



MADE IN
EUROPE

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

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

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.

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.

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.

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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 - 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 exceed the monetary value of this product.

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

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

All rights reserved.

QUALITY CERTIFICATE

XRAY MODEL RACING CARS uses only the highest quality materials, the best compounds for molded parts and the most sophisticated manufacturing processes of TQM (Total Quality Management). We guarantee that all parts of a newly-purchased kit are manufactured with the highest regard to quality. However, due to the many factors inherent in model racecar competition, we cannot guarantee

any parts once you start racing the car. Products which have been worn out, abused, neglected or improperly operated will not be covered under warranty. We wish you enjoyment of this high-quality and high-performance RC car and wish you best success on the track!

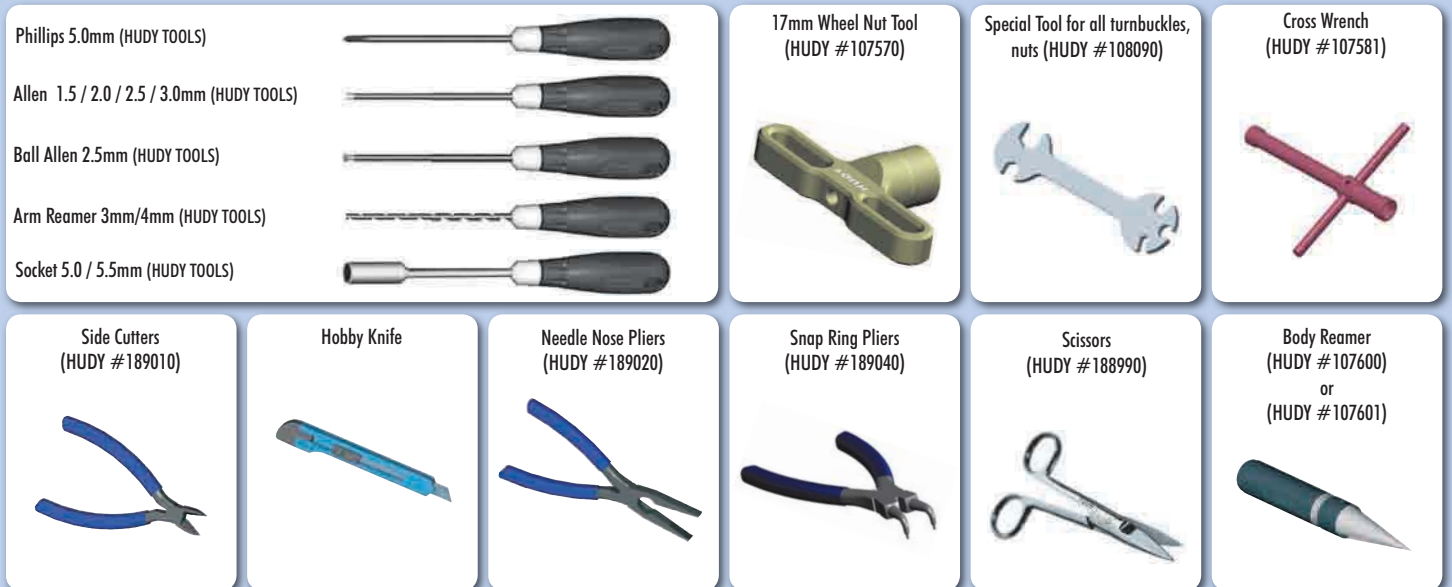
In line with our policy of continuous product development, the exact specifications of the kit may vary. In the unlikely event of any problems with your new kit, you should contact the model shop where you purchased it, quoting the part number.

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

SYMBOLS USED



TOOLS REQUIRED



TOOLS & EQUIPMENT INCLUDED



EQUIPMENT REQUIRED

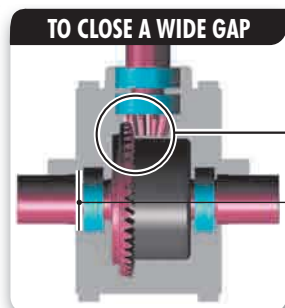


TIP FRONT & REAR DIFF GEAR MESH ADJUSTMENT

Before filling in the differentials with oil we suggest that you first check gear mesh as below. 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.

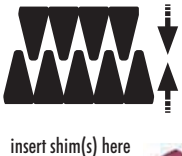
THE LOCATION OF THE SHIM(S) DEPENDS ON WHETHER YOU ARE TRYING TO CLOSE OR OPEN THE GAP:

INCLUDED SHIM



TO CLOSE A WIDE GAP

CLOSE A WIDE GAP



insert shim(s) here

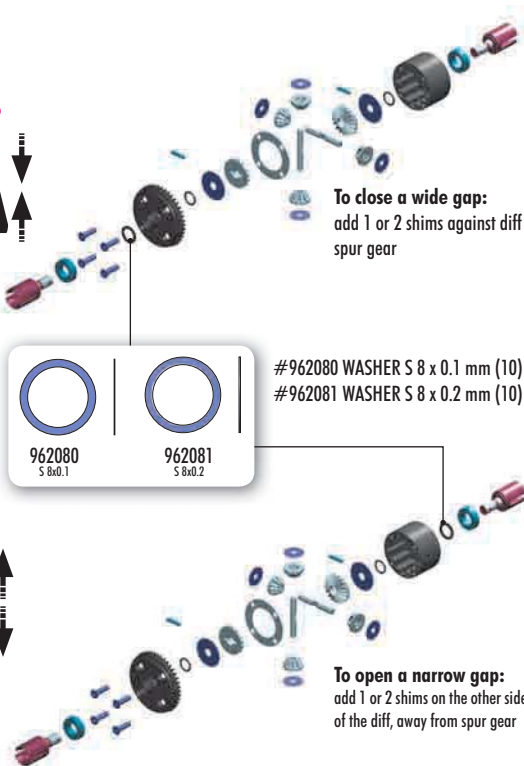


TO OPEN A NARROW GAP

OPEN A NARROW GAP



insert shim(s) here



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

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



962080
S 8x0.1



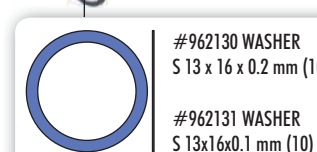
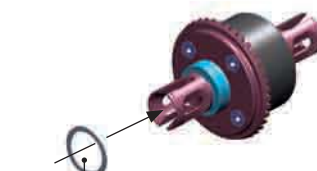
962081
S 8x0.2

#962080 WASHER S 8 x 0.1 mm (10)
#962081 WASHER S 8 x 0.2 mm (10)

OPTION SHIM

For easier gear mesh adjustments, OPTION S13 x 0.2 shims are used. These shims can be placed behind the bearing which is quicker.

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



#962130 WASHER
S 13 x 16 x 0.2 mm (10)

#962131 WASHER
S 13x16x0.1 mm (10)



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

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 run time. If the pins show any wear, replace them with new pins.



1

Do not use drive shafts when the pins are worn.

2

Press out the worn pins.

3

Press in new pins and regularly inspect for wear.



For easy drive pin replacement use #106000 HUDY Drive Pin Replacement Tool.



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

TIP GRAPHITE PARTS PROTECTION

Follow this tech tip to protect the graphite parts.

Protect all XB8 Graphite Parts:

- Front shock tower
- Rear shock tower

Fine sandpaper

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



Apply CA glue to all edges of the graphite parts.



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.

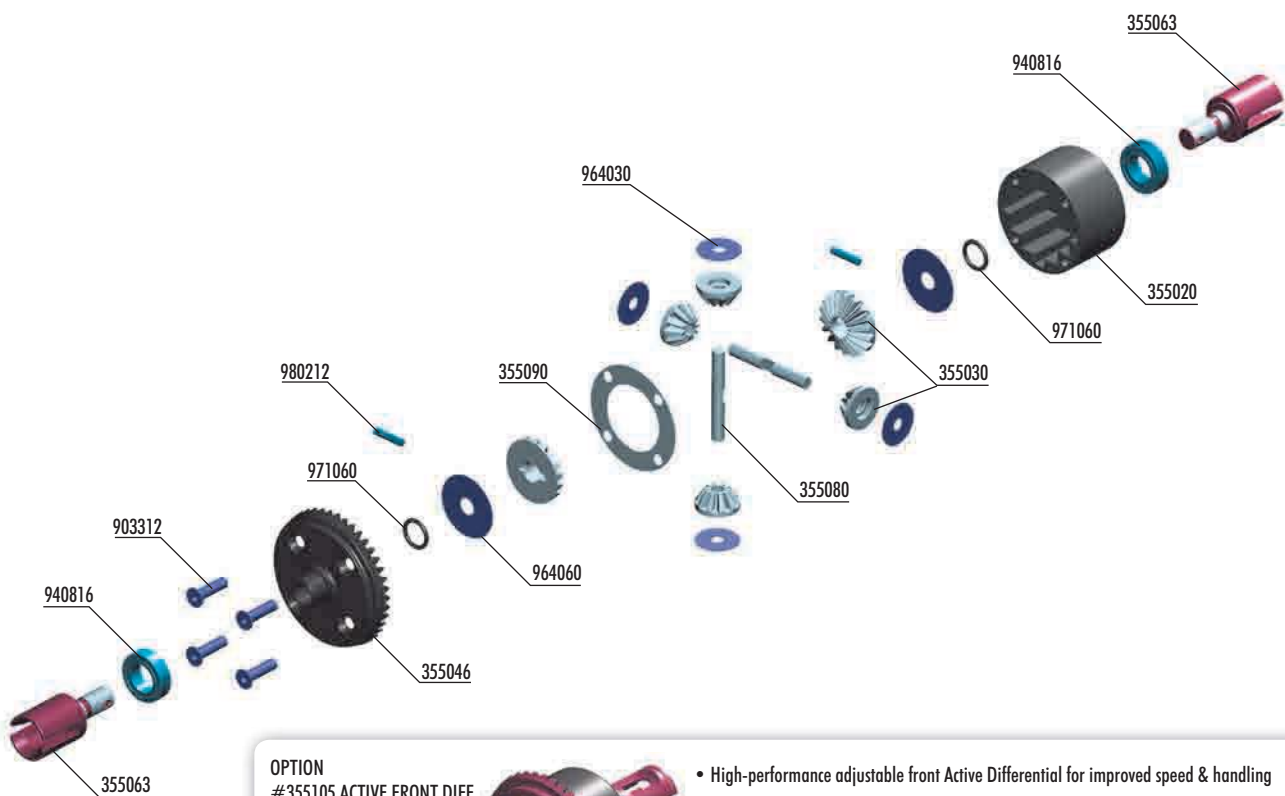


The finished joint.



Loosen and remove screw.

1. FRONT & REAR DIFFERENTIALS



OPTION
#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

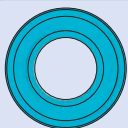
BAGS



2x

- 35 5003 XB8 FRONT/REAR DIFFERENTIAL 46T - SET
35 5020 DIFFERENTIAL CASE
35 5030 STEEL DIFF BEVEL & SATELLITE GEARS (2+4)
35 5046 FRONT/REAR DIFF LARGE BEVEL GEAR 46T - HUDY STEEL
35 5063 F/R DIFF OUTDRIVE ADAPTER - LIGHTW. - HUDY SPRING STEEL™ (2)
35 5080 DIFF PIN (2)
35 5090 DIFF GASKET (4)

- 90 3312 HEX SCREW SFH M3x12 (10)
94 0816 HIGH-SPEED BALL-BEARING 8x16x5 BLUE COVERED (2)
96 4030 WASHER S 3.5x12x0.2 (10)
96 4060 WASHER S 6x18x0.2 (10)
97 1060 SILICONE O-RING 6x1.5 (10)
98 0212 PIN 2x11.6 (10)



940816
BB 8x16x5



964060
S 6x18x0.2



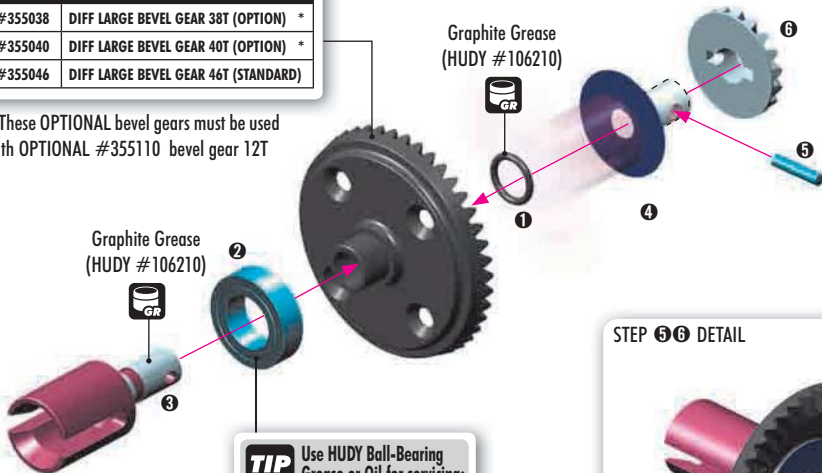
971060
O 6x1.5

980212
P 2x11.6

2x F=R

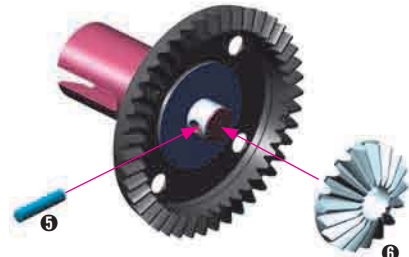
FRONT/REAR DIFF LARGE BEVEL GEAR	
#355038	DIFF LARGE BEVEL GEAR 38T (OPTION) *
#355040	DIFF LARGE BEVEL GEAR 40T (OPTION) *
#355046	DIFF LARGE BEVEL GEAR 46T (STANDARD)

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



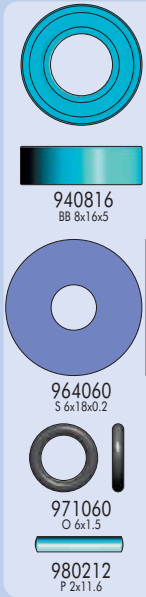
TIP Use HUDY Ball-Bearing Grease or Oil for servicing:
#106220 - Standard
#106221 - Extra
#106222 - Premium
#106230 - Bearing Oil

STEP 5&6 DETAIL

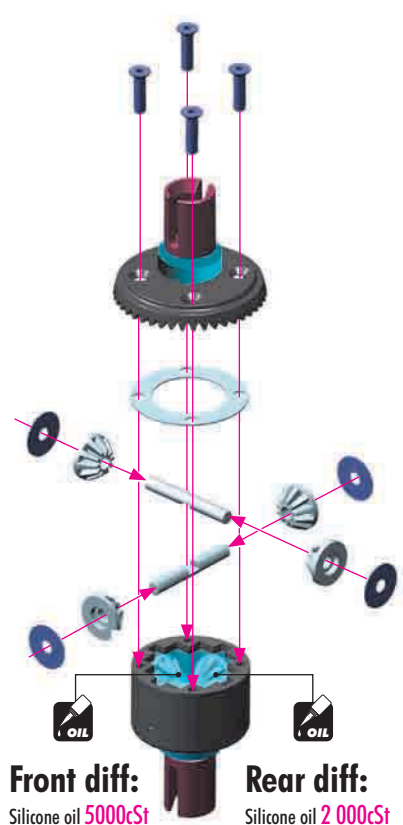
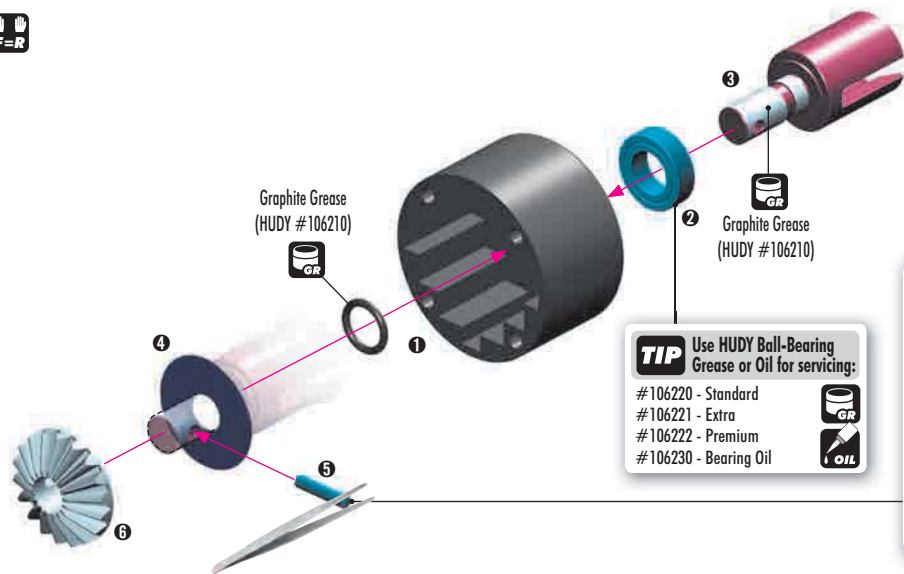


SET-UP BOOK
DIFFERENTIAL GEARS

FRONT & REAR DIFFERENTIALS

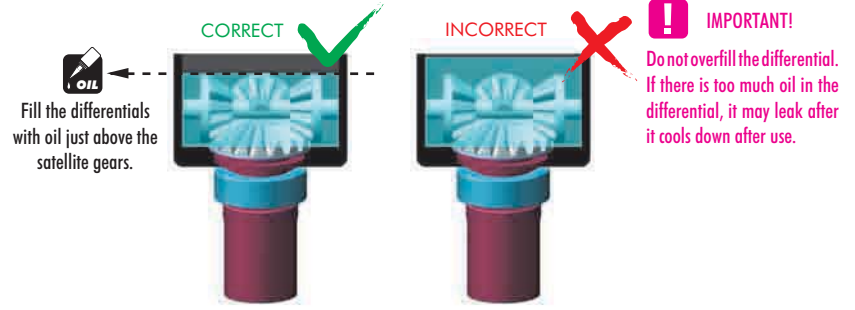


2x F=R



VERY IMPORTANT!

Use these silicone oils included in the kit for initial settings:
 Front diff: 5000cSt / Rear diff: 2000cSt



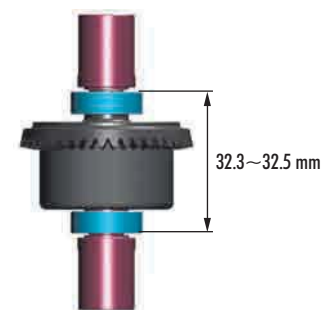
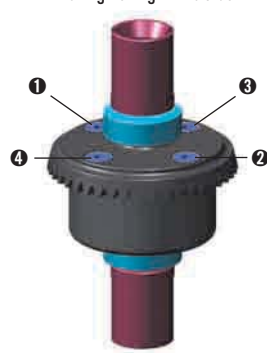
To ensure you have the same amount of oil from rebuild to rebuild, do the following:



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.

This diagram illustrates the exploded view of a mechanical assembly, showing the relationship between various components. The parts are identified by the following callout numbers:

- 940816: Red pin/bush and green bush.
- 355071: Red pin/bush.
- 903312: Blue pin/bush.
- 980212: Small blue pin/bush.
- 355050: Large black gear.
- 971060: Small black ring.
- 355090: Large black ring.
- 964030: Small blue bush.
- 355080: Small blue bush.
- 964060: Small blue bush.
- 355030: Small blue bush.
- 971060: Small black ring.
- 355020: Small black ring.
- 940816: Red pin/bush and green bush.
- 355071: Red pin/bush.



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)		



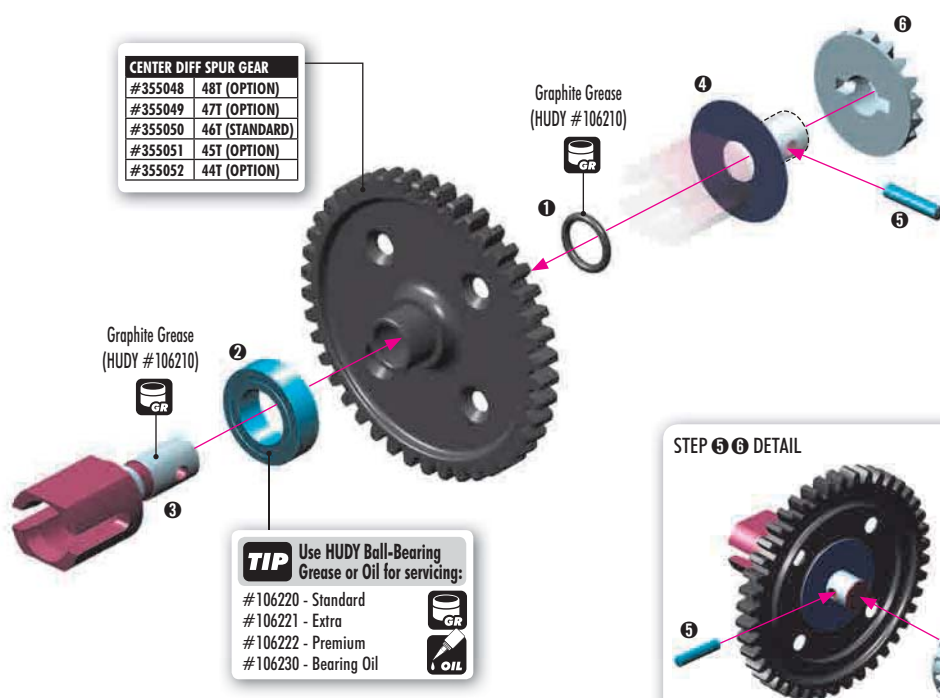
940816
BB 8x16x5



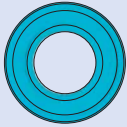
980212
P 2x11.6

SET-UP BOOK

DIFFERENTIAL GEARS



CENTER DIFFERENTIAL



940816
BB 8x16x5



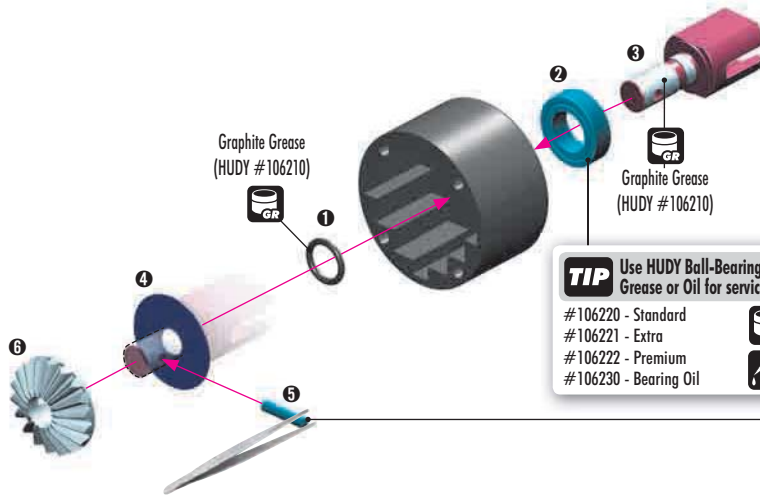
964060
S 6x18x0.2



971060
O 6x1.5



980212
P 2x11.6



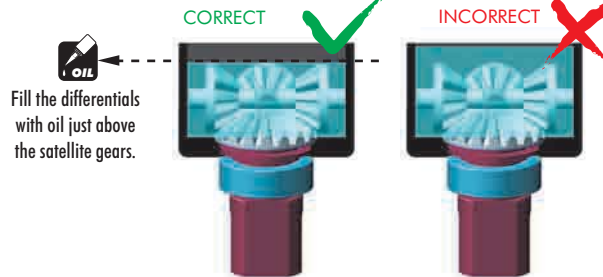
STEP 5 DETAIL



VERY IMPORTANT!

