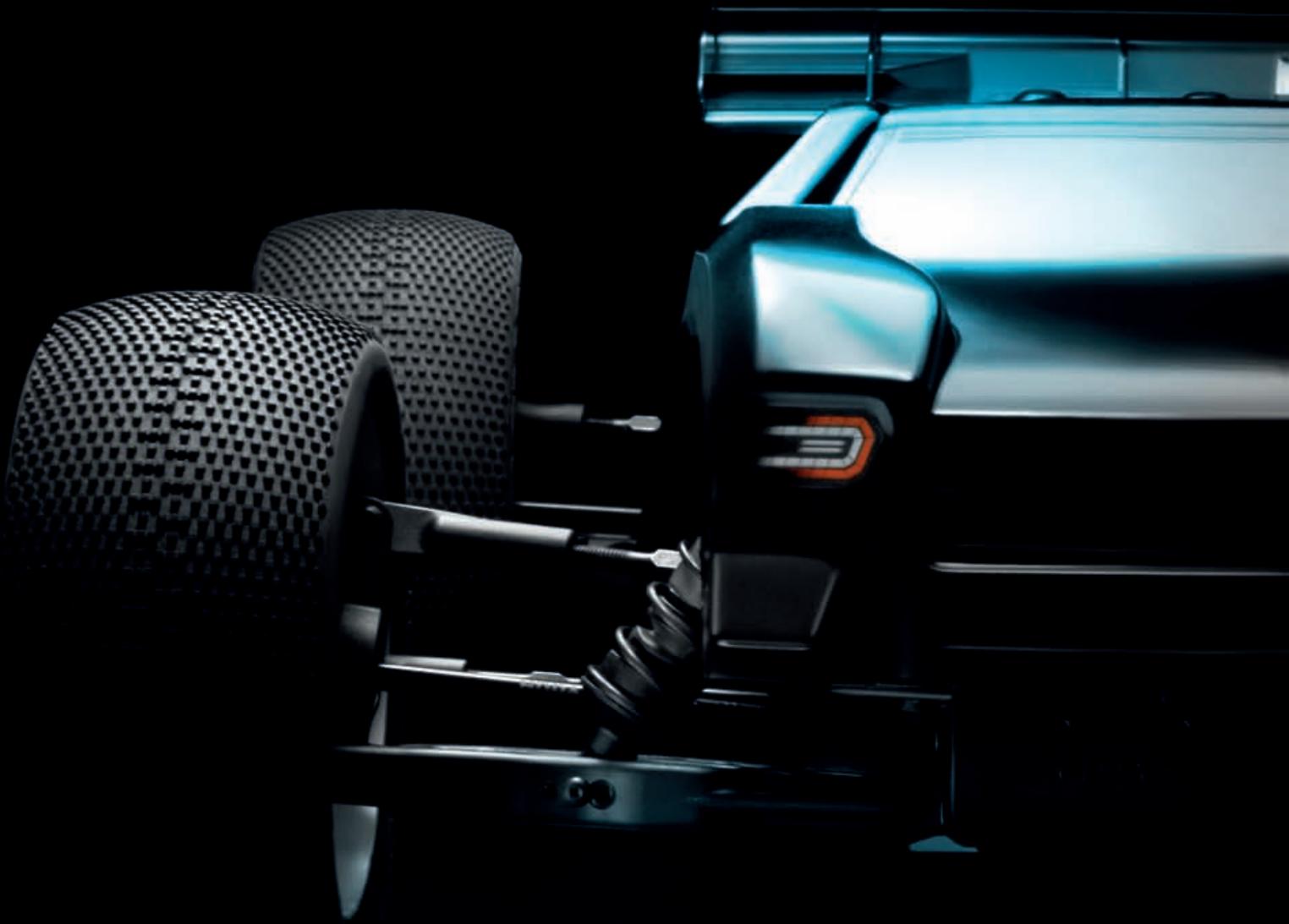


1/8 LUXURY NITRO TRUGGY

XRAY XT8



INSTRUCTION MANUAL

XRAY XT8'24 & XRAY XT8E'24

BEFORE YOU START

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

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

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

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 this is not what you wanted or expected, DO NOT continue any further. Your hobby dealer can not accept your kit for return or exchange after it has been partially or fully assembled.

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

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TX 75062
USA
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Fax: (214) 744-2401
Email: xray@rcamerica.com

FAILURE TO FOLLOW THESE INSTRUCTIONS WILL BE CONSIDERED AS ABUSE AND/OR NEGLIGENCE.

SAFETY PRECAUTIONS

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

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 warranty 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 – NITRO ENGINES

- Always test the brakes and the throttle before starting your engine to avoid losing control of the model.
- Make sure the air filter is clean and oiled.
- Never run your engine without an air filter. Your engine can be seriously damaged if dirt and debris get inside the engine.
- For proper engine break-in, please refer to the manual that came with the engine.
- DO NOT run near open flames or smoke while running your model or while handling fuel.
- Some parts will be hot after operation. DO NOT touch the exhaust or the engine until they have cooled. These parts may reach 275°F during operation!

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

IMPORTANT NOTES – NITRO FUEL

- Handle fuel only outdoors. Never handle nitro fuel indoors, or mix nitro fuel in a place where ventilation is bad.
- Only use nitro fuel for R/C models. DO NOT use gasoline or kerosene in R/C models as it may cause a fire or explosion, and ruin your engine.
- Nitro fuel is highly inflammable, explosive, and poisonous. Never use fuel indoors or in places with open fires and sources of heat.
- Always keep the fuel container cap tightly shut.
- Always read the warning label on the fuel container for safety information.
- Nitro-powered model engines emit poisonous vapors and gasses. These vapors irritate eyes and can be highly dangerous to your health. We recommend wearing rubber or vinyl gloves to avoid direct contact with nitro fuel.
- Nitro fuel for RC model cars is made of the combination of the methyl alcohol, castor or synthetic oil,

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.

nitro methane etc. The flammability and volatility of these elements is very high, so be very careful during handling and storage of nitro fuel.

- Keep nitro fuel away from open flame, sources of heat, direct sunlight, high temperatures, or near batteries.
- Store fuel in a cool, dry, dark, well-ventilated place, away from heating devices, open flames, direct sunlight, or batteries. Keep nitro fuel away from children.
- DO NOT leave the fuel in the carburetor or fuel tank when the model is not in use. There is danger that the fuel may leak out.
- Wipe up any spilled fuel with a cloth
- Be aware of spilled or leaking fuel. Fuel leaks can cause fires or explosions.
- DO NOT dispose of fuel or empty fuel containers in a fire. There is danger of explosion.

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 additions that may arise from the use of this product.

All rights reserved.

QUALITY CERTIFICATE

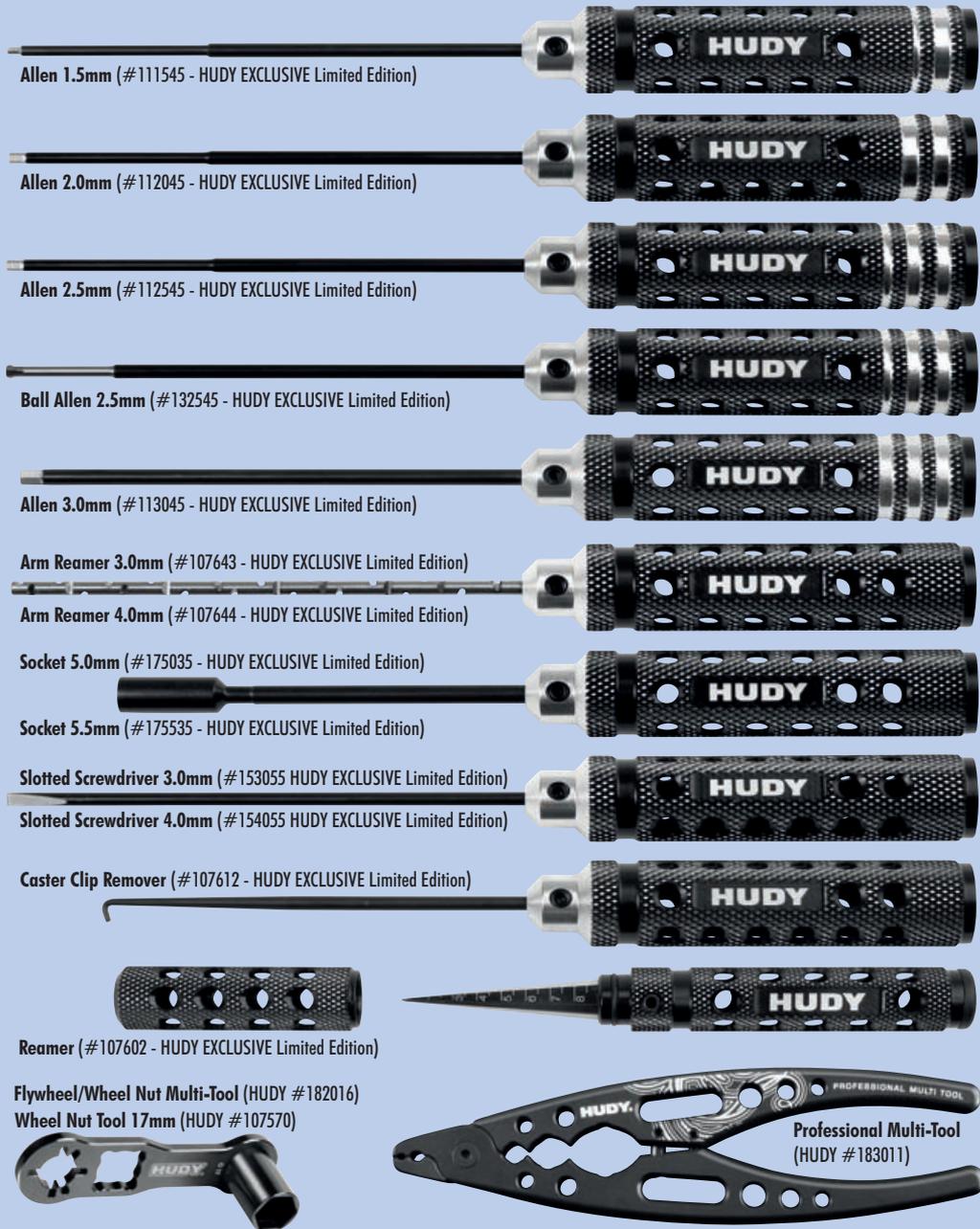
XRAY MODEL RACING CARS uses only the highest quality materials, the best compounds for molded parts and the most sophisticated manufacturing processes of TQM (Total Quality Management). We guarantee that all parts of a newly-purchased kit are manufactured with the highest regard to quality. However,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

Please note that raw materials such as aluminum, steel, brass, fibreglass, or carbon fibre may have small scratches on the surface which is a standard characteristic of any raw material. Scratches on the surface of any materials are NOT considered to be material defects.

Products may potentially have small amounts of corrosion on them. This may be caused by variances in weather during different times of the year, humidity in the shop or during shipping, and other contributing factors. Even though we have taken all precautions and protection methods to prevent corrosion, these small amounts of corrosion (if present) are unavoidable and considered to be acceptable.

In line with our policy of continuous product development, the exact specifications of the kit may vary. In the unlikely event of any problems with your new kit, you should contact the model shop where you purchased it, quoting the part number. We do reserve all rights to change any specification without prior notice. All rights reserved.

TOOLS REQUIRED



EQUIPMENT REQUIRED

Electric Nitro

<p>Transmitter & Receiver</p>	<p>Engine .21ci (3.5cc) (FX K303 #650105) (FX K502 #650304)</p>	<p>Electric Motor & Pinion Gear</p>	<p>Manifold & Exhaust (FX #659505) (FX #659558) (FX #659506)</p>	<p>Starter Box & Battery Pack (HUDY #104500)</p>	<p>Glow Plug Igniter</p>
<p>Steering and Throttle Servos</p>	<p>Speed Controller</p>	<p>LiPo Battery Pack</p>	<p>Double-sided Tape (HUDY #107875)</p>	<p>Lexan™ Paint</p>	<p>BODY</p>
<p>Battery Charger</p>	<p>Receiver Pack</p>	<p>Threadlock & CA Glue</p>	<p>Bearing Oil (HUDY #106230)</p>	<p>Wheels & Tires</p>	<p>Fuel + Fuel Bottle (HUDY #104200)</p>

EQUIPMENT INCLUDED

* Kit includes smaller but sufficient amount of oil and grease to build the car.

■ Electric ■ Nitro



At the beginning of each section is an exploded view of the parts to be assembled. There is also a list of all the parts and part numbers that are related to the assembly of that section. The part descriptions are color-coded to make it easier for you to identify the source of a part. Here are what the different colors mean:

STYLE A - indicates parts that are included in the bag marked for the section.
STYLE B - indicates parts that are included in the box.
STYLE C - indicates parts that are already assembled from previous steps.

TECH TIPS

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.

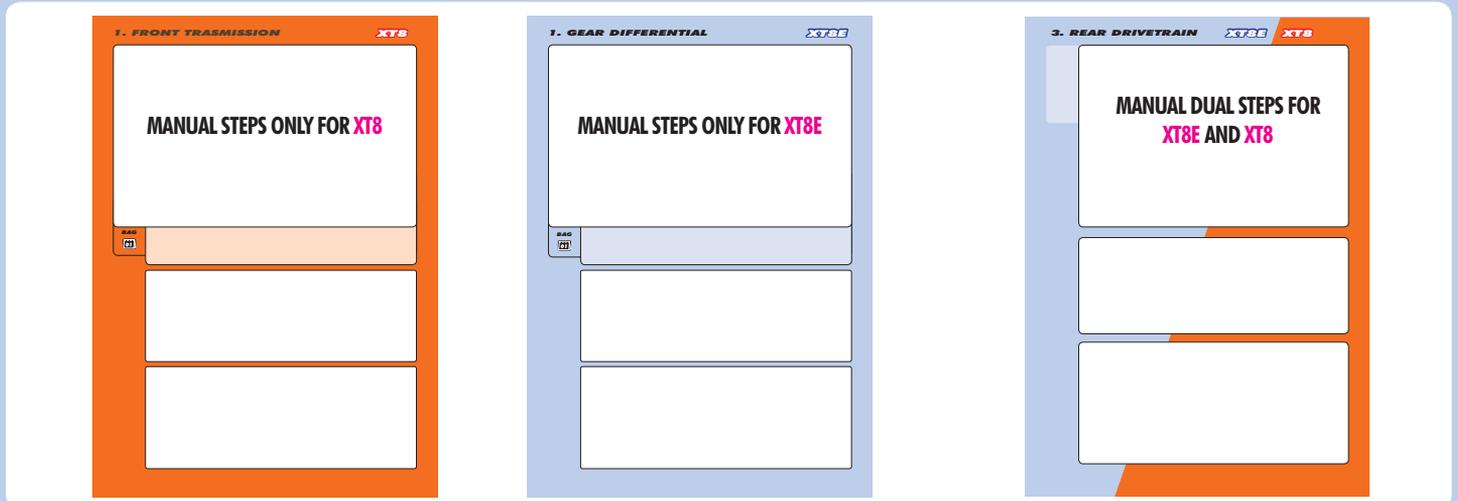
THE LOCATION OF THE SHIM(S) DEPENDS ON WHETHER YOU ARE TRYING TO CLOSE OR OPEN THE GAP:



CHECK GEAR MESH AND DIFF PLAY ONLY AFTER THE ENTIRE GEARBOX IS MOUNTED TOGETHER WITH THE SUSPENSION HOLDERS ON THE CHASSIS. ALL PARTS ARE DESIGNED TO HAVE CERTAIN PLAY AND IT IS ALL DESIGNED BY PURPOSE.

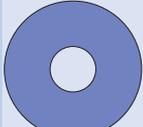
TIP DRIVE SHAFT PIN SERVICING

To enjoy the longest possible lifespan of the drive shafts and diff outdrives, it is extremely important to properly service the drive shaft pins. Inspect the pins after every 3 hours of runtime. If the pins show any wear, replace them with new pins.





940816
BB 8x16x5



964060
S 6x18x0.2



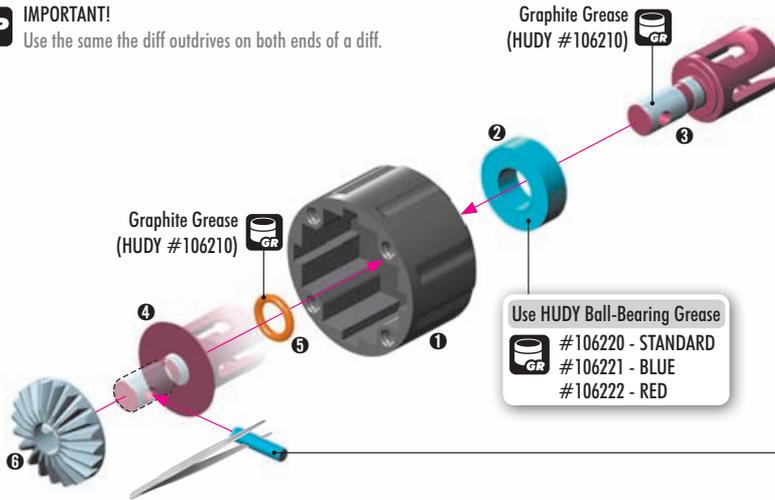
971061
O 6x1.55



980261
P 2.5x11.5

2x F=R

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

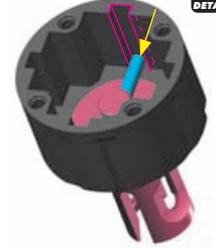


Graphite Grease (HUDY #106210)

Graphite Grease (HUDY #106210)

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

STEP 6 DETAIL



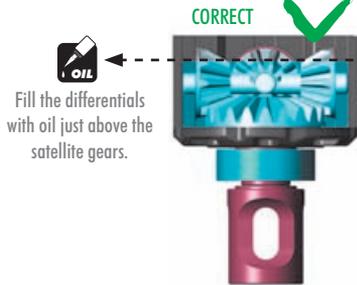
903312
SFH M3x12



964030
S 3.5x12x0.2

VERY IMPORTANT!

Use the following silicone oils included in the kit for initial settings:
FRONT diff: 10.000cSt / REAR diff: 5.000cSt



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:

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



REAR 39.30g
FRONT 40.10g



REAR 42.00g
FRONT 42.80g

1. Put the diff (without oil) on the scale and check the weight:

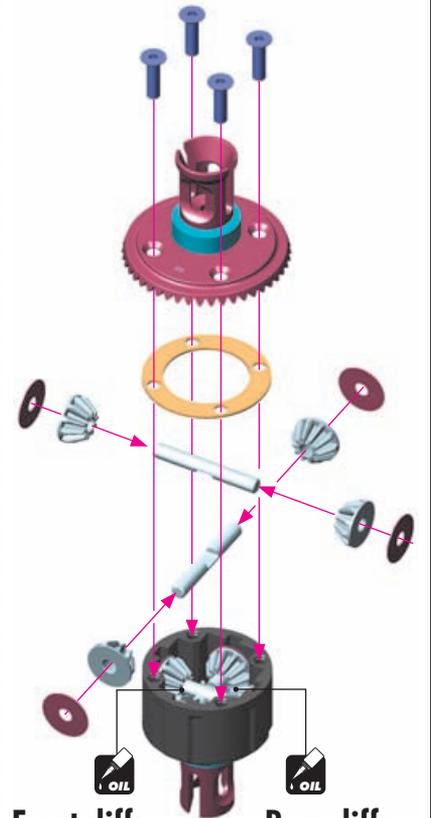
- REAR DIFF approx. 39.30g
- FRONT DIFF approx. 40.10g

2. Slowly pour oil into the diff and watch the weight.

Add 2.70g of oil into the diff. The approximate weight of the diff+oil is REAR DIFF approx. 42.00g and FRONT DIFF approx. 42.80g.



REAR DIFF	39.30g	+	2.70g	=	42.00g
FRONT DIFF	40.10g	+	2.70g	=	42.80g



Front diff:

Silicone oil 10.000cSt
Fill just above the satellite gears.

Rear diff:

Silicone oil 5.000cSt
Fill just above the satellite gears.

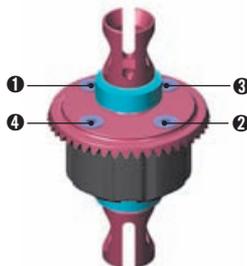
SET-UP BOOK

DIFFERENTIAL OIL

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.



32.3~32.5 mm



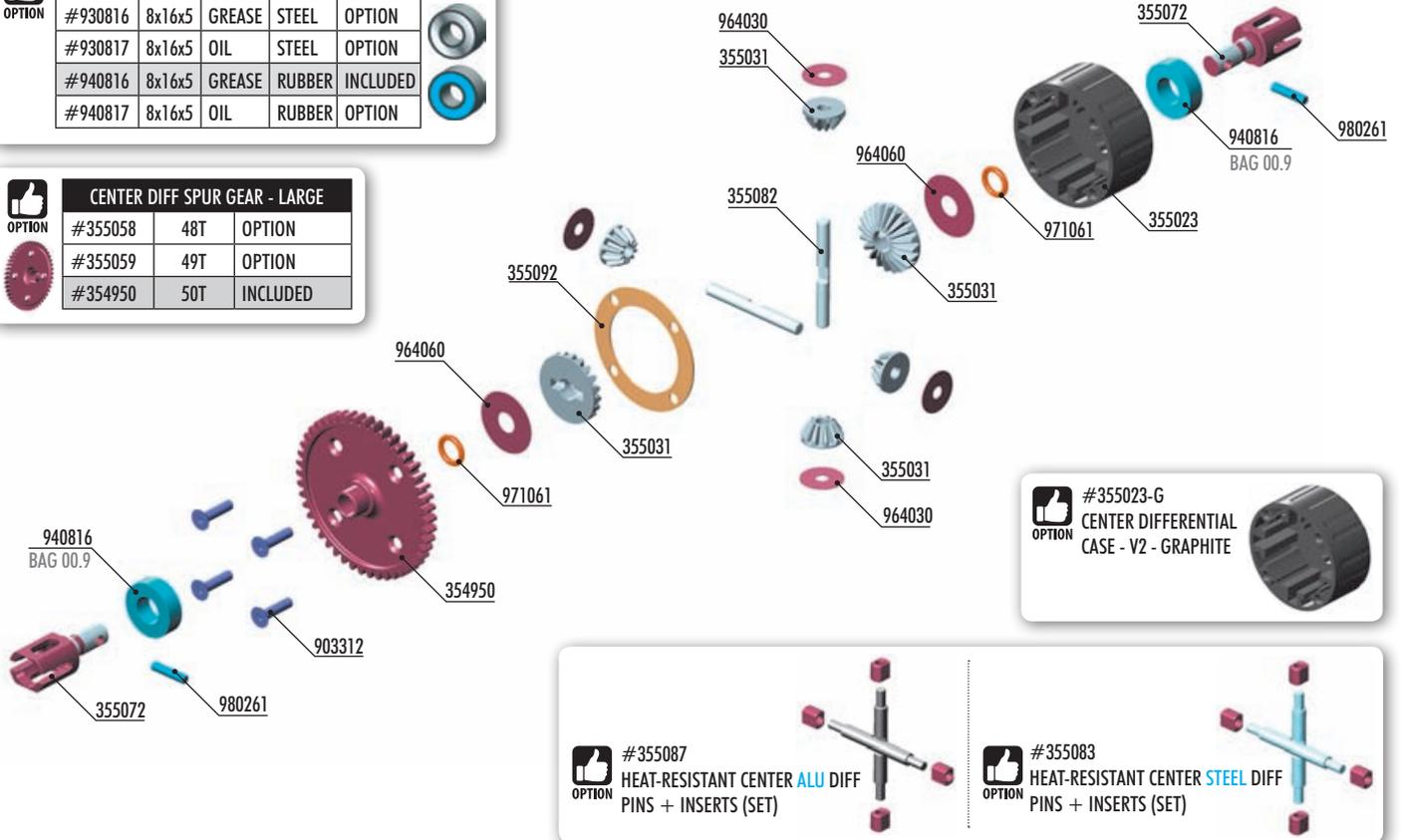
XRAY BALL-BEARINGS

OPTION	#	SIZE	LUBRICATION	MATERIAL	STATUS
	#930816	8x16x5	GREASE	STEEL	OPTION
	#930817	8x16x5	OIL	STEEL	OPTION
	#940816	8x16x5	GREASE	RUBBER	INCLUDED
	#940817	8x16x5	OIL	RUBBER	OPTION



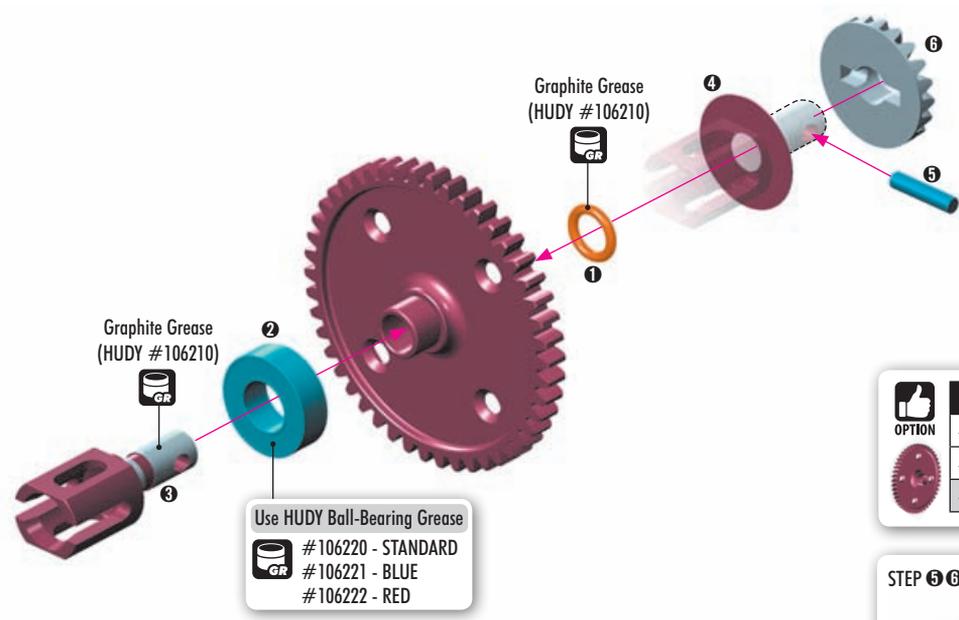
CENTER DIFF SPUR GEAR - LARGE

OPTION	#	TOOTH COUNT	STATUS
	#355058	48T	OPTION
	#355059	49T	OPTION
	#354950	50T	INCLUDED



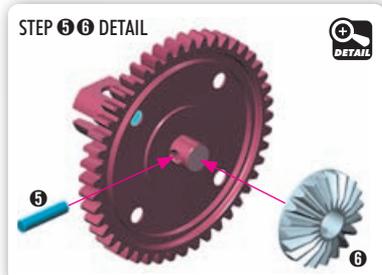
- | | | | |
|--------|---|--------|--|
| 354950 | CENTER DIFF SPUR GEAR 50T - LARGE | 903312 | HEX SCREW SFH M3x12 (10) |
| 355023 | CENTER DIFFERENTIAL CASE - V2 | 940816 | BALL-BEARING 8x16x5 RUBBER SEALED - GREASE (8) |
| 355031 | STEEL DIFF BEVEL & SATELLITE GEARS - V2 (2+4) | 964030 | WASHER S 3.5x12x0.2 (10) |
| 355072 | LARGE CENTER DIFF OUTDRIVE ADAPTER - HUDY STEEL (2) | 964060 | WASHER S 6x18x0.2 (10) |
| 355082 | CENTER DIFF PIN (2) | 971061 | SILICONE O-RING 6x1.55 (10) |
| 355092 | CENTER DIFF GASKET (2) | 980261 | PIN 2.5x11.5 (10) |

- 940816 BB 8x16x5
- 964060 S 6x18x0.2
- 971061 O 6x1.55
- 980261 P 2.5x11.5



OPTION	#	TOOTH COUNT	STATUS
	#355058	48T	OPTION
	#355059	49T	OPTION
	#354950	50T	INCLUDED

OPTION	#	SIZE	LUBRICATION	MATERIAL	STATUS
	#930816	8x16x5	GREASE	STEEL	OPTION
	#930817	8x16x5	OIL	STEEL	OPTION
	#940816	8x16x5	GREASE	RUBBER	INCLUDED
	#940817	8x16x5	OIL	RUBBER	OPTION



SET-UP BOOK
DIFFERENTIAL GEARS



940816
BB 8x16x5



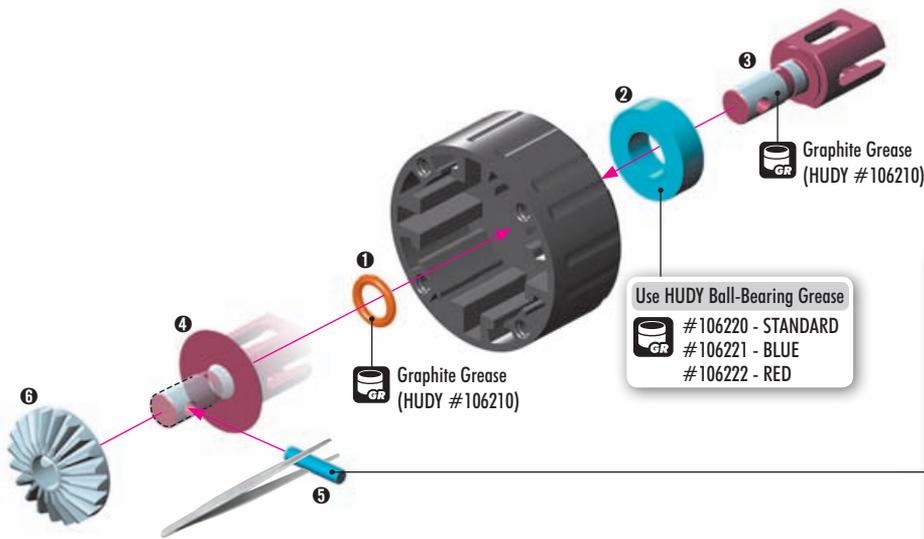
964060
S 6x18x0.2



971061
O 6x1.55



980261
P 2.5x11.5



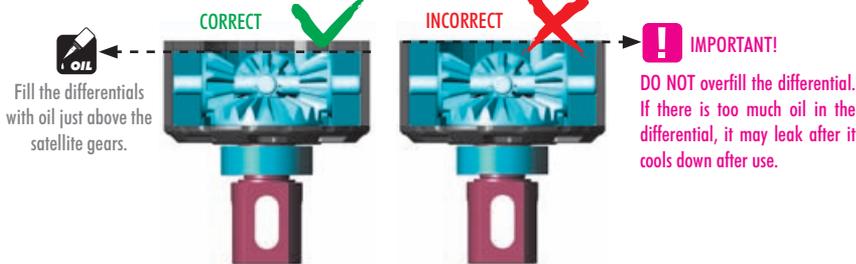
903312
SFH M3x12



964030
S 3.5x12x0.2

VERY IMPORTANT!

Use the following silicone oil included in the kit for initial setting:
Center diff: 15.000cSt



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

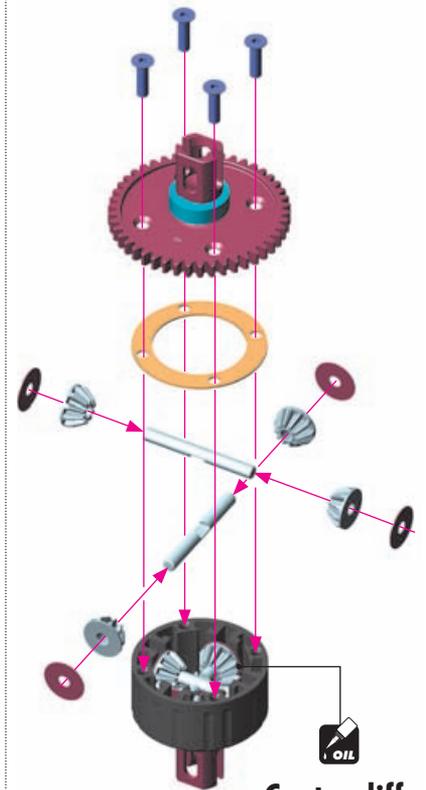
#107865 HUDY Ultimate Digital Pocket Scale 300g ± 0.01g



1. Put the diff (without oil) on the scale and check the weight (approximately 42.97g).

2. Slowly pour oil into the diff and watch the weight. Add 5.33g of oil into the diff. The approximate weight of the diff + oil is 48.30g.

$$\text{CENTER DIFF } 42.97\text{g} + 5.33\text{g} = 48.30\text{g}$$



Center diff:

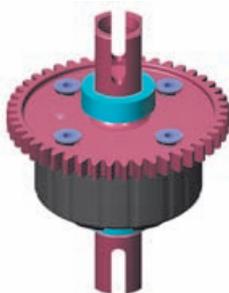
Silicone oil 15.000cSt

Fill to just above the satellite gears.

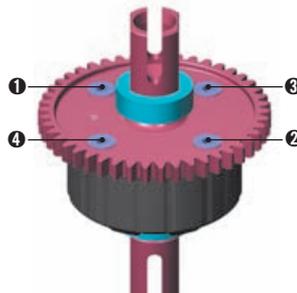
SET-UP BOOK

DIFFERENTIAL OIL

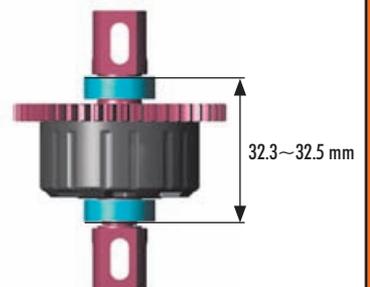
Tighten the screws equally.



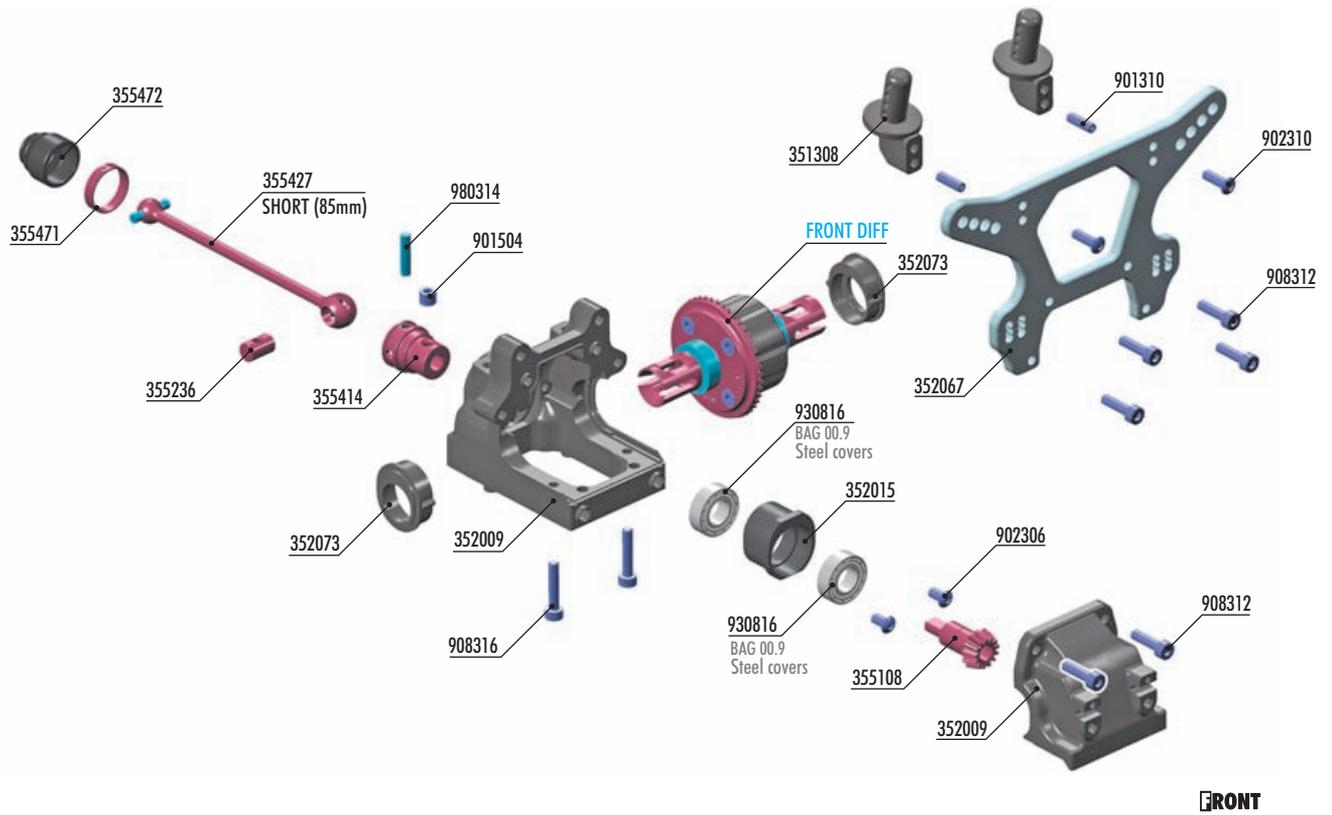
Finish tightening in this order.



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.



XRAY BALL-BEARINGS					
OPTION	#930816	8x16x5	GREASE	STEEL	INCLUDED
	#930817	8x16x5	OIL	STEEL	OPTION



FRONT

OPTION

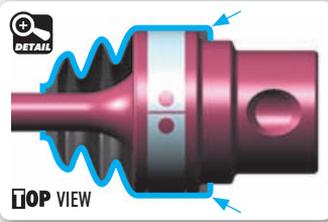
#355415 CENTRAL DOGBONE SHAFT UNIVERSAL JOINT
 #355432 FRONT CENTRAL DOGBONE DRIVE SHAFT 85mm

BAG
02

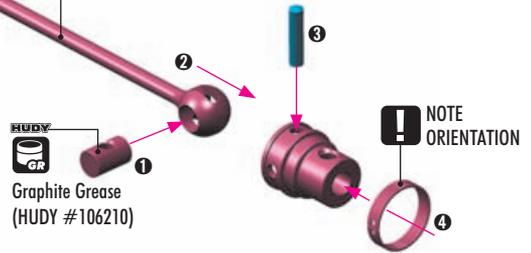
- 351308 BODY POSTS - V2
- 352009 SEMI-SPLIT DIFF BULKHEAD BLOCK SET FRONT/REAR - V2
- 352015 GEARBOX PINION HEIGHT INSERT (1+1)
- 352073 GEARBOX DIFF HEIGHT INSERT (2+2) - V2
- 352067 ALU FRONT SHOCK TOWER FOR SEMI-SPLIT BULKHEAD (4MM)
- 355108 BEVEL DRIVE GEAR 10T
- 355236 CVD DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
- 355414 CENTRAL CVD SHAFT UNIVERSAL JOINT - HUDY SPRING STEEL™
- 355427 FRONT CENTRAL CVD DRIVE SHAFT 85MM - HUDY SPRING STEEL™
- 355471 DRIVE SHAFT LOCKING RING (2)
- 355472 DRIVE SHAFT BOOT (2)
- 901310 HEX SCREW SB M3x10 (10)
- 901504 HEX SCREW SB M5x4 (10)
- 902306 HEX SCREW SH M3x6 (10)
- 902310 HEX SCREW SH M3x10 (10)
- 908312 HEX SCREW SOCKET HEAD CAP M3x12 (10)
- 908316 HEX SCREW SOCKET HEAD CAP SCH M3x16 (10)
- 930816 BALL-BEARING 8x16x5 STEEL SEALED - GREASE (2)
- 980314 PIN 3x14 (10)



980314
P 3x14



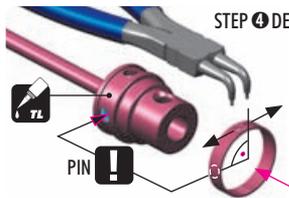
Apply oil from inside to prevent breakage of the rubber boot.
85mm - SHORT CVD DRIVE SHAFT



Graphite Grease (HUDY #106210)

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 dip so that the slot is 90° from the pin. This will prevent the pin from opening the clip.



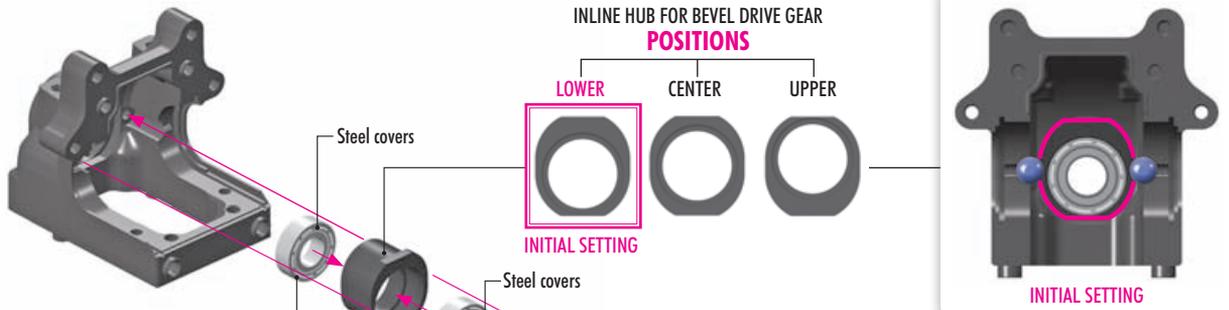
STEP 4 DETAIL The ring can be assembled by hand, but for easy disassembly we recommend using snap ring pliers (HUDY #189040).



