

#### 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. Also, please visit our Web site at www.teamxray.com to find the latest updates, set-up information, option parts, and many other goodies. We pride ourselves on taking excellent care of our customers.

You can join thousands of XRAY fans and enthusiasts in our online community at:

www.teamxray.com

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.

#### XRAY Europe

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Email: info@teamxray.com

#### XRAY USA

RC America, 2030 Century Center Blvd #15 Irving, TX 75062 USA Phone: (800) 519-7221 \* (214) 744-2400

Fax: (214) 744-2401 Email: xray@rcamerica.com

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

#### SAFETY PRECAUTIONS

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
- 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.

### A

#### 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.

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





Assemble in the specified order













Apply threadlock































Completed assembly



Detail







### TOOLS REQUIRED





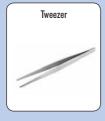














# ITEMS INCLUDED







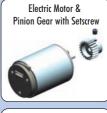


# EQUIPMENT REQUIRED





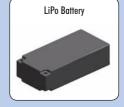




















#### **NOT INCLUDED**

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.



XRAY offers wide range of optional tuning parts which are listed in tables like these. 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.



SAMPLE O	OPTIO	NAL PARTS
#32XXXX	TYPE	OPTION 1
#32XXXX	TYPE	OPTION 2
#32XXXX	TYPE	INCLUDED
#32XXXX	TYPE	OPTION 3

324900

### **COLOR INDICATIONS**

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

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

365884 STYLE A - indicates parts that are included in the bag marked for the section.

321100 STYLE B - indicates parts that are included in the box.

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

### 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.



Do not use drive shafts when the pins are worn.

Press out the worn pins.

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.

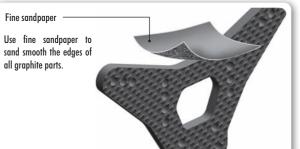
# **TIP** GRAPHITE PARTS PROTECTION

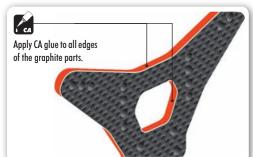
# SHOCK TOWER PROTECTION

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

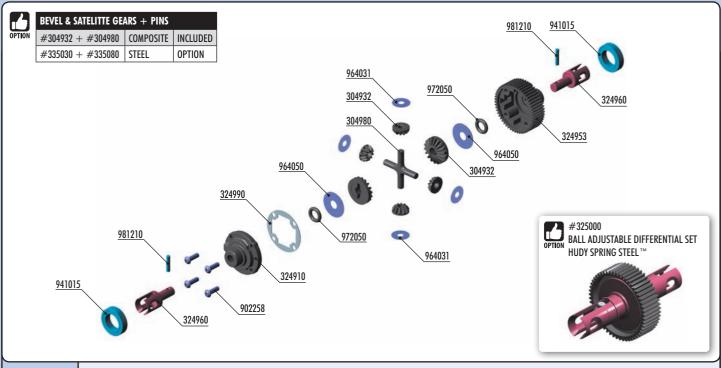
#### **Protect all XB2 Graphite Parts:**

- Front shock tower
- Rear shock tower





#### 1. REAR DIFFERENTIAL



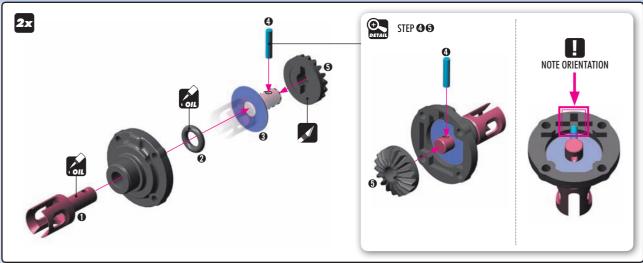


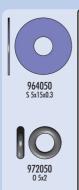
BALL ADJUSTABLE DIFFERENTIAL - SET - HUDY SPRING STEEL™ (OPTION) 30 4932 GRAPHITE GEAR DIFF BEVEL & SATELLITE GEARS (2+4) 32 5000 HEX SCREW SH M2.5x8 (10) 30 4980 COMPOSITE GEAR DIFF CROSS PIN 90 2258 HIGH-SPEED BALL-BEARING 10x15x4 RUBBER SEALED (2) 32 4990 DIFF GASKET (4) 94 1015 32 4900 GEAR DIFFERENTIAL - SET 96 4031 WASHER S 3.5x10x0.2 (10) COMPOSITE GEAR DIFFERENTIAL CASE WASHER S 5x15x0.3 (10) 32 4910 96 4050 32 4953 **COMPOSITE GEAR DIFFERENTIAL CASE WITH PULLEY 53T** 97 2050 SILICONE O-RING 5x2 (10) GEAR DIFF OUTDRIVE ADAPTER - HUDY SPRING STEEL™ (2) PIN 2x10 (10) 32 4960 98 1210



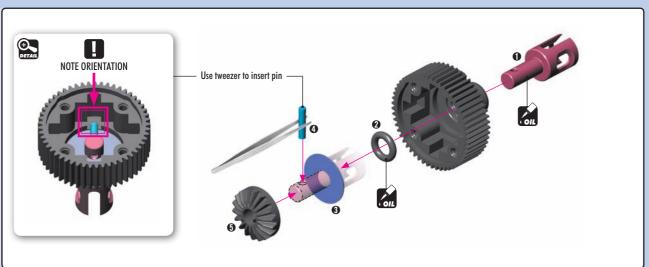




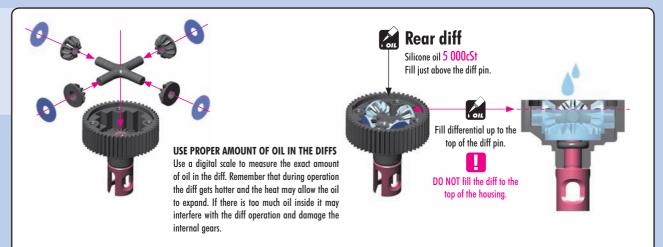




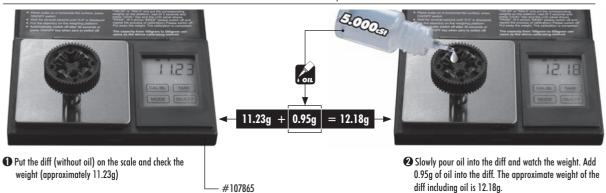








#### TO ENSURE YOU HAVE THE SAME AMOUNT OF OIL FROM REBUILD TO REBUILD, DO THE FOLLOWING:



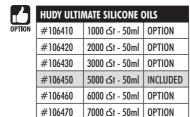
HUDY Ultimate Digital Pocket Scale  $300g \pm 0.01g$ 

TIP

#### TIPS FOR REAR DIFFERENTIAL

LOW-MEDIUM TRACTION 3 000cSt (HUDY #106430) MEDIUM-HIGH TRACTION 5 000cSt (HUDY #106450)

NOTE: Softer oil increases rear traction, harder oil increases on-power steering.





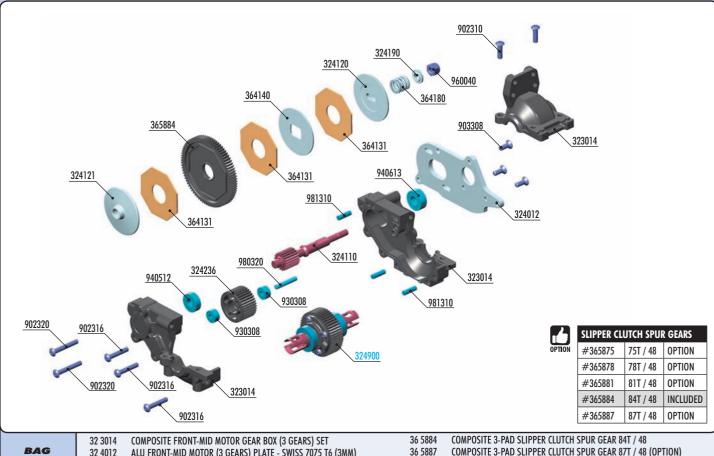








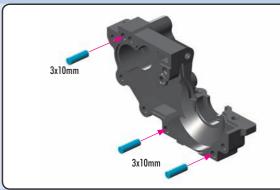
# 2. REAR TRANSMISSION

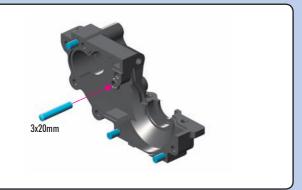




32 3014	COMPOSITE FRONT-MID MOTOR GEAR BOX (3 GEARS) SET	36 5884	COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 84T / 48
32 4012	ALU FRONT-MID MOTOR (3 GEARS) PLATE - SWISS 7075 T6 (3MM)	36 5887	COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 87T / 48 (OPTION)
32 4110	ALU TOP SHAFT 20T - SWISS 7075 T6 - HARD COATED	90 2310	HEX SCREW SH M3x10 (10)
32 4120	ALU 3-PAD SLIPPER CLUTCH PLATE - SWISS 7075 T6	90 2316	HEX SCREW SH M3x16 (10)
32 4121	ALU 3-PAD SLIPPER CLUTCH PLATE WITH ADAPTER	90 2320	HEX SCREW SH M3x20 (10)
32 4190	ALU 3-PAD SLIPPER CLUTCH SHIM	90 3308	HEX SCREW SFH M3x8 (10)
32 4236	COMPOSITE GEAR 36T - GRAPHITE	93 0308	BALL-BEARING 3x8x4 (2)
36 4131	SLIPPER CLUTCH PAD "SLS" - V2 (2)	94 0512	HIGH-SPEED BALL-BEARING 5x12x4 RUBBER SEALED (2)
36 4140	ALU 3-PAD SLIPPER CLUTCH PLATE DISC - 7075 T6	94 0613	HIGH-SPEED BALL-BEARING 6x13x5 RUBBER SEALED (2)
36 4180	SLIPPER CLUTCH SPRING C=30 - BLACK	96 0040	NUT M4 (10)
36 5875	COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 75T / 48 (OPTION)	98 0320	PIN 3x20 (10)
36 5878	COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 78T / 48 (OPTION)	98 1310	PIN 3x10 (10)
36 5881	COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 81T / 48 (OPTION)		
	, ,	32 4900	GEAR DIFFERENTIAL - SET

