

XRAY XTR8

1/8 LUXURY RACING TRUGGY



INSTRUCTION MANUAL

INTRODUCTION

The XRAY XT8 is a modern, high-competition premium luxury racing 1/8 nitro truggy that is the epitome of high-performance and fine distinctive design. Your XT8 offers highest performance, responsive handling, and traditionally exceptional XRAY quality, engineering, and design. The superb craftsmanship and attention to detail are clearly evident everywhere on the XRAY XT8.

XT8 was designed around a no compromise platform; the attention to detail creates a low maintenance, extra long life nitro truggy. The ultra-low center of gravity (CG) and optimized weight balance makes set-up, driving, and maintenance easy and quick.

CUSTOMER SUPPORT

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

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

www.teamxray.com

The XRAY XT8 was created by blending highest-quality materials and excellent design. On high-speed flat tracks or bumpy tracks, whether driving for fun or racing to win, the XT8 delivers outstanding performance, speed, and precision handling.

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

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

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

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 guaranty immediately.

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

IMPORTANT NOTES - GENERAL

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

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

IMPORTANT NOTES - 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

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,

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 recommend you stop tightening a screw when you feel some resistance.

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

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

- the instructions correctly. Over-charging, incorrect charging, or using inferior chargers can cause the batteries to become dangerously hot. Recharge battery when necessary. Continual recharging may damage battery and, in the worst case, could build up heat leading to fire. If battery becomes extremely hot during recharging, please ask your local hobby shop for check and/or repair and/or replacement.
- Regularly check the charger for potential hazards such as damage to the cable, plug, casing or other defects. Ensure that any damage is rectified before using the charger again. Modifying the charger may cause short-circuit or overcharging leading to a serious accident. Therefore do not modify the charger.
- Always unplug charger when recharging is finished.
- Do not recharge battery while battery is still warm. After use, battery retains heat. Wait until it cools down before charging.
- Do not allow any metal part to short circuit the receiver batteries or other electrical/electronic device on the model.
- Immediately stop running if your RC model gets wet as may cause short circuit.
- Please dispose of batteries responsibly. Never put batteries into fire.

- castor or synthetic oil, 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.

- 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.

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.

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

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

SYMBOLS USED

Part bags used 	Assemble in the specified order 	Assemble left and right sides the same way 	Assemble front and rear the same way 	Pay attention here 	Assemble as many times as specified (here twice) 	Apply instant glue 	Apply oil 	Apply Grease 	Apply Thread Lock
Cut off shaded portion 	Use special tool 	Cut off remaining material 	Cut off remaining material from all plastic parts. 	Tighten screw gently 	Ensure smooth non-binding movement 	Use pliers 	Follow tip here 		

TOOLS REQUIRED

HUDY TOOLS Phillips 5.0mm Allen 2.5 / 2.0 / 1.5mm Socket 5.5 / 5.0mm 	17mm Wheel Nut Tool (HUDY #107570) 	Flywheel Tool (HUDY #182010) 	Cross wrench (HUDY #107581)
Side Cutters 	Hobby Knife 	Needle Nose Pliers 	Scissors
		Reamer (HUDY #107600) 	

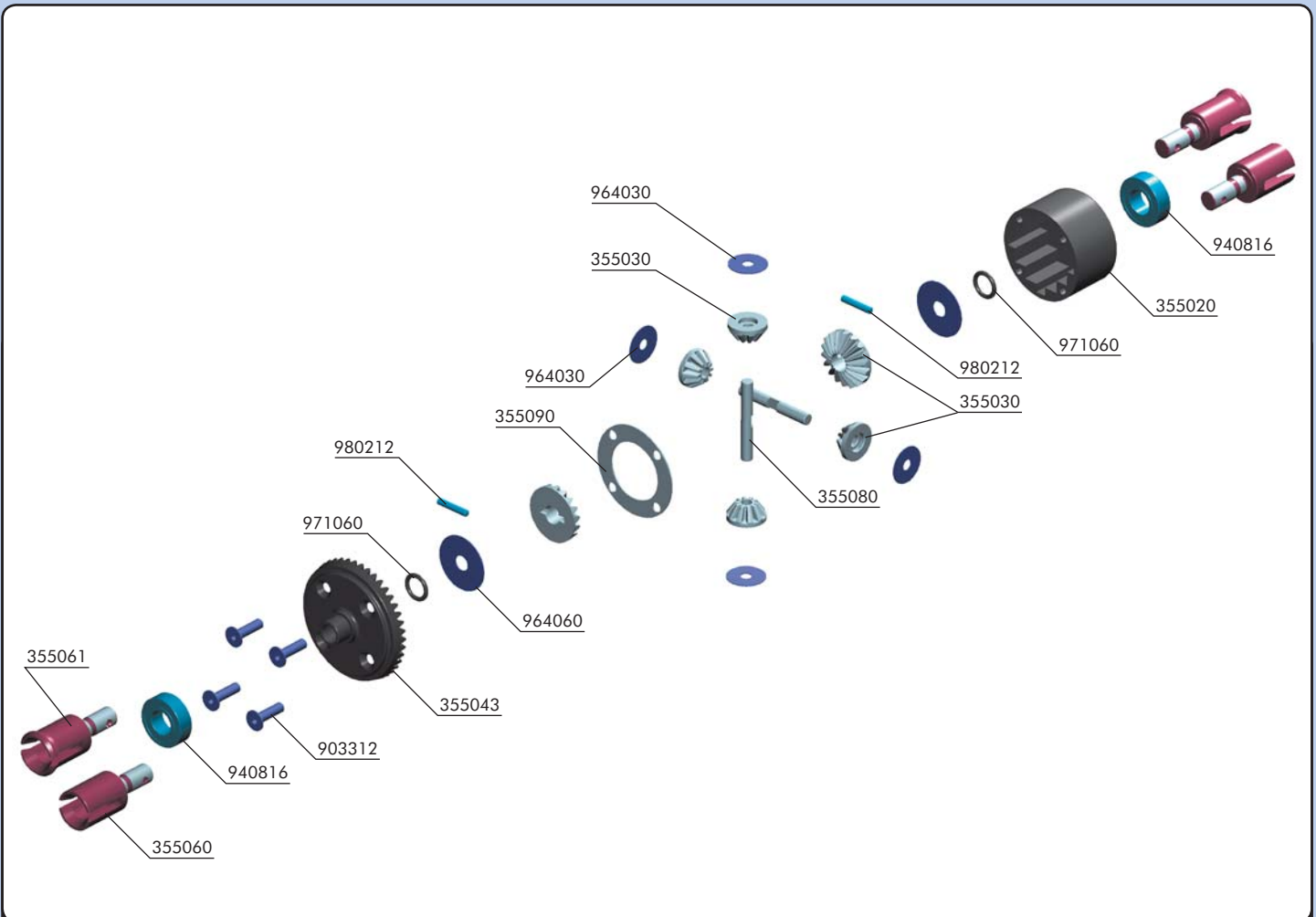
TOOLS & EQUIPMENT INCLUDED

Silicone Shock Oil 	Silicone Diff Oil 	Air Filter Oil 	Special Tool for all turnbuckles, nuts and shock clips
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EQUIPMENT REQUIRED

Transmitter Receiver Steering and Throttle Servos 	.21 Engine 	Manifold Exhaust 	Starter Box & Battery Pack 	Glow Plug Igniter 	Battery Charger & Transmitter Batteries
5-cell 1200NiMH Receiver Pack 	Personal Transponder 	#309500 Grease 	Threadlock & CA Glue 	Fuel 	Lexan Paint

1. FRONT & REAR DIFFERENTIAL



BAGS

01.1

01.2

- 35 5020 DIFFERENTIAL CASE
- 35 5030 STEEL DIFF BEVEL & SATELLITE GEARS (2+4)
- 35 5043 FRONT/REAR DIFF LARGE BEVEL GEAR 43T - HUDY STEEL
- 35 5060 FRONT/REAR DIFF OUTDRIVE ADAPTER (2) - HUDY SPRING STEEL™
- 35 5061 FRONT DIFF OUTDRIVE ADAPTER - LONG (2) - HUDY SPRING STEEL™
- 35 5080 DIFF PIN (2)
- 35 5090 DIFF GASKET (4)

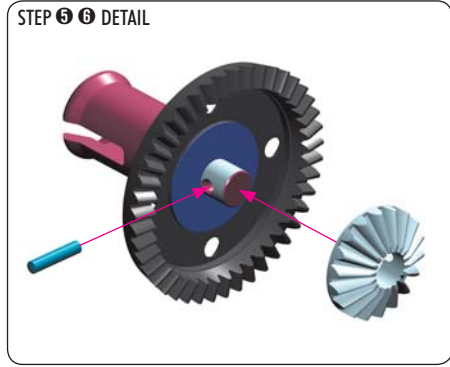
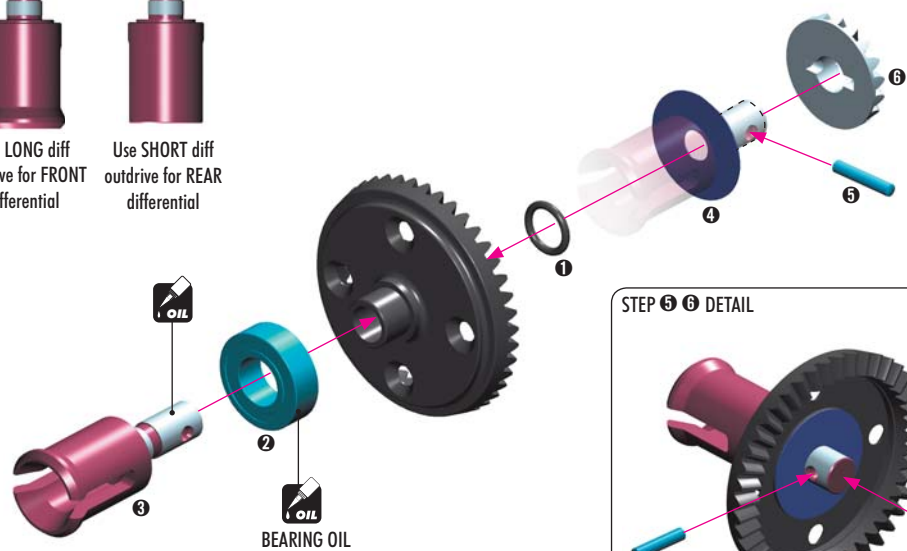
- 90 3312 HEX SCREW SFH M3x12 (10)
- 94 0816 HIGH-SPEED BALL-BEARING 8x16x5 BLUE COVERED (2)
- 96 4030 WASHER S 3.5x12x0.2 (10)
- 96 4060 WASHER S 6x18x0.2 (10)
- 97 1060 SILICONE O-RING 6x1.5 (10)
- 98 0212 PIN 2x11.6 (10)



2x **F=R**

Use **LONG** diff outdrive for **FRONT** differential

Use **SHORT** diff outdrive for **REAR** differential



FRONT & REAR DIFFERENTIAL



940816
BB 8x16x5



964060
S 6x18x0.2

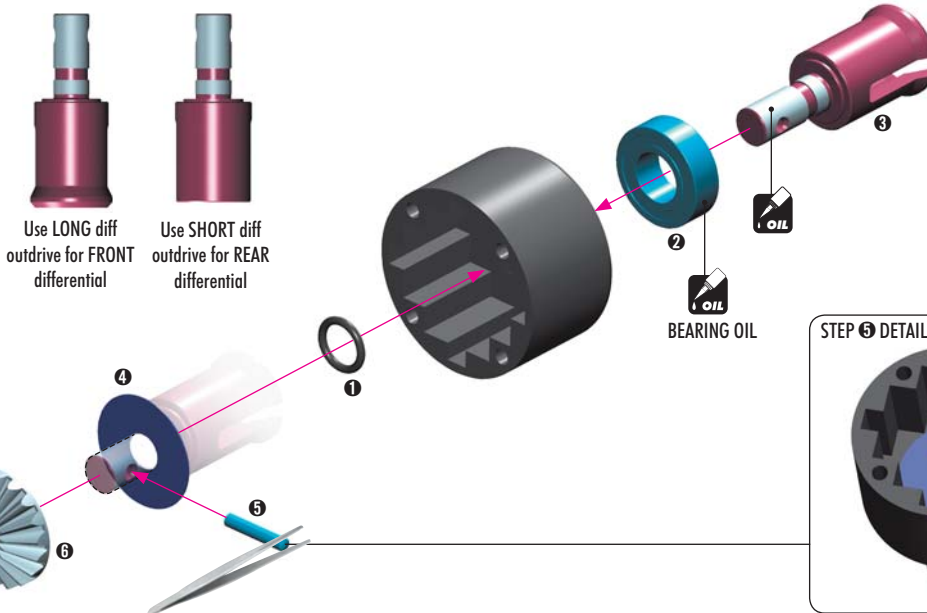


971060
O 6x1.5

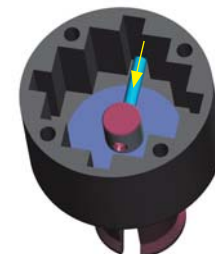


980212
P 2x11.6

2x F=R



STEP 6 DETAIL



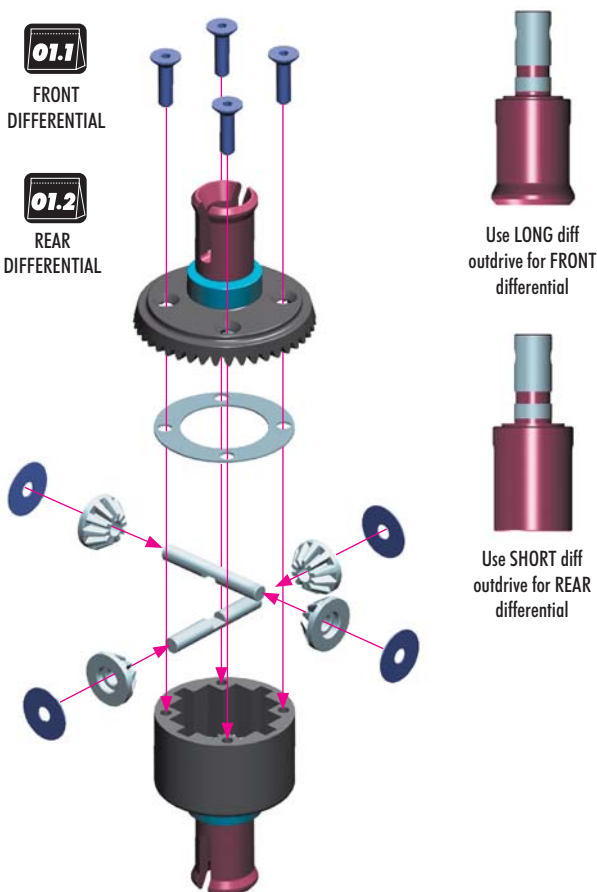
903312
SFH M3x12



964030
S 3.5x12x0.2

OIL FRONT DIFFERENTIAL

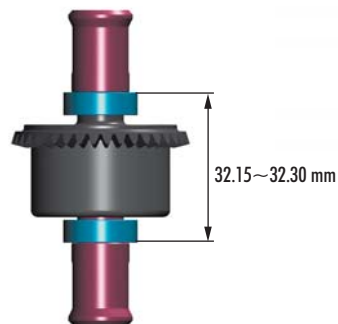
OIL REAR DIFFERENTIAL



VERY IMPORTANT!

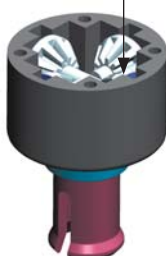
Use these silicone oils included in the kit for initial settings:
Front diff: 7000cSt
Rear diff: 7000cSt

Fill differentials by 50% only, so that oil is up to the middle of the pin.



After assembly the differentials should have a length of 32.15–32.30 mm measured from the ends of the installed ball-bearings. If differentials are longer, retighten the 4 screws holding the crown gears.

Front diff:
Silicone oil 7000cSt
Fill 50% full



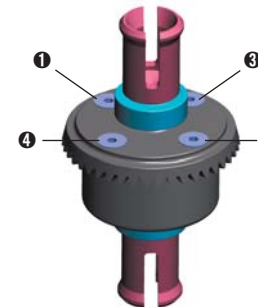
Rear diff:
Silicone oil 7000cSt
Fill 50% full



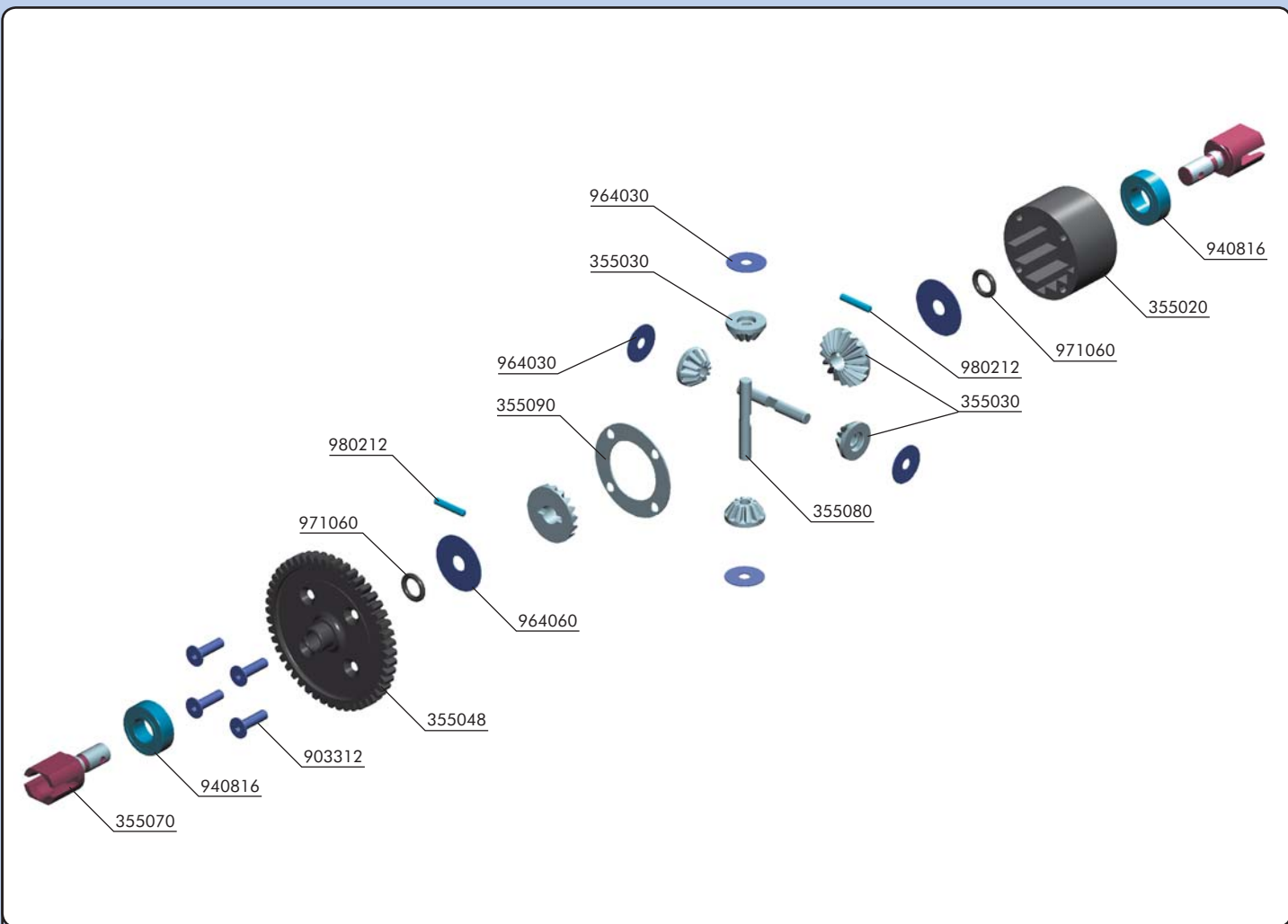
Tight the screws equally



Finish tightening in this order



CENTER DIFFERENTIAL

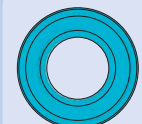


BAG

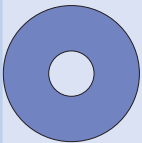


- 35 5020 DIFFERENTIAL CASE
- 35 5030 STEEL DIFF BEVEL & SATELLITE GEARS (2+4)
- 35 5048 CENTER DIFF SPUR GEAR 48T - HUDY STEEL
- 35 5070 CENTER DIFF OUTDRIVE ADAPTER (2) - HUDY STEEL
- 35 5080 DIFF PIN (2)
- 35 5090 DIFF GASKET (4)

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



940816
BB 8x16x5



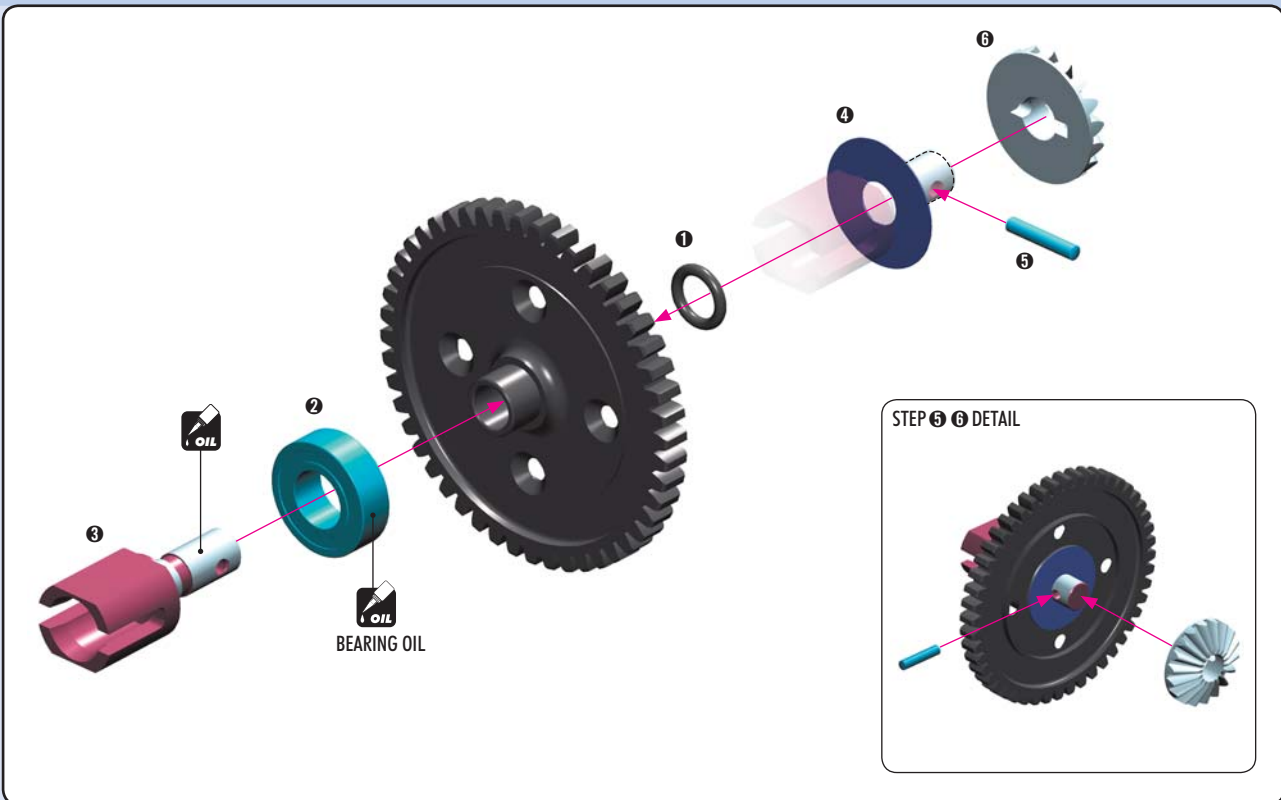
964060
S 6x18x0.2



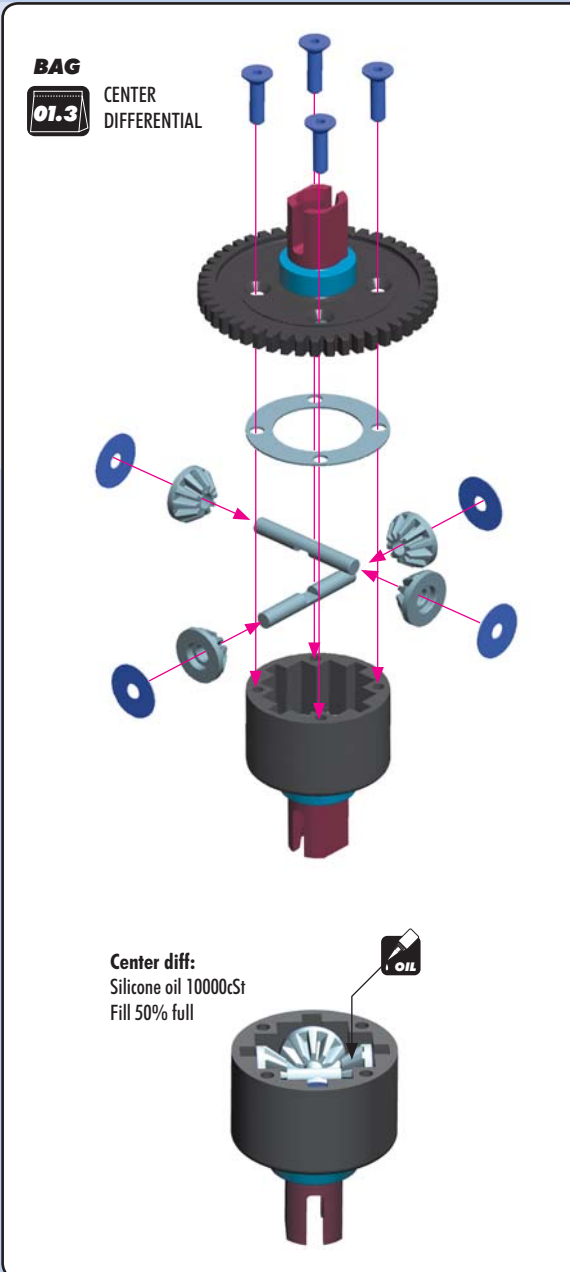
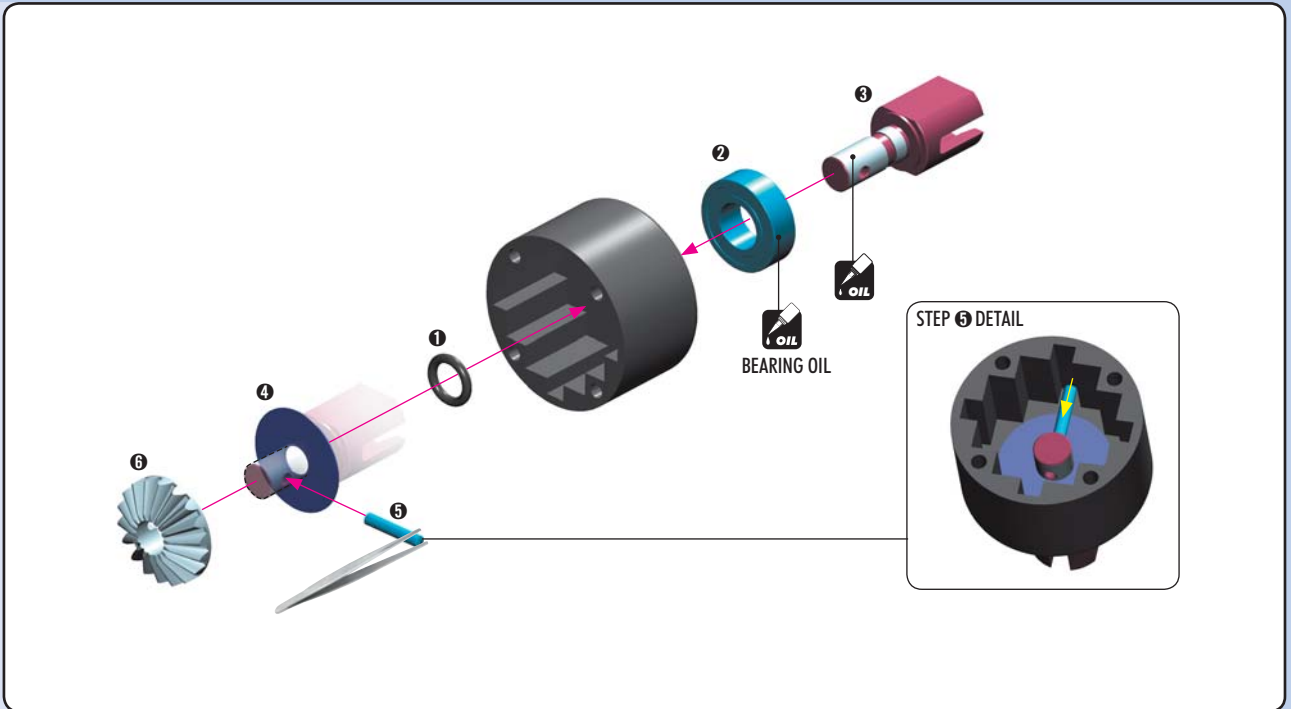
971060
O 6x1.5



980212
P 2x11.6



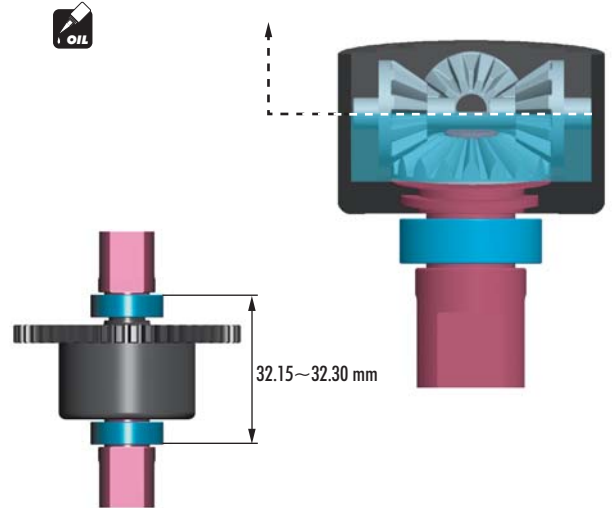
CENTER DIFFERENTIAL



VERY IMPORTANT!

