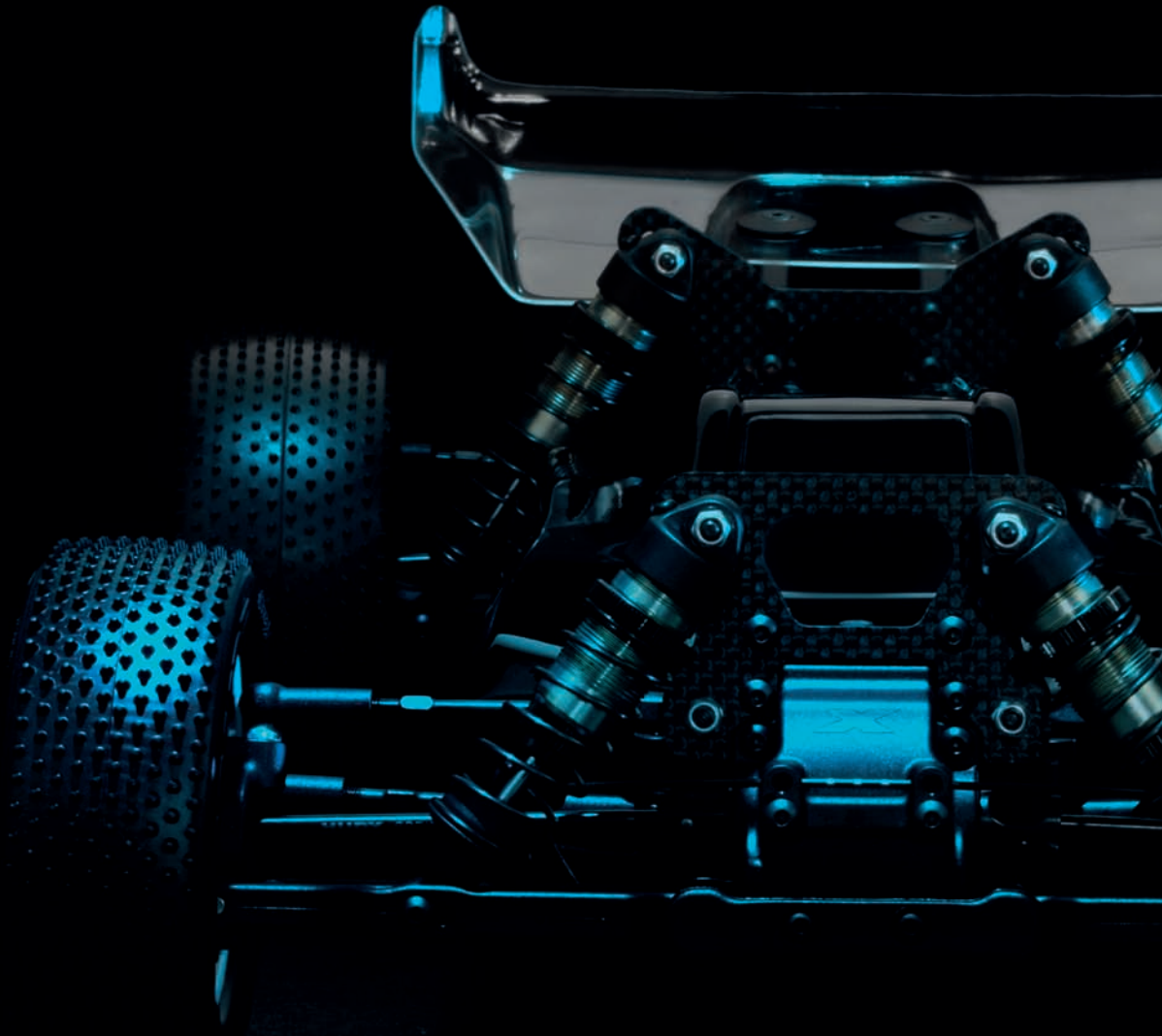


1/10 LUXURY ELECTRIC OFF-ROAD BUGGY 4WD

XRAY XB4



INSTRUCTION MANUAL
FOR XB4C'21 & XB4D'21 EDITION

BEFORE YOU START

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

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

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

Read carefully and fully understand the instructions before beginning assembly.

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

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

XRAY Europe
K Vystavisku 6992
91101 Trenčín
Slovakia, EUROPE
Phone: 421-32-7401100
Fax: 421-32-7401109
E-mail: info@teamxray.com

XRAY USA
RC America, 2030 Century Center Blvd #15
Irving, TX 75062
USA
Phone: (214) 744-2400
Fax: (214) 744-2401
E-mail: xray@rcamerica.com

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

SAFETY PRECAUTIONS

Contains:

LEAD (CAS 7439-92-1) ANTIMONY (CAS 7440-36-0)

WARNING: This product contains a chemical known to the state of California to cause cancer and birth defects or other reproductive harm.

CAUTION: CANCER HAZARD

Contains lead, a listed carcinogen. Lead is harmful if ingested. Wash thoroughly after using. DO NOT use product while eating, drinking or using tobacco products. May cause chronic effects to gastrointestinal tract, CNS, kidneys, and blood. MAY CAUSE BIRTH DEFECTS.

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

Take appropriate safety precautions prior to operating this model. You are responsible for this model's assembly and safe operation! Please read the instruction manual before building and operating this model and follow all safety precautions. Always keep the instruction manual at hand for quick

reference, even after completing the assembly. Use only genuine and original authentic XRAY parts for maximum performance. Using any third party parts on this model will void guaranty immediately.

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

IMPORTANT NOTES - GENERAL

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

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

IMPORTANT NOTES – ELECTRICAL

- Insulate any exposed electrical wiring (using heat shrink tubing or electrical tape) to prevent dangerous short circuits. Take maximum care in wiring, connecting and insulating cables. Make sure cables are always connected securely. Check connectors for if they become loose. And if so, reconnect them securely. Never use RC models with damaged wires. A damaged wire is extremely dangerous, and can cause short-circuits resulting in fire. Please have wires repaired at your local hobby shop.
- Low battery power will result in loss of control. Loss of control can occur due to a weak battery in either the transmitter or the receiver. Weak running battery may also result in an out of control car if your car's receiver power is supplied by the running battery. Stop operation immediately if the car starts to slow down.
- When not using RC model, always disconnect and remove battery.
- Do not disassemble battery or cut battery cables. If the running battery short-circuits, approximately 300W of electricity can be discharged, leading to fire or burns. Never disassemble battery or cut battery cables.
- Use a recommended charger for the receiver and transmitter batteries and follow the instructions correctly. Over-charging, incorrect charging,

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

R/C & BUILDING TIPS

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

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

WARRANTY

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

Due to the high performance level of this model car you will need to periodically maintain and replace consumable components. Any and all warranty coverage will not cover replacement of any part or component damaged by neglect, abuse, or improper or unreasonable use. This includes

but is not limited to damage from crashing, chemical and/or water damage, excessive moisture, improper or no maintenance, or user modifications which compromise the integrity of components. Warranty will not cover components that are considered consumable on RC vehicles. XRAY does not pay nor refund shipping on any component sent to XRAY or its distributors for warranty. XRAY reserves the right to make the final determination of the warranty status of any component or part.

Limitations of Liability

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

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

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

All rights reserved.

QUALITY CERTIFICATE

XRAY MODEL RACING CARS uses only the highest quality materials, the best compounds for molded parts and the most sophisticated manufacturing processes of TQM (Total Quality Management). We guarantee that all parts of a newly-purchased kit are manufactured with the highest regard to quality. However, due to the many factors inherent in model racecar competition, we

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

We wish you enjoyment of this high-quality and high-performance RC car and wish you best success on the track!

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

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

TOOLS REQUIRED



Combination Pliers
(HUDY #189020)

Side Cutters
(HUDY #189010)

Pocket Hobby Knife (HUDY #188981)

Special Tool for turnbuckles, nuts (HUDY #181090)

Turnbuckle Wrench 3mm (HUDY #181030)



Allen 1.5mm (#111545 - HUDY EXCLUSIVE Limited Edition)

Allen 2.0mm (#112045- HUDY EXCLUSIVE Limited Edition)

Arm Reamer 3.0mm (#107643 - HUDY EXCLUSIVE Limited Edition)

Socket 5.5mm (#175535 - HUDY EXCLUSIVE Limited Edition)

Socket 7.0mm (#177035 - HUDY EXCLUSIVE Limited Edition)

Reamer (#107602 - HUDY EXCLUSIVE Limited Edition)

Scissors (HUDY #188990)

Professional Multi Tool
(HUDY #183011)

Tweezer

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



EQUIPMENT REQUIRED



NOT INCLUDED



Follow Set-Up Book:

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



SAMPLE OF OPTIONAL PARTS

#36XXXX	TYPE1	OPTION 1
#36XXXX	TYPE1	OPTION 2
#36XXXX	TYPE1	INCLUDED

XRAY offers wide range of optional tuning parts which are listed in a table like this. Please refer to the exploded view of each main section to verify which part is included in the kit while all other parts are available only as an optional part and must be purchased separately.

COLOR INDICATIONS

At the beginning of each section is an exploded view of the parts to be assembled. There is also a list of all the parts and part numbers that are related to the assembly of that section.

The part descriptions are color-coded to make it easier for you to identify the source of a part. Here are what the different colors mean:

364912

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

361109

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

364903

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

TECH TIPS

TIP DRIVE SHAFT PIN SERVICING

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



Do not use drive shafts when the pins are worn.

Press out the worn pins.

Press in new pins and regularly inspect for wear.



For quick & easy drive pin replacements use #106000 HUDY Drive Pin Replacement Tool together with #106036 Ejector Pivot Pin & Alternating Pivot 2.5mm.



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

TIP GRAPHITE PARTS PREPARATION

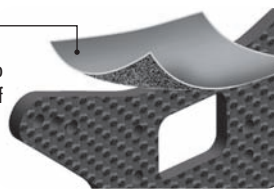
Follow this Tech Tip to prepare the graphite parts. Sand the edges with sandpaper, and then seal the edges with CA glue to reinforce them and help prevent delamination.

Prepare all Graphite Parts:

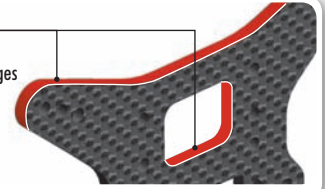
- Front shock tower
- Rear shock tower

Fine sandpaper

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



Apply CA glue to all edges of the graphite parts.



MANUAL STEPS ONLY FOR DIRT

1. BALL DIFFERENTIAL

DIRT

MANUAL STEPS ONLY FOR CARPET

1. GEAR DIFFERENTIAL

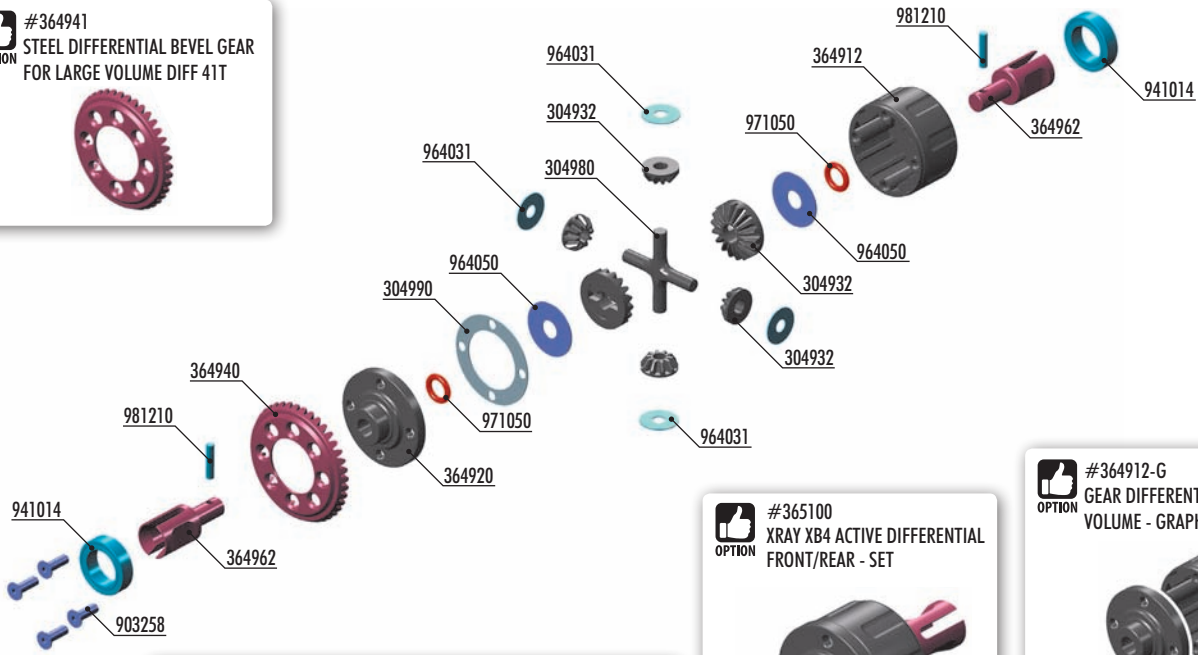
CARPET

MANUAL DUAL STEPS FOR CARPET AND DIRT

3. REAR DRIVETRAIN

CARPET DIRT

#364941
STEEL DIFFERENTIAL BEVEL GEAR
FOR LARGE VOLUME DIFF 41T



BEVEL & SATELLITE GEARS + PINS			
#304932 + #304980	GRAPHITE	INCLUDED	
#335030 + #335080	STEEL	OPTION	

#365100
XRAY XB4 ACTIVE DIFFERENTIAL
FRONT/REAR - SET



#364912-G
GEAR DIFFERENTIAL CASE - LARGE
VOLUME - GRAPHITE



#364920-G
GEAR DIFFERENTIAL COVER - LARGE
VOLUME - GRAPHITE



- 304932 GRAPHITE GEAR DIFF BEVEL & SATELLITE GEARS (2+4)
- 304980 COMPOSITE GEAR DIFF CROSS PIN
- 304990 DIFF GASKET (4)
- 364903 GEAR DIFFERENTIAL - LARGE VOLUME - SET
- 364912 COMPOSITE GEAR DIFFERENTIAL CASE - LARGE VOLUME
- 364920 COMPOSITE GEAR DIFFERENTIAL COVER - LARGE VOLUME
- 364940 STEEL DIFFERENTIAL BEVEL GEAR FOR LARGE VOLUME DIFF 40T

- 364962 GEAR DIFF OUTDRIVE ADAPTER FOR LARGE VOLUME DIFF (2)
- 903258 HEX SCREW SFH M2.5x8 (10)
- 941014 BALL-BEARING 10x15x4 RUBBER SEALED - GREASE (2)
- 964031 WASHER S 3.5x10x0.2 (10)
- 964050 WASHER S 5x15x0.3 (10)
- 971050 SILICONE O-RING 5x1.5 (10)
- 981210 PIN 2x10 (10)



964050
S 5x15x0.3

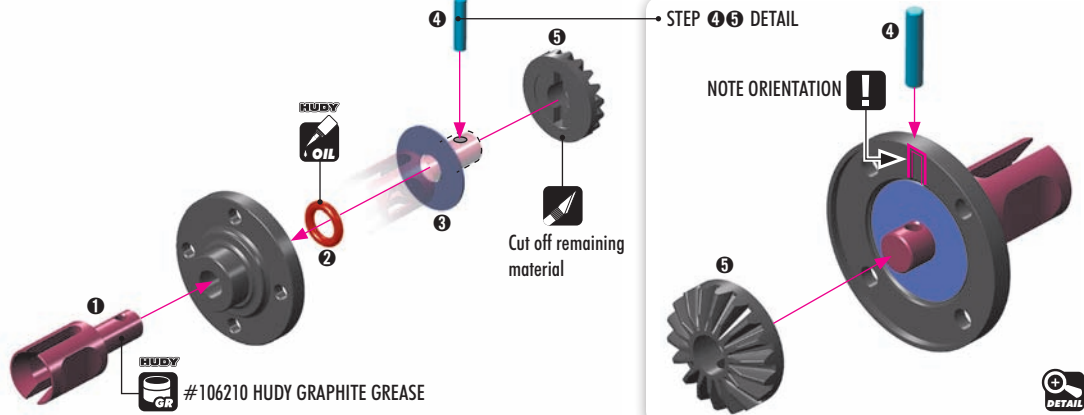


971050
O 5x1.5



981210
P 2x10

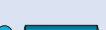
2x



964050
S 5x15x0.3

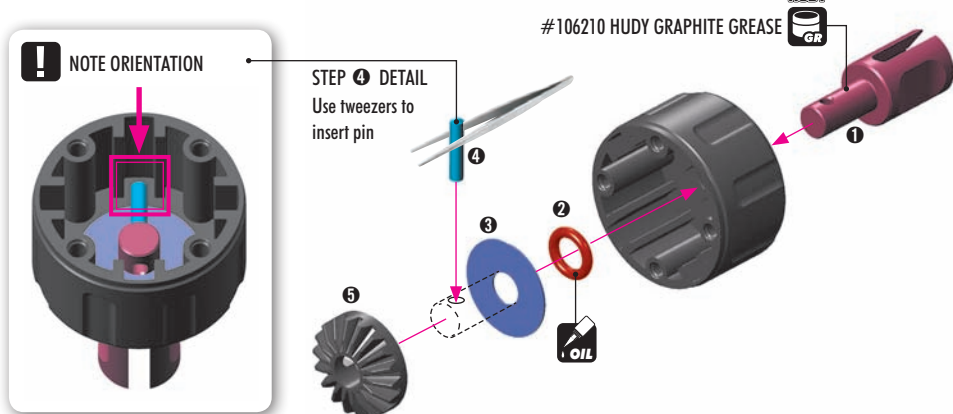


971050
O 5x1.5



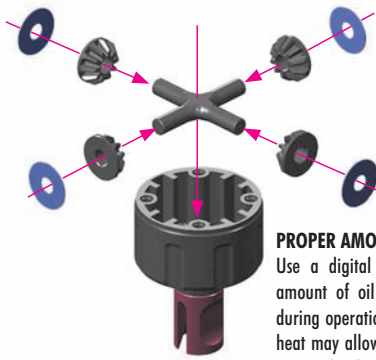
981210
P 2x10

2x





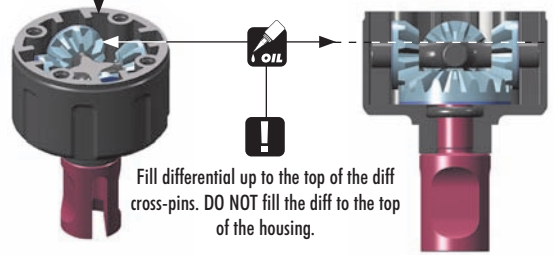
964031
S 3.5x10x0.2



PROPER AMOUNT OF OIL IN THE DIFFS
Use a digital scale to measure the exact amount of oil in the diff. Remember that during operation the diff gets hotter and the heat may allow the oil to expand. If there is too much oil inside it may interfere with the diff operation and damage the internal gears.

Front diff Silicone oil
CARPET 10.000cSt
DIRT 7.000cSt
Fill just above the cross-pins.

Rear diff Silicone oil
10.000cSt CARPET
7.000cSt DIRT
Fill just above the cross-pins.



Fill differential up to the top of the diff cross-pins. DO NOT fill the diff to the top of the housing.

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



1 Put the diff (without oil) on the scale and check the weight (approximately 11.47g)

$$11.47g + 1.60g = 13.07g$$

2 Slowly pour oil into the diff and watch the weight. Add 1.60g of oil into the diff. The approximate weight of the diff including oil is 13.07g.

TIPS FOR DIFFERENTIALS

TIP	FRONT DIFFERENTIAL	REAR DIFFERENTIAL	TIP
	LOW TRACTION 7.000cSt (HUDY #106470)	LOW TRACTION 7.000cSt (HUDY #106470)	
	MEDIUM-HIGH TRACTION 10.000cSt (HUDY #106510)	MEDIUM-HIGH TRACTION 10.000cSt (HUDY #106510)	
	SUPER-HIGH TRACTION 15.000cSt (HUDY #106515)	SUPER-HIGH TRACTION 15.000cSt (HUDY #106515)	
	NOTE: Softer oil increases steering, harder oil increases stability.	NOTE: Softer oil increases rear traction, harder oil increases on-power steering.	

SET-UP BOOK

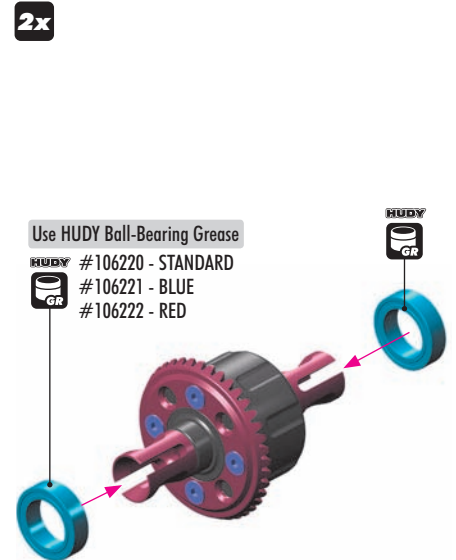
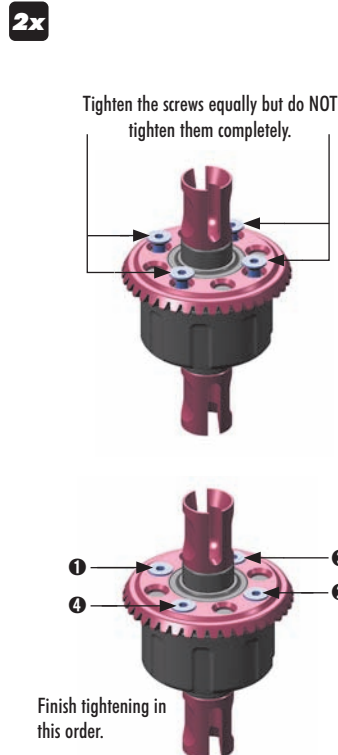
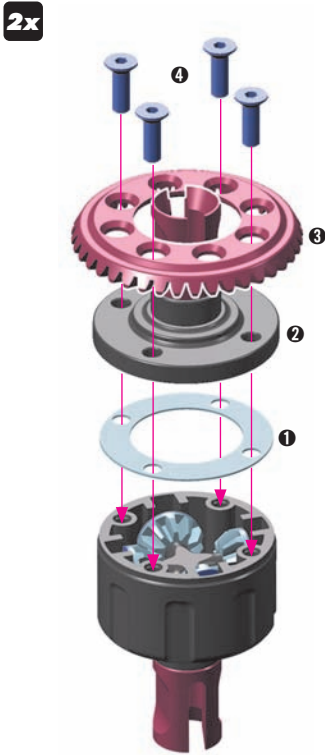
DIFFERENTIAL OIL



903258
SFH M2.5x8



941014
BB 10x15x4



#365101 XRAY XB4 ACTIVE DIFFERENTIAL - CENTER - SET



OPTION

#364912-G GEAR DIFFERENTIAL CASE - LARGE VOLUME - GRAPHITE

OPTION

CENTER DIFF SPUR GEARS			
#364978	78T/48	OPTION	
#364981	81T/48	INCLUDED	

OPTION

BEVEL & SATELLITE GEARS			
#304930	COMPOSITE	INCLUDED	
#304932	GRAPHITE	OPTION	
#335030	STEEL	OPTION	

OPTION

GEAR DIFF CROSS PINS			
#304980	COMPOSITE	INCLUDED	
#335080	STEEL	OPTION	

BAG
01.3

- 304930 COMPOSITE GEAR DIFF BEVEL & SATELLITE GEARS (2+4)
- 304980 COMPOSITE GEAR DIFF CROSS PIN
- 304990 DIFF GASKET (4)
- 364904 GEAR CENTER DIFFERENTIAL - LARGE VOLUME - SET
- 364912 COMPOSITE GEAR DIFFERENTIAL CASE - LARGE VOLUME
- 364913 COMPOSITE CENTER GEAR DIFF ADAPTER - LARGE VOLUME
- 364963 CENTER GEAR DIFF OUTDRIVE ADAPTER FOR LARGE VOLUME DIFF (1+1)
- 364981 COMPOSITE CENTER DIFF SPUR GEAR 81T / 48

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



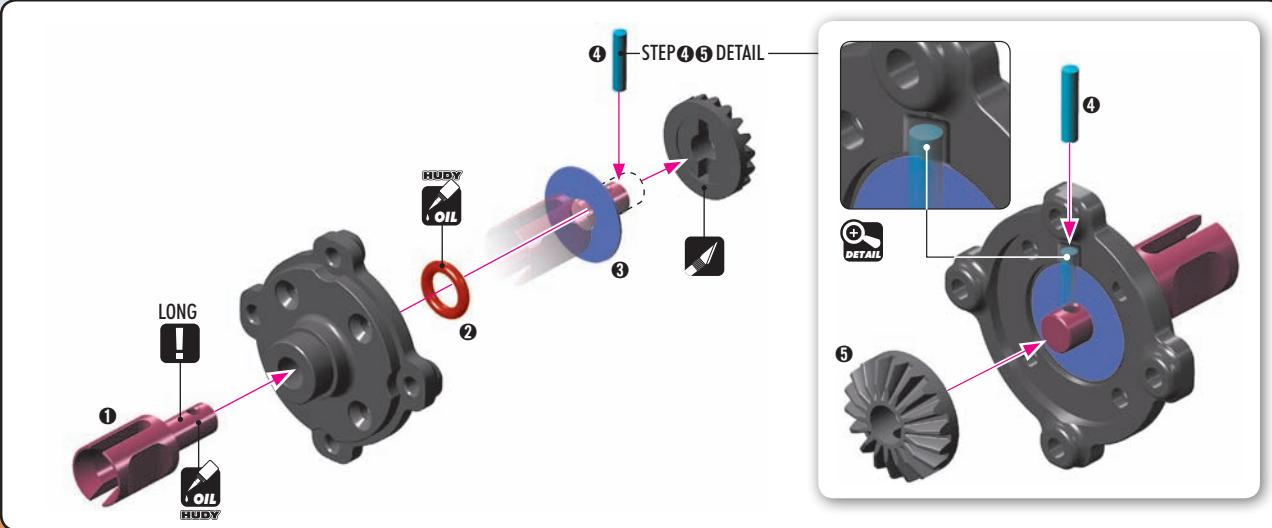
964050
S 5x15x0.3



971050
O 5x1.5



980210
P 2x10



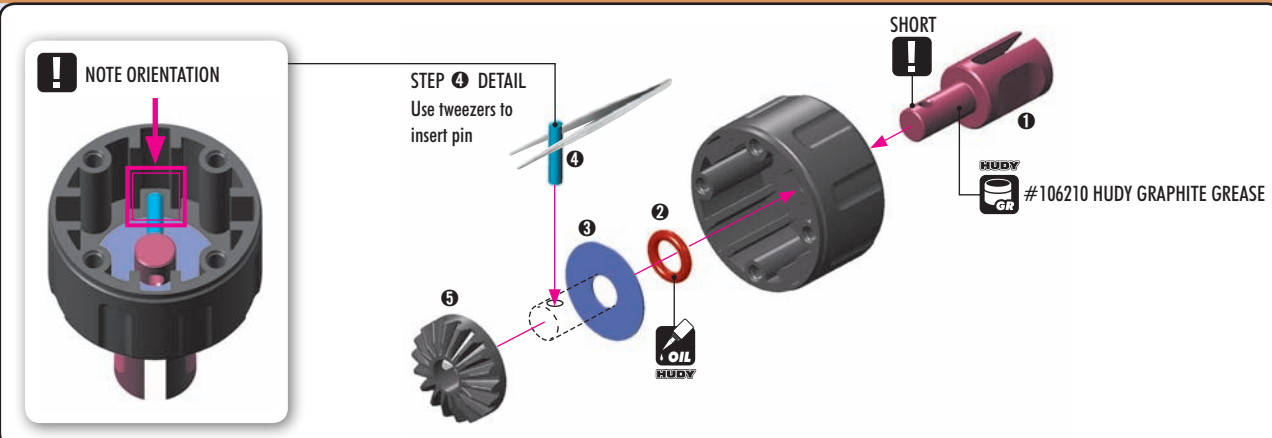
964050
S 5x15x0.3



971050
O 5x1.5

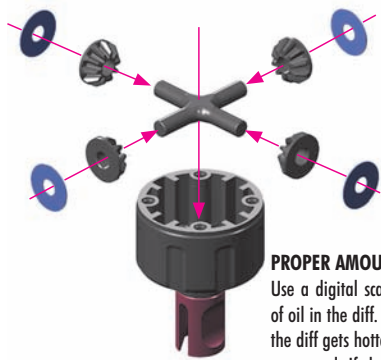


980210
P 2x10





964031
S 3.5x10x0.2



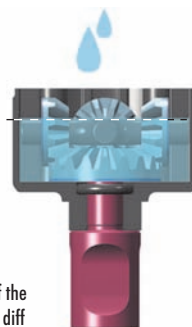
PROPER AMOUNT OF OIL IN THE DIFFS

Use a digital scale to measure the exact amount of oil in the diff. Remember that during operation the diff gets hotter and the heat may allow the oil to expand. If there is too much oil inside it may interfere with the diff operation and damage the internal gears.



Center diff

Silicone oil 100.000cSt
Fill just above the cross-pins.



Fill differential up to the top of the diff cross-pins. **DO NOT** fill the diff to the top of the housing.

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



1 Put the diff (without oil) on the scale and check the weight (approximately 11.72g)



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

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



CENTER Diff. 11.72g + 1.50g = 13.22g

TIP FOR CENTER DIFFERENTIAL

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

NOTE:

Softer oil increases steering, harder oil increases stability.

SET-UP BOOK

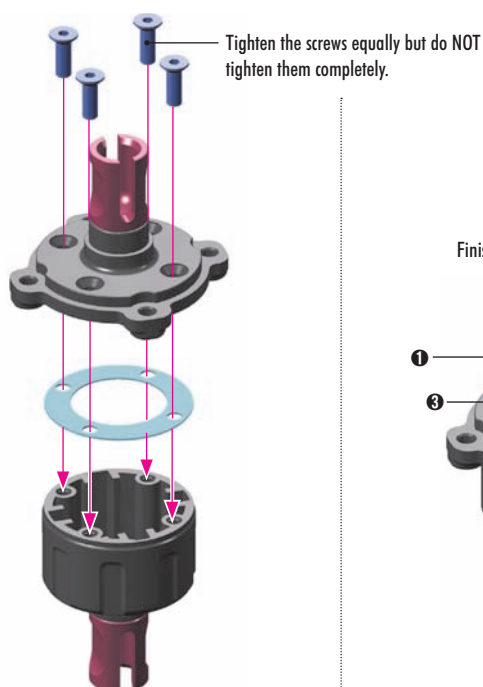
DIFFERENTIAL OIL



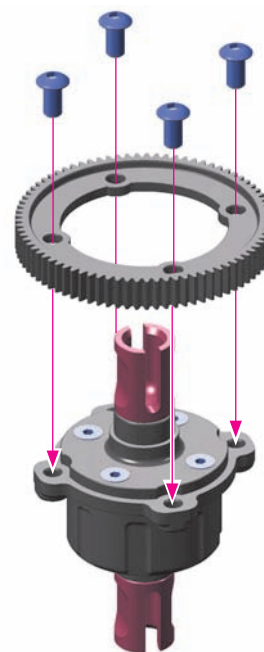
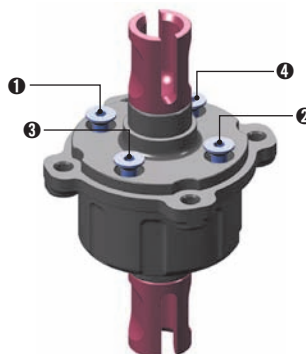
902306
SFH M3x6

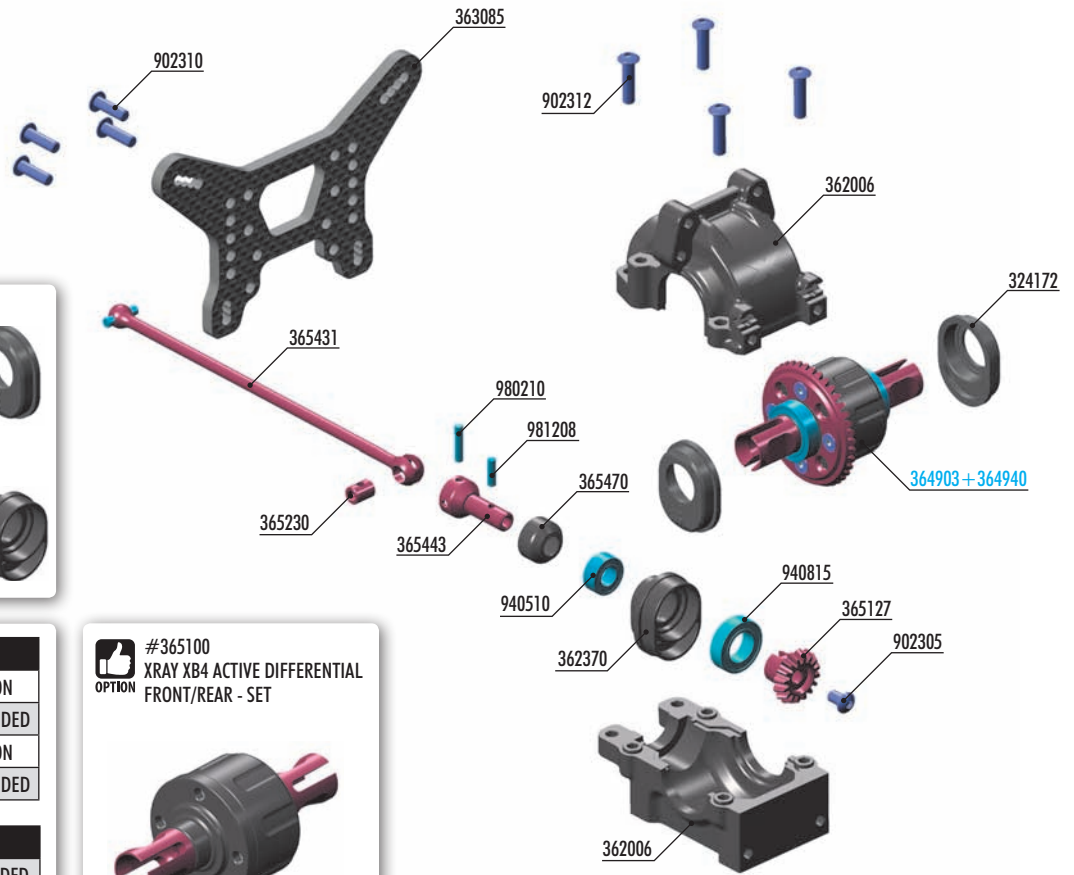


903258
SFH M2.5x8



Finish tightening in this order.