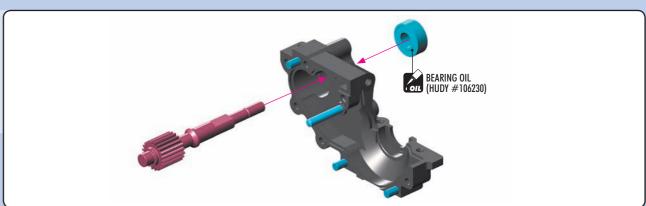






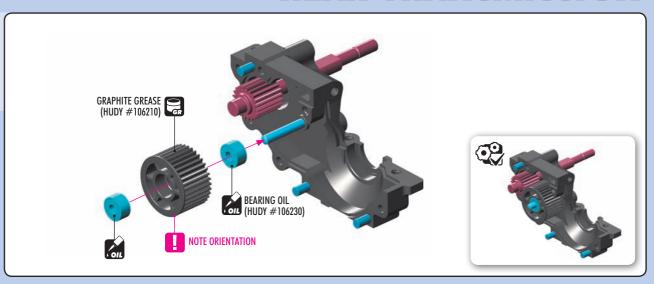






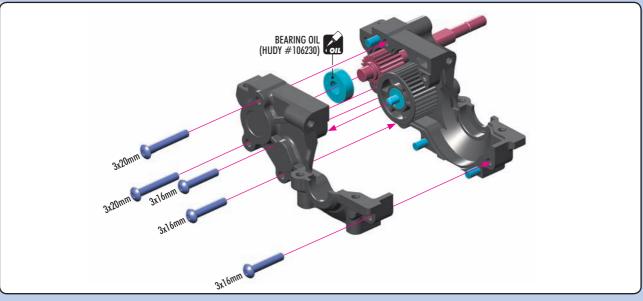
# REAR TRANSMISSION



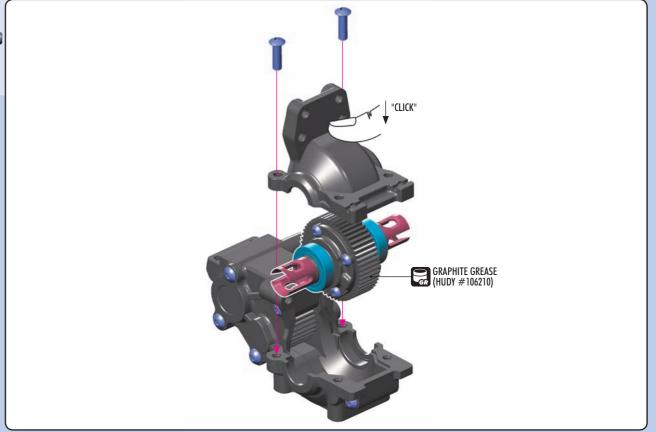






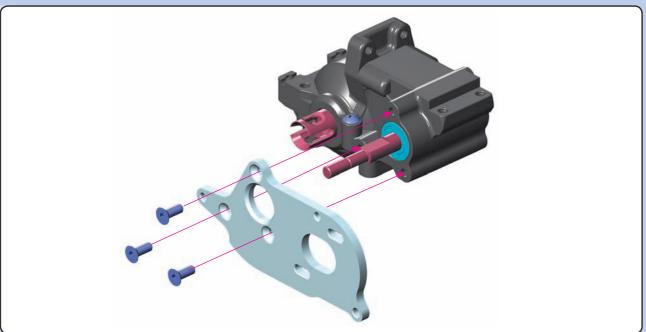


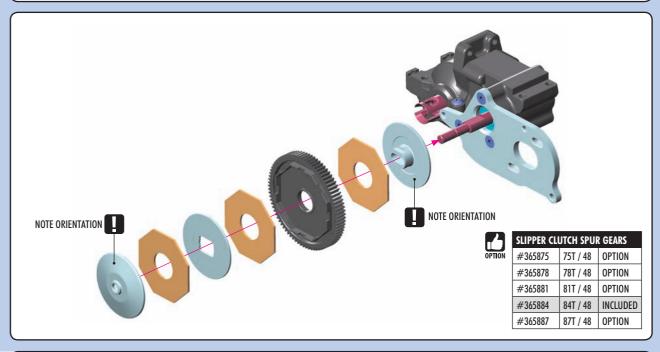




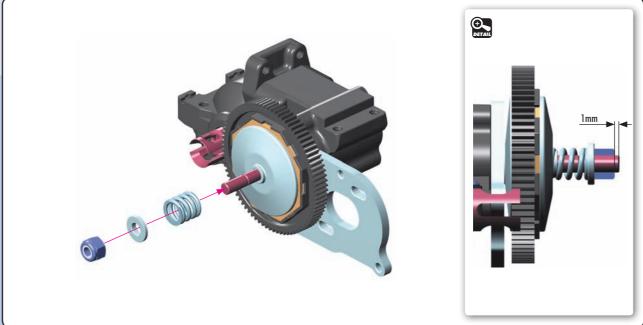
# REAR TRANSMISSION



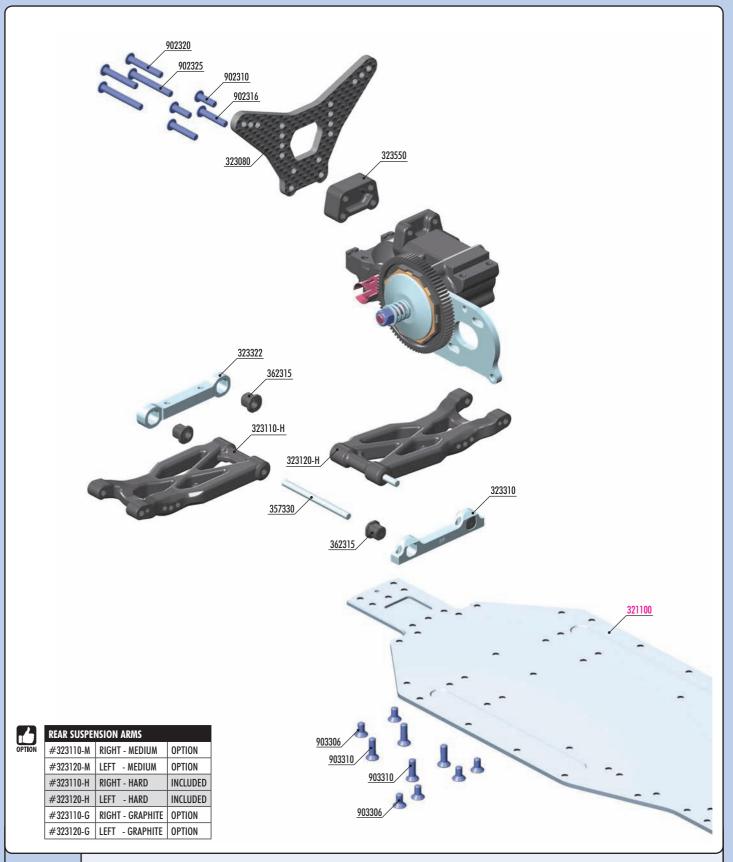








### 3. REAR SUSPENSION

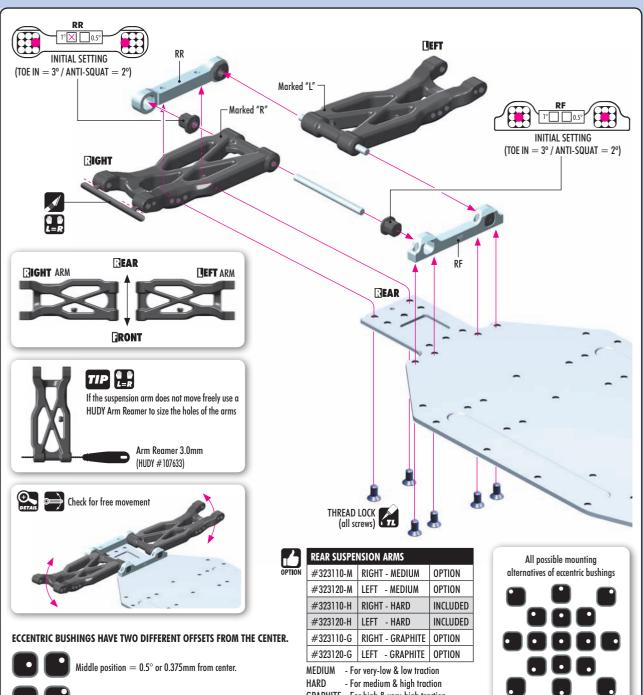




32 3080	GRAPHITE SHOCK TOWER REAR 3.5MM	36 2315	ECCENTRIC BUSHING SET (2)
32 3110-M	COMPOSITE SUSPENSION ARM REAR LOWER RIGHT - MEDIUM (OPTION)		• •
32 3110-H	COMPOSITE SUSPENSION ARM REAR LOWER RIGHT - HARD	90 2310	HEX SCREW SH M3x10 (10)
32 3110-G	COMPOSITE SUSP. ARM REAR LOWER RIGHT - GRAPHITE (OPTION)	90 2316	HEX SCREW SH M3x16 (10)
32 3120-M	COMPOSITE SUSPENSION ARM REAR LOWER LEFT - MEDIUM (OPTION)	90 2320	HEX SCREW SH M3x20 (10)
32 3120-H	COMPOSITE SUSPENSION ARM REAR LOWER LEFT - HARD	90 2325	HEX SCREW SH M3x25 (10)
32 3120-G	COMPOSITE SUSP. ARM REAR LOWER LEFT - GRAPHITE (OPTION)	90 3306	HEX SCREW SFH M3x6 (10)
32 3310	ALU REAR LOWER SUSP. HOLDER - FRONT - SWISS 7075 T6 (5MM)	90 3310	HEX SCREW SFH M3x10 (10)
32 3322	ALU REAR LOWER SUSP. HOLDER - REAR - SWISS 7075 T6 (5MM)		
32 3550	COMPOSITE REAR SHOCK TOWER ADJUSTING SHIM	32 1100	ALU CHASSIS - SWISS 7075 T6 (2MM)
35 7330	REAR LOWER OUTER PIVOT PIN (2)		

#### REAR SUSPENSION





ANTI-SQUAT ROLL CENTER

Outer position  $=1^{\circ}$  or 0.75mm from center.

GRAPHITE - For high & very-high traction

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).

	RR	ANTI-SQUAT	RF (°)
0	NN.	0 0	• = 2°
0	- 10	0 0	=3°
0	No.	0 0	=1°
0=	No.		=3°
0	- 140	0.	<b>.</b> =2°
0=	No.		<b>-</b> 4°
0	- No.	0	• =1°
0	- 40	0 0	
0=	No.	0.	=0°

	RR	RF	(mm)
0	<u> </u>	0 0	=+0.75 <sub>mm</sub>
0	•	0 0	=0 <sub>mm</sub>
			=-0.75 <sub>mm</sub>

	RR	RF	(mm)
0	<u> </u>	0 0	=+1.5 <sub>mm</sub>
0	·	0 0	=0 <sub>mm</sub>
0	0	0 0	=-1.5 <sub>mm</sub>

TRACK-WIDTH

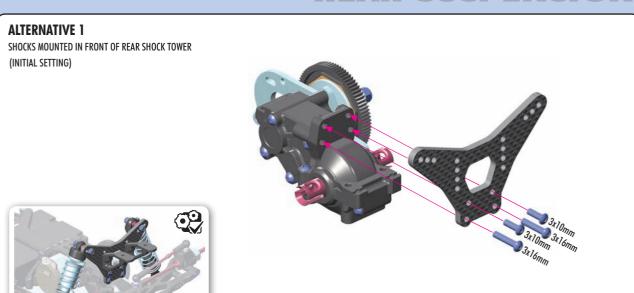
The track-width is directly influenced by the size of the wheels and tires used.

