XRAY XB8E 2018

1/8 LUXURY ELECTRIC OFF-ROAD BUGGY

INSTRUCTION MANUAL

BEFORE YOU START

The XB8E is a high-competition, high-quality, 1/8 electric buggy 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 XB8E, YOU MUST read through all of the operating instructions and instruction manual and fully understand them to get the maximum enjoyment and prevent unnecessary damage. Read carefully and fully understand the instructions before beginning assembly.

Make sure you review this entire manual, download and use set-up book from the web, and examine all details carefully. If for some reason you decide the XB8E is not what you wanted or expected, do not continue any further. Your hobby dealer cannot accept your XB8E 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 Výstavisku 6992
91101 Trenčín
Slovakia, EUROPE
Phone: +421-32-7401100
Fax: +421-32-7401109
Email: info@teamxray.com

XRAY USA
RC America, 2030 Century Center Blvd #15
Irving, TX 75062
USA
Phone: (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

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

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

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

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

IMPORTANT NOTES – GENERAL

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

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

IMPORTANT NOTES – ELECTRICAL

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

R/C & BUILDING TIPS

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

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

WARRANTY

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

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

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

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

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

QUALITY CERTIFICATE

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

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

SYMBOLS USED

Part bags used	Assemble in the specified order	Assemble left and right sides the same way	Assemble front and rear the same way	Pay attention here	Assemble as many times as specified (here twice)	Apply instant glue	Apply oil	Apply grease	Apply threadlock
Cut off shaded portion	Use special tool	Cut off remaining material	Time	Use cleaner or WD40	Tighten screw gently	Ensure smooth non-binding movement	Use pliers	Follow tip here	Follow Set-Up Book

TOOLS REQUIRED

Phillips 5.0mm (HUDY TOOLS)
Allen 1.5 / 2.0 / 2.5 / 3.0mm (HUDY TOOLS)
Ball Allen 2.5mm (HUDY TOOLS)
ARM REAMER 3mm/4mm (HUDY TOOLS)
Socket 5.0 / 5.5mm (HUDY TOOLS)

17mm Wheel Nut Tool (HUDY #107570)

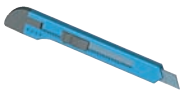
Turnbuckle Wrench (HUDY #181040 4mm) (HUDY #181050 5mm)

Special Tool for all turnbuckles, nuts (HUDY #181090)

Cross Wrench (HUDY #107581)

Side Cutters (HUDY #189010)

Hobby Knife



Needle Nose Pliers (HUDY #189020)

Snap Ring Pliers (HUDY #189040)

Scissors (HUDY #188990)

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

TOOLS & EQUIPMENT INCLUDED

Silicone Shock Oil (HUDY #106351 500cSt 100ml) (HUDY #106371 700cSt 100ml)

Silicone Diff Oil (HUDY #106431 3000cSt 100ml) (HUDY #106451 5000cSt 100ml)

Graphite Grease (HUDY #106210)

NOT INCLUDED

To ensure that you always have access to the most up-to-date version of the XRAY Set-up Book, XRAY will now be offering only the digital online version at our website at www.teamxray.com. 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.

EQUIPMENT REQUIRED

Transmitter
Receiver

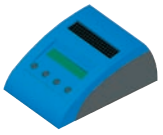
Electric Motor

Pinion Gear

Speed Controller

LiPo Battery

Battery Charger



Steering Servo

Threadlock

CA Glue

Transmitter Batteries

Tires & Wheels

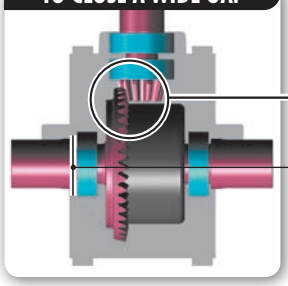
Lexan™ Paint

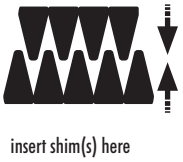
TIP FRONT & REAR DIFF GEAR MESH ADJUSTMENT

If there is too much or too little diff side play, this may create non-optimal gear mesh between the diff gear and the pinion drive gear. This is easily resolved by inserting 1 or 2 of the included thin shims behind a diff outdrive ball-bearing, depending on how much play there is.

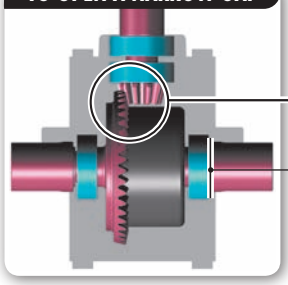
THE LOCATION OF THE SHIM(S) DEPENDS ON WHETHER YOU ARE TRYING TO CLOSE OR OPEN THE GAP:

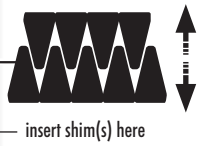
TO CLOSE A WIDE GAP

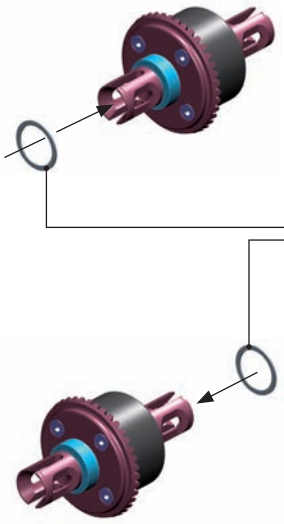




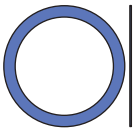
TO OPEN A NARROW GAP







To CLOSE a wide gap:
add 1 or 2 shims against diff spur gear



WASHER

#962131 S 13 x 16 x 0.1 mm (10)
#962130 S 13 x 16 x 0.2 mm (10)

To OPEN a narrow gap:
add 1 or 2 shims on the other side of the diff, away from spur gear

SUSPENSION & DRIVETRAIN MAINTENANCE

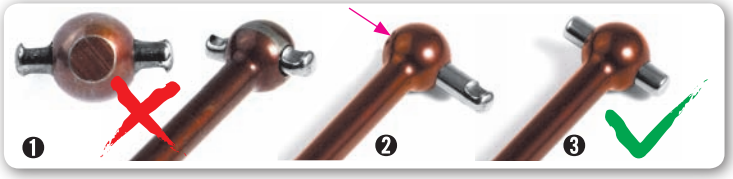
- Check suspension for free movement during building and operation, and especially after running and if you have crashed the car. If the suspension does not move freely, use the appropriate HUDY Arm Reamer to clean and resize the holes of the suspension arms.
- Regularly check the drive shaft pins (both 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 3x14 (#106050).
- 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.

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 after some time "go down" 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.

TIP DRIVE SHAFT PINS 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 easy drive pin replacements use #106000 HUDY Drive Pin Replacement Tool.

To replace the worn pins use only premium HUDY drive pins #106050.

TIP INSTALLING PIVOT BALLS INTO COMPOSITE BALL-JOINTS

Place the pivot ball on the ball joint and use a screw to tighten it to an engine mount or some other part.

Tighten screw until pivot ball is tight against block.

Lift ball joint until it snaps into place over pivot ball. Ball joint should move freely.

The finished joint.

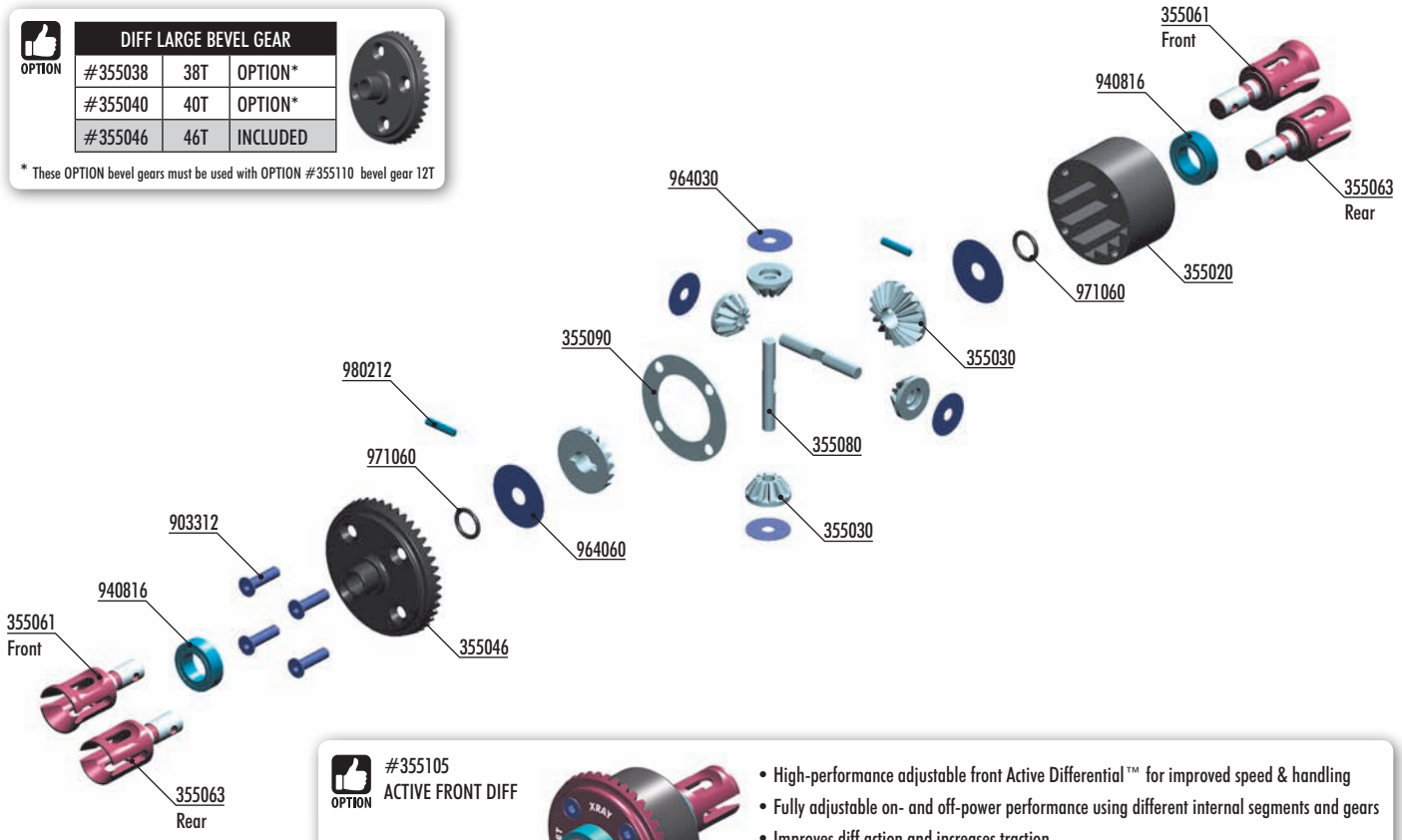
Loosen and remove screw.

1. FRONT & REAR DIFFERENTIALS

OPTION

DIFF LARGE BEVEL GEAR		
#355038	38T	OPTION*
#355040	40T	OPTION*
#355046	46T	INCLUDED

* These OPTION bevel gears must be used with OPTION #355110 bevel gear 12T



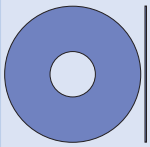
OPTION #355105 ACTIVE FRONT DIFF

- High-performance adjustable front Active Differential™ for improved speed & handling
- Fully adjustable on- and off-power performance using different internal segments and gears
- Improves diff action and increases traction
- Easy and consistent steering

BAGS 01.1 2x

35 5003	XB8 FRONT/REAR DIFFERENTIAL 46T - SET	35 5090	DIFF GASKET (4)
35 5020	DIFFERENTIAL CASE	90 3312	HEX SCREW SFH M3x12 (10)
35 5030	STEEL DIFF BEVEL & SATELLITE GEARS (2+4)	94 0816	HIGH-SPEED BALL-BEARING 8x16x5 BLUE COVERED (2)
35 5046	FRONT/REAR DIFF LARGE BEVEL GEAR 46T - HUDY STEEL	96 4030	WASHER S 3.5x12x0.2 (10)
35 5061	FRONT DIFF OUTDRIVE ADAPTER - LONG (2)	96 4060	WASHER S 6x18x0.2 (10)
35 5063	F/R DIFF OUTDRIVE ADAPTER - LIGHTW. - HUDY SPRING STEEL™ (2)	97 1060	SILICONE O-RING 6x1.5 (10)
35 5080	DIFF PIN (2)	98 0212	PIN 2x11.6 (10)

940816
BB 8x16x5



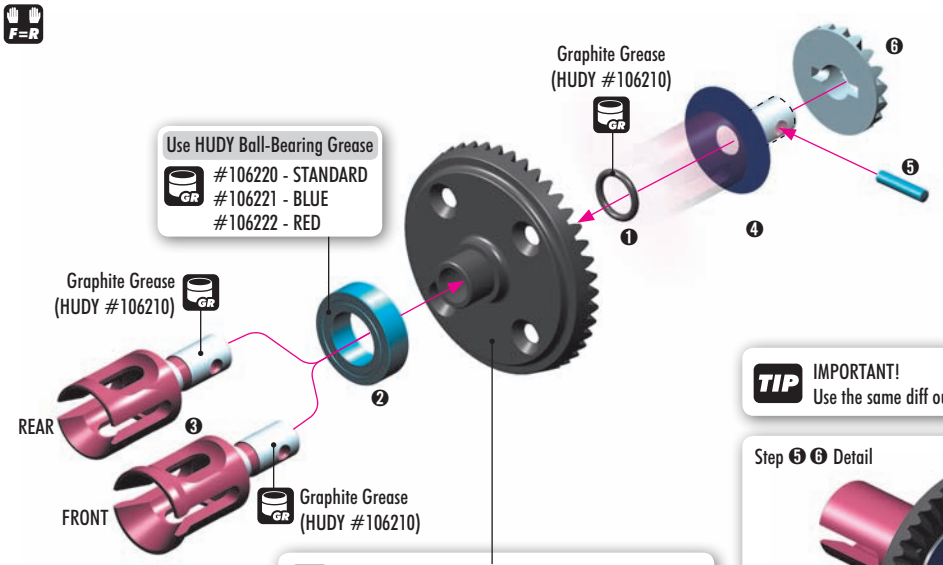
964060
S 6x18x0.2

971060
O 6x1.5

980212
P 2x11.6

SET-UP BOOK
DIFFERENTIAL GEARS

2x F=R



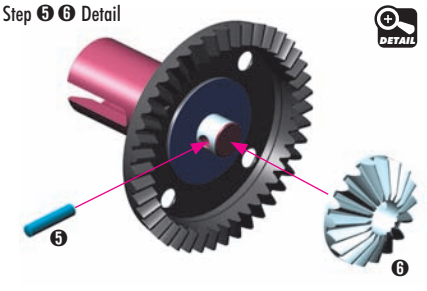
OPTION

DIFF LARGE BEVEL GEAR		
#355038	38T	OPTION*
#355040	40T	OPTION*
#355046	46T	INCLUDED

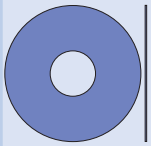
* These OPTION bevel gears must be used with OPTION #355110 bevel gear 12T

TIP IMPORTANT!
Use the same diff outdrives on both ends of a diff.

Step 5 6 Detail



940816
BB 8x16x5



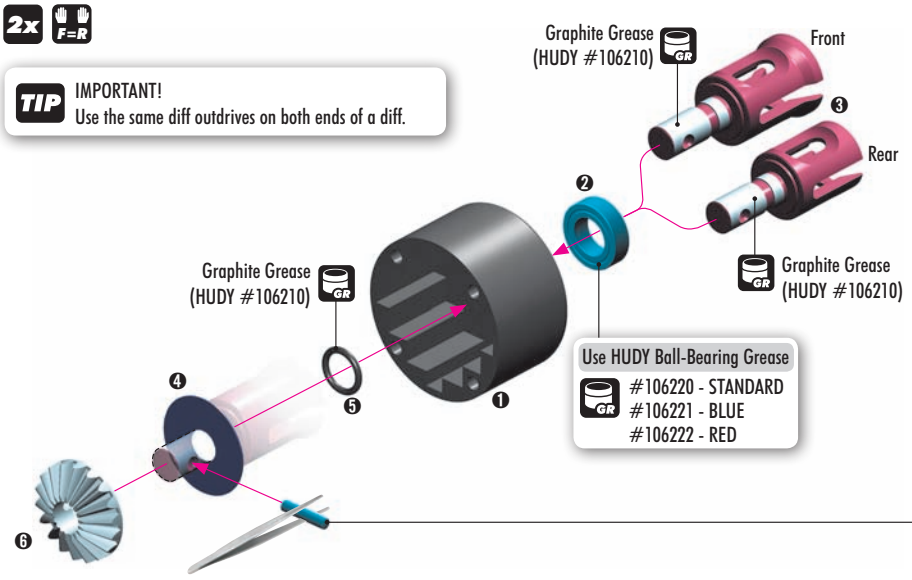
964060
S 6x18x0.2

971060
O 6x1.5

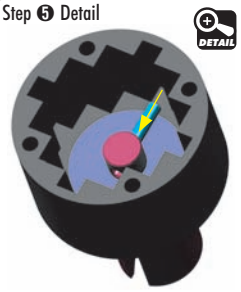
980212
P 2x11.6

2x F=R

TIP IMPORTANT!
Use the same diff outdrives on both ends of a diff.

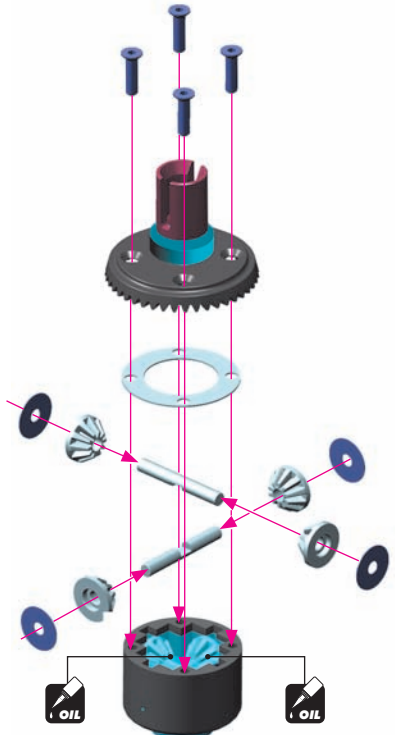


Step ❺ Detail DETAIL



903312
SFH M3x12

964030
S 3.5x12x0.2

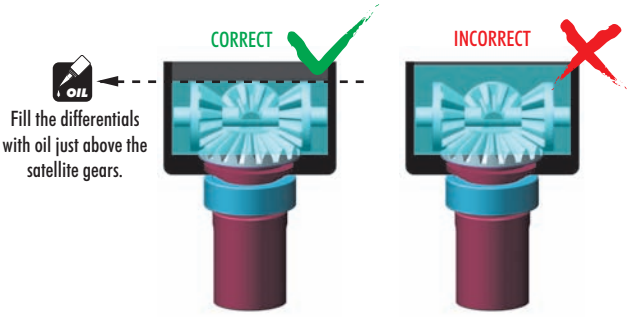


Front diff:
Silicone oil 5 000cSt
Fill just above the satellite gears.

Rear diff:
Silicone oil 3 000cSt
Fill just above the satellite gears.

VERY IMPORTANT!

Use these silicone oils included in the kit for initial settings:
Front diff: 5 000cSt / Rear diff: 3 000cSt



IMPORTANT!
Do not overfill the differential. If there is too much oil in the differential, it may leak after it cools down after use.

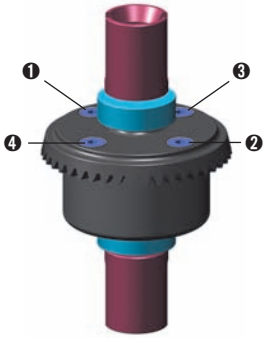
To ensure you have the same amount of oil from rebuild to rebuild, do the following:

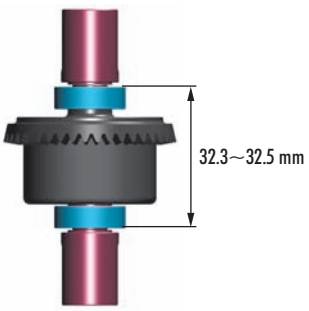
1. Put the diff (without oil) on the scale and check the weight (approximately 40g).

2. Slowly pour oil into the diff and watch the weight. Add 2.1g of oil into the diff. The approximate weight of the diff+oil is 42.1g.

Tighten the screws equally

Finish tightening in this order



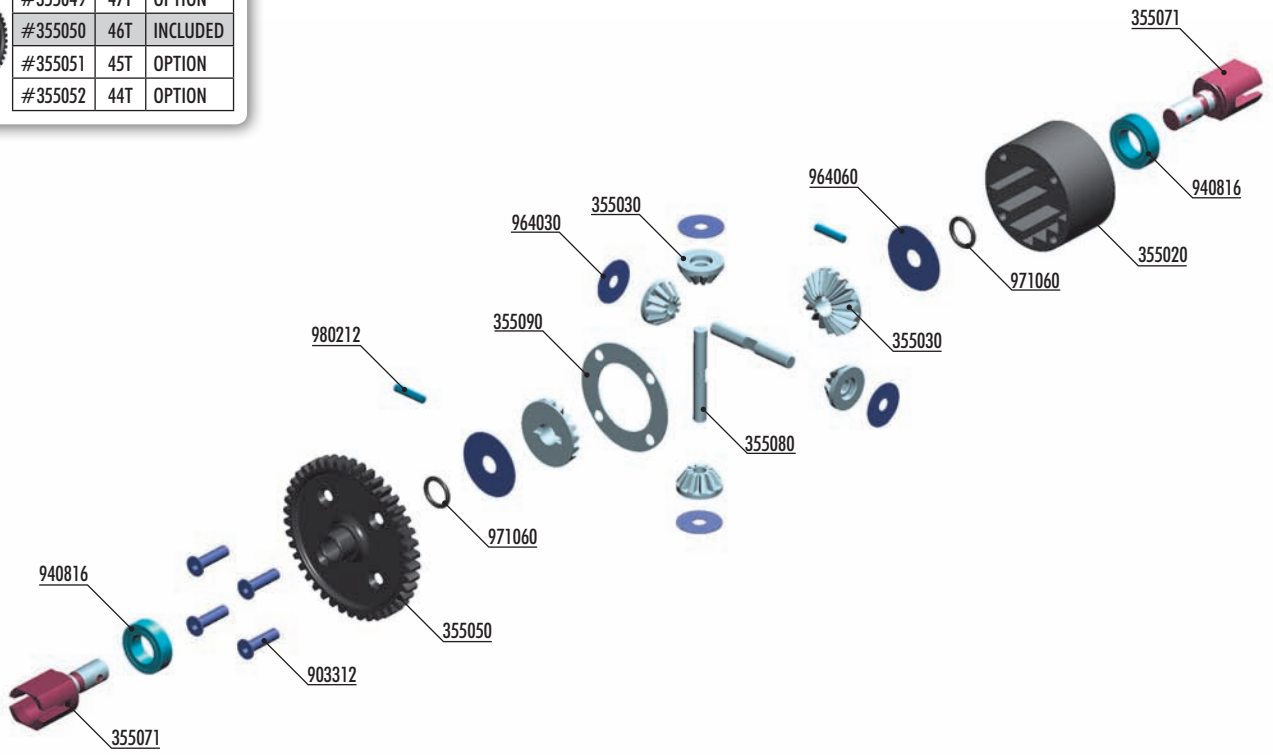


After assembly the differentials should have a length of 32.3~32.5 mm measured from the ends of the installed ball-bearings. If differentials are longer, retighten the 4 screws holding the crown gears.

SET-UP BOOK
DIFFERENTIAL OIL

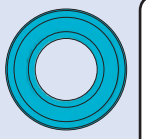
1. CENTER DIFFERENTIAL

OPTION	CENTER DIFF SPUR GEAR		
	#355048	48T	OPTION
	#355049	47T	OPTION
	#355050	46T	INCLUDED
	#355051	45T	OPTION
	#355052	44T	OPTION

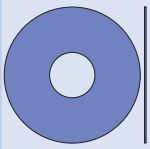


BAG 01.3

35 5012	CENTRAL DIFFERENTIAL - SET	90 3312	HEX SCREW SFH M3x12 (10)
35 5020	DIFFERENTIAL CASE	94 0816	HIGH-SPEED BALL-BEARING 8x16x5 BLUE COVERED (2)
35 5030	STEEL DIFF BEVEL & SATELLITE GEARS (2+4)	96 4030	WASHER S 3.5x12x0.2 (10)
35 5050	CENTER DIFF SPUR GEAR 46T	96 4060	WASHER S 6x18x0.2 (10)
35 5071	CENTER DIFF OUTDRIVE ADAPTER - LIGHTWEIGHT - HUDY STEEL (2)	97 1060	SILICONE O-RING 6x1.5 (10)
35 5080	DIFF PIN (2)	98 0212	PIN 2x11.6 (10)
35 5090	DIFF GASKET (4)		



940816
BB 8x16x5

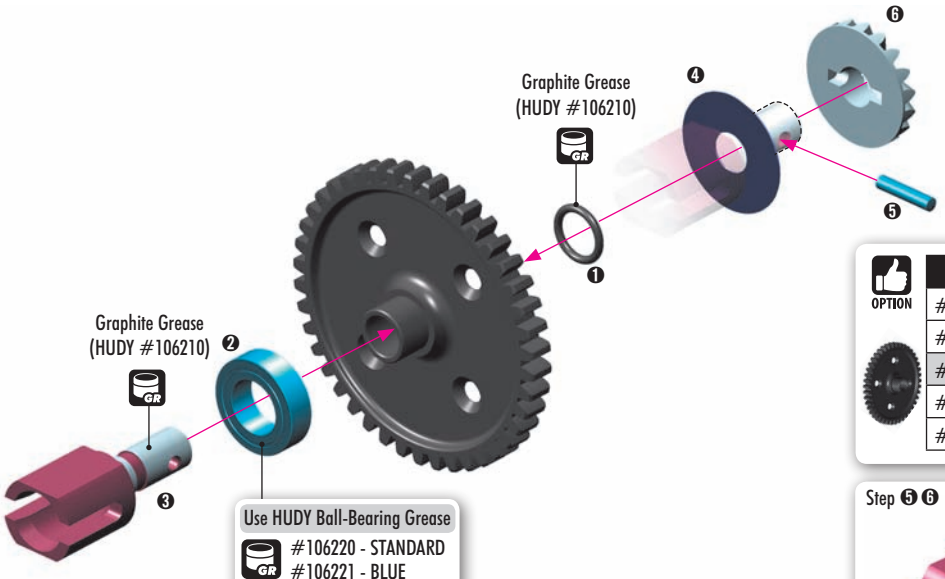


964060
S 6x18x0.2

971060
O 6x1.5

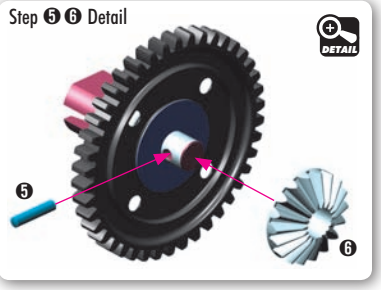
980212
P 2x11.6

SET-UP BOOK
DIFFERENTIAL GEARS

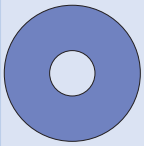


OPTION	CENTER DIFF SPUR GEAR		
	#355048	48T	OPTION
	#355049	47T	OPTION
	#355050	46T	INCLUDED
	#355051	45T	OPTION
	#355052	44T	OPTION

Step ❺ ❻ Detail



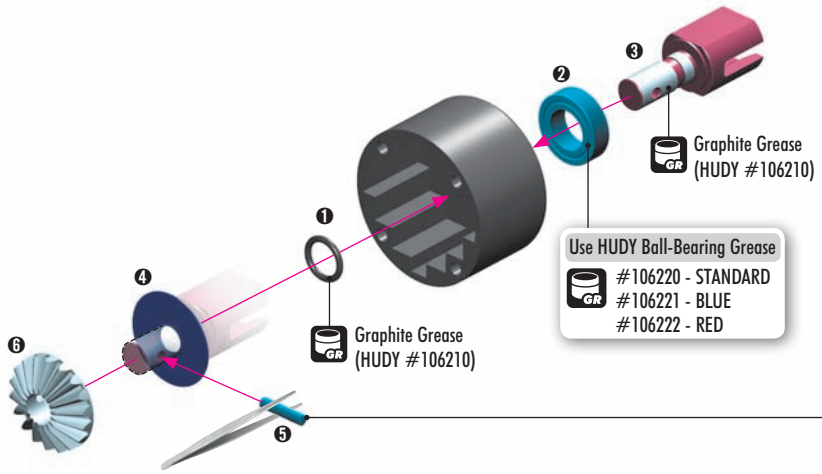
940816
BB 8x16x5



964060
S 6x18x0.2

971060
O 6x1.5

980212
P 2x11.6

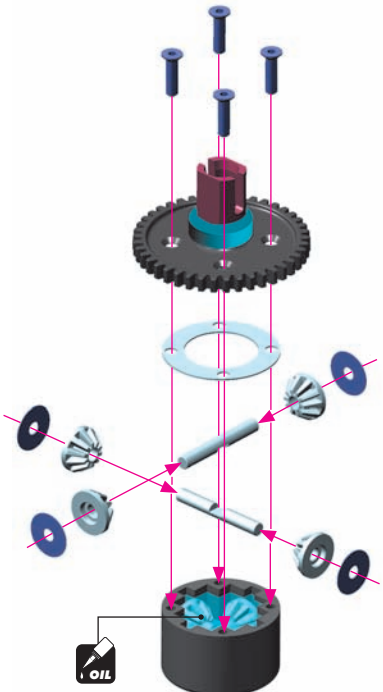


Step ❺❻ Detail

903312
SFH M3x12

964030
S 3.5x12x0.2

SET-UP BOOK
DIFFERENTIAL OIL

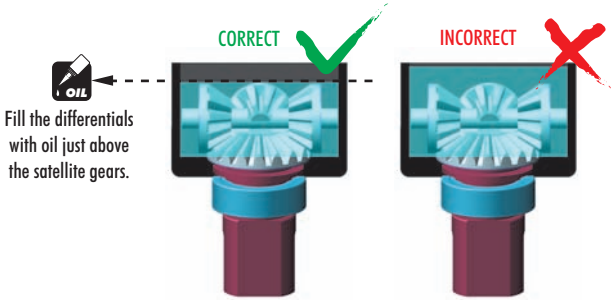


Center diff:

Silicone oil 5 000cSt
Fill to just above the satellite gears.