BALL-BEARING HUB

#324172	1 DOT	OPTION
#324172	2 DOTS	OPTION
#324172	3 DOTS	INCLUDED

INLINE HUB - REAR

#362370	1 DOT	OPTION
#362370	2 DOTS	OPTION
#362370	3 DOTS	INCLUDED

XRAY BALL-BEARING

#359050	5x10x4	GREASE	OPTION
#940510	5x10x4	OIL	INCLUDED
#940814	8x14x4	GREASE	OPTION
#940815	8x14x4	OIL	INCLUDED

DRIVE SHAFT COLLAR

#365470	COMPOSITE	INCLUDED
#365471-K	ALU - BLACK	OPTION
#365471-O	ALU - ORANGE	OPTION

#365100
XRAY XB4 ACTIVE DIFFERENTIAL FRONT/REAR - SET



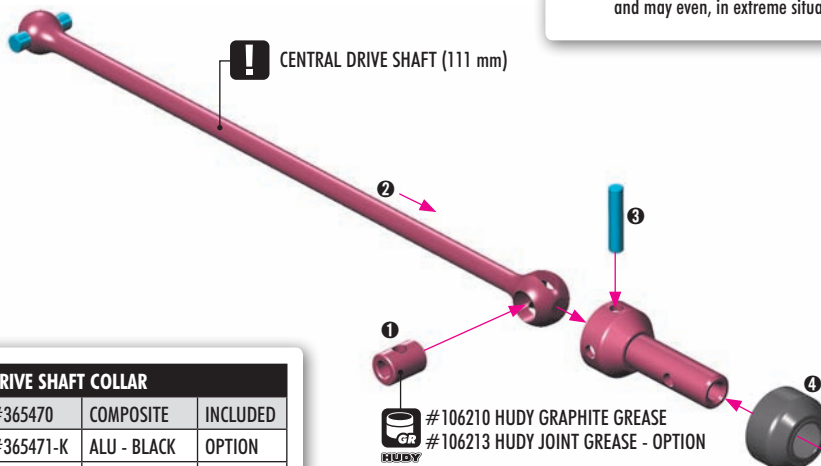
BAG

02.1

- 324172 COMPOSITE ADJUSTMENT BALL-BEARING HUB (2)
- 362006 DIFF BULKHEAD - HORIZONTAL SPLIT DESIGN (HS) - FRONT/REAR - SET
- 362370 INLINE HUB FOR BEVEL DRIVE GEAR - REAR HS BULKHEAD - 1 + 2 + 3 DOTS
- 363085 GRAPHITE SHOCK TOWER FOR HS BULKHEAD - REAR - 3.5MM
- 365127 STEEL BEVEL DRIVE GEAR - FOR HS BULKHEAD - CNC-MACHINED - 16T
- 365230 DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
- 365431 CENTRAL DRIVE SHAFT 111MM WITH 2.5MM PIN - HUDY SPRING STEEL™
- 365443 CENTRAL SHAFT UNIVERSAL JOINT FOR HS BULKHEAD
- 365470 COMPOSITE DRIVE SHAFT SAFETY COLLAR - V2 (3)

- 902305 HEX SCREW SH M3x5 (10)
- 902310 HEX SCREW SH M3x10 (10)
- 902312 HEX SCREW SH M3x12 (10)
- 940510 BALL-BEARING 5x10x4 RUBBER SEALED - OIL (2)
- 940815 BALL-BEARING 8x14x4 RUBBER SEALED - OIL (2)
- 980210 PIN 2x10 (10)
- 981208 PIN 2x8 (10)
- 364903 GEAR DIFFERENTIAL - LARGE VOLUME - SET
- 364940 STEEL DIFFERENTIAL BEVEL GEAR FOR LARGE VOLUME DIFF 40T

980210
P 2x10

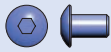


! DRIVE SHAFT COVER CAPS
Lubricate the drive shaft connecting joint properly so the drive shaft turns freely. In the event that not enough grease is used, the connecting pin may lock and may even, in extreme situations, push through the drive shaft cover cap.

DRIVE SHAFT COLLAR

#365470	COMPOSITE	INCLUDED
#365471-K	ALU - BLACK	OPTION
#365471-O	ALU - ORANGE	OPTION

#106210 HUDY GRAPHITE GREASE
#106213 HUDY JOINT GREASE - OPTION



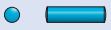
902305
SH M3x5



940510
BB 5x10x4



940815
BB 8x14x4



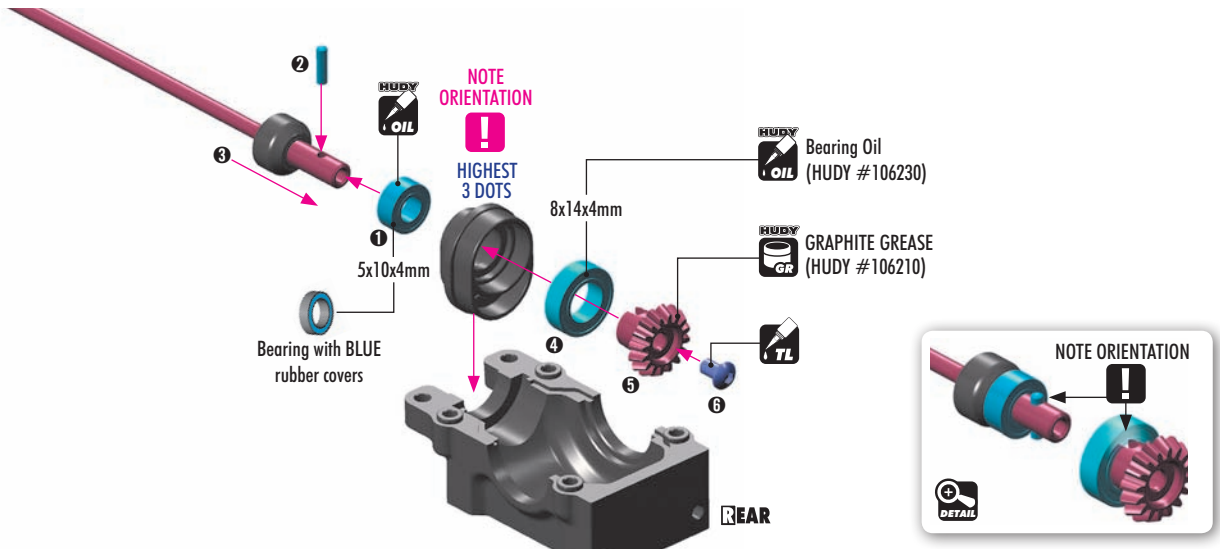
981208
P 2x8



902312
SH M3x12



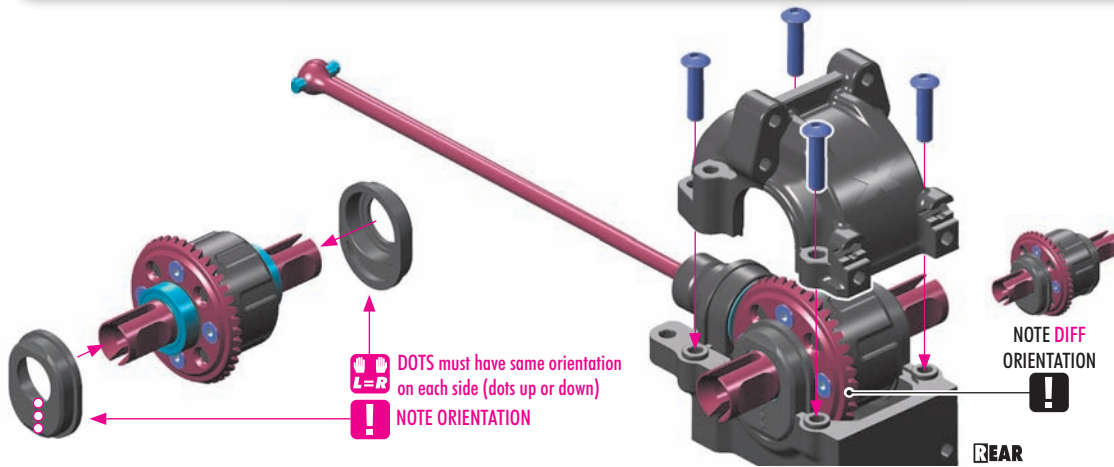
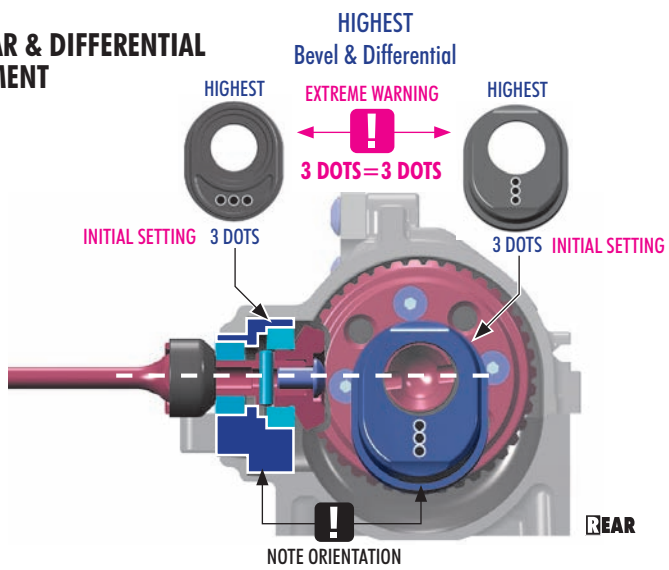
902310
SH M3x10



CARPET

BEVEL DRIVE GEAR & DIFFERENTIAL HEIGHT ADJUSTMENT

INITIAL SETTING



TIP Follow the TECH TIP on page 5 to prepare graphite parts



902305
SH M3x5



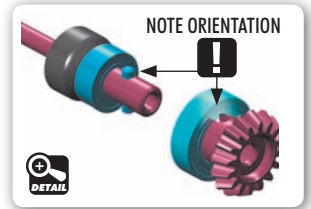
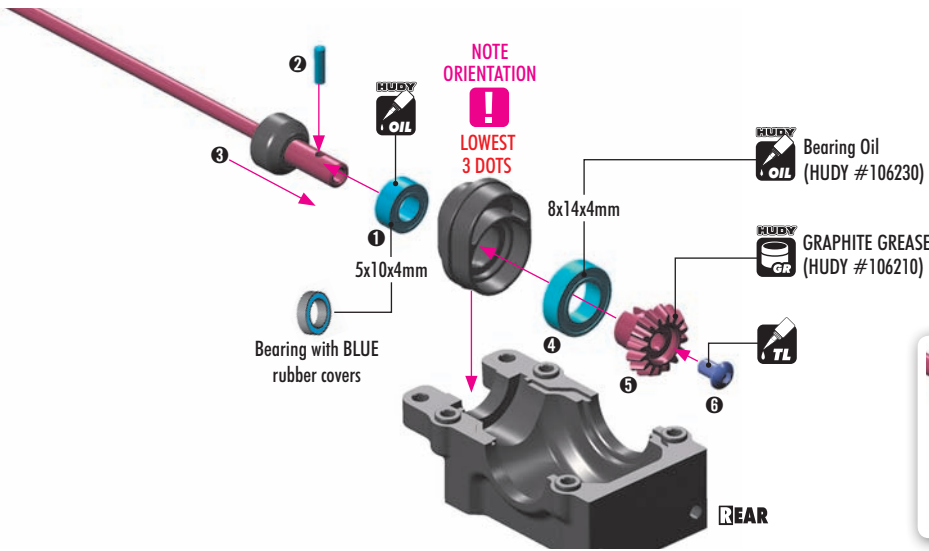
940510
BB 5x10x4



940815
BB 8x14x4

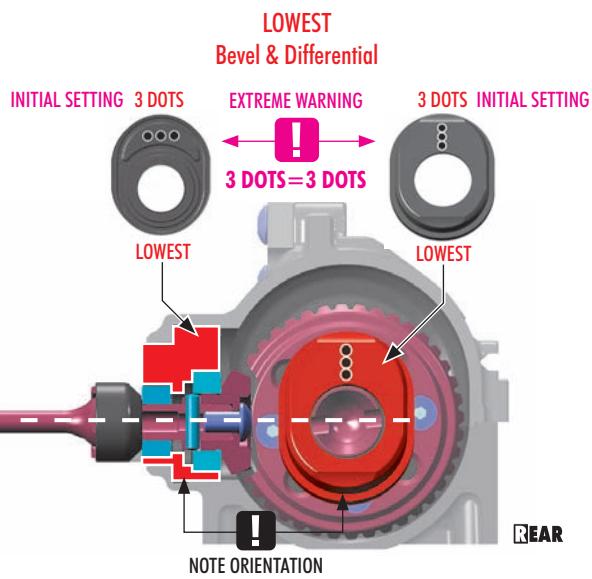


981208
P 2x8

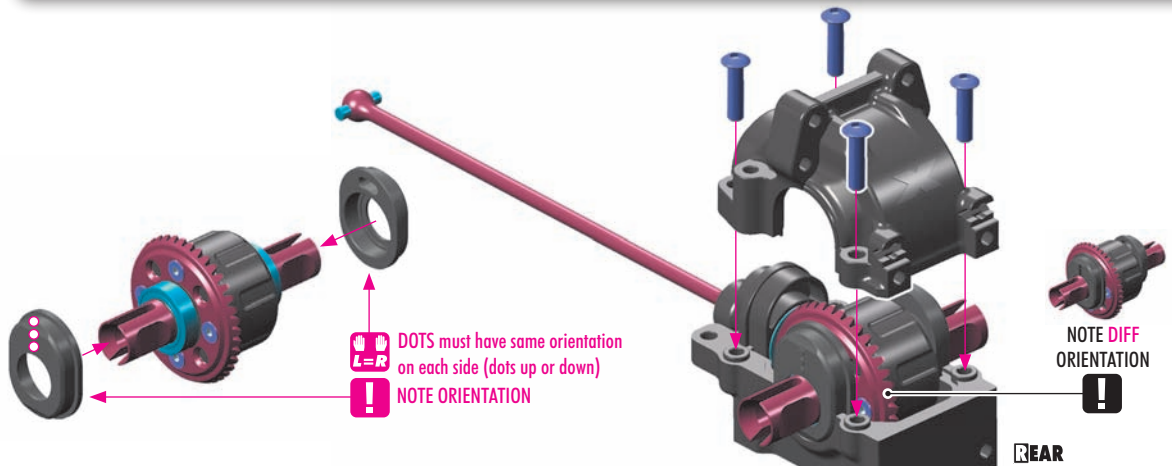


DIRT REAR BEVEL DRIVE GEAR & DIFFERENTIAL HEIGHT ADJUSTMENT

INITIAL SETTING

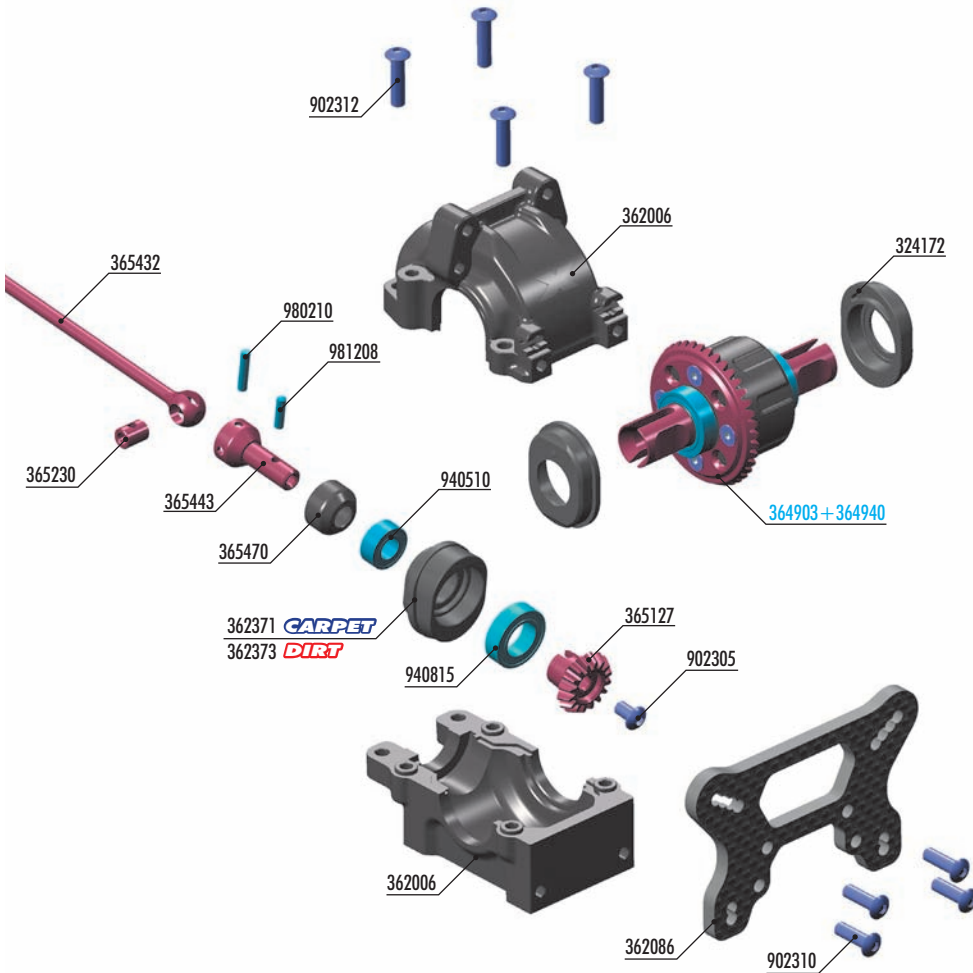


902312
SH M3x12



902310
SH M3x10





OPTION #365100
XRAY XB4 ACTIVE DIFFERENTIAL FRONT/REAR - SET



OPTION **BALL-BEARING HUB**

#324172	1 DOT	INCLUDED
#324172	2 DOTS	OPTION
#324172	3 DOTS	INCLUDED



OPTION **ANGLE HUB - FRONT**

#362371	1 DOT	INCLUDED
#362372	2 DOTS	OPTION
#362373	3 DOTS	INCLUDED



OPTION **XRAY BALL-BEARING**

#359050	5x10x4	GREASE	OPTION
#940510	5x10x4	OIL	INCLUDED
#940814	8x14x4	GREASE	OPTION
#940815	8x14x4	OIL	INCLUDED

OPTION **DRIVE SHAFT COLLAR**

#365470	COMPOSITE	INCLUDED
#365471-K	ALU - BLACK	OPTION
#365471-O	ALU - ORANGE	OPTION

BAG

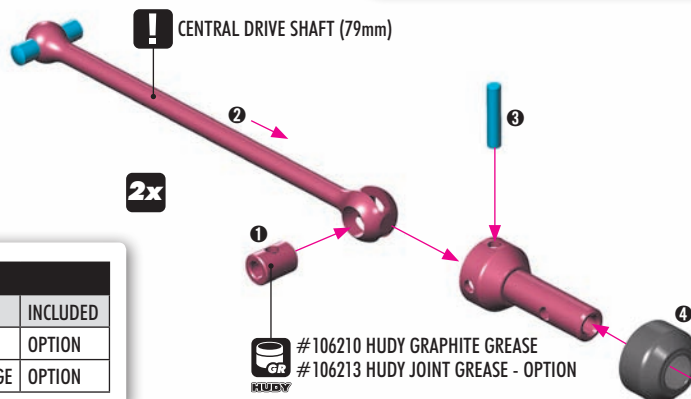
02.2

- 324172 COMPOSITE ADJUSTMENT BALL-BEARING HUB (2)
- 362006 DIFF BULKHEAD BLOCK SET
- 362086 GRAPHITE SHOCK TOWER FOR HS BULKHEAD - FRONT - 3.5MM
- 362371 ANGLED HUB FOR BEVEL DRIVE GEAR - FRONT HS BULKHEAD - 1 DOT
- 362373 ANGLED HUB FOR BEVEL DRIVE GEAR - FRONT HS BULKHEAD - 3 DOTS
- 365127 STEEL BEVEL DRIVE GEAR - FOR HS BULKHEAD - CNC-MACHINED - 16T
- 365230 DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
- 365432 CENTRAL DRIVE SHAFT 79MM WITH 2.5MM PIN - HUDY SPRING STEEL™
- 365443 CENTRAL SHAFT UNIVERSAL JOINT FOR HS BULKHEAD
- 365470 COMPOSITE DRIVE SHAFT SAFETY COLLAR - V2 (3)

- 902305 HEX SCREW SH M3x5 (10)
- 902310 HEX SCREW SH M3x10 (10)
- 902312 HEX SCREW SH M3x12 (10)
- 940510 BALL-BEARING 5x10x4 RUBBER SEALED - OIL (2)
- 940815 BALL-BEARING 8x14x4 RUBBER SEALED - OIL (2)
- 980210 PIN 2x10 (10)
- 981208 PIN 2x8 (10)
- 364903 GEAR DIFFERENTIAL - LARGE VOLUME - SET
- 364940 STEEL DIFFERENTIAL BEVEL GEAR FOR LARGE VOLUME DIFF 40T

980210
P 2x10

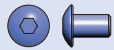
! **DRIVE SHAFT COVER CAPS**
Lubricate the drive shaft connecting joint properly so the drive shaft turns freely. In the event that not enough grease is used, the connecting pin may lock and may even, in extreme situations, push through the drive shaft cover cap.



OPTION **DRIVE SHAFT COLLAR**

#365470	COMPOSITE	INCLUDED
#365471-K	ALU - BLACK	OPTION
#365471-O	ALU - ORANGE	OPTION

! #106210 HUDY GRAPHITE GREASE
#106213 HUDY JOINT GREASE - OPTION



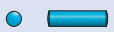
902305
SH M3x5



940510
BB 5x10x4



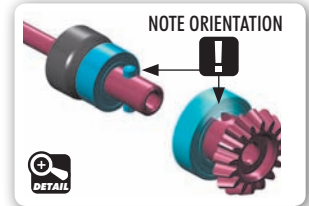
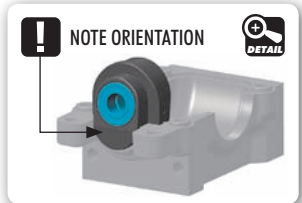
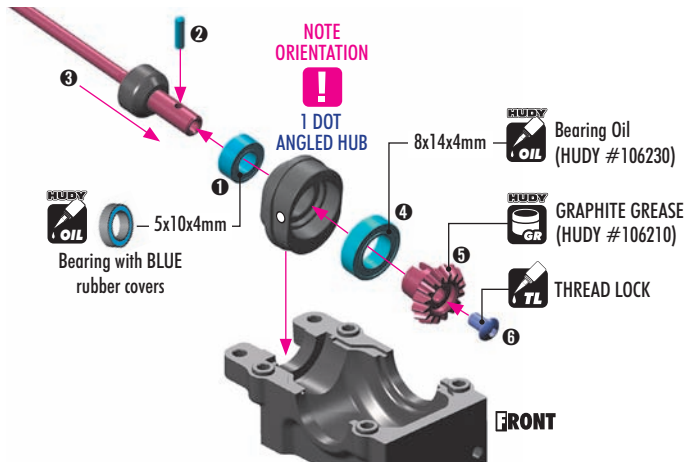
940815
BB 8x14x4



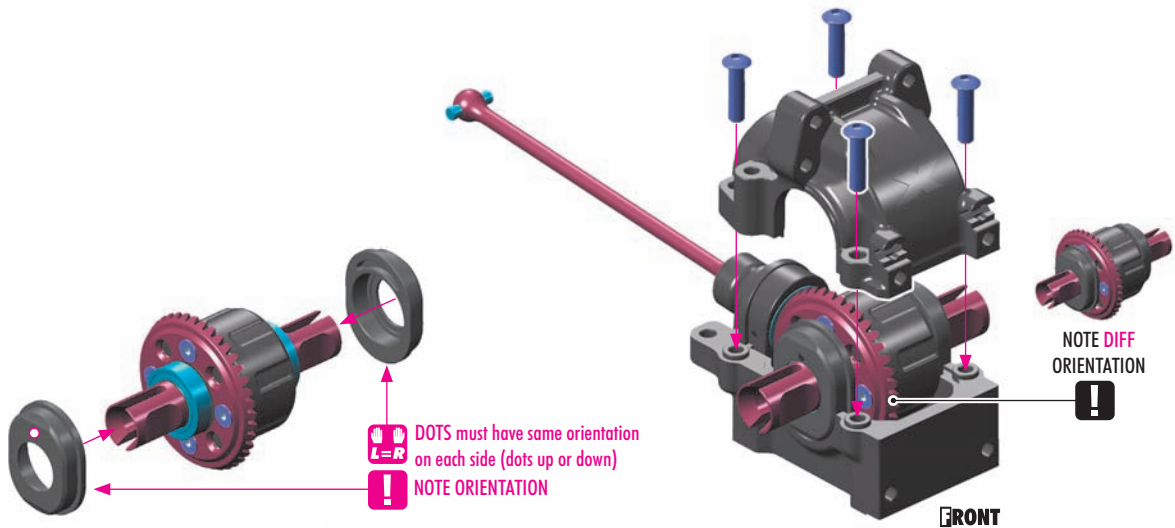
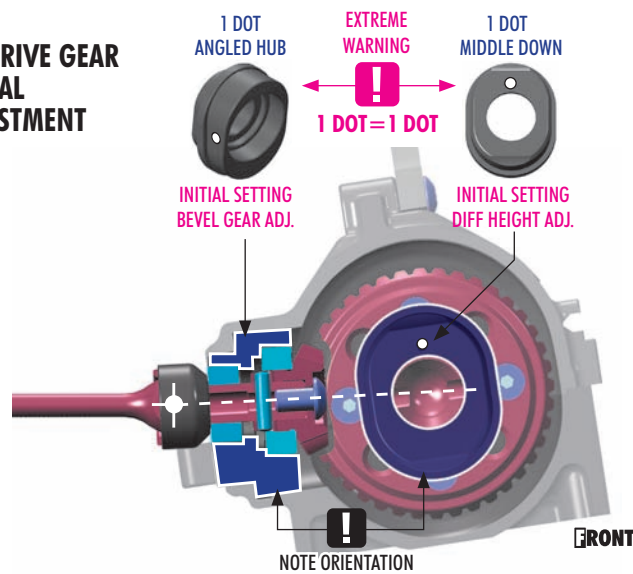
981208
P 2x8



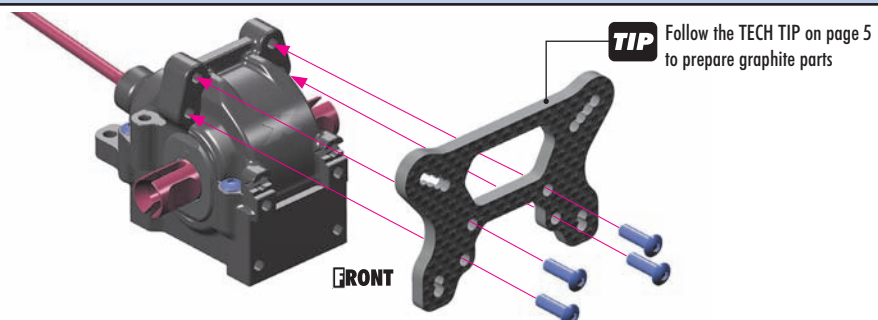
902312
SH M3x12

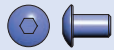


CARPET
REAR BEVEL DRIVE GEAR & DIFFERENTIAL HEIGHT ADJUSTMENT



902310
SH M3x10





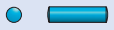
902305
SH M3x5



940510
BB 5x10x4



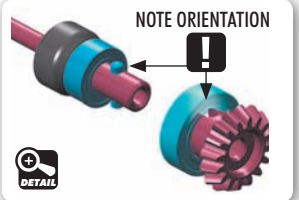
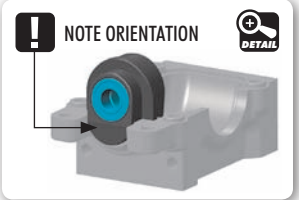
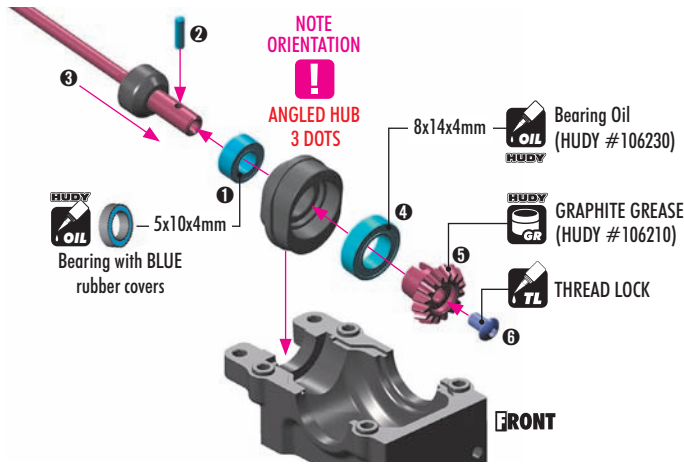
940815
BB 8x14x4



981208
P 2x8

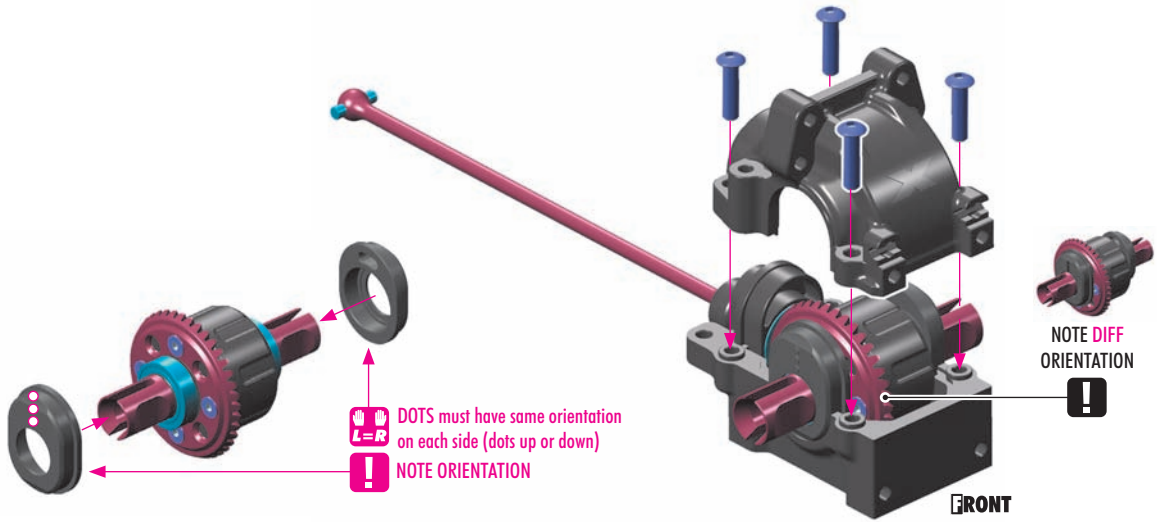
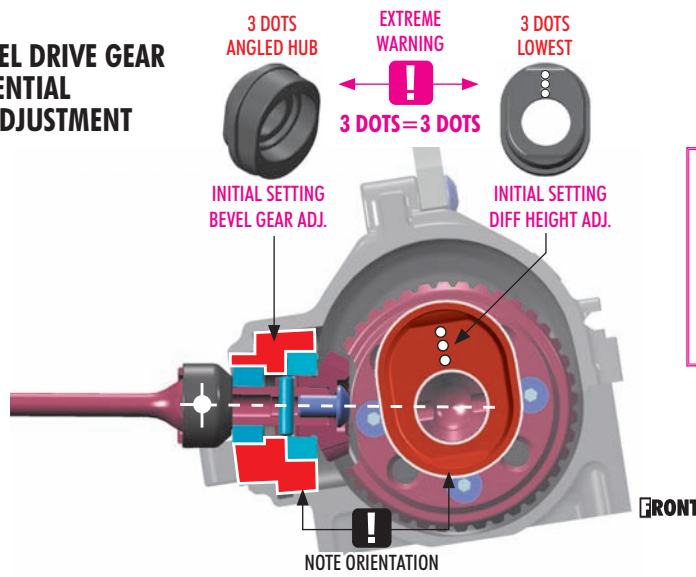


902312
SH M3x12

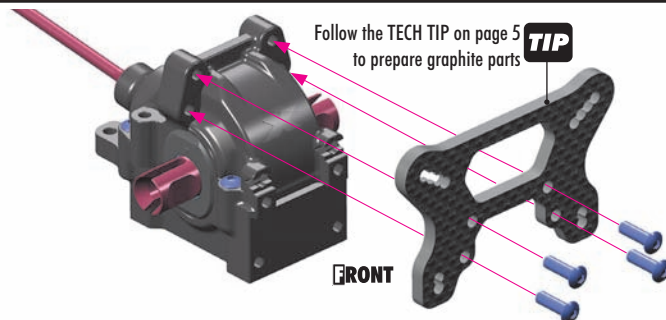


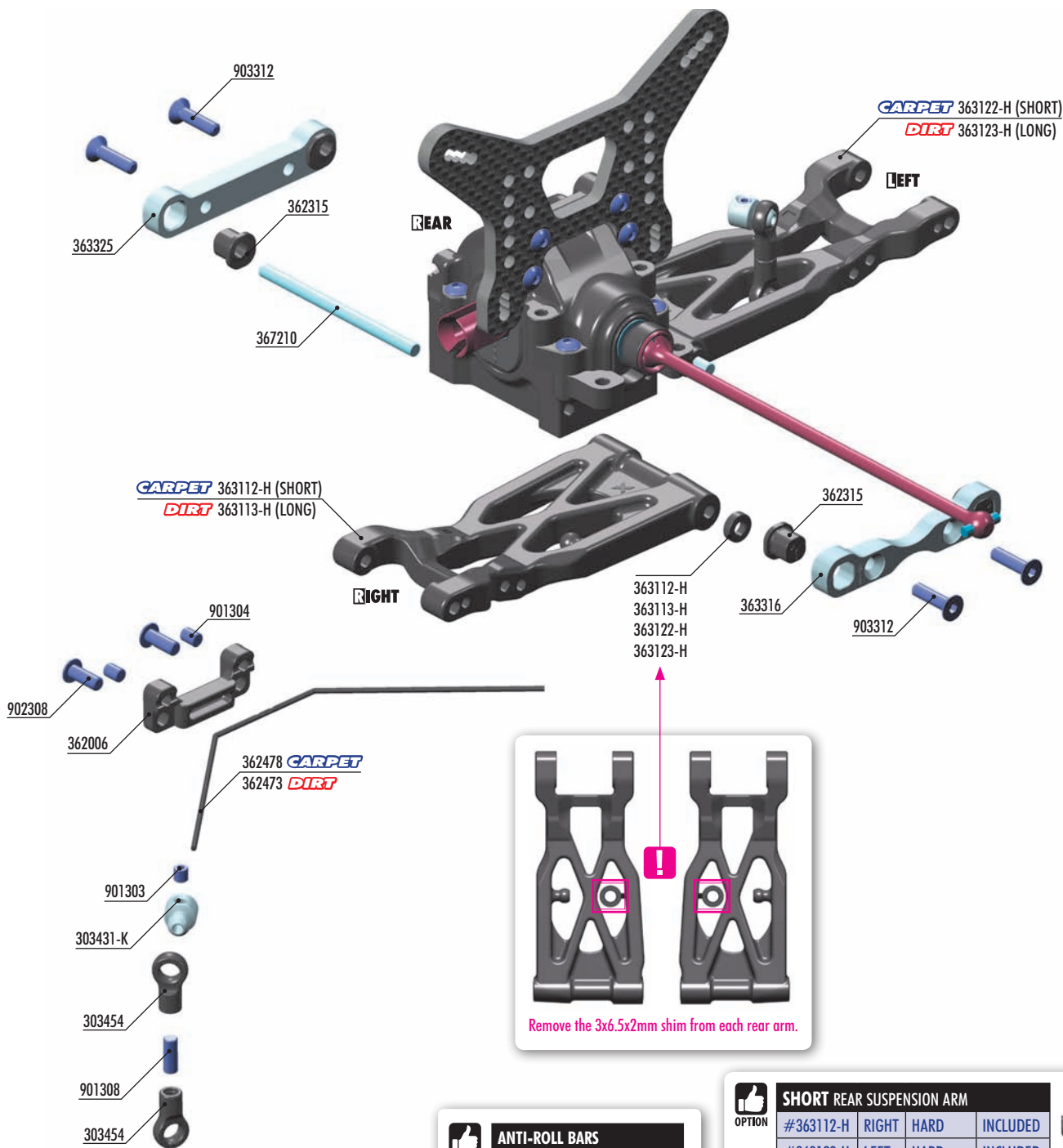
DIRT

REAR BEVEL DRIVE GEAR & DIFFERENTIAL HEIGHT ADJUSTMENT



902310
SH M3x10





Remove the 3x6.5x2mm shim from each rear arm.

