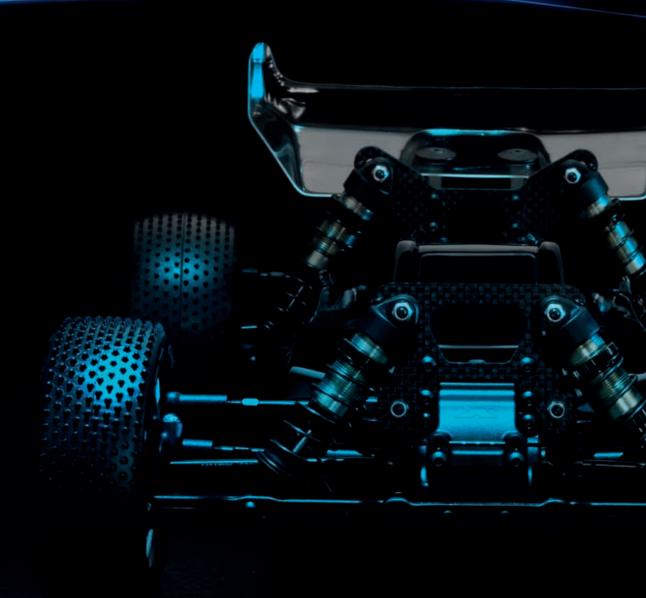
1/10 LUXURY ELECTRIC OFF-ROAD BUGGY 4WD



INSTRUCTION MANUAL
FOR XB4C'24 & XB4D'24 EDITION

BEFORE YOU START

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

Before building and operating your XRAY, <u>YOU MUST</u> read through all of the operating instructions and instruction manual and fully understand them to get the maximum enjoyment and prevent unnecessary damage.

Read carefully and fully understand the instructions before beginning assembly.

Make sure you review this entire manual, download and use set-up book from

Make sure you review this entire manual, download and use set-up book from the web, and examine all details carefully. If for some reason you decide this is not what you wanted or expected, <u>DO NOT continue any further</u>. Your hobby dealer can not accept your kit for return or exchange after it has been partially or fully assembled.

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

CUSTOMER SUPPORT

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

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

www.teamxray.com

XRAY Europe

K Vystavisku 6992 91101 Trenčín Slovakia, EUROPE Phone: 421-32-7401100

Fax: 421-32-7401109 E-mail: info@teamxray.com

XRAY USA

RC America, 2030 Century Center Blvd #15 Irving, TX 75062

USA

Phone: (214) 744-2400 Fax: (214) 744-2401 E-mail: xray@rcamerica.com

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.

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 RC 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 shortcircuit 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

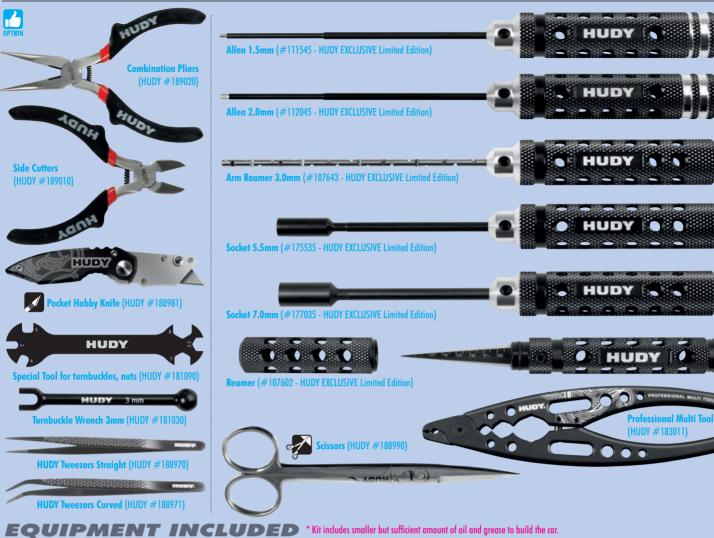
cannot guarantee any parts once you start racing the car. Products which have been worn out, abused, neglected or improperly operated will not be covered under warranty.

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.

TOOLS REQUIRED











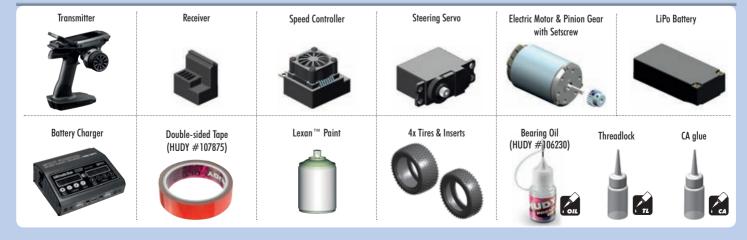




(HUDY #106210) Premium **Graphite Grease**









Follow Set-Up Book

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



SAMPLE O	OF OPTIONAL PAI		
#36XXXX	TYPE1	OPTION 1	
#36XXXX	TYPE2	OPTION 2	
#36XXXX	TYPE	INCLUDED	
#36XXXX	TYPE3	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.

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:

361113

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

361201

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

364903

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

365100

STYLE D - indicates parts that are optional.

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 together with #106036 Ejector Pivot Pin & Alternating Pivot 2.5mm.



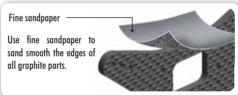
To replace the worn pins use only premium HUDY drive pins (#106053 2.5mm dia x 10mm lenath)

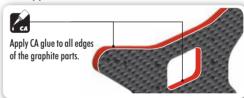
GRAPHITE PARTS PREPARATION

Follow this Tech Tip to prepare the graphite parts. Sand the edges with sandpaper, and then seal the edges with CA glue to reinforce them and help prevent delamination.

Prepare all Graphite Parts:

- Front shock tower
- Rear shock tower





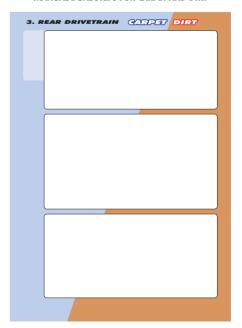
MANUAL STEPS ONLY FOR DIRT

1. BALL DIFFERENTIAL BAG

MANIJAI CTEDC ONIV EOD CADDET

	MANDAL SILI S ONLI FOR CARL LI				
1. G	EAR DIFFERENTIAL	CARPET			
BAG					

MANUAL DUAL STEPS FOR CARPET AND DIRT



1. FRONT & REAR DIFFERENTIAL





BAG 01

2x

Gear Differentials

COMPOSITE GEAR DIFF CROSS PIN 304980 304990 DIFF GASKET (4) GEAR DIFFERENTIAL - LARGE VOLUME - SET 364903 COMPOSITE GEAR DIFFERENTIAL CASE - LARGE VOLUME 364912 364920 COMPOSITE GEAR DIFFERENTIAL COVER - LARGE VOLUME STEEL DIFFERENTIAL BEVEL GEAR FOR LARGE VOLUME DIFF 40T 364940 364962 GEAR DIFF OUTDRIVE ADAPTER FOR LARGE VOLUME DIFF (2) 903258 HEX SCREW SFH M2.5x8 (10) BALL-BEARING 10x15x4 RUBBER SEALED - GREASE (2) 941014

964031 WASHER S 3.5x10x0.2 (10) 964050 WASHER S 5x15x0.3 (10) 971050 SILICONE O-RING 5x1.5 (10) 981210 PIN 2x10 (10)

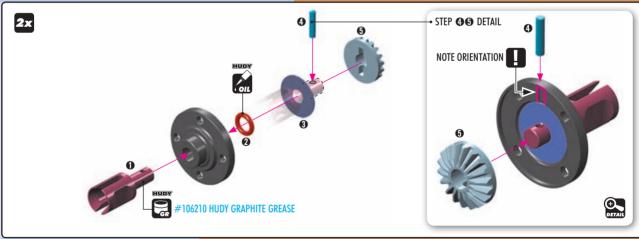
GRAPHITE GEAR DIFF BEVEL & SATELLITE GEARS (2+4) 304932

335030 STEEL DIFF BEVEL & SATELLITE GEARS (2+4)

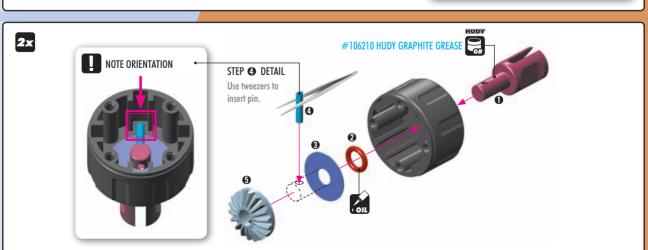




1x 981210 P 2x10







1. FRONT & REAR DIFFERENTIAL







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



OPTION

TIPS FOR DIFFERENTIALS FRONT DIFERENTIAL

 FERENTIAL
 REAR DIFERENTIAL

 7.000csr (HUDY #106470)
 LOW TRACTION
 7.000csr (HUDY #106470)

 10.000csr (HUDY #106510)
 MEDIUM-HIGH TRACTION
 10.000csr (HUDY #106515)

 15.000csr (HUDY #106515)
 SUPER-HIGH TRACTION
 15.000csr (HUDY #106515)

NOTE:

LOW TRACTION

MEDIUM-HIGH TRACTION

SUPER-HIGH TRACTION

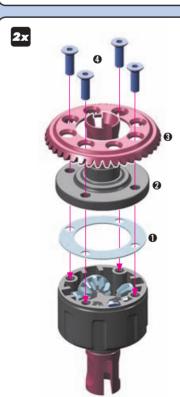
Softer oil increases steering, harder oil increases stability.

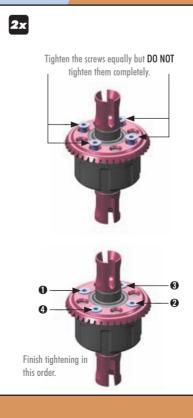
NOTE:

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











TIP

1. CENTER GEAR DIFFERENTIAL





BAG 01.3

304930 COMPOSITE GEAR DIFF BEVEL & SATELLITE GEARS (2+4)

304980 COMPOSITE GEAR DIFF CROSS PIN

304990 DIFF GASKET (4)

364904 GEAR CENTER DIFFERENTIAL - LARGE VOLUME - SET

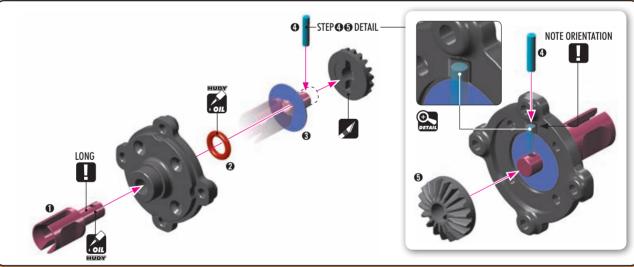
364912 COMPOSITE GEAR DIFFERENTIAL CASE - LARGE VOLUME 364913 COMPOSITE CENTER GEAR DIFF ADAPTER - LARGE VOLUME

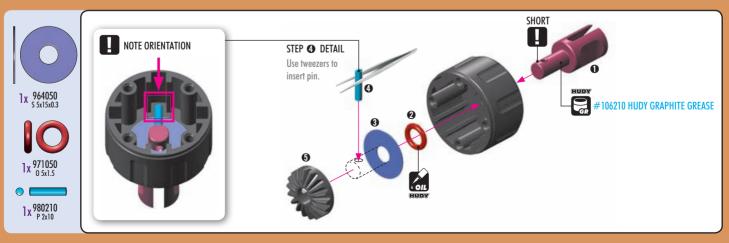
364963 CENTER GEAR DIFF OUTDRIVE ADAPTER FOR LARGE VOLUME DIFF (1+1)

364981 COMPOSITE CENTER DIFF SPUR GEAR 81T / 48

902306 HEX SCREW SH M3x6 (10) 903258 HEX SCREW SFH M2.5x8 (10) 964031 WASHER S 3.5x10x0.2 (10) 964050 WASHER S 5x15x0.3 (10) 971050 SILICONE O-RING 5x1.5 (10) 980210 PIN 2x10 (10)







1. CENTER GEAR DIFFERENTIAL







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



check the weight (approximately 11.72g)

#107865
HUDY Professional Digital Pocket Scale 300g/0.01g

#107866 HUDY Professional Digital Pocket Scale 3000g/0.1g TIP FOR CENTER DIFFERENTIAL

LOW TRACTION 50.000cSt (HUDY #106550)
MEDIUM TRACTION 100.000cSt (HUDY #106610)
HIGH TRACTION 500.000cSt (HUDY #106650)

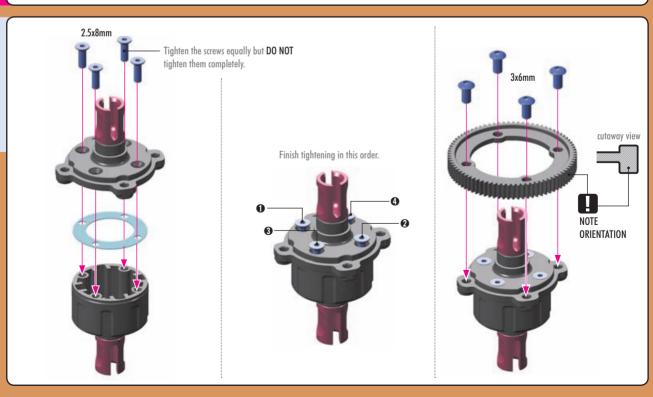
NOTE:

Softer oil increases steering, harder oil increases stability.