902306
SH M3x6



930816
BB 8x16x5
(Steel covers)

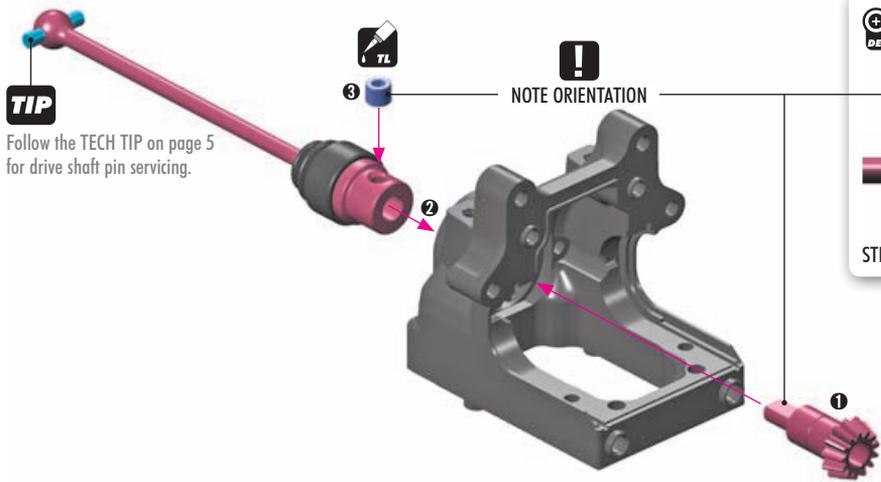


Use HUDY Ball-Bearing Grease
#106220 - STANDARD
#106221 - BLUE
#106222 - RED

XRAY BALL-BEARING					
OPTION					
#930816	8x16x5	GREASE	STEEL	INCLUDED	
#930817	8x16x5	OIL	STEEL	OPTION	



901504
SB M5x4



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

NOTE ORIENTATION



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



908312
SCH M3x12



908316
SCH M3x16

! During assembly, there is no need to check gear mesh or diff play. In particular, **DO NOT** check gear mesh and diff play when the differential is installed only in the gear box without the suspension holders and without being mounted to the chassis. All parts have specifically designed play, and only when the car is fully assembled will it have the proper amount of play where necessary. Only once you build the entire car, then you can check for free movement of all rotational parts and drivetrain as well as a free non-binding operation of suspension parts.

NOTE DIFF ORIENTATION

! Tighten 3x12mm screws first, then tighten 3x16 screws.

1 Graphite Grease (HUDY #106210)

2 FRONT

3 TIGHTEN 3x12mm SCREWS FIRST

4 TIGHTEN 3x16mm SCREWS SECOND

BALL-BEARING HUB POSITIONS

LOWER	CENTER	UPPER

INITIAL SETTING

! FRONT DIFF 10.000c1

! LOWER Bevel & Differential

LOWER

GEAR RATIO

Internal Gear Ratio = **4.30**

43 : 10 = 4.30

(Bevel) (Pinion) (IGR)

DETAIL STEP 1

DETAIL STEP 2



901310
SB M3x10



902310
SH M3x10



908312
SCH M3x12



908316
SCH M3x16

2x FRONT BODY POSTS
ALTERNATIVE 1 for 1/8 TRUGGY BODY

3.5mm

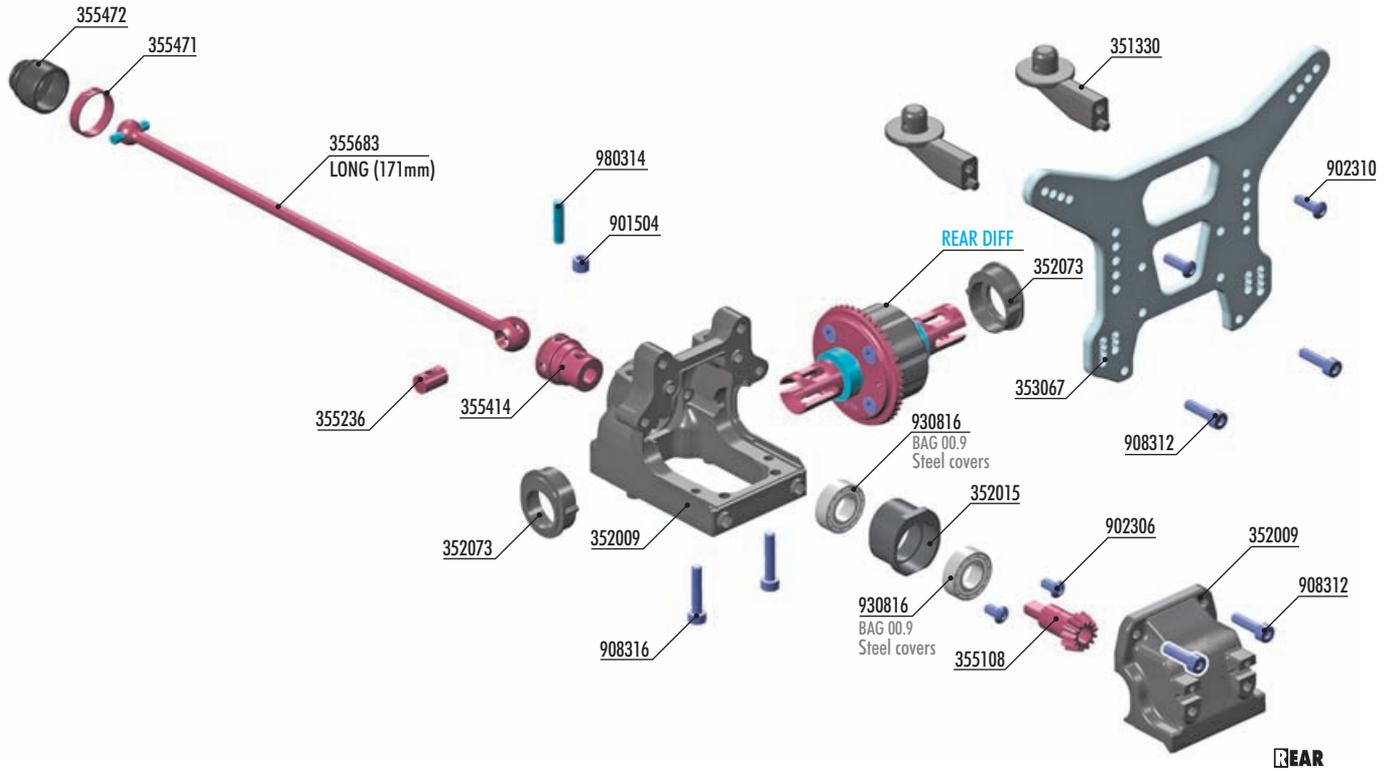
! NOTE ORIENTATION

FRONT

! NOTE ORIENTATION

FRONT

***ALTERNATIVE 2 for 1/8 BRUGGY BODY**
follow page 39/step 2



XRAY BALL-BEARINGS					
OPTION	#930816	8x16x5	GREASE	STEEL	INCLUDED
	#930817	8x16x5	OIL	STEEL	OPTION

BAG

02

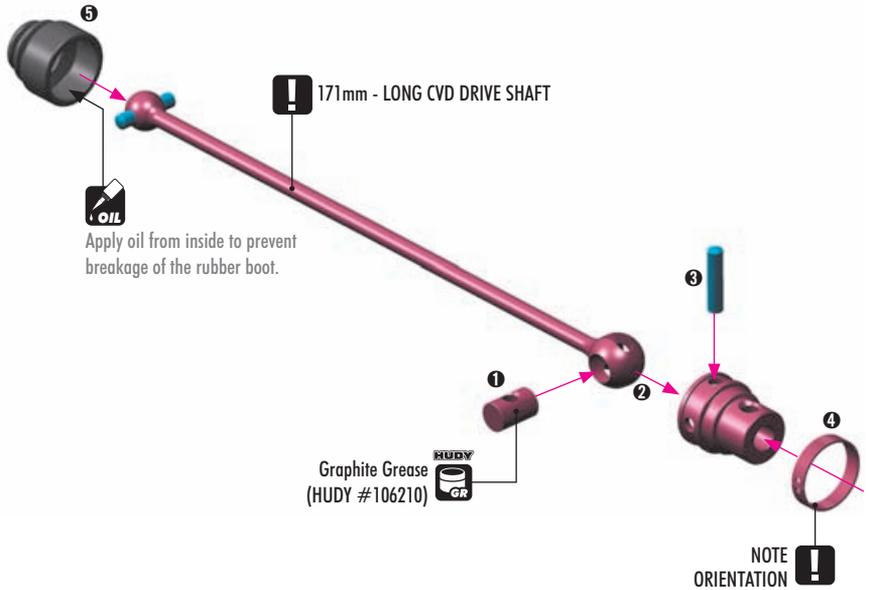
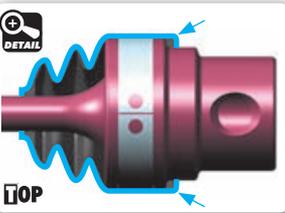
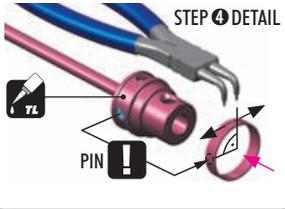
- 351330 COMPOSITE REAR BODY POST - LONG
- 352009 SEMI-SPLIT DIFF BULKHEAD BLOCK SET FRONT/REAR - V2
- 352015 GEARBOX PINION HEIGHT INSERT (1+1)
- 352073 GEARBOX DIFF HEIGHT INSERT (2+2) - V2
- 353067 ALU REAR SHOCK TOWER FOR SEMI-SPLIT BULKHEAD (4MM)
- 355108 BEVEL DRIVE GEAR 10T
- 355236 CVD DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
- 355414 CENTRAL CVD SHAFT UNIVERSAL JOINT - HUDY SPRING STEEL™
- 355683 REAR CVD CENTRAL DRIVE SHAFT 171MM - HUDY SPRING STEEL™
- 355471 DRIVE SHAFT LOCKING RING (2)
- 355472 DRIVE SHAFT BOOT (2)

- 901504 HEX SCREW SB M5x4 (10)
- 902306 HEX SCREW SH M3x6 (10)
- 902310 HEX SCREW SH M3x10 (10)
- 908312 HEX SCREW SOCKET HEAD CAP M3x12 (10)
- 908316 HEX SCREW SOCKET HEAD CAP M3x16 (10)
- 930816 BALL-BEARING 8x16x5 STEEL SEALED - GREASE (2)
- 980314 PIN 3x14 (10)



980314
P 3x14

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



Apply oil from inside to prevent breakage of the rubber boot.

Graphite Grease (HUDY #106210)

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

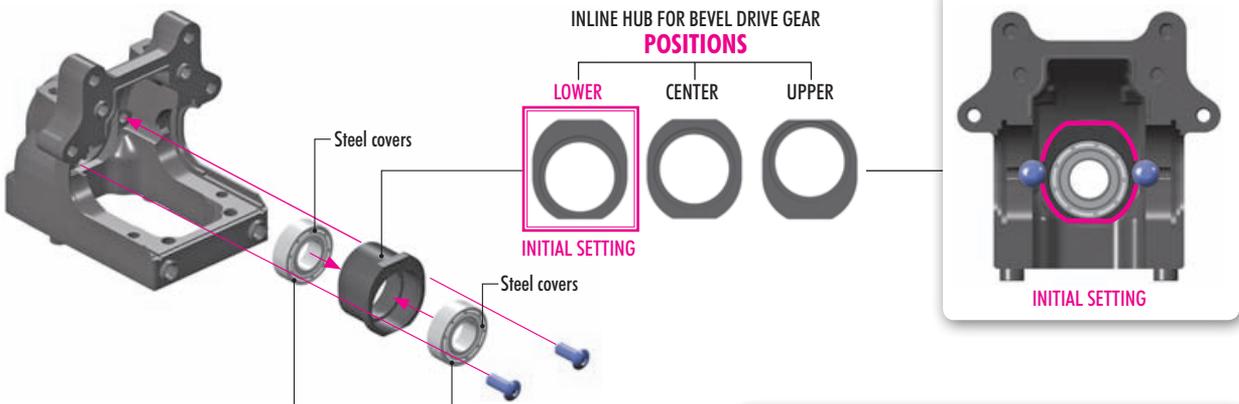
AFTER inserting the clip on the central CVD shaft joint, turn the clip so that the slot is 90° from the pin. This will prevent the pin from opening the dip.



902306
SH M3x6



930816
BB 8x16x5
(Steel covers)

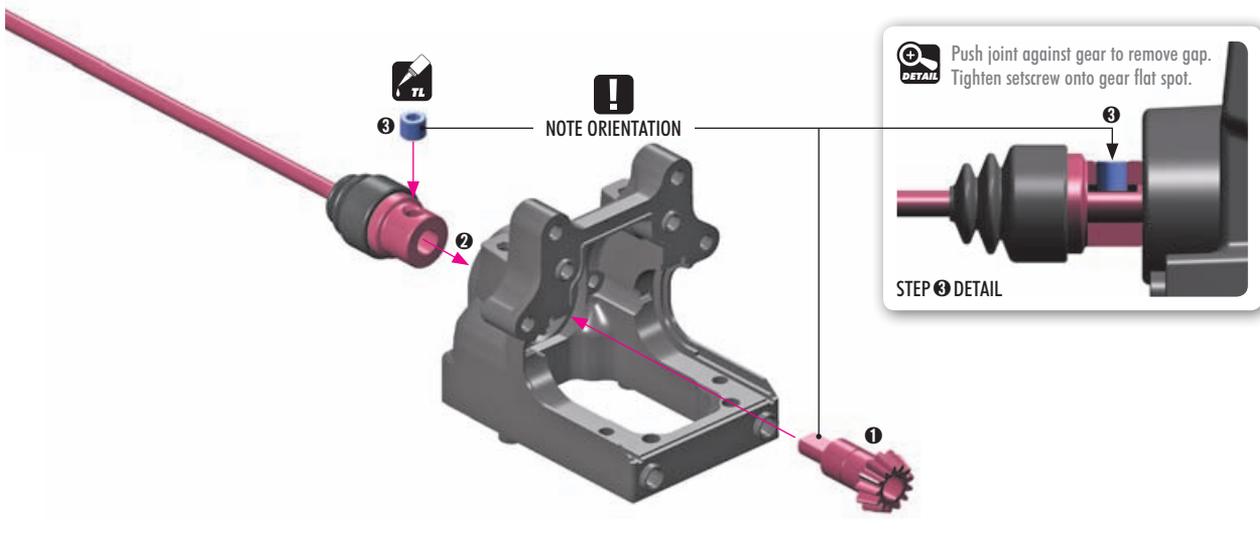


Use HUDY Ball-Bearing Grease
 #106220 - STANDARD
 #106221 - BLUE
 #106222 - RED

XRAY BALL-BEARING				
OPTION	#930816	8x16x5	GREASE	STEEL INCLUDED
	#930817	8x16x5	OIL	STEEL OPTION



901504
SB M5x4



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

STEP 3 DETAIL



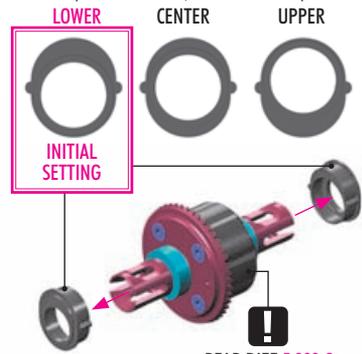
908312
SCH M3x12



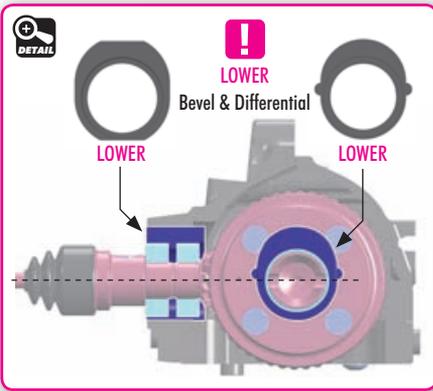
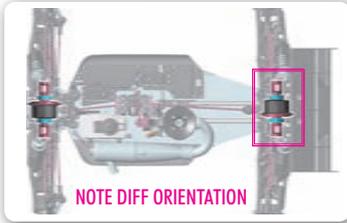
908316
SCH M3x16

! During assembly, there is no need to check gear mesh or diff play. In particular, **DO NOT** check gear mesh and diff play when the differential is installed only in the gear box without the suspension holders and without being mounted to the chassis. All parts have specifically designed play, and only when the car is fully assembled will it have the proper amount of play where necessary. Only once you build the entire car, then you can check for free movement of all rotational parts and drivetrain as well as a free non-binding operation of suspension parts.

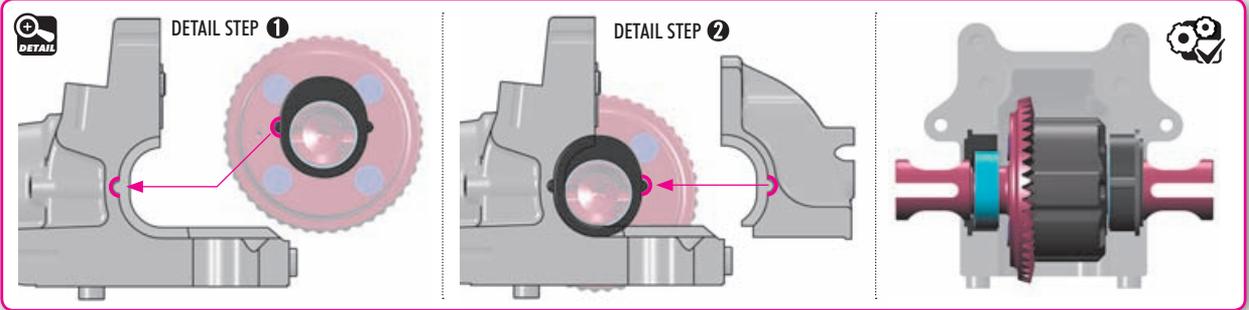
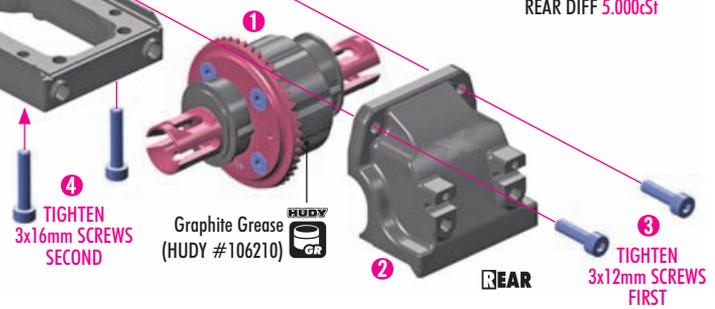
BALL-BEARING HUB POSITIONS



! Tighten 3x12mm screws first, then tighten 3x16 screws.



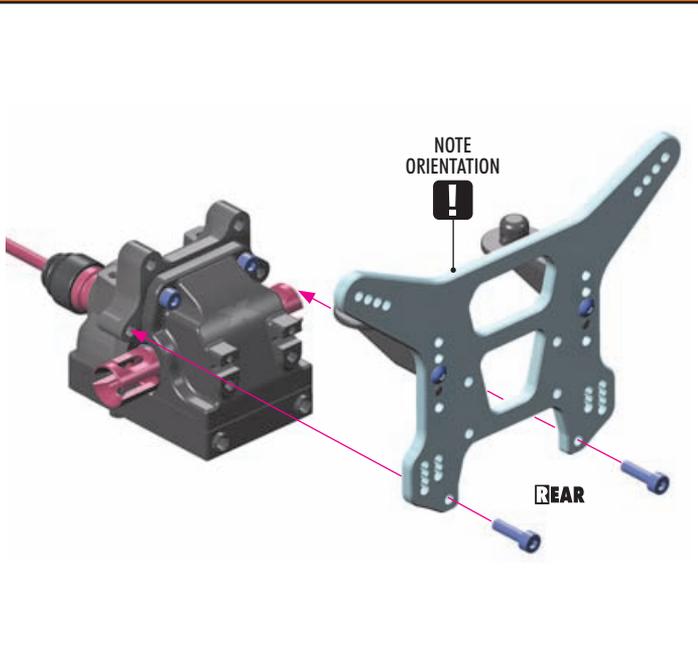
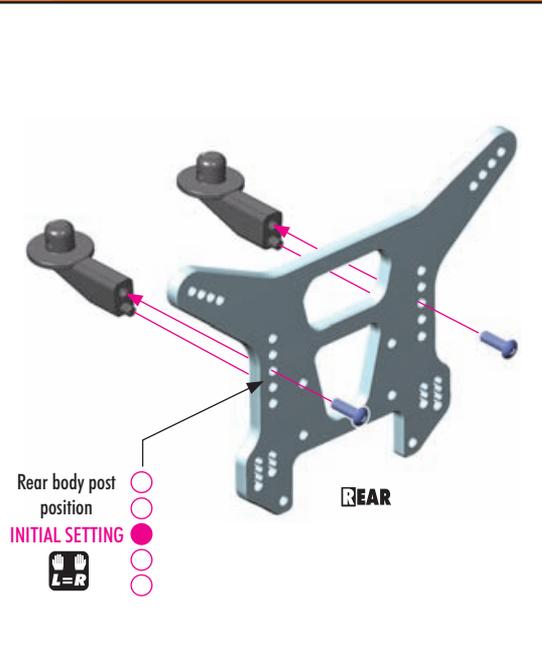
GEAR RATIO
Internal Gear Ratio = **4.30**
43 : 10 = 4.30
(Bevel) (Pinion) (IGR)



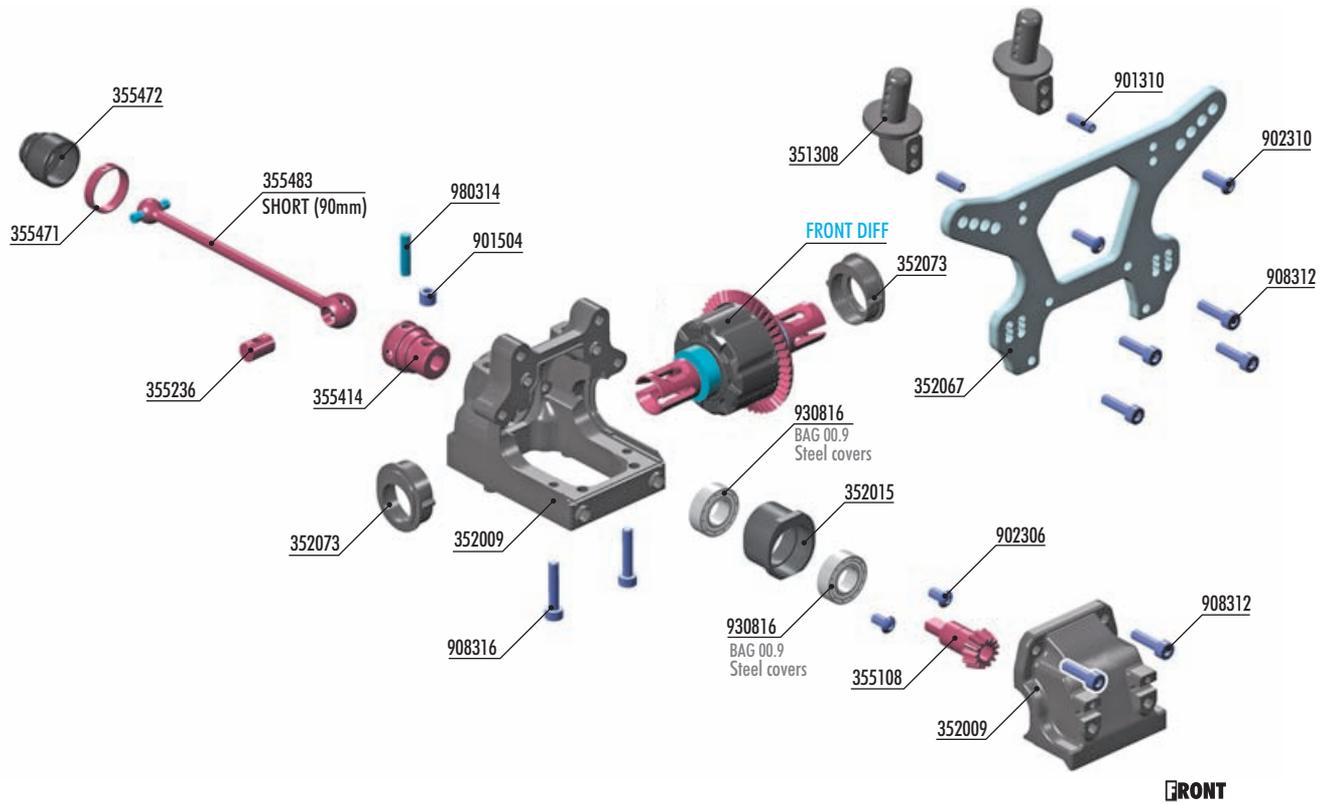
902310
SH M3x10



908312
SCH M3x12



XRAY BALL-BEARINGS					
OPTION	#930816	8x16x5	GREASE	STEEL	INCLUDED
	#930817	8x16x5	OIL	STEEL	OPTION



FRONT

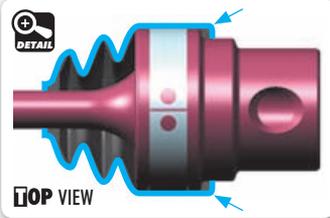
BAG
02

- 351308 BODY POSTS - V2
- 352009 SEMI-SPLIT DIFF BULKHEAD BLOCK SET FRONT/REAR - V2
- 352015 GEARBOX PINION HEIGHT INSERT (1+1)
- 352073 GEARBOX DIFF HEIGHT INSERT (2+2) - V2
- 352067 ALU FRONT SHOCK TOWER FOR SEMI-SPLIT BULKHEAD (4MM)
- 355108 BEVEL DRIVE GEAR 10T
- 355236 CVD DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
- 355414 CENTRAL CVD SHAFT UNIVERSAL JOINT - HUDY SPRING STEEL™
- 355483 FRONT CENTRAL CVD DRIVE SHAFT 90MM - HUDY SPRING STEEL™
- 355471 DRIVE SHAFT LOCKING RING (2)
- 355472 DRIVE SHAFT BOOT (2)

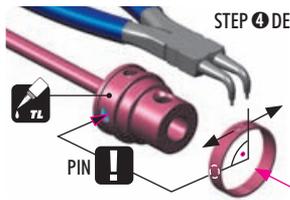
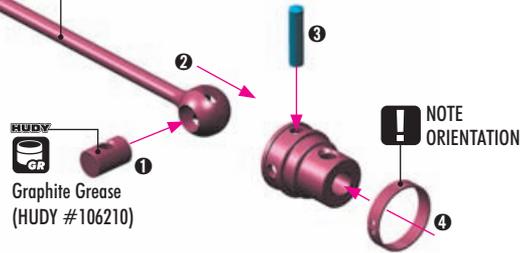
- 901310 HEX SCREW SB M3x10 (10)
- 901504 HEX SCREW SB M5x4 (10)
- 902306 HEX SCREW SH M3x6 (10)
- 902310 HEX SCREW SH M3x10 (10)
- 908312 HEX SCREW SOCKET HEAD CAP M3x12 (10)
- 908316 HEX SCREW SOCKET HEAD CAP SCH M3x16 (10)
- 930816 BALL-BEARING 8x16x5 STEEL SEALED - GREASE (2)
- 980314 PIN 3x14 (10) BODY POSTS - V2



980314
P 3x14



Apply oil from inside to prevent breakage of the rubber boot.
85mm - SHORT CVD DRIVE SHAFT



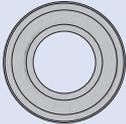
STEP 4 DETAIL The ring can be assembled by hand, but for easy disassembly we recommend using snap ring pliers (HUDY #189040).

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

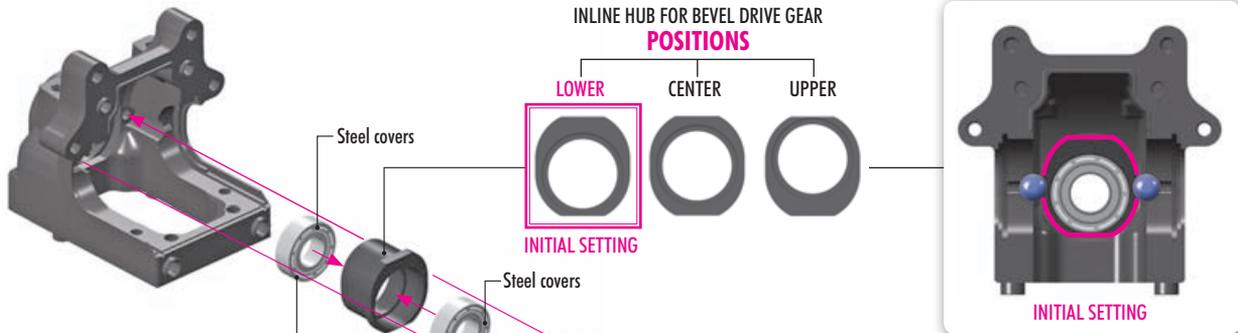
AFTER inserting the clip on the central CVD shaft joint, turn the dip so that the slot is 90° from the pin. This will prevent the pin from opening the clip.



902306
SH M3x6



930816
BB 8x16x5
(Steel covers)



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

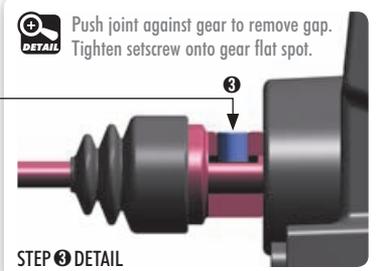
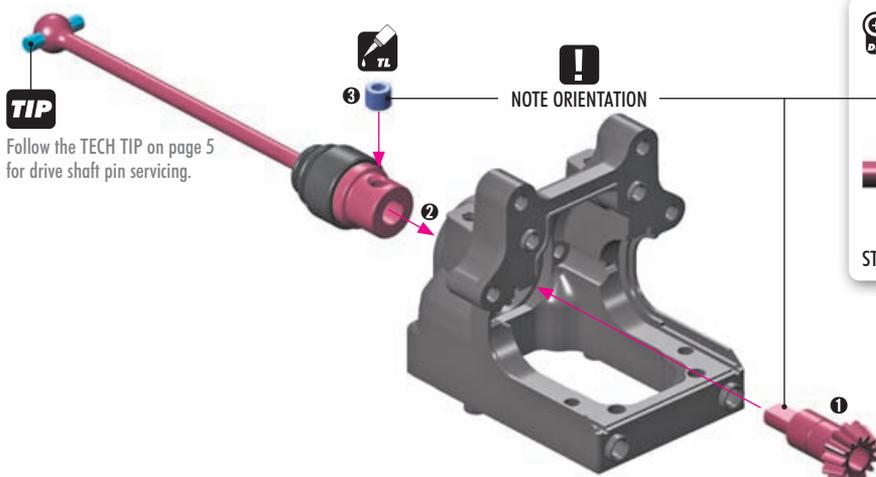


XRAY BALL-BEARING

#930816	8x16x5	GREASE	STEEL	INCLUDED
#930817	8x16x5	OIL	STEEL	OPTION

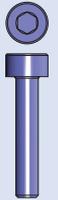


901504
SB M5x4





908312
SCH M3x12



908316
SCH M3x16

! During assembly, there is no need to check gear mesh or diff play. In particular, **DO NOT** check gear mesh and diff play when the differential is installed only in the gear box without the suspension holders and without being mounted to the chassis. All parts have specifically designed play, and only when the car is fully assembled will it have the proper amount of play where necessary. Only once you build the entire car, then you can check for free movement of all rotational parts and drivetrain as well as a free non-binding operation of suspension parts.

BALL-BEARING HUB POSITIONS

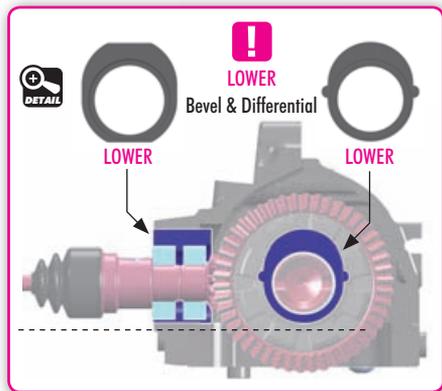
LOWER CENTER UPPER



INITIAL SETTING



! Tighten 3x12mm screws first, then tighten 3x16 screws.



GEAR RATIO
Internal Gear Ratio = **4.10**
43 : 10 = 4.10
(Bevel) (Pinion) (IGR)

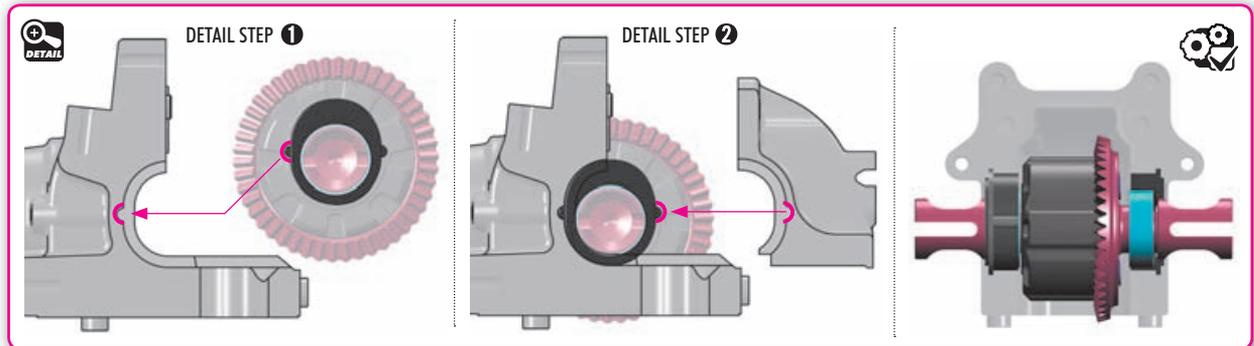
4 TIGHTEN 3x16mm SCREWS SECOND

Graphite Grease (HUDY #106210)

2

FRONT DIFF 10.000cst

3 TIGHTEN 3x12mm SCREWS FIRST



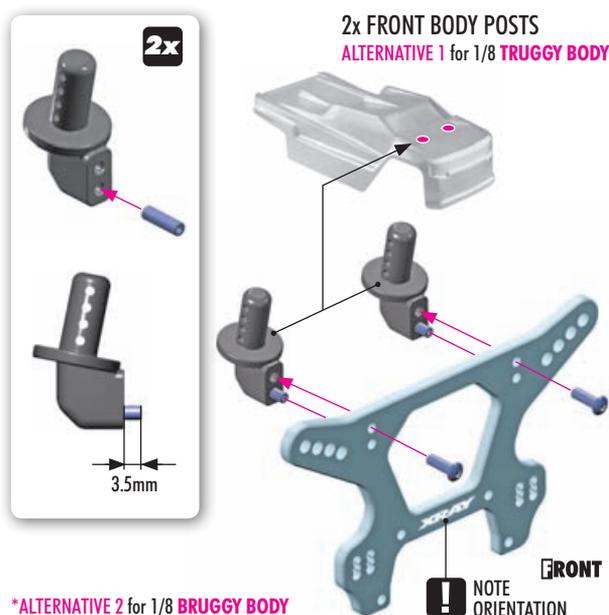
901310
SB M3x10



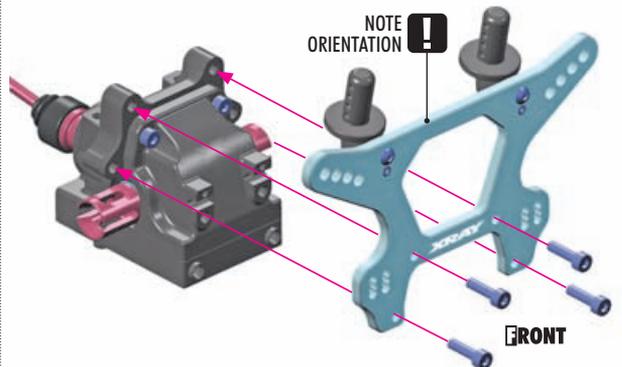
902310
SH M3x10

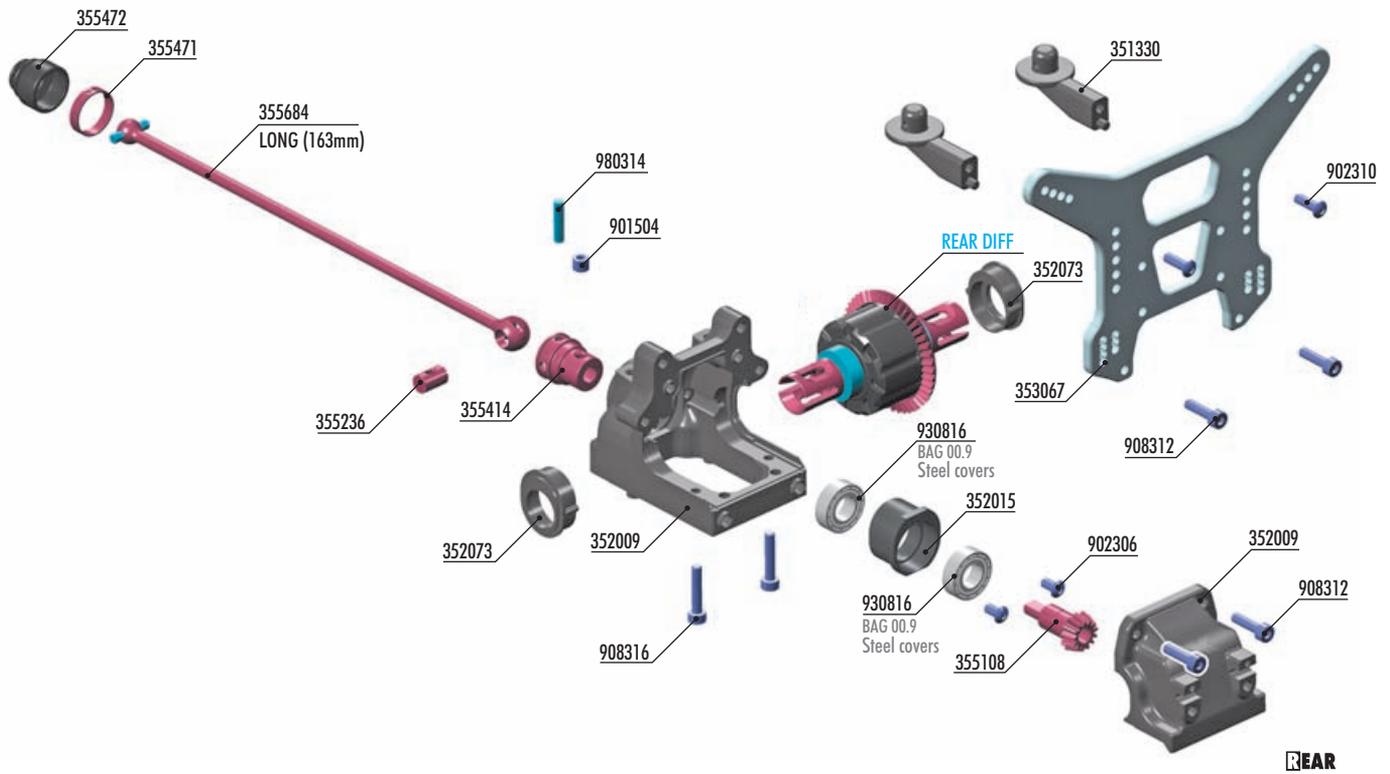


908312
SCH M3x12



*ALTERNATIVE 2 for 1/8 BRUGGY BODY follow page 39/step 2





XRAY BALL-BEARINGS					
OPTION	#930816	8x16x5	GREASE	STEEL	INCLUDED
	#930817	8x16x5	OIL	STEEL	OPTION

BAG

02

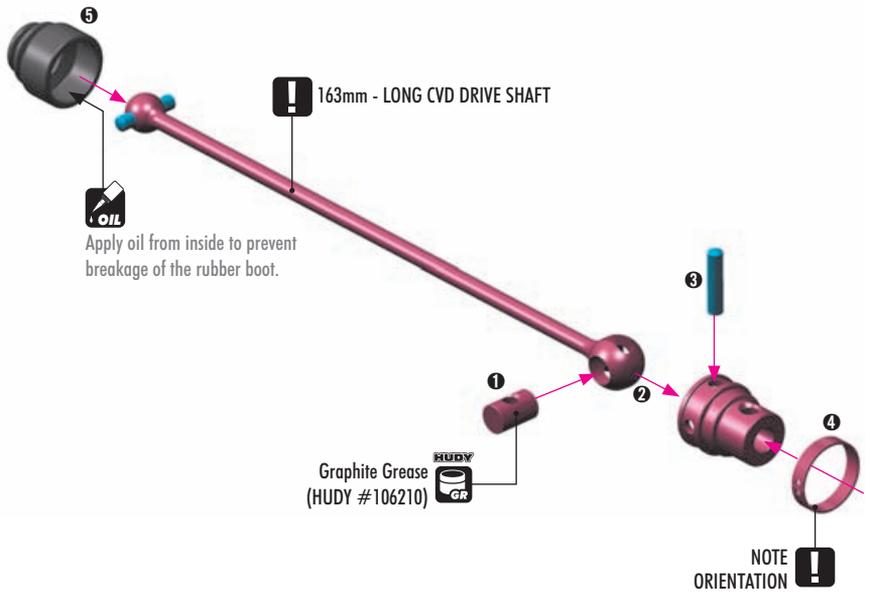
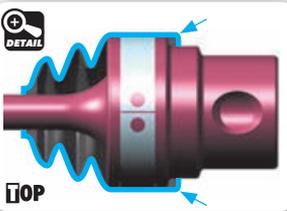
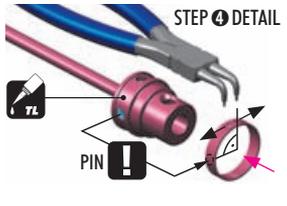
- 351330 COMPOSITE REAR BODY POST - LONG
- 352009 SEMI-SPLIT DIFF BULKHEAD BLOCK SET FRONT/REAR - V2
- 352015 GEARBOX PINION HEIGHT INSERT (1+1)
- 352073 GEARBOX DIFF HEIGHT INSERT (2+2) - V2
- 353067 ALU REAR SHOCK TOWER FOR SEMI-SPLIT BULKHEAD (4MM)
- 355108 BEVEL DRIVE GEAR 10T
- 355236 CVD DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
- 355414 CENTRAL CVD SHAFT UNIVERSAL JOINT - HUDY SPRING STEEL™
- 355684 REAR CVD CENTRAL DRIVE SHAFT 163MM - HUDY SPRING STEEL™
- 355471 DRIVE SHAFT LOCKING RING (2)
- 355472 DRIVE SHAFT BOOT (2)

- 901504 HEX SCREW SB M5x4 (10)
- 902306 HEX SCREW SH M3x6 (10)
- 902310 HEX SCREW SH M3x10 (10)
- 908312 HEX SCREW SOCKET HEAD CAP M3x12 (10)
- 908316 HEX SCREW SOCKET HEAD CAP M3x16 (10)
- 930816 BALL-BEARING 8x16x5 STEEL SEALED - GREASE (2)
- 980314 PIN 3x14 (10)



980314
P 3x14

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.