ANTI-ROLL BARS			
#362470	1.0mm	OPTION	
#362471	1.1mm	OPTION	
#362472	1.2mm	OPTION	
#362473	1.3mm	INCLUDED	
#362474	1.4mm	OPTION	
#362476	1.6mm	OPTION	
#362478	1.8mm	INCLUDED	
#362480	2.0mm	OPTION	

SHORT REAR SUSPENSION ARM			
#363112-H	RIGHT	HARD	INCLUDED
#363122-H	LEFT	HARD	INCLUDED
#363112-G	RIGHT	GRAPHITE	OPTION
#363122-G	LEFT	GRAPHITE	OPTION

LONG REAR SUSPENSION ARM			
#363113-H	RIGHT	HARD	INCLUDED
#363123-H	LEFT	HARD	INCLUDED
#363113-G	RIGHT	GRAPHITE	OPTION
#363123-G	LEFT	GRAPHITE	OPTION

BAG
03

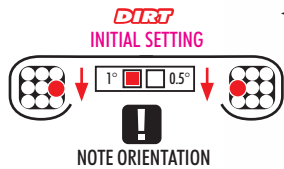
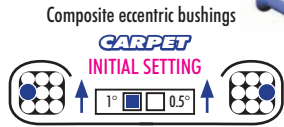
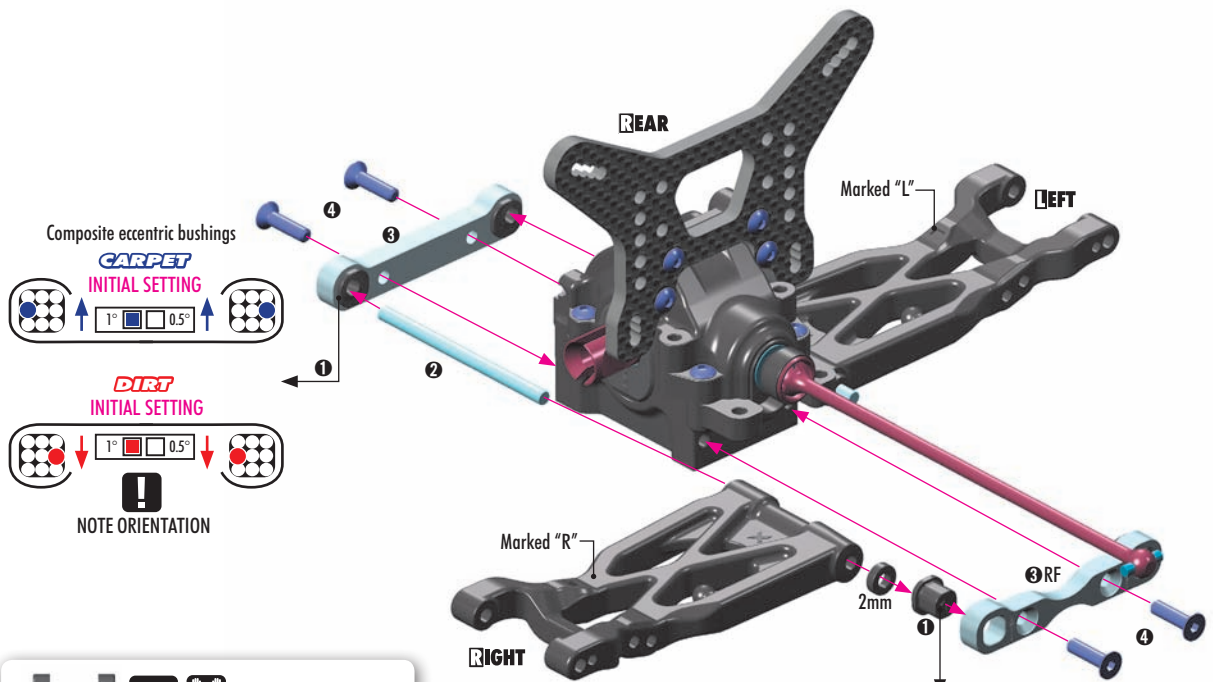
- | | | | |
|----------|---|--------|--|
| 303431-K | ALU 4.9MM BALL END - BLACK (2) | 363316 | ALU SUSPENSION HOLDER FOR HS BULKHEAD - REAR-FRONT |
| 303454 | BALL JOINT 4.9MM - OPEN (4) | 363325 | ALU SUSPENSION HOLDER 2° FOR HS BULKHEAD - REAR-REAR |
| 362006 | DIFF BULKHEAD BLOCK SET | 367210 | SUSPENSION PIVOT PIN (2) |
| 362315 | ECCENTRIC BUSHING SET (2) | | |
| 362473 | ANTI-ROLL BAR 1.3 MM | 901303 | HEX SCREW SB M3x3 (10) |
| 362478 | ANTI-ROLL BAR 1.8 MM | 901304 | HEX SCREW SB M3x4 (10) |
| 363112-H | COMPOSITE SUSPENSION ARM REAR LOWER RIGHT - HARD | 901308 | HEX SCREW SB M3x8 (10) |
| 363113-H | COMPOSITE LONG SUSPENSION ARM REAR LOWER RIGHT - HARD | 902308 | HEX SCREW SH M3x8 (10) |
| 363122-H | COMPOSITE SUSPENSION ARM REAR LOWER LEFT - HARD | 903312 | HEX SCREW SFH M3x12 (10) |
| 363123-H | COMPOSITE LONG SUSPENSION ARM REAR LOWER LEFT - HARD | | |

10

From Rear Arm
SHIM 3x6.5x2



903312
SFH M3x12



TIP **L=R**

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

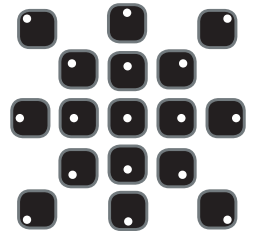
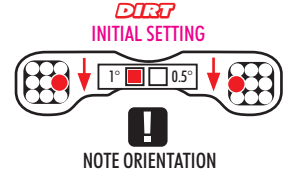
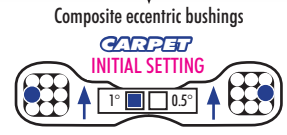
Arm Reamer 3.0mm (HUDY #107633)

SHORT REAR SUSPENSION ARM

OPTION	Part #	Side	Material	Included
	#363112-H	RIGHT	HARD	INCLUDED
	#363122-H	LEFT	HARD	INCLUDED
	#363112-G	RIGHT	GRAPHITE	OPTION
	#363122-G	LEFT	GRAPHITE	OPTION

LONG REAR SUSPENSION ARM

OPTION	Part #	Side	Material	Included
	#363113-H	RIGHT	HARD	INCLUDED
	#363123-H	LEFT	HARD	INCLUDED
	#363113-G	RIGHT	GRAPHITE	OPTION
	#363123-G	LEFT	GRAPHITE	OPTION



ECCENTRIC BUSHINGS HAVE TWO DIFFERENT OFFSETS FROM THE CENTER.



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

ANTI-SQUAT

RR	RF	(°)
○	○	= 2°
○	○	= 3°
○	○	= 1°
○	○	= 3°
○	○	= 2°
○	○	= 4°
○	○	= 1°
○	○	= 2°
○	○	= 0°

ROLL CENTER

RR	RF	(mm)
○	○	= +0.75mm
○	○	= 0mm
○	○	= -0.75mm

TRACK-WIDTH

RR	RF	(mm)
○	○	= +1.5mm
○	○	= 0mm
○	○	= -1.5mm

TOE-IN

RR	RF	(°)
○	○	= 2°
○	○	= 3°
○	○	= 1°
○	○	= 1°
○	○	= 2°
○	○	= 0°
○	○	= 3°
○	○	= 4°
○	○	= 2°

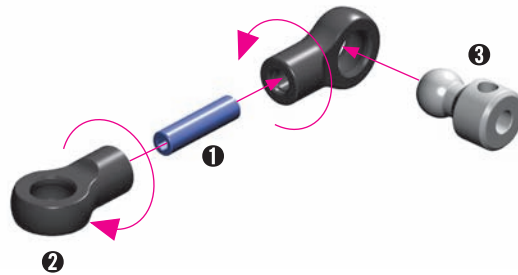
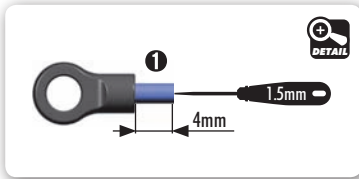
The track-width is directly influenced by the size of the wheels and tires used.

The tables describe the amounts of adjustment using the center and outside positions of the eccentric bushings. The middle position eccentric bushings allow for finer adjustment increments.



901308
SB M3x8

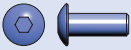
2x
L=R



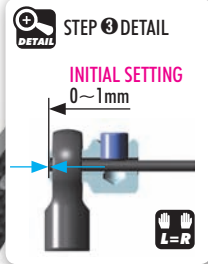
901303
SB M3x3



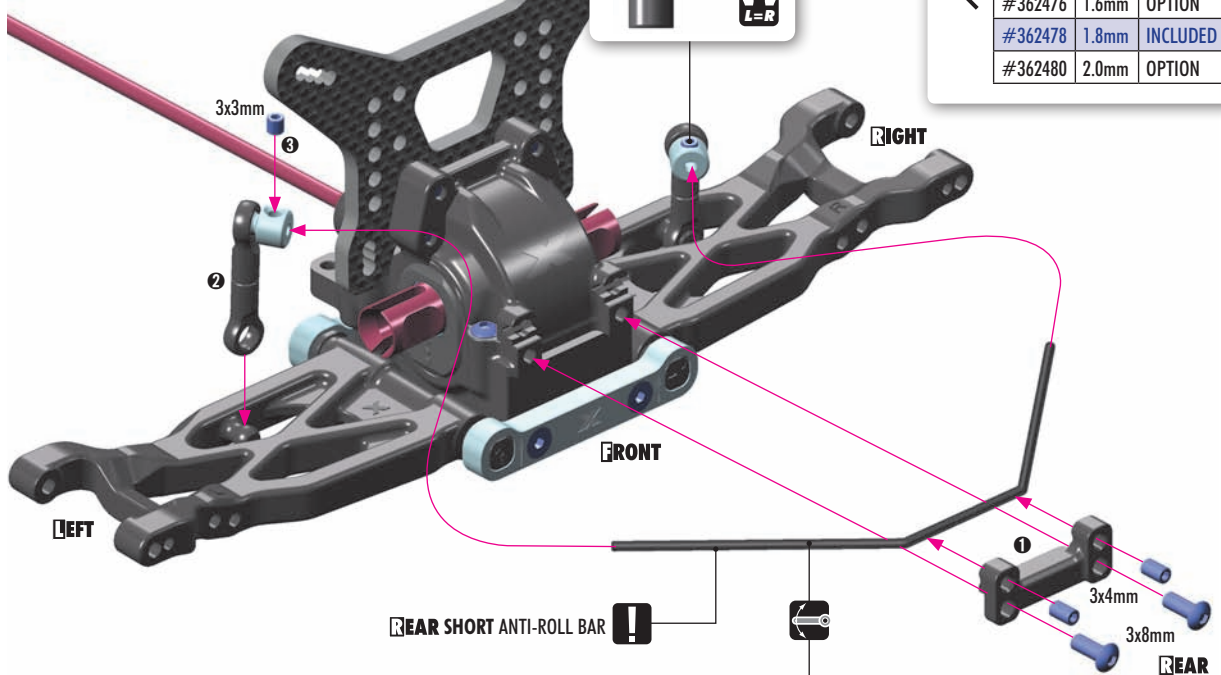
901304
SB M3x4



902308
SH M3x8

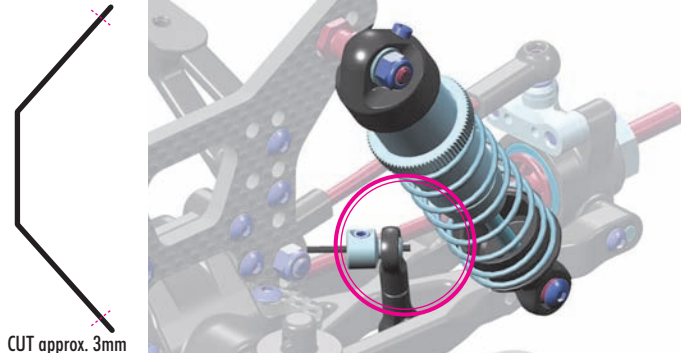


OPTION	ANTI-ROLL BARS	
#362470	1.0mm	OPTION
#362471	1.1mm	OPTION
#362472	1.2mm	OPTION
#362473	1.3mm	INCLUDED
#362474	1.4mm	OPTION
#362476	1.6mm	OPTION
#362478	1.8mm	INCLUDED
#362480	2.0mm	OPTION

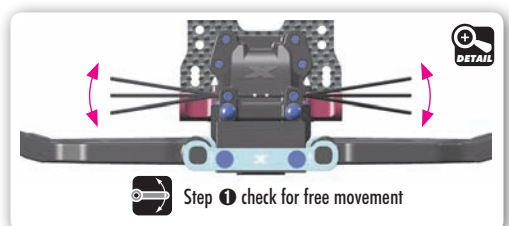
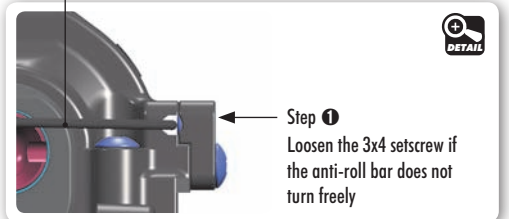


! In case the anti-roll bar wire is long and will touch the shock absorber then you have to cut approximately 3mm from each end of the wire.

CUT approx. 3mm



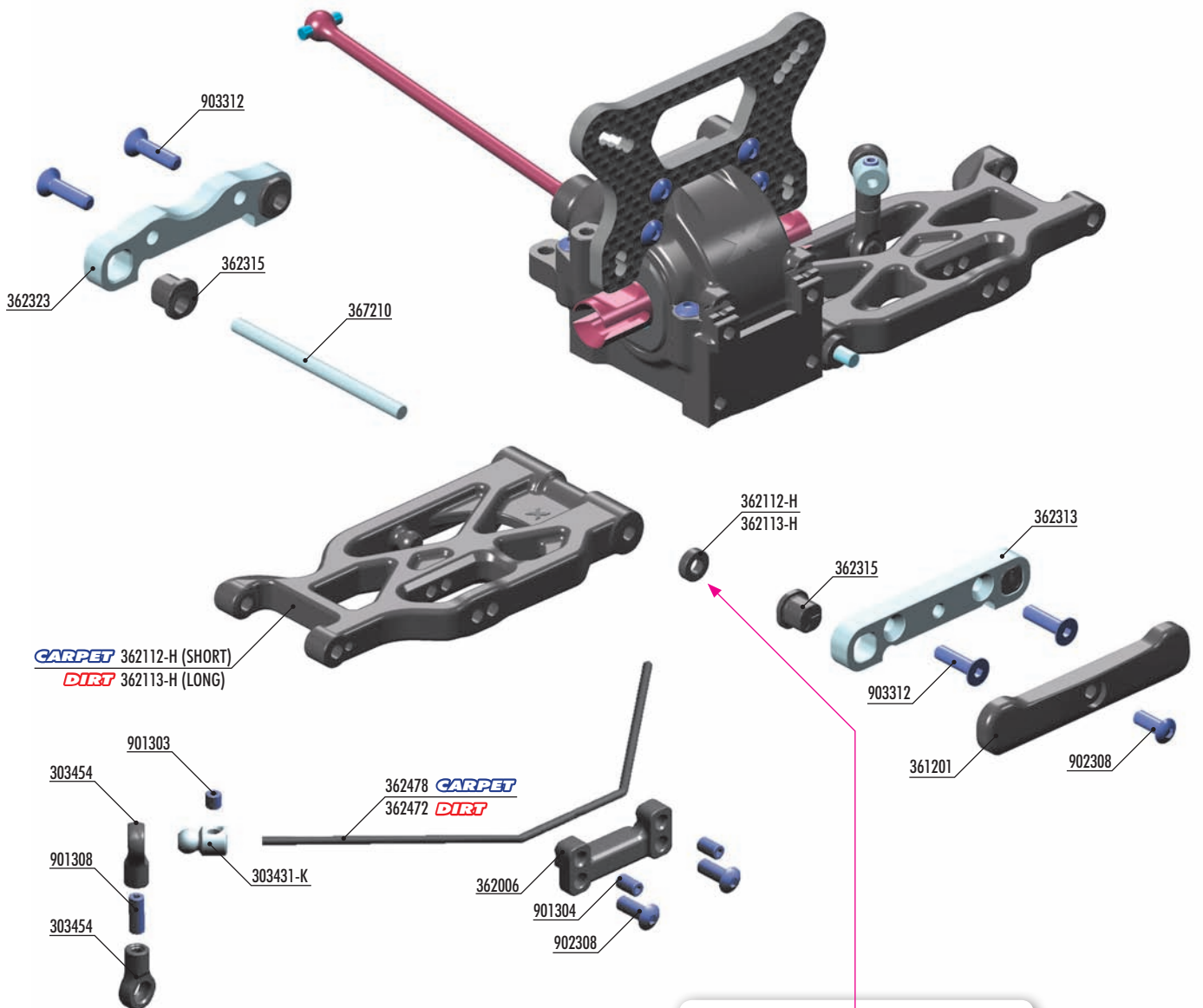
CUT approx. 3mm



SET-UP BOOK

ANTI-ROLL BAR

3. FRONT SUSPENSION



CARPET 362112-H (SHORT)
DIRT 362113-H (LONG)

362478 **CARPET**
362472 **DIRT**

ANTI-ROLL BARS			
OPTION	#362470	1.0mm	OPTION
	#362471	1.1mm	OPTION
	#362472	1.2mm	INCLUDED
	#362473	1.3mm	OPTION
	#362474	1.4mm	OPTION
	#362476	1.6mm	OPTION
	#362478	1.8mm	INCLUDED
	#362480	2.0mm	OPTION

SHORT FRONT SUSPENSION ARM			
OPTION	#362112	MEDIUM	OPTION
	#362112-H	HARD	INCLUDED
	#362112-G	GRAPHITE	OPTION

LONG FRONT SUSPENSION ARM			
OPTION	#362113-H	HARD	INCLUDED
	#362113-G	GRAPHITE	OPTION



BAG
03

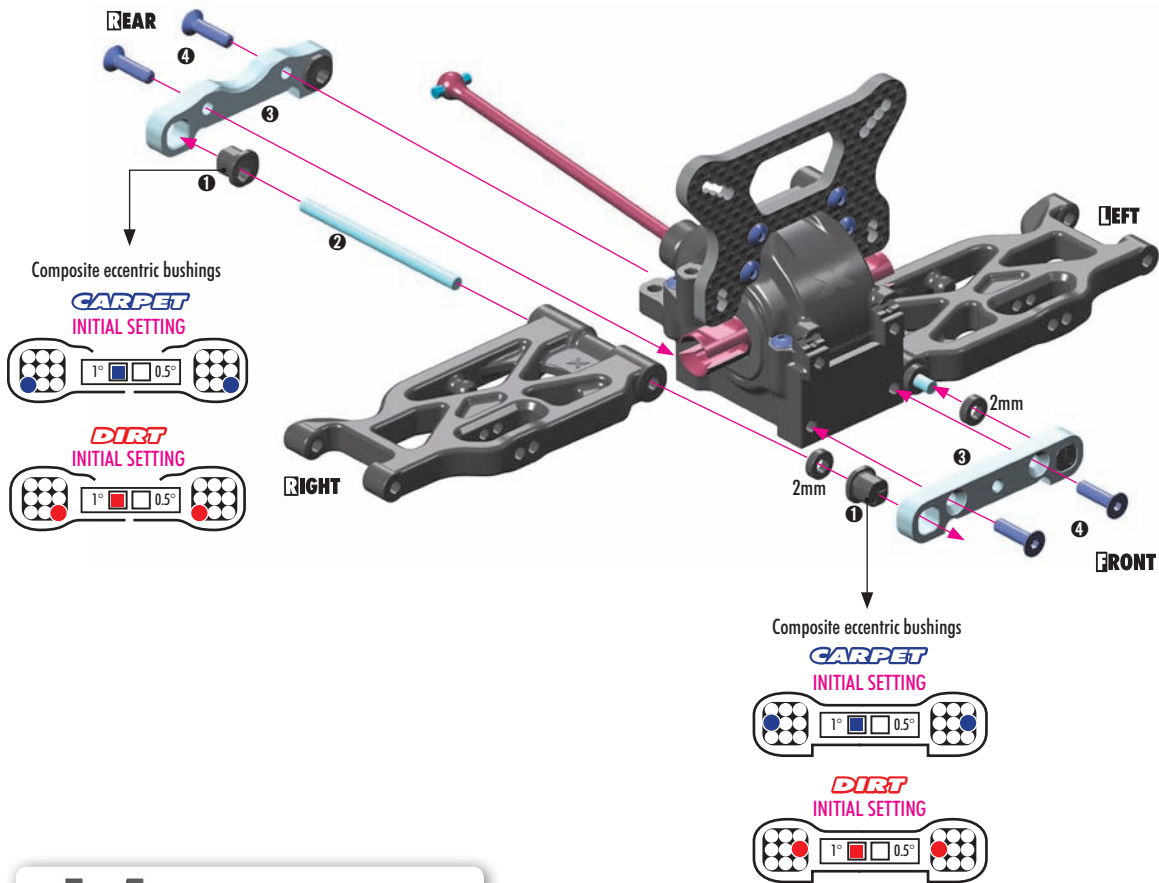
- 303431-K ALU 4.9MM BALL END - BLACK (2)
- 303454 BALL JOINT 4.9MM - OPEN (4)
- 361201 COMPOSITE FRONT BUMPER - ONE HOLE
- 362006 DIFF BULKHEAD - HORIZONTAL SPLIT DESIGN (HS) - FRONT/REAR - SET
- 362112-H COMPOSITE SUSPENSION ARM FRONT LOWER - HARD
- 362113-H COMPOSITE LONG SUSPENSION ARM FRONT LOWER - HARD
- 362313 ALU LOWER SUSP. HOLDER FOR HS BULKHEAD - FRONT-FRONT
- 362315 ECCENTRIC BUSHING SET (2)
- 362323 ALU LOWER SUSP. HOLDER FOR HS BULKHEAD - FRONT-REAR
- 362472 ANTI-ROLL BAR 1.2 MM
- 362478 ANTI-ROLL BAR 1.8 MM

- 367210 SUSPENSION PIVOT PIN (2)
- 901303 HEX SCREW SB M3x3 (10)
- 901304 HEX SCREW SB M3x4 (10)
- 901308 HEX SCREW SB M3x8 (10)
- 902308 HEX SCREW SH M3x8 (10)
- 903312 HEX SCREW SFH M3x12 (10)

10
From Front Arm
SHIM 3x6.5x2



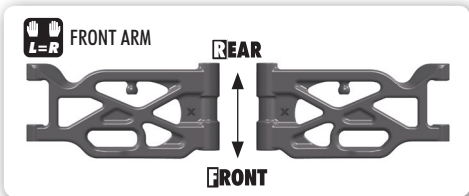
903312
SFH M3x12



TIP **L=R**

If the suspension arm does not move freely use a HUDY Arm Reamer to size the holes of the arms

Arm Reamer 3.0mm (HUDY #107633)



OPTION	SHORT FRONT SUSPENSION ARM			
	#362112	MEDIUM	OPTION	
	#362112-H	HARD	INCLUDED	
	#362112-G	GRAPHITE	OPTION	
OPTION	LONG FRONT SUSPENSION ARM			
	#362113-H	HARD	INCLUDED	
	#362113-G	GRAPHITE	OPTION	

SET-UP BOOK
KICK UP
ROLL CENTER
TRACK-WIDTH

ECCENTRIC BUSHINGS HAVE TWO DIFFERENT OFFSETS FROM THE CENTER.



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

KICK-UP		
FF	FR	(°)
		= 7°
		= 6°
		= 8°
		= 6°
		= 5°
		= 7°
		= 8°
		= 7°
		= 9°

ROLL CENTER		
FF	FR	(mm)
		= +0.75mm
		= 0mm
		= -0.75mm

TRACK-WIDTH		
FF	FR	(mm)
		= +1.5mm
		= 0mm
		= -1.5mm

The tables describe the amounts of adjustment using the center and outside positions of the eccentric bushings. The middle position eccentric bushings allow for finer adjustment increments.

The track-width is directly influenced by the size of the wheels and tires used.

TOTAL CASTER=C-HUB CASTER+KICK UP						
C-HUB CASTER	KICK-UP					
	6°	7°	8°	9°	10°	
6°	12°	13°	14°	15°	16°	
9°	15°	16°	17°	18°	19°	

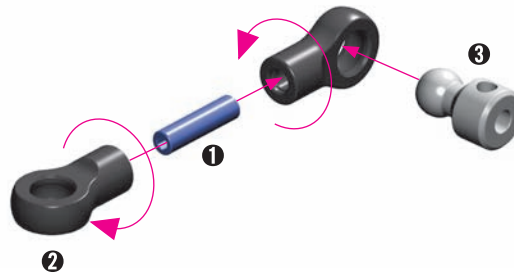
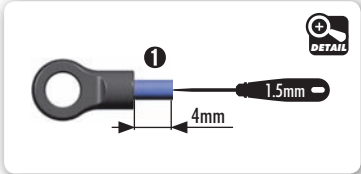
Caster is the angle between the steering pivot axis and the vertical plane. Caster is affected not only by the C-Hub caster, but also by the front kick-up angle relative to the flat chassis bottom. The table indicates how kick up angle effects total caster.

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

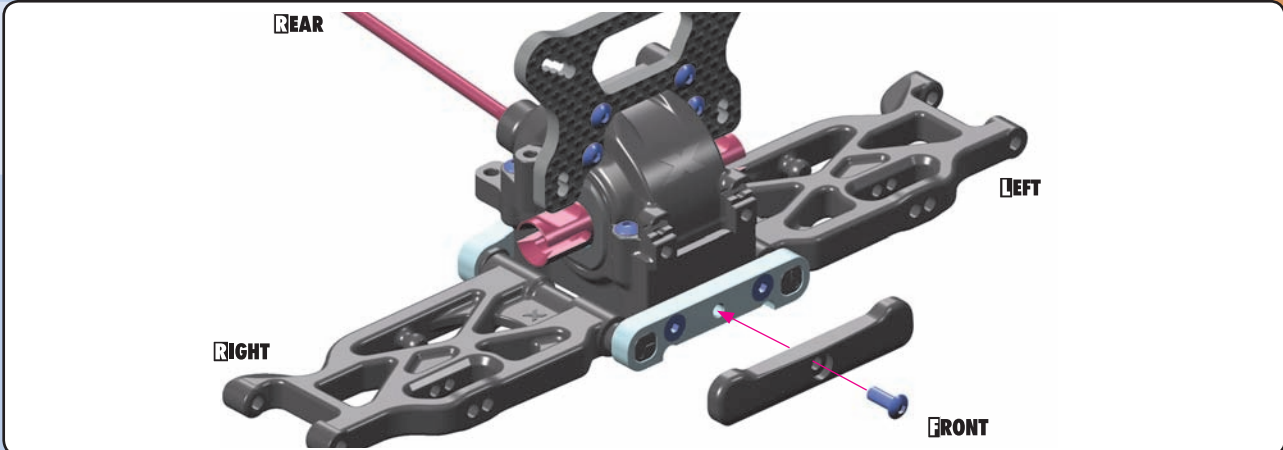


901308
SB M3x8

2x
L=R



902308
SH M3x8



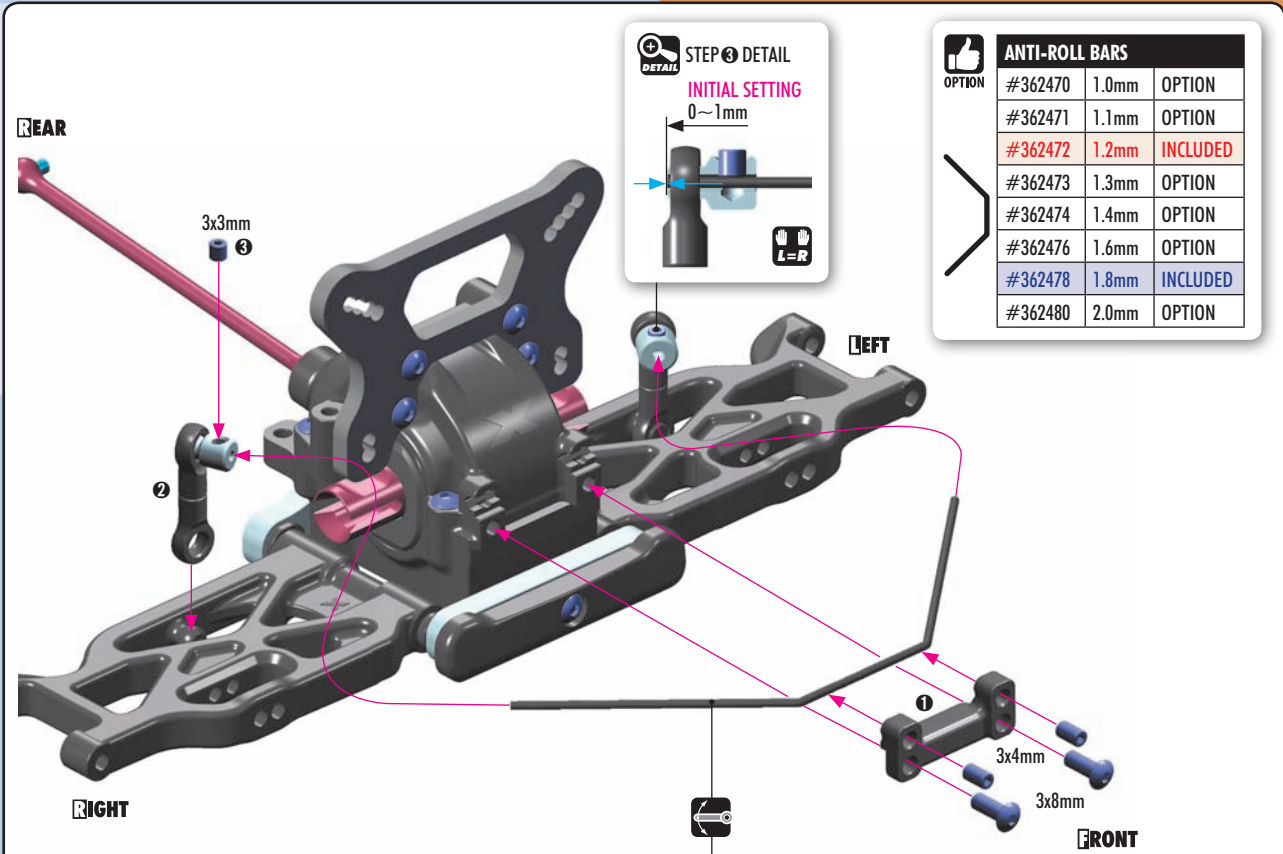
901303
SB M3x3



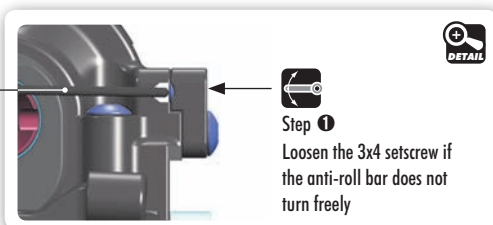
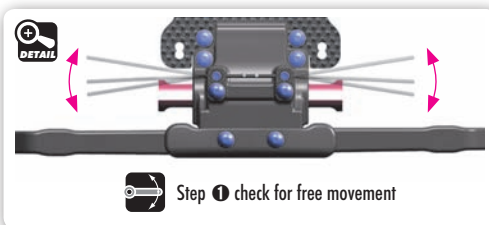
901304
SB M3x4



