x8x3.5 - V2  
93 0508 BALL-BEARING 5x8x2.5 (2)  
96 6080 CH-CLIP 8 (10)



930138  
BA 3x8x3.5



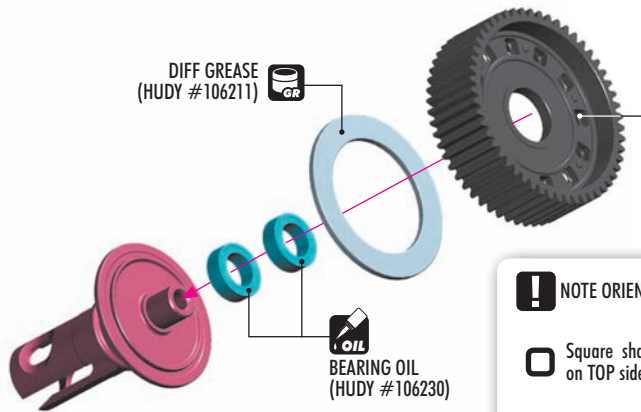
966080  
C 8







930508  
BB 5x8x2.5

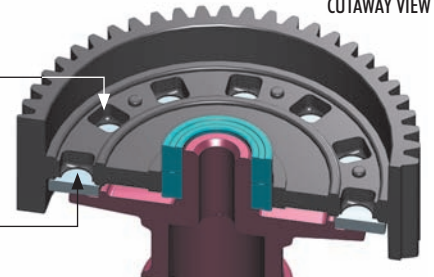


## NOTE ORIENTATION

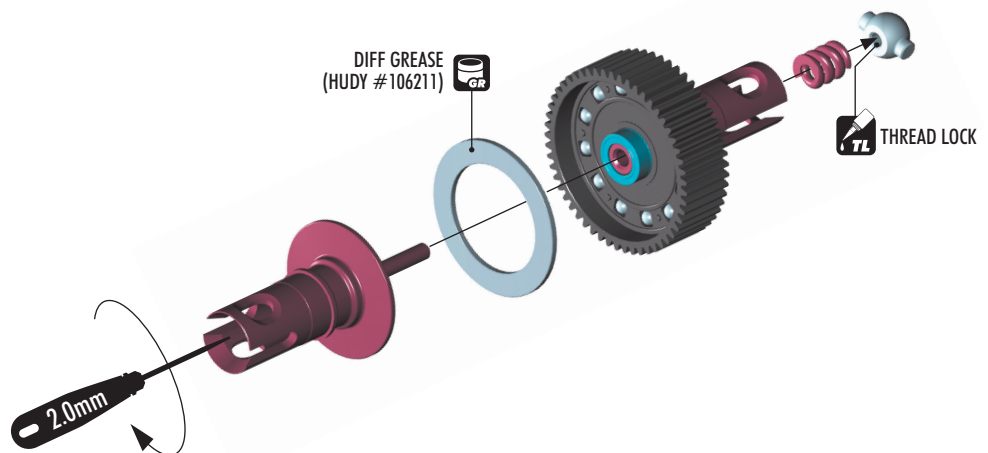
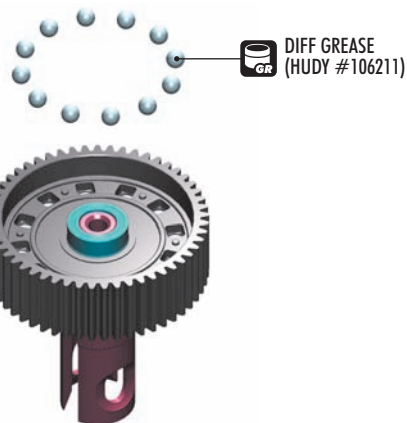
□ Square shape orientation on TOP side.

○ Round shape orientation on BOTTOM side.

CUTAWAY VIEW

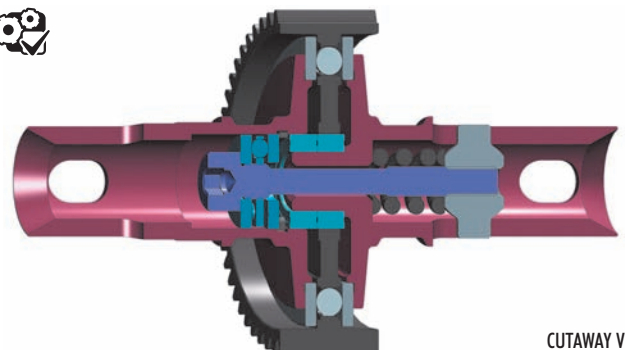


930120  
B 2.4



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

To access the diff when it is installed in the car, you need to remove the camber linkage on the side from which the diff screw is installed. This will detach the suspension. Then use a 2mm hex wrench to adjust the diff.



CUTAWAY VIEW

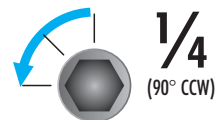
# BALL DIFF BREAK-IN & SET-UP INFO

The differential is factory pre-assembled including all greases, but is NOT ready to race immediately.

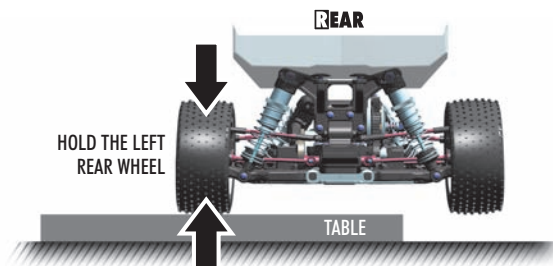
BEFORE RACING, follow these steps to properly break in the differential.

## INITIAL BALL DIFFERENTIAL BREAK-IN

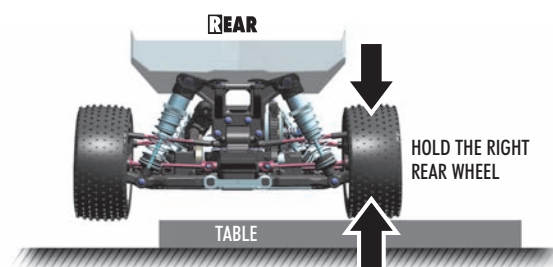
- 1 Loosen the adjustment screw  $\frac{1}{4}$  turn (90° CCW).



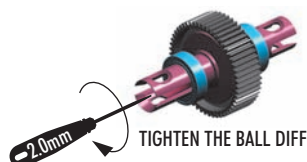
- 2 Rest the car on a flat surface (such as a table) and hold the left rear wheel securely in your hand. Apply 15% throttle to let the right rear wheel spin freely off the ground. Do this for about 10-15 seconds. Release the throttle so the wheels do not spin.



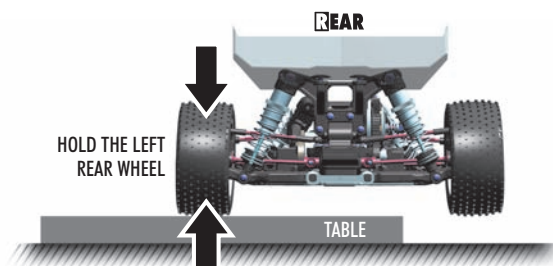
- 3 Switch sides, and hold the right rear wheel securely in your hand. Again apply 15% throttle to let the left rear wheel spin for 10-15 seconds. Release the throttle so the wheels do not spin.



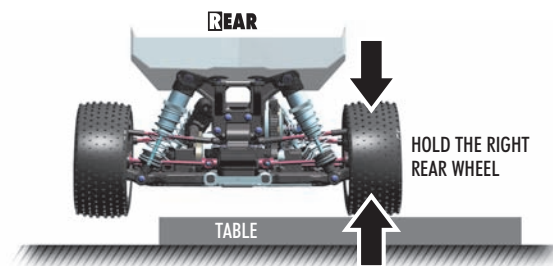
- 4 Tighten the ball diff  $\frac{1}{8}$  turn (CW) with a 2mm hex wrench.



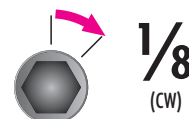
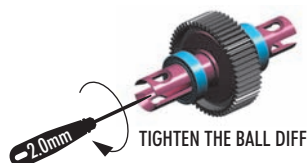
- 5 Now repeat the above process again but this time apply 30% throttle. Rest the vehicle on a flat surface (such as a table) and hold the left rear wheel securely in your hand. Apply 30% throttle to let the right rear wheel spin freely off the ground. Do this for about 10-15 seconds. Release the throttle so the wheels do not spin.



- 6 Switch sides, and hold the right rear wheel securely in your hand. Again apply 30% throttle to let the left rear wheel spin for 10-15 seconds. Release the throttle so the wheels do not spin.



- 7 Tighten the ball diff  $\frac{1}{8}$  turn (CW) with a 2mm hex wrench. This completes the INITIAL break-in process.

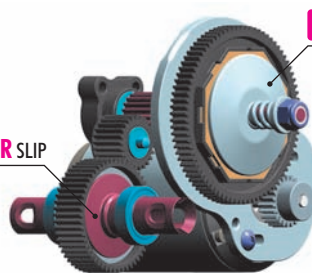




## SLIPPER CLUTCH & BALL DIFFERENTIAL ADJUSTMENT

It is critical that the slipper clutch and ball diff tension be set so that the slipper clutch always slips **FIRST** before the ball diff. The ball diff should **NEVER** slip as this will damage diff balls and diff washers.

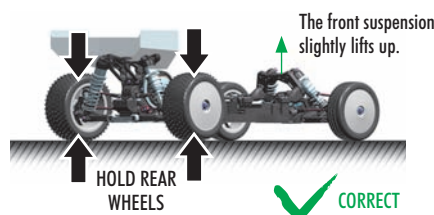
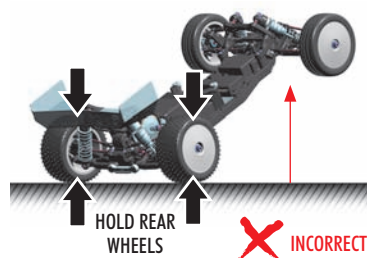
! THE BALL DIFF SHOULD **NEVER** SLIP



! SLIPPER CLUTCH ALWAYS SLIPS **FIRST**

### BEFORE 1ST RUN

Place the car on a flat table and hold both rear wheels. Apply short bursts of **100%** full throttle. The front suspension should extend fully, but the front wheels should **NOT** lift off the ground. If needed, tighten or loosen the slipper adjustment nut as required.



### 1ST RUN

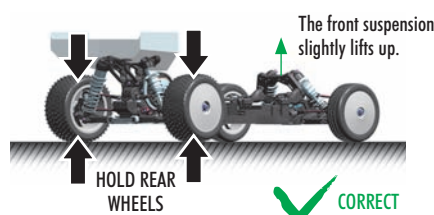
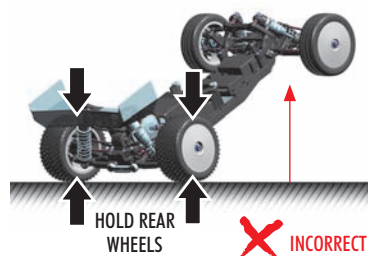
! IMPORTANT

During the first run listen to the car for metallic slipping sounds. If you hear metallic slipping sounds it means your differential is set too loose. Tighten the differential only  $\frac{1}{8}$  turn (CW) and recheck.

YOU SHOULD NOT HEAR (( ? )) METALLIC SLIPPING SOUNDS

### AFTER 1ST RUN

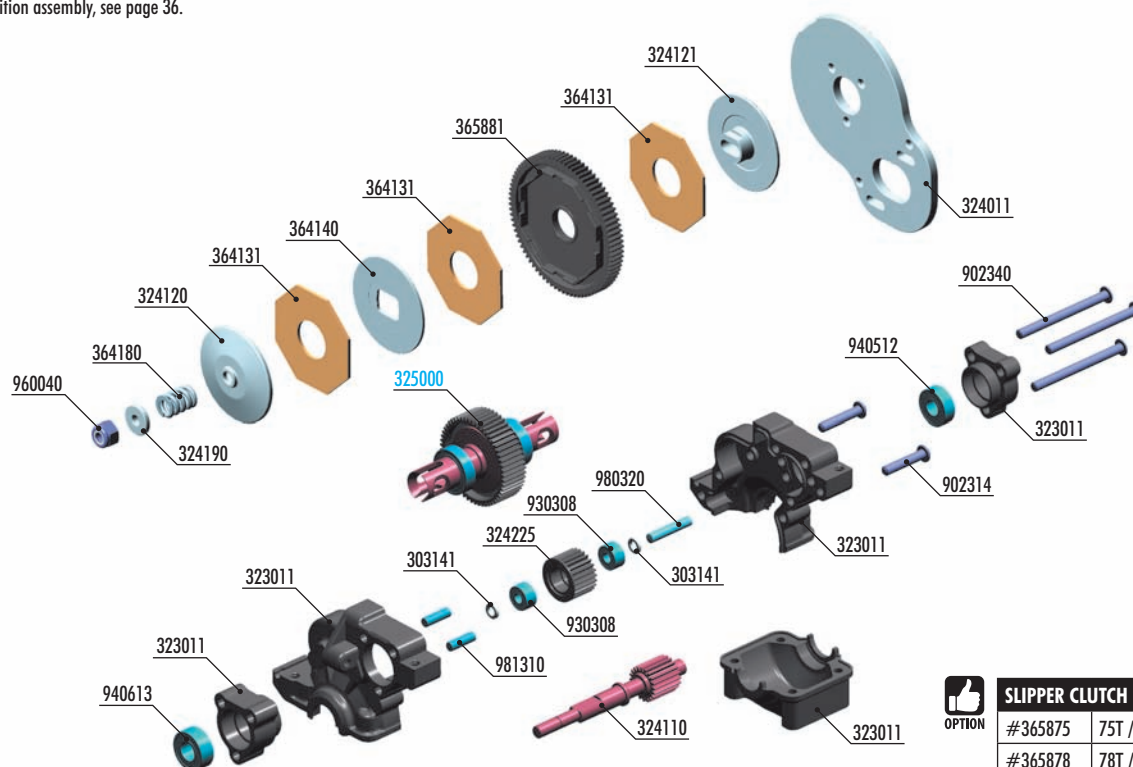
After the first run, check again for the proper slipper and ball diff adjustment with the same procedure. Place the car on a flat table and hold both rear wheels. Apply short bursts of **100%** full throttle. The front suspension should extend fully, but the front wheels should not lift off the ground. If needed, tighten or loosen the slipper adjustment nut as required.



## 2. REAR TRANSMISSION

### RIGHT MOTOR POSITION ASSEMBLY

For LEFT motor position assembly, see page 36.



#### SLIPPER CLUTCH SPUR GEARS

#365875	75T / 48	(OPTION)
#365878	78T / 48	(OPTION)
#365881	81T / 48	(INCLUDED)
#365884	84T / 48	(OPTION)
#365887	87T / 48	(OPTION)

#### BAG

02

- 30 3141 ALU SHIM 3x5x1.0MM (10)
- 32 3011 COMPOSITE MID & REAR MOTOR GEAR BOX SET
- 32 4011 ALU MID & REAR MOTOR PLATE - SWISS 7075 T6 (3MM)
- 32 4110 ALU TOP SHAFT 20T - SWISS 7075 T6 - HARD COATED
- 32 4120 ALU 3-PAD SLIPPER CLUTCH PLATE - SWISS 7075 T6
- 32 4121 ALU 3-PAD SLIPPER CLUTCH PLATE WITH ADAPTER
- 32 4190 ALU 3-PAD SLIPPER CLUTCH SHIM
- 32 4225 COMPOSITE GEAR 25T - GRAPHITE
- 36 4131 SLIPPER CLUTCH PAD "SLS" - V2 (2)
- 36 4140 ALU 3-PAD SLIPPER CLUTCH PLATE DISC - 7075 T6
- 36 4180 SLIPPER CLUTCH SPRING C=30 - BLACK
- 36 5875 COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 75T / 48 (OPTION)
- 36 5878 COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 78T / 48 (OPTION)
- 36 5881 COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 81T / 48
- 36 5884 COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 84T / 48 (OPTION)

- 36 5887 COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 87T / 48 (OPTION)

- 90 2314 HEX SCREW SH M3x14 (10)
- 90 2340 HEX SCREW SH M3x40 (10)
- 93 0308 BALL-BEARING 3x8x4 (2)
- 94 0512 HIGH-SPEED BALL-BEARING 5x12x4 RUBBER SEALED (2)
- 94 0613 HIGH-SPEED BALL-BEARING 6x13x5 RUBBER SEALED (2)
- 96 0040 NUT M4 (10)
- 98 0320 PIN 3x20 (10)
- 98 1310 PIN 3x10 (10)

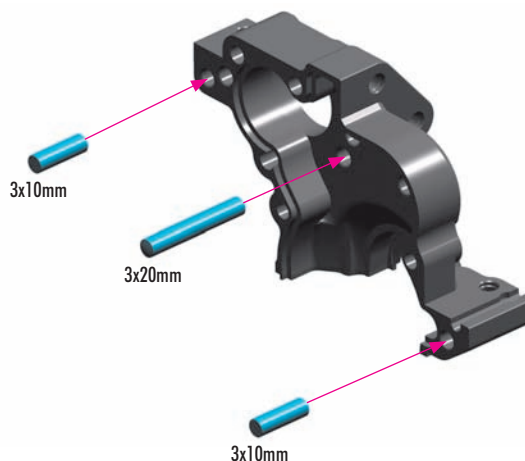
- 32 5000 BALL ADJUSTABLE DIFFERENTIAL - SET - HUDY SPRING STEEL™



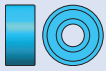
981310  
P 3x10



980320  
P 3x20



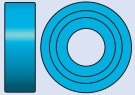
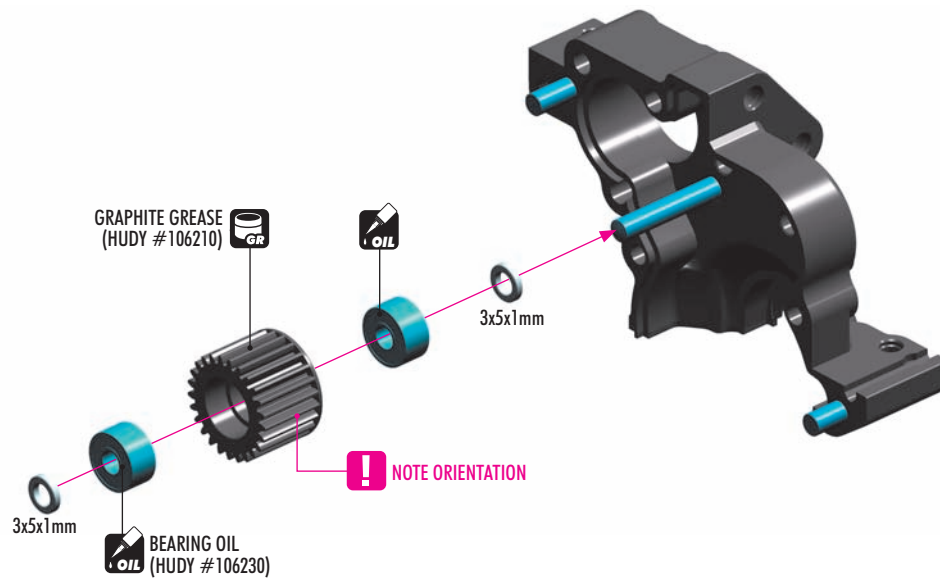




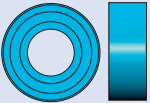
930308  
BB 3x8x4



303141  
SHIM 3x5x1



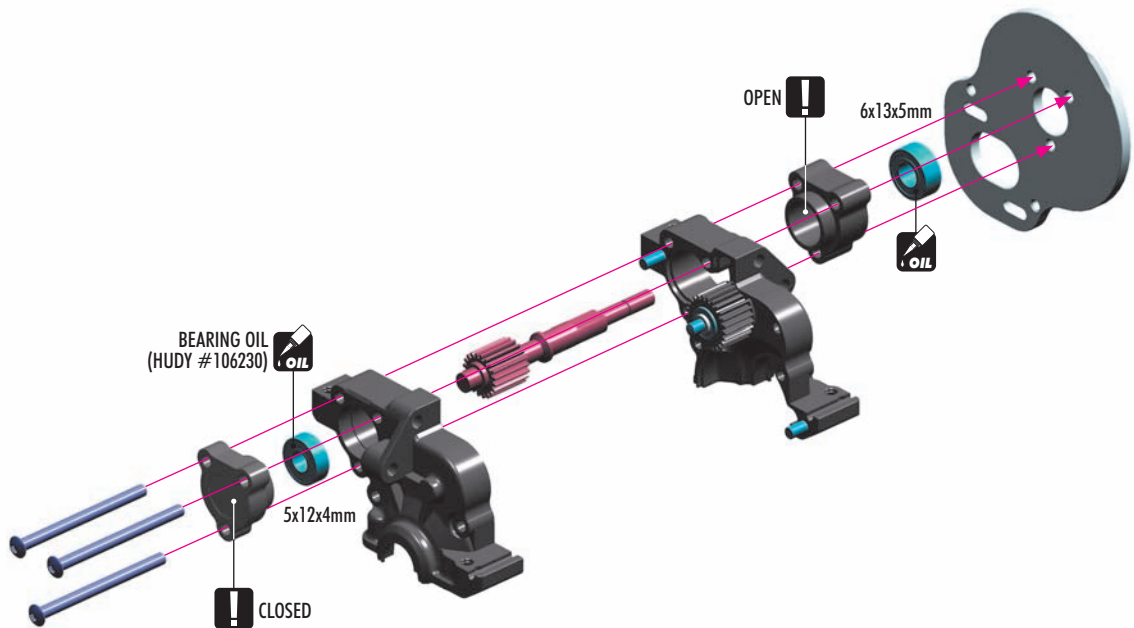
940512  
BB 5x12x4



940613  
BB 6x13x5



902340  
SH M3x40

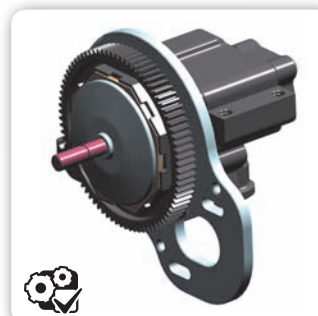
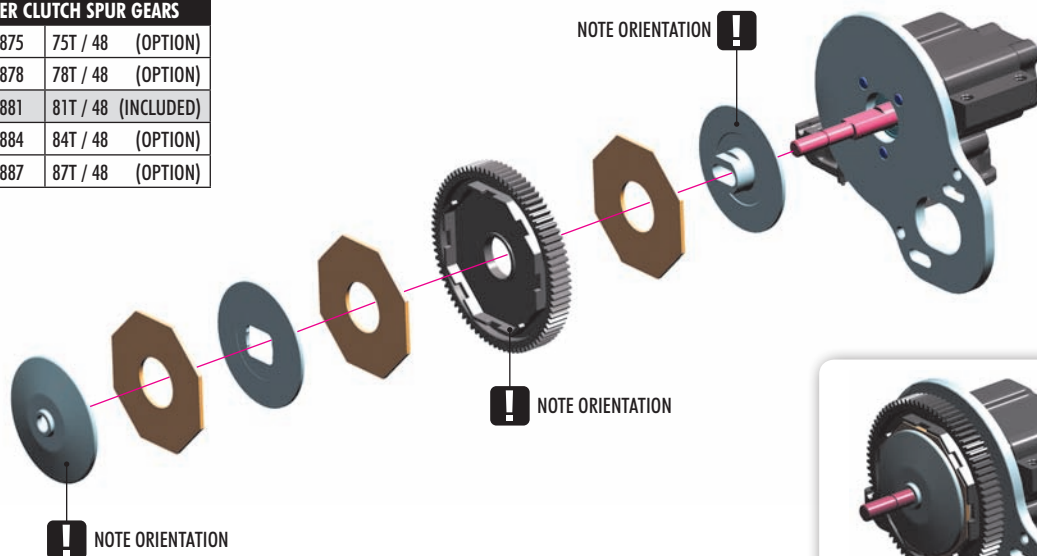