VERY IMPORTANT!

Use the following silicone oil included in the kit for initial setting:
Center diff: 5 000cSt



Fill the differentials with oil just above the satellite gears.

IMPORTANT!
Do not overfill the differential. If there is too much oil in the differential, it may leak after it cools down after use.

To ensure you have the same amount of oil from rebuild to rebuild, do the following:

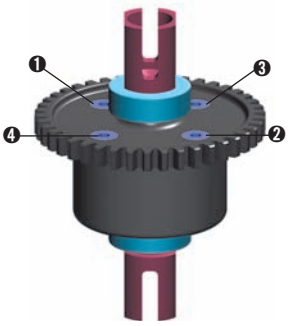
#107865 HUDY Ultimate Digital Pocket Scale 300g±0.01g

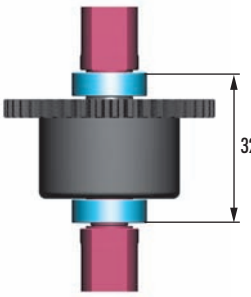
1. Put the diff (without oil) on the scale and check the weight (approximately 40g).

2. Slowly pour oil into the diff and watch the weight. Add 2.1g of oil into the diff. The approximate weight of the diff+oil is 42.1g.

Tighten the screws equally

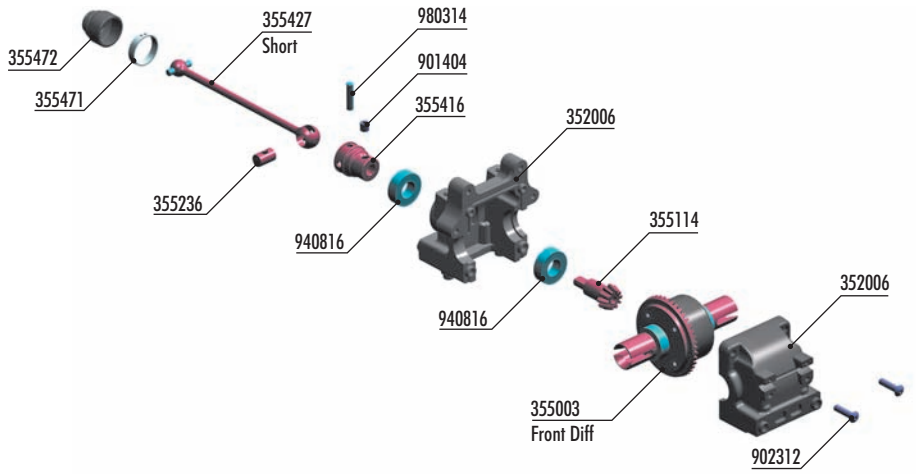
Finish tightening in this order





After assembly the differential should have a length of 32.3~32.5 mm measured from the ends of the installed ball-bearings. If differential is longer, retighten the 4 screws holding the spur gear.

2. FRONT TRANSMISSION



BAG 02

35 2006	XB8'16 DIFF BULKHEAD BLOCK SET FRONT/REAR	35 5472	DRIVE SHAFT BOOT (2)
35 5003	XB8 FRONT/REAR DIFFERENTIAL 46T - SET		
35 5114	BEVEL DRIVE GEAR 14T	90 1404	HEX SCREW SB M4x4 (10)
35 5236	CVD DRIVE SHAFT COUPLING - HUDY SPRING STEEL™	90 2312	HEX SCREW SH M3x12 (10)
35 5416	CENTRAL CVD SHAFT UNIVERSAL JOINT - HUDY SPRING STEEL™	94 0816	HIGH-SPEED BALL-BEARING 8x16x5 RUBBER SEALED (2)
35 5427	FRONT CENTRAL CVD DRIVE SHAFT - HUDY SPRING STEEL™	98 0314	PIN 3x14 (10)
35 5471	DRIVE SHAFT LOCKING RING (2)		

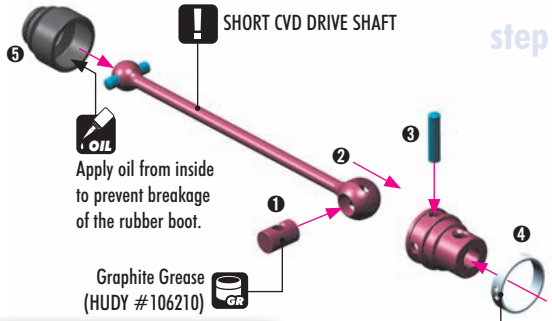

901404
SB M4x4

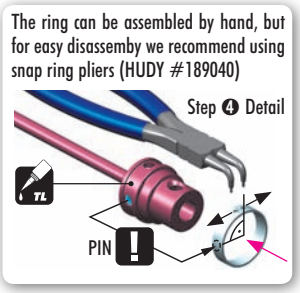

902312
SH M3x12

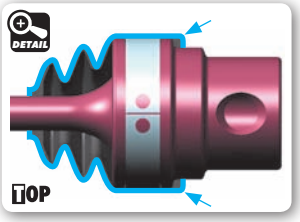

940816
BB 8x16x5


980314
P 3x14

step 1



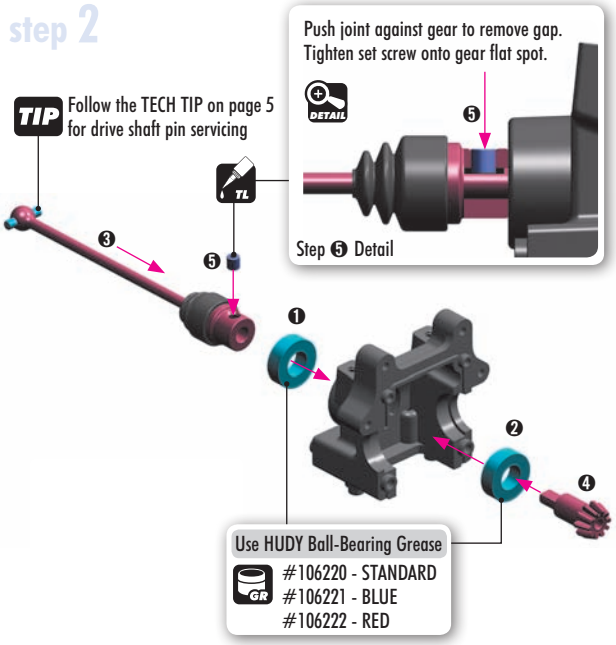




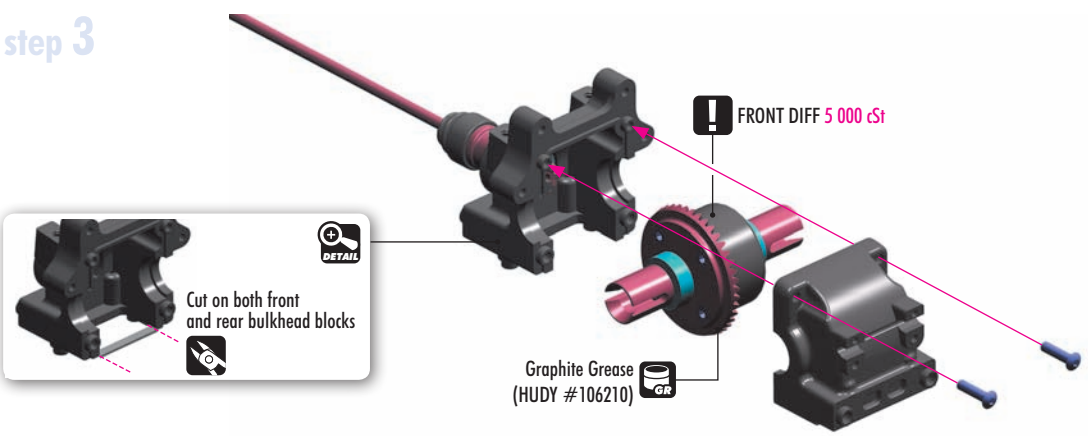
BEFORE inserting the clip on the central CVD shaft joint, apply a small amount of threadlock on the area where the clip goes.

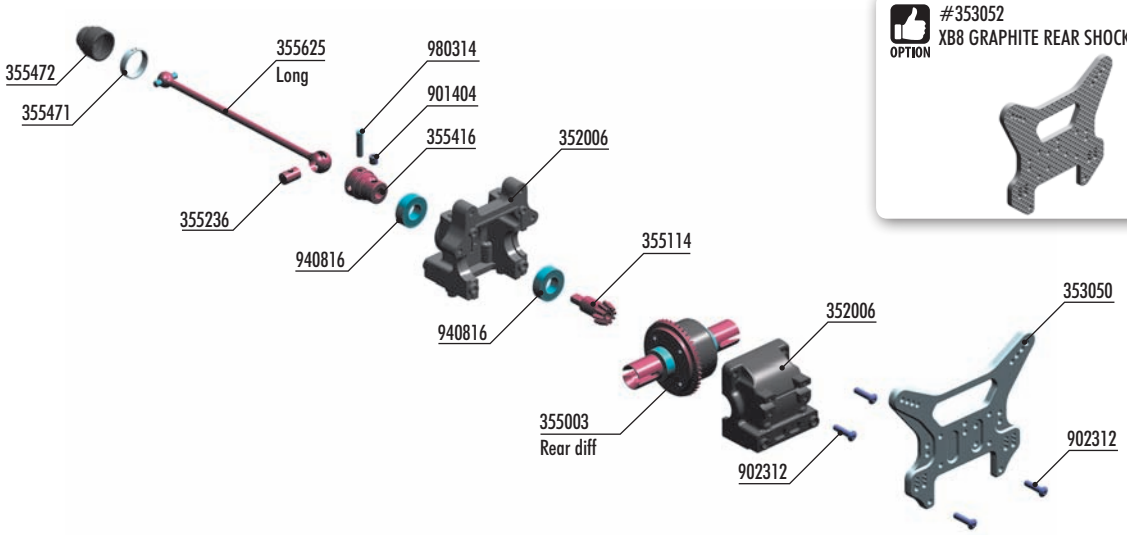
AFTER inserting the clip on the central CVD shaft joint, turn the clip so that the slot is 90°from the pin. This will prevent the pin from opening the clip.

step 2



step 3





OPTION #353052
XB8 GRAPHITE REAR SHOCK TOWER 3.5MM

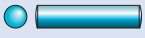
BAG 02

35 2006	XB8'16 DIFF BULKHEAD BLOCK SET FRONT/REAR	35 5471	DRIVE SHAFT LOCKING RING (2)
35 5003	XB8 FRONT/REAR DIFFERENTIAL 46T - SET	35 5472	DRIVE SHAFT BOOT (2)
35 3050	XB8 ALU REAR SHOCK TOWER - CNC MACHINED 7075 T6 (4MM)		
35 5114	BEVEL DRIVE GEAR 14T	90 1404	HEX SCREW SB M4x4 (10)
35 5236	CVD DRIVE SHAFT COUPLING - HUDY SPRING STEEL™	90 2312	HEX SCREW SH M3x12 (10)
35 5416	CENTRAL CVD SHAFT UNIVERSAL JOINT - HUDY SPRING STEEL™	94 0816	HIGH-SPEED BALL-BEARING 8x16x5 RUBBER SEALED (2)
35 5625	REAR CENTRAL CVD DRIVE SHAFT - HUDY SPRING STEEL™	98 0314	PIN 3x14 (10)

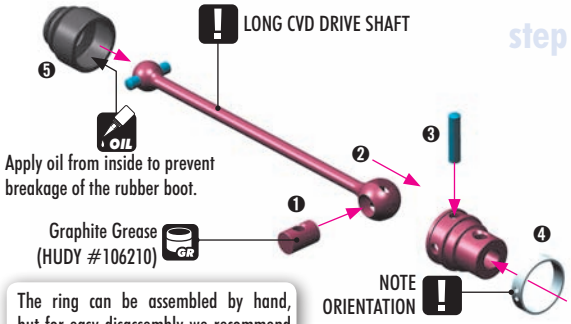

901404
SB M4x4


902312
SH M3x12

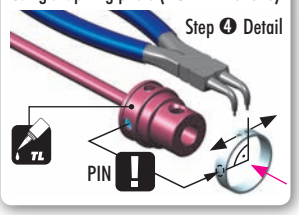

940816
BB 8x16x5

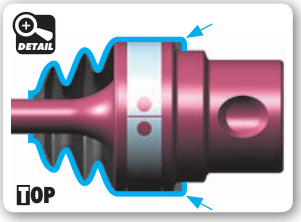

980314
P 3x14

step 1



The ring can be assembled by hand, but for easy disassembly we recommend using snap ring pliers (HUDY #189040)





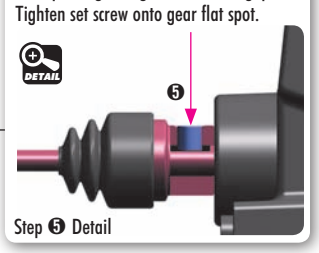
BEFORE inserting the clip on the central CVD shaft joint, apply a small amount of threadlock on the area where the clip goes.

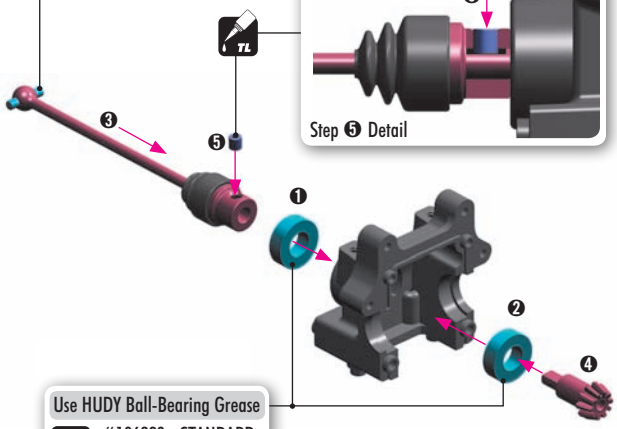
AFTER inserting the clip on the central CVD shaft joint, turn the clip so that the slot is 90°from the pin. This will prevent the pin from opening the clip.

step 2

TIP Follow the TECH TIP on page 5 for drive shaft pin servicing.

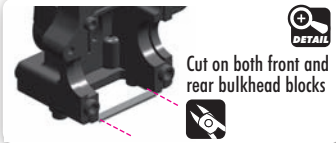
Push joint against gear to remove gap. Tighten set screw onto gear flat spot.

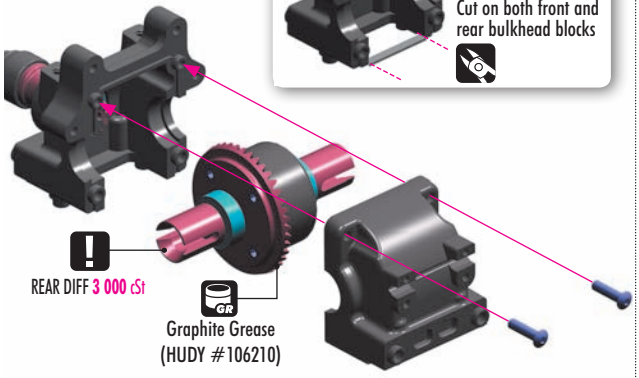




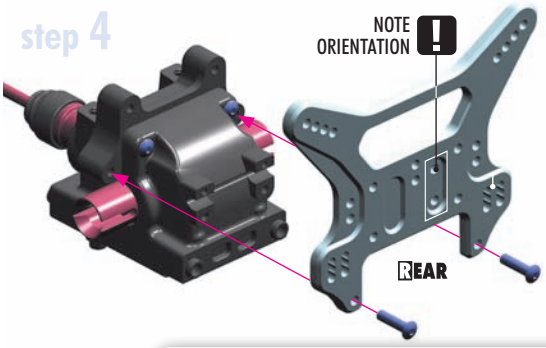
Use HUDY Ball-Bearing Grease
#106220 - STANDARD
#106221 - BLUE
#106222 - RED

step 3





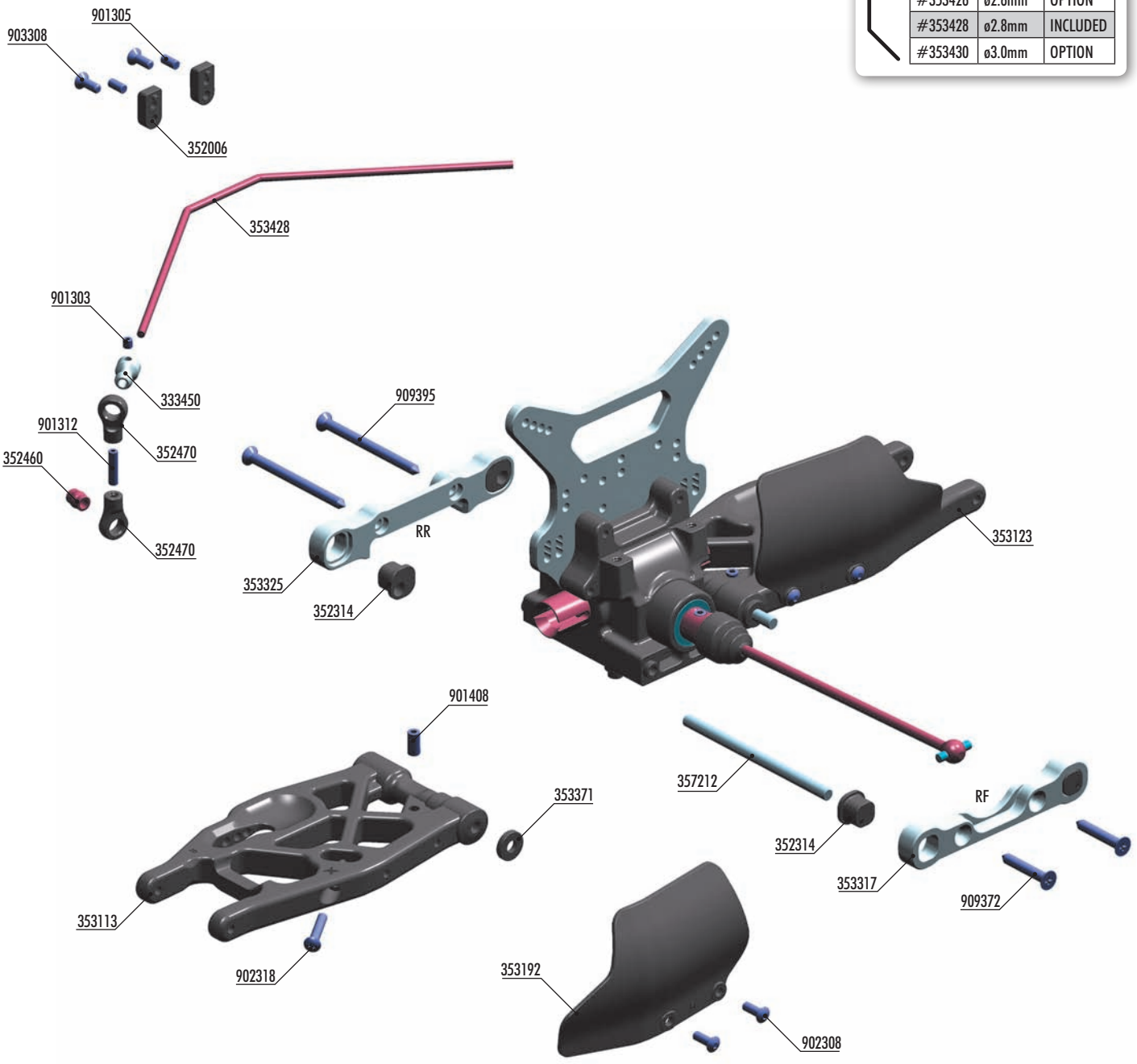
step 4



OPTION #353052
XB8 GRAPHITE REAR SHOCK TOWER 3.5MM

3. REAR SUSPENSION

OPTION	REAR ANTI-ROLL BARS		
	#353422	ø2.2mm	OPTION
	#353424	ø2.4mm	OPTION
	#353426	ø2.6mm	OPTION
	#353428	ø2.8mm	INCLUDED
	#353430	ø3.0mm	OPTION



BAG 03

33 3450	ANTI-ROLL BAR BALL JOINT 5.8 MM (2)
35 2006	XB8'16 DIFF BULKHEAD BLOCK SET FRONT/REAR
35 2314	COMPOSITE ECCENTRIC BUSHINGS - V2 (2)
35 2460	PIVOT BALL 5.8 (10)
35 2470	BALL JOINT 5.8 (8)
35 3113	XB8'16 COMPOSITE REAR LOWER SUSPENSION ARM - RIGHT
35 3123	XB8'16 COMPOSITE REAR LOWER SUSPENSION ARM - LEFT
35 3192	XB8 COMPOSITE REAR MUD PROTECTOR (L+R)
35 3317	XB8 ALU REAR LOWER SUSP. HOLDER - FRONT - SQUARE ADJ. ROLL-CENTER
35 3325	XB8 ALU REAR LOWER SUSP. HOLDER - REAR - SQUARE ADJ. ROLL-CENTER
35 3371	SET OF COMPOSITE LOWER ARM SHIMS
35 3428	REAR ANTI-ROLL BAR 2.8MM
35 7212	LOWER INNER PIVOT PIN F+R (2)
90 1303	HEX SCREW SB M3x3 (10)
90 1305	HEX SCREW SB M3x5 (10)
90 1312	HEX SCREW SB M3x12 (10)
90 1408	HEX SCREW SB M4x8 (10)
90 2308	HEX SCREW SH M3x8 (10)
90 2318	HEX SCREW SH M3x18 (10)
90 3308	HEX SCREW SFH M3x8 (10))
90 9372	SCREW PHILLIPS SS 3.5x22 (10)
90 9395	SCREW PHILLIPS SS 3.5x45 (10)

353371
SHIM 4x10x2

901408
SB M4x8

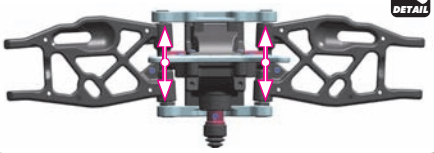
909372
SS 3.5x22

909395
SS 3.5x45

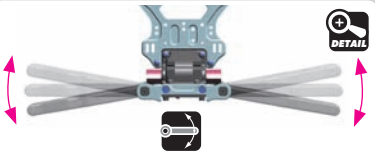
REAR ARM

DETAIL

Push the arm from both sides to create play

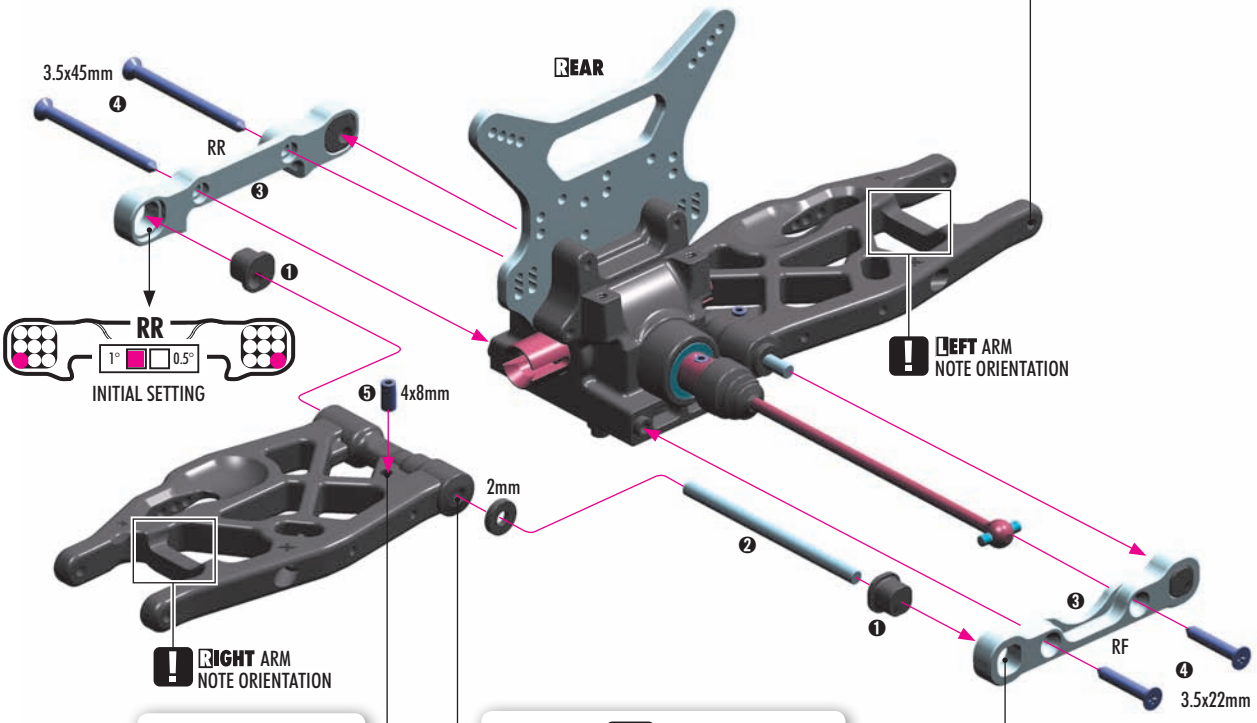


DETAIL



DETAIL

Check for free movement



DETAIL L=R

TOP DOWNSTOP SETTING

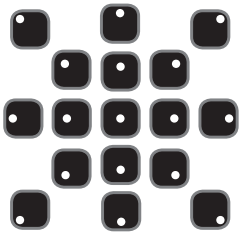
BOTTOM 3.3mm

TIP

If the suspension arm does not move freely use a HUDY Arm Reamer to size the holes of the arms.
(HUDY #107634)

DETAIL

All possible mounting alternatives of eccentric bushings



ECCENTRIC BUSHINGS HAVE TWO DIFFERENT OFFSETS FROM THE CENTER.

 Middle position = 0.5 mm or 0.5° from center

 Outer position = 1mm or 1° from center

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

The XRAY rear alu lower suspension holders provide even greater 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 Off-Road Set-up Book (#209099).

ANTI-SQUAT RR	RF	(°)
		=3°
		=4°
		=2°
		=4°
		=3°
		=5°
		=2°
		=3°
		=1°

ROLL CENTER RR	RF	(mm)
		=0mm
		=1mm
		=-1mm

TRACK-WIDTH RR	RF	(mm)
		=308
		=306
		=310

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

The tables describe the amounts of rear anti-squat, rear toe-in, rear track-width change depending on the combinations of eccentric bushings used with 0 and 1mm, 1° off set. The 0.5mm, 0.5° represent the half change.