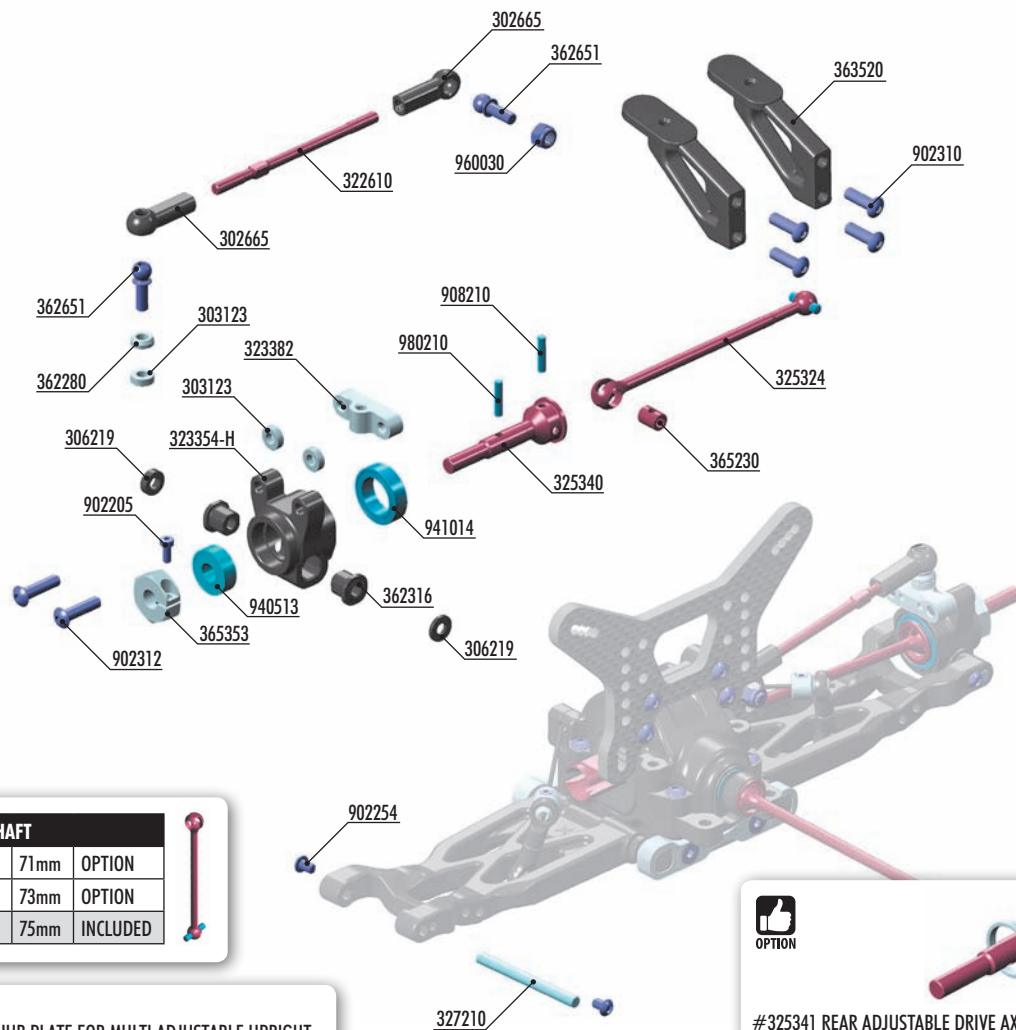
902308
SH M3x8



OPTION	ANTI-ROLL BARS	
#362470	1.0mm	OPTION
#362471	1.1mm	OPTION
#362472	1.2mm	INCLUDED
#362473	1.3mm	OPTION
#362474	1.4mm	OPTION
#362476	1.6mm	OPTION
#362478	1.8mm	INCLUDED
#362480	2.0mm	OPTION



SET-UP BOOK
ANTI-ROLL BAR



DRIVE SHAFT

#325323	71mm	OPTION
#325326	73mm	OPTION
#325324	75mm	INCLUDED

#32381
ALU REAR HUB PLATE FOR MULTI ADJUSTABLE UPRIGHT - SWISS 7075 T6

XRAY BALL-BEARING

#940512	5x12x4	OIL	OPTION
#941015	10x15x4	OIL	OPTION
#940513	5x12x4	GREASE	INCLUDED
#941014	10x15x4	GREASE	INCLUDED

REAR UPRIGHTS

#323354-H	COMPOSITE - H	INCLUDED
#323354-G	COMPOSITE - G	OPTION
#323355	ALU	OPTION

ALU CONICAL SHIM

#362280	SILVER	INCLUDED
#362280-K	BLACK	OPTION
#362280-O	ORANGE	OPTION

ALU NUTS M3

#296530-B	BLUE	OPTION
#296530-K	BLACK	OPTION
#296530-O	ORANGE	OPTION
#960031	SILVER	OPTION

#325341 REAR ADJUSTABLE DRIVE AXLE LB - HUDY SPRING STEEL™
#325390 ALU SHIM 10x12x2MM (2)

WHEEL HUBS 12MM

#365360	+4.5mm - (6 slots)	OPTION
#365359	+3.75mm (5 slots)	OPTION
#365358	+3.0mm (4 slots)	OPTION
#365357	+2.25mm (3 slots)	OPTION
#365356	+1.5mm (2 slots)	OPTION
#365355	+0.75mm (1 slot)	OPTION
#365353	0mm (0 slots)	INCLUDED
#365354	-0.75mm (Lightw.)	OPTION
#365361	-1.25mm (Lightw.)	OPTION

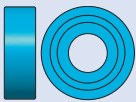
WHEEL HUBS 14MM

#365352	+0.75mm	OPTION
#365350	0mm	OPTION
#365351	-0.75mm	OPTION



- 302665 COMPOSITE BALL JOINT 4.9MM - CLOSED WITH HOLE (4)
- 303123 ALU SHIM 3x6x2.0MM (10)
- 306219 CCOMPOSITE SET OF SERVO SHIMS (4)
- 322610 ADJ. TURNBUCKLE M3 L/R 55 MM - SPRING STEEL (2)
- 323354-H COMPOSITE UPRIGHT REAR - HARD
- 323382 ALU REAR HUB PLATE FOR MULTI ADJ. UPRIGHT - 1-HOLE
- 325324 REAR DRIVE SHAFT 75MM WITH 2.5MM PIN - SPRING STEEL™
- 325340 REAR DRIVE AXLE LB - HUDY SPRING STEEL™
- 327210 FRONT SUSPENSION PIVOT PIN (2)
- 362280 ALU CONICAL SHIM 3x6x2.0MM (10)
- 362316 OPEN ECCENTRIC BUSHING SET (2)
- 362651 BALL END 4.9MM WITH THREAD 8MM (2)
- 363520 REAR WING POST - V2 (2)

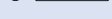
- 365230 DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
- 365353 ALU WHEEL HUB 12MM (2)
- 902205 HEX SCREW SH M2x5 (10)
- 902254 HEX SCREW SH M2.5x4 (10)
- 902310 HEX SCREW SH M3x10 (10)
- 902312 HEX SCREW SH M3x12 (10)
- 940513 BALL-BEARING 5x12x4 RUBBER SEALED - GREASE (2)
- 941014 BALL-BEARING 10x15x4 RUBBER SEALED - GREASE (2)
- 960030 NUT M3 (10)
- 980210 PIN 2x10 (10)



940513
BB 5x12x4



941014
BB 10x15x4

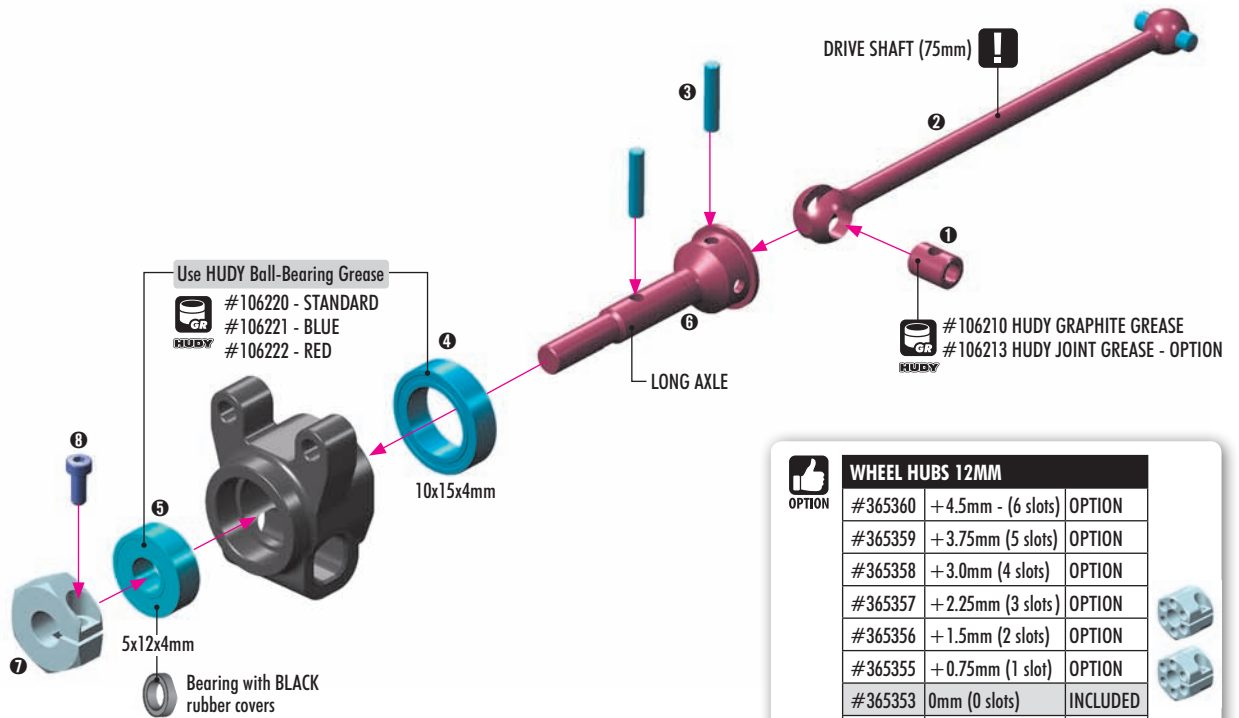


980210
P 2x10



902205
SH M2x5

2x L=R



DRIVE SHAFT

OPTION	#325323	71mm	OPTION
	#325326	73mm	OPTION
	#325324	75mm	INCLUDED

XRAY BALL-BEARING

OPTION	#940512	5x12x4	OIL	OPTION
	#941015	10x15x4	OIL	OPTION
	#940513	5x12x4	GREASE	INCLUDED
	#941014	10x15x4	GREASE	INCLUDED

WHEEL HUBS 12MM

OPTION	#365360	+4.5mm - (6 slots)	OPTION
	#365359	+3.75mm (5 slots)	OPTION
	#365358	+3.0mm (4 slots)	OPTION
	#365357	+2.25mm (3 slots)	OPTION
	#365356	+1.5mm (2 slots)	OPTION
	#365355	+0.75mm (1 slot)	OPTION
	#365353	0mm (0 slots)	INCLUDED
	#365354	-0.75mm (Lightw.)	OPTION
	#365361	-1.25mm (Lightw.)	OPTION

WHEEL HUBS 14MM

OPTION	#365352	+0.75mm	OPTION
	#365350	0mm	OPTION
	#365351	-0.75mm	OPTION

OPTIONAL HEX HUB EFFECTS

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

LESS OFFSET **MORE OFFSET**
 Rear - more traction Rear - less traction
 Front - more steering Front - less steering

REAR UPRIGHTS

OPTION	#323354-H	HARD	INCLUDED
	#323354-G	GRAPHITE	OPTION
	#323355	ALU	OPTION

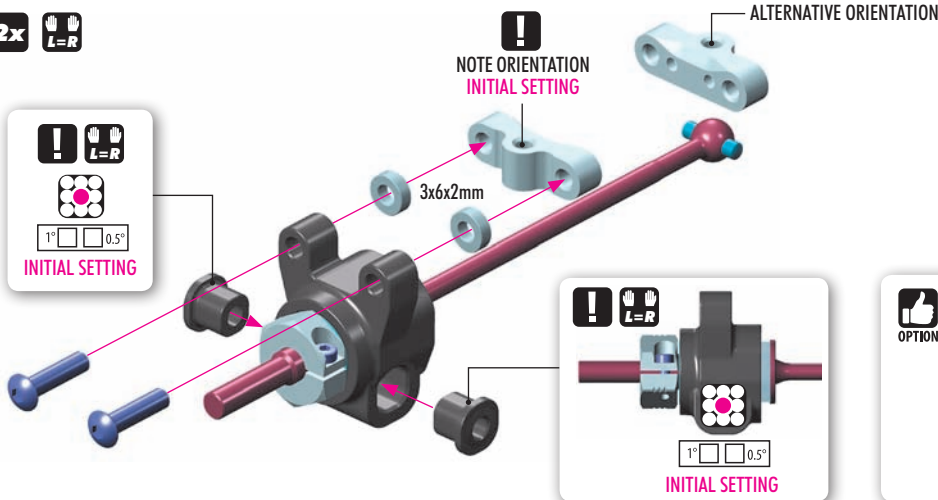


303123
SHIM 3x6x2



902312
SH M3x12

2x L=R



#323381
 OPTION ALU REAR HUB PLATE FOR MULTI
 ADJUSTABLE UPRIGHT - SWISS 7075 T6

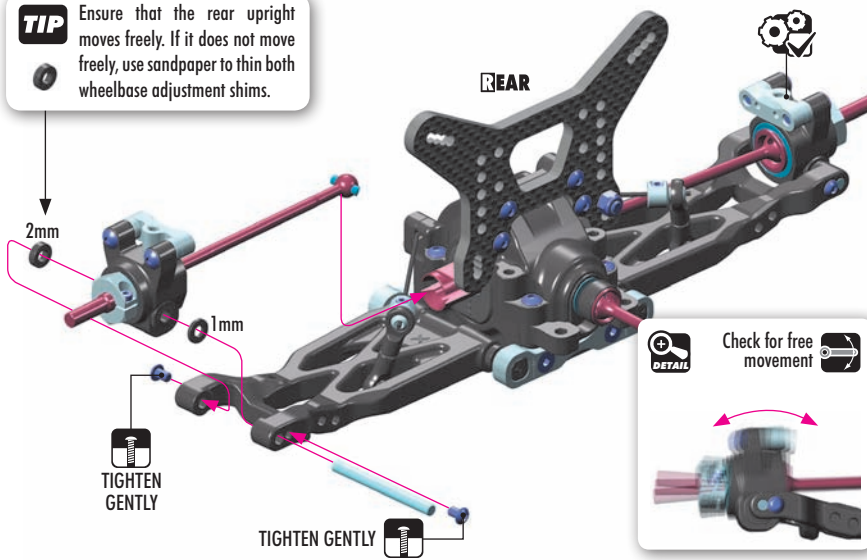
IO
306219
SHIM 3x6x1

IO
306219
SHIM 3x6x2

902254
SH M2.5x4

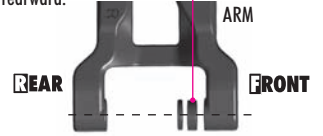
SET-UP BOOK
WHEELBASE

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



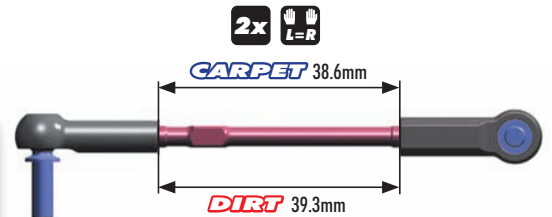
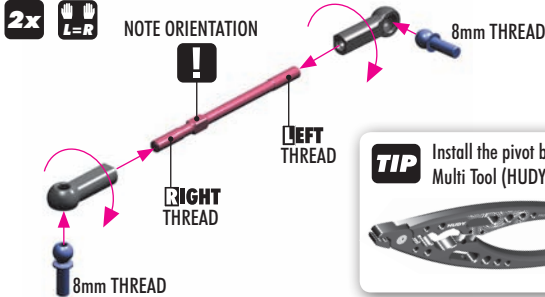
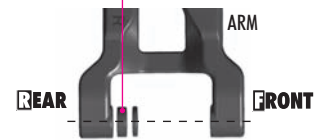
LONGER WHEELBASE

Adjustment Shim IN FRONT OF HUB moves hub rearward.



SHORTER WHEELBASE

Adjustment Shim BEHIND HUB moves hub forward.



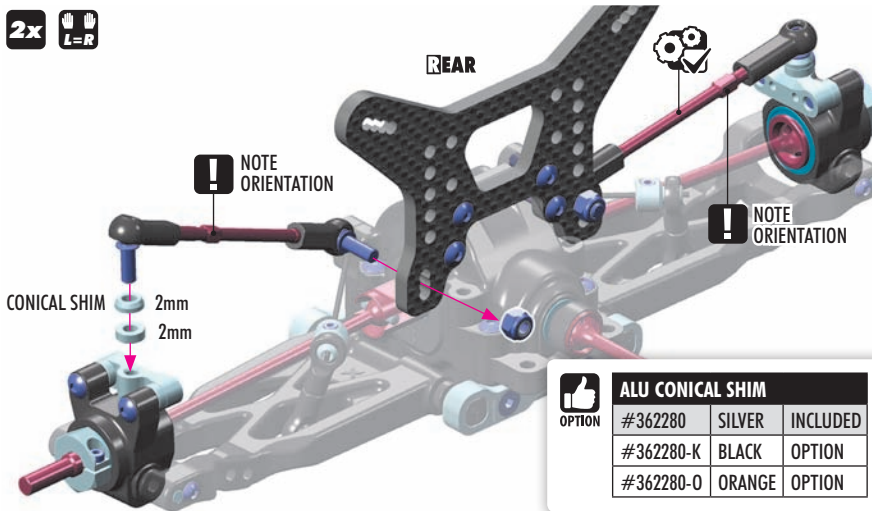
SET-UP BOOK
CAMBER

303123
SHIM 3x6x2

362280
CON. SHIM 3x6x2

960030
N M3

SET-UP BOOK
ROLL CENTER

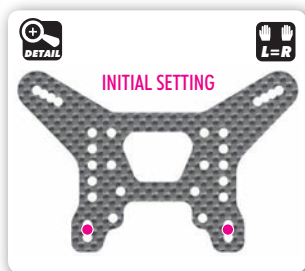


ALU NUTS M3

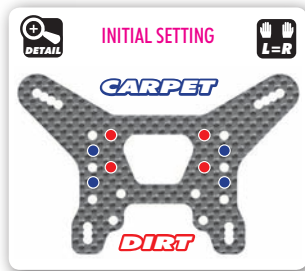
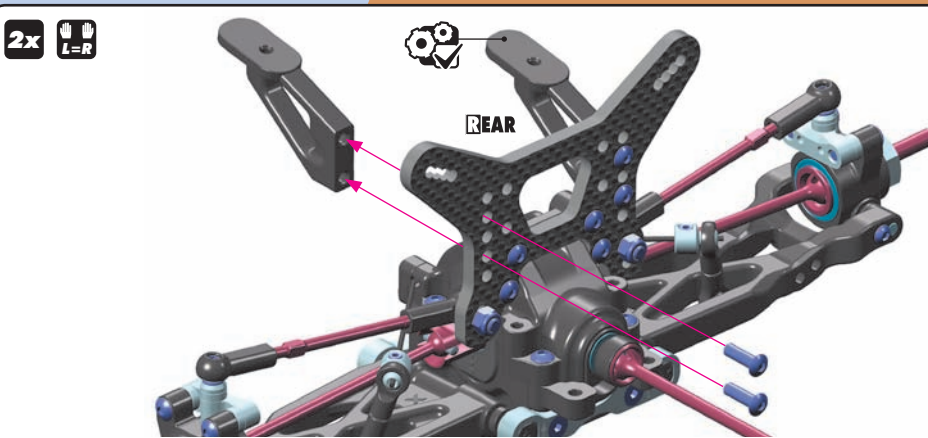
#296530-B	BLUE	OPTION	
#296530-K	BLACK	OPTION	
#296530-O	ORANGE	OPTION	
#960031	SILVER	OPTION	

ALU CONICAL SHIM

#362280	SILVER	INCLUDED	
#362280-K	BLACK	OPTION	
#362280-O	ORANGE	OPTION	



902310
SH M3x10





WHEEL HUBS 12MM

#365360	+4.5mm - (6 slots)	OPTION
#365359	+3.75mm (5 slots)	OPTION
#365358	+3.0mm (4 slots)	OPTION
#365357	+2.25mm (3 slots)	OPTION
#365356	+1.5mm (2 slots)	OPTION
#365355	+0.75mm (1 slot)	OPTION
#365353	0mm (0 slots)	INCLUDED
#365354	-0.75mm (Lightw.)	OPTION
#365361	-1.25mm (Lightw.)	OPTION



WHEEL HUBS 14MM

#365352	+0.75mm	OPTION
#365350	0mm	OPTION
#365351	-0.75mm	OPTION



XRAY BALL-BEARING

#940510	5x10x4	OIL	OPTION
#940512	5x12x4	OIL	OPTION
#359050	5x10x4	GREASE	INCLUDED
#940513	5x12x4	GREASE	INCLUDED



DRIVE SHAFT COLLAR

#365470	COMPOSITE	INCLUDED
#365471-K	ALU - BLACK	OPTION
#365471-O	ALU - ORANGE	OPTION



ALU NUTS M3

#296530-B	BLUE	OPTION
#296530-K	BLACK	OPTION
#296530-O	ORANGE	OPTION
#960031	SILVER	OPTION



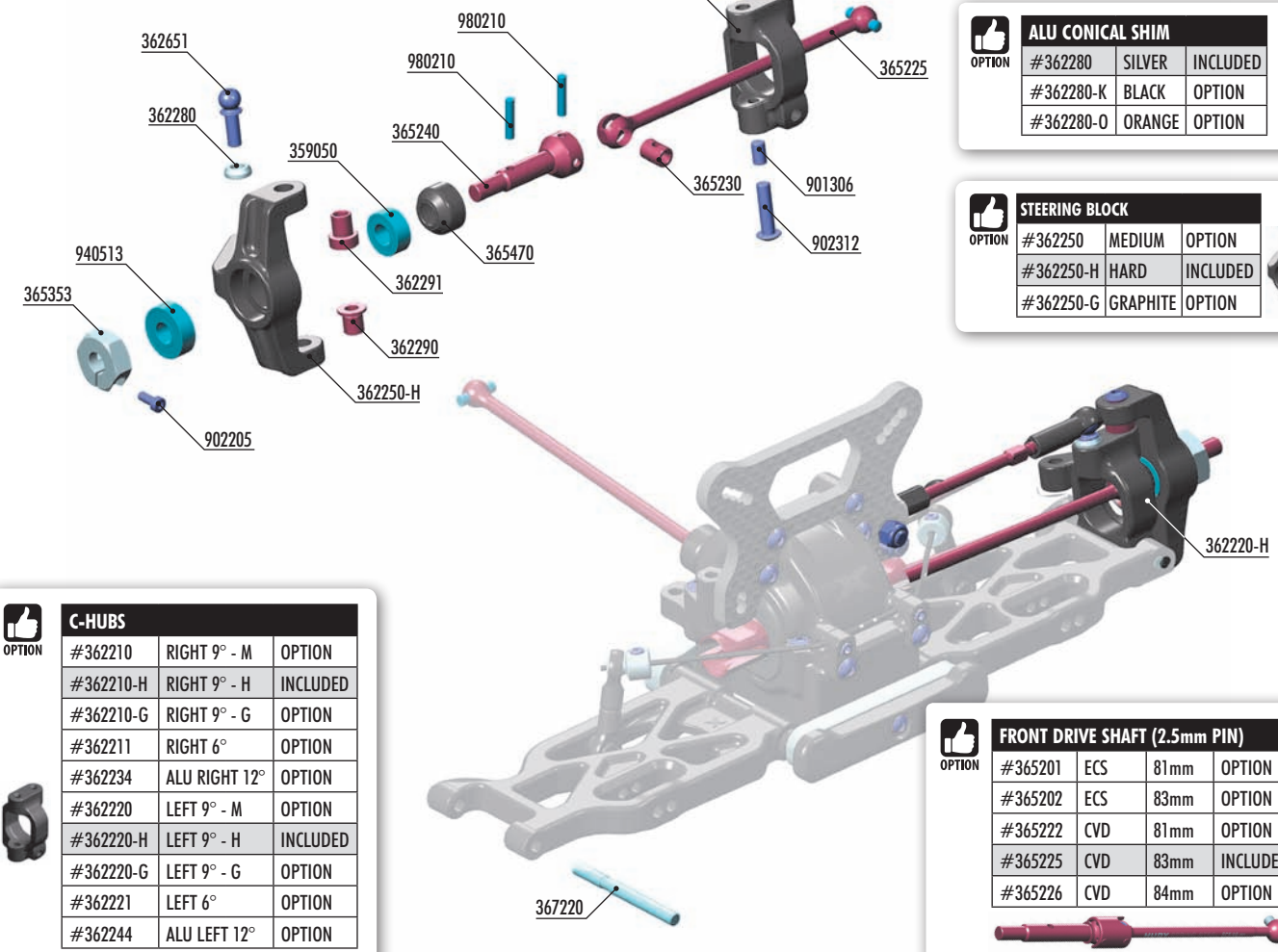
ALU CONICAL SHIM

#362280	SILVER	INCLUDED
#362280-K	BLACK	OPTION
#362280-O	ORANGE	OPTION



STEERING BLOCK

#362250	MEDIUM	OPTION
#362250-H	HARD	INCLUDED
#362250-G	GRAPHITE	OPTION



C-HUBS

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



FRONT DRIVE SHAFT (2.5mm PIN)

#365201	ECS	81mm	OPTION
#365202	ECS	83mm	OPTION
#365222	CVD	81mm	OPTION
#365225	CVD	83mm	INCLUDED
#365226	CVD	84mm	OPTION

BAG

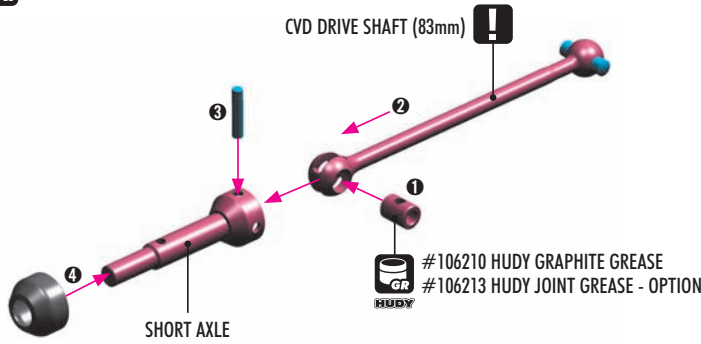
04

- 302665 COMPOSITE BALL JOINT 4.9MM - CLOSED WITH HOLE (4)
- 362210-H COMPOSITE C-HUB 9° DEG. RIGHT - HARD
- 362220-H COMPOSITE C-HUB 9° DEG. LEFT - HARD
- 362250-H COMPOSITE STEERING BLOCK - HARD
- 362280 ALU CONICAL SHIM 3x6x2.0MM (10)
- 362290 STEEL STEERING BUSHING - SHORT (2)
- 362291 STEEL STEERING BUSHING - LONG (2)
- 362610 ADJ. TURNBUCKLE M3 L/R 50 MM - SPRING STEEL (2)
- 362651 BALL END 4.9MM WITH THREAD 8MM (2)
- 362652 BALL END 4.9MM WITH THREAD 10MM (2)
- 365225 FRONT DRIVE SHAFT 83MM WITH 2.5MM PIN - HUDY SPRING STEEL™
- 365230 DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
- 365240 FRONT DRIVE AXLE - HUDY SPRING STEEL™

- 365353 ALU WHEEL HUB 12MM (2)
- 365470 COMPOSITE DRIVE SHAFT SAFETY COLLAR (3)
- 367220 FRONT ARM PIVOT PIN (2)
- 359050 BALL-BEARING 5x10x4 STEEL SEALED - GREASE (2)
- 901306 HEX SCREW SB M3x6 (10)
- 902205 HEX SCREW SH M2x5 (10)
- 902312 HEX SCREW SH M3x12 (10)
- 902314 HEX SCREW SH M3x14 (10)
- 940513 BALL-BEARING 5x12x4 RUBBER SEALED - GREASE (2)
- 960030 NUT M3 (10)
- 980210 PIN 2x10 (10)

980210
P 2x10

2x L=R



OPTION

FRONT DRIVE SHAFT (2.5mm PIN)

Part #	Material	Length	Status
#365201	ECS	81mm	OPTION
#365202	ECS	83mm	OPTION
#365222	CVD	81mm	OPTION
#365225	CVD	83mm	INCLUDED
#365226	CVD	84mm	OPTION

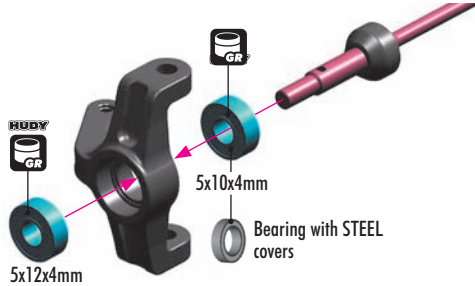


359050
BB 5x10x4

940513
BB 5x12x4

Use HUDY Ball-Bearing Grease

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



OPTION

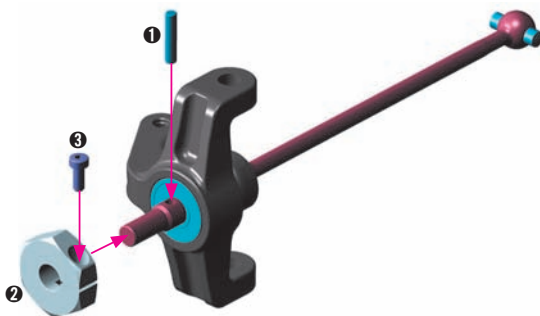
XRAY BALL-BEARING

Part #	Size	Material	Status
#940510	5x10x4	OIL	OPTION
#940512	5x12x4	OIL	OPTION
#359050	5x10x4	GREASE	INCLUDED
#940513	5x12x4	GREASE	INCLUDED

902205
SH M2x5

980210
P 2x10

2x L=R



OPTION

WHEEL HUBS 12MM

Part #	Offset	Slots	Status
#365360	+4.5mm	(6 slots)	OPTION
#365359	+3.75mm	(5 slots)	OPTION
#365358	+3.0mm	(4 slots)	OPTION
#365357	+2.25mm	(3 slots)	OPTION
#365356	+1.5mm	(2 slots)	OPTION
#365355	+0.75mm	(1 slot)	OPTION
#365353	0mm	(0 slots)	INCLUDED
#365354	-0.75mm	(Lightw.)	OPTION
#365361	-1.25mm	(Lightw.)	OPTION

OPTIONAL HEX HUB EFFECTS

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

LESS OFF-SET

Rear - more traction
Front - more steering

MORE OFF-SET

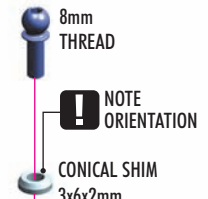
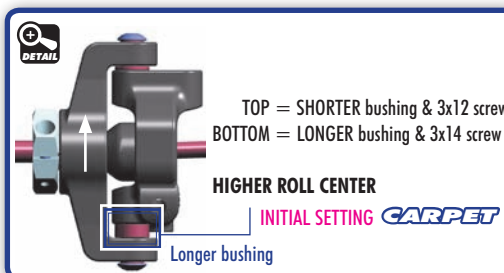
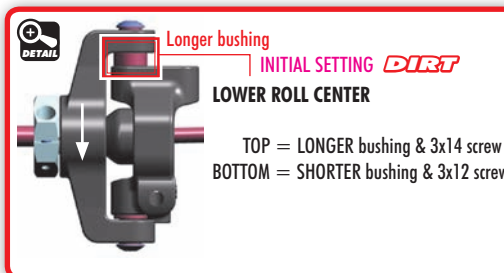
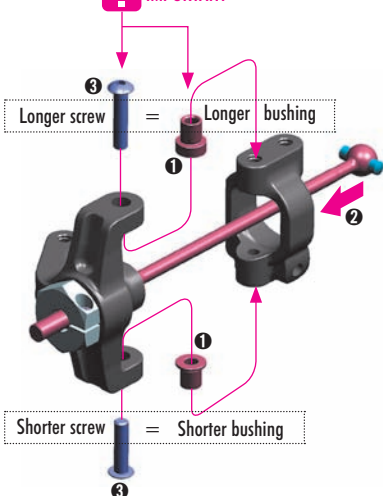
Rear - less traction
Front - less steering

362280
CON. SHIM 3x6x2

902312
SH M3x12

902314
SH M3x14

! IMPORTANT Be sure to use the shorter screw with shorter bushing and longer screw with longer bushing.



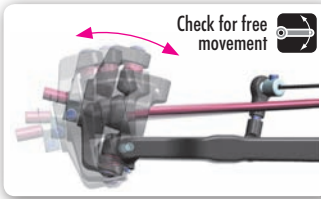
SET-UP BOOK
CASTER
ROLL CENTER

! IMPORTANT (LEFT = RIGHT) L=R

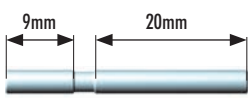
When inserting the bushings, make sure that bushings are inserted equally on both right and left hub to give the same roll center position.

901306
SB M3x6

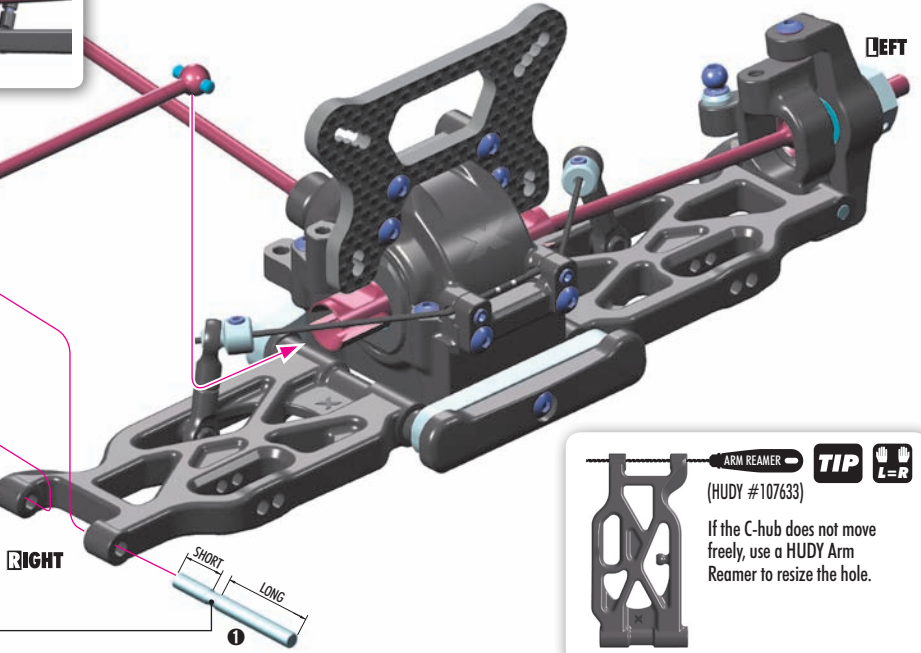
2x
L=R



DO NOT OVERTIGHTEN



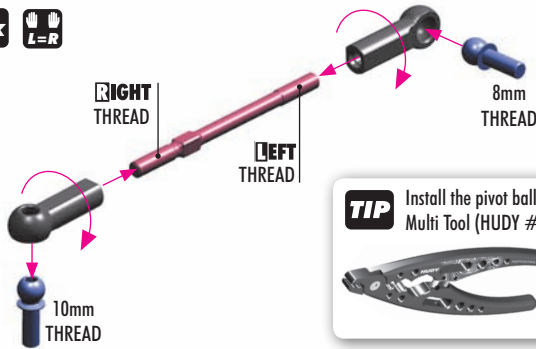
7:1 NOTE ORIENTATION



ARM REAMER TIP (HUDY #107633) L=R

If the C-hub does not move freely, use a HUDY Arm Reamer to resize the hole.