# REAR TRANSMISSION

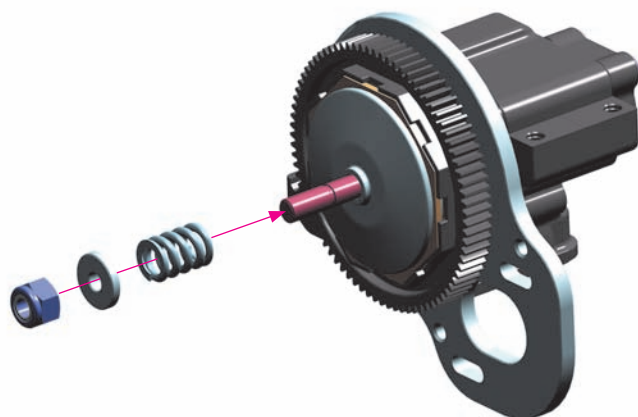


## SLIPPER CLUTCH SPUR GEARS

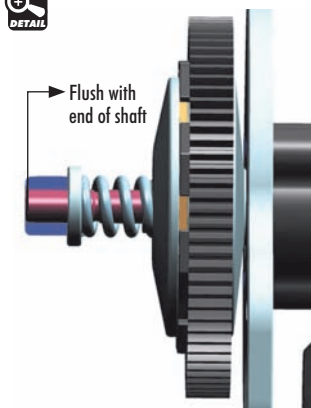
#365875	75T / 48	(OPTION)
#365878	78T / 48	(OPTION)
#365881	81T / 48	(INCLUDED)
#365884	84T / 48	(OPTION)
#365887	87T / 48	(OPTION)



960040  
N M4



Flush with  
end of shaft

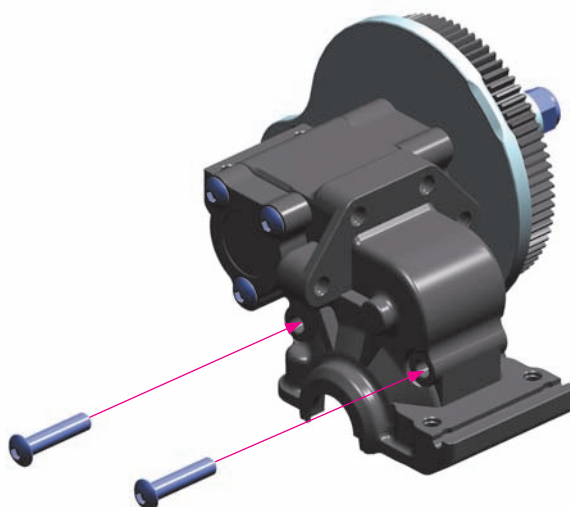


## SET-UP BOOK

SLIPPER CLUTCH

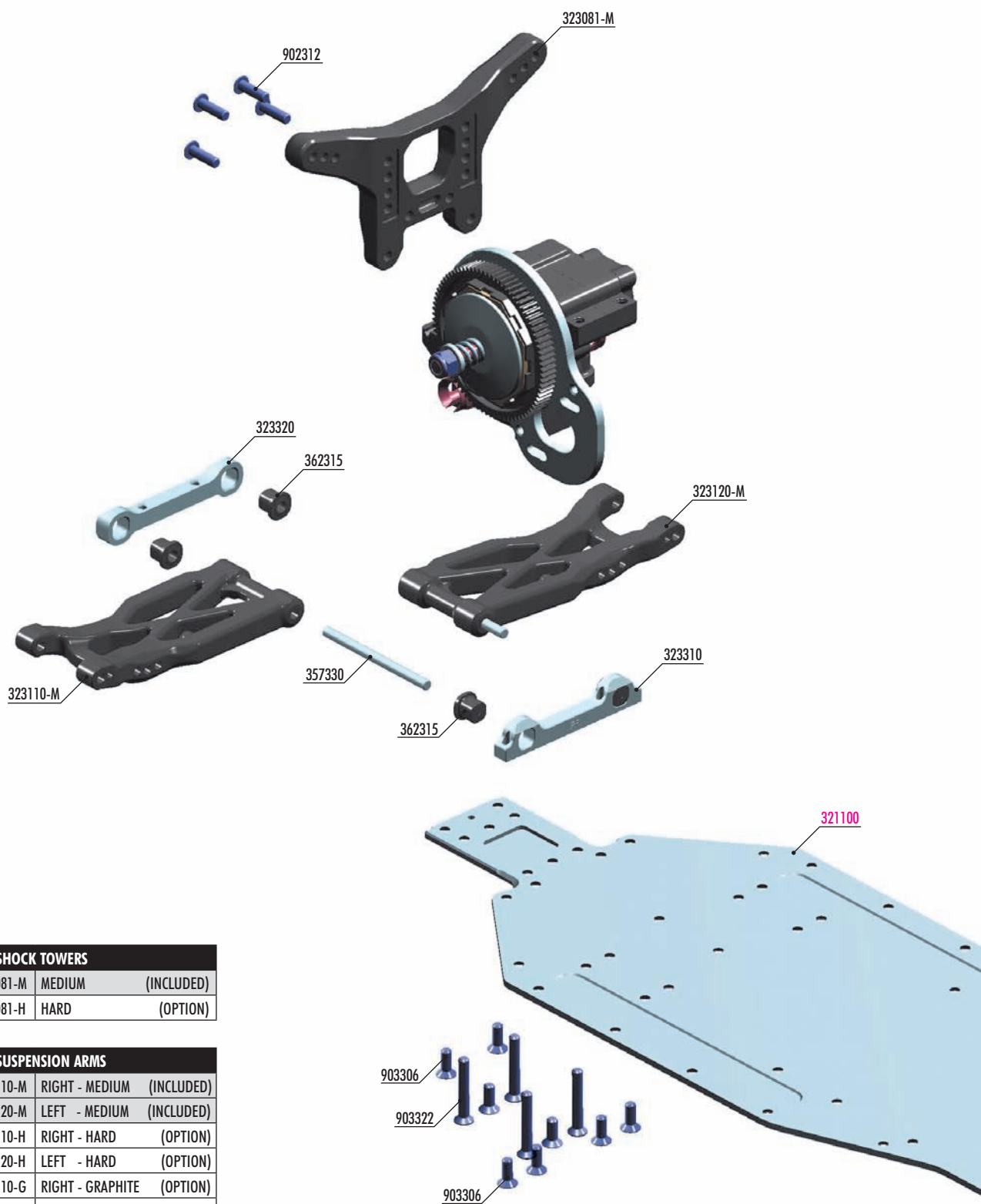


902314  
SH M3x14





### 3. REAR SUSPENSION



#### REAR SHOCK TOWERS

#323081-M	MEDIUM	(INCLUDED)
#323081-H	HARD	(OPTION)



#### REAR SUSPENSION ARMS

#323110-M	RIGHT - MEDIUM	(INCLUDED)
#323120-M	LEFT - MEDIUM	(INCLUDED)
#323110-H	RIGHT - HARD	(OPTION)
#323120-H	LEFT - HARD	(OPTION)
#323110-G	RIGHT - GRAPHITE	(OPTION)
#323120-G	LEFT - GRAPHITE	(OPTION)

**BAG**

**03**

323081-M COMPOSITE SHOCK TOWER REAR - MEDIUM  
 323081-H COMPOSITE SHOCK TOWER REAR - HARD (OPTION)  
 323110-M COMPOSITE SUSPENSION ARM REAR LOWER RIGHT - MEDIUM  
 323110-H COMPOSITE SUSPENSION ARM REAR LOWER RIGHT - HARD (OPTION)  
 323110-G COMPOSITE SUSP. ARM REAR LOWER RIGHT - GRAPHITE (OPTION)  
 323120-M COMPOSITE SUSPENSION ARM REAR LOWER LEFT - MEDIUM  
 323120-H COMPOSITE SUSPENSION ARM REAR LOWER LEFT - HARD (OPTION)  
 323120-G COMPOSITE SUSP. ARM REAR LOWER LEFT - GRAPHITE (OPTION)  
 323310 ALU REAR LOWER SUSP. HOLDER - FRONT - SWISS 7075 T6 (5MM)  
 323320 ALU REAR LOWER SUSP. HOLDER - REAR - SWISS 7075 T6 (5MM)  
 357330 REAR LOWER OUTER PIVOT PIN (2)

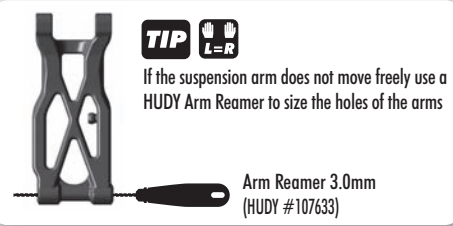
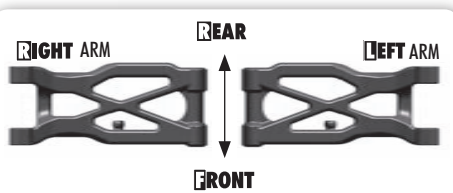
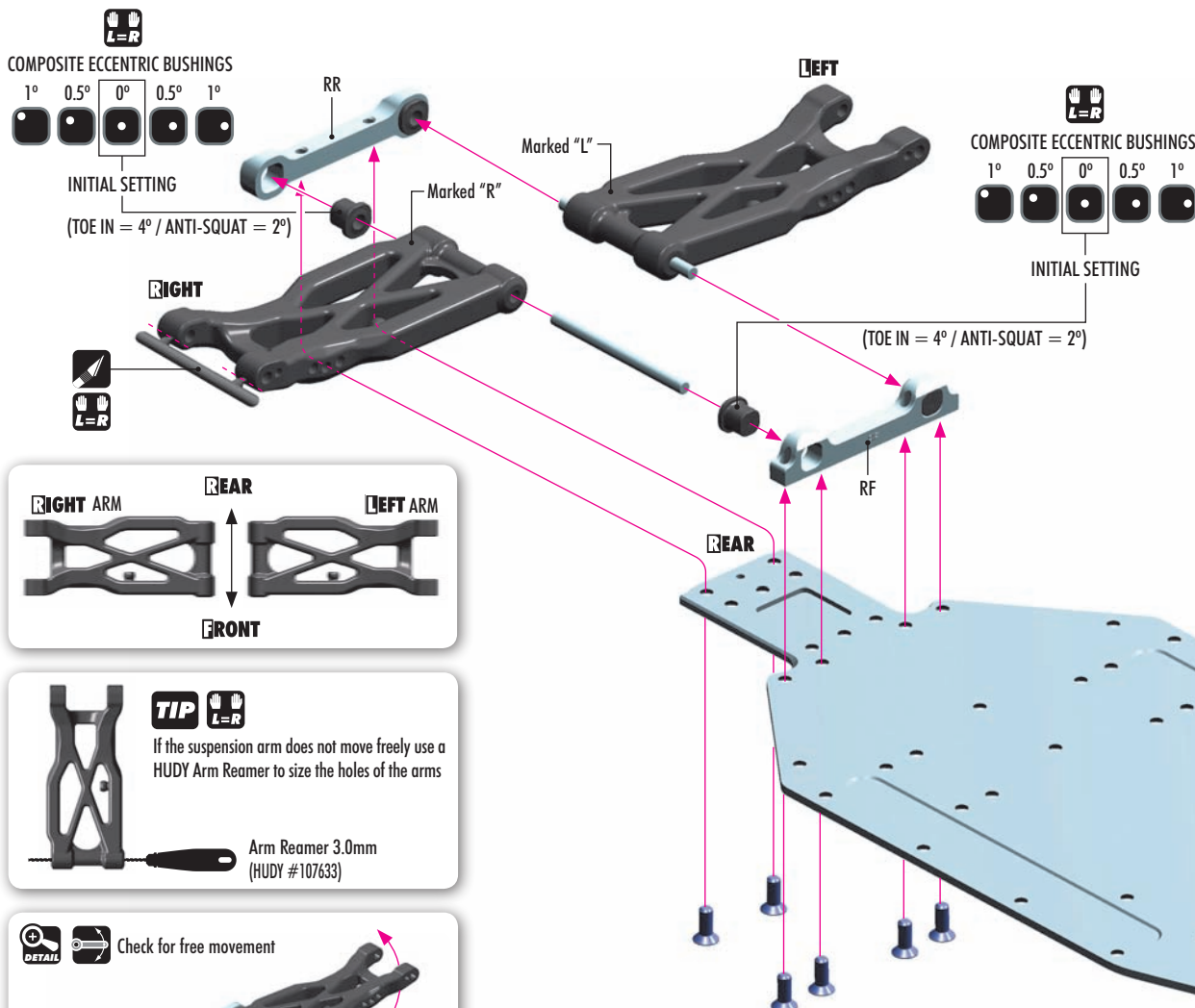
362315 ECCENTRIC BUSHING SET (2)  
 902312 HEX SCREW SH M3x12 (10)  
 903306 HEX SCREW SFH M3x6 (10)  
 903322 HEX SCREW SFH M3x22 (10)

**321100 ALU CHASSIS - SWISS 7075 T6 (2MM)**

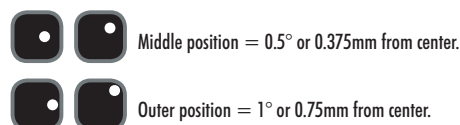
# REAR SUSPENSION



903306  
SFH M3x6



ECCENTRIC BUSHINGS HAVE TWO DIFFERENT OFFSETS FROM THE CENTER.

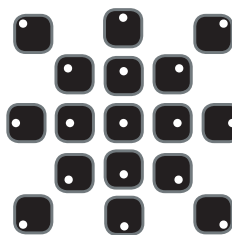


## REAR SUSPENSION ARMS

#323110-M	RIGHT - MEDIUM	(INCLUDED)
#323120-M	LEFT - MEDIUM	(INCLUDED)
#323110-H	RIGHT - HARD	(OPTION)
#323120-H	LEFT - HARD	(OPTION)
#323110-G	RIGHT - GRAPHITE	(OPTION)
#323120-G	LEFT - GRAPHITE	(OPTION)

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

All possible mounting alternatives of eccentric bushings



## SET-UP BOOK

TOE-IN  
ANTI-SQUAT  
ROLL CENTER  
TRACK-WIDTH

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	(°)
0	0	= 2°
0	0.5	= 3°
0	1	= 1°
0	0.5	= 3°
0	1	= 2°
0	0.5	= 4°
0	1	= 1°
0	0.5	= 2°
0	1	= 0°

ROLL CENTER		
RR	RF	(mm)
0	0	= +0.75mm
0	0.5	= 0mm
0	1	= -0.75mm

TRACK-WIDTH		
RR	RF	(mm)
0	0	= +1.5mm
0	0.5	= 0mm
0	1	= -1.5mm

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

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:

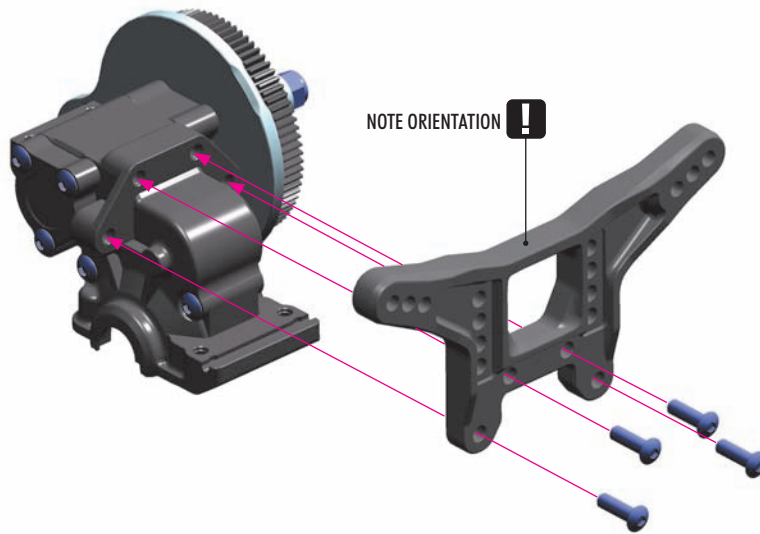
0(RR) - 0 (RF) = 2°	0	0	= 2°
0(RR) - 0.5 (RF) = 2.5°	0	0.5	= 2.5°
0(RR) - 1 (RF) = 3°	0	1	= 3°

TOE-IN		
RR	RF	(°)
0	0	= 4°
0	0.5	= 5°
0	1	= 3°
0	0.5	= 3°
0	1	= 4°
0	0.5	= 2°
0	1	= 5°
0	0.5	= 6°
0	1	= 4°





902312  
SH M3x12



OPTION

## REAR SHOCK TOWERS

#323081-M	MEDIUM	(INCLUDED)
#323081-H	HARD	(OPTION)

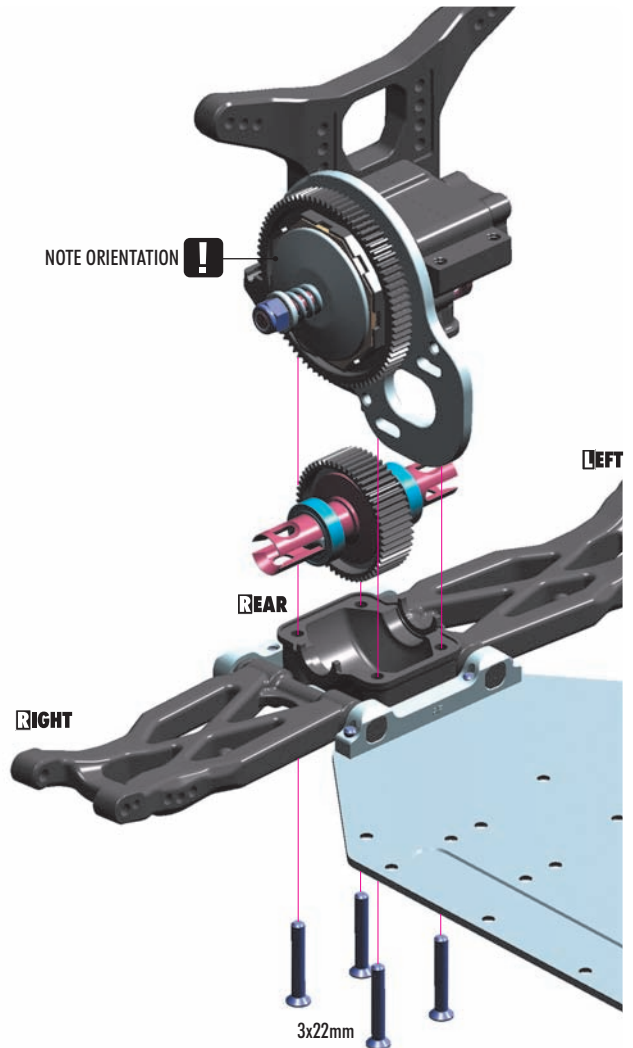
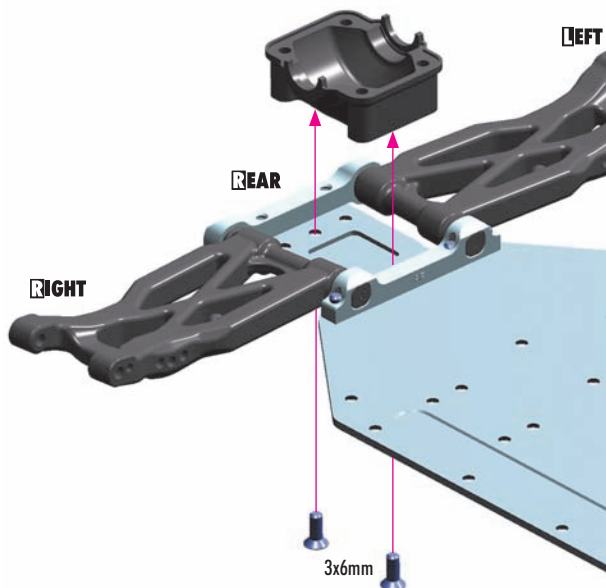
MEDIUM - For very-low & low traction  
HARD - For medium & high traction



903306  
SFH M3x6



903322  
SFH M3x22



### 3. REAR DRIVETRAIN



#### DRIVE SHAFT COLLAR

#365470	COMPOSITE	(INCLUDED)
#365471-K	ALU - BLACK	(OPTION)
#365471-O	ALU - ORANGE	(OPTION)



#### REAR UPRIGHTS

#323350-M	MEDIUM	(INCLUDED)
#323350-H	HARD	(OPTION)
#323351	ALU	(OPTION)