Use the following silicone oil included in the kit for initial setting:

Center diff: 5000cSt



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

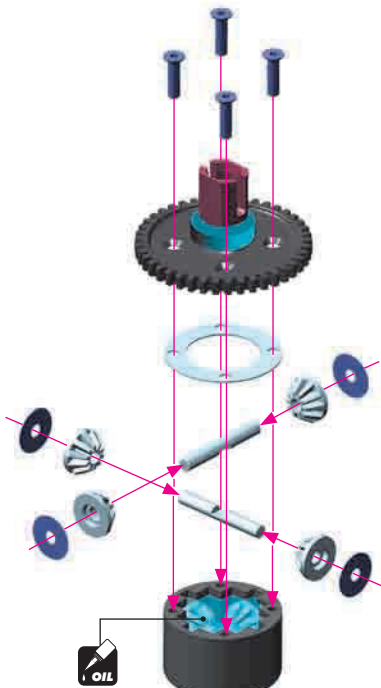
To ensure you have the same amount of oil from rebuild to rebuild, do the following:

#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.



Center diff:

Silicone oil 5000cSt

Fill to just above the satellite gears.

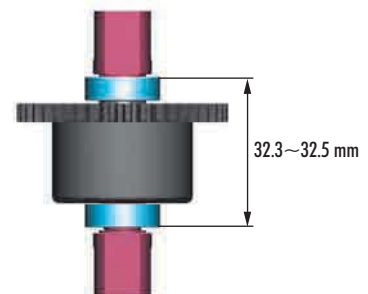
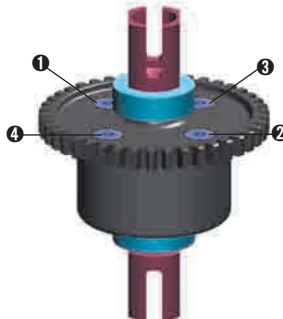
SET-UP BOOK

DIFFERENTIAL OIL

Tighten the screws equally

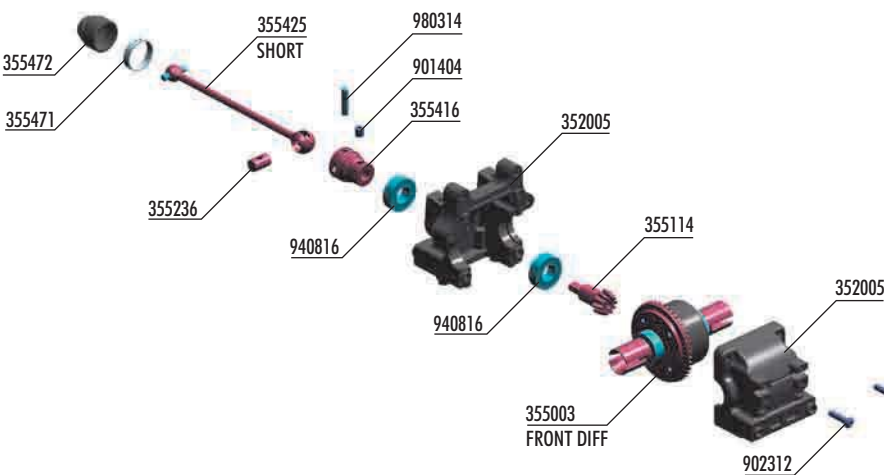


Finish tightening in this order



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 2005 XBB DIFF BULKHEAD BLOCK SET FRONT/REAR
35 5003 XBB FRONT/REAR DIFFERENTIAL 46T - SET
35 5114 BEVEL DRIVE GEAR 14T
35 5236 CVD DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
35 5416 CENTRAL CVD SHAFT UNIVERSAL JOINT - HUDY SPRING STEEL™
35 5425 FRONT CENTRAL CVD DRIVE SHAFT - HUDY SPRING STEEL™
35 5471 DRIVE SHAFT LOCKING RING (2)

35 5472 DRIVE SHAFT BOOT (2)
90 1404 HEX SCREW SB M4x4 (10)
90 2312 HEX SCREW SH M3x12 (10)
94 0816 HIGH-SPEED BALL-BEARING 8x16x5 RUBBER SEALED (2)
98 0314 PIN 3x14 (10)

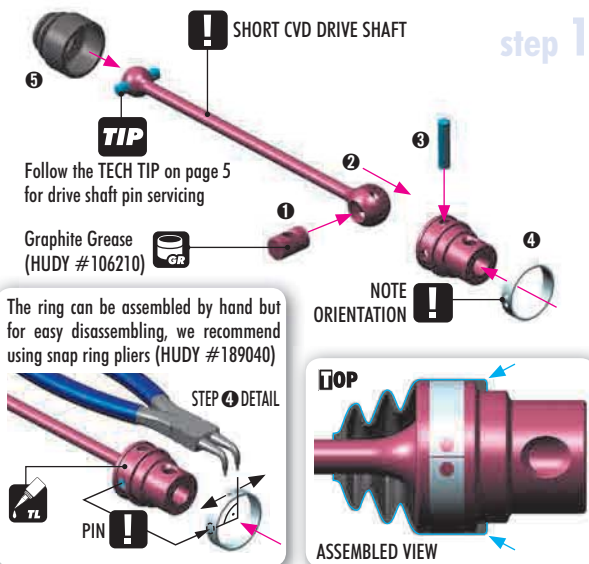
901404
SB 4x4

902312
SH 3x12



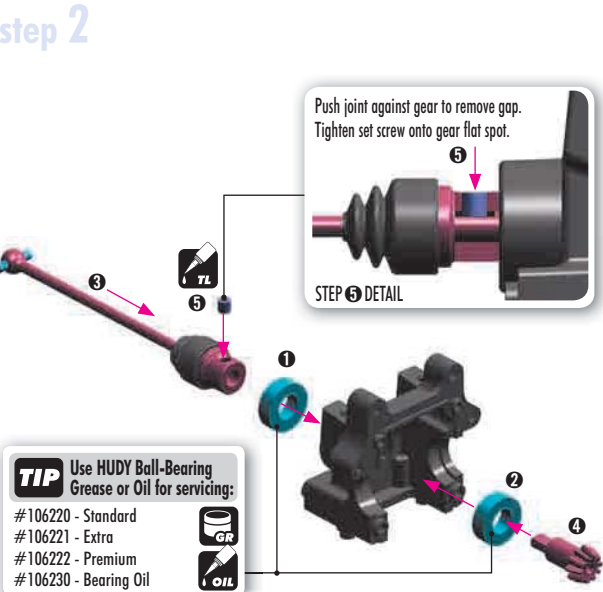
940816
BB 8x16x5

980314
P 3x14

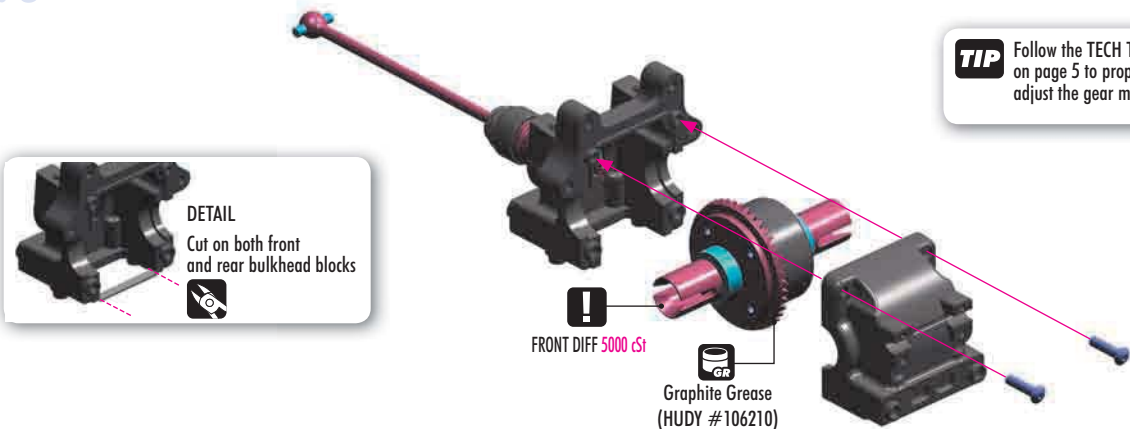


BEFORE inserting the clip on the central CVD shaft joint, apply a small amount of threadlock on the area where the clip goes.

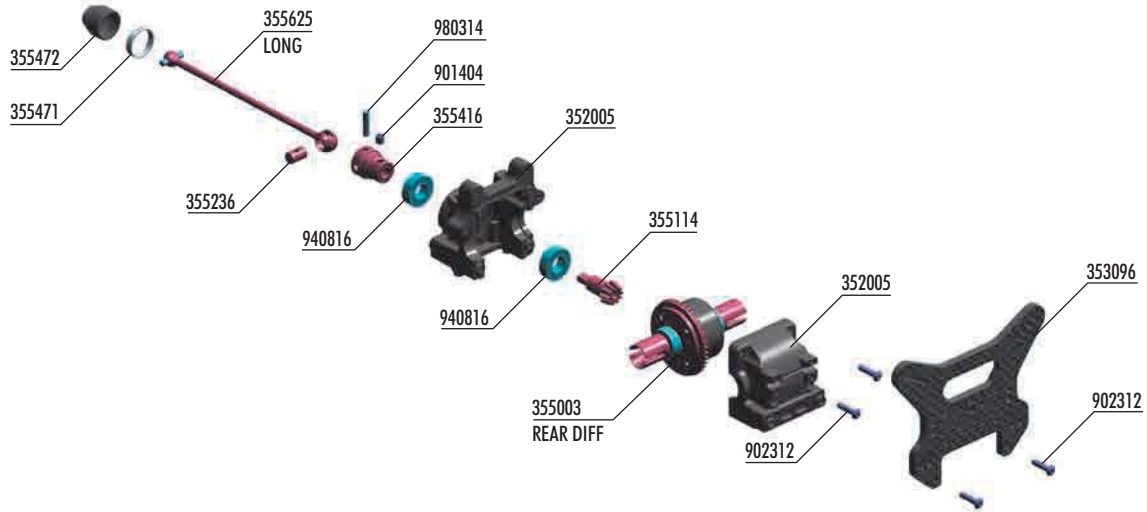
AFTER inserting the clip on the central CVD shaft joint, turn the clip so that the slot is 90° from the pin. This will prevent the pin from opening the clip.



step 3



REAR TRANSMISSION



BAG

02

35 2005 XB8 DIFF BULKHEAD BLOCK SET FRONT/REAR
 35 5003 XB8 FRONT/REAR DIFFERENTIAL 46T - SET
 35 3096 XB8 GRAPHITE REAR SHOCK TOWER - CNC MACHINED 3.5MM
 35 5114 BEVEL DRIVE GEAR 14T
 35 5236 CVD DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
 35 5416 CENTRAL CVD SHAFT UNIVERSAL JOINT - HUDY SPRING STEEL™
 35 5625 REAR CENTRAL CVD DRIVE SHAFT - HUDY SPRING STEEL™

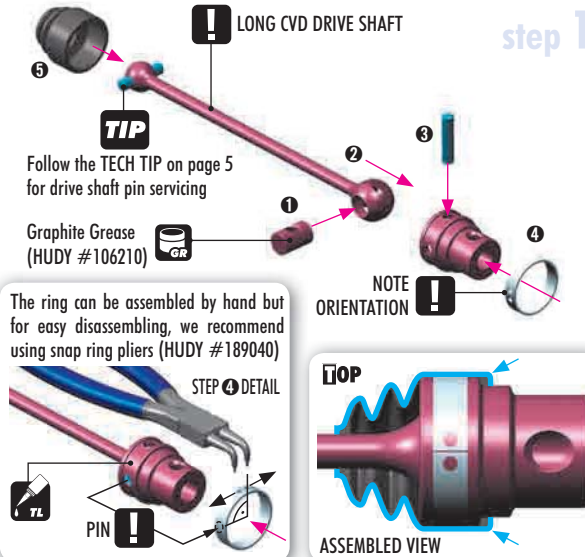
35 5471 DRIVE SHAFT LOCKING RING (2)
 35 5472 DRIVE SHAFT BOOT (2)
 90 1404 HEX SCREW SB M4x4 (10)
 90 2312 HEX SCREW SH M3x12 (10)
 94 0816 HIGH-SPEED BALL-BEARING 8x16x5 RUBBER SEALED (2)
 98 0314 PIN 3x14 (10)

901404
SB 4x4

902312
SH 3x12

940816
BB 8x16x5

980314
P 3x14

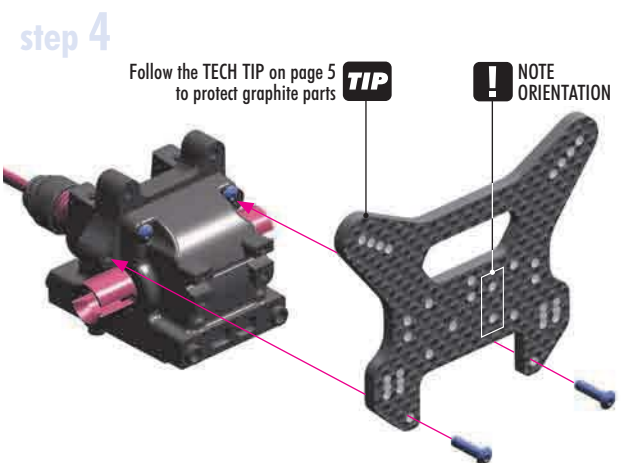
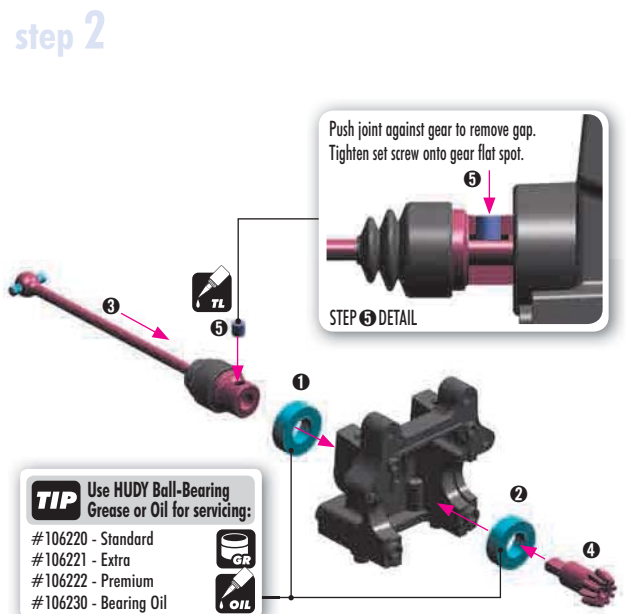


BEFORE inserting the clip on the central CVD shaft joint, apply a small amount of threadlock on the area where the clip goes.

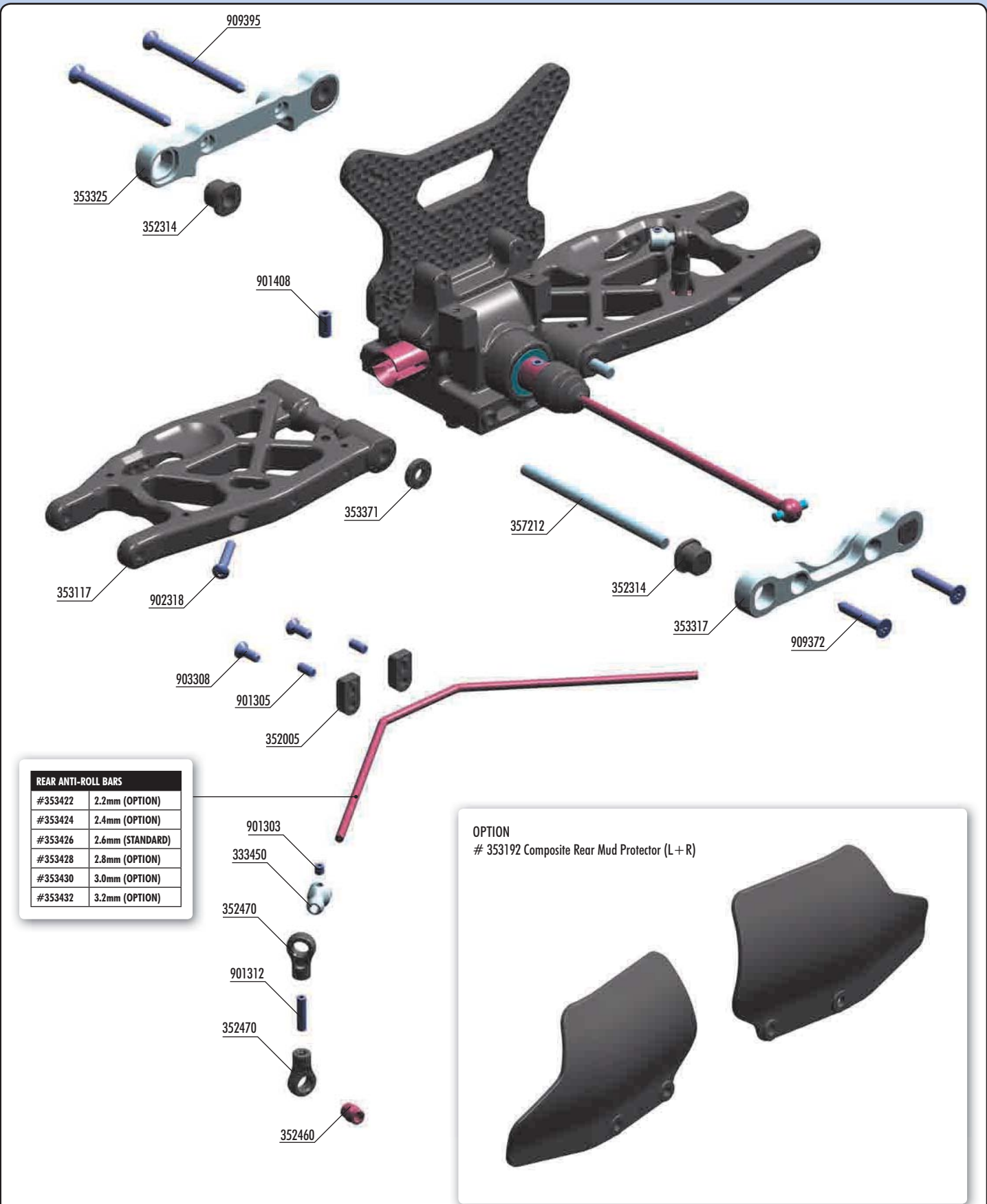
AFTER inserting the clip on the central CVD shaft joint, turn the clip so that the slot is 90° from the pin. This will prevent the pin from opening the clip.



TIP Follow the TECH TIP on page 5 to properly adjust the gear mesh.



3. REAR SUSPENSION



<div>BAG</div> <div>03</div>	33 3450	ANTI-ROLL BAR BALL JOINT 5.8 MM (2)	35 7212	LOWER INNER PIVOT PIN F+R (2)
	35 2005	XB8 DIFF BULKHEAD BLOCK SET FRONT/REAR	90 1303	HEX SCREW SB M3x3 (10)
	35 2314	COMPOSITE ECCENTRIC BUSHINGS - V2 (2)	90 1305	HEX SCREW SB M3x5 (10)
	35 2460	PIVOT BALL 5.8 (10)	90 1312	HEX SCREW SB M3x12 (10)
	35 2470	BALL JOINT 5.8 (8)	90 1408	HEX SCREW SB M4x8 (10)
	35 3117	XB8 COMPOSITE REAR LOWER SUSPENSION ARM	90 2318	HEX SCREW SH M3x18 (10)
	35 3192	XB8 COMPOSITE REAR MUD PROTECTOR (L+R)	90 3308	HEX SCREW SFH M3x8 (10)
	35 3317	XB8 ALU REAR LOWER SUSP. HOLDER - FRONT - SQUARE ADJ. ROLL-CENTER	90 9372	SCREW PHILLIPS SS 3.5x22 (10)
	35 3325	XB8 ALU REAR LOWER SUSP. HOLDER - REAR - SQUARE ADJ. ROLL-CENTER	90 9395	SCREW PHILLIPS SS 3.5x45 (10)
	35 3371	SET OF COMPOSITE LOWER ARM SHIMS		
	35 3426	REAR ANTI-ROLL BAR 2.6MM		



909395
SS 3.5x45



909372
SS 3.5x22



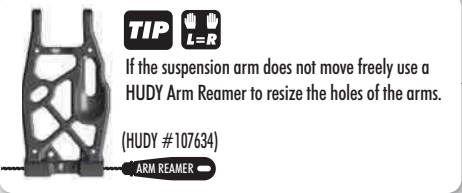
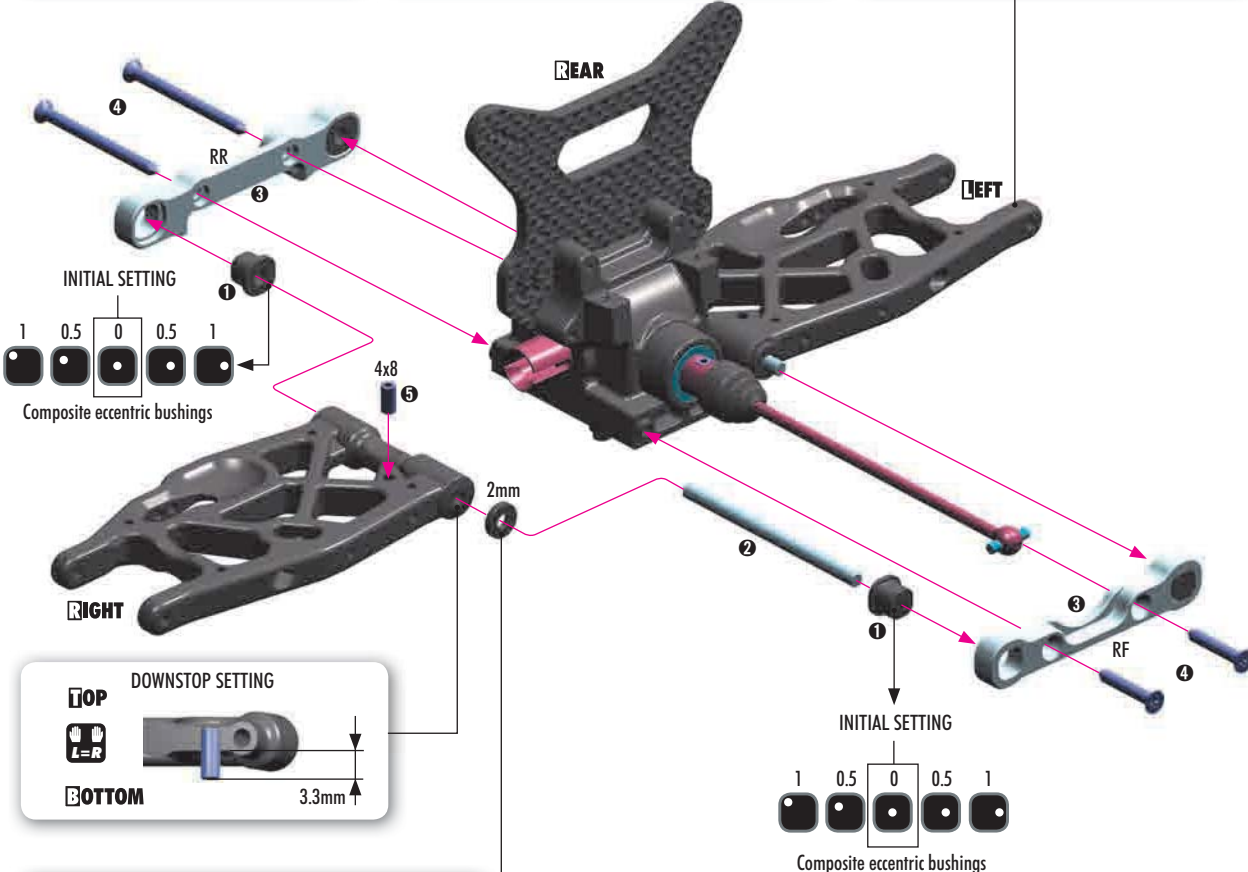
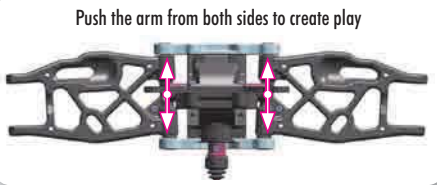
901408
SB M4x8



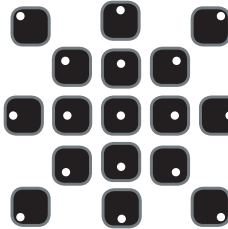
353371
SHIM 4x10x2

SET-UP BOOK

TOE-IN
ANTI-SQUAT
ROLL CENTER
DOWNSTOP
TRACK-WIDTH



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 = 1 mm or 1° from center

The new 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	(°)
0	0	=3°
0	0.5	=4°
0	1	=2°
0.5	0	=4°
0.5	0.5	=3°
0.5	1	=5°
1	0	=2°
1	0.5	=3°
1	1	=1°

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

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.