SET-UP BOOK DIFFERENTIAL OIL



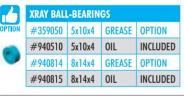




2. REAR CENTRAL TRANSMISSION







	BALL-BEA	RING HU	BS	
OPTION	#324172	1 DOT	OPTION	
	#324172	2 DOTS	OPTION	
	#324172	3 DOTS	INCLUDED	
	INLINE HU	JBS - REA	R	
OPTION	#362370	1 DOT	OPTION	1
	#362370	2 DOTS	OPTION	(0)
	#362370	3 DOTS	INCLUDED	





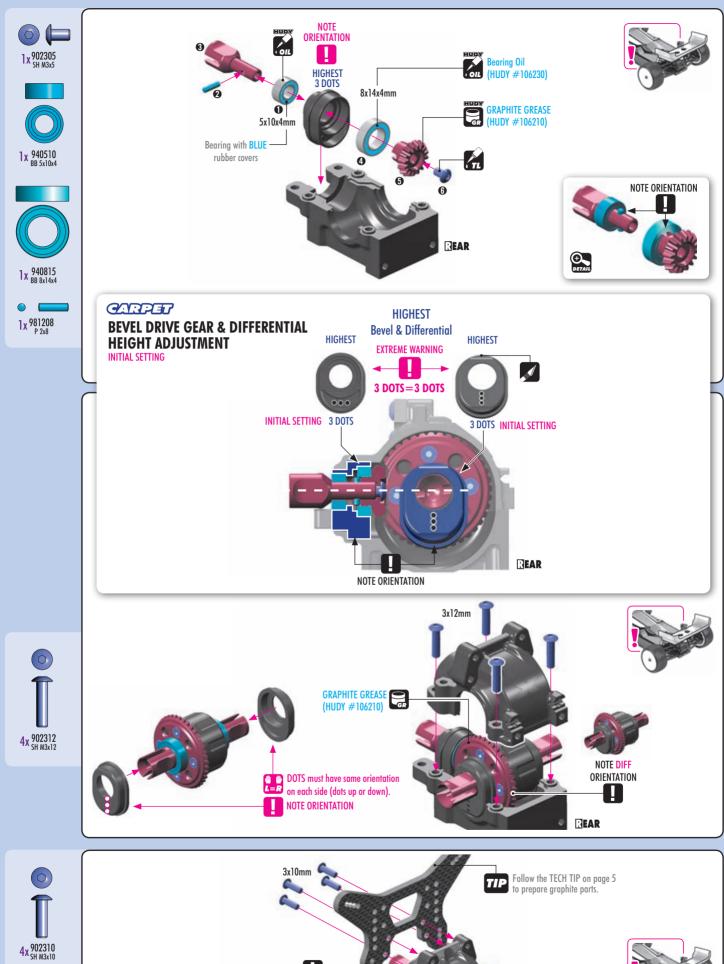
324172 COMPOSITE ADJUSTMENT BALL-BEARING HUB (2)
362006 DIFF BULKHEAD - HORIZONTAL SPLIT DESIGN (HS) - FRONT/REAR - SET
362370 INLINE HUB FOR BEVEL DRIVE GEAR - REAR HS BULKHEAD - 1+2+3 DOTS
363087 GRAPHITE SHOCK TOWER FOR HS BULKHEAD - REAR - 3.5MM - LOWER
365127 STEEL BEVEL DRIVE GEAR - FOR HS BULKHEAD - CNC-MACHINED - 16T
365444 CENTRAL DOGBONE SHAFT UNIVERSAL JOINT - HUDY SPRING STEEL™

902305 HEX SCREW SH M3x5 (10) 902310 HEX SCREW SH M3x10 (10) 902312 HEX SCREW SH M3x12 (10) 940510 BALL-BEARING 5x10x4 RUBBER SEALED - OIL (2) 940815 BALL-BEARING 8x14x4 RUBBER SEALED - OIL (2) 981208 PIN 2x8 (10)

364903 GEAR DIFFERENTIAL - LARGE VOLUME - SET

364940 STEEL DIFFERENTIAL BEVEL GEAR FOR LARGE VOLUME DIFF 40T

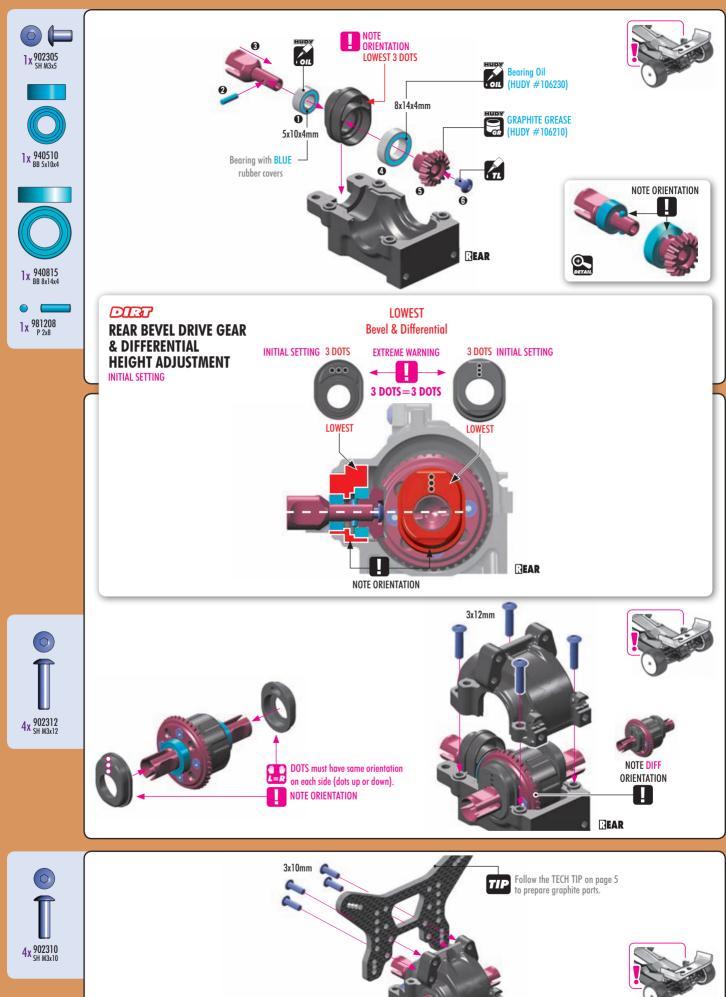




NOTE SHOCK TOWER ORIENTATION

2. REAR CENTRAL TRANSMISSION





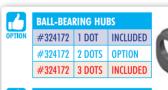
2. FRONT CENTRAL TRANSMISSION GARPET

















02.2

324172 COMPOSITE ADJUSTMENT BALL-BEARING HUB (2)

362006 DIFF BULKHEAD BLOCK SET

362088 GRAPHITE SHOCK TOWER FOR HS BULKHEAD - FRONT - 3.5MM - WIDER STEEL BEVEL DRIVE GEAR - FOR HS BULKHEAD - CNC-MACHINED - 16T 365127

365444 CENTRAL DOGBONE SHAFT UNIVERSAL JOINT - HUDY SPRING STEEL™

902305 HEX SCREW SH M3x5 (10) 902310 HEX SCREW SH M3x10 (10)

HEX SCREW SH M3x12 (10) 902312 BALL-BEARING 5x10x4 RUBBER SEALED - OIL (2) 940510 940815 BALL-BEARING 8x14x4 RUBBER SEALED - OIL (2)

981208 PIN 2x8 (10) 364903 GEAR DIFFERENTIAL - LARGE VOLUME - SET

364940 STEEL DIFFERENTIAL BEVEL GEAR FOR LARGE VOLUME DIFF 40T

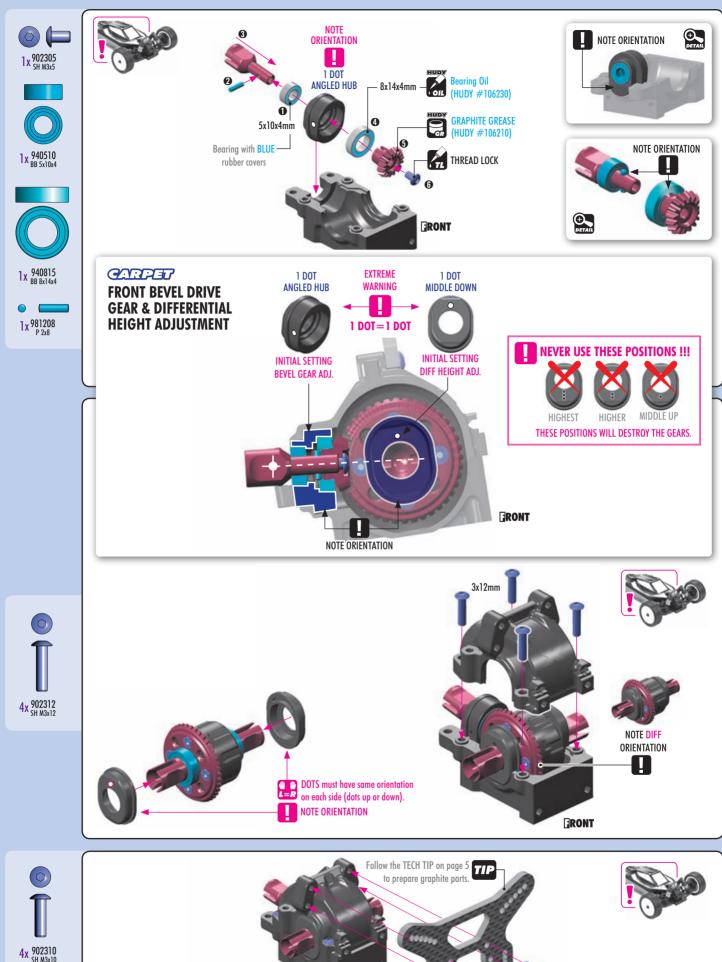
CANDER

362371 ANGLED HUB FOR BEVEL DRIVE GEAR - FRONT HS BULKHEAD - 1 DOT

ANGLED HUB FOR BEVEL DRIVE GEAR - FRONT HS BULKHEAD - 3 DOTS

2. FRONT CENTRAL TRANSMISSION



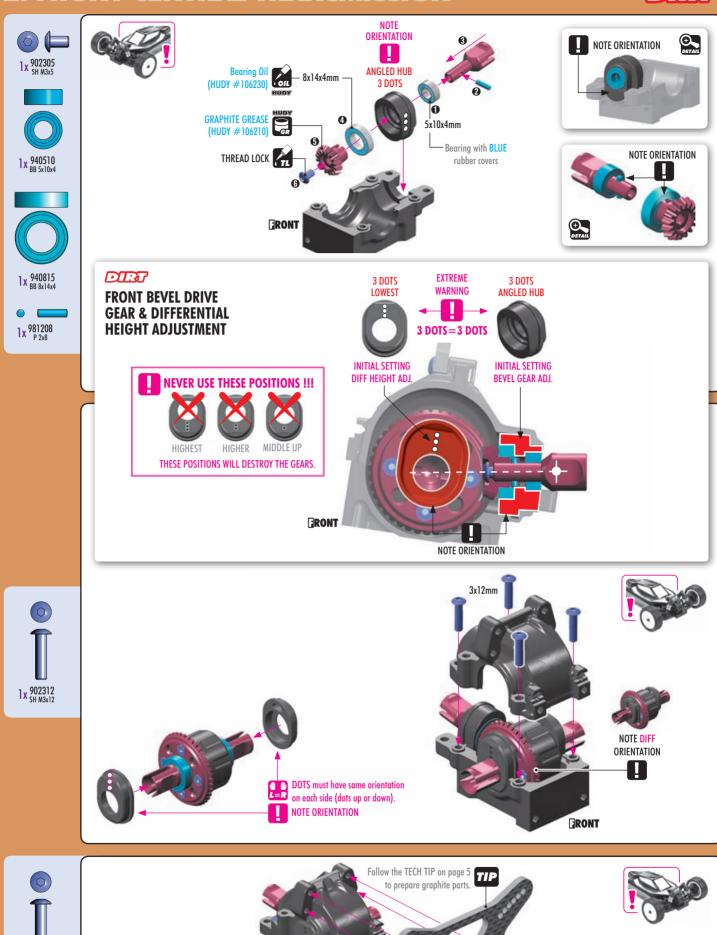


RONT

3x10mm

2. FRONT CENTRAL TRANSMISSION





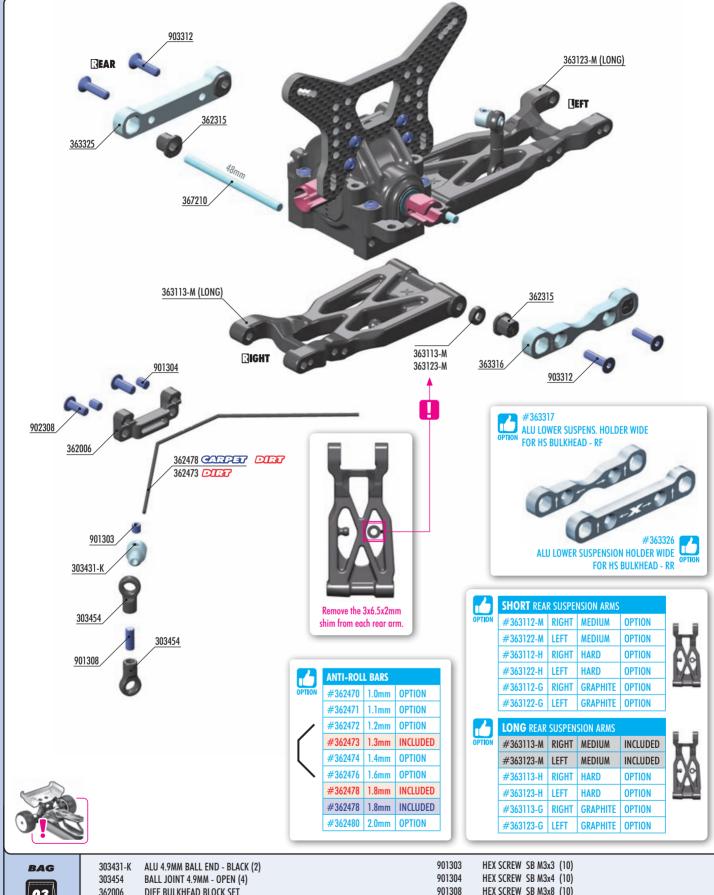
RONT

3x10mm

1x 902310 SH M3x10

3. REAR SUSPENSION







DIFF BULKHEAD BLOCK SET 362006 **ECCENTRIC BUSHING SET (2)** 362315 363113-M COMPOSITE LONG SUSPENSION ARM REAR LOWER RIGHT - MEDIUM COMPOSITE LONG SUSPENSION ARM REAR LOWER LEFT - MEDIUM 363123-M 363316 ALU SUSPENSION HOLDER FOR HS BULKHEAD - REAR-FRONT ALU SUSPENSION HOLDER 2° FOR HS BULKHEAD - REAR-REAR 363325 SUSPENSION PIVOT PIN (2) 367210

901308 HEX SCREW SB M3x8 (10) HEX SCREW SH M3x8 (10) 902308 903312 HEX SCREW SFH M3x12 (10)

362473

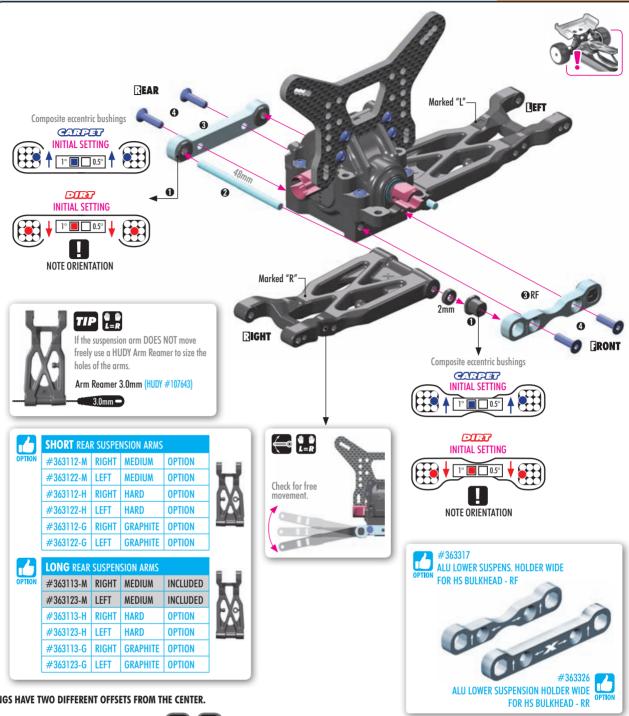
ANTI-ROLL BAR 1.3mm 362478 ANTI-ROLL BAR 1.8mm

CARPET

ANTI-ROLL BAR 1.8mm







TOE-IN **ANTI-SQUAT ROLL CENTER**

TRACK-WIDTH

ECCENTRIC BUSHINGS HAVE TWO DIFFERENT OFFSETS FROM THE CENTER.





Middle position $= 0.5^{\circ}$ or 0.375mm from center.





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

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

		I-SQUA		
0	RR •	0	RF 🕝	(°) =2°
0	•	0		=3°
0	•		-0	=1°
		0	-0	=3°
			0	=2°
		0	0	=4°
0	•	0	-0	=1°
0	•	0		=2°
0	•	0		=0°

KOLL CENTEK		
RR	RF	(mm)
0 0	0 0	=+0.75mm
•	0 0	=0 _{mm}
	0 0	=-0.75 _{mm}

IKACK-WIDIN			
RR	RF	(mm)	
· ·	0 0	=+1.5mm	
0 0	0 0	$=0_{mm}$	
0 0	0 0	=-1.5 _{mm}	

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.