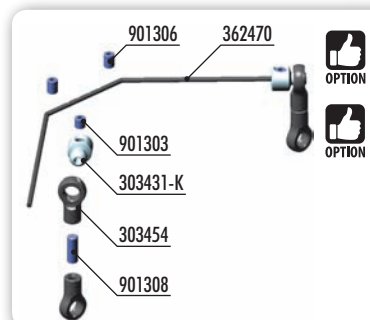
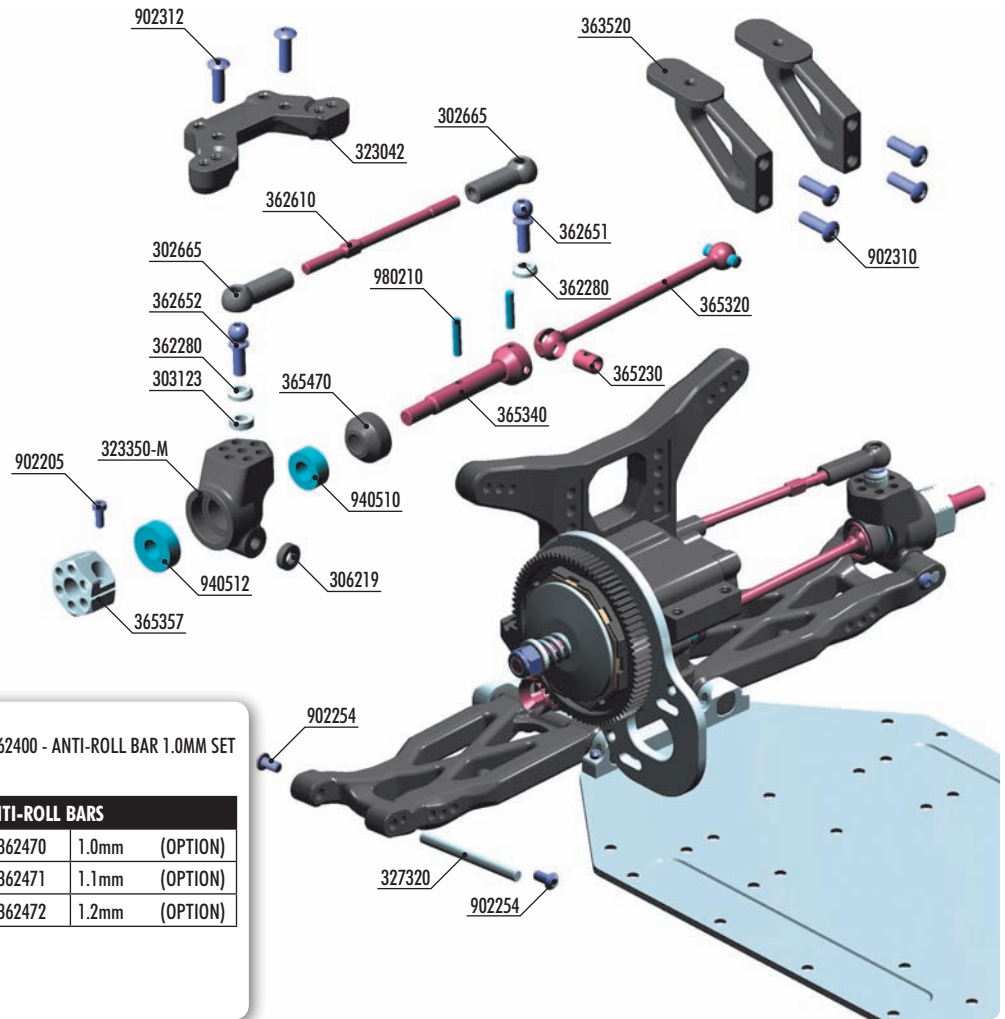
#### WHEEL HUBS 12MM

#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)



#### DRIVE SHAFT

#365320	STEEL	(INCLUDED)
#365300	ECS	(OPTION)



#### #362400 - ANTI-ROLL BAR 1.0MM SET

#### ANTI-ROLL BARS

#362470	1.0mm	(OPTION)
#362471	1.1mm	(OPTION)
#362472	1.2mm	(OPTION)

#### BAG

03

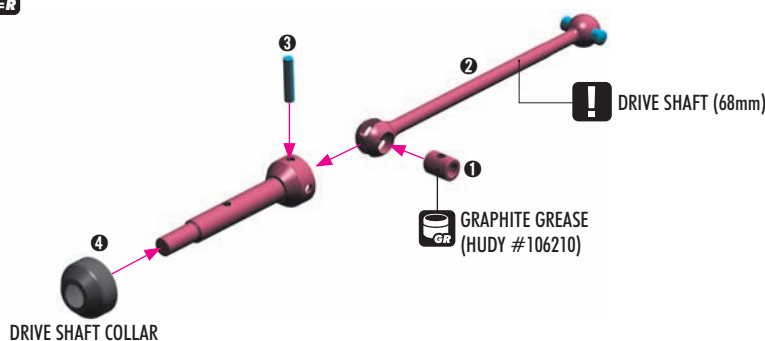
30 2665	COMPOSITE BALL JOINT 4.9MM - CLOSED WITH HOLE (4)	36 5230	DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
30 3123	ALU SHIM 3x6x2.0MM (10)	36 5300	ECS REAR DRIVE SHAFT 68MM - HUDY SPRING STEEL™ (OPTION)
30 3431-K	ALU 4.9MM BALL END - BLACK (2) (OPTION)	36 5320	REAR DRIVE SHAFT 68MM - HUDY SPRING STEEL™
30 3454	BALL JOINT 4.9MM - OPEN (4) (OPTION)	36 5340	REAR DRIVE AXLE - HUDY SPRING STEEL™
30 6219	COMPOSITE SET OF SERVO SHIMS (4)	36 5357	ALU WHEEL HUB 12MM - OFFSET "+2.25MM" (2)
32 3042	COMPOSITE REAR ROLL-CENTER HOLDER - DIRT EDITION	36 5470	COMPOSITE DRIVE SHAFT SAFETY COLLAR - V2 (3)
32 3350-M	COMPOSITE UPRIGHT REAR - MEDIUM		
32 3350-H	COMPOSITE UPRIGHT REAR - HARD (OPTION)	90 1303	HEX SCREW SB M3x3 (10) (OPTION)
32 3351	ALU REAR UPRIGHT - SWISS 7075 T6 (OPTION)	90 1306	HEX SCREW SB M3x6 (10) (OPTION)
32 7320	REAR ARM PIVOT PIN (2)	90 1308	HEX SCREW SB M3x8 (10) (OPTION)
36 2280	ALU CONICAL SHIM 3x6x2.0MM (10)	90 2205	HEX SCREW SH M2x5 (10)
36 2470	ANTI-ROLL BAR 1.0 MM (OPTION)	90 2254	HEX SCREW SH M2.5x4 (10)
36 2471	ANTI-ROLL BAR 1.1 MM (OPTION)	90 2310	HEX SCREW SH M3x10 (10)
36 2472	ANTI-ROLL BAR 1.2 MM (OPTION)	90 2312	HEX SCREW SH M3x12 (10)
36 2610	ADJUSTABLE TURNBUCKLE 50MM M3 L/R - HUDY SPRING STEEL™ (2)	94 0510	HIGH-SPEED BALL-BEARING 5x10x4 RUBBER SEALED (2)
36 2651	BALL END 4.9MM WITH THREAD 8MM (2)	94 0512	HIGH-SPEED BALL-BEARING 5x12x4 RUBBER SEALED (2)
36 2652	BALL END 4.9MM WITH THREAD 10MM (2)	98 0210	PIN 2x9.8 (10)
36 3520	REAR WING POST - V2 (2)		



980210  
P 2x10



L=R



#### DRIVE SHAFT COLLAR

#365470	COMPOSITE	(INCLUDED)
#365471-K	ALU - BLACK	(OPTION)
#365471-O	ALU - ORANGE	(OPTION)

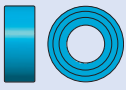


#### DRIVE SHAFT

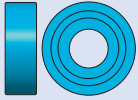
#365320	CVD	(INCLUDED)
#365300	ECS	(OPTION)

#### ECS DRIVE SHAFT:

- Decreases vibration
- Improves stability
- Improves traction on rear suspension
- Improves landing after jumps
- Easier to drive

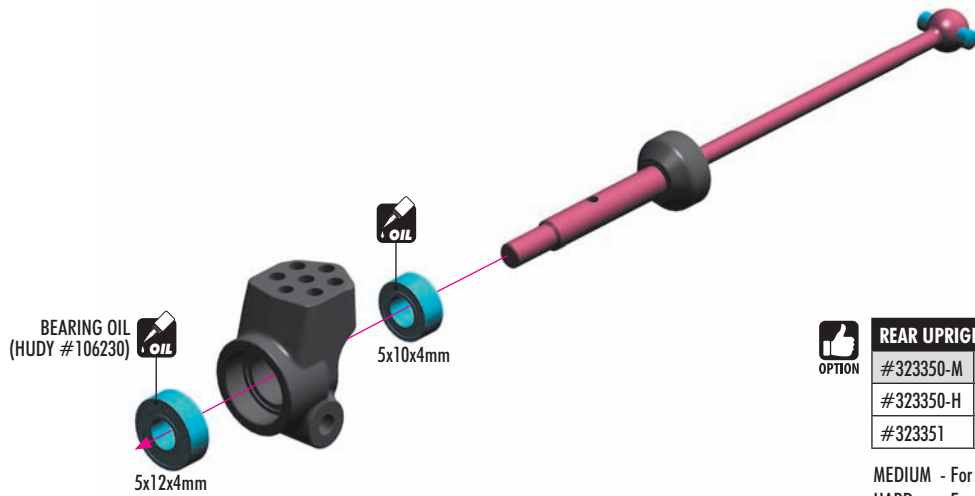


940510  
BB 5x10x4



940512  
BB 5x12x4

2x L=R



## REAR UPRIGHTS

#323350-M	MEDIUM	(INCLUDED)
#323350-H	HARD	(OPTION)
#323351	ALU	(OPTION)

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

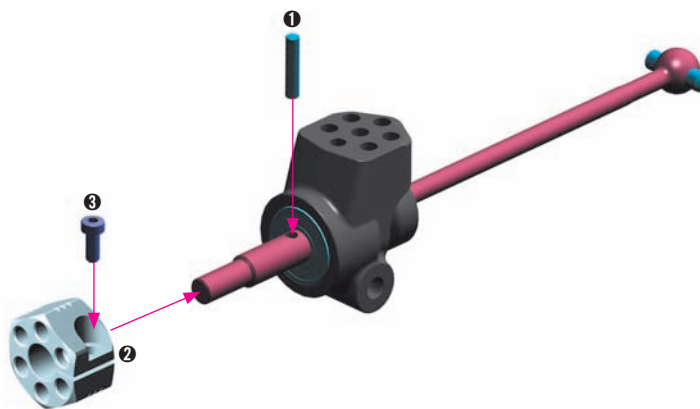


980210  
P 2x10



902205  
SH M2x5

2x L=R



## OPTIONAL OFF-SET HEX HUB EFFECTS

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

### LESS OFF-SET

Rear - more traction  
Front - more steering

### MORE OFF-SET

Rear - less traction  
Front - less steering

## WHEEL HUBS 12MM

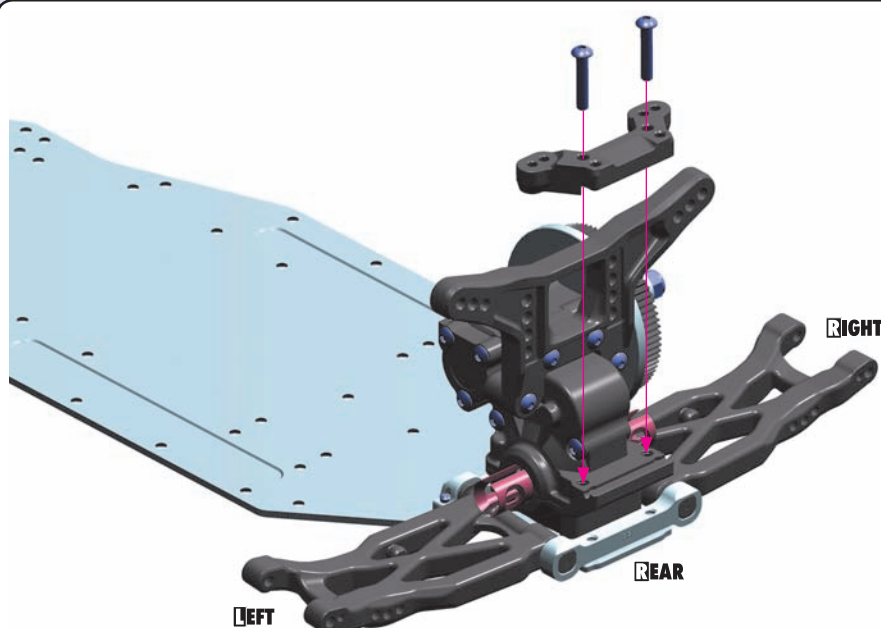
#365359	+3.75mm - 5 slots	(OPTION)
#365358	+3.0mm - 4 slots	(OPTION)
#365357	+2.25mm - 3 slots	(INCLUDED)
#365356	+1.5mm - 2 slots	(OPTION)
#365355	+0.75mm - 1 slot	(OPTION)
#365353	0mm - 0 slots	(OPTION)
#365354	-0.75mm - Lightw.	(OPTION)

**SET-UP BOOK**

TRACK-WIDTH



902312  
SH M3x12





# REAR DRIVETRAIN



306219  
SHIM 3x6x2

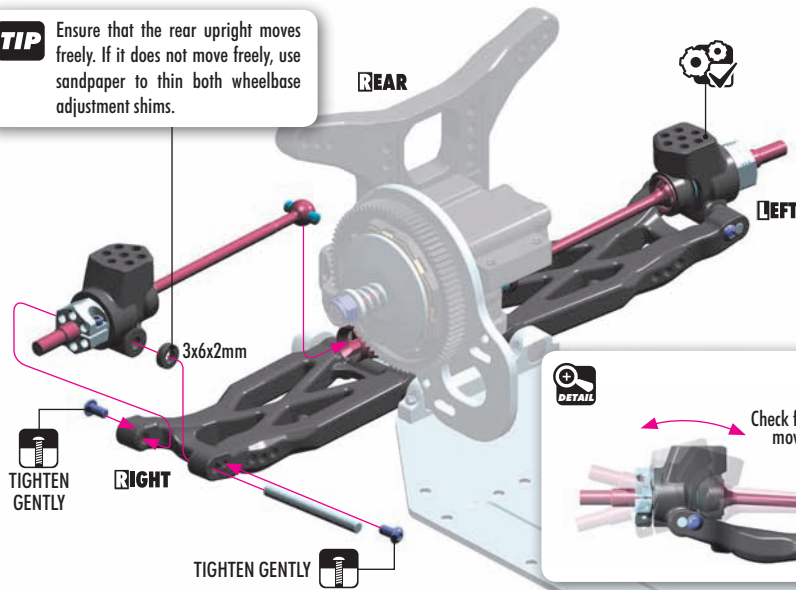


902254  
SH M2.5x4

**SET-UP BOOK**  
WHEELBASE

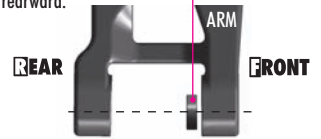
**TIP**

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



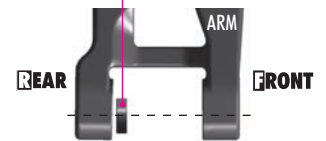
## LONGER WHEELBASE (INITIAL SETTING)

Adjustment Shim **IN FRONT OF HUB** moves hub rearward.



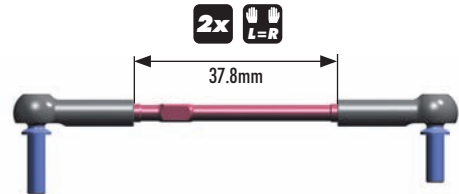
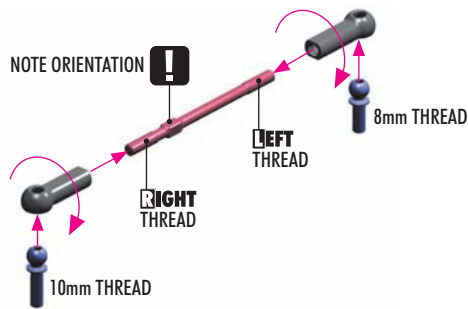
## SHORTER WHEELBASE

Adjustment Shim **BEHIND HUB** moves hub forward.



**2x** **L=R**

NOTE ORIENTATION



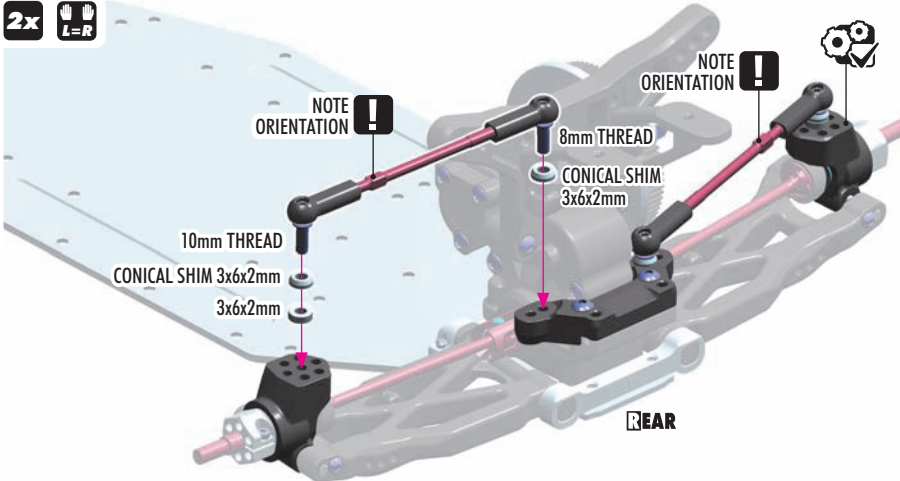
303123  
SHIM 3x6x2



362280  
CON. SHIM 3x6x2mm

**SET-UP BOOK**  
CAMBER

**2x** **L=R**



## INITIAL SETTING

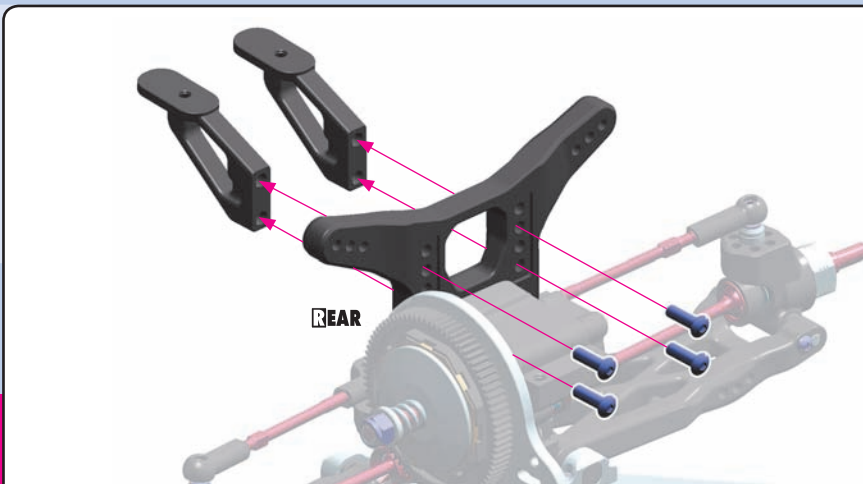


## INITIAL SETTING



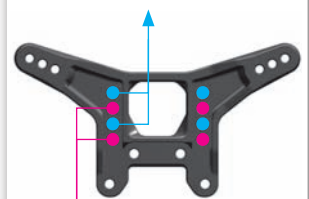
902310  
SH M3x10

**SET-UP BOOK**  
REAR WING



## UPPER WING POSITION

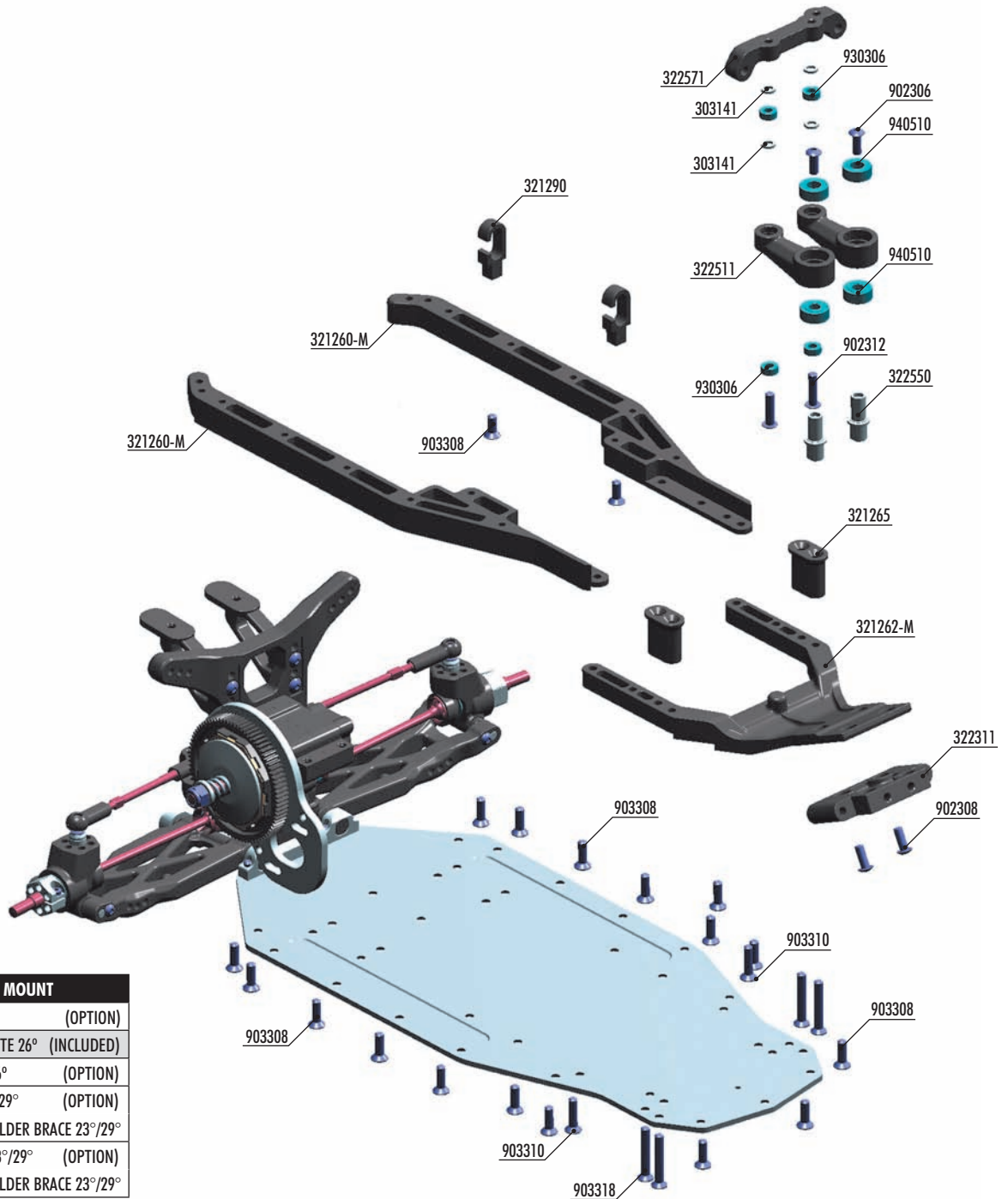
Higher position gives more roll, generates more traction.