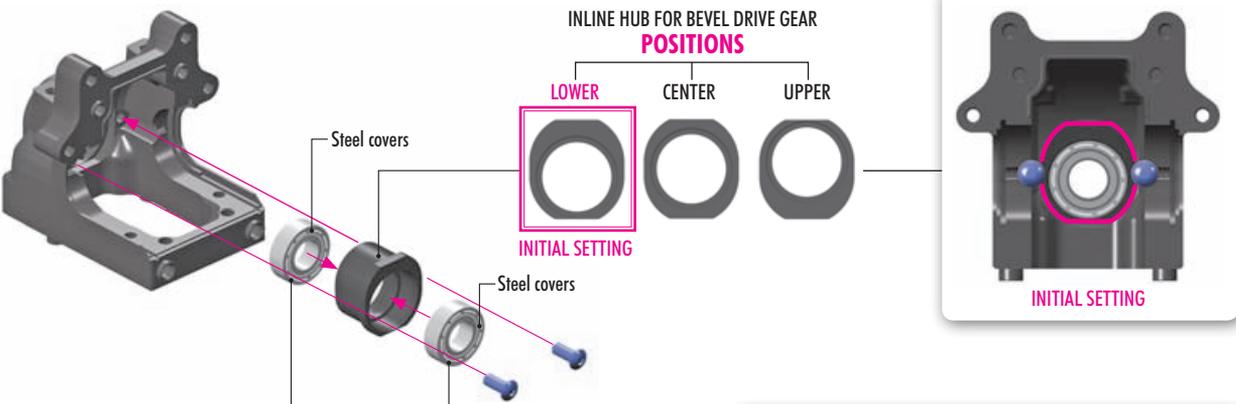
AFTER inserting the clip on the central CVD shaft joint, turn the clip so that the slot is 90° from the pin. This will prevent the pin from opening the clip.



902306
SH M3x6



930816
BB 8x16x5
(Steel covers)



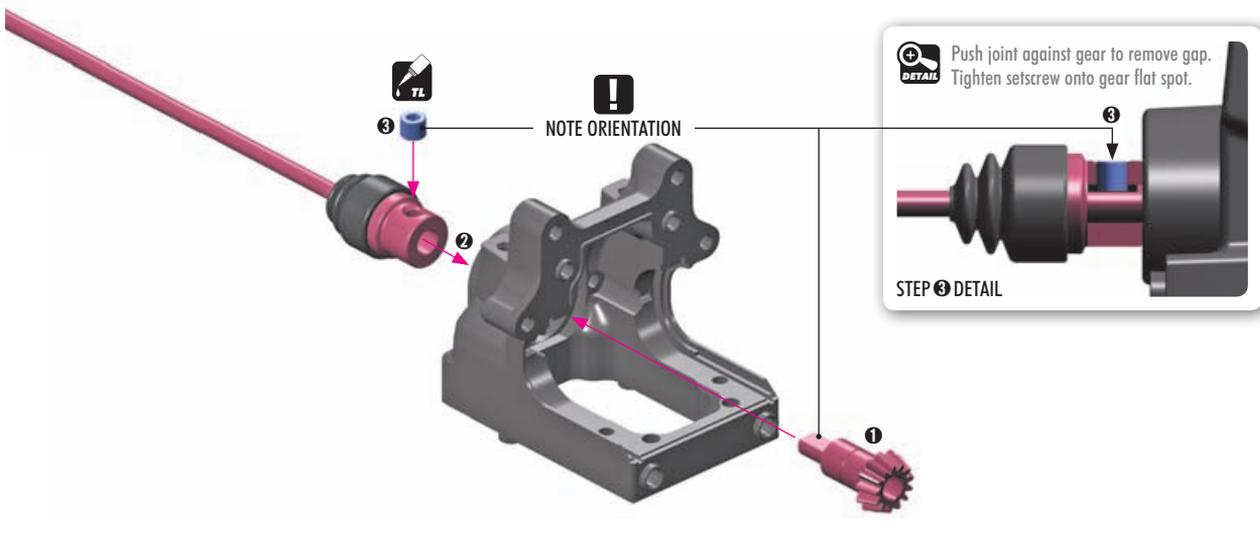
Use HUDY Ball-Bearing Grease

- #106220 - STANDARD
- #106221 - BLUE
- #106222 - RED

OPTION	THUMB UP	XRAY BALL-BEARING				
#930816	8x16x5	GREASE	STEEL	INCLUDED		
#930817	8x16x5	OIL	STEEL	OPTION		



901504
SB M5x4





908312
SCH M3x12



908316
SCH M3x16

! During assembly, there is no need to check gear mesh or diff play. In particular, **DO NOT** check gear mesh and diff play when the differential is installed only in the gear box without the suspension holders and without being mounted to the chassis. All parts have specifically designed play, and only when the car is fully assembled will it have the proper amount of play where necessary. Only once you build the entire car, then you can check for free movement of all rotational parts and drivetrain as well as a free non-binding operation of suspension parts.

GEAR RATIO

Internal Gear Ratio = **4.30**

43 : 10 = 4.30

(Bevel) (Pinion) (IGR)

SADDLE PACK LAYOUT

NOTE DIFF ORIENTATION

DETAIL

! LOWER Bevel & Differential

LOWER LOWER

DETAIL STEP 1

DETAIL STEP 2

BALL-BEARING HUB POSITIONS

LOWER CENTER UPPER

INITIAL SETTING

! REAR DIFF 5.000cSt

! Tighten 3x12mm screws first, then tighten 3x16 screws.

4 TIGHTEN 3x16mm SCREWS SECOND

2 Graphite Grease (HUDY #106210)

3 TIGHTEN 3x12mm SCREWS FIRST



902310
SH M3x10



908312
SCH M3x12

Rear body post position

INITIAL SETTING

L=R

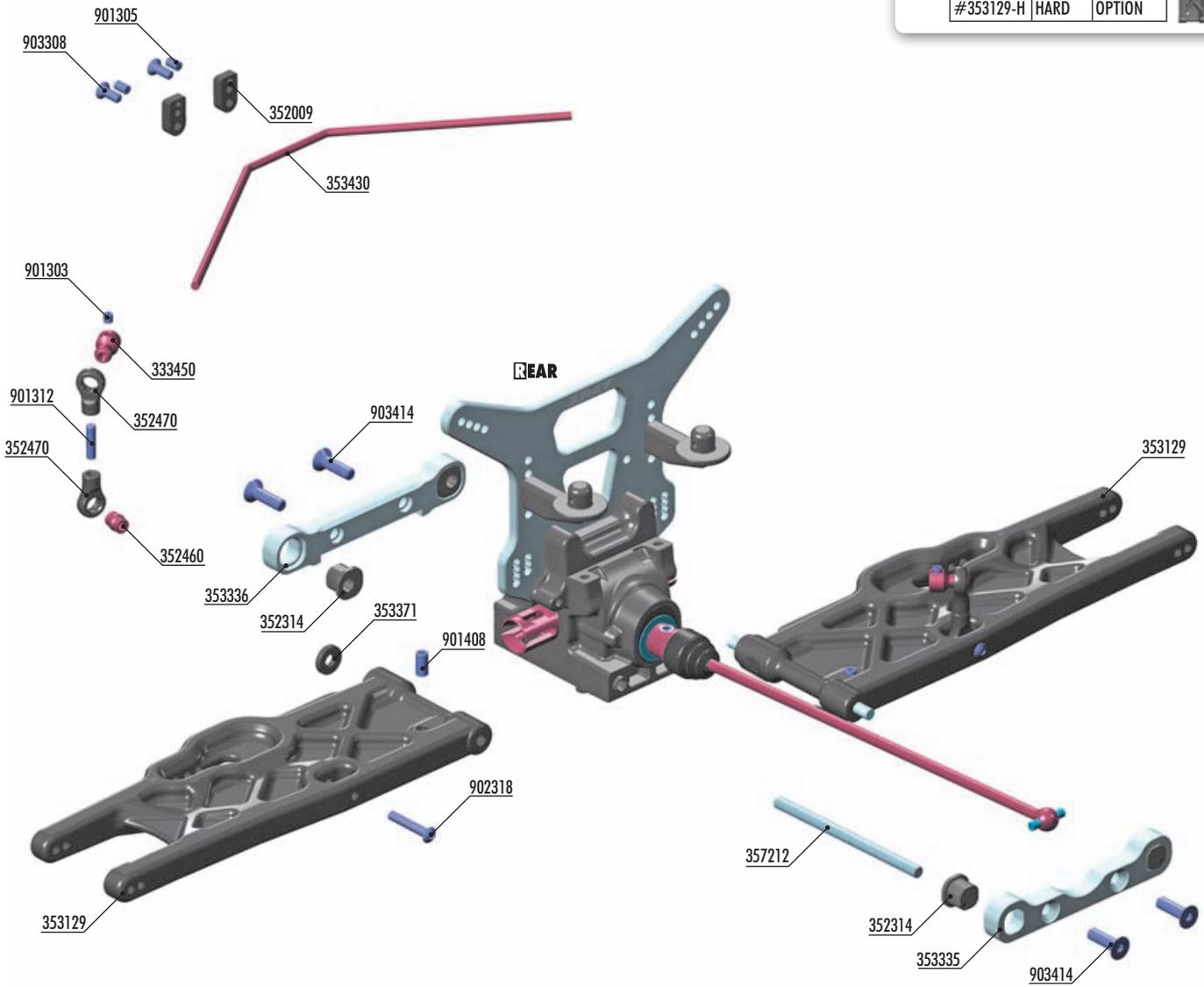
REAR

NOTE ORIENTATION

!

REAR

REAR SUSPENSION ARMS		
OPTION	#353129	MEDIUM INCLUDED
	#353129-H	HARD OPTION



OPTION #902407
 HEX SCREW SH M4x7 WITH HEX FROM BOTTOM (4)

OPTION #333451
 ALU ANTI-ROLL BAR PIVOT BALL 5.8 MM
 - SWISS 7075 T6 - HARDCOATED (2)

REAR ANTI-ROLL BARS		
OPTION	#353420	ø2.0mm OPTION
	#353422	ø2.2mm OPTION
	#353424	ø2.4mm OPTION
	#353425	ø2.5mm OPTION
	#353426	ø2.6mm OPTION
	#353428	ø2.8mm OPTION
	#353430	ø3.0mm INCLUDED
	#353432	ø3.2mm OPTION



- 333450 ANTI-ROLL BAR BALL JOINT 5.8 MM (2)
- 352009 SEMI-SPLIT DIFF BULKHEAD BLOCK SET FRONT/REAR - V2
- 352314 COMPOSITE ECCENTRIC BUSHINGS - V2 (2)
- 352460 PIVOT BALL 5.8 (10)
- 352470 BALL JOINT 5.8 (8)
- 353129 COMPOSITE REAR LOWER SUSPENSION ARM
- 353335 ALU REAR LOWER SUSP. HOLDER FOR SEMI-SPLIT BULKHEAD - FRONT
- 353336 ALU REAR LOWER SUSP. HOLDER FOR SEMI-SPLIT BULKHEAD - REAR
- 353371 SET OF COMPOSITE LOWER ARM SHIMS
- 353430 REAR ANTI-ROLL BAR 3.0MM
- 357212 LOWER INNER PIVOT PIN F+R (2)

- 901303 HEX SCREW SB M3x3 (10)
- 901305 HEX SCREW SB M3x5 (10)
- 901312 HEX SCREW SB M3x12 (10)
- 901408 HEX SCREW SB M4x8 (10)
- 902318 HEX SCREW SH M3x18 (10)
- 903308 HEX SCREW SFH M3x8 (10)
- 903414 HEX SCREW SFH M4x14 (10)



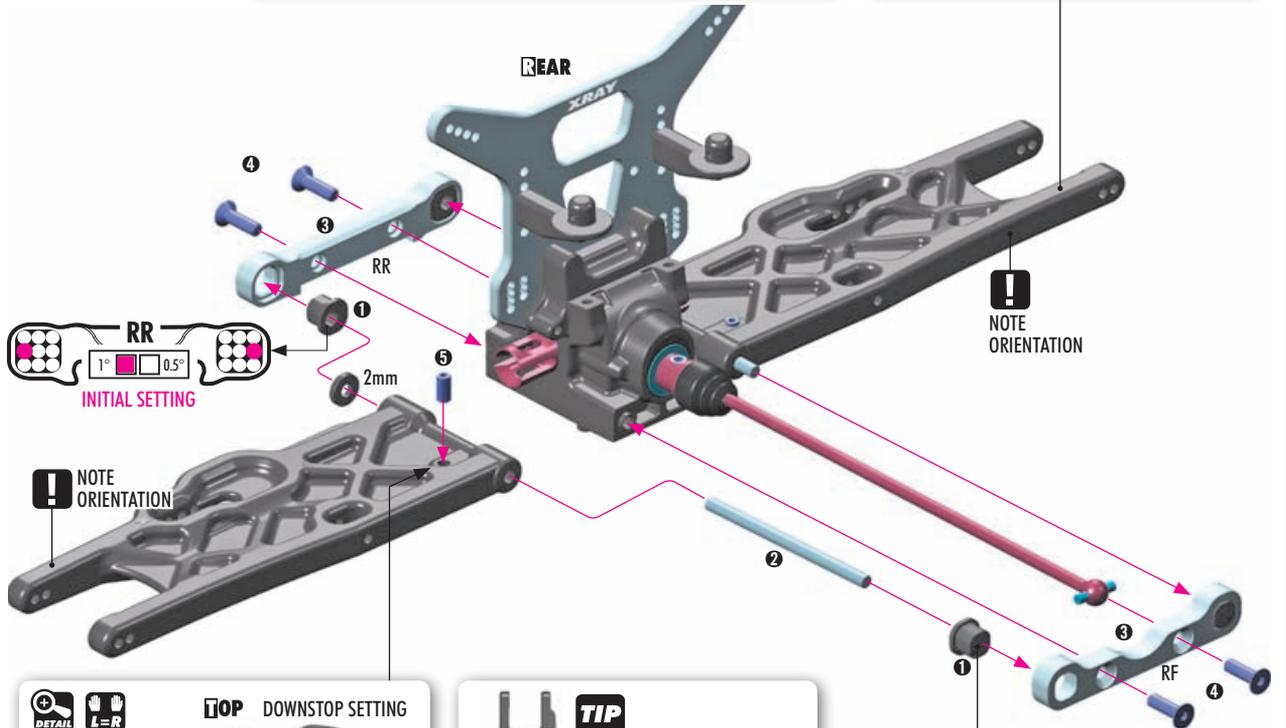
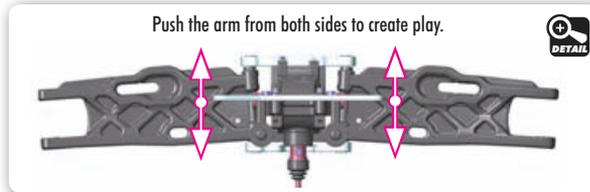
353371
SHIM 4x10x2



901408
SB M4x8



903414
SFH M4x14



DOWNSTOP SETTING

TOP **DOWNSTOP SETTING** **BOTTOM** 3.0mm

#902407 **OPTION**

Downstop screw for fine tuning.

2.0mm Allen

TIP

If the suspension arms DO NOT move freely use a HUDY Arm Reamer to resize the holes of the arms.

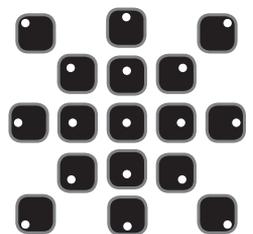
(HUDY #107644)

ARM REAMER

REAR SUSPENSION ARMS

#353129	MEDIUM	INCLUDED
#353129-H	HARD	OPTION

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	(°)
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° offset. The 0.5mm, 0.5° represents the half change.

Anti-Squat Example:

0(RR) - 0 (RF) = 3°

0(RR) - 0.5 (RF) = 3.5°

0(RR) - 1 (RF) = 4°

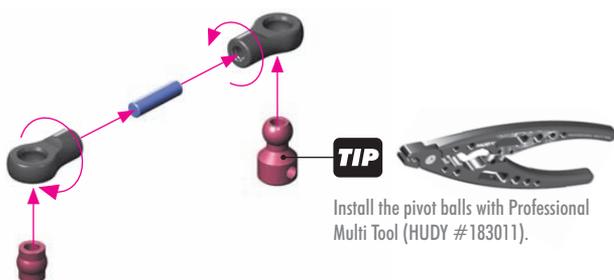
TRACK-WIDTH		
RR	RF	(mm)
0	0	=0
0	0.5	=-2
0	1	=+2

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



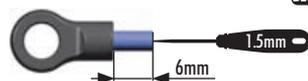
901312
SB M3x12

2x
L=R



TIP

Install the pivot balls with Professional Multi Tool (HUDY #183011).



DETAIL



901303
SB M3x3



901305
SB M3x5

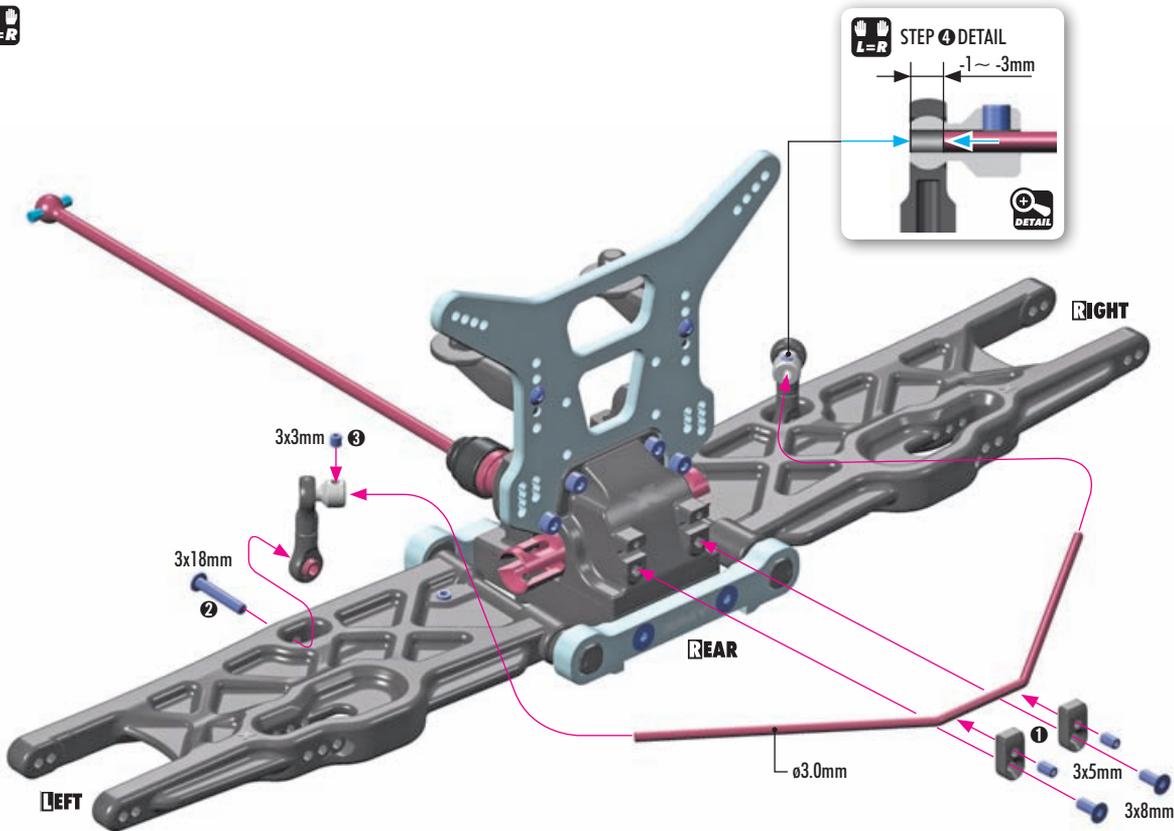


902318
SH M3x18



903308
SFH M3x8

L=R



STEP 4 DETAIL

L=R

-1 ~ -3mm

DETAIL

RIGHT

REAR

LEFT

ø3.0mm

3x5mm

3x8mm

SET-UP BOOK

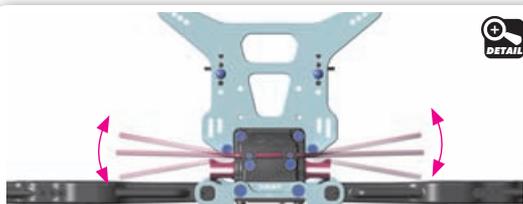
ANTI-ROLL BAR



OPTION

REAR ANTI-ROLL BARS

#353420	ø2.0mm	OPTION
#353422	ø2.2mm	OPTION
#353424	ø2.4mm	OPTION
#353425	ø2.5mm	OPTION
#353426	ø2.6mm	OPTION
#353428	ø2.8mm	OPTION
#353430	ø3.0mm	INCLUDED
#353432	ø3.2mm	OPTION



DETAIL



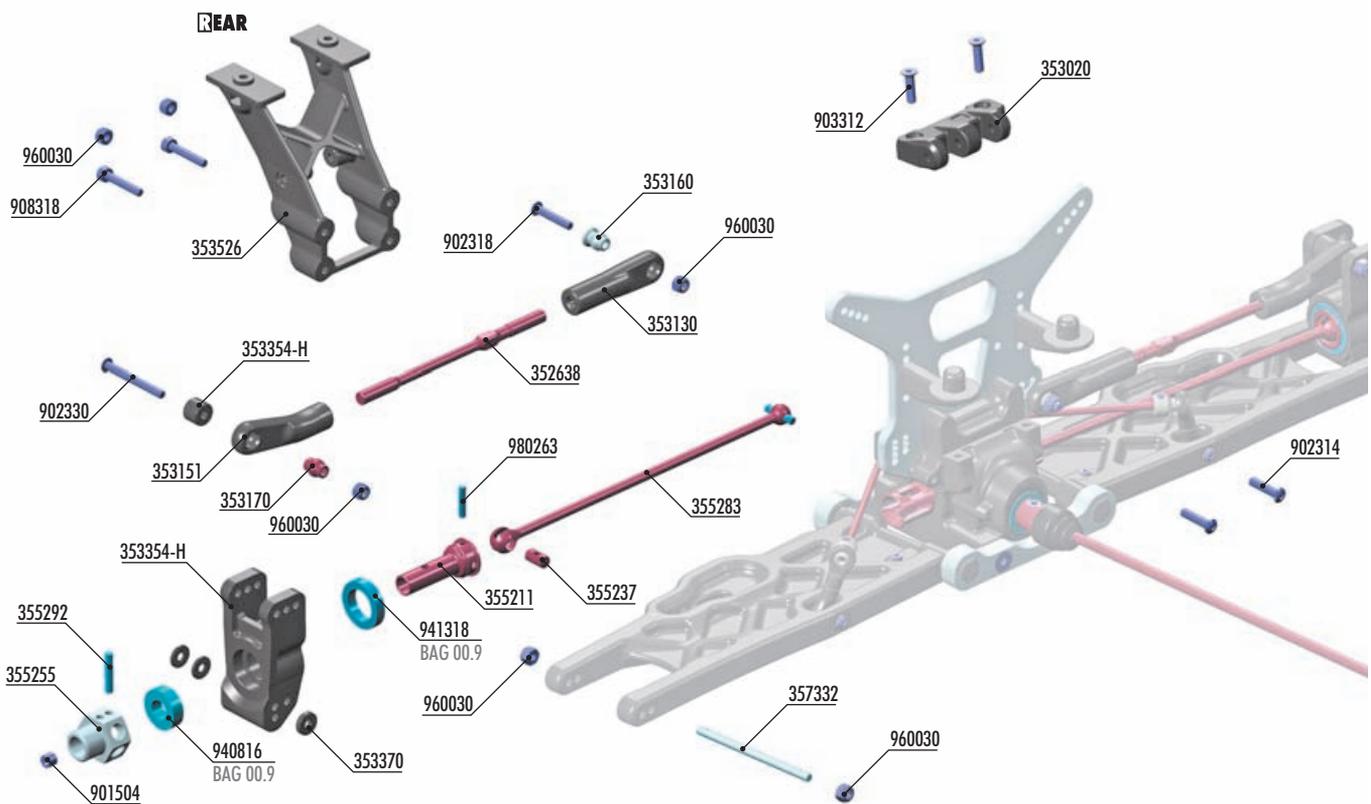
Step 1 check for free movement.



DETAIL

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

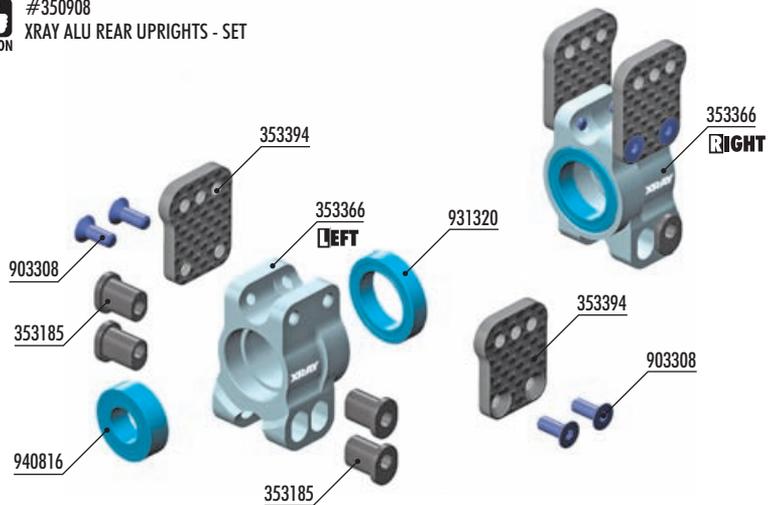
Step 1



OPTION

REAR UPRIGHTS			
#353354	MEDIUM	OPTION	
#353354-H	HARD	INCLUDED	
#353354-G	GRAPHITE	OPTION	
#350908	ALU-SET	OPTION	

OPTION #350908 XRAY ALU REAR UPRIGHTS - SET



- 352638 ADJ. TURNBUCKLE M5 L/R 91 MM - HUDY SPRING STEEL™ (2)
- 353020 COMPOSITE REAR BRACE HOLDER
- 353130 REAR UPPER INNER CAMBER LINK BALL JOINT (2)
- 353151 RELIEF REAR UPPER OUTER CAMBER LINK BALL JOINT (2)
- 353160 MOUNTING BALL 6.8 (4)
- 353170 PIVOT BALL 6.8 (4)
- 353370 SET OF COMPOSITE REAR HUB CARRIER SHIMS
- 353354-H COMPOSITE REAR UPRIGHT - HARD
- 353526 COMPOSITE REAR WING HOLDER FOR SEMI-SPLIT BULKHEAD
- 355211 CVD DRIVE AXLE - HUDY SPRING STEEL™
- 355237 CVD DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
- 355255 ALU WHEEL AXLE OFFSET "+5MM" - HARDCOATED (2)
- 355283 CVD DRIVE SHAFT 138MM - HUDY SPRING STEEL™

- 355292 PIN WITH FLAT SPOT 3x16.8 (2)
- 357332 REAR LOWER OUTER PIVOT PIN (2)
- 901504 HEX SCREW SB M5x4 (10)
- 902314 HEX SCREW SH M3x14 (10)
- 902318 HEX SCREW SH M3x18 (10)
- 902330 HEX SCREW SH M3x30 (10)
- 903312 HEX SCREW SFH M3x12 (10)
- 908318 HEX SCREW SOCKET HEAD CAP M3x18 (10)
- 940816 BALL-BEARING 8x16x5 RUBBER SEALED - GREASE (2)
- 941318 BALL-BEARING 13x19x4 RUBBER SEALED - GREASE (2)
- 960030 NUT M3 (10)
- 980263 PIN 2.5x13 (10)

901504
SB M5x4

940816
BB 8x16x5

941318
BB 13x19x4

980263 P 2.5x13

355292 P 3x16.8

2x **L=R**

NOTE ORIENTATION **!**

2.5x13mm **GR**

13x19x4mm

3x16.8mm

8x16x5mm

NOTE ORIENTATION **!**

Use HUDY Ball-Bearing Grease

GR

#106220 - STANDARD
#106221 - BLUE
#106222 - RED

OPTION **!**

#355215 CVD ADJUSTABLE DRIVE AXLE - HUDY SPRING STEEL™ (2)

OPTION **!**

OFFSET WHEEL AXLES		
#355251	0mm	OPTION
#355251	+1mm	OPTION
#355252	+2mm	OPTION
#355255	+5mm	INCLUDED

OPTION **!**

REAR UPRIGHTS		
#353354	MEDIUM	OPTION
#353354-H	HARD	INCLUDED
#353354-G	GRAPHITE	OPTION
#350908	ALU-SET	OPTION

NOTE ORIENTATION **!**

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

2.5mm

DETAIL

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.

REAR

Shims for wheelbase adjustment

2mm

2mm

DO NOT overtighten the self-locking nut. Overtightening may result in suspension binding.

TIP **ARM REAMER**

If the rear upright does not move freely, use a HUDY Arm Reamer to resize the hole (HUDY #107643).

INITIAL SETTING **!**

INITIAL SETTING **!**

DETAIL

DETAIL Check for free movement.

2x **L=R**

RIGHT LINKAGE

LEFT THREAD

RIGHT THREAD

TIP

Install the pivot balls with Professional Multi Tool (HUDY #183011).

LEFT LINKAGE

RIGHT THREAD

LEFT THREAD

Use tools to tighten as shown.

Special Tool for all turnbuckles, nuts (HUDY #108090).

RIGHT

Right thread 56.5mm Left thread

LEFT

Left thread 56.5mm Right thread

SET-UP BOOK
CAMBER

4. REAR SUSPENSION

XT8E XT8

2x

902318
SH M3x18

902330
SH M3x30

960030
N M3

REAR

NOTE ORIENTATION

3x18mm

3x30mm

INITIAL SETTING

INITIAL SETTING

L=R

DETAIL

903312
SFH M3x12

REAR

902314
SH M3x14

908318
SCH M3x18

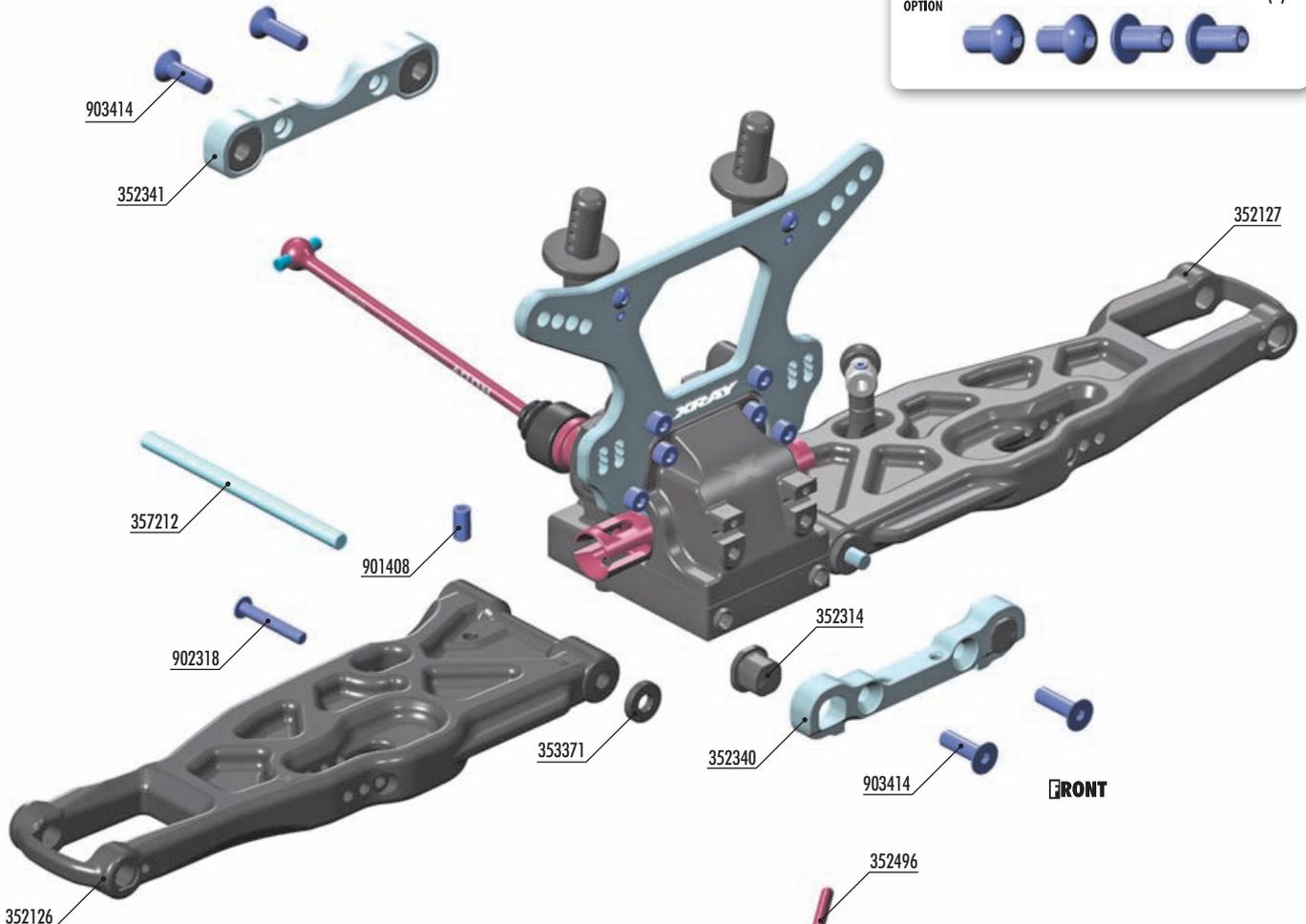
960030
N M3

3x14mm

REAR

3x18mm

#902407
 HEX SCREW SH M4x7 WITH HEX FROM BOTTOM (4)
 OPTION



FRONT ANTI-ROLL BARS

#352489	1.8mm	OPTION
#352490	2.0mm	OPTION
#352492	2.2mm	OPTION
#352493	2.3mm	OPTION
#352494	2.4mm	OPTION
#352495	2.5mm	OPTION
#352496	2.6mm	INCLUDED
#352498	2.8mm	OPTION

#333451
 ALU ANTI-ROLL BAR PIVOT BALL 5.8 MM - SWISS 7075 T6 - HARDCOATED (2)
 OPTION

FRONT SUSPENSION ARMS

#352126	RIGHT	MEDIUM	INCLUDED
#352126-H	RIGHT	HARD	OPTION
#352127	LEFT	MEDIUM	INCLUDED
#352127-H	LEFT	HARD	OPTION

- | | | |
|------------------------------------|---|--|
| <p>BAG</p> <p>05</p> | <ul style="list-style-type: none"> 333450 ANTI-ROLL BAR BALL JOINT 5.8 MM (2) 352009 SEMI-SPLIT DIFF BULKHEAD BLOCK SET FRONT/REAR - V2 352126 COMPOSITE FRONT LOWER SUSPENSION ARM RIGHT 352127 COMPOSITE FRONT LOWER SUSPENSION ARM LEFT 352340 ALU FRONT LOWER SUSP. HOLDER FOR SEMI-SPLIT BULKHEAD - FRONT 352341 ALU FRONT LOWER SUSP. HOLDER FOR SEMI-SPLIT BULKHEAD - REAR 352314 COMPOSITE SQUARE ADJ. ROLL CENTER BUSHINGS - V2 (2) 352460 PIVOT BALL 5.8 (10) 352470 BALL JOINT 5.8 (8) 352496 FRONT ANTI-ROLL BAR 2.6MM 353371 SET OF COMPOSITE LOWER ARM SHIMS | <ul style="list-style-type: none"> 357212 LOWER INNER PIVOT PIN F+R (2) 901303 HEX SCREW SB M3x3 (10) 901305 HEX SCREW SB M3x5 (10) 901312 HEX SCREW SB M3x12 (10) 901408 HEX SCREW SB M4x8 (10) 902318 HEX SCREW SH M3x18 (10) 903308 HEX SCREW SFH M3x8 (10) 903414 HEX SCREW SFH M4x14 (10) |
|------------------------------------|---|--|



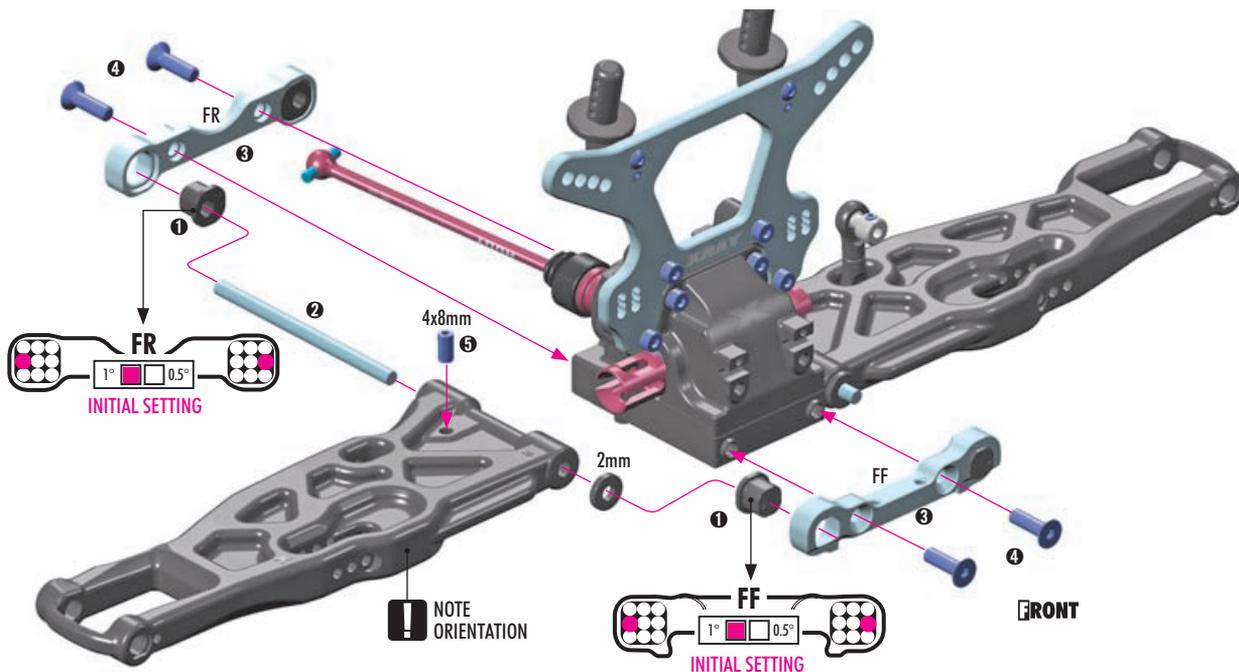
353371
SHIM 4x10x2



901408
SB M4x8



903414
SFH M4x14



TOP DOWNSTOP SETTING

L=R

BOTTOM 1.3mm

#902407 OPTION

Downstop screw for fine tuning.

L=R

TIP

If the suspension arms DO NOT move freely, use a HUDY Arm Reamer to resize the holes (HUDY #107644).

ARM REAMER

FRONT SUSPENSION ARMS

OPTION	Part #	Side	Stiffness	Status
	#352126	RIGHT	MEDIUM	INCLUDED
	#352126-H	RIGHT	HARD	OPTION
	#352127	LEFT	MEDIUM	INCLUDED
	#352127-H	LEFT	HARD	OPTION

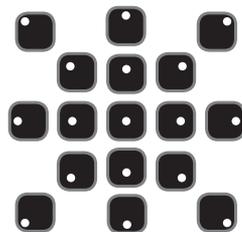
DETAIL

Check for free movement.

DETAIL

Push the arm from both sides to create play.

All possible mounting alternatives of eccentric bushings.



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

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 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)
[Diagram]	[Diagram]	=0
[Diagram]	[Diagram]	=-2
[Diagram]	[Diagram]	=+2

ROLL CENTER

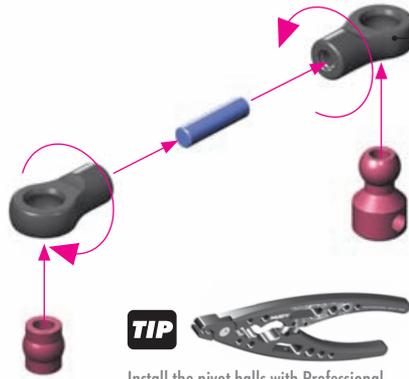
FF	FR	(mm)
[Diagram]	[Diagram]	=1
[Diagram]	[Diagram]	=0
[Diagram]	[Diagram]	=-1

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° offset. The 0.5mm, 0.5° represents the half change.



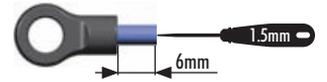
901312
SB M3x12

2x L=R



TIP

Install the pivot balls with Professional Multi Tool (HUDY #183011).