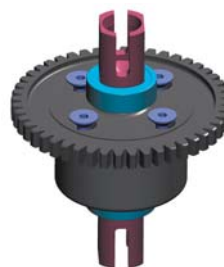
Fill differential by **50%** only, so that oil is up to the middle of the pin.

Use the following silicone oil included in the kit for initial setting:
Center diff: 10000cSt

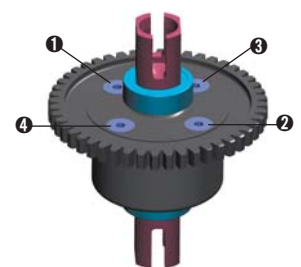


After assembly the differential should have a length of 32.15~32.30 mm measured from the ends of the installed ball-bearings. If differential is longer, retighten the 4 screws holding the spur gear.

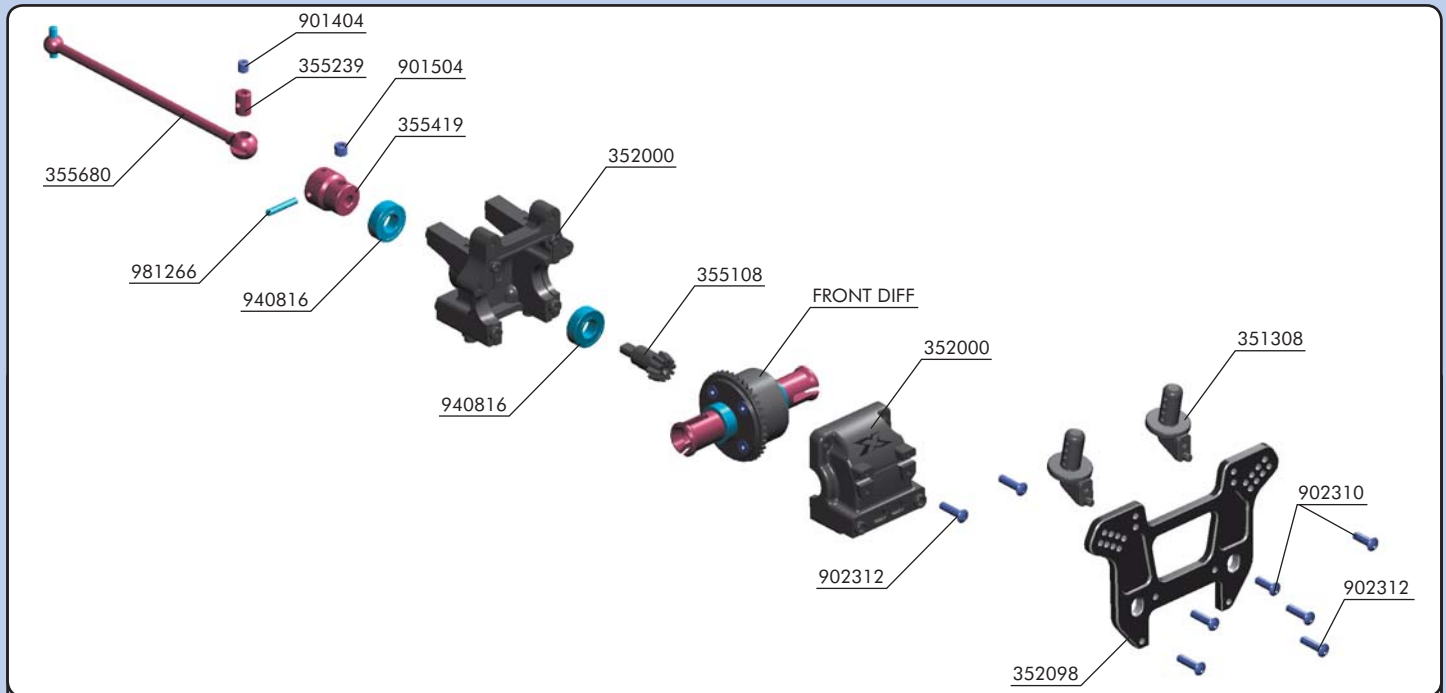
Tight the screws equally



Finish tightening in this order



2. FRONT TRANSMISSION



BAG



- 35 1308 XT8 BODY POSTS
- 35 2000 DIFF BULKHEAD BLOCK SET FRONT
- 35 2098 XT8 ALU FRONT SHOCK TOWER - CNC MACHINED SWISS 7075 T6 (4MM)
- 35 5108 BEVEL DRIVE GEAR 10T
- 35 5239 CVD DRIVE SHAFT COUPLING
- 35 5419 CENTRAL CVD SHAFT UNIVERSAL JOINT - HUDY SPRING STEEL™
- 35 5608 XT8 CVD UNIV. CENTR. DRIVE SHAFT - SET - HUDY SPRING STEEL™
- 35 5680 XT8 UNIVERSAL CENTRAL CVD DRIVE SHAFT - HUDY SPRING STEEL™

- 90 1404 HEX SCREW SB M4x4 (10)
- 90 1504 HEX SCREW SB M5x4 (10)
- 90 2310 HEX SCREW SH M3x10 (10)
- 90 2312 HEX SCREW SH M3x12 (10)
- 94 0816 HIGH-SPEED BALL-BEARING 8x16x5 BLUE COVERED (2)
- 98 1266 PIN 2.5x16 (10)



901404
SB 4x4



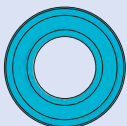
901504
SB 5x4



902310
SH 3x10



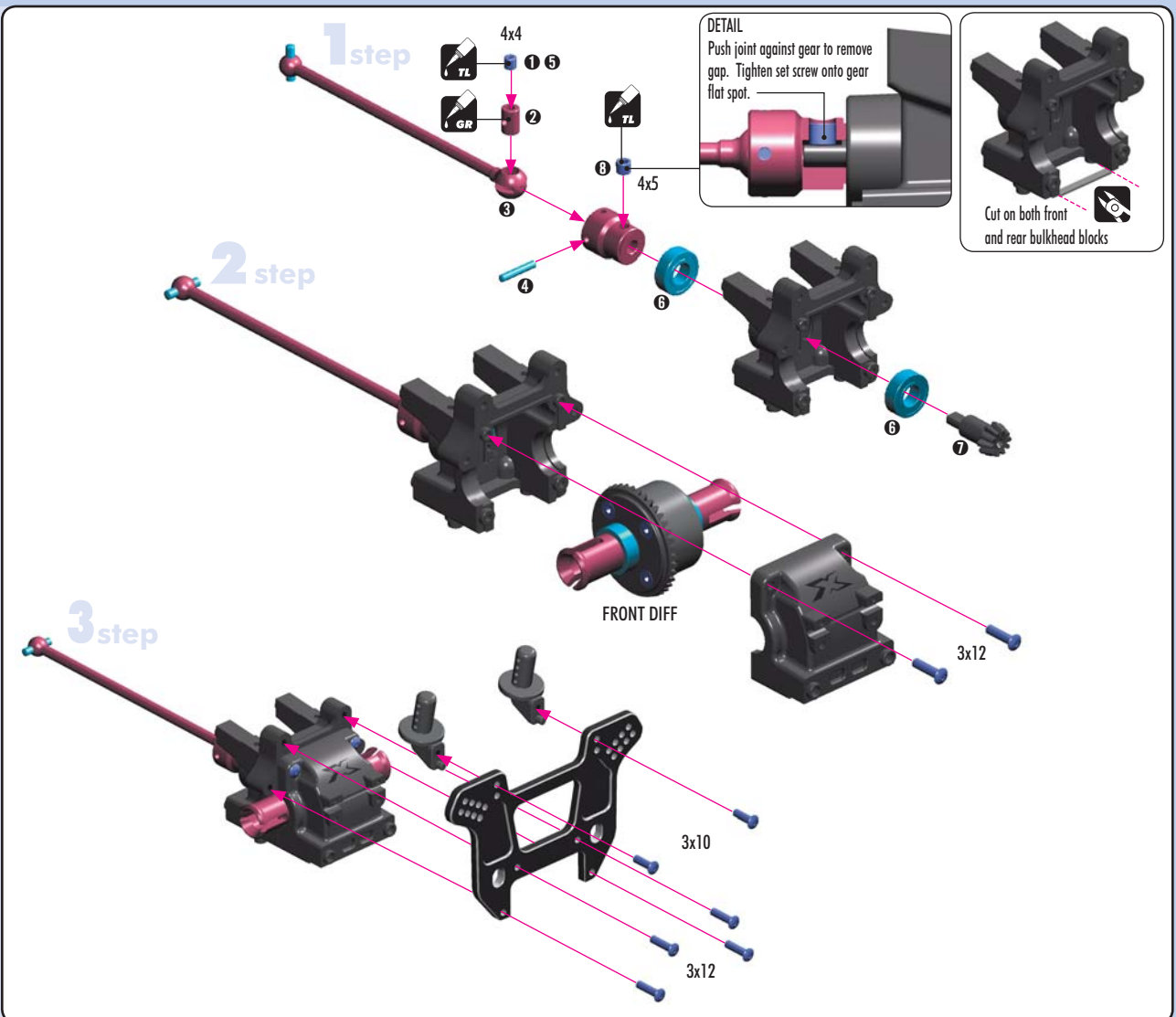
902312
SH 3x12



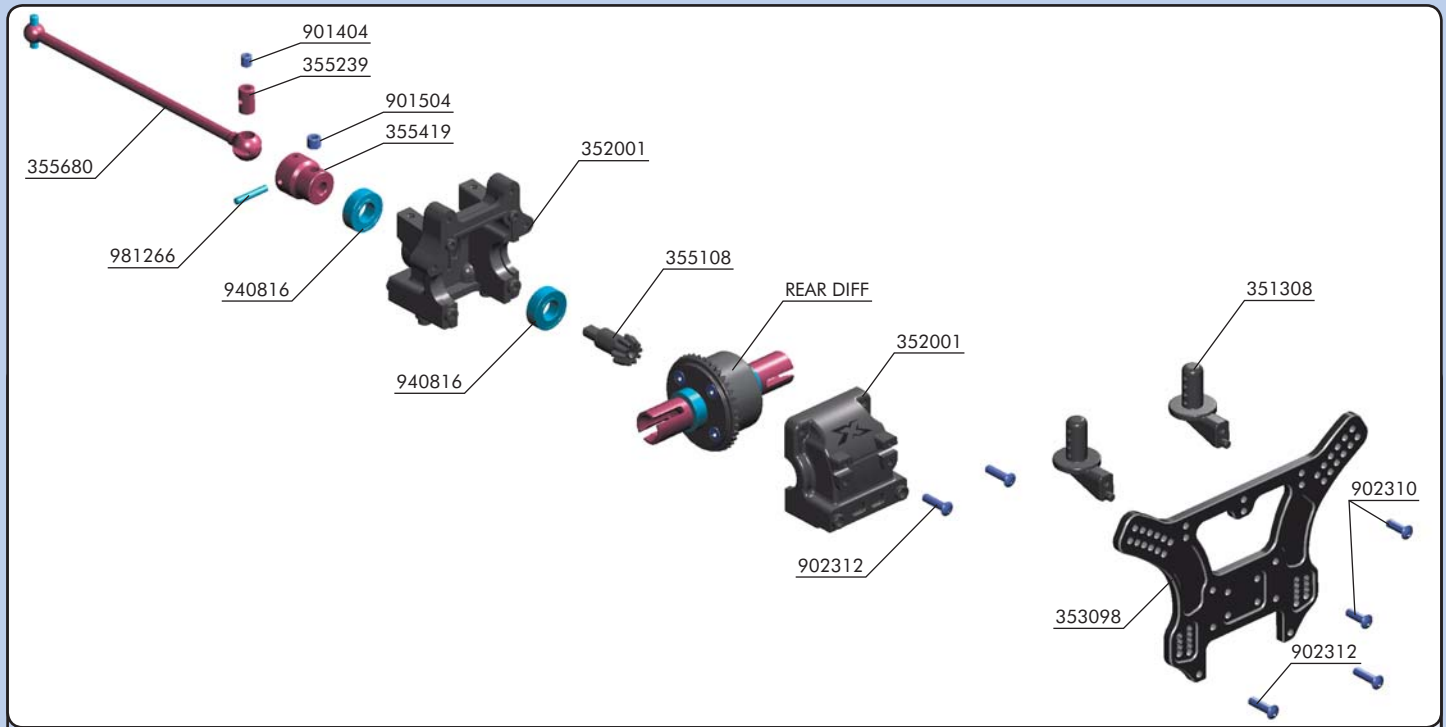
940816
BB 8x16x5



981266
P 2.5x16



REAR TRANSMISSION



BAG

02.2

- 35 1308 XT8 BODY POSTS
- 35 2001 DIFF BULKHEAD BLOCK SET REAR
- 35 3098 XT8 ALU REAR SHOCK TOWER - CNC MACHINED SWISS 7075 T6 (4MM)
- 35 5108 BEVEL DRIVE GEAR 10T
- 35 5239 CVD DRIVE SHAFT COUPLING
- 35 5419 CENTRAL CVD SHAFT UNIVERSAL JOINT - HUDY SPRING STEEL™
- 35 5608 XT8 CVD UNIV. CENTR. DRIVE SHAFT - SET - HUDY SPRING STEEL™
- 35 5680 XT8 UNIVERSAL CENTRAL CVD DRIVE SHAFT - HUDY SPRING STEEL™

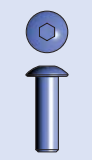
- 90 1404 HEX SCREW SB M4x4 (10)
- 90 1504 HEX SCREW SB M5x4 (10)
- 90 2310 HEX SCREW SH M3x10 (10)
- 90 2312 HEX SCREW SH M3x12 (10)
- 94 0816 HIGH-SPEED BALL-BEARING 8x16x5 BLUE COVERED (2)
- 98 1266 PIN 2.5x16 (10)



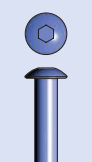
901404
SB 4x4



901504
SB 5x4



902310
SH 3x10



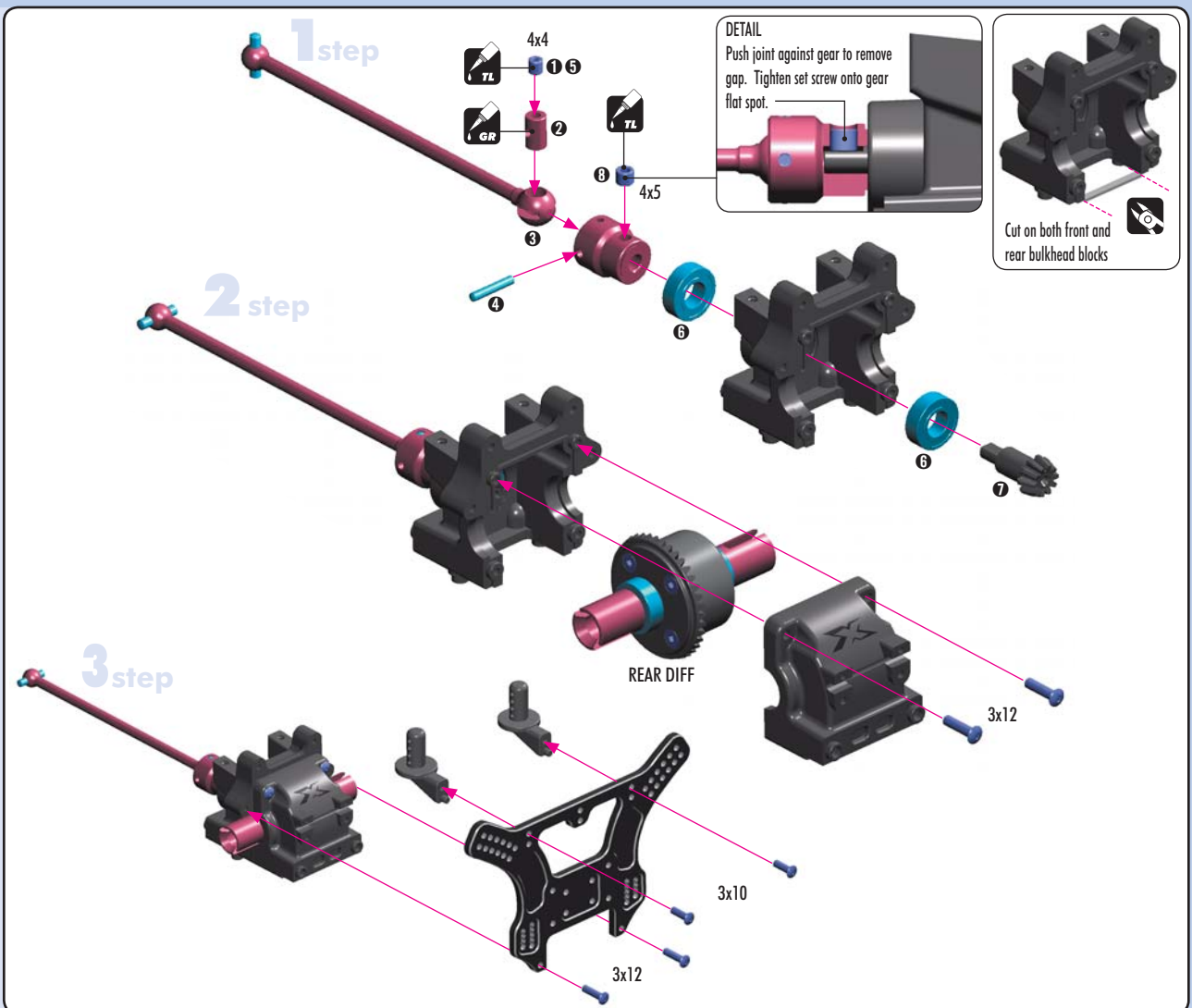
902312
SH 3x12



940816
BB 8x16x5



981266
P 2.5x16



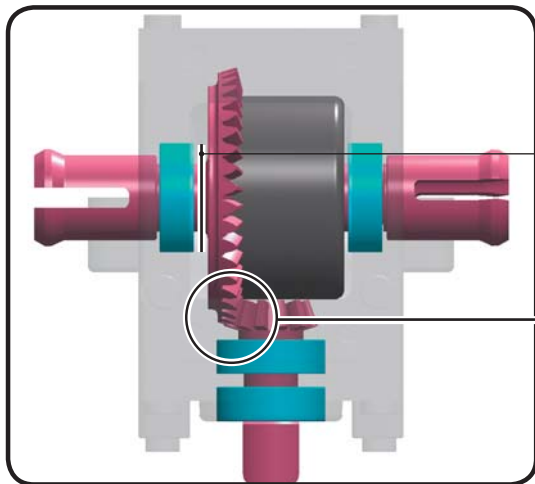
TECH TIP

TIP FRONT & REAR DIFF GEAR MESH ADJUSTMENT

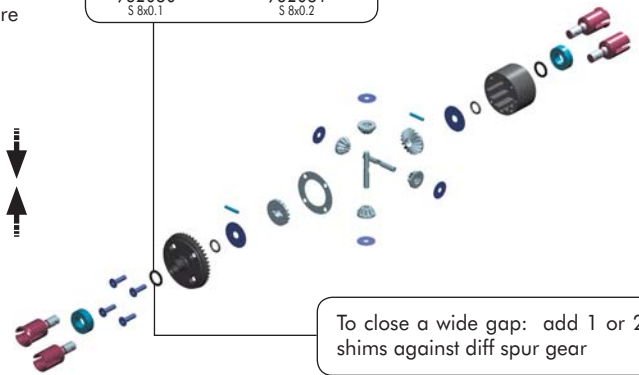
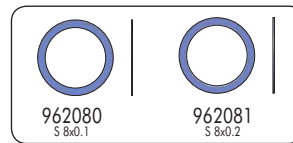
In the event that the composite diff bulkhead allows too much diff side play, this may create non-optimal gear mesh between the diff spur gear and the pinion drive gear. This is easily resolved by inserting 1 or 2 of the included thin shims behind a diff outdrive ball-bearing, depending on how much play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

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

TO CLOSE A WIDE GAP



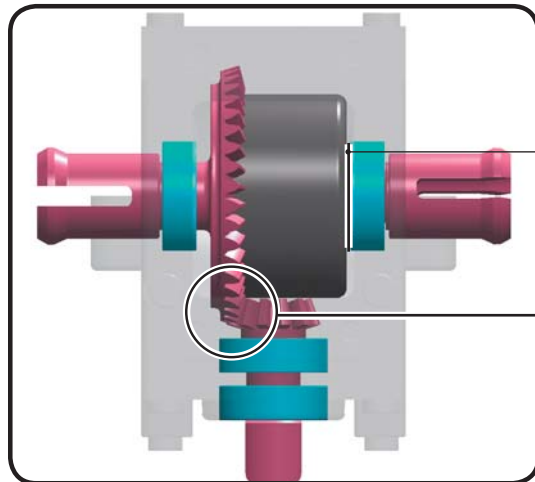
insert shim(s) here



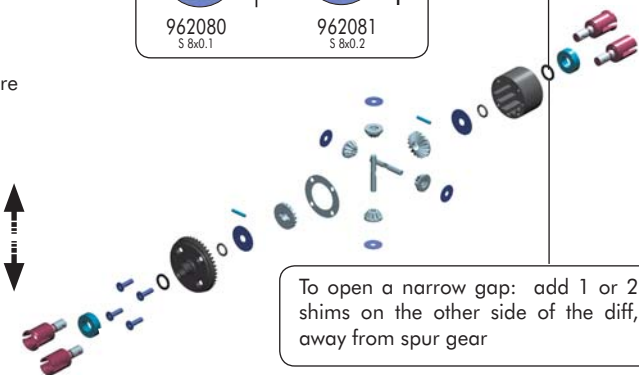
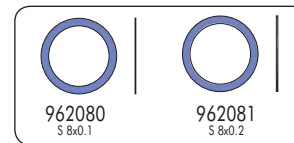
To close a wide gap: add 1 or 2 shims against diff spur gear

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

TO OPEN A NARROW GAP



insert shim(s) here



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

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

TECH TIP

TIP FOLLOW THIS HANDY TIP TO INSTALL PIVOT BALLS INTO COMPOSITE BALL JOINTS.



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



Tighten screw until pivot ball is tight against block.



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

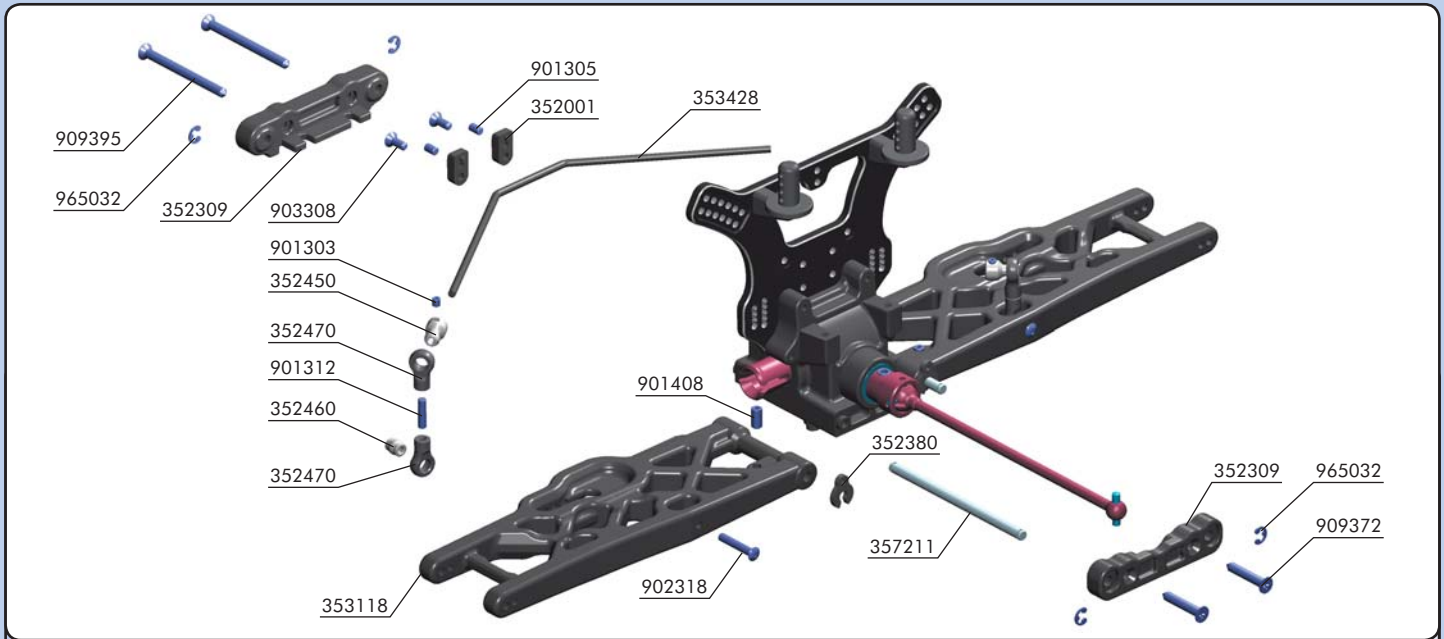


The finished joint.



Loosen and remove screw.