## LOWER WING POSITION (INITIAL SETTING)

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

## 4. FRONT ASSEMBLY



### 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°	
#322314	BRASS 23°/29°	(OPTION)
#321211	SUSP. HOLDER BRACE 23°/29°	



### STEERING PLATE

#322570	ALU	(OPTION)
#322571	COMPOSITE	(INCLUDED)



### STEERING ARMS

#322510	ALU	(OPTION)
#322511	COMPOSITE	(INCLUDED)

### FRONT LOWER CHASSIS BRACE

#321262-M	MEDIUM	(INCLUDED)
#321262-H	HARD	(OPTION)

### BAG

04

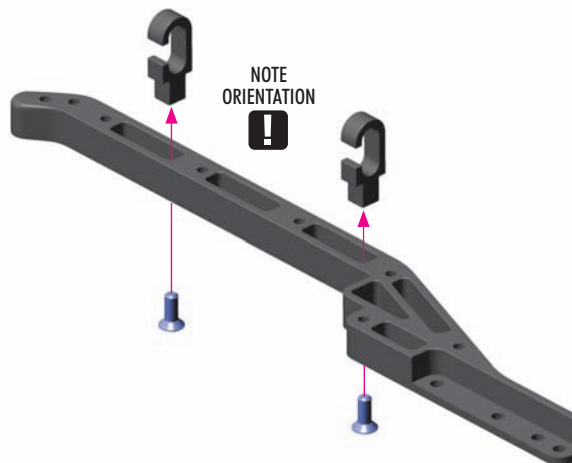
30 3141	ALU SHIM 3x5x1.0MM (10)
32 1260-M	COMPOSITE CHASSIS SIDE GUARDS L + R - MEDIUM - V2
32 1262-M	COMPOSITE CHASSIS FRONT GUARD - MEDIUM
32 1262-H	COMPOSITE CHASSIS FRONT GUARD - HARD (OPTION)
32 1265	COMPOSITE FRONT CHASSIS SIDE BRACE (2)
32 1290	COMPOSITE WIRE HOLDER (2)
32 2310	ALU FRONT LOWER ARM MOUNT 26° KICK-UP - SWISS 7075 T6 (OPTION)
32 2311	COMPOSITE FRONT LOWER ARM MOUNT 26° KICK-UP
32 2312	BRASS FRONT LOWER ARM MOUNT 26° KICK-UP (OPTION)
32 2570	ALU STEERING PLATE - SWISS 7075 T6 (OPTION)
32 2571	COMPOSITE STEERING PLATE
32 2510	ALU STEERING ARM (2) (OPTION)

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 (2)
94 0510	HIGH-SPEED BALL-BEARING 5x10x4 RUBBER SEALED (2)

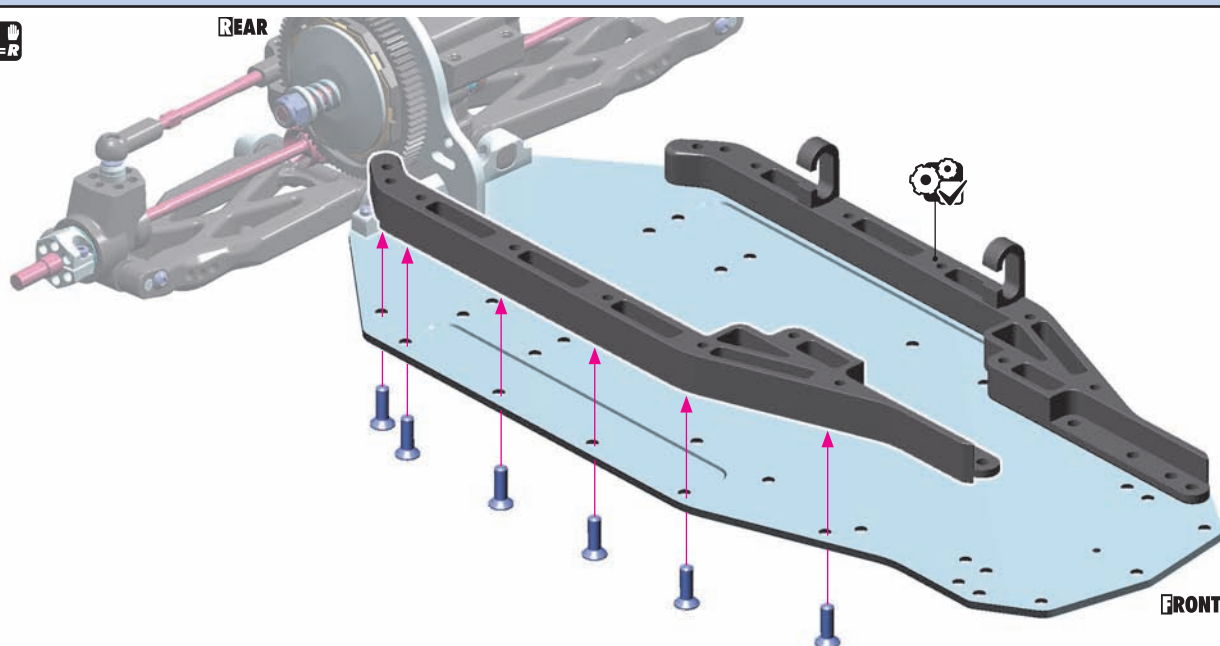
# FRONT ASSEMBLY



903308  
SFH M3x8



903308  
SFH M3x8



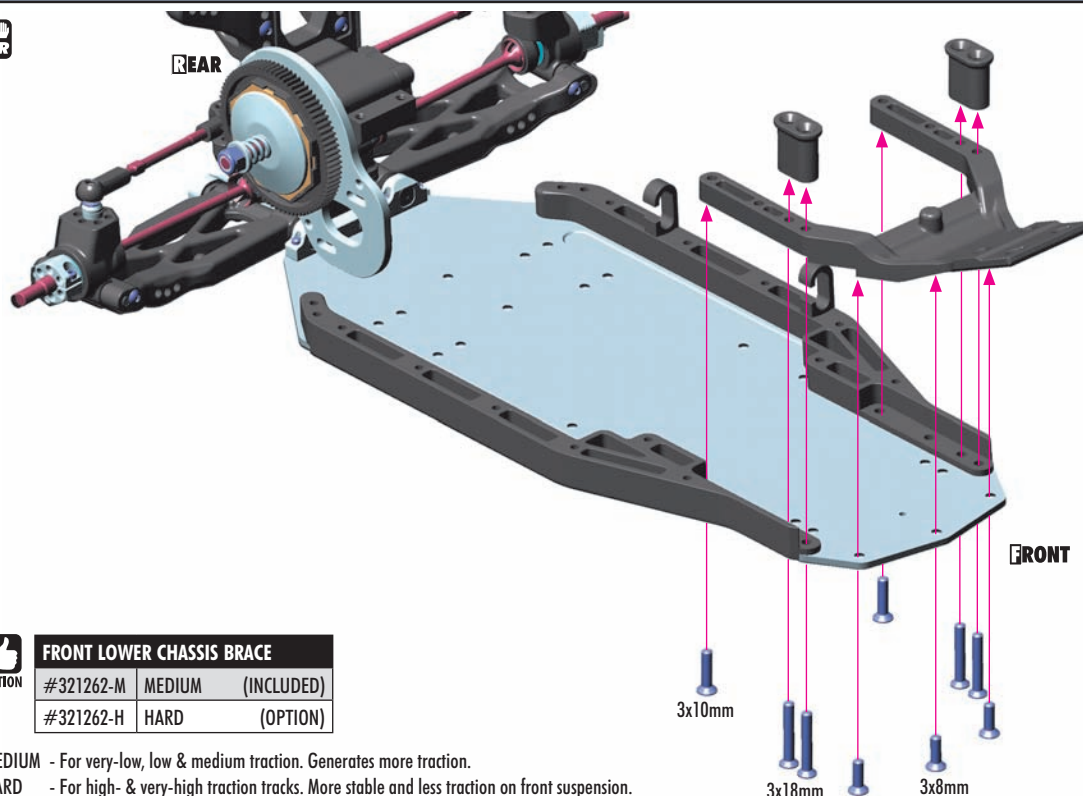
903308  
SFH M3x8



903310  
SFH M3x10



903318  
SFH M3x18



## FRONT LOWER CHASSIS BRACE

#321262-M	MEDIUM	(INCLUDED)
#321262-H	HARD	(OPTION)

MEDIUM - For very-low, low & medium traction. Generates more traction.

HARD - For high- & very-high traction tracks. More stable and less traction on front suspension.

3x10mm

3x18mm

3x8mm





303141  
SHIM 3x5x1



902312  
SH M3x12



930306  
BB 3x6x2.5



## STEERING PLATE

#322571	COMPOSITE	(INCLUDED)
#322570	ALU	(OPTION)

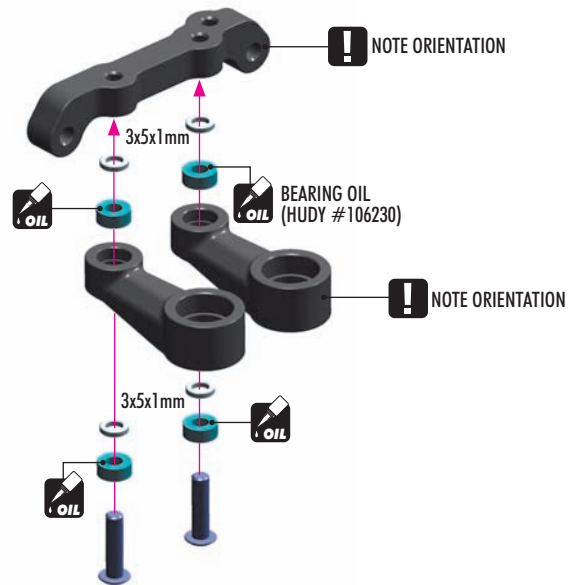
COMPOSITE - easy to drive, more forgiving, less steering  
ALU - more aggressive, more steering, more precise steering



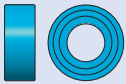
## STEERING ARMS

#322511	COMPOSITE	(INCLUDED)
#322510	ALU	(OPTION)

COMPOSITE - easy to drive and more forgiving  
ALU - more aggressive, more precise steering



902306  
SH M3x6



940510  
BB 5x10x4



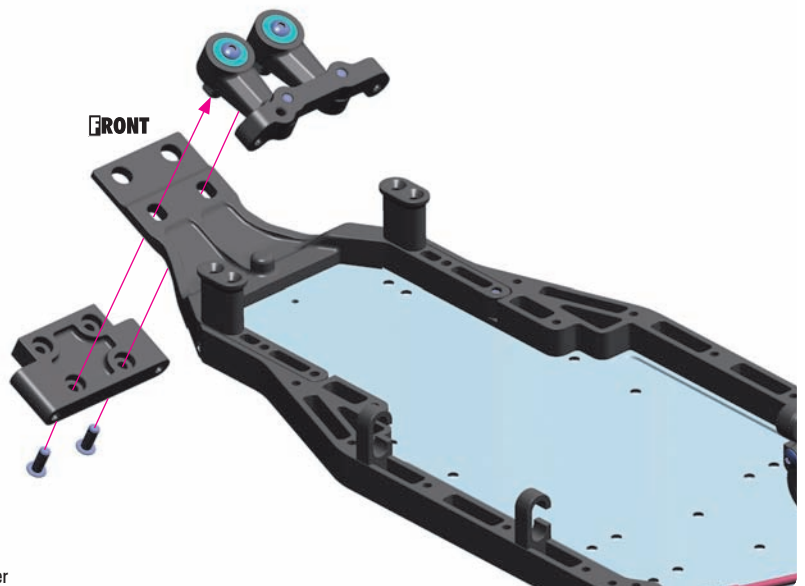
902308  
SH M3x8



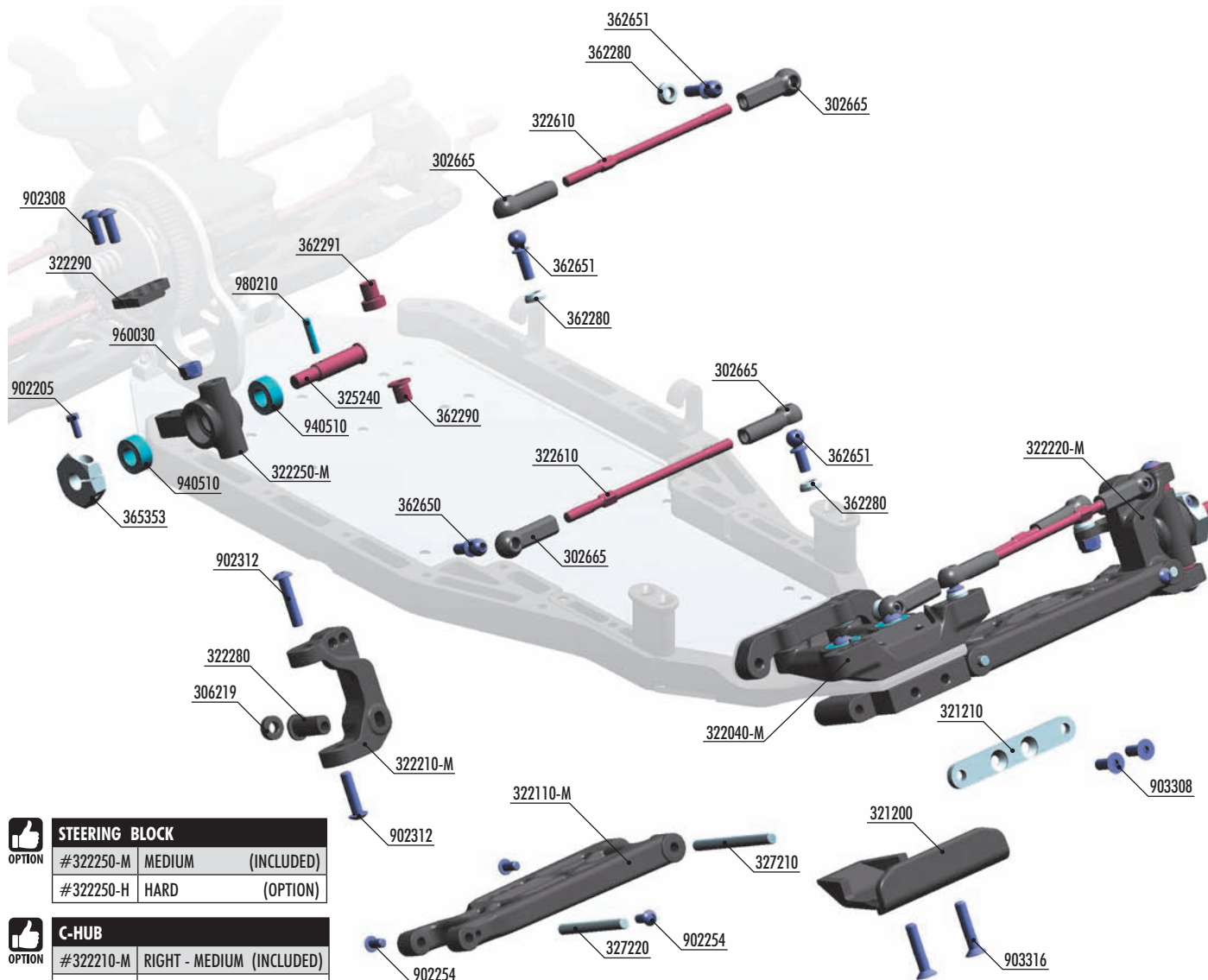
## FRONT LOWER ARM MOUNT

#322310	ALU 26°	(OPTION)
#322311	COMPOSITE 26°	(INCLUDED)
#322312	BRASS 26°	(OPTION)
#322313 + #321211	ALU 23°/29° SUSP. HOLDER BRACE 23°/29°	(OPTION)
#322314 + #321211	BRASS 23°/29° 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



## 5. FRONT SUSPENSION



### STEERING BLOCK

#322250-M	MEDIUM	(INCLUDED)
#322250-H	HARD	(OPTION)



### C-HUB

#322210-M	RIGHT - MEDIUM	(INCLUDED)
#322210-H	RIGHT - HARD	(OPTION)
#322220-M	LEFT - MEDIUM	(INCLUDED)
#322220-H	LEFT - HARD	(OPTION)



### WHEEL HUBS 12MM

#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)



### ALU SUSPENSION HOLDER BRACE

#321210	26°	(INCLUDED)
#321211	23° / 29°	(OPTION)



### SUSPENSION ARM

#322110-M	MEDIUM	(INCLUDED)
#322110-H	HARD	(OPTION)
#322110-G	GRAPHITE	(OPTION)



### STEERING BLOCK EXTENSION

#322290	2-SLOTS	(INCLUDED)
#322291	1-SLOT	(OPTION)
#322292	0-SLOTS	(OPTION)



### FRONT ROLL CENTER HOLDER

#322040-M	MEDIUM	(INCLUDED)
#322040-H	HARD	(OPTION)
#322041	ALU	(OPTION)

### BAG

05

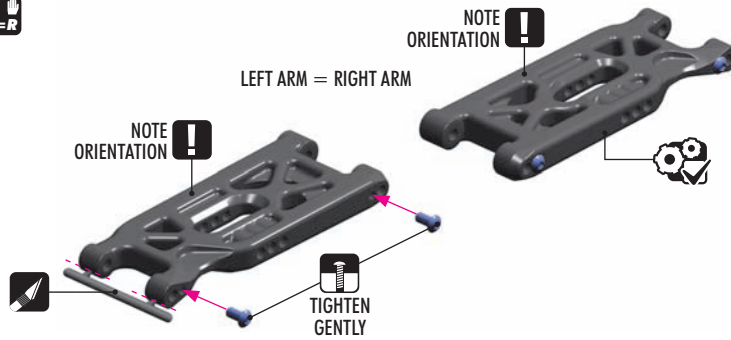
30 2665	COMPOSITE BALL JOINT 4.9MM - CLOSED WITH HOLE (4)
30 6219	COMPOSITE SET OF SERVO SHIMS (4)
32 1200	COMPOSITE FRONT BUMPER
32 1210	ALU SUSPENSION HOLDER BRACE - SWISS 7075 T6 (3MM)
32 2040-M	COMPOSITE FRONT ROLL CENTER HOLDER - MEDIUM
32 2040-H	COMPOSITE FRONT ROLL CENTER HOLDER - HARD (OPTION)
32 2041	ALU FRONT ROLL CENTER HOLDER - SWISS 7075 T6 (OPTION)
32 2110-M	COMPOSITE SUSPENSION ARM FRONT LOWER - MEDIUM
32 2110-H	COMPOSITE SUSPENSION ARM FRONT LOWER - HARD (OPTION)
32 2110-G	COMPOSITE SUSPENSION ARM FRONT LOWER - GRAPHITE (OPTION)
32 2210-M	COMPOSITE C-HUB 0° DEG. RIGHT - MEDIUM
32 2210-H	COMPOSITE C-HUB 0° DEG. RIGHT - HARD (OPTION)
32 2220-M	COMPOSITE C-HUB 0° DEG. LEFT - MEDIUM
32 2220-H	COMPOSITE C-HUB 0° DEG. LEFT - HARD (OPTION)
32 2250-M	COMPOSITE STEERING BLOCK - MEDIUM
32 2250-H	COMPOSITE STEERING BLOCK - HARD (OPTION)
32 2280	COMPOSITE CASTER ECCENTRIC BUSHING (2+2+2)
32 2290	GRAPHITE EXTENSION FOR STEERING BLOCK - 2 SLOTS (2)
32 2291	GRAPHITE EXTENSION FOR STEERING BLOCK - 1 SLOT (2) (OPTION)
32 2292	GRAPHITE EXTENSION FOR STEERING BLOCK - 0 SLOTS (2) (OPTION)

32 2610	ADJUSTABLE TURNBUCKLE 55MM M3 L/R - HUDY SPRING STEEL™ (2)
32 5240	FRONT DRIVE AXLE - HUDY SPRING STEEL™
32 7210	FRONT SUSPENSION PIVOT PIN (2)
32 7220	FRONT ARM PIVOT PIN (2)
36 2280	ALU CONICAL SHIM 3x6x2.0MM (10)
36 2290	STEEL STEERING BUSHING - SHORT (2)
36 2291	STEEL STEERING BUSHING - LONG (2)
36 2650	BALL END 4.9MM WITH THREAD 6MM (2)
36 2651	BALL END 4.9MM WITH THREAD 8MM (2)
36 5353	ALU WHEEL HUB 12MM (2)
90 2205	HEX SCREW SH M2x5 (10)
90 2254	HEX SCREW SH M2.5x4 (10)
90 2308	HEX SCREW SH M3x8 (10)
90 2312	HEX SCREW SH M3x12 (10)
90 3308	HEX SCREW SFH M3x8 (10)
90 3316	HEX SCREW SFH M3x16 (10)
94 0510	HIGH-SPEED BALL-BEARING 5x10x4 RUBBER SEALED (2)
96 0030	NUT M3 (10)
98 0210	PIN 2x9.8 (10)

# FRONT SUSPENSION



2x L=R



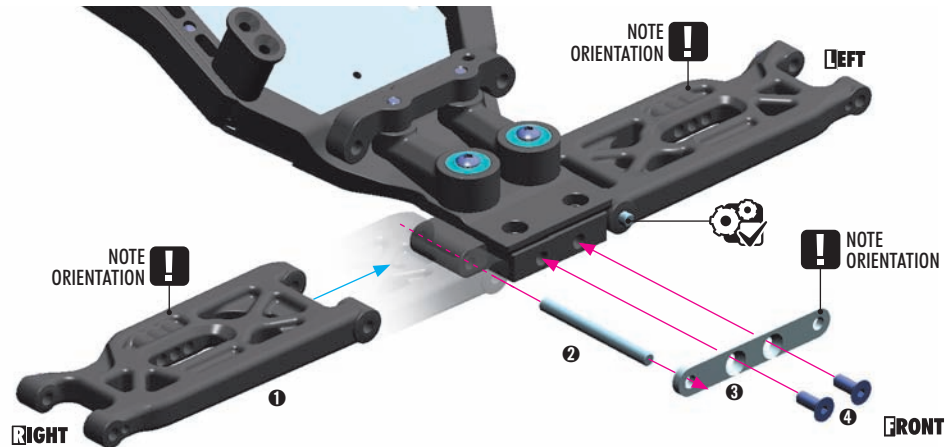
## SUSPENSION ARM

#	TYPE	STATUS
#322110-M	MEDIUM	(INCLUDED)
#322110-H	HARD	(OPTION)
#322110-G	GRAPHITE	(OPTION)

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



L=R



## FRONT ROLL CENTER HOLDER

#	TYPE	STATUS
#322040-M	MEDIUM	(INCLUDED)
#322040-H	HARD	(OPTION)
#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 and increased strength



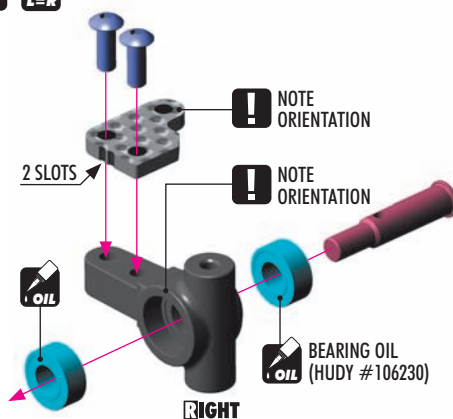
**SET-UP BOOK**  
ROLL CENTER



2x L=R



940510 BB 5x10x4



## STEERING BLOCK EXTENSION

#	TYPE	STATUS
#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, suggested for very technical small tracks

## STEERING BLOCK

#	TYPE	STATUS
#322250-M	MEDIUM	(INCLUDED)
#322250-H	HARD	(OPTION)

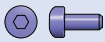
MEDIUM - more steering, more aggressive

HARD - easy to drive, less steering on-power

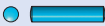
**SET-UP BOOK**  
STEERING



# FRONT SUSPENSION

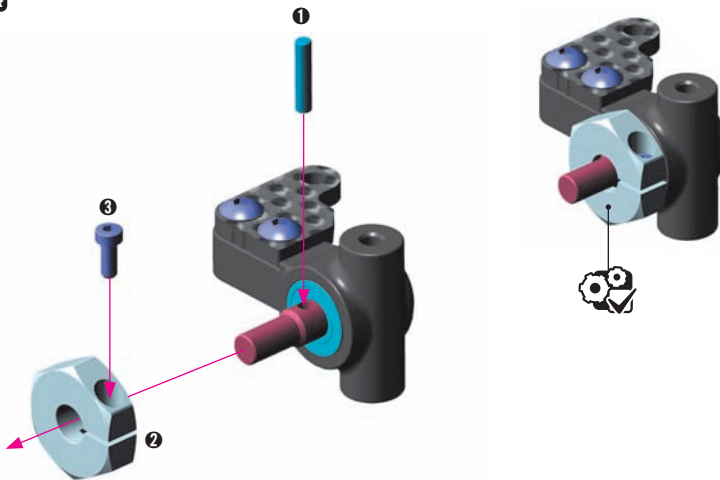


902205  
SH M2x5



981210  
P 2x10

2x L=R



## OPTIONAL OFF-SET HEX HUB EFFECTS

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

### LESS OFF-SET

Rear - more traction  
Front - more steering

### MORE OFF-SET

Rear - less traction  
Front - less steering

### WHEEL HUBS 12MM

#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)

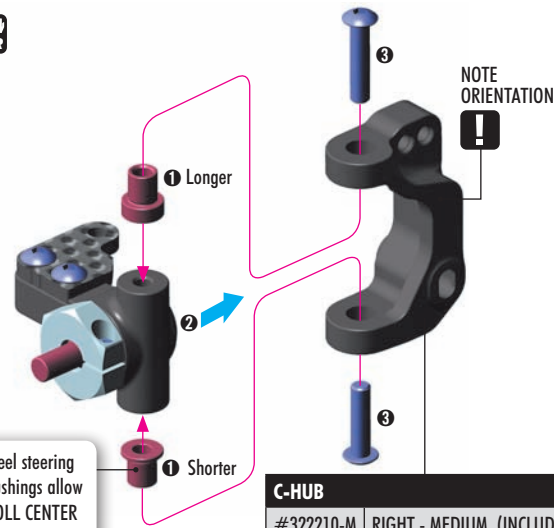
## SET-UP BOOK

TRACK-WIDTH



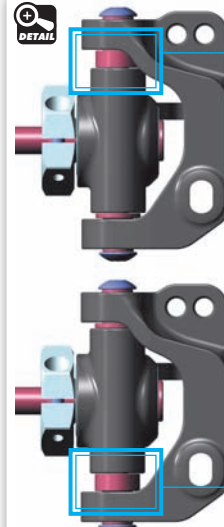
902312  
SH M3x12

2x L=R



Steel steering bushings allow ROLL CENTER adjustment.