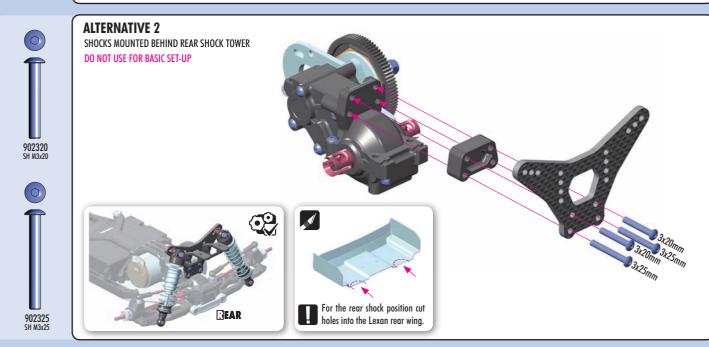
The tables describe the amounts of adjustment using the center and outside positions of the eccentric bushings. The middle position eccentric bushings allow for finer adjustment increments.

Example:			
O(RR) - O (RF) $= 2^{\circ}$	RR	0 0	= 2°
$0(RR) - 0.5 (RF) = 2.5^{\circ}$	RR	0 0	= 2.5°
$0(RR) - 1 (RF) = 3^{\circ}$	RR	0 0	= 3°

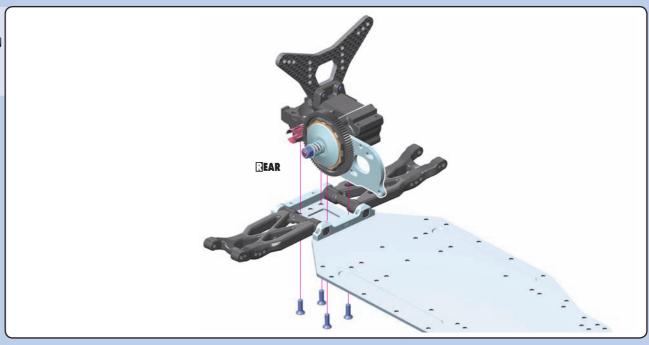
	- 10	JE-IN		
	RR		RF	(°)
0	•	0		=4°
0	•	0	0	=5°
0	•	0	-0	=3°
0	·	0	•	=3°
0	•	0	0	=4°
0	•	0		=2°
0	<u> </u>	0	-0	=5°
0	<u></u>	0	0	=6°
0	<u> </u>	0	<u> </u>	=4°







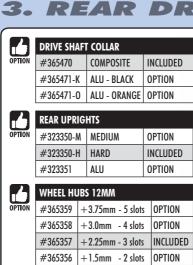
REAR



903310 SFH M3x10

### 3. REAR DRIVETRAIN

902316



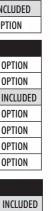


COMPOSITE

ALU

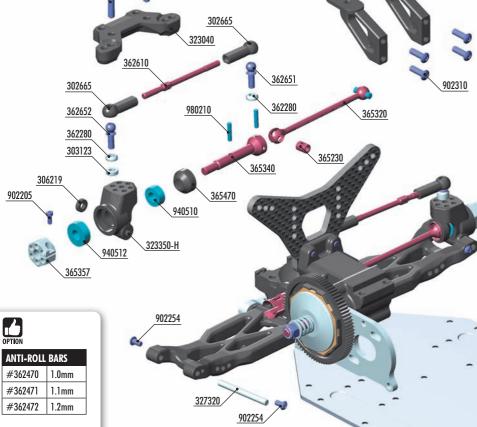
#323040

#323041



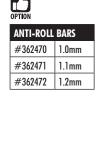
OPTION





363520

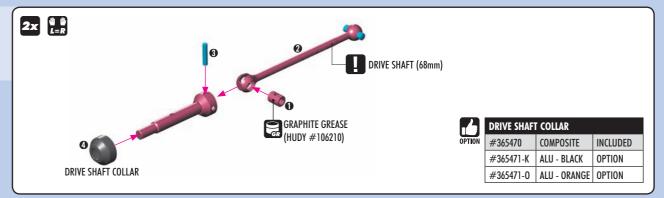




BAG 03

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 5320	REAR DRIVE SHAFT 68MM - HUDY SPRING STEEL™
30 3431-K	ALU 4.9MM BALL END - BLACK (2) (OPTION)	36 5340	REAR DRIVE AXLE - HUDY SPRING STEEL™
30 3454	BALL JOINT 4.9MM - OPEN (4) (OPTION)	36 5357	ALU WHEEL HUB 12MM - OFFSET " $+2.25$ MM" (2)
30 6219	COMPOSITE SET OF SERVO SHIMS (4)	36 5470	COMPOSITE DRIVE SHAFT SAFETY COLLAR - V2 (3)
32 3040	COMPOSITE REAR ROLL CENTER HOLDER - CARPET EDITION		
32 3041	ALU REAR ROLL CENTER HOLDER - SWISS 7075 T6 (OPTION)	90 1303	HEX SCREW SB M3x3 (10) (OPTION)
32 3350-M	COMPOSITE UPRIGHT REAR - MEDIUM (OPTION)	90 1306	HEX SCREW SB M3x6 (10) (OPTION)
32 3350-H	COMPOSITE UPRIGHT REAR - HARD	90 1308	HEX SCREW SB M3x8 (10) (OPTION)
32 3351	ALU REAR UPRIGHT - SWISS 7075 T6 (OPTION)	90 2205	HEX SCREW SH M2x5 (10)
32 7320	REAR ARM PIVOT PIN (2)	90 2254	HEX SCREW SH M2.5x4 (10)
36 2280	ALU CONICAL SHIM 3x6x2.0MM (10)	90 2310	HEX SCREW SH M3x10 (10)
36 2470	ANTI-ROLL BAR 1.0 MM (OPTION)	90 2316	HEX SCREW SH M3x16 (10)
36 2471	ANTI-ROLL BAR 1.1 MM (OPTION)	94 0510	HIGH-SPEED BALL-BEARING 5x10x4 RUBBER SEALED (2)
36 2472	ANTI-ROLL BAR 1.2 MM (OPTION)	94 0512	HIGH-SPEED BALL-BEARING 5x12x4 RUBBER SEALED (2)
36 2610	ADJUSTABLE TURNBUCKLE 50MM M3 L/R - HUDY SPRING STEEL™ (2)	98 0210	PIN 2x9.8 (10)
36 2651	BALL END 4.9MM WITH THREAD 8MM (2)		
36 2652	BALL END 4.9MM WITH THREAD 10MM (2)		
36 3520	REAR WING POST - V2 (2)		





# REAR DRIVETRAIN

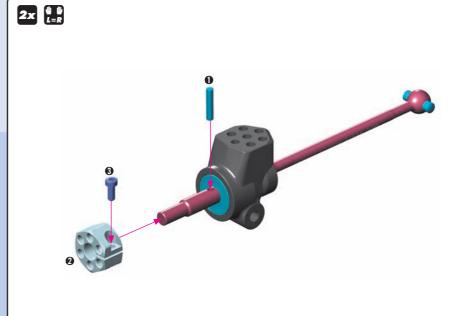


940512 BB 5x12x4











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

#### LESS OFFSET

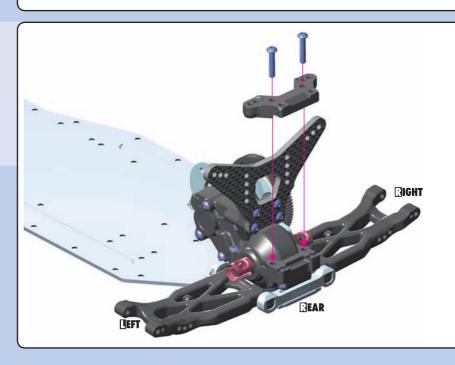
Rear - more traction Front - more steering

#### MORE OFFSET

Rear - less traction Front - less steering

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		







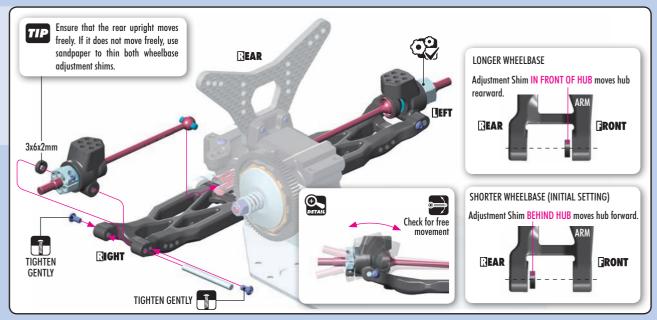
REAR ROLL CENTER HOLDER			
#323040	COMPOSITE	INCLUDED	
#323041	ALU	OPTION	

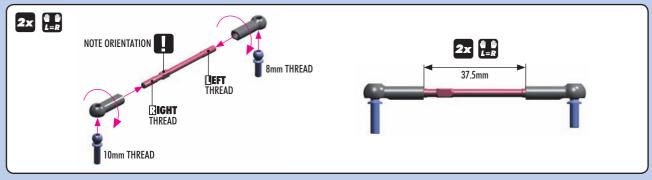
COMPOSITE - For low, medium & high traction ALU - For very-high traction