2x
L=R



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



2x
L=R

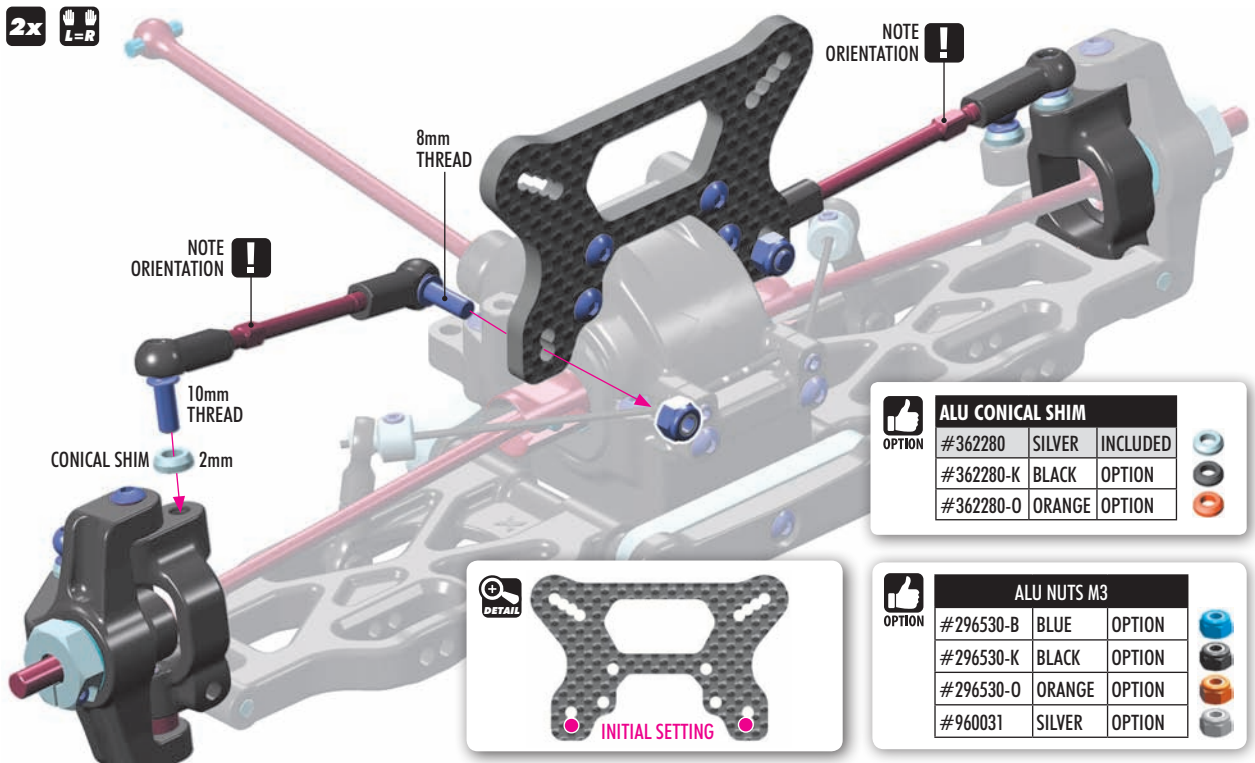


SET-UP BOOK
CAMBER

362280
CON. SHIM 3x6x2

960030
N M3

2x
L=R

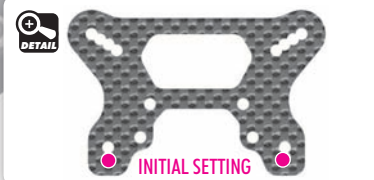


ALU CONICAL SHIM

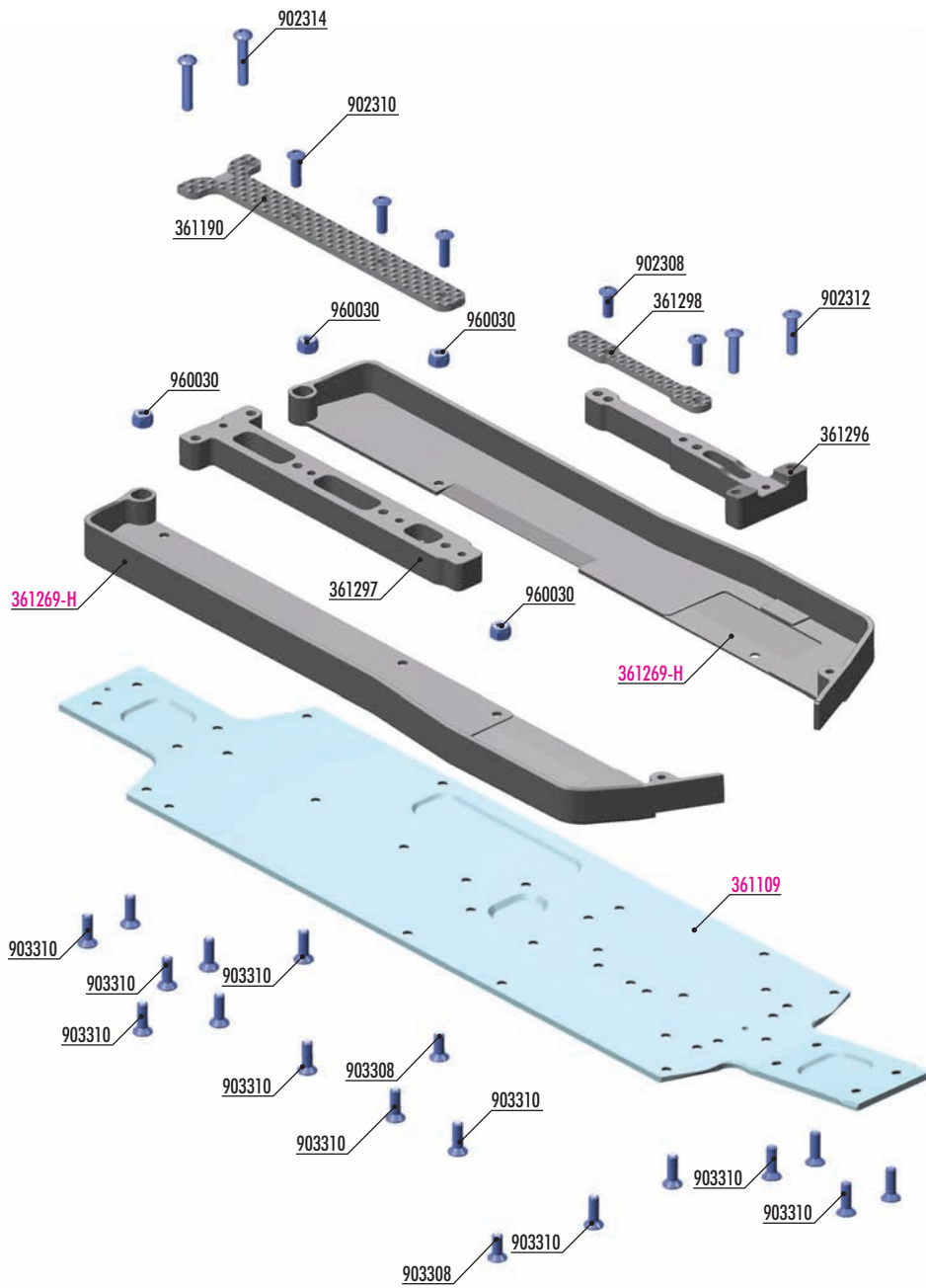
OPTION	ALU CONICAL SHIM	INCLUDED	
#362280	SILVER	INCLUDED	
#362280-K	BLACK	OPTION	
#362280-O	ORANGE	OPTION	

ALU NUTS M3

OPTION	ALU NUTS M3		
#296530-B	BLUE	OPTION	
#296530-K	BLACK	OPTION	
#296530-O	ORANGE	OPTION	
#960031	SILVER	OPTION	



SET-UP BOOK
ROLL CENTER



#361295
 OPTION COMPOSITE CHASSIS BRACE REAR - MEDIUM

#361191
 OPTION BRASS CHASSIS BRACE REAR (40g)

#361294
 OPTION COMPOSITE CHASSIS BRACE FRONT - MEDIUM

#361269-M
 OPTION COMPOSITE CHASSIS SIDE GUARDS L+R MEDIUM

#361299
 OPTION GRAPHITE CHASSIS T-BRACE - FRONT - SET

#366011
 OPTION ALU BRACE MOUNT - SWISS 7075 T6 (2)

#366011
 OPTION

ALU NUTS M3			
#296530-B	BLUE	OPTION	
#296530-K	BLACK	OPTION	
#296530-O	ORANGE	OPTION	
#960031	SILVER	OPTION	

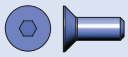
BAG
04

361190 GRAPHITE CHASSIS BRACE UPPER DECK 2.0MM
 361296 COMPOSITE CHASSIS BRACE FRONT - HARD
 361297 COMPOSITE CHASSIS BRACE REAR - HARD
 361298 GRAPHITE CHASSIS WIRE COVER 2.0MM - V2

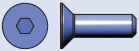
960030 NUT M3 (10)

361109 XB4'21 ALU CHASSIS - SWISS 7075 T6 - 2MM
 361269-H COMPOSITE CHASSIS SIDE GUARDS L+R - HARD - V2

902308 HEX SCREW SH M3x8 (10)
 902310 HEX SCREW SH M3x10 (10)
 902312 HEX SCREW SH M3x12 (10)
 902314 HEX SCREW SH M3x14 (10)
 903308 HEX SCREW SFH M3x8 (10)
 903310 HEX SCREW SFH M3x10 (10)



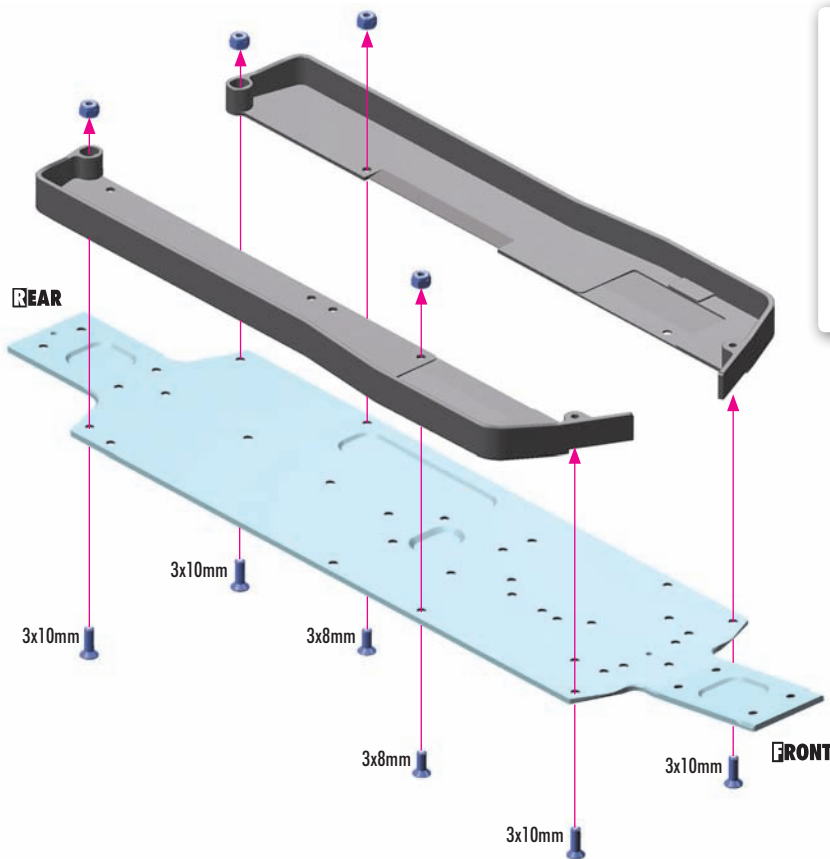
903308
SFH M3x8



903310
SFH M3x10



960030
N M3



#361269-M
COMPOSITE CHASSIS SIDE GUARDS L+R (MEDIUM)



The medium side guards increase chassis flex and are recommended for low-traction tracks.



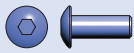
ALU NUTS M3

Part #	Color	Status
#296530-B	BLUE	OPTION
#296530-K	BLACK	OPTION
#296530-O	ORANGE	OPTION
#960031	SILVER	OPTION



SET-UP BOOK

CHASSIS FLEX



902308
SH M3x8

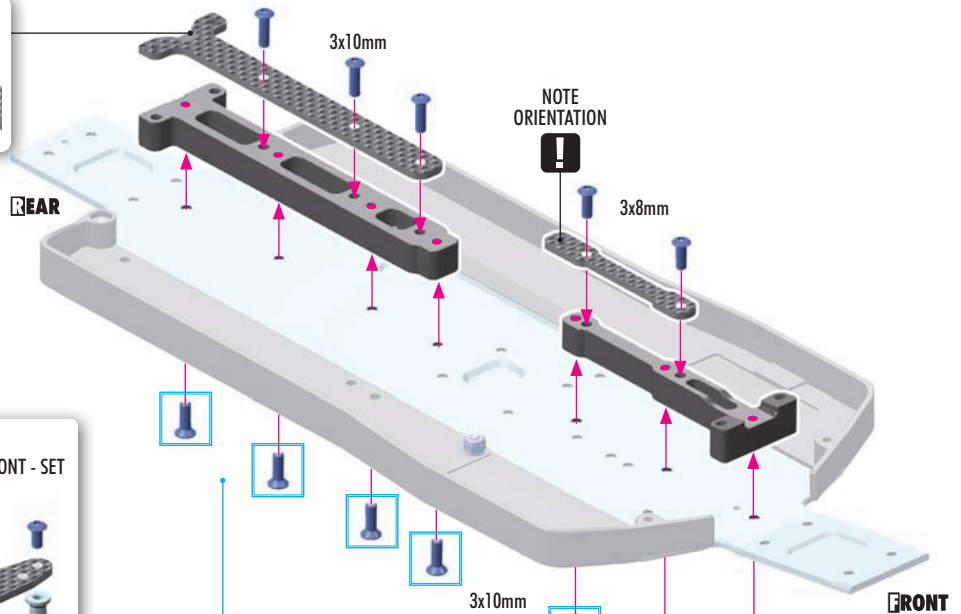
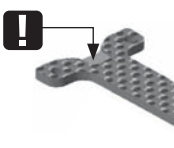


902310
SH M3x10

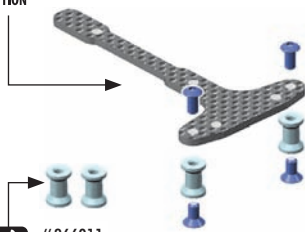


903310
SFH M3x10

NOTE
ORIENTATION



#361299
GRAPHITE CHASSIS T-BRACE FRONT - SET



#366011
ALU BRACE MOUNT - SWISS 7075 T6 (2)



Do not fully tighten the screws during assembly. Fully tighten the screws only after both front and rear suspension assemblies are mounted to the chassis.



#361191
BRASS CHASSIS BRACE REAR (40g)

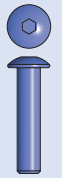


#361295
COMPOSITE CHASSIS BRACE REAR - MEDIUM



#361294
COMPOSITE CHASSIS BRACE FRONT - MEDIUM

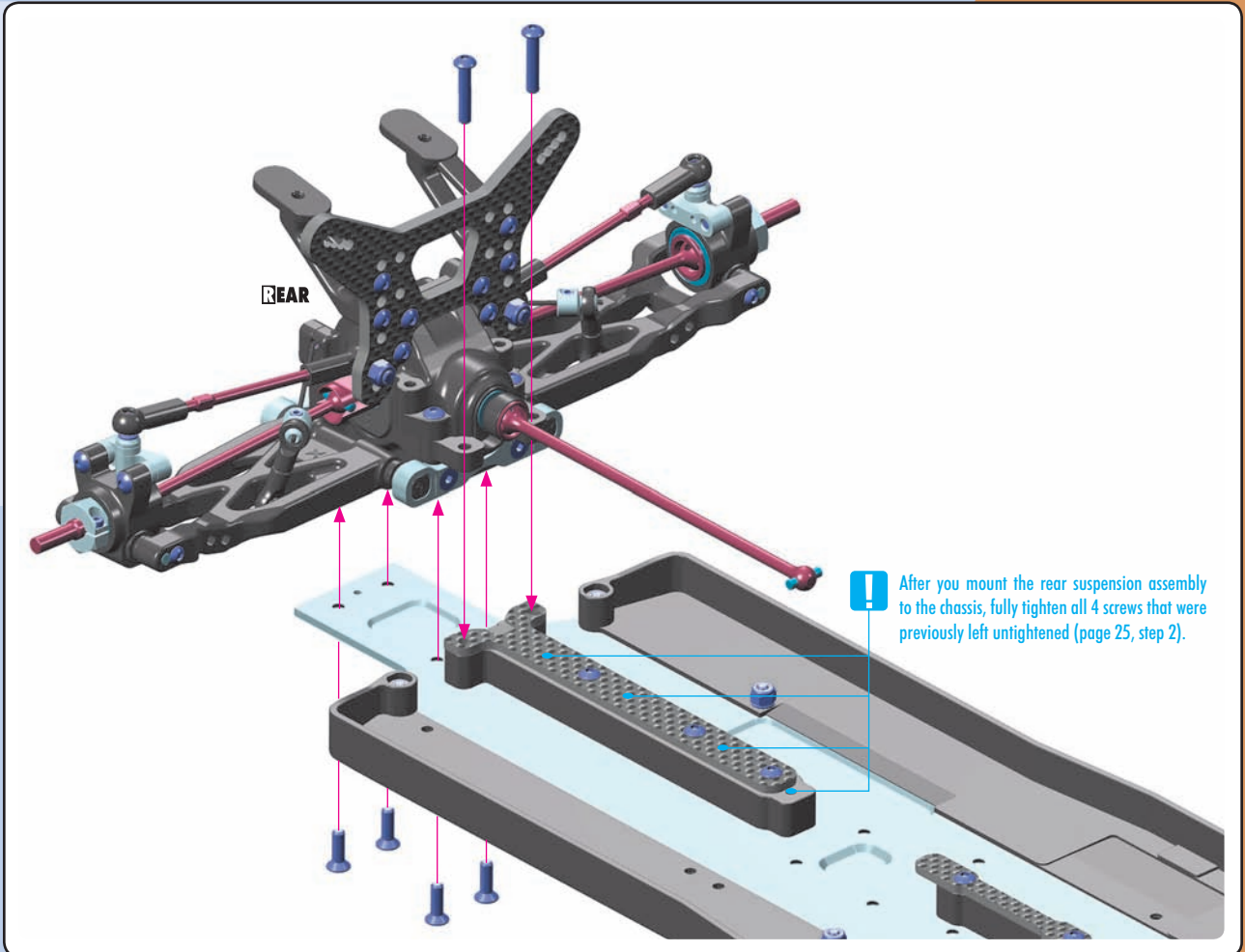




902314
SH M3x14



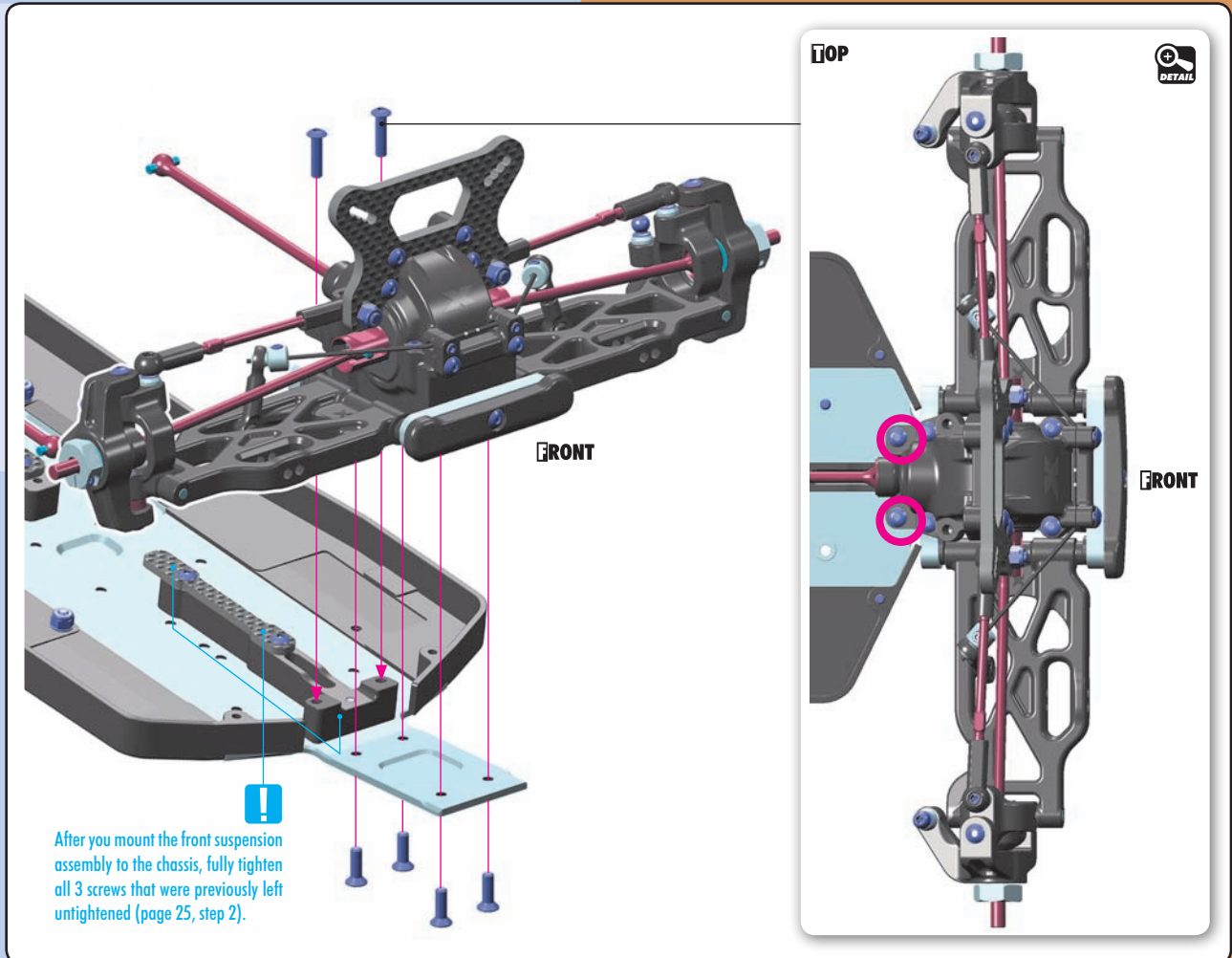
903310
SFH M3x10

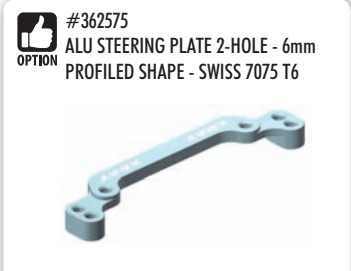
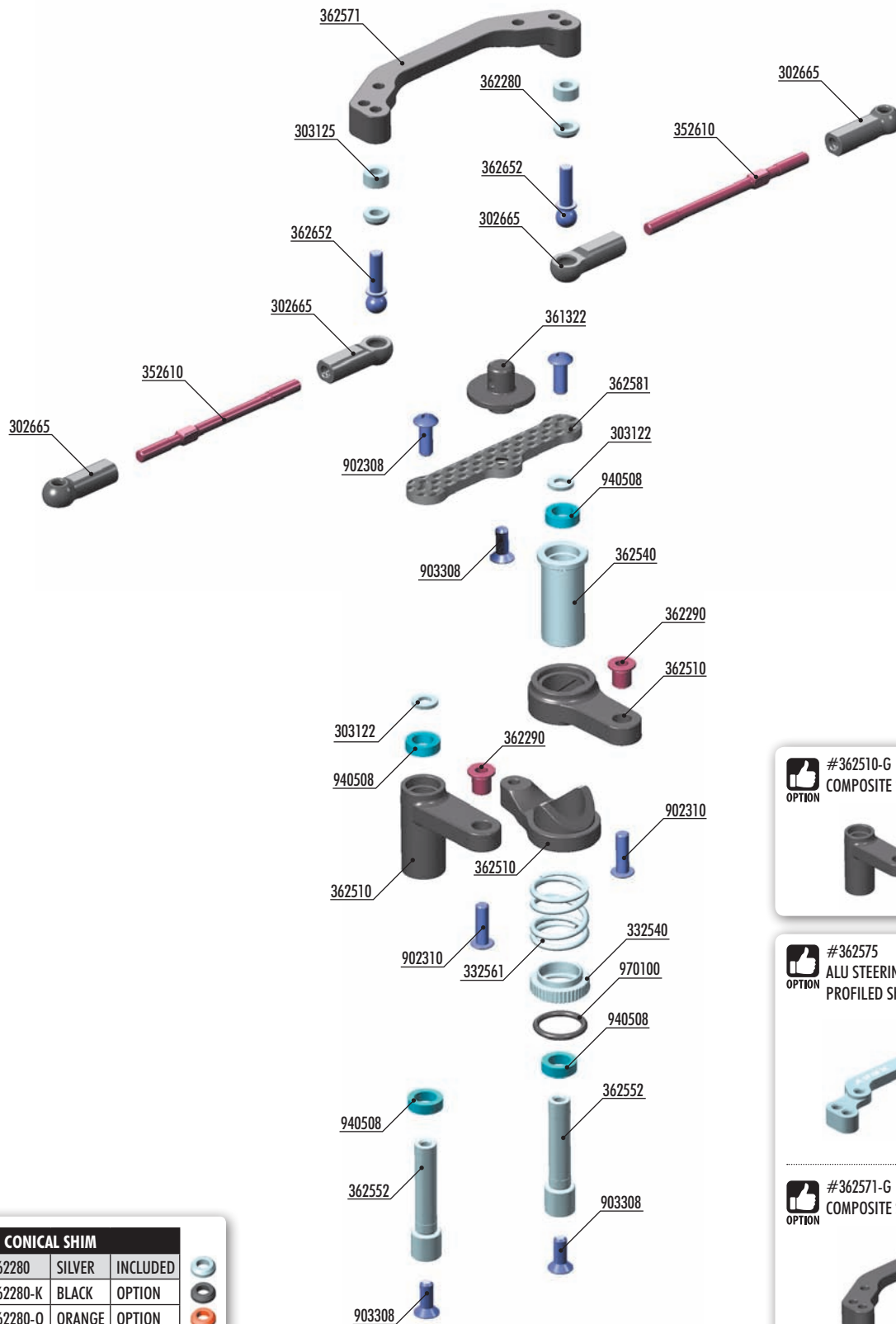


902312
SH M3x12



903310
SFH M3x10





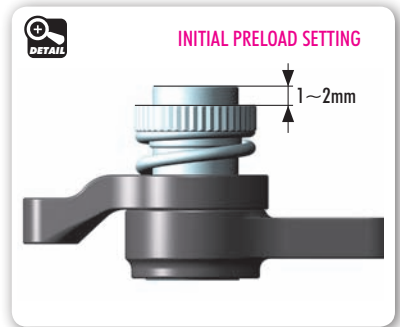
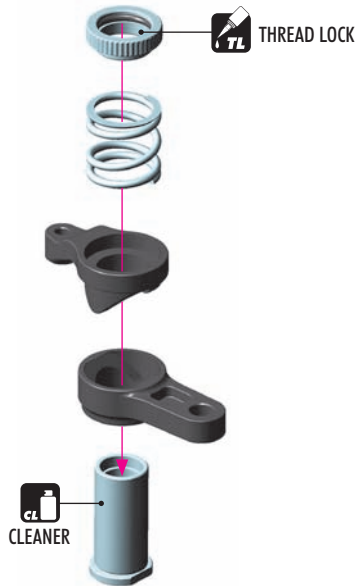
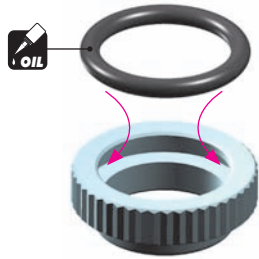
OPTION	ALU CONICAL SHIM			
#362280	SILVER	INCLUDED		
#362280-K	BLACK	OPTION		
#362280-O	ORANGE	OPTION		

BAG

05

- 302665 COMPOSITE BALL JOINT 4.9MM - CLOSED WITH HOLE (4)
- 303122 ALU SHIM 3x6x1.0MM (10)
- 303125 ALU SHIM 3x6x3.0MM (10)
- 332540 ALU SERVO SAVER ADJUSTABLE NUT
- 332561 SERVO SAVER SPRING C=14
- 352610 ADJ. TURNBUCKLE M3 L/R 45MM - SPRING STEEL (2)
- 361322 BODY MOUNT - EXTRA-SHORT
- 362280 ALU CONICAL SHIM 3x6x2.0MM (10)
- 362290 STEEL STEERING BUSHING - SHORT (2)
- 362510 COMPOSITE SERVO SAVER
- 362540 ALU SERVO SAVER MAIN SHAFT

- 362552 SERVO SAVER PIVOT SHAFT +5MM (2)
- 362571 COMPOSITE STEERING PLATE
- 362581 STEERING BRACE 2.0MM GRAPHITE
- 362652 BALL END 4.9MM WITH THREAD 10MM (2)
- 902308 HEX SCREW SH M3x8 (10)
- 902310 HEX SCREW SH M3x10 (10)
- 903308 HEX SCREW SFH M3x8 (10)
- 940508 BALL-BEARING 5x8x2.5 RUBBER SEALED - OIL (2)
- 970100 O-RING 10 x 1.5 (10)



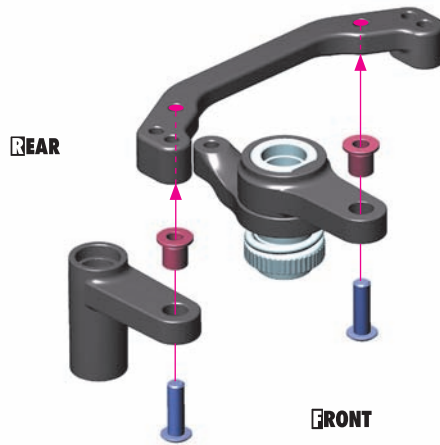
SET-UP BOOK

SERVO SAVER



902310
SH M3x10

NOTE ORIENTATION



STEERING PLATE

#362571	HARD	INCLUDED
#362571-G	GRAPHITE	OPTION
#362575	ALU	OPTION



Increases steering precision and predictability and is recommended for use in high-traction conditions. Includes extra Ackermann positions for very precise steering adjustment.