NOTE ORIENTATION



### LOWER ROLL CENTER (INITIAL SETTING)

TOP = LONGER bushing  
BOTTOM = SHORTER bushing

Recommended for rough tracks to improve stability.

### HIGHER ROLL CENTER

TOP = SHORTER bushing  
BOTTOM = LONGER bushing

Recommended for smooth tracks to gain more steering.

### C-HUB

#322210-M	RIGHT - MEDIUM (INCLUDED)
#322210-H	RIGHT - HARD (OPTION)
#322220-M	LEFT - MEDIUM (INCLUDED)
#322220-H	LEFT - HARD (OPTION)

MEDIUM - For very-low, low & medium traction. Absorbs bumps better, easy to drive.

HARD - For high & very-high traction. More steering, more aggressive.

## SET-UP BOOK

ROLL CENTER

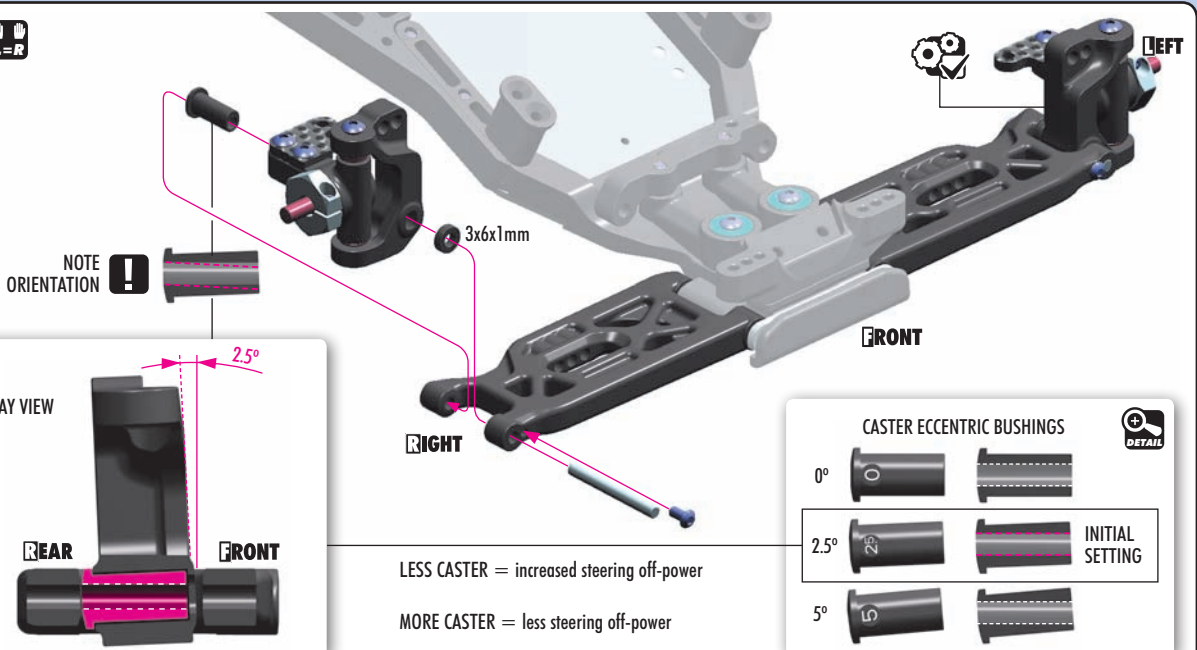
10

306219  
SHIM 3x6x1



902254  
SH M2.5x4

2x L=R



CUTAWAY VIEW

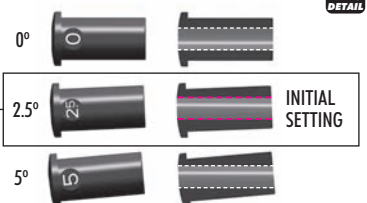
REAR

FRONT

LESS CASTER = increased steering off-power

MORE CASTER = less steering off-power

### CASTER ECCENTRIC BUSHINGS

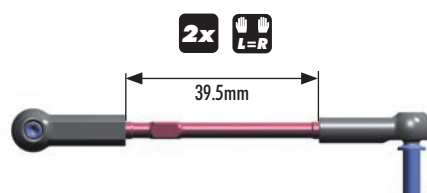
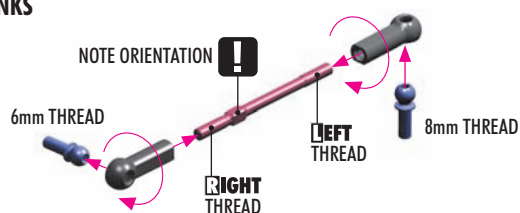


## SET-UP BOOK

CASTER

## ROLL CENTER LINKS

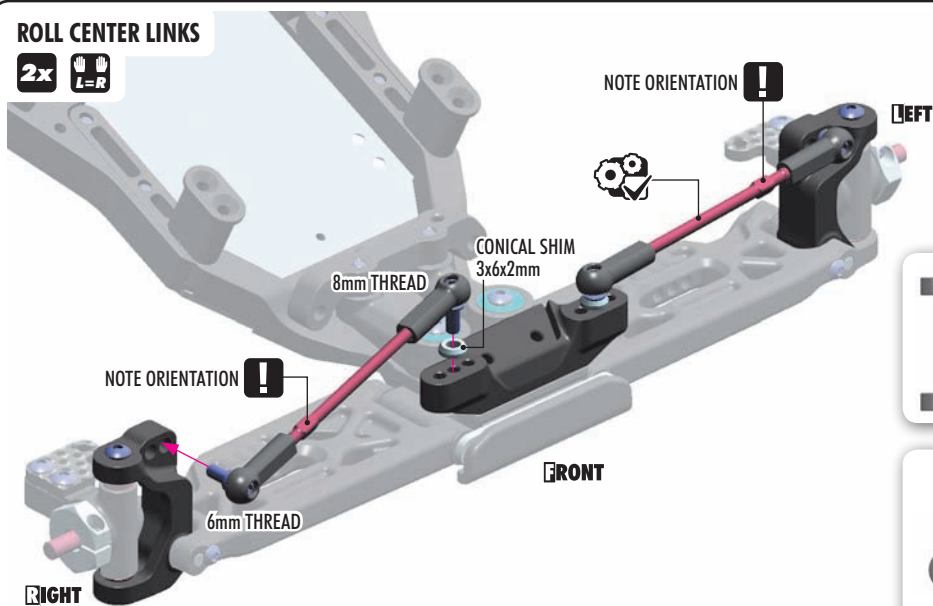
2x 



  
362280  
CON. SHIM 3x6x2

## ROLL CENTER LINKS

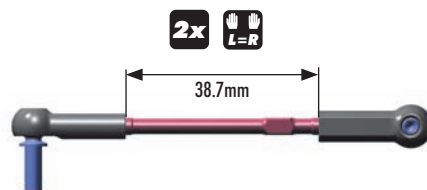
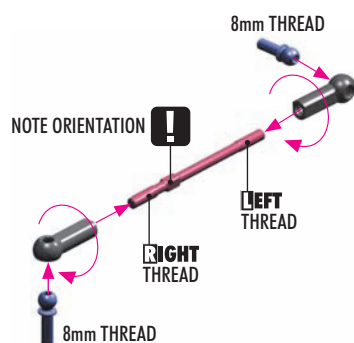
2x 



**SET-UP BOOK**  
ROLL CENTER

## STEERING LINKS

2x 

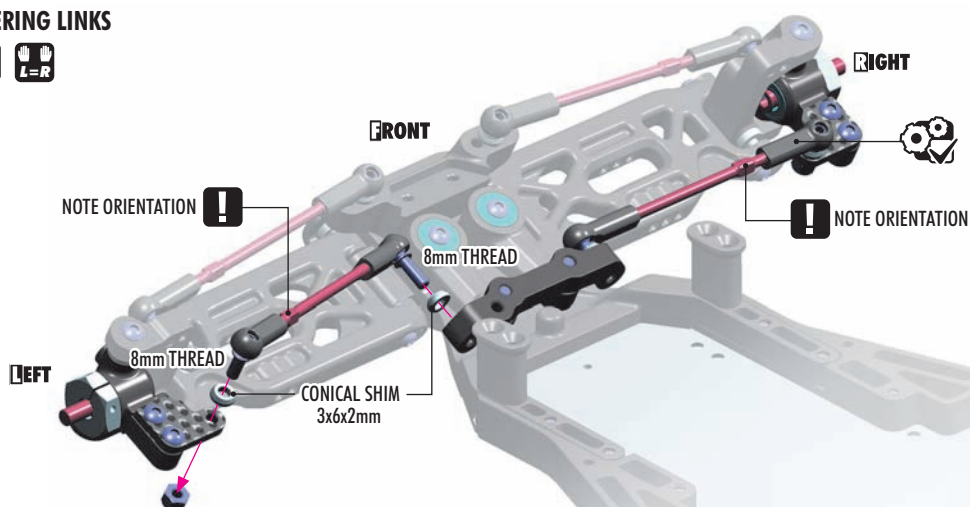


  
362280  
CON. SHIM 3x6x2

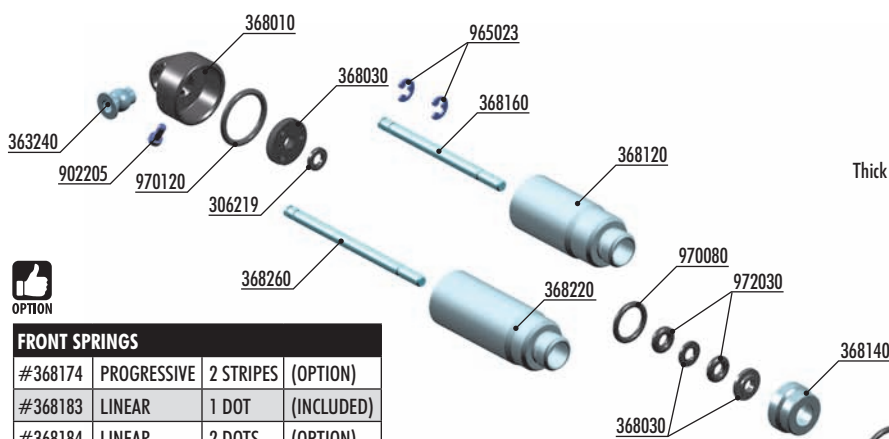
  
960030  
NUT M3

## STEERING LINKS

2x 



## 6. SHOCK ABSORBERS



### FRONT SPRINGS

#368174	PROGRESSIVE	2 STRIPES	(OPTION)
#368183	LINEAR	1 DOT	(INCLUDED)
#368184	LINEAR	2 DOTS	(OPTION)
#368185	LINEAR	3 DOTS	(OPTION)
#368186	LINEAR	4 DOTS	(OPTION)

### REAR SPRINGS

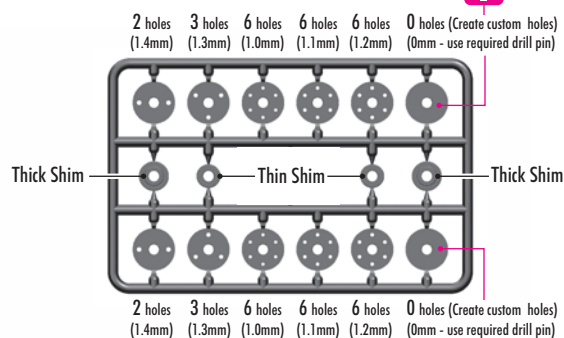
#368273	PROGRESSIVE	2 STRIPES	(OPTION)
#368284	LINEAR	1 DOT	(INCLUDED)
#368285	LINEAR	2 DOTS	(OPTION)
#368286	LINEAR	3 DOTS	(OPTION)
#368287	LINEAR	4 DOTS	(OPTION)



### SHOCK PARTS

#368051	ALU SHOCK CAP-NUT WITH VENT HOLE (2)
#368021	ALU SHOCK SPRING RETAINING COLLAR (4)

### PISTONS DETAIL



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

### BAG



- 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 8030 SHOCK PISTONS - COMPLETE SET - DERLIN
- 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 8174 FRONT SPRING-SET PROGRESSIVE - 2 STRIPES (2) (OPTION)
- 36 8183 FRONT SPRING-SET LINEAR - 1 DOT (2)
- 36 8184 FRONT SPRING-SET LINEAR - 2 DOTS (2) (OPTION)
- 36 8185 FRONT SPRING-SET LINEAR - 3 DOTS (2) (OPTION)
- 36 8186 FRONT SPRING-SET - 4 DOTS (2) (OPTION)

- 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 8273 REAR SPRING-SET PROGRESSIVE - 2 STRIPES (2) (OPTION)
- 36 8284 REAR SPRING-SET LINEAR - 1 DOT (2)
- 36 8285 REAR SPRING-SET LINEAR - 2 DOTS (2) (OPTION)
- 36 8286 REAR SPRING-SET LINEAR - 3 DOTS (2) (OPTION)
- 36 8287 REAR SPRING-SET LINEAR - 4 DOTS (2) (OPTION)
- 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 2030 SILICONE O-RING 3x2 (10)



965023  
C 2.3



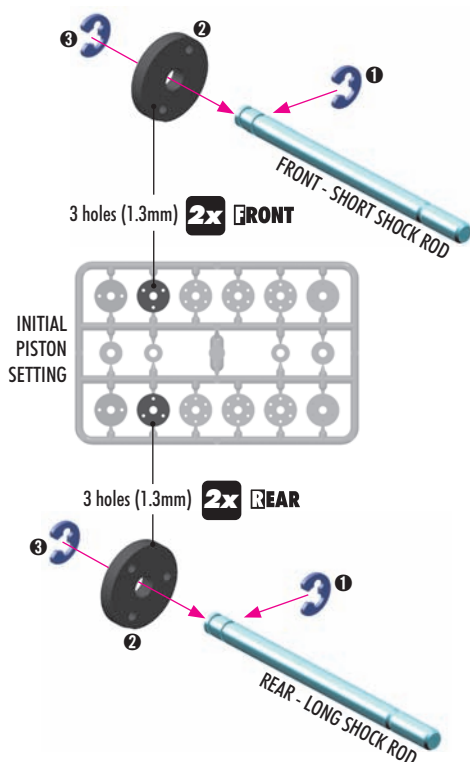
972030  
O 3x2



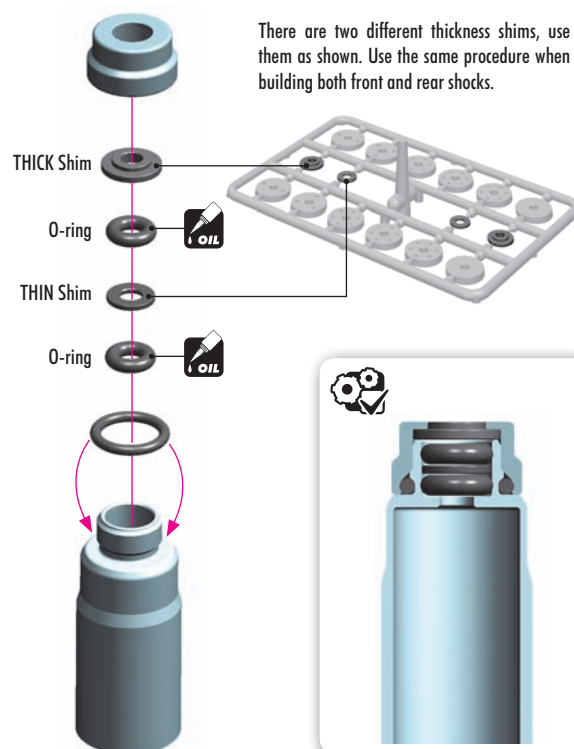
970080  
O 8x1

### SET-UP BOOK

SHOCK DAMPING  
SHOCK PISTONS



4x





**10**  
306219  
SHIM 3x6x1

Downstop shim. THICKER shim used, GREATER downstop is achieved.

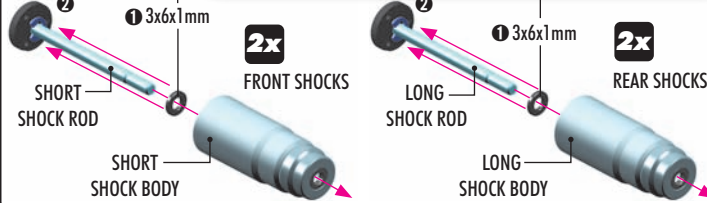
**! IMPORTANT**

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

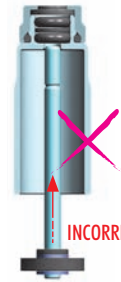
INITIAL SETTING



1mm 2mm 3mm

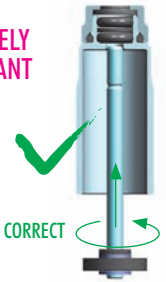


**! EXTREMELY IMPORTANT**



INCORRECT

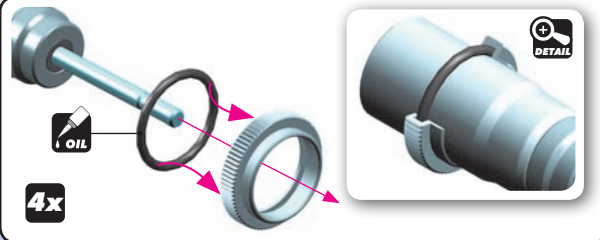
Do not push the shock rod straight through the lower shock body assembly; O-ring damage may result.



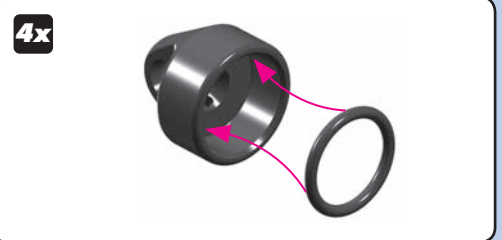
CORRECT

Twist the shock rod through the lower shock body assembly.

**10**  
970140  
O 14x1.5

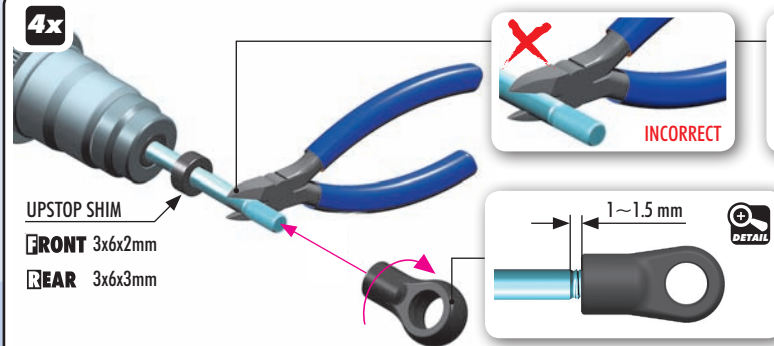


**10**  
970120  
O 12x1



**10**  
306219  
SHIM 3x6x2

**10**  
306219  
SHIM 3x6x3



INCORRECT



INCORRECT



CORRECT

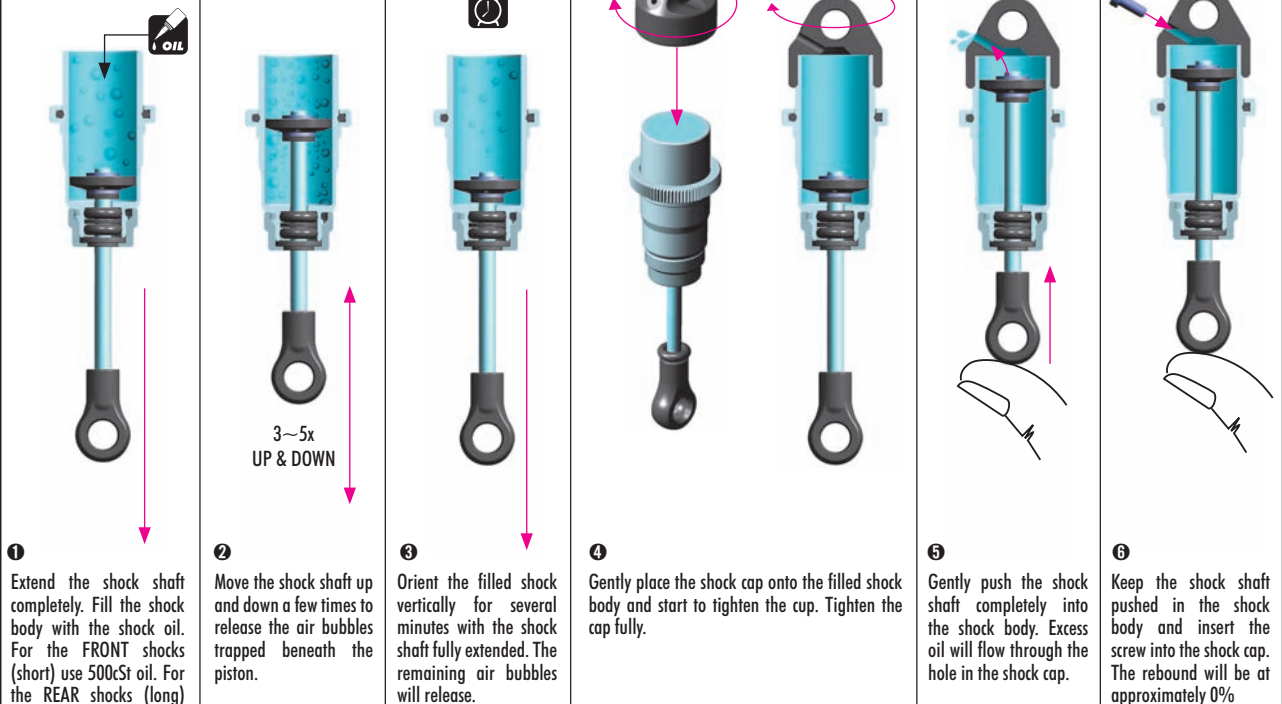
Grip the shock rod at top of exposed threads with side cutting pliers. Be careful not to damage the shock rod.