3. REAR SUSPENSION

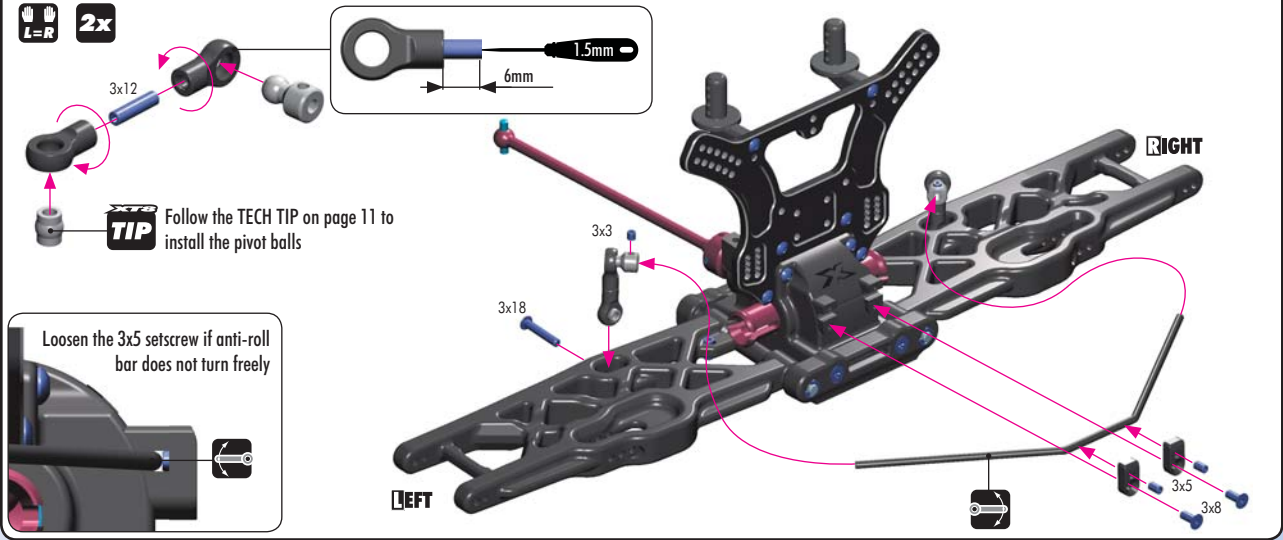
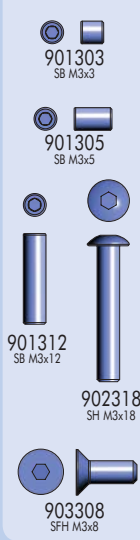
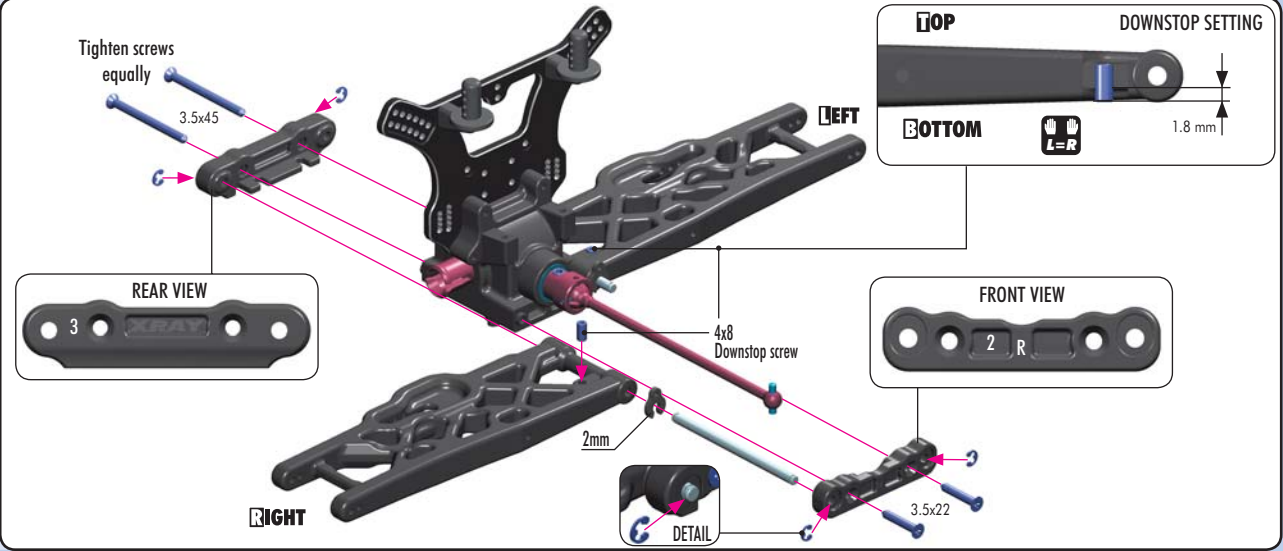
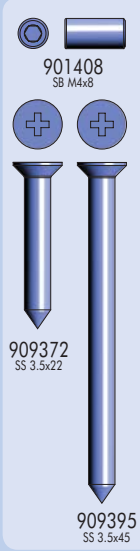


BAG

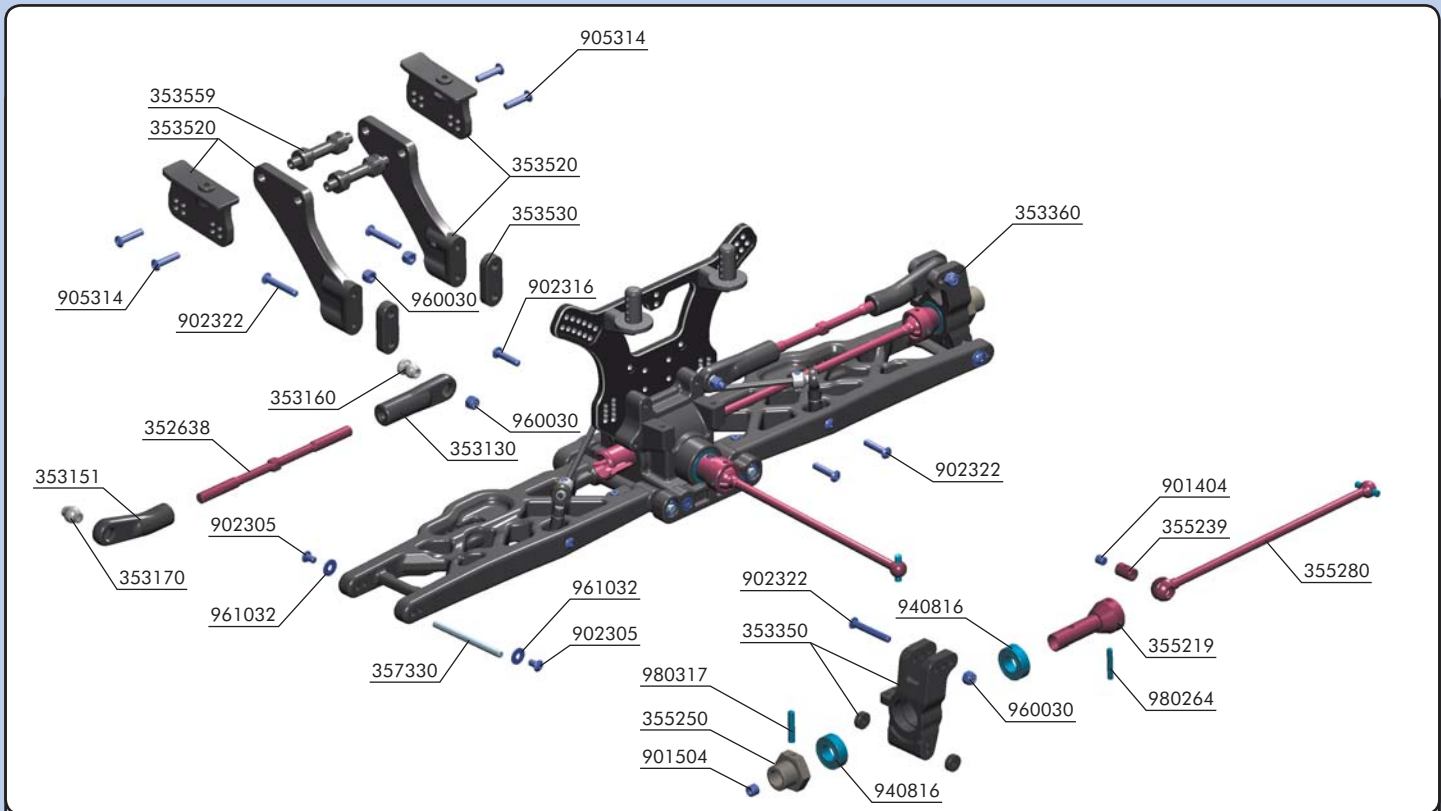
03

- 35 2001 DIFF BULKHEAD BLOCK SET REAR
- 35 2309 COMPOSITE LOWER SUSP. HOLDERS SET
- 35 2380 CASTER CLIPS (2)
- 35 2450 ANTI ROLL BAR BALL JOINT 5.8 (4)
- 35 2460 PIVOT BALL 5.8 (10)
- 35 2470 BALL JOINT 5.8 (8)
- 35 3118 XT8 REAR LOWER SUSPENSION ARM
- 35 3428 REAR ANTI-ROLL BAR 2.8MM
- 35 7211 LOWER INNER PIVOT PIN WITH GROOVE F/R (2)

- 90 1303 HEX SCREW SB M3x3 (10)
- 90 1305 HEX SCREW SB M3x5 (10)
- 90 1312 HEX SCREW SB M3x12 (10)
- 90 1408 HEX SCREW SB M4x8 (10)
- 90 2318 HEX SCREW SH M3x18 (10)
- 90 3308 HEX SCREW SFH M3x8 (10)
- 90 9372 SCREW PHILLIPS SS 3.5x22 (10)
- 90 9395 SCREW PHILLIPS SS 3.5x45 (10)
- 96 5032 E-CLIP 3.2 (10)



4. REAR SUSPENSION



BAG

04

- 35 2638 XT8 ADJ. TURNBUCKLE M5 L/R 91 MM - HUDY SPRING STEEL (2)
- 35 3130 REAR UPPER INNER CAMBER LINK BALL JOINT (2)
- 35 3151 REAR UPPER OUTER CAMBER LINK BALL JOINT - RELIEF (2)
- 35 3160 MOUNTING BALL 6.8 (4)
- 35 3170 PIVOT BALL 6.8 (4)
- 35 3350 REAR HUB CARRIER RIGHT
- 35 3360 REAR HUB CARRIER LEFT
- 35 3520 REAR WING POSTS
- 35 3530 COMPOSITE ADJ. SHIM FOR REAR WING PLATE (2)
- 35 3559 COMPOSITE REAR WING MOUNT BRACE (2)
- 35 5208 XT8 CVD UNIVERSAL DRIVE SHAFT F/R - SET - HUDY SPRING STEEL™
- 35 5219 CVD DRIVE AXLE - HUDY SPRING STEEL™
- 35 5239 CVD DRIVE SHAFT COUPLING
- 35 5250 ALU WHEEL AXLE - HARD COATED (2)

- 35 5280 XT8 UNIVERSAL CVD DRIVE SHAFT - HUDY SPRING STEEL™
- 35 7330 REAR LOWER OUTER PIVOT PIN (2)
- 90 1404 HEX SCREW SB M4x4 (10)
- 90 1504 HEX SCREW SB M5x4 (10)
- 90 2305 HEX SCREW SH M3x5 (10)
- 90 2316 HEX SCREW SH M3x16 (10)
- 90 2322 HEX SCREW SH M3x22 (10)
- 90 5314 SCREW PHILLIPS 3.0x14 (10)
- 94 0816 HIGH-SPEED BALL-BEARING 8x16x5 BLUE COVERED (8)
- 96 0030 NUT M3 (10)
- 96 1032 WASHER S 3.2 (10)
- 98 0264 PIN 2.5x14 (10)
- 98 0317 PIN 3x17 (10)

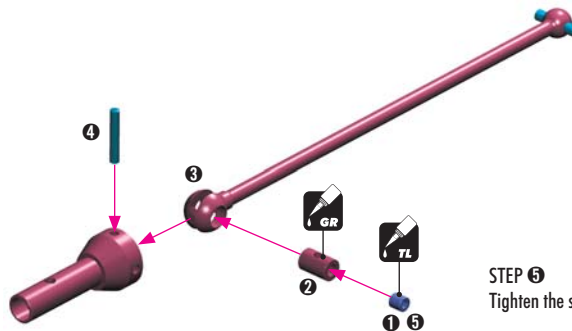


901404
SB M4x4



980264
P 2.5x14

2x **L=R**



STEP 5
Tighten the screw fully when the pin is installed



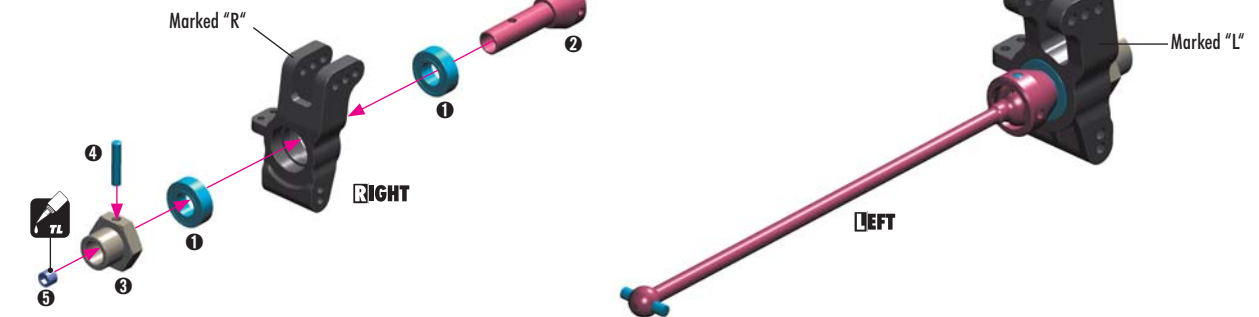
901504
SB M5x4



940816
BB 8x16x5



980317
P 3x17



REAR SUSPENSION



TIP Please ensure that the rear upright moves freely. In case the rear upright is not moving freely use sandpaper to thin both wheelbase adjustment shims until the rear upright moves freely.

Shims for wheel base adjustment

INITIAL POSITIONS



902316
SH M3x16



902322
SH M3x22



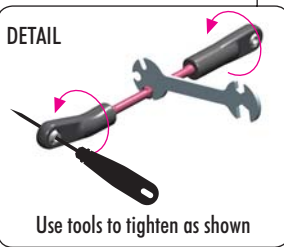
2x

TIP Follow the TECH TIP on page 11 to install the pivot balls

Note location of notch

Note location of notch

DETAIL



3x22

3x16

RIGHT

LEFT

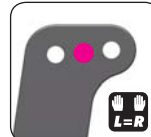
Left thread



Right thread



INITIAL POSITIONS



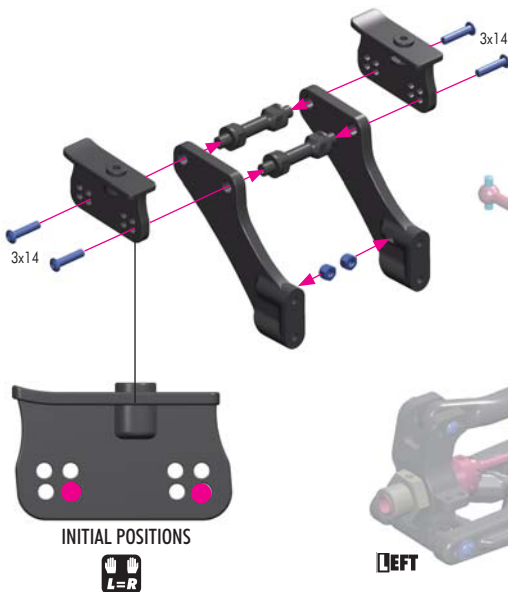
INITIAL POSITIONS



905314
SP 3x14



902322
SH M3x22



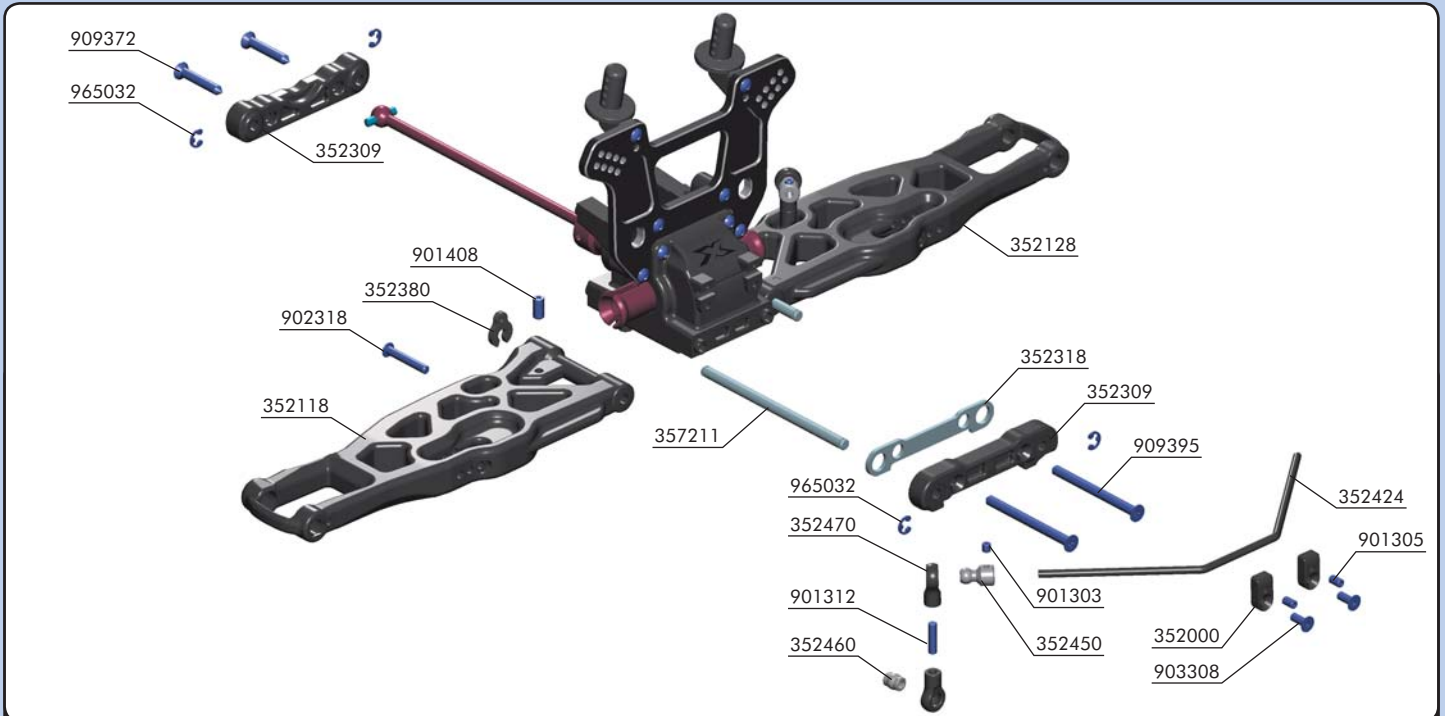
3x22

RIGHT

LEFT

3x22

5. FRONT SUSPENSION

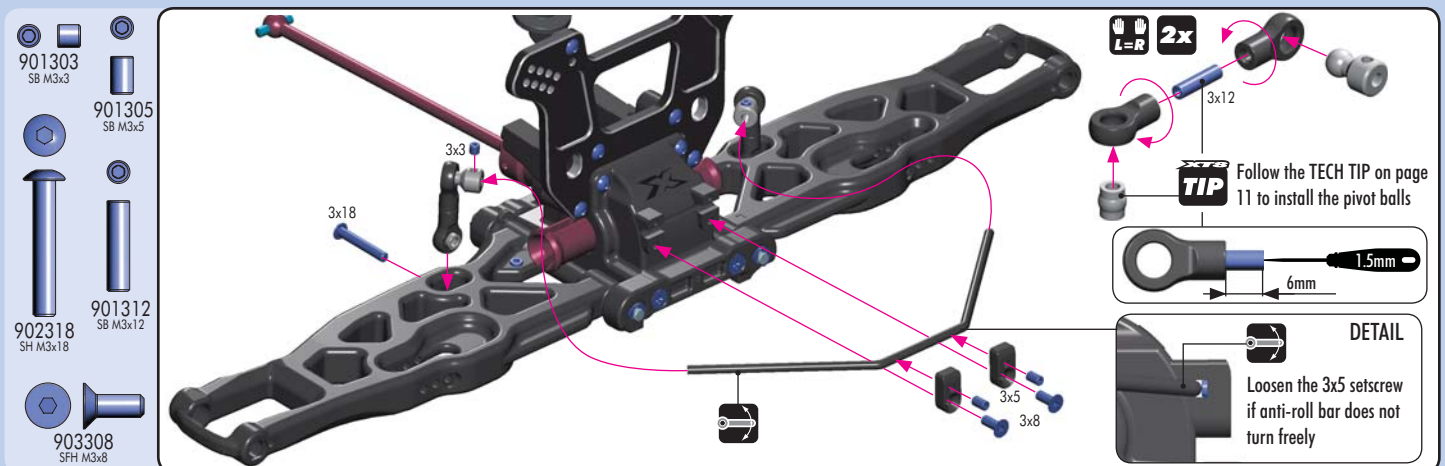
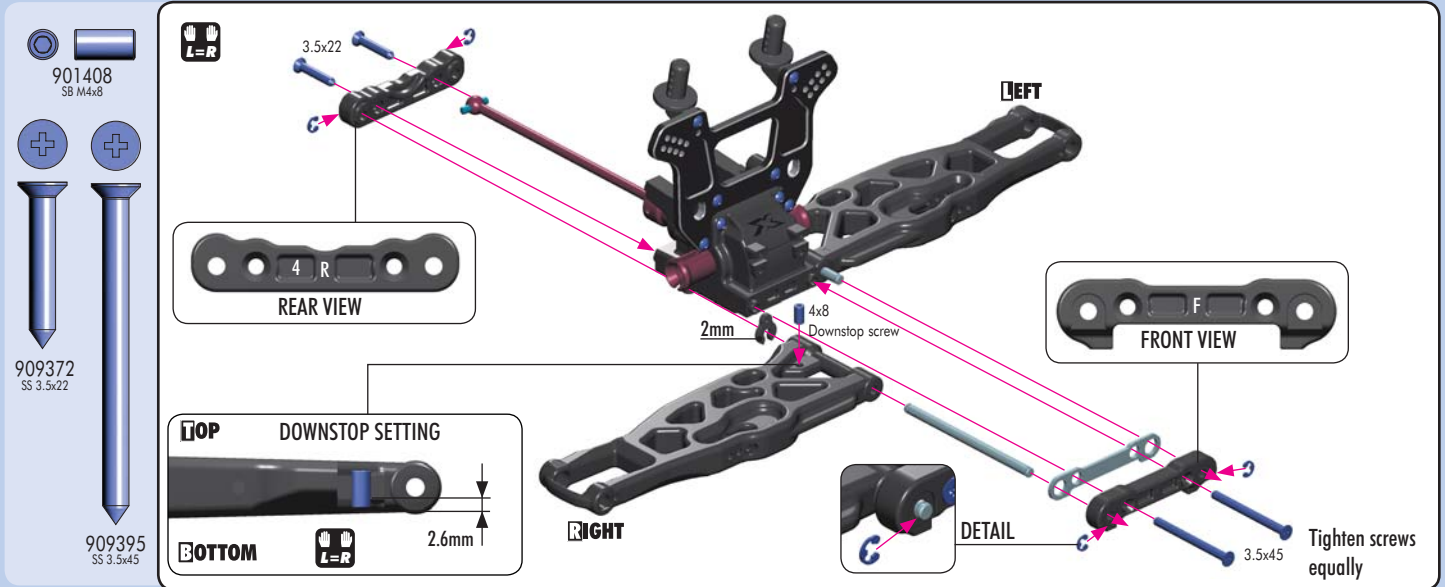


BAG

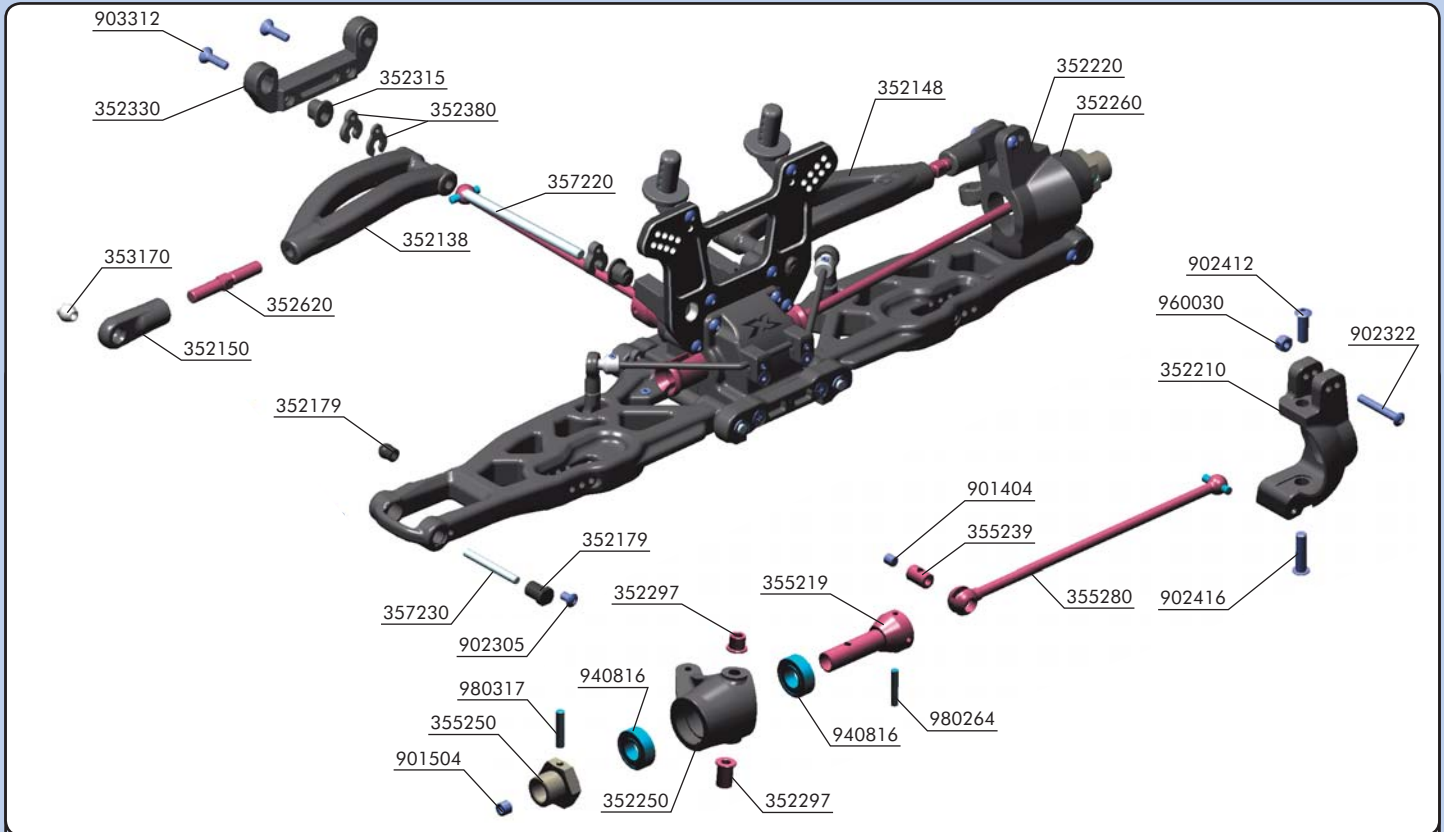
05

- 35 2000 DIFF BULKHEAD BLOCK SET FRONT
- 35 2118 XT8 FRONT LOWER SUSPENSION ARM RIGHT
- 35 2128 XT8 FRONT LOWER SUSPENSION ARM LEFT
- 35 2309 COMPOSITE LOWER SUSP HOLDERS SET
- 35 2318 STEEL SUSP. HOLDER - FRONT - LASER CUT
- 35 2380 CASTER CLIPS (2)
- 35 2424 FRONT ANTI-ROLL BAR 2.4MM
- 35 2450 ANTI ROLL BAR BALL JOINT 5.8 (4)
- 35 2460 PIVOT BALL 5.8 (10)
- 35 2470 BALL JOINT 5.8 (8)

- 35 7211 LOWER INNER PIVOT PIN WITH GROOVE F/R (2)
- 90 1303 HEX SCREW SB M3x3 (10)
- 90 1305 HEX SCREW SB M3x5 (10)
- 90 1312 HEX SCREW SB M3x12 (10)
- 90 1408 HEX SCREW SB M4x8 (10)
- 90 2318 HEX SCREW SH M3x18 (10)
- 90 3308 HEX SCREW SFH M3x8 (10)
- 90 9372 SCREW PHILLIPS SS 3.5x22 (10)
- 90 9395 SCREW PHILLIPS SS 3.5x45 (10)
- 96 5032 E-CLIP 3.2 (10)



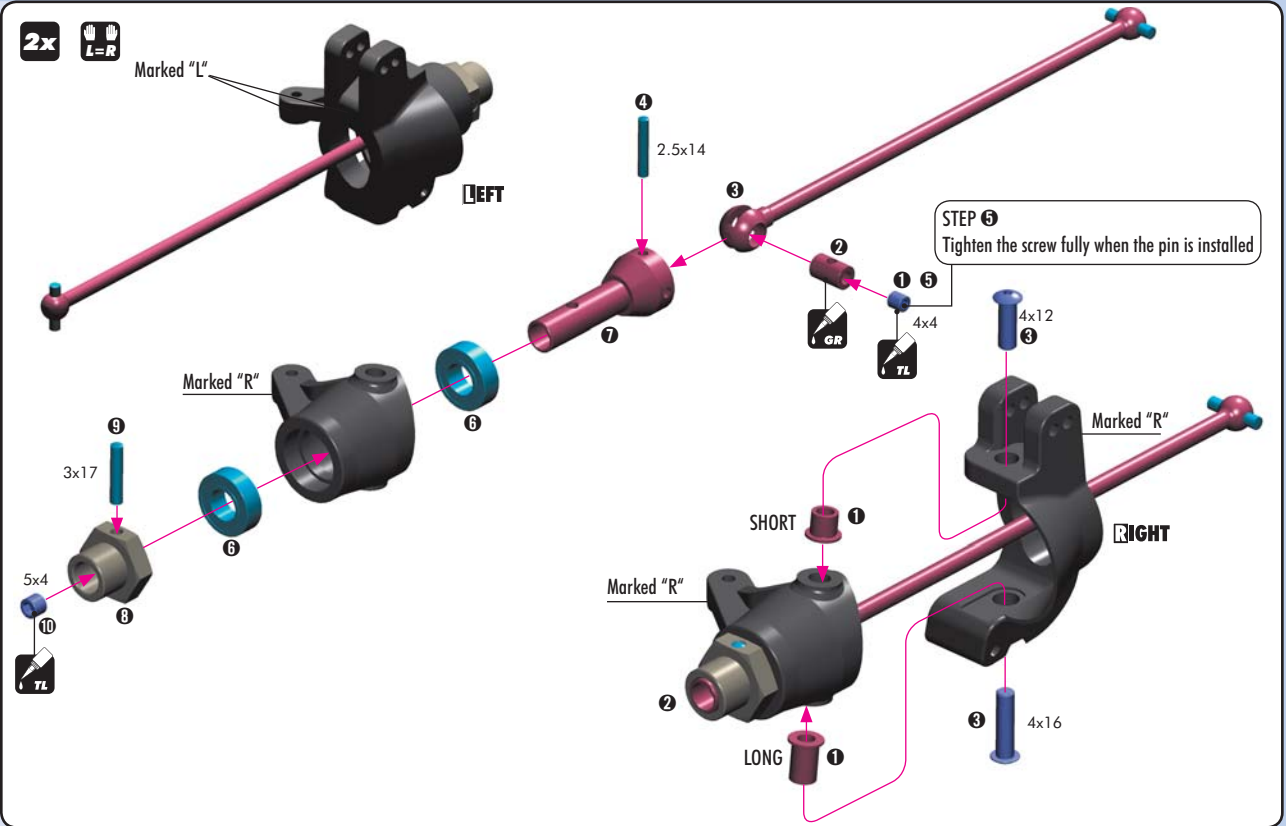
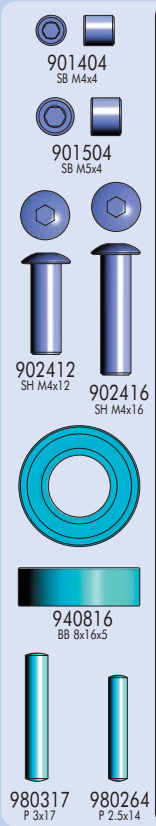
6. FRONT SUSPENSION



BAG

06

35 2138	XT8 FRONT UPPER ARM RIGHT	35 5280	XT8 UNIVERSAL CVD DRIVE SHAFT - HUDY SPRING STEEL™
35 2148	XT8 FRONT UPPER ARM LEFT	35 5250	ALU WHEEL AXLE - HARD COATED (2)
35 2150	FRONT UPPER ARM BALL JOINT (2)	35 7220	FRONT UPPER PIVOT PIN (2)
35 2179	COMPOSITE BUSHING & BALL MOUNT SET (2+2)	35 7230	FRONT LOWER OUTER PIVOT PIN (2)
35 2210	C-HUB RIGHT	90 1404	HEX SCREW SB M4x4 (10)
35 2220	C-HUB LEFT	90 1504	HEX SCREW SB M5x4 (10)
35 2250	STEERING BLOCK RIGHT - V2	90 2305	HEX SCREW SH M3x5 (10)
35 2260	STEERING BLOCK LEFT - V2	90 2322	HEX SCREW SH M3x22 (10)
35 2297	STEEL STEERING BUSHING - LONG (2+2)	90 2412	HEX SCREW SH M4x12 (10)
35 2315	ECCENTRIC BUSHING (2)	90 2416	HEX SCREW SH M4x16 (10)
35 2380	CASTER CLIPS (2)	90 3312	HEX SCREW SFH M3x12 (10)
35 2330	COMPOSITE FRONT UPPER SUSP. HOLDER - REAR	94 0816	HIGH-SPEED BALL-BEARING 8x16x5 BLUE COVERED (8)
35 2620	ADJ. TURNBUCKLE M5 L/R 35 MM - SPRING STEEL (2)	96 0030	NUT M3 (10)
35 3170	PIVOT BALL 6.8 (4)	98 0264	PIN 2.5x14 (10)
35 5208	XT8 CVD UNIVERSAL DRIVE SHAFT F/R - SET - HUDY SPRING STEEL™	98 0317	PIN 3x17 (10)
35 5219	CVD DRIVE AXLE - HUDY SPRING STEEL™		
35 5239	CVD DRIVE SHAFT COUPLING		



FRONT SUSPENSION



902305
SH M3x5

L=R

ASSEMBLY 1

Press pivot ball into arm until it snaps into place

STEP 5 DETAIL

DISASSEMBLY

Remove 3x5 screw holding composite bushing in arm. Push out the pivot pin from the rear to remove the composite bushing.