Anti-Squat Example:

0(RR) - 0 (RF) = 3°  = 3°

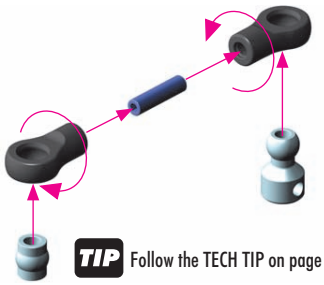
0(RR) - 0.5 (RF) = 3.5°  = 3.5°

0(RR) - 1 (RF) = 4°  = 4°

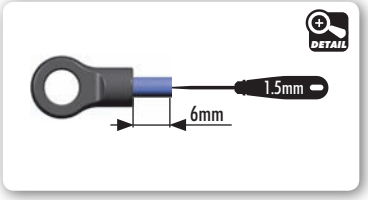
3. REAR SUSPENSION

901312
SB M3x12

2x L=R



TIP Follow the TECH TIP on page 5 to install the pivot balls



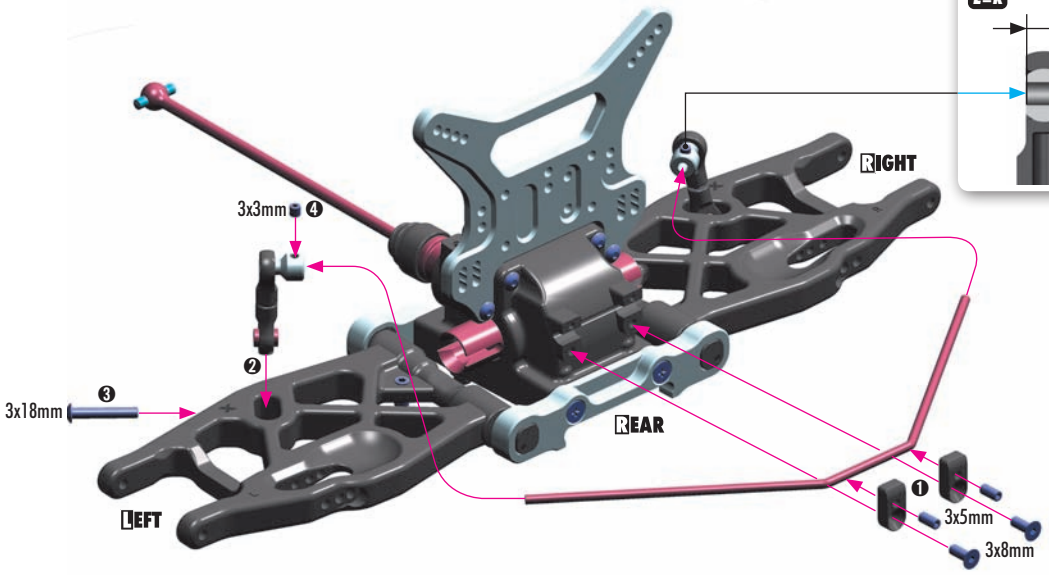
901303
SB M3x3

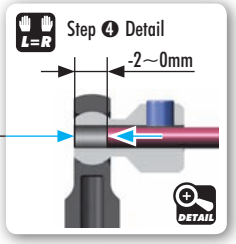
901305
SB M3x5

902318
SH M3x18

903308
SFH M3x8

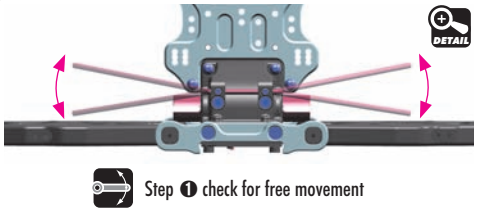
L=R



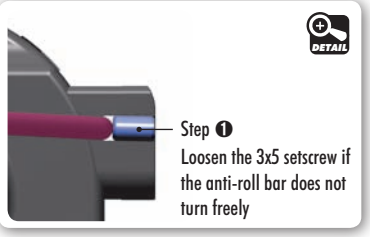


OPTION

REAR ANTI-ROLL BARS		
#353422	ø2.2mm	OPTION
#353424	ø2.4mm	OPTION
#353426	ø2.6mm	OPTION
#353428	ø2.8mm	INCLUDED
#353430	ø3.0mm	OPTION



Step ❶ check for free movement

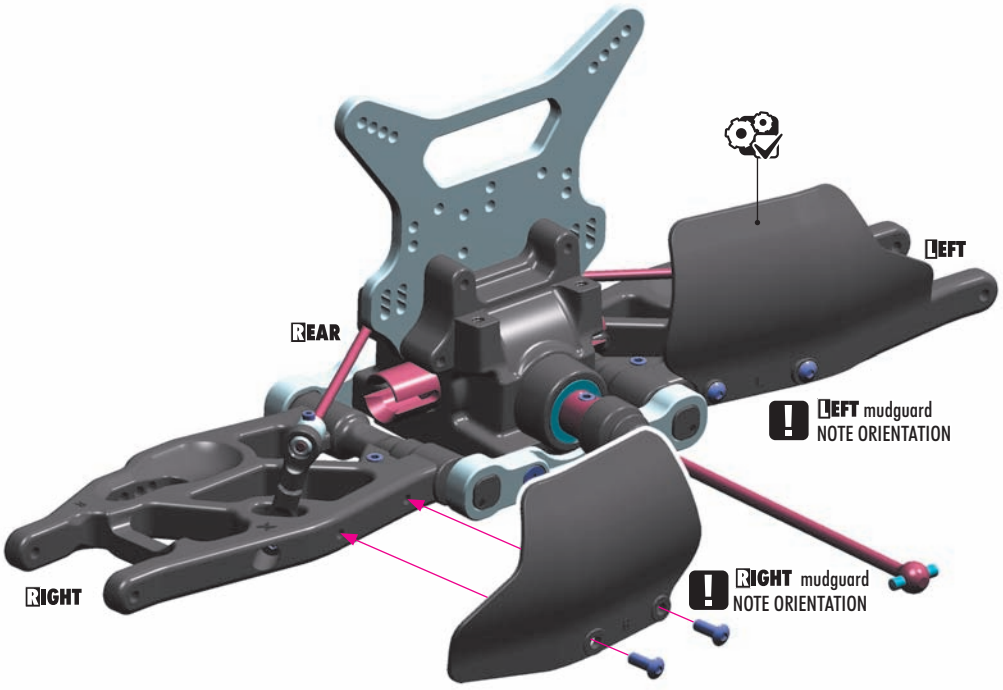


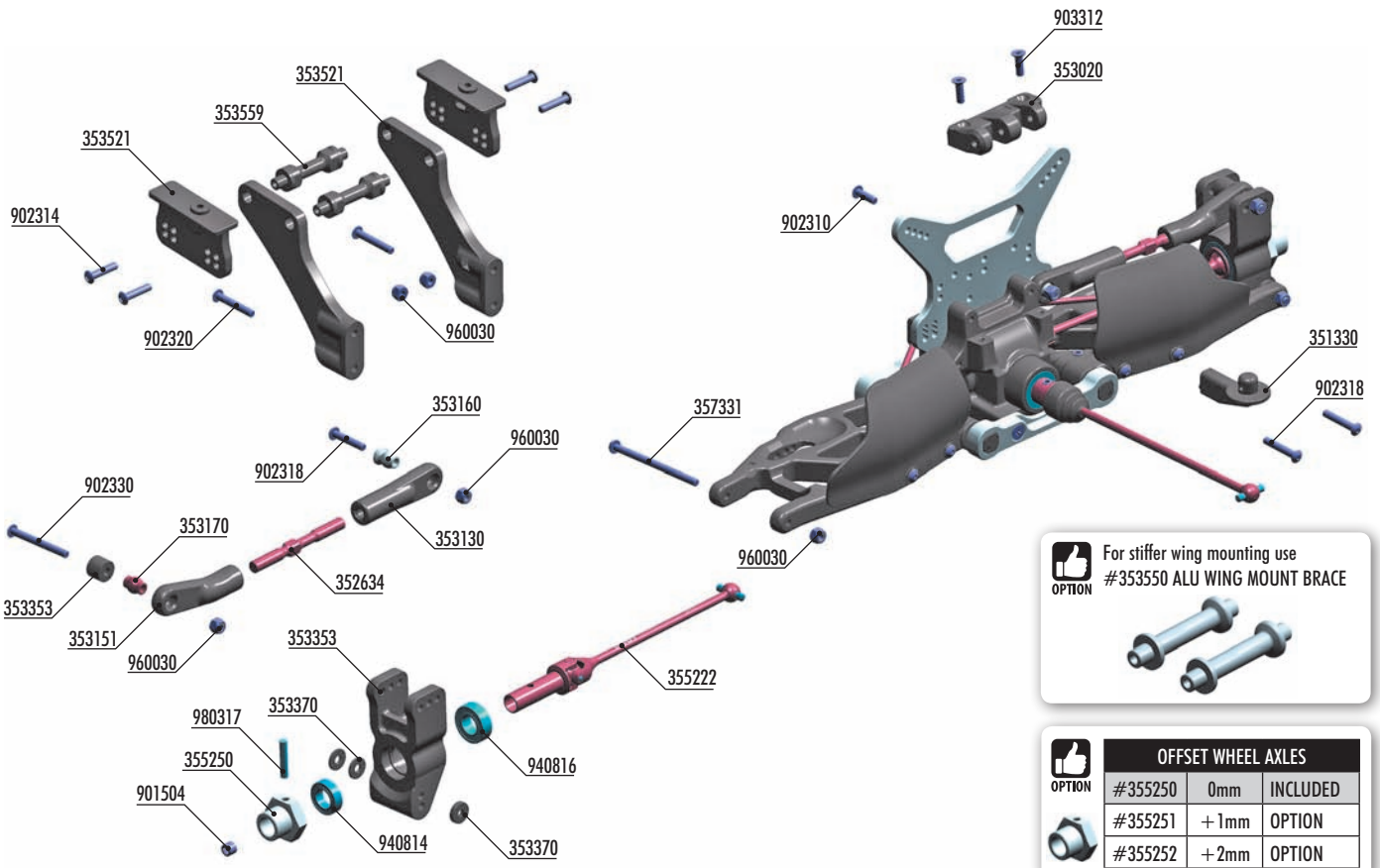
Step ❶
Loosen the 3x5 setscrew if the anti-roll bar does not turn freely

SET-UP BOOK
ANTI-ROLL BAR

902308
SH M3x8

2x





OPTION For stiffer wing mounting use #353550 ALU WING MOUNT BRACE

OPTION

OFFSET WHEEL AXLES		
#355250	0mm	INCLUDED
#355251	+1mm	OPTION
#355252	+2mm	OPTION

BAG 04

35 1330	COMPOSITE REAR BODY POST - LONG
35 2634	ADJ. TURNBUCKLE M5 L/R 50 MM - HUDY SPRING STEEL™ (2)
35 3020	COMPOSITE REAR BRACE HOLDER
35 3130	REAR UPPER INNER CAMBER LINK BALL JOINT (2)
35 3151	RELIEF REAR UPPER OUTER CAMBER LINK BALL JOINT (2)
35 3160	MOUNTING BALL 6.8 (4)
35 3170	PIVOT BALL 6.8 (4)
35 3353	XB8'16 COMPOSITE REAR UPRIGHT
35 3370	SET OF COMPOSITE REAR HUB CARRIER SHIMS
35 3521	REAR WING POSTS
35 3559	COMPOSITE REAR WING MOUNT BRACE (2)
35 5222	UNIVERSAL DRIVE SHAFT - HUDY SPRING STEEL™
35 5250	ALU WHEEL AXLE - BLACK COATED (2)
35 7331	XB808 REAR LOWER OUTER PIVOT PIN SCREW 3MM (2)
90 1504	HEX SCREW SB M5x4 (10)
90 2310	HEX SCREW SH M3x10 (10)
90 2314	HEX SCREW SH M3x14 (10)
90 2318	HEX SCREW SH M3x18 (10)
90 2320	HEX SCREW SH M3x20 (10)
90 2330	HEX SCREW SH M3x30 (10)
90 3312	HEX SCREW SH M3x12 (10)
94 0814	HIGH-SPEED BALL-BEARING 8x14x4 BLUE COVERED (2)
94 0816	HIGH-SPEED BALL-BEARING 8x16x5 BLUE COVERED (2)
96 0030	NUT M3 (10)
98 0317	PIN 3x17 (10)

940814
BB 8x14x4

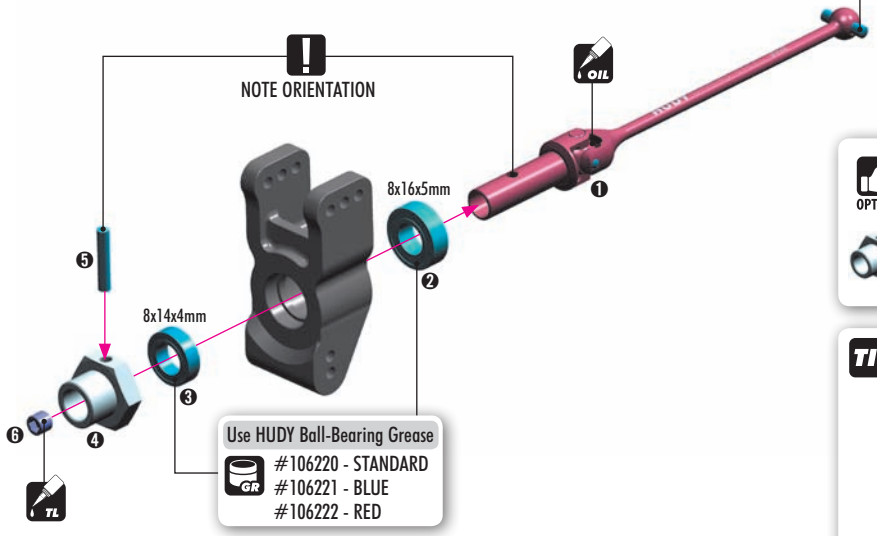
940816
BB 8x16x5

901504
SB M5x4

980317
P 3x17

2x L=R

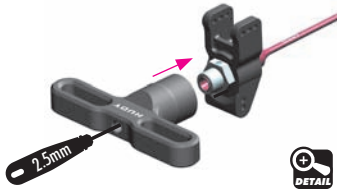
TIP Follow the TECH TIP on page 5 for drive shaft pin servicing



OPTION

OFFSET WHEEL AXLES		
#355250	0mm	INCLUDED
#355251	+1mm	OPTION
#355252	+2mm	OPTION

TIP To tighten the setscrew you can also use the HUDY 17mm Wheel Nut Tool #107570



4. REAR SUSPENSION

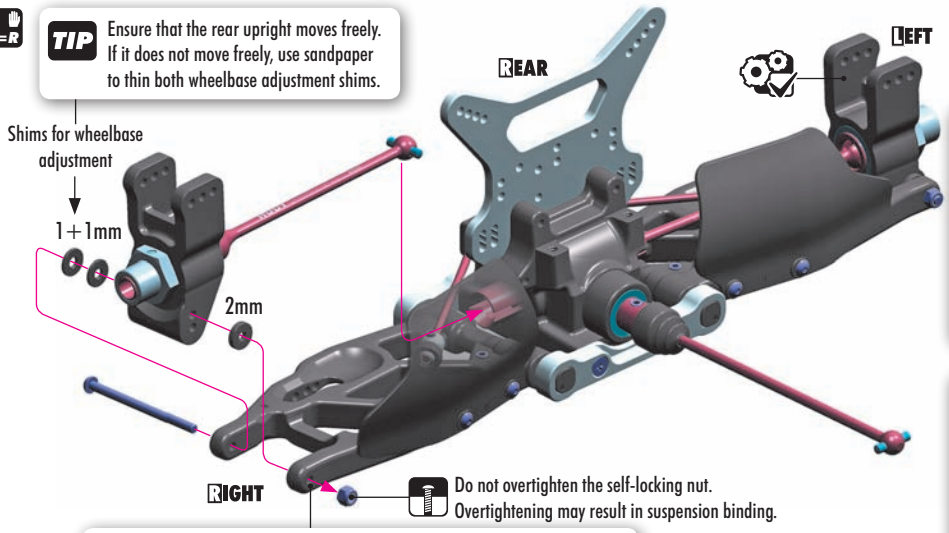
353370
SHIM 3x9x1

353370
SHIM 3x9x2

960030
N M3

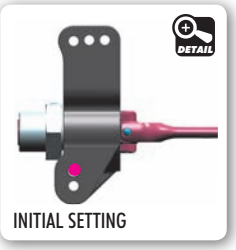
2x L=R

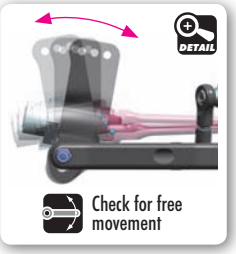
TIP Ensure that the rear upright moves freely. If it does not move freely, use sandpaper to thin both wheelbase adjustment shims.



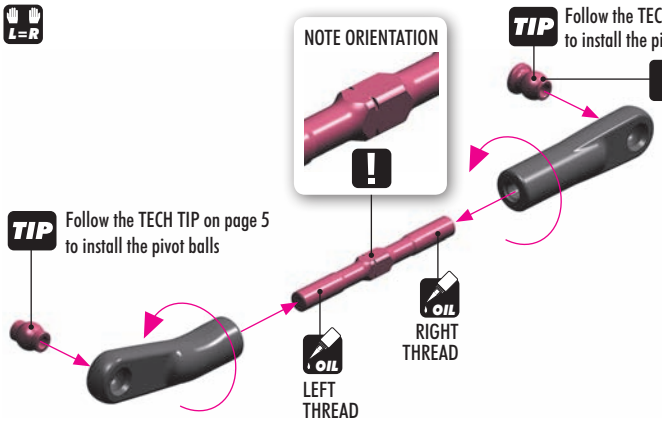
Do not overtighten the self-locking nut. Overtightening may result in suspension binding.

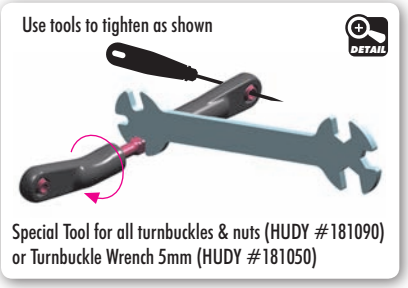
TIP L=R ARM REAMER (HUDY #107633)
If the rear upright does not move freely, use a HUDY Arm Reamer to resize the hole.





2x L=R





SET-UP BOOK
CAMBER

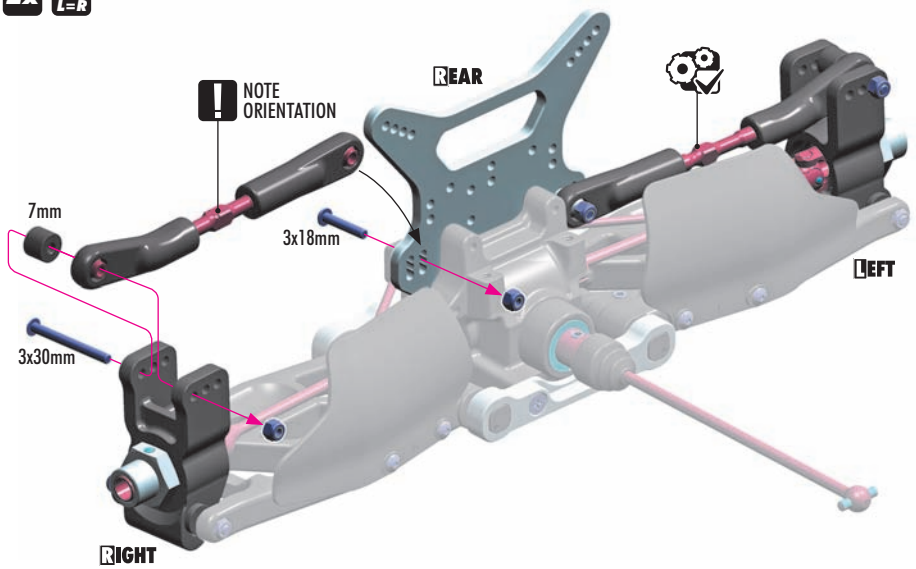
353353
SHIM 3x9x7

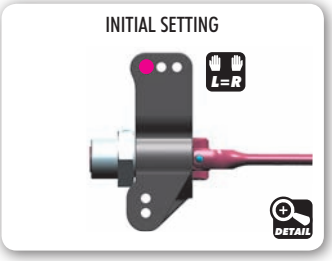
902318
SH M3x18

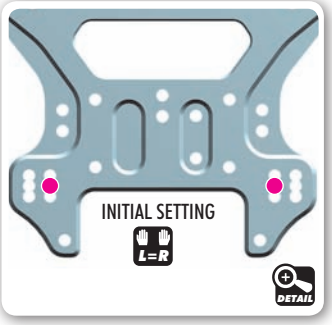
902330
SH M3x30

960030
N M3

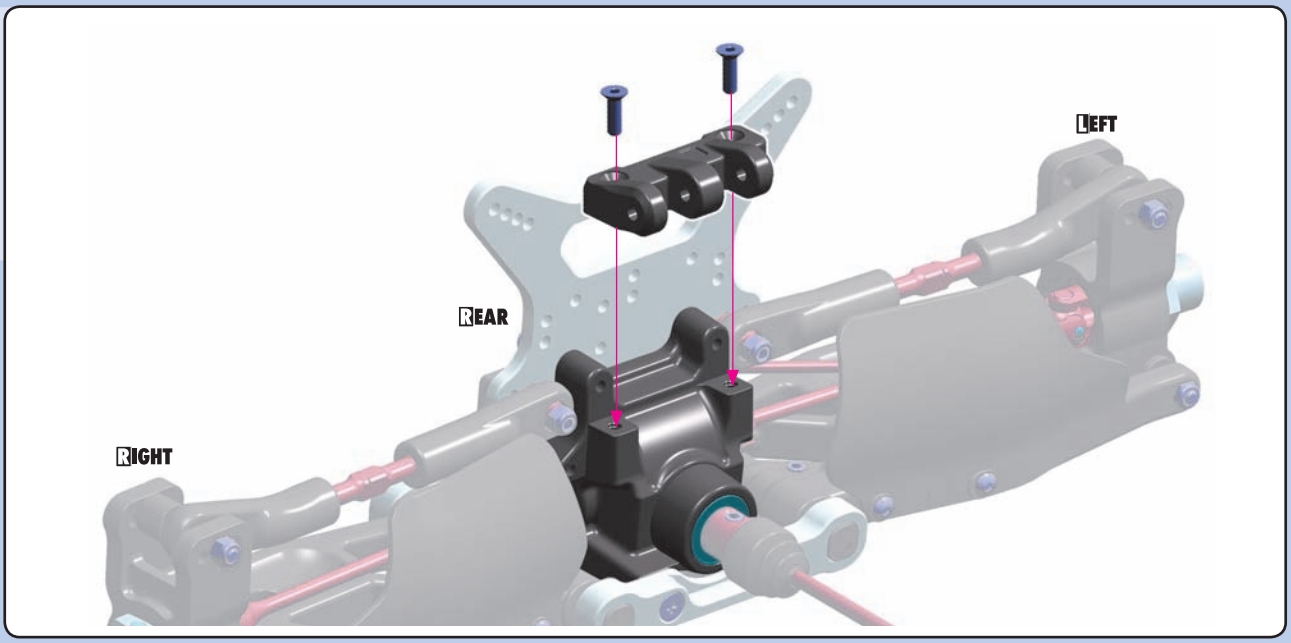
2x L=R







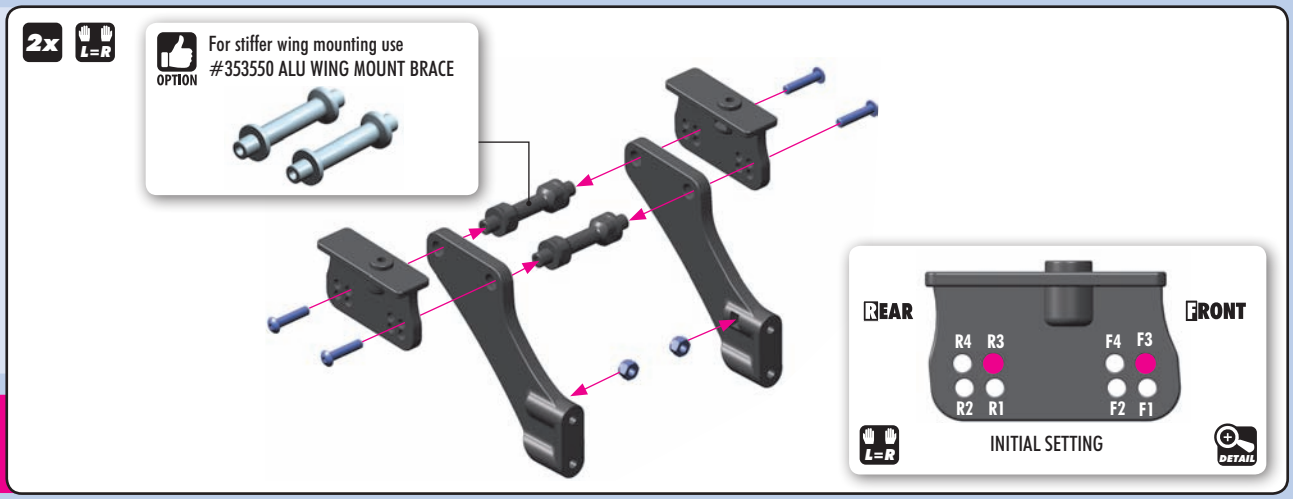
903312
SFH M3x12



902314
SH M3x14

960030
N M3

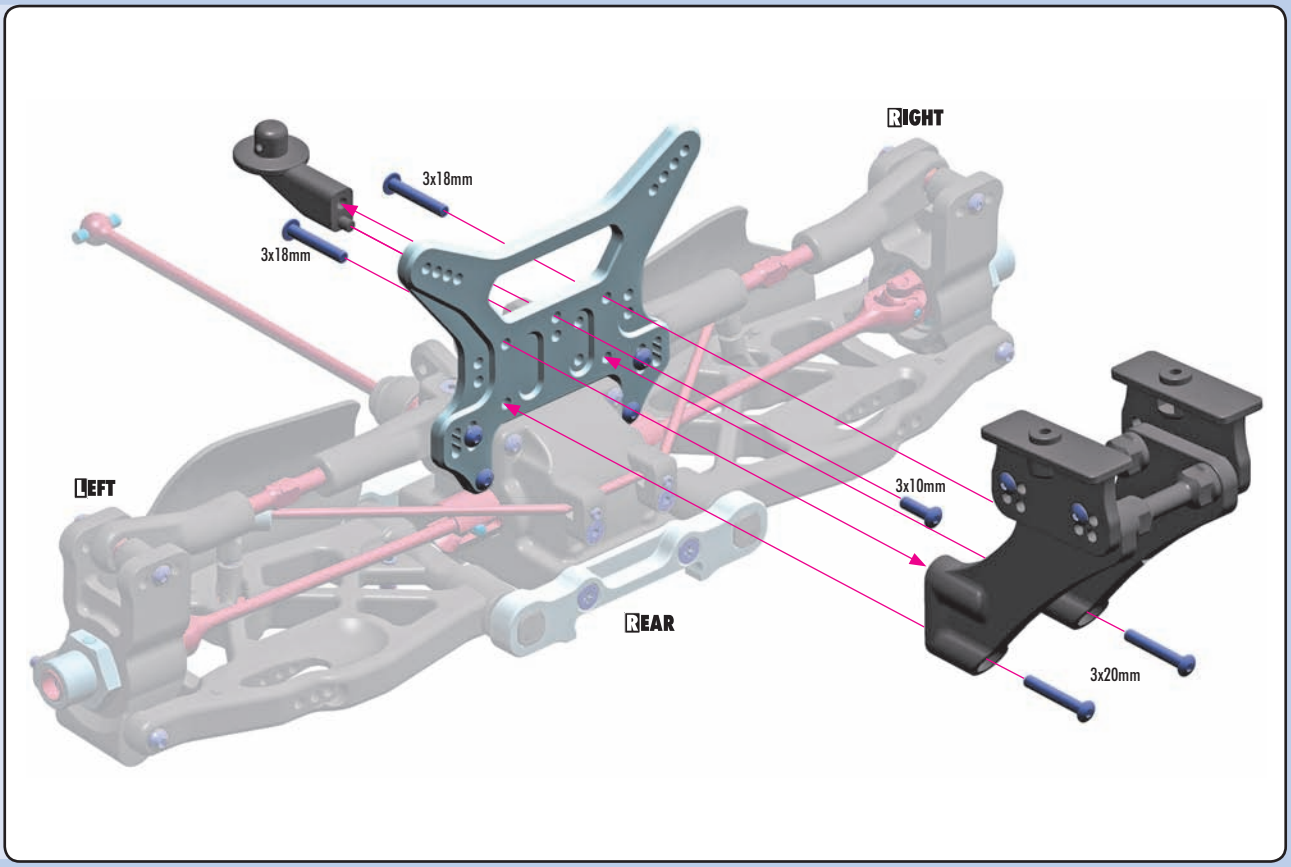
SET-UP BOOK
REAR WING



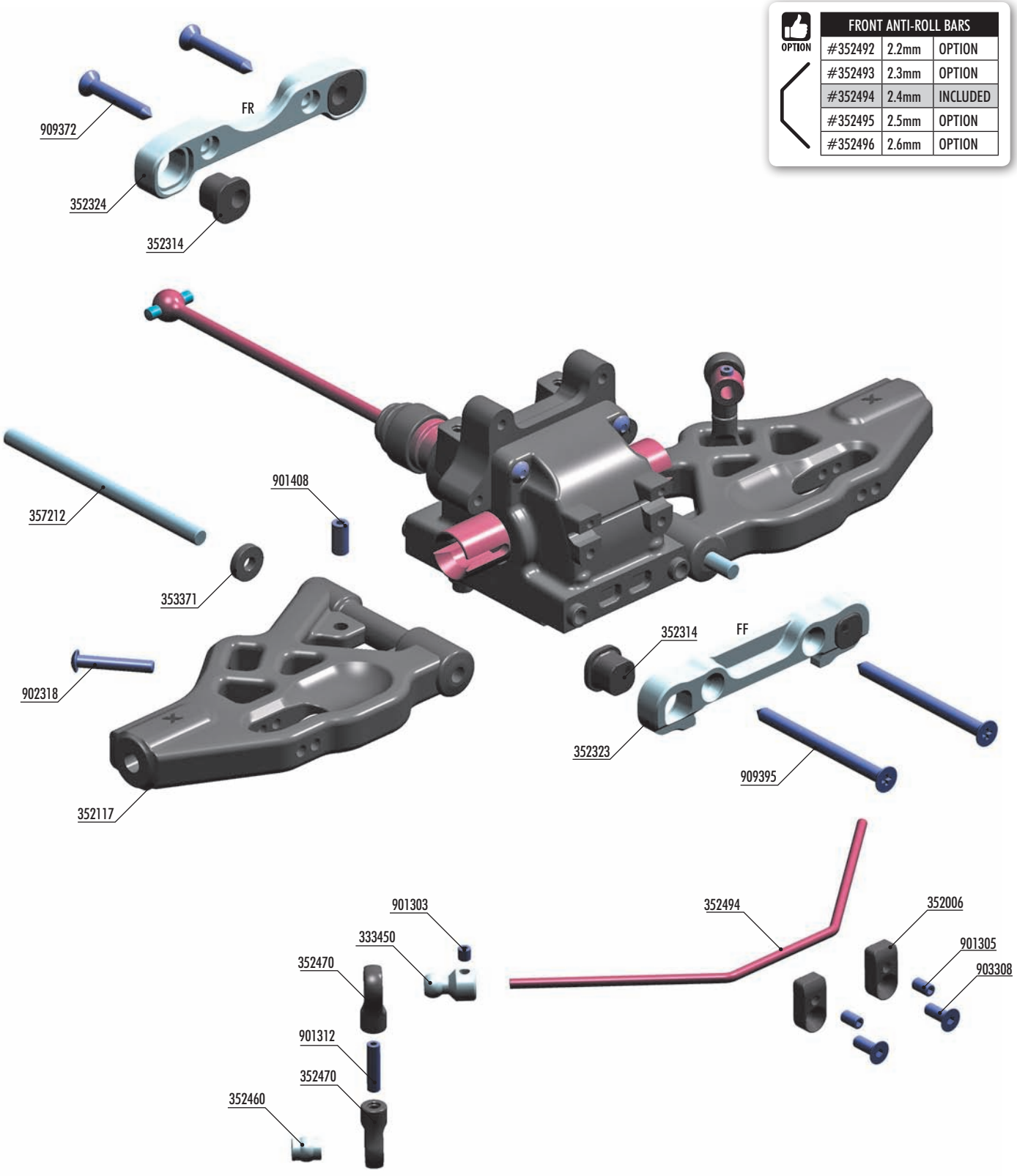
902310
SH M3x10

902318
SH M3x18

902320
SH M3x20



5. FRONT SUSPENSION



OPTION	FRONT ANTI-ROLL BARS		
	#352492	2.2mm	OPTION
	#352493	2.3mm	OPTION
	#352494	2.4mm	INCLUDED
	#352495	2.5mm	OPTION
	#352496	2.6mm	OPTION