### REAR DRIVETRAIN

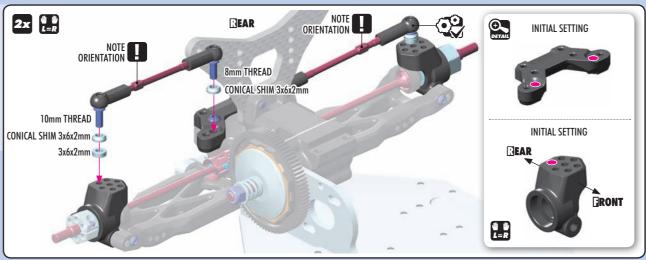




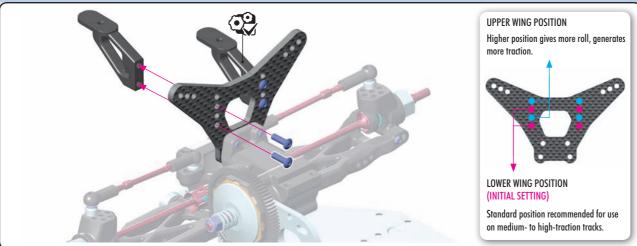




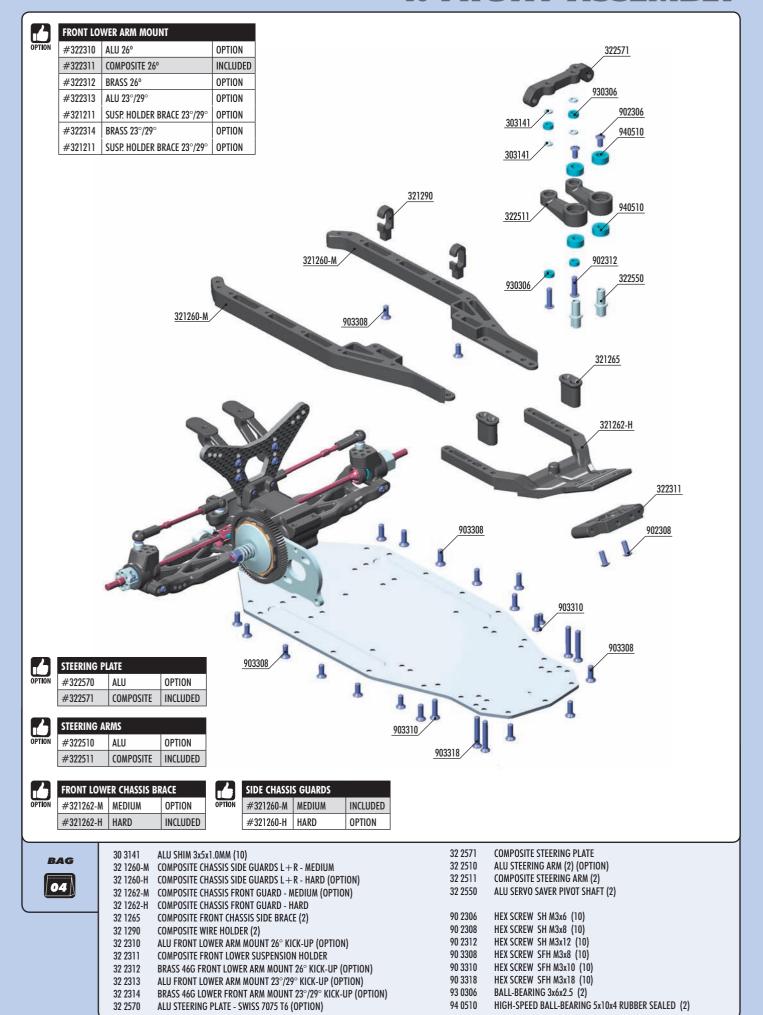






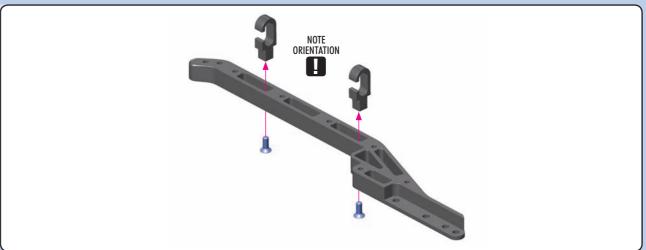


### 4. FRONT ASSEMBLY

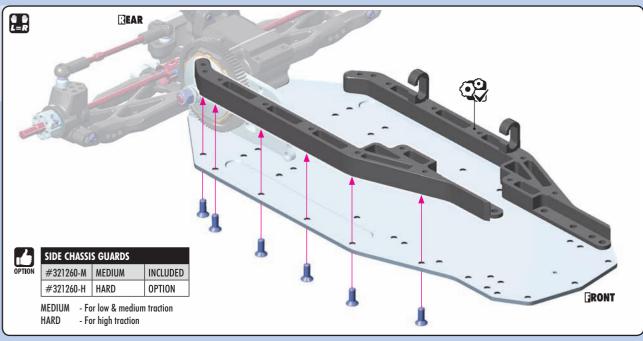


# FRONT ASSEMBLY

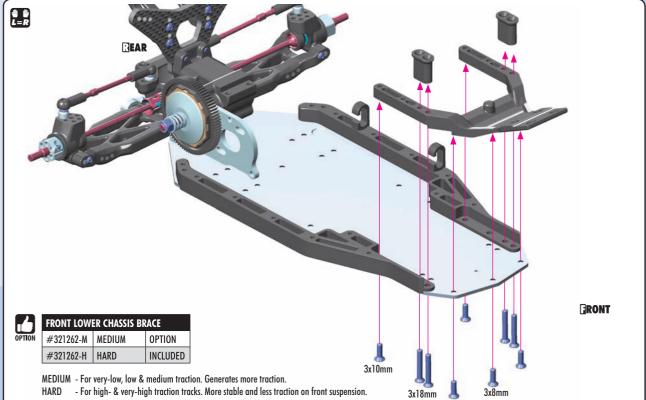










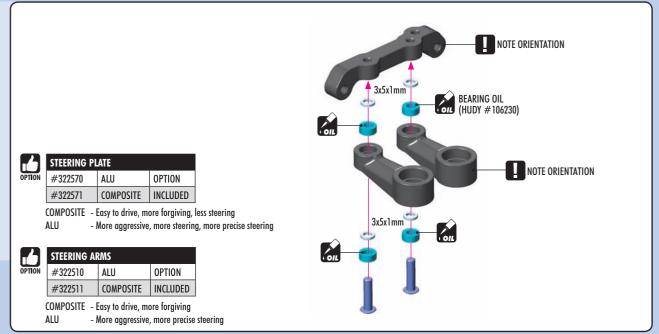






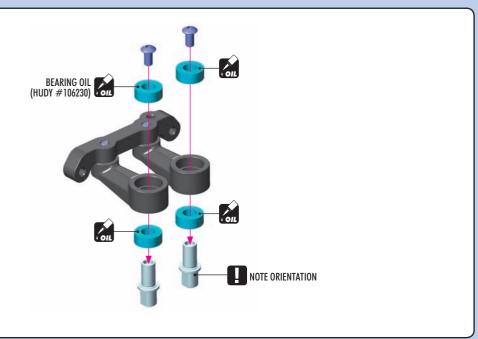
902312 SH M3x12



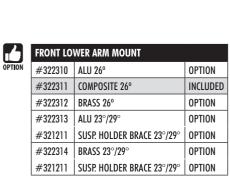






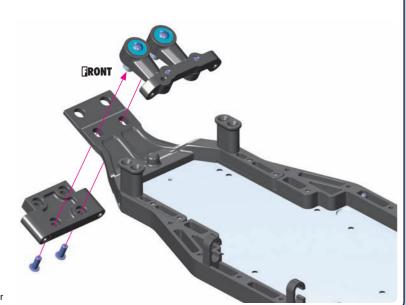




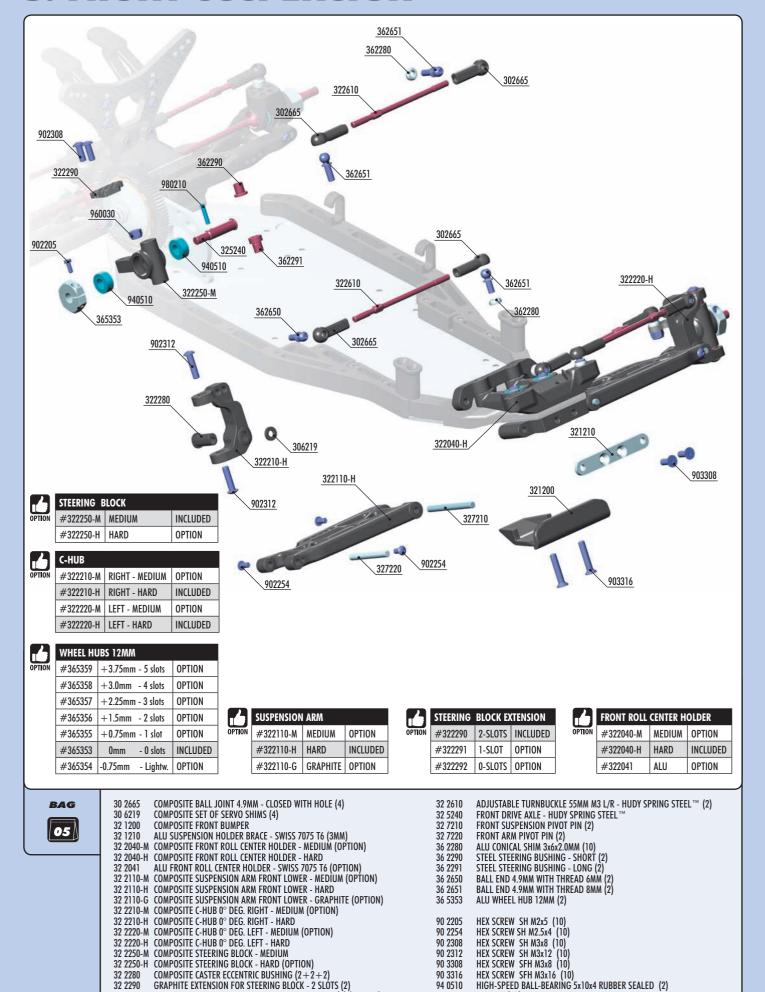


COMPOSITE - Generates more traction in front ALU - Makes car more stable **BRASS** 

- Adds more weight in front, less weight transfer



### 5. FRONT SUSPENSION



90 2312 90 3308

90 3316 94 0510

96 0030

98 0210

NUT M3 (10)

PIN 2x9.8 (10)



HEX SCREW SFH M3x16 (10)
HIGH-SPEED BALL-BEARING 5x10x4 RUBBER SEALED (2)

32 2291

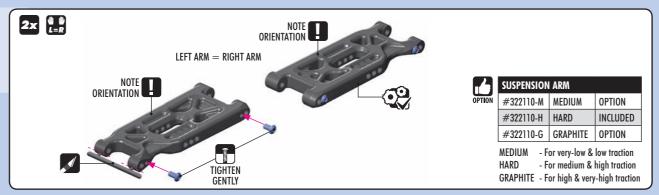
32 2292

GRAPHITE EXTENSION FOR STEERING BLOCK - 1 SLOT (2) (OPTION)

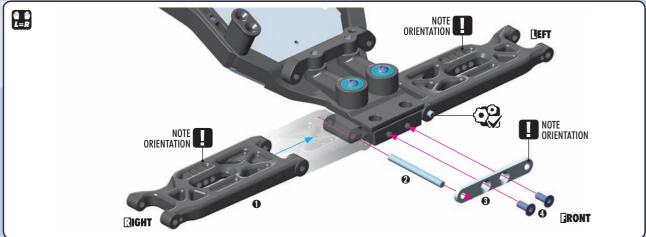
GRAPHITE EXTENSION FOR STEERING BLOCK - 0 SLOTS (2) (OPTION)

#### FRONT SUSPENSION

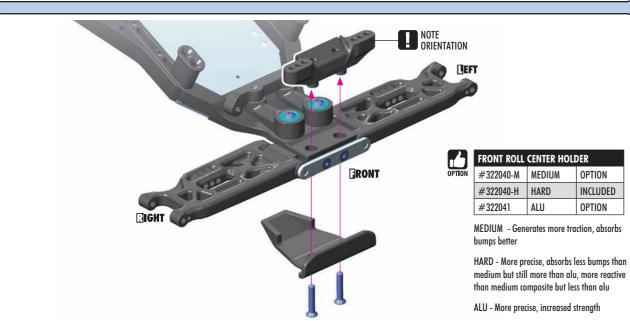




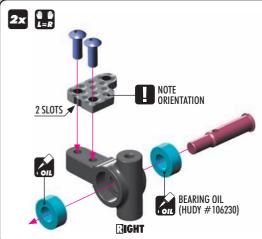














	STEERING BLOCK				
N	#322250-M	MEDIUM	INCLUDED		
	#322250-H	HARD	OPTION		

MEDIUM - More steering, more aggressive HARD - Easy to drive, less on-power steering