2.5 mm

1.5 mm

RIGHT

LEFT

1

2

3

4

5

2x **L=R**

DOT IN FRONT

RIGHT

LEFT

TIP Follow the TECH TIP on page 11 to install the pivot balls

13 mm

Notch goes to outside

DETAIL



902322
SH M3x22



903312
SFH M3x12



960030
N M3

FRONT VIEW

Install inserts as shown

INITIAL POSITION

L=R

REAR VIEW

Install inserts as shown

3x22

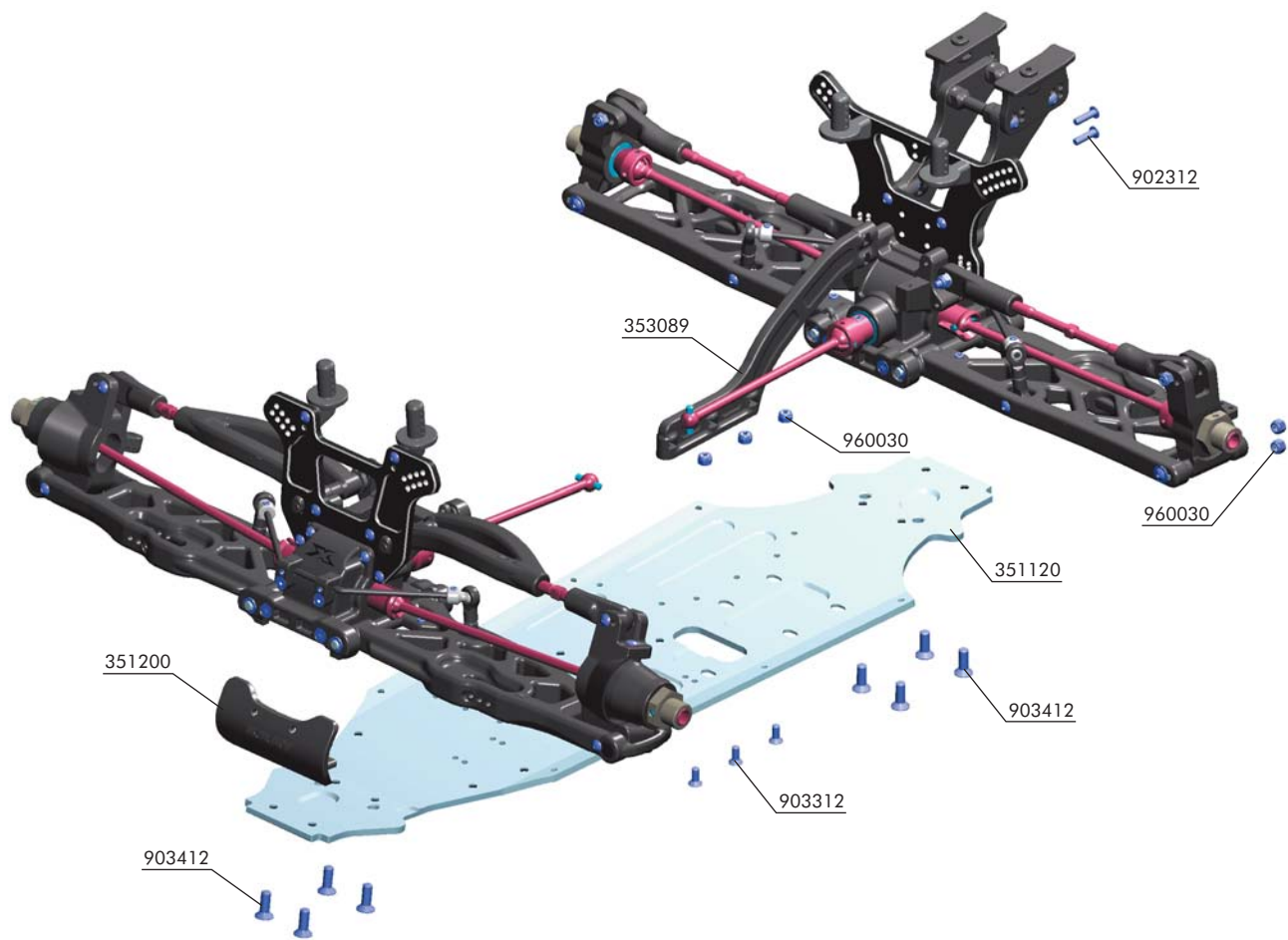
1 mm

3 mm

2 mm

3x12

FRONT & REAR ASSEMBLY



BAG

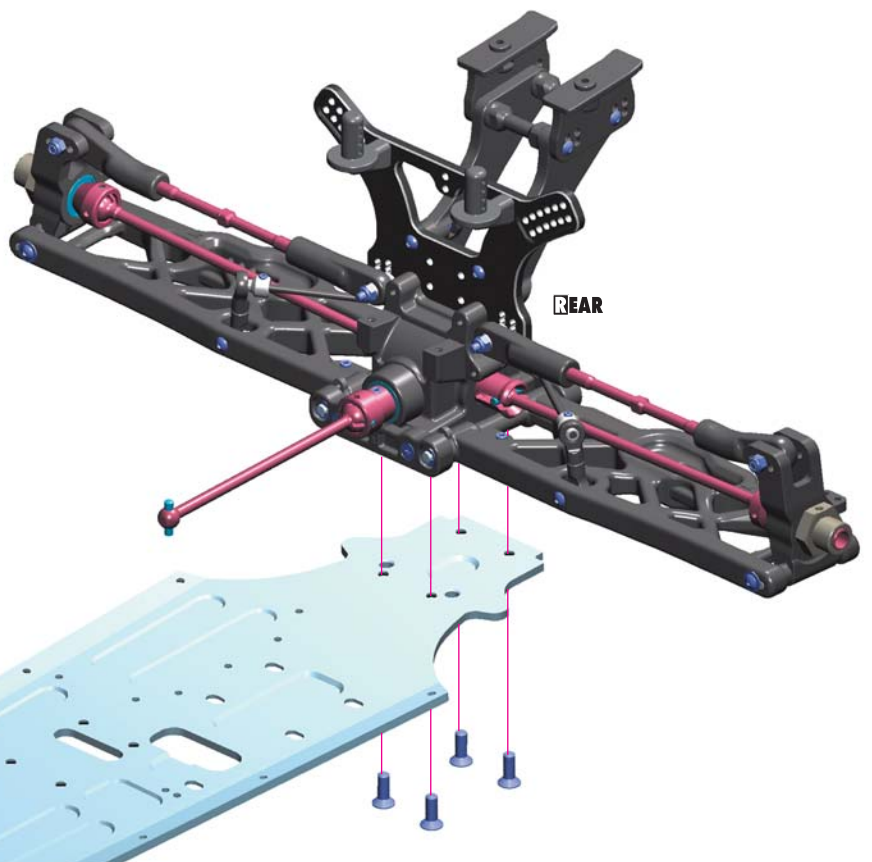
06

35 1120 XT8 ALU CHASSIS - HARDCOATED SWISS 7075 T6 (3MM)
 35 1200 FRONT & REAR BUMPER
 35 3089 COMPOSITE REAR BRACE - V2

90 2312 HEX SCREW SH M3x12 (10)
 90 3312 HEX SCREW SFH M3x12 (10)
 90 3412 HEX SCREW SFH M4x12 (10)
 96 0030 NUT M3 (10)



903412
 SFH M4x12



FRONT & REAR ASSEMBLY



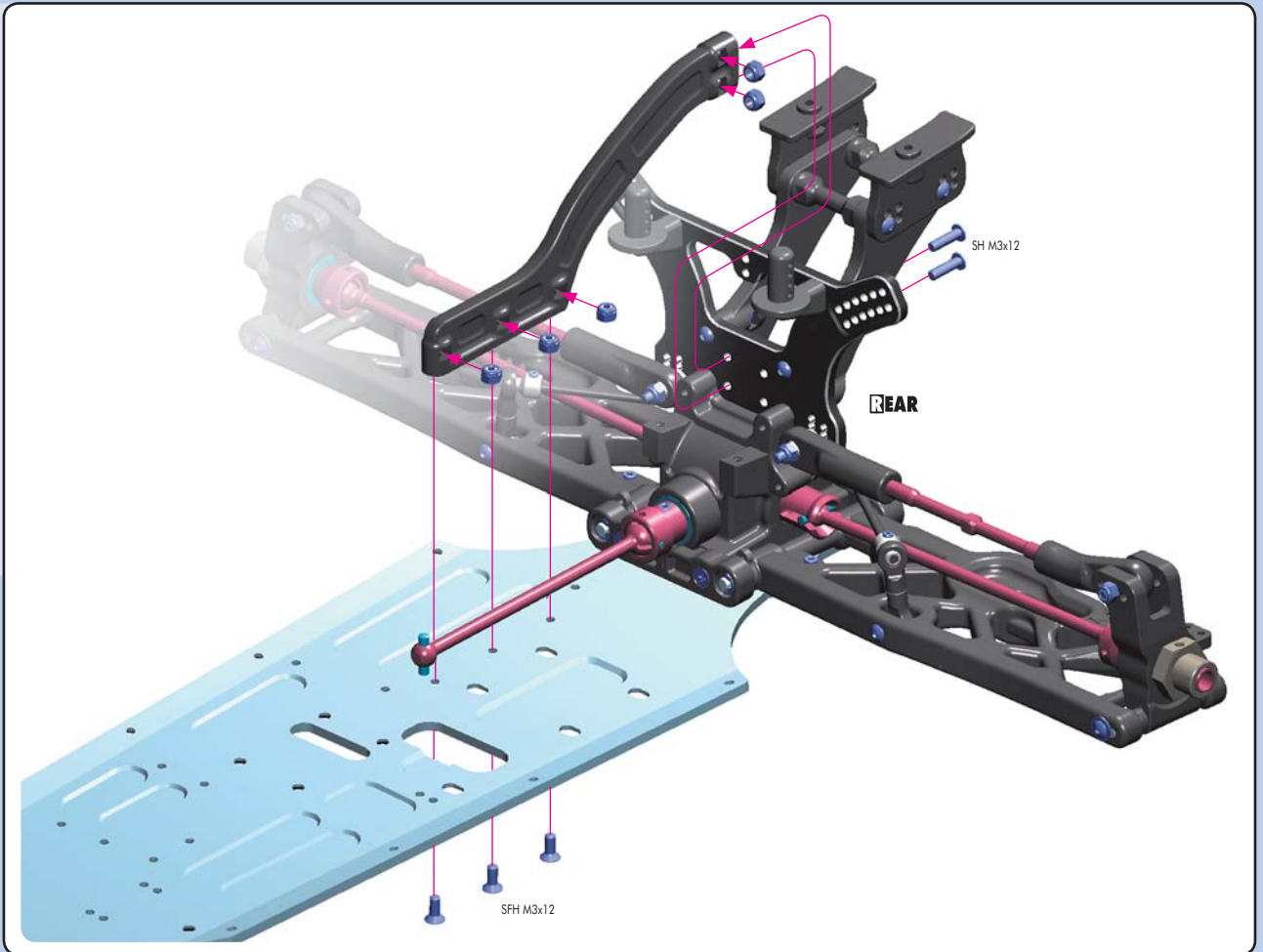
902312
SH M3x12



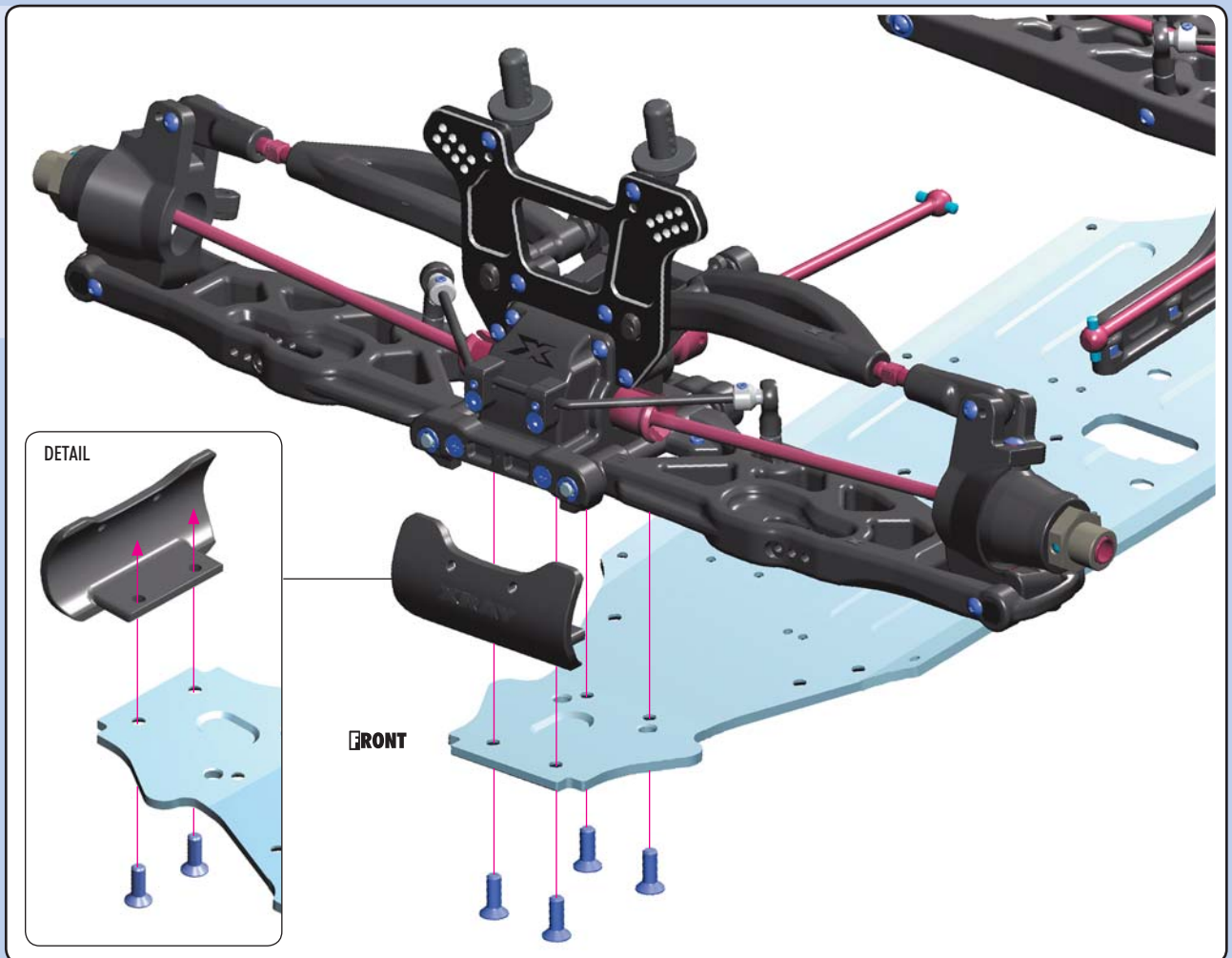
903312
SFH M3x12



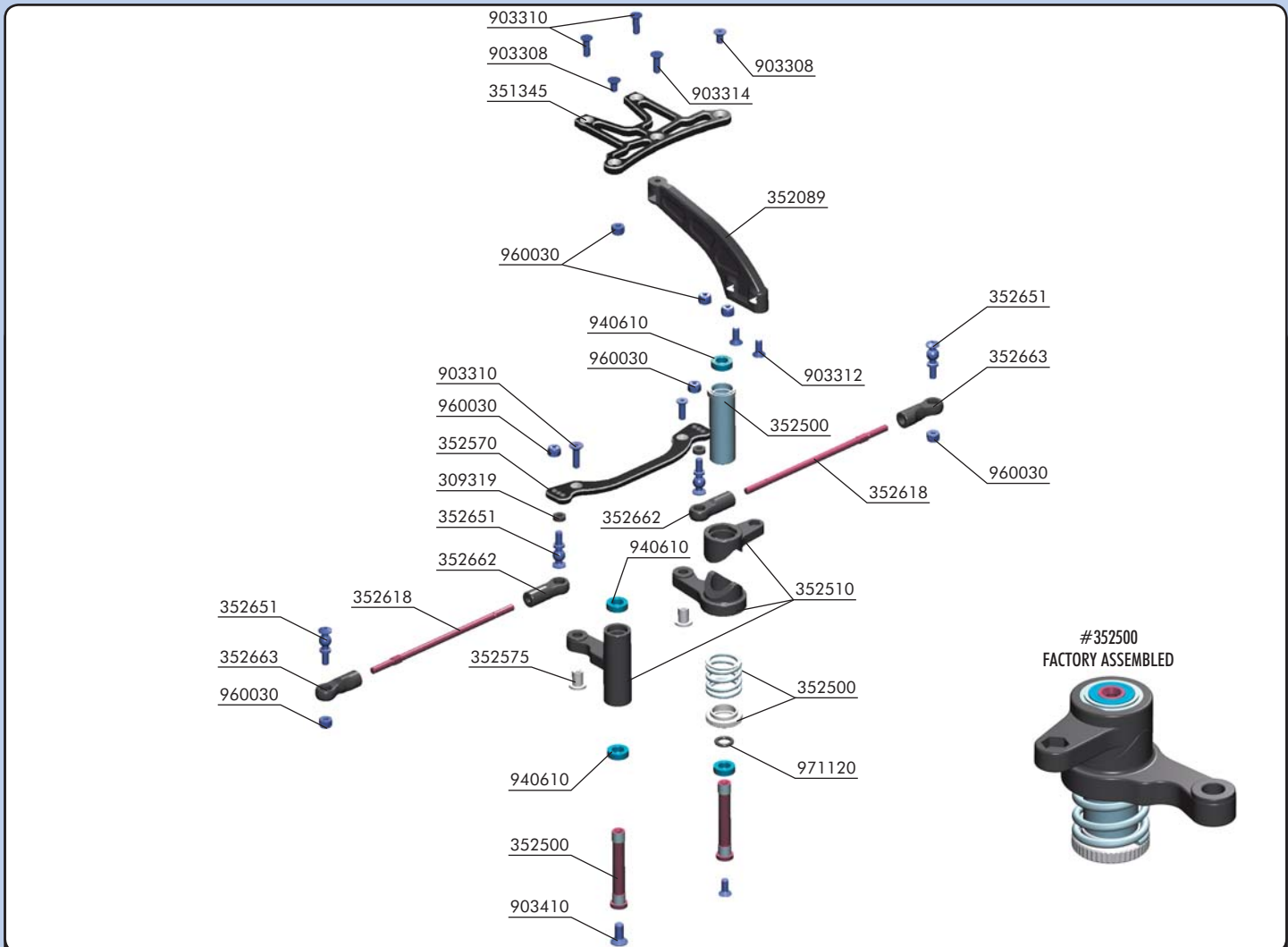
960030
N M3



903412
SFH M4x12



7. STEERING



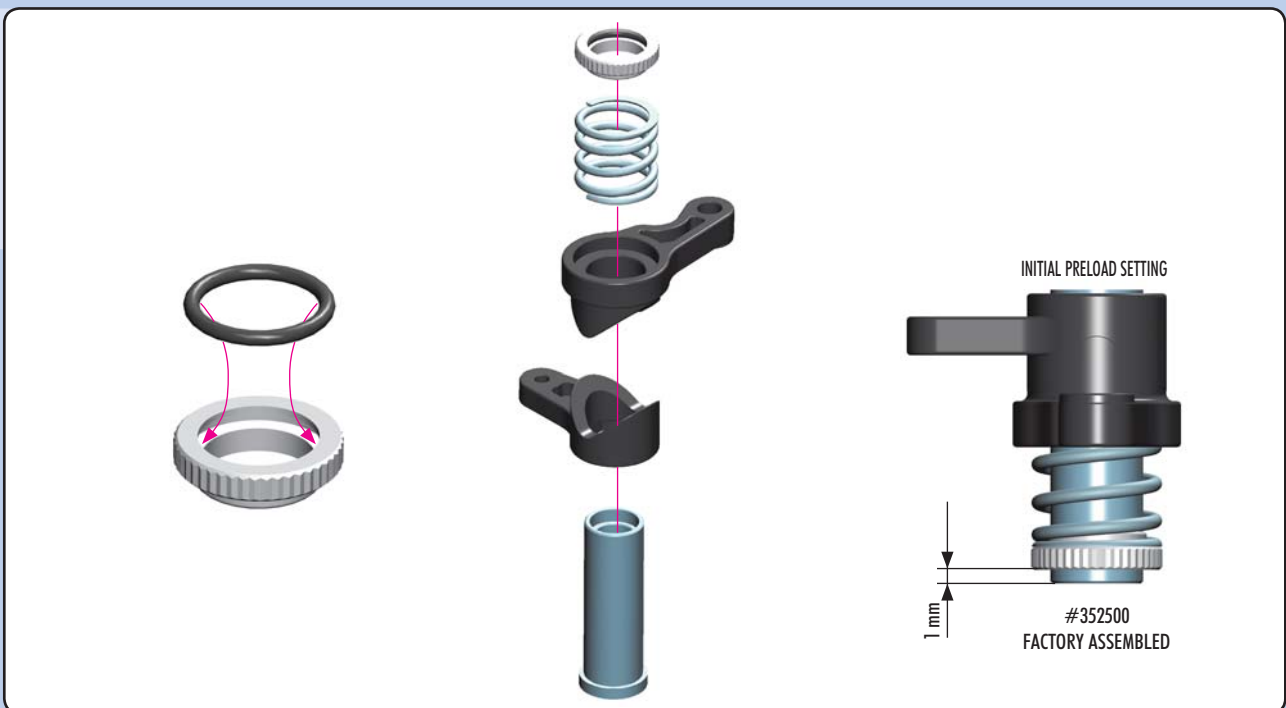
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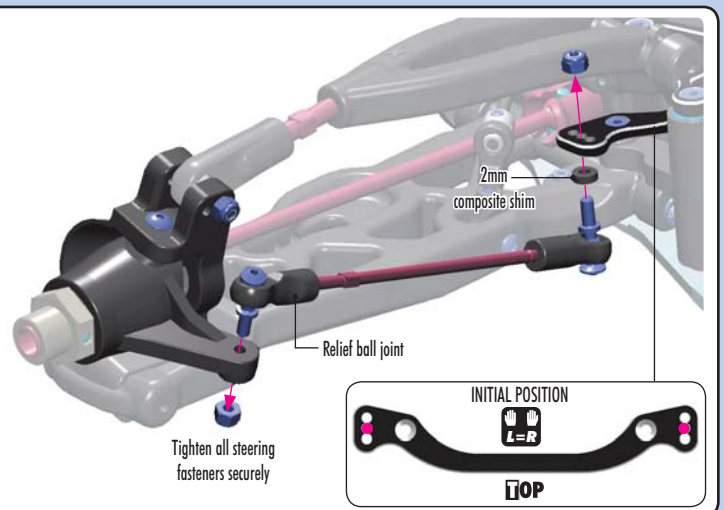
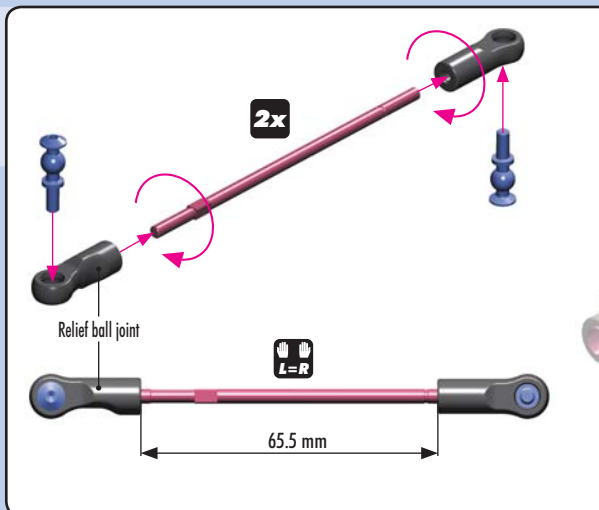
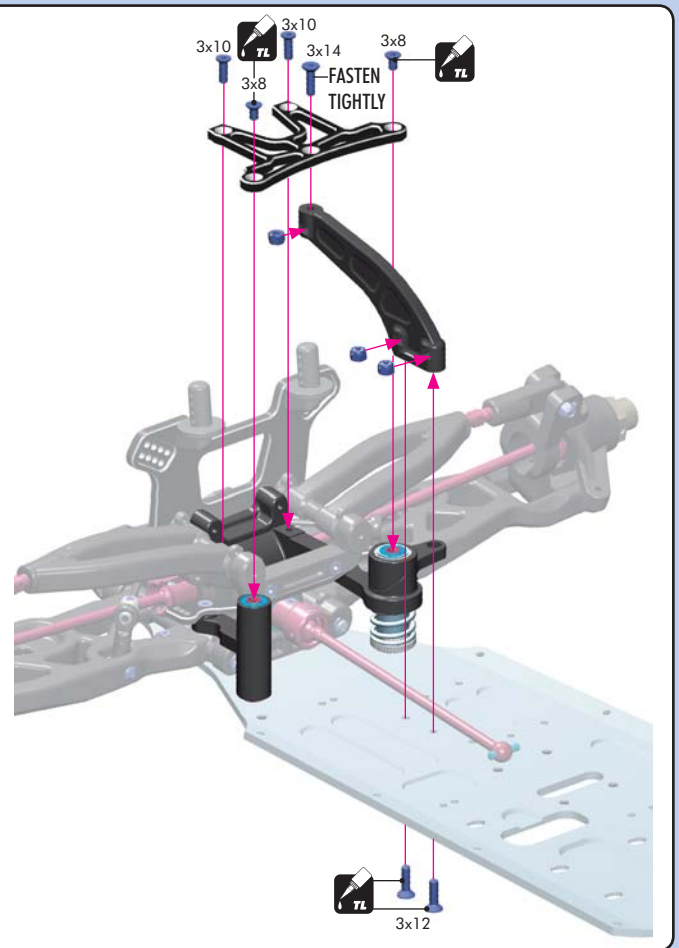
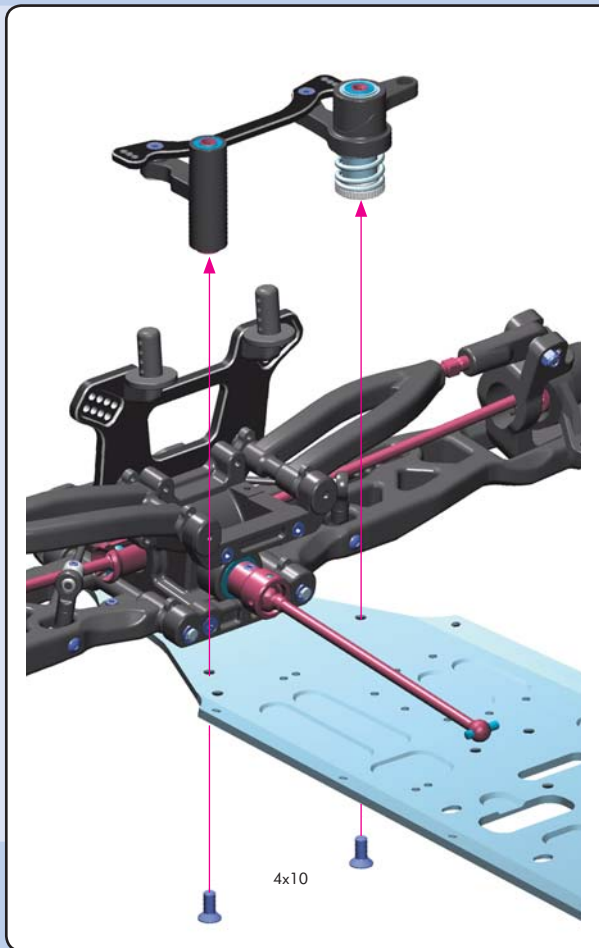
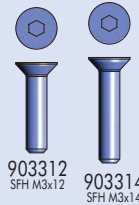
07