901303
SB M3x3



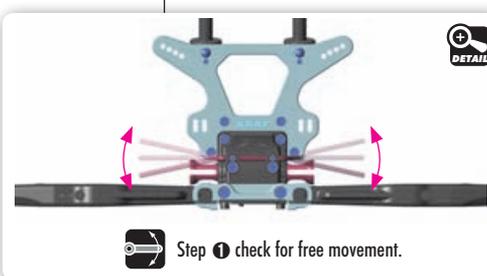
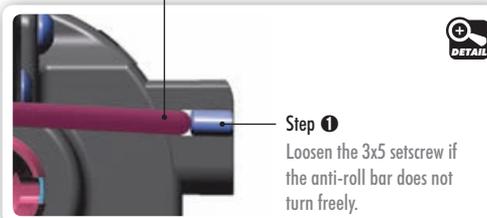
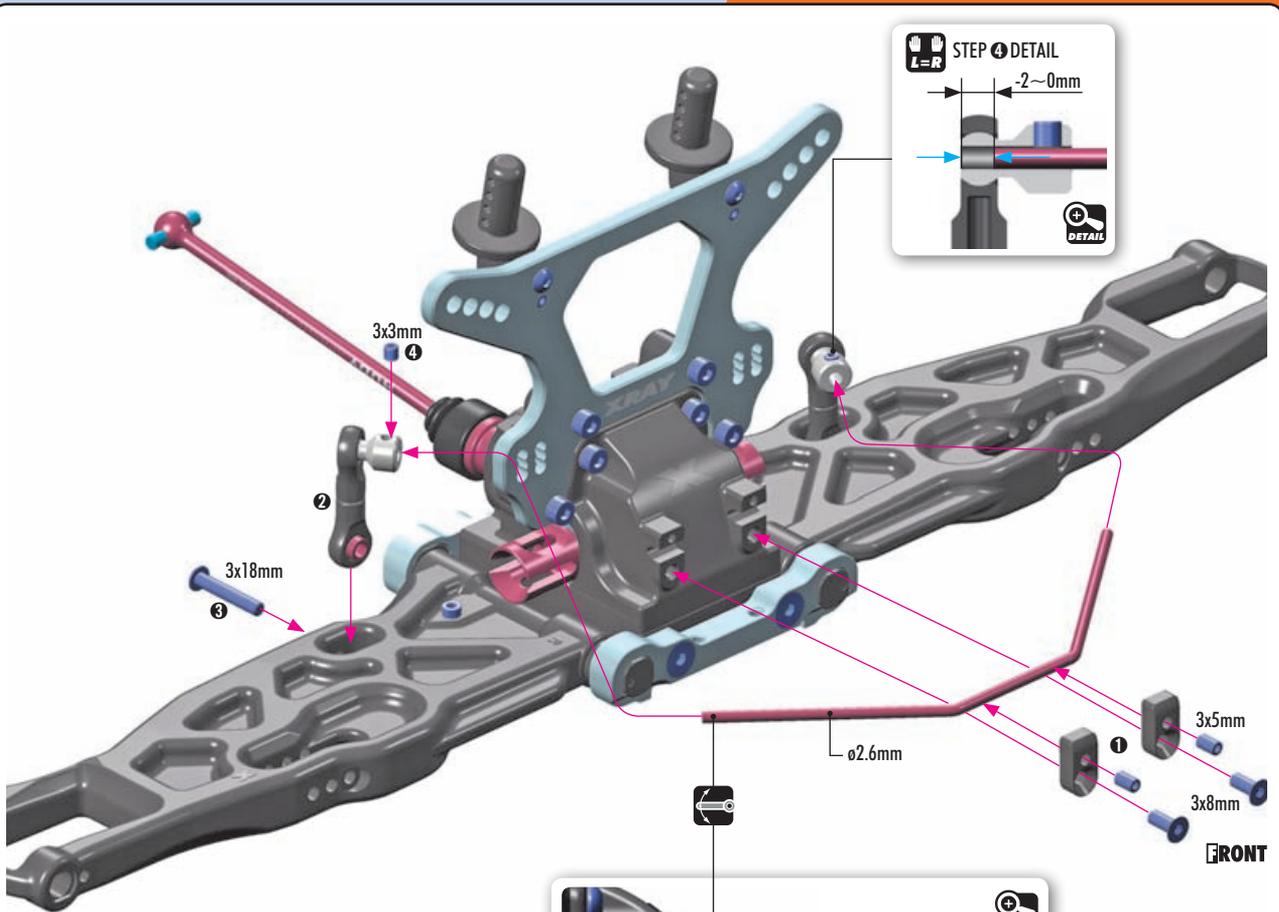
901305
SB M3x5



902318
SH M3x18

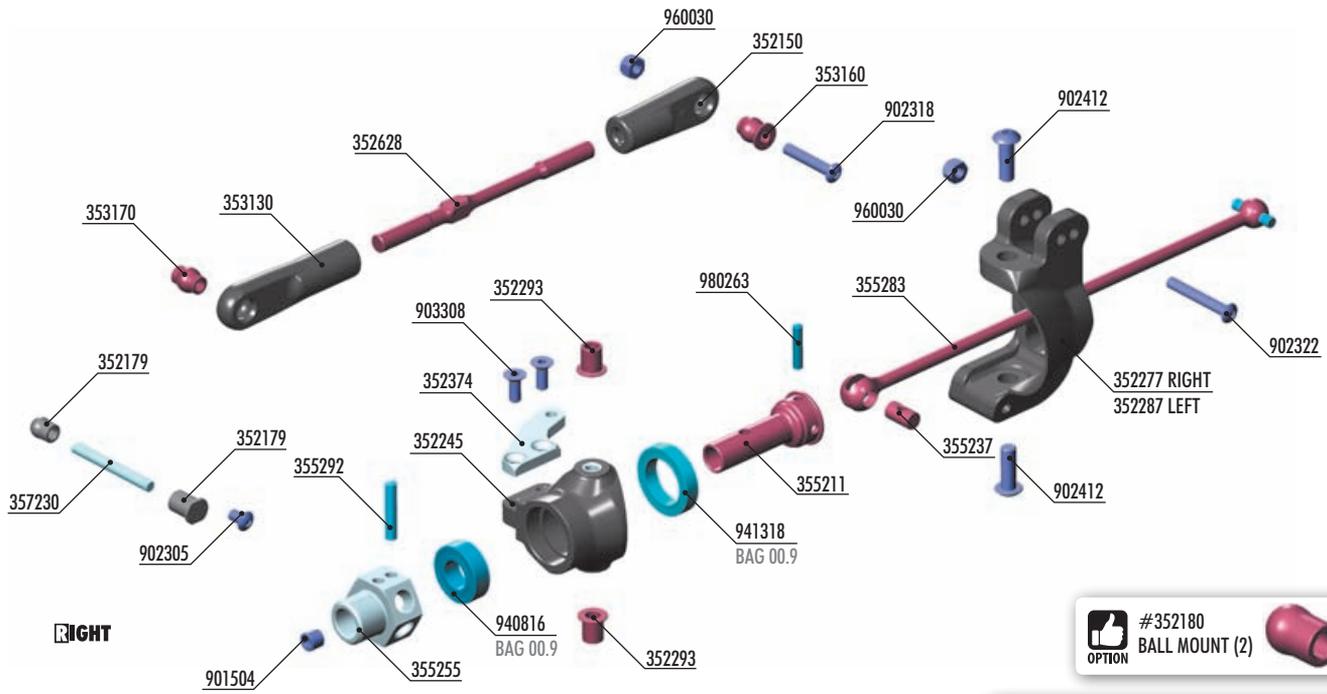


903308
SFH M3x8



OPTION	FRONT ANTI-ROLL BARS		
#352489	1.8mm	OPTION	
#352490	2.0mm	OPTION	
#352492	2.2mm	OPTION	
#352493	2.3mm	OPTION	
#352494	2.4mm	OPTION	
#352495	2.5mm	OPTION	
#352496	2.6mm	INCLUDED	
#352498	2.8mm	OPTION	

SET-UP BOOK
ANTI-ROLL BAR



#352180
OPTION BALL MOUNT (2)

OFFSET WHEEL AXLES

OPTION #352180	0mm	OPTION
#35251	+1mm	OPTION
#35252	+2mm	OPTION
#35255	+5mm	INCLUDED

ECCENTRIC BUSHINGS

OPTION #352170	0° - STEEL	OPTION
#352174	1° - STEEL	OPTION
#352175	2° - STEEL	OPTION
#352179	0° - COMP.	INCLUDED

#350906
OPTION XRAY XT8 ALU FRONT SUSPENSION CONVERSION SET - V2

STEERING BLOCK

OPTION #352245	COMPOSITE	INCLUDED
#352254	ALU*	OPTION

CASTER BLOCKS

OPTION #352273	18° RIGHT	ALU*	OPTION
#352277	16° RIGHT	COMP.	INCLUDED
#352283	18° LEFT	ALU*	OPTION
#352287	16° LEFT	COMP.	INCLUDED

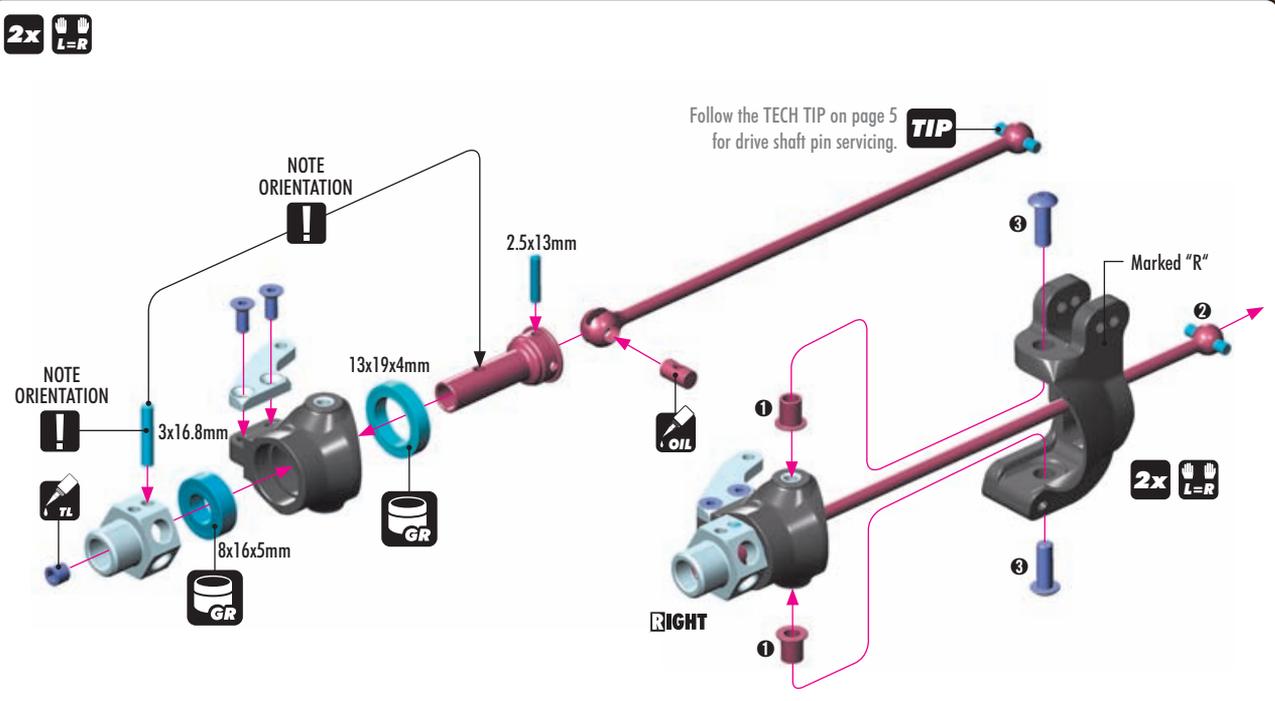
*To use alu C-hub and alu steering blocks you need to use also these additional parts:
 *#352655 - Ball Stud 6.8mm with Backstop L=6mm - M4 (2)
 *#352292 - Steel Steering Block Pivot Pin (2)
 *#352294 - Composite Bushing for Alu Caster Block (2)



- 352150 FRONT UPPER ARM BALL JOINT (2)
- 352179 COMPOSITE BUSHING & BALL MOUNT SET (2+2)
- 352245 C-HUB STEERING BLOCK LB WITH ALU INSERTS
- 352277 COMPOSITE C-HUB 16° RIGHT
- 352287 COMPOSITE C-HUB 16° LEFT
- 352374 ALU STEERING PLATE - SWISS 7075 T6 (L+R)
- 352293 STEEL C-HUB BUSHING (2)
- 352628 ADJ. TURNBUCKLE M5 L/R 75 MM - SPRING STEEL (2)
- 353130 REAR UPPER INNER CAMBER LINK BALL JOINT (2)
- 353160 MOUNTING BALL 6.8 (4)
- 353170 PIVOT BALL 6.8 (4)
- 355211 CVD DRIVE AXLE - HUDY SPRING STEEL™
- 355237 CVD DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
- 355255 ALU WHEEL AXLE OFFSET "+5MM" - HARDCOATED (2) - LIGHTWEIGHT

- 355283 CVD DRIVE SHAFT 138MM - HUDY SPRING STEEL™
- 355292 PIN WITH FLAT SPOT 3x16.8 (2)
- 357230 FRONT LOWER OUTER PIVOT PIN (2)
- 901504 HEX SCREW SB M5x4 (10)
- 902305 HEX SCREW SH M3x5 (10)
- 902318 HEX SCREW SH M3x18 (10)
- 902322 HEX SCREW SH M3x22 (10)
- 902412 HEX SCREW SH M4x12 (10)
- 903308 HEX SCREW SFH M3x8 (10)
- 940816 BALL-BEARING 8x16x5 RUBBER SEALED - GREASE (2)
- 941318 BALL-BEARING 13x19x4 RUBBER SEALED - GREASE (2)
- 960030 NUT M3 (10)
- 980263 PIN 2.5x13 (10)

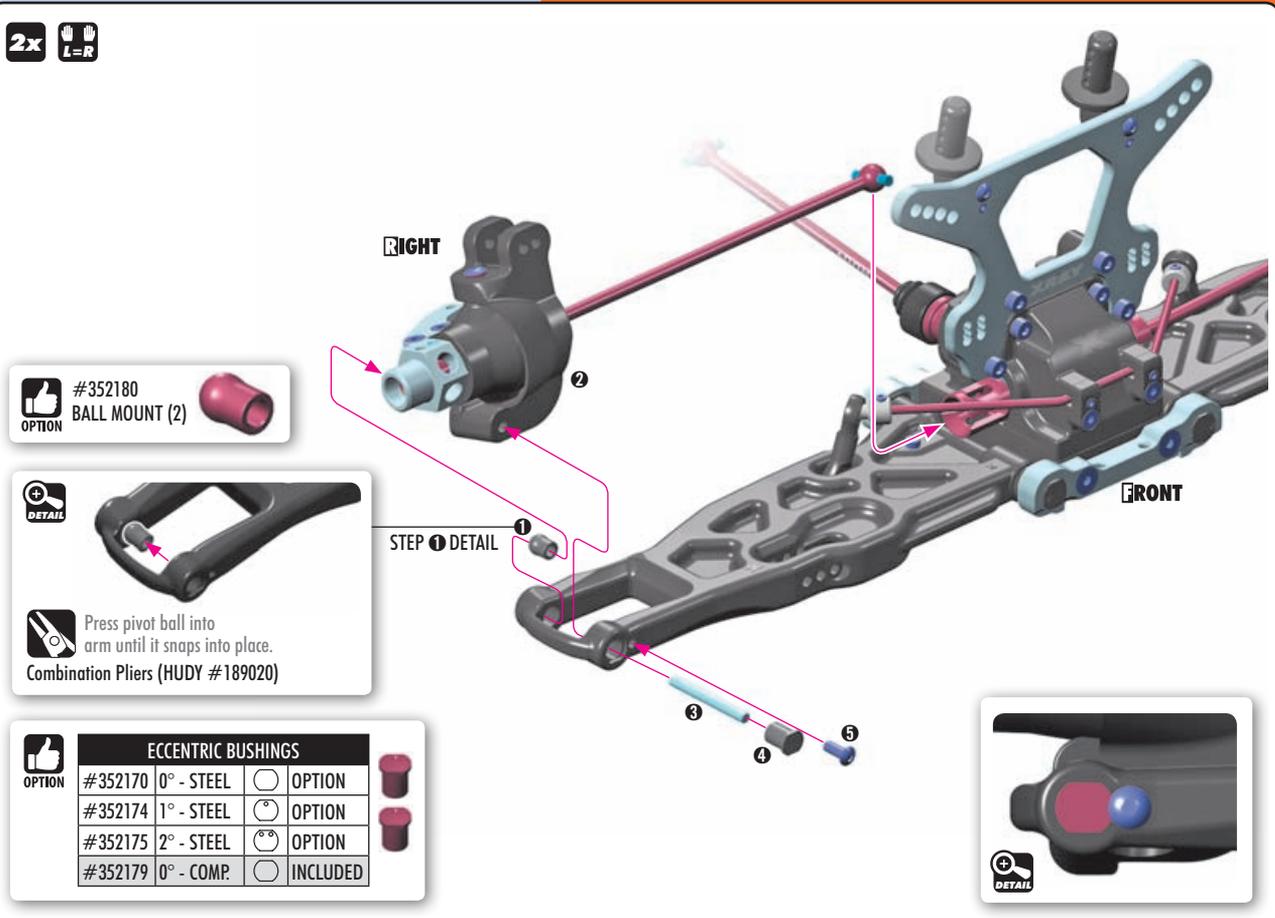
2x **L=R**
 901504 SB M5x4
 902412 SH M4x12
 940816 BB 8x16x5
 941318 BB 13x19x4
 355292 P 3x16.8
 980263 P 2.5x13



OFFSET WHEEL AXLES

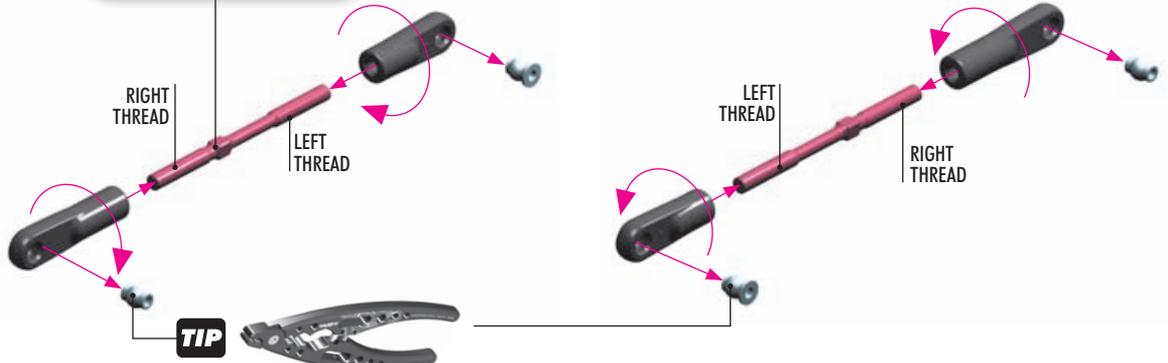
#355251	0mm	OPTION
#355251	+1mm	OPTION
#355252	+2mm	OPTION
#355255	+5mm	INCLUDED

2x **L=R**
 902305 SH M3x5





Use tools to tighten as shown.



TIP
Install the pivot balls with Professional Multi Tool (HUDY #183011).



SET-UP BOOK

CAMBER



902318
SH M3x18

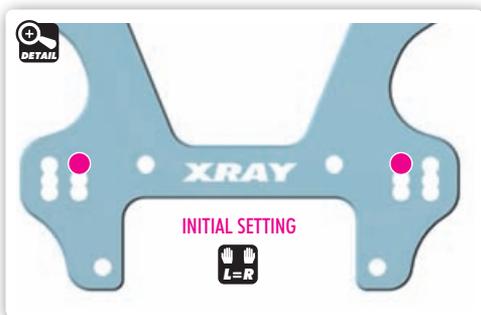
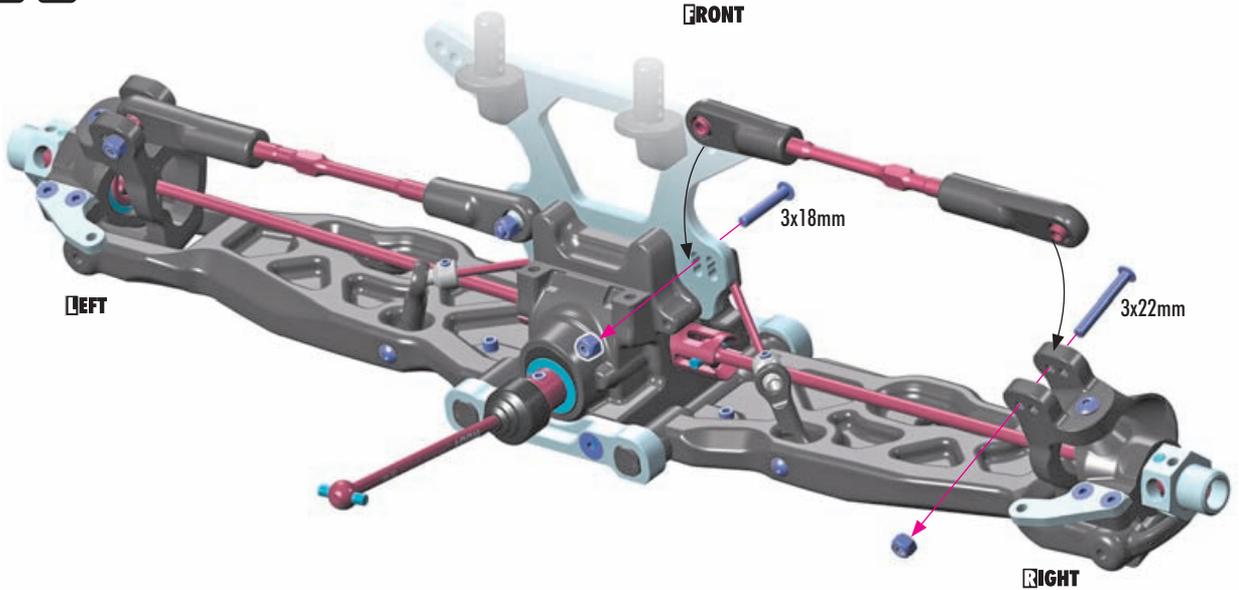


902322
SH M3x22



960030
N M3

2x L=R

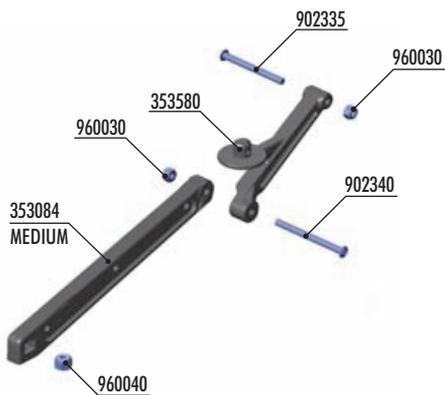


SET-UP BOOK

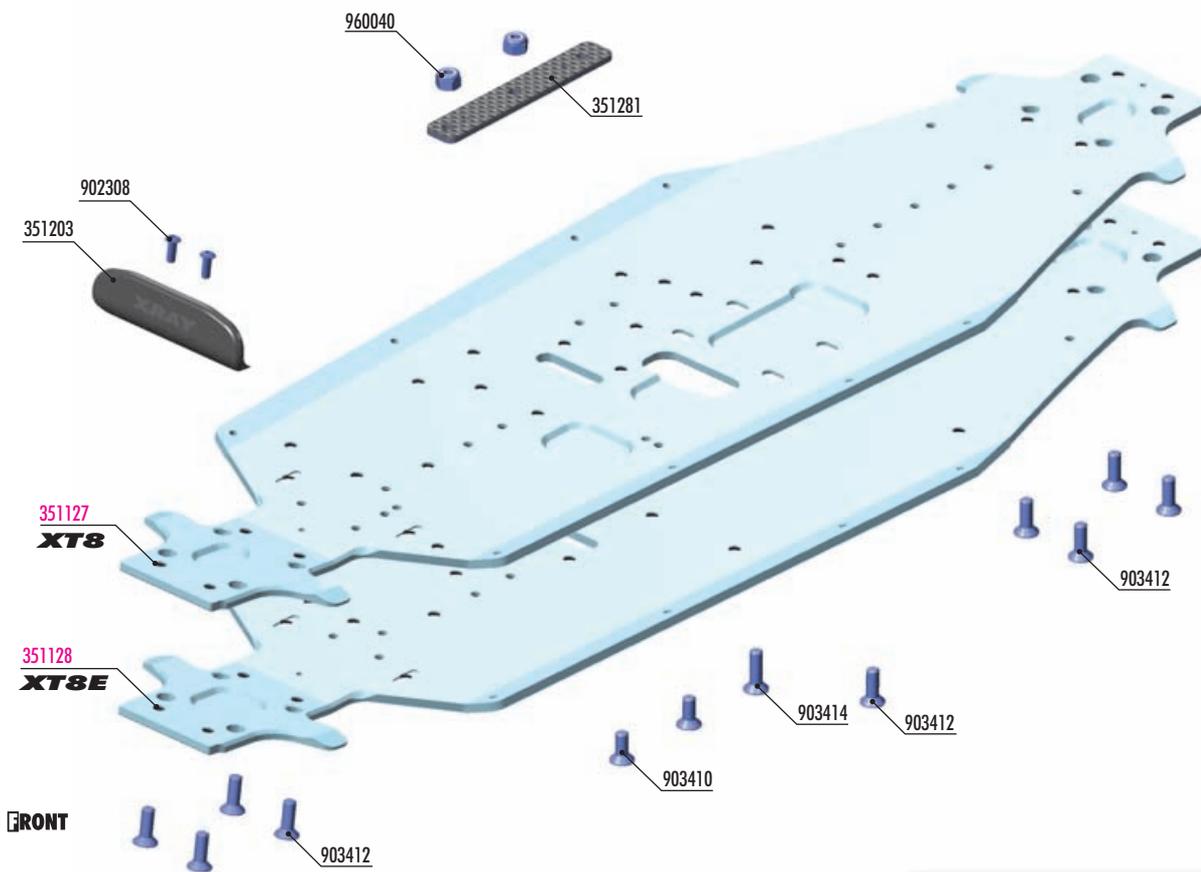
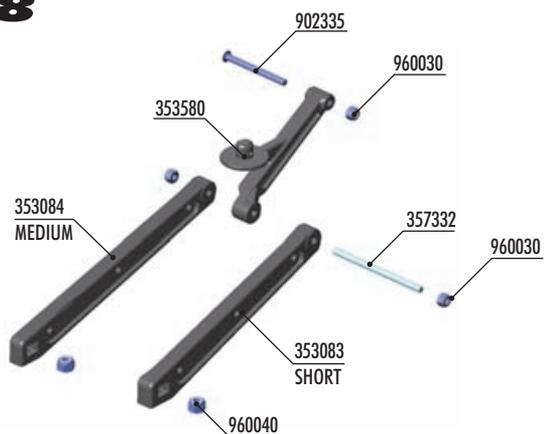
ROLL CENTER

6. FRONT & REAR ASSEMBLY **XT8E** **XT8**

XT8E



XT8



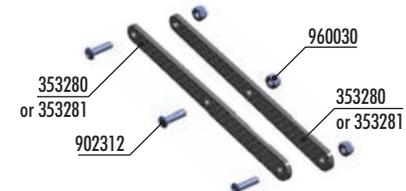
#351282
XT8 GRAPHITE CHASSIS STIFFENER - LONG

OPTION



#353280 (MEDIUM) *for XT8 & XT8E
#353281 (SHORT) *just for XT8
GRAPHITE BRACE FOR REAR COMPOSITE BRACE - SET

OPTION



BAG

06

351203 COMPOSITE FRONT BUMPER FOR SEMI-SPLIT BULKHEAD
 351281 GRAPHITE CHASSIS STIFFENER
 353083 COMPOSITE REAR BRACE - SHORT
 353084 COMPOSITE REAR BRACE - MEDIUM
 353580 COMPOSITE WING HOLDER BRACE WITH REAR BODY POST
 357332 REAR LOWER OUTER PIVOT PIN (2)

902308 HEX SCREW SH M3x8 (10)
 902335 HEX SCREW SH M3x35 (10)

902340 HEX SCREW SH M3x40 (10)
 903410 HEX SCREW SFH M4x10 (10)
 903412 HEX SCREW SFH M4x12 (10)
 903414 HEX SCREW SFH M4x14 (10)
 960030 NUT M3 (10)
 960040 NUT M4 (10)

351127 XT8 ALU CHASSIS - HARDCOATED SWISS 7075 T6 (3MM)
 351128 XT8E ALU CHASSIS - HARDCOATED SWISS 7075 T6 (3MM)



903410 SFH M4x10



903412 SFH M4x12



960040 N M4

REAR

NOTE ORIENTATION

FRONT **REAR**

NOTE ORIENTATION

XT8

XT8E

4x12mm

4x10mm

#293084
OPTION **PRECISION BALANCING CHASSIS WEIGHT 10G (4)**

903308
SFH M3x8

Locations for weights

XT8E

XT8

! CHECK GEAR MESH OR DIFF PLAY

During assembly, there is no need to check gear mesh or diff play. In particular, **DO NOT** check gear mesh and diff play when the differential is installed only in the gear box without the suspension holders and without being mounted to the chassis. All parts have specifically designed play, and only when the car is fully assembled will it have the proper amount of play where necessary. Only once you build the entire car, then you can check for free movement of all rotational parts and drivetrain as well as a free non-binding operation of suspension parts.



902335 SH M3x35



960030 N M3

REAR

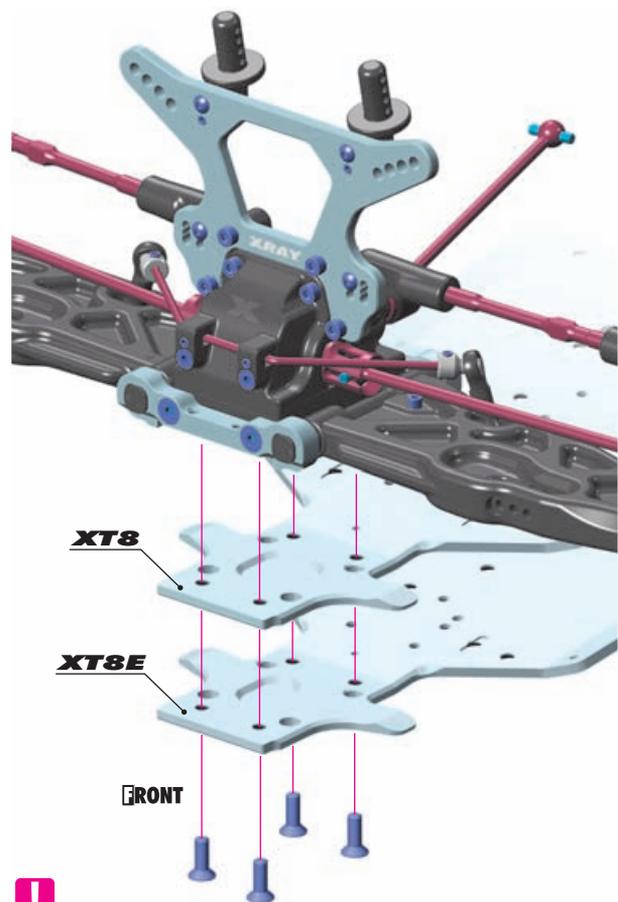
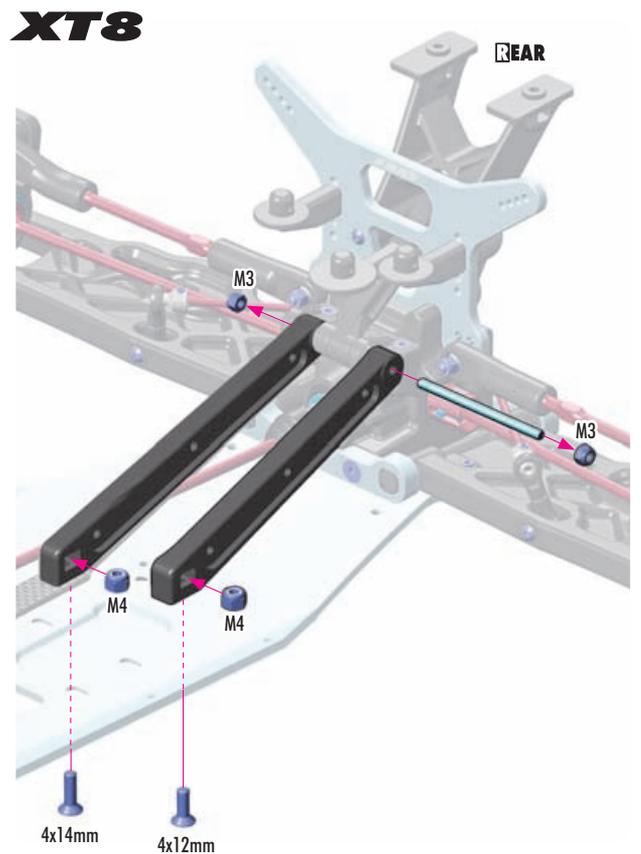
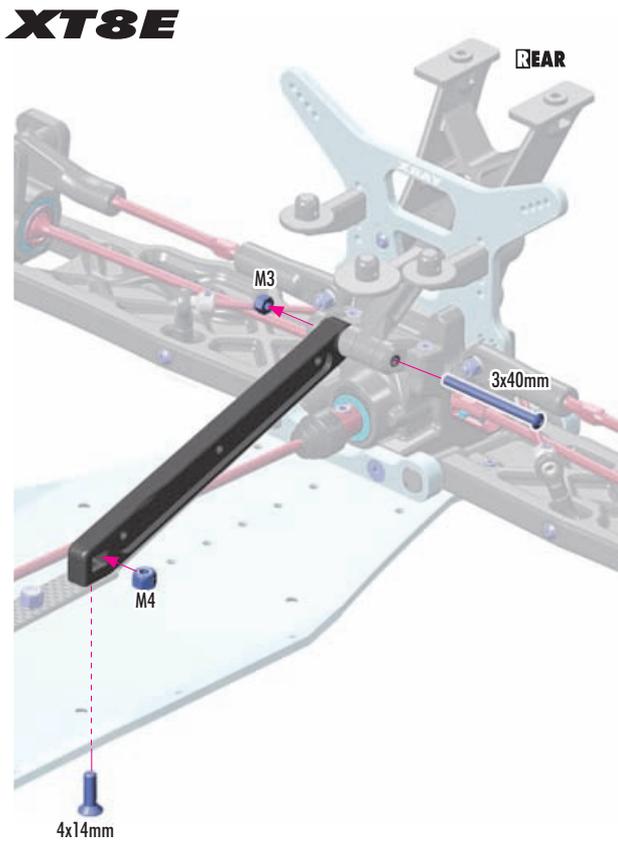
1

2

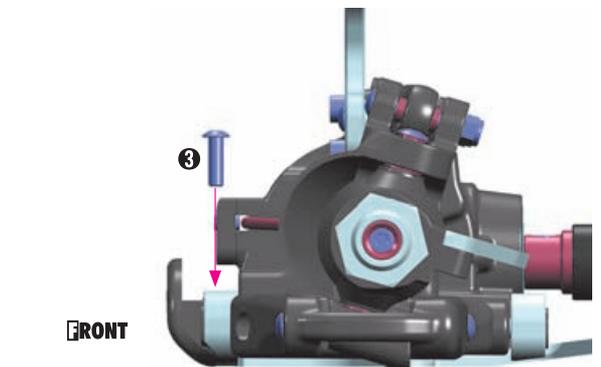
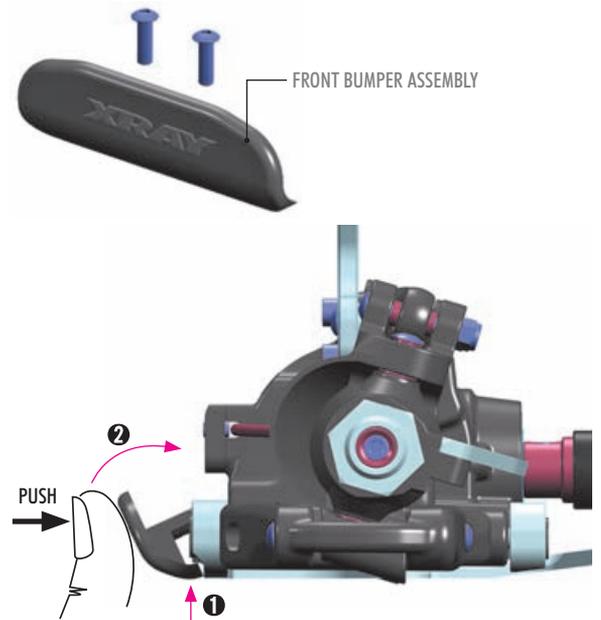
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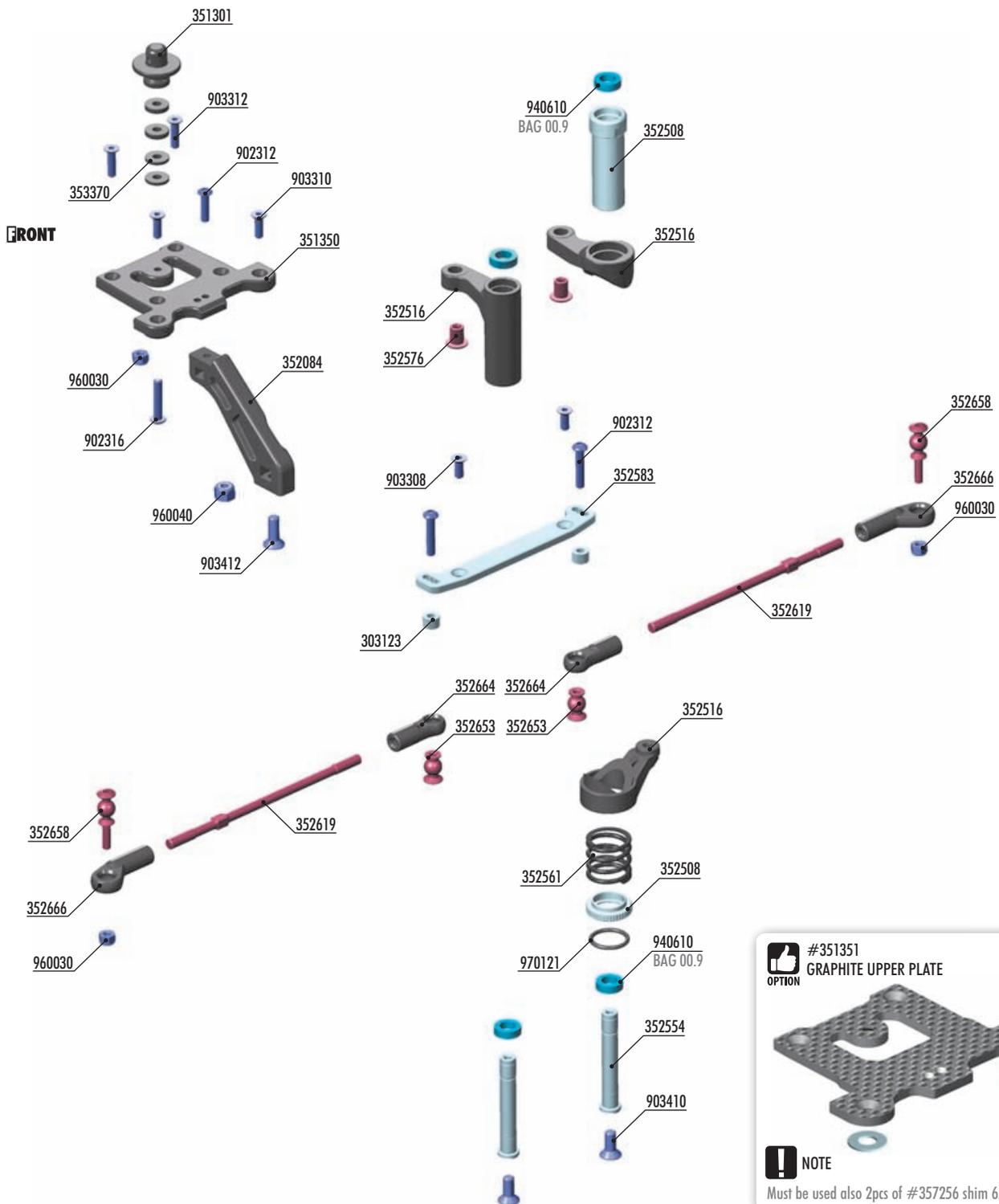
4

Push the top of the holder with fingers together to insert the brace with body post.



During assembly, there is no need to check gear mesh or diff play. In particular, **DO NOT** check gear mesh and diff play when the differential is installed only in the gear box without the suspension holders and without being mounted to the chassis. All parts have specifically designed play, and only when the car is fully assembled will it have the proper amount of play where necessary. Only once you build the entire car, then you can check for free movement of all rotational parts and drivetrain as well a free non-binding operation of suspension parts.





BAG

07

303123	ALU SHIM 3x6x2.0MM (10)	902312	HEX SCREW SH M3x12 (10)
351301	COMPOSITE BODY POSTS	902316	HEX SCREW SH M3x16 (10)
351350	COMPOSITE UPPER PLATE WITH TWO BRACE POSITIONS	903308	HEX SCREW SFH M3x8 (10)
352084	COMPOSITE FRONT BRACE	903310	HEX SCREW SFH M3x10 (10)
352508	SERVO SAVER FOR SEMI-SPLIT BULKHEAD - GRAPHITE - SET	903312	HEX SCREW SFH M3x12 (10)
352516	COMPOSITE SERVO SAVER FOR SEMI-SPLIT BULKHEAD - GRAPHITE	903410	HEX SCREW SFH M4x10 (10)
352554	ALU SERVO SAVER PIVOT SHAFT WITH CHASSIS LOCK (2)	903412	HEX SCREW SFH M4x12 (10)
352561	SERVO SAVER SPRING PROGRESSIVE	940610	BALL-BEARING 6x10x3 RUBBER SEALED - OIL (2)
352576	STEERING PLATE BUSHING (2)	960030	NUT M3 (10)
352583	ALU STEERING PLATE FOR SEMI-SPLIT BULKHEAD	960040	NUT M4 (10)
352619	ADJ. TURNBUCKLE M4 L/R 91 MM - HUDY SPRING STEEL™ (2)	970121	O-RING 12.1 x 1.6 (10)
352653	BALL STUD 6.8MM WITH BACKSTOP - M3 (2)		
352658	BALL STUD 6.8MM WITH BACKSTOP L=6MM - M3x8 (2)		
352664	COMPOSITE STEERING BALL JOINT 6.8MM - V3 (2)		
352666	COMPOSITE RELIEF STEERING BALL JOINT 6.8MM (2)		
353370	SET OF COMPOSITE REAR HUB CARRIER SHIMS		

#351351
GRAPHITE UPPER PLATE
OPTION

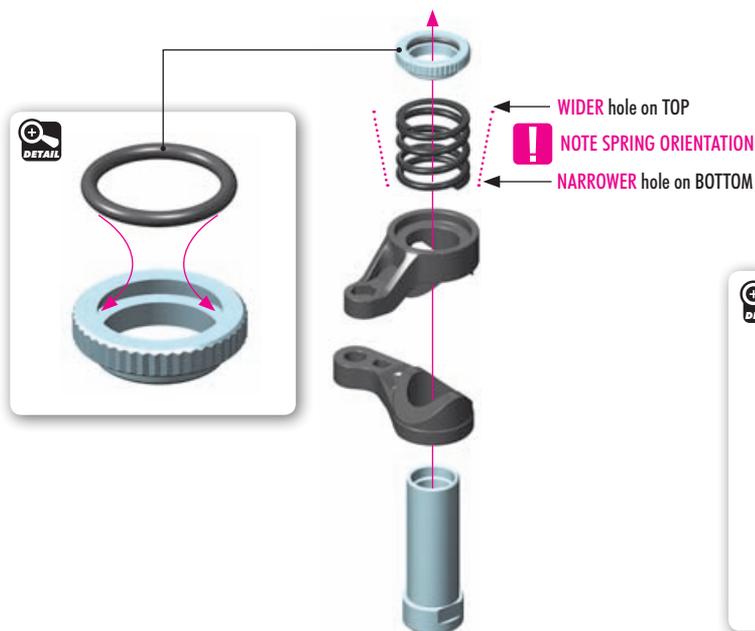


! NOTE

Must be used also 2pcs of #357256 shim 6x13x1mm.