902308
SH M3x8



303122
SHIM 3x6x1

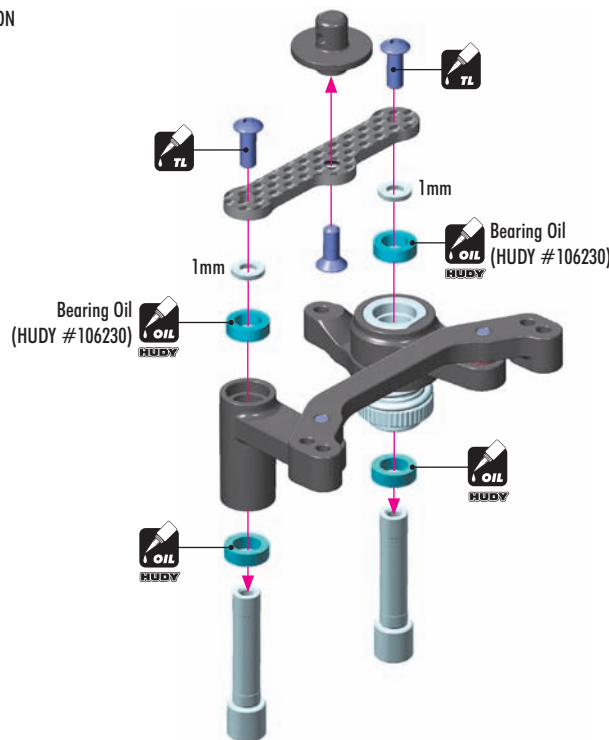


903308
SFH M3x8



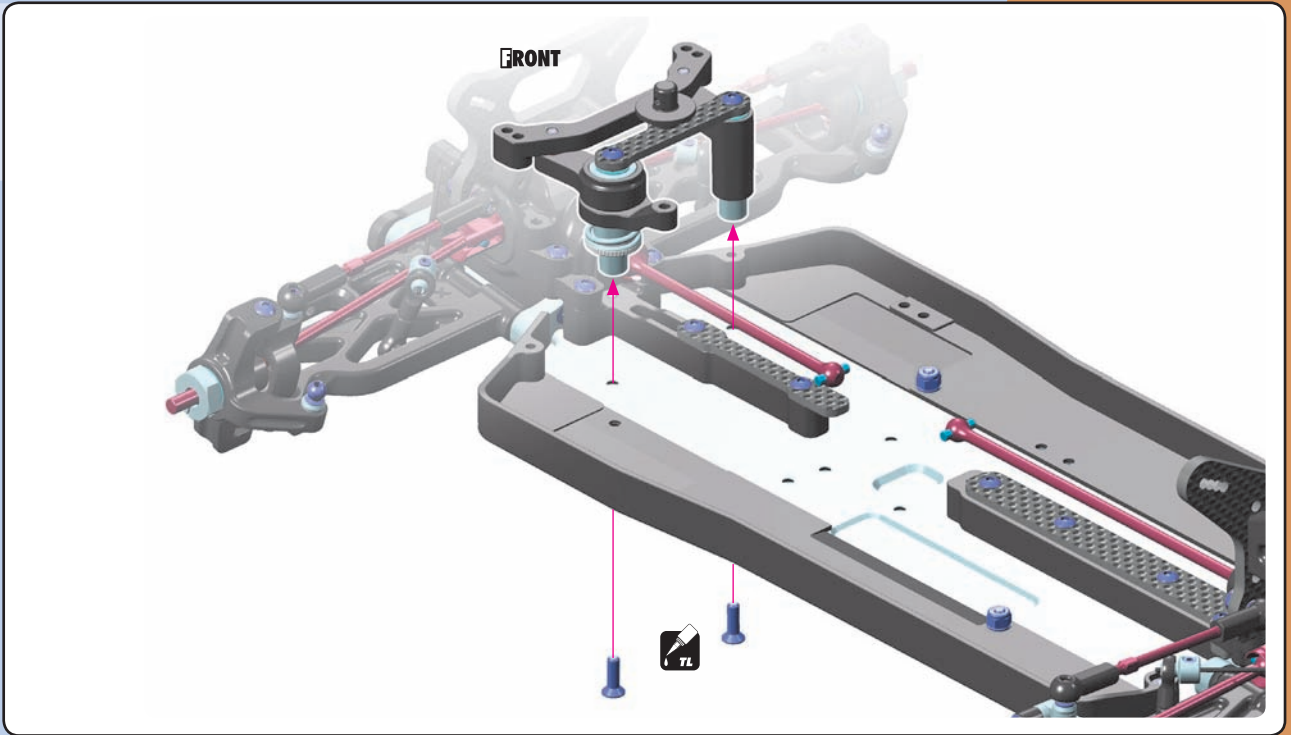
940508
BB 5x8x2.5

NOTE ORIENTATION

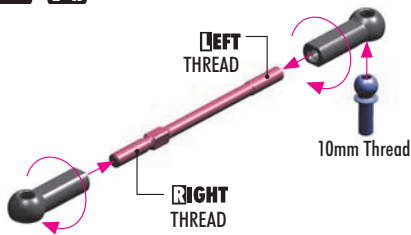




903308
SFH M3x8



2x L=R



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



2x L=R

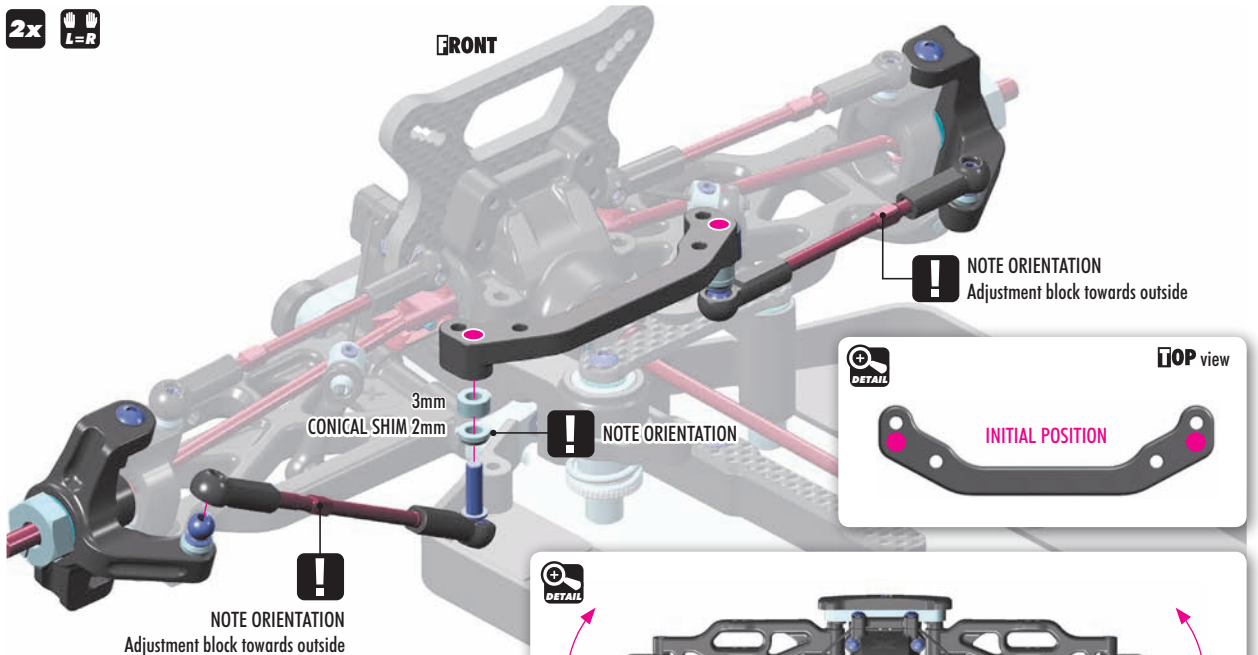


303125
SHIM 3x6x3



362280
CON. SHIM 3x6x2

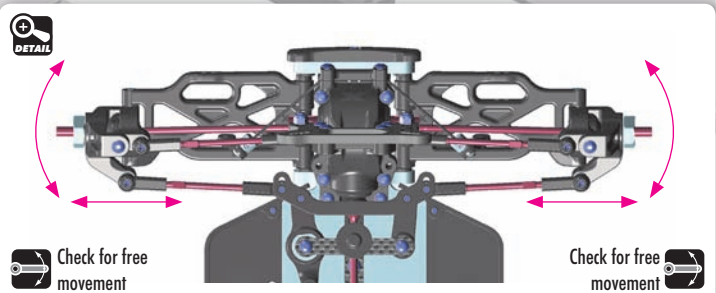
2x L=R



! NOTE ORIENTATION
Adjustment block towards outside



! NOTE ORIENTATION
Adjustment block towards outside



Check for free movement

Check for free movement

SET-UP BOOK
ACKERMANN
BUMP STEER
TOE-IN

OPTION	ALU CONICAL SHIM			
#362280	SILVER	INCLUDED		
#362280-K	BLACK	OPTION		
#362280-O	ORANGE	OPTION		

#365101 XRAY XB4 ACTIVE DIFFERENTIAL - CENTER - SET
OPTION

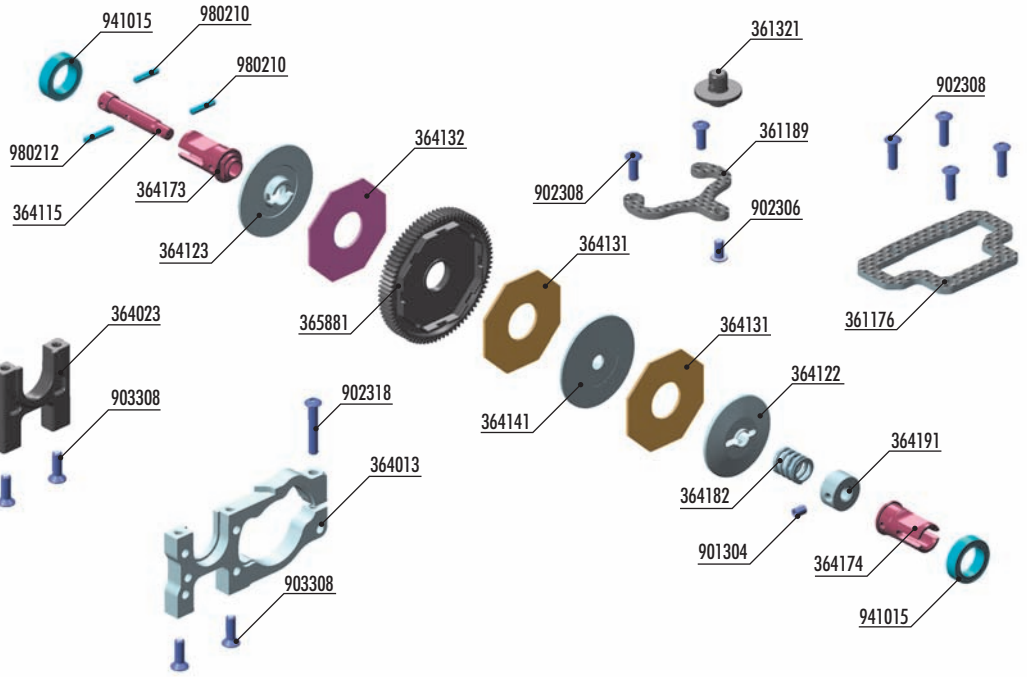


#364024 ALU CENTRAL BULKHEAD
OPTION



SLIPPER CLUTCH SPUR GEARS

#365875	75T / 48	OPTION
#365878	78T / 48	OPTION
#365881	81T / 48	INCLUDED
#365884	84T / 48	OPTION
#365887	87T / 48	OPTION

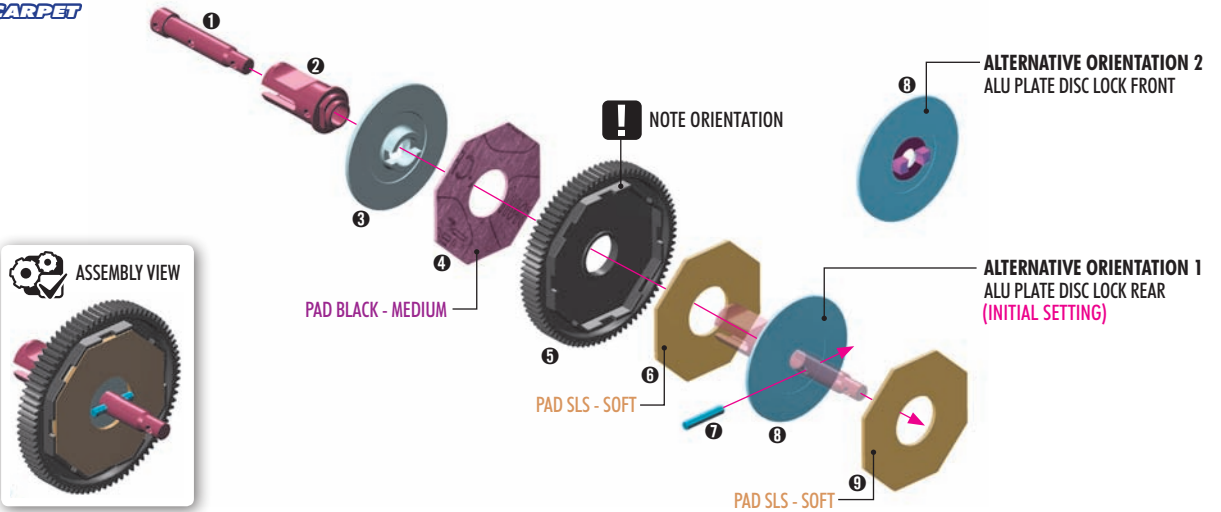


BAG
06

- | | | | |
|--------|---|--------|--|
| 361176 | GRAPHITE CENTER UPPER DECK 2MM | 364174 | OUTDRIVE ADAPTER FOR MULTI-ADJUSTABLE SLIPPER CLUTCH (MSC) - FRONT |
| 361189 | GRAPHITE REAR BODY POST HOLDER | 364182 | SLIPPER CLUTCH SPRING C=46 - BLACK |
| 361321 | BODY MOUNT - SHORT + SHIMS - SET | 364191 | ALU NUT FOR MULTI-ADJUSTABLE SLIPPER CLUTCH (MSC) |
| 364013 | ALU MOTOR BULKHEAD - LOWER | 365881 | COMPOSITE SLIPPER CLUTCH SPUR GEAR 81T / 48 - GRAPHITE |
| 364023 | COMPOSITE CENTRAL BULKHEAD - LOWER | 901304 | HEX SCREW SB M3x4 (10) |
| 364100 | XB4 MULTI-ADJUSTABLE SLIPPER CLUTCH (MSC) - SET | 902306 | HEX SCREW SH M3x6 (10) |
| 364115 | 3-PAD SHAFT FOR MULTI-ADJUSTABLE SLIPPER CLUTCH (MSC) | 902308 | HEX SCREW SH M3x8 (10) |
| 364122 | ALU PLATE FOR MULTI-ADJUSTABLE SLIPPER CLUTCH (MSC) - FRONT | 902318 | HEX SCREW SH M3x18 (10) |
| 364123 | ALU PLATE FOR MULTI-ADJUSTABLE SLIPPER CLUTCH (MSC) - REAR | 903308 | HEX SCREW SFH M3x8 (10) |
| 364131 | SLIPPER CLUTCH PAD SLS - SOFT (3) | 941015 | BALL-BEARING 10x15x4 RUBBER SEALED - OIL (2) |
| 364132 | SLIPPER CLUTCH PAD BLACK - MEDIUM (2) | 980210 | PIN 2x10 (10) |
| 364141 | ALU PLATE FOR MULTI-ADJUSTABLE SLIPPER CLUTCH (MSC) - CENTER | 980212 | PIN 2x11.6 (10) |
| 364173 | OUTDRIVE ADAPTER FOR MULTI-ADJUSTABLE SLIPPER CLUTCH (MSC) - REAR | | |

980212
P 2x11.6

CARPET



941015
BB 10x15x4



901304
SB M3x4

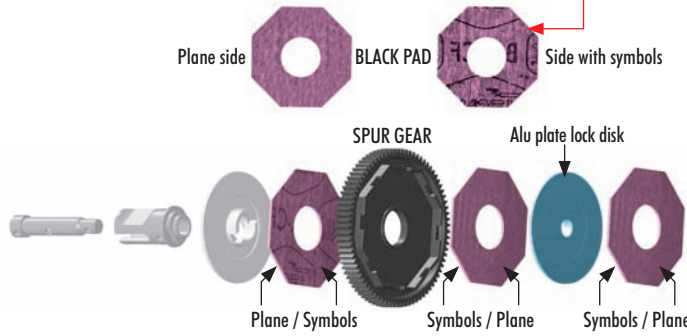
980210
P 2x10

CARPET

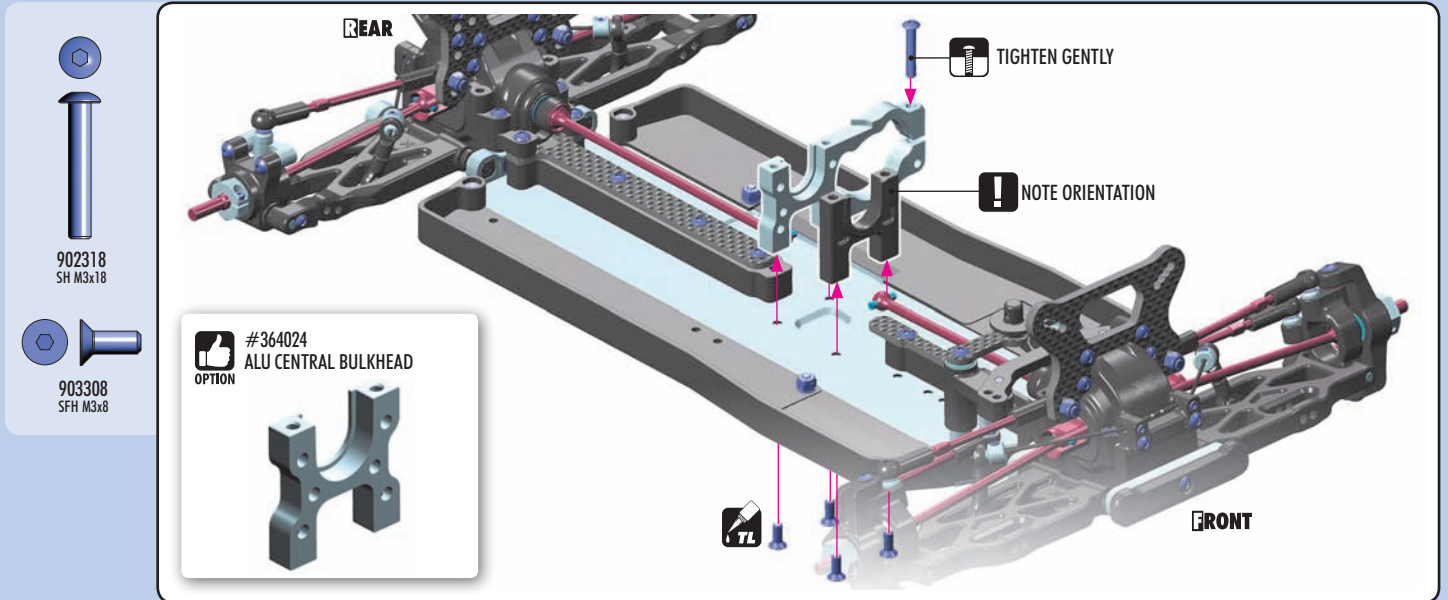


! EXTREMELY IMPORTANT !

The BLACK PAD must be always oriented with the PRINTED SYMBOLS facing the SPUR GEAR.



REAR SIDE SPUR GEAR			ADJUSTABLE SLIPPER Higher slippage = Lower torque ratio Lower slippage = Higher torque ratio	FRONT SIDE SPUR GEAR			
TORQUE RATIO	PAD	LOCK PIN		PAD	ALU DISC	PAD	TORQUE RATIO
75%	BLACK	NO		(NOT INCLUDED)		YELLOW	25%
70%	BLACK	NO				YELLOW	30%
60%	YELLOW	NO				BLACK	40%
55%	BLACK	NO				YELLOW	45%
50%	BLACK	YES				YELLOW	50%



902318
SH M3x18

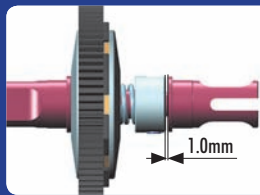
903308
SFH M3x8

#364024
ALU CENTRAL BULKHEAD
OPTION

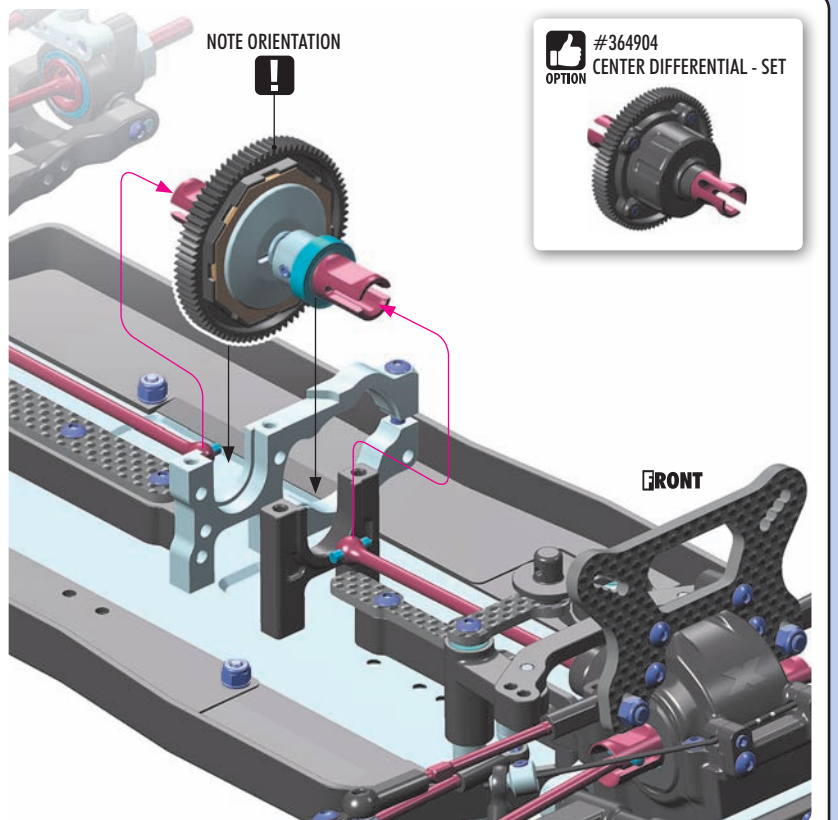
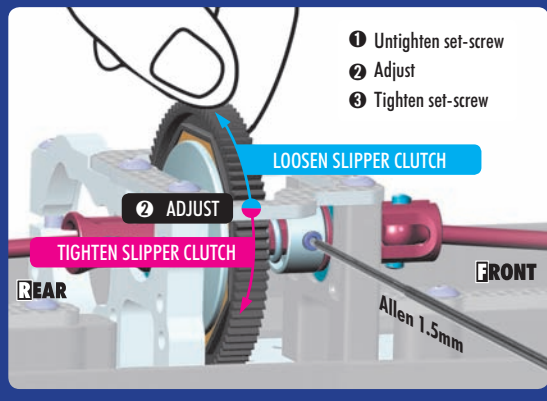
SLIPPER CLUTCH ADJUSTMENT

The Slipper Clutch can be adjusted by loosening the set-screw and then, while keeping the tool inside of the set-screw, rotating the spur gear by hand as indicated in the drawing.

To **LOOSEN**: Rotate the spur gear in the counterclockwise (CCW) direction.
To **TIGHTEN**: Rotate the spur gear in the clockwise (CW) direction.

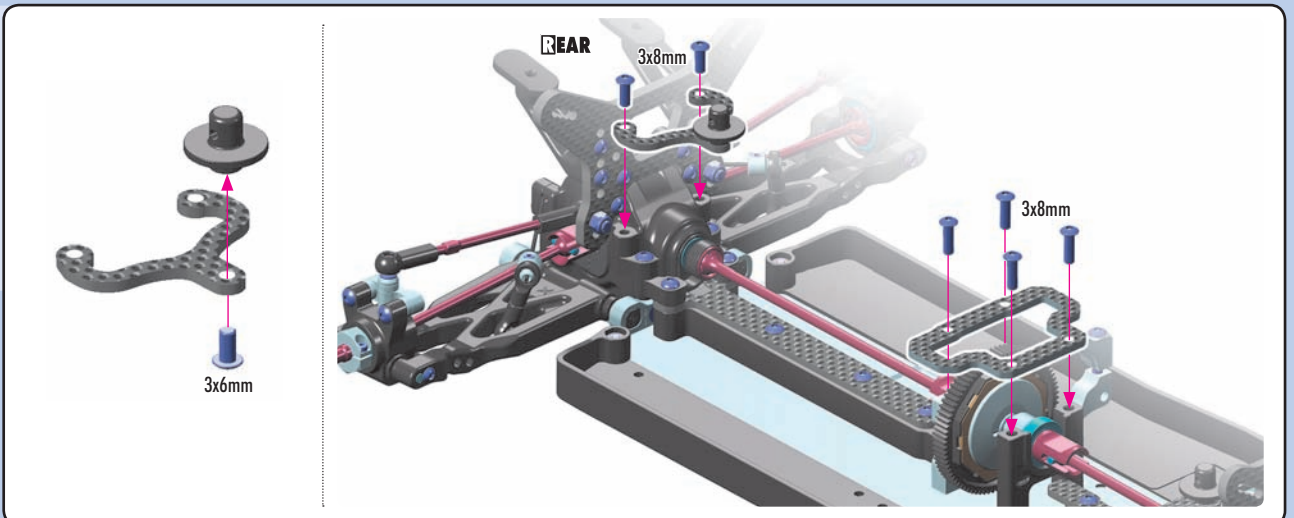


VERY IMPORTANT!
It is very important that you NEVER FULLY TIGHTEN the Slipper Clutch. Overtightening the Slipper Clutch may result in breakage of the diff crown gear and pinion gear.



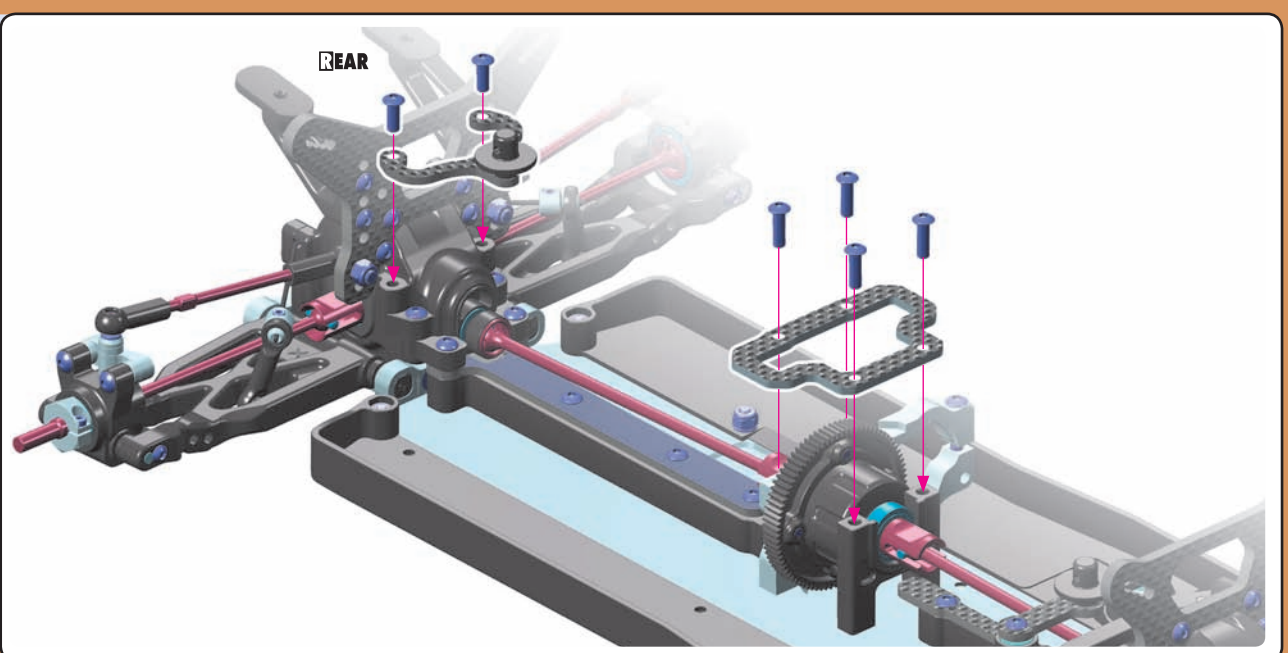
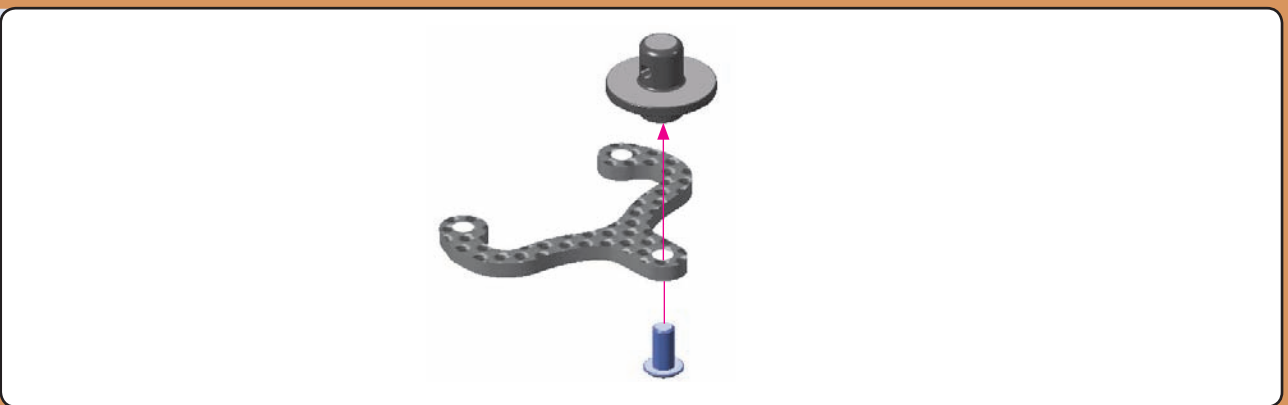
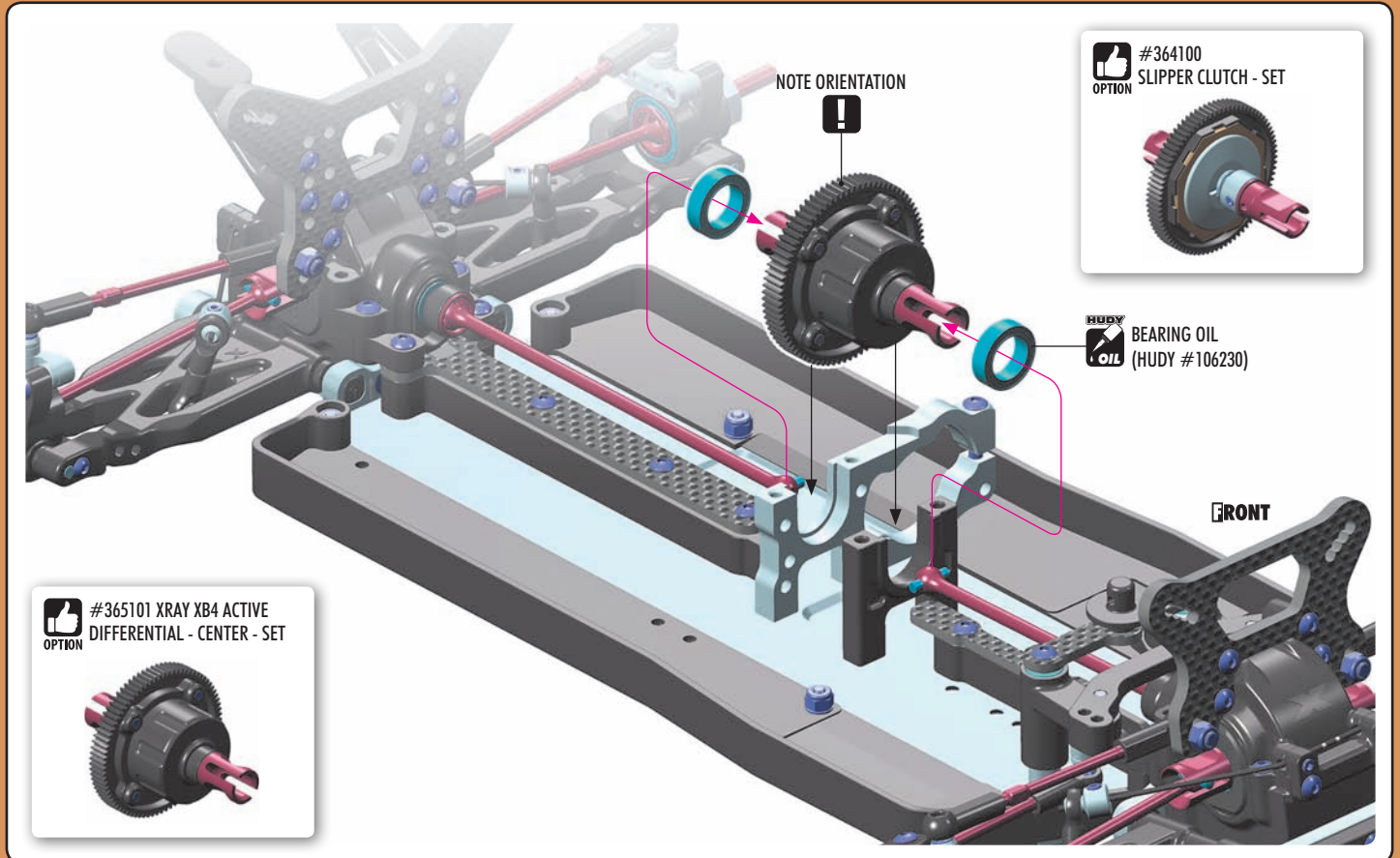
902306
SH M3x6

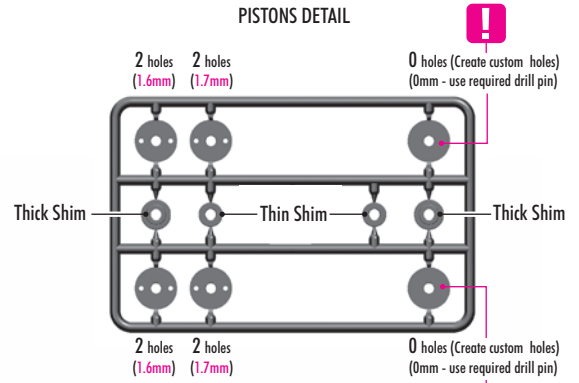
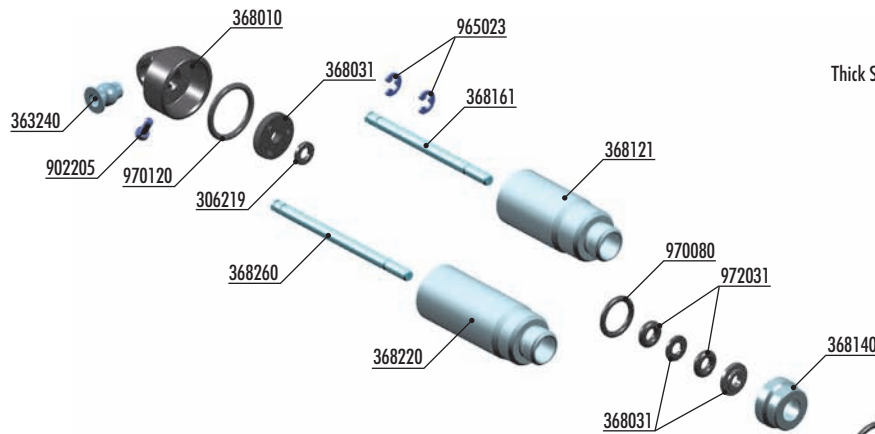
902308
SH M3x8



6. CENTER DIFF ASSEMBLY

DIRT





!
These pistons can NOT be used in shocks without making the custom holes by yourselves.