30 9319	UNIVERSAL SET OF PLASTIC SHIMS	90 3308	HEX SCREW SFH M3x8 (10)
35 1345	ALU UPPER PLATE 7075 T6 (4MM)	90 3310	HEX SCREW SFH M3x10 (10)
35 2089	COMPOSITE FRONT BRACE - V2	90 3312	HEX SCREW SFH M3x12 (10)
35 2500	SERVO SAVER COMPLETE SET - V2	90 3314	HEX SCREW SFH M3x14 (10)
35 2510	COMPOSITE SERVO SAVER	90 3410	HEX SCREW SFH M4x10 (10)
35 2570	ALU STEERING PLATE 7075 T6 (3MM)	94 0610	HIGH-SPEED BALL-BEARING 6x10x3 BLUE COVERED (2)
35 2575	STEERING PLATE BUSHING (2)	96 0030	NUT M3 (10)
35 2618	XT8 ADJ. TURNBUCKLE M4 L/R 86 MM - HUDY SPRING STEEL (2)	97 1120	SILICONE O-RING 12x1.6 (10)
35 2651	BALL STUD 5.8MM WITH BACKSTOP - V2 (2)		
35 2662	STEERING BALL JOINT 5.8MM FOR M4 (2)		
35 2663	RELIEF STEERING BALL JOINT 5.8MM FOR M4 (2)		

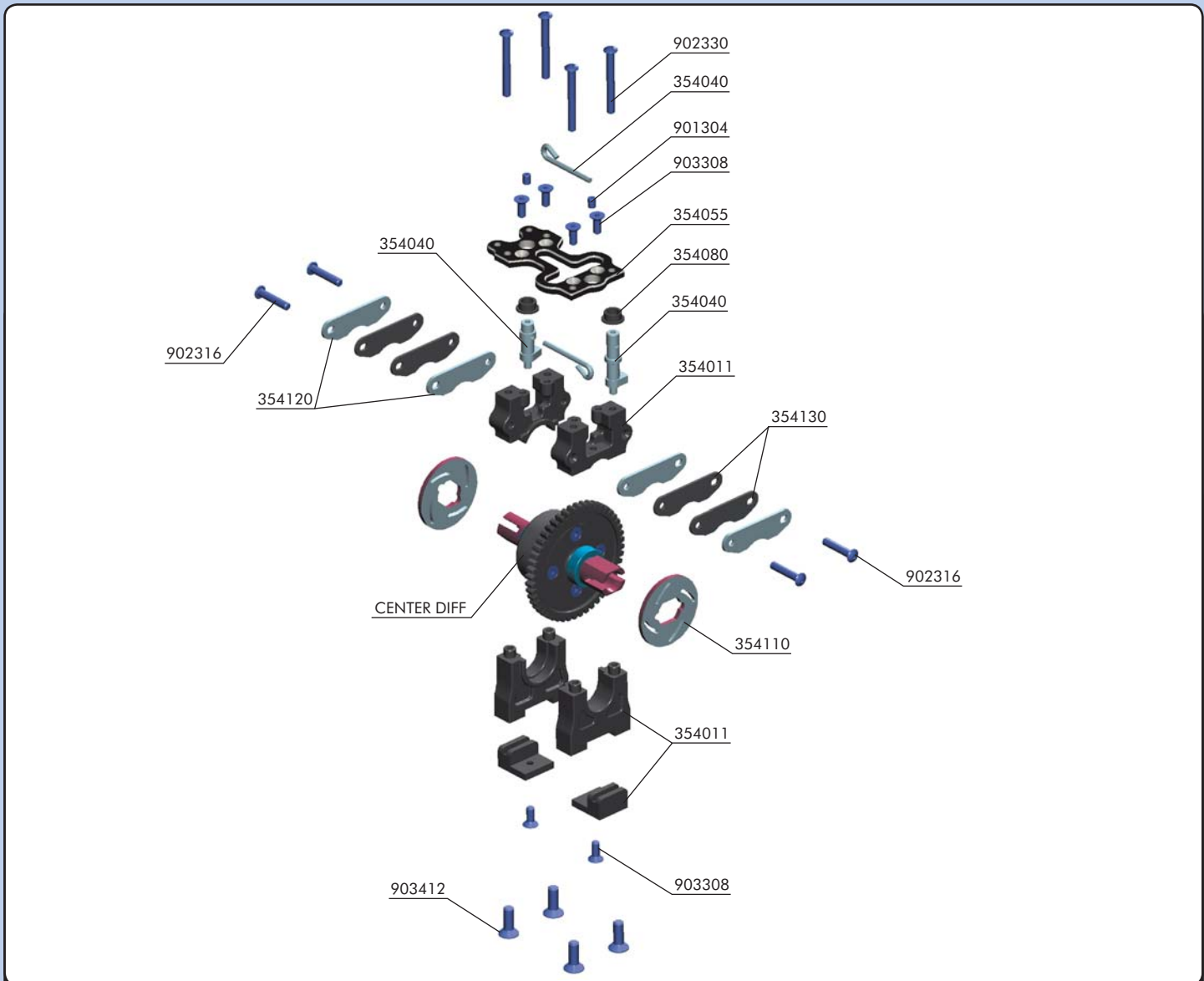


970121
O 12x1.6





8. CENTER DIFF & BRAKE



BAG

08

35 4011	CENTER DIFF MOUNTING PLATE SET - HIGHER	90 1304	HEX SCREW SB M3x4 (10)
35 4040	BRAKE CAM POST & ROD (2+2)	90 2316	HEX SCREW SH M3x16 (10)
35 4055	ALU CENTER DIFF MOUNTING PLATE 7075 T6 (3MM)	90 2330	HEX SCREW SH M3x30 (10)
35 4080	COMPOSITE BUSHING FOR DIFF MOUNTING PLATE (2)	90 3308	HEX SCREW SFH M3x8 (10)
35 4110	VENTILATED BRAKE DISK - LASER CUT - PRECISION-GROUND	90 3412	HEX SCREW SFH M4x12 (10)
35 4120	STEEL BRAKE PAD - LASER CUT (4)		
35 4130	BRAKE PAD FERODO (4)		



902316
SH M3x16

Fibre pad (Ferodo)

Steel pad

TIP
Roughen steel plates with sandpaper before gluing fibre pads

2x
F=R

Fibre pads together

HOLE ROUND
NOTE ORIENTATION

HOLE OVAL
NOTE ORIENTATION

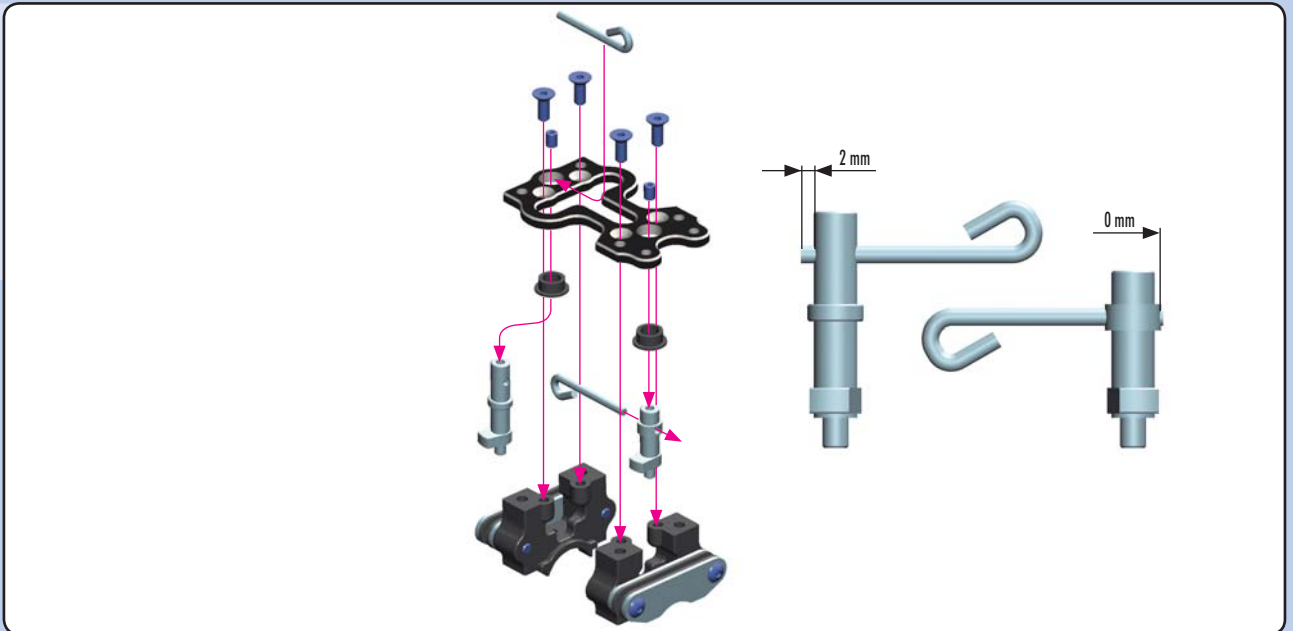
Temporarily insert brake disk between pads to set correct gap

0.5~0.8 mm

CENTER DIFF & BRAKE

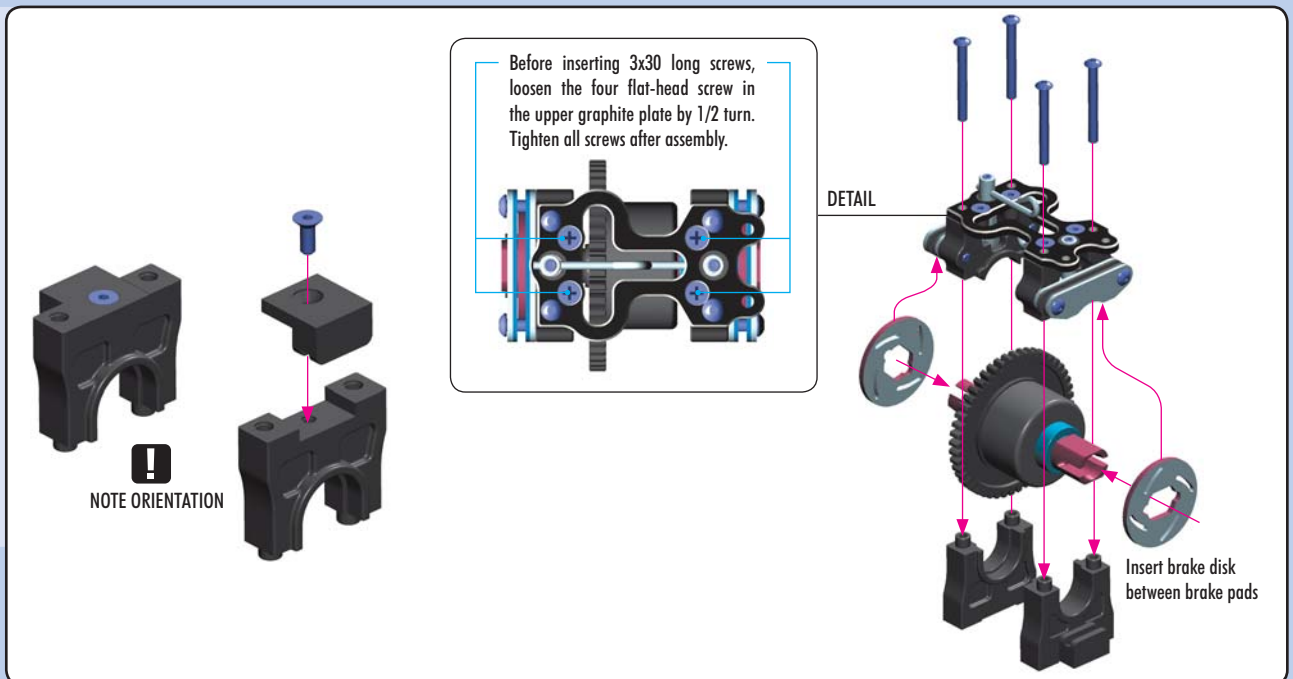
901304
SB M3x4

903308
SFH M3x8

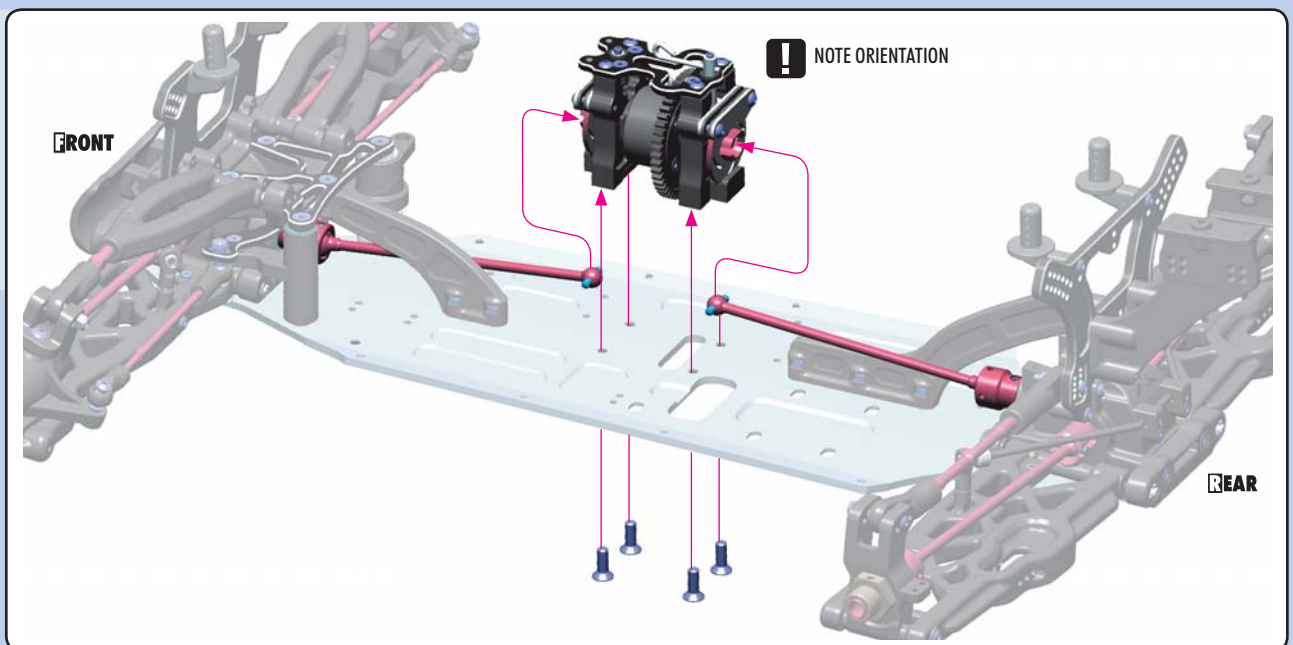


902330
SH M3x30

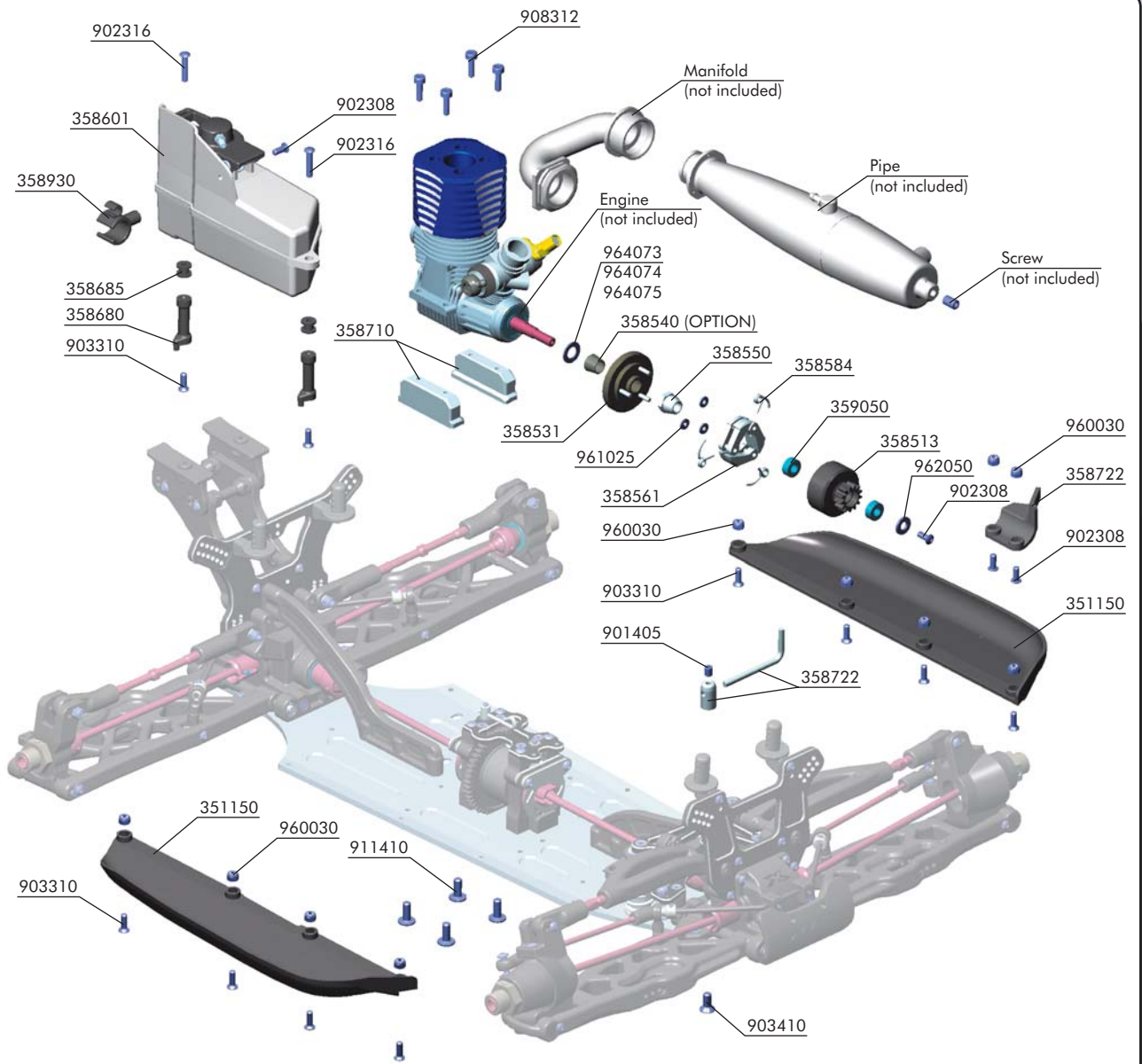
903308
SFH M3x8



903412
SFH M4x12



9. FUEL TANK & ENGINE

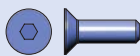


BAG

09

- 35 1150 CHASSIS SIDE GUARDS L+R
- 35 8513 CLUTCH BELL 13T
- 35 8531 FLYWHEEL - HARD COATED
- 35 8540 FLYWHEEL COLLAR (OPTION)
- 35 8550 FLYWHEEL NUT - HUDY SPRING STEEL™
- 35 8561 ALU CLUTCH SHOES - LIGHT 1.71g - CNC MACHINED (3)
- 35 8584 CLUTCH SPRINGS - MEDIUM (3)
- 35 8601 FUEL TANK 150CC - SET
- 35 8680 FUEL TANK MOUNTING POST (2)
- 35 8685 FUEL TANK MOUNTING GROMMET (4)
- 35 8710 ALU ENGINE WIRE MOUNT - CNC MACHINED
- 35 8722 EXHAUST WIRE MOUNT SET - LONG
- 35 8930 FUEL FILTER MOUNT & TUBING HOLDERS

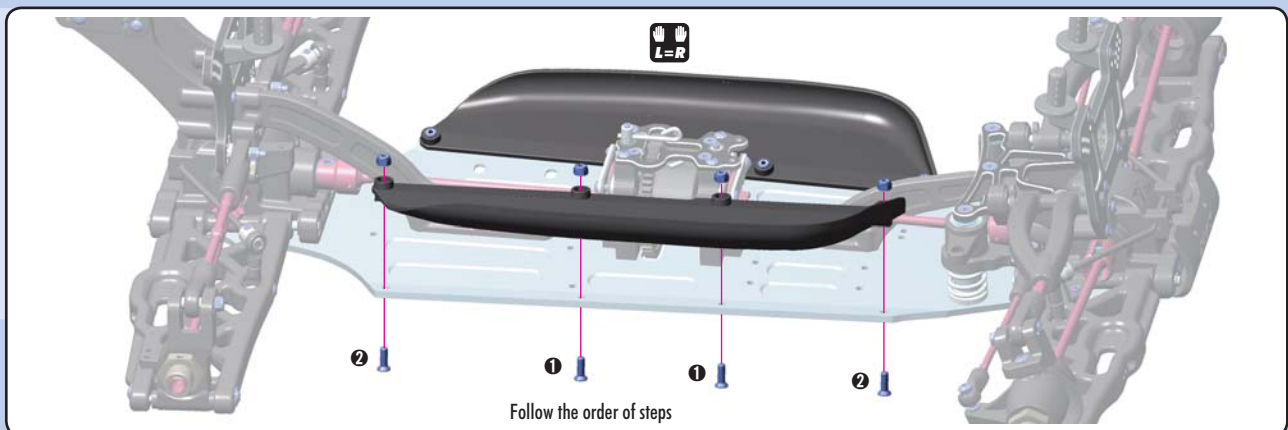
- 35 9050 CLUTCH BELL BALL-BEARING MR105ZZ 5x10x4 (2)
- 90 1405 HEX SCREW SB M4x5 (10)
- 90 2308 HEX SCREW SH M3x8 (10)
- 90 2316 HEX SCREW SH M3x16 (10)
- 90 3310 HEX SCREW SFH M3x10 (10)
- 90 3410 HEX SCREW SFH M4x10 (10)
- 90 8312 HEX SCREW (CAP HEAD) 3x12 (10)
- 96 0030 NUT M3 (10)
- 96 1025 WASHER S 2.5 (10)
- 96 2050 WASHER S 5x10x1.0 (10)
- 96 4073 WASHER S 7x10x0.2 (10)
- 96 4074 WASHER S 7x10x0.3 (10)
- 96 4075 WASHER S 7x10x0.5 (10)



903310
SFH M3x10



960030
N M3



Follow the order of steps

902308
SH M3x8

908312
SCH M3x12

359050
BB 5x10x4

962050
S 5x10x1

964073
S 7x10x0.2

964074
S 7x10x0.3

964075
S 7x10x0.5

3x12

11~11.2 mm

2.5

7x10x0.2 / 0.3 / 0.5

Use appropriate shims to achieve proper clutchbell endplay

5x10

3x8

TIP Tighten the clutch nut using HUDY tool #107581

TIP Hold the flywheel using HUDY Flywheel Tool #182010

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

902308
SH M3x8

903310
SFH M3x10

911410
SHF M4x10

902316
SH M3x16

Adjust engine position to achieve proper gear mesh

3x8

DETAIL

EXTREMELY IMPORTANT !!!
It is very important to ensure that your XT8 has properly adjusted gear mesh. Adjust the gear mesh so there is slightly larger play between the spur gear and clutch bell teeth.

4x10

3x16

3x10

901405
SB M4x5

902308
SH M3x8

903410
SFH M4x10

960030
N M3

4x5

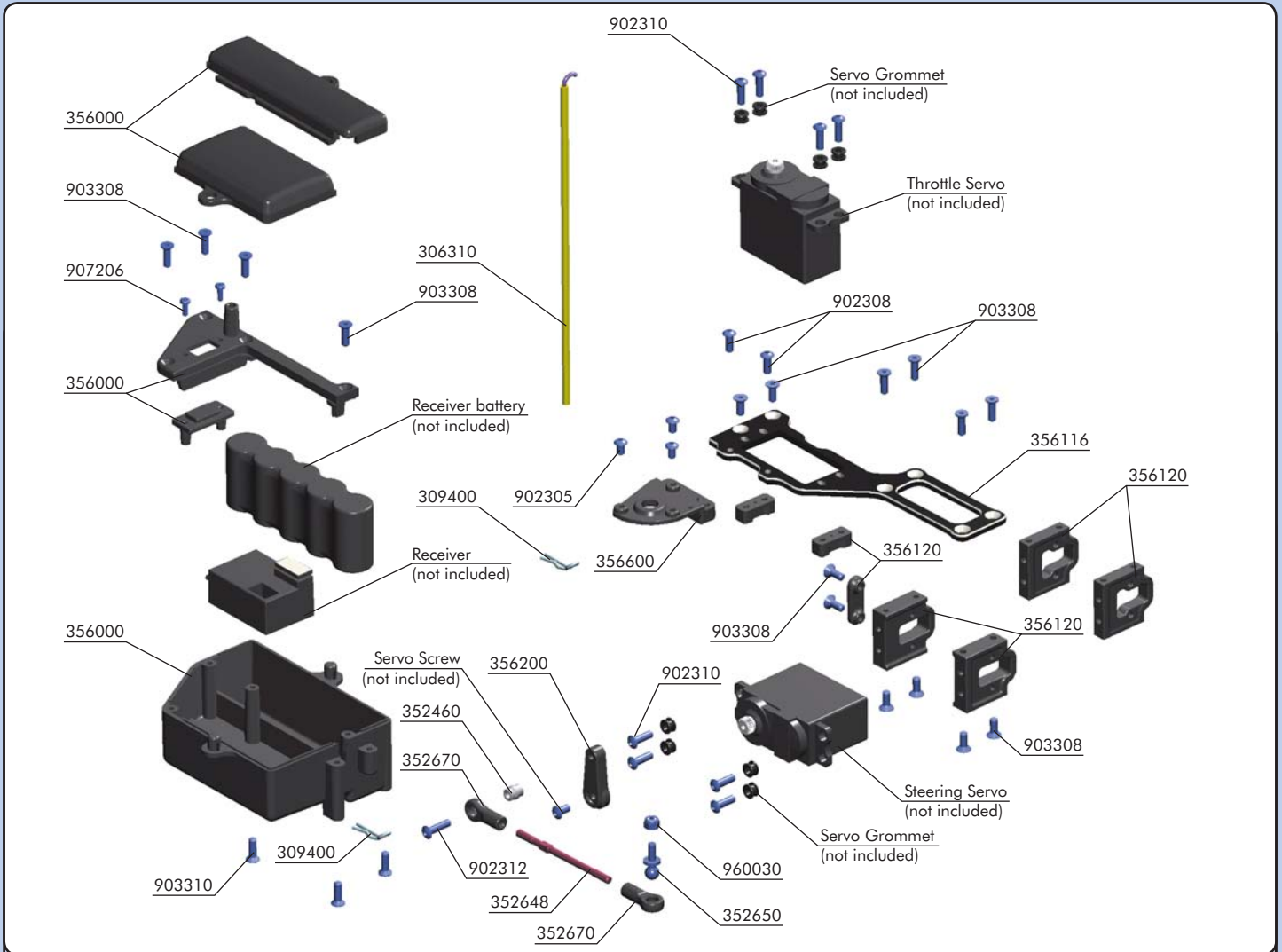
3x8

4x10

CUT AWAY FOR MUFFLER OUTLET

Make 3mm holes as appropriate to mount muffler support/protector.