Example: 0(RR) - 0 (RF) = 3°

0(RR) - 0.5 (RF) = 3.5°

0(RR) - 1 (RF) = 4°

TRACK-WIDTH		
RR	RF	(mm)
0	0	=308
0	0.5	=306
0	1	=310

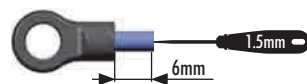
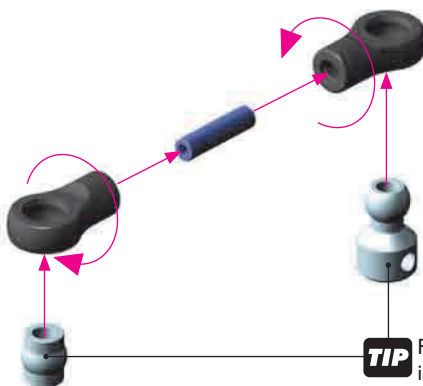
TOE-IN		
RR	RF	(°)
0	0	=3°
0	0.5	=4°
0	1	=2°
0.5	0	=4°
0.5	0.5	=3°
0.5	1	=5°
1	0	=2°
1	0.5	=3°
1	1	=1°

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

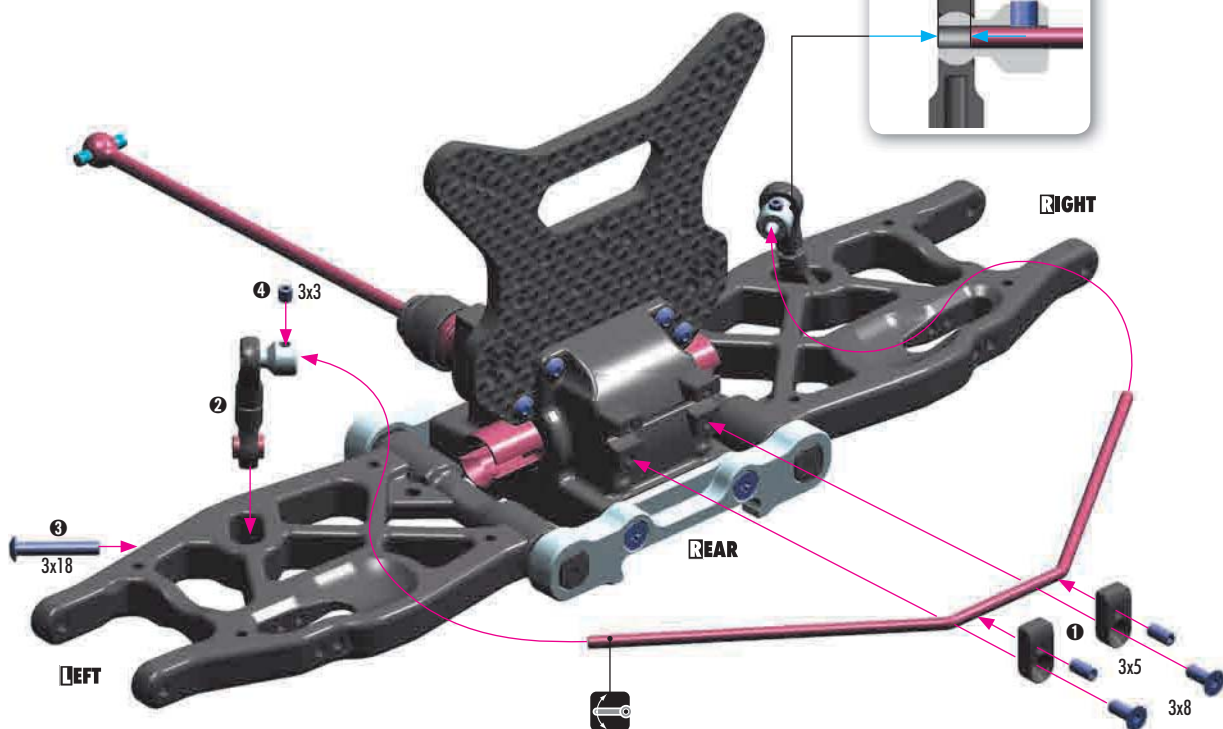


902318
SH M3x18



903308
SFH M3x8

L=R

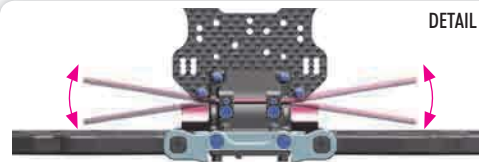


DETAIL



Step 1
Loosen the 3x5 setscrew if the anti-roll bar does not turn freely

DETAIL



Step 1 check for free movement

SET-UP BOOK














ANTI-ROLL BAR

This diagram illustrates the assembly of a vehicle chassis, showing the main frame and various suspension components. The parts are labeled with the following numbers:

- 353521
- 353559
- 902314
- 902320
- 960030
- 902318
- 353160
- 960030
- 352633
- 353131
- 352657
- 902310
- 980263
- 355221
- 352234
- 903416
- 355237
- 355211
- 941319
- 357331
- 902318
- 351330
- 960030
- 940814
- 353370
- 901504
- 355250
- 980317
- 353352



- | | |
|---------|--|
| 35 5237 | CVD DRIVE SHAFT COUPLING - 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 3416 | HEX SCREW SFH M4x16 (10) |
| 94 0814 | HIGH-SPEED BALL-BEARING 8x14x4 BLUE COVERED (2) |
| 94 1319 | HIGH-SPEED BALL-BEARING 13x19x4 BLUE COVERED (2) |
| 96 0030 | NUT M3 (10) |

- 

901504
 SB M5x4


941319
 BB 13x19x4


940814
 BB 8x14x4


980317
980263
 P 3x17
 P 2.5x13


960030
 N M3

903416
 SFH M4x16


353370
 SHM 3,9x2

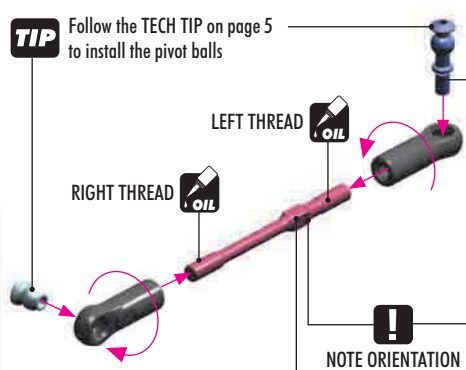
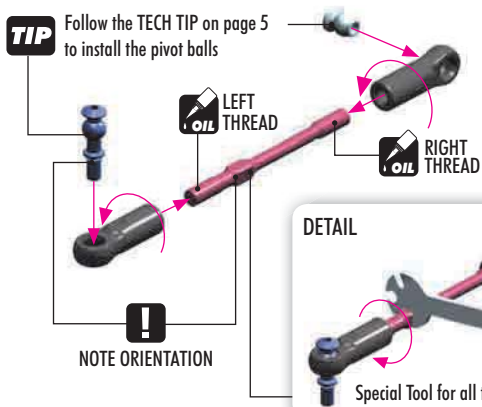


INITIAL SETTING

REAR SUSPENSION

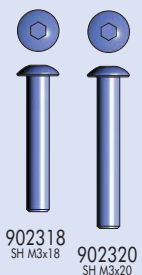
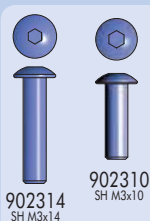
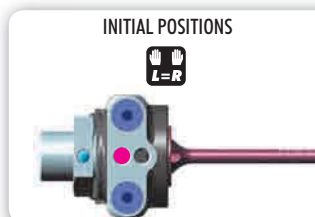
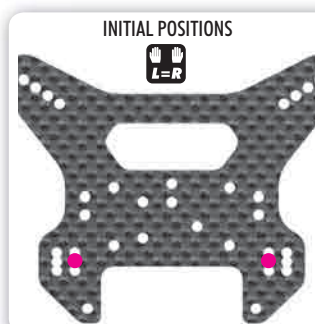
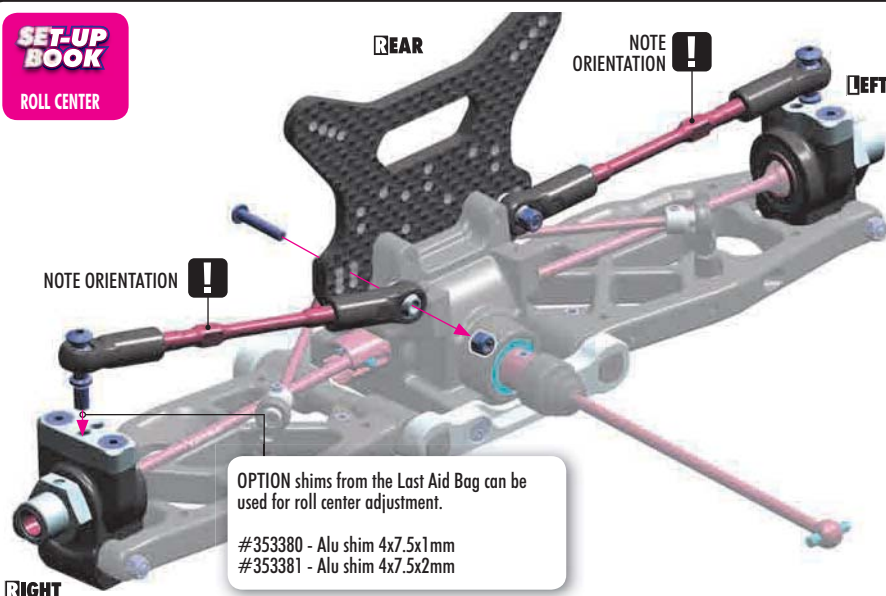
SET-UP BOOK

CAMBER



SET-UP BOOK

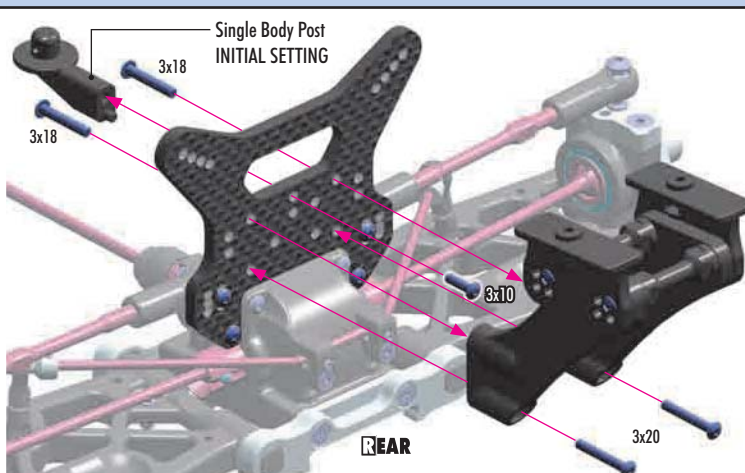
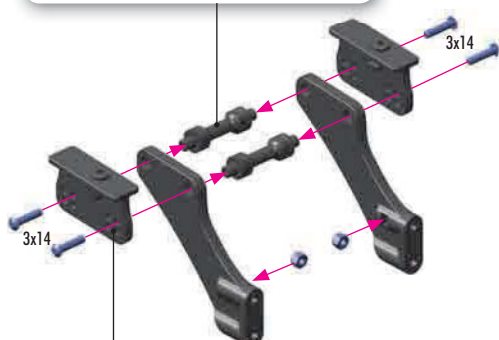
ROLL CENTER



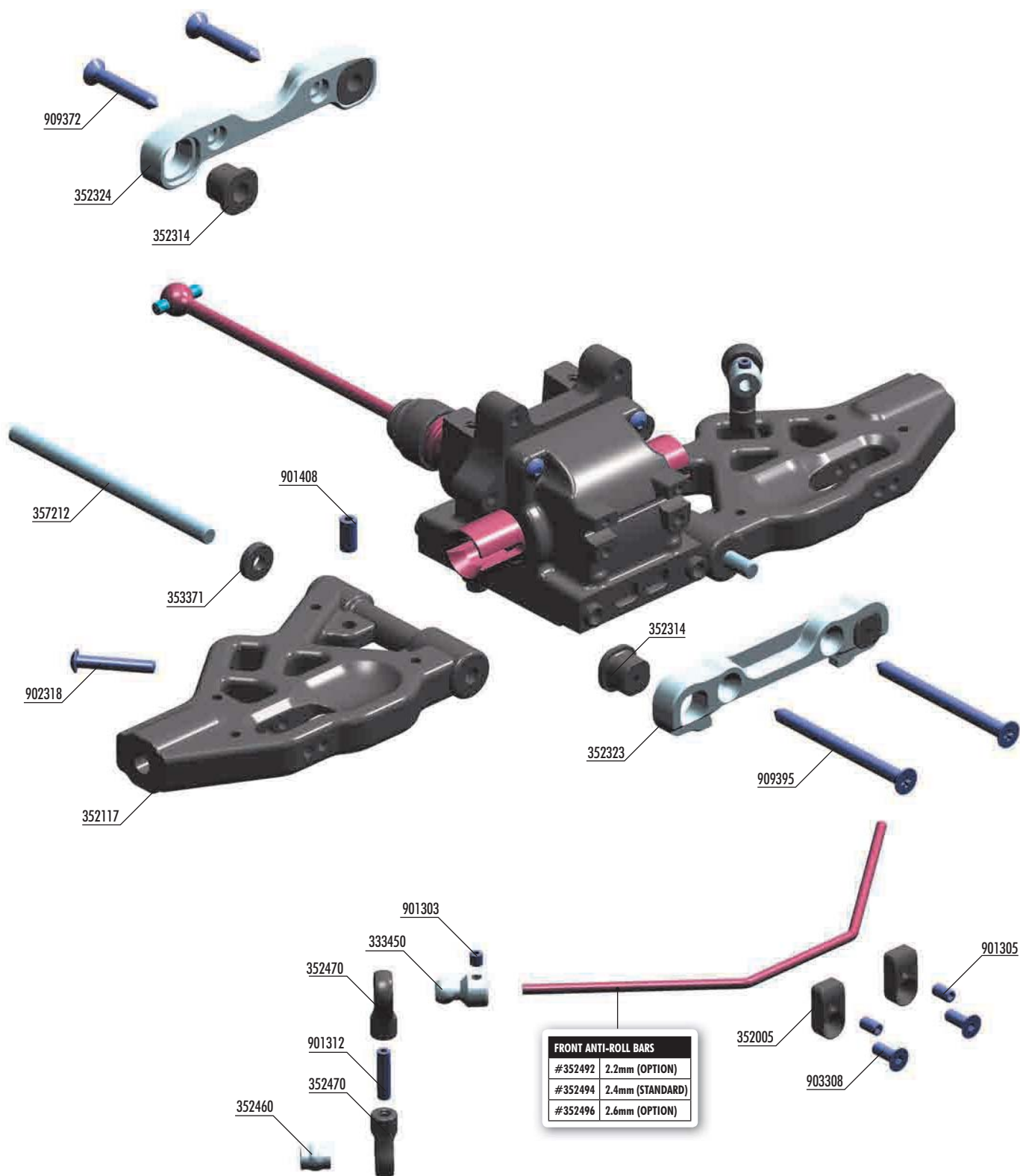
SET-UP BOOK

REAR WING

TIP For stiffer wing mounting use OPTIONAL alu wing mount brace #353550.



5. FRONT SUSPENSION



BAG

05

33 3450	ANTI-ROLL BAR BALL JOINT 5.8 MM (2)
35 2005	DIFF BULKHEAD BLOCK SET FRONT/REAR
35 2117	XB8 COMPOSITE FRONT LOWER SUSPENSION ARM
35 2323	ALU FRONT LOWER SUSP. HOLDER - FRONT - SQUARE ADJ. ROLL-CENTER - V2
35 2324	ALU FRONT LOWER SUSP. HOLDER - REAR - SQUARE ADJ. ROLL-CENTER - V2
35 2314	COMPOSITE SQUARE ADJ. ROLL-CENTER BUSHINGS - V2 (2)
35 2460	PIVOT BALL 5.8 (10)
35 2470	BALL JOINT 5.8 (8)
35 2494	FRONT ANTI-ROLL BAR 2.4MM
35 3371	SET OF COMPOSITE LOWER ARM SHIMS

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 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)

FRONT SUSPENSION



353371
SHIM 4x10x2



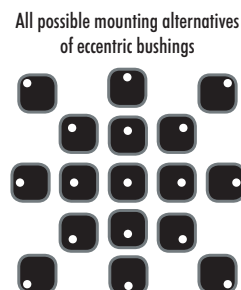
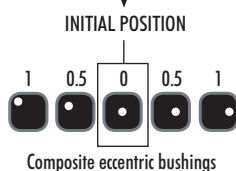
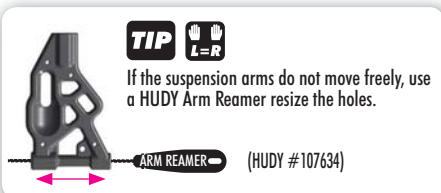
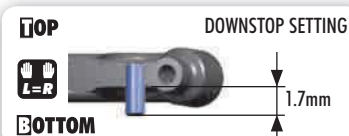
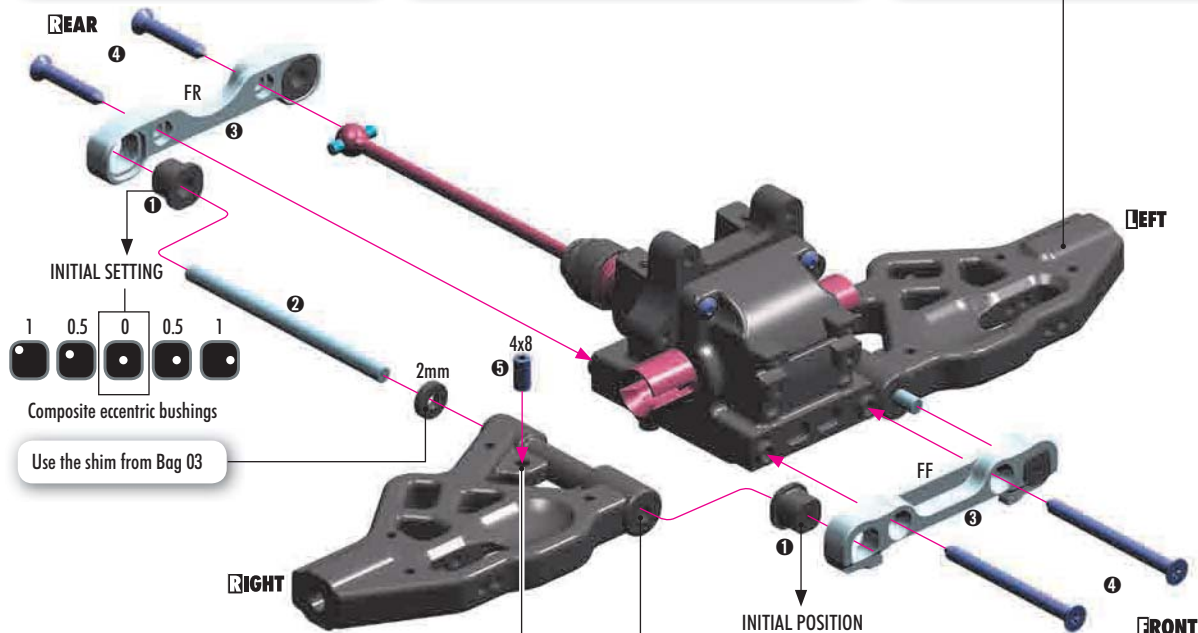
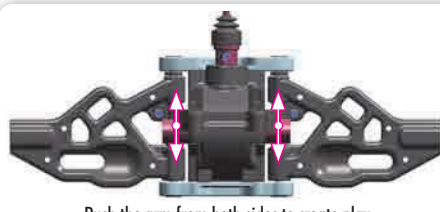
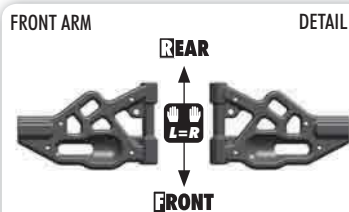
909395
SS 3.5x45



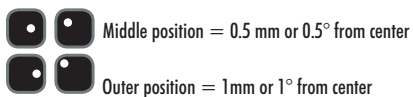
909372
SS 3.5x22



901408
SB M4x8



Eccentric bushings have two different offsets from the center.