BAG 05

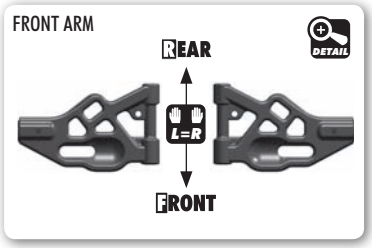
33 3450	ANTI-ROLL BAR BALL JOINT 5.8 MM (2)	35 7212	LOWER INNER PIVOT PIN F+R (2)
35 2006	XB8'16 DIFF BULKHEAD BLOCK SET FRONT/REAR		
35 2117	XB8 COMPOSITE FRONT LOWER SUSPENSION ARM	90 1303	HEX SCREW SB M3x3 (10)
35 2323	ALU FRONT LOWER SUSP. HOLDER - FRONT - SQUARE ADJ. ROLL-CENTER - V2	90 1305	HEX SCREW SB M3x5 (10)
35 2324	ALU FRONT LOWER SUSP. HOLDER - REAR - SQUARE ADJ. ROLL-CENTER - V2	90 1312	HEX SCREW SB M3x12 (10)
35 2314	COMPOSITE SQUARE ADJ. ROLL-CENTER BUSHINGS - V2 (2)	90 1408	HEX SCREW SB M4x8 (10)
35 2460	PIVOT BALL 5.8 (10)	90 2318	HEX SCREW SH M3x18 (10)
35 2470	BALL JOINT 5.8 (8)	90 3308	HEX SCREW SFH M3x8 (10))
35 2494	FRONT ANTI-ROLL BAR 2.4MM	90 9372	SCREW PHILLIPS SS 3.5x22 (10)
35 3371	SET OF COMPOSITE LOWER ARM SHIMS	90 9395	SCREW PHILLIPS SS 3.5x45 (10)

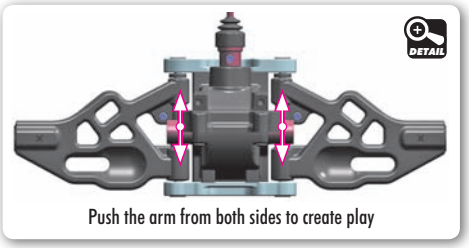
353371
SHIM 4x10x2

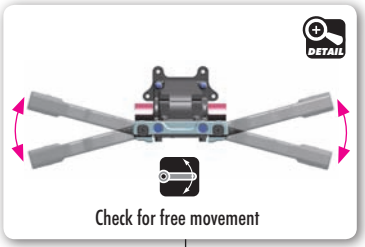
901408
SB M4x8

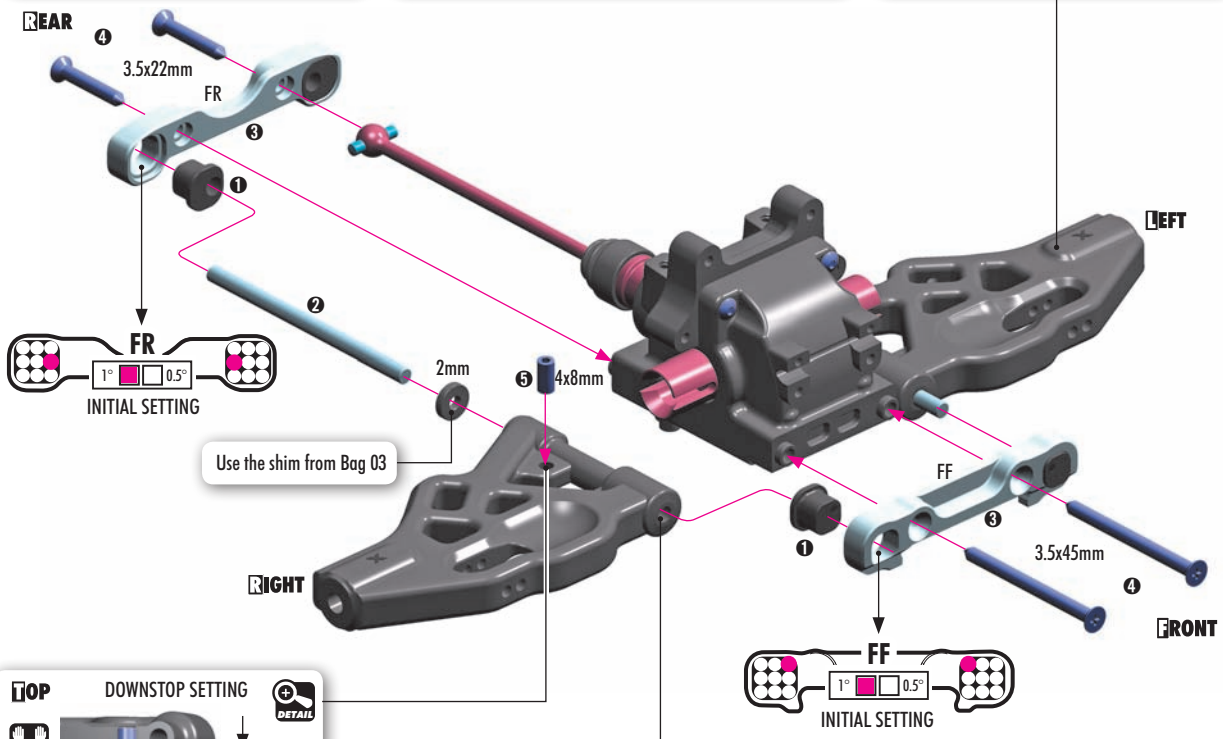
909372
SS 3.5x22

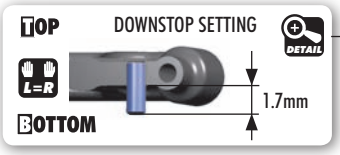
909395
SS 3.5x45

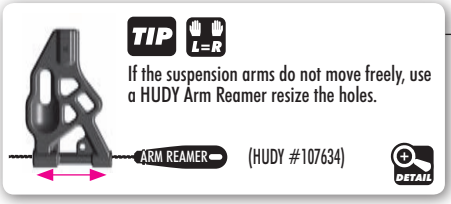




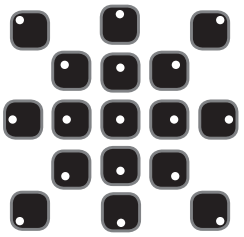








All possible mounting alternatives of eccentric bushings



Eccentric bushings have two different offsets from the center.

Middle position = 0.5 mm or 0.5° from center

Outer position = 1mm or 1° from center

The XRAY alu front lower suspension holders provide even greater 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 Off-Road Set-up Book (#209099).

TRACK-WIDTH		
FF	FR	(mm)
		=308
		=306
		=310*

ROLL CENTER		
FF	FR	(mm)
		=1
		=0
		=-1

The tables below describe the amounts of kick-up, front track-width change depending on the combinations of eccentric bushings used with 0 and 1mm, 1° off set. The 0.5mm, 0.5° represent the half change.

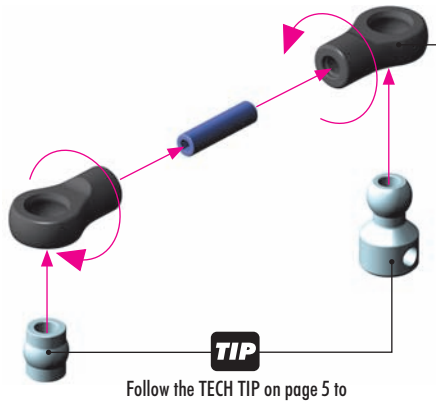
* Not recommended to use this setting.

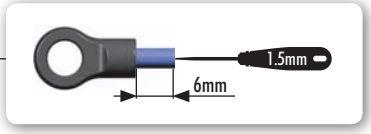
SET-UP BOOK
KICK UP
ROLL CENTER DOWNSTOP
WHEELBASE
TRACK WIDTH

5. FRONT SUSPENSION

901312
SB M3x12

2x L=R





Follow the TECH TIP on page 5 to install the pivot balls

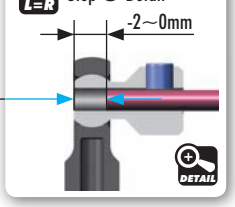
901303
SB M3x3

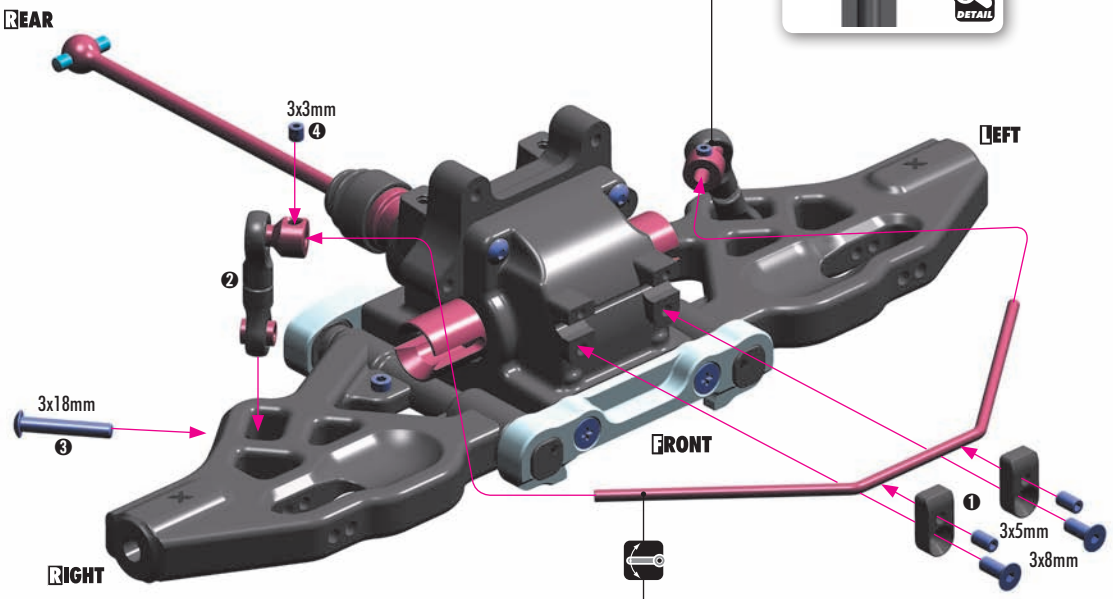
901305
SB M3x5

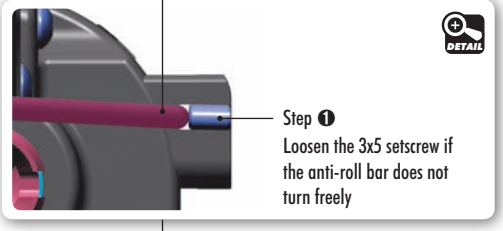
902318
SH M3x18

903308
SFH M3x8

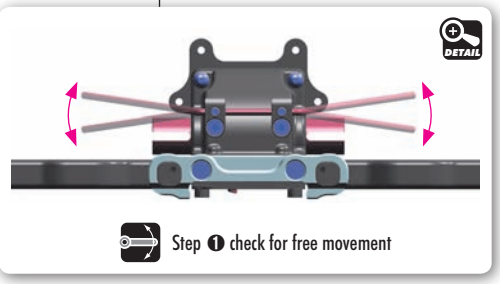
L=R Step ❹ Detail







Step ❶
Loosen the 3x5 setscrew if the anti-roll bar does not turn freely

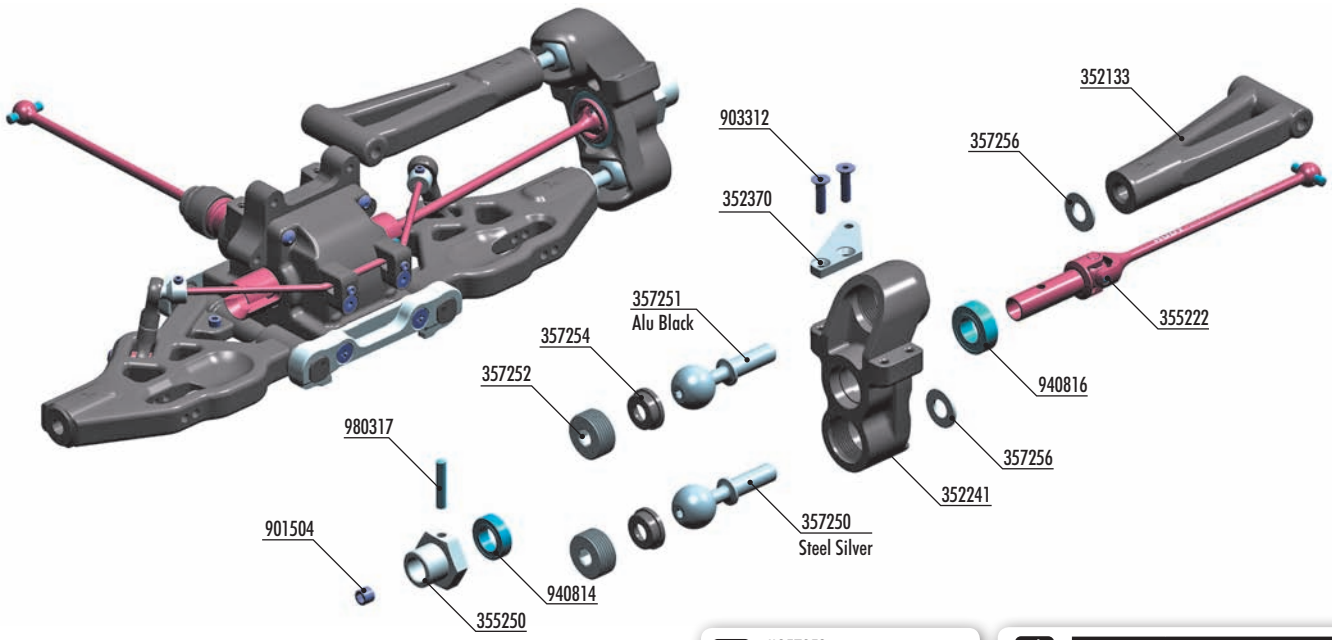


Step ❶ check for free movement

OPTION

FRONT ANTI-ROLL BARS		
#352492	2.2mm	OPTION
#352493	2.3mm	OPTION
#352494	2.4mm	INCLUDED
#352495	2.5mm	OPTION
#352496	2.6mm	OPTION

SET-UP BOOK
ANTI-ROLL BAR



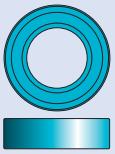
OPTION #357253 BRASS ADJUSTING NUT M15x1

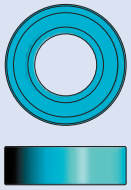
OFFSET WHEEL AXLES		
#355250	0mm	INCLUDED
#355251	+1mm	OPTION
#355252	+2mm	OPTION

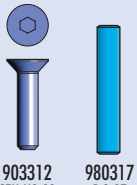
BAG 06

35 2133	XB8'16 FRONT UPPER ARM
35 2241	XB8'16 STEERING BLOCK
35 2370	XB8'16 ALU STEERING PLATE - SWISS 7075 T6 (L+R)
35 5222	UNIVERSAL DRIVE SHAFT - HUDY SPRING STEEL™
35 5250	ALU WHEEL AXLE - BLACK COATED (2)
35 7250	STEEL PIVOT BALL 13.7 MM (2)
35 7251	ALU PIVOT BALL 13.7 MM WITH STEEL SCREW (2)
35 7252	ALU ADJUSTING NUT M15x1 (2)
35 7253	BRASS ADJUSTING NUT M15x1 (2) (OPTION)
35 7254	COMPOSITE BALL CUP 13.9 MM (2)
35 7256	ALU SHIM 6x13x1 (2)
90 1504	HEX SCREW SB M5x4 (10)
90 3312	HEX SCREW SFH M3x12 (10)
94 0814	HIGH-SPEED BALL-BEARING 8x14x4 BLUE COVERED (2)
94 0816	HIGH-SPEED BALL-BEARING 8x16x5 BLUE COVERED (2)
98 0317	PIN 3x17 (10)


901504
SB M5x4


940814
BB 8x14x4

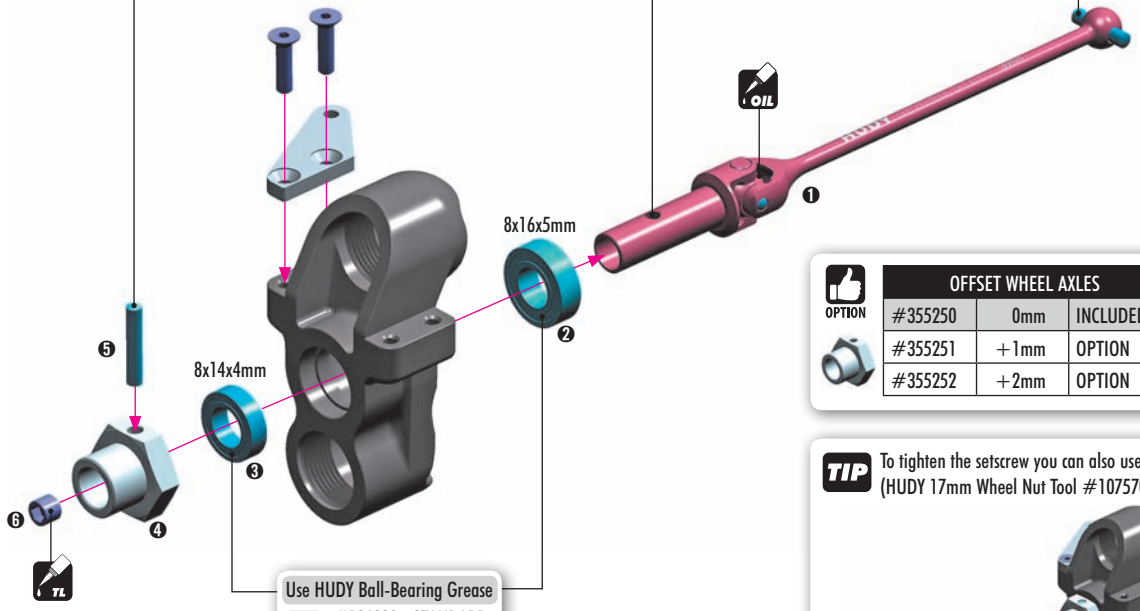

940816
BB 8x16x5


903312
SFH M3x12

980317
P 3x17

2x L=R

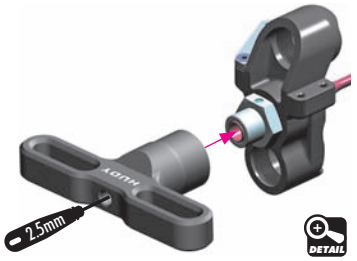
NOTE ORIENTATION



Follow the TECH TIP on page 5 for drive shaft pin servicing TIP

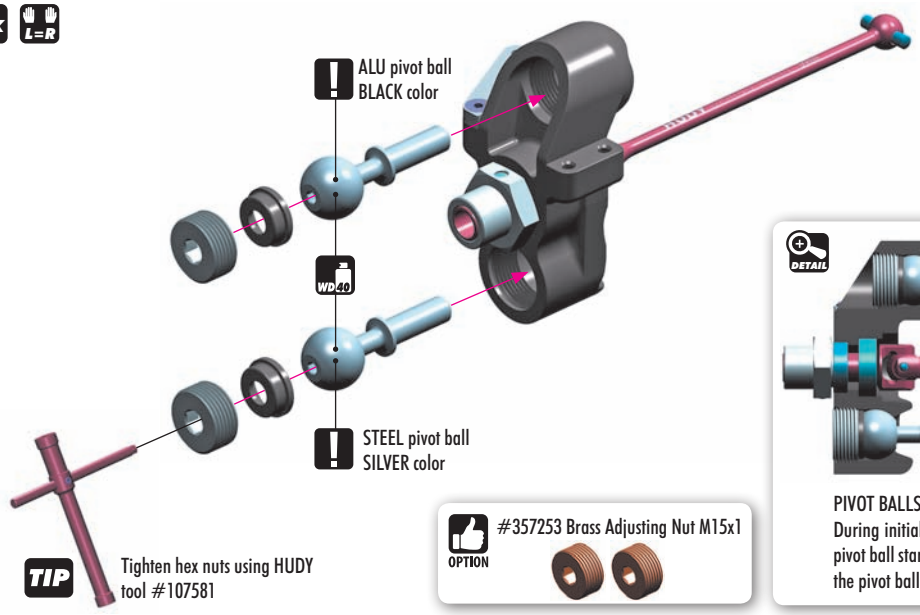
OFFSET WHEEL AXLES		
#355250	0mm	INCLUDED
#355251	+1mm	OPTION
#355252	+2mm	OPTION

TIP To tighten the setscrew you can also use the (HUDY 17mm Wheel Nut Tool #107570)



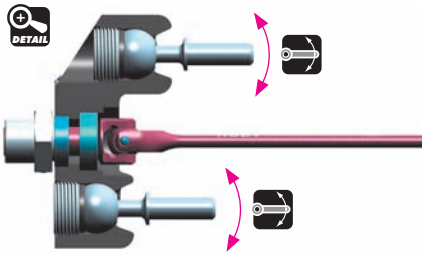
6. FRONT SUSPENSION

2x L=R



TIP Tighten hex nuts using HUDY tool #107581

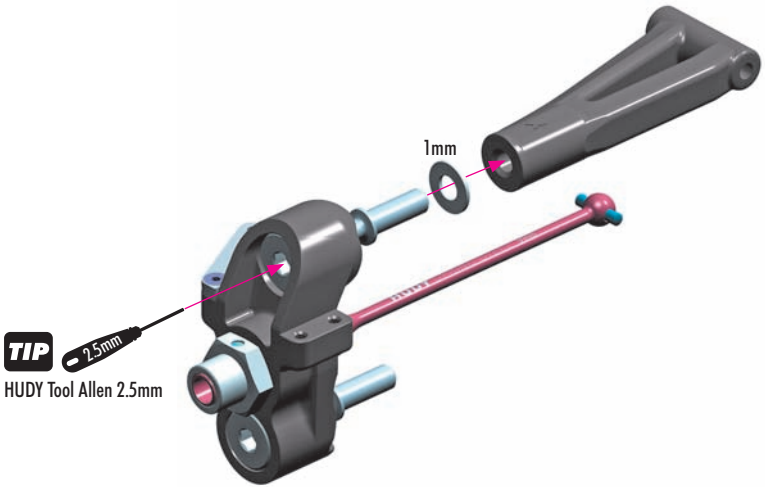
OPTION #357253 Brass Adjusting Nut M15x1



PIVOT BALLS MUST MOVE FREELY
During initial assembly, tighten each hex nut until the pivot ball starts to bind, then loosen slightly. Verify that the pivot balls move freely.

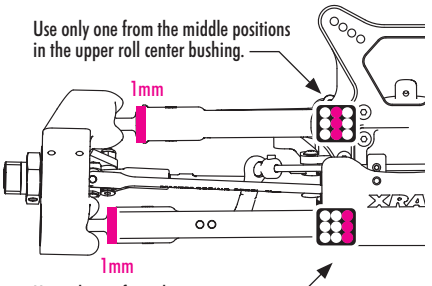
357256
SHIM 6x13x1

2x L=R



HUDY Tool Allen 2.5mm

TIP For maximum performance in most track conditions we always suggest to use this basic setting.