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

2 SLOTS - Turns outside wheels less, easier to drive, less aggressive

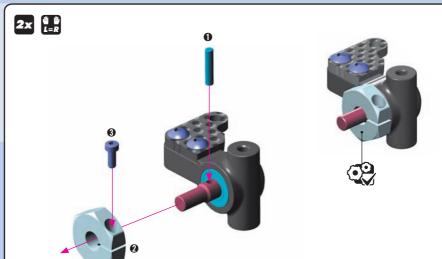
 $1\ \text{SLOT}$  - Between 2 and 0

O SLOTS - Most aggressive steering, recommended for very technical small tracks

### FRONT SUSPENSION



981210 P 2x10





#### **OPTIONAL HEX HUB EFFECTS**

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

#### LESS OFFSET

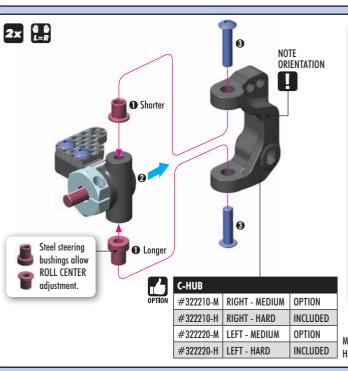
Rear - more traction Front - more steering

#### **MORE OFFSET**

Rear - less traction Front - less steering

WHEEL H	JBS 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







#### LOWER ROLL CENTER

$$\begin{split} \text{TOP} &= \text{LONGER bushing} \\ \text{BOTTOM} &= \text{SHORTER bushing} \end{split}$$

Recommended for rough tracks to improve



#### **HIGHER ROLL CENTER** (INITIAL SETTING)

TOP = SHORTER bushing BOTTOM = LONGER bushing

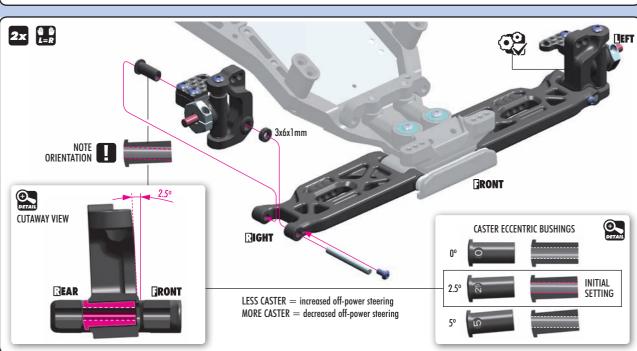
Recommended for smooth tracks to gain more steering.

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

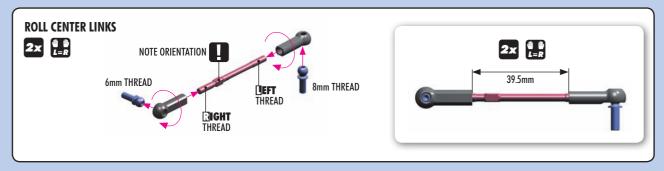
HARD - For high & very-high traction. More steering, more aggressive.



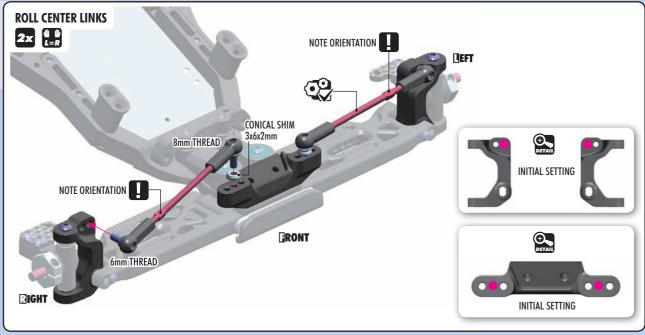
902254 SH M2.5x4

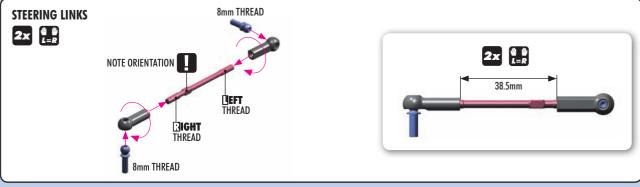


# FRONT SUSPENSION



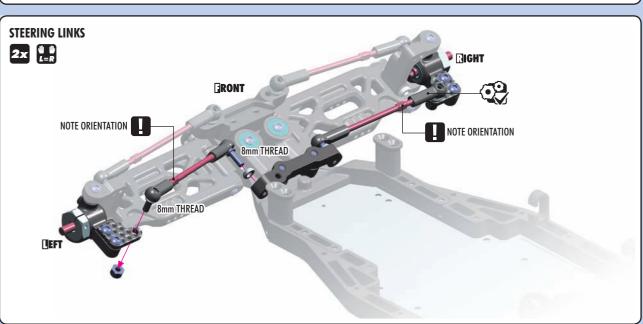




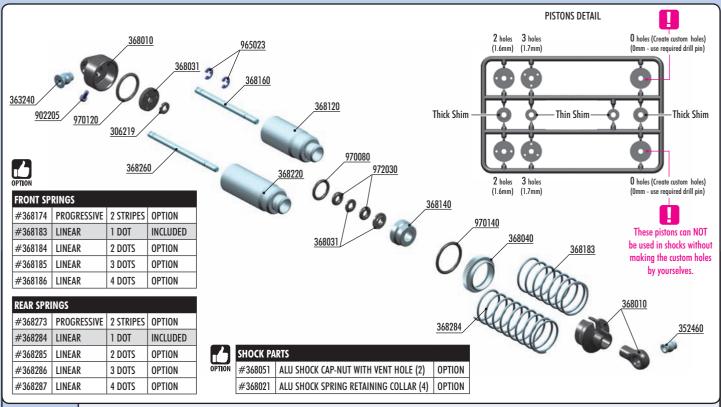








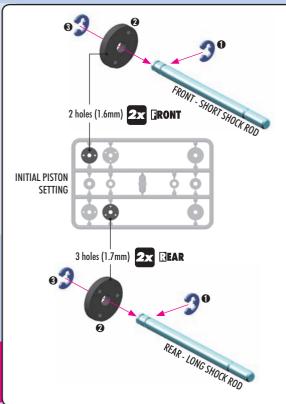
### 6. SHOCK ABSORBERS

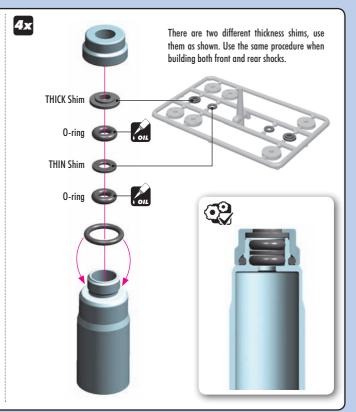


BAG 06

(   4 0013	01 HON #300021 ALO SHOCK SEKINO KLIAINI	NO COLLAK (4)   OF TIO	
30 6219	COMPOSITE SET OF SERVO SHIMS (4)	36 8200	REAR SHOCK ABSORBERS COMPLETE SET (2)
35 2460	PIVOT BALL 5.8 - V3 (10)	36 8220	ALU REAR SHOCK BODY - HARD COATED (2)
36 3240	BALL UNIVERSAL 5.8MM WITH BACKSTOP (2)	36 8260	REAR HARDENED SHOCK SHAFT (2)
36 8010	COMPOSITE SHOCK PARTS	36 8273	REAR SPRING-SET PROGRESSIVE - 2 STRIPES (2) (OPTION)
36 8031	SHOCK PISTONS - COMPLETE SET - DERLIN	36 8284	REAR SPRING-SET LINEAR - 1 DOT (2)
36 8040	ALU SHOCK ADJUSTABLE NUT (2)	36 8285	REAR SPRING-SET LINEAR - 2 DOTS (2) (OPTION)
36 8100	FRONT SHOCK ABSORBERS COMPLETE SET (2)	36 8286	REAR SPRING-SET LINEAR - 3 DOTS (2) (OPTION)
36 8120	ALU FRONT SHOCK BODY - HARD COATED (2)	36 8287	REAR SPRING-SET LINEAR - 4 DOTS (2) (OPTION)
36 8140	ALU LOWER SHOCK BODY CAP (2)		
36 8160	FRONT HARDENED SHOCK SHAFT (2)	90 2205	HEX SCREW SH M2x5 (10)
36 8174	FRONT SPRING-SET PROGRESSIVE - 2 STRIPES (2) (OPTION)	96 5023	E-CLIP 2.3 (10)
36 8183	FRONT SPRING-SET LINEAR - 1 DOT (2)	97 0080	0-RING 8x1 (10)
36 8184	FRONT SPRING-SET LINEAR - 2 DOTS (2) (OPTION)	97 0120	O-RING 12 x 1.0 (10)
36 8185	FRONT SPRING-SET LINEAR - 3 DOTS (2) (OPTION)	97 0140	0-RING 14 x 1.5 (10)
36 8186	FRONT SPRING-SET - 4 DOTS (2) (OPTION)	97 2030	SILICONE O-RING 3x2 (10)

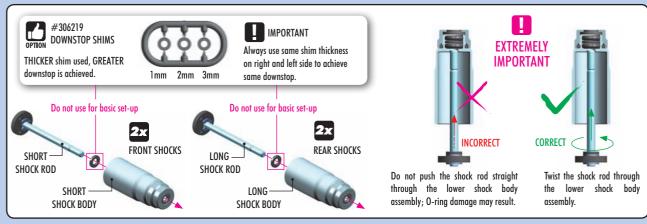






SET-UP BOOK SHOCK DAMPING SHOCK PISTONS

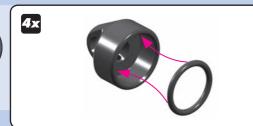
### SHOCK ABSORBERS





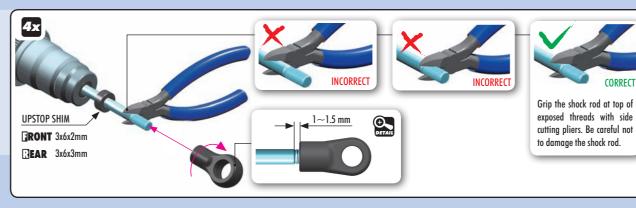




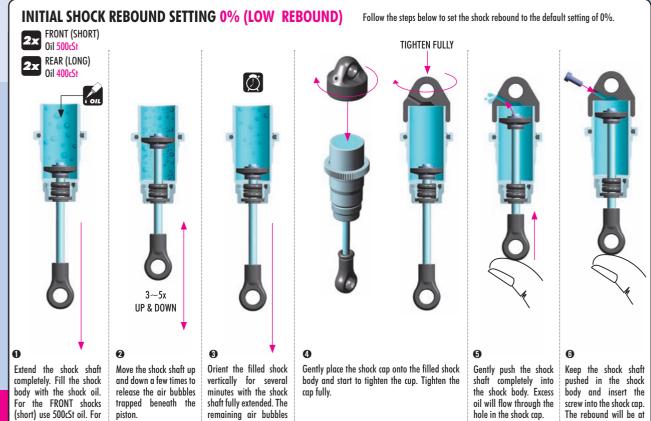












**SHOCK OIL** 

use 400cSt oil.