970121
O 12.1x1.6

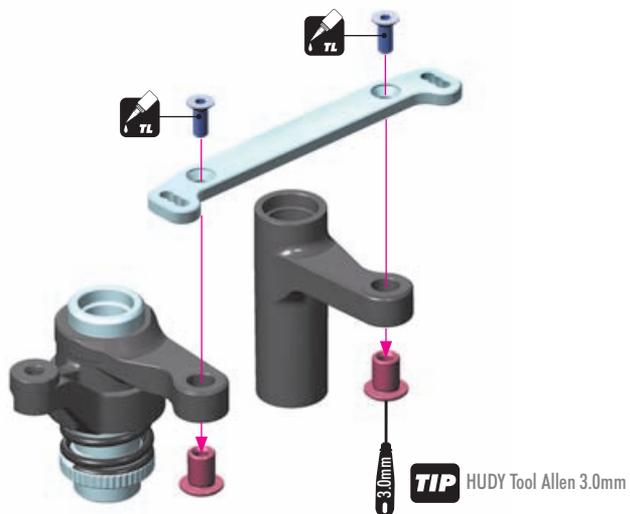


SET-UP BOOK

SERVO SAVER

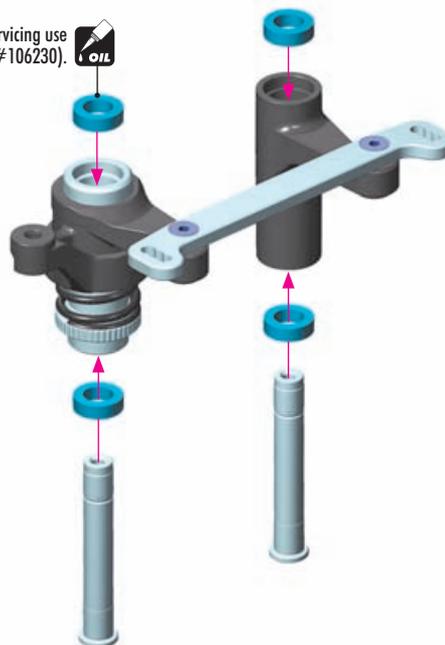


903308
SFH M3x8



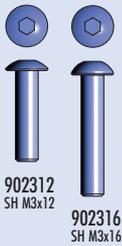
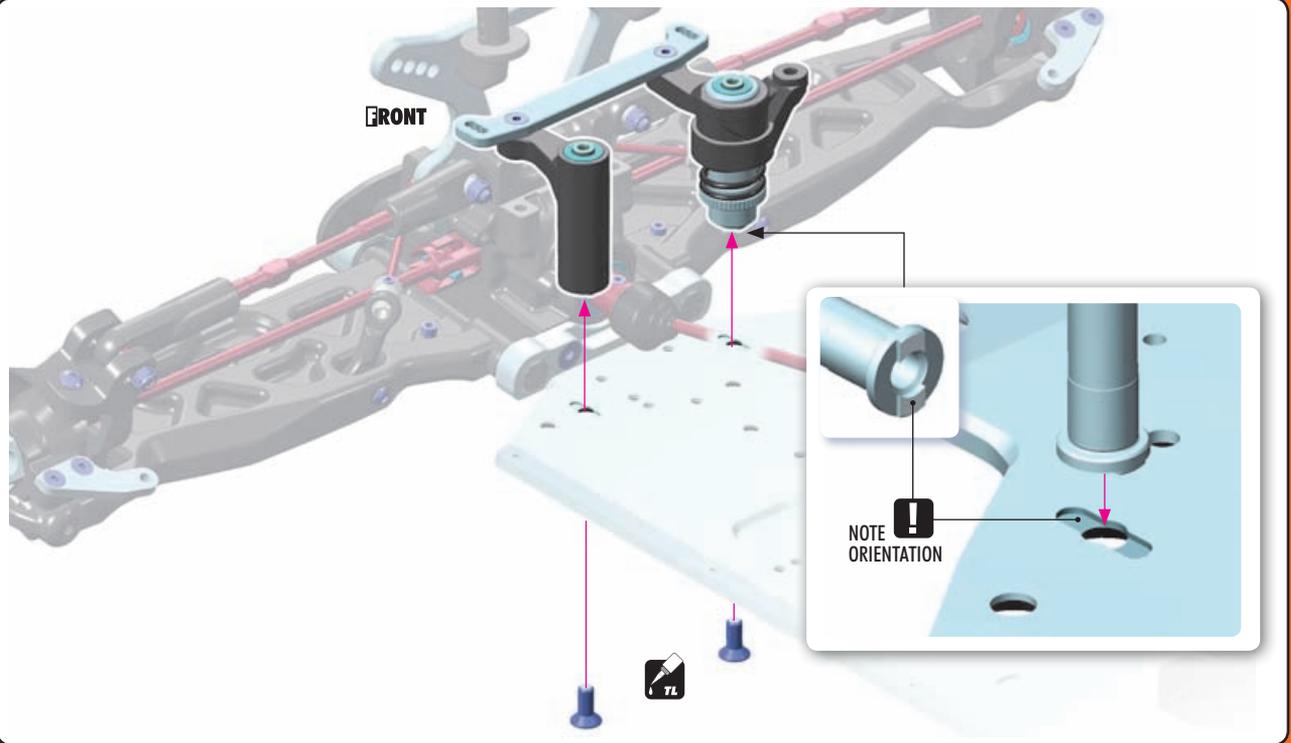
940610
BB 6x10x3

For servicing use
Bearing Oil (HUDY #106230).





903410
SFH M4x10



902312
SH M3x12

902316
SH M3x16



903310
SFH M3x10



903312
SFH M3x12

903412
SFH M4x12

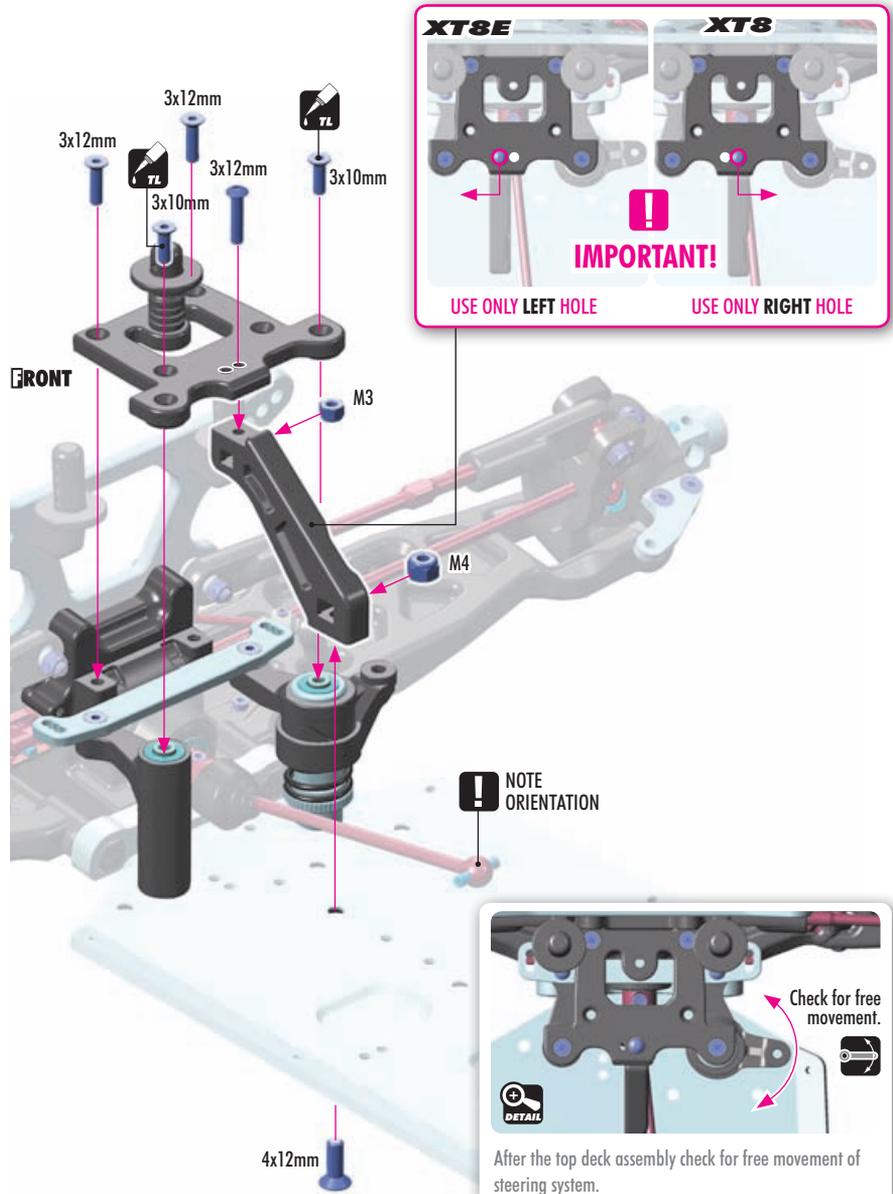
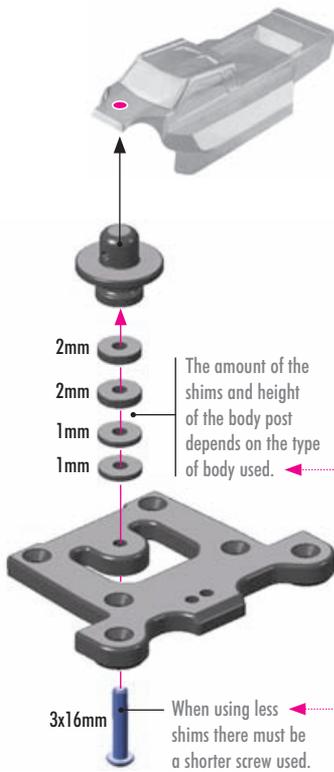


960030
N M3



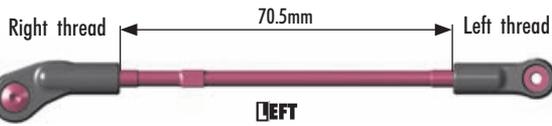
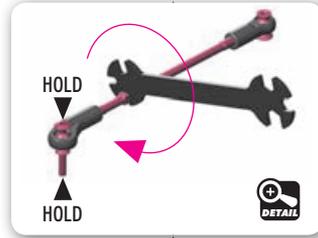
960040
N M4

1x FRONT BODY POSTS
ALTERNATIVE 2 for 1/8 BRUGGY BODY



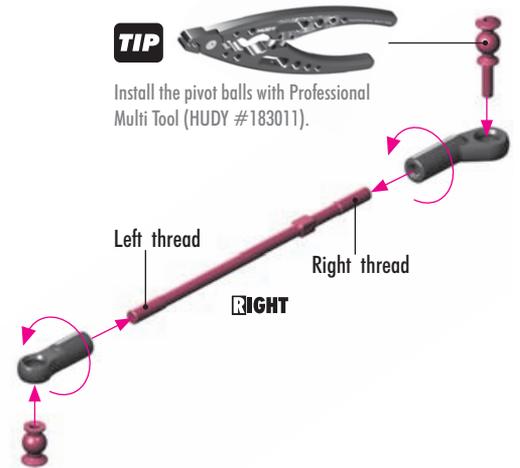
TIP

Install the pivot balls with Professional Multi Tool (HUDY #183011).



TIP

Install the pivot balls with Professional Multi Tool (HUDY #183011).



303123
SHIM 3x6x2

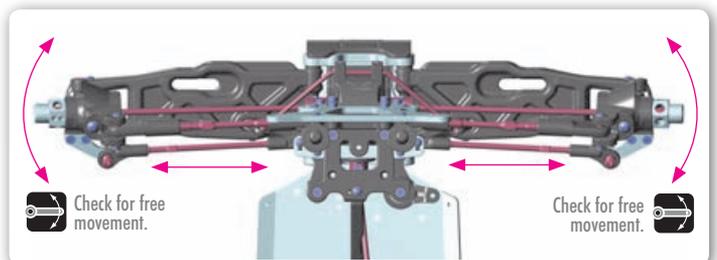
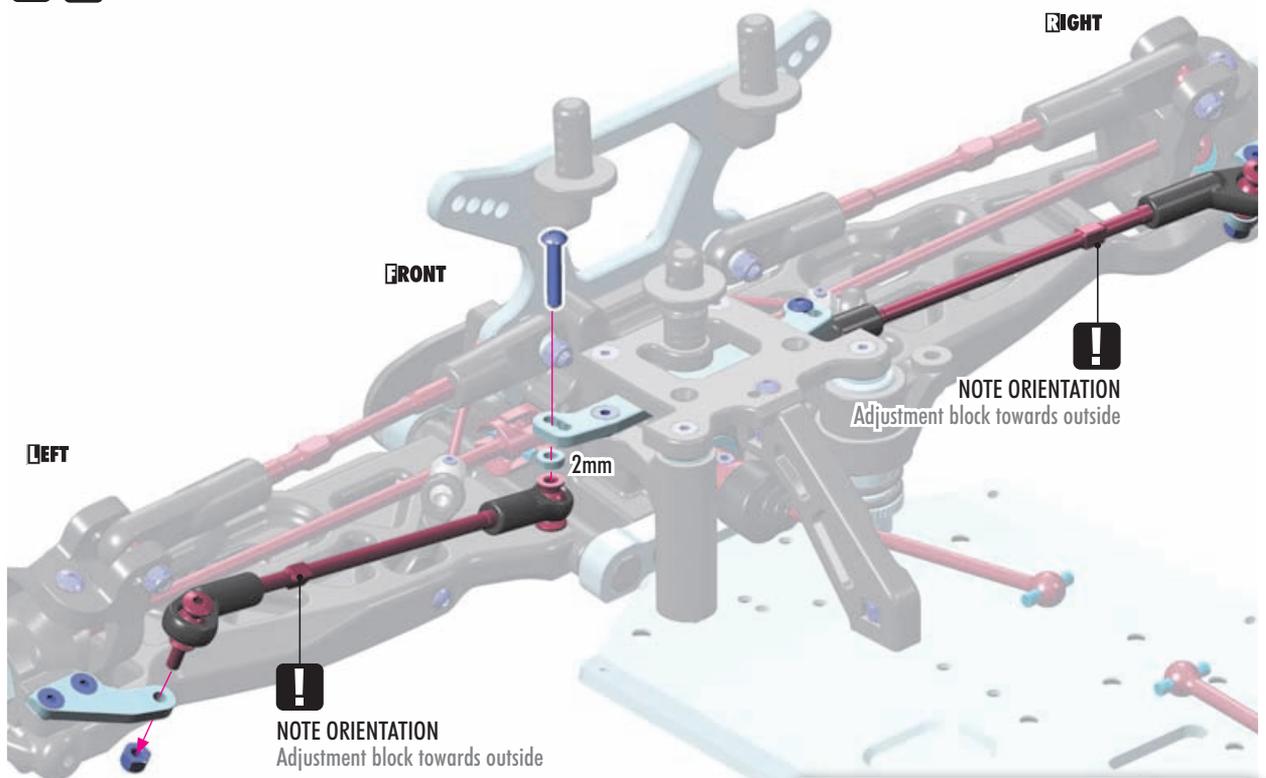


902312
SH M3x12



960030
N M3

2x L=R

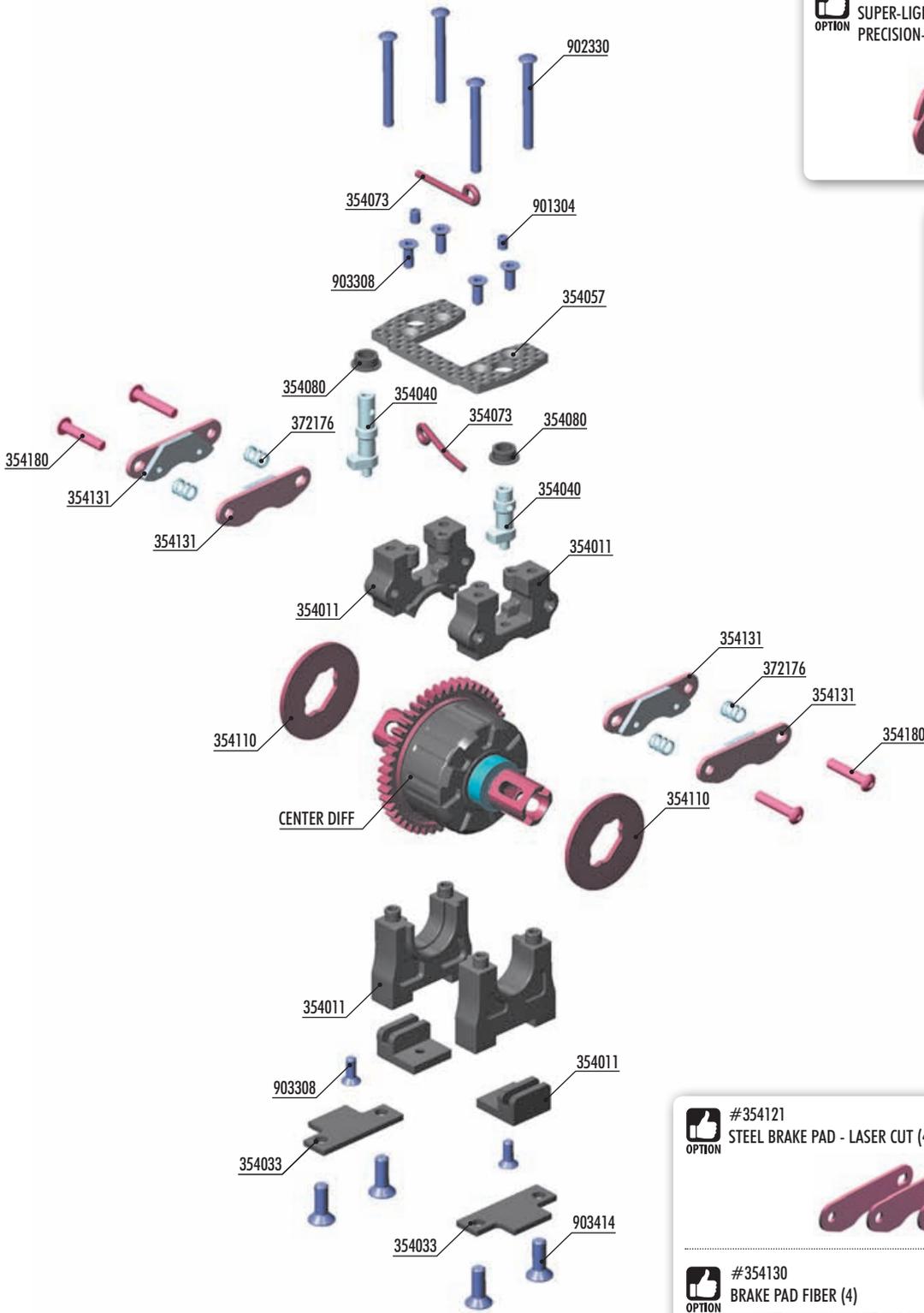


SET-UP BOOK

ACKERMANN
BUMPS STEER
TOE-IN

8. CENTER DIFF & BRAKE

XT8



#354113
 SUPER-LIGHTWEIGHT VENTILATED BRAKE DISK -
 PRECISION-GROUND (2)

#354011-G
 CENTER DIFF MOUNTING PLATE
 SET - HIGHER - GRAPHITE

#354121
 STEEL BRAKE PAD - LASER CUT (4)

#354130
 BRAKE PAD FIBER (4)

#354132
 BRAKE PAD "SLS" (4)

! **CA** It is necessary to glue the brake pad with strong CA glue suitable for steel.

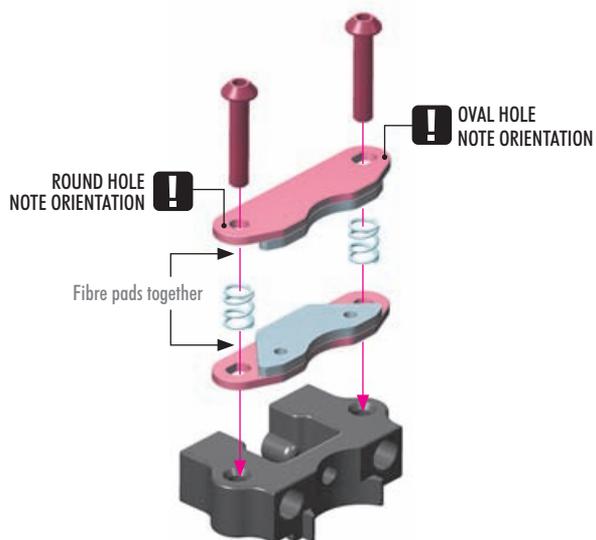
BAG

08

- 354011 CENTER DIFF MOUNTING PLATE - HIGHER - SET
- 354033 COMPOSITE 2-SPEED HOLDER PLATE (2)
- 354040 BRAKE CAM POST & ROD (2+2)
- 354057 GRAPHITE CENTER DIFF MOUNTING PLATE
- 354073 BRAKE CAME ROD (1+1)
- 354080 COMPOSITE BUSHING FOR DIFF MOUNTING PLATE (2)
- 354110 VENTILATED BRAKE DISK - LASER CUT - PRECISION-GROUND
- 354131 GLUED BRAKE PAD SET-ULTRA EFFICIENT (4)

- 354180 STEEL BRAKE PAD GUIDE PIN SCREW (2)
- 372176 SPRING 4.25 COILS 3.6x6x0.4MM; C=1.5 - GOLD (SOFT) (2)
- 901304 HEX SCREW SB M3x4 (10)
- 902330 HEX SCREW SH M3x30 (10)
- 903308 HEX SCREW SFH M3x8 (10)
- 903414 HEX SCREW SFH M4x14 (10)

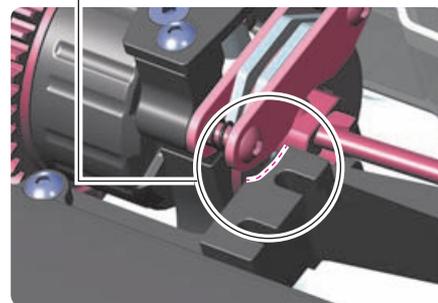
2x



#354011-G
CENTER DIFF MOUNTING PLATE SET - HIGHER - GRAPHITE



When using ultra-efficient brake pads you need to remove from the servo holder on radio case.



#354121
STEEL BRAKE PAD - LASER CUT (4)



#354130
BRAKE PAD FIBER (4)

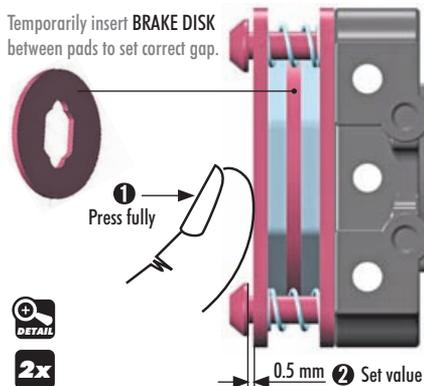


#354132
BRAKE PAD "SLS" (4)



It is necessary to glue the brake pad with strong CA glue suitable for steel.

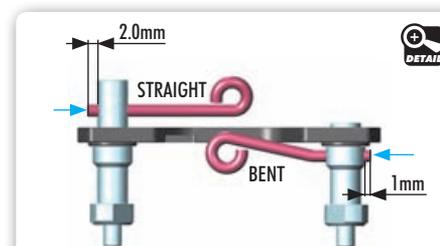
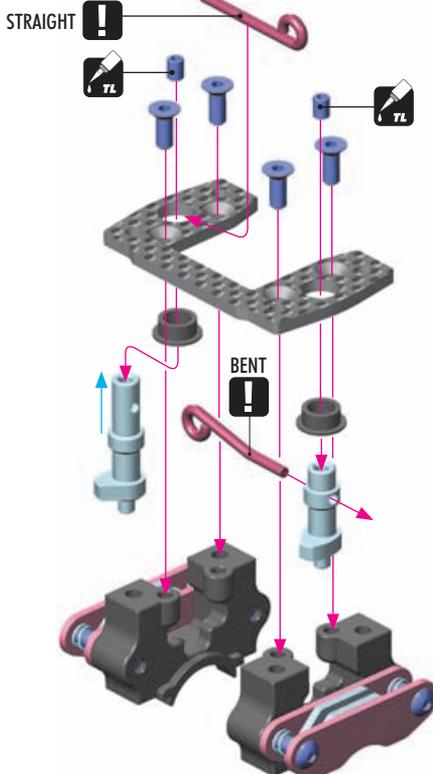
Temporarily insert BRAKE DISK between pads to set correct gap.



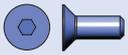
901304
SB M3x4



903308
SFH M3x8



8. CENTER DIFF & BRAKE



903308
SFH M3x8

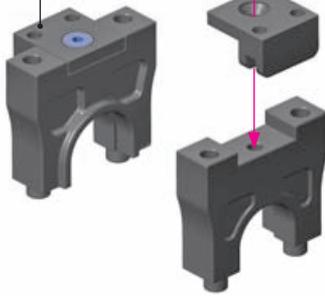


903412
SFH M4x12

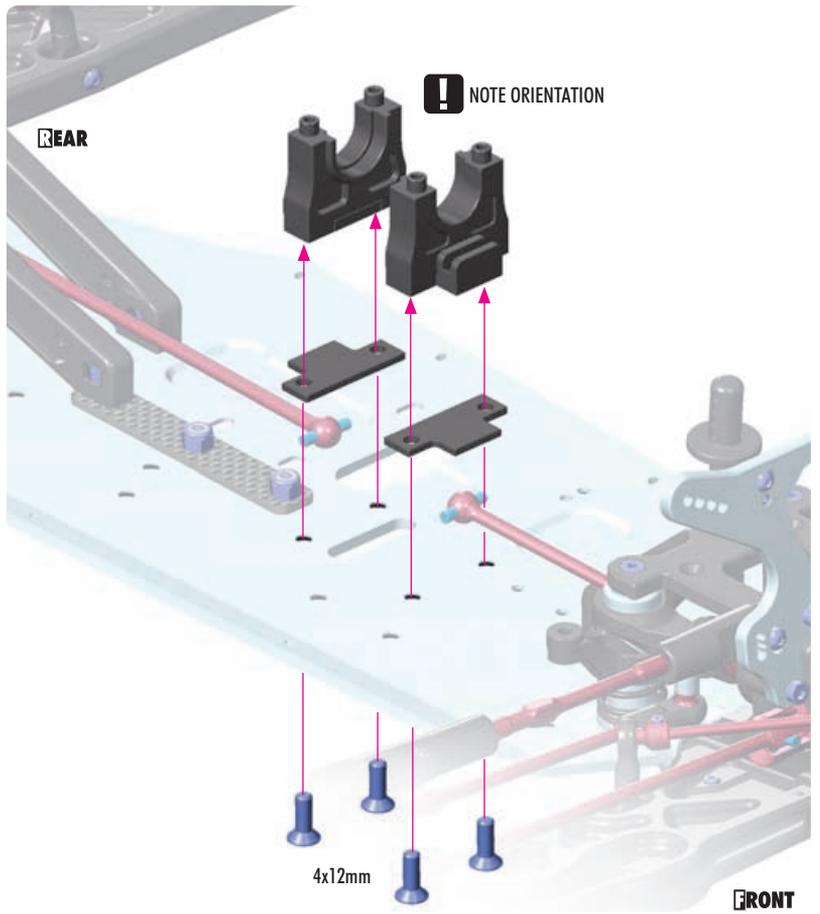
! NOTE ORIENTATION OF ALL PARTS



BOTTOM VIEW

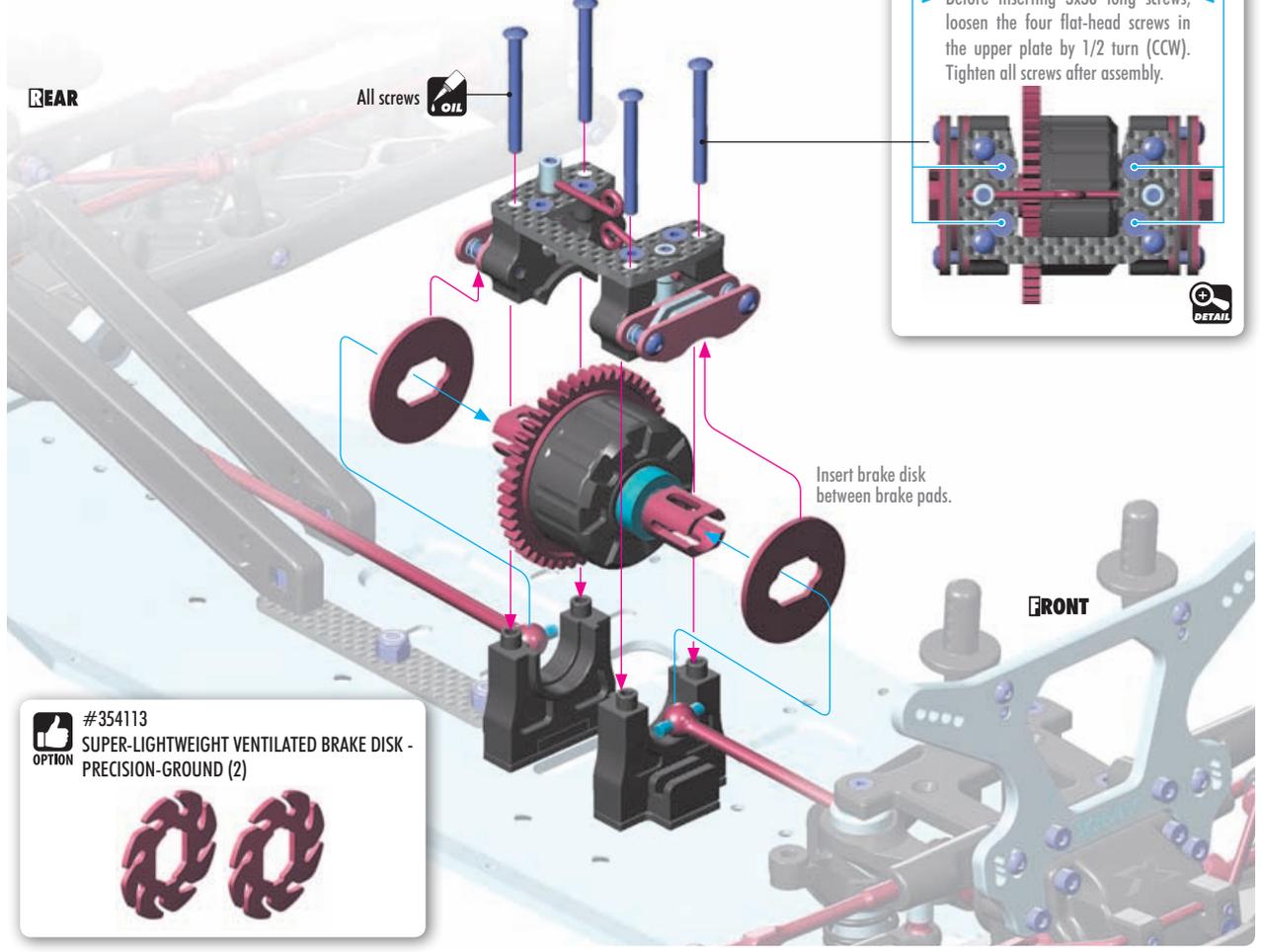


#354011-G
CENTER DIFF MOUNTING PLATE SET
HIGHER - GRAPHITE

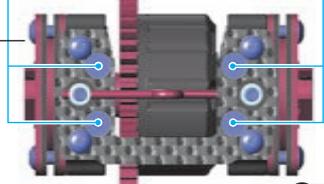


902330
SH M3x30

! NOTE ORIENTATION OF ALL PARTS



Before inserting 3x30 long screws, loosen the four flat-head screws in the upper plate by 1/2 turn (CCW). Tighten all screws after assembly.



! #354113
SUPER-LIGHTWEIGHT VENTILATED BRAKE DISK - PRECISION-GROUND (2)



8. CENTER DIFF & MOTOR

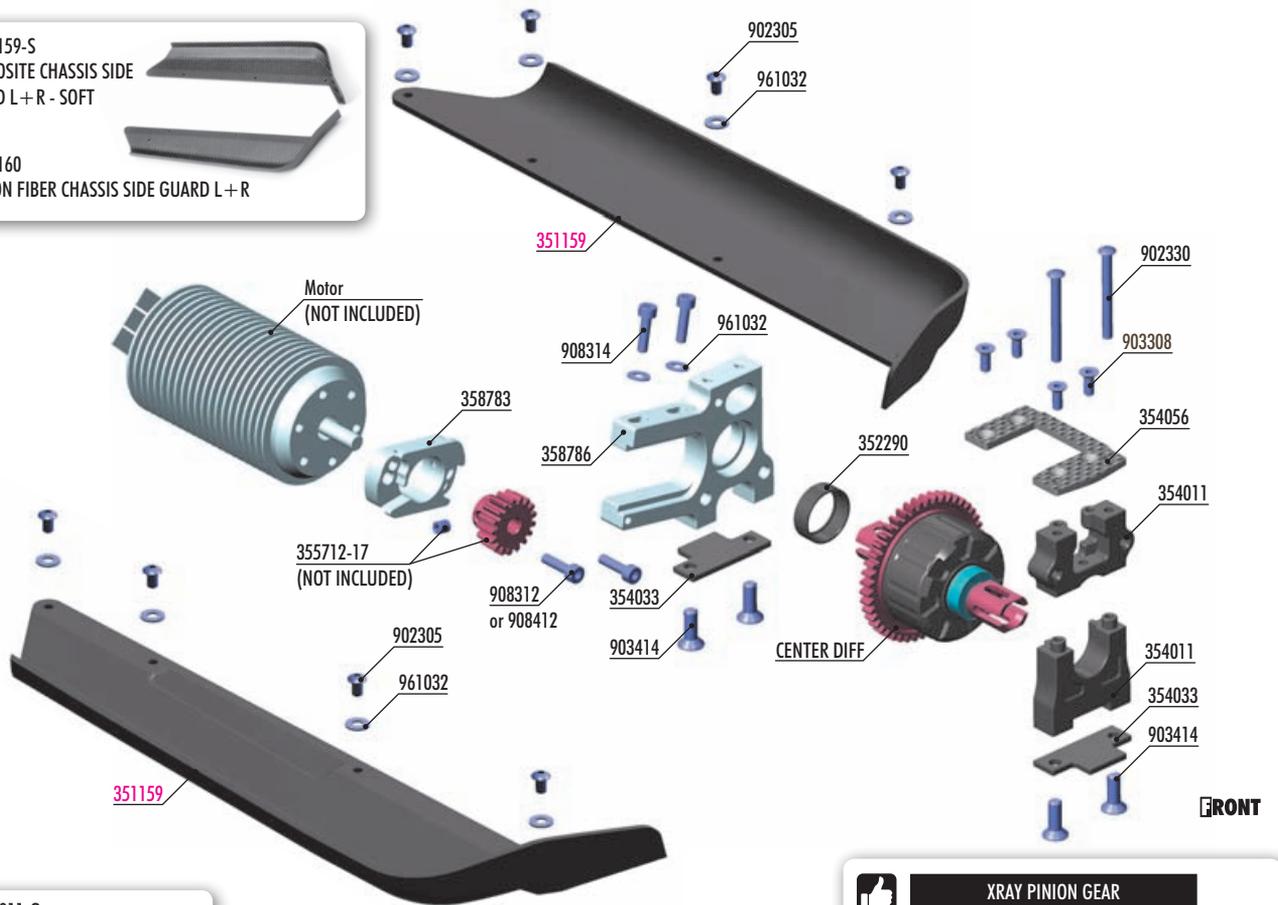
XT8E



#351159-S
COMPOSITE CHASSIS SIDE
GUARD L+R - SOFT



#351160
CARBON FIBER CHASSIS SIDE
GUARD L+R



#354011-G
CENTER DIFF MOUNTING PLATE
SET - HIGHER - GRAPHITE



XRAY PINION GEAR

#	Teeth	Option
#355712	12T	OPTION
#355713	13T	OPTION
#355714	14T	OPTION
#355715	15T	OPTION
#355716	16T	OPTION
#355717	17T	OPTION



BAG

08

- 352290 COMPOSITE BUSHING FOR ALU STEERING BLOCK (4)
- 354011 CENTER DIFF MOUNTING PLATE SET - HIGHER
- 354033 COMPOSITE 2-SPEED HOLDER PLATE (2)
- 354056 GRAPHITE CENTER DIFF MOUNTING PLATE
- 358783 ALU MOTOR MOUNT PLATE - V2
- 358786 XB8E/XT8E ALU MOTOR MOUNT
- 902305 HEX SCREW SH M3x5 (10)
- 902330 HEX SCREW SH M3x30 (10)

- 903308 HEX SCREW SFH M3x8 (10)
- 903414 HEX SCREW SFH M4x14 (10)
- 908312 HEX SCREW SOCKET HEAD CAP M3x12 (10)
- 908314 HEX SCREW SOCKET HEAD CAP M3x14 (10)
- 908412 HEX SCREW SOCKET HEAD CAP M4x12 (10)
- 961032 WASHER S 3.2 (10)