FRONT SPRINGS

#368191	LINEAR	42mm	1 DOTS	OPTION
#368192	LINEAR	42mm	2 DOTS	OPTION
#368193	LINEAR	42mm	3 DOTS	OPTION
#368194	LINEAR	42mm	4 DOTS	INCLUDED
#368195	LINEAR	42mm	5 DOTS	OPTION



REAR SPRINGS

#368292	LINEAR	57mm	2 DOTS	OPTION
#368293	LINEAR	57mm	3 DOTS	INCLUDED
#368294	LINEAR	57mm	4 DOTS	OPTION



FRONT SPRINGS

#368174	PROGRESS.	45mm	2 STRIPES	OPTION
#368175	PROGRESS.	40mm	3 DOTS	OPTION
#368182	LINEAR	45mm	1 STRIPE & 3 DOTS	OPTION
#368183	LINEAR	45mm	1 DOT	OPTION
#368184	LINEAR	45mm	2 DOTS	INCLUDED
#368185	LINEAR	45mm	3 DOTS	OPTION
#368186	LINEAR	45mm	4 DOTS	OPTION



REAR SPRINGS

#368273	PROGRESS.	60mm	2 STRIPES	OPTION
#368275	PROGRESS.	55mm	2 DOTS	OPTION
#368283	LINEAR	63mm	1 STRIPE & 3 DOTS	OPTION
#368284	LINEAR	60mm	1 DOT	OPTION
#368285	LINEAR	60mm	2 DOTS	INCLUDED
#368286	LINEAR	60mm	3 DOTS	OPTION
#368287	LINEAR	60mm	4 DOTS	OPTION



#368051
ALU SHOCK CAP-NUT WITH VENT HOLE (2)



#368021
ALU SHOCK SPRING RETAINING COLLAR (4)



#368022
ALU SHOCK SPRING RETAINING COLLAR -2MM (4)



#104004
HUDY AIR VAC - VACUUM PUMP - 1/10 OFF-ROAD



BAG



- 306219 COMPOSITE SET OF SERVO SHIMS (4)
- 352460 PIVOT BALL 5.8 - V3 (10)
- 363240 BALL UNIVERSAL 5.8MM WITH BACKSTOP (2)
- 368010 COMPOSITE SHOCK PARTS
- 368031 SHOCK PISTONS - COMPLETE SET - DERLIN - V2
- 368040 ALU SHOCK ADJUSTABLE NUT (2)
- 368042 COMPOSITE SHOCK BUSHING & SHIM FOR ALU CAP (2+2)
- 368121 ALU FRONT SHOCK BODY 32MM - V2 (2)
- 368140 ALU LOWER SHOCK BODY CAP (2)
- 368161 FRONT HARDENED SHOCK SHAFT 42MM (2)
- 368200 REAR SHOCK ABSORBERS COMPLETE SET (2)
- 368220 ALU REAR SHOCK BODY (2)
- 368260 REAR HARDENED SHOCK SHAFT (2)

- 902205 HEX SCREW SH M2x5 (10)
- 965023 E-CLIP 2.3 (10)
- 970080 O-RING 8x1 (10)
- 970120 O-RING 12 x 1.0 (10)
- 970140 O-RING 14 x 1.5 (10)
- 972031 SILICONE O-RING 3x2.1 (10)

- 368184 FRONT SPRING SET L=45MM - 2 DOTS (2)
- 368194 FRONT SPRING SET L=42MM - 4 DOTS (2)
- 368285 REAR SPRING SET L=60MM - 2 DOTS (2)
- 368293 REAR SPRING SET L=57MM - 3 DOTS (2)



965023
C 2.3



970080
O 8x1



972031
O 3x2.1

SET-UP BOOK

SHOCK DAMPING
SHOCK PISTONS

FRONT - SHORT SHOCK ROD
2x FRONT
2 holes (1.6mm)

REAR - LONG SHOCK ROD
2x REAR
2 holes (1.7mm)

INITIAL PISTON SETTING

4x

THICK Shim
O-ring
THIN Shim
O-ring

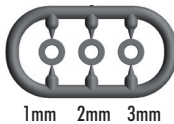
There are two different thickness shims, use them as shown. Use the same procedure when building both front and rear shocks.



306219
SHIM 3x6x2

#306219
DOWNSTOP SHIMS

THICKER shim used, GREATER downstop is achieved.



! IMPORTANT

Always use same shim thickness on right and left side to achieve same downstop.

INITIAL SETTING (0mm)

2x FRONT SHOCKS

SHORT SHOCK ROD
SHORT SHOCK BODY

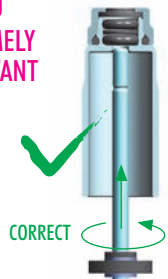
INITIAL SETTING (2mm)

2x REAR SHOCKS

LONG SHOCK ROD
LONG SHOCK BODY



! EXTREMELY IMPORTANT



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

Twist the shock rod through the lower shock body assembly.



970140
O 14x1.5

4x

OIL

DETAIL



970120
O 12x1

4x

UP-STOP "C" SHIMS

FRONT		REAR	
2mm	0mm	1mm	0mm

CARPET INITIAL SETTING DIRT INITIAL SETTING

UP-STOP SHIM

INITIAL SETTING
22mm FRONT
27mm REAR

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

IMPORTANT

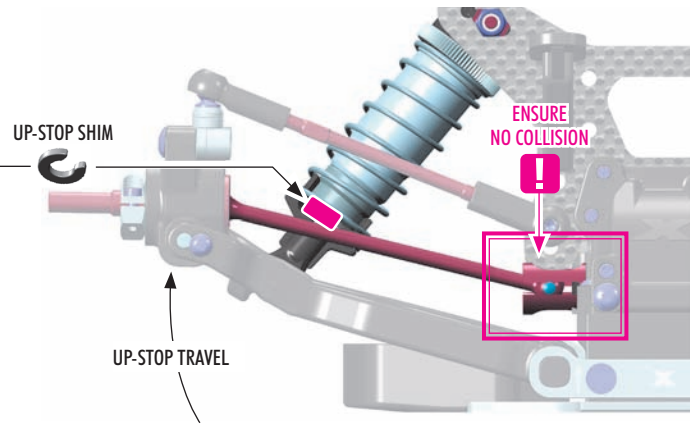
UP-STOP TRAVEL SETTINGS

It is very important to have properly set the up-stop travel to avoid damage to the drive shaft and diff outdrives.

To avoid collision of the drive shaft with diff outdrives use the up-stop travel shims to set-up the up-stop travel.

All these settings have influence on the up-stop travel:

- Length of arms (long/short)
- Length of drive shafts
- Shock positions
- Eccentric bushings in suspension holders
- Eccentric bushings in rear uprights
- Camber



CARPET FRONT (SHORT)
Oil 700cSt

DIRT FRONT (SHORT)
Oil 600cSt

REAR (LONG)
Oil 550cSt

REAR (LONG)
Oil 500cSt

DEFAULT SHOCK REBOUND SETTING 0% REBOUND

1 Extend the shock shaft completely. Fill the shock body with the shock oil. For the FRONT shocks use 700cSt or 600cSt oil. For the REAR shocks use 550cSt or 500cSt oil.

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

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

4 Gently place the shock cap onto the filled shock body and start to tighten fully. Tighten the cap fully.

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

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

7 6x push the shaft up and down.

8 Untighten the screw.

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

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

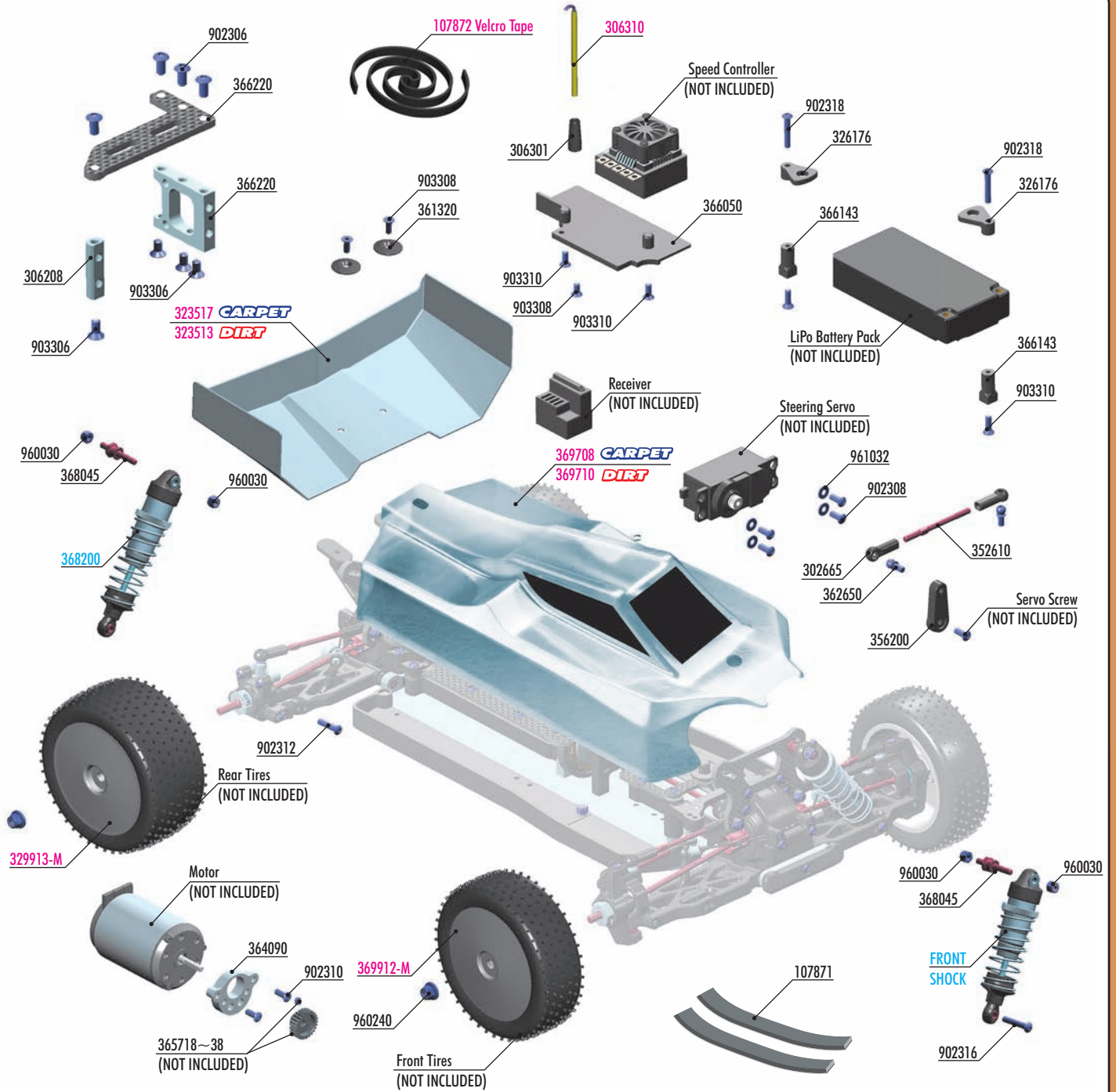
SHORT FRONT SHOCKS Short Springs **2x** LONG REAR SHOCKS Long Springs **2x**

! FOR EXTREMELY LOW RIDE HEIGHT OPTIONAL #368022 MUST BE USED

OPTION #368022 ALU SHOCK SPRING RETAINING COLLAR -2MM (4)

OPTION #363242 PIVOT BALL ECCENTRIC (2)

* Fits only REAR shock absorbers



BAG

08

- 107871 HUDY SELF-ADHESIVE FOAM STRIP (2)
- 302665 COMPOSITE BALL JOINT 4.9MM - CLOSED WITH HOLE (4)
- 306208 ALU SERVO MOUNT - BOTH SIDES THREADED
- 306301 ANTENNA MOUNT - THIN
- 326176 COMPOSITE LIPO BATTERY BACKSTOP FOR BENT SIDES CHASSIS (2+2)
- 352610 ADJ. TURNBUCKLE M3 L/R 45 MM - SPRING STEEL™ (2)
- 356200 BRAKE/THROTTLE ARMS & STEERING SERVO ARMS - SET
- 361320 BODY MOUNT, BATTERY MOUNT - V2 & WING SHIM (2)
- 362650 BALL END 4.9MM WITH THREAD 6MM (2)
- 364090 ALU ECCENTRIC MOTOR BULKHEAD INSERT - V3
- 365718~38 ALU PINION GEAR HARD COATED 18~38T/48 (OPTION)
- 366050 COMPOSITE RADIO PLATE - V2
- 366143 COMPOSITE BATTERY HOLDER STAND - SHORT (2)
- 366220 INDEPENDENT SERVO MOUNT - V2 - SET
- 368045 STEEL SCREW SHOCK PIVOT BALL WITH HEX (2)

- 902306 HEX SCREW SH M3x6 (10)
- 902308 HEX SCREW SH M3x8 (10)
- 902310 HEX SCREW SH M3x10 (10)
- 902312 HEX SCREW SH M3x12 (10)
- 902316 HEX SCREW SH M3x16 (10)

- 902318 HEX SCREW SH M3x18 (10)
- 903306 HEX SCREW SFH M3x6 (10)
- 903308 HEX SCREW SFH M3x8 (10)
- 903310 HEX SCREW SFH M3x10 (10)
- 960030 NUT M3 (10)
- 961032 WASHER S 3.2 (10)
- 960240 NUT M4 WITH SERRATED FLANGE (10)

368200 REAR SHOCK ABSORBERS COMPLETE SET (2)

- 107872 VELCRO TAPE WITH DOUBLE SIDED TAPE 8x500MM
- 306310 ANTENNA (2)
- 323513 LEXAN REAR WING - RANK
- 323517 LEXAN REAR WING - TEC
- 329913-M REAR WHEEL AERODISK WITH 12MM HEX IFMAR - WHITE (2)
- 369708 BODY FOR 1/10 4WD OFF-ROAD BUGGY - GAMMA 4C
- 369710 BODY FOR 1/10 4WD OFF-ROAD BUGGY - GAMMA 4D
- 369912-M FRONT WHEEL AERODISK WITH 12MM HEX IFMAR - WHITE (2)

902316
SH M3x16

960030
N M3

INITIAL POSITION

INITIAL POSITION

902312
SH M3x12

960030
N M3

INITIAL POSITION

INITIAL POSITION

ALU NUTS M3

OPTION	ALU NUTS M3	OPTION
#296530-B	BLUE	OPTION
#296530-K	BLACK	OPTION
#296530-O	ORANGE	OPTION
#960031	SILVER	OPTION

SERVO LINK
Adjust servo link to fit your servo.

LEFT THREAD

6mm THREAD

RIGHT THREAD

6mm THREAD

CARPET 28mm

DIRT

INITIAL SETTING

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

902306
SH M3x6

902308
SH M3x8

961032
SHIM S 3.2

HUDY ALU SERVO HORNS

#293497	23T
#293498	24T
#293499	25T

HUDY CLAMP ALU SERVO HORNS

#293404	23T
#293405	24T
#293406	25T

For more in-corner steering and better steering response, aluminum servo horns may be used.

USE APPROPRIATE SERVO ARM:

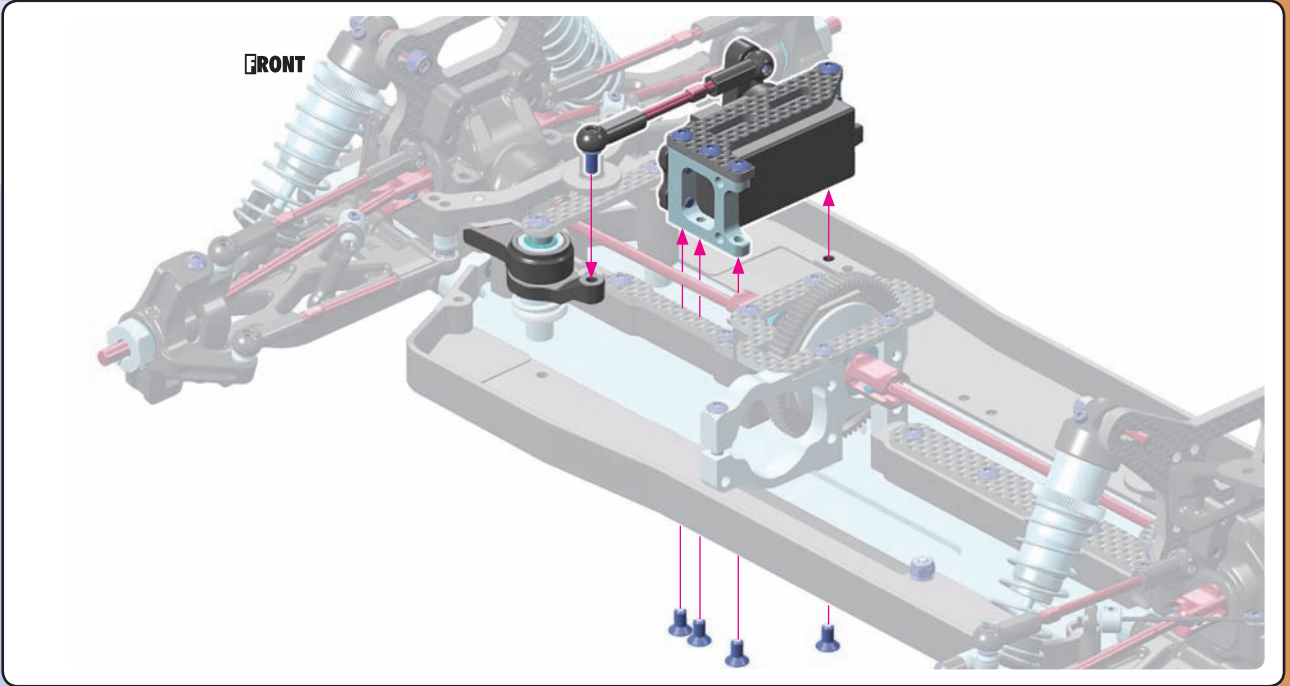
(23T)

(24T)

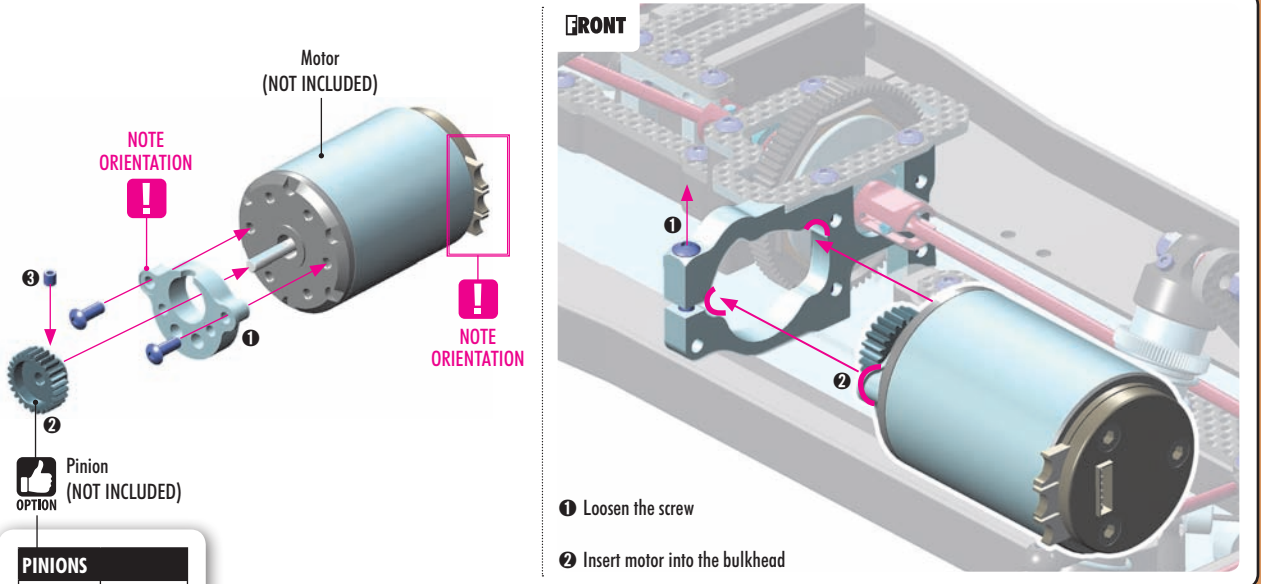
(25T)



903306
SFH M3x6



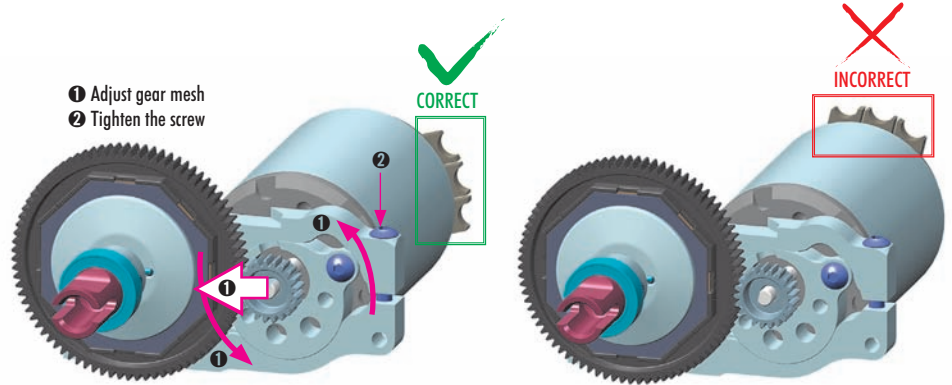
902310
SH M3x10



Pinion
(NOT INCLUDED)
OPTION

PINIONS

#365718	18T / 48P
#365719	19T / 48P
#365720	20T / 48P
#365721	21T / 48P
#365722	22T / 48P
#365723	23T / 48P
#365724	24T / 48P
#365725	25T / 48P
#365726	26T / 48P
#365727	27T / 48P
#365728	28T / 48P
#365729	29T / 48P
#365730	30T / 48P
#365731	31T / 48P
#365732	32T / 48P
#365733	33T / 48P
#365734	34T / 48P
#365735	35T / 48P
#365736	36T / 48P
#365737	37T / 48P
#365738	38T / 48P

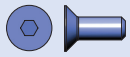


Adjust the motor so the pinion meshes with the spur gear properly. Make sure the gear mesh is not too tight.

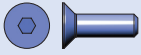
There should be a small amount of play between the teeth of the pinion gear and the spur gear.

8. FINAL ASSEMBLY

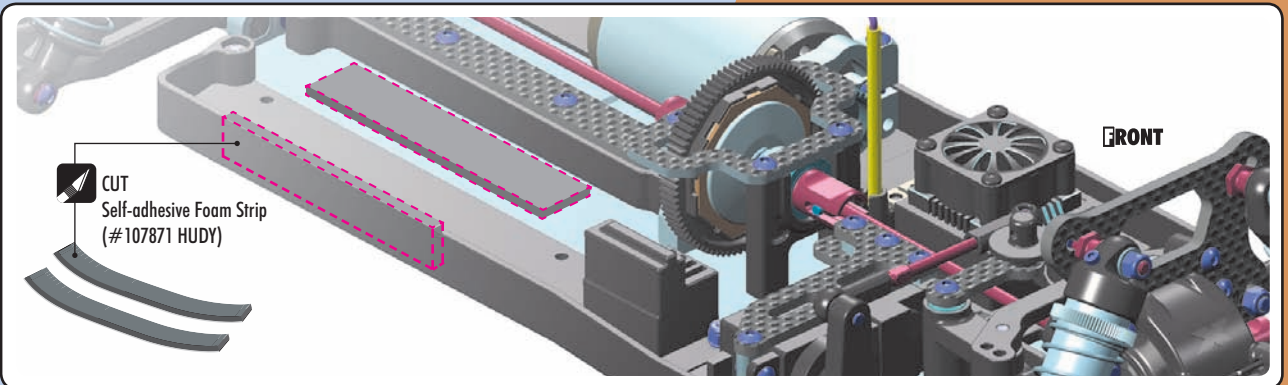
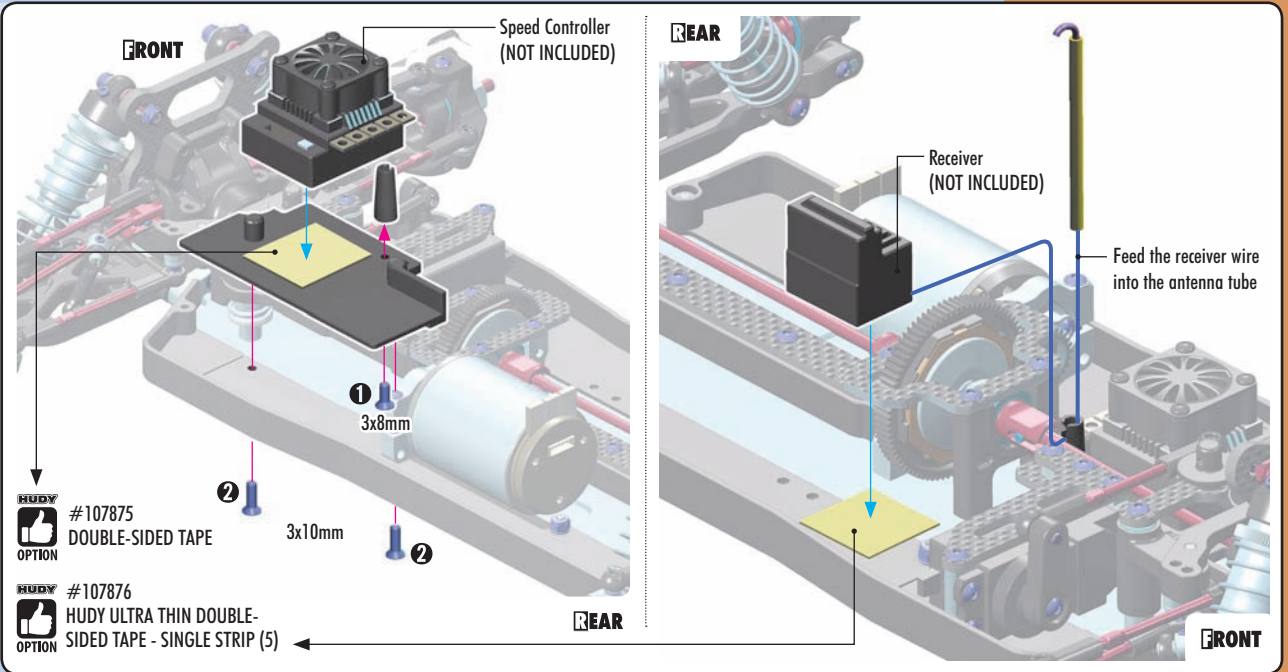
CARPET DIRT



903308
SFH M3x8



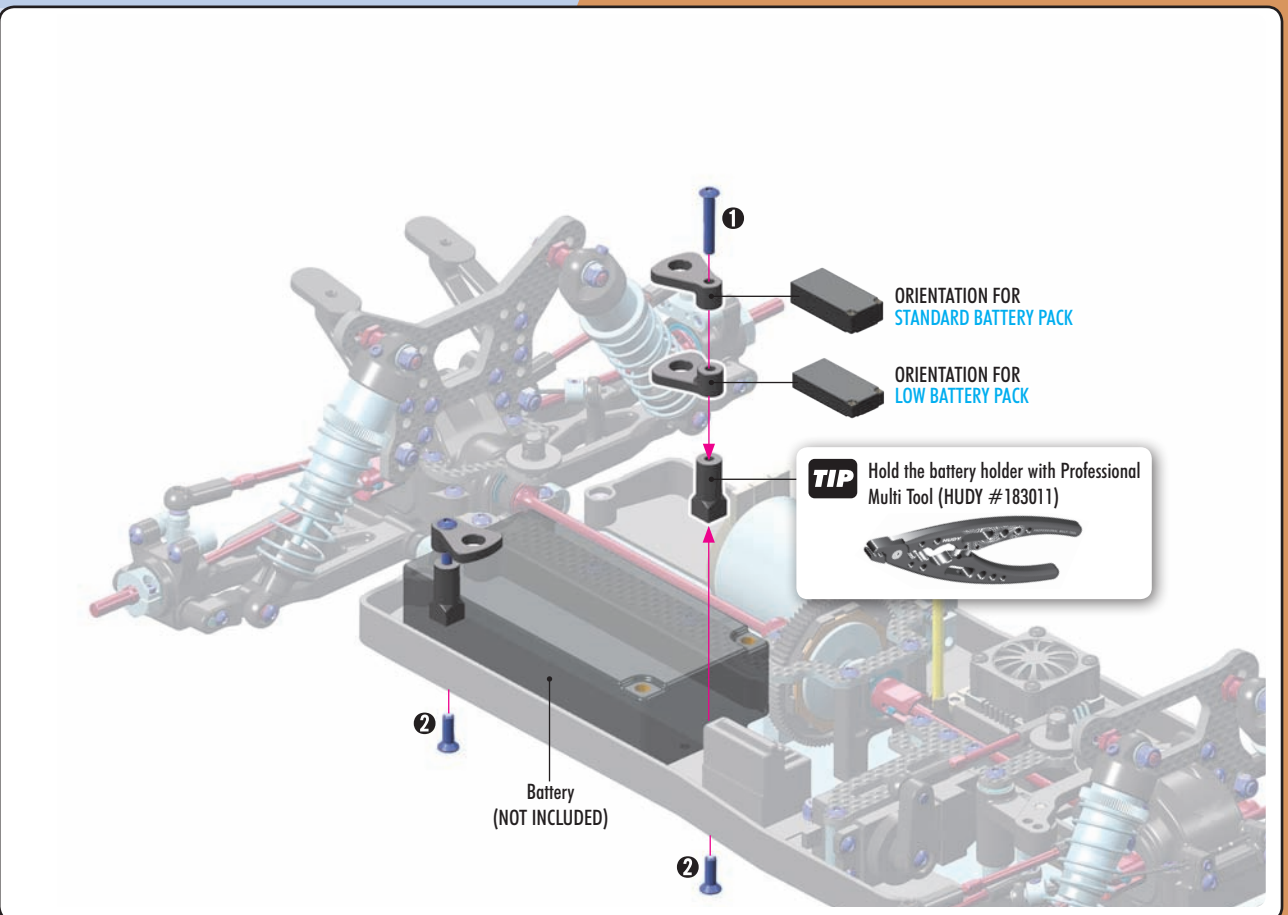
903310
SFH M3x10



902318
SH M3x18



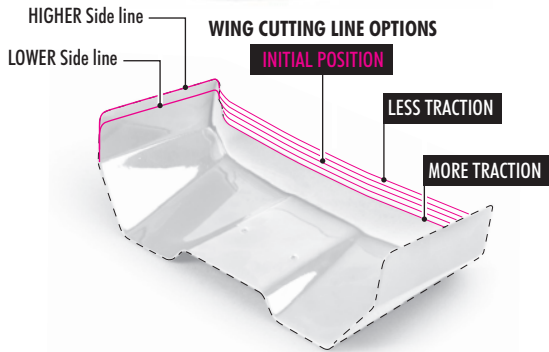
903310
SFH M3x10



1 Before cutting and making holes on the BODY, put the unpainted body on the chassis to confirm the mounting position and location for holes and cutouts. Before cutting and making holes on the WING, put the unpainted wing on the wing holders to confirm the mounting position and location for holes and cutouts.

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

3 Mask all windows.



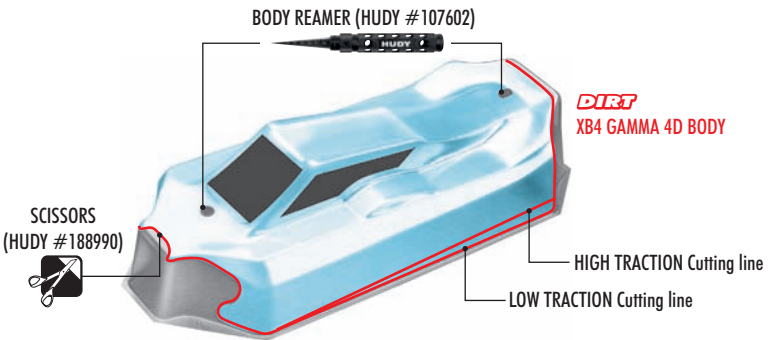
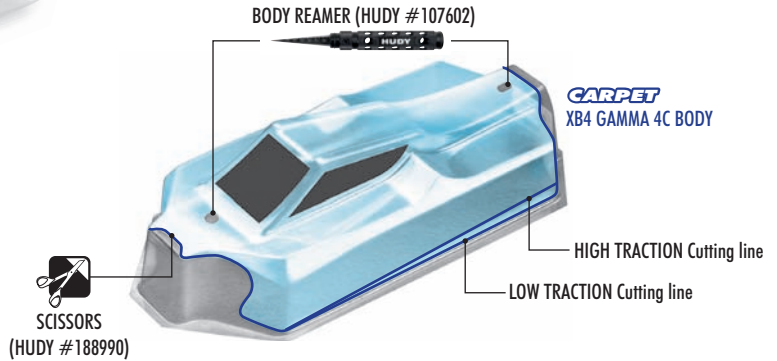
4 Apply paint masks as appropriate.

5 Paint the body using paints formulated for polycarbonate bodies.

6 When the paint is dry, remove the masking.

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

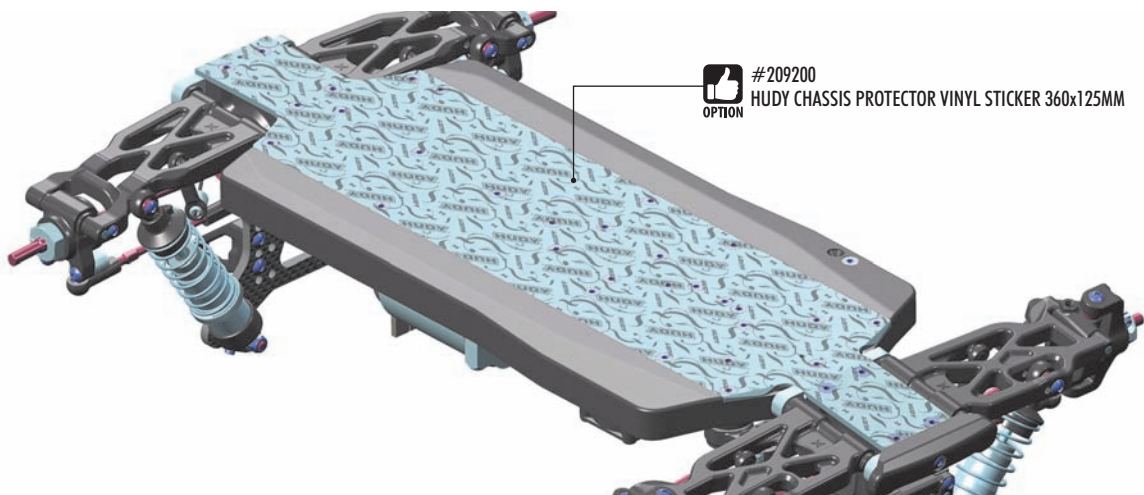
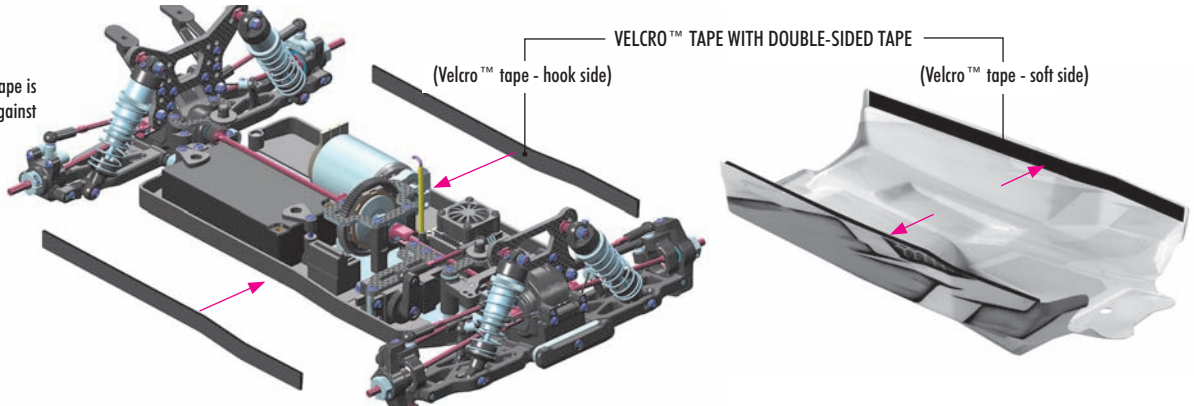
8 When you have finished cutting, peel off the external protective films.