10. RADIO CASE



BAG

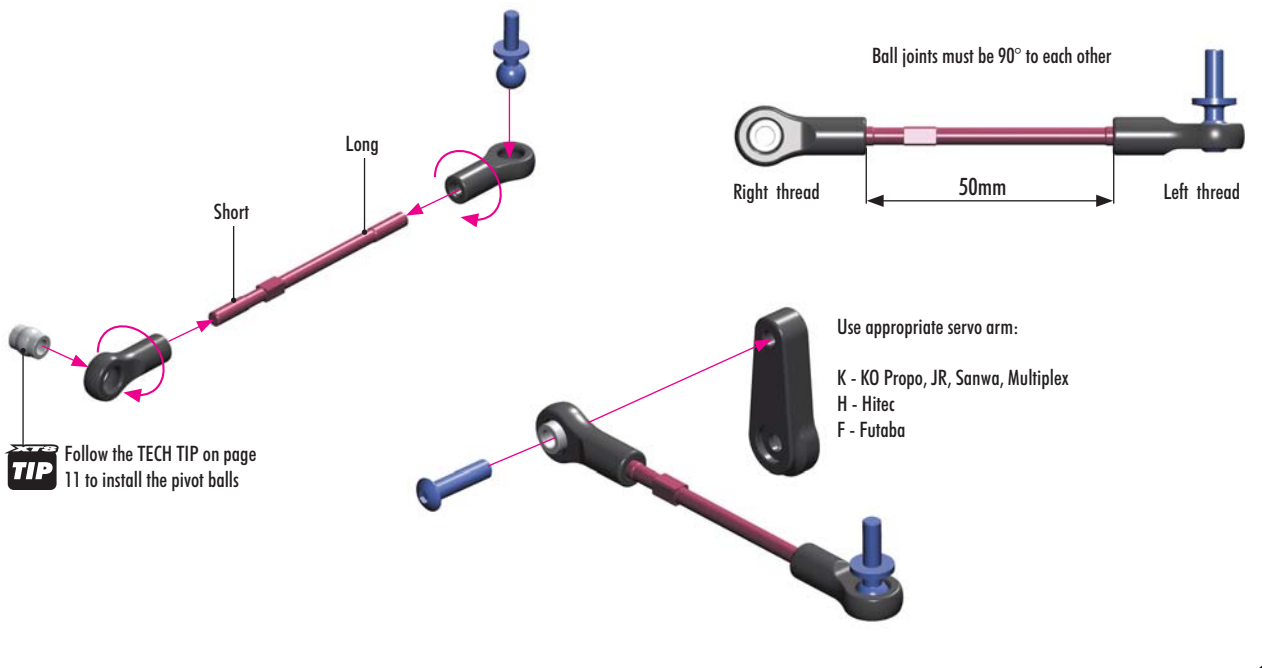
10


- 30 6310 ANTENNA TUBE (2)
- 30 9400 BODY CLIP (8)
- 35 2460 PIVOT BALL 5.8 (10)
- 35 2648 XT8 ADJ. TURNBUCKLE M3 L/R 62 MM - HUDY SPRING STEEL (2)
- 35 2650 BALL STUD 5.8MM (4)
- 35 2670 SERVO BALL JOINT 5.8MM (4)
- 35 6000 RADIO CASE SET
- 35 6116 ALU RADIO PLATE 7075 T6 (3MM) - V2
- 35 6120 STEERING SERVO MOUNT - SET
- 35 6200 BRAKE/THROTTLE ARMS & STEERING SERVO ARMS - SET
- 35 6600 TRANSPONDER MOUNT


- 38 9135 CONNECTING CABLE RECEIVER/BATT. PACK (OPTION)
- 90 2305 HEX SCREW SH M3x5 (10)
- 90 2308 HEX SCREW SH M3x8 (10)
- 90 2310 HEX SCREW SH M3x10 (10)
- 90 2312 HEX SCREW SH M3x12 (10)
- 90 3308 HEX SCREW SFH M3x8 (10)
- 90 3310 HEX SCREW SFH M3x10 (10)
- 90 7206 SCREW PHILLIPS 2x6 (10)
- 96 0030 NUT M3 (10)







902312
SH M3x12



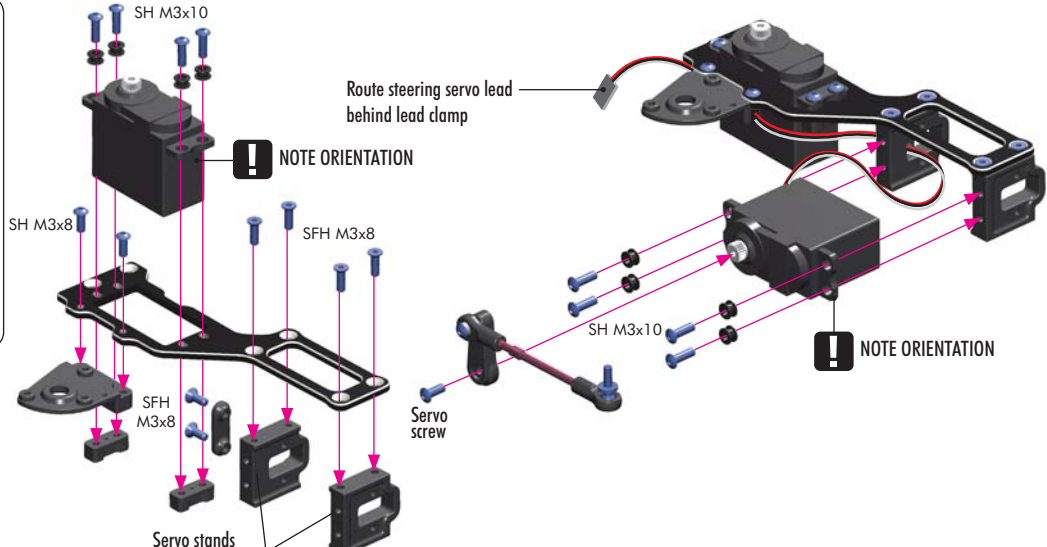
 902308
SH M3x8

 903308
SFH M3x8

 902310
SH M3x10

	KO PROPO
	FUTABA
	SANWA

Use appropriate servo stands



SH M3x10

NOTE ORIENTATION

Route steering servo lead behind lead clamp

SFH M3x8

SFH M3x8


SH M3x10


SH M3x10

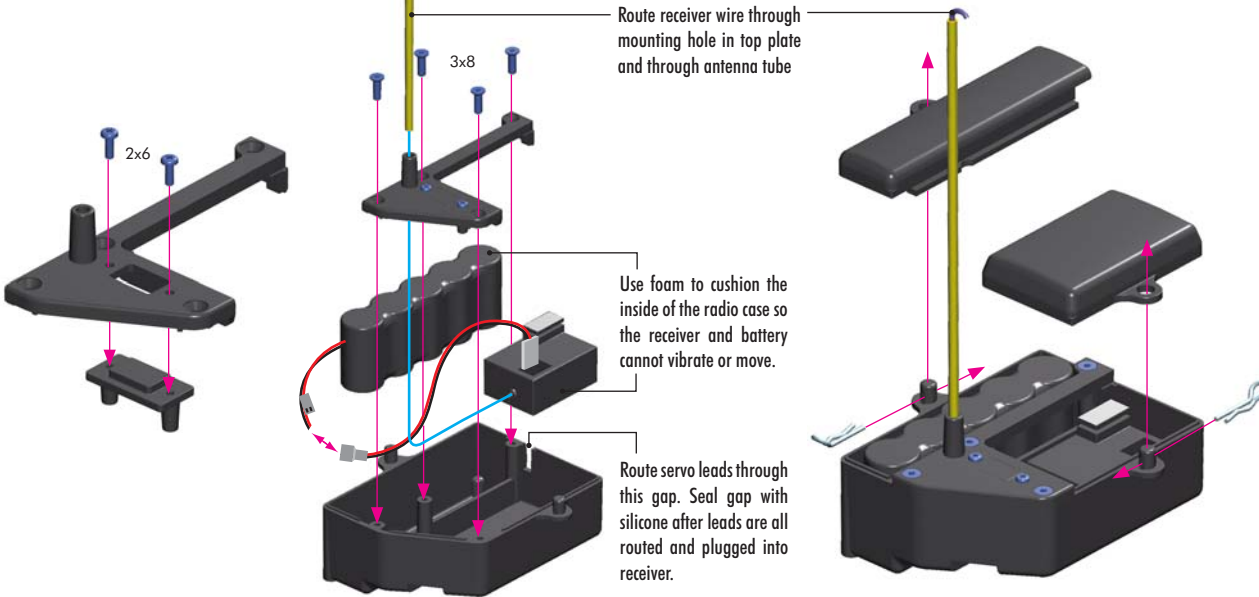
Servo screw

NOTE ORIENTATION

Servo stands

 903308
SFH M3x8

 907206
SP M2x6



2x6


3x8


3x8


Route receiver wire through mounting hole in top plate and through antenna tube

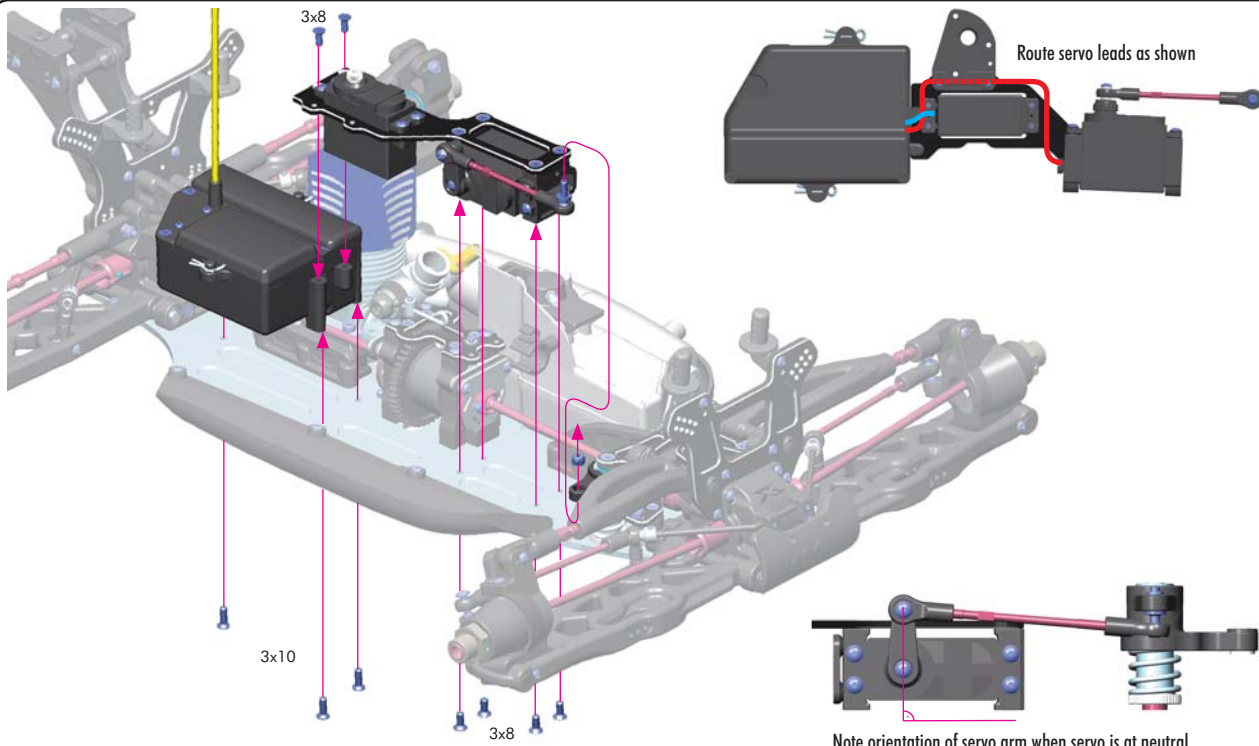
Use foam to cushion the inside of the radio case so the receiver and battery cannot vibrate or move.

Route servo leads through this gap. Seal gap with silicone after leads are all routed and plugged into receiver.

 903308
SFH M3x8

 903310
SFH M3x10

 960030
N M3



3x8

Route servo leads as shown

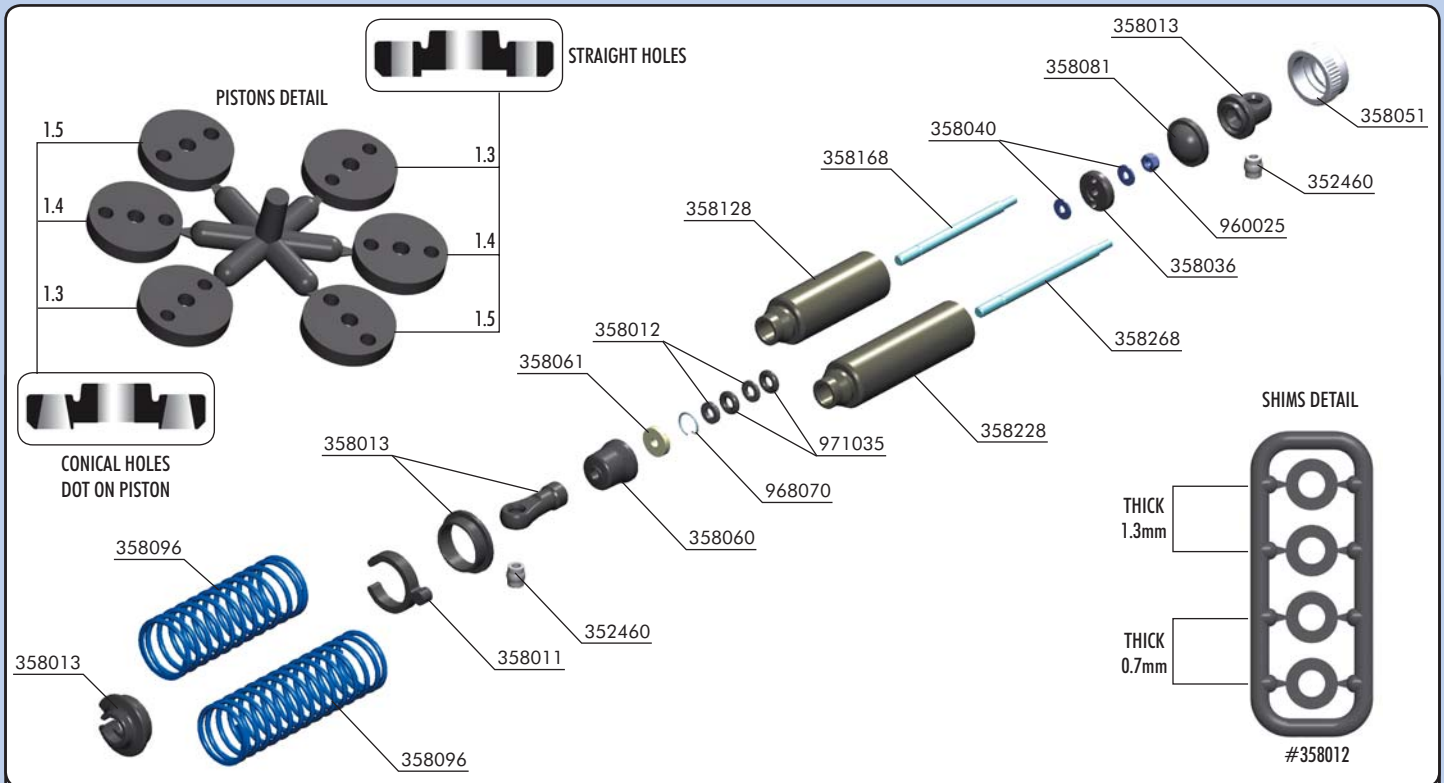
3x10

3x8

3x8

Note orientation of servo arm when servo is at neutral

11. SHOCK ABSORBERS



BAGS



- 35 2460 PIVOT BALL 5.8 (10)
- 35 8011 COMPOSITE SHOCK ADJUSTABLE CLIPS
- 35 8012 COMPOSITE SET OF SHIMS FOR SHOCKS 0.7 & 1.3 MM
- 35 8013 COMPOSITE FRAME SHOCK PARTS - WIDE
- 35 8036 SHOCK PISTON SET - WIDE (2)
- 35 8040 HARDENED SHOCK SHIMS (4)
- 35 8051 ALU SHOCK CAP NUT - WIDE (2)
- 35 8060 RUBBER SHORT SHOCK BOOT (4)
- 35 8061 FELT SHIM FOR RUBBER SHORT SHOCK BOOT (4)
- 35 8081 SHOCK RUBBER MEMBRANE - WIDE (4)

- 35 8096 XRAY SPRING-SET HARD DARK-BLUE (2+2)
- 35 8128 XT8 ALU FRONT SHOCK BODY - HARD COATED (2)
- 35 8168 XT8 FRONT SHOCK SHAFT (2)
- 35 8228 XT8 ALU REAR SHOCK BODY - HARD COATED (2)
- 38 8268 XT8 REAR SHOCK SHAFT (2)

- 96 0025 NUT M2.5 (10)
- 96 8070 G-CLIP 7 (10)
- 97 1035 SILICONE O-RING 3.5x2 (10)



BAG 11.1
FRONT SHOCK

1step

Use 1.4mm pistons, straight (no dot on the piston)



TIGHTEN GENTLY

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



DO NOT OVERTIGHTEN

The self-locking nut is overtightened, causing distortion of the piston. This will negatively affect the free movement of the piston in the shock body.

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

BAG 11.2
REAR SHOCK

1step

Use 1.5mm pistons, straight (no dot on the piston)



TIGHTEN GENTLY

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

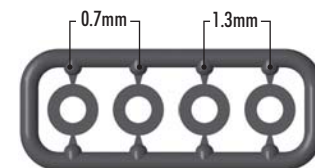


DO NOT OVERTIGHTEN

The self-locking nut is overtightened, causing distortion of the piston. This will negatively affect the free movement of the piston in the shock body.

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

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

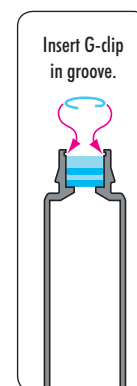


2step

2x FRONT SHOCKS

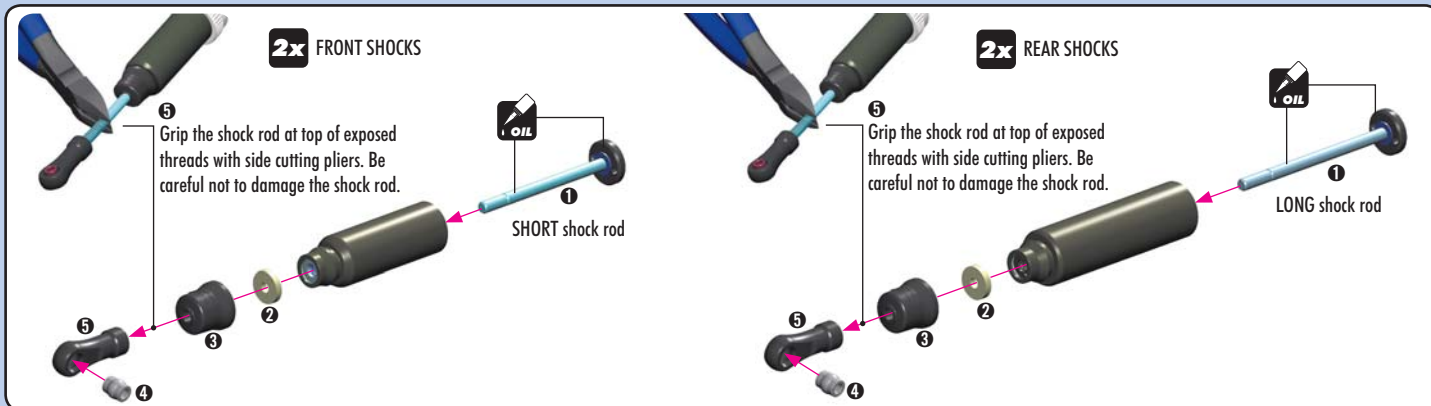
2x REAR SHOCKS

- G-clip
- Thick Shim 1.3mm
- O-ring
- Thin Shim 0.7mm
- O-ring



TIP 350 shock oil: Use in standard and cold weather.
500 shock oil: Use in hot weather.

SHOCK ABSORBERS



4x FRONT & REAR SHOCKS

1. Install the pivot ball into the composite pivot mount.
2. Extend the shock rod so the piston is near the bottom of the shock body.
3. Hold shock upright and slightly overfill the shock body with shock oil.
4. Let the oil settle and allow air bubbles to rise to the top. Slowly move the piston up and down until no more air bubbles appear. Add shock oil as necessary.
5. Pull the piston most of the way out of the shock body.

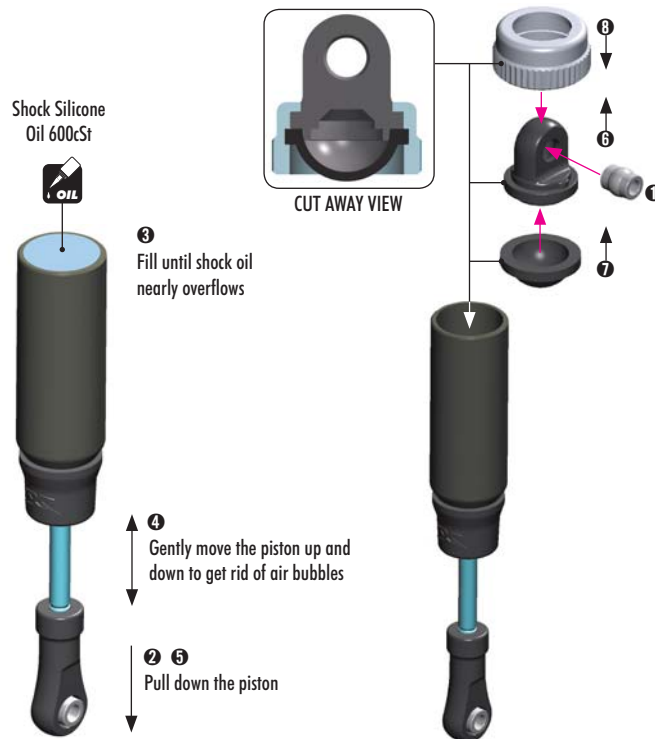
6. Insert the top composite pivot mount in the alu collar. Ensure the notch in the collar fits over the tab on the top pivot mount.
7. Insert the rubber membrane in the alu collar. The membrane must be installed properly.
8. Place the top assembly on the shock body, then thread it fully onto the shock body. Excess oil should spill out.

Shock bleeding:

Check the shock for proper operation. The shock rod must move in and out freely with only "hydraulic" damping.

The shock rod should not extend out by itself when pushed in and released. If this happens, extend the shock rod, loosen the top collar, and then slightly push the shock rod into the shock body. Excess oil should escape out the top of the shock. Retighten the top collar and retest. Repeat bleeding as required.

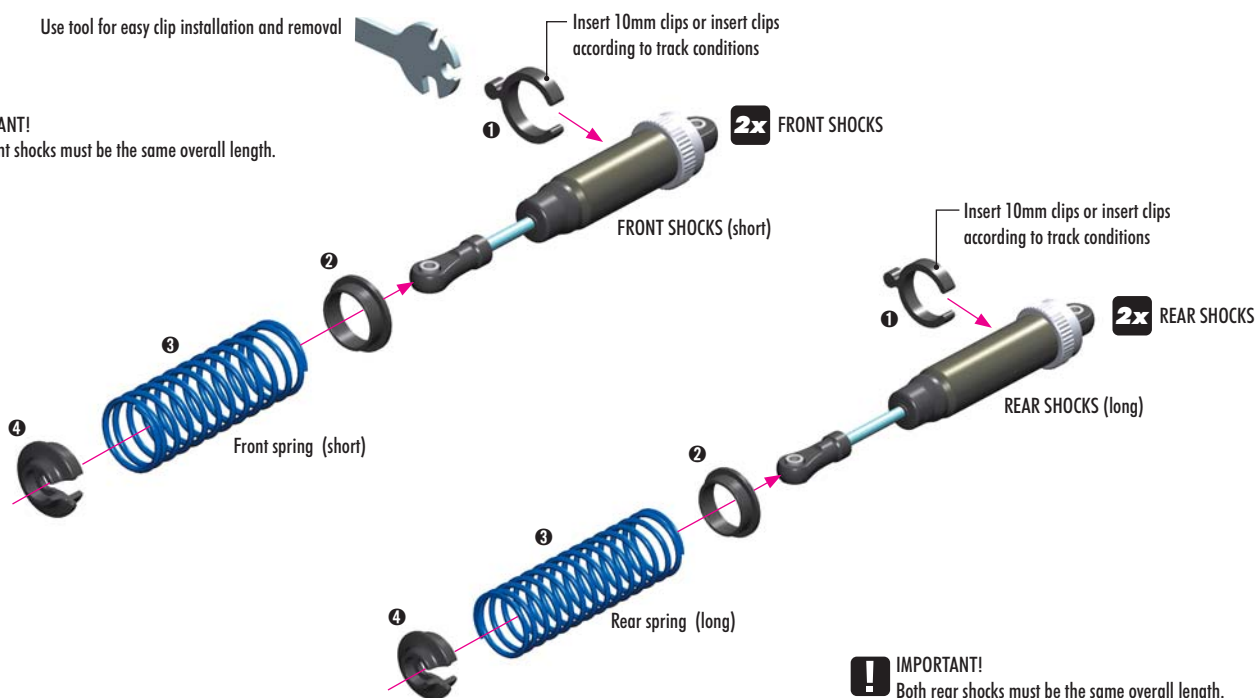
The shock rod should not be drawn into the shock body when pulled out and released. If this happens, remove the top collar assembly (including bladder). Fill the shock body with more shock oil and reassemble. Retest. Repeat bleeding as required.



Use tool for easy clip installation and removal

IMPORTANT!

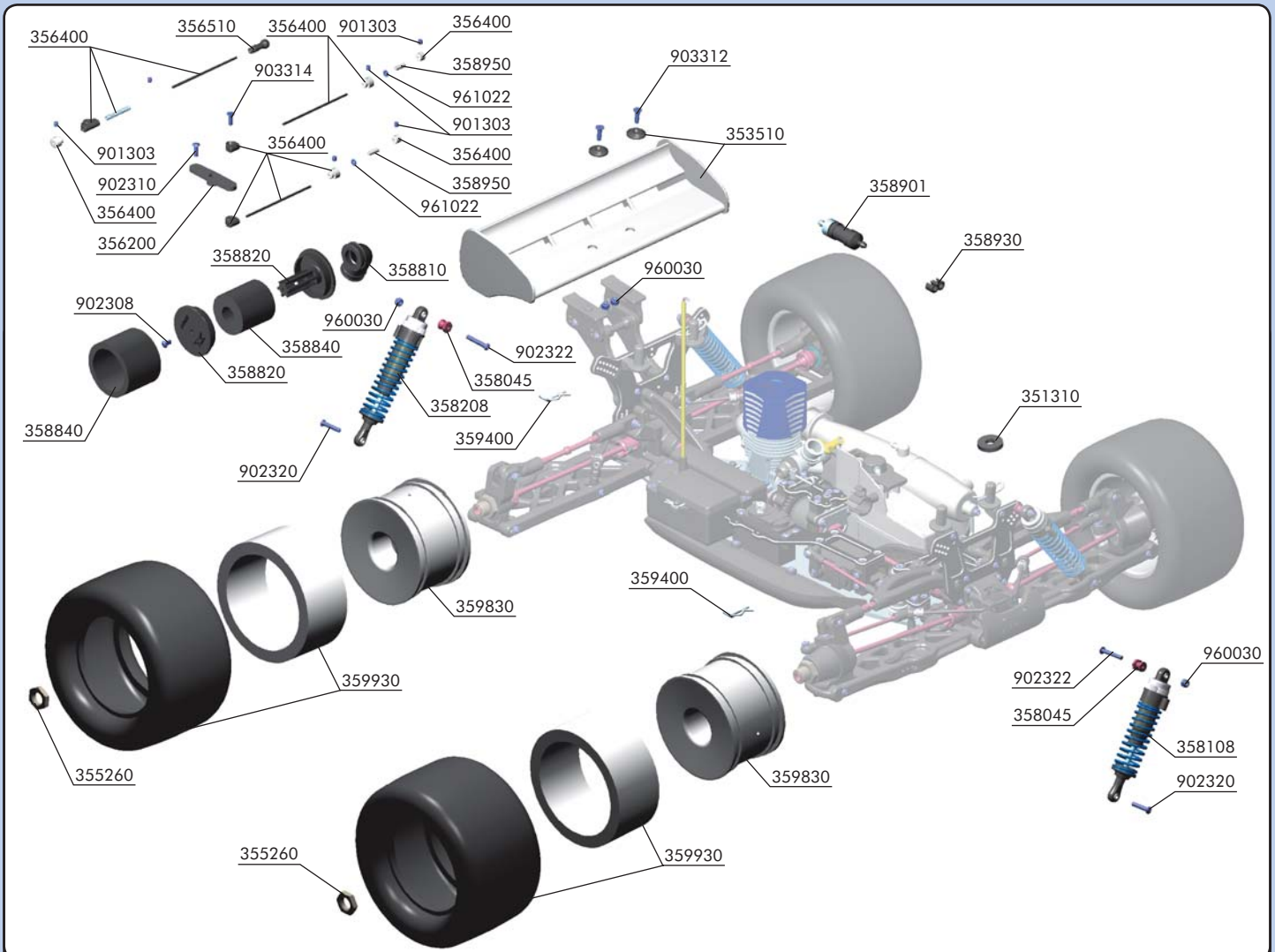
Both front shocks must be the same overall length.



IMPORTANT!

Both rear shocks must be the same overall length.