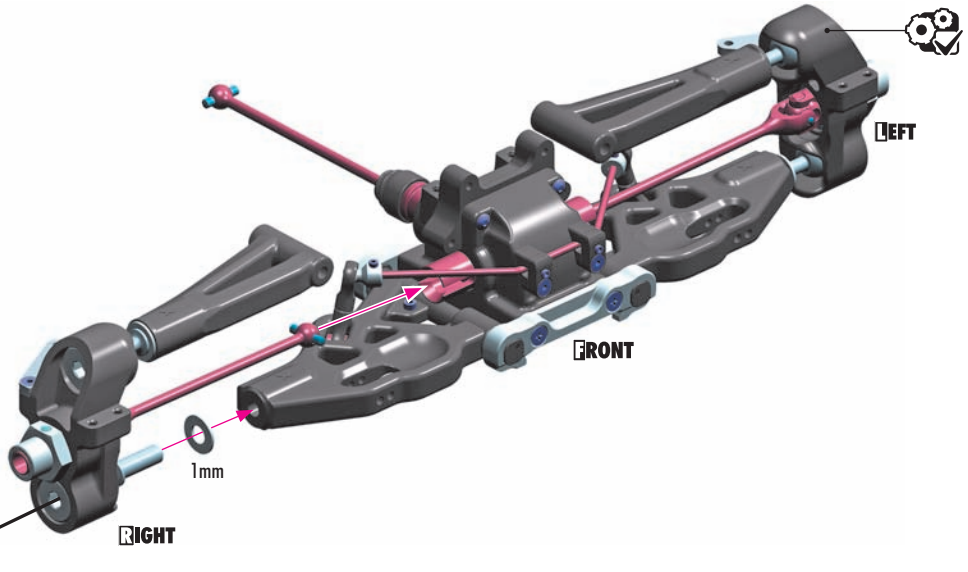


L=R

SET-UP BOOK
CAMBER
TRACK-WIDTH

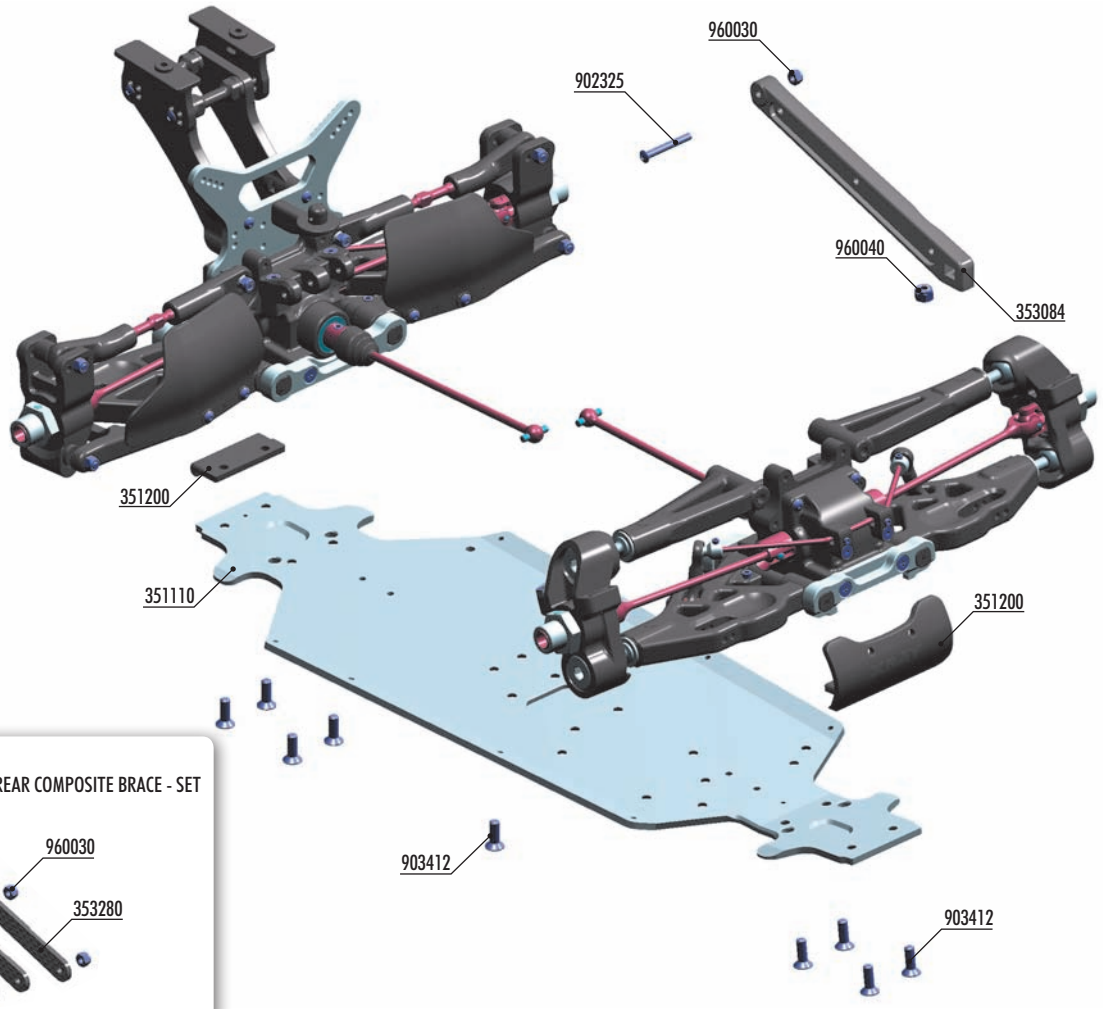
357256
SHIM 6x13x1

2x L=R



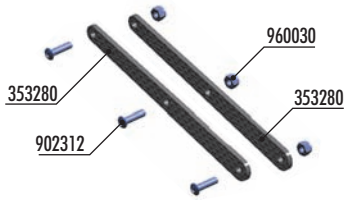
HUDY Tool Allen 2.5mm

SET-UP BOOK
ROLL-CENTER



OPTION

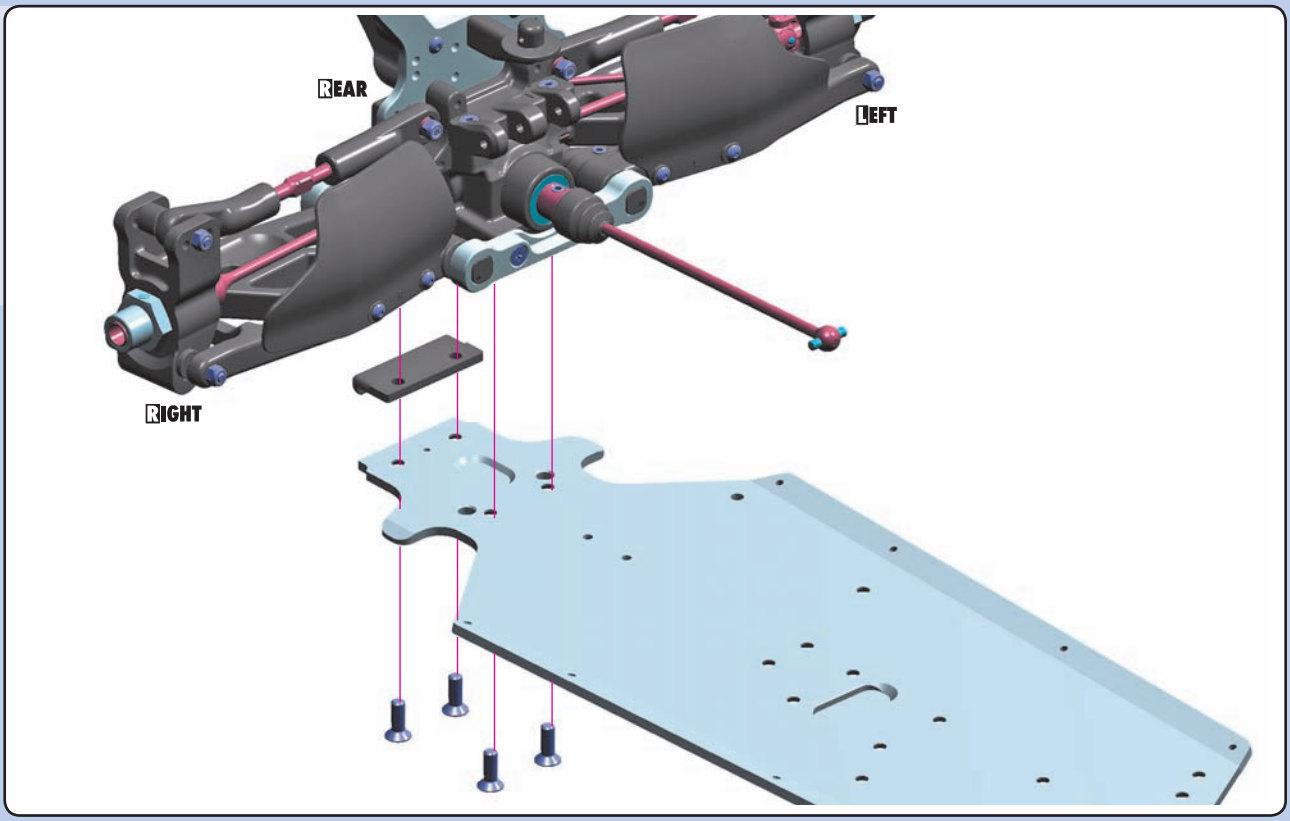
#353280
XB8'16 GRAPHITE BRACES FOR REAR COMPOSITE BRACE - SET



BAG 06

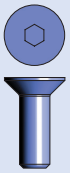
35 1110	XB8'16 ALU CHASSIS - SWISS 7075 T6 (3MM)	90 2325	HEX SCREW SH M3x25 (10)
35 1200	FRONT & REAR BUMPER - V2	90 3412	HEX SCREW SFH M4x12 (10)
35 3084	XB8'16 COMPOSITE REAR BRACE - MEDIUM	96 0030	NUT M3 (10)
35 3280	XB8'16 GRAPHITE BRACES FOR REAR BRACE - SET (OPTION)	96 0040	NUT M4 (10)

903412
SFH M4x12



6. FRONT & REAR ASSEMBLY

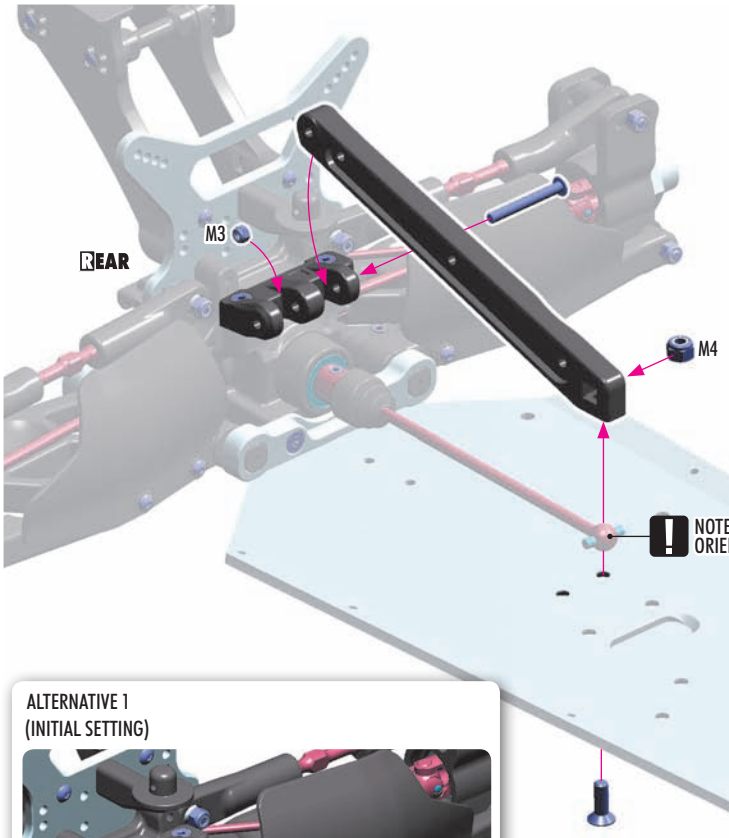
902325
SH M3x25



903412
SFH M4x12

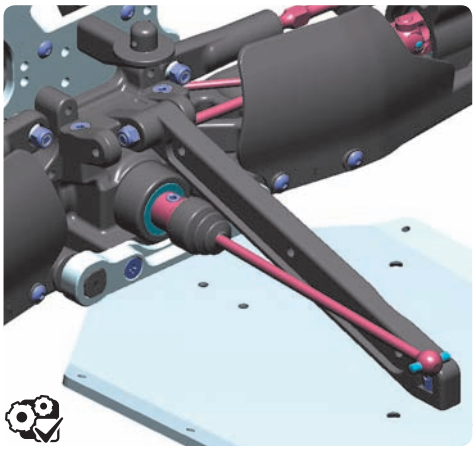
960030
N M3

960040
N M4



OPTION
#353280
GRAPHITE BRACE SET for extra stiffness adjustment.

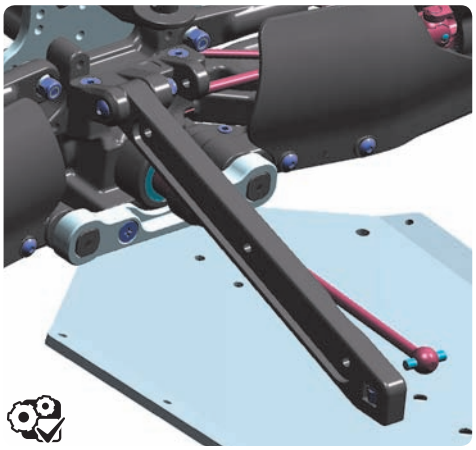
ALTERNATIVE 1
(INITIAL SETTING)



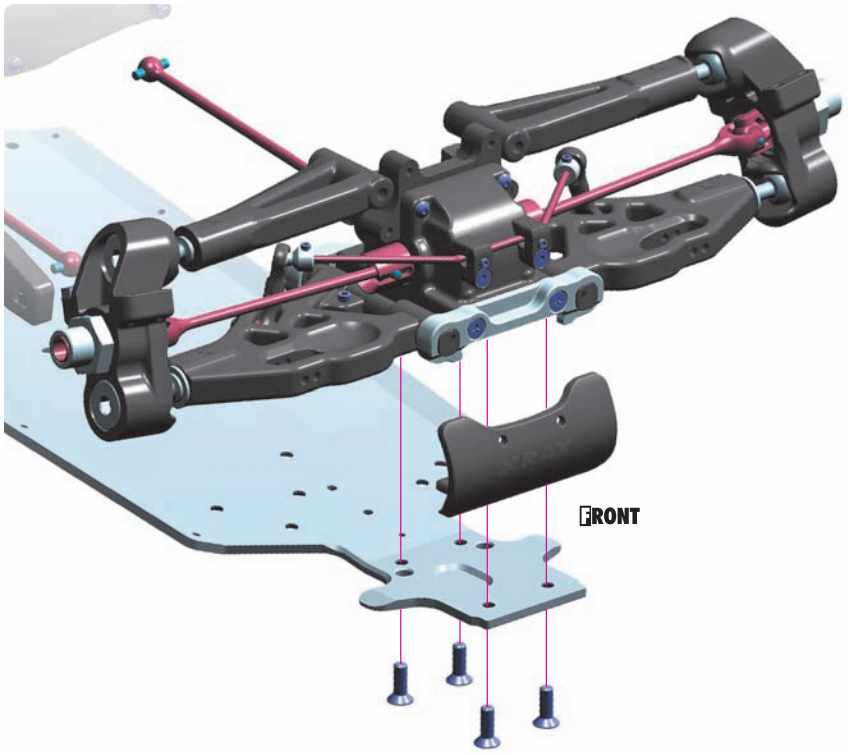
REAR BRACE
POSITION ALTERNATIVESE

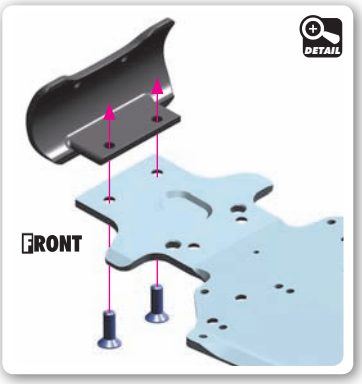
Your choice of alternative brace position depends on the layout of the electronics on the chassis.

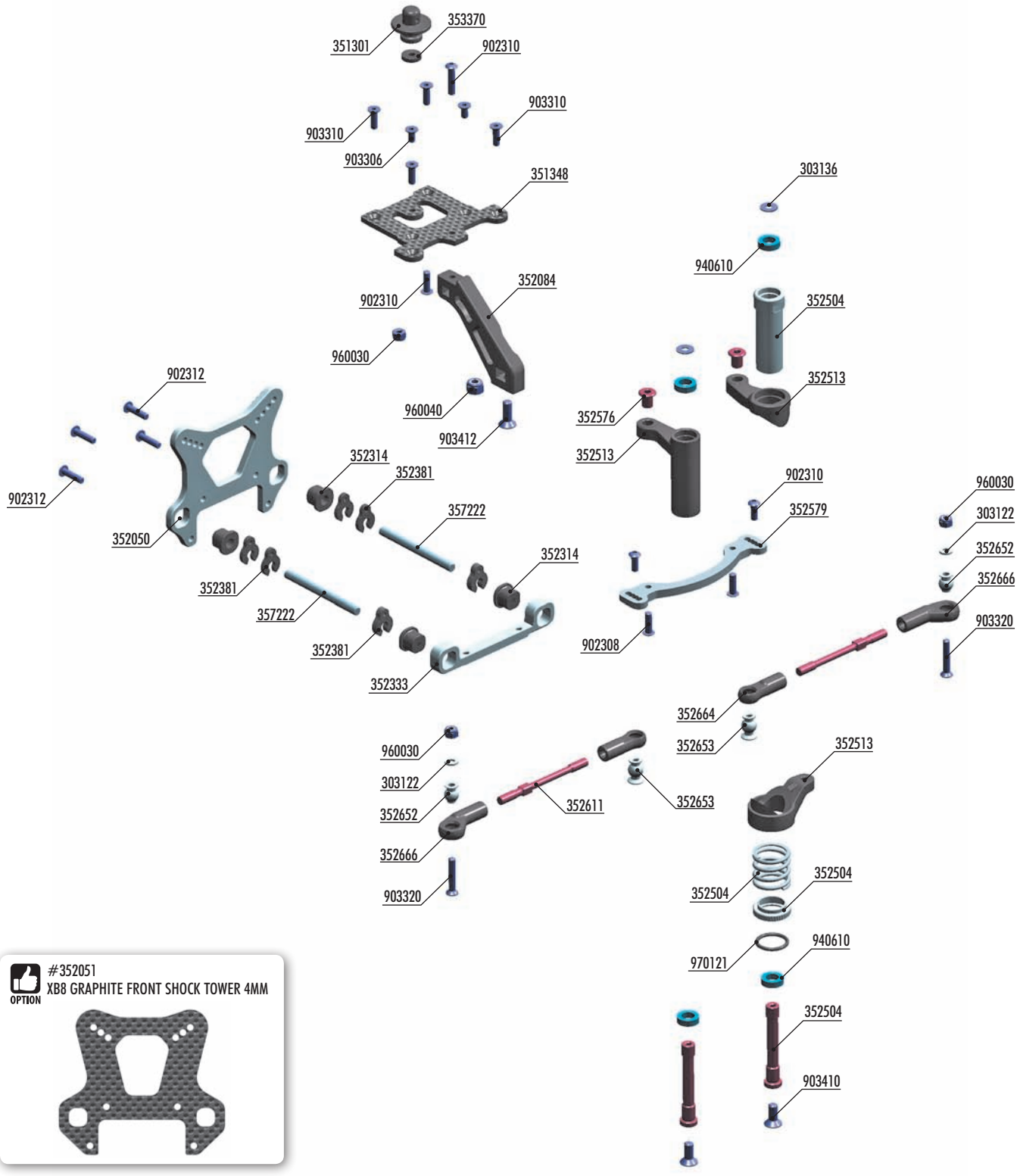
ALTERNATIVE 2



903412
SFH M4x12



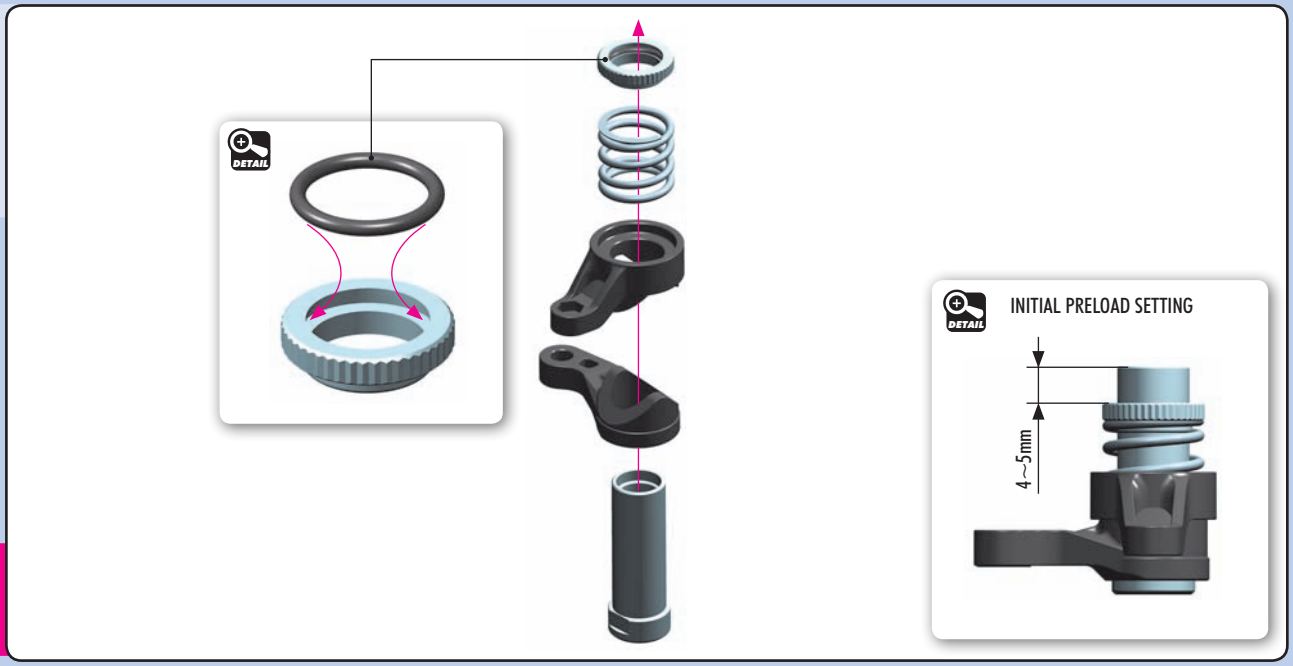




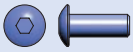
BAG 07

30 3122	ALU SHIM 3x6x1.0MM (10)
30 3136	ALU SHIM 3x7x1.0MM (10)
35 1301	BODY POSTS
35 1348	XB8'16 GRAPHITE UPPER PLATE
35 2084	XB8'16 COMPOSITE FRONT BRACE
35 2050	XB8 ALU FRONT SHOCK TOWER - CNC MACHINED 7075 T6 (4MM)
35 2314	COMPOSITE SQUARE ADJ. ROLL-CENTER BUSHINGS - V2 (2)
35 2333	XB8 ALU FRONT UPPER ARM HOLDER - SWISS 7075 T6 (6MM)
35 2381	XB8 CASTER CLIPS (2)
35 2504	XB8'16 SERVO SAVER COMPLETE SET
35 2513	XB8 COMPOSITE SERVO SAVER
35 2576	STEERING PLATE BUSHING (2)
35 2579	XB8'16 ALU STEERING PLATE - SWISS 7075 T6
35 2611	ADJ. TURNBUCKLE M4 L/R 52.5 MM - HUDY SPRING STEEL (2)
35 2652	BALL STUD 6.8MM (4)
35 2653	BALL STUD 6.8MM WITH BACKSTOP - M3 (2)
35 2664	COMPOSITE STEERING BALL JOINT 6.8MM - V3 (2)
35 2666	COMPOSITE RELIEF STEERING BALL JOINT 6.8MM (2)
35 3370	SET OF COMPOSITE REAR HUB CARRIER SHIMS
35 7222	FRONT UPPER PIVOT PIN 4x45 (2)
90 2308	HEX SCREW SH M3x8 (10)
90 2310	HEX SCREW SH M3x10 (10)
90 2312	HEX SCREW SH M3x12 (10)
90 3306	HEX SCREW SFH M3x6 (10)
90 3310	HEX SCREW SFH M3x10 (10)
90 3320	HEX SCREW SFH M3x20 (10)
90 3410	HEX SCREW SFH M4x10 (10)
90 3412	HEX SCREW SFH M4x12 (10)
94 0610	HIGH-SPEED BALL-BEARING 6x10x3 BLUE COVERED (2)
96 0030	NUT M3 (10)
96 0040	NUT M4 (10)
97 0121	O-RING 12.1 x 1.6 (10)