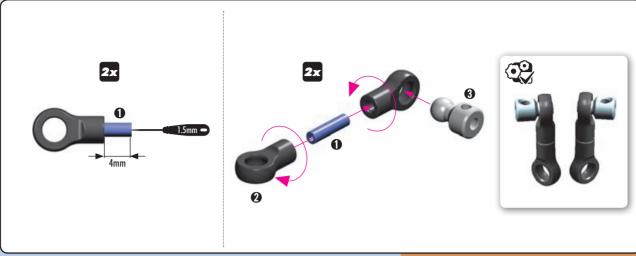
KK	KF	(°)
0 0	0	=2°
0 0	0	□ =3°
0 0	0	=1°
0 0	0	=1°
0 0	0	□ =2°
0 0	0	=0°
0	0	=3°
· ·	0	● =4°
0 0	0	=2°

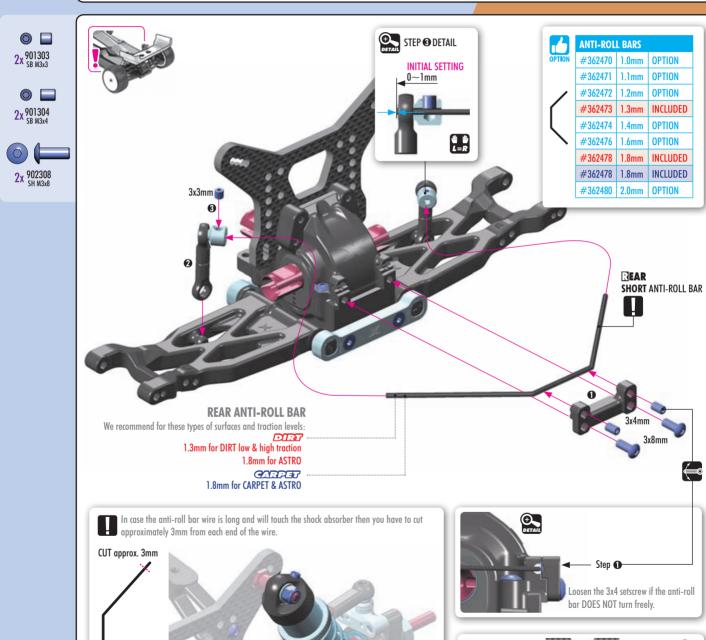
TOE-IN

3. REAR SUSPENSION









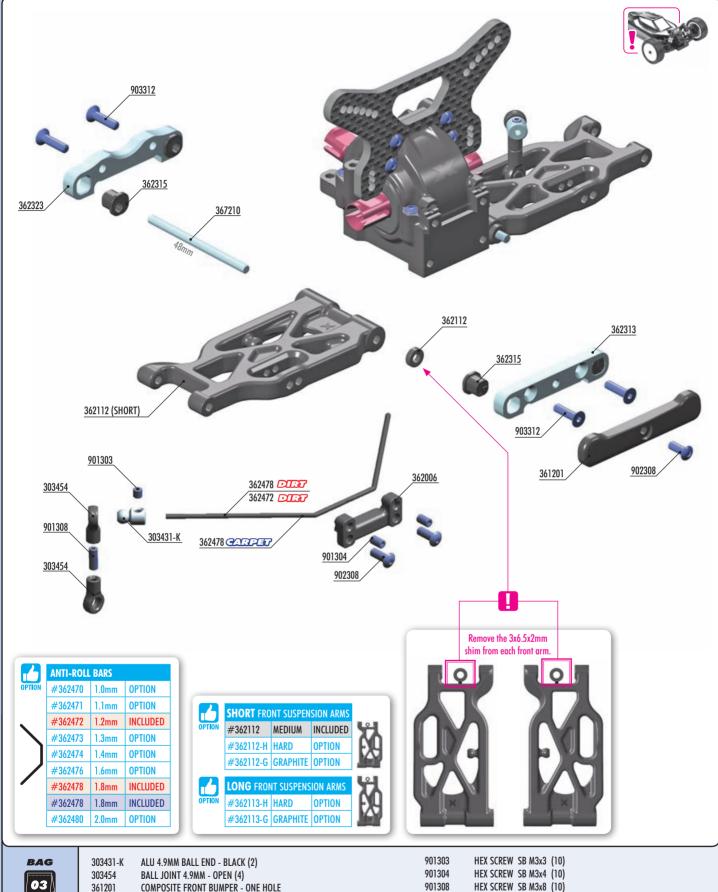
SET-UP BOOK ANTI-ROLL BAR

CUT approx. 3mm



3. FRONT SUSPENSION







COMPOSITE FRONT BUMPER - ONE HOLE DIFF BULKHEAD - HORIZONTAL SPLIT DESIGN (HS) - FRONT/REAR - SET 362006 362112 COMPOSITE SUSPENSION ARM FRONT LOWER - MEDIUM ALU LOWER SUSP. HOLDER FOR HS BULKHEAD - FRONT-FRONT 362313 **ECCENTRIC BUSHING SET (2)** 362315

362323 ALU LOWER SUSP. HOLDER FOR HS BULKHEAD - FRONT-REAR 367210

SUSPENSION PIVOT PIN (2)

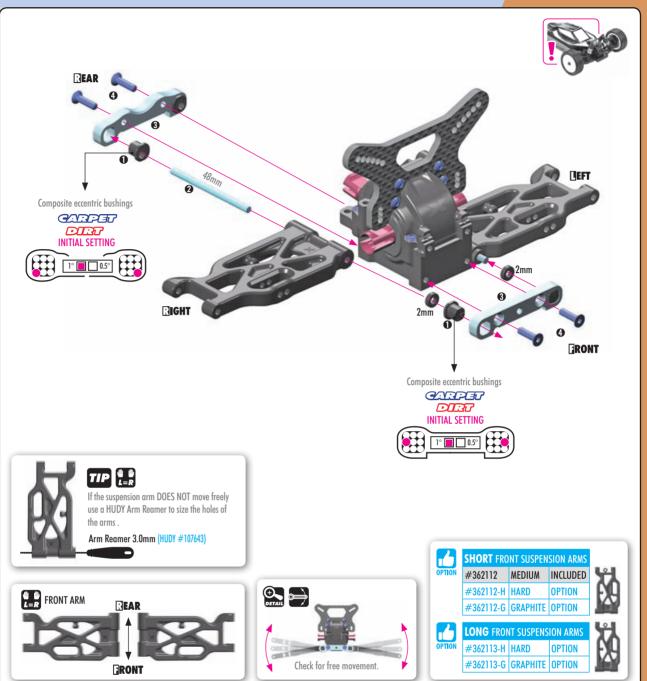
901308 HEX SCREW SB M3x8 (10) 902308 HEX SCREW SH M3x8 (10) HEX SCREW SFH M3x12 (10) 903312

DURU 362473 ANTI-ROLL BAR 1.3mm 362478 ANTI-ROLL BAR 1.8mm CARPET ANTI-ROLL BAR 1.8mm 362478





4x 903312 SFH M3x12



KICK UP **ROLL CENTER** TRACK-WIDTH

ECCENTRIC BUSHINGS HAVE TWO DIFFERENT OFFSETS FROM THE CENTER.





Middle position $= 0.5^{\circ}$ or 0.375mm from center.





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

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

KICK-UP					
FF	FR	(°)			
0.200	0	● =7°			
00-00		=6°			
0.000		=8°			
00-00	0	● =6°			
0		=5°			
0		=7°			
0	0	=8°			
· · · · · · · · · · · · · · · · · · ·	0	=7°			
		■ =9°			

ROLL CENTER				
FF	FR	(mm)		
	•	+0.75mm		
0.000	••••	= Omm		
0.000		=-0.75mm		

IKACK-WIDIH				
FF	FR	(mm)		
02-20	0	=+1.5mm		
0220	•	= 0mm		
0	·	=-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.

IOIAL CASIER=C-HUB CASIER+RICK UP						
	KICK-UP					
C-HUB CASTER	UB CASTER 6° 7° 8° 9° 10°					
6° 12° 13° 14° 15° 16°						

15° | 16° | 17° | 18° | 19°

Caster is the angle between the steering pivot axis and the vertical plane. Caster is affected not only by the C-Hub caster, but also by the front kick-up angle relative to the flat chassis bottom. The table indicates how kick up angle effects total caster.

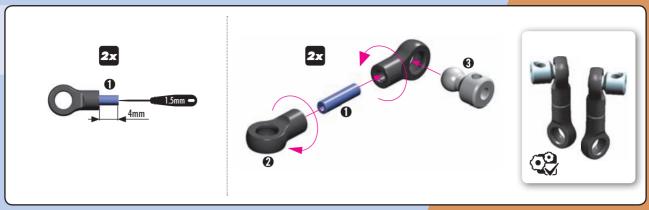
The XB4's stock caster blocks are 9° , but 6° blocks are available as an option.



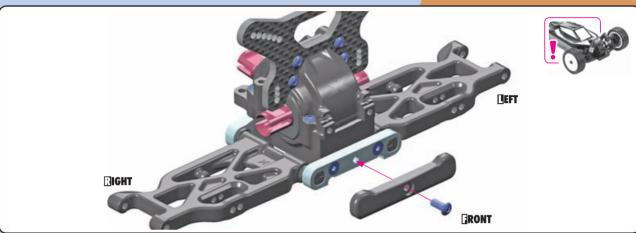
3. FRONT SUSPENSION



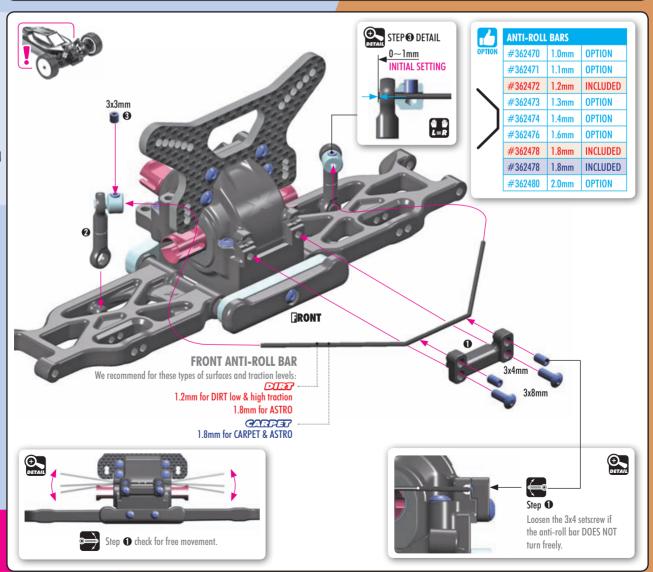








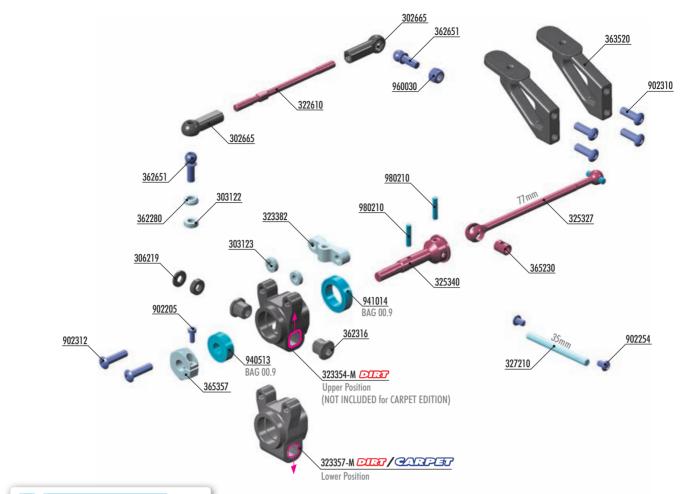




SET-UP BOOK ANTI-ROLL BAR

4. REAR TRANSMISSION









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



	ALU NUTS M3					
PTION	#296530-B	BLUE	OPTION	6		
	#296530-K	BLACK	OPTION	6		
	#296530-0	ORANGE	OPTION	6		
	#960031	SILVER	OPTION	6		



#325341 REAR ADJ. DRIVE AXLE LB - HUDY SPRING STEEL $^{\text{\tiny TM}}$ #325390 ALU SHIM 10x12x2MM (2)

7	WHEEL H	UBS 12MM		
OPTION	#365360	+4.5mm - 6 SLOTS	OPTION	
	#365359	+3.75mm - 5 SLOTS	OPTION	
	#365358	+3.0mm - 4 SLOTS	OPTION	02
	#365357	+2.25mm - 3 SLOTS	INCLUDED	00
	#365356	+1.5mm - 2 SLOTS	OPTION	10 9
	#365355	+0.75mm - 1 SLOT	OPTION	1
	#365353	0mm - 0 SLOTS	OPTION	10000
	#365354	-0.75mm - Lightw.	OPTION	
	#365361	-1.25mm - Lightw.	OPTION	

BAG	
04	

OPTION

302665	COMPOSITE BALL JOINT 4.9MM - CLOSED WITH HOLE (4)	362651
303122	ALU SHIM 3x6x1.0mm (10)	363520
303123	ALU SHIM 3x6x2.0mm (10)	365230
306219	COMPOSITE SET OF SERVO SHIMS (4)	365357
322610	ADJ. TURNBUCKLE M3 L/R 55 MM - SPRING STEEL (2)	
323354-M	COMPOSITE UPRIGHT REAR - UPPER POSITION - MEDIUM	902205
323357-M	COMPOSITE UPRIGHT REAR - LOWER POSITION - MEDIUM	902254
323382	ALU REAR HUB PLATE FOR MULTI ADJ. UPRIGHT - 1-HOLE	902310
325327	REAR DRIVE SHAFT 77MM WITH 2.5MM PIN - SPRING STEEL™	902312
325340	REAR DRIVE AXLE LB - HUDY SPRING STEEL™	940513
327210	FRONT SUSPENSION PIVOT PIN (2)	941014
362280	ALU CONICAL SHIM 3x6x2.0MM (10)	960030
362316	OPEN ECCENTRIC BUSHING SET (2)	980210

362651 363520 365230 365357	BALL END 4.9MM WITH THREAD 8MM (2) REAR WING POST - V2 (2) DRIVE SHAFT COUPLING - HUDY SPRING STEEL™ ALU WHEEL HUB 12MM - OFFSET "+2.25MM" (2)
902205 902254 902310 902312 940513 941014 960030 980210	HEX SCREW SH M2x5 (10) HEX SCREW SH M2.5x4 (10) HEX SCREW SH M3x10 (10) HEX SCREW SH M3x12 (10) BALL-BEARING 5x12x4 RUBBER SEALED - GREASE (2) BALL-BEARING 10x15x4 RUBBER SEALED - GREASE (2) NUT M3 (10) PIN 2x10 (10)