The new 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.

SET-UP BOOK

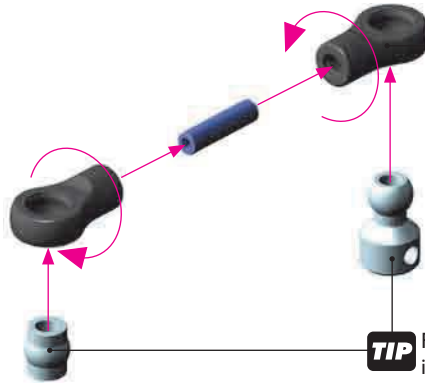
KICK UP
ROLL CENTER
DOWNSTOP
WHEELBASE
TRACK WIDTH

FRONT SUSPENSION

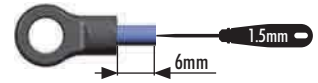


901312
SB M3x12

2x
L=R



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



901303
SB M3x3

901305
SB M3x5

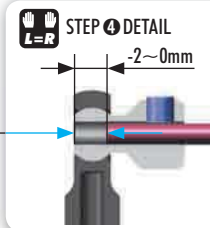
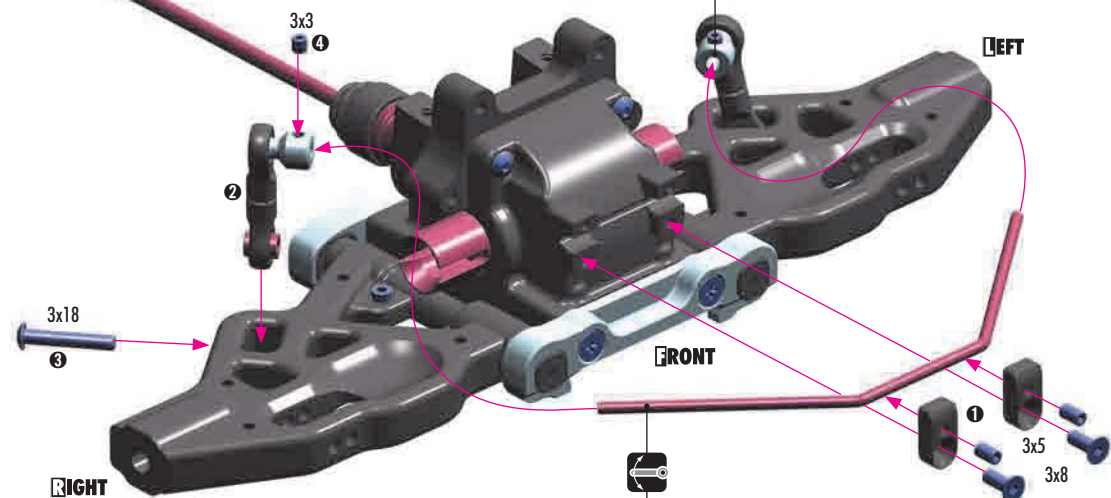


902318
SH M3x18



903308
SFH M3x8

REAR



DETAIL



Step 1
Loosen the 3x5 setscrew if the anti-roll bar does not turn freely

DETAIL

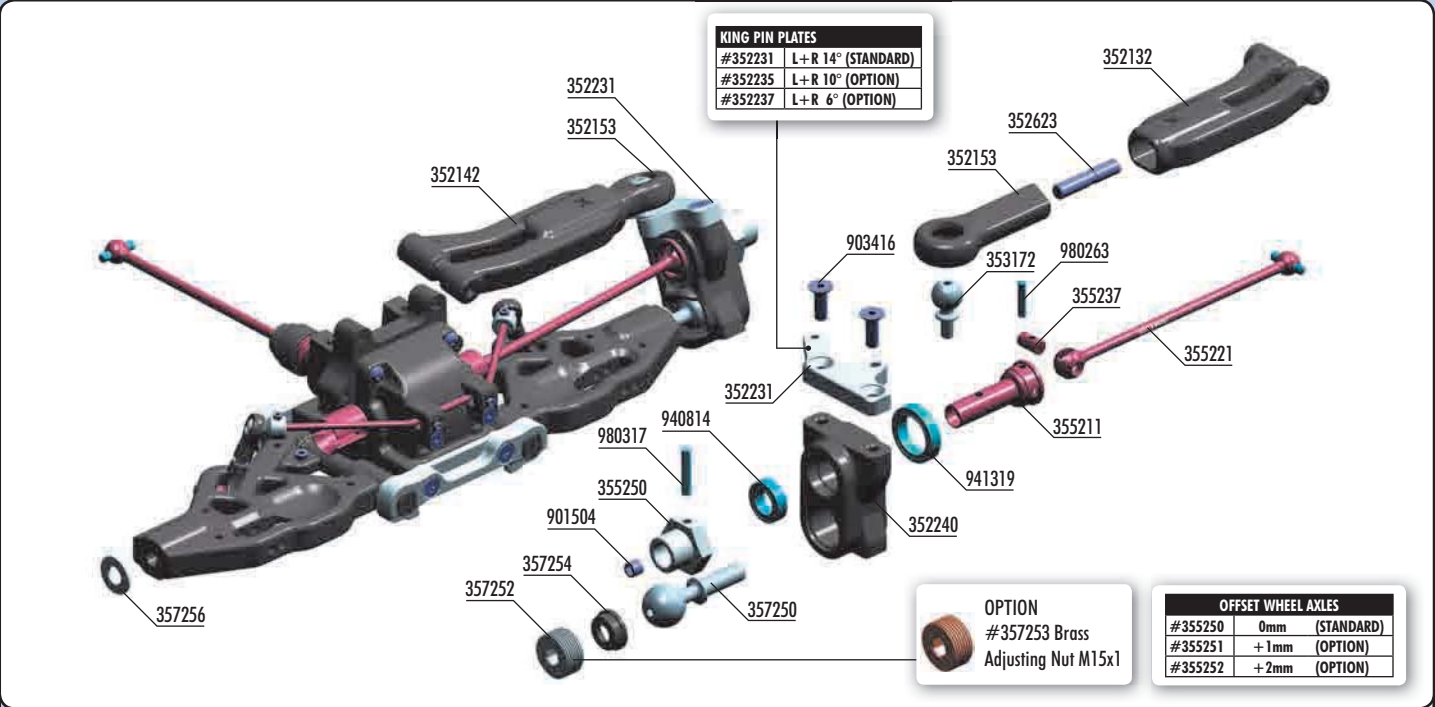


Step 1 check for free movement

SET-UP BOOK

ANTI-ROLL BAR

6. FRONT SUSPENSION



- BAG**

06
- 35 2132 XB8 FRONT UPPER ARM RIGHT

35 2142 XB8 FRONT UPPER ARM LEFT

35 2153 XB8 FRONT UPPER ARM BALL JOINT (L+R)

35 2231 XB8 ALU STEERING KING PIN PLATE - SWISS 7075 T6 - L+R 14°

35 2240 XB8 STEERING BLOCK

35 2623 ADJ. TURNBUCKLE M5 L/R 28 MM - HUDY SPRING STEEL™ (2)

35 3172 PIVOT BALL 11.0 (2)

35 5211 CVD DRIVE AXLE - HUDY SPRING STEEL™

35 5221 CVD UNIVERSAL DRIVE SHAFT - HUDY SPRING STEEL™

35 5237 CVD DRIVE SHAFT COUPLING - HUDY SPRING STEEL™

35 5250 ALU WHEEL AXLE - BLACK COATED (2)

35 7250 STEEL PIVOT BALL 13.9 MM (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)

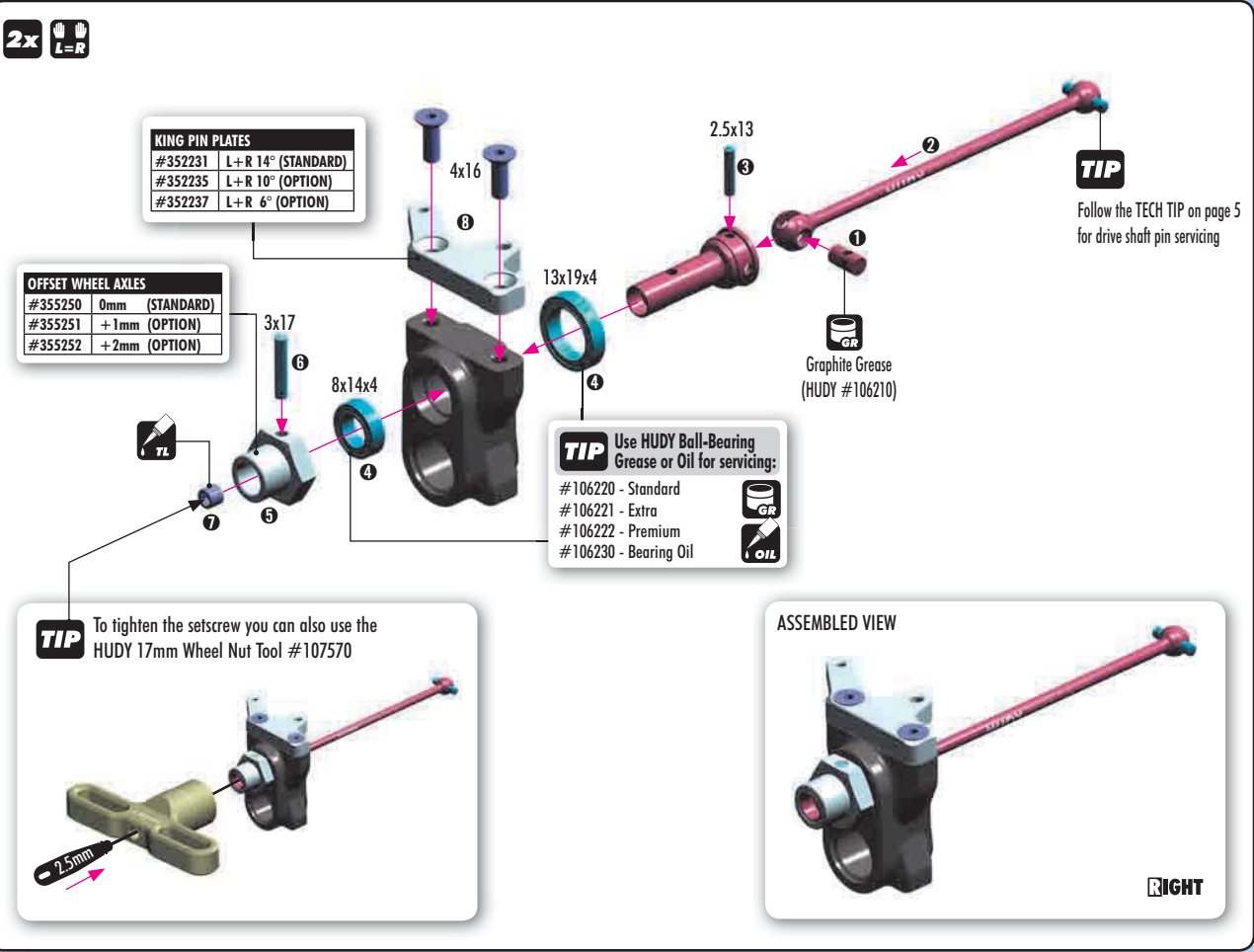
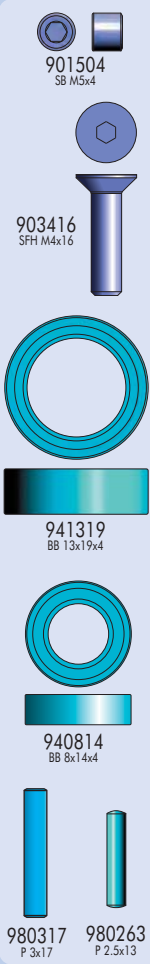
90 3416 HEX SCREW SFH M4x16 (10)

94 0814 HIGH-SPEED BALL-BEARING 8x14x4 BLUE COVERED (2)

94 1319 HIGH-SPEED BALL-BEARING 13x19x4 BLUE COVERED (2)

98 0263 PIN 2.5x13 (10)

98 0317 PIN 3x17 (10)



FRONT SUSPENSION

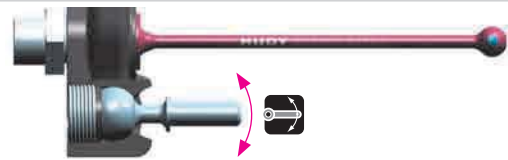
2x L=R

TIP

Tighten composite hex nuts using HUDY tool #107581



OPTION
#357253 Brass Adjusting Nut M15x1



PIVOT BALLS MUST MOVE FREELY

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

IMPORTANT

Check that the pivot balls move freely after every run especially in dusty conditions.

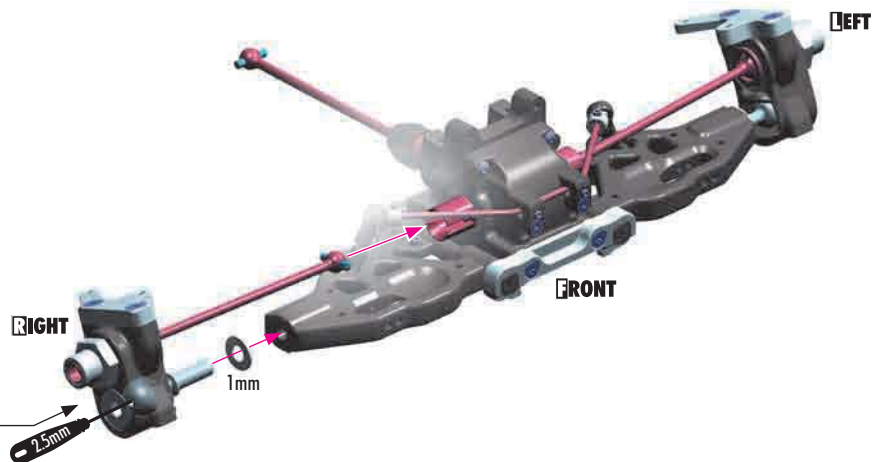


357256
SHIM 6x13x1

2x L=R

TIP

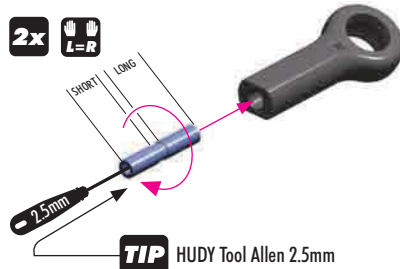
HUDY Tool Allen 2.5mm



SET-UP BOOK

CAMBER

2x L=R



TIP HUDY Tool Allen 2.5mm

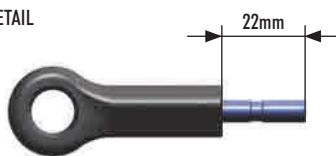


HUDY Tool Allen Ball 2.5mm

CUTAWAY VIEW

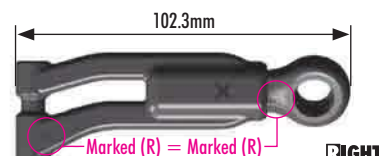


DETAIL



LEFT

Marked (L) = Marked (L)



RIGHT



353380
SHIM 4x7.5x1



353381
SHIM 4x7.5x2

2x L=R

TIP

If the front upper arm does not move freely use a HUDY Arm Reamer to resize the holes of the arms.

ARM REAMER (HUDY #107634)

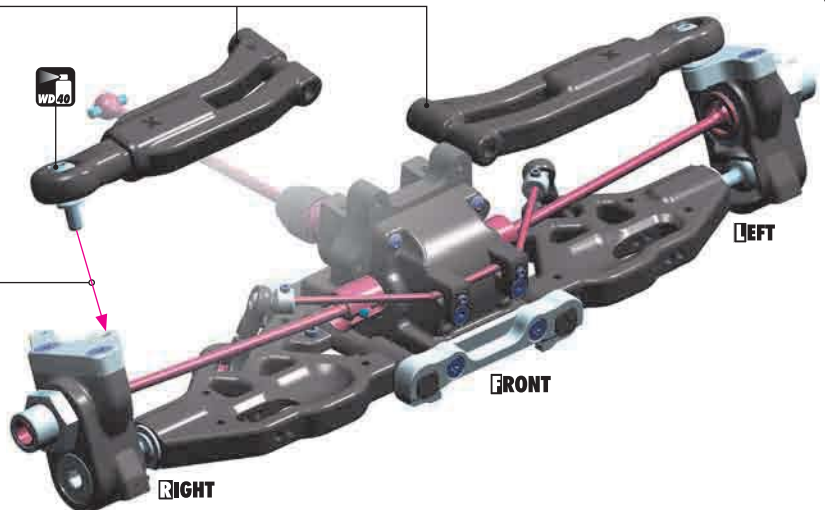
OPTION shims from the Last Aid Bag can be used for Roll Center adjustment.

#353380 - Alu shim 4x7.5x1mm
#353381 - Alu shim 4x7.5x2mm



WD-40

Apply WD-40 to protect against rust



SET-UP BOOK

ROLL CENTER

FRONT & REAR ASSEMBLY



BAG

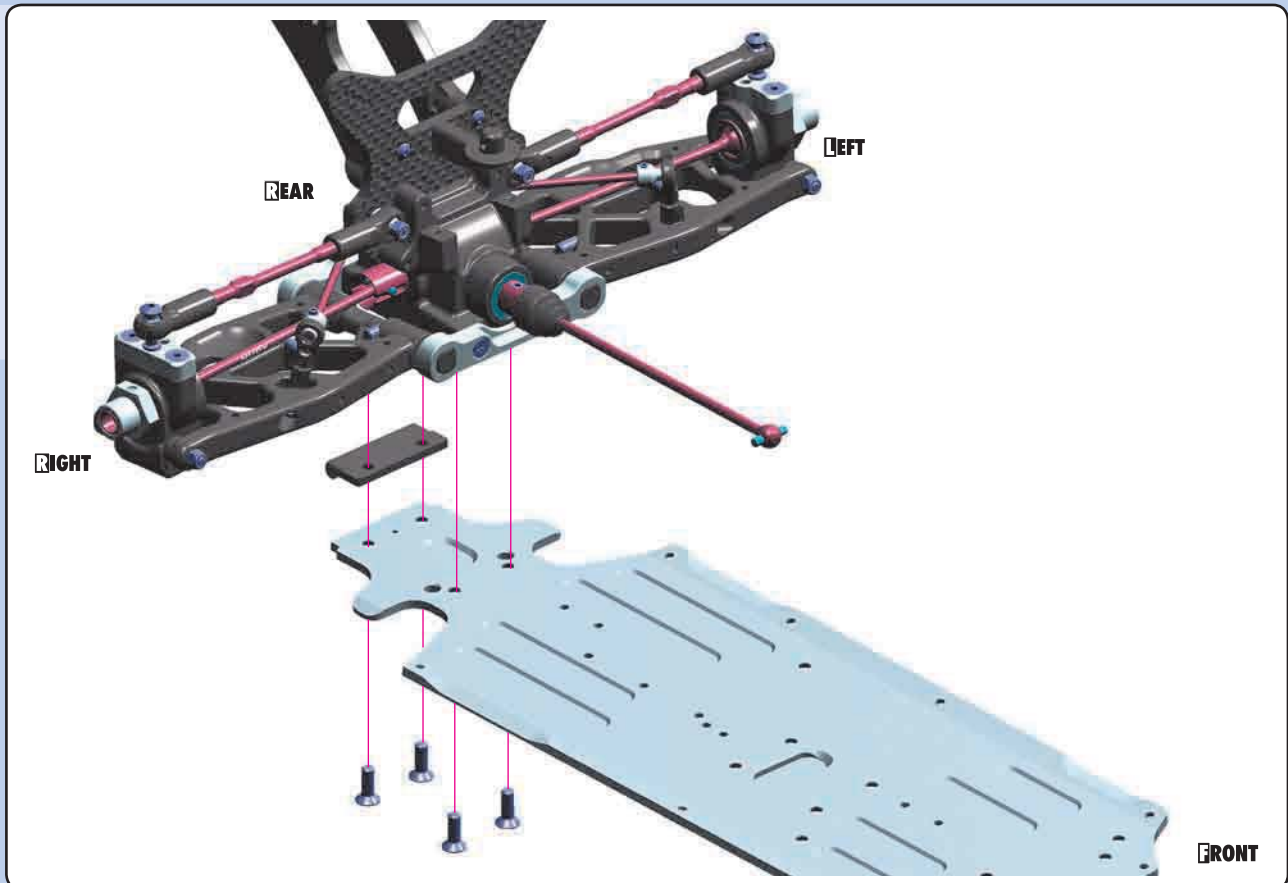
06

35 1109 XB8E ALU CHASSIS - SWISS 7075 T6 (3MM) - HARD COATED
35 1200 FRONT & REAR BUMPER - V2
35 3088 COMPOSITE REAR BRACE - V2 (OPTION)
35 3089 COMPOSITE REAR BRACE - LONG

90 2316 HEX SCREW SH M3x16 (10)
90 3312 HEX SCREW SFH M3x12 (10)
90 3412 HEX SCREW SFH M4x12 (10)
96 0030 NUT M3 (10)



903412
SFH M4x12



FRONT & REAR ASSEMBLY



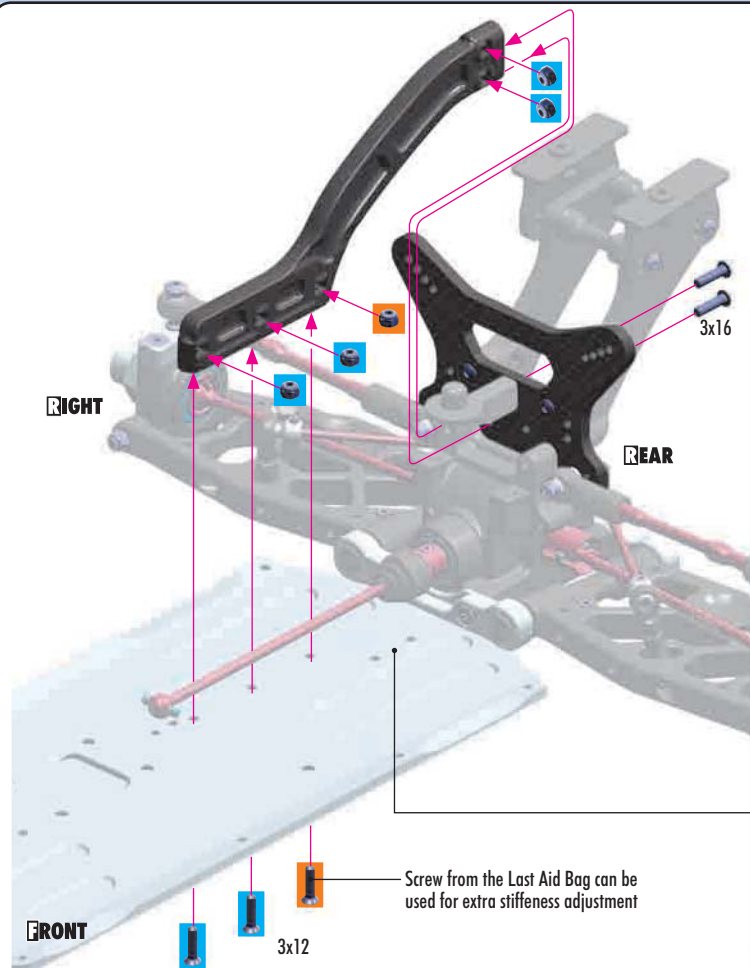
902316
SH M3x16



903312
SFH M3x12



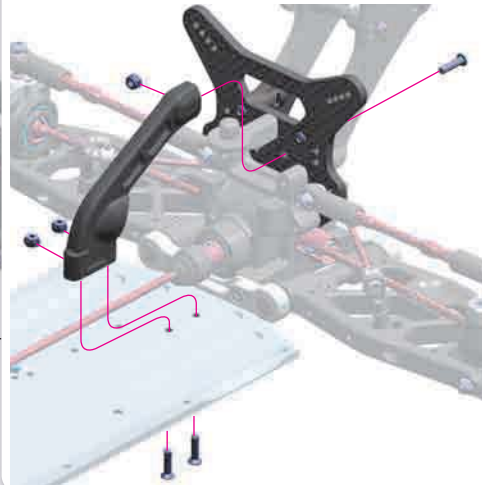
960030
N M3



- INITIAL SETTING
- Add for extra stiffness
(use from Last Aid Bag)