**902205**  
SH M2x5

## INITIAL SHOCK REBOUND SETTING 0% (LOW REBOUND)

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

**2x** FRONT (SHORT)  
Oil 500cSt  
**2x** REAR (LONG)  
Oil 350cSt

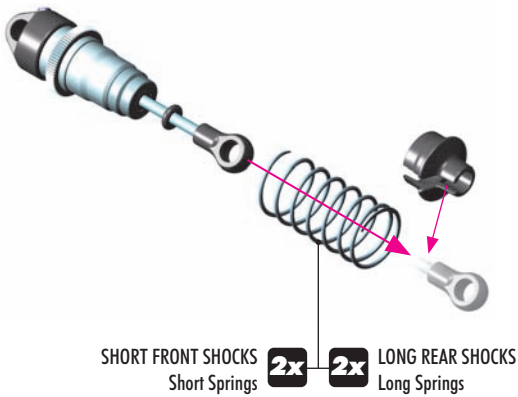


**SET-UP BOOK**  
SHOCK OIL

# SHOCK ABSORBERS

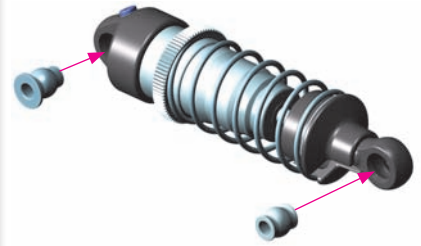
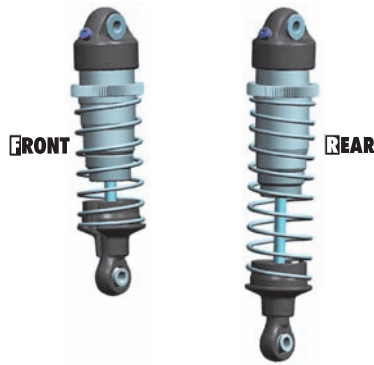
**2x** FRONT SHOCKS (SHORT)

**2x** REAR SHOCKS (LONG)



## ! IMPORTANT

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



## TIP ALTERNATE SHOCK REBOUND SETTING (50% AND 100%)

The default shock rebound setting is 0% (as described on page 25).

Alternatively, you may set the shock rebound setting to 50% or 100% as described below. Remove the shock springs before performing shock rebound adjustment.

### SETTING THE SHOCK REBOUND TO 50% (MEDIUM REBOUND)

REMOVE SHOCK CAP AND THE SCREW FROM SHOCK CAP



**1** Extend the shock shaft completely and remove the shock cap and remove screw from shock cap.



**2** Fill the shock body with shock oil up to the top. Make sure to use same viscosity shock oil as is in the shock.



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

TIGHTEN FULLY



**4** Gently place the shock cap assembly onto the filled shock body.



**5** Push the shock shaft 50% into the shock body. Excess oil will bleed through the hole in the shock cap.



**6** Keep the shock shaft pushed 50% into the shock body and insert the screw into the shock cap. The rebound will be at approximately 50%.

### SETTING THE SHOCK REBOUND TO 100% (HIGH REBOUND)

REMOVE SHOCK CAP AND THE SCREW FROM SHOCK CAP



**1** Extend the shock shaft completely and remove the shock cap.



**2** Fill the shock body with shock oil up to the top. Make sure to use same viscosity shock oil as is in the shock.



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

TIGHTEN FULLY



**4** Gently place the shock cap assembly onto the filled shock body. Keep the shock shaft extended 100% from the shock body and tighten the shock cap completely. The rebound will be at approximately 100%.

# 7. FINAL ASSEMBLY



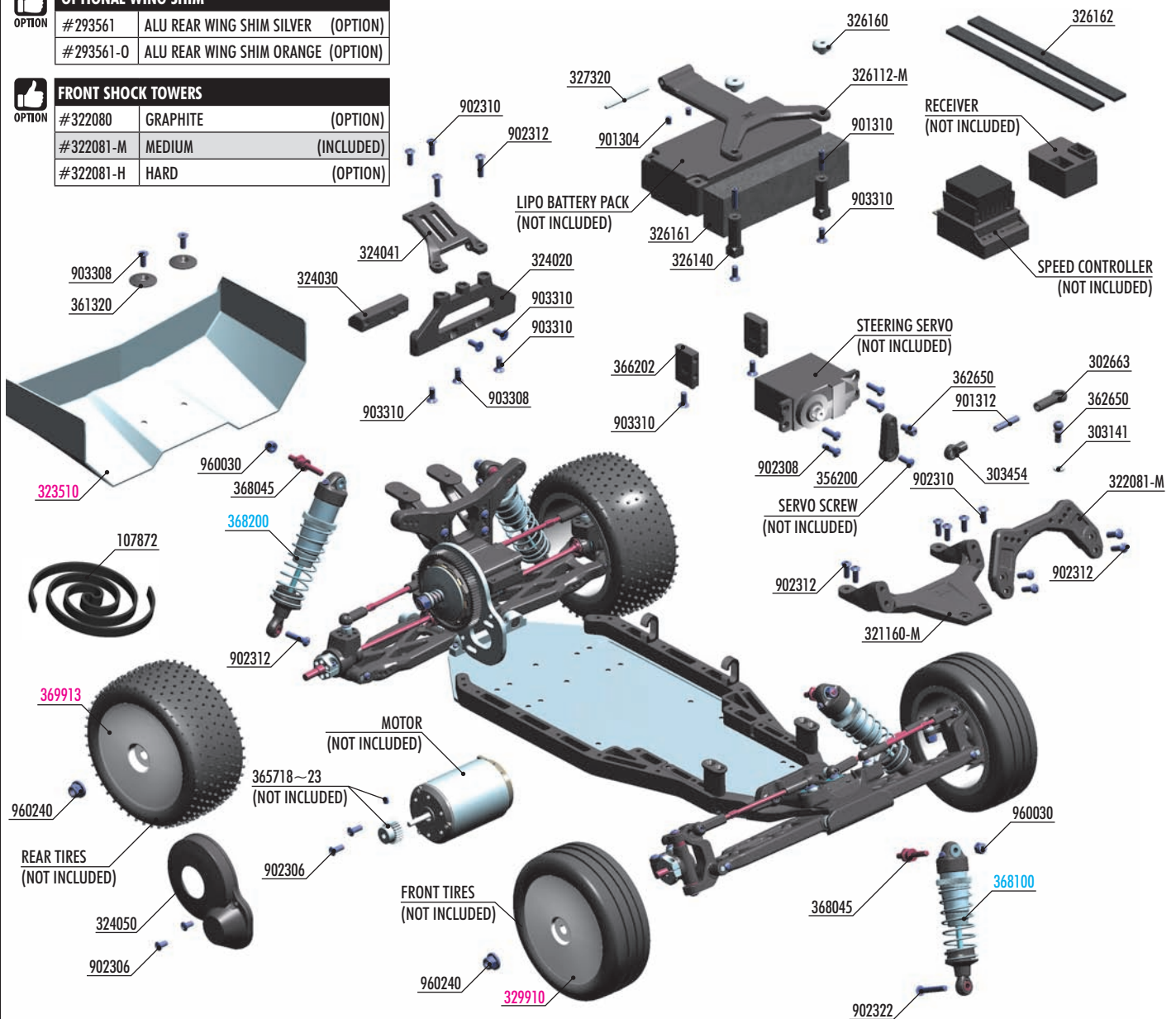
## OPTIONAL WING SHIM

#293561	ALU REAR WING SHIM SILVER (OPTION)
#293561-0	ALU REAR WING SHIM ORANGE (OPTION)



## FRONT SHOCK TOWERS

#322080	GRAPHITE (OPTION)
#322081-M	MEDIUM (INCLUDED)
#322081-H	HARD (OPTION)



## LEXAN REAR WING

#323510	1.0MM (INCLUDED)
#323511	1.5MM (OPTION)



## LEXAN BODY

#329700	0.75MM (INCLUDED)
#329701	0.5MM LIGHT (OPTION)



## BATTERY STRAP

#326112-M	MEDIUM (INCLUDED)
#326112-H	HARD (OPTION)



## FRONT UPPER DECK

#321160-M	MEDIUM (INCLUDED)
#321160-H	HARD (OPTION)

BAG

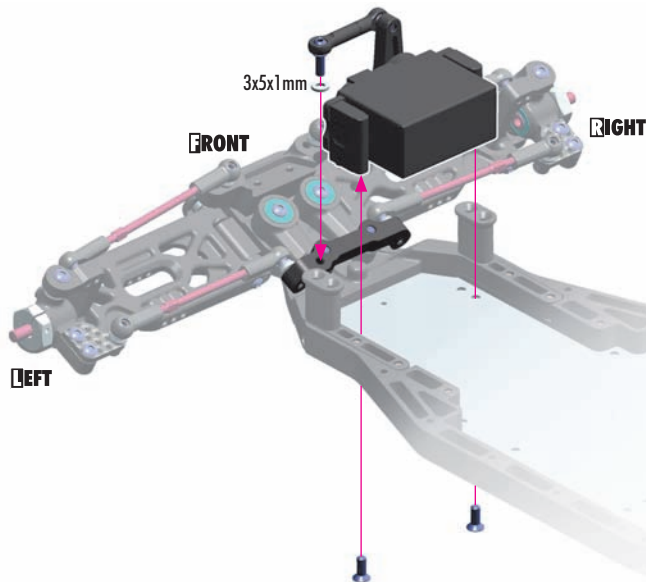
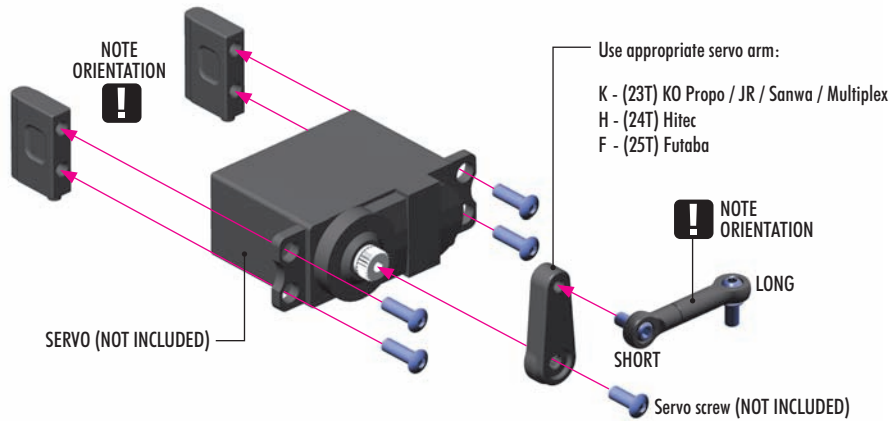
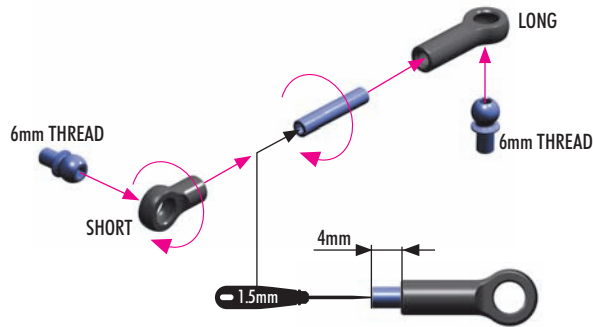
07

10 7872	VELCRO TAPE WITH DOUBLE SIDED TAPE 8x500MM
29 3561-0	ALU REAR WING SHIM ORANGE (OPTION)
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-M	COMPOSITE FRONT UPPER DECK - MEDIUM
32 1160-H	COMPOSITE FRONT UPPER DECK - HARD (OPTION)
32 2081-M	COMPOSITE SHOCK TOWER FRONT - MEDIUM
32 3512	LEXAN FRONT WING 0.75MM (OPTION)
32 4020	COMPOSITE MOUNT FOR UPPER BRACE
32 4030	COMPOSITE MOTOR PLATE BRACE
32 4041	COMPOSITE MOTOR UPPER BRACE - DIRT EDITION
32 4050	COMPOSITE GEAR COVER - DIRT EDITION
32 6140	COMPOSITE BATTERY HOLDER STAND (2)
32 6160	ALU BATTERY HOLDER NUT (2)
32 6112-M	COMPOSITE BATTERY STRAP - DIRT EDITION
32 6161	FOAM SPACER FOR BATTERY
32 6162	SELF-ADHESIVE RUBBER 1.5x6.5x155MM (2)
32 7320	REAR ARM PIVOT PIN (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 5718~23	ALU PINION GEAR HARD COATED 18~23T/48 (OPTION)
36 6202	COMPOSITE SERVO MOUNT - HIGHER

36 8045	STEEL SCREW SHOCK PIVOT BALL WITH HEX (2)
90 1304	HEX SCREW SB M3x4 (10)
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 3510	LEXAN REAR WING (2)
32 3511	LEXAN REAR WING 1.5MM (2) (OPTION)
32 9700	XRAY XB2 BODY
32 9701	XRAY XB2 BODY - LIGHT (OPTION)
32 9910	2WD FRONT WHEEL AERODISK WITH 12MM HEX - WHITE (2)
36 9913	4WD/2WD REAR WHEEL AERODISK 12MM HEX - WHITE (2)



# FINAL ASSEMBLY



902310  
SH M3x10



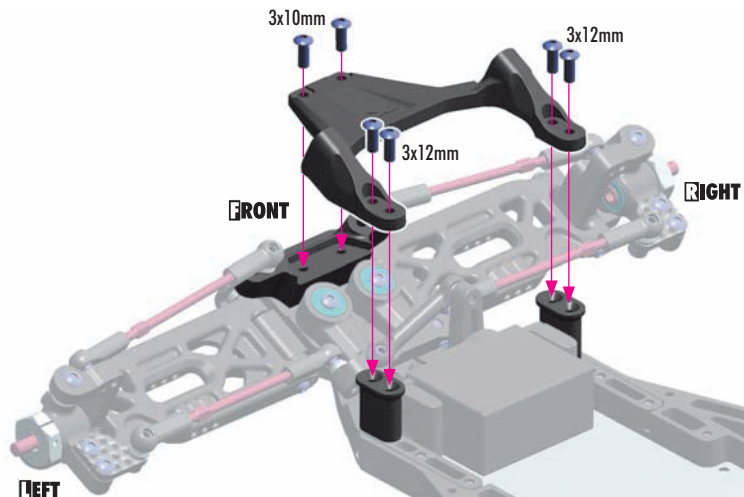
902312  
SH M3x12

## FRONT UPPER DECK

#321160-M	MEDIUM	(INCLUDED)
#321160-H	HARD	(OPTION)

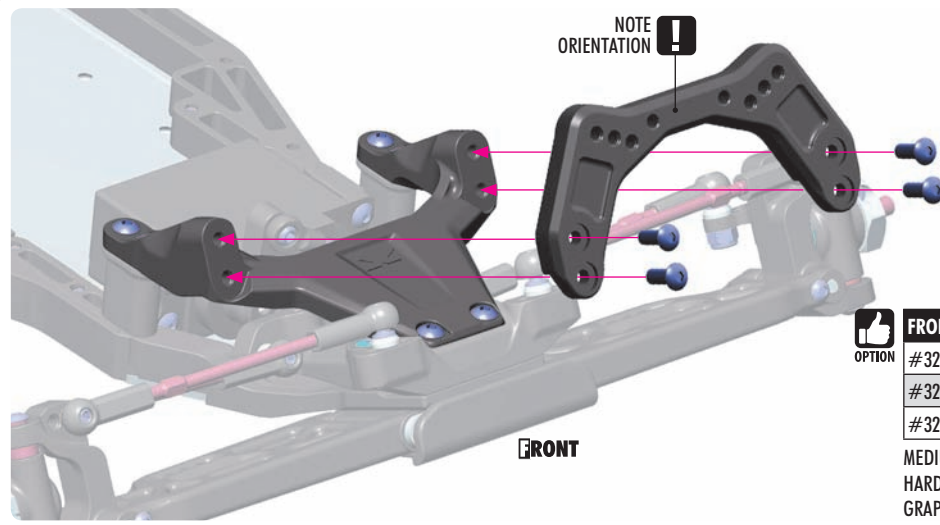
MEDIUM - for very-low, low and medium traction tracks. Generates more traction, absorbs bumps better.

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





902312  
SH M3x12



## FRONT SHOCK TOWERS

#322080	GRAPHITE	(OPTION)
#322081-M	MEDIUM	(INCLUDED)
#322081-H	HARD	(OPTION)

MEDIUM

- For very-low & low traction

HARD

- For medium & high traction

GRAPHITE

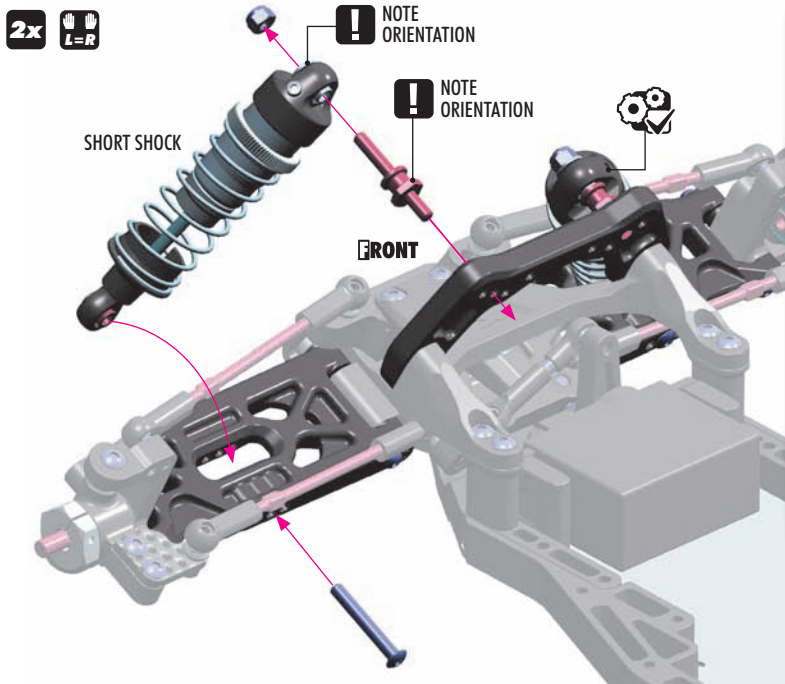
- For high & very-high traction



902322  
SH M3x22



960030  
NUT M3



## INITIAL SETTING



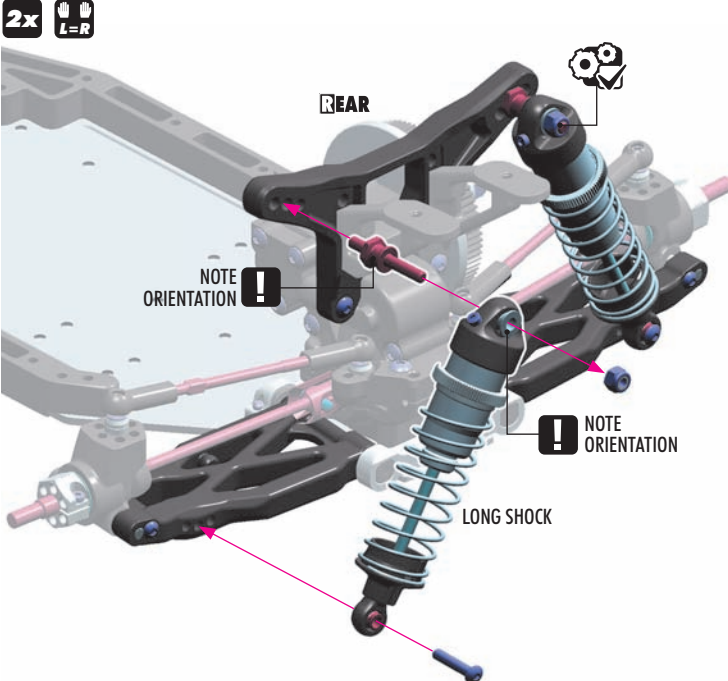
INITIAL SETTING



902312  
SH M3x12



960030  
NUT M3



## INITIAL SETTING

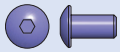


INITIAL SETTING

**SET-UP  
BOOK**

SHOCK POSITION

# FINAL ASSEMBLY



902306  
SH M3x6

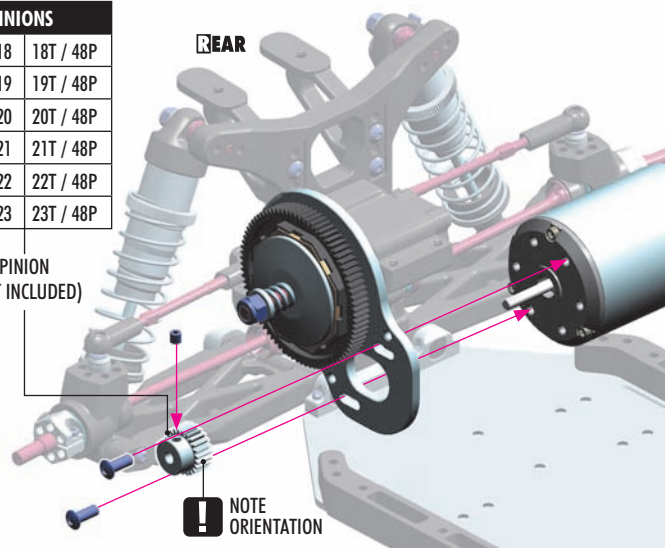


## XRAY PINIONS

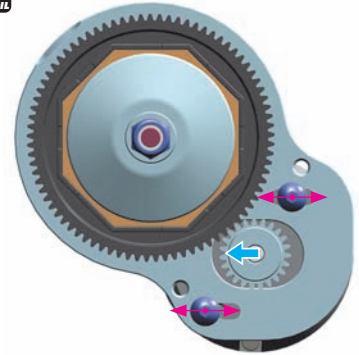
#365718	18T / 48P
#365719	19T / 48P
#365720	20T / 48P
#365721	21T / 48P
#365722	22T / 48P
#365723	23T / 48P

PINION  
(NOT INCLUDED)

REAR

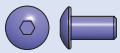


NOTE  
ORIENTATION



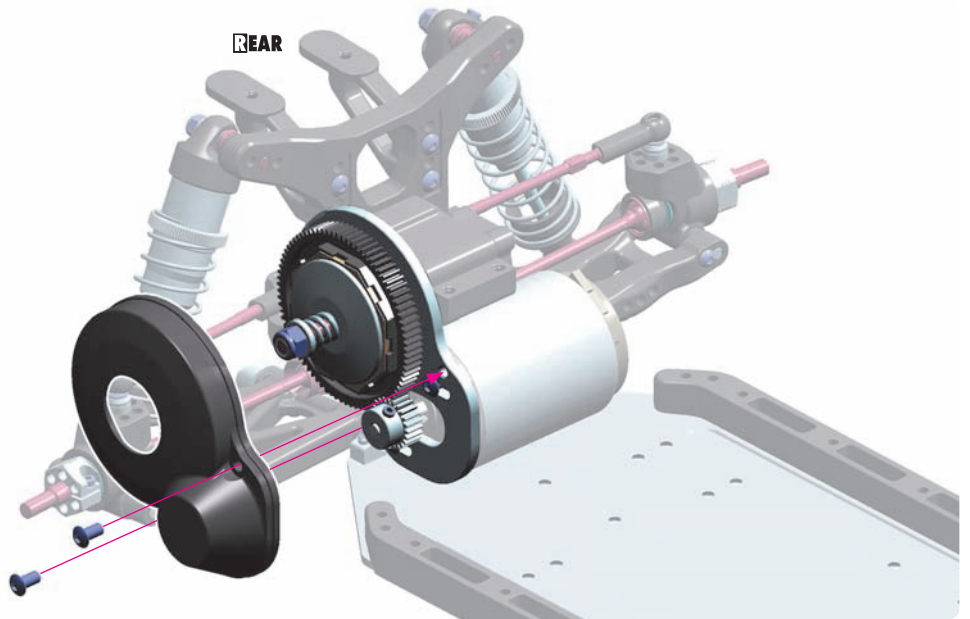
Adjust the motor so the pinion meshes with the spur gear properly. Make sure the gear mesh is not too tight.