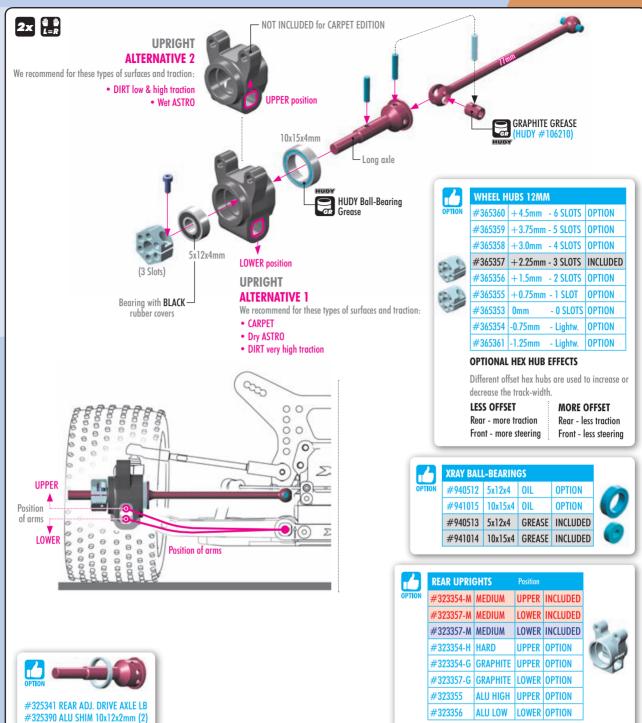






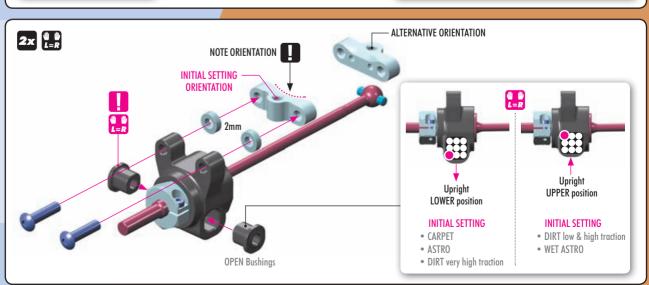
2x 941014 BB 10x15x4







4x 902312 SH M3x12

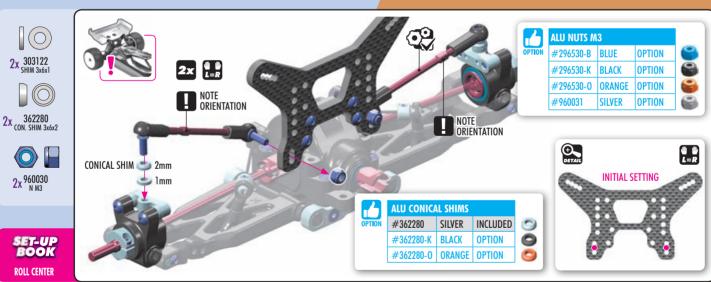


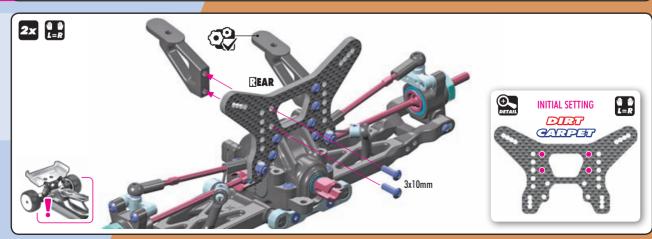
4. REAR TRANSMISSION











4x 902310 SH M3x10

SET-UP BOOK

CAMBER

4. FRONT TRANSMISSION





	XRAY BALL-BEARINGS				
OPTION	#940510	5x10x4	OIL	OPTION	
	#940512	5x12x4	OIL	OPTION	
	#359050	5x10x4	GREASE	INCLUDED	
	#940513	5x12x4	GREASE	INCLUDED	

	#990010	10mm	OPTION	
	DRIVE SH	AFT COL	LARS	
OPTION	#365470	COMI	POSITE	INCLUDI

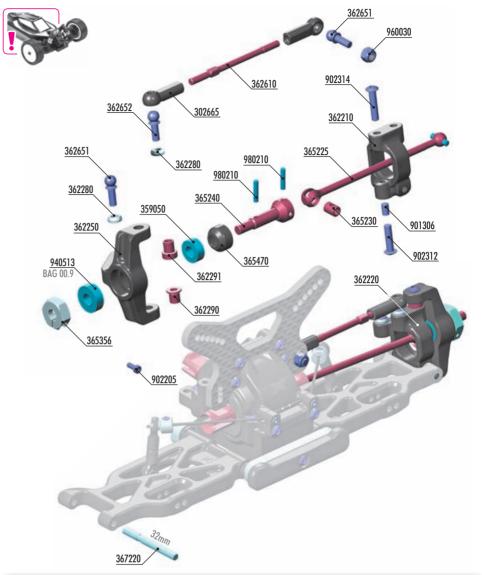
HUDY TITAN BALL ENDS #990008 8mm OPTION

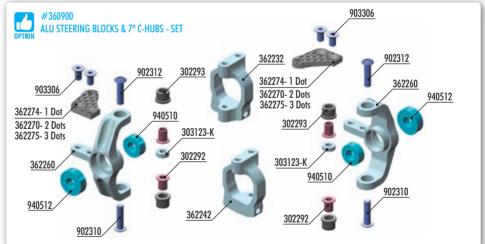
7	DRIVE SHAFT COLLARS			
OPTION	#365470	COMPOSITE	INCLUDED	
0	#365471-K	ALU - BLACK	OPTION	
	#365471-0	ALU - ORANGE	OPTION	

4	STEERING BLOCKS				
PTION	#362250	MEDIUM	INCLUDED		
	#362250-H	HARD	OPTION	١	
	#362250-G	GRAPHITE	OPTION		

	C-HUBS		
OPTION	#362210	RIGHT 9° - M	INCLUDED
	#362210-H	RIGHT 9° - H	OPTION
	#362210-G	RIGHT 9° - G	OPTION
	#362211	RIGHT 6°	OPTION
8	#362234	ALU RIGHT 12°	OPTION
	#362220	LEFT 9° - M	INCLUDED
W	#362220-Н	LEFT 9° - H	OPTION
	#362220-G	LEFT 9° - G	OPTION
	#362221	LEFT 6°	OPTION
	#362244	ALU LEFT 12°	OPTION

73	FRONT DRIVE SHAFTS (2.5mm PIN)				
OPTION	#365202	ECS	83mm	OPTION	
	#365225	CVD	83mm	INCLUDED	
	#365226	CVD	84mm	OPTION	
			www.	-	





25

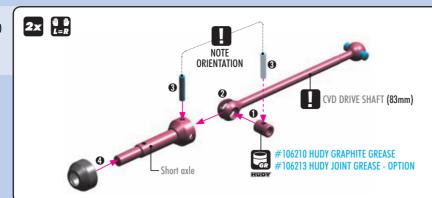


302665	COMPOSITE BALL JOINT 4.9MM - CLOSED WITH HOLE (4)	365356	ALU WHEEL HUB 12MM - OFFSET "+1.50MM" (2)
362210	COMPOSITE C-HUB 9° DEG. RIGHT - MEDIUM	365470	COMPOSITE DRIVE SHAFT SAFETY COLLAR (3)
362220	COMPOSITE C-HUB 9° DEG. LEFT - MEDIUM	367220	FRONT ARM PIVOT PIN (2)
362250	COMPOSITE STEERING BLOCK - MEDIUM		
362280	ALU CONICAL SHIM 3x6x2.0MM (10)	359050	BALL-BEARING 5x10x4 STEEL SEALED - GREASE (2)
362290	STEEL STEERING BUSHING - SHORT (2)	901306	HEX SCREW SB M3x6 (10)
362291	STEEL STEERING BUSHING - LONG (2)	902205	HEX SCREW SH M2x5 (10)
362610	ADJ. TURNBUCKLE M3 L/R 50 MM - SPRING STEEL (2)	902312	HEX SCREW SH M3x12 (10)
362651	BALL END 4.9MM WITH THREAD 8MM (2)	902314	HEX SCREW SH M3x14 (10)
362652	BALL END 4.9MM WITH THREAD 10MM (2)	940513	BALL-BEARING 5x12x4 RUBBER SEALED - GREASE (2)
365225	FRONT DRIVE SHAFT 83MM WITH 2.5MM PIN - HUDY SPRING STEEL™	960030	NUT M3 (10)
365230	DRIVE SHAFT COUPLING - HUDY SPRING STEEL™	980210	PIN 2x10 (10)
365240	FRONT DRIVE AXLE - HUDY SPRING STEEL™		

4. FRONT TRANSMISSION









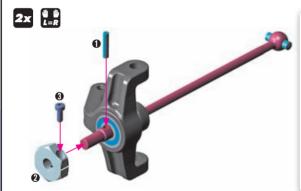






7 3	XRAY BALL-BEARINGS				
OPTION	#940510	5x10x4	OIL	OPTION	
	#940512	5x12x4	OIL	OPTION	
	#359050	5x10x4	GREASE	INCLUDED	0
	#940513	5x12x4	GREASE	INCLUDED	





5x12x4mm



OPTIONAL HEX HUB EFFECTS

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

LESS OFF-SET

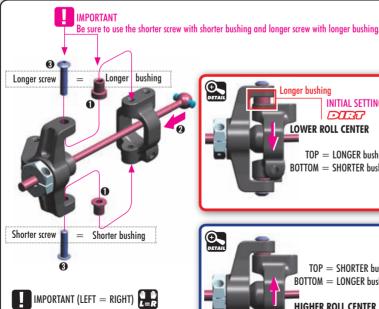
Rear - more traction Front - more steering

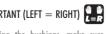
MORE OFF-SET

Rear - less traction Front - less steering

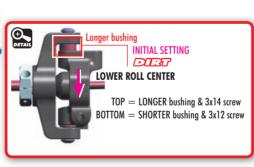








When inserting the bushings, make sure that bushings are inserted equally on both right and left hub to give the same roll center position.



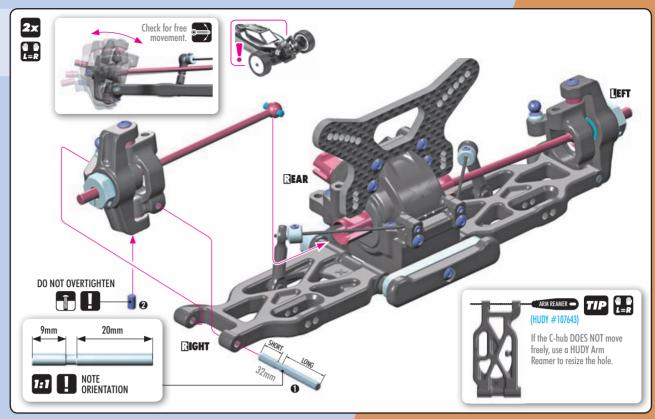










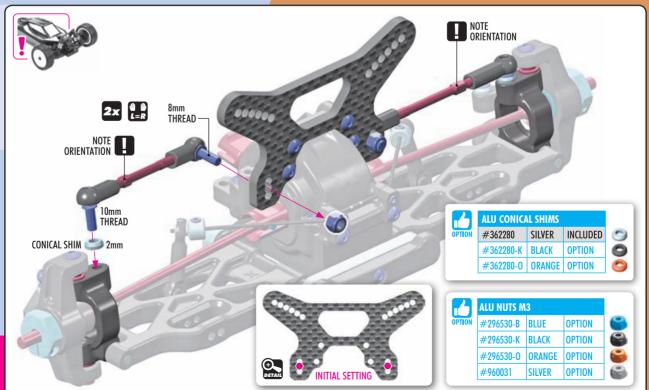












SET-UP BOOK ROLL CENTER

1 5 2 15 2 2

4. FRONT & REAR ASSEMBLY

SET OF O-RINGS (6x2, 6x3, 6x4, 6x5MM)

HEX SCREW SH M3x6 (10)

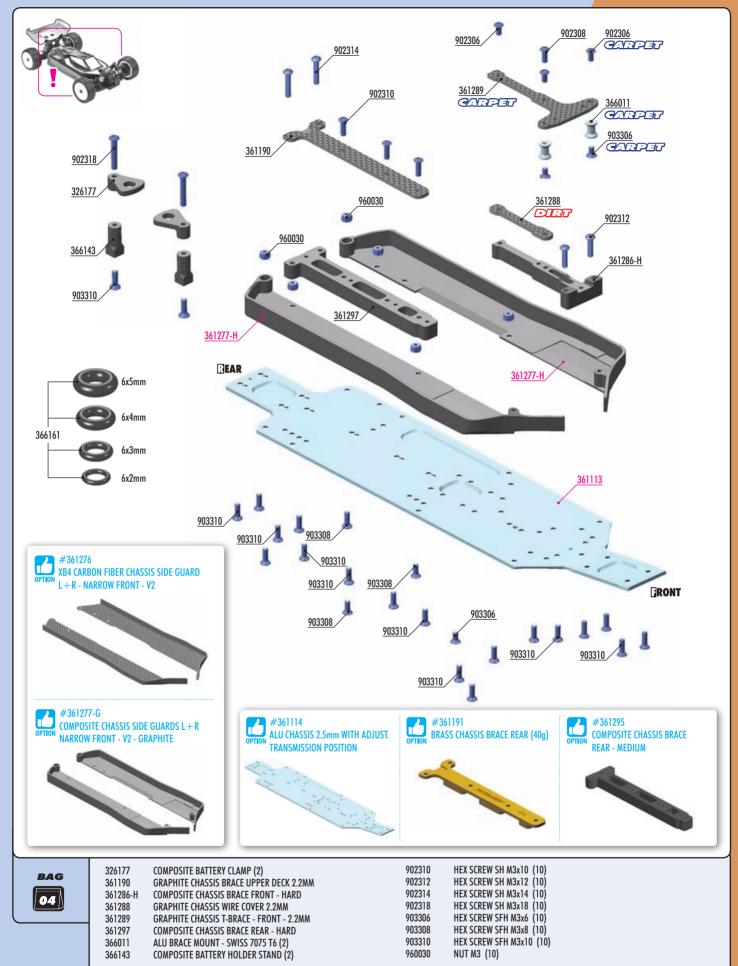
HEX SCREW SH M3x8 (10)

366161

902306

902308







ALU CHASSIS 2mm WITH ADJUSTABLE TRANSMISSION POSITION

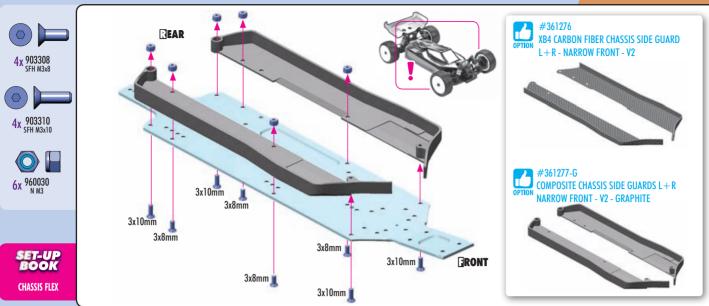
COMPOSITE CHASSIS SIDE GUARDS L+R - NARROW FRONT - V2