351159 CHASSIS SIDE GUARDS L+R



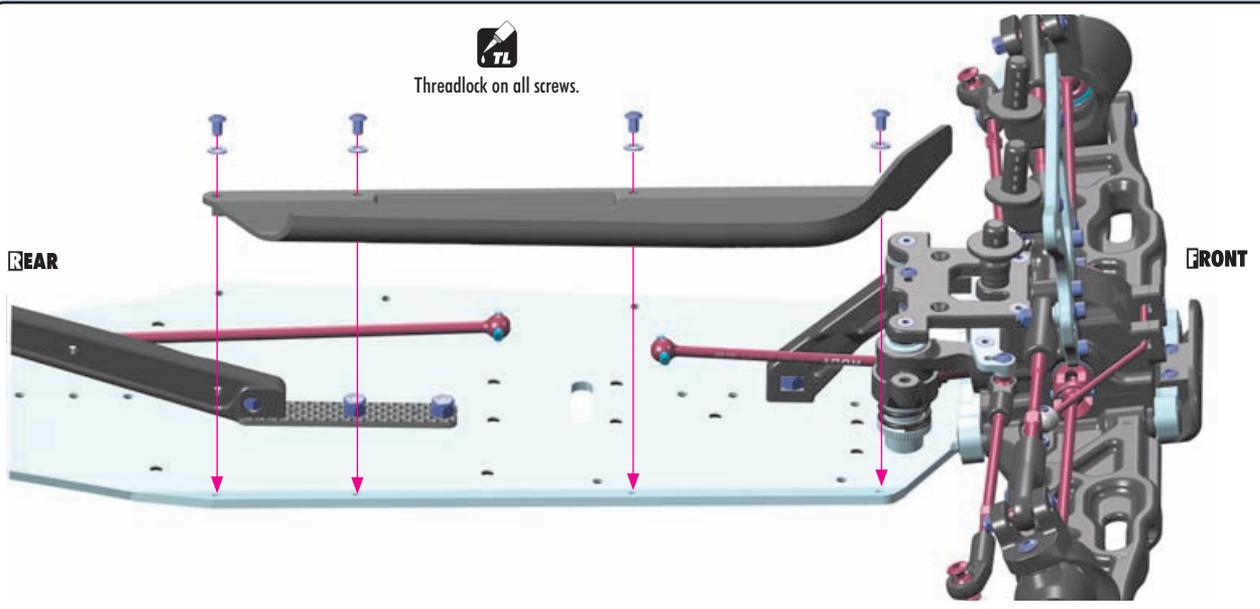
902305
SH M3x5

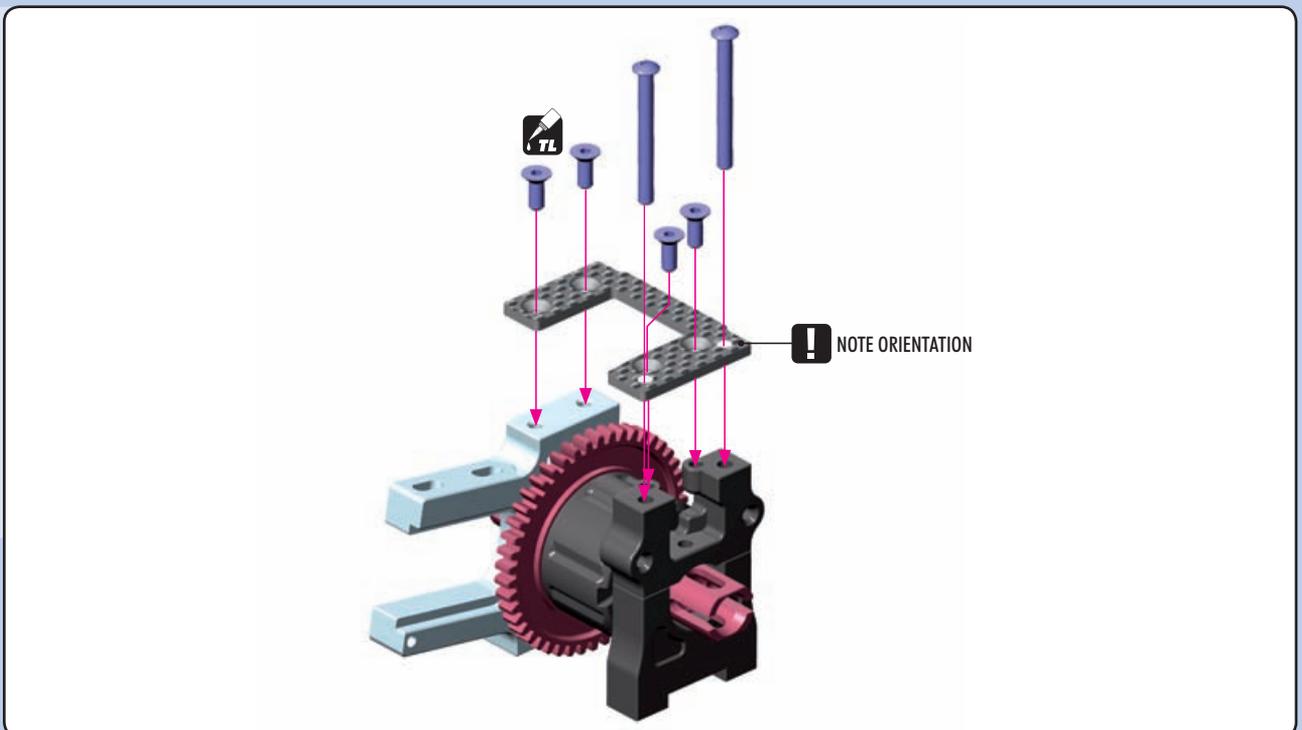
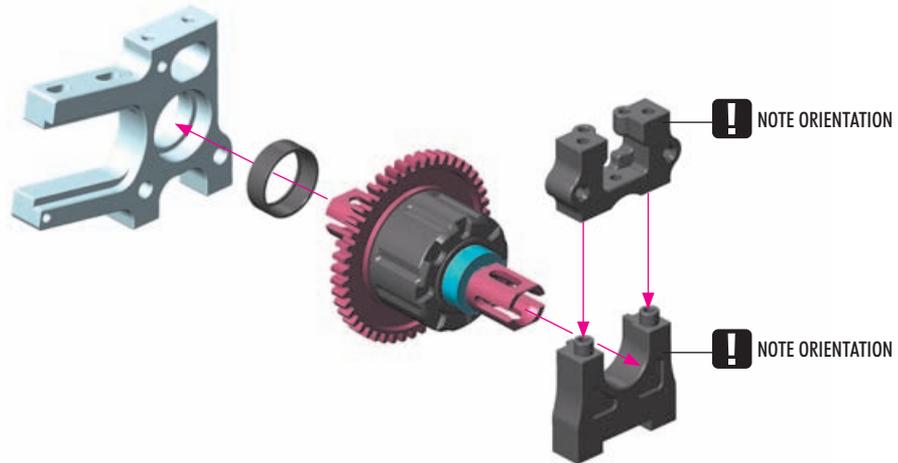
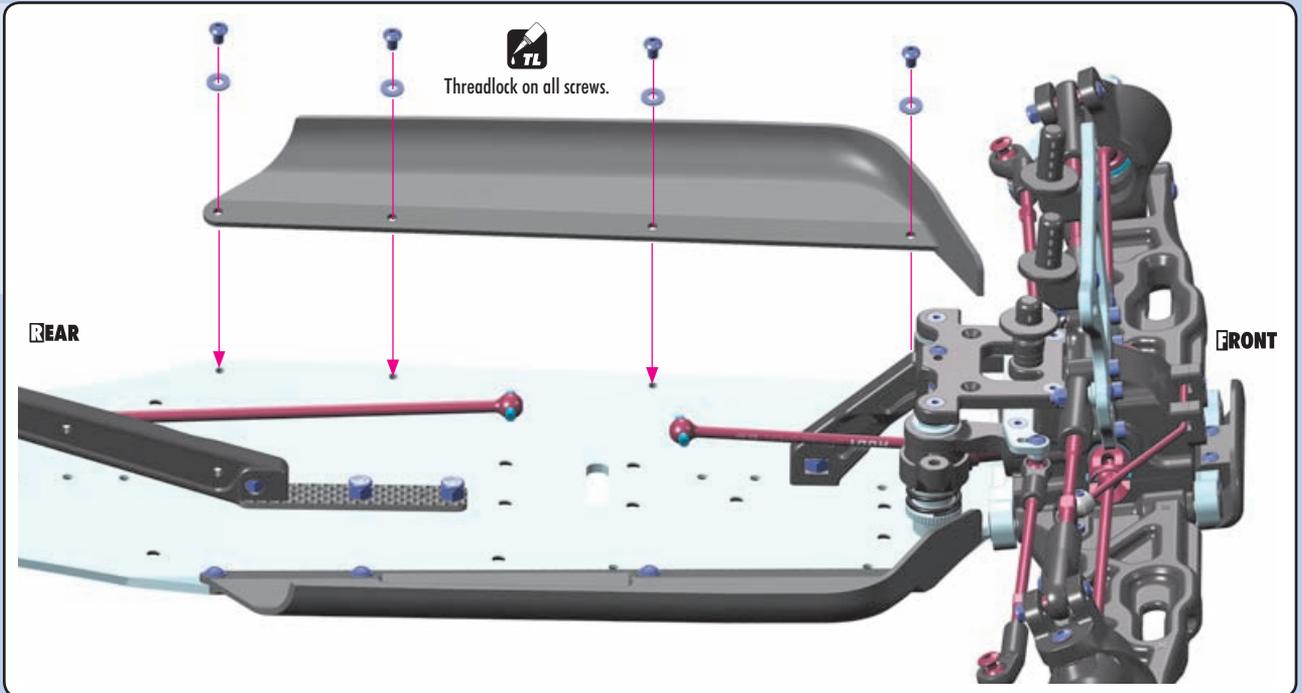


961032
S 3.2



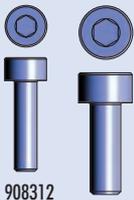
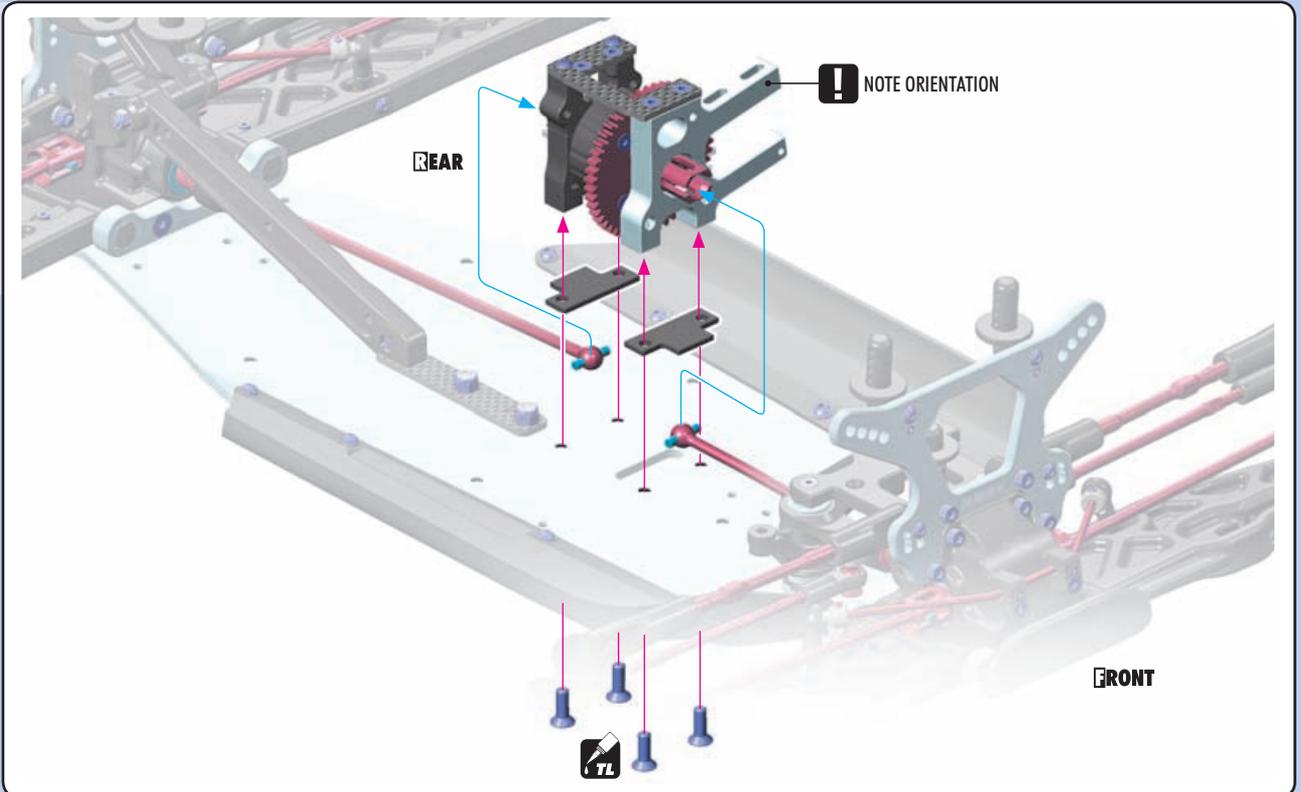
Threadlock on all screws.



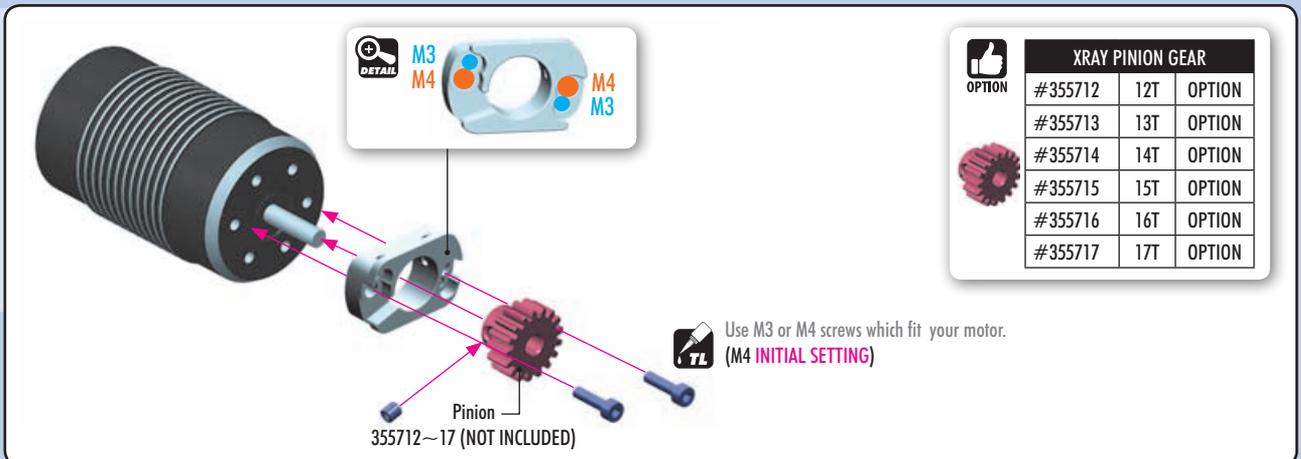




903414
SFH M4x14



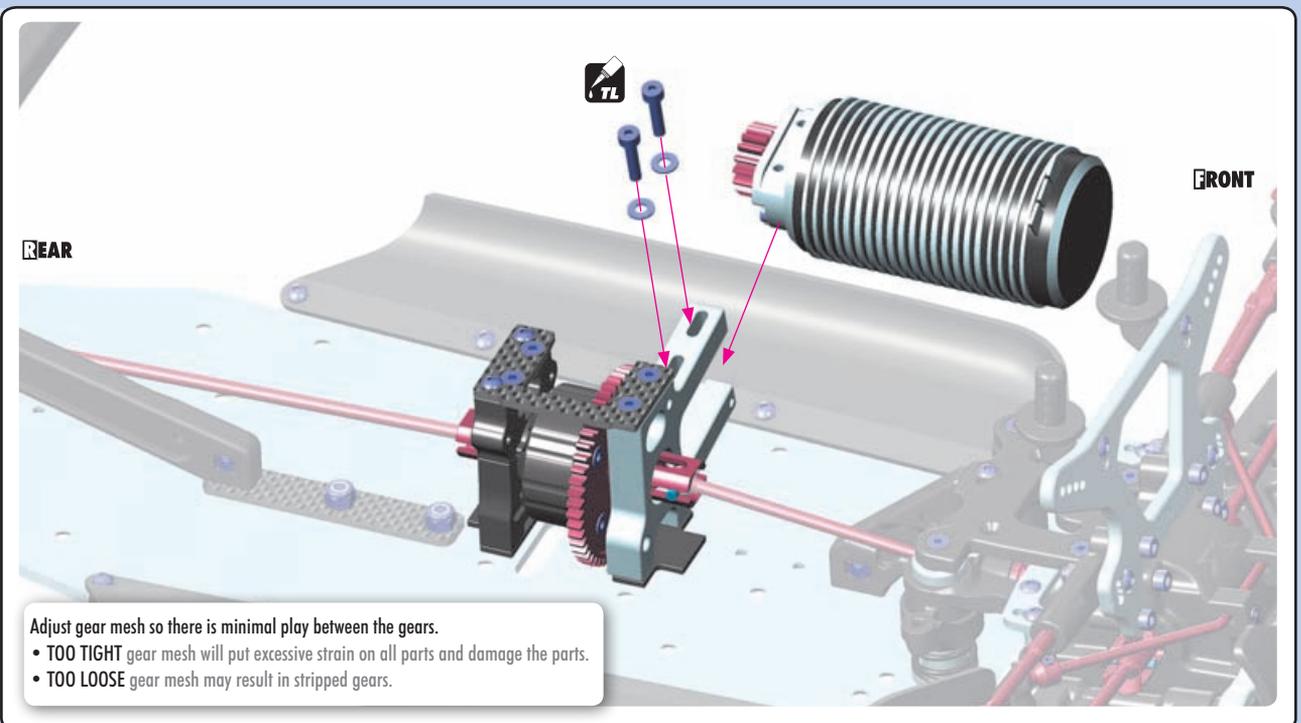
908312
SCH M3x12 908412
SCH M4x12



908314
SCH M3x14



961032
S 3.2



OPTION #358709
ALU MONOBLOCK ENGINE MOUNT - SWISS 7075 T6



OPTION #358718
ALU STAND (FX, NOVAROSS, MAX, SIRIO)



OPTION #358719
ALU STAND (PICCO, REDS, ORION, LRP, OS, ULT. RACING)



OPTION #351159-S
COMPOSITE CHASSIS SIDE GUARD L+R - SOFT



OPTION #351160
CARBON FIBER CHASSIS SIDE GUARD L+R



OPTION #358400
XRAY COMPLETE 4-SHOE CLUTCH SET



4-SHOE CLUTCH SHOES				GRIP	
OPTION	#358457	ALU HARD (4)	1.00g	HIGH	OPTION
	#358456	ALU MED (4)	1.00g		OPTION
	#358461	GRAPHITE (4)	1.00g		OPTION
	#358460	ALU HARD (4)	1.15g		OPTION
	#358459	ALU MEDIUM (4)	1.15g		INCLUDED
	#358458	ALU SOFT (4)	1.15g	LOW	OPTION

CLUTCH SPRINGS (4pcs)				RPM	
OPTION	#358480	SOFT	GOLD	EARLY	INCLUDED
	#358481	MEDIUM	GREY		OPTION
	#358482	HARD	SILVER	LATE	OPTION

CLUTCHBELL 4 SHOES CLUTCH			
OPTION	#358413	13T	OPTION
	#358413-L	13T Lightweight	OPTION
	#358414-L	14T Lightweight	OPTION

OPTION #650105 FX K303 - 3 PORTS
#650304 FX K502 - 5 PORTS

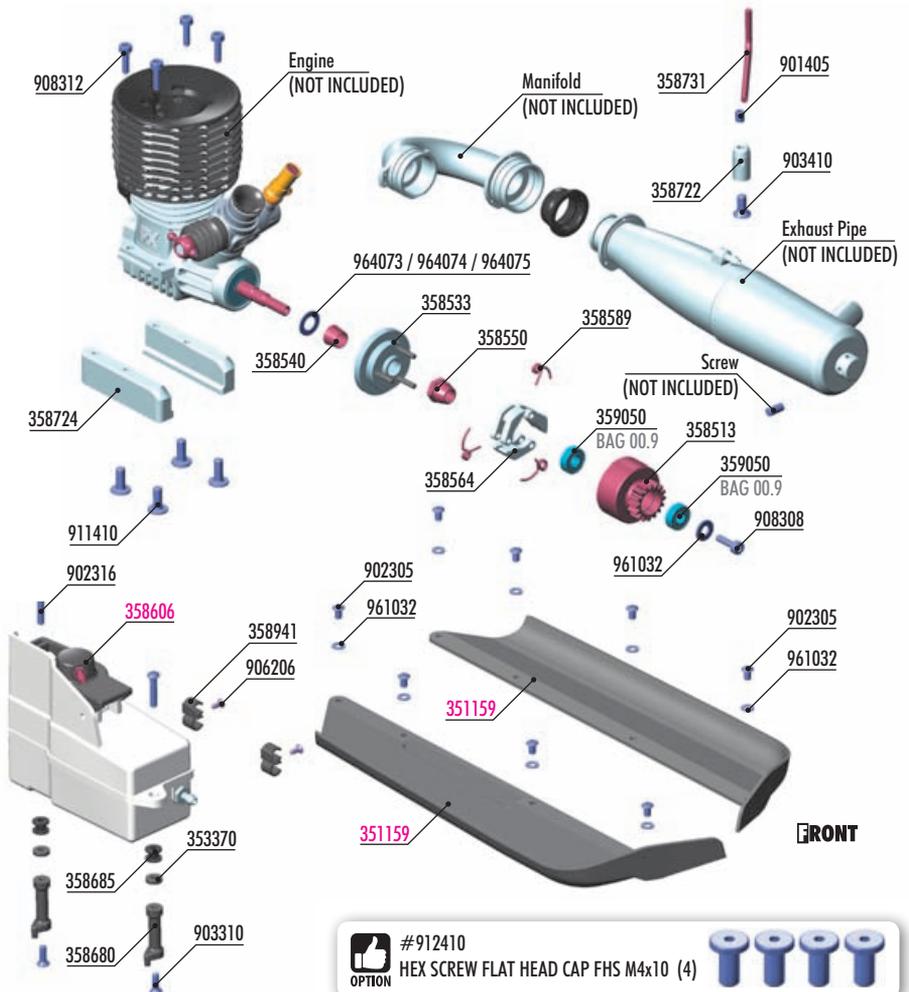
FX EUROPEAN CHAMPION



- DLC
- CERAMIC BEARING
- BALANCED

OPTION #659505 FX MUFFLER 3.5CC EFRA 2131 + MANIFOLD M - CHROME
#659506 FX MUFFLER 3.5CC EFRA 2131 + MANIFOLD MEDIUM
#659558 FX MUFFLER 3.5CC EFRA 2169 + MANIFOLD MEDIUM

FX EUROPEAN CHAMPION

Engine (NOT INCLUDED)
Manifold (NOT INCLUDED)
Exhaust Pipe (NOT INCLUDED)
Screw (NOT INCLUDED)
BAG 00.9

OPTION

CLUTCH SHOE		
#358563	GRAPHITE (2)	OPTION
#358564	ALU - HARD (3)	INCLUDED

OPTION #353250
GRAPHITE BRACE FOR CHASSIS SIDE GUARDS - SET



OPTION #358661
GRAPHITE 150CC FUEL TANK GUARD



OPTION

HIGH TORQUE CLUTCH SPRING			
#358588	GRAY	MEDIUM	OPTION
#358589	SILVER	HARD	INCLUDED

OPTION

CLUTCHBELL 3 SHOES CLUTCH		
#358512	12T	OPTION
#358513	13T	INCLUDED
#358514	14T	OPTION
#358525	15T	OPTION
#358517	13T Lightweight	OPTION
#358518	14T Lightweight	OPTION

BAG

09

- 353370 SET OF COMPOSITE REAR HUB CARRIER SHIMS
- 358513 CLUTCH BELL 13T
- 358533 FLYWHEEL - HIGH TORQUE - LIGHTWEIGHT
- 358540 FLYWHEEL COLLAR
- 358550 FLYWHEEL NUT - HUDY SPRING STEEL™
- 358564 ALU CLUTCH SHOE - HARD (3)
- 358589 HIGH TORQUE CLUTCH SPRINGS - SILVER - HARD (3)
- 358680 FUEL TANK MOUNTING POST (2)
- 358685 FUEL TANK MOUNTING GROMMET (4)
- 358722 EXHAUST WIRE MOUNT SET
- 358724 ALU ENGINE MOUNT - CNC MACHINED (L+R)
- 358731 EXHAUST MOUNTING WIRE - LONG
- 358941 COMPOSITE TUBING HOLDER FOR FUEL TANK (2)
- 359050 BALL-BEARING 5x10x4 STEEL SEALED - GREASE - V2 (2)
- 901405 HEX SCREW SB M4x5 (10)

- 902305 HEX SCREW SH M3x5 (10)
- 902316 HEX SCREW SH M3x16 (10)
- 903310 HEX SCREW SFH M3x10 (10)
- 903410 HEX SCREW SFH M4x10 (10)
- 906206 SCREW PHILLIPS FH 2.2x6 (10)
- 908308 HEX SCREW (CAP HEAD) 3x8 (10)
- 908312 HEX SCREW (CAP HEAD) 3x12 (10)
- 911410 HEX SCREW FLANGED SH M4x10 (10)
- 961032 WASHER S 3.2 (10)
- 964073 WASHER S 7x10x0.2 (10)
- 964074 WASHER S 7x10x0.3 (10)
- 964075 WASHER S 7x10x0.5 (10)

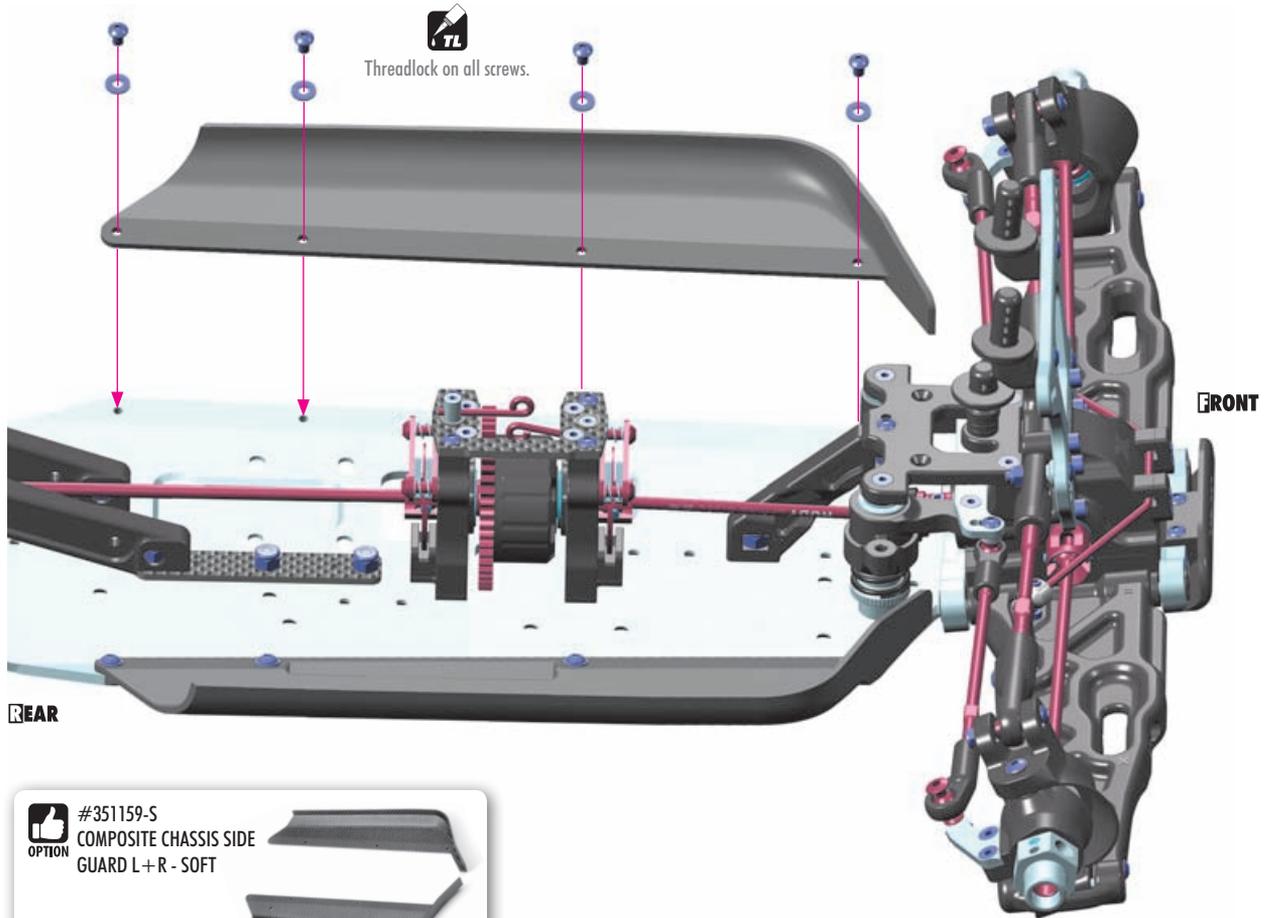
- 351159 CHASSIS SIDE GUARDS L+R
- 358606 FUEL TANK 150CC WITH FLOATING FILTER & TRANSIENT JET



902305
SH M3x5



961032
S 3.2



Threadlock on all screws.

REAR

FRONT



#351159-S
COMPOSITE CHASSIS SIDE
GUARD L+R - SOFT



#351160
CARBON FIBER CHASSIS SIDE GUARD L+R



908312
SCH M3x12



964073
S 7x10x0.2



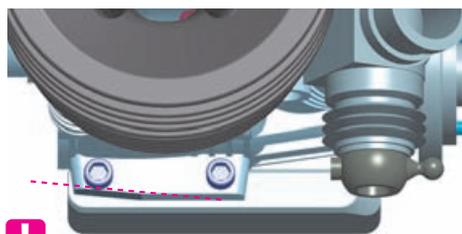
964074
S 7x10x0.3



964075
S 7x10x0.5



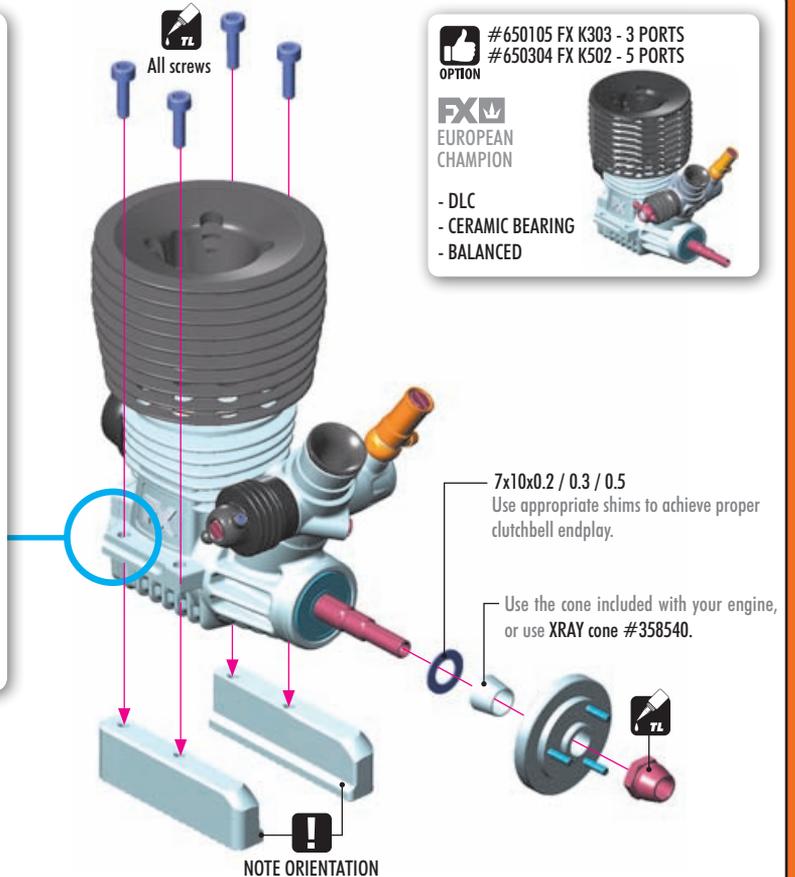
! IMPORTANT!



! When installing the engine, first check that the drive shaft does not touch the engine. If it does, remove some material from the engine mount as shown to make some room between engine and shaft.



All screws



#650105 FX K303 - 3 PORTS
#650304 FX K502 - 5 PORTS

FX
EUROPEAN
CHAMPION



- DLC
- CERAMIC BEARING
- BALANCED

7x10x0.2 / 0.3 / 0.5

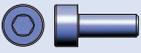
Use appropriate shims to achieve proper clutchbell endplay.

Use the cone included with your engine, or use XRAY cone #358540.

! NOTE ORIENTATION



359050
BB 5x10x4



908308
SCH M3x8



961032
S 3.2

SET-UP BOOK
CLUTCH SPRINGS
CLUTCH SHOE



! Note the orientation of the clutch shoes. The short side of spring must be in the groove of the flywheel nut.



! These bearings must still be regularly serviced and replaced when worn out.

11-11.2 mm

TIP Hold the flywheel using HUDY Flywheel Tool #182016.

TIP Tighten the clutch nut using HUDY tool #107581.



CLUTCH SHOE

OPTION	#358563	GRAPHITE (2)	OPTION
	#358564	ALU - HARD (3)	INCLUDED



CLUTCHBELL 3 SHOE CLUTCH

OPTION	#358512	12T	OPTION
	#358513	13T	INCLUDED
	#358514	14T	OPTION
	#358525	15T	OPTION
	#358517	13T Lightweight	OPTION
	#358518	14T Lightweight	OPTION



HIGH TORQUE CLUTCH SPRING

OPTION	#358588	GRAY	MEDIUM	OPTION
	#358589	SILVER	HARD	INCLUDED



Final Drive Ratio

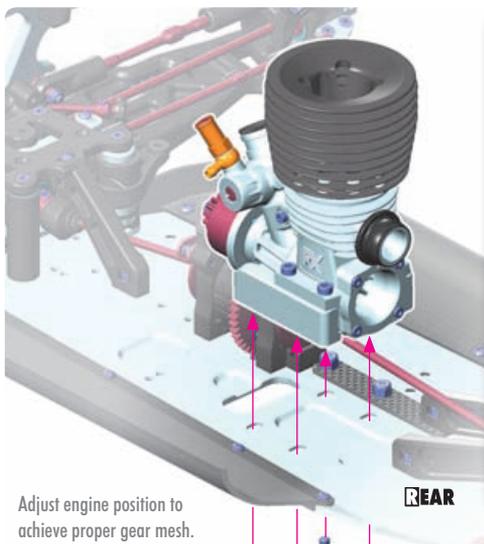
$$(50 : 13) \times 4.30 = 16.53$$

(Center Spur) (Clutchbell) (Internal ratio) (FDR)



911410
SHF M4x10

SET-UP BOOK
GEARING
GEAR MESH ADJ.



Adjust engine position to achieve proper gear mesh.

Threadlock on all screws.



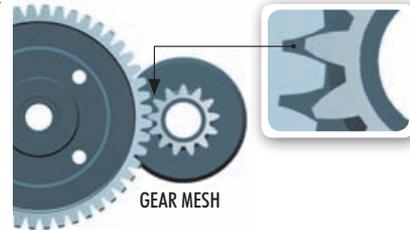
OPTION #358709
ALU MONOBLOCK ENGINE MOUNT - SWISS 7075 T6



OPTION #358718
ALU STAND (FX, NOVAROSS, MAX, SIRIO)



OPTION #358719
ALU STAND (PICCO, REDS, ORION, LRP, OS, ULT. RACING)



GEAR MESH

! EXTREMELY IMPORTANT

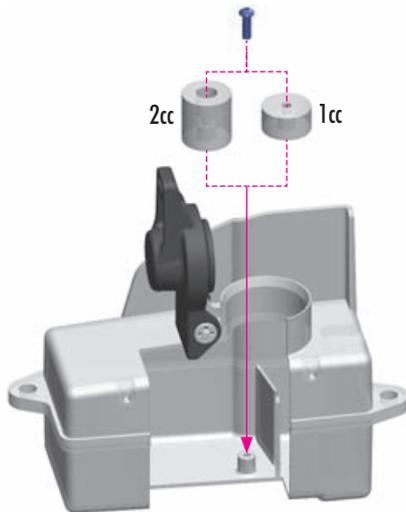
It is very important that your XT8 has properly-adjusted gear mesh. Adjust the gear mesh so there is adequate (or slightly larger) space between the spur gear and clutchbell teeth. Adjust the gear mesh by sliding the engine mounts in the slots of the chassis. You should be able to rock one gear back and forth slightly while holding the other one firmly. Be sure to check the gear mesh all the way around the spur gear. Tighten the screws once the engine alignment and gear mesh are correct, and then re-check the gear mesh to ensure the engine mounts did not move.



OPTION #912410
HEX SCREW FLAT HEAD CAP FHS M4x10 (4)



907258
SP 2.5x8



2cc 1cc

The fuel tank has the larger fuel volume and includes OPTIONAL tank inserts for decreasing the volume of the tank. Using the inserts allows you to adjust the volume of fuel inside the tank; this works in conjunction with variables such as fuel filter capacity and/or length of fuel line to ensure you have the legal fuel volume limit for racing.

Tube holders are easily connected to the fuel tank by screws. Using screws is much more secure than using glue to attach the holders to the fuel tank.

2CC FUEL TANK INSERT

The larger insert decreases the fuel tank volume by 2cc, and is recommended for use when the fuel filter is used.



1CC FUEL TANK INSERT

The smaller insert decreases the fuel tank volume by 1cc.



NOTE ORIENTATION



NOTE ORIENTATION



NOTE: The fuel tank insert can be easily mounted to the bottom of the fuel tank using the provided screw, when the fuel tank cap is opened fully.



353370
SHIM 3x9x2



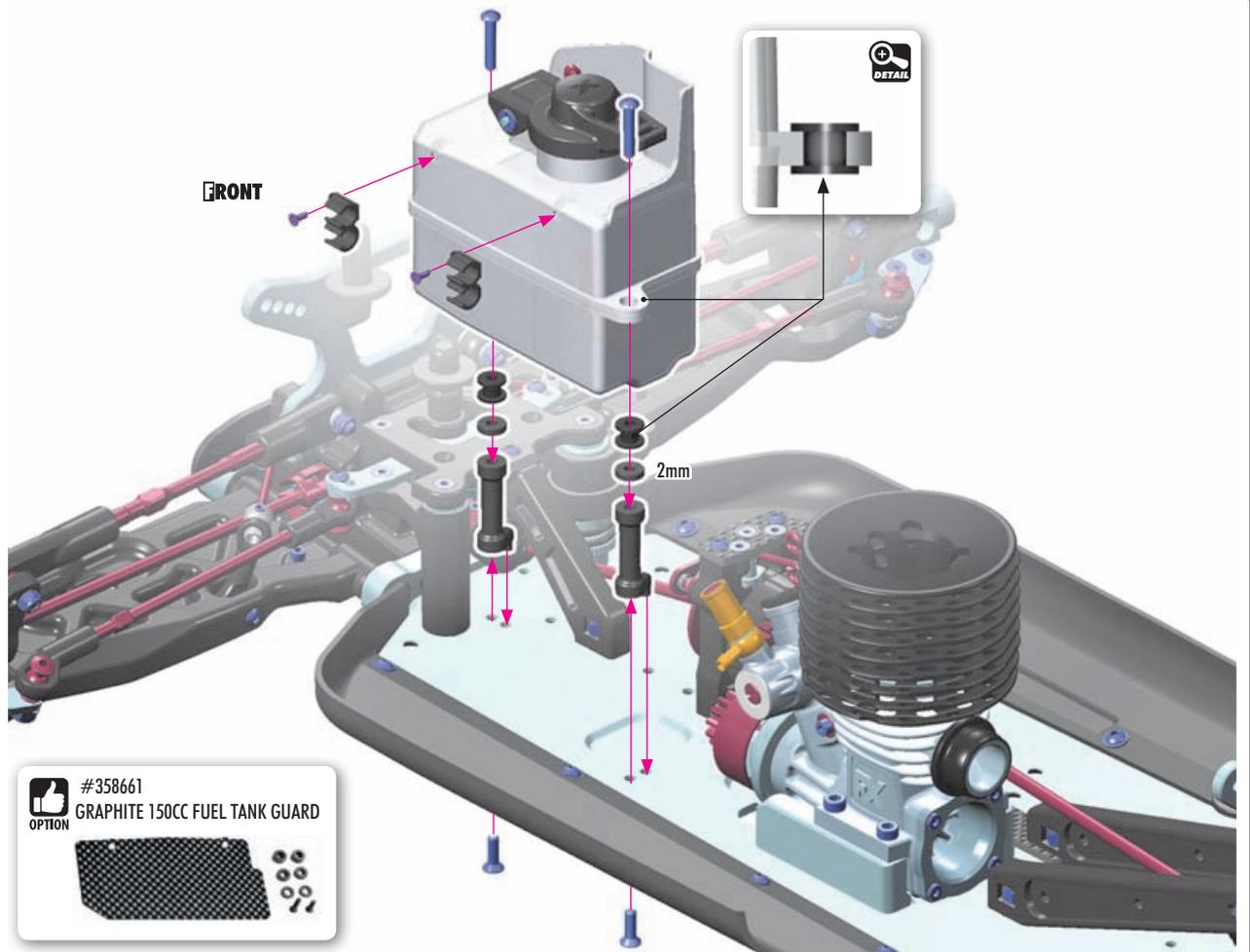
902316
SH M3x16



903310
SFH M3x10



906206
SFP 2.2x6



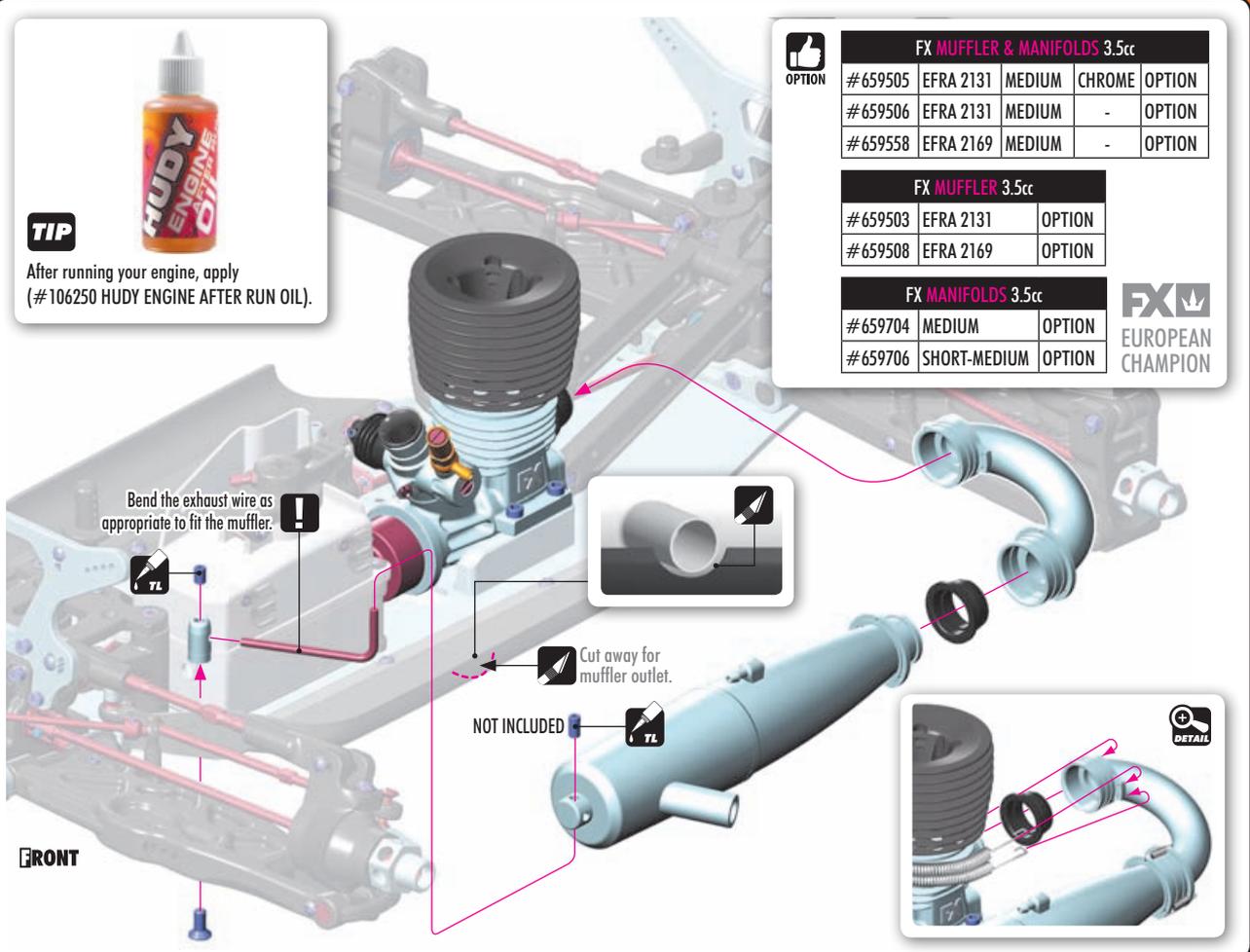
OPTION #358661
GRAPHITE 150CC FUEL TANK GUARD



901405
SB M4x5



903410
SFH M4x10



TIP



After running your engine, apply
(#106250 HUDY ENGINE AFTER RUN OIL).