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



902306  
SH M3x6

REAR

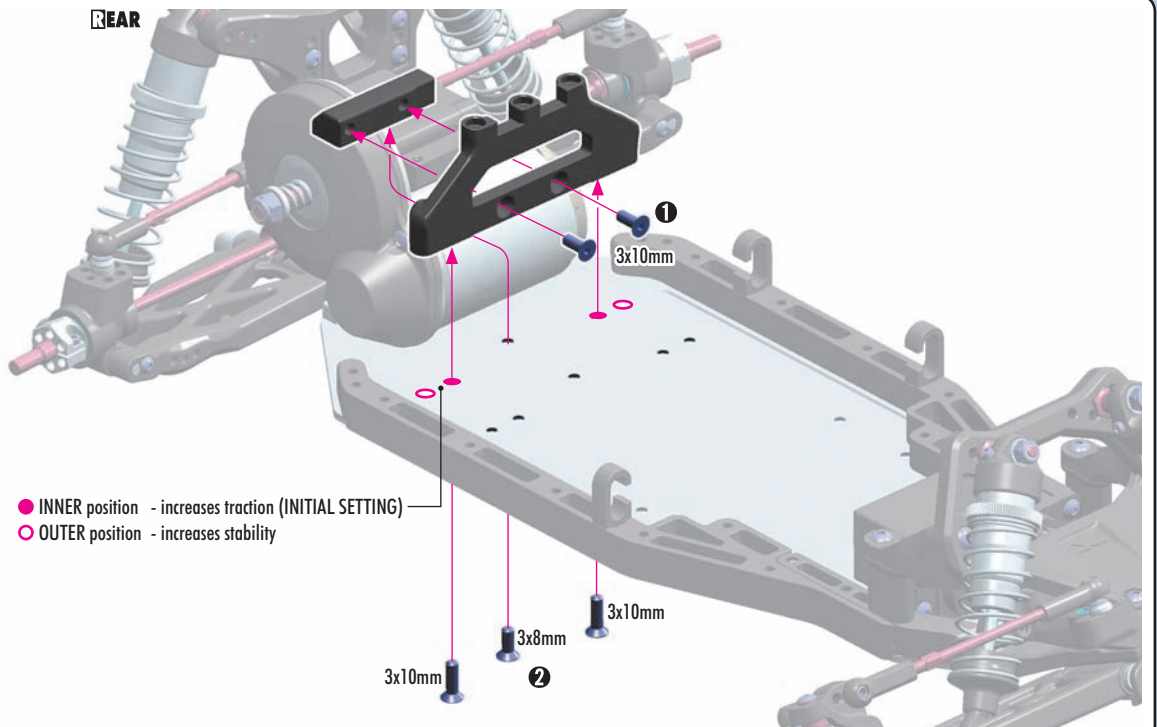


903308  
SFH M3x8



903310  
SFH M3x10

REAR



● INNER position - increases traction (INITIAL SETTING)  
○ OUTER position - increases stability

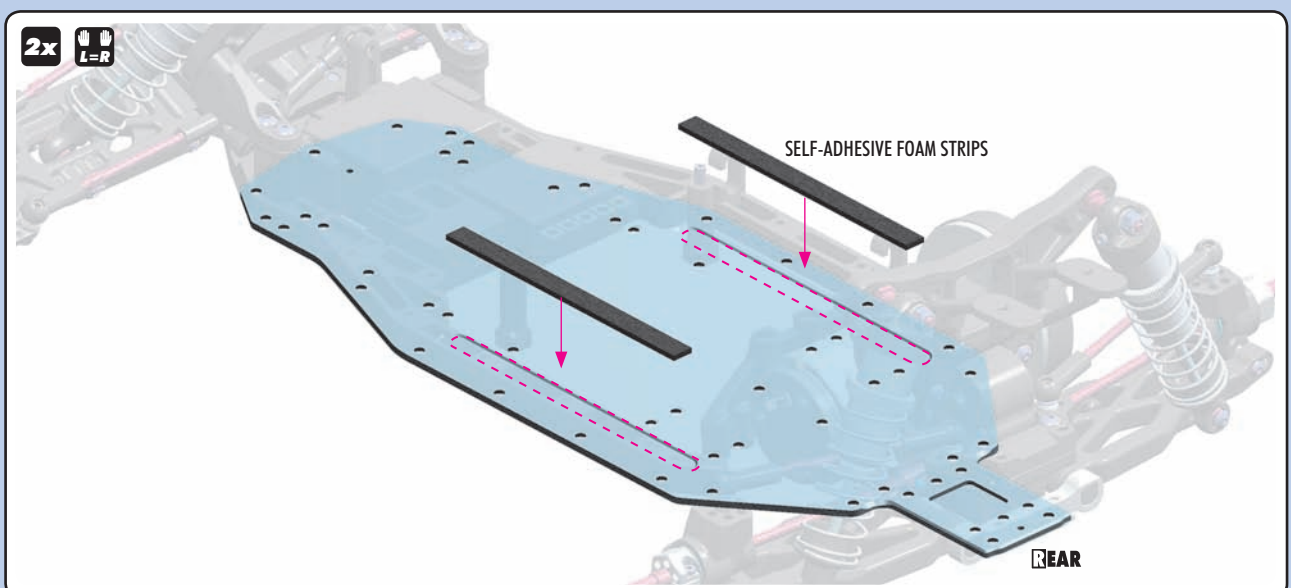
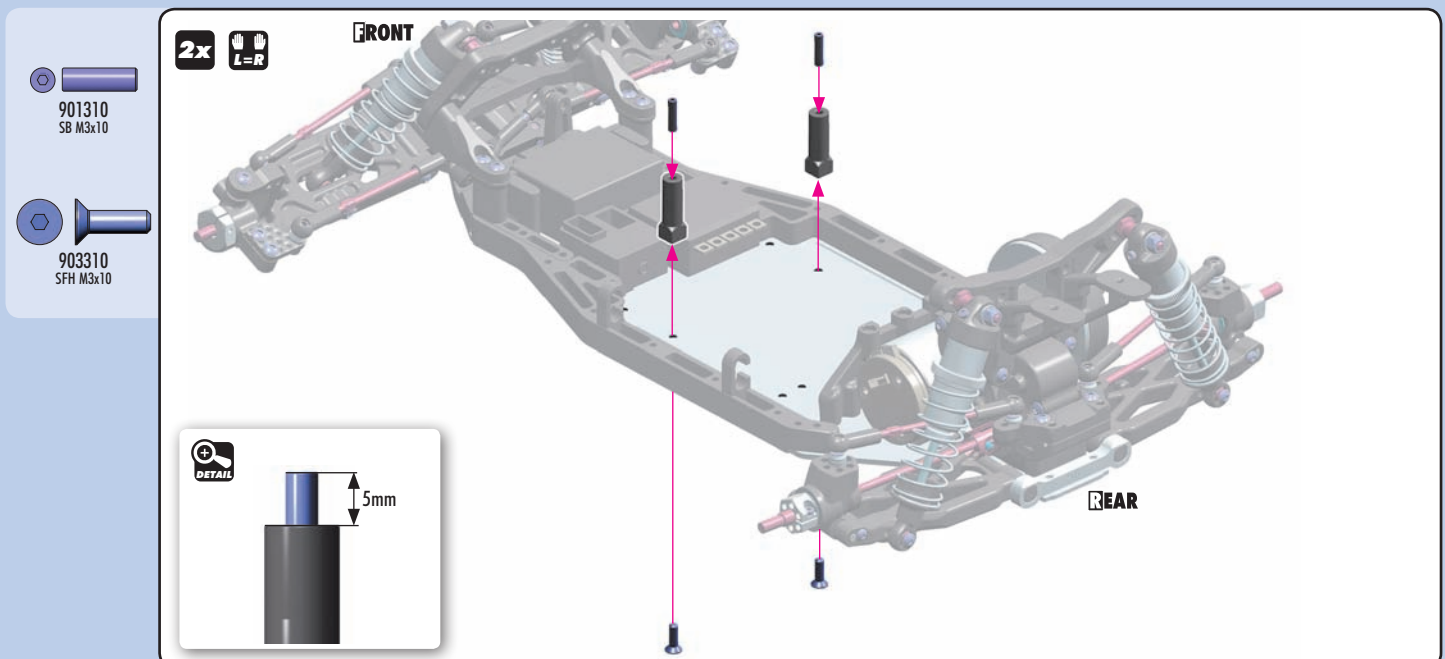
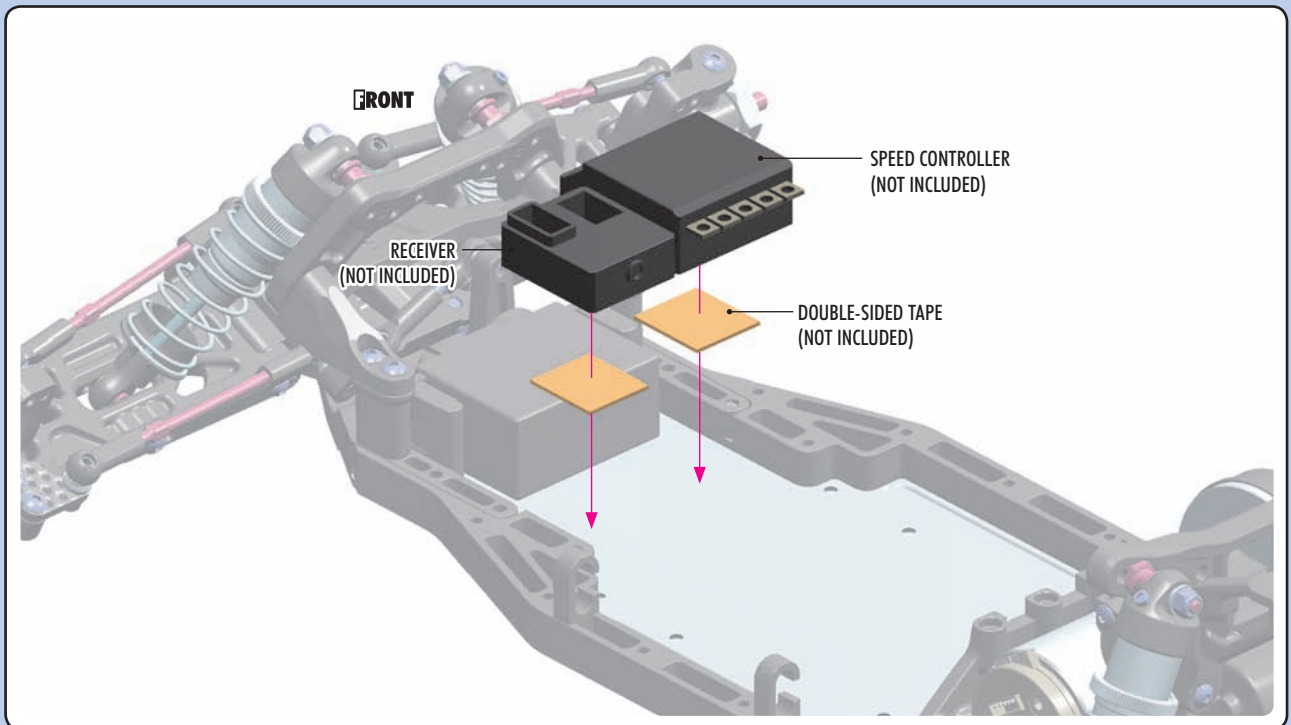
3x10mm

3x8mm

3x10mm

3x10mm





# FINAL ASSEMBLY



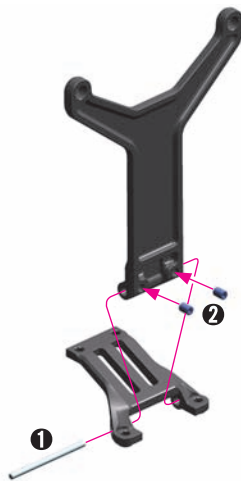
901304  
SB M3x4



902310  
SH M3x10

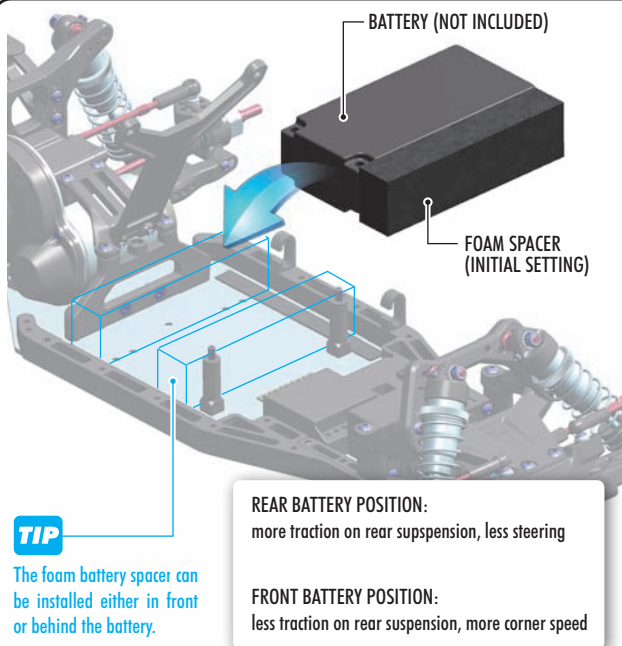
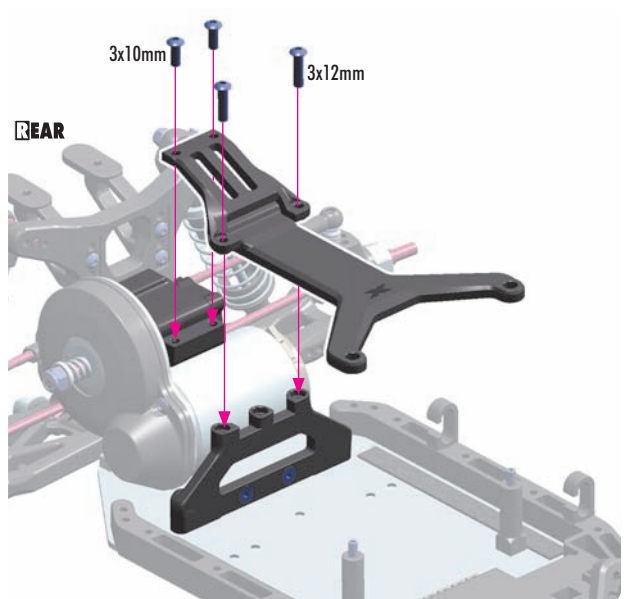


902312  
SH M3x12



## BATTERY STRAP

#326112-M	MEDIUM	(INCLUDED)
#326112-H	HARD	(OPTION)

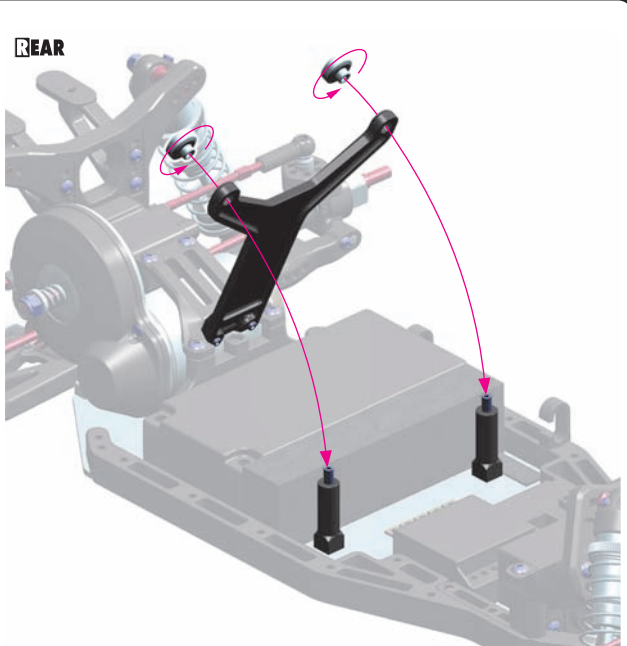


## TIP

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

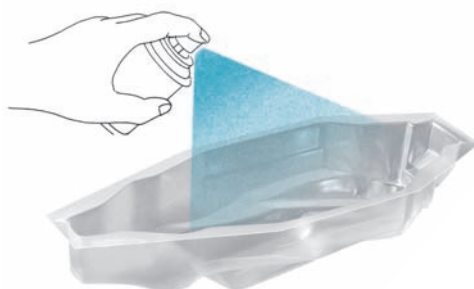
**REAR BATTERY POSITION:**  
more traction on rear suspension, less steering

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



- 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.
- Before painting, wash the inside of the body with mild detergent, and then rinse and dry thoroughly.
- Mask all windows.

- Apply paint masks as appropriate.
- Paint the body using paints formulated for polycarbonate bodies.
- When the paint is dry, remove the masking.
- Carefully cut out the body using appropriate scissors or cutting tools.
- When you have finished cutting, peel off the external protective films.



## LEXAN™ BODY

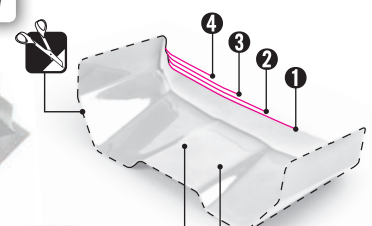
#329700	0.75MM	(INCLUDED)
#329701	0.5MM LIGHT	(OPTION)

Cutting line for motor cover.