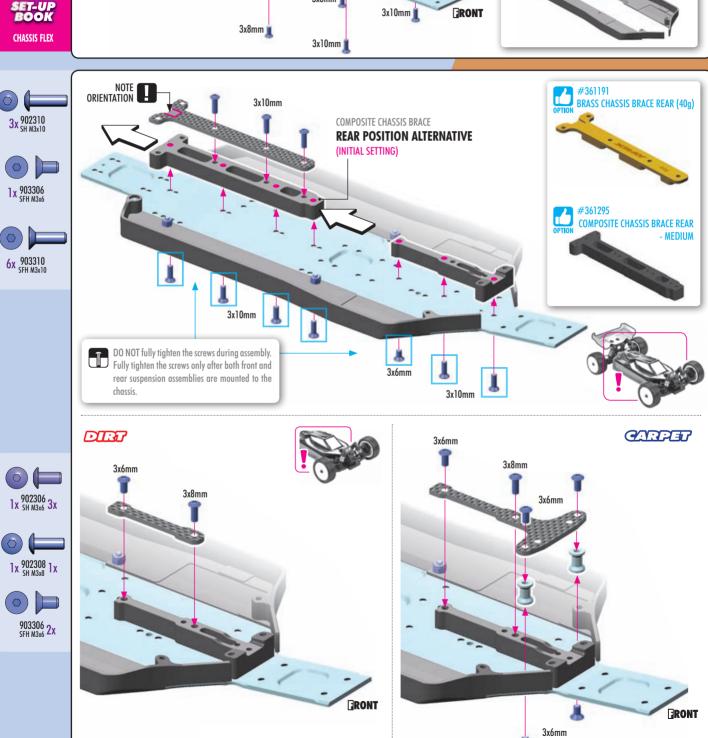
361113

361277-H

4. FRONT & REAR ASSEMBLY

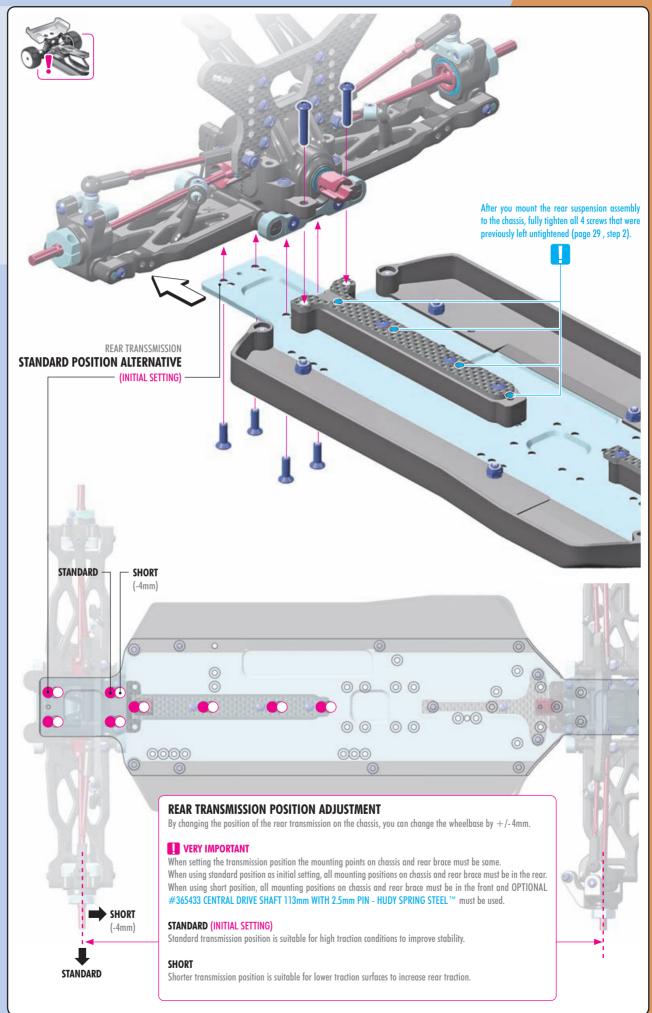






1 5 6 15 2 6

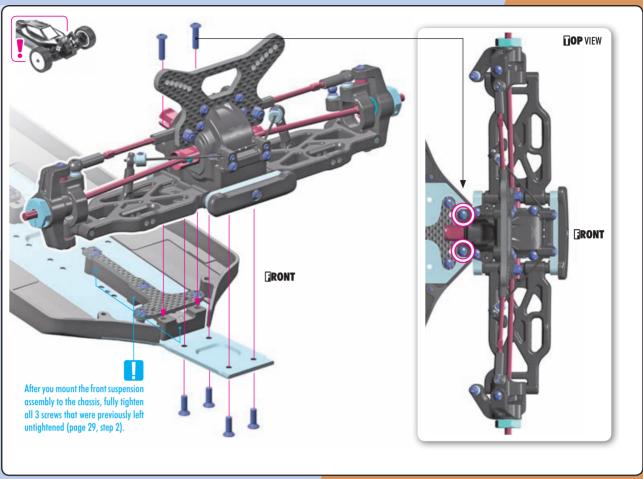




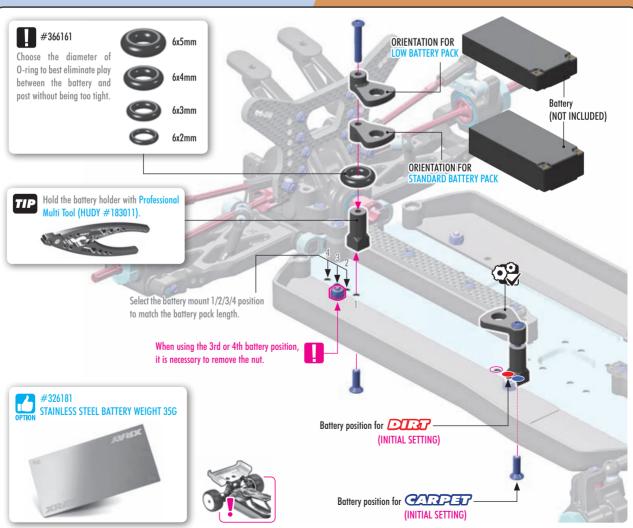
4. FRONT & REAR ASSEMBLY

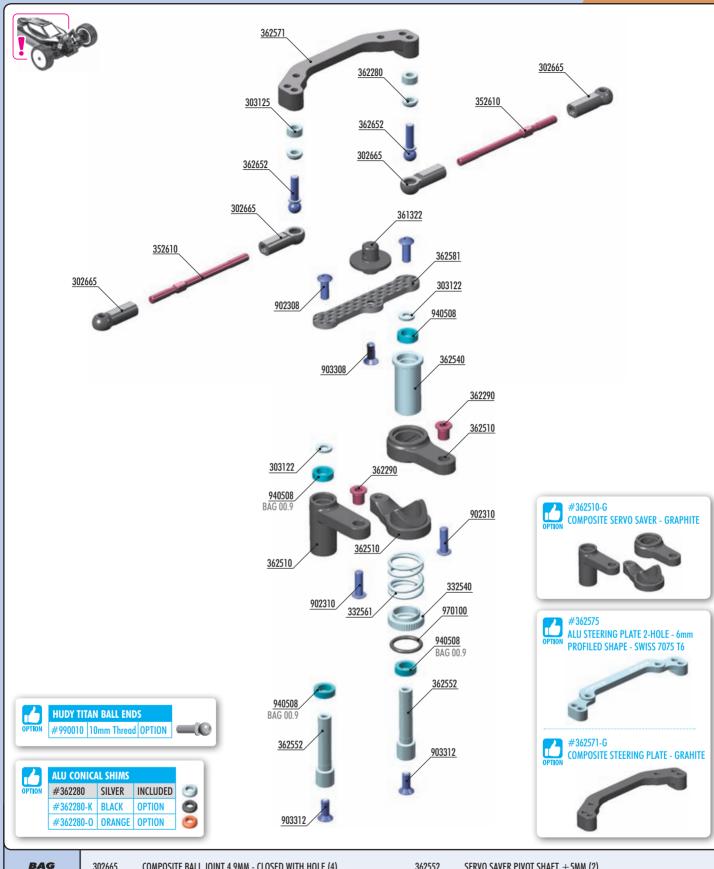












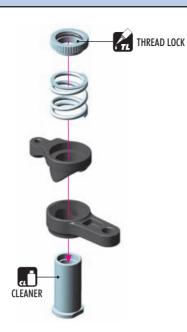


302665	COMPOSITE BALL JOINT 4.9MM - CLOSED WITH HOLE (4)	362552	SERVO SAVER PIVOT SHAFT +5MM (2)
303122	ALU SHIM 3x6x1.0MM (10)	362571	COMPOSITE STEERING PLATE
303125	ALU SHIM 3x6x3.0MM (10)	362581	STEERING BRACE 2.0MM GRAPHITE
332540	ALU SERVO SAVER ADJUSTABLE NUT	362652	BALL END 4.9MM WITH THREAD 10MM (2)
332561	SERVO SAVER SPRING C=14		
352610	ADJ. TURNBUCKLE M3 L/R 45MM - SPRING STEEL (2)	902308	HEX SCREW SH M3x8 (10)
361322	BODY MOUNT - EXTRA-SHORT	902310	HEX SCREW SH M3x10 (10)
362280	ALU CONICAL SHIM 3x6x2.0MM (10)	903308	HEX SCREW SFH M3x8 (10)
362290	STEEL STEERING BUSHING - SHORT (2)	903312	HEX SCREW SFH M3x12 (10)
362510	COMPOSITE SERVO SAVER	940508	BALL-BEARING 5x8x2.5 RUBBER SEALED - OIL (2)
362540	ALU SERVO SAVER MAIN SHAFT	970100	O-RING 10 x 1.5 (10)





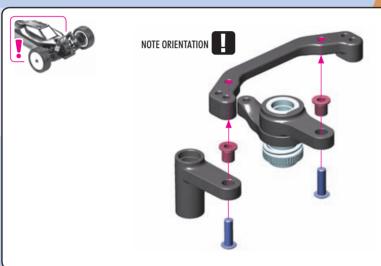






SET-UP BOOK SERVO SAVER

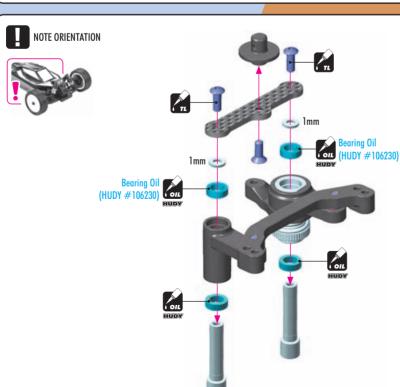








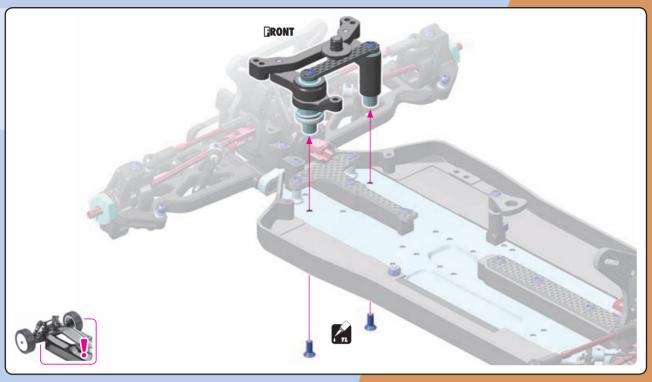
4x 940508 BB 5x8x2.5

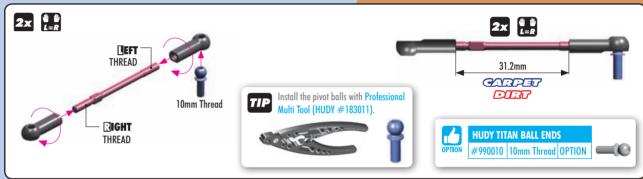




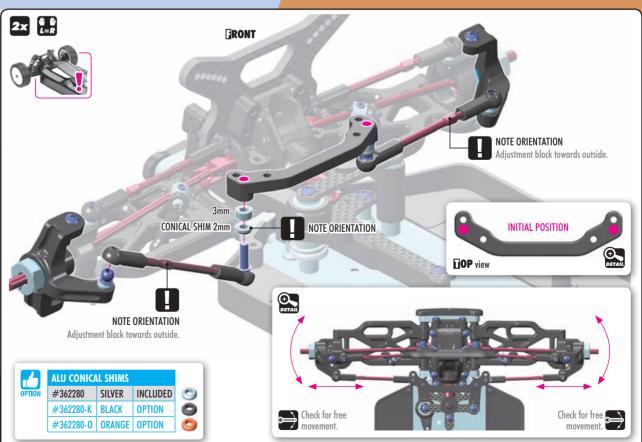








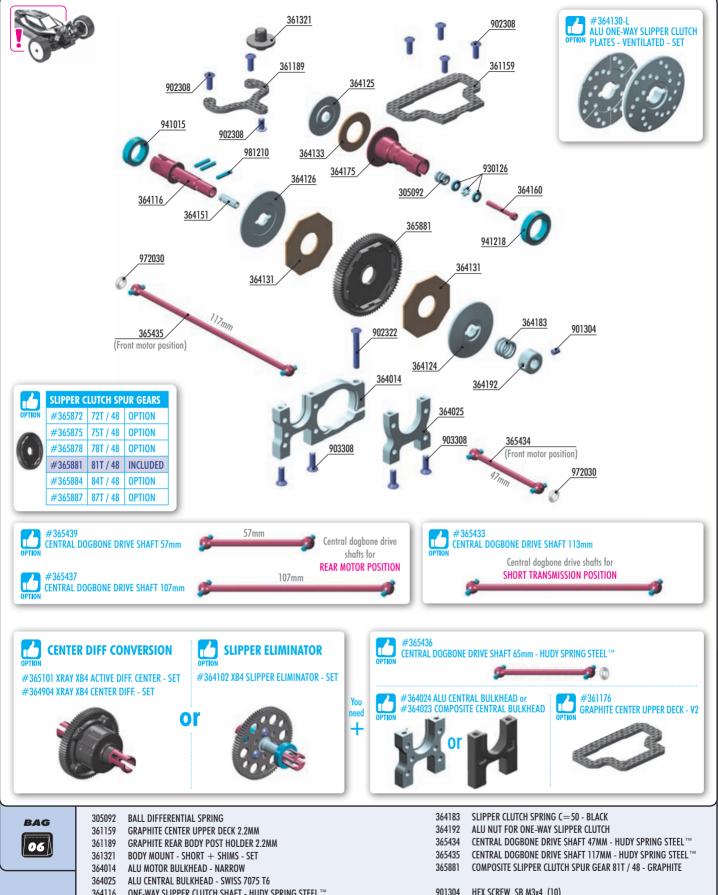




SET-UP BOOK ACKERMANN BUMP STEER TOE-IN

6. SLIPPER CLUTCH ASSEMBLY

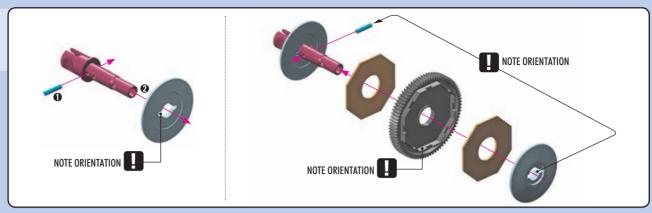




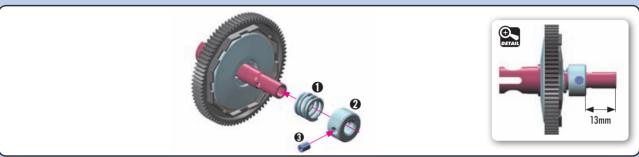
305092	BALL DIFFERENTIAL SPRING	364183	SLIPPER CLUTCH SPRING C=50 - BLACK
361159	GRAPHITE CENTER UPPER DECK 2.2MM	364192	ALU NUT FOR ONE-WAY SLIPPER CLUTCH
361189	GRAPHITE REAR BODY POST HOLDER 2.2MM	365434	CENTRAL DOGBONE DRIVE SHAFT 47MM - HUDY SPRING STEEL™
361321	BODY MOUNT - SHORT + SHIMS - SET	365435	CENTRAL DOGBONE DRIVE SHAFT 117MM - HUDY SPRING STEEL™
364014	ALU MOTOR BULKHEAD - NARROW	365881	COMPOSITE SLIPPER CLUTCH SPUR GEAR 81T / 48 - GRAPHITE
364025	ALU CENTRAL BULKHEAD - SWISS 7075 T6		
364116	ONE-WAY SLIPPER CLUTCH SHAFT - HUDY SPRING STEEL™	901304	HEX SCREW SB M3x4 (10)
364124	ALU PLATE FOR ONE-WAY SLIPPER CLUTCH - FRONT - SWISS 7075 T6	902308	HEX SCREW SH M3x8 (10)
364125	ALU PLATE FOR ONE-WAY SLIPPER CLUTCH FOR OUTDRIVE - SWISS 7075 T6	902322	HEX SCREW SH M3x22 (10)
364126	ALU PLATE FOR ONE-WAY SLIPPER CLUTCH - REAR - SWISS 7075 T6	903308	HEX SCREW SFH M3x8 (10)
364131	SLIPPER CLUTCH PAD SLS - SOFT (3)	930126	CARBIDE BALL-BEARING AXIAL 2.6x6x1
364133	, ,	941015	BALL-BEARING 10x15x4 RUBBER SEALED - OIL (2)
364151	STEEL BUSHING FOR ONE-WAY SLIPPER CLUTCH	941218	BALL-BEARING 12x18x4 RUBBER SEALED - OIL (2)
364160	SCREW FOR ONE-WAY SLIPPER CLUTCH ADJUSTMENT - HUDY SPRING STEEL™	972030	SILICONE O-RING 3x2 (10)
364175	OUTDRIVE ADAPTER WITH PRESSED ONE-WAY BEARING - HUDY SPRING STEEL™	981210	PIN 2x10 (10)
			· ·



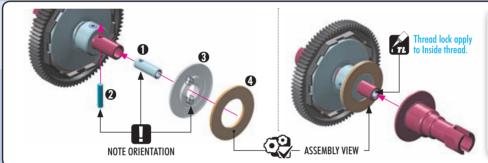














Apply a drop of One-Way Bearing Oil after every 1-2 hours of driving to increase lifespan. A dry one-way bearing may cause damage or failure.