Bend the exhaust wire as appropriate to fit the muffler.



Cut away for muffler outlet.

NOT INCLUDED



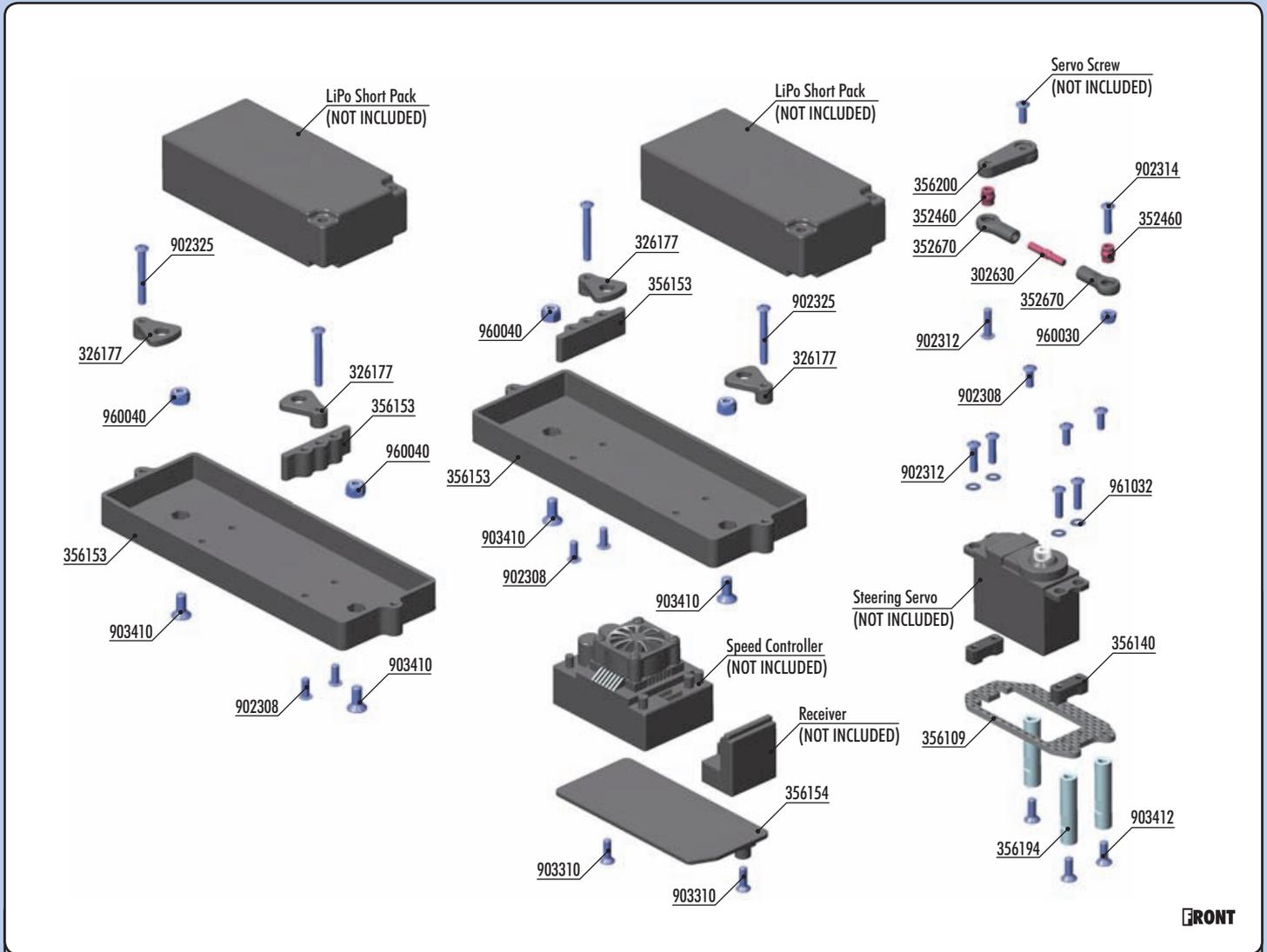
OPTION

FX MUFFLER & MANIFOLDS 3.5cc				
# 659505	EFRA 2131	MEDIUM	CHROME	OPTION
# 659506	EFRA 2131	MEDIUM	-	OPTION
# 659558	EFRA 2169	MEDIUM	-	OPTION

FX MUFFLER 3.5cc		
# 659503	EFRA 2131	OPTION
# 659508	EFRA 2169	OPTION

FX MANIFOLDS 3.5cc		
# 659704	MEDIUM	OPTION
# 659706	SHORT-MEDIUM	OPTION

FX
EUROPEAN
CHAMPION



FRONT

BAG 	302630 ADJ. TURNBUCKLE L/R 20 MM - HUDY SPRING STEEL™ (2) 352460 PIVOT BALL 5.8 (10) 352670 SERVO BALL JOINT 5.8MM (4) 356140 COMPOSITE SERVO MOUNT - SMALL (2) 356194 ALU MOUNT FOR RECEIVER BOX 356200 BRAKE/THROTTLE ARMS & STEERING SERVO ARMS - SET	902308 HEX SCREW SH M3x8 (10) 902312 HEX SCREW SH M3x12 (10) 902314 HEX SCREW SH M3x14 (10) 903412 HEX SCREW SFH M4x12 (10) 960030 NUT M3 (10) 961032 WASHER S 3.2 (10)
	326177 COMPOSITE BATTERY CLAMP (2) 356109 XB8E/GTXE/XT8E SADDLE PACK GRAPHITE SERVO HOLDER 356153 XB8E/GTXE/XT8E BATTERY BOX FOR STANDARD & SHORT BATTERY PACK (2) 356154 COMPOSITE SPEEDO PLATE	902308 HEX SCREW SH M3x8 (10) 902325 HEX SCREW SH M3x25 (10) 903310 HEX SCREW SFH M3x10 (10) 903410 HEX SCREW SFH M4x10 (10) 960040 NUT M4 (10)



TIP Install the pivot balls with Professional Multi-Tool (HUDY #183011).

approx. 7mm

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

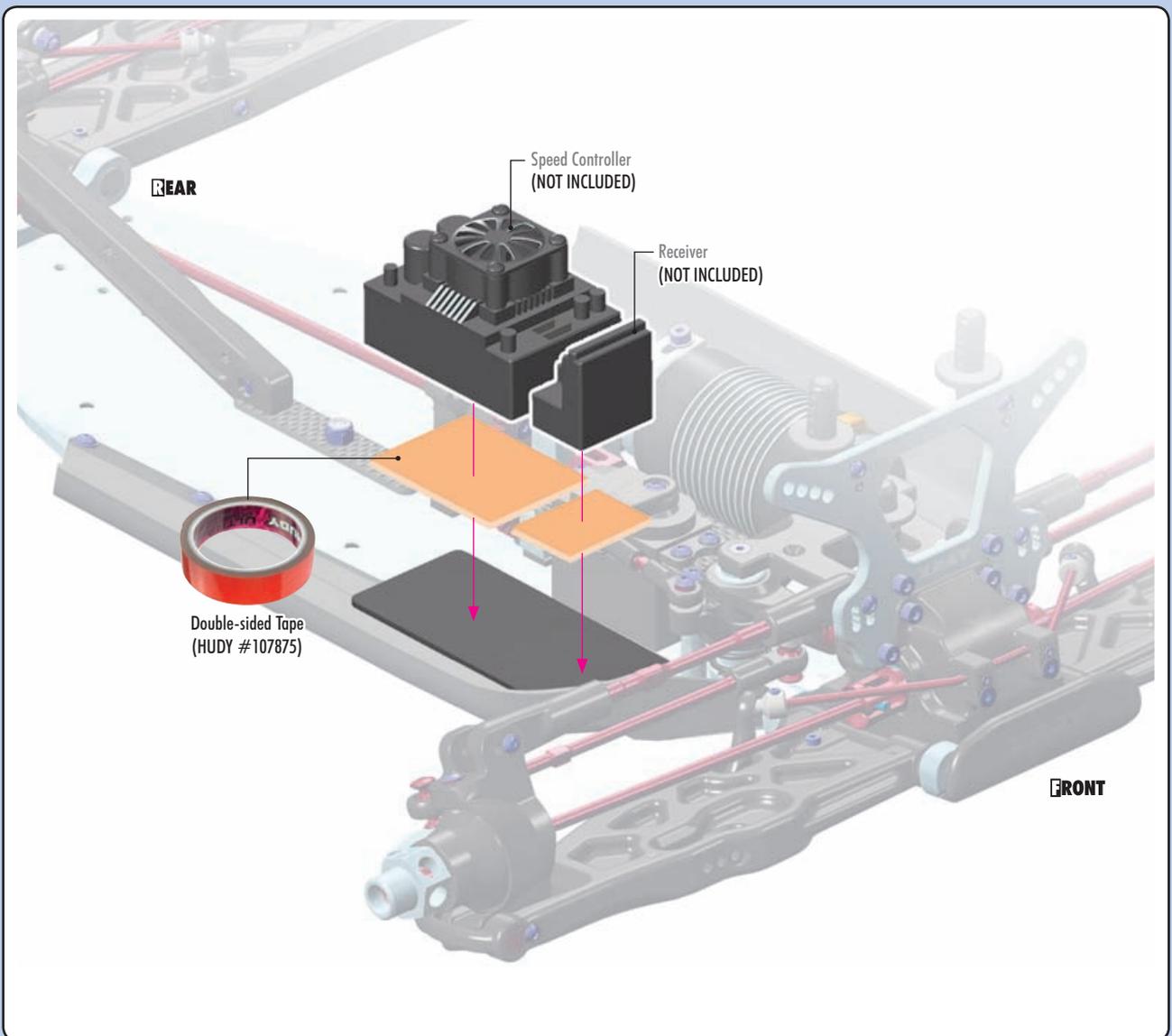
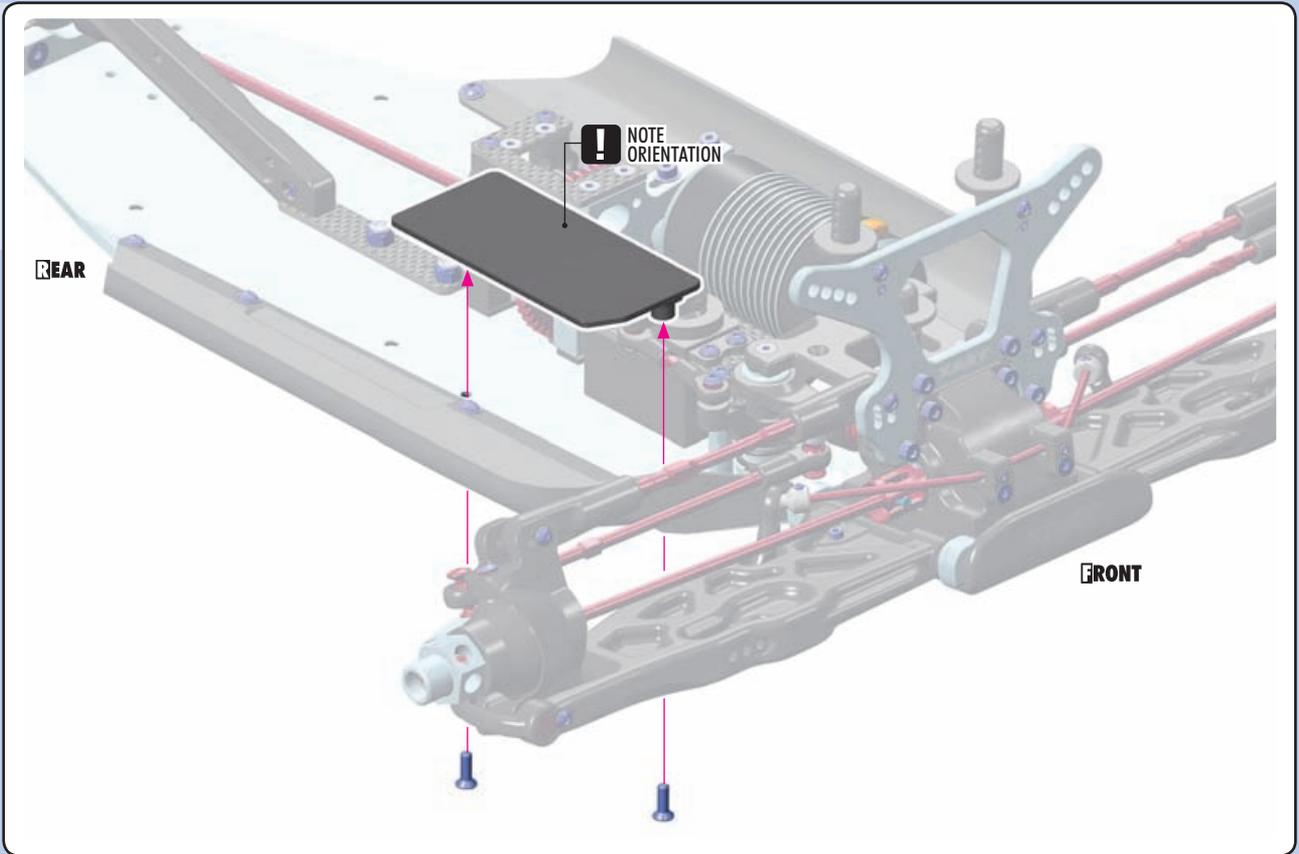
Use appropriate servo arm:
K - (23T) H - (24T) F - (25T)

! NOTE ORIENTATION

OPTION	ALU SERVO HORNS		CLAMP ALU SERVO HORNS	
#293501	23T	OPTION	#293407	23T OPTION
#293502	24T	OPTION	#293408	24T OPTION
#293503	25T	OPTION	#293409	25T OPTION



903310
SFH M3x10



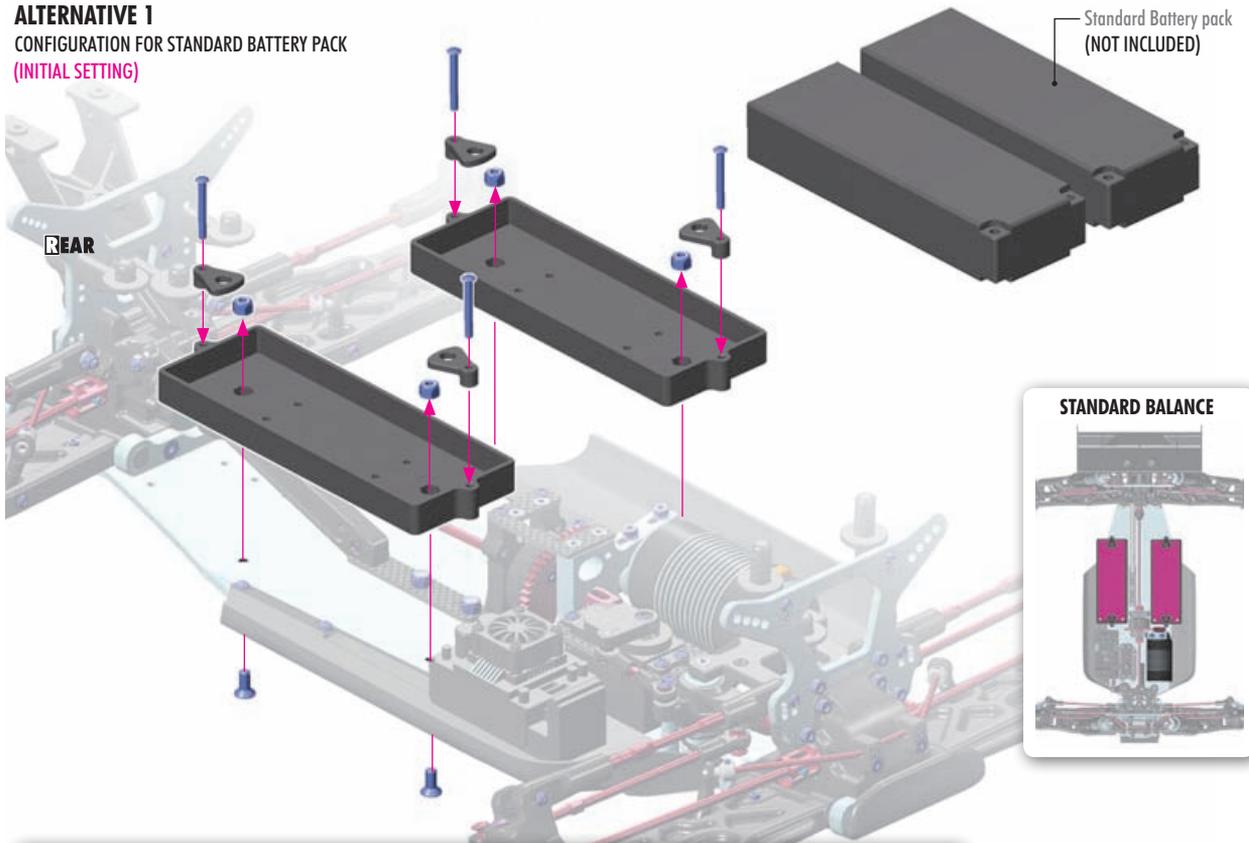
- 

902325
SH M3x25
- 

903410
SFH M4x10
- 

960040
N M4

ALTERNATIVE 1
CONFIGURATION FOR STANDARD BATTERY PACK
(INITIAL SETTING)



To ensure correct functioning of the battery holder, DO NOT overtighten the screw; the holder must be able to move.

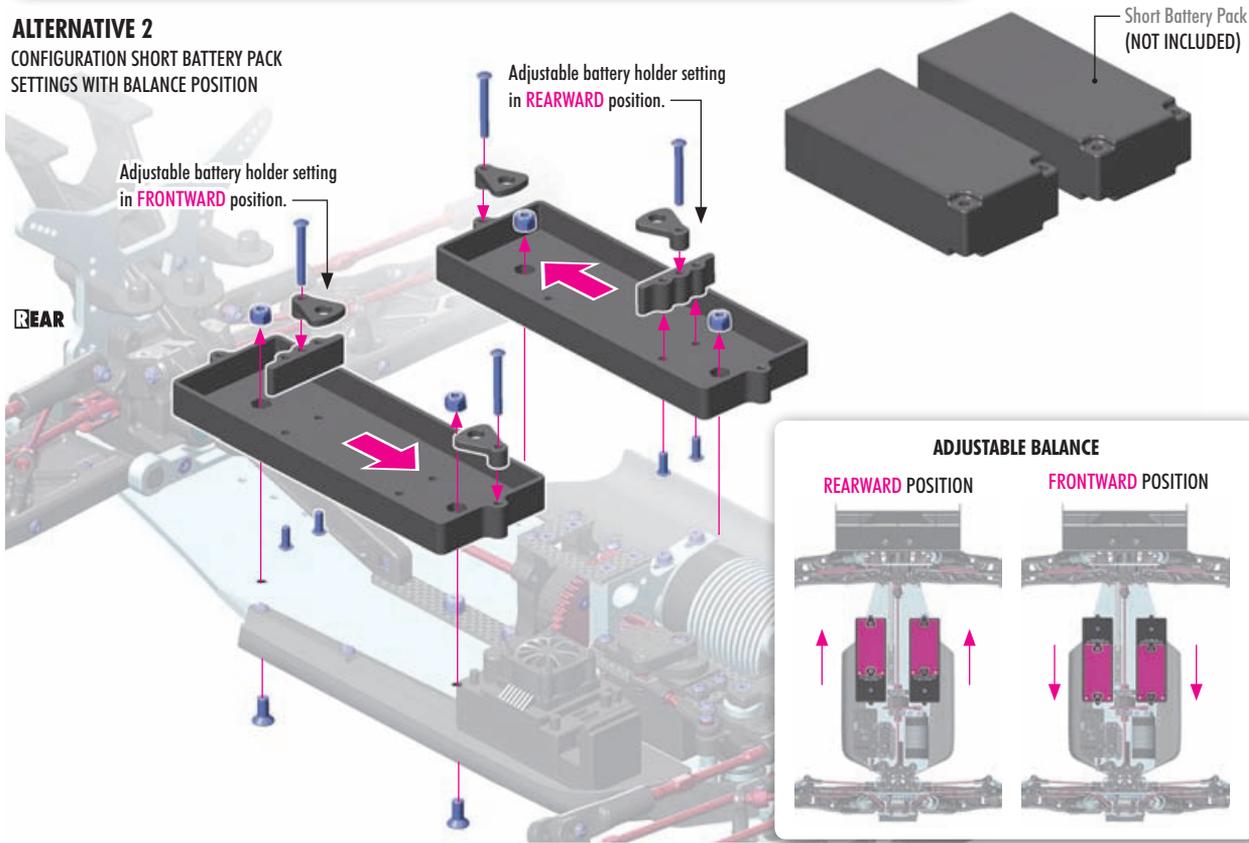
ORIENTATION FOR LOW BATTERY PACK

ORIENTATION FOR STANDARD BATTERY PACK

HEIGHT ADJUSTMENT
1 turn = 0.5mm



ALTERNATIVE 2
CONFIGURATION SHORT BATTERY PACK
SETTINGS WITH BALANCE POSITION





902314
SH M3x14



961032
S 3.2

step 1

Servo screw
(NOT INCLUDED)

TOP

BOTTOM

NOTE ORIENTATION

NOTE
Use the shims only if the servo is too high and extends from the case.

Plug the connectors into the receiver in Step 2.



902310
SH M3x10



902312
SH M3x12



907206
SP M2x6

step 2

Use foam to cushion the inside of the radio case so the receiver and battery cannot vibrate or move.

3x10mm

3x12mm

3x10mm

TIP CUT

2x6

SWITCH #356050
OPTION

When receiver switch is used, use hobby knife to CAREFULLY remove the material from the cover and mount the switch.



902314
SH M3x14



903412
SFH M4x12



960030
N M3

Personal transponder (NOT INCLUDED)
#902306 Screws (NOT INCLUDED)

Personal transponder can be placed on the top of the radio box or inside of the radio box.

ALTERNATIVE 1
When the transponder is placed at the top of the radio box, cut out some material from the radio box in order to allow the transponder wire to come inside.

ALTERNATIVE 2
Place the transponder inside of the radio box by using double-sided tape.

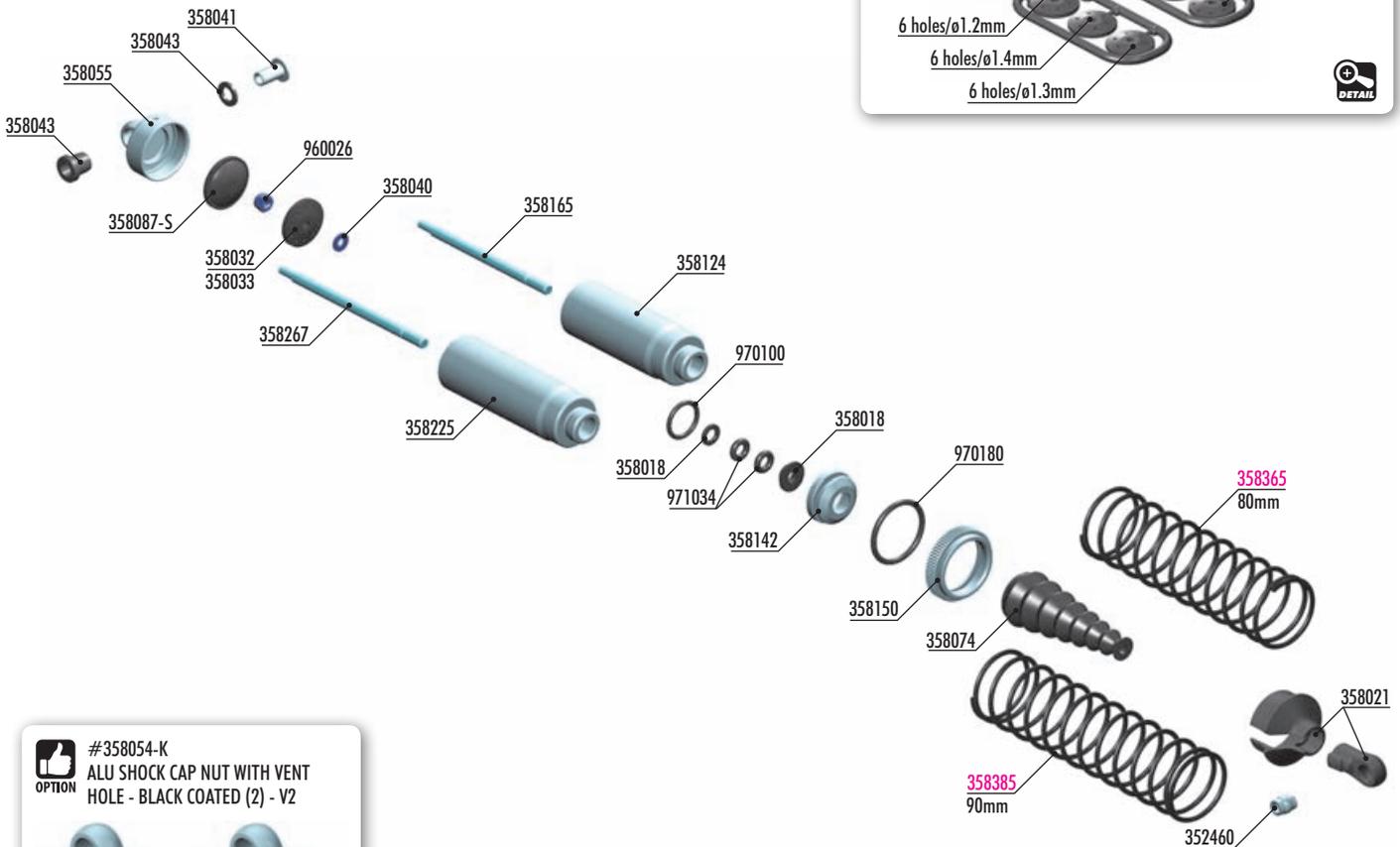
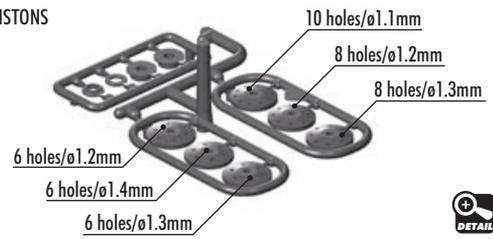
3x6mm (NOT INCLUDED)

FRONT

DETAIL

Note orientation of servo arm when servo is at neutral.

PISTONS



#358054-K
ALU SHOCK CAP NUT WITH VENT HOLE - BLACK COATED (2) - V2



SHOCK RUBBER MEMBRANE (4)

#358084-S	RIBBED	SOFT	OPTION
#358087-S	CELL	SOFT	INCLUDED
#358087-M	CELL	MEDIUM	OPTION



2-WAY FLOW DELRIN SHOCK PISTON (4pcs)

#358027	5-HOLE (1.5mm)	2-HOLE (1.0mm)	OPTION
#358028	6-HOLE (1.3mm)	2-HOLE (1.1mm)	OPTION
#358029	6-HOLE (1.4mm)	2-HOLE (1.1mm)	OPTION
#358027	8-HOLE (1.2mm)	2-HOLE (1.2mm)	OPTION
#358027	8-HOLE (1.3mm)	2-HOLE (1.2mm)	OPTION



#104005
HUDY AIR VAC - VACUUM PUMP - 1/8 OFF-ROAD



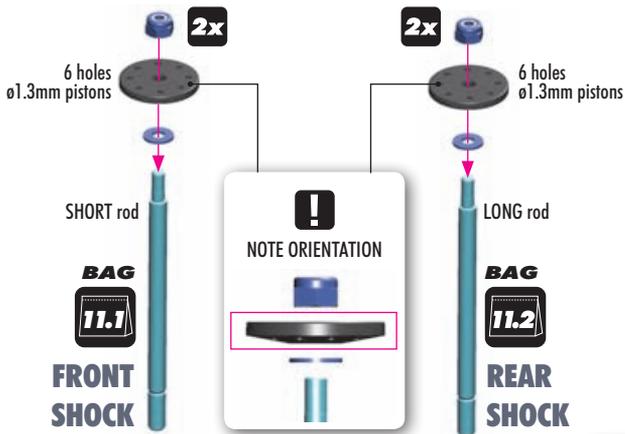
BAGS



- 352460 PIVOT BALL 5.8 - V3 (10)
- 358018 COMPOSITE SET OF SHIMS FOR SHOCKS - V2 (2)
- 358021 COMPOSITE SHOCK PARTS WITH KEYED BALL JOINTS
- 358032 SHOCK PISTON SET 8-HOLE (1.2; 1.3) 10-H. (1.1MM) - DELRIN - V2
- 358033 COMPOSITE SHOCK 6-HOLE PISTON SET (1.2; 1.3; 1.4MM) - DELRIN - V2
- 358040 HARDENED SHOCK SHIMS (4)
- 358041 STEEL SHOCK BUSHING (2)
- 358043 COMPOSITE SHOCK BUSHING & SHIM (2+2)
- 358055 ALU SHOCK CAP NUT WITH 4 VENT HOLES - BLACK COATED (2)
- 358074 FOLDING SHOCK BOOT (4)
- 358087-S SHOCK RUBBER MEMBRANE CELL - SOFT (4)
- 358124 ALU FRONT SHOCK BODY - HARD COATED - V2 (2)
- 358142 ALU SHOCK BODY NUT FOR SHOCK BOOT (2)

- 358150 ALU SHOCK BODY ADJ. NUT (2)
- 358165 FRONT SHOCK SHAFT 61mm (2)
- 358225 ALU REAR SHOCK BODY - HARD COATED (2)
- 358267 REAR SHOCK SHAFT (2)
- 960026 NUT M2.5 - SHORT (10)
- 970100 O-RING 10 x 1.5 (10)
- 970180 O-RING 18 x 1.8 (10)
- 971034 SILICONE O-RING 3.5x2 (10)

- 358365 XRAY FRONT SPRING 80MM - 3 DOTS (2)
- 358385 XRAY REAR SPRING 90MM - 3 DOTS (2)



2-WAY FLOW DELRIN SHOCK PISTON (4pcs)

OPTION	#	HOLE	SIZE	OPTION
	#358027	5-HOLE	(1.5mm)	2-HOLE (1.0mm) OPTION
	#358028	6-HOLE	(1.3mm)	2-HOLE (1.1mm) OPTION
	#358029	6-HOLE	(1.4mm)	2-HOLE (1.1mm) OPTION
	#358027	8-HOLE	(1.2mm)	2-HOLE (1.2mm) OPTION
	#358027	8-HOLE	(1.3mm)	2-HOLE (1.2mm) OPTION

SET-UP BOOK
SHOCK DAMPING
SHOCK PISTONS



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.

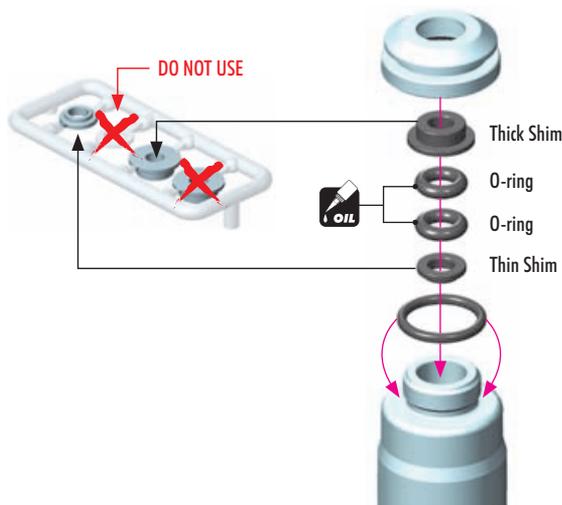


TIGHTEN GENTLY
The self-locking nut is gently tightened. The piston remains undistorted and fits inside the shock body perfectly, ensuring smooth movement of the piston.

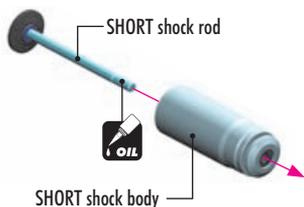


2x FRONT SHOCKS (SHORT)
2x REAR SHOCKS (LONG)

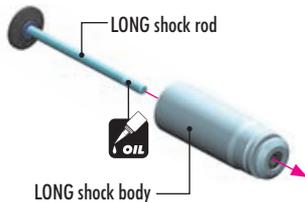
There are two different thickness shims, use them as shown. Use the same procedure when building both front and rear shocks.



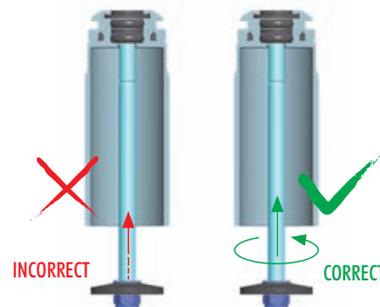
2x FRONT SHOCKS



2x REAR SHOCKS



! EXTREMELY IMPORTANT



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

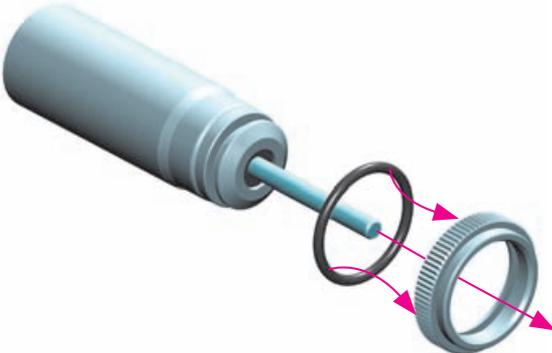
Twist the shock rod through the lower shock body assembly.



970180
Ø 18x1.8

2x FRONT SHOCKS

2x REAR SHOCKS



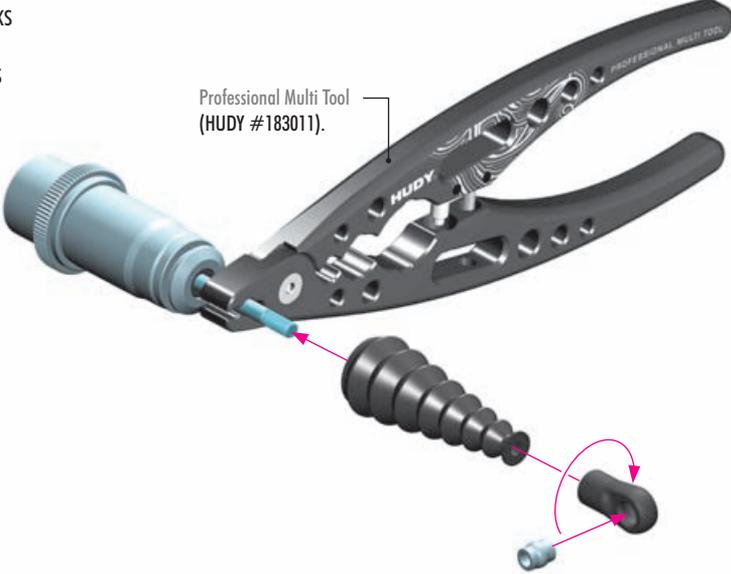


DETAIL

2x FRONT SHOCKS

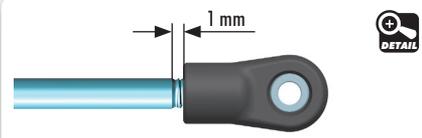
2x REAR SHOCKS

Professional Multi Tool
(HUDY #183011).





DETAIL



DETAIL

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 450cSt

**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 450cSt oil.
- 2**

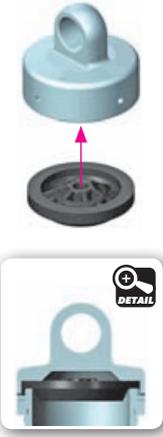


3~5x
UP & DOWN

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**



HALF TIGHTEN
50%

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**



TIGHTEN FULLY
100%

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

2x REAR SHOCKS
LONG rear shock

2x FRONT SHOCKS
SHORT front shock

LONG spring

SHORT spring

REAR shock PRELOAD
approx. 7mm

FRONT shock PRELOAD
approx. 5mm

SET-UP BOOK
SPRING RATE
SHOCK PRELOAD
RIDE HEIGHT

IMPORTANT!
Both rear shocks must be the same overall length.

IMPORTANT!
Both front shocks must be the same overall length.

DETAIL
IMPORTANT!
FRONT & REAR SHOCKS

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)

REMOVE SHOCK CAP

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

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

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

HALF TIGHTEN 50%

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

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

TIGHTEN FULLY 100%

6 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)

REMOVE SHOCK CAP

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

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

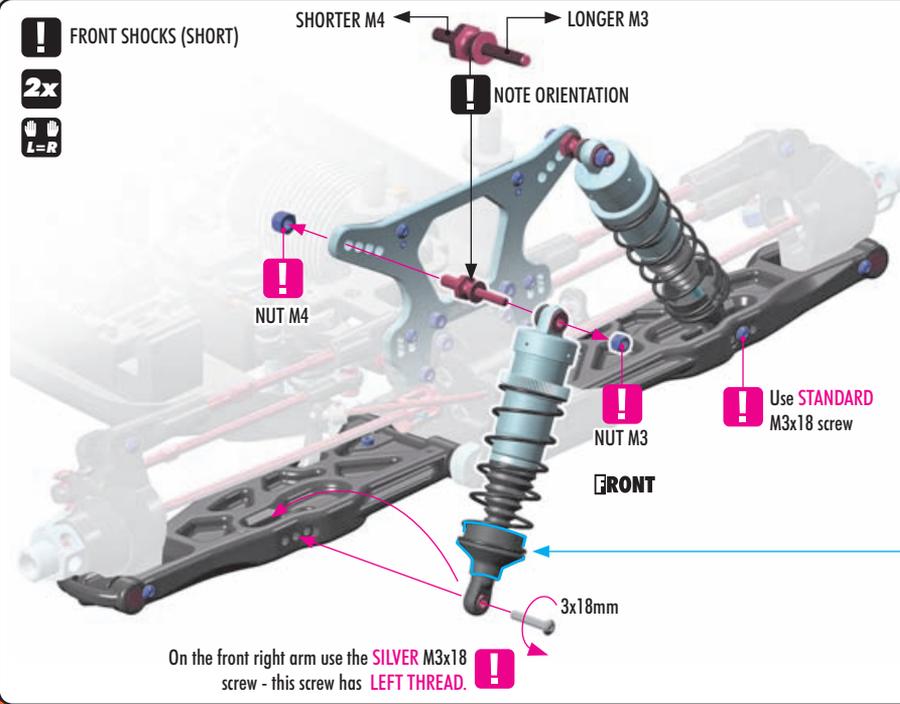
3 Orient the filled shock vertically for several minutes with the shock shaft fully extended. The remaining air bubbles will release.

TIGHTEN FULLY 100%

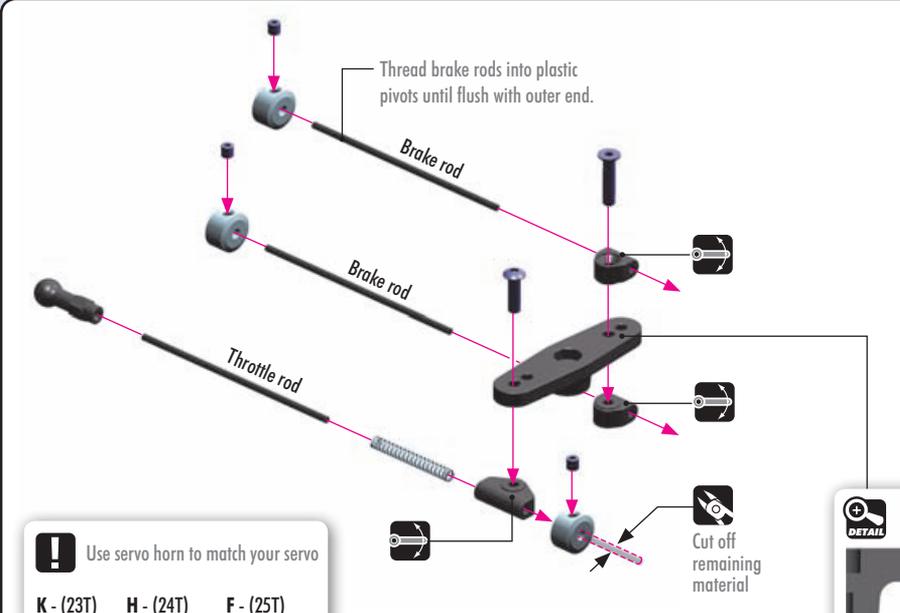
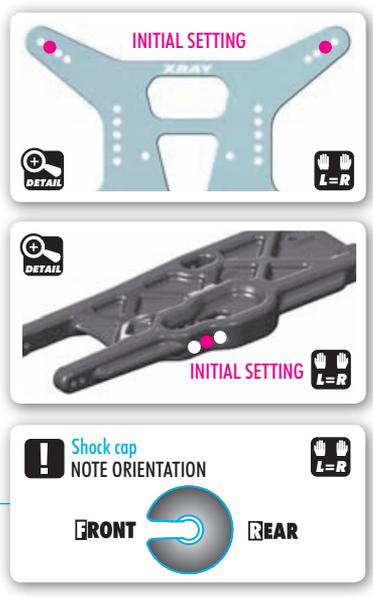
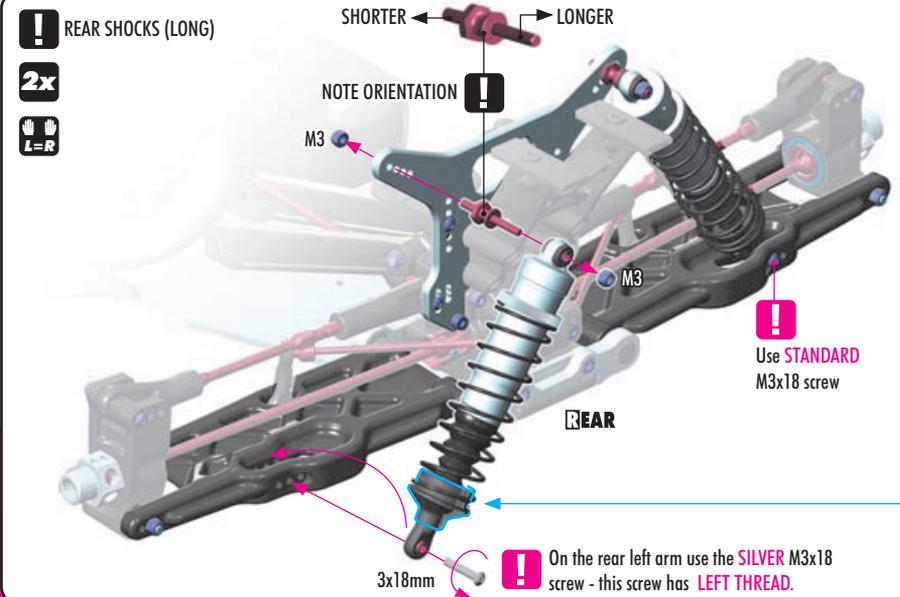
4 Gently place the shock cap assembly onto the filled shock body. Keep the shock shaft extended 100% from the shock body and tighten the shock cap completely. The rebound will be at approximately 100%.