OPTION
#358088 Short Rear Brace

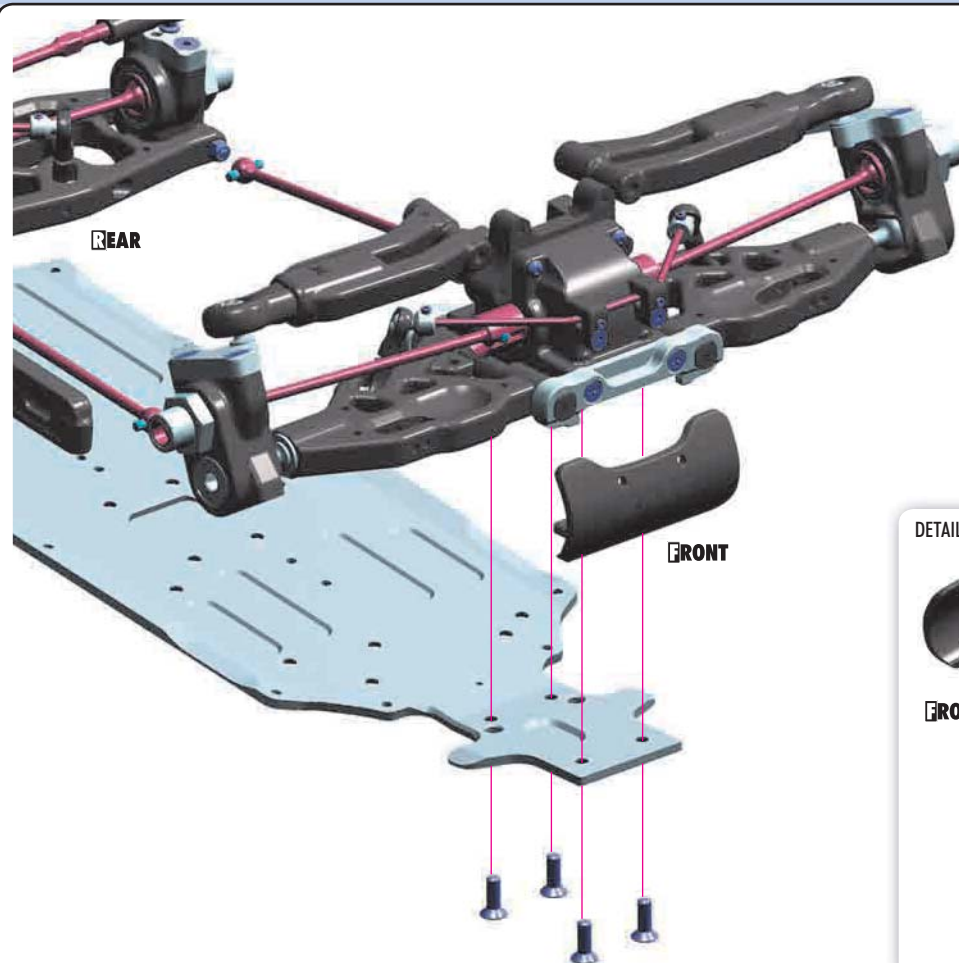
REAR BRACES	TRACK TYPE		
	FLAT	MEDIUM JUMPS	LARGE JUMPS
Long Brace	✓	✓	✓
Short Brace	✗	✗	✓



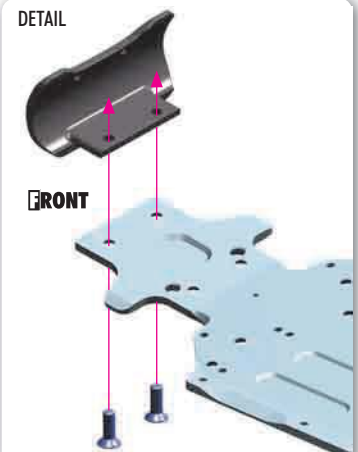
Screw from the Last Aid Bag can be used for extra stiffness adjustment



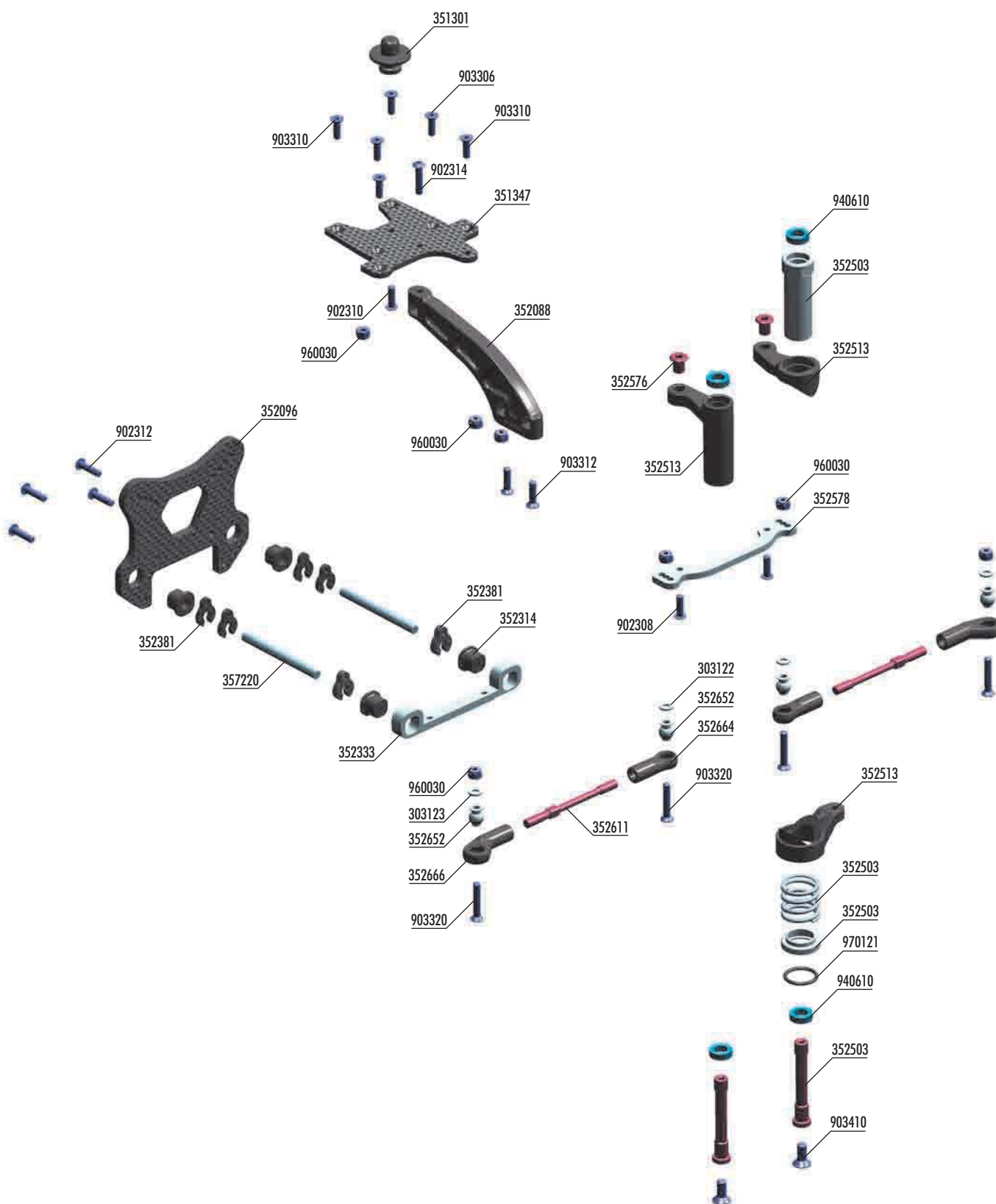
903412
SFH M4x12



DETAIL



7. STEERING



BAG

07

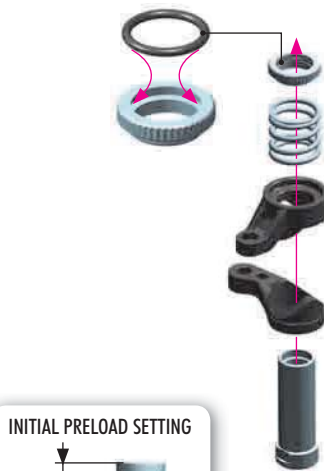
30 3122	ALU SHIM 3x6x1.0MM (10)	35 2664	COMPOSITE STEERING BALL JOINT 6.8MM - V3 (2)
30 3123	ALU SHIM 3x6x2.0MM (10)	35 2666	COMPOSITE RELIEF STEERING BALL JOINT 6.8MM (2)
35 1301	BODY POSTS	35 7220	FRONT UPPER PIVOT PIN (2)
35 1347	XB8 GRAPHITE UPPER PLATE	90 2308	HEX SCREW SH M3x8 (10)
35 2088	COMPOSITE FRONT BRACE	90 2310	HEX SCREW SH M3x10 (10)
35 2096	XB8 GRAPHITE FRONT SHOCK TOWER - CNC MACHINED 4 MM	90 2312	HEX SCREW SH M3x12 (10)
35 2314	COMPOSITE SQUARE ADJ. ROLL-CENTER BUSHINGS - V2 (2)	90 2314	HEX SCREW SH M3x14 (10)
35 2333	XB8 ALU FRONT UPPER ARM HOLDER - SWISS 7075 T6 (6MM)	90 3306	HEX SCREW SFH M3x6 (10)
35 2381	XB8 CASTER CLIPS (2)	90 3310	HEX SCREW SFH M3x10 (10)
35 2503	XB8 SERVO SAVER COMPLETE SET	90 3312	HEX SCREW SFH M3x12 (10)
35 2513	XB8 COMPOSITE SERVO SAVER	90 3320	HEX SCREW SFH M3x20 (10)
35 2576	STEERING PLATE BUSHING (2)	90 3410	HEX SCREW SFH M4x10 (10)
35 2578	XB8 ALU STEERING PLATE - SWISS 7075 T6	94 0610	HIGH-SPEED BALL-BEARING 6x10x3 BLUE COVERED (2)
35 2611	ADJ. TURNBUCKLE M4 L/R 52.5 MM - HUDY SPRING STEEL (2)	96 0030	NUT M3 (10)
35 2652	BALL STUD 6.8MM (4)	97 0121	O-RING 12.1 x 1.6 (10)



SET-UP BOOK

SERVO SAVER

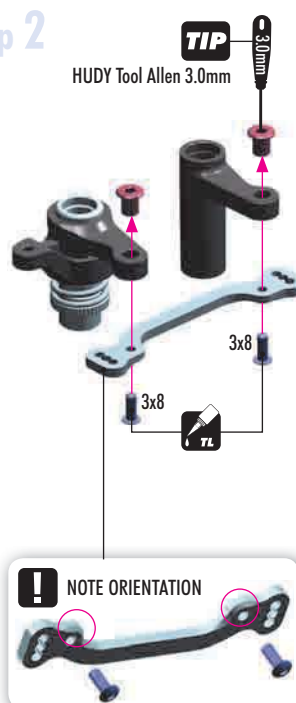
step 1



INITIAL PRELOAD SETTING

4~5mm

step 2



TIP

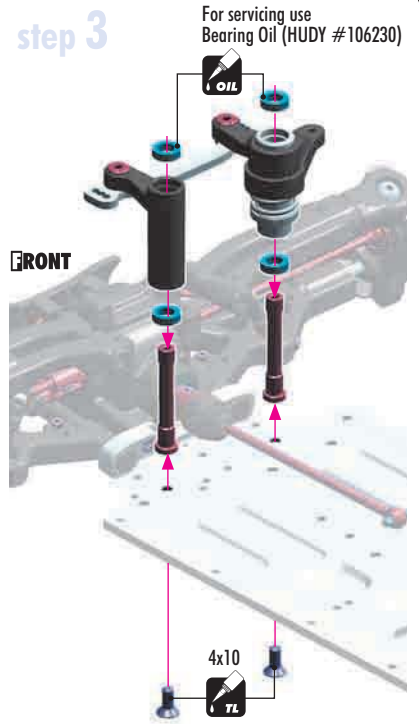
HUDY Tool Allen 3.0mm

3x8

3x8

NOTE ORIENTATION

step 3

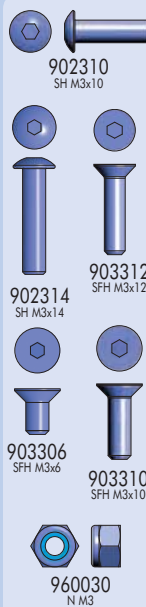


For servicing use Bearing Oil (HUDY #106230)

OIL

FRONT

4x10



SET-UP BOOK

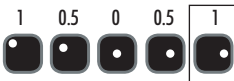
ROLL CENTER

ASSEMBLED VIEW

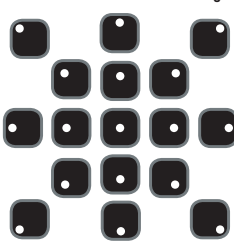


Composite eccentric bushings

INITIAL SETTINGS



All possible mounting alternatives of eccentric bushings



NOTE ORIENTATION

INITIAL POSITION

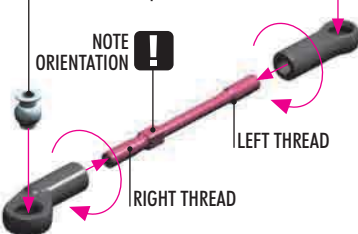
FRONT

NOTE ORIENTATION

3x12

TIP

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

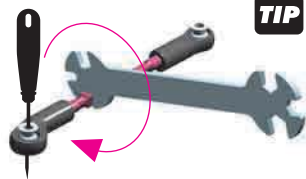


NOTE ORIENTATION

LEFT THREAD

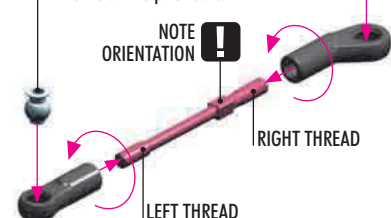
RIGHT THREAD

TIP



TIP

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



NOTE ORIENTATION

RIGHT THREAD

LEFT THREAD



Right thread

32.2 mm

Left thread

LEFT



Left thread

32.2 mm

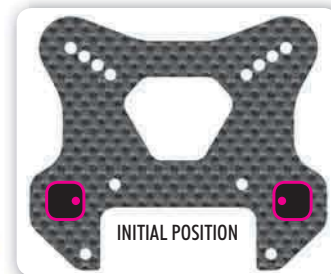
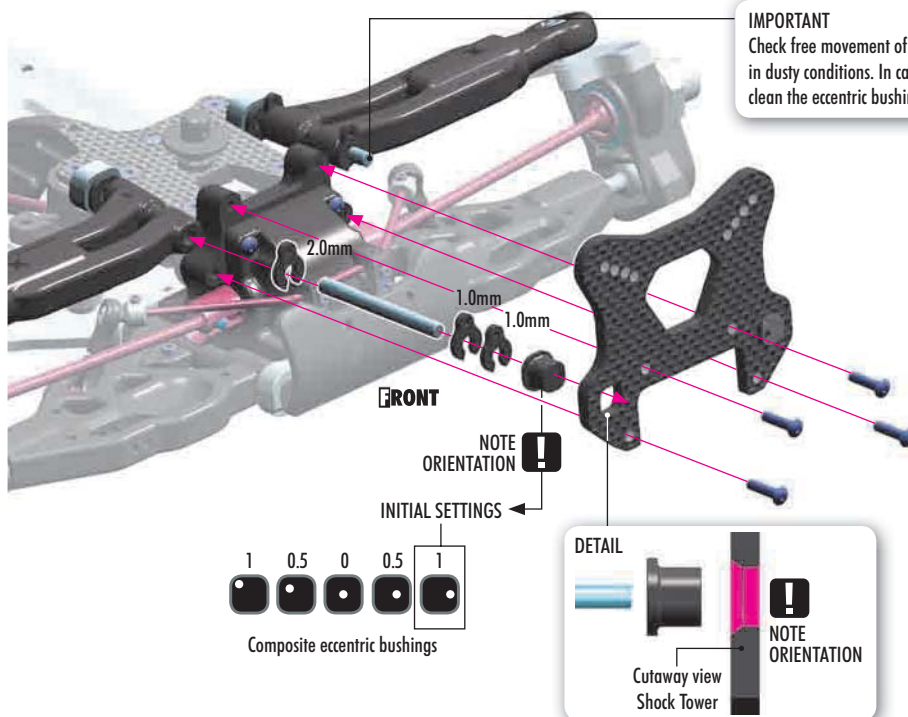
Right thread

RIGHT

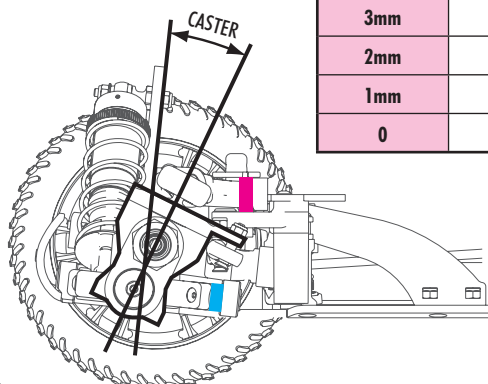
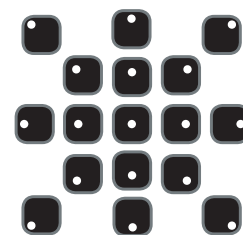
STEERING



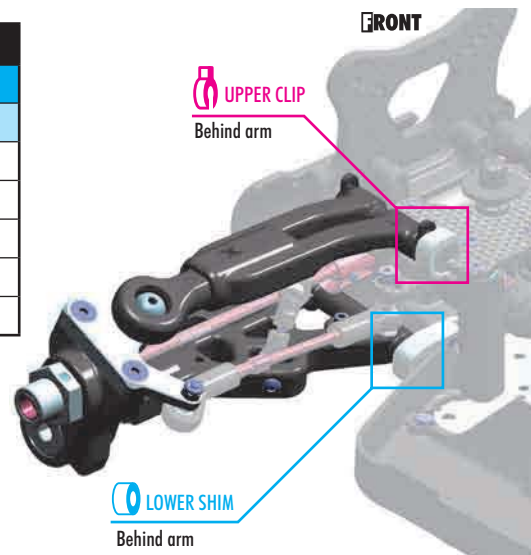
902312
SH M3x12



All possible mounting alternatives of eccentric bushings



UPPER CLIP (Behind arm)	CASTER	
	LOWER SHIM (Behind arm)	
	2mm	0
4mm	24°	21°
3mm	25.5°	22.5°
2mm	27°	24°
1mm	28.5°	25.5°
0	30°	27°