12. FINAL ASSEMBLY

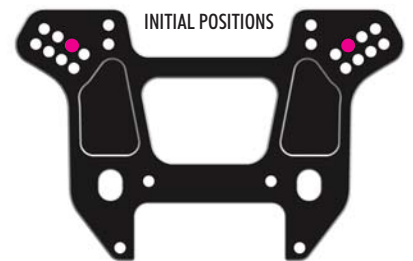
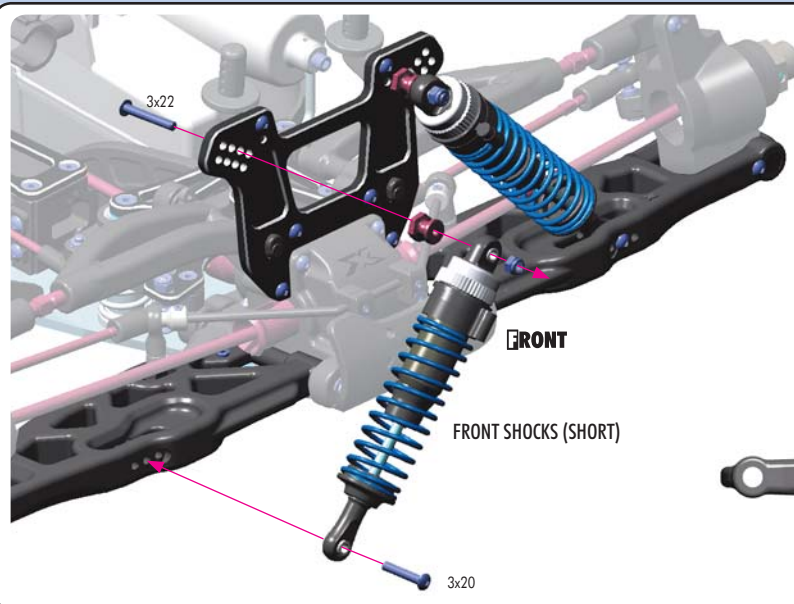


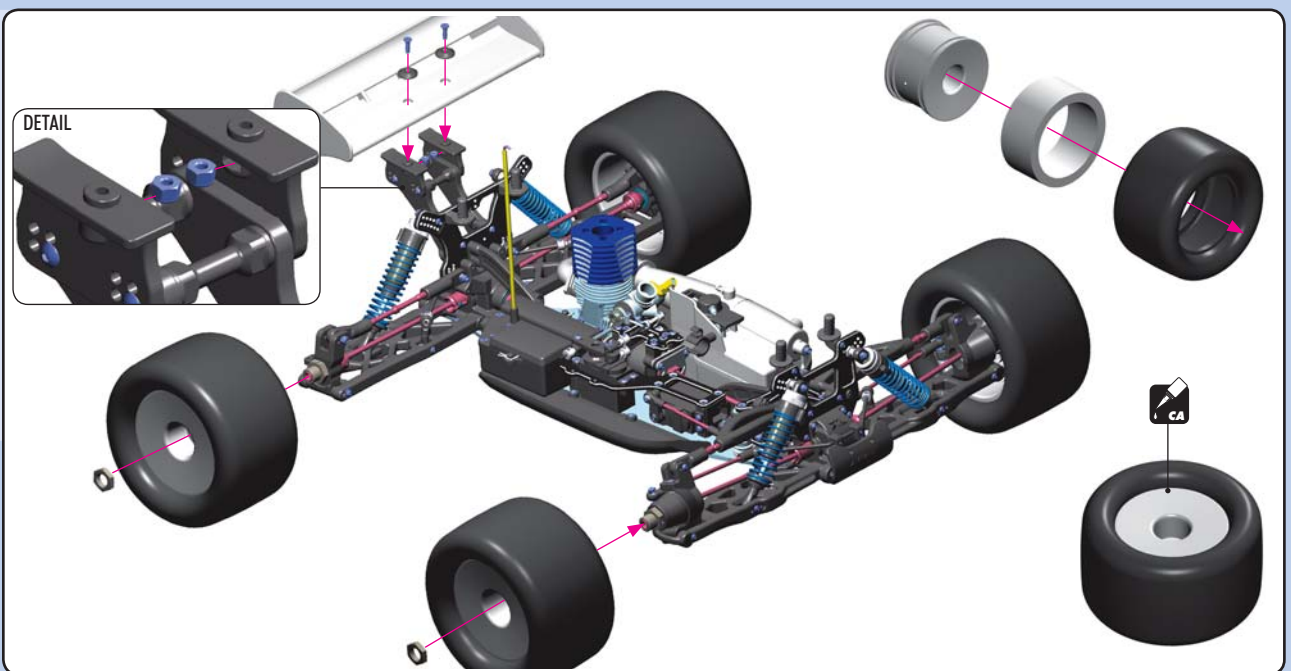
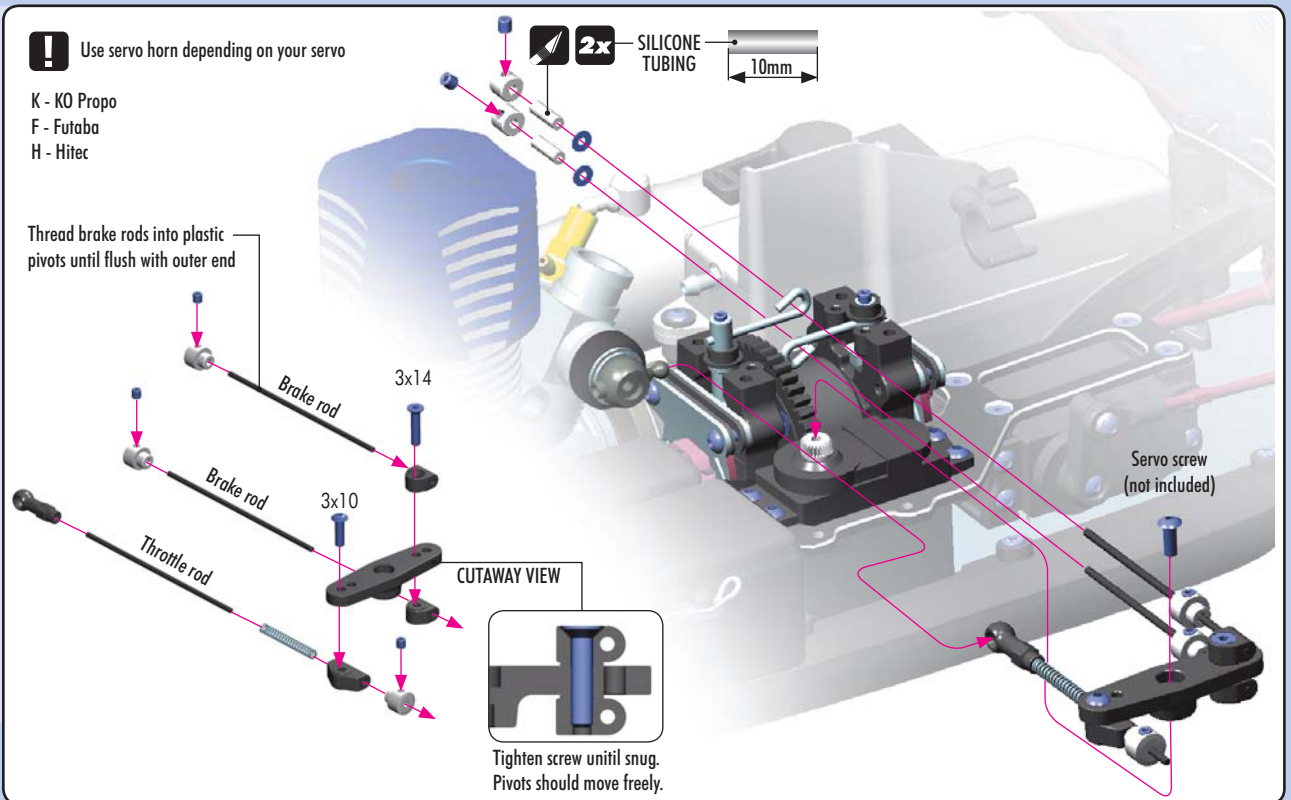
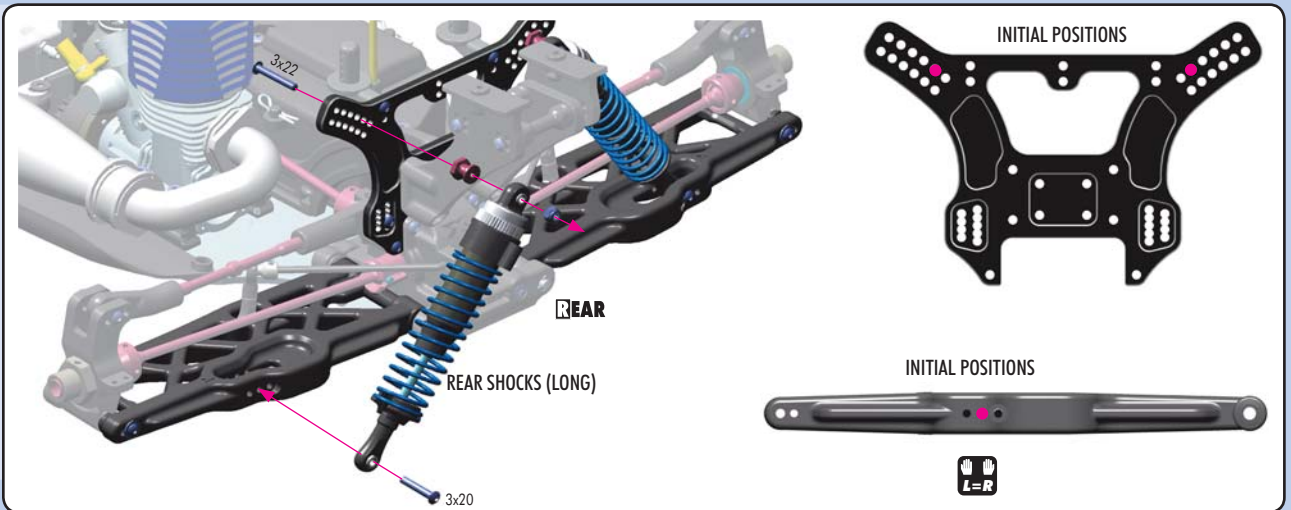
BAG

12

- 35 1310 FOAM WASHER FOR BODY POSTS (4)
- 35 3510 REAR WING
- 35 5260 WHEEL NUT - HARD COATED (2)
- 35 6200 BRAKE/THROTTLE ARMS & SERVO ARMS - SET
- 35 6400 BRAKE/THROTTLE SYSTEM - SET
- 35 6510 CLOSED BALL JOINT 3.9 (4)
- 35 8045 SHOCK PIVOT BALL WITH HEX (2)
- 35 8108 XT8 FRONT SHOCK ABSORBERS COMPLETE SET (2)
- 35 8208 XT8 REAR SHOCK ABSORBERS COMPLETE SET (2)
- 35 8810 AIR FILTER ELBOW
- 35 8820 AIR FILTER BODY & CAP
- 35 8840 AIR FILTER FOAM & OIL
- 35 8901 COMPOSITE FUEL FILTER SET
- 35 8930 FUEL FILTER MOUNT & TUBING HOLDERS

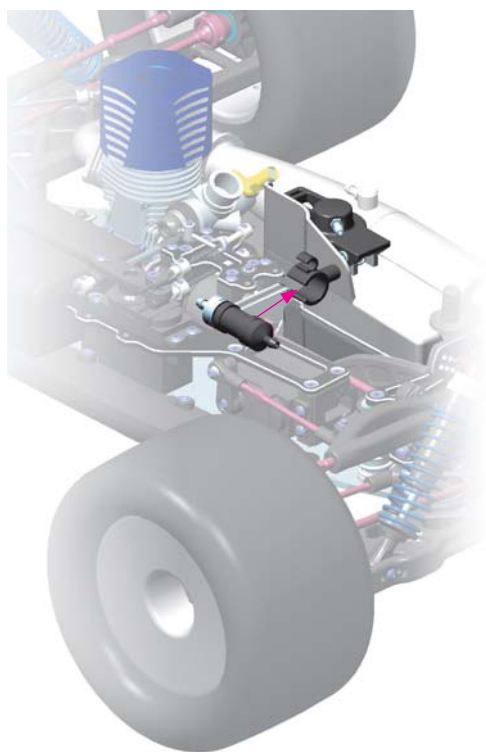
- 35 8950 SILICONE TUBING 1M (2.4 x 5.5MM)
- 35 9400 BODY CLIP (10)
- 35 9720 XRAY BODY FOR 1/8 TRUGGY
- 35 9830 TRUGGY WHEELS STARBURST AERODISK - WHITE (4)
- 35 9930 XRAY TRUGGY PIN TIRE - THRAX + FOAM INSERTS (2)
- 90 1303 HEX SCREW SB M3x3 (10)
- 90 2308 HEX SCREW SH M3x8 (10)
- 90 2310 HEX SCREW SH M3x10 (10)
- 90 2320 HEX SCREW SH M3x20 (10)
- 90 2322 HEX SCREW SH M3x22 (10)
- 90 3312 HEX SCREW SFH M3x12 (10)
- 90 3314 HEX SCREW SFH M3x14 (10)
- 96 0030 NUT M3 (10)
- 96 1022 WASHER S 2.2 (10)



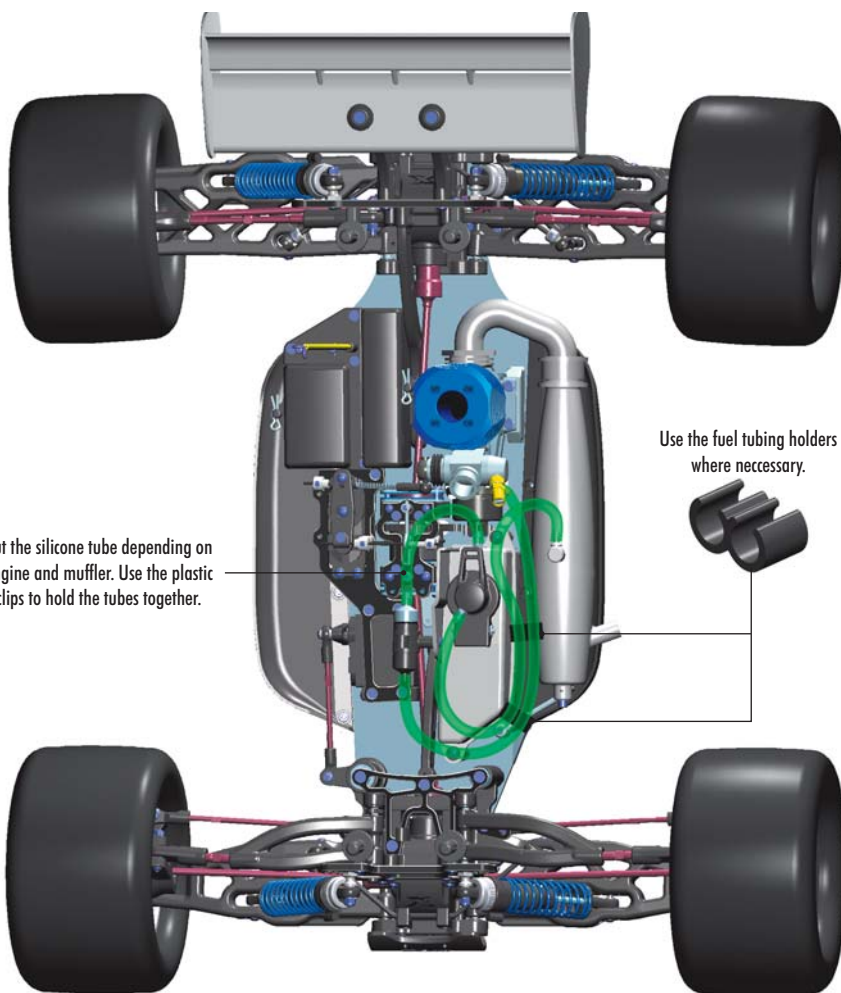


FINAL ASSEMBLY

The fuel filter has a small hole that fits into notch on the composite holder to prevent the filter from turning freely



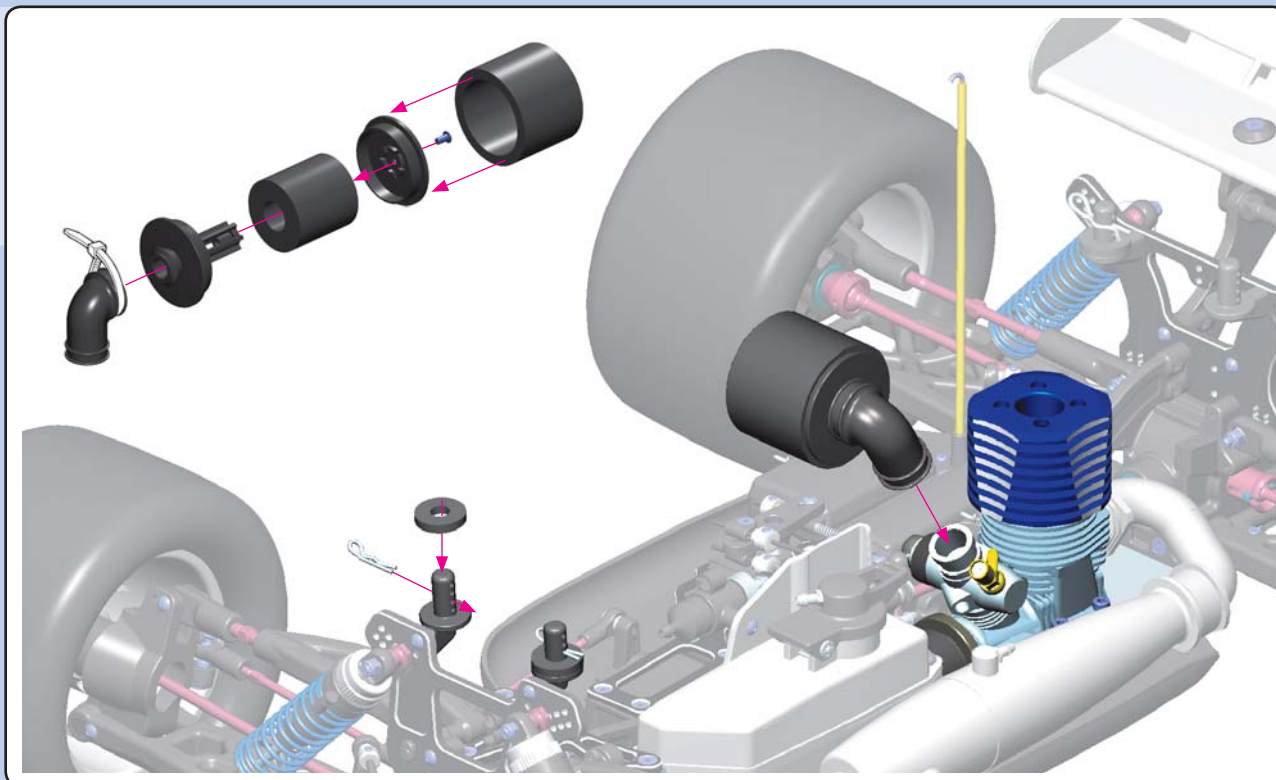
Cut the silicone tube depending on engine and muffler. Use the plastic clips to hold the tubes together.



Use the fuel tubing holders where necessary.

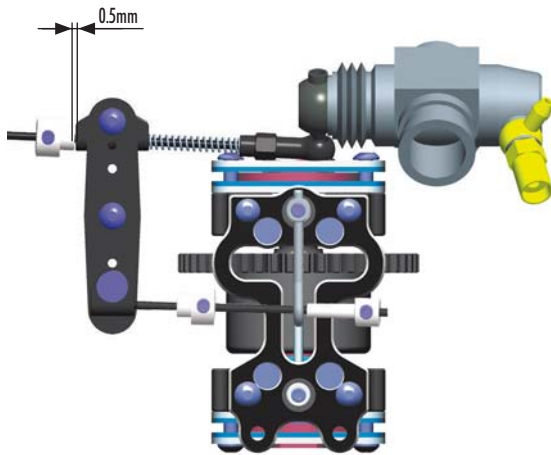


902308
SH M3x8

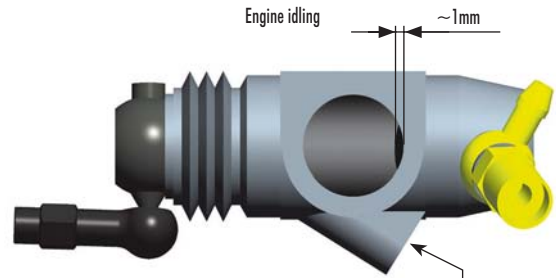


THROTTLE LINKAGE ADJUSTMEN

NEUTRAL (IDLE)



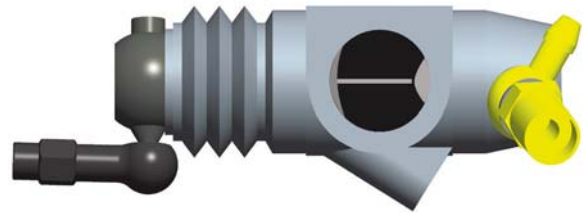
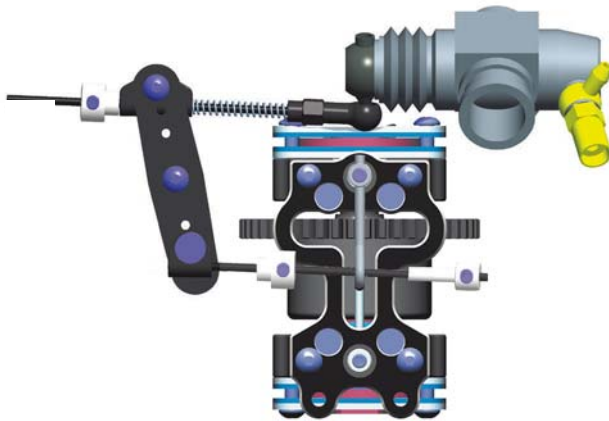
ADJUST INDIVIDUAL LINKAGES SEPARATELY TO AVOID INTERFERING WITH THE OPERATION OF THE OTHERS



Idling Adjustment Screw.
Use to adjust the idle setting of the carburetor.
Do not allow carburetor to close to less than 1mm.

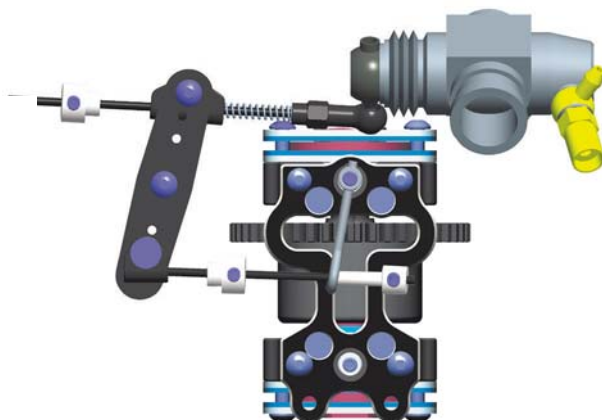
- * Turn on the transmitter and receiver and set the engine control servo trim to the neutral position.
- * Adjust the idle adjustment screw on the carburetor to open approx. 1mm.
- * Adjust both the throttle linkage and brake linkages accordingly.
- * DO NOT adjust the linkage with the engine running.

FULL THROTTLE

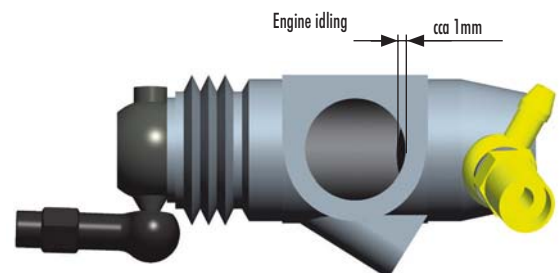


- * Adjust the servo-horn mounting position for the carburetor to open fully.
- * Change the pivot mounting position on the servo horn in case the carburetor is not opening fully or if it is opening excessively.
Or if available on the transmitter, adjust the throttle high end point.

BRAKE



Brake adjusting knobs:
Upper linkage - rear brake
Lower linkage - front 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.

TROUBLESHOOTING GUIDE

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

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 leaks out.

Starting and running the engine

Be sure to observe the following starting process. Non-observance will make model car start suddenly, and may lead the damage or unexpected accidents.

1. Make sure the transmitter and receiver batteries are fully charged.
2. Put the car on the starter box and keep the tires from touching the ground.
3. Turn on the switch of the receiver.
4. Turn on the switch of the transmitter.
5. Make sure the steering servo and engine control servo work normally and adjust them correctly.
6. Put the fuel in the fuel tank, and close the cap securely.
7. Apply the glow igniter to the engine glowplug.
8. 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).
9. When the engine is running, remove the glow igniter.
10. 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:

- 1) Use a rag to cover the exhaust tip. Be careful! The exhaust is extremely hot so use a thick rag and gloves.
- 2) 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.
- 3) Put your hand over the air filter, or squeeze the air filter element to block the airflow.
- 4) 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.

Finish to operate

1. Stop the engine.
2. Turn off the switch of the receiver.
3. Turn off the switch of 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.

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

XT8 SET-UP

Your XRAY XT8 luxury truggy is a top competition, precision racing machine that features multiple adjustments that allow you to set up for any track condition. The XT8 includes innovative set-up features that allow you to change adjustments quickly and easily.

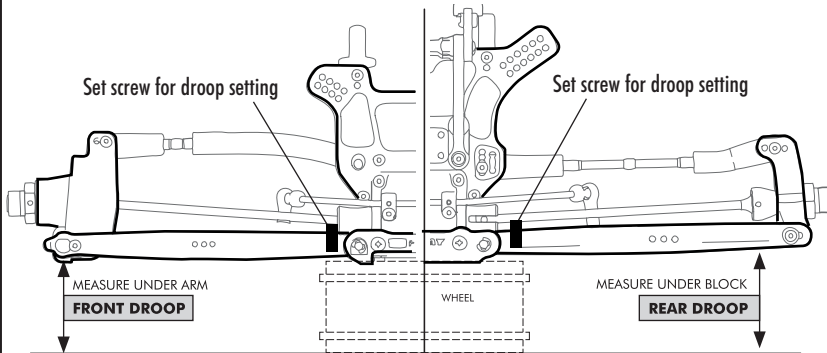
Please refer to the XT8 Basic Set-Up Sheet for a good overall starting point. After rebuilding the chassis, or in case you become lost with your set-up, always return to the basic starting set-up described here. If you choose to experiment with set up, make small adjustments one at a time, and see if you find any improvement with each adjustment. We strongly advise you to record and keep track of your set-up changes, record which set-ups work best at different racetracks under various conditions. You can use the XRAY XT8 Set-Up Sheet to record your data and set-ups or visit www.teamxray.com where in the Set-up Section you can upload your own set-ups.

This set-up section describes how to adjust your XT8 to suite your driving style. For each individual set-up area, we describe the effects of changing the adjustment, and also how to make the adjustment.

○ DROOP

Adjust front/rear droop by adjusting the front/rear down stop screws.
Tighten the screws to increase the droop height (less arm movement).
Loosen the screws to decrease the droop height (more arm movement).

Droop is a very sensitive adjustment, since it affects and alters weight transfer, and all aspects of chassis performance are affected: braking, acceleration, jumping, traction and rough track handling.



IMPORTANT!

Make equal adjustments on both left and right sides of the car, 1/2 turn of adjustment at a time.

TIP: Set the car to full travel as a starting point. The front is usually unchanged and left at full travel. For the front and rear, most drivers will use about 2mm of adjustment range for most North American tracks. Experiment to find the best compromise for your particular track and driving style.

Droop height	Front/ Rear	Characteristics
Less droop = turning the screw in	Front	· less on power steering · better for smaller jumps
	Rear	· less off-power traction
More droop = turning the screw out	Front	· more on power steering · better handling on rough tracks
	Rear	· more rear traction · better handling on rough tracks

○ ROLL CENTER

You can adjust the front and rear roll centers of the XT8 by changing the mounting locations of various components.

Front Roll Center

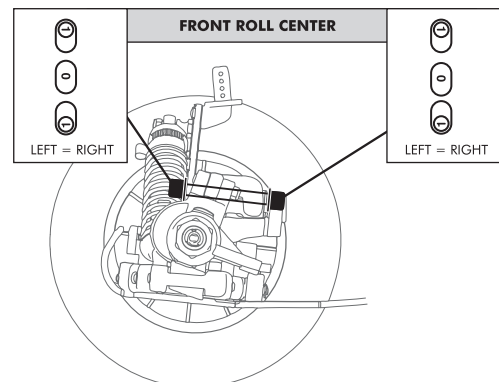
You can raise or lower the front roll center by adjusting the following components:

- Front upper arm inner pin mounting position.
Use the eccentric bushings at the front and rear of each pin to raise or lower the pin.
- Front upper camber link outer mounting position.
The outer end of the front upper camber link can be attached to the front C-hub blocks in one of 2 positions (inner and outer).

Front upper arm - inner pin	Characteristics
Higher position = lower roll center	· increases on-power steering · car is less responsive · better on smooth, high-grip tracks with long fast corners
Lower position = higher roll center	· decreases on-power steering · car is more responsive · use in high-grip conditions to avoid traction rolling · use on tracks with quick direction changes (chicanes)

IMPORTANT!

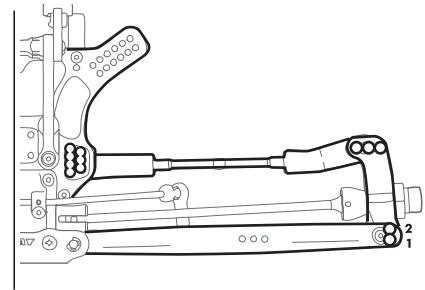
Make equal adjustments on both left and right sides of the car.



REAR ROLL CENTER

You can raise or lower the rear roll center by adjusting the following components:

- Rear upright lower mounting position.
The rear lower arm attaches to the rear upright in one of two mounting holes.
- Rear upper camber link mounting position.
The inner end of the rear upper camber link can be attached to the rear shock tower in one of 7 positions. The outer end of the rear upper camber link can be attached to the rear upright in one of 3 positions.



Rear roll center	Characteristics
Higher	<ul style="list-style-type: none"> · increases on-power traction · decreases traction under braking · use to avoid traction rolling at corner entry · use under low-traction conditions · reduces rear tire wear
Lower	<ul style="list-style-type: none"> · decreases rear traction · use to avoid traction rolling mid-corner and corner exit

Rear upright - lower pin	Effect on Rear Roll Center
Upper hole	· lower rear roll center
Lower hole	· higher rear roll center

Rear upper camber link - shocktower	Effect on Rear Roll Center
Upper holes	· lower rear roll center
Lower holes	· higher rear roll center

SHOCK ABSORBERS

Adjust the shock absorbers and their mounting positions to suit track conditions.

Piston Hole Type

There are two different types of shock pistons that can be used in the XB8.

Piston hole type	Characteristics
Conical up (with dot on the piston)	<ul style="list-style-type: none"> · less dampening when shock is compressed · more dampening on rebound
Conical down (with dot on the piston)	<ul style="list-style-type: none"> · more dampening when shock is compressed · less dampening on rebound
Straight	· equal damping all the time (compressing and rebounding)



CONICAL UP HOLES



CONICAL DOWN HOLES



STRAIGHT HOLES

SHOCK OIL

You can use shock oils of different weights in a shock absorber.