SET-UP BOOK
SHOCK ABSORBERS



SET-UP BOOK
SHOCK ABSORBERS



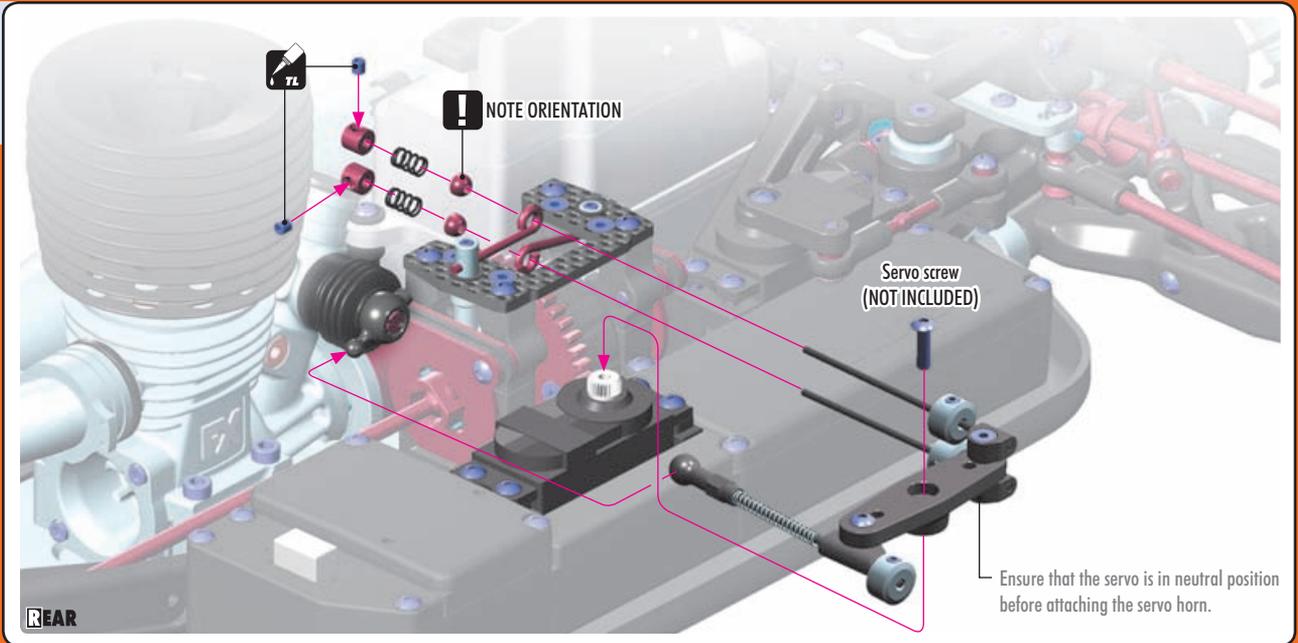
OPTION	CLAMP ALU SERVO HORNS	OPTION	ALU SERVO HORNS		
#293444	23T	OPTION	#293504	23T	OPTION
#293445	24T	OPTION	#293505	24T	OPTION
#293446	25T	OPTION	#293506	25T	OPTION
#293447	23T	OPTION	#293507	23T	OPTION
#293448	24T	OPTION	#293508	24T	OPTION
#293449	25T	OPTION	#293509	25T	OPTION

Small gap

Tighten screw until snug. Pivots should move freely.

Small gap

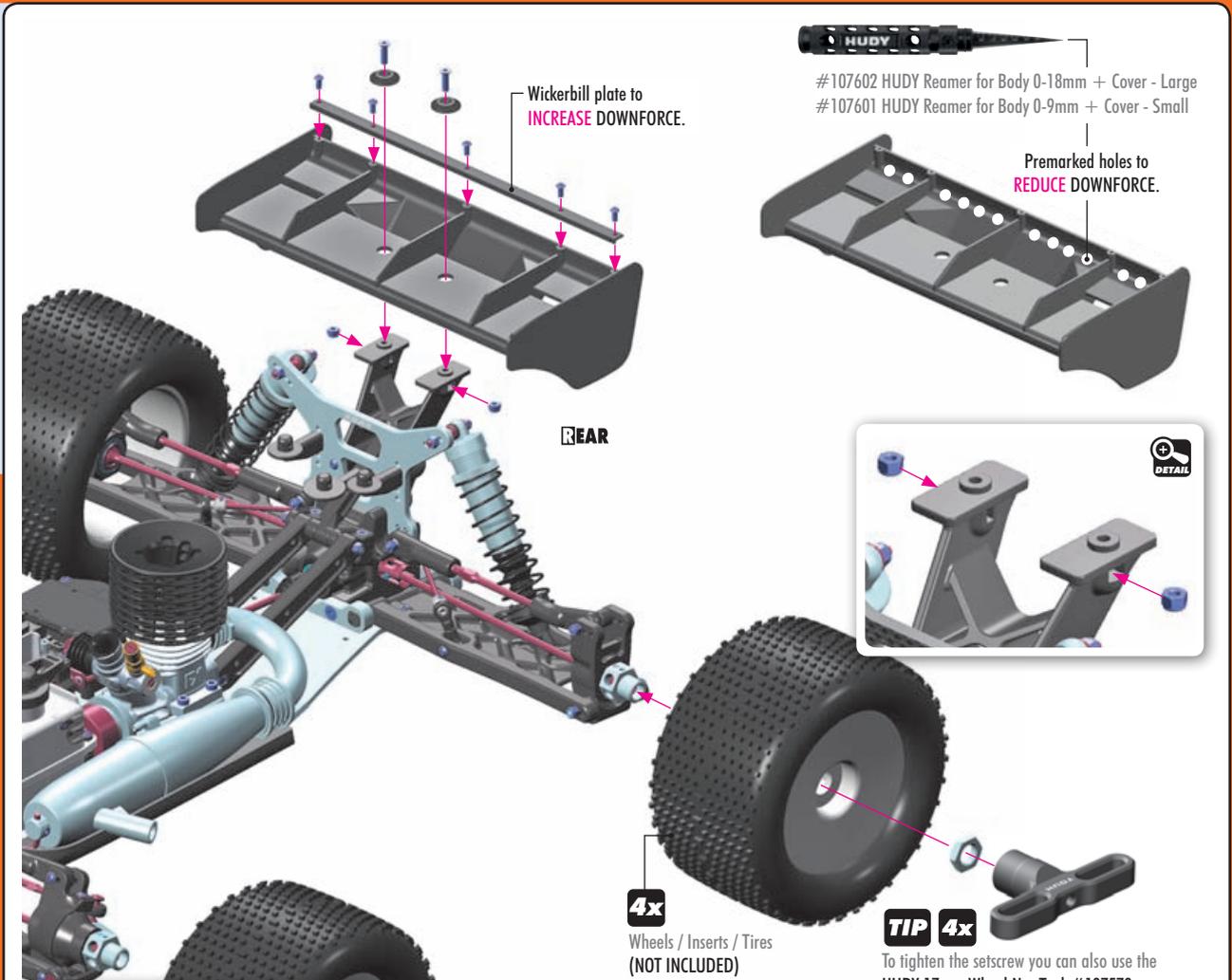
901302
SB M3x2.5



902256
SH M2.5x6

903312
SFH M3x12

960030
N M3

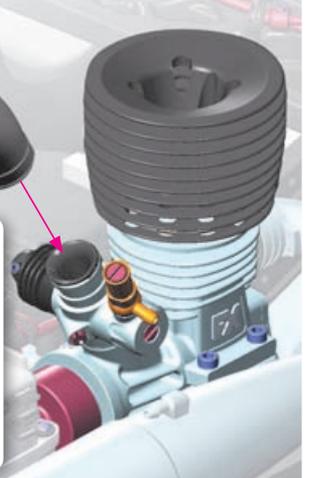
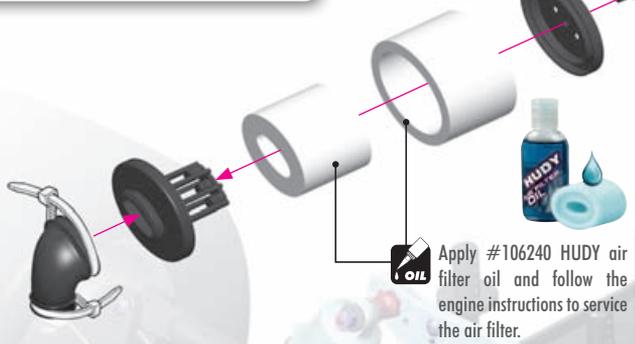


WINGS		
OPTION	#353517-K	BLACK INCLUDED
	#353517	WHITE OPTION
	#353517-Y	YELLOW OPTION
	#353512	LEXAN® OPTION



HUDY REAR WING SHIM		
OPTION	#293561	SILVER OPTION
	#293561-0	ORANGE OPTION
	#293561-K	BLACK OPTION
	#353561	SILVER OPTION

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

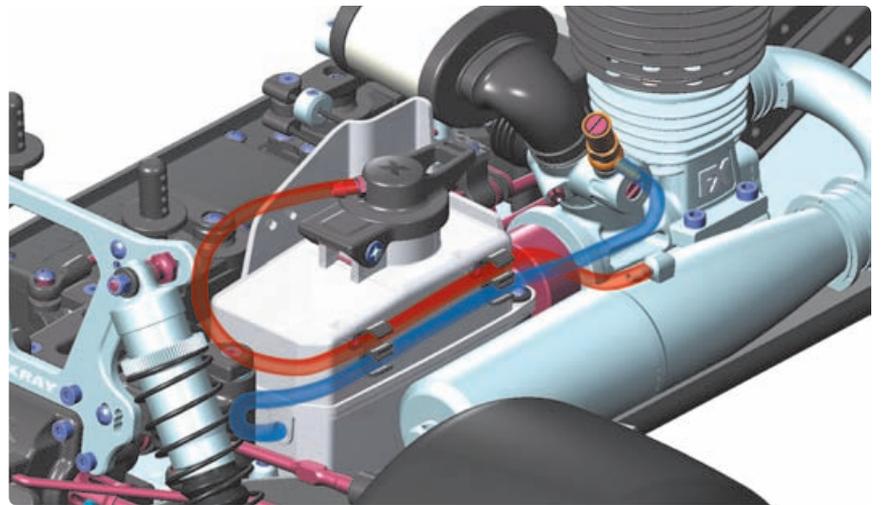


Cut the silicone tube depending on engine and muffler. Use the plastic clips to hold the tubes together.

SILICONE TUBE MARKED AS BLUE = FROM FUEL TANK TO CARBURETOR

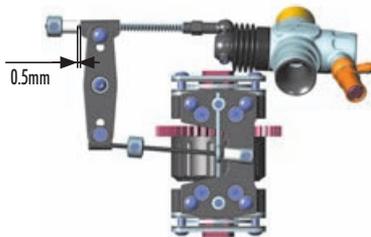
SILICONE TUBE MARKED AS RED = FROM MUFFLER TO FUEL TANK (TOP)

! Keep fuel line away from clutchbell and flywheel.



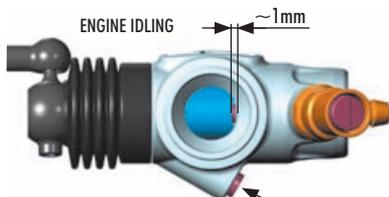
THROTTLE LINKAGE ADJUSTMENT

NEUTRAL (IDLE)



Turn on the transmitter and receiver and set the engine control servo trim to the neutral position. Adjust the idle adjustment screw on the carburetor to open approx. 1mm. Adjust both the throttle linkage and brake linkages accordingly. DO NOT adjust the linkage with the engine running.

ADJUST INDIVIDUAL LINKAGES SEPARATELY TO AVOID INTERFERING WITH THE OPERATION OF THE OTHERS



IDLING ADJUSTMENT SCREW

Use to adjust the idle setting of the carburetor. DO NOT allow carburetor to close to less than 1mm.

FULL THROTTLE



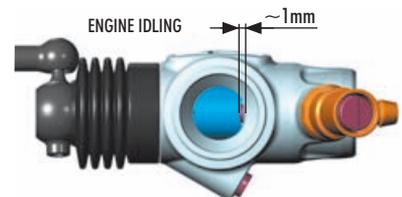
Adjust the servo-horn mounting position for the carburetor to open fully. Change the pivot mounting position on the servo horn in case the carburetor is not opening fully or if it is opening excessively. Or if available on the transmitter, adjust the throttle high end point.



BRAKE



Adjust the adjustable collars so the brakes work smoothly. If the brakes apply too much or not enough, adjust the adjustable collars accordingly. Or if available on the transmitter, adjust the brake endpoint. To tighten brakes, turn collar to thread brake rod INTO pivot. To loosen brakes, turn collar to thread brake rod OUT of pivot.



BRAKE ADJUSTING KNOBS:

- Upper linkage - rear brake
- Lower linkage - front brake

REAR

903312

353565

353517-K

902256

960030

359400

960030

358047

960030

REAR SHOCK

2x

902318

4x

355261

4x

Wheels / Inserts / Tires (NOT INCLUDED)

351310

358048

960040

960030

FRONT SHOCK

2x

902319

Body (NOT INCLUDED)

WHEEL NUTS

OPTION	#	DESCRIPTION	STATUS
	#355261	OPEN RIBBED	INCLUDED
	#293560	COVERED RIBBED	OPTION
	#355265	COVERED	OPTION

WINGS

OPTION	#	COLOR	STATUS
	#353517-K	BLACK	INCLUDED
	#353517	WHITE	OPTION
	#353517-Y	YELLOW	OPTION
	#353512	LEXAN®	OPTION

HUDY REAR WING SHIM

OPTION	#	COLOR	STATUS
	#293561	SILVER	OPTION
	#293561-0	ORANGE	OPTION
	#293561-K	BLACK	OPTION
	#353561	SILVER	OPTION

BAG

10

351310	FOAM WASHER FOR BODY POSTS (4)	902256	HEX SCREW SH M2.5x6 (10)
353565	COMPOSITE REAR WING SHIM - BLACK (2)	902318	HEX SCREW SH M3x18 (10)
355261	WHEEL NUT - RIBBED - HARD COATED (2)	902319	HEX SCREW SH M3x18 - LEFT THREAD (10)
358047	STEEL M3/M3 UPPER SHOCK MOUNT STAND OFF WITH HEX (2)	903312	HEX SCREW SFH M3x12 (10)
358048	STEEL M4/M3 UPPER SHOCK MOUNT STAND OFF WITH HEX (2)	960030	NUT M3 (10)
359400	BODY CLIP (10)	960040	NUT M3 (10)

353517-K WICKERBILL REAR WING - BLACK

902318 SH M3x18

902319 SH M3x18 LEFT thread

960030 N M3

FRONT SHOCKS (SHORT)

2x

L=R

SHORTER M4

LONGER M3

NOTE ORIENTATION

NUT M4

NUT M3

Use STANDARD M3x18 screw

FRONT

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

3x18mm

INITIAL SETTING

DETAIL

L=R

INITIAL SETTING

DETAIL

L=R

Shock cap

NOTE ORIENTATION

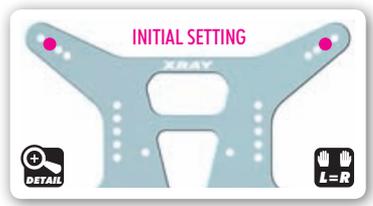
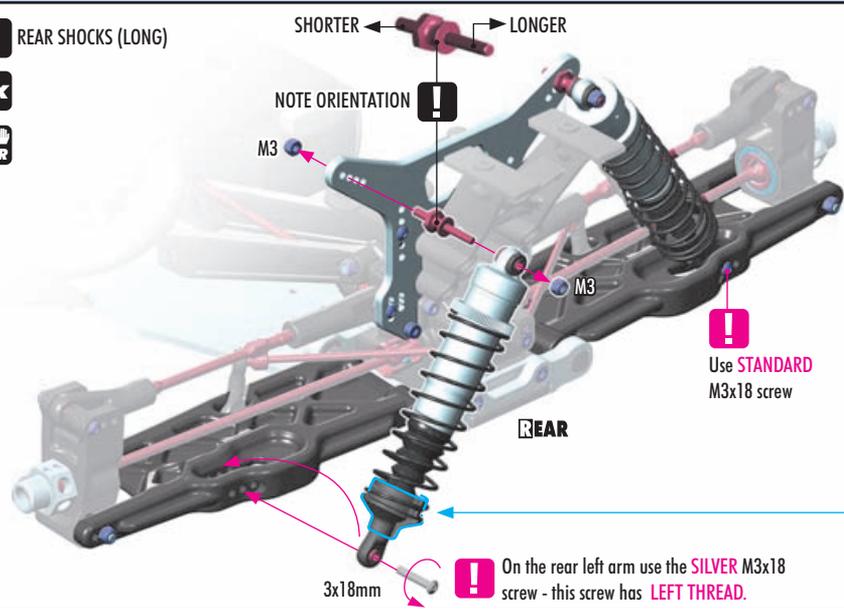
L=R

REAR FRONT



REAR SHOCKS (LONG)

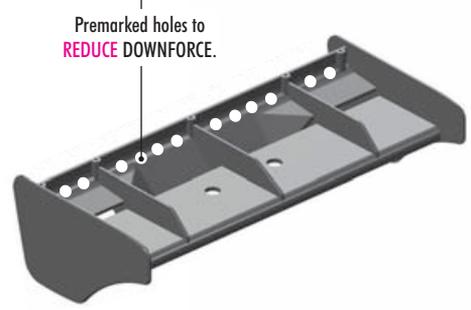
2x
L=R



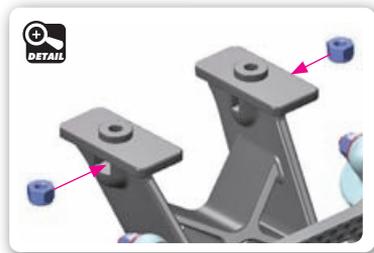
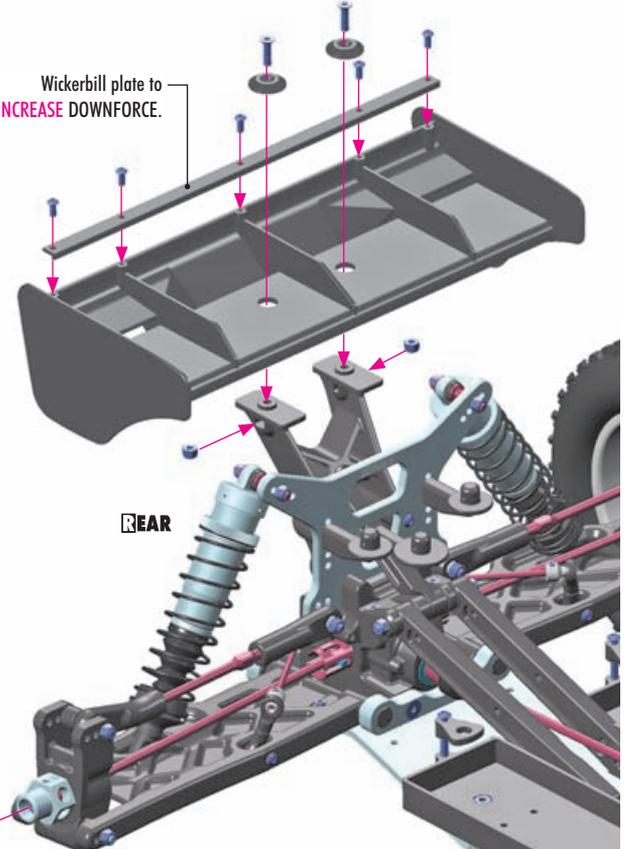
SET-UP BOOK SHOCK ABSORBERS



#107602 HUDY Reamer for Body 0-18mm + Cover - Large
#107601 HUDY Reamer for Body 0-9mm + Cover - Small

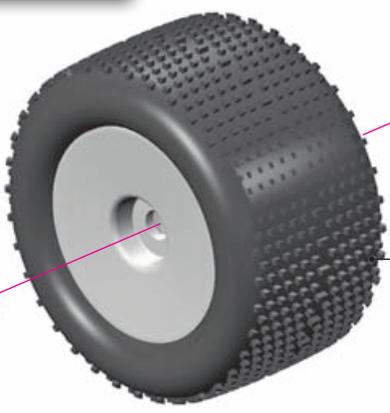


Wickerbill plate to INCREASE DOWNFORCE.



TIP 4x

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



4x
Wheels / Inserts / Tires (NOT INCLUDED)

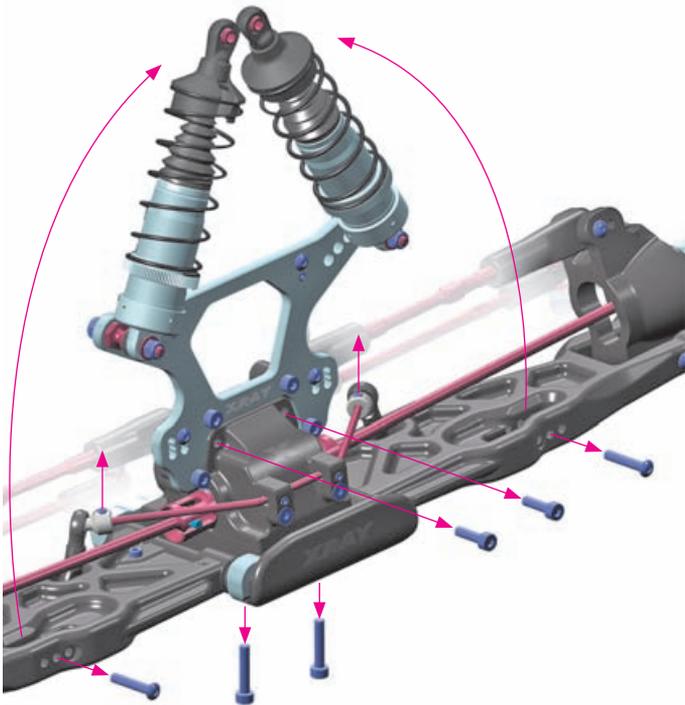
OPTION	WHEEL NUTS		
#355261	OPEN RIBBED	INCLUDED	
#293560	COVERED RIBBED	OPTION	
#355265	COVERED	OPTION	

OPTION	HUDY REAR WING SHIM			
#293561	SILVER	OPTION		
#293561-0	ORANGE	OPTION		
#293561-K	BLACK	OPTION		
#353561	SILVER	OPTION		

OPTION	WINGS		
#353517-K	BLACK	INCLUDED	
#353517	WHITE	OPTION	
#353517-Y	YELLOW	OPTION	
#353512	LEXAN®	OPTION	

1

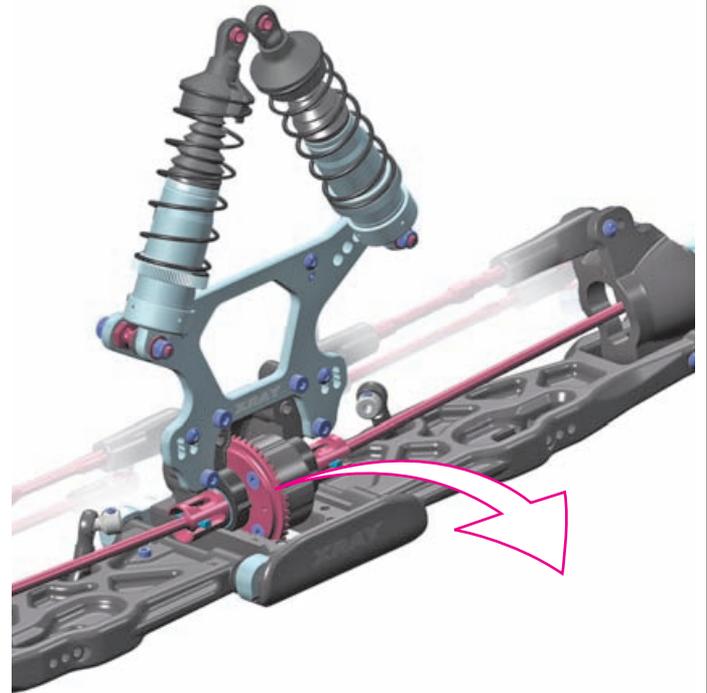
REMOVING THE DIFFERENTIAL



REMOVE ALL THE SCREWS

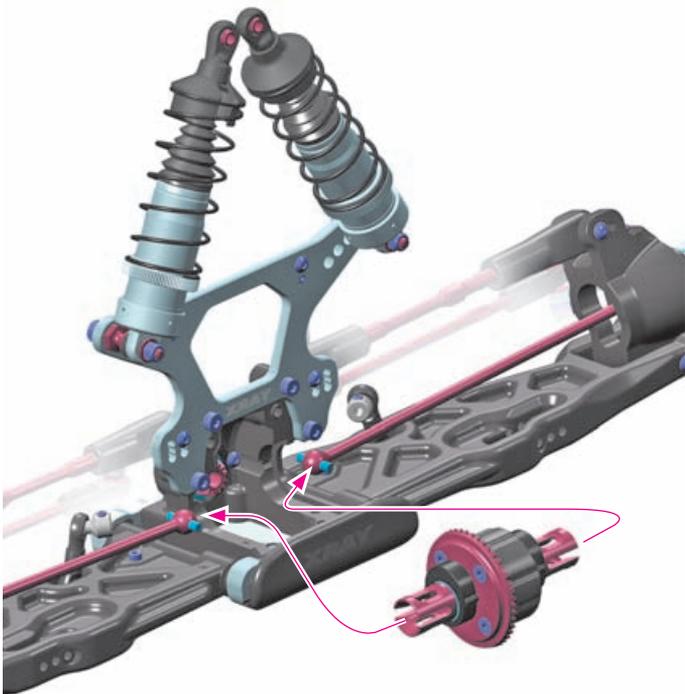
- GEAR BOX COVER UPPER SCREWS
- GEAR BOX COVER LOWER SCREWS
- ANTI-ROLL BAR
- SHOCK ABSORBERS LOWER SCREWS

2

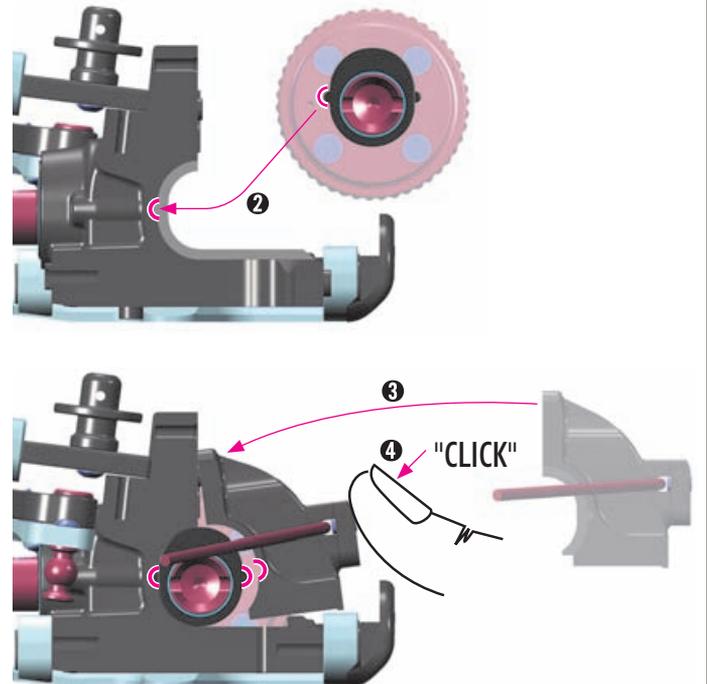


3

INSTALLING THE DIFFERENTIAL



4



TIGHTEN ALL THE SCREWS

- GEAR BOX COVER UPPER SCREWS
- GEAR BOX COVER LOWER SCREWS
- ANTI-ROLL BAR
- SHOCK ABSORBERS LOWER SCREWS

PROBLEM	CAUSE	SOLUTION
ENGINE DOES NOT START	<ul style="list-style-type: none"> Fuel tank is empty or carburetor is not primed Bad glowplug or dead glowdriver battery Fuel lines, fuel filter, air cleaner, or muffler is clogged Engine is flooded due to over-priming Carburetor is not adjusted properly Throttle servo linkage not adjusted properly 	<ul style="list-style-type: none"> Fill fuel tank with fuel and prime Replace glowplug or recharge/replace glowdriver battery Clean or replace clogged part(s) Remove glowplug, turn car over to discharge fuel from cylinder. Test glowplug and replace if defective Set idle and main/slow needle adjusting screw to standard starting position Move throttle servo to neutral position and re-adjust linkage(s)
ENGINE STARTS BUT THEN STALLS	<ul style="list-style-type: none"> Fuel tank is empty Fuel lines, fuel filter, air cleaner, or muffler is clogged Carburetor is not adjusted properly Engine has overheated 	<ul style="list-style-type: none"> Fill fuel tank with fuel Clean or replace clogged part(s) Re-adjust idle and main/slow needle adjusting screw Allow engine to thoroughly cool down and open main needle adjusting screw 30° turn richer (CCW)
BAD REACTION AND RESPONSE FROM ENGINE	<ul style="list-style-type: none"> Carburetor is not adjusted properly Fuel lines, fuel filter, air cleaner, or muffler is clogged Low fuel pressure from muffler 	<ul style="list-style-type: none"> Re-adjust main/slow needle adjusting screw Clean or replace clogged part(s) Properly install pressure line between muffler and fuel tank
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

MAINTENANCE

ENGINE OPERATION

PREPARING TO OPERATE THE ENGINE

- Never modify the engine or muffler.
- Confirm the position of needle and idling before running. Be sure to run a new engine smoothly.
- Make sure the air filter is clean and oiled.
- Never run your engine without an air filter. Your engine can be seriously damaged if dirt and debris get inside the engine.
- For proper engine break-in, please refer to the manual that came with the engine.
- The engine may not start or run properly if the air filter is dirty, or choked with sand and dust.
- If the fuel pipe is choked or deteriorates, the engine may not start, and there is danger that fuel will leak out.

STARTING AND RUNNING THE ENGINE

Be sure to observe the following starting process. Failure to do so may cause the model car to start suddenly, which may lead to damage or unexpected accidents.

- Make sure the transmitter and receiver batteries are fully charged.
- Make sure that your transmitter and receiver are both on the same frequency. If you have a transmitter with multiple model memory, make sure you have selected the proper profile for your car.
- Put the car on the starter box and keep the tires from touching the ground.
- Turn on the transmitter.
- Turn on the receiver in the car.
- Make sure the steering servo and engine servos work normally and adjust them correctly.
- Put fuel in the fuel tank, and close the cap securely.
- Apply the glow igniter to the engine glowplug.
- Push the model car onto the starter box to start the engine. (If the engine is new, follow the instruction manual and be sure to break in the new engine properly).
- When the engine has started, remove the glow igniter.
- Follow your engine break-in procedure and tune the engine as appropriate.

STOPPING THE ENGINE

Before you stop the engine, try to make sure the engine is at idle first. There are several ways to stop the engine:

- Use a rag to cover the exhaust tip. Be careful! The exhaust is extremely hot so use a thick rag and gloves.
- Pinch the fuel tubing to stop the flow of fuel to the carb. Be careful, this can make the motor run lean which can damage the motor.
- Put your hand over the air filter, or squeeze the air filter element to block the airflow.
- Press an object (such as a screwdriver handle or shoe) against the rotating flywheel to stop its rotation. Be very careful, and DO NOT stick your hand or fingers near the rotating flywheel.

FINISHING OPERATIONS

- Stop the engine.
- Turn off the receiver in the car
- Turn off the transmitter.

MAINTENANCE AFTER RUNNING

Take proper care of your car after running to keep it performing well, and take notice of any damage and wear.

- DO NOT leave fuel in the tank.
- Go outside to drain any residual fuel from the exhaust pipe.
- Clean the car and remove all sand, mud, and other debris.
- Use after-run oil in your engine after you have finished running for the day.

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.

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.

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.

CLUTCH BEARINGS

To prolong the lifespan of the clutch bearings, they must be regularly cleaned and lubricated (preferably after each run) using a high-quality grease such as HUDY Bearing Grease. However, after some time the clutch bearings must be replaced with new ones.

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.
- Use HUDY Bearing Grease to regularly lubricate the clutch bearings.



HUDY #106230



HUDY

All the tools & accessories shown are suitable for XT8 and/or XT8E



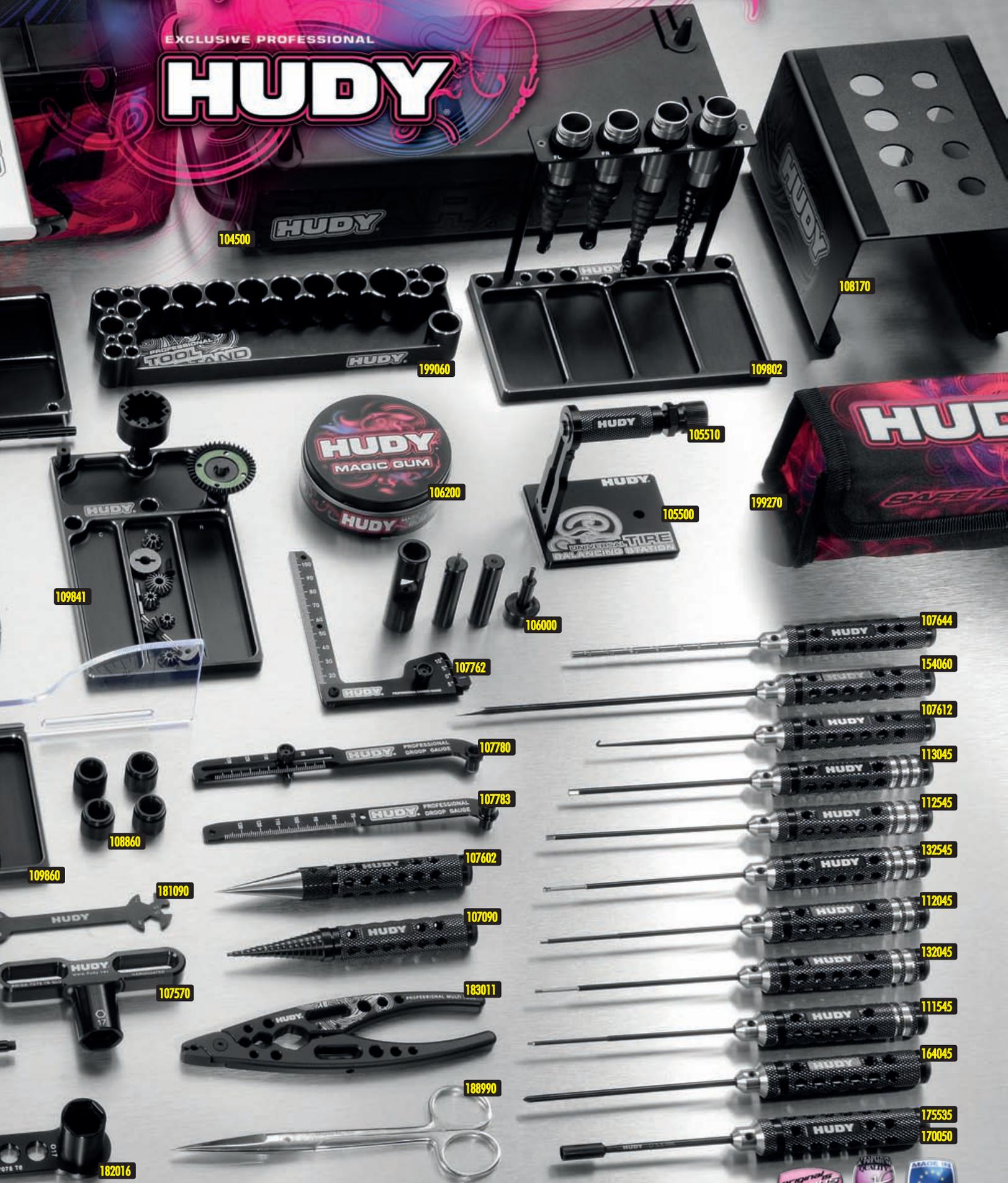
- #104005 HUDY Air Vac - Vacuum Pump - 1/8 Off-Road
- #104140 HUDY Engine Break-In Bench
- #104500 HUDY Star-Box 1/8 Off-Road
- #105500 HUDY Universal Tire Balancing Station
- #105510 Wheel Adapter for 1/8 Off-Road Cars, Truggy & Rally Game
- #106000 HUDY Drive Pin Replacement Tool (for 3mm Pins)
- #106200 HUDY Magic Cleaning Gum
- #106245 HUDY Air Filter Sealant
- #107030 HUDY Flywheel Puller
- #107090 HUDY Bearing Check Tool
- #107570 HUDY 17mm Off-Road Wheel Nut Tool
- #107581 HUDY Cross Wrench Glowplug # 8mm / Clutchnut # 10mm
- #107602 Limited Edition - Reamer for Body 0-18mm + Cover - Large
- #107612 Limited Edition - Exhaust Spring / Caster Clip Remover

- #107644 Limited Edition - Arm Reamer # 4.0mm
- #107701 Chassis Droop Gauge Support Blocks 20mm for 1/8 - LW(2)
- #107704 Chassis Droop Gauge Support Blocks 30mm 1/8 Off-Road - LW (2)
- #107717 Chassis Droop Gauge 0 to -13 mm for 1/8 Off-Road
- #107742 HUDY Adjustable Ride Height Gauge 20-30mm
- #107744 HUDY Adjustable Ride Height Gauge 30-45mm
- #107762 HUDY Adjustable Camber Gauge 110mm
- #107780 HUDY Adjustable Droop Gauge 80-140mm
- #107783 HUDY Droop Gauge 70-140mm
- #107855 HUDY Pit LED
- #107865 HUDY Ultimate Digital Pocket Scale 300g/0.01g
- #107866 HUDY Professional Digital Pocket Scale 3000g/0.1g
- #108170 HUDY Off-Road & Truggy Car Stand
- #108190 HUDY Alu Tray for Parts

- #108202 Flat Set-Up Board for 1/8 Off-Road & Truggy
- #108212 Plastic Set-up Board Decal for 1/8 Off-Road & Truggy
- #108801 HUDY Set-Up Station for 1/8 Off-Road Cars & Truggy
- #108841 Upside Measure Plate for 1/8 Truggy
- #108860 Alu Nut for 1/8 Off-Road System (4)
- #108870 Alu Set-up Wheel for 1/8 Off-Road Cars - V2 (4)
- #109802 HUDY Alu Tray for 1/8 Off-Road Diff & Shocks
- #109841 HUDY Alu Tray for 1/8 Off-Road Diff Assembly
- #109860 HUDY Alu Tray for Set-Up System
- #109880 HUDY Alu Tray for Accessories & Pit LED
- #111545 Limited Edition - Allen Wrench # 1.5mm
- #112045 Limited Edition - Allen Wrench # 2.0mm
- #112071 Power Tool Tip Allen 2.0 x 90 mm
- #112545 Limited Edition - Allen Wrench # 2.5mm

EXCLUSIVE PROFESSIONAL

HUDY



104500

199060

108170

109802

106200

105510

199270

105500

109841

106000

107762

107644

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113045

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170050

108860

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107783

107602

107090

183011

188990

109860

181090

107570

182016



- #112571 Power Tool Tip Allen 2.5 x 90 mm
- #113045 Limited Edition - Allen Wrench + Ball Repl. Tip # 3.0mm
- #132045 Limited Edition - Allen Wrench + Ball Repl. Tip # 2.0mm
- #132545 Limited Edition - Allen Wrench + Ball Repl. Tip # 2.5mm
- #154060 Long Slotted Screwdriver 4.0 mm - for Engine Adjust. - SPC - V2
- #164045 Limited Edition - Phillips Screwdriver # 4.0mm
- #164071 Power Tool Tip Phillips 4.0 x 90 mm
- #170050 Socket Driver 5.0 mm
- #175535 Limited Edition - Socket Driver # 5.5mm
- #181030 HUDY Spring Steel Turnbuckle Wrench 3 mm
- #181034 HUDY Spring Steel Turnbuckle Wrench 3 & 4mm
- #181040 HUDY Spring Steel Turnbuckle Wrench 4 mm
- #181050 HUDY Spring Steel Turnbuckle Wrench 5 mm
- #181090 HUDY Special Tool For Turnbuckles & Nuts

- #181110 HUDY Ball Joint Wrench
- #182016 HUDY Wheel Nut & 3/4 Shoe Flywheel MultiTool 1/8 Buggy
- #183011 HUDY Professional Multi Tool
- #188981 HUDY Pocket Hobby Knife
- #188990 HUDY Professional Body Scissors
- #199060 HUDY Alu Tool Stand
- #199270 HUDY LiPo Safety Bag
- #199310 HUDY Pit Bag - Compact
- #199911 HUDY Pit Mat Roll 750x1200mm with Printing
- #293111 HUDY Brushless RC Fan 40mm with External Soldering Tabs
- #293113 HUDY Brushless RC Fan 40mm with Internal Soldering Tabs
- #293540 Air Filter Foam & Oil (10) - XRAY XB8 Low Profile Style
- #293560 HUDY Alu Wheel Nut with Cover - Ribbed (2)

For more information about tools, set-up equipment and accessories suitable for your car please visit:

www.hudy.net

www.teamxray.com

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