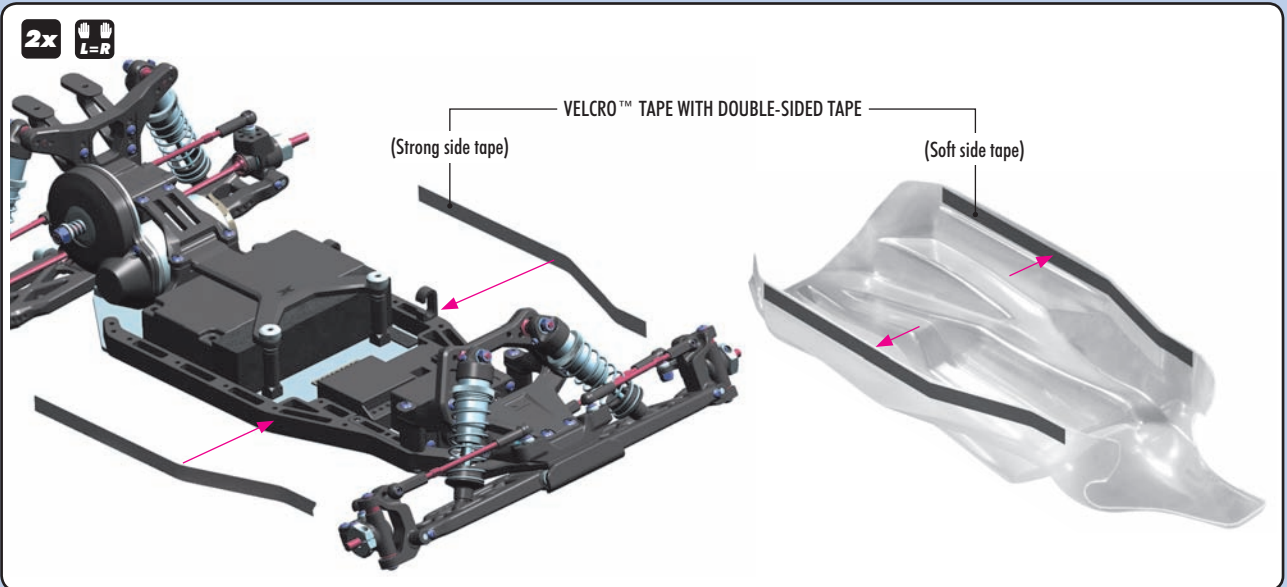


## WING CUTTING LINE OPTIONS

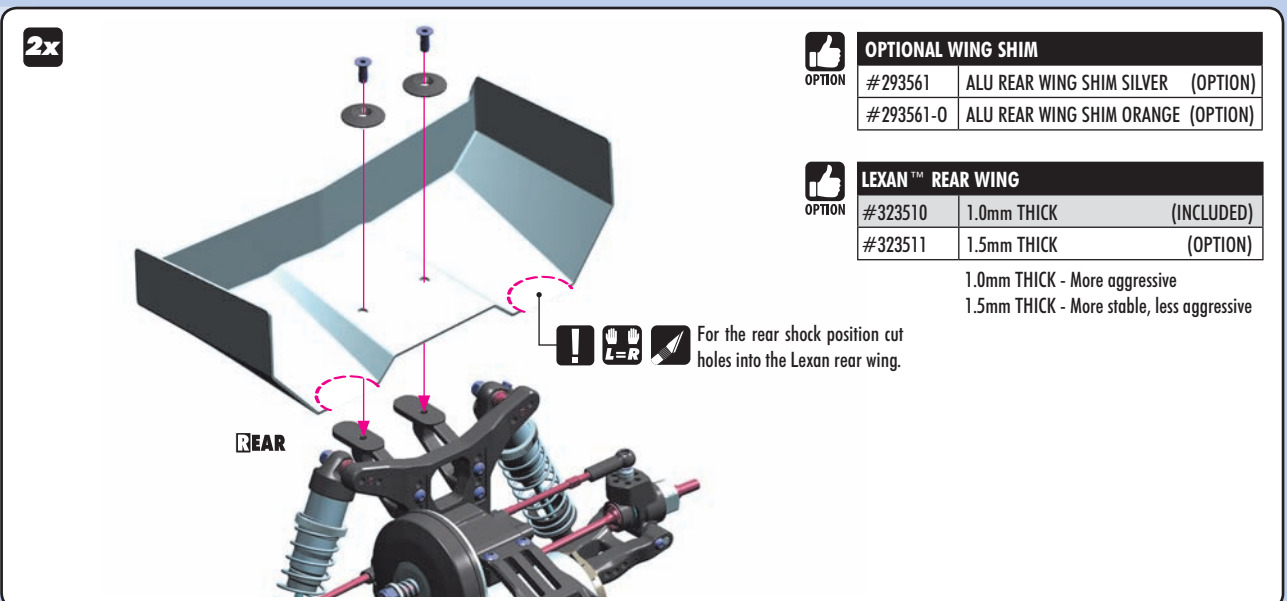
- LESS TRACTION
- MORE TRACTION



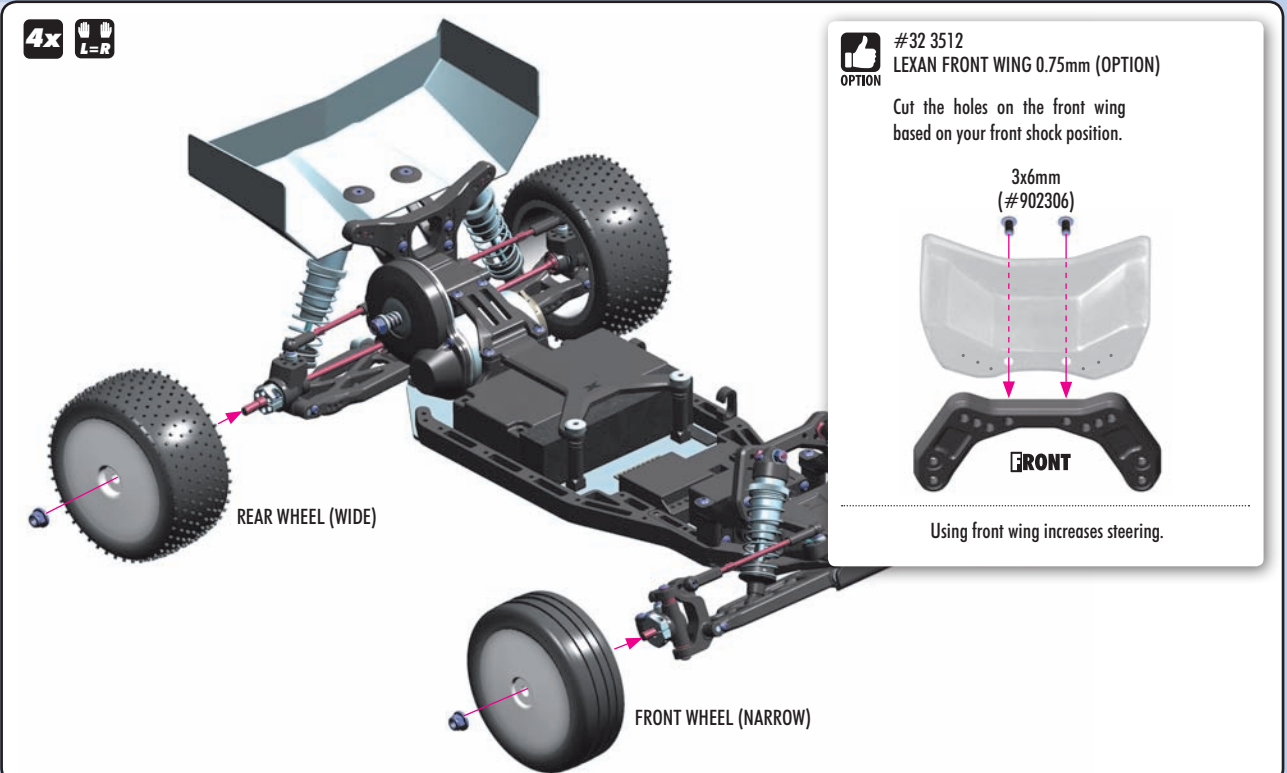
BODY REAMER (HUYD #107600)



903308  
SFH M3x8



960240  
N M4



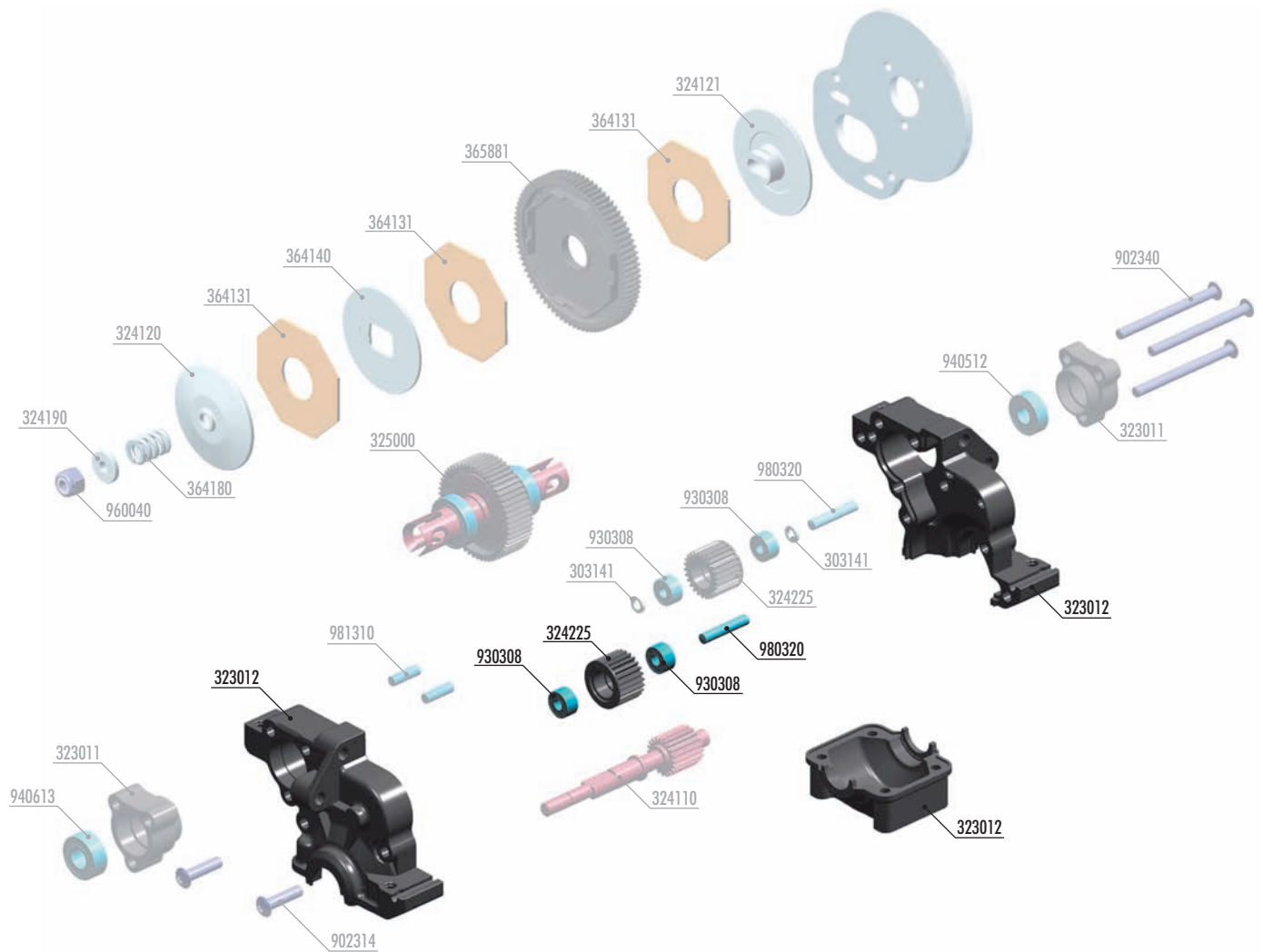


# LEFT MOTOR POSITION ASSEMBLY

## LEFT MOTOR POSITION ASSEMBLY



Follow these steps to change your motor position to the LEFT side. Use the solidly-colored optional parts shown in the exploded view.

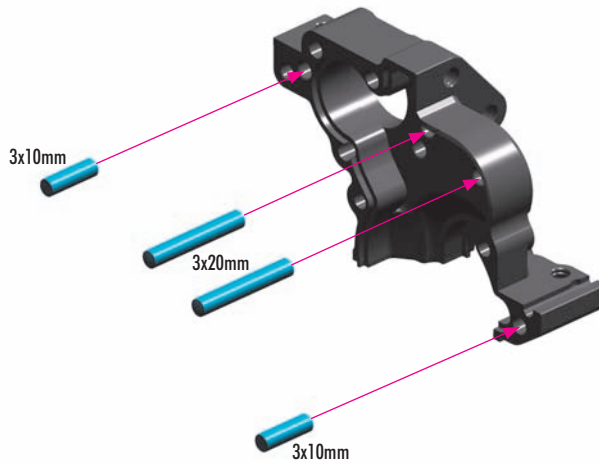
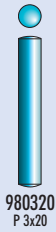
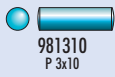


30 3141 ALU SHIM 3x5x1.0MM (10)  
**32 3012** COMPOSITE REAR MOTOR GEAR BOX (4 GEARS) SET  
 32 4011 ALU MID & REAR MOTOR PLATE - SWISS 7075 T6 (3MM)  
 32 4110 ALU TOP SHAFT 20T - SWISS 7075 T6 - HARD COATED  
 32 4120 ALU 3-PAD SLIPPER CLUTCH PLATE - SWISS 7075 T6  
 32 4121 ALU 3-PAD SLIPPER CLUTCH PLATE WITH ADAPTER  
 32 4190 ALU 3-PAD SLIPPER CLUTCH SHIM  
**32 4225** COMPOSITE GEAR 25T - GRAPHITE  
 36 4131 SLIPPER CLUTCH PAD "SLS" - V2 (2)  
 36 4140 ALU 3-PAD SLIPPER CLUTCH PLATE DISC - 7075 T6  
 36 4180 SLIPPER CLUTCH SPRING C=30 - BLACK  
 36 5875 COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 75T / 48 (OPTION)  
 36 5878 COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 78T / 48 (OPTION)  
 36 5881 COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 81T / 48  
 36 5884 COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 84T / 48 (OPTION)

36 5887 COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 87T / 48 (OPTION)  
 90 2314 HEX SCREW SH M3x14 (10)  
 90 2340 HEX SCREW SH M3x40 (10)  
**93 0308** BALL-BEARING 3x8x4 (2)  
 94 0512 HIGH-SPEED BALL-BEARING 5x12x4 RUBBER SEALED (2)  
 94 0613 HIGH-SPEED BALL-BEARING 6x13x5 RUBBER SEALED (2)  
 96 0040 NUT M4 (10)  
**98 0320** PIN 3x20 (10)  
 98 1310 PIN 3x10 (10)

32 5000 BALL ADJUSTABLE DIFFERENTIAL - SET - HUDY SPRING STEEL™

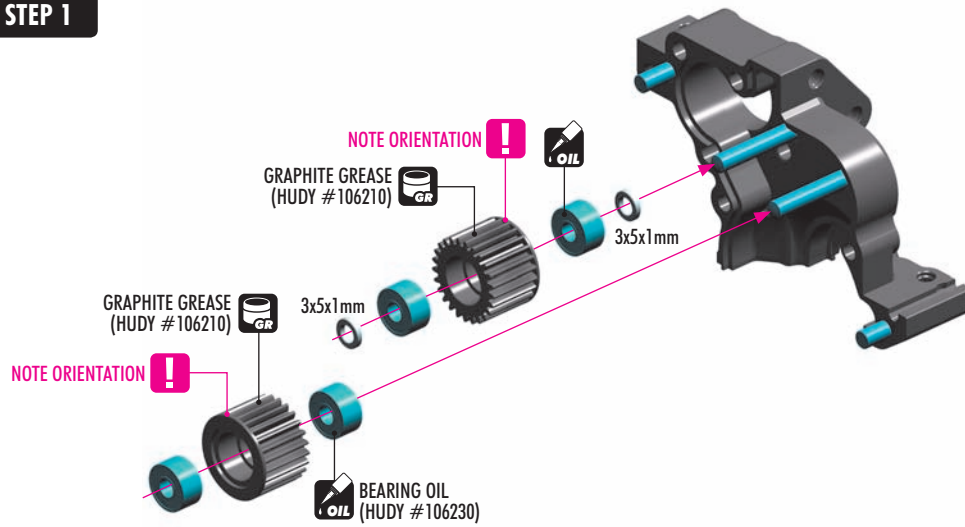
## PAGE 9 / STEP 1



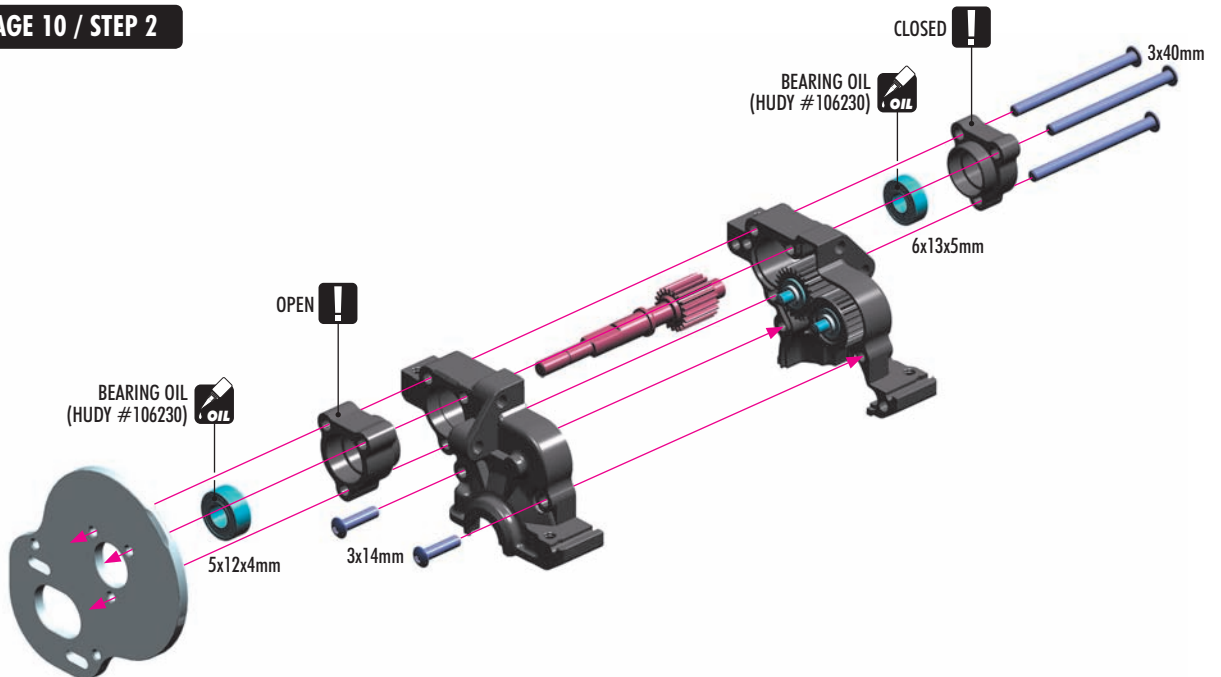
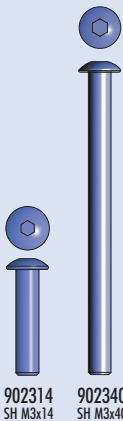
INITIAL SETTING



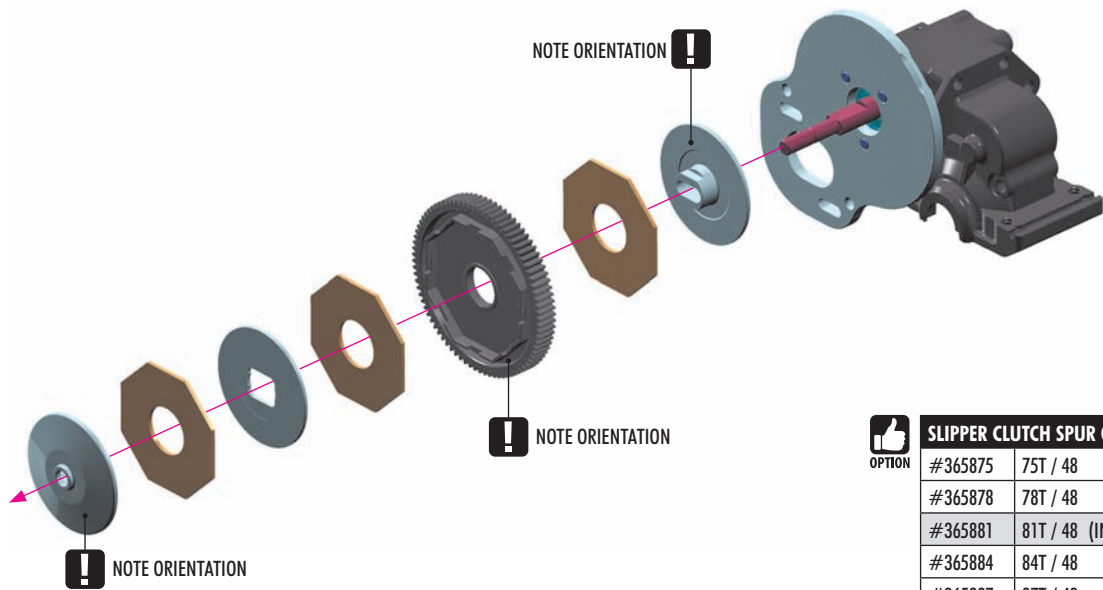
## PAGE 10 / STEP 1



## PAGE 10 / STEP 2



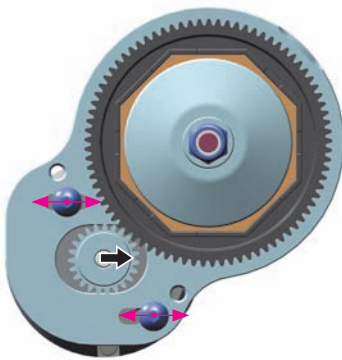
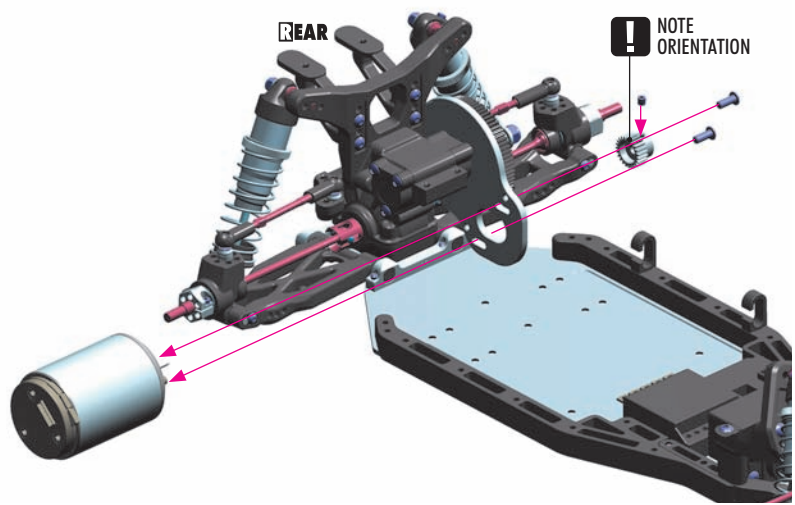
PAGE 10 / STEP 3



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

SET-UP BOOK  
SLIPPER CLUTCH

PAGE 31 / STEP 1

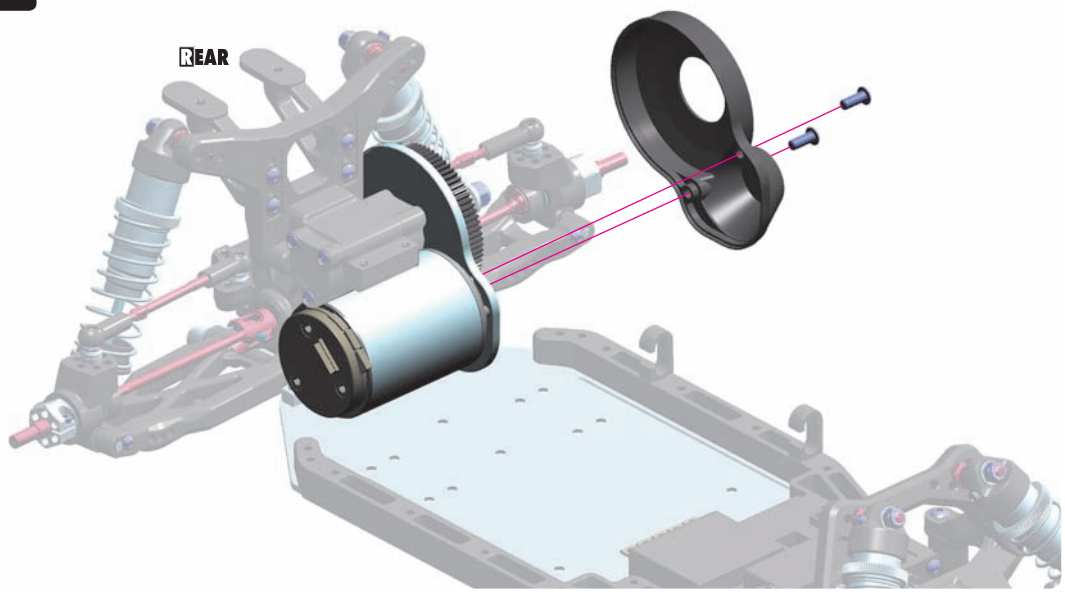


Adjust the motor so the pinion meshes with the spur gear properly. Make sure the gear mesh is not too tight.  
There should be a small amount of play between the teeth of the pinion gear and the spur gear.



SET-UP BOOK  
GEAR MESH

PAGE 31 / STEP 2





**XRAY XB2**

COMMENTS

**FRONT**

**CHASSIS BRACE**

MEDIUM ☐

HARD ☐

**ARM MOUNT**

COMPOSITE ☐

ALU ☐

BRASS ☐

**SERVO WEIGHT**

STANDARD ☐

LOW PROFILE ☐

**BALANCE**

g

**BALANCE**

g

**REAR**

**CHASSIS**

ALU ☐

**CHASSIS FLEX**

☒ SCREW USED

☐ SCREW NOT USED

**[www.teamxray.com](http://www.teamxray.com)**

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PHONE: 214-744-2400, FAX: 214-744-2401, [xray@rcamerica.com](mailto:xray@rcamerica.com)