Shock Oil	Characteristics
Thinner	· same characteristics as larger pistons holes
Thicker	· same characteristics as smaller pistons holes

Note that typically you should use piston hole sizes to suit the track conditions rather than alter the oil viscosity.

SHOCK OIL	
Part	Viscosity
359210	100 cSt
359215	150 cSt
359220	200 cSt
359225	250 cSt
359230	300 cSt
359235	350 cSt
359240	400 cSt
359245	450 cSt
359250	500 cSt
359260	600 cSt
359270	700 cSt
359280	800 cSt
359290	900 cSt

Use only the genuine premium quality Xray silicone shock oils. The shock oils are available in these viscosities:

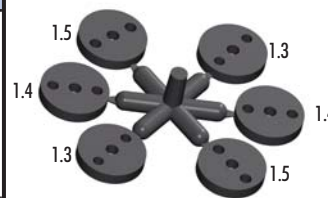


PISTON HOLE SIZE

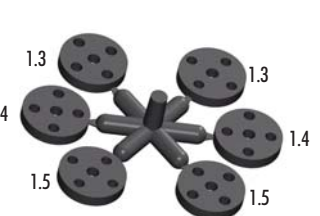
For each type of shock piston (conical or straight holes), there are three pistons with holes of different sizes.

Piston hole size	Characteristics
Smaller	<ul style="list-style-type: none"> · harder damping · slower chassis weight transfer · slower response · decreases chance of bottoming out when landing if used with "thicker" oil · decreases chassis roll if used with "thicker" oil · use with thinner oil if track is rough
Larger	<ul style="list-style-type: none"> · softer damping · increases traction · quicker chassis weight transfer · quicker response · increases chance of bottoming out when landing if used with "thinner" oil · increases chassis roll if used with "thinner" oils · use with thicker oil if track is smooth

2-HOLE PISTONS DETAIL



4-HOLE PISTONS DETAIL



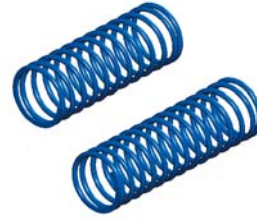
IMPORTANT!
Make equal adjustments on both left and right sides of the car.

XT8 comes with pistons which feature 2 holes. With 2 hole pistons you should usually use thinner shock oils. XRAY offers as an option part pistons with 4 holes (#358037). Using the 4 hole pistons you should use thicker shock oils.

XT8 SET-UP

You can use shock springs of different rates to alter performance.

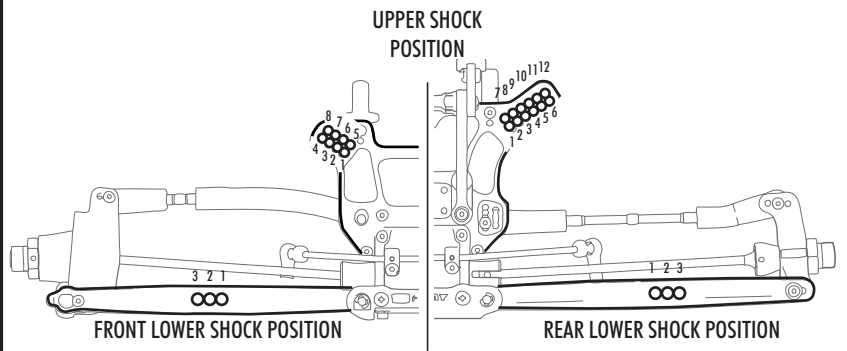
Shock springs	Characteristics
Softer	<ul style="list-style-type: none"> · more chassis roll · more traction · better on bumpy tracks · increases chance of bottoming out when landing
Stiffer	<ul style="list-style-type: none"> · less chassis roll · less traction · more responsive · better on smooth tracks · decreases chance of bottoming out when landing



SHOCK MOUNTING POSITION

You can change the shock mounting position by leaning the shocks at different angles, and also moving the shock closer or further from the centerline of the car. You accomplish this by moving the shock top and bottom mounts to different locations on the shock towers and lower arms

Shock position	Characteristics
More inclined = moving in on tower and/or moving out on lower arm	<ul style="list-style-type: none"> · softer initial damping · more progressive damping · more lateral (side) traction · makes the handling more "forgiving" · may be better on high-bite tracks, since it slows down the handling and makes it easier to driver
Less inclined = moving out on tower and/or moving in on lower arm	<ul style="list-style-type: none"> · harder damping · less lateral (side) traction · makes the car more responsive · usually better suited on technical tracks



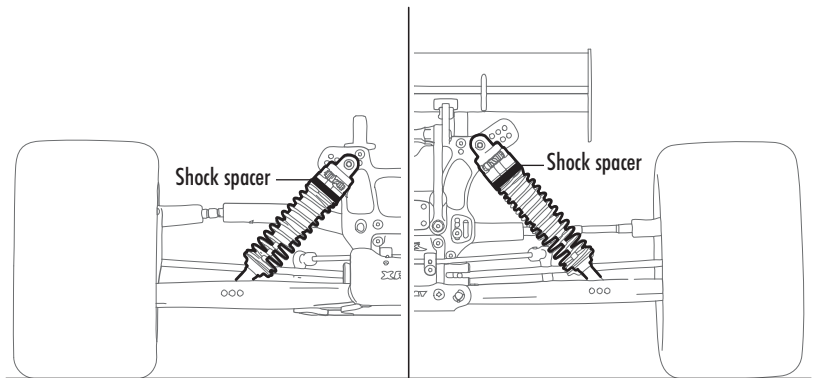
SHOCK PRELOAD

Adjust the front/rear shock spring preload by using preload clips of various thicknesses above the shock springs.

IMPORTANT!

Make equal adjustments on both left and right sides of the car.

Shock preload	Characteristics
Less preload = thinner/less spacers	<ul style="list-style-type: none"> · lower ride height · may give higher corner speed on high bite tracks · better suited to smooth tracks
More preload = thicker/more spacers	<ul style="list-style-type: none"> · higher ride height · less prone to bottoming out · better suited to rough tracks



STEERING

You can adjust the Ackermann angle and the spring preload of the central servo saver.

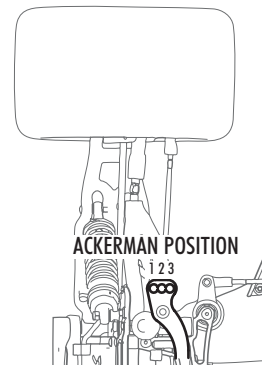
IMPORTANT!

Make equal adjustments on both left and right sides of the steering plate.

ACKERMANN

Adjust the Ackermann angle by moving the inside ends of the steering rods into different holes in the steering plate.

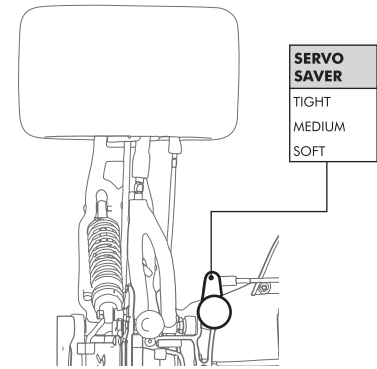
Steering rod inner mounting position	Characteristics
Forward holes = steeper angle	<ul style="list-style-type: none"> · smoothens out steering response · car reacts smoothly · better suited to smooth flowing tracks with high speed corners
Rearward holes = shallower angle	<ul style="list-style-type: none"> · quickens initial steering response · car reacts faster to steering input · better suited to small, tight tracks



SERVO SAVER PRELOAD

Adjust the preload of the central servo saver by adjusting the tension on the spring with the threaded collar.

Servo saver spring preload	Characteristics
Softer	<ul style="list-style-type: none"> · less steering · better suited to standard servos
Stiffer	<ul style="list-style-type: none"> · more steering with a quicker reaction · better suited to high torque metal-geared servos



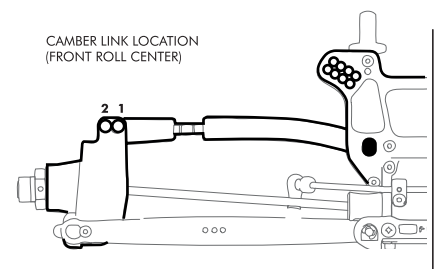
CAMBER

Adjust the front/rear camber by adjusting the lengths of the upper camber linkages.

Front upper camber link outer mounting position.

The outer end of the front upper camber link can be attached to the front C-hub blocks in one of 2 positions (inner and outer).

Front upper camber link - front C-hub	Characteristics
Inner hole	<ul style="list-style-type: none"> · increases camber gain · slightly more off-power steering · slightly quicker steering response
Outer hole	<ul style="list-style-type: none"> · slows down steering response · decreases camber gain · steering more "forgiving"



IMPORTANT!

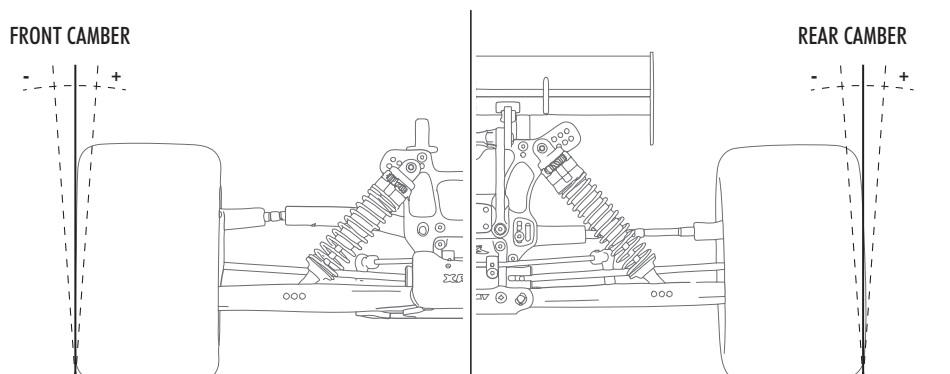
Make equal adjustments on both left and right sides of the car.

Camber angle	Front/Rear	Characteristics
More negative camber (more inclined)	Front	· more steering
	Rear	· decreases rear traction entering and in corners
Less negative camber (more vertical)	Front	· less steering
	Rear	<ul style="list-style-type: none"> · increases rear traction entering and in corners up to a point · if the shock is too vertical and traction is lost, the traction will be lost very abruptly and the car will be hard to control.

Note that you can also change the camber gain by shortening or lengthening the length of the upper camber linkages, and angling them differently by placing the end ball joints in the different holes in shock towers and outer blocks (C-hubs and rear hubs).

Upper arm - length	Characteristics
Shorter link = outer hole on tower and/or inner hole on hub	<ul style="list-style-type: none"> · increases camber gain · increases traction
Longer link = inner hole on tower and/or outer hole on hub	<ul style="list-style-type: none"> · decreases camber gain · car handles smoother

Rear upper camber link - length	Characteristics
Shorter link = outer hole on tower and/or inner hole on hub	<ul style="list-style-type: none"> · increases rear camber gain · increases traction slightly · decreases steering and stability
Longer link = inner hole on tower and/or outer hole on hub	<ul style="list-style-type: none"> · decreases rear camber gain · increases stability · slows down the car's responsiveness



FRONT KICK-UP

STANDARD PARTS

Using standard parts included in the XT8 kit, you can easily adjust the kick-up of the front lower arms by changing the lower plate at the REAR of the front bulkhead. You can use either the 4° or 5° plate.



FRONT KICK-UP — I.S.S. (optional)

OPTIONAL PARTS

Using the following optional I.S.S. parts, you can easily adjust kick-up of the front lower arms between 4~8°: #352311 front plate, #352320 rear plate, #352315 eccentric bushings, #357212 lower inner pin

IMPORTANT!

Make equal adjustments on both left and right sides of the car.

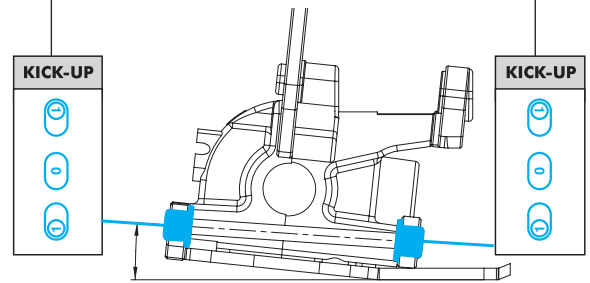
Front kick-up angle	Characteristics
More kick-up	<ul style="list-style-type: none"> more weight transfer to the front of the chassis off-throttle or under braking chassis compresses or drops more off-throttle or under braking handling is improved on bumpy tracks decreased steering response
Less kick-up	<ul style="list-style-type: none"> less weight transfer to the front of the chassis off-throttle or under braking chassis compresses or drops less off-throttle or under braking handling is improved on smooth tracks increased steering response

After you set the front kick-up angle, you should adjust the angle of the front upper arm inner pin so that it is parallel with the front lower arm. This will help to prevent binding during suspension movement. Each front upper arm inner pin rides in two eccentric bushings (one on each end). By using different combinations of positions, you can angle the pin. Note that these eccentric bushings are also used to adjust the front roll center.

NOTE: You cannot combine composite plates (std) and I.S.S. plates (with eccentric bushings). Also, you must use the appropriate inner pivot pins (shorter) with I.S.S. components.

Front eccentric bushing	Kick-up	Rear eccentric bushing
Upper position	6° *	Upper position
Upper position	7° *	Middle position
Upper position	8°	Lower position
Middle position	5° *	Upper position
Middle position	6°	Middle position
Middle position	7°	Lower position
Lower position	4°	Upper position
Lower position	5°	Middle position
Lower position	6°	Lower position

* Arm will be in contact with the diff outride



CASTER

C-HUB CASTER: STANDARD PARTS (15°)

Using standard parts, the XT8 front C-hub has a preset value of 15° caster.

C-HUB CASTER: I.A.C. (OPTIONAL) (13~17° RANGE)

Using optional caster eccentric bushings, the XT8 front C-hub can have a caster range of 13~17°. Optional caster eccentric bushings (#352174, #352175) are used in the front lower arms (in front of the C-hub).

IMPORTANT!

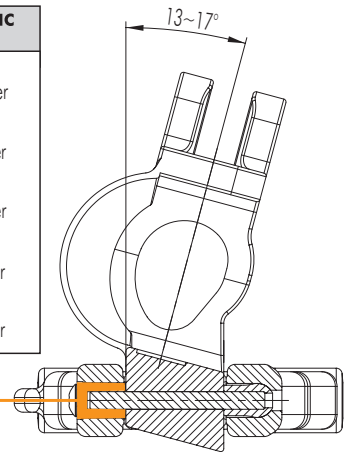
Make equal adjustments on both left and right sides of the car.

Caster angle	Characteristics
Less caster (block more vertical)	<ul style="list-style-type: none"> increases off-power steering into a corner decreases on-power steering out of and in a corner decreases straight-line stability
More caster (block more laid-back)	<ul style="list-style-type: none"> decreases off-power steering into a corner increases on-power steering out of and in a corner increases straight-line stability

After you have set the caster using the eccentric bushings, you need to set the front upper arm position. Remove all clips around the front upper arm and move the front suspension a few times to let it settle. The front upper arm will move to its optimal position on the pin. Then insert the clips around the arm so that the arm stays in its optimum position.

CASTER ECCENTRIC BUSHING

- = 17° caster
- = 16° caster
- = 15° caster
- = 14° caster
- = 13° caster



The caster of C-hub is set using different optional eccentric bushings in different orientations. Refer to the table above.

TOTAL CASTER = C-HUB CASTER + KICK UP

Total caster value is the combination of C-hub caster + kick-up. Once you set the C-hub caster, you have to add the value of kick-up to calculate the total caster.

Example: C-hub caster = 15° Kick-up = 4° Total caster = 15 + 4 = 19° final caster.

C-Hub caster	Kick-up	
	4°	5°
15°	19°	20°

TOTAL CASTER:

STANDARD PARTS (19° or 20°)

Using standard parts, the XT8 has a total caster range of only 19°~20°, depending on the kick-up plate used (4° or 5° plate).

C-Hub caster	Kick-up				
	4°	5°	6°	7°	8°
17°	21°	22°	23°	24°	25°
16°	20°	21°	22°	23°	24°
15°	19°	20°	21°	22°	23°
14°	18°	19°	20°	21°	22°
13°	17°	18°	19°	20°	21°

TOTAL CASTER:

OPTIONAL PARTS (17~25° range)

Using optional parts, the XT8 can have a total caster range of 17~25°. Optional parts include: caster eccentric bushings (for C-hub), and kick-up plates + eccentric inserts.

To obtain this total caster range, use the following I.S.S. parts: #352311 Front plate, #352320 Rear plate, #352315 Eccentric inserts, #357212 Inner pins, #352174 Caster bushings (1°) or #352175 Caster bushings (2°).

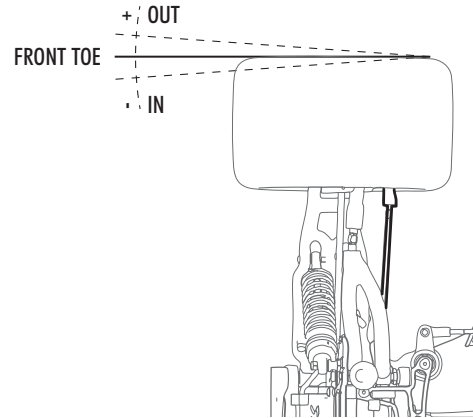
Note: You cannot combine composite plates (std) and I.S.S. plates (with eccentric bushings). Also, you must use the appropriate inner pivot pins (shorter) with I.S.S. components.

TOE

FRONT TOE

Adjust front toe by adjusting the length of the left and right steering rods.

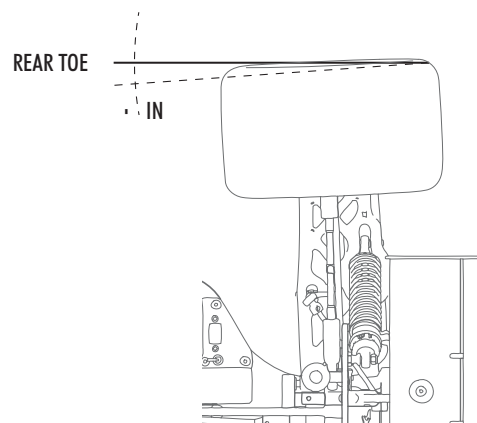
Steering rod length	Characteristics
More front toe-in = longer steering rod	<ul style="list-style-type: none"> · increases straight-line stability · decreases steering response · increases steering mid-corner and on-power corner exit
More front toe-out = shorter steering rod	<ul style="list-style-type: none"> · decreases straight-line stability · increases initial steering response · decreases steering on-power at corner exit



REAR TOE-IN

Rear toe-in is adjustable on the XT8 through the use of various plates that capture the rear lower inner pins. Additional adjustability is available through the use of optional I.S.S. plates, eccentric bushings, and pins.

Rear toe-in angle	Characteristics
More rear toe-in	<ul style="list-style-type: none"> · increases stability under braking · increases stability on power at corner exit · decreases top speed · if too much rear toe-in is used, the car will be twitchy to drive and harder to recover if it loses traction
Less rear toe-in	<ul style="list-style-type: none"> · increases steering · decreases stability on power at corner exit · increases top speed · if the car slides, it will be much easier to control



REAR TOE-IN: STANDARD PARTS

Using standard parts included in the XT8 kit, you can easily adjust the rear toe-in by changing the lower plate at the REAR of the rear bulkhead. You can use either the 2° or 3° plate.

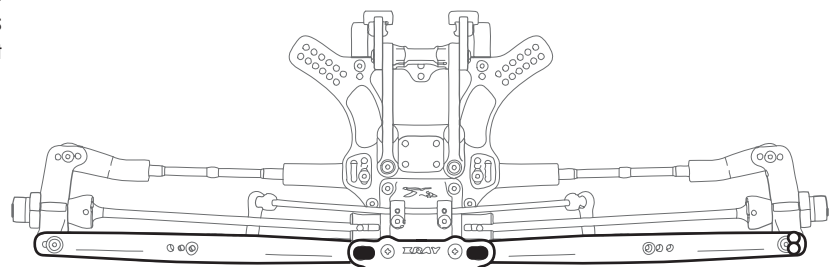


REAR TOE-IN: I.S.S. (OPTIONAL)

Using the following optional I.S.S. parts, the XT8 can have rear toe-in angles between 2–4° in 0.5° increments. This is adjusted by using various rear plates and eccentric bushings on the rear bulkhead. Various anti-squat values are also possible, depending on the plates & bushings used.

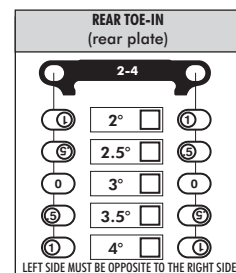
- #353312 front plate
- #353323 rear plate
- #352315 eccentric bushings
- #357212 lower inner pins

The bushings in the REAR plate control the rear toe-in angle. (The bushings in the FRONT plate control the rear anti-squat angle.)



IMPORTANT!

You cannot combine composite plates (std) and I.S.S. plates (with eccentric bushings). Also, you must use the appropriate inner pivot pins (shorter) with I.S.S. components.



REAR ANTI-SQUAT

REAR ANTI-SQUAT: STANDARD PARTS

Using standard parts included in the XT8 kit, you can easily adjust the rear anti-squat by changing the lower plate at the FRONT of the rear bulkhead. You can use either the 1° or 2° plate.

REAR ANTI-SQUAT: I.S.S. (optional)

Using the following optional I.S.S. parts, you can easily adjust rear anti-squat to 2~4°:

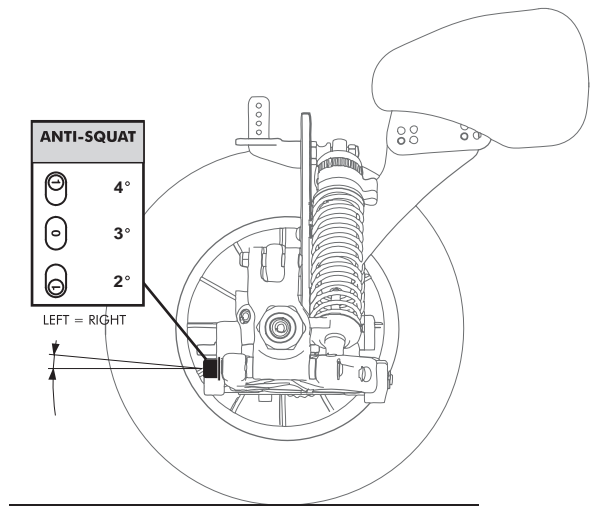
#353312 Front plate 2-4° anti-squat, #353323 Rear plate 2-4° toe-in, #352315 Eccentric inserts, #357212 Inner pins.

The bushings in the FRONT plate control the rear anti-squat angle.
(The bushings in the REAR plate control the rear toe-in angle.)

IMPORTANT!

You cannot combine composite plates (std) and I.S.S. plates (with eccentric bushings). Also, you must use the appropriate inner pivot pins (shorter) with I.S.S. components.

Rear anti-squat angle	Characteristics
Less anti-squat = flatter arm	<ul style="list-style-type: none"> · increases rear traction off-power · decreases rear traction on-power · better on a bumpy track
More anti-squat = leaning more backwards	<ul style="list-style-type: none"> · increases rear traction during acceleration · decreases rear traction off-power · better on smooth and/or slippery tracks



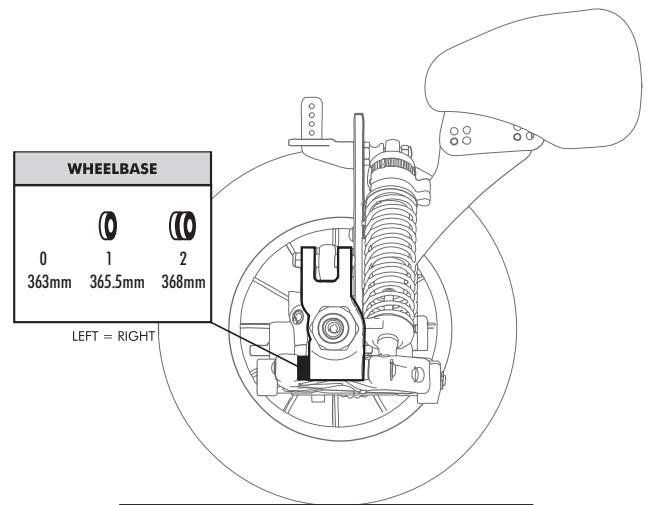
WHEELBASE

Adjust the wheelbase by using the spacers on either side of the rear uprights (at the bottom pin).

IMPORTANT!

Make equal adjustments on both left and right sides of the car.

Wheelbase	Characteristics
Shorter wheelbase = less spacers in front of rear upright	<ul style="list-style-type: none"> · increases rearward weight transfer during acceleration · increases on-power traction · quicker off-power steering into corners · slight tendency to push on-power at corner exit · increases steering response · better on tighter, more technical tracks
Longer wheelbase = more spacers in front of rear upright	<ul style="list-style-type: none"> · decreases off-power steering into sharp corners · increases stability · slower initial steering reaction (off-power) · improves on-power steering at corner exit · better handling over bumps and ruts · better on more open tracks with high-speed corners



ANTI-ROLL BARS

Adjust the stiffness of the front or rear anti-roll bar by using a thinner or thicker wire.

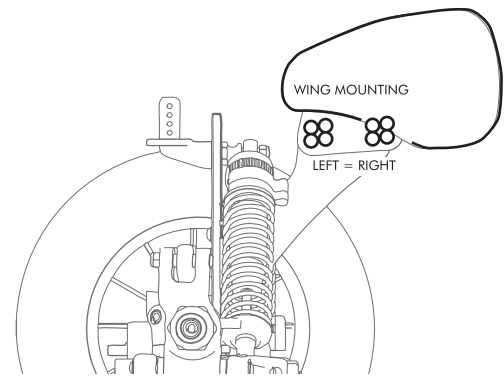
Anti-roll bar stiffness	Front/Rear	Characteristics
Softer = thinner wire	Front	<ul style="list-style-type: none"> · increases front chassis roll · increases front traction · decreases rear traction · increases off-power steering (may cause oversteer)
	Rear	<ul style="list-style-type: none"> · increases rear chassis roll · increases rear traction · decreases front traction · decreases on-power steering (increases understeer)
Stiffer = thicker wire	Front	<ul style="list-style-type: none"> · decreases front chassis roll · decreases front traction · decreases off-power steering at corner entry (increases understeer) · quicker steering response
	Rear	<ul style="list-style-type: none"> · decreases rear chassis roll · decreases rear traction · increases front traction · increases on-power steering (may cause oversteer) · quicker steering response in high speed chicanes



REAR WING

Adjust the position and angle of the rear wing using the different mounting position of the wing supports.

Wing position/angle	Characteristics
Higher	· increases stability at higher speeds
Lower	· increases stability at lower speeds
Forward	· decreases rear traction
Rearward	· increases rear traction
Flatter angle	· level jumping or nose-diving
Steeper angle	· increases traction at higher speeds · less nose-diving



IMPORTANT!

Make equal adjustments on both left and right sides of the rear wing.

CLUTCH

You can adjust the engagement characteristics of the clutch by changing the clutch springs or changing the orientation of the clutch shoes.

CLUTCH SPRINGS

Adjust the engagement characteristics of the clutch by using different clutch springs.

Clutch springs	Characteristics
Thinner (0.9mm)	· clutch engages earlier at lower RPM · more gradual acceleration · easier to drive but not as aggressive
Thicker (1.0mm)	· clutch engages later at higher RPM · more sudden acceleration · car is more aggressive

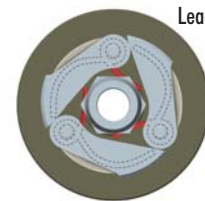
CLUTCH SHOE ORIENTATION

Adjust the engagement characteristics of the clutch by changing the orientation of the clutch shoes.

Clutch shoe orientation	Characteristics
Trailing shoes	· clutch engages more smoothly · more ideal for slick track conditions
Leading shoes	· clutch engages more aggressively · more ideal on high-traction tracks



Trailing shoes



Leading shoes

DIFFERENTIALS

Adjust the characteristics of the differentials by using thinner or thicker silicone oil.

Changing the oil in the front differential affects overall steering response.

Changing the oil in the center differential affects the front-to-rear drive.

Changing the oil in the rear differential affects cornering traction and overall steering.

Use only the genuine premium quality XRAY silicone diff oils. The differential oils are available in 50ml size in these viscosities:



Differential	Oil thickness	Characteristics
Front	Thinner	· increases steering into corners (off-power) · if oil is too thin the steering may become inconsistent, especially it can lose forward traction (and steering) during acceleration out of corners
	Thicker	· increases stability into corners during braking · increases steering on-power at corner exit
Center	Thinner	· front wheels unload more during acceleration · decreases on-power steering (reduces oversteer) · easier to drive on rough tracks · if a high-power engine is used you could waste too much power and sometime "cook" the oil in the center differential because it "overloads"
	Thicker	· more all-wheel drive effect · better acceleration · increases on-power steering (reduces understeer) · better suited on high-bite, smooth tracks · car can be more nervous to drive especially if a high power engine is used - you might need to be smooth on the throttle
Rear	Thinner	· increases cornering traction · increases steering into corner
	Thicker	· decreases rear traction while cornering · reduces wheelspin

DIFF OIL	
Part	Viscosity
359301	1000 cSt
359302	2000 cSt
359303	3000 cSt
359305	5000 cSt
359307	7000 cSt
359310	10 000 cSt
359320	20 000 cSt
359330	30 000 cSt
359340	40 000 cSt
359350	50 000 cSt
359360	60 000 cSt
359380	80 000 cSt
359392	100 000 cSt

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