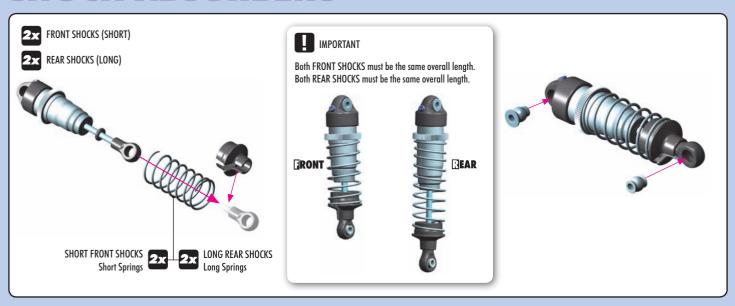
the REAR shocks (long)

piston.

will release.

approximately 0%

#### SHOCK ABSORBERS



### 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)



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



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



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



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



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



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)



Extend the shock shaft completely and remove the shock cap.



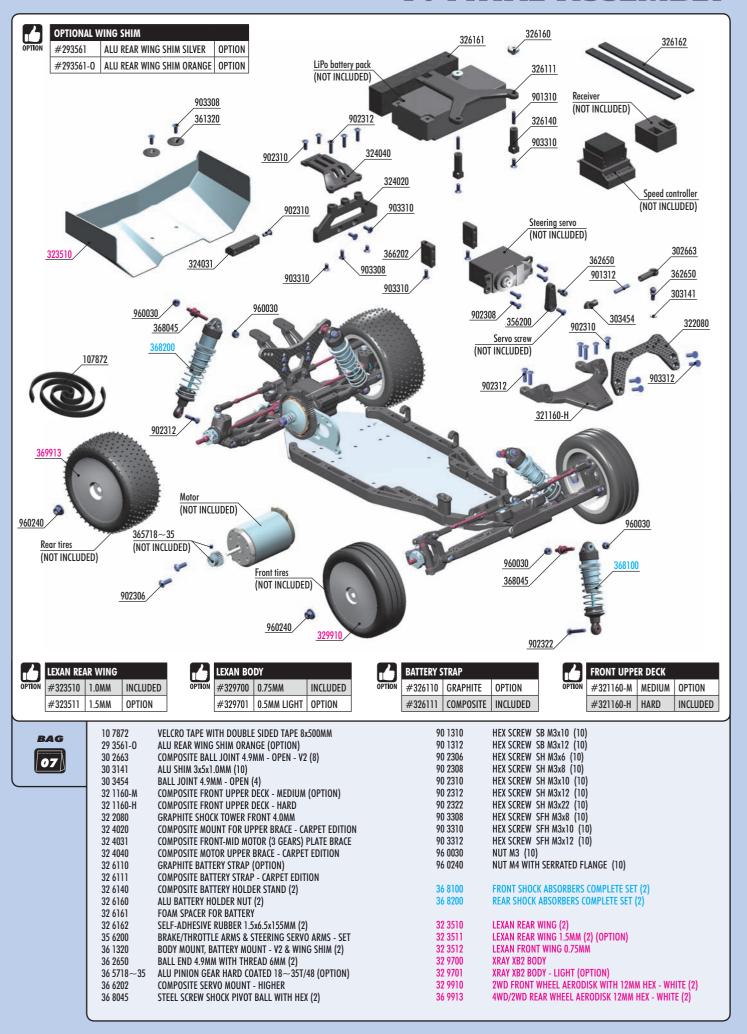
Fill the shock body with shock oil up to the top. Make sure to use same viscosity shock oil as is in the shock.



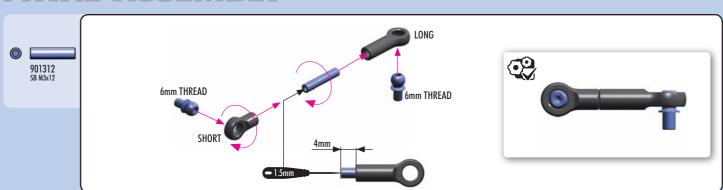
Orient the filled shock vertically for several minutes with the shock shaft fully extended. The remaining air bubbles will release.



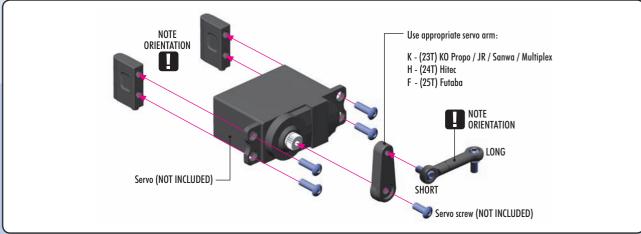
Gently place the shock cap assembly onto the filled shock body. Keep the shock shaft extended 100% from the shock body and tighten the shock cap completely. The rebound will be at approximately 100%.



XIB2C'17

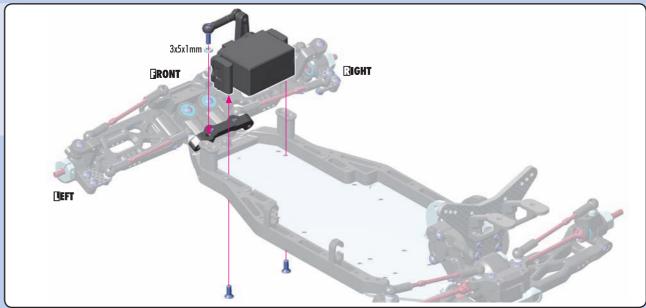




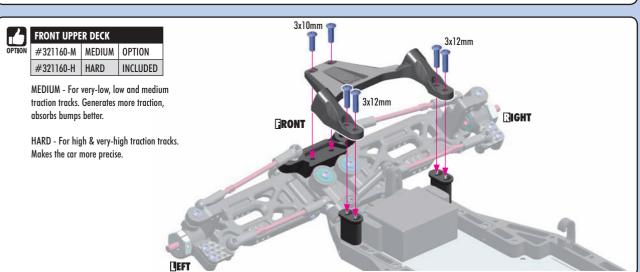




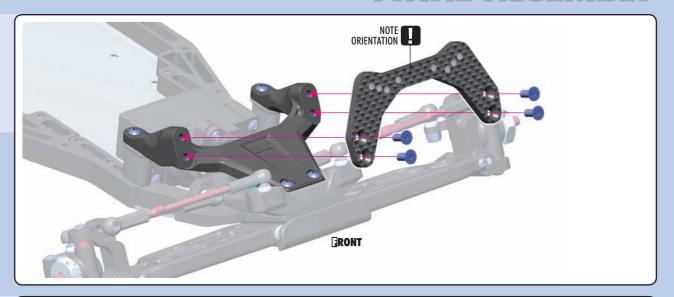






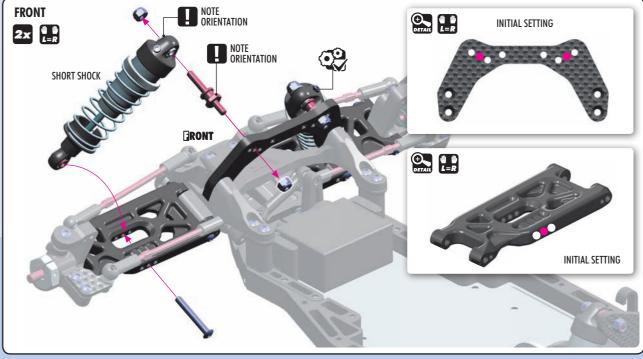






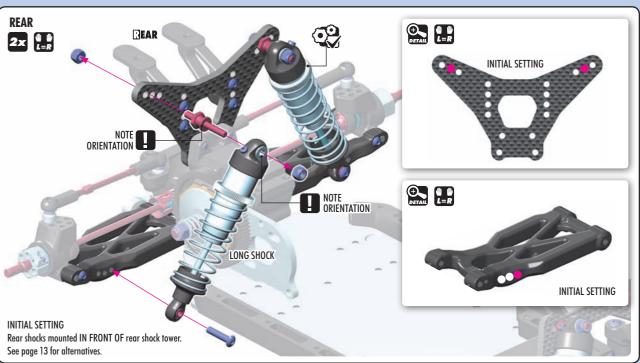




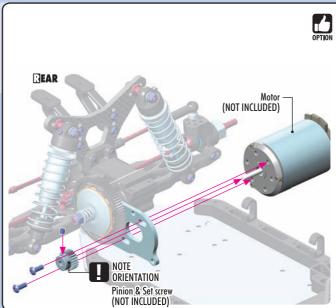












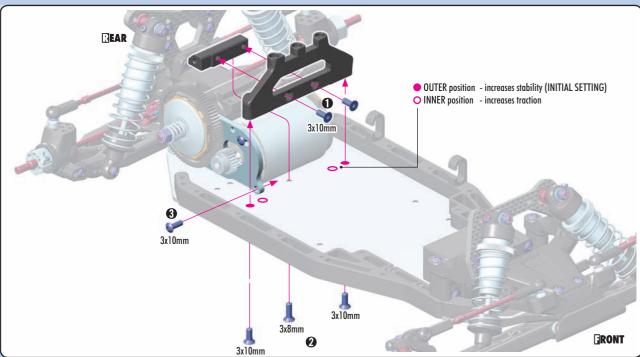
XRAY PINI	ONS
#365718	18T / 48P
#365719	19T / 48P
#365720	20T / 48P
#365721	21T / 48P
#365722	22T / 48P
#365723	23T / 48P
#365724	24T / 48
#365725	25T / 48
#365726	26T / 48
#365727	27T / 48
#365728	28T / 48
#365729	29T / 48
#365730	30T / 48
#365731	31T / 48
#365732	32T / 48
#365733	33T / 48
#365734	34T / 48
#365735	35T / 48



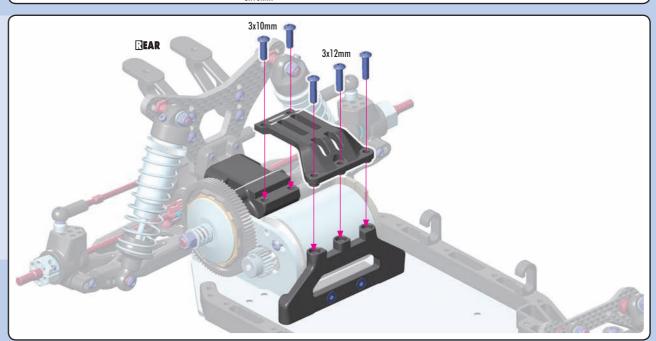
Adjust the motor so the pinion meshes with the spur gear properly. Make sure the gear mesh is not too tight.