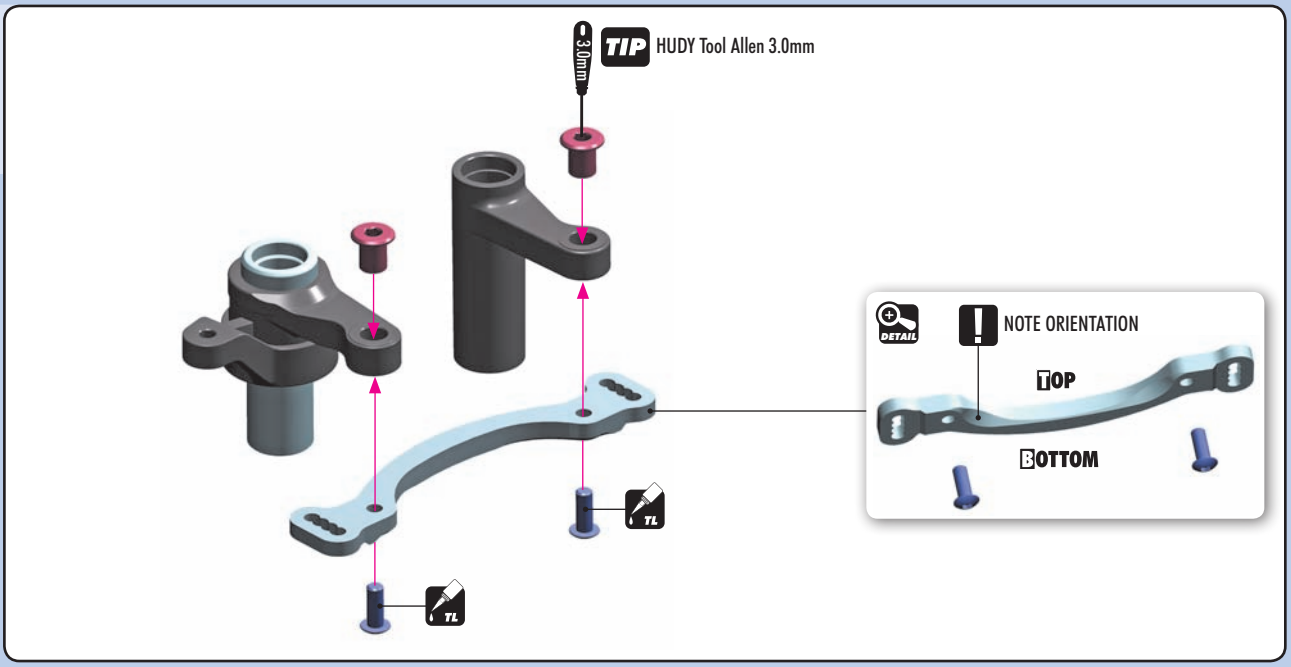
970121
O 12.1x1.6



SET-UP BOOK
SERVO SAVER
STEERING

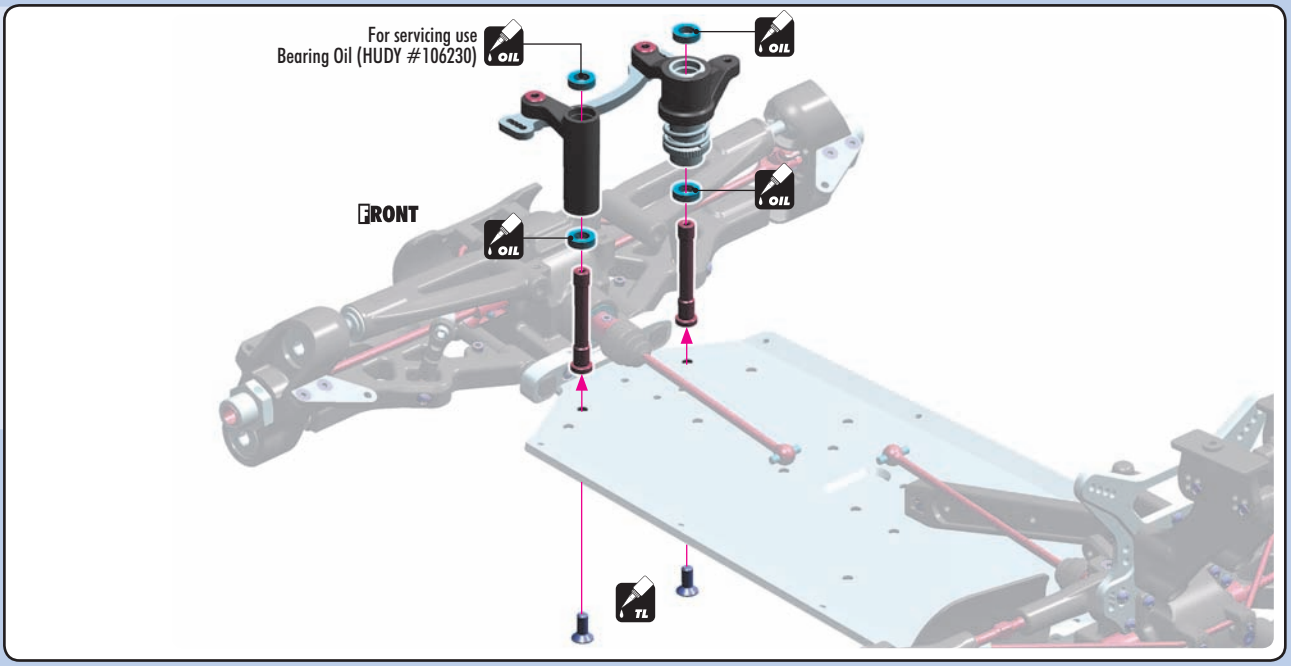


902308
SH M3x8



903410
SFH M4x10

940610
BB 6x10x3

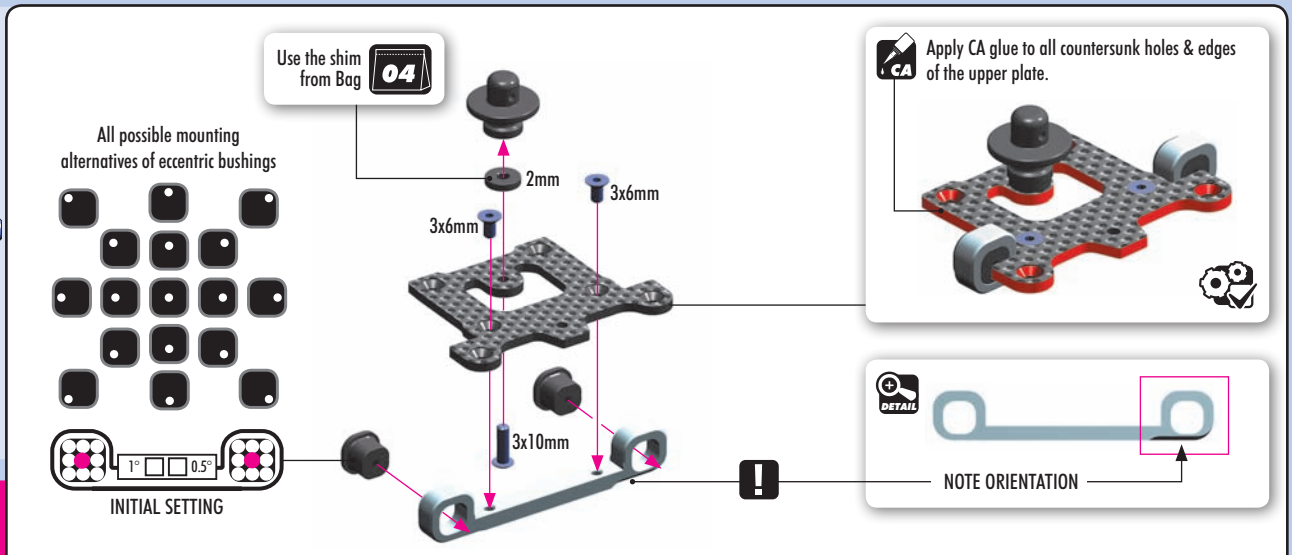


353370
SHIM 3x9x2

902310
SH M3x10

903306
SFH M3x6

SET-UP BOOK
ROLL-CENTER



303136
SHIM 3x7x1

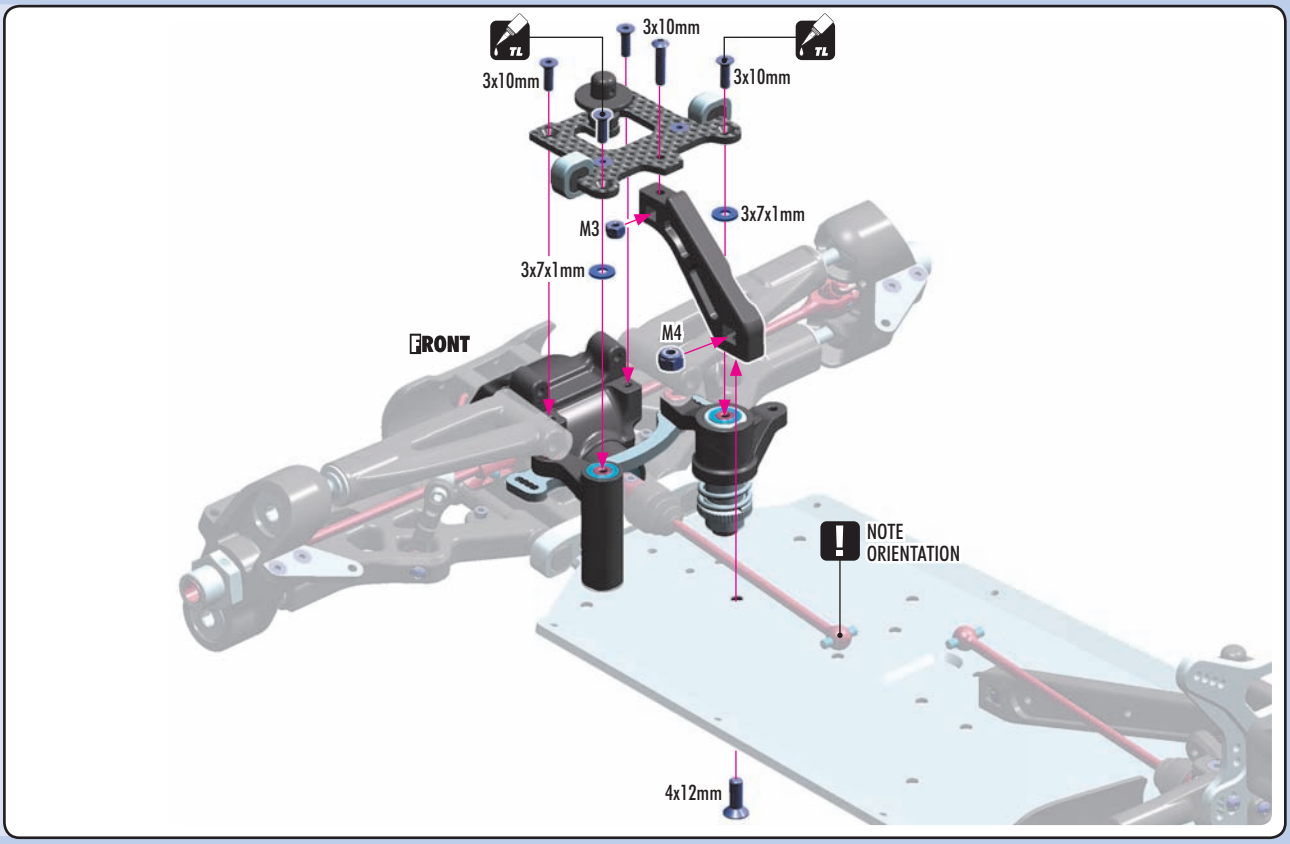
902310
SH M3x10

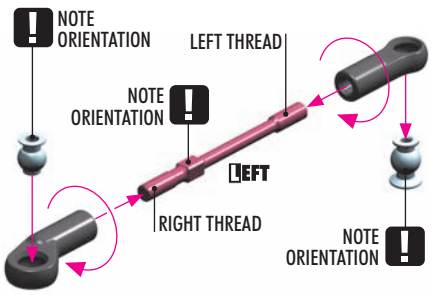
903310
SFH M3x10

903412
SFH M4x12

960030
N M3

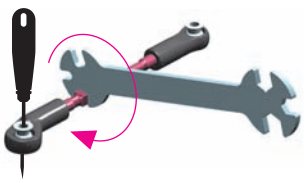
960040
N M4



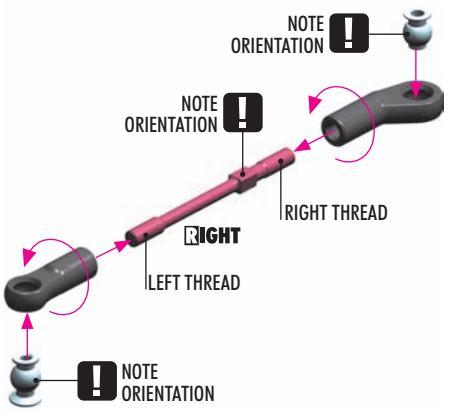


TIP Follow the TECH TIP on page 5 to install the pivot balls

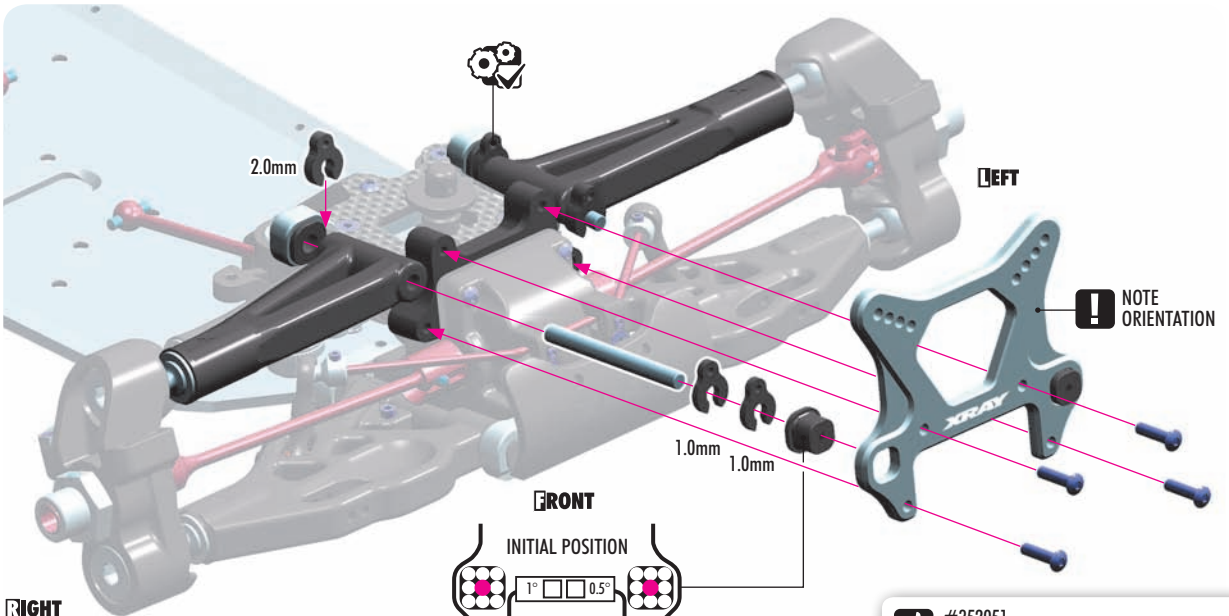
TIP Use tools to tighten as shown



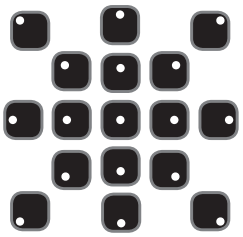
Special Tool for all turnbuckles & nuts:
(HUDY #181090)
or Turnbuckle Wrench 4mm:
(HUDY #181040)



902312
SH M3x12

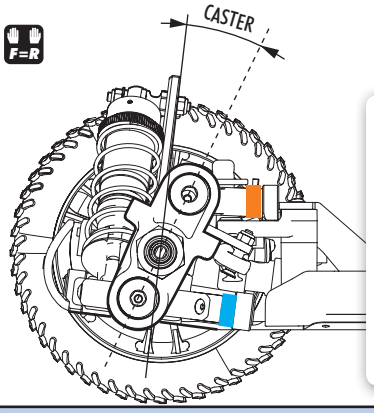


All possible mounting alternatives of eccentric bushings

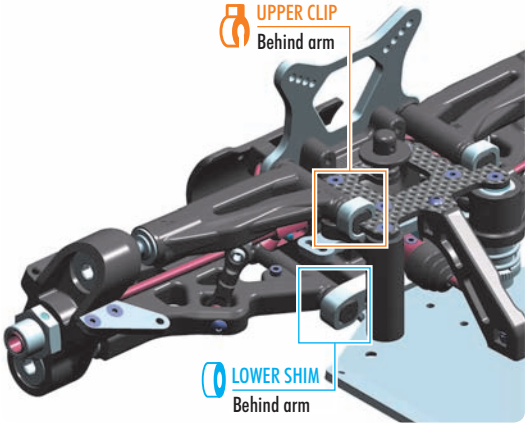


OPTION #352051
XB8 GRAPHITE FRONT SHOCK TOWER 4MM

F=R



CASTER		
UPPER CLIP (Behind arm)	LOWER SHIM (Behind arm)	
	2mm	0
4mm	21°	18°
3mm	22.5°	19.5°
2mm	24°	21°
1mm	25.5°	22.5°
0	27°	24°



SET-UP BOOK
ROLL-CENTER
CASTER

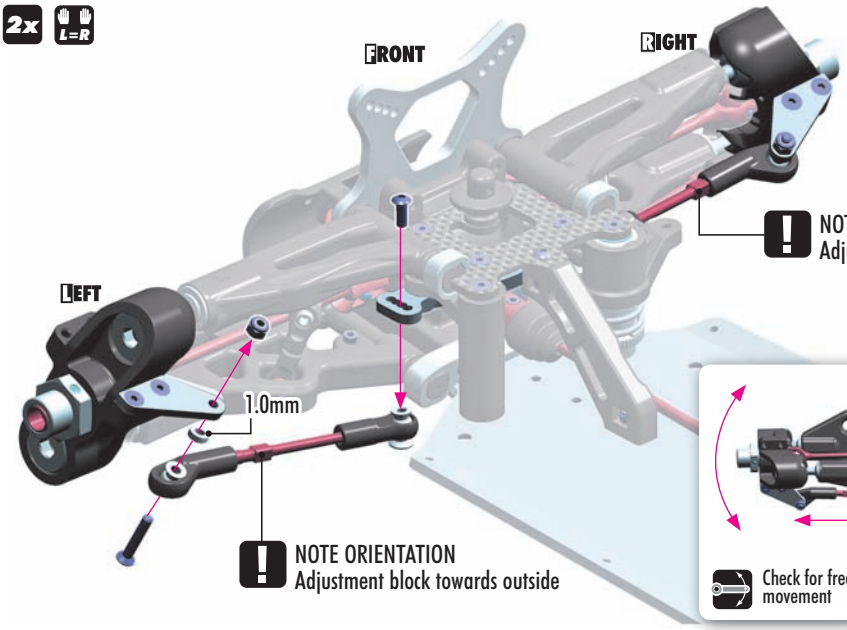
303122
SHIM 3x6x1

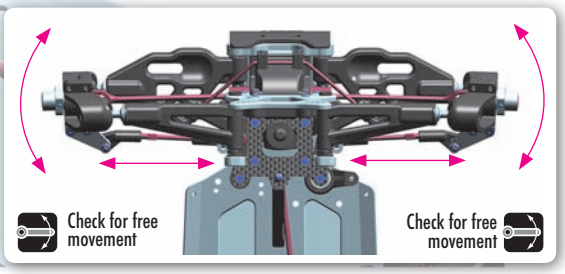
902310
SH M3x10

903320
SFH M3x20

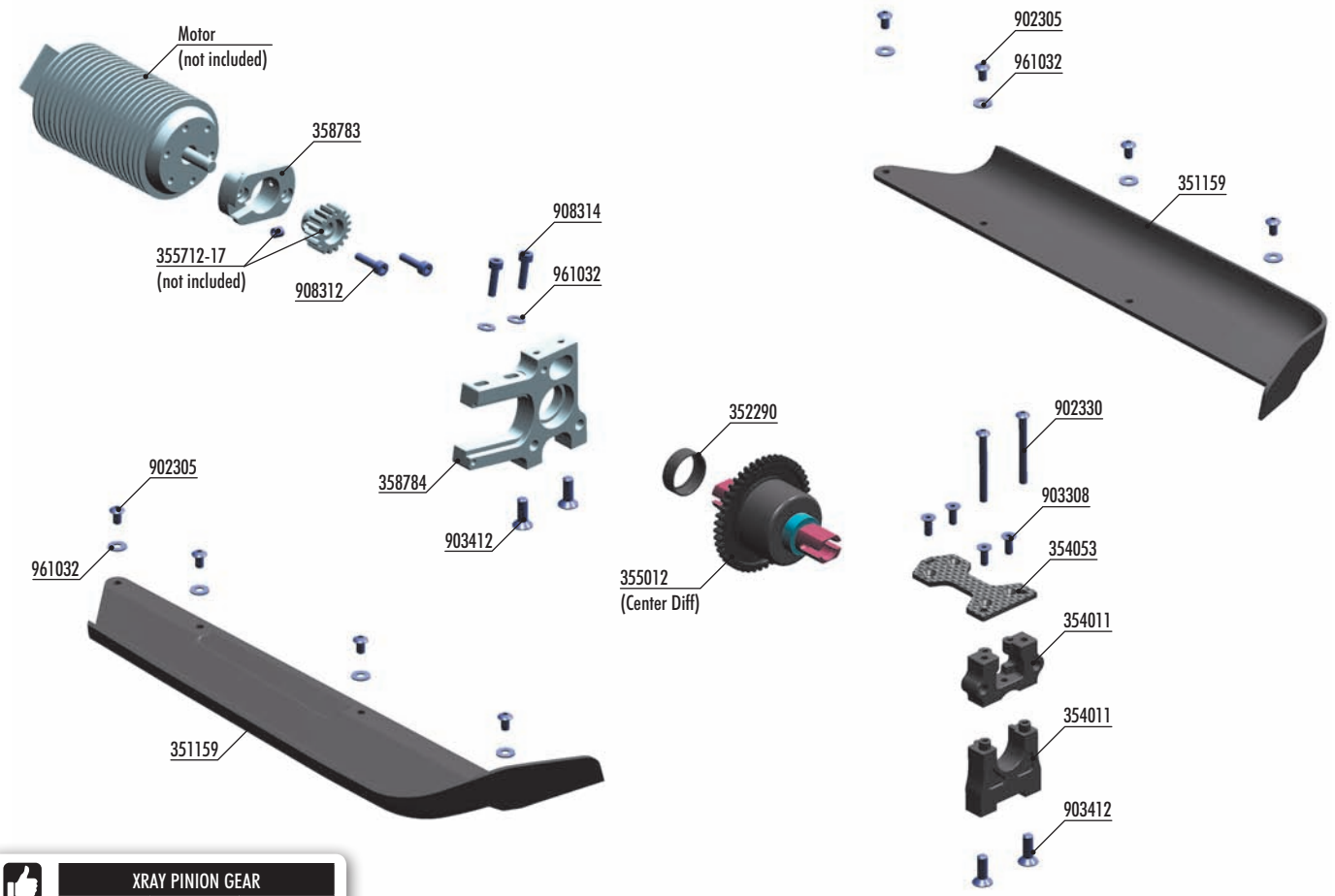
960030
N M3

2x L=R





SET-UP BOOK
ACKERMANN
BUMP STEER
TOE-IN



OPTION

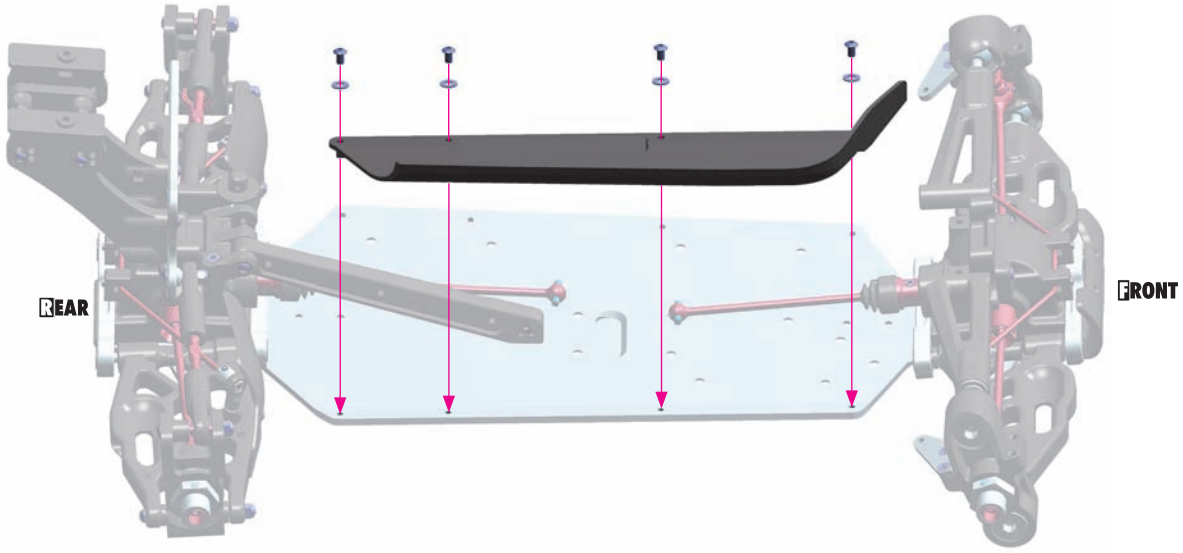
XRAY PINION GEAR		
#355712	12T	OPTION
#355713	13T	OPTION
#355714	14T	OPTION
#355715	15T	OPTION
#355716	16T	OPTION
#355717	17T	OPTION

BAG 08

35 1159	XB8'16 CHASSIS SIDE GUARDS L+R	90 2305	HEX SCREW SH M3x5 (10)
35 2290	COMPOSITE BUSHING FOR ALU STEERING BLOCK (4)	90 2330	HEX SCREW SH M3x30 (10)
35 4011	CENTER DIFF MOUNTING PLATE SET - HIGHER	90 3308	HEX SCREW SFH M3x8 (10)
35 4053	XB9E GRAPHITE CENTER DIFF MOUNTING PLATE	90 3412	HEX SCREW SFH M4x12 (10)
35 5012	CENTRAL DIFFERENTIAL - SET	90 8312	HEX SCREW SOCKET HEAD CAP M3x12 (10)
35 5712~17	XB808E 12~17T PINION GEAR (OPTION)	90 8314	HEX SCREW SOCKET HEAD CAP M3x14 (10)
35 8783	XB9E ALU MOTOR MOUNT PLATE - V2	96 1032	WASHER S 3.2 (10)
35 8784	XB8E ALU MOTOR MOUNT - V2		

902305
SH M3x5

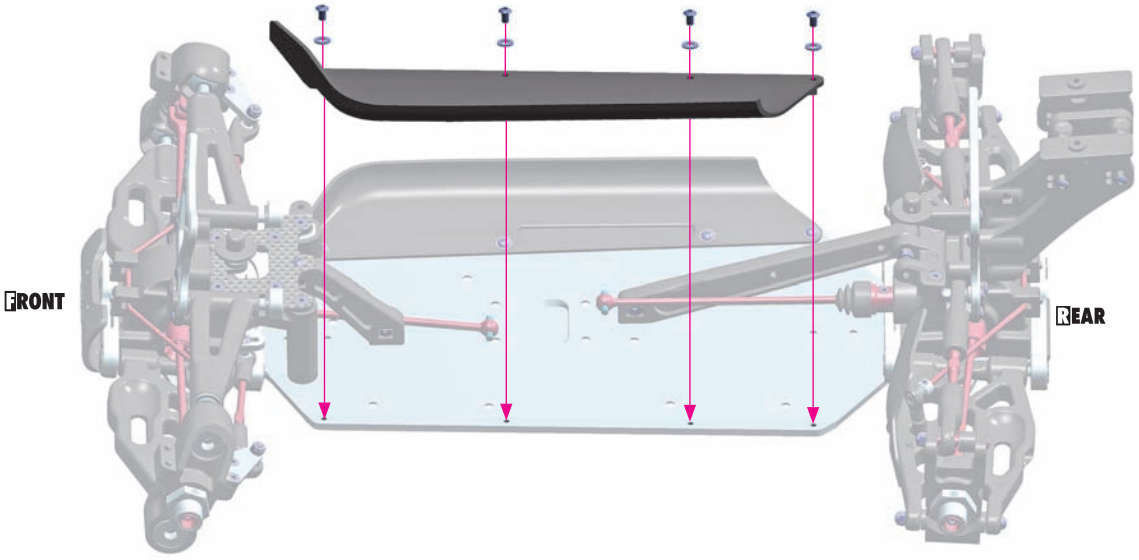
961032
S 3.2

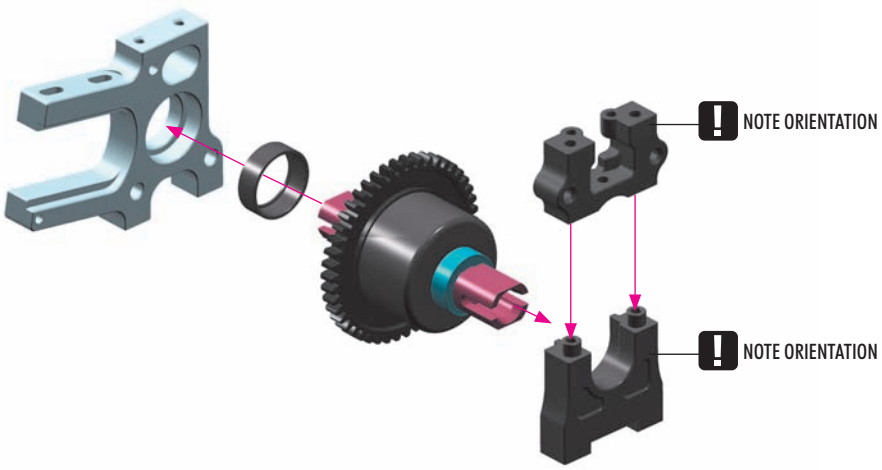


8. CENTER DIFF & MOTOR

902305
SH M3x5

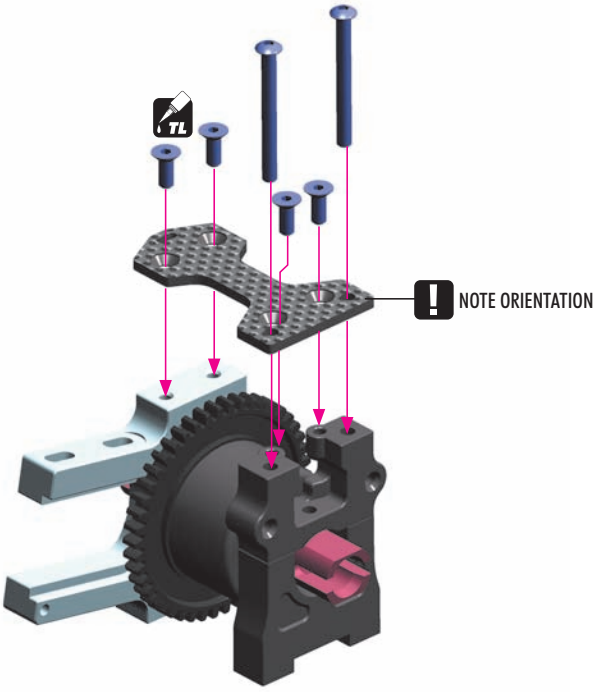
961032
S 3.2



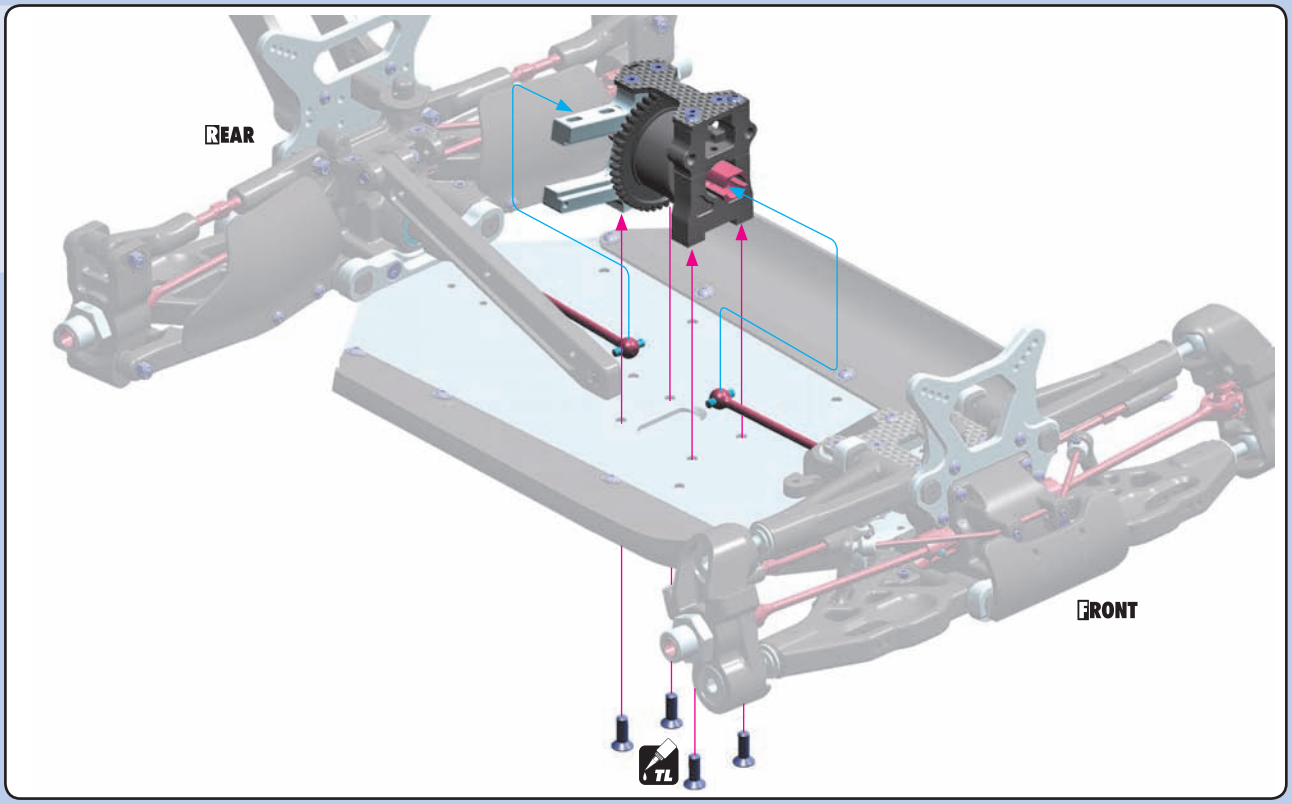


902330
SH M3x30

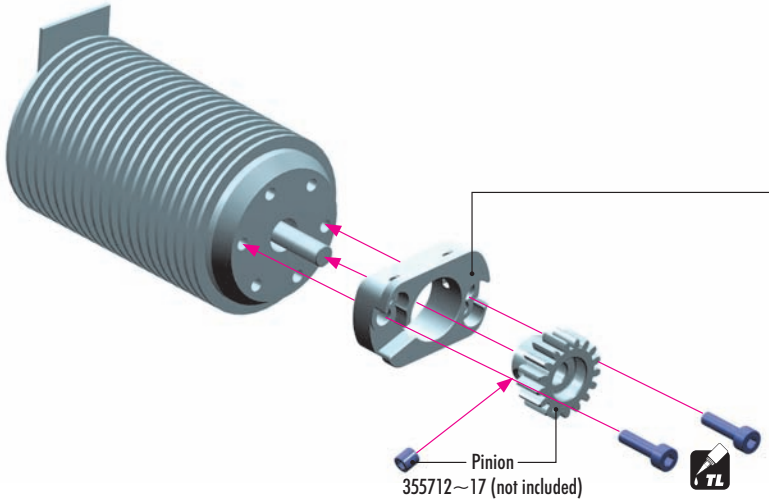
903308
SFH M3x8



903412
SFH M4x12

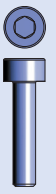


908312
SCH M3x12



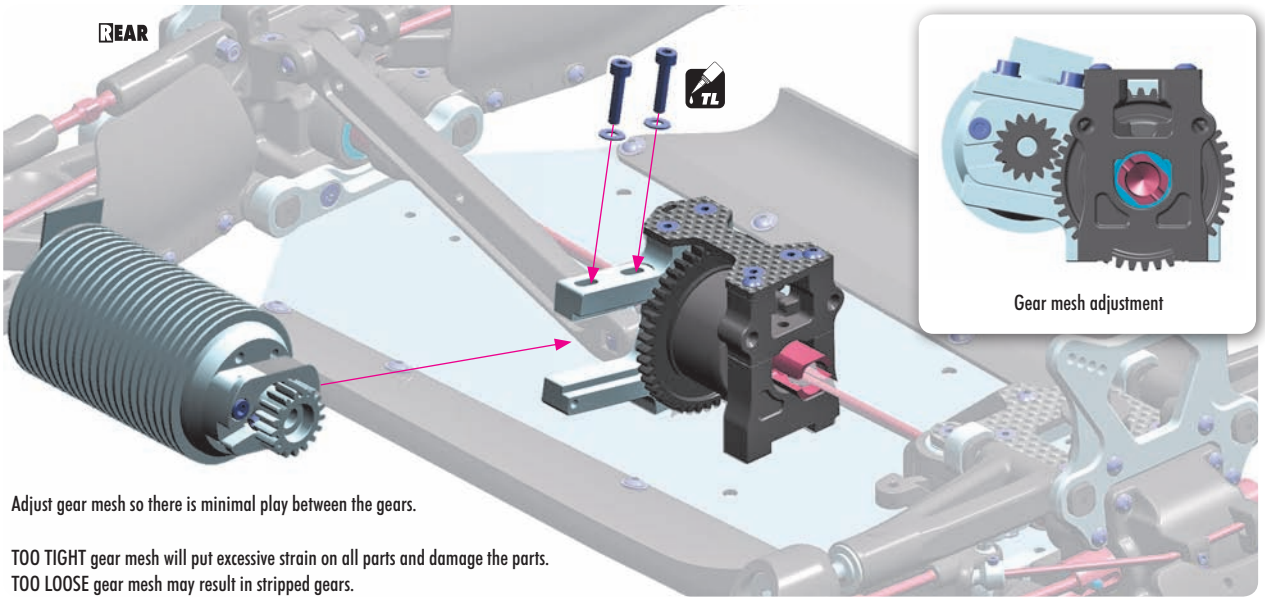
OPTION

XRAY PINION GEAR		
#355712	12T	OPTION
#355713	13T	OPTION
#355714	14T	OPTION
#355715	15T	OPTION
#355716	16T	OPTION
#355717	17T	OPTION



908314
SCH M3x14

961032
S 3.2

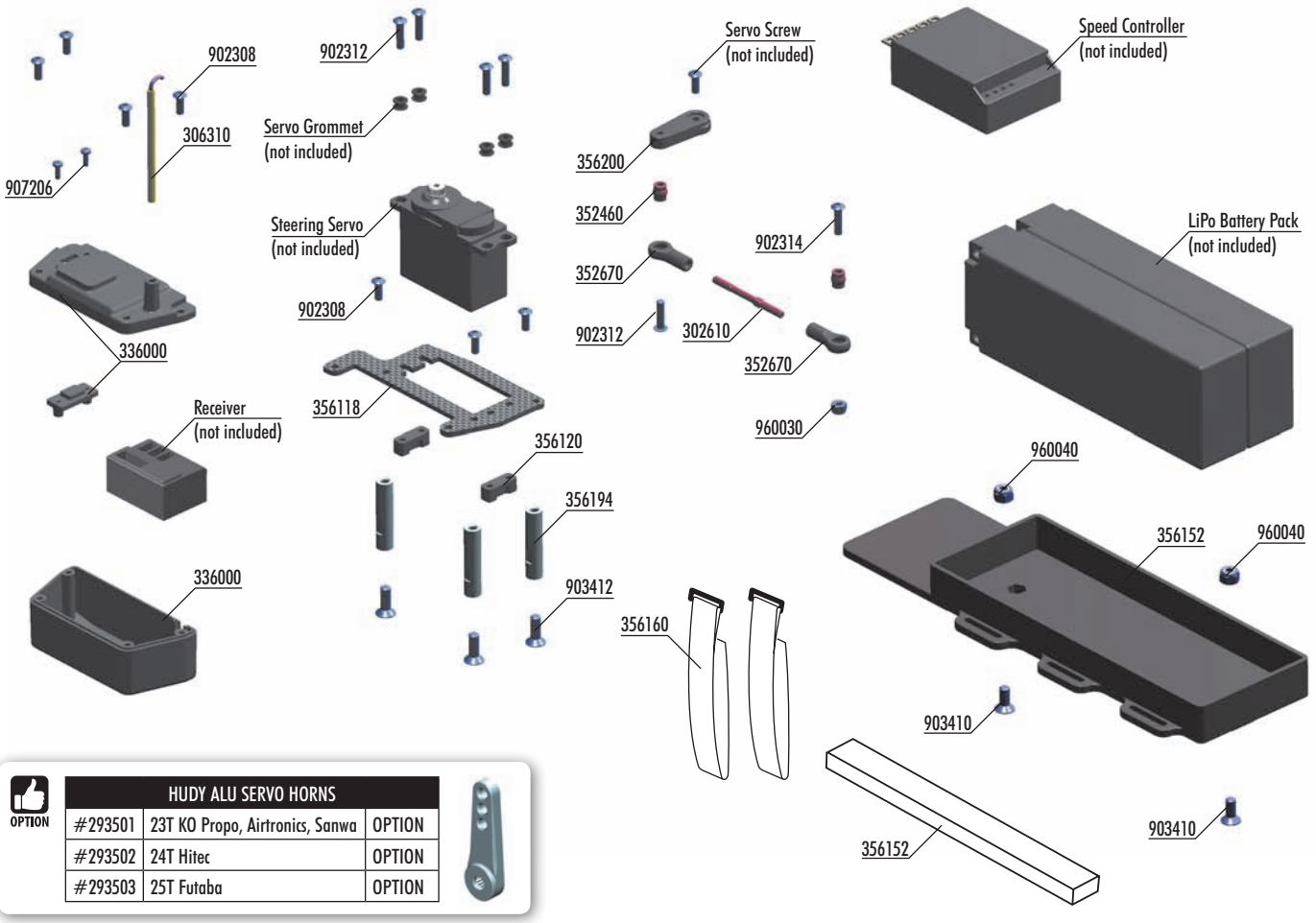


Gear mesh adjustment

Adjust gear mesh so there is minimal play between the gears.