SET-UP BOOK

ROLL CENTER
CASTER



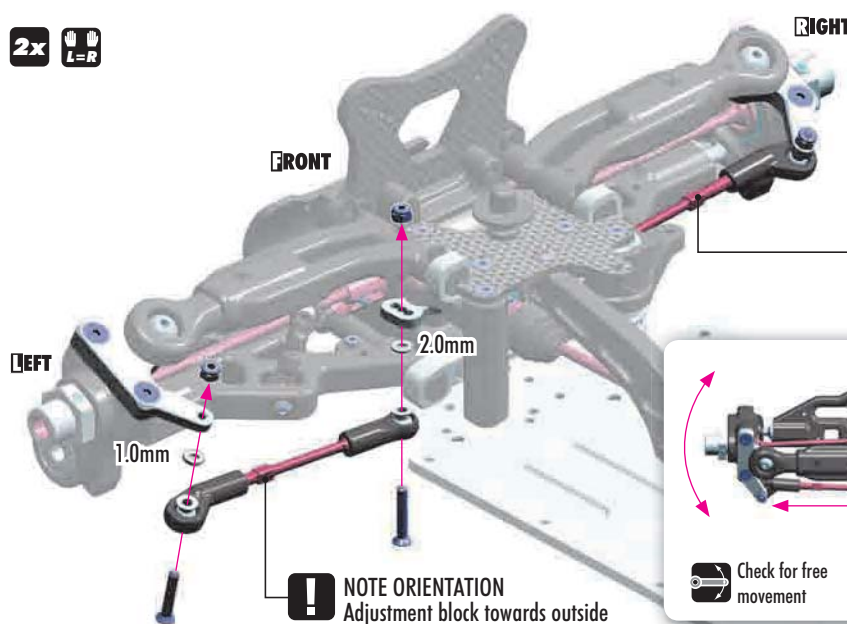
903320
SFH M3x20



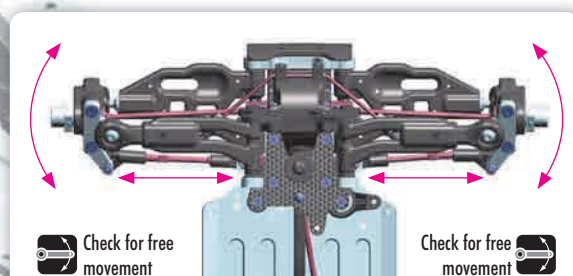
960030
NM3

SET-UP BOOK

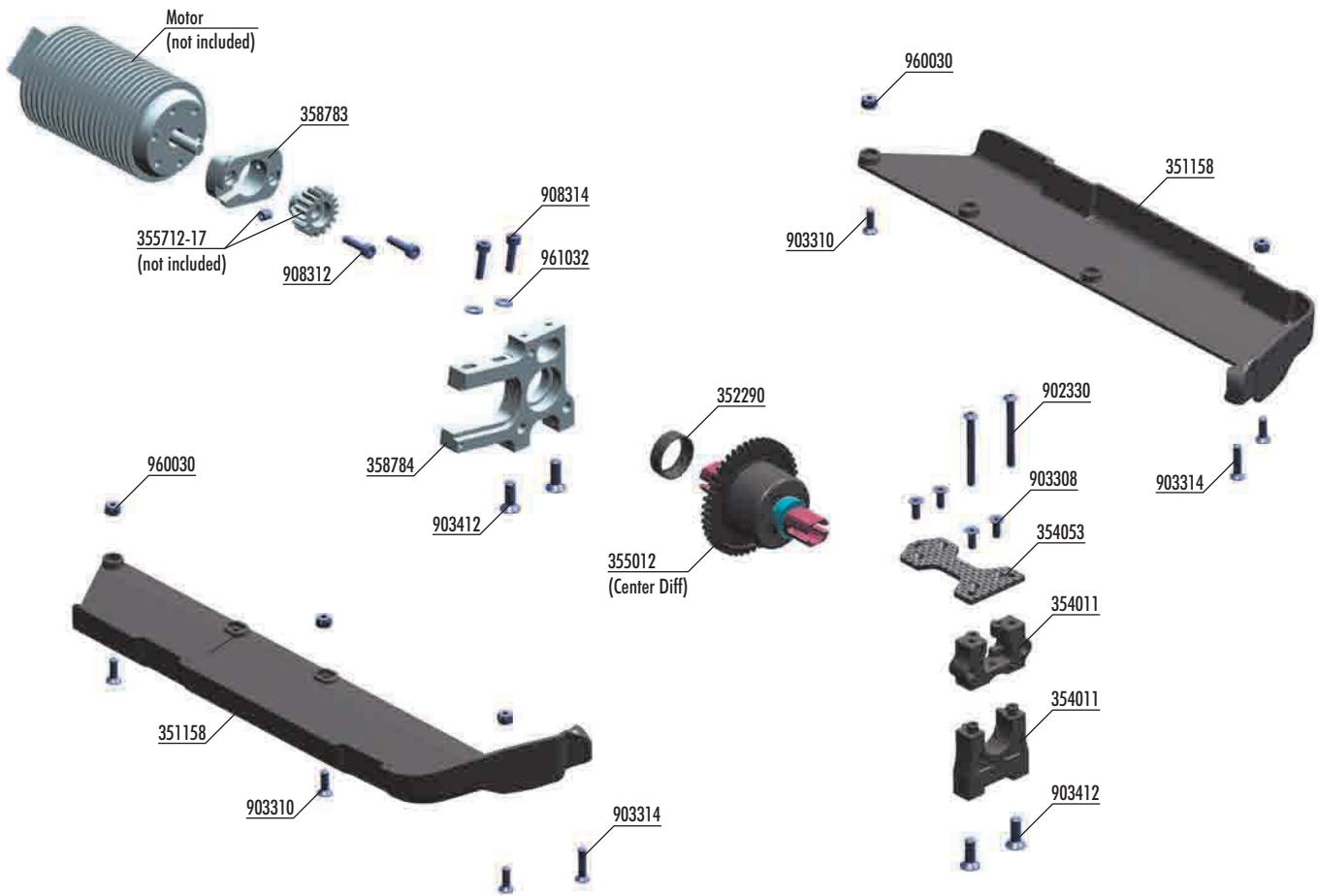
ACKERMANN
BUMP STEER
TOE-IN



NOTE ORIENTATION !
Adjustment block towards outside



8. CENTER DIFF & MOTOR



BAG

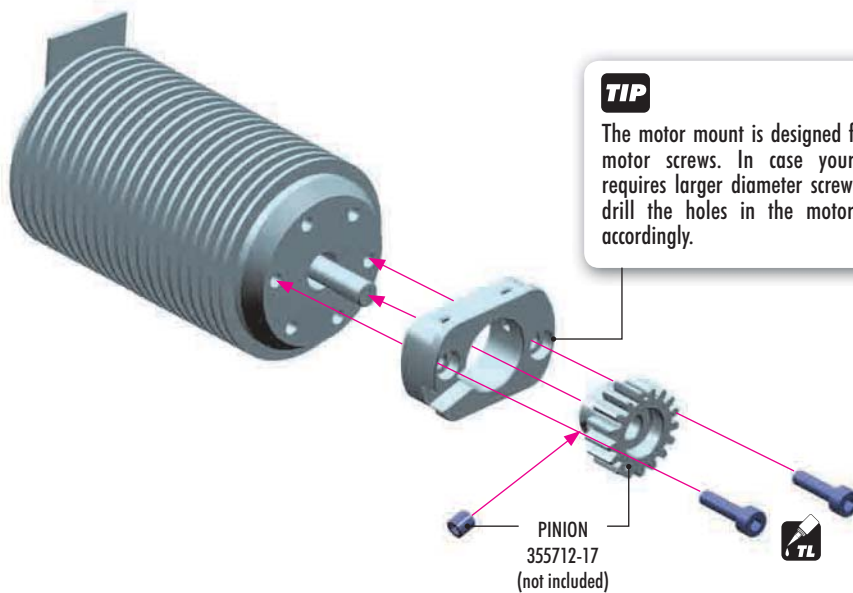
08

35 1158 XB8 CHASSIS SIDE GUARDS L+R W/OUT RIB
35 2290 COMPOSITE BUSHING FOR ALU STEERING BLOCK (4)
35 4011 CENTER DIFF MOUNTING PLATE SET - HIGHER
35 4053 XB9E GRAPHITE CENTER DIFF MOUNTING PLATE
35 5712~17 XB808E 12~17T PINION GEAR (OPTION)
35 8783 XB9E ALU MOTOR MOUNT PLATE
35 8784 XB8E ALU MOTOR MOUNT
90 2330 HEX SCREW SH M3x30 (10)

90 3308 HEX SCREW SFH M3x8 (10)
90 3310 HEX SCREW SFH M3x10 (10)
90 3314 HEX SCREW SFH M3x14 (10)
90 3412 HEX SCREW SFH M4x12 (10)
90 8312 HEX SCREW SOCKET HEAD CAP M3x12 (10)
90 8314 HEX SCREW SOCKET HEAD CAP M3x14 (10)
96 0030 NUT M3 (10)
96 1032 WASHER S 3.2 (10)



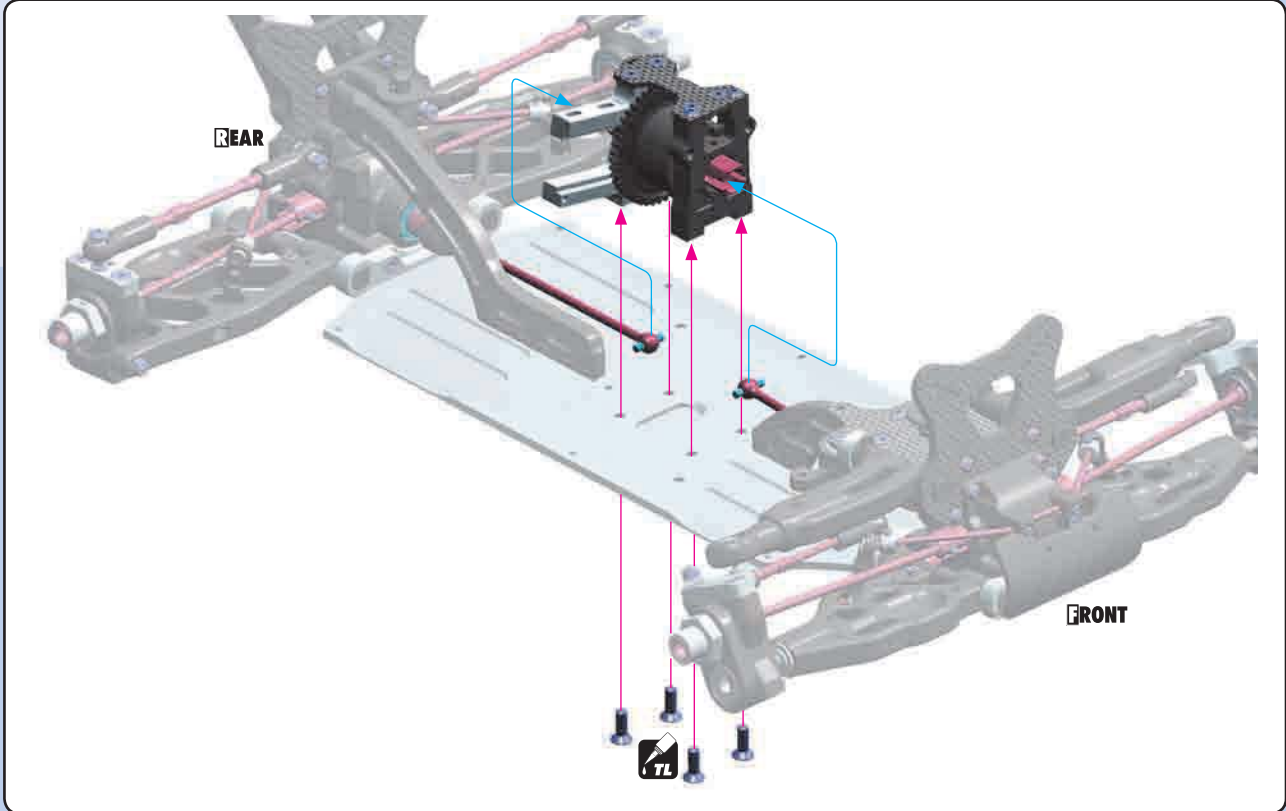
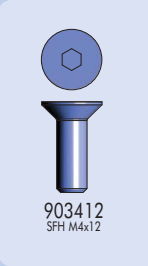
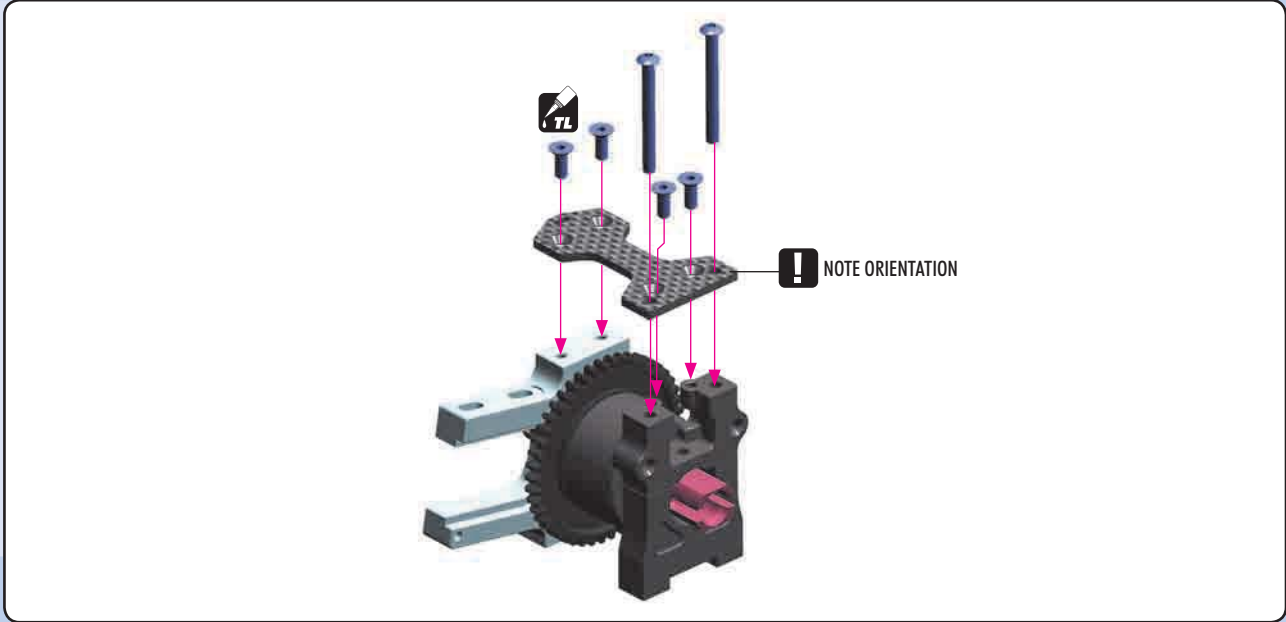
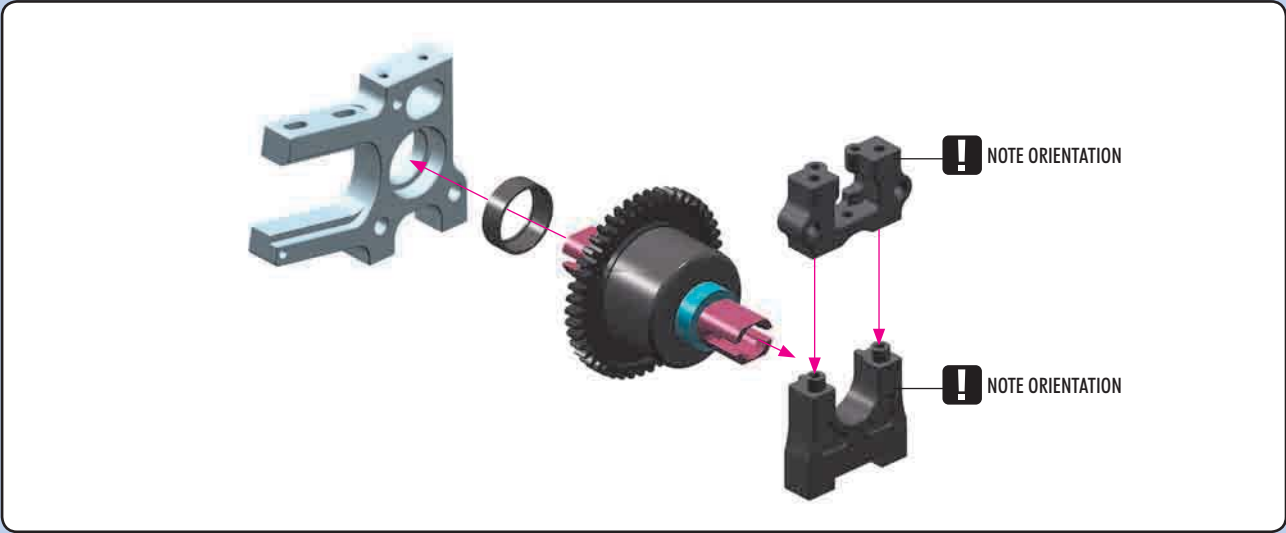
908312
SCH M3x12



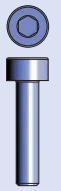
TIP

The motor mount is designed for 3mm motor screws. In case your motor requires larger diameter screws please drill the holes in the motor mount accordingly.