XRAY LEXAN BODY				
#369705	0.75mm	ALPHA	INCLUDED	
#369706	0.50mm	ALPHA	OPTION	
#369708	0.75mm	GAMMA 4C	INCLUDED	
#369709	0.50mm	GAMMA 4CL	OPTION	
#369710	0.75mm	GAMMA 4D	INCLUDED	
#369711	0.50mm	GAMMA 4DL	OPTION	

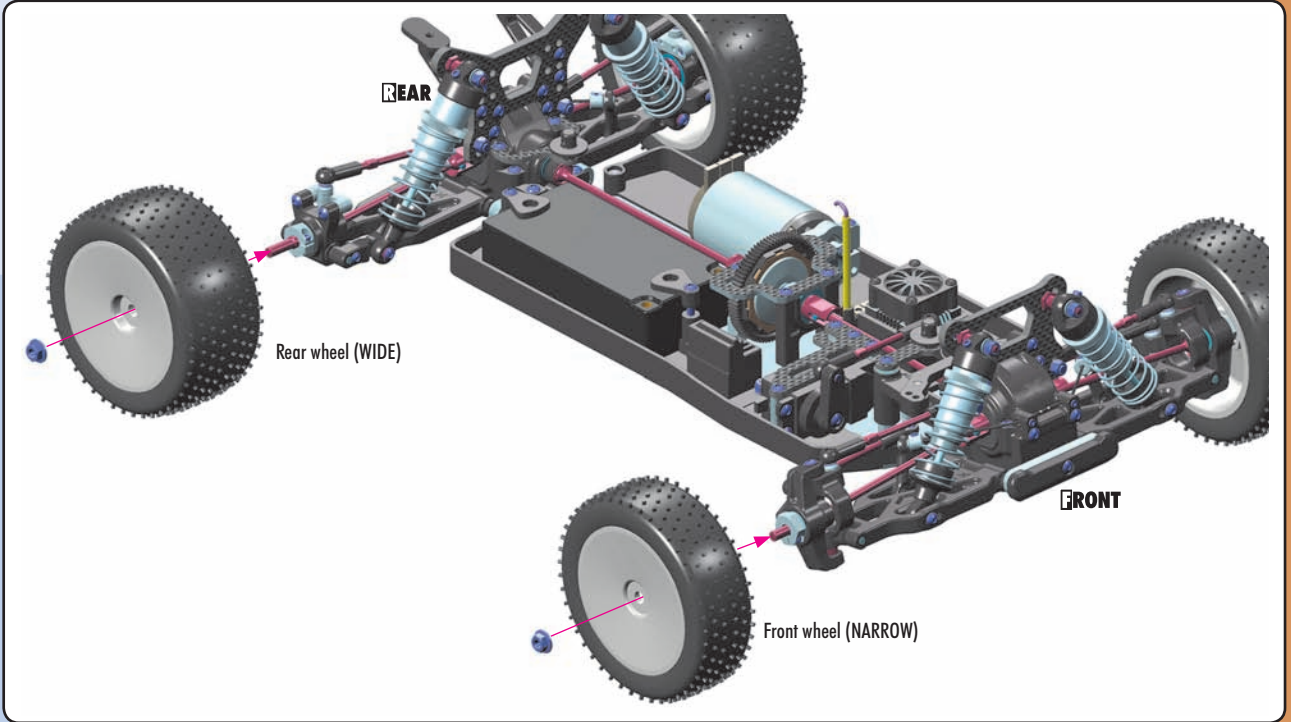


Double-sided Velcro™ tape is used to seal the body against the side guards.

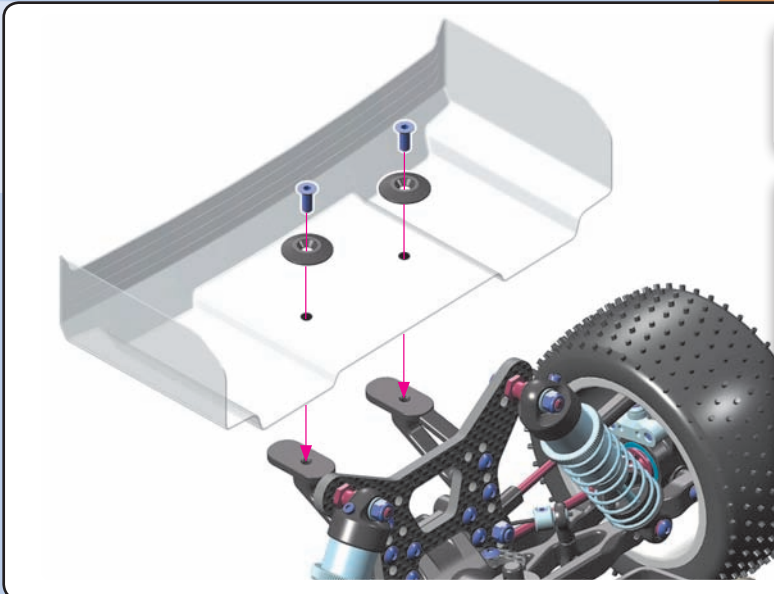




960240
N M4



903308
SFH M3x8

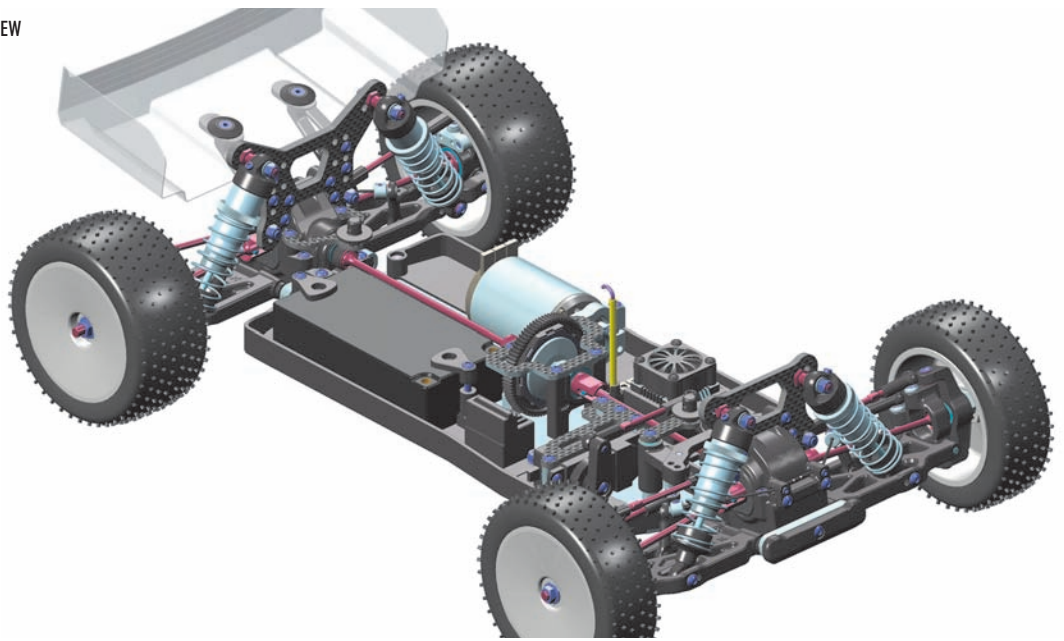


OPTIONAL ALU WING SHIM			
#293561	SILVER	OPTION	
#293561-0	ORANGE	OPTION	

OPTION XRAY LEXAN REAR WING			
#323510	1.0mm		OPTION
#323511	1.5mm		OPTION
#323513	1.0mm	RANK	INCLUDED DIRT
#323517	1.0mm	TEC	INCLUDED CARPET
#363510	1.0mm		OPTION
#363511	1.5mm		OPTION
#363512	2.0mm		OPTION
XRAY LEXAN CENTER FIN			
#323515	1.0mm	ZAP	OPTION



ASSEMBLY VIEW



SHOCK MAINTENANCE

The most important maintenance task for keeping consistent shock performance is refilling and bleeding them correctly. If built correctly, it will not be necessary to re-build them often. Replacing warped/hard o-rings, scarred piston rods, or shaved/split/loose composite upper and lower ball joints are also important.

- For club racing, it is recommended to check the shocks for air inside before each race and only re-fill and bleed them if necessary. Before each race day, make sure you take the spring off of each shock, hold it up to your ear, and quickly compress the shock rod fully into the body while listening for any air making a "whistling" or "squishy" sound as it passes through the piston holes. If you hear any air, refill and bleed your shocks. For high-competition racing, it is recommended that the shocks be re-filled and bled before a large event.
- If building or pairing new shocks, always make sure they are the same length using a shock length measuring tool and adjust the lower ball joints as needed.
- During regular shock operation, oil naturally gets on the shock shaft and drop-by-drop slightly gets out of the shock body. Shocks should be inspected regularly after each race, and oil replaced as required.

BEARING MAINTENANCE

Ball-bearings in an off-road car must be properly maintained for smooth operation and long lifespan.

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

- 1 Remove the seals on both sides of the bearing (if present). If the seals bend a little and you can see a kink, carefully flatten the kink out by hand.
- 2 Spray the seals with motor cleaner and blow dry with compressed air.
- 3 Spray the bearing on both sides with motor cleaner.
- 4 Spin the bearing while it is still wet to dislodge any particles with the cleaner.
- 5 Spray the bearing on both sides again.
- 6 Blow both sides of the bearing dry with compressed air to make sure particles come out.
- 7 Hold the inner part of the bearing with my left thumb/forefinger and spin it to make sure it spins free without any abnormal vibrations or sounds.
- 8 Place one drop of bearing oil into each side of the bearing.
- 9 Replace both seals at the same time by lining them up on each side of the bearing and lightly pressing them in all the way around the bearings circumference with your thumb and forefinger. Do not press too hard or use any type of tool, such as a wrench tip, to push the blue seals in as they will push in too far, bend and cause drag.

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

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

RECOMMENDED PRODUCTS

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



SUSPENSION & DRIVETRAIN MAINTENANCE

- Check suspension for free movement during building and operation, and especially after running and if you have crashed the car. If the suspension does not move freely, use the appropriate HUDY Arm Reamer to clean and resize the holes of the suspension arms.
- Regularly check the drive shaft pins (both side and center) and if they show any wear must be immediately replaced by new pins. If the car is run with worn pins, excessive wear on the diff outdrives will result. The #106000 HUDY Drive Pin Replacement Tool (for 3mm Pins) is a compact, rugged multi-use tool set for replacing 3mm drive pins in drive shafts. Use the HUDY replacement drive shaft pins 3x12 (#106051).
- Regularly inspect and replace the connecting pins which connect the center drive shafts with the pinion gear, and also the pins that connect the wheel drive shafts with wheel axles. Use HUDY Graphite Grease to lubricate the drive shaft connecting joints and the diff gears.
- Pivot balls and ball-joints will naturally wear for some time and will generate play. If there is too much play the pivot balls and ball joints need to be replaced.
- If the car is run in wet conditions, apply WD-40® on all drivetrain parts before the run. After the run, clean and dry the parts again.



#106210 HUDY GRAPHITE GREASE or #106213 HUDY JOINT GREASE

HUDY SPRING STEEL™

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

brown color will fade (get lighter) but it will not affect the strength of the material. The brown color is only a surface treatment and if the brown color will wear the durability of the part will be still strong.

RACE

TRACK

NAME DATE

LAPS BEST LAP TIME sec

QUALIFYING POSITION FINAL POSITION

TRACK

SIZE OPEN MEDIUM TIGHT

TRACTION VERY-LOW MEDIUM VERY-HIGH

SURFACE SMOOTH MEDIUM BUMPY

TYPE CLAY CARPET ASTRO

CONDITION BLUE GROOVE HARD PACKED DRY

DUSTY LOAMY WET

DIFFERENTIAL TYPE

FRONT ↓	MIDDLE ↓	REAR ↓
GEAR DIFF <input type="checkbox"/>	GEAR DIFF <input type="checkbox"/>	GEAR DIFF <input type="checkbox"/>
BALL DIFF <input type="checkbox"/>	SLIPPER <input type="checkbox"/>	BALL DIFF <input type="checkbox"/>
ACTIVE DIFF <input type="checkbox"/>	ACTIVE DIFF <input type="checkbox"/>	ACTIVE DIFF <input type="checkbox"/>
60° <input type="checkbox"/> 90° <input type="checkbox"/> 120° <input type="checkbox"/>	60° <input type="checkbox"/> 90° <input type="checkbox"/> 120° <input type="checkbox"/>	60° <input type="checkbox"/> 90° <input type="checkbox"/> 120° <input type="checkbox"/>
OIL <input type="text"/> cSt	OIL <input type="text"/> cSt	OIL <input type="text"/> cSt

SATELLITE GEARS

FRONT	MIDDLE	REAR
COMPOSITE <input type="checkbox"/>	COMPOSITE <input type="checkbox"/>	COMPOSITE <input type="checkbox"/>
STEEL <input type="checkbox"/>	STEEL <input type="checkbox"/>	STEEL <input type="checkbox"/>
CROWN GEAR <input type="checkbox"/>	SLIPPER <input type="checkbox"/>	CROWN GEAR <input type="checkbox"/>
40T <input type="checkbox"/> 41T <input type="checkbox"/>	<input type="checkbox"/> mm SLIPPING ADJUSTMENT	40T <input type="checkbox"/> 41T <input type="checkbox"/>

FRONT SLIPPER SETTING

PAD LOCK ALU DISC PAD SPUR PAD LOCK PIN YES NO

GEARING

PINION T CENTER DIFF SPUR T

FRONT	SHOCKS	REAR
cSt	SPRINGS	cSt
%	OIL	%
<input type="checkbox"/> 2 HOLES <input type="checkbox"/>	PISTONS	<input type="checkbox"/> 2 HOLES <input type="checkbox"/>
<input type="checkbox"/> 3 HOLES <input type="checkbox"/>	Ø1.2mm <input type="checkbox"/>	<input type="checkbox"/> 3 HOLES <input type="checkbox"/>
<input type="checkbox"/> 6 HOLES <input type="checkbox"/>	Ø1.3mm <input type="checkbox"/>	<input type="checkbox"/> 6 HOLES <input type="checkbox"/>
<input type="checkbox"/> HOLES <input type="checkbox"/>	Ø1.4mm <input type="checkbox"/>	<input type="checkbox"/> HOLES <input type="checkbox"/>
	Ø1.6mm <input type="checkbox"/>	
	Ø1.7mm <input type="checkbox"/>	
	CUSTOM PISTONS	
	<input type="checkbox"/> mm <input type="checkbox"/> mm	

FRONT ANTI ROLL BAR

mm THICKNESS mm

FRONT TIRES	REAR
BRAND	
COMPOUND	
INSERTS	
WHEELS	

ELECTRONICS

MOTOR SPEEDO

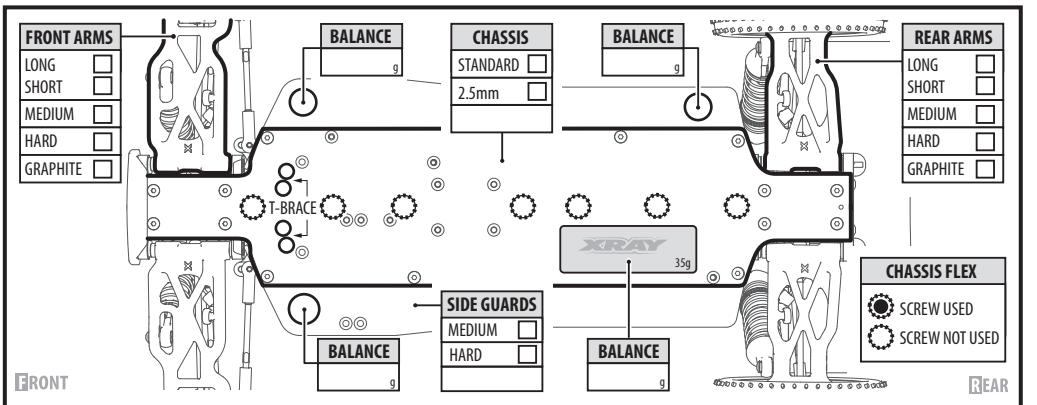
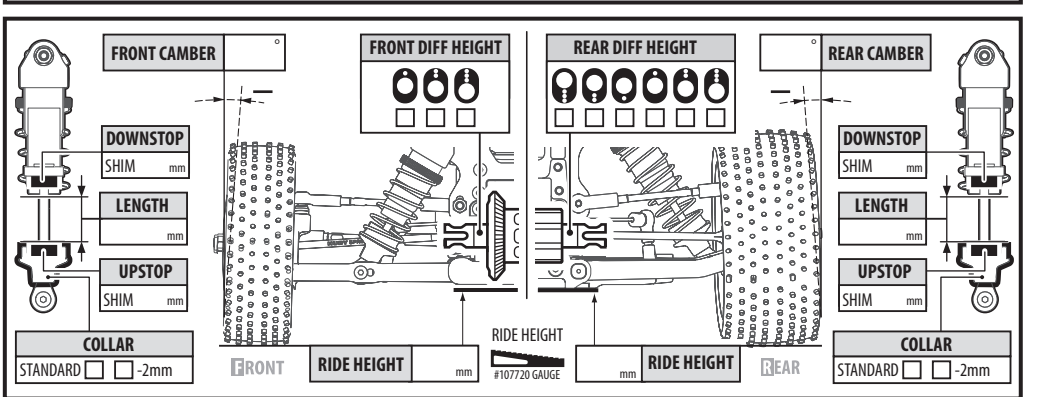
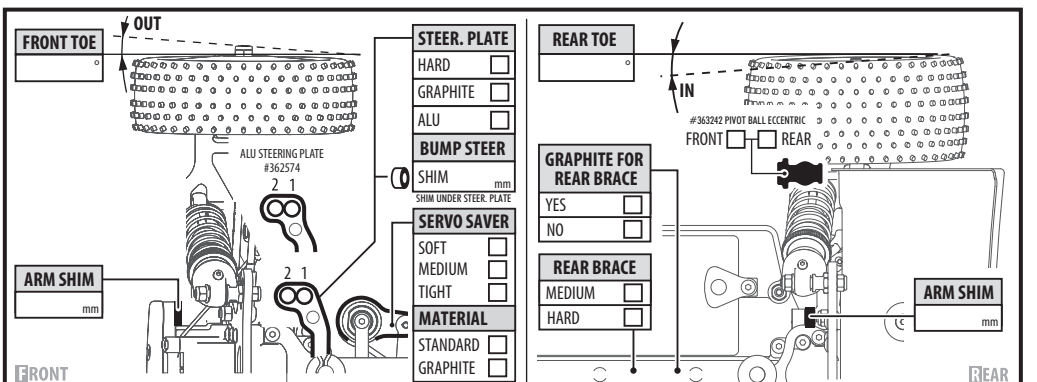
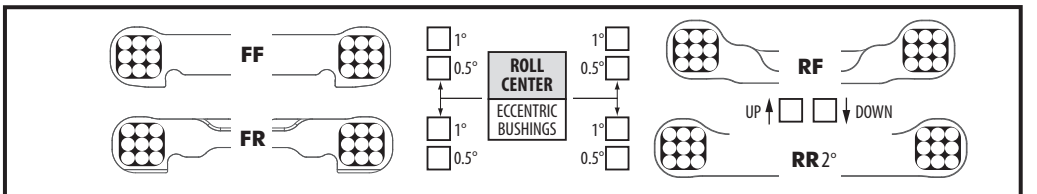
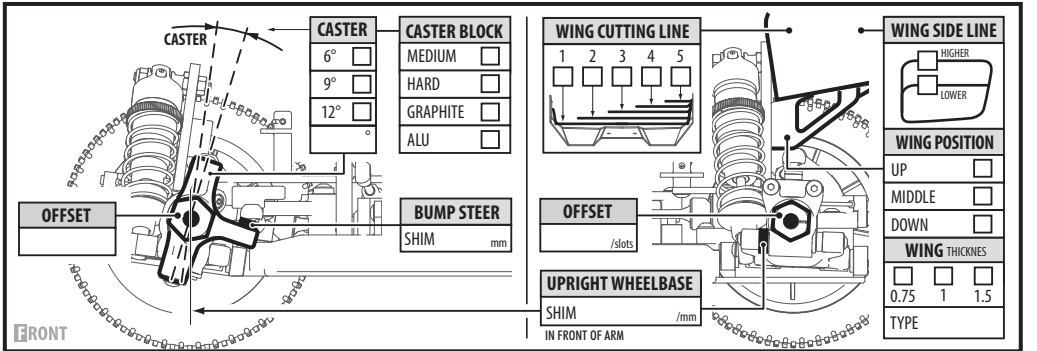
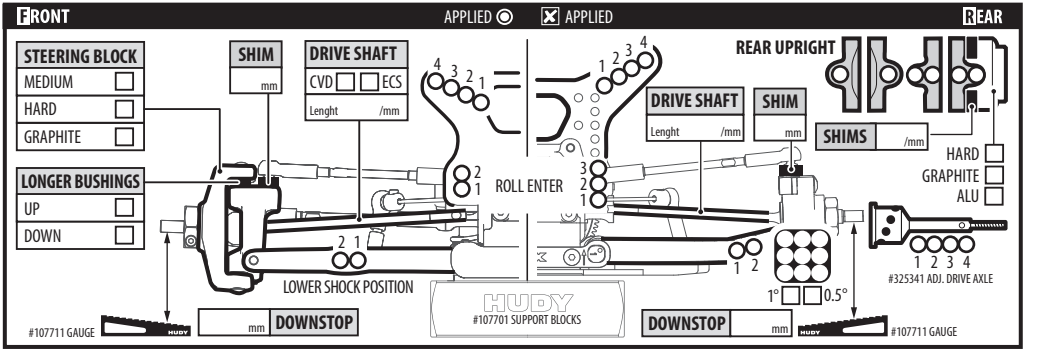
MOTOR TIMING BATTERY

BATTERY SIZE STD. SHORT LOW SHORT

BODY

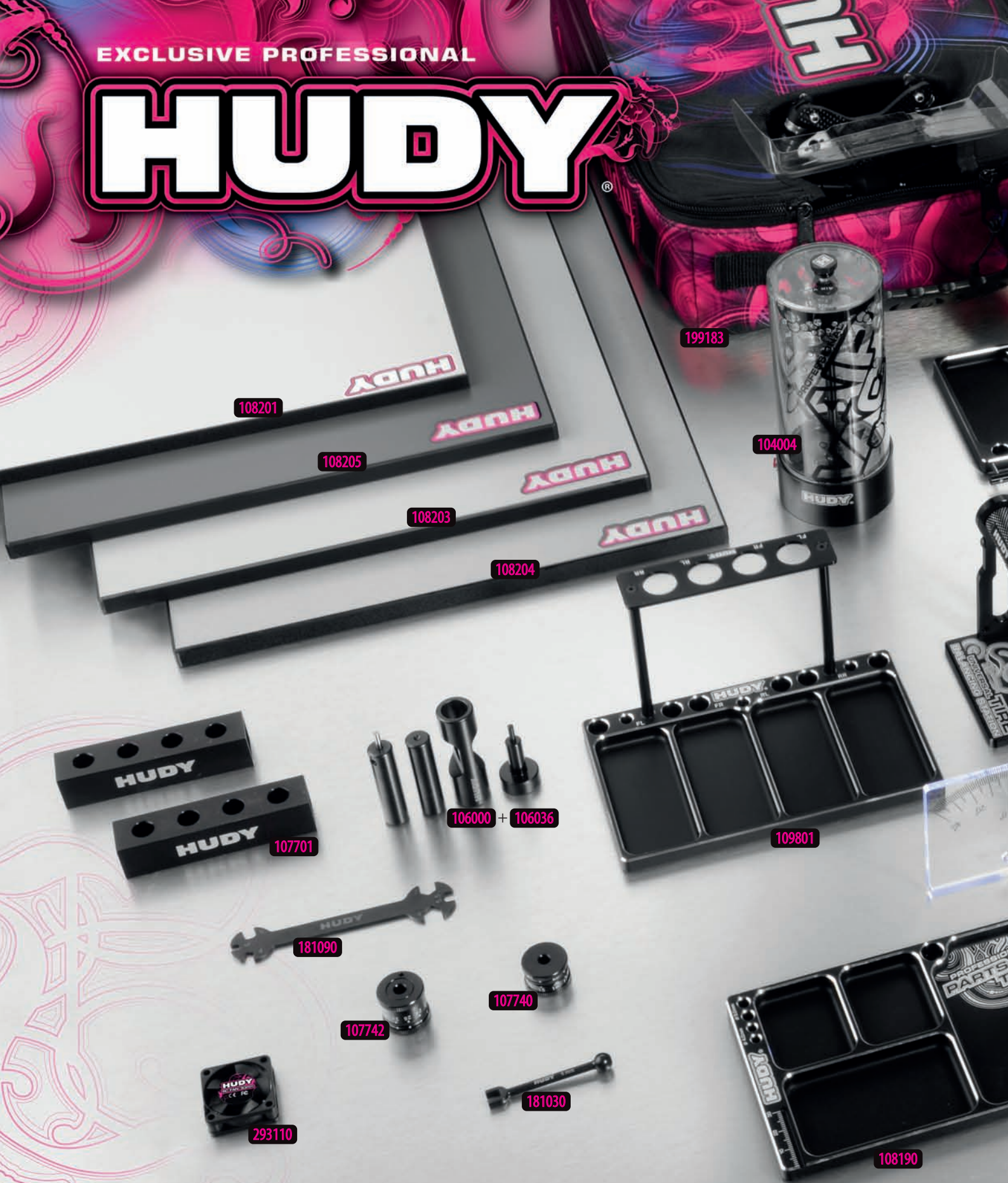
TYPE STANDARD LIGHT

COMMENTS



EXCLUSIVE PROFESSIONAL

HUDY®



108201

108205

108203

108204

199183

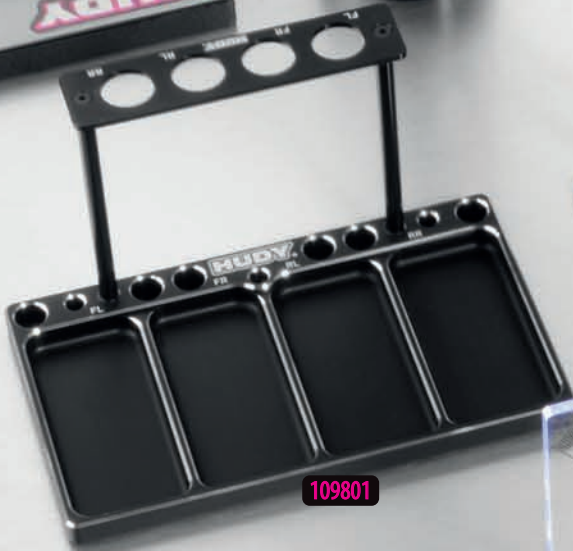
104004



107701



106000 + 106036



109801



181090



107742



107740



293110



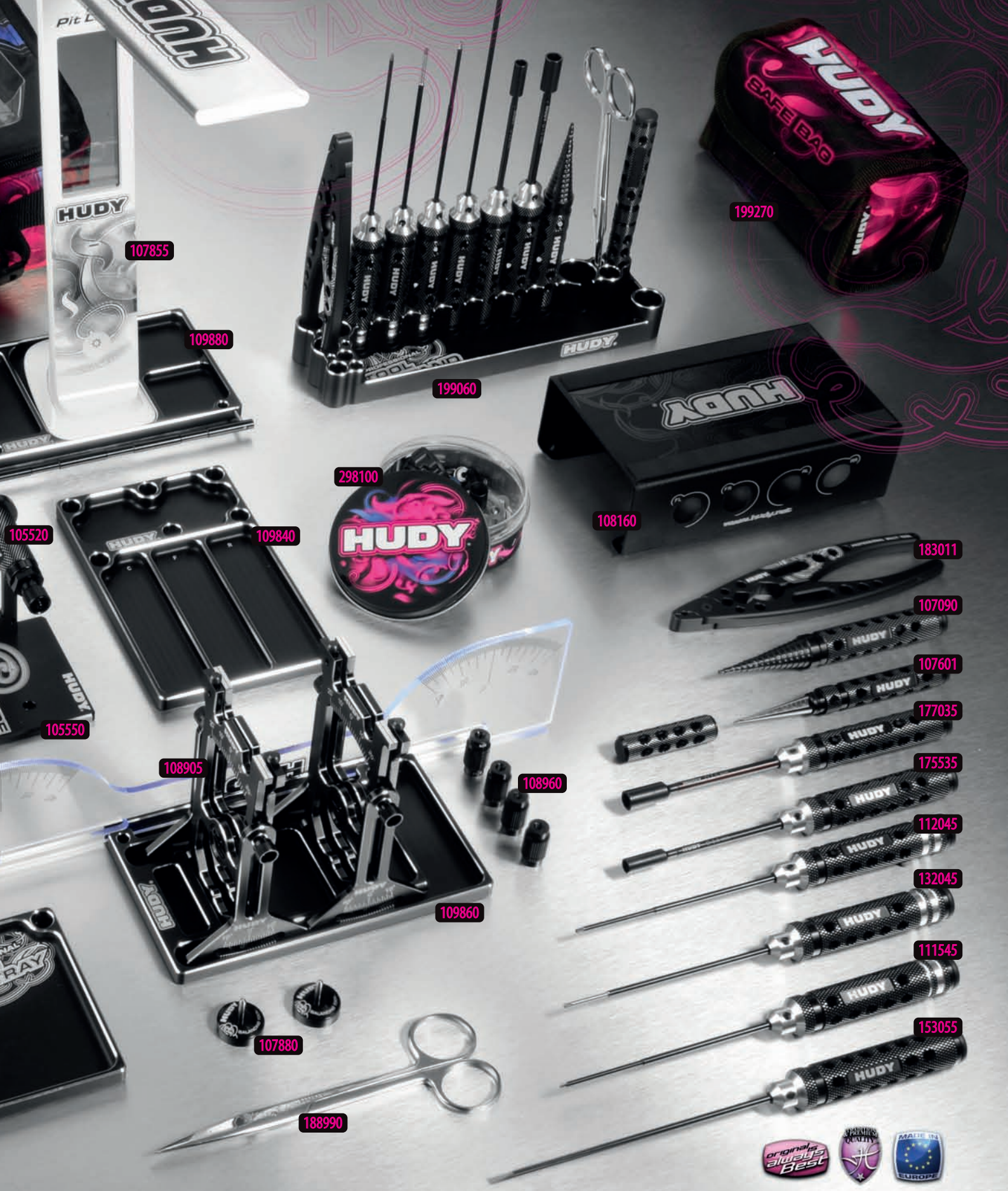
181030



108190

- 104004 HUDY AIR VAC - VACUUM PUMP - 1/10 OFF-ROAD
- 105500 HUDY UNIVERSAL TIRE BALANCING STATION
- 105520 WHEEL ADAPTER FOR 1/10 TOURING CARS - 12MM
- 106000 HUDY DRIVE PIN REPLACEMENT TOOL (FOR 3MM PINS)
- 106036 EJECTOR PIVOT PIN & ALTERNATING PIVOT 2.5MM FOR #106000
- 107090 HUDY BEARING CHECKING TOOL
- 107601 LIMITED EDITION - REAMER FOR BODY 0-9MM + COVER - SMALL
- 107701 CHASSIS DROOP GAUGE SUPPORT BLOCKS 20MM FOR 1/8 - LW(2)
- 107740 HUDY ADJUSTABLE RIDE HEIGHT GAUGE 14-20MM
- 107742 HUDY ADJUSTABLE RIDE HEIGHT GAUGE 20-30MM
- 107855 HUDY PIT LED
- 107880 CHASSIS BALANCING TOOL (2)

- 108160 HUDY 1/10 OFF-ROAD CAR STAND - V2
- 108190 HUDY ALU TRAY FOR PARTS
- 108201 FLAT SET-UP BOARD FOR 1/10 TOURING CARS
- 108203 FLAT SET-UP BOARD FOR 1/10 TOURING CARS - SILVER GREY
- 108204 FLAT SET-UP BOARD FOR 1/10 TOURING CARS - TITAN
- 108205 FLAT SET-UP BOARD FOR 1/10 TOURING CARS - DARK GREY
- 108905 UNIVERSAL EXCLUSIVE SET-UP SYSTEM FOR 1/10 OFF-ROAD CARS
- 108960 ALU NUT FOR 1/10 OFF-ROAD SET-UP SYSTEM (4)
- 109801 HUDY ALU TRAY FOR 1/10 OFF-ROAD DIFF & SHOCKS
- 109840 HUDY ALU TRAY FOR 1/10 OFF-ROAD DIFF ASSEMBLY
- 109860 HUDY ALU TRAY FOR SET-UP SYSTEM
- 109880 HUDY ALU TRAY FOR ACCESSORIES & PIT LED



- 111545 LIMITED EDITION - ALLEN WRENCH # 1.5MM
- 112045 LIMITED EDITION - ALLEN WRENCH # 2.0MM
- 132045 LIMITED EDITION - ALLEN WRENCH + BALL REPL. TIP # 2.0MM
- 153055 LIMITED EDITION - SLOTTED SCREWDRIVER # 3.0MM - LONG
- 175535 LIMITED EDITION - SOCKET DRIVER # 5.5MM
- 177035 LIMITED EDITION - SOCKET DRIVER # 7.0MM
- 181030 HUDY SPRING STEEL TURNBUCKLE WRENCH 3 MM
- 181090 HUDY SPECIAL TOOL FOR TURNBUCKLES & NUTS
- 183011 HUDY PROFESSIONAL MULTI TOOL
- 188990 HUDY PROFESSIONAL BODY SCISSORS
- 199060 HUDY ALU TOOL STAND
- 199183 HUDY CAR BAG - 1/10 OFF-ROAD

- 199270 HUDY LIPO SAFETY BAG
- 293110 HUDY BRUSHLESS RC FAN 30MM
- 298100 HUDY TIN ROUND BOX 80X30MM
- 293110XL HUDY BRUSHLESS RC FAN 30MM - SET OF 12PCS

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

www.hudy.net



www.teamxray.com

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