TOO TIGHT gear mesh will put excessive strain on all parts and damage the parts.
TOO LOOSE gear mesh may result in stripped gears.

10. RADIO CASE

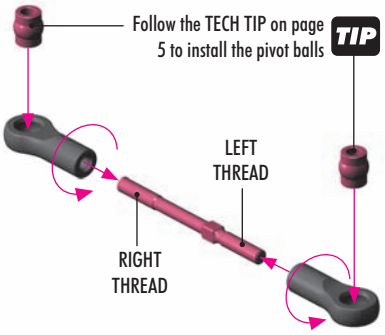


OPTION	HUDY ALU SERVO HORNS		
	#293501	23T KO Propo, Airtronics, Sanwa	OPTION
	#293502	24T Hitec	OPTION
	#293503	25T Futaba	OPTION

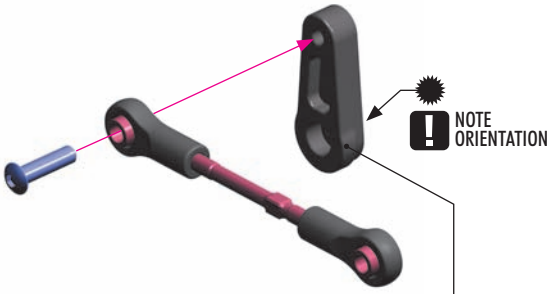
BAG 10

30 2610	ADJ. TURNBUCKLE L/R 40 MM - HUDY SPRING STEEL (2)	38 9135	CONNECTING CABLE RECEIVER/BATT. PACK (OPTION)
30 6310	ANTENNA TUBE (2)		
33 6000	COMPOSITE RECEIVER CASE - V2	90 2308	HEX SCREW SH M3x8 (10)
33 6060	RECEIVER SWITCH - SET (OPTION)	90 2312	HEX SCREW SH M3x12 (10)
35 2460	PIVOT BALL 5.8 (10)	90 2314	HEX SCREW SH M3x14 (10)
35 2670	SERVO BALL JOINT 5.8MM (4)	90 3410	HEX SCREW SFH M4x10 (10)
35 6118	XB9E GRAPHITE RECEIVER CASE TOP PLATE	90 3412	HEX SCREW SFH M4x12 (10)
35 6120	STEERING SERVO MOUNT - SET	90 7206	SCREW PHILLIPS 2x6 (10)
35 6152	XB8E'16 COMPOSITE BATTERY PLATE	96 0030	NUT M3 (10)
35 6160	VELCRO BATTERY STRAP 20x300MM (2)	96 0040	NUT M4 (10)
35 6194	XB9E ALU MOUNT FOR RECEIVER BOX		
35 6200	BRAKE/THROTTLE ARMS & STEERING SERVO ARMS - SET		

902312
SH M3x12



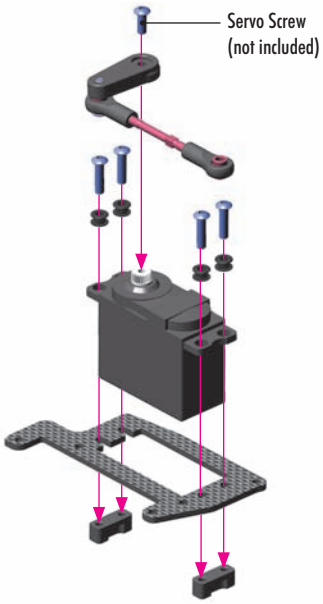
The length of the linkages varies according to the type of servo.

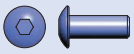


Use appropriate servo arm:
K - (23T) **H** - (24T) **F** - (25T)

OPTION	HUDY ALU SERVO HORNS		
	#293501	23T KO Propo, Airtronics, Sanwa	OPTION
	#293502	24T Hitec	OPTION
	#293503	25T Futaba	OPTION

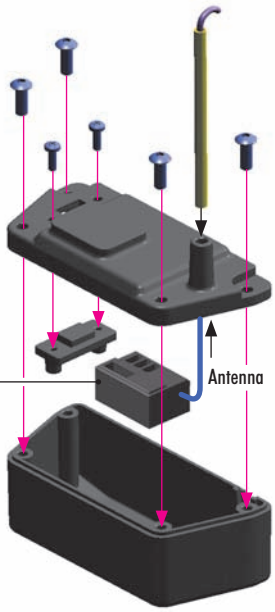
902312
SH M3x12

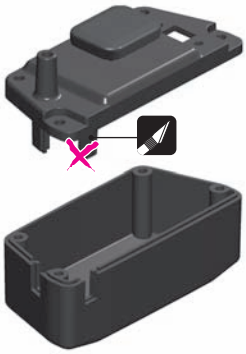




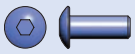
902308
SH M3x8

907206
2x6

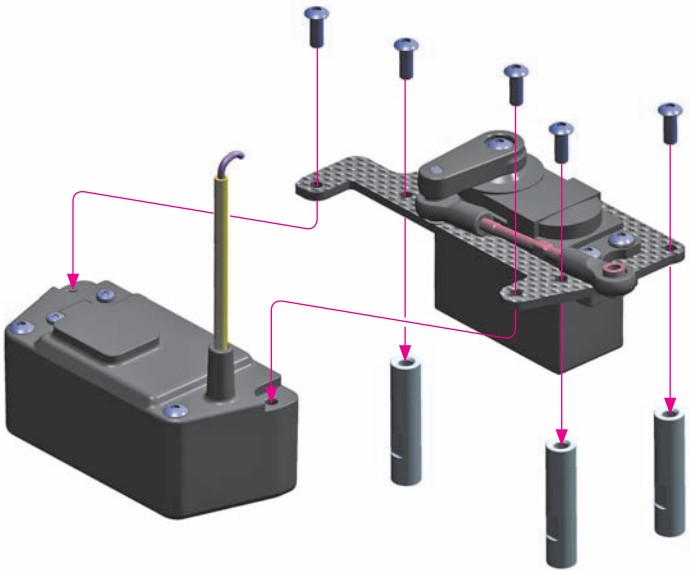




If the receiver box has 2 different-size openings for cable entry (narrow and wider), cut away the tab for the appropriate opening to allow the cables to fit properly.



902308
SH M3x8

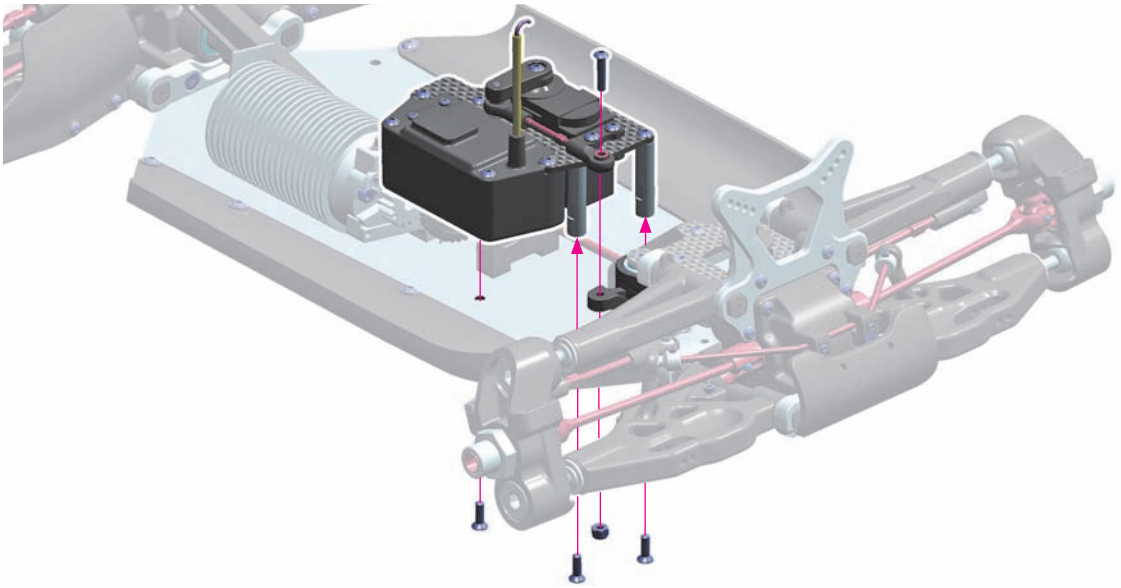


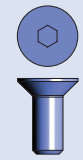
10. RADIO CASE

902314
SH M3x14

903412
SFH M4x12

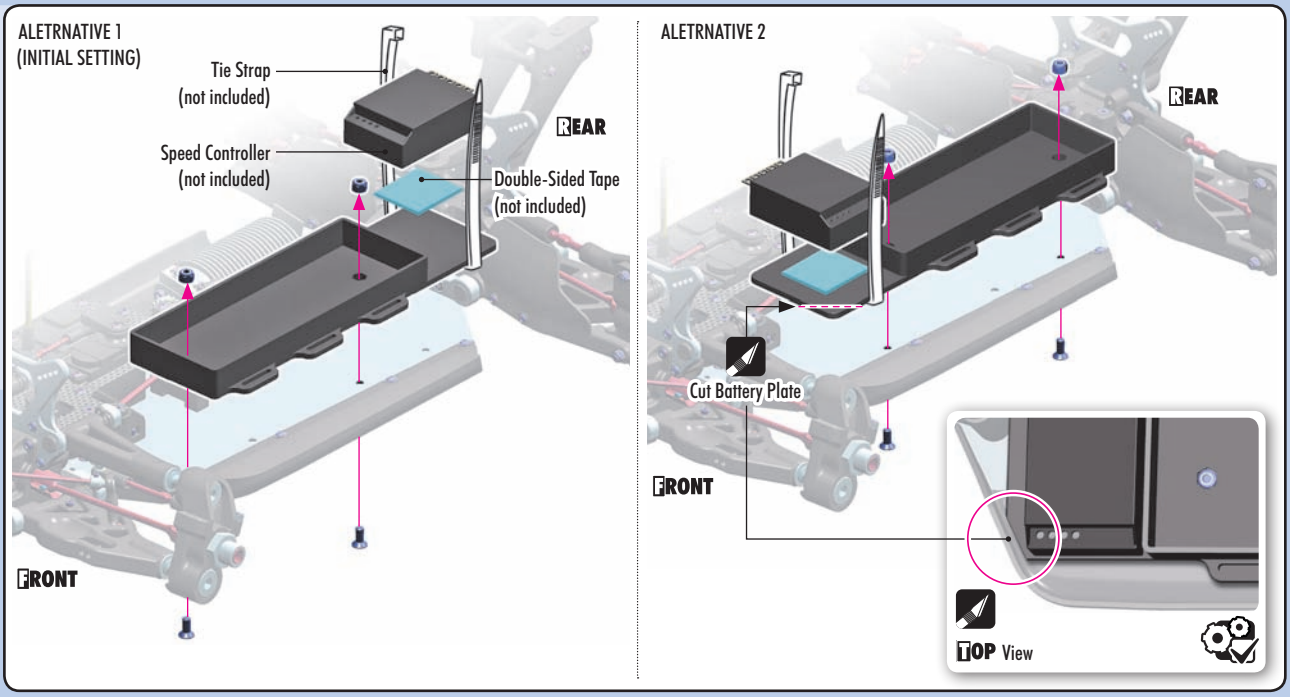
960030
N M3

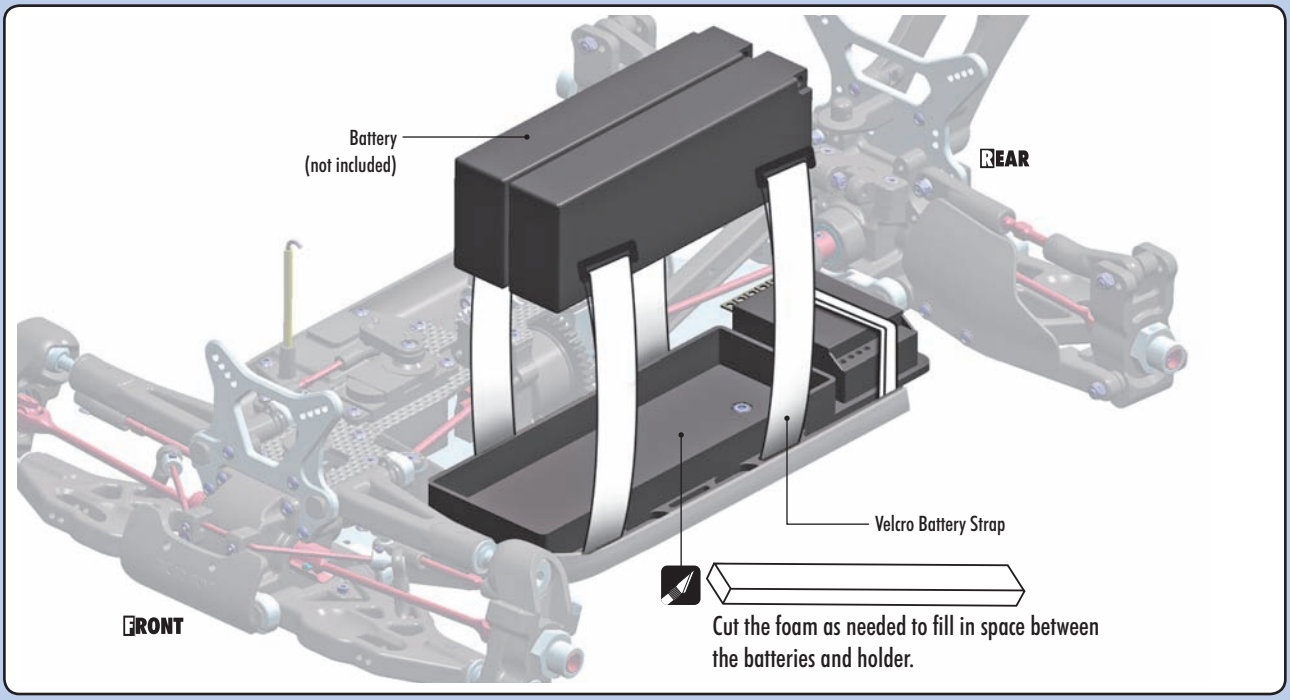


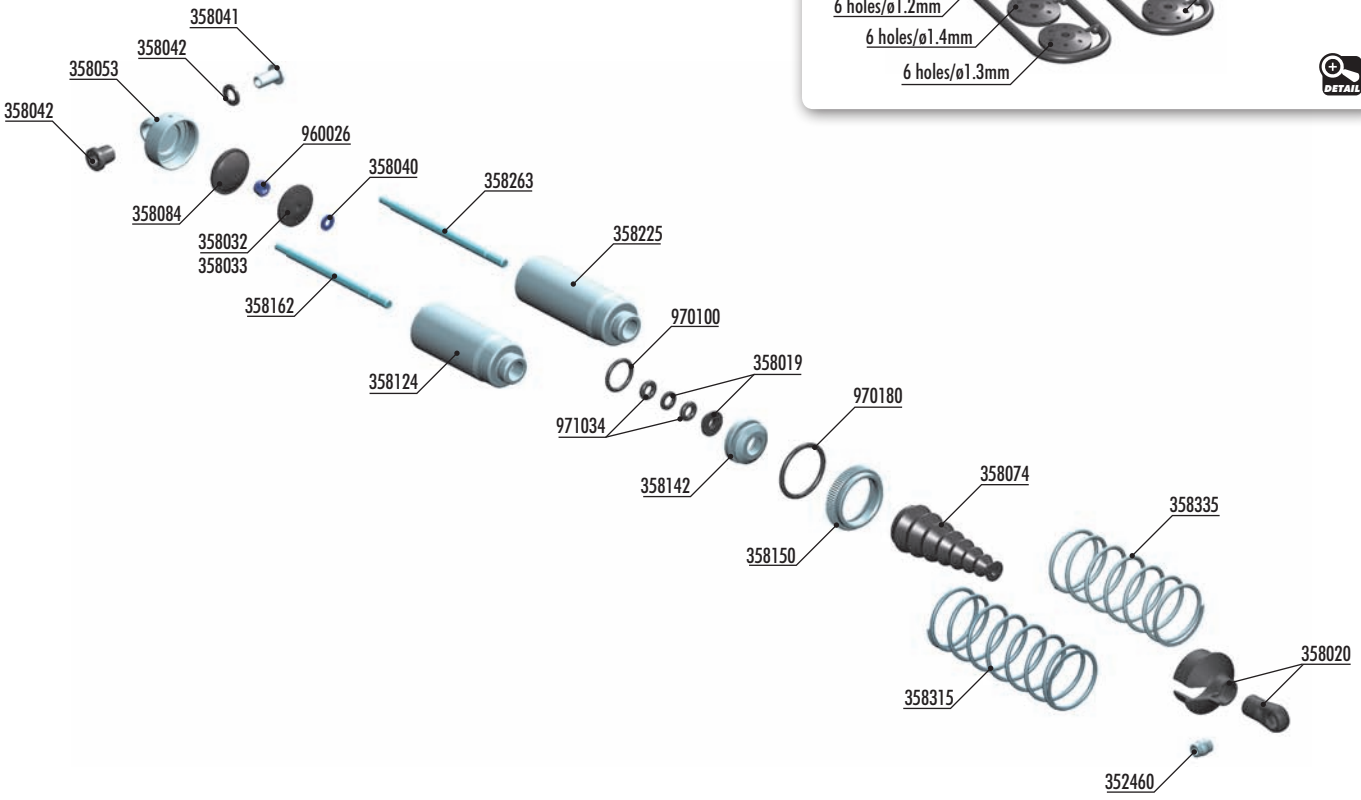


903410
SFH M4x10

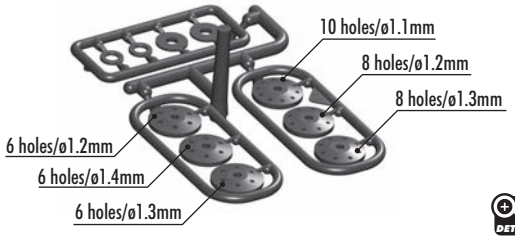
960040
N M4







PISTONS



OPTION

FRONT LINEAR SPRINGS				
#358182	C=0.65	White	SHORT	OPTION
#358183	C=0.70	Grey	SHORT	OPTION
#358184	C=0.75	Silver	SHORT	OPTION
#358185	C=0.80	Grey-Blue	SHORT	OPTION
#358186	C=0.86	Blue	SHORT	OPTION
#358187	C=0.92	Violet	SHORT	OPTION
#358188	C=0.98	Purple	SHORT	OPTION

REAR LINEAR SPRINGS				
#358282	C=0.47	White	LONG	OPTION
#358283	C=0.50	Grey	LONG	OPTION
#358284	C=0.53	Silver	LONG	OPTION
#358285	C=0.57	Grey-Blue	LONG	OPTION
#358286	C=0.61	Blue	LONG	OPTION
#358287	C=0.65	Violet	LONG	OPTION
#358288	C=0.70	Purple	LONG	OPTION

OPTION

FRONT & REAR PROGRESSIVE SPRINGS				
#358174	C=0.7-0.8	Grey	SHORT	OPTION
#358274	C=0.5-0.6	Grey	MEDIUM	OPTION
#358275	C=0.65-0.7	1 STRIPE	MEDIUM	OPTION
#358276	C=0.7-0.75	2 STRIPES	MEDIUM	OPTION
#358277	C=0.72-0.8	3 STRIPES	MEDIUM	OPTION
#358278	C=0.75-0.83	4 STRIPES	MEDIUM	OPTION

REAR PROGRESSIVE SPRINGS				
#358279	C=0.55-0.63	2 STRIPES	LONG	OPTION
#358280	C=0.6-0.68	3 STRIPES	LONG	OPTION
#358281	C=0.65-0.7	4 STRIPES	LONG	OPTION

OPTION

#358054
XB8 ALU SHOCK CAP NUT WITH VENT HOLE - BLACK COATED (2)

BAGS

11.1

11.2

35 2460 PIVOT BALL 5.8 - V3 (10)
35 8019 COMPOSITE SET OF SHIMS FOR SHOCKS - V2 (2)
35 8020 COMPOSITE SHOCK PARTS
35 8032 SHOCK PISTON SET 8-HOLE (1.2; 1.3) 10-H. (1.1MM) - DELRIN - V2
35 8033 COMPOSITE SHOCK 6-HOLE PISTON SET (1.2; 1.3; 1.4MM) - DELRIN - V2
35 8040 HARDENED SHOCK SHIMS (4)
35 8041 STEEL SHOCK BUSHING (2)
35 8042 COMPOSITE SHOCK BUSHING & SHIM - V2 (2+2)
35 8053 XB8 ALU SHOCK CAP NUT - BLACK COATED (2)
35 8054 XB8 ALU SHOCK CAP NUT WITH VENT HOLE - BLACK COATED (2) (OPTION)
35 8074 FOLDING SHOCK BOOT (4)
35 8084 SHOCK RUBBER MEMBRANE BOTTOM RIBBED (4)
35 8124 XB8 ALU FRONT SHOCK BODY - HARD COATED (2)
35 8142 ALU SHOCK BODY NUT FOR SHOCK BOOT (2)
35 8150 ALU SHOCK BODY ADJ. NUT (2)
35 8162 FRONT SHOCK SHAFT (2)
35 8225 XB8'16 ALU REAR SHOCK BODY - HARD COATED (2)
35 8263 XB8 REAR SHOCK SHAFT (2)
35 8315 XRAY FRONT SPRING 69MM - 3 DOTS (2)
35 8335 XRAY REAR SPRING 85MM - 3 DOTS
96 0026 NUT M2.5 - SHORT (10)
97 0100 O-RING 10 x 1.5 (10)
97 0180 O-RING 18 x 1.8 (10)
97 1034 SILICONE O-RING 3.5x2 (10)

11. SHOCK ABSORBERS

358040
S 2.5x6x0.5

960026
N M2.5

2x
8 holes
ø1.2mm pistons
SHORT rod
BAG 11.1
FRONT SHOCK

NOTE ORIENTATION

2x
8 holes
ø1.2mm pistons
LONG rod
BAG 11.2
REAR SHOCK

DETAIL
INCORRECT
DO NOT OVERTIGHTEN
The self-locking nut is overtightened, causing distortion of the piston. This will negatively affect the free movement of the piston in the shock body.

DETAIL
CORRECT
TIGHTEN GENTLY
The self-locking nut is gently tightened. The piston remains undistorted and fits inside the shock body perfectly, ensuring smooth movement of the piston.

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

INCORRECT
INCORRECT
CORRECT

SET-UP BOOK
SHOCK DAMPING
SHOCK PISTONS

970100
O 10x1.5

971034
O 3.4x2

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

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

Thick Shim
OIL
O-ring
Thin Shim
OIL
O-ring

DETAIL

2x
FRONT SHOCKS
SHORT shock rod
OIL
SHORT shock body

2x
REAR SHOCKS
LONG shock rod
OIL
LONG shock body

EXTREMELY IMPORTANT

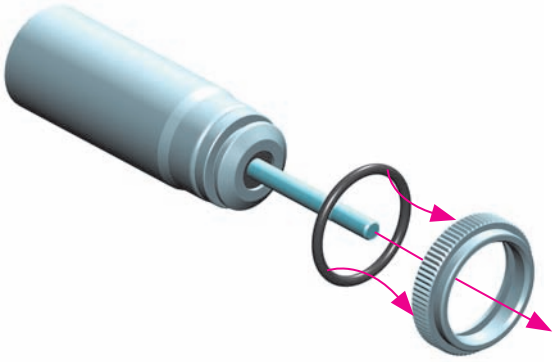
INCORRECT
Do not push the shock rod straight through the lower shock body assembly; O-ring damage may result.

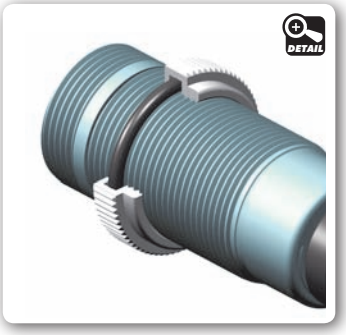
CORRECT
Twist the shock rod through the lower shock body assembly.

970180
O 18x1.8

2x FRONT SHOCKS

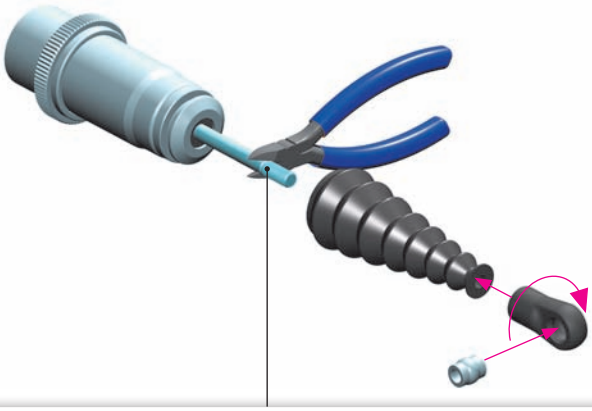
2x REAR SHOCKS

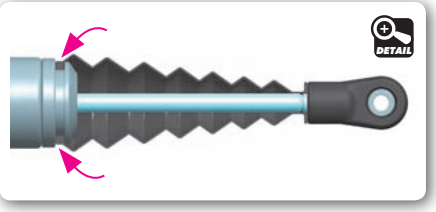


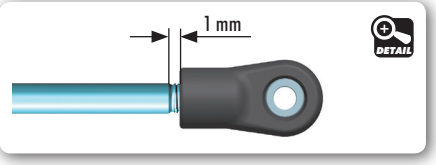


2x FRONT SHOCKS

2x REAR SHOCKS







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

DEFAULT SHOCK REBOUND SETTING 0% (LOW REBOUND)

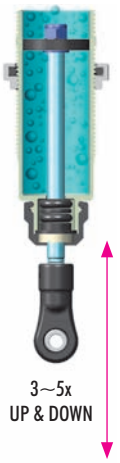
Follow the steps below to set the shock rebound to the default setting of 0%.