CENTER DIFF & MOTOR



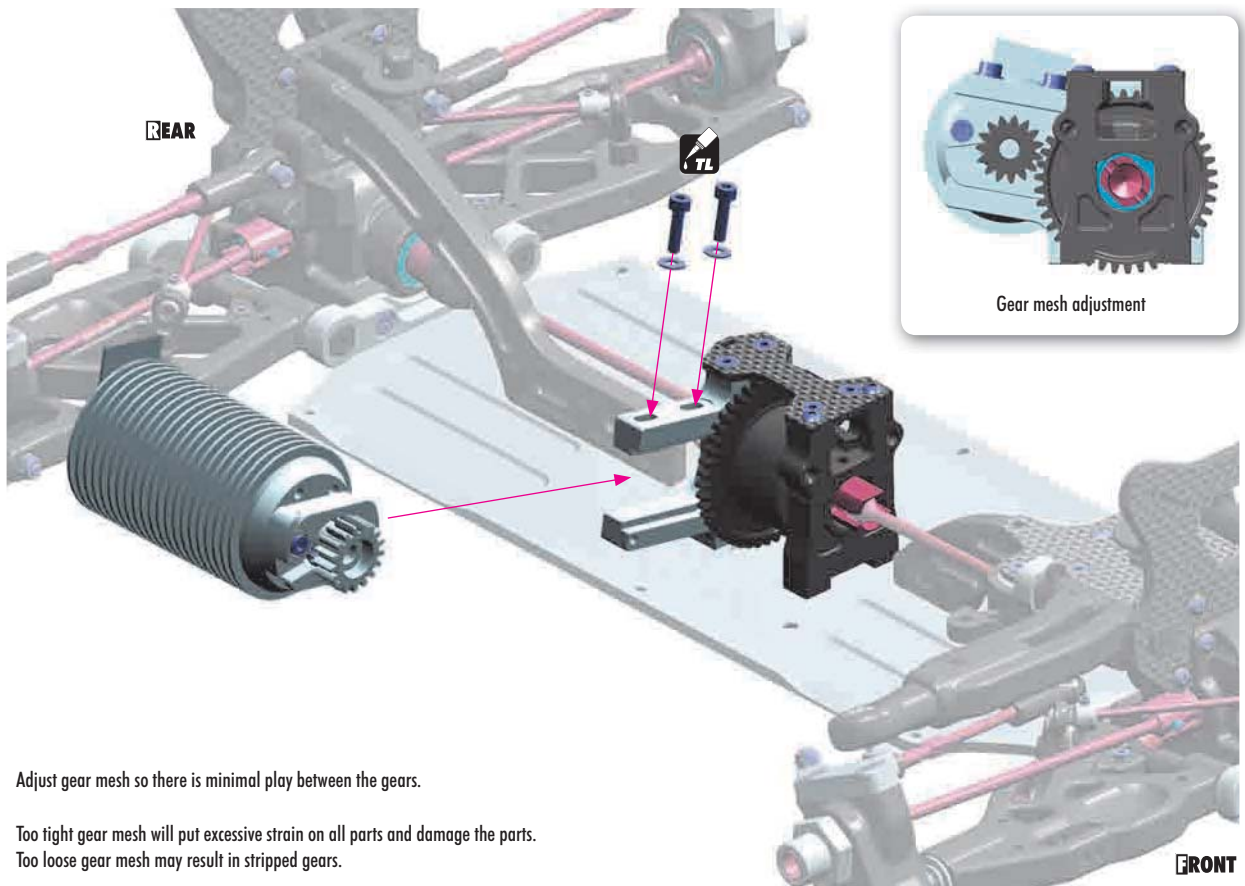
CENTER DIFF & MOTOR



908314
SCH M3x14



961032
S3.2



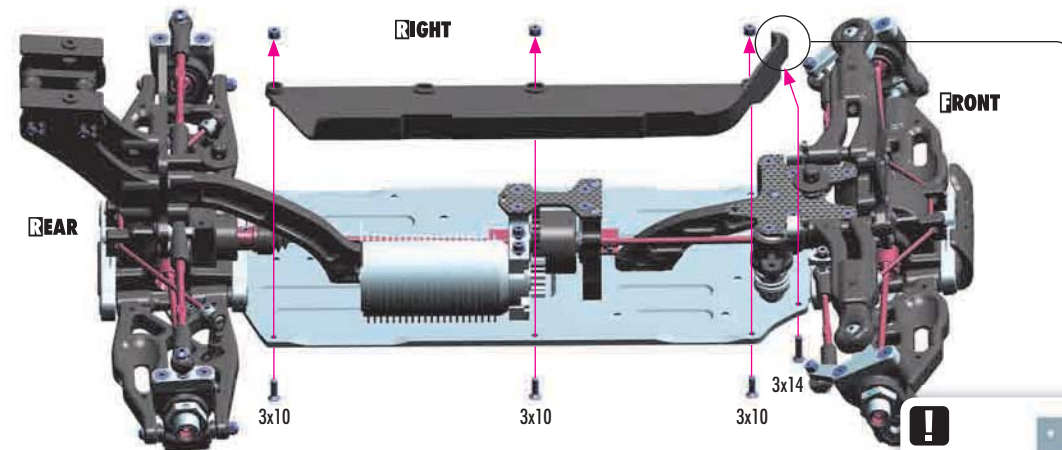
903310
SFH M3x10



903314
SFH M3x14



960030
N M3



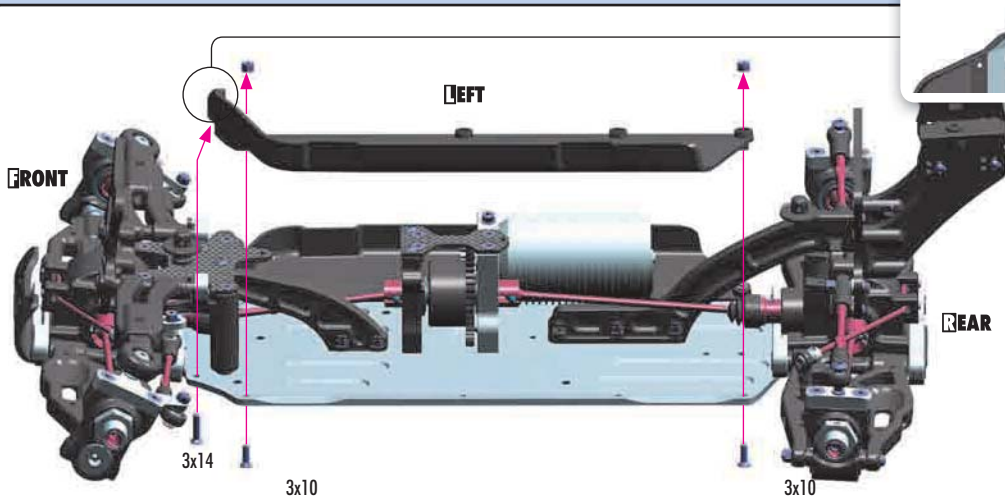
903310
SFH M3x10



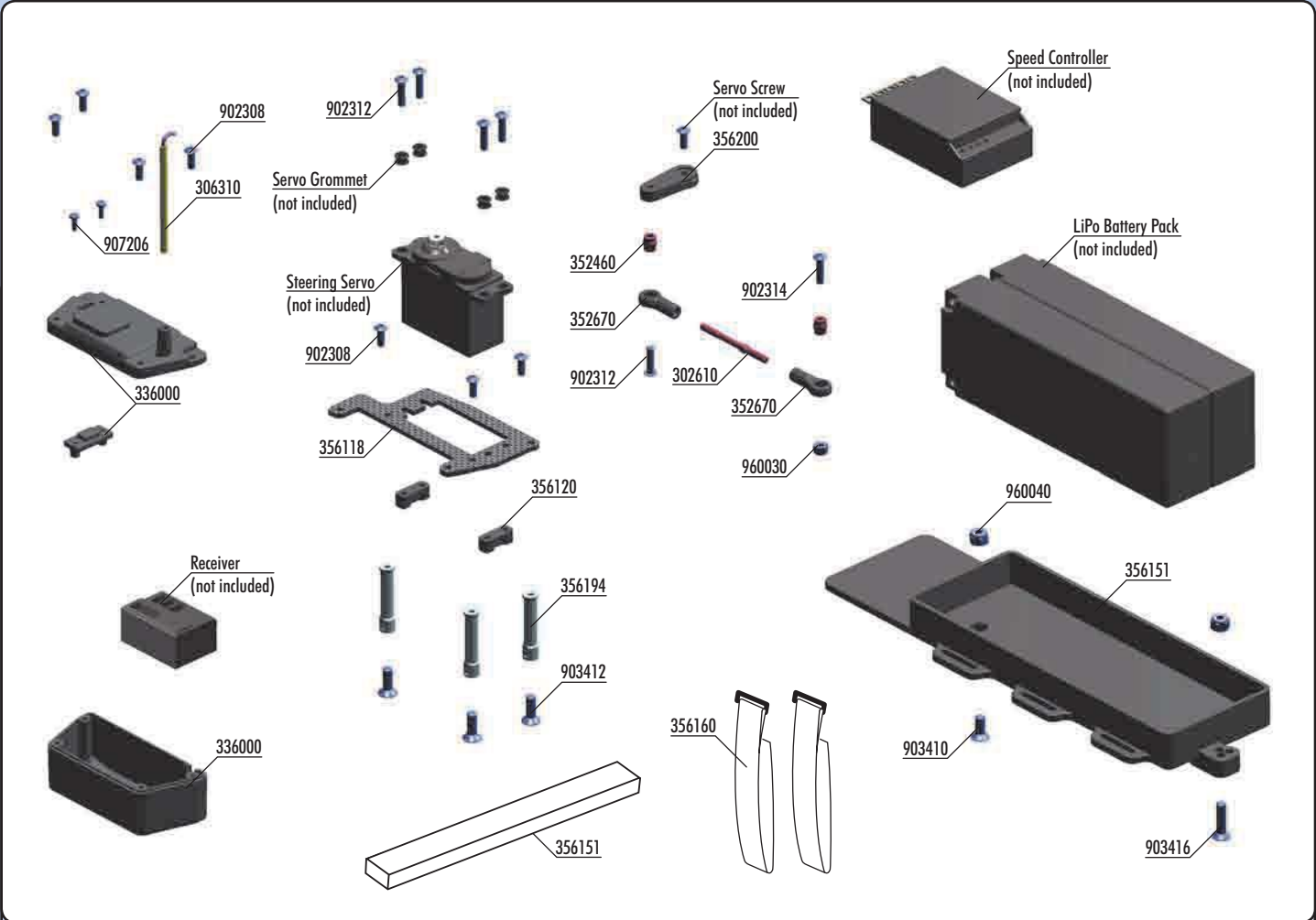
903314
SFH M3x14



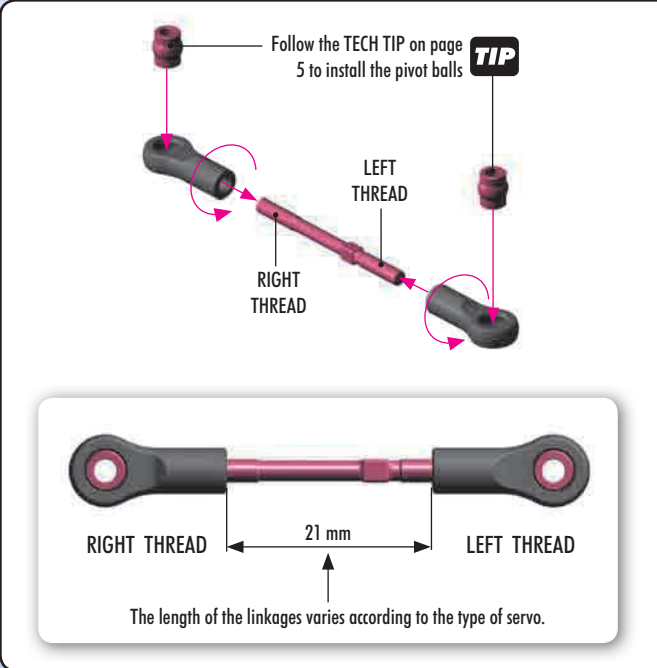
960030
N M3



10. RADIO CASE

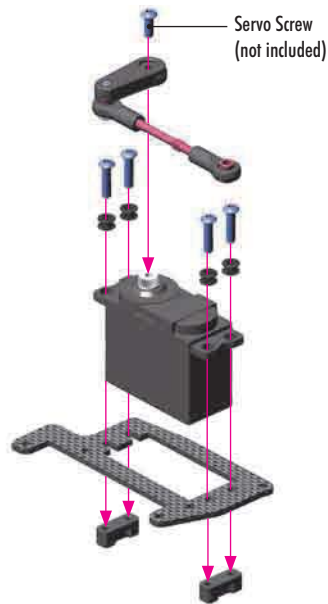


BAG 10	30 2610	ADJ. TURNBUCKLE L/R 40 MM - HUDY SPRING STEEL (2)	38 9135	CONNECTING CABLE RECEIVER/BATT. PACK (OPTION)
	30 6310	ANTENNA TUBE (2)	90 2308	HEX SCREW SH M3x8 (10)
	33 6000	COMPOSITE RECEIVER CASE - V2	90 2312	HEX SCREW SH M3x12 (10)
	33 6060	RECEIVER SWITCH - SET (OPTION)	90 2314	HEX SCREW SH M3x14 (10)
	35 2460	PIVOT BALL 5.8 (10)	90 3410	HEX SCREW SFH M4x10 (10)
	35 2670	SERVO BALL JOINT 5.8MM (4)	90 3412	HEX SCREW SFH M4x12 (10)
	35 6118	XB9E GRAPHITE RECEIVER CASE TOP PLATE	90 3416	HEX SCREW SFH M4x16 (10)
	35 6120	STEERING SERVO MOUNT - SET	90 7206	SCREW PHILLIPS 2x6 (10)
	35 6151	XB9E 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		





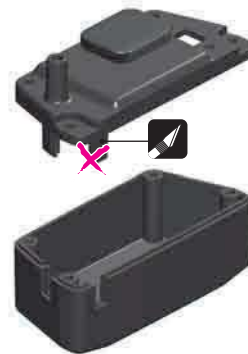
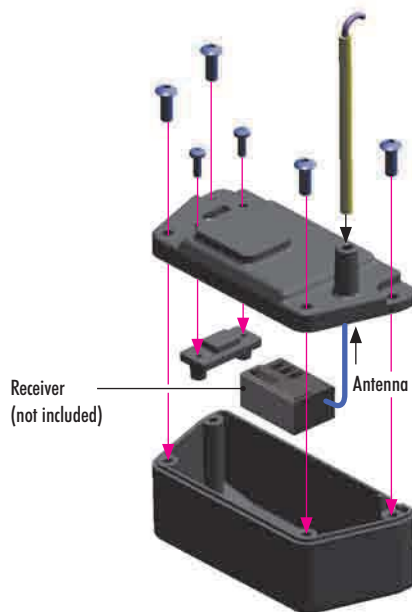
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SH M3x12



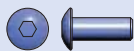
902308
SH M3x8



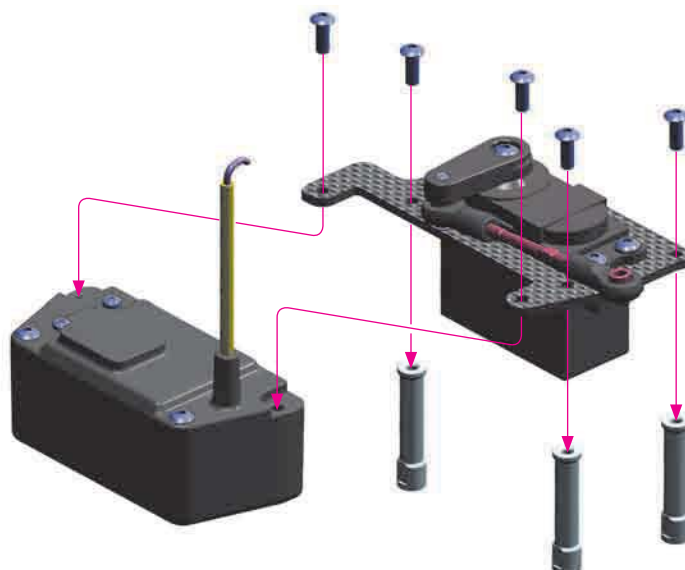
907206
Zx6




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




RADIO CASE



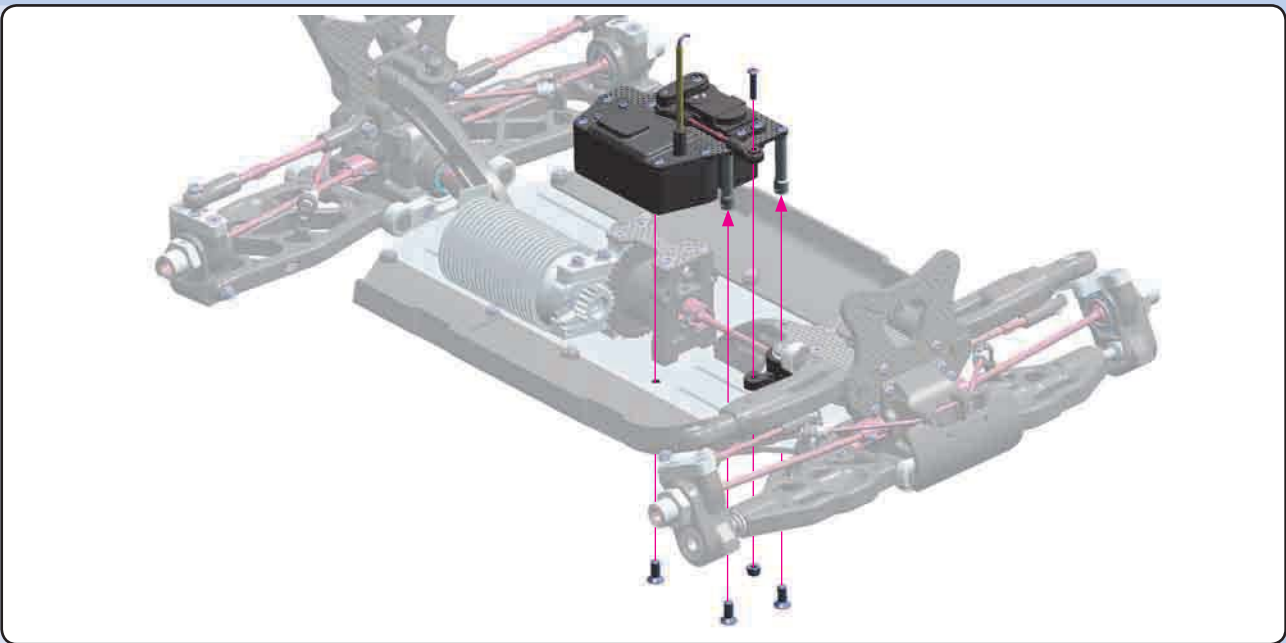
902314
SH M3x14




903410
SFH M4x10




960030
N M3






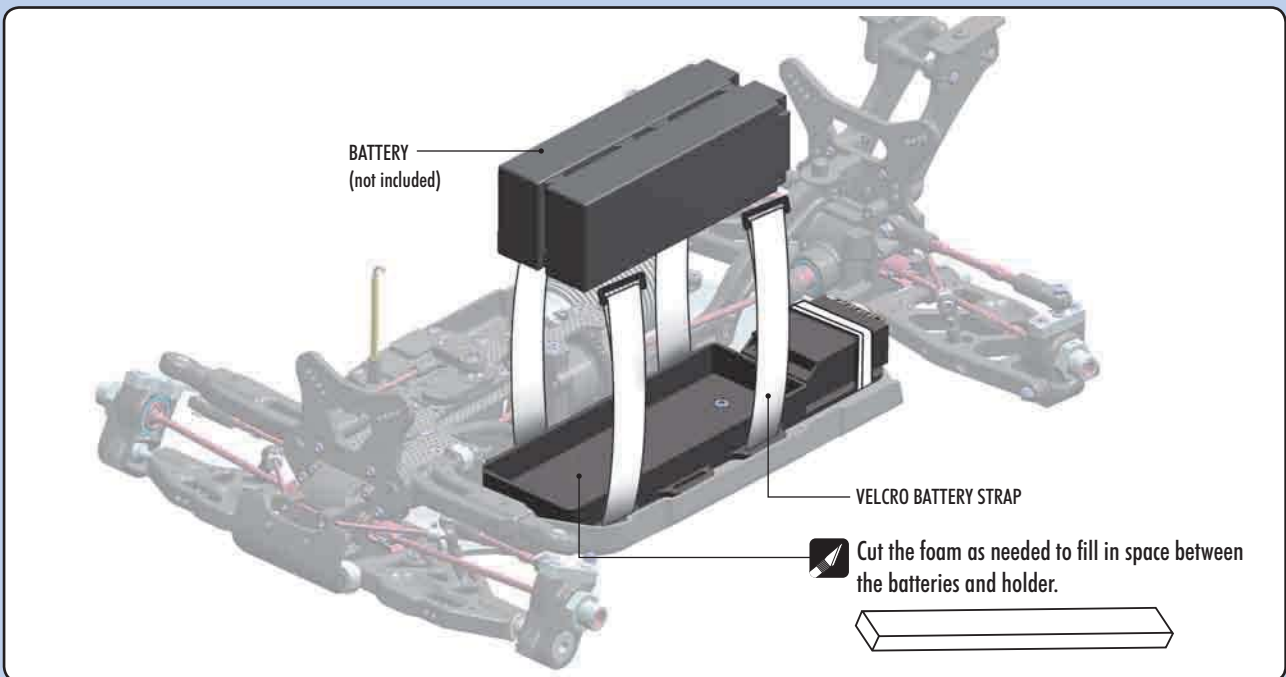
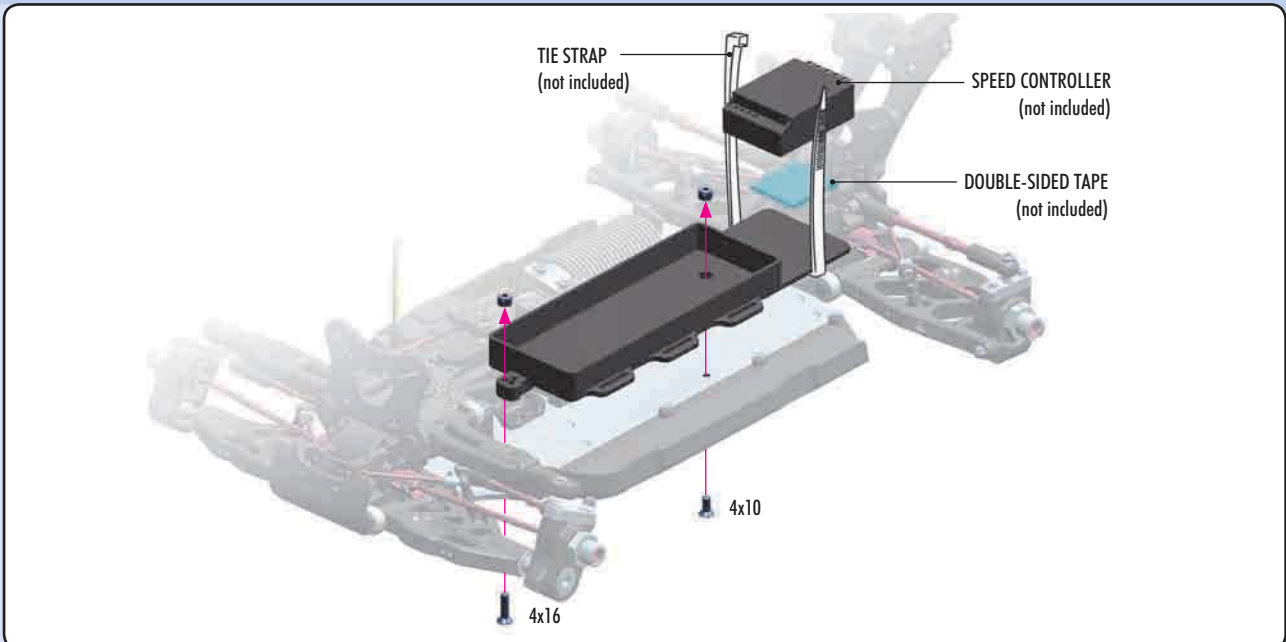
903410
SFH M4x10



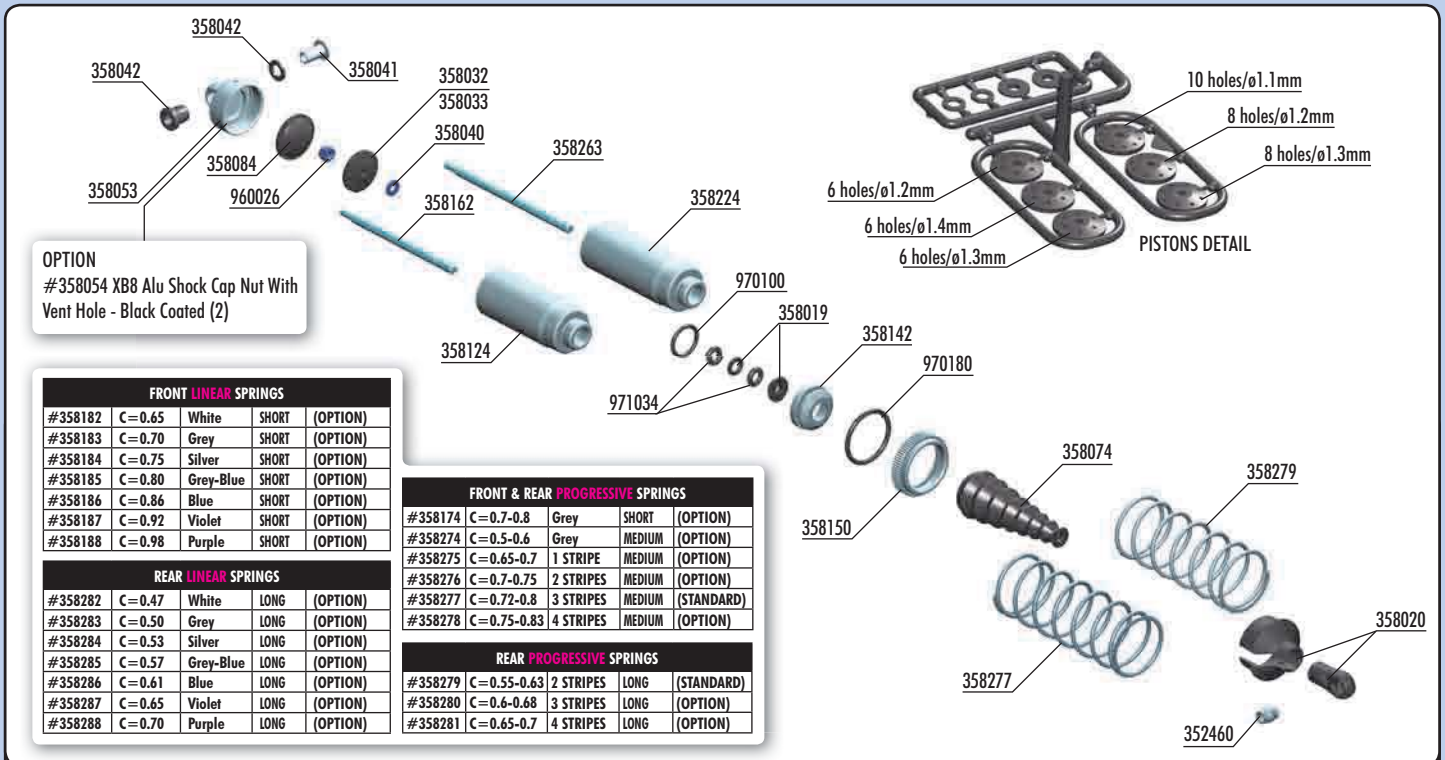
903416
SFH M4x16



960040
N M4



11. SHOCK ABSORBERS



BAGS 	35 2460	PIVOT BALL 5.8 - V3 (10)	35 8124	XB8 ALU FRONT SHOCK BODY - HARD COATED (2)
	35 8019	COMPOSITE SET OF SHIMS FOR SHOCKS - V2 (2)	35 8142	ALU SHOCK BODY NUT FOR SHOCK BOOT (2)
	35 8020	COMPOSITE SHOCK PARTS	35 8150	ALU SHOCK BODY ADJ. NUT (2)
	35 8032	SHOCK PISTON SET 8-HOLE (1.2; 1.3) 10-H. (1.1MM) - DELRIN - V2	35 8162	FRONT SHOCK SHAFT (2)
	35 8033	COMPOSITE SHOCK 6-HOLE PISTON SET (1.2; 1.3; 1.4MM) - DELRIN - V2	35 8224	XB8 ALU REAR SHOCK BODY - HARD COATED (2)
	35 8040	HARDENED SHOCK SHIMS (4)	35 8263	XB8 REAR SHOCK SHAFT (2)
	35 8041	STEEL SHOCK BUSHING (2)	35 8277	XRAY PROGRESSIVE SPRINGS - MEDIUM - 3 STRIPES - V2 (2)
	35 8042	COMPOSITE SHOCK BUSHING & SHIM - V2 (2+2)	35 8279	XRAY LONG PROGRESSIVE SPRINGS - SOFT-MEDIUM - 2 STRIPES - V2 (2)
	35 8053	XB8 ALU SHOCK CAP NUT - BLACK COATED (2)	96 0026	NUT M2.5 - SHORT (10)
	35 8054	XB8 ALU SHOCK CAP NUT WITH VENT HOLE - BLACK COATED (2) (OPTION)	97 0100	O-RING 10 x 1.5 (10)
	35 8074	FOLDING SHOCK BOOT (4)	97 0180	O-RING 18 x 1.8 (10)
	35 8084	SHOCK RUBBER MEMBRANE BOTTOM RIBBED (4)	97 1034	SILICONE O-RING 3.5x2 (10)

960026
N M2.5

358040
5 2.5x8x0.5

971034
O 3.4x2

970100
O 10x1.5

NOTE
ORIENTATION

2x 8 holes ø1.2mm pistons

2x 8 holes ø1.2mm pistons

BAG 11.1
FRONT SHOCK (SHORT)

BAG 11.2
REAR SHOCK (LONG)

✓ 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.

✗ 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.

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

✗ INCORRECT

✗ INCORRECT

✓ CORRECT

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
O-ring
Thin Shim
O-ring

DETAIL

SHOCK ABSORBERS

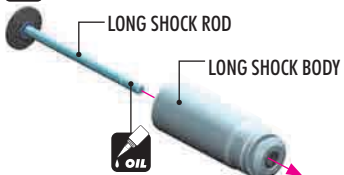


970180
O 18x1.8

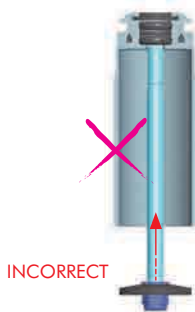
2x FRONT SHOCKS



2x REAR SHOCKS

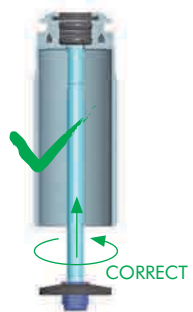


EXTREMELY IMPORTANT



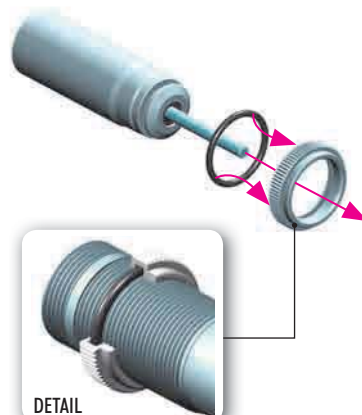
INCORRECT

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.