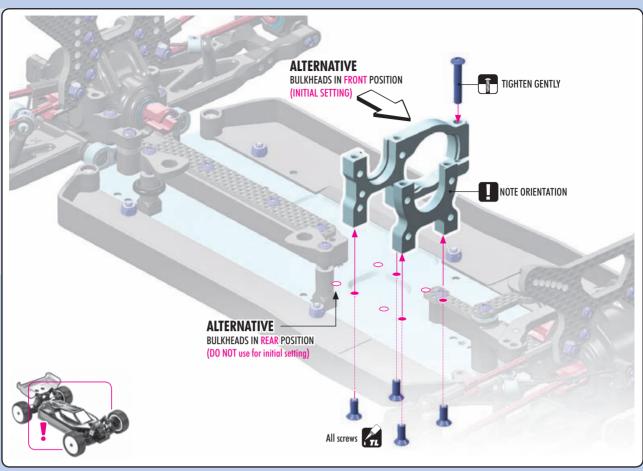




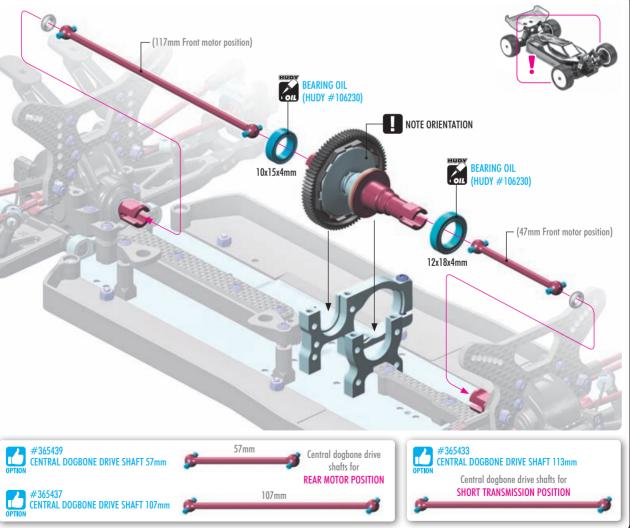






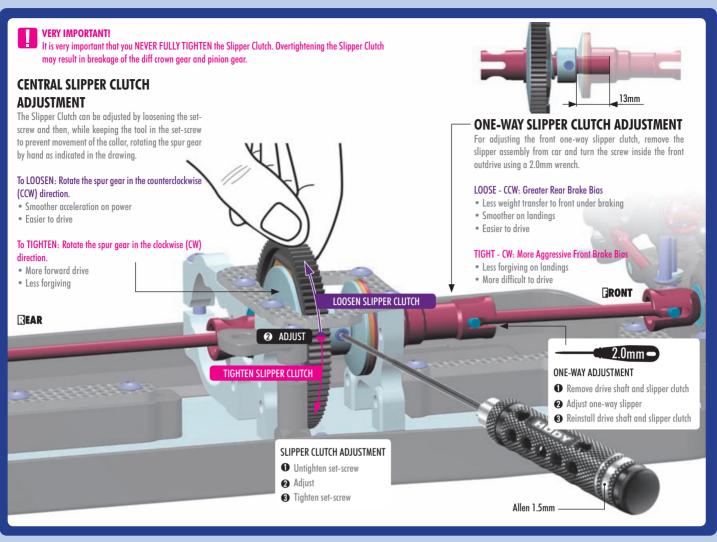


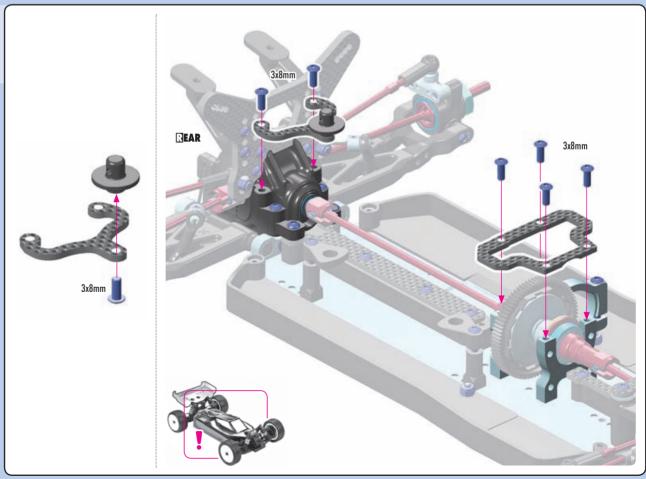




1 B 4 1 5 2 4 1

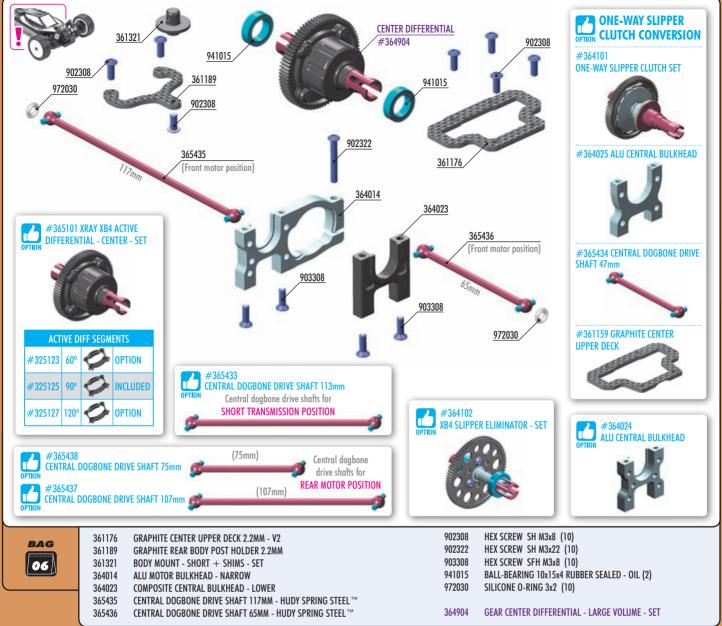


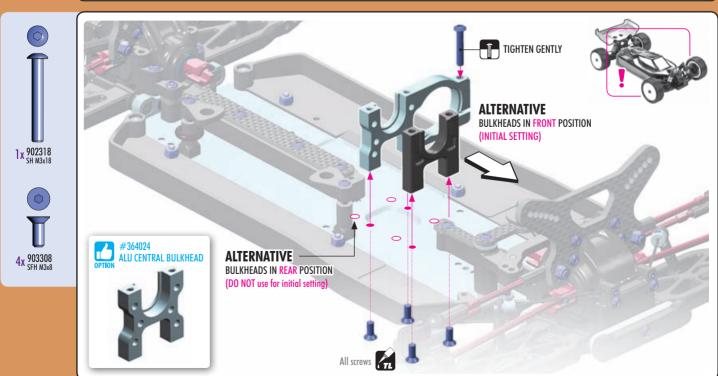




6. CENTER DIFF ASSEMBLY





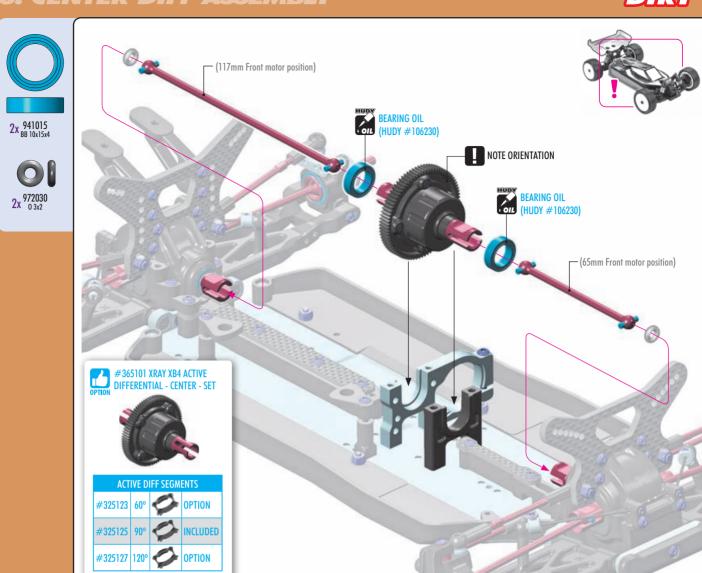


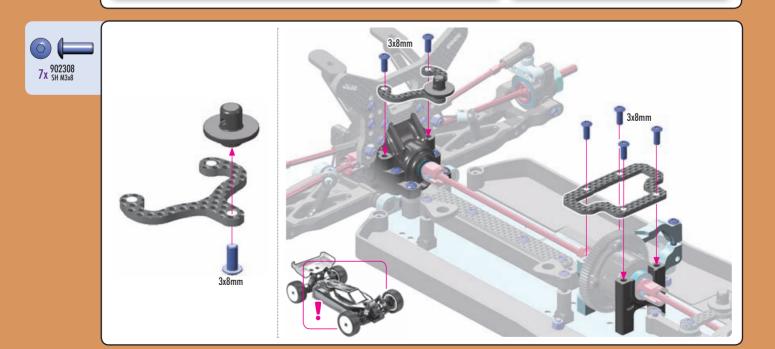
6. CENTER DIFF ASSEMBLY

#365438
CENTRAL DOGBONE DRIVE SHAFT 75mm

#365437 CENTRAL DOGBONE DRIVE SHAFT 107mm







Central dogbone drive shafts for

REAR MOTOR POSITION

(75mm)

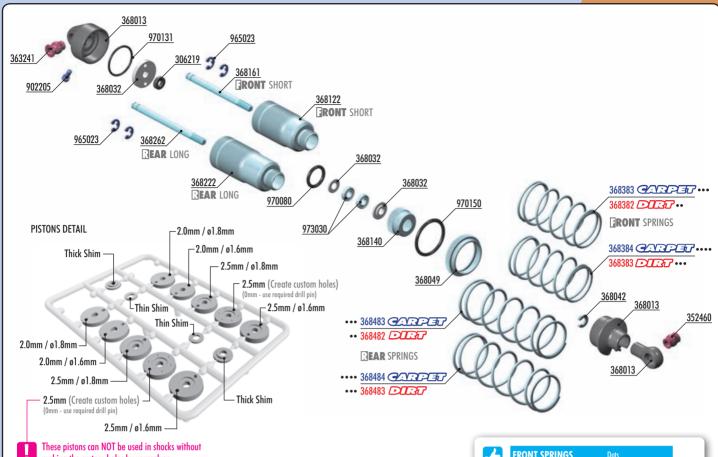
(107mm)

#365433 CENTRAL DOGBONE DRIVE SHAFT 113mm

Central dogbone drive shafts for SHORT TRANSMISSION POSITION

7. SHOCK ABSORBERS



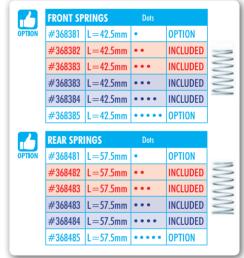


making the custom holes by yourselves.













306219	COMPOSITE SET OF SERVO SHIMS (4)
352460	PIVOT BALL 5.8 (10)
363241	BALL UNIVERSAL 5.8mm WITH BACKSTOP (2)
368013	COMPOSITE SHOCK PARTS FOR 2 SHOCKS - BIG BORE
368032	SHOCK PISTONS - COMPLETE SET - DELRIN - BIG BORE
368049	ALU SHOCK ADJUSTABLE NUT - BIG BORE (2)
368042	COMPOSITE SHOCK BUSHING & SHIM $(2+2)$
368101	FRONT SHOCK ABSORBERS - BIG BORE - SET (2)
368122	ALU FRONT SHOCK BODY - BIG BORE (2)
368140	ALU LOWER SHOCK BODY CAP (2)
368161	FRONT HARDENED SHOCK SHAFT 42mm (2)
368201	REAR SHOCK ABSORBERS - BIG BORE - SET (2)
368222	ALU REAR SHOCK BODY - BIG BORE (2)
368262	REAR HARDENED SHOCK SHAFT 47mm (2)
902205	HEX SCREW SH M2x5 (10)

(965023	E-CLIP 2.3 (10)
	970080	O-RING 8x1 (10)
(970131	O-RING 13 x 1.0 (10)
(970150	O-RING 15 x 1.5 (10)
9	973030	SILICONE X-RING PRE-OILED 3x2 (10)
(∃ ₽
- 3	368383	FRONT CONICAL SPRING-SET L=42.5mm - 3 DOTS (2)

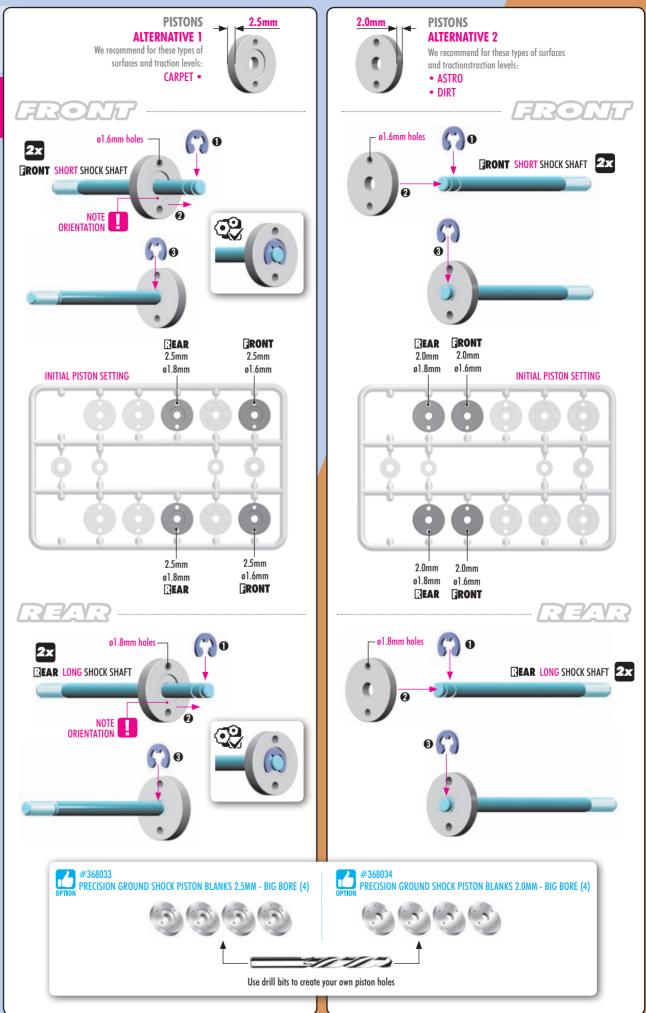
368384	FRONT CONICAL SPRING-SET L=42.5mm - 4 DOTS (2
368483	REAR CONICAL SPRING-SET L=57.5mm - 3 DOTS (2)
368484	REAR CONICAL SPRING-SET L=57.5mm - 4 DOTS (2)
DIRT	
368382	FRONT CONICAL SPRING-SET L=42.5mm - 2 DOTS (2
368383	FRONT CONICAL SPRING-SET L=42.5mm - 3 DOTS (2
368482	REAR CONICAL SPRING-SET L=57.5mm - 2 DOTS (2)
368483	REAR CONICAL SPRING-SET L=57.5mm - 3 DOTS (2)