2x FRONT (SHORT)
Oil 700cSt

2x REAR (LONG)
Oil 500cSt

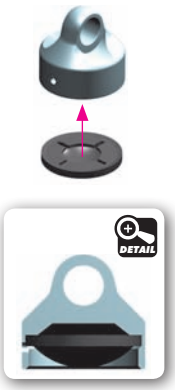
SET-UP BOOK
SHOCK OIL

❶ Extend the shock shaft completely. Fill the shock body with the shock oil. For the FRONT shocks (short) use 700cSt oil. For the REAR shocks (long) use 500cSt oil.



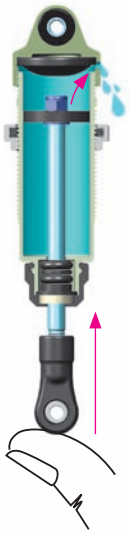
❷ Move the shock shaft up and down a few times to release the air bubbles trapped beneath the piston.

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



❹ Install the shock membrane into the groove in the upper shock cap.

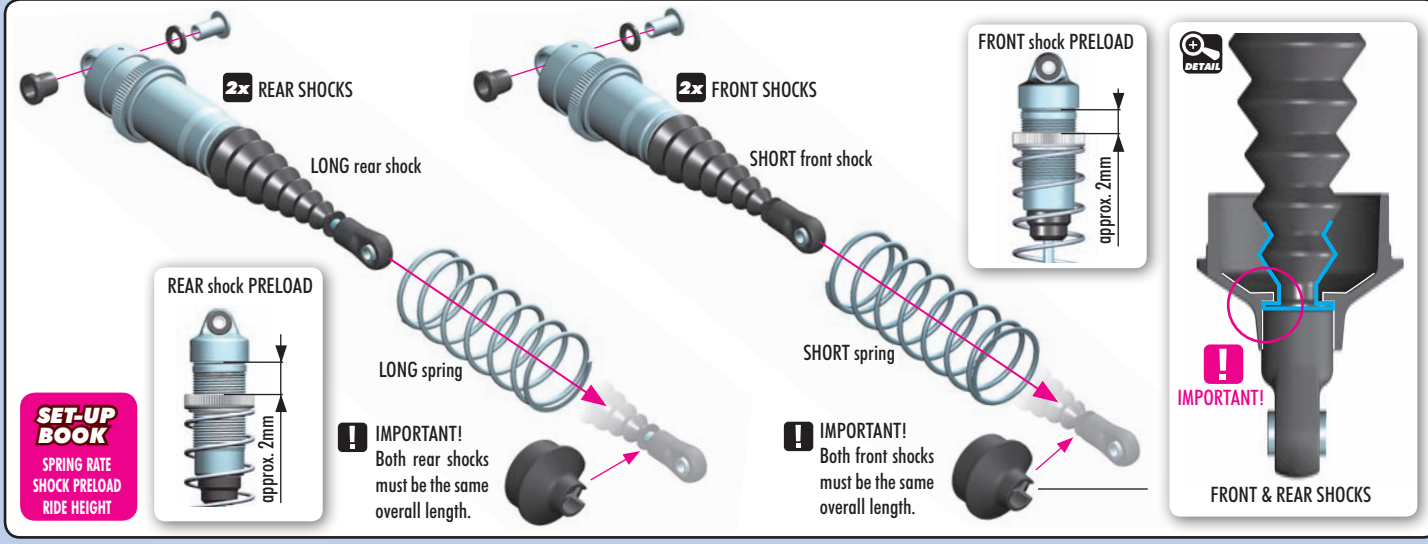
❺ Gently place the shock cap assembly onto the filled shock body. Excess oil will spill from the shock. Screw the shock cap onto the body by only a few turns.



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

❼ Keep the shock shaft pushed in the shock body and tighten the shock cap completely.
The rebound will be at approximately 0%.

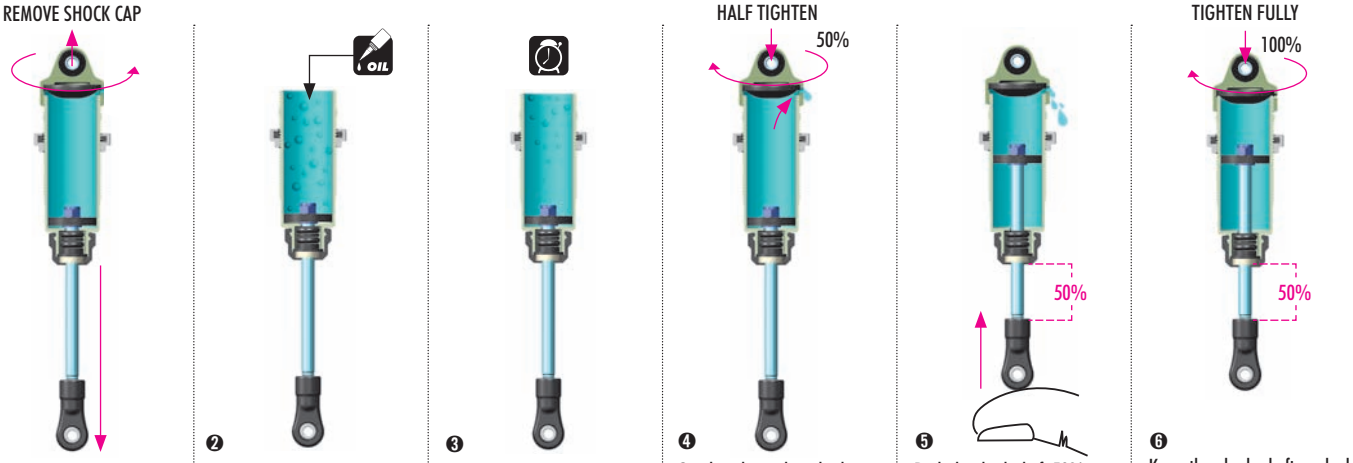
11. SHOCK ABSORBERS



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

The default shock rebound setting is 0% (as described on page 40).
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)



❶ Extend the shock shaft completely and remove the shock cap.

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

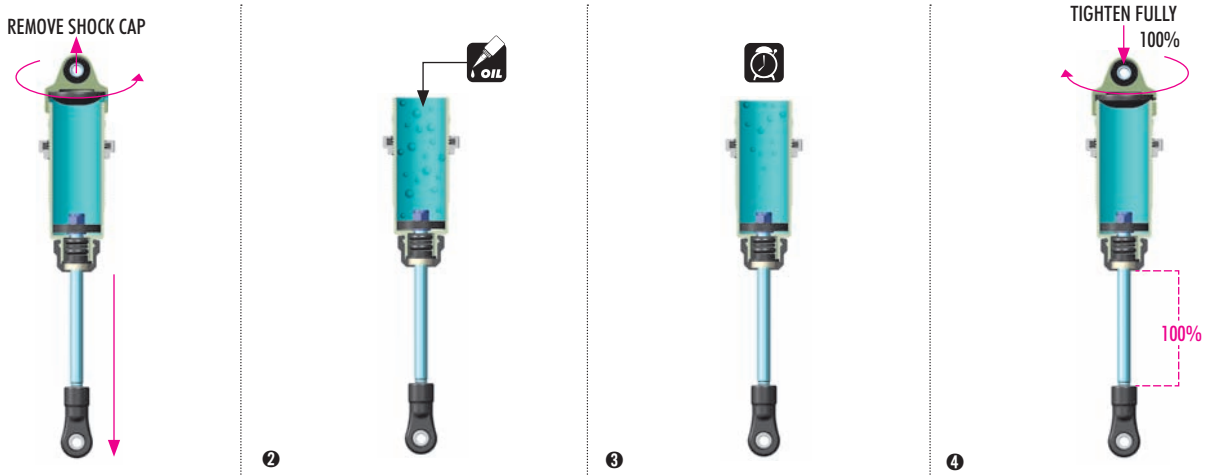
❸ Orient the filled shock vertically for several minutes with the shock shaft fully extended. The remaining air bubbles will release.

❹ Gently place the shock cap assembly onto the filled shock body. Excess oil will spill from the shock.

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

❻ Keep the shock shaft pushed 50% into the shock body and tighten the shock cap completely.
The rebound will be at approximately 50%.

SETTING THE SHOCK REBOUND TO 100% (HIGH REBOUND)

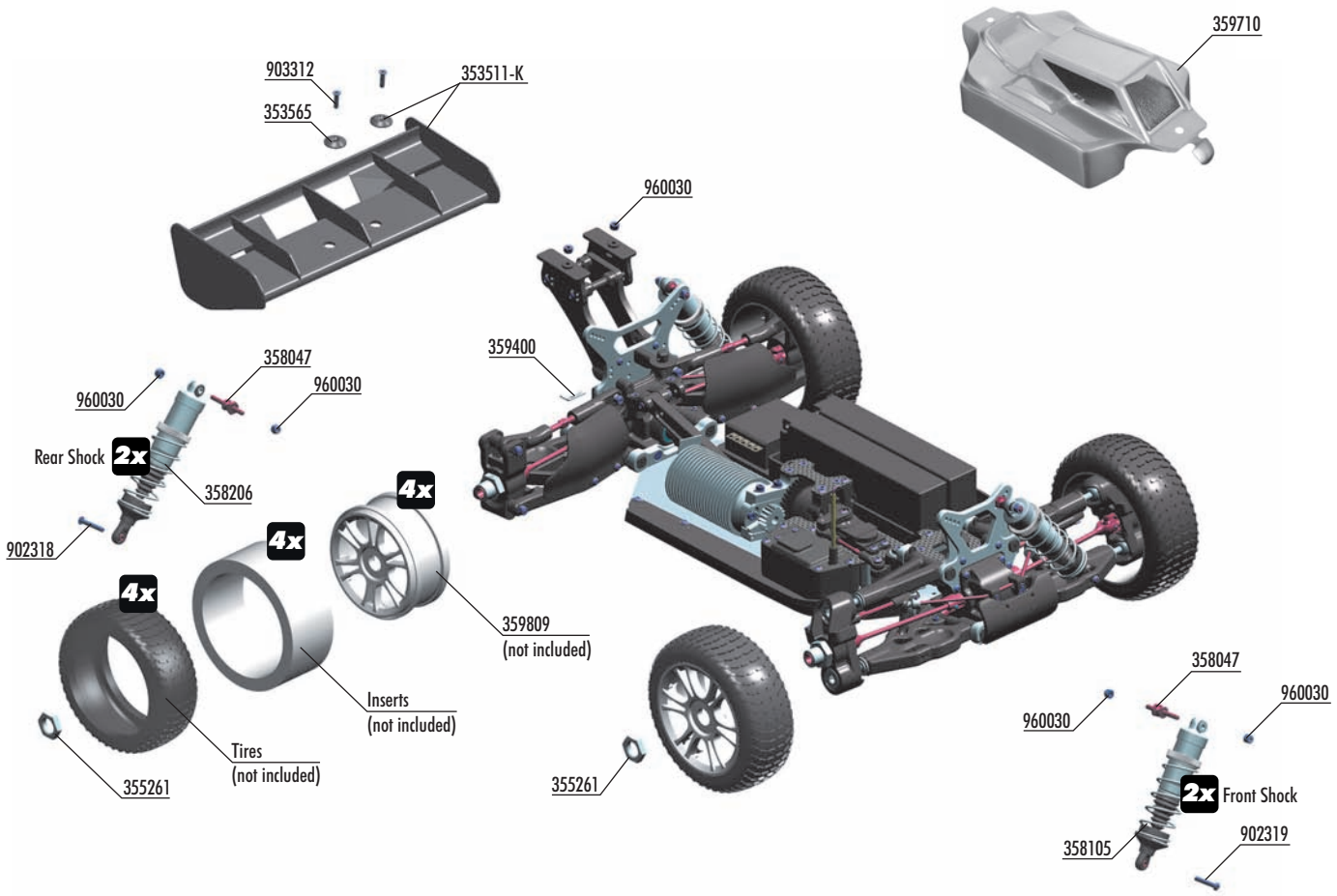


❶ Extend the shock shaft completely and remove the shock cap.

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

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

❹ Gently place the shock cap 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%.



OPTION	WHEEL NUTS		
	#355261	OPEN	INCLUDED
	#293560	COVERED	OPTION
	#355265	COVERED	OPTION

OPTION	WING SHIMS		
	#353565	COMPOSITE	INCLUDED
	#293561	ALU	OPTION
	#293561-O	ALU	OPTION
	#353561	ALU	OPTION

OPTION	XRAY STARBURST WHEELS		
	#359808	PINK	OPTION
	#359809	YELLOW	OPTION

OPTION	WINGS		
	#353511-K	BLACK	INCLUDED
	#353511	WHITE	OPTION
	#353511-Y	YELLOW	OPTION

BAG 12

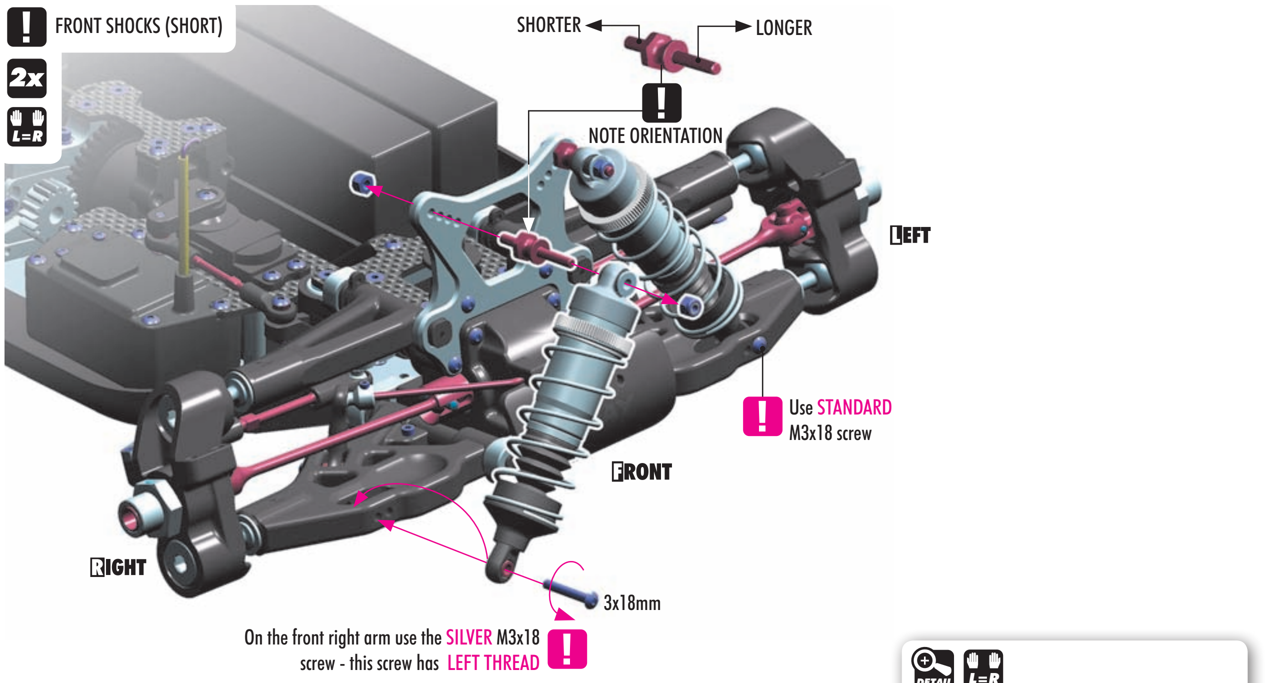
35 3511-K	XB8 REAR WING - BLACK
35 3565	COMPOSITE REAR WING SHIM - BLACK (2)
35 5261	WHEEL NUT - RIBBED - HARD COATED (2)
35 8047	STEEL SCREW SHOCK PIVOT BALL WITH HEX (2)
35 8105	XB8 FRONT SHOCK ABSORBERS + BOOTS COMPLETE SET (2)
35 8206	XB8'16 REAR SHOCK ABSORBERS + BOOTS COMPLETE SET (2)
35 9400	BODY CLIP (10)
35 9710	XRAY XB8'16 BODY
90 2318	HEX SCREW SH M3x18 (10)
90 2319	HEX SCREW SH M3x18 - LEFT THREAD (10)
90 3312	HEX SCREW SFH M3x12 (10)
96 0030	NUT M3 (10)

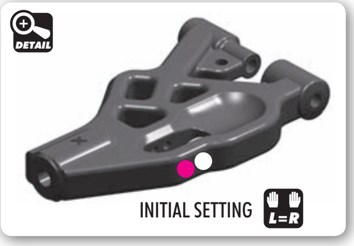
SET-UP BOOK
SHOCK ABSORBERS

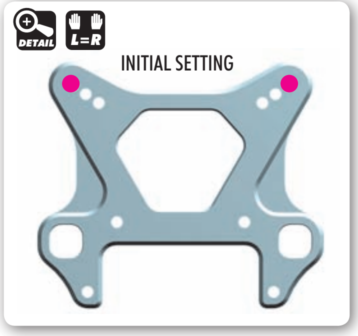
FRONT SHOCKS (SHORT)

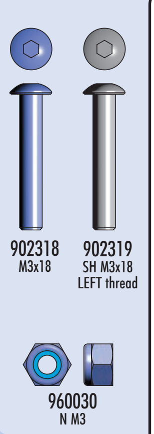
2x

L=R







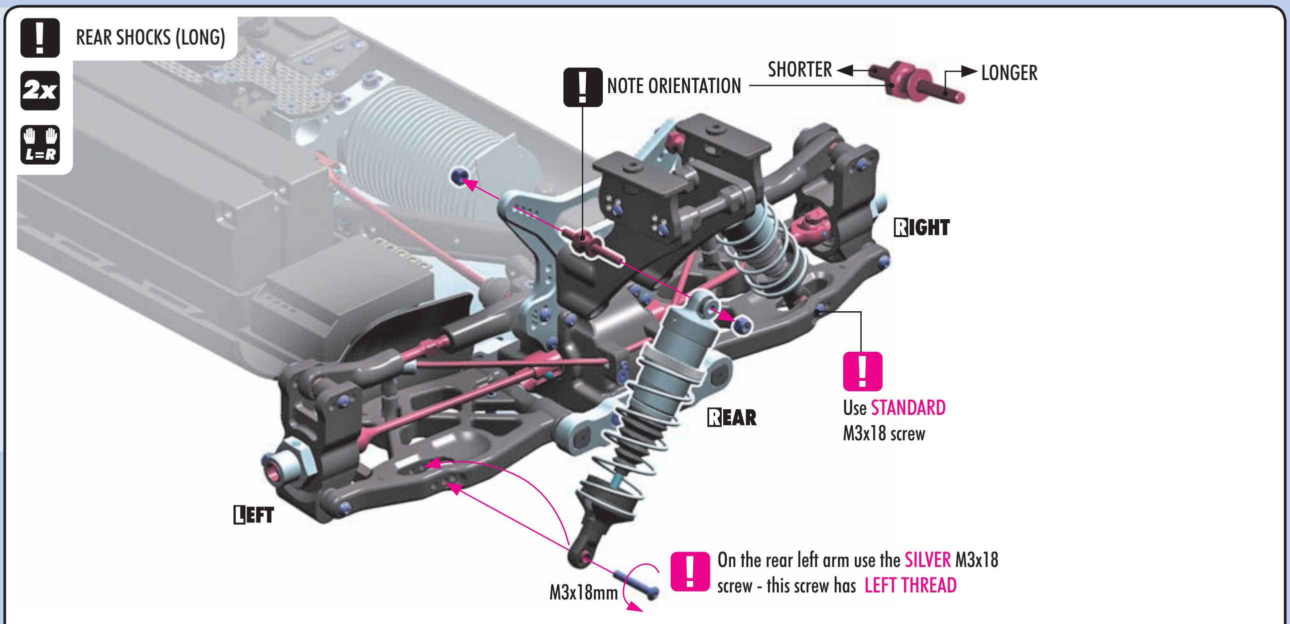


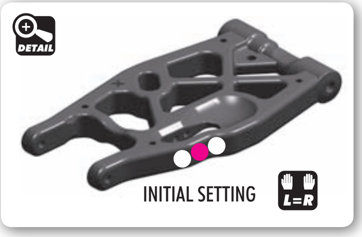
SET-UP BOOK
SHOCK ABSORBERS

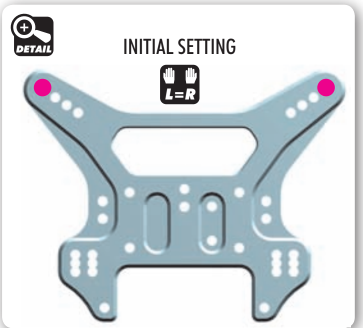
REAR SHOCKS (LONG)

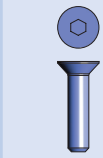
2x

L=R



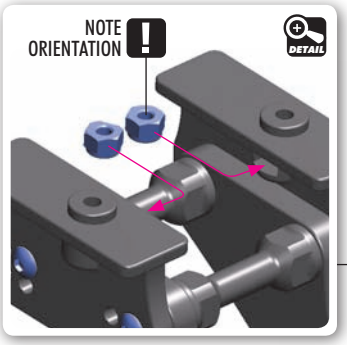




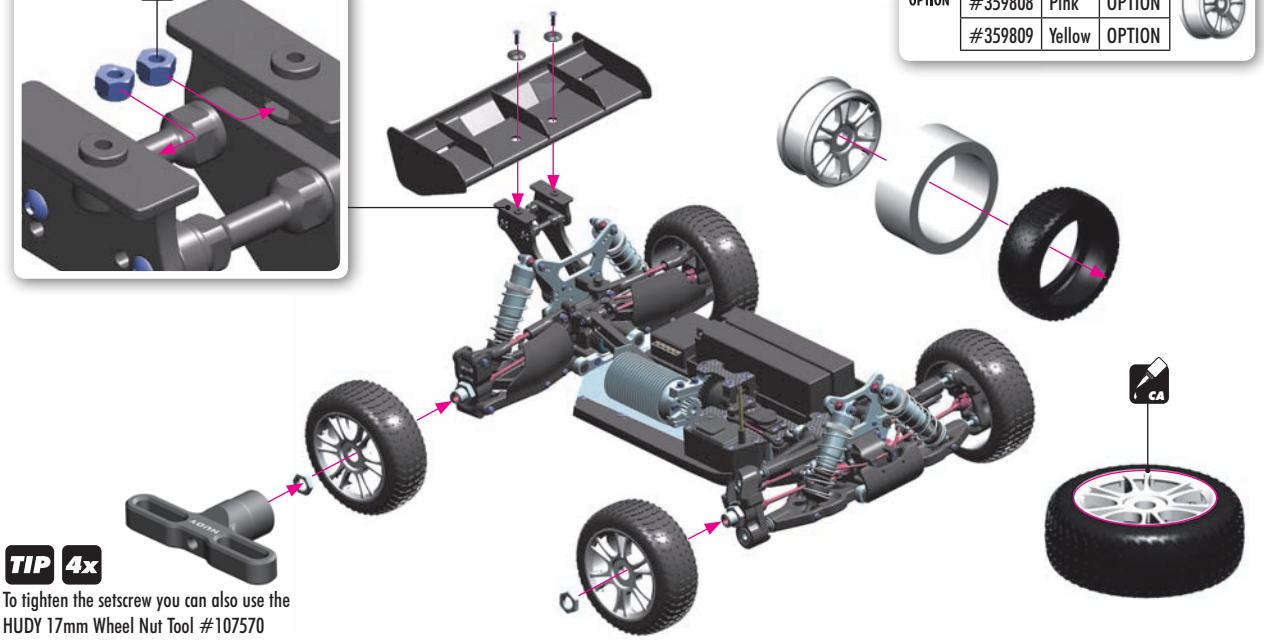


903312
SFH M3x12

960030
N M3



OPTION	XRAY STARBURST WHEELS		
	#359808	Pink	OPTION
	#359809	Yellow	OPTION



TIP 4x
To tighten the setscrew you can also use the HUDY 17mm Wheel Nut Tool #107570

OPTION	WING SHIMS		
	#353565	COMPOSITE	INCLUDED
	#293561	ALU	OPTION
	#293561-O	ALU	OPTION
	#353561	ALU	OPTION

OPTION	WHEEL NUTS		
	#355261	OPEN	INCLUDED
	#293560	COVERED	OPTION
	#355265	COVERED	OPTION

OPTION	WINGS		
	#353511-K	BLACK	INCLUDED
	#353511	WHITE	OPTION
	#353511-Y	YELLOW	OPTION

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

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

❸ Mask all windows.

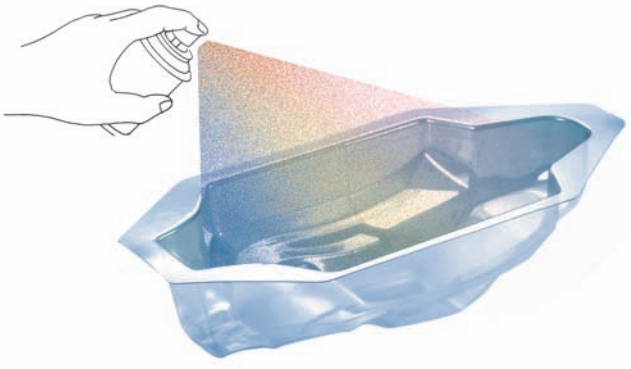
❹ Apply paint masks as appropriate.

❺ Paint the body using paints formulated for polycarbonate bodies.

❻ When the paint is dry, remove the masking.

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

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



Body Reamer (HUDY #107600)

Ensure to make this rear body mount hole oval so in the case of chassis flex after a big jump the body mount will not tear up the hole.

TIP To reinforce the body or to fix broken body use #106280 HUDY BODY FIX

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 rubber bladders and 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.
- If installing new rubber bladders, carefully trim the thin excess rubber from the edges of their lips. Curved body scissors work the best.
- Regularly inspect the amount of dirt on the felt protector in the shocks (if present) and regularly replace with a new one.
- 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 or truggy must be properly maintained for smooth operation and long lifespan.

Typically, the ball-bearings included in new cars are greased for highest lifespan and as such the drivetrain may not seem to be as free as with lightly-oiled ball-bearings. However, when the car is run the ball-bearings will become more free and the drivetrain will become very efficient.

There are several types of bearings discussed here: bearings which already come greased from the factory, bearings which must be lubricated using the HUDY Bearing Grease, and then there are also bearings in the steering system which need to be lubricated with HUDY Bearing Oil.

The following procedures are recommended to clean all of the bearings in your off-road car or truggy. For high-competition racing, we recommended doing this every 3-4 weeks, or before a major race.

1. 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.
5. Spray the bearing on both sides again.
6. Blow both sides of the bearing dry with compressed air to make sure particles come out.
7. 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.
8. Place one drop of bearing oil into each side of the bearing.
9. Replace both seals at the same time by lining them up on each side of the bearing and lightly pressing them in all the way around the bearings circumference with your thumb and forefinger. Do not press too hard or use any type of tool, such as a wrench tip, to push the blue seals in as they will push in too far, bend and cause drag.

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

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

RECOMMENDED PRODUCTS

- Use HUDY Bearing Grease to regularly lubricate grease-bearing ball-bearings.
- Use HUDY Bearing Oil to lubricate the bearings of the steering system.

HUDY #106230

HUDY #106220

HUDY #106222

HUDY #106221

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 3x14 (#106050).
- 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.

HUDY #106210

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 after some time "go down" 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.

PROBLEM	CAUSE	SOLUTION
CAR IS HARD TO CONTROL	• Weak transmitter and/or receiver batteries • Low reception from radio antennas • Servo linkages not adjusted properly	• Recharge or replace batteries • Fully extend transmitter and receiver antennas • Move servo to neutral then re-adjust linkage(s)
STEERING DOES NOT WORK PROPERLY	• Weak transmitter and/or receiver batteries • Bent linkages or driveshafts • Loose steering components • Drivetrain damage	• Recharge or replace batteries • Check tightness of steering components and tighten if necessary • Replace damaged parts
HANDLING PROBLEMS	• Shocks are not working properly • Suspension is binding • Improper tires	• Rebuild the shocks and replace worn or broken parts • Make sure suspension moves freely. Replace worn or broken parts • Use different tires
STEERING FEELS SLUGGISH OR VAGUE	• Suspension is binding • Damaged steering servo	• Make sure suspension moves freely, and replace worn or broken parts • Check the steering servo for damage and wear, and replace/repair if necessary
THE CAR DOES NOT DRIVE STRAIGHT	• Suspension is binding • Steering trim is off-center • Wheels are loose • Damaged steering servo	• Make sure suspension moves freely, and replace worn or broken parts • Adjust steering trim until car drives straight • Check the make sure the wheel nuts are properly tightened • Check the steering servo for damage and wear, and replace/repair if necessary

www.teamxray.com

XRAY EUROPE

XRAY, K VÝSTAVISKU 6992, 91101 TRENCIN, SLOVAKIA, EUROPE
PHONE: +421-32-740 11 00, FAX: +421-32-740 11 09, info@teamxray.com

XRAY USA

RC AMERICA, 2030 Century Center Blvd #15, Irving, TX 75062, USA
PHONE: 214-744-2400, FAX: 214-744-2401, xray@rcamerica.com

MADE IN EUROPE SLOVAKIA

/TeamXray /TeamXray /TeamXray /XrayRacing /+TeamXrayRC /XrayRacing