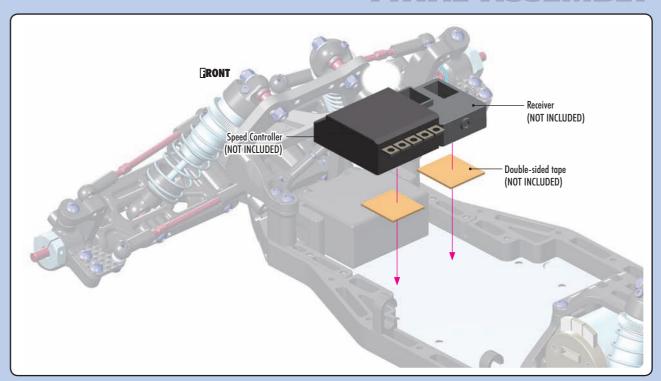
There should be a small amount of play between the teeth of the pinion gear and the spur gear.



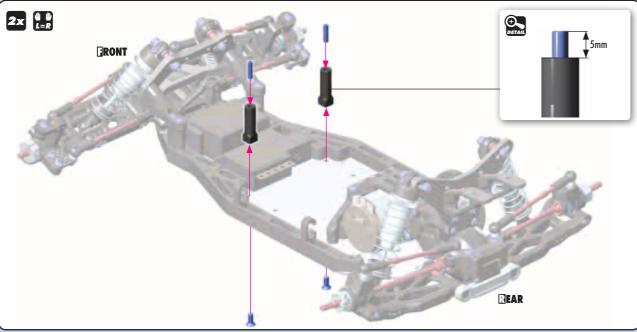


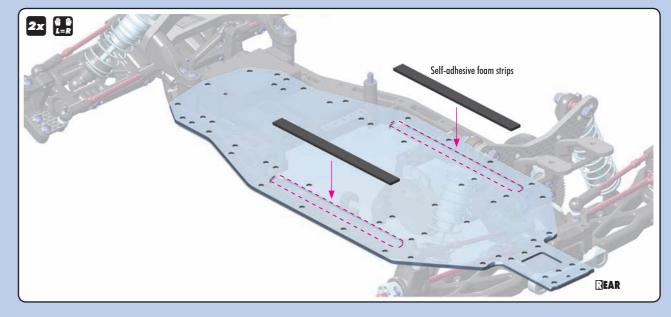


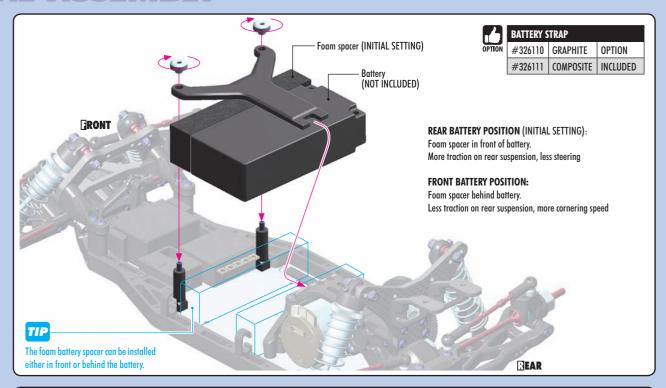






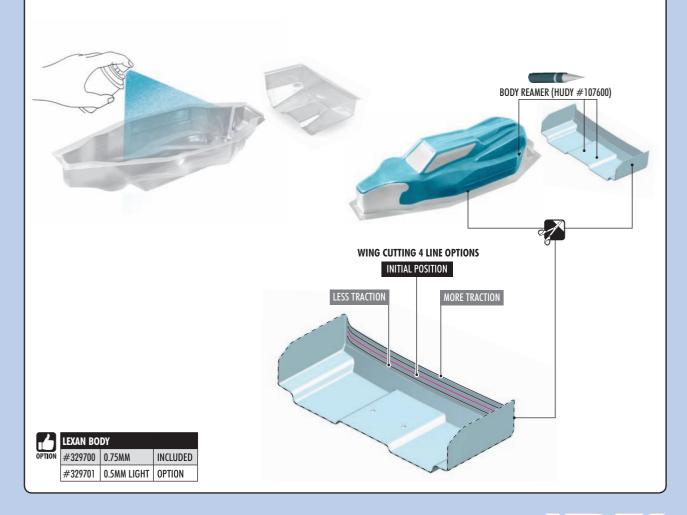


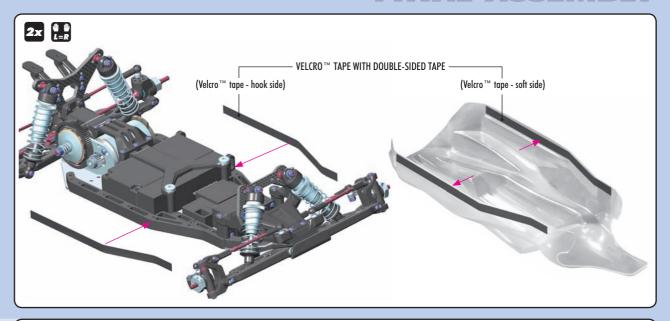




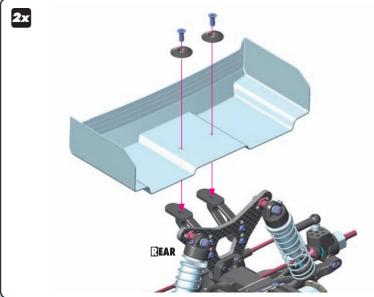
- Before cutting and making holes on the BODY, put the unpainted body on the chassis to confirm the mounting position and location for holes and cutouts. Before cutting and making holes on the WING, put the unpainted wing on the wing holders to confirm the mounting position and location for holes and 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.
- **6** When the paint is dry, remove the masking.
- Carefully cut out the body using appropriate scissors or cutting tools.
- 13 When you have finished cutting, peel off the external protective films.







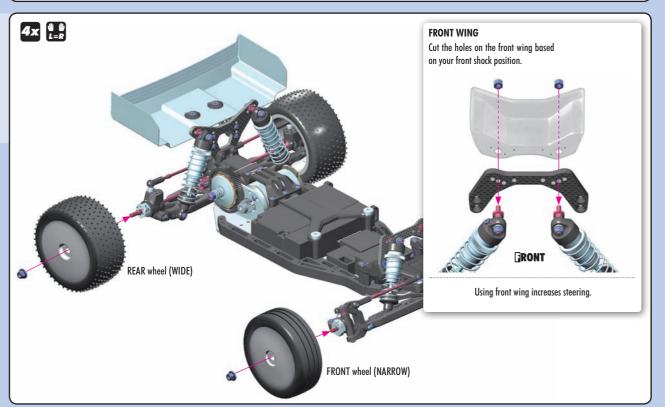


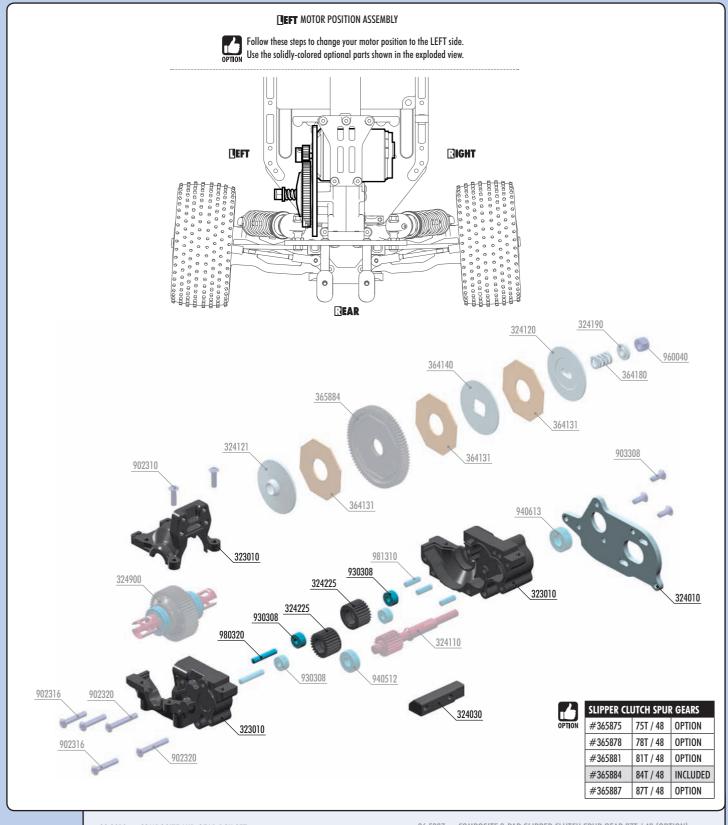




1.0mm THICK - More aggressive 1.5mm THICK - More stable, less aggressive

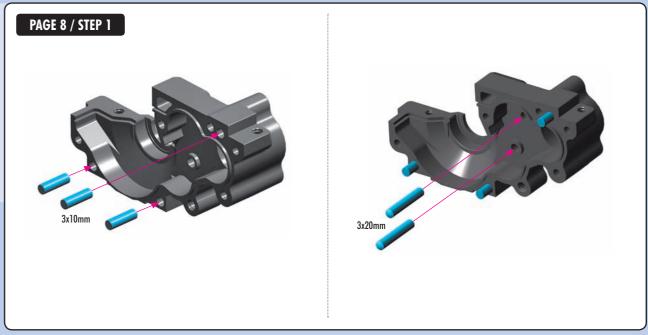




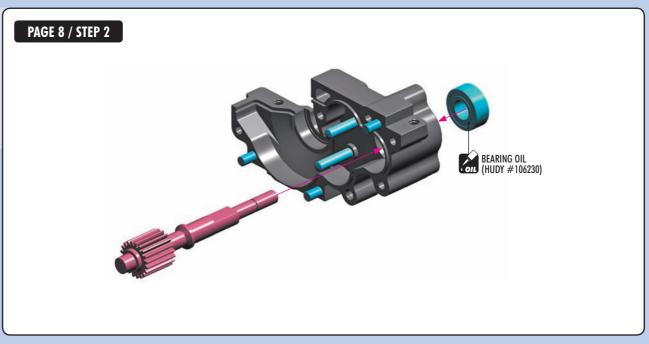


32 3010	COMPOSITE MID GEAR BOX SET	36 5887	COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 87T / 48 (OPTION)
32 4010	ALU MID MOTOR PLATE - SWISS 7075 T6 (3MM)	90 2310	HEX SCREW SH M3x10 (10)
32 4030	COMPOSITE MOTOR PLATE BRACE	90 2316	HEX SCREW SH M3x16 (10)
32 4110	ALU TOP SHAFT 20T - SWISS 7075 T6 - HARD COATED	90 2320	HEX SCREW SH M3x20 (10)
32 4120	ALU 3-PAD SLIPPER CLUTCH PLATE - SWISS 7075 T6	90 3308	HEX SCREW SFH M3x8 (10)
32 4121	ALU 3-PAD SLIPPER CLUTCH PLATE WITH ADAPTER	93 0308	BALL-BEARING 3x8x4 (2)
32 4190	ALU 3-PAD SLIPPER CLUTCH SHIM	94 0512	HIGH-SPEED BALL-BEARING 5x12x4 RUBBER SEALED (2)
32 4225	COMPOSITE GEAR 25T - GRAPHITE	94 0613	HIGH-SPEED BALL-BEARING 6x13x5 RUBBER SEALED (2)
36 4131	SLIPPER CLUTCH PAD "SLS" - V2 (2)	96 0040	NUT M4 (10)
36 4140	ALU 3-PAD SLIPPER CLUTCH PLATE DISC - 7075 T6	98 0320	PIN 3x20 (10)
36 4180	SLIPPER CLUTCH SPRING C=30 - BLACK	98 1310	PIN 3x10 (10)
36 5875	COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 75T / 48 (OPTION)		
36 5878	COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 78T / 48 (OPTION)	32 4900	GEAR DIFFERENTIAL - SET
36 5881	COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 81T / 48 (OPTION)		
	COMPOSITE 3-PAD SLIPPER CLUTCH SPUR GEAR 84T / 48		