7. SHOCK ABSORBERS

CARPET DIRT



SHOCK DAMPING SHOCK PISTONS



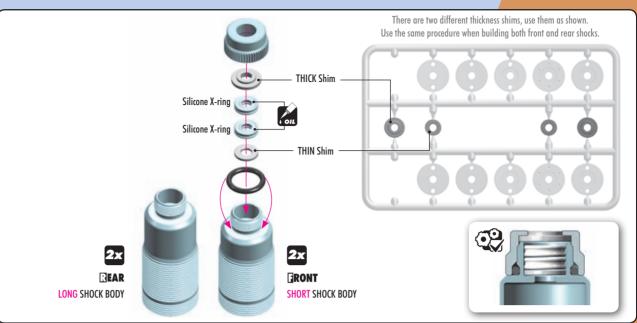
7. SHOCK ABSORBERS

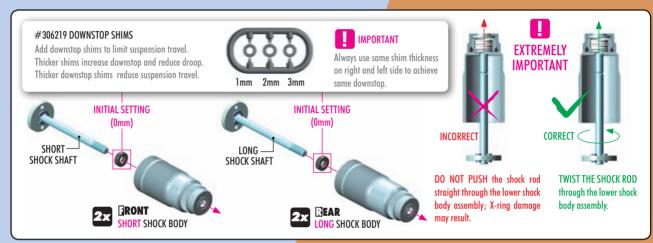






8x 973030

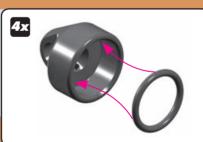


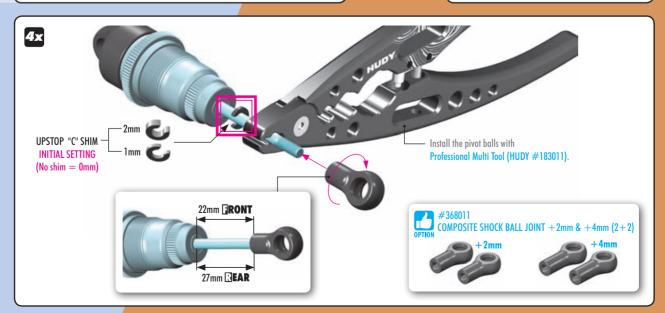












ARPET DIRT



 CARPET Front (short) Oil 550cSt Rear (long) Oil 400cSt

ASTRO Front (short) Oil 400cSt Rear (long) Oil 300cSt

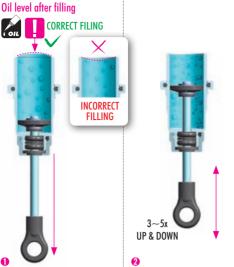


• DIRT

ASTRO Front (short) Oil 400cSt Rear (long) Oil 300cSt

DEFAULT SHOCK REBOUND SETTING 0% REBOUND

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



Extend the shock shaft completely. Move the shock shaft up and down a few times to release the Fill the shock body with the shock air bubbles trapped beneath the



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



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



SHOCK OIL



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



6x push the shaft up and down.



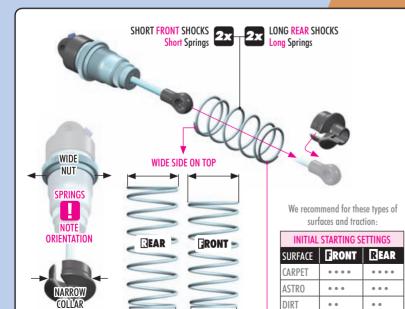
Untighten the screw.



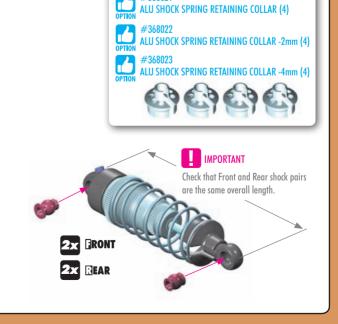
Gently push the shock shaft completely into the shock body. Excess oil will flow through the hole in the shock cap.