DETAIL

2x FRONT SHOCKS

2x REAR SHOCKS



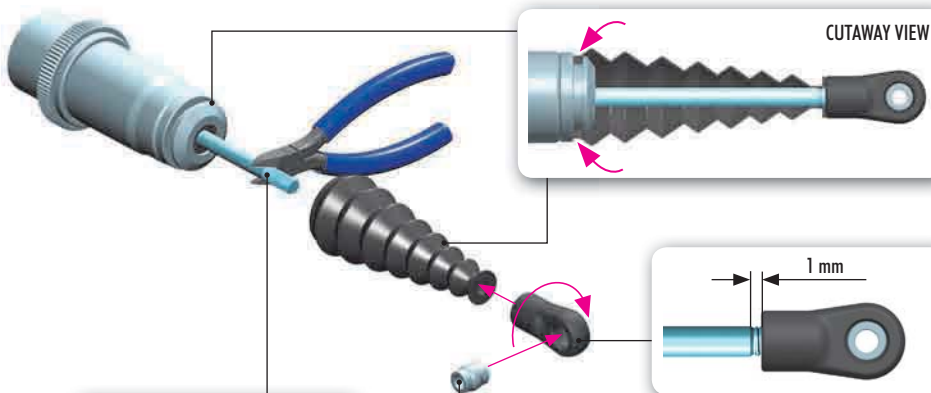
INCORRECT



INCORRECT



CORRECT



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

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

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 550cSt

2x REAR (LONG)

Oil 400cSt

SET-UP BOOK
SHOCK OIL



1 Extend the shock shaft completely. Fill the shock body with the shock oil. For the FRONT shocks (short) use 550cSt oil. For the REAR shocks (long) use 400cSt oil.



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



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



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



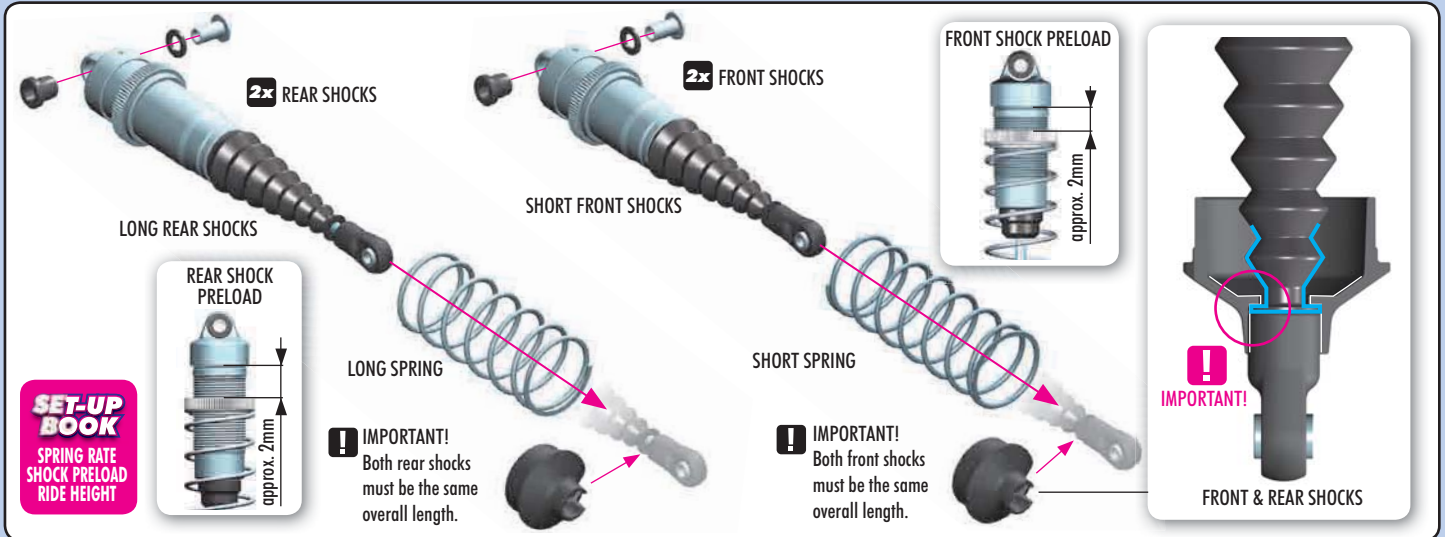
5 Gently place the shock cap assembly onto the filled shock body. Excess oil will spill from the shock. Screw the shock cap onto the body by only a few turns.



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



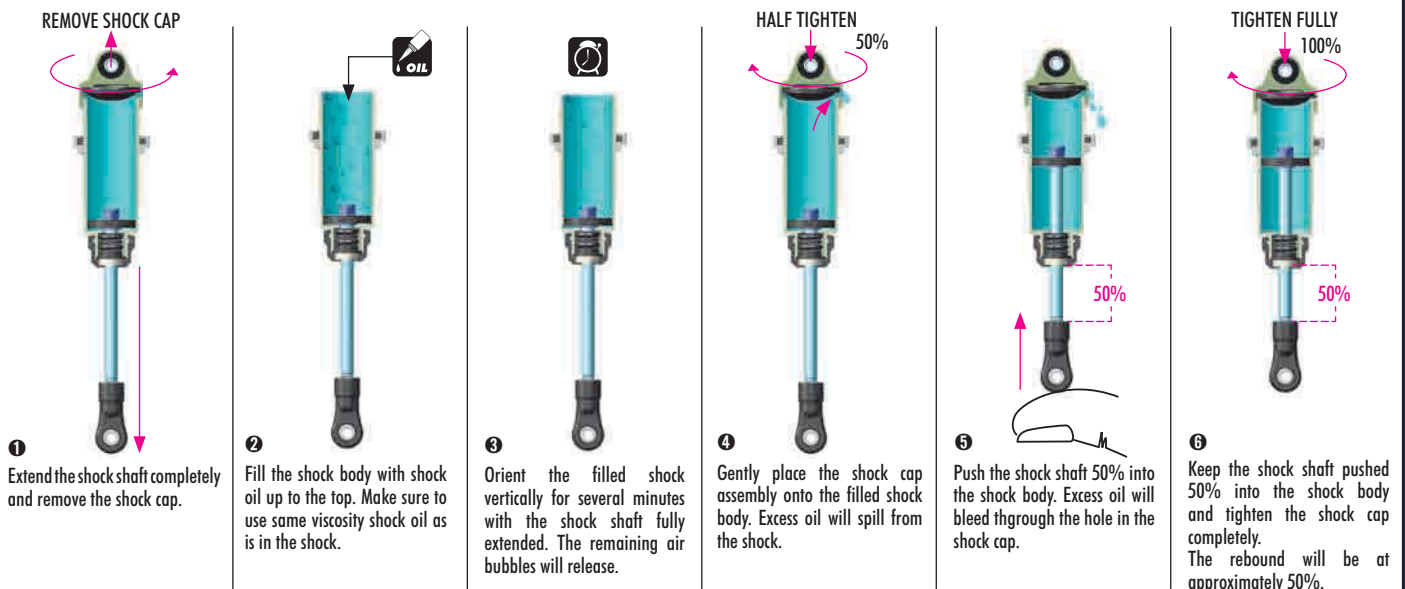
7 Keep the shock shaft pushed in the shock body and tighten the shock cap completely. The rebound will be at approximately 0%.



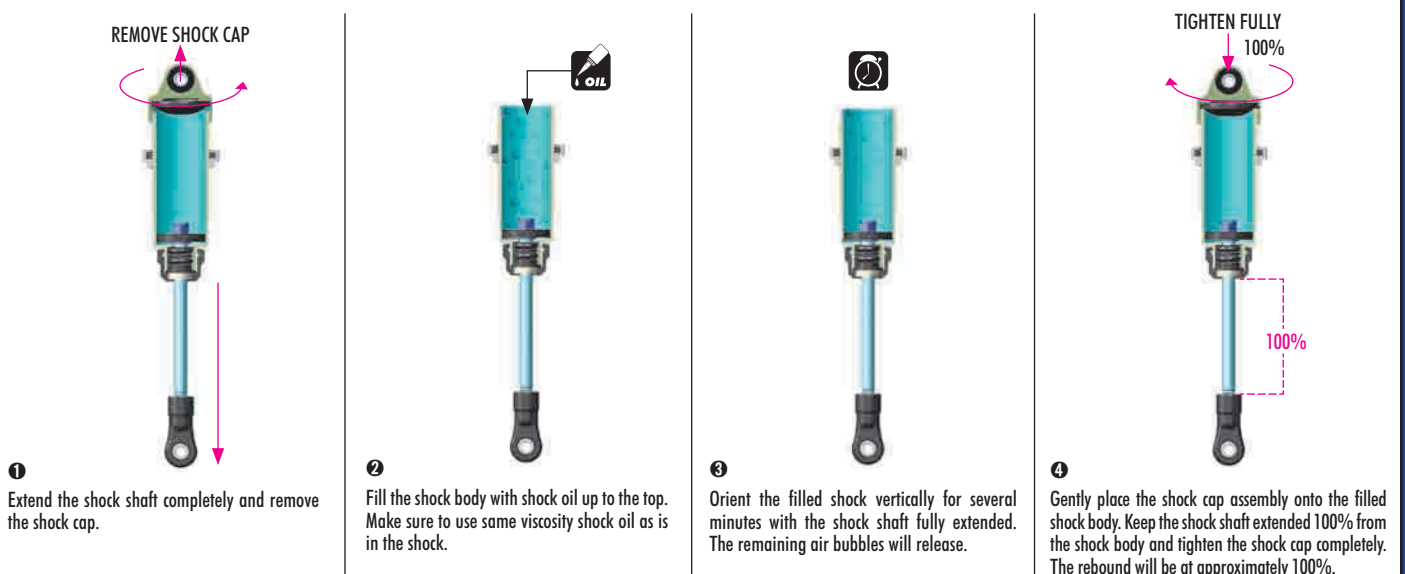
TIP ALTERNATE SHOCK REBOUND SETTING (50% AND 100%)

The default shock rebound setting is 0% (as described on page 35). Alternatively, you may set the shock rebound setting to 50% or 100% as described below. Remove the shock springs before performing shock rebound adjustment.

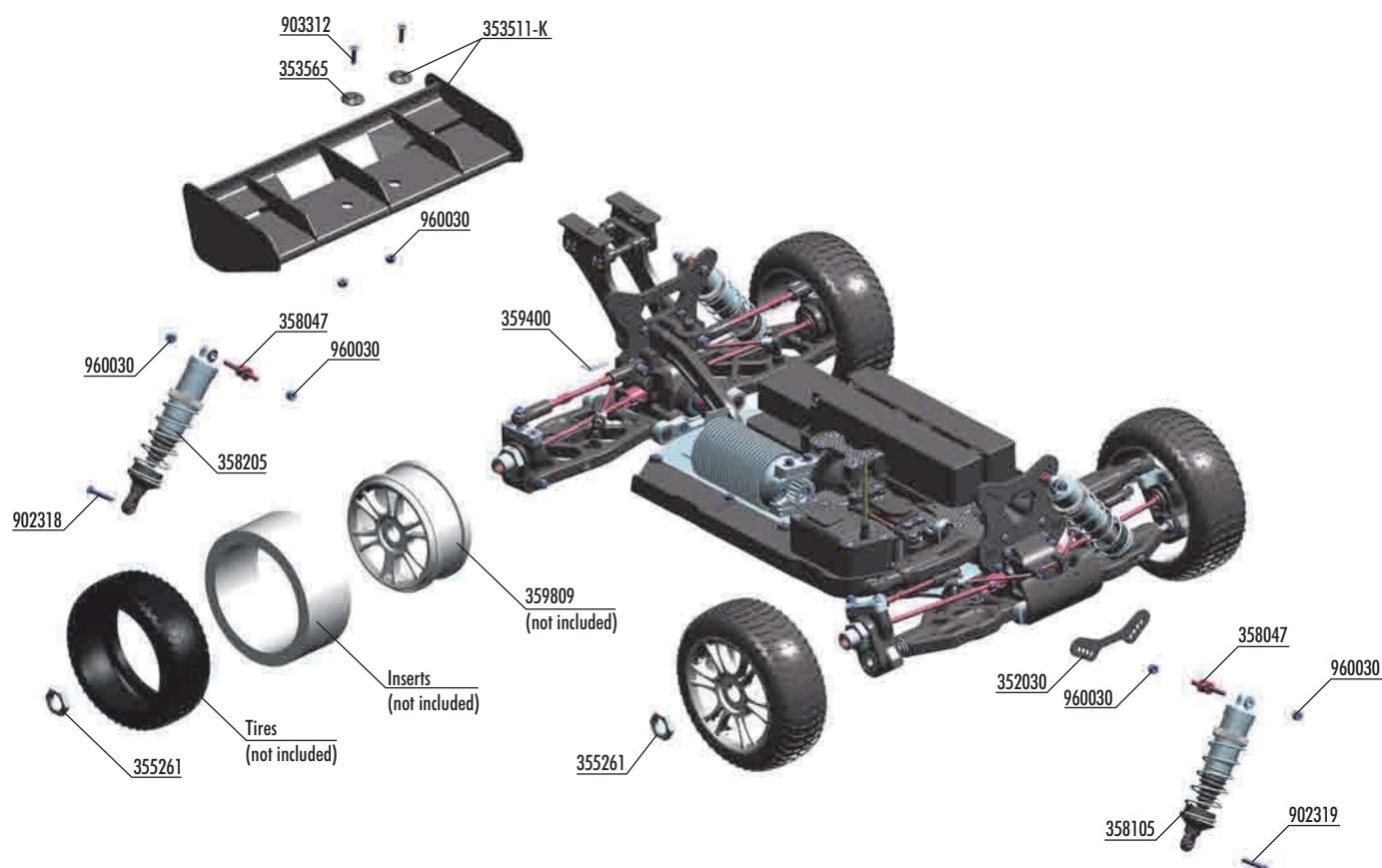
SETTING THE SHOCK REBOUND TO 50% (MEDIUM REBOUND)



SETTING THE SHOCK REBOUND TO 100% (HIGH REBOUND)



12. FINAL ASSEMBLY



BAG

12

35 2030	XB8 FRONT SHOCK TOWER PROTECTOR	35 9400	BODY CLIP (10)
35 3511-K	XB8 REAR WING - BLACK	35 9709	XRAY XB8E BODY FOR 1/8 ELECTRIC BUGGY - LOW DOWNFORCE
35 3511	XB8 REAR WING - WHITE (OPTION)	35 9809	WHEELS STARBURST - YELLOW (4) (OPTION)
35 3511-Y	XB8 REAR WING - YELLOW (OPTION)		
35 3565	COMPOSITE REAR WING SHIM - BLACK (2)		
35 5261	WHEEL NUT - RIBBED - HARD COATED (2)	90 2318	HEX SCREW SH M3x18 (10)
35 5265	WHEEL NUT WITH COVER - HARD COATED (2) (OPTION)	90 2319	HEX SCREW SH M3x18 - LEFT THREAD (10)
35 8047	STEEL SCREW SHOCK PIVOT BALL WITH HEX (2)	90 3312	HEX SCREW SFH M3x12 (10)
35 8105	XB8 FRONT SHOCK ABSORBERS + BOOTS COMPLETE SET (2)	96 0030	NUT M3 (10)
35 8205	XB8 REAR SHOCK ABSORBERS + BOOTS COMPLETE SET (2)		

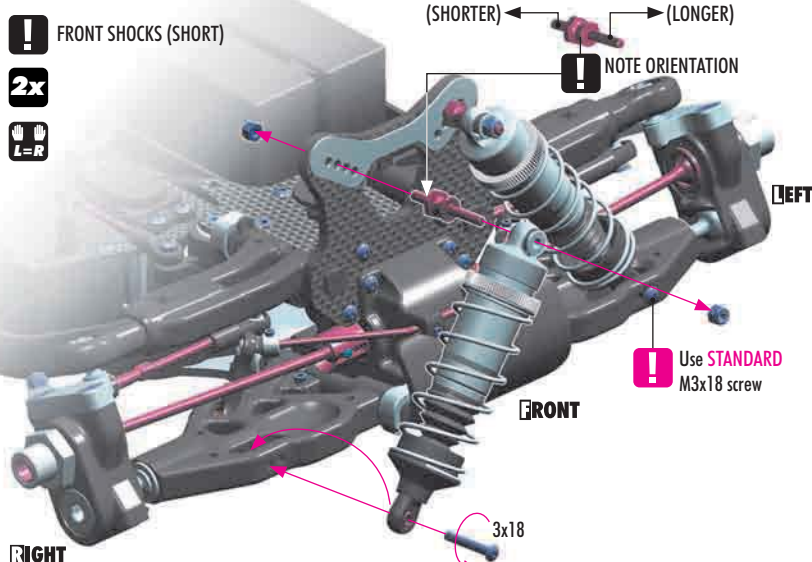
902318
SH M3x18



902319
SH M3x18
LEFT thread

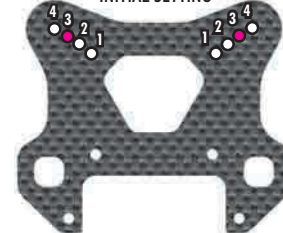


960030
N M3



On the front right arm use the **SILVER** M3x18 screw - this screw has **LEFT THREAD** !

INITIAL SETTING



INITIAL SETTING



SET-UP BOOK

SHOCK ABSORBERS

902318
M3x18



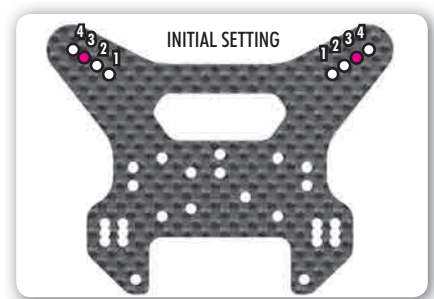
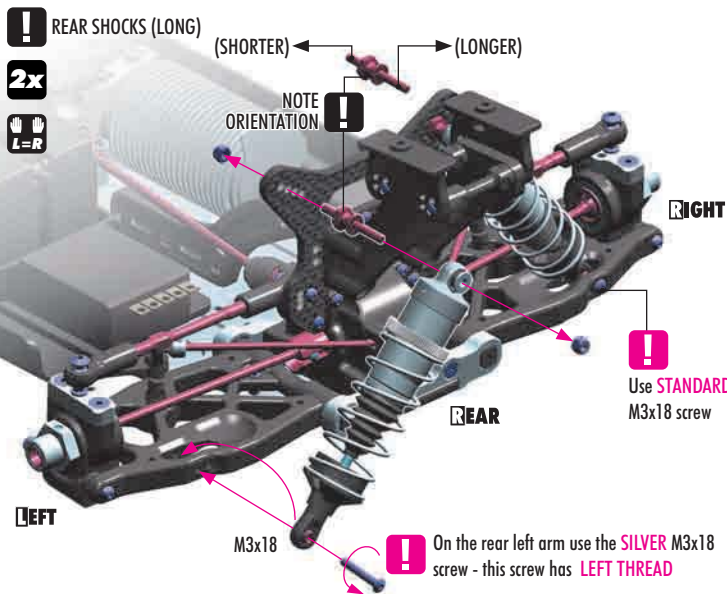
902319
SH M3x18
LEFT thread



960030
N M3

SET-UP BOOK

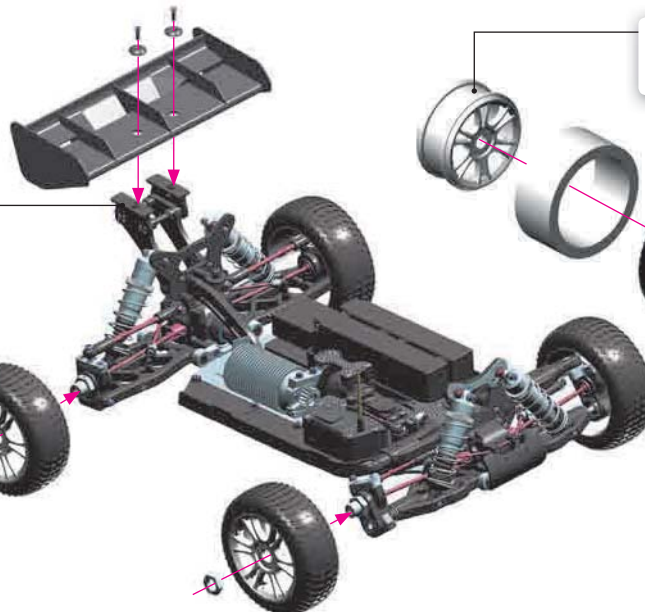
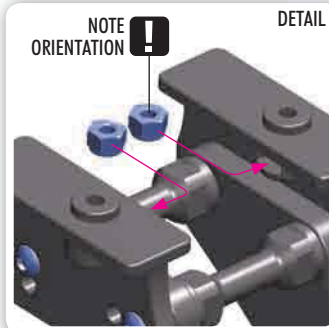
SHOCK ABSORBERS



903312
SFH M3x12



960030
N M3



TIP 4x

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

- Before cutting and making holes on the body, put the unpainted body on the chassis to confirm the mounting position and location for holes and cutouts.
- Before painting, wash the inside of the body with mild detergent, and then rinse and dry thoroughly.
- Mask all windows.
- Apply paint masks as appropriate.

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

Body Reamer (HUDY #107600)

DETAIL



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.

TROUBLESHOOTING GUIDE

PROBLEM	CAUSE	SOLUTION
CAR IS HARD TO CONTROL	<ul style="list-style-type: none"> Weak transmitter and/or receiver batteries Low reception from radio antennas Servo linkages not adjusted properly 	<ul style="list-style-type: none"> Recharge or replace batteries Fully extend transmitter and receiver antennas Move servo to neutral then re-adjust linkage(s)
STEERING DOES NOT WORK PROPERLY	<ul style="list-style-type: none"> Weak transmitter and/or receiver batteries Bent linkages or driveshafts Loose steering components Drivetrain damage 	<ul style="list-style-type: none"> Recharge or replace batteries Check tightness of steering components and tighten if necessary Replace damaged parts
HANDLING PROBLEMS	<ul style="list-style-type: none"> Shocks are not working properly Suspension is binding Improper tires 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Suspension is binding Damaged steering servo 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Suspension is binding Steering trim is off-center Wheels are loose Damaged steering servo 	<ul style="list-style-type: none"> 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

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 #106220



HUDY #106222



HUDY #106221



HUDY #106230



SUSPENSION & DRIVETRAIN MAINTENANCE

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

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