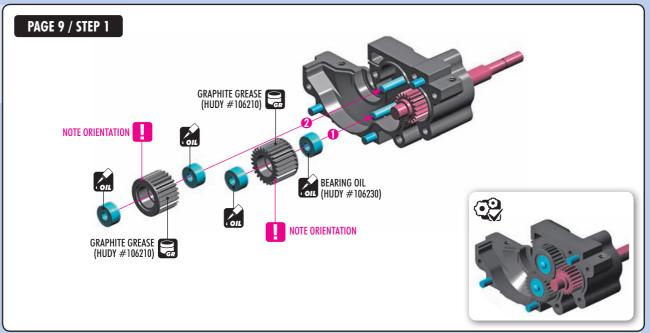






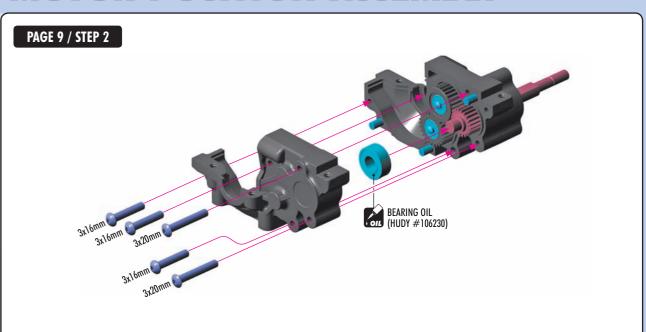




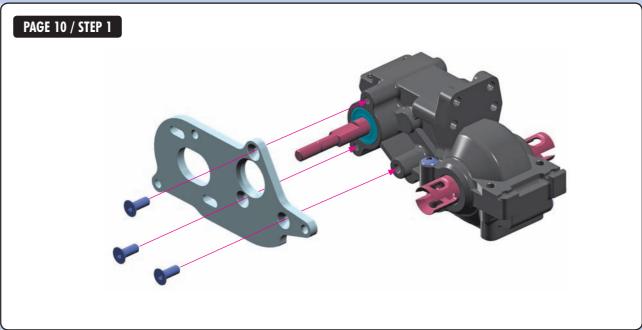


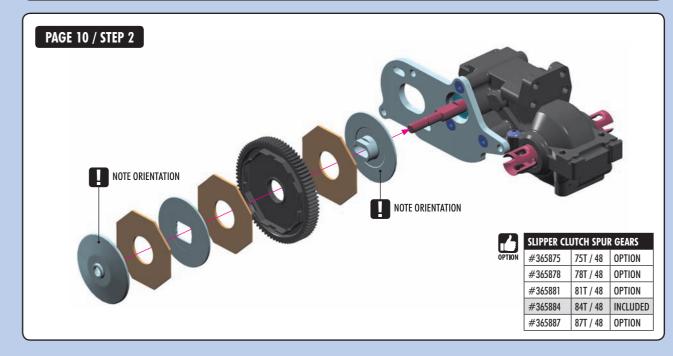




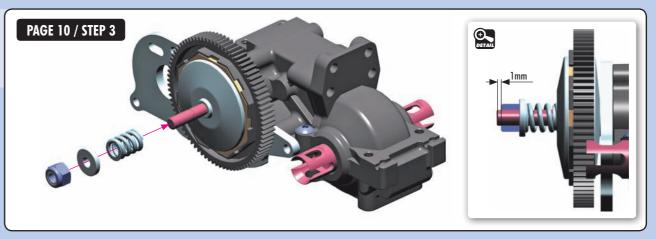




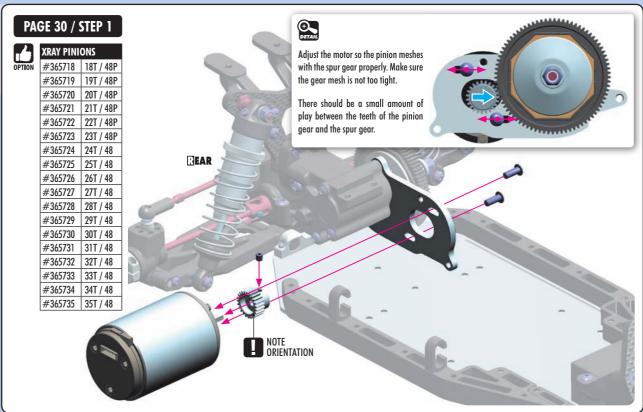




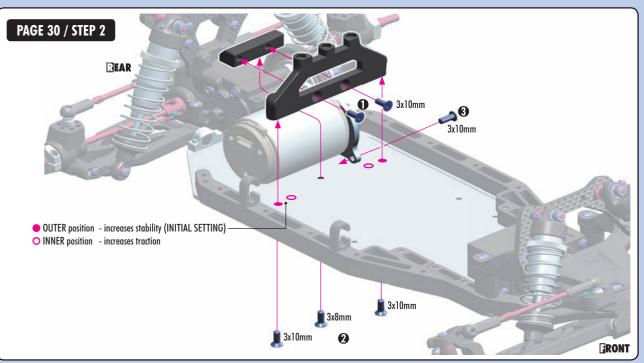














#### **SHOCK MAINTENANCE**

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. 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.

- 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.
- ② Spray the seals with motor cleaner and blow dry with compressed air.
- 3 Spray the bearing on both sides with motor cleaner.
- 4 Spin the bearing while it is still wet to dislodge any particles with the cleaner.
- Spray the bearing on both sides again.

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.

- Blow both sides of the bearing dry with compressed air to make sure particles come out.
- 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.
- 3 Place one drop of bearing oil into each side of the bearing.
- 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.

#### **RECOMMENDED PRODUCTS**

• Use #106230 HUDY Bearing Oil to lubricate the bearings.

HUDY #106230

#### **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 check the drive shaft pins and if they show any wear must be immediately replaced
  by new pins. If the car is run with worn pins, excessive wear on the diff outdrives will result. The
  #106000 HUDY Drive Pin Replacement Tool (for 3mm Pins) is a compact, rugged multi-use tool
  set for replacing 3mm drive pins in drive shafts. Use the HUDY replacement drive shaft pins 3x12
  (#106051).
- 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.



#### **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.

SET-UP SHEET XXAY XB APPLIED 🔘 **≭** APPLIED RACE STEERING BLOCK LONGER BUSHINGS DRIVE SHAFT TRACK MEDIUM UP UPPER SHOCK POSITION  $\sf CVD$ NAME DATE HARD DOWN REAR UPRIGHT LAPS **BEST LAP TIME** SHIM SHIM SHIM CAMBER LINK LOCATION **QUALIFYING POSITION FINAL POSITION** CASTER BLOCK MFDIUM SIZE OPEN MEDIUM TIGHT MEDIUM HIGH HARD ALU TRACTION TLOW MEDIUM 00 SURFACE SMOOTH MEDIUM BUMPY LOWER SHOCK POSITION LOWER SHOCK POSITION TYPE CLAY CARPET ASTRO CONDITION BLUE GROOVE HARD PACKED DRY CASTER BUSHINGS WING CUTTING LINE DUSTY LOAMY WET 0° 2.5° WING TYPE 1.0mm THICK 1.5mm THICK DIFFERENTIAL BALL DIFF GEAR DIFF FRONT WING SHOCK POSITION **SATELITE GEARS** COMPOSITE STEEL WING POSITION FRONT REAR SLIPPER ADJUSTMENT TO THE REPORT OF TH KICK-UP ANGLE DOWN BUMP STEER SHIM KIT 26° **PINION** SPUR GEAR BEAR **F**RONT FRONT **SHOCKS** REAR **SPRINGS ∳** OUT REAR TOE FRONT TOE REBOUND SIDE GUARD SIDE BRACE OFFSET **PISTONS** MEDIUM \_\_\_ GRAPHITE 🔲 EXTENSION WHEELBASE SHIM 2 HOLES ø1.0mm 2 HOLES 0 SLOTS HARD ø1.1mm 1 SLOT OFFSET ☐ 3 HOLES ... 3 HOLES 🔲 N FRONT OF ARM ø1.2mm WHEELBASE SHIM 2 SLOTS UPPER BRACE 0mm 🔲 🔲 1mm ø1.3mm ☐ 6 HOLES 👪 6 HOLES 🔲 ROLL CENTER KIT Ø1.4mm ROLL CENTER ROLL CENTER HOLES HOLES HOLDER **BATTERY STRAP** MEDIUM DOWNSTOP SHIM DOWNSTOP SHIM COMPOSITE X HARD GRAPHITE ALU ROLL CENTER HOLDER LENGTH LENGTH UPPER DECK COMPOSITE \_\_ SCREW MEDIUM | AHI YES NO HARD **UPSTOP SHIM UPSTOP SHIM** 0 ROLL CENTER SHIMS ECCENTRIC BUSHINGS KIT [ BALL JONT KIT RF **TRONT SHOCK TOWER** REAR STEERING PLATE STEERING ARMS GRAPHITE [ COMPOSITE GRAPHITE COMPOSITE COMPOSITE **BUMP STEER SHIM** COMPOSITE RR ALU ALU **REAR ANTI ROLL BAR** THICKNESS YES NO REAR CAMBER FRONT CAMBER TIRES FRONT REAR TYPE INSERTS FRONT ARM REAR ARM WHEELS MEDIUM MEDIUM **ELECTRONICS** HARD HARD GRAPHITE RIDE HEIGHT GRAPHITE MOTOR RIDE HEIGHT RIDE HEIGHT **SPEEDO** RONT REAR BATTERIES **ELECTRONICS LAYOUT** CHASSIS BRACE CHASSIS MEDIUM **MOTOR POSITION** FRONT MIDDLE REAR 0 ALU HARD LEFT RIGHT SERVO WEIGHT BALANCE BALANCE **BATTERY POSITION** FRONT MIDDLE REAR STANDARD  $\circ$ LOW PROFILE CHASSIS FLEX 0 **BODY** ARM MOUNT SCREW USED STANDARD LIGHT OTHER COMPOSITE SCREW NOT USED İ ALU П COMMENTS BRASS 

(B2'16 SET-UP SHEET VER. 1 ©XRAY 2016

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