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

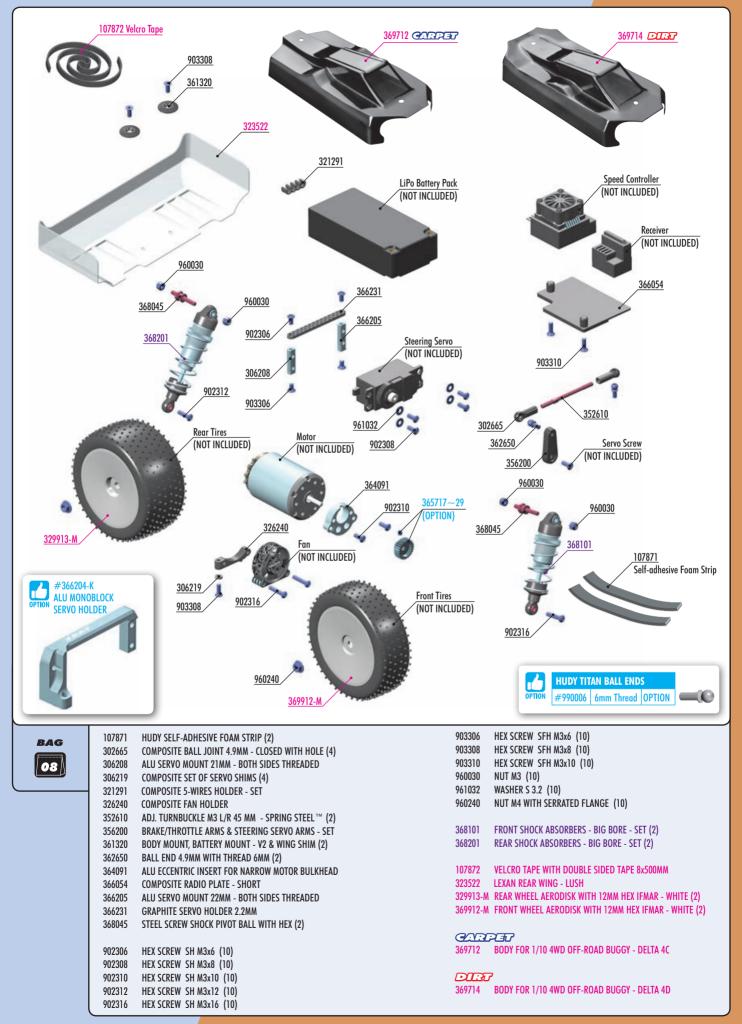


NARROW SIDE ON BOTTOM

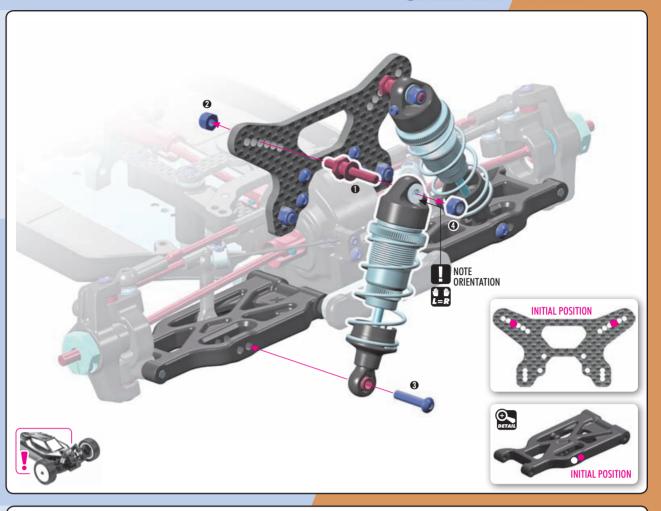


8. FINAL ASSEMBLY

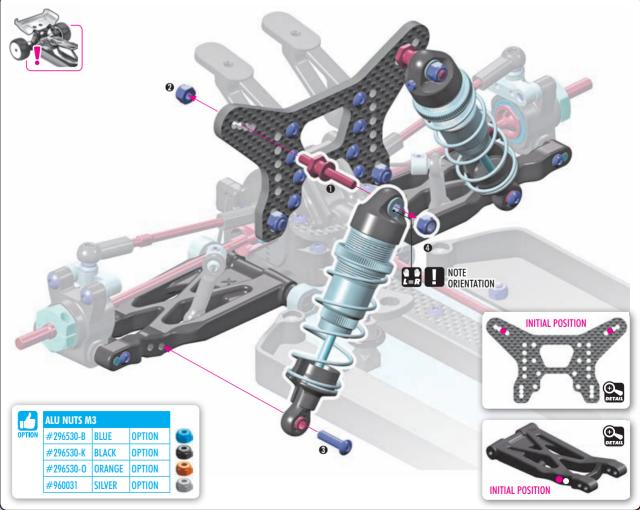










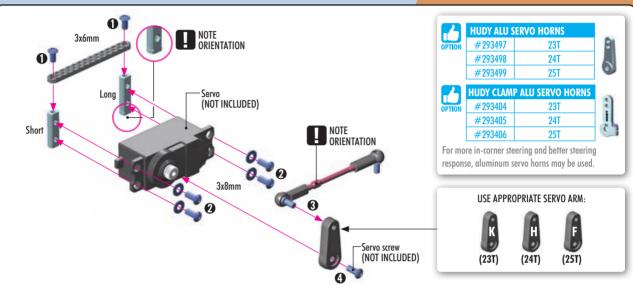


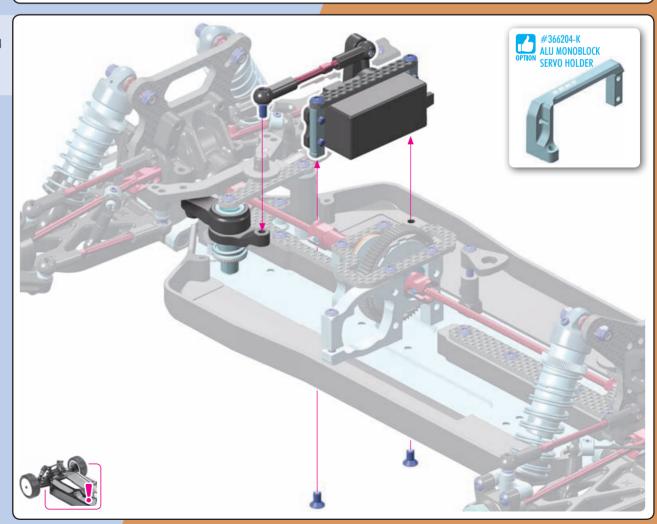






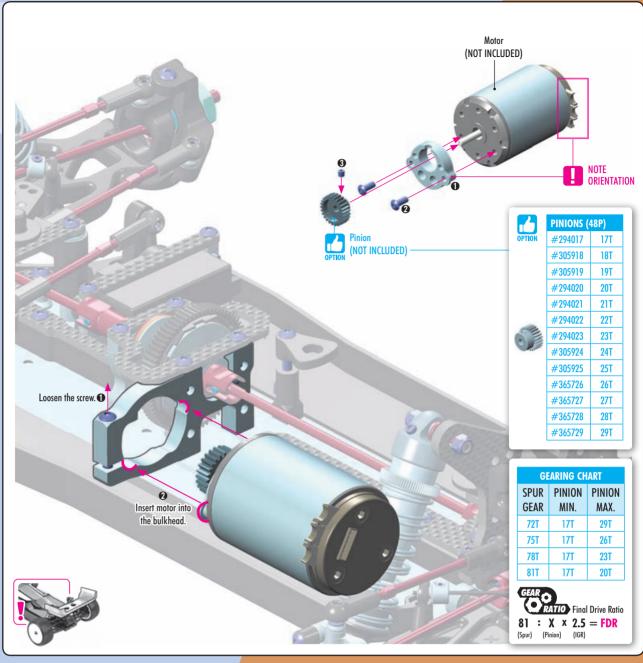
2x 903306 SFH M3x6

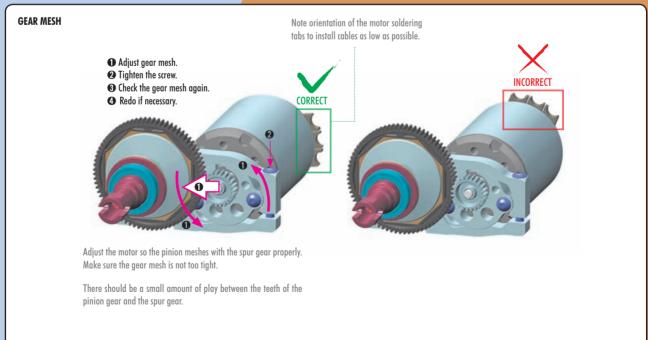




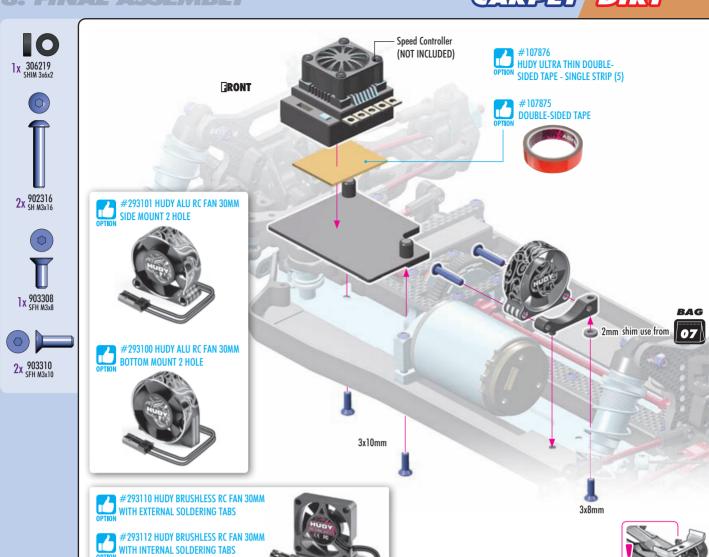
1 5 2 15 2 2

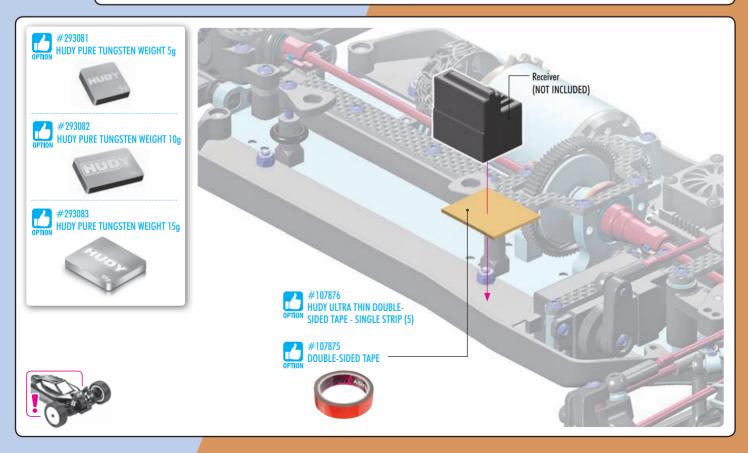




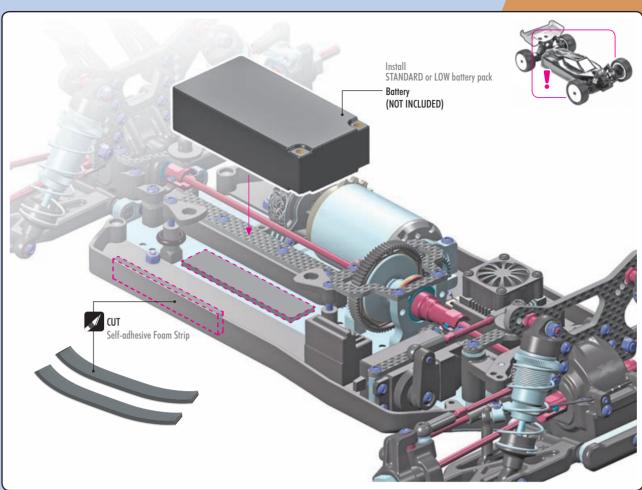




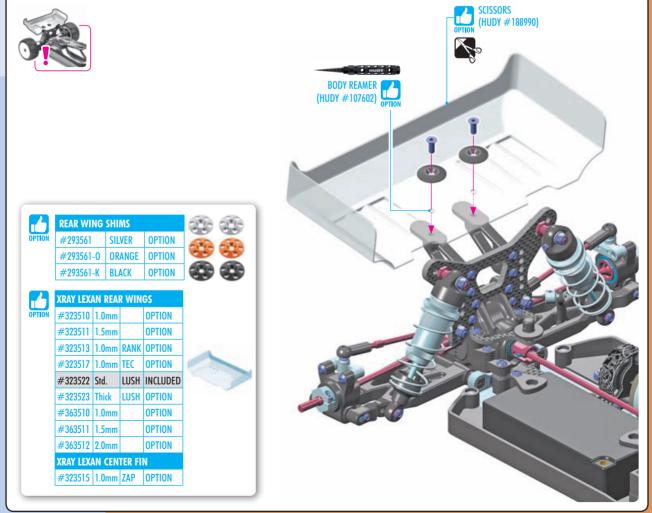












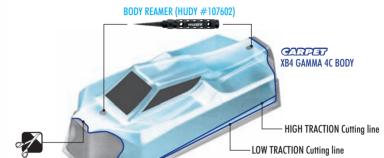


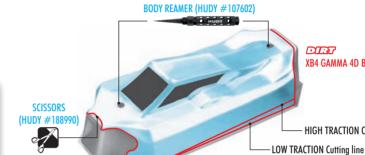
XB4 GAMMA 4D BODY

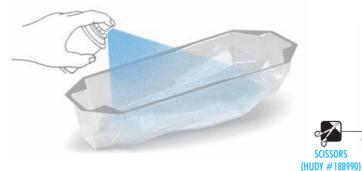
HIGH TRACTION Cutting line

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

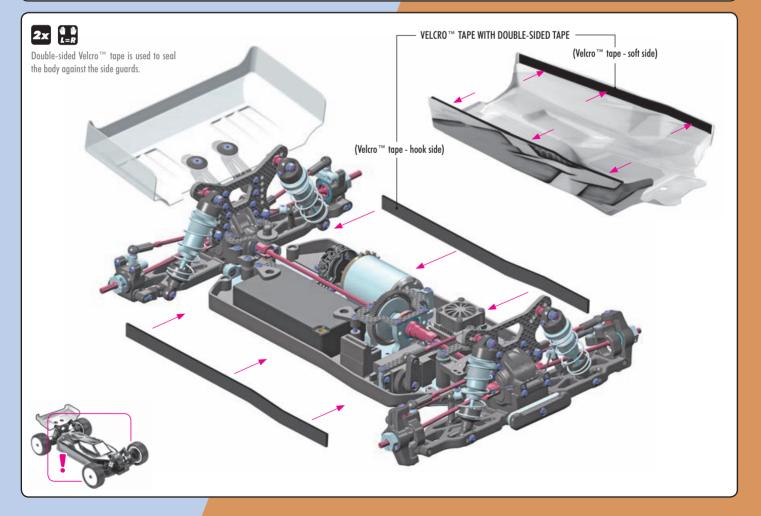
- Apply paint masks as appropriate.
- **6** Paint the body using paints formulated for polycarbonate bodies.
- (3) When the paint is dry, remove the masking.
- Carefully cut out the body using appropriate scissors or cutting tools.
- 13 When you have finished cutting, peel off the external protective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



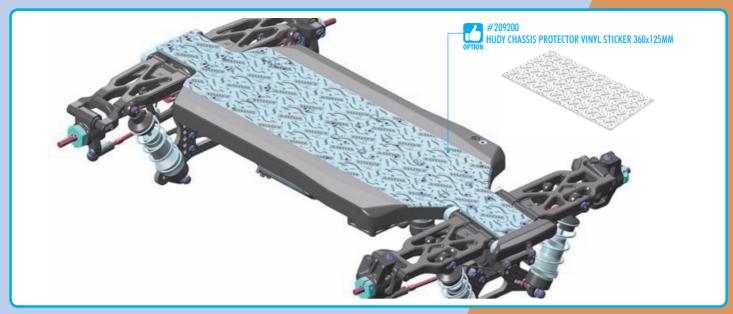




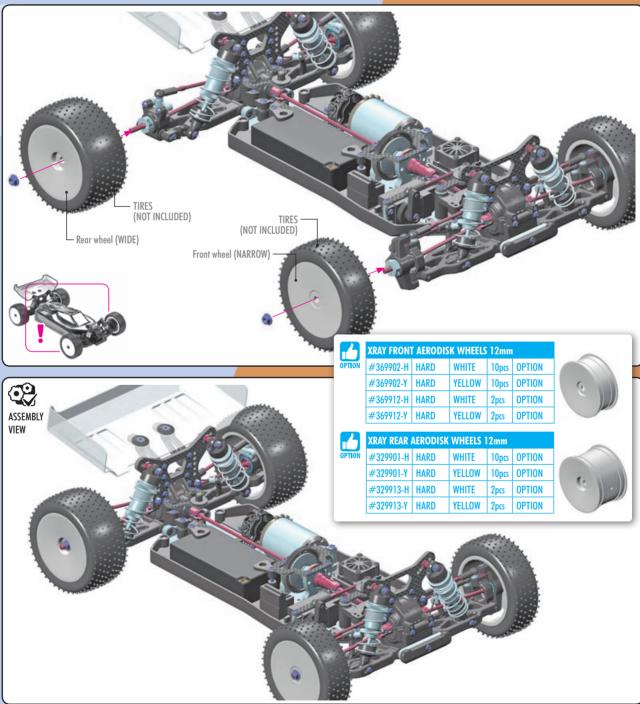




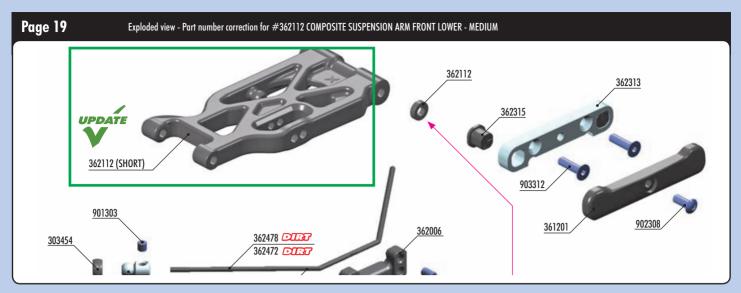


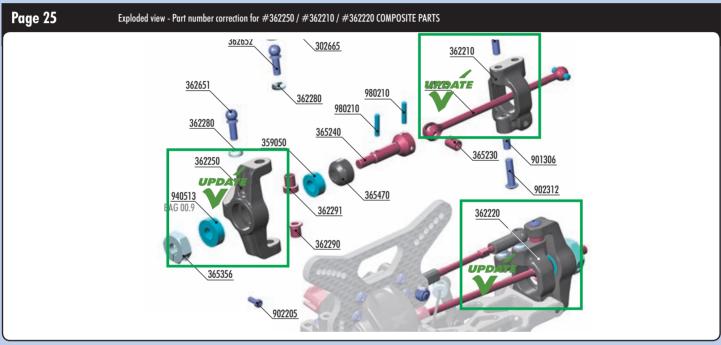






UPDATE LIST





53



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

- 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.

- 1 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 correct oil or grease to lubricate the begrings:
- #106230 HUDY Bearing Oil
- #106220 HUDY Bearing Grease Standard
- #106221 HUDY Bearing Grease Blue
- #106222 HUDY Bearing Grease Red



#106230



HUDY #106220



HUDY #106221



HUDY #106222

SUSPENSION & DRIVETRAIN MAINTENANCE

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



#106210 HUDY GRAPHITE GREASE

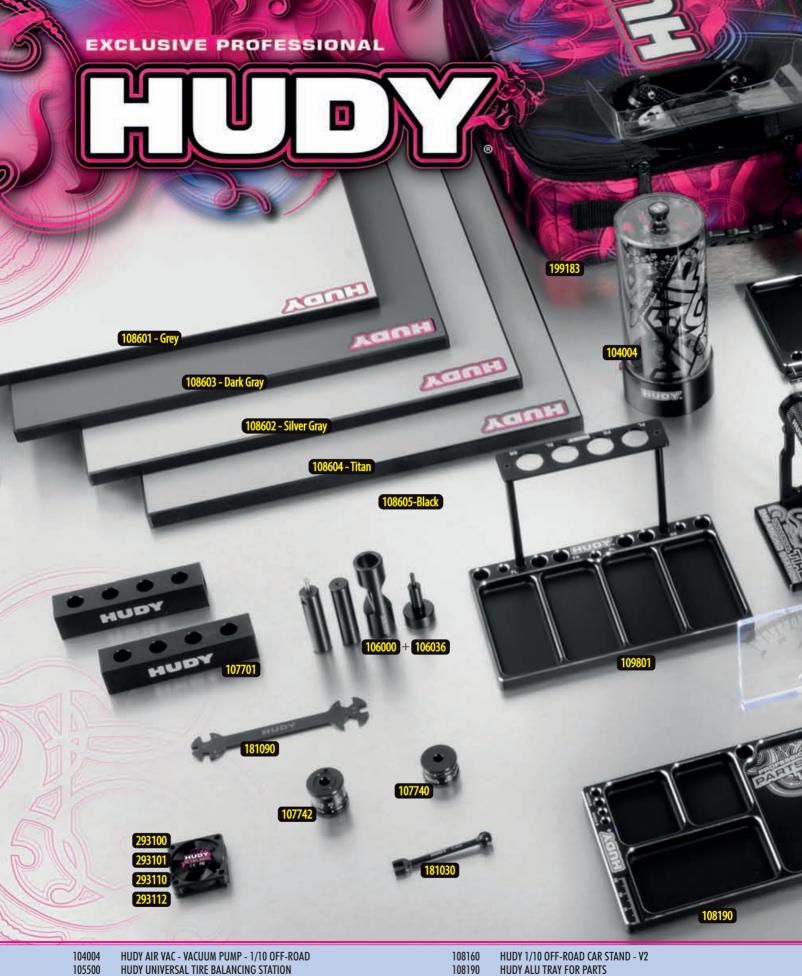


#106213 HUDY JOINT GREASE

HUDY SPRING STEEL™

The HUDY Spring Steel $^{\text{TM}}$ used in the car is the strongest and most durable steel material on the RC market. While items made from HUDY Spring Steel $^{\text{TM}}$ are still subject to wear, the lifespan is considerably longer than any other material. As parts made from HUDY Spring Steel $^{\text{TM}}$ 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



	104004	HUDY AIR VAC - VACUUM PUMP - 1/10 OFF-ROAD	108160	HUDY 1/10 OFF-ROAD CAR STAND - V2
	105500	HUDY UNIVERSAL TIRE BALANCING STATION	108190	HUDY ALU TRAY FOR PARTS
	105520	WHEEL ADAPTER FOR 1/10 TOURING CARS - 12MM	108601	FLAT SET-UP BOARD FOR 1/10 OFF-ROAD - LIGHTWEIGHT - GREY
	106000	HUDY DRIVE PIN REPLACEMENT TOOL (FOR 3MM PINS)	108602	FLAT SET-UP BOARD FOR 1/10 OFF-ROAD - LIGHTWEIGHT - SILVER GREY
	106036	EJECTOR PIVOT PIN & ALTERNATING PIVOT 2.5MM FOR #106000	108603	FLAT SET-UP BOARD FOR 1/10 OFF-ROAD - LIGHTWEIGHT - DARK GREY
	107090	HUDY BEARING CHECKING TOOL	108604	FLAT SET-UP BOARD FOR 1/10 OFF-ROAD - LIGHTWEIGHT - TITAN
	107601	LIMITED EDITION - REAMER FOR BODY 0-9MM $+$ COVER - SMALL	108605	FLAT SET-UP BOARD FOR 1/10 OFF-ROAD - LIGHTWEIGHT - BLACK
	107701	CHASSIS DROOP GAUGE SUPPORT BLOCKS 20MM FOR 1/8 - LW(2)	108901	HUDY SET-UP STATION FOR 1/10 OFF-ROAD CARS
	107740	HUDY ADJUSTABLE RIDE HEIGHT GAUGE 14-20MM	108960	ALU NUT FOR 1/10 OFF-ROAD SET-UP SYSTEM (4)
	107742	HUDY ADJUSTABLE RIDE HEIGHT GAUGE 20-30MM	109801	HUDY ALU TRAY FOR 1/10 OFF-ROAD DIFF & SHOCKS
56	107855	HUDY PIT LED	109840	HUDY ALU TRAY FOR 1/10 OFF-ROAD DIFF ASSEMBLY
	107880	CHASSIS BALANCING TOOL (2)	109860	HUDY ALU TRAY FOR SET-UP SYSTEM



109880 HUDY ALU TRAY FOR ACCESSORIES & PIT LED 188990 **HUDY PROFESSIONAL BODY SCISSORS HUDY ALU TOOL STAND** 111545 LIMITED EDITION - ALLEN WRENCH # 1.5MM 199060 112045 LIMITED EDITION - ALLEN WRENCH # 2.0MM 199183 HUDY CAR BAG - 1/10 OFF-ROAD 132045 LIMITED EDITION - ALLEN WRENCH + BALL REPL. TIP # 2.0MM 199270 **HUDY LIPO SAFETY BAG** 153055 LIMITED EDITION - SLOTTED SCREWDRIVER # 3.0MM - LONG **HUDY TIN ROUND BOX 80X30MM** 298100 175535 LIMITED EDITION - SOCKET DRIVER # 5.5MM HUDY ALU RC FAN 30MM - BOTTOM MOUNT 2 HOLE 293100 LIMITED EDITION - SOCKET DRIVER # 7.0MM 177035 293101 HUDY ALU RC FAN 30MM - SIDE MOUNT 2 HOLE 181030 HUDY SPRING STEEL TURNBUCKLE WRENCH 3 MM 293110 HUDY BRUSHLESS RC FAN 30MM - WITH EXTERNAL SOLDERING TABS 181090 HUDY SPECIAL TOOL FOR TURNBUCKLES & NUTS HUDY BRUSHLESS RC FAN 30MM - WITH INTERNAL SOLDERING TABS 293112 183011 **HUDY PROFESSIONAL MULTI TOOL**

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