1/10 LUXURY ELECTRIC TOURING CAR

XRAY T4

INSTRUCTION MANUAL

FOR T4'20 EDITION

BEFORE YOU START

CUSTOMER SUPPORT

XRAY Europe

XRAY USA

www.teamxray.com

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

SAFETY PRECAUTIONS

IMPORTANT NOTES GENERAL

IMPORTANT NOTES ELECTRICAL

' 00

R C & BUILDING TIPS

ARRANTY

' 0

' 0

Limitations of Liability

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RA MODEL RA IN ARS

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UALITY CERTIFICATE

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SYMBOLS USED

Part bags used	Assemble in the specified order	Assemble left and right sides the same way	Pay attention here	Assemble as many times as specified (here twice)	Apply thread lock	Apply CA glue	Apply oil
Scale	Apply grease	Optional parts	Ensure smooth non-binding movement	Tighten screw gently	Completed assembly	Detail view	Follow Set-up Book

TOOLS RE UIRED

HUDY TOOLS:

Allen: 1.5mm | Allen: 2.0mm | Allen: 3.0mm | Socket: 5.5mm | Socket: 7.0mm | Arm Reamer 3.0mm

Turnbuckle Wrench 4mm (HUDY #181040)

Turnbuckle Wrench 3mm (HUDY #181030)

Scissors (HUDY #188990)

Combination Pliers (HUDY #189020)

Side Cutters (HUDY #189010)

Pocket Hobby Knife (HUDY #188981)

RC Shock-Plier Uni Tool (HUDY #183011)

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

Snap Ring Pliers

ITEMS INCLUDED

Premium Silicone Oil 450cSt (HUDY #106345)

Premium Silicone Oil 5.000cSt (HUDY #106450)

Graphite Grease (HUDY #106210)

NOT INCLUDED

To ensure that you always have access to the most up-to-date version of the XRAY Set-up Book, XRAY will now be offering only the digital online version on our website www.teamxray.com. By offering this online version instead of including a hardcopy printed version in kits, you will always be assured of having the most current updated version.

SAMPLE OF OPTIONAL PARTS	
#30XXXX	OPTION 1
#30XXXX	OPTION 2
#30XXXX	OPTION 3

XRAY offers wide range of optional tuning parts which are listed in tables like these. 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.

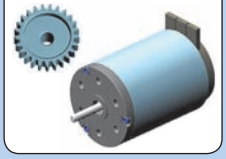
E UIPMENT RE UIRED

Transmitter

Receiver

Steering Servo

Electric Motor & Pinion Gear and Setscrew

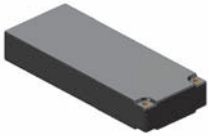


Bearing Oil (HUDY #106230)

Speed Controller

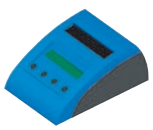
190mm Bodyshell

LiPo Battery



Lexan™ Paint

Battery Charger



Fibre Tape (HUDY #107870) Double-sided Tape (HUDY #107875)

Wheels & Tires & Inserts (HUDY #803053 C3-28) (HUDY #803062 A1-36)

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:

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

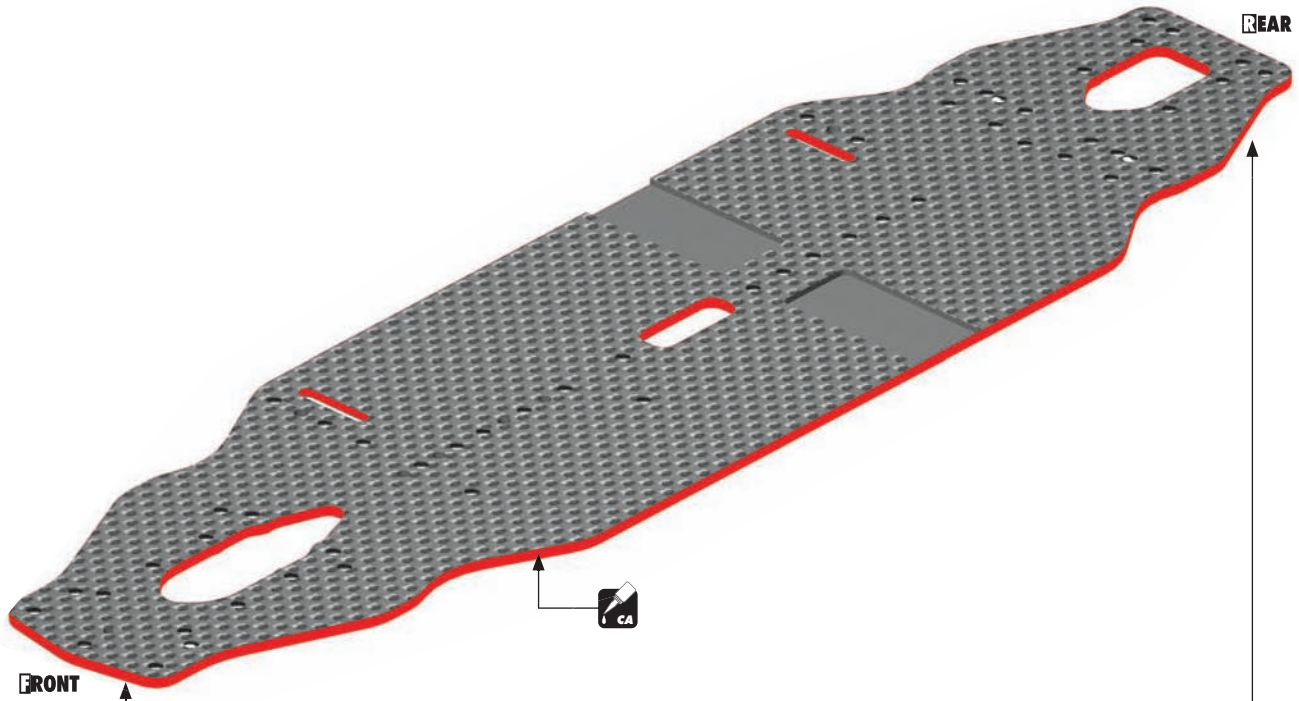
STYLE B - indicates parts that are included in the box.

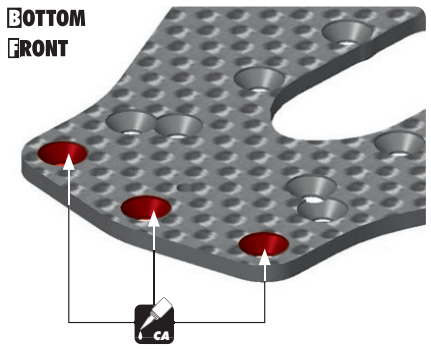
STYLE C - indicates parts that are already assembled from previous steps.

CHASSIS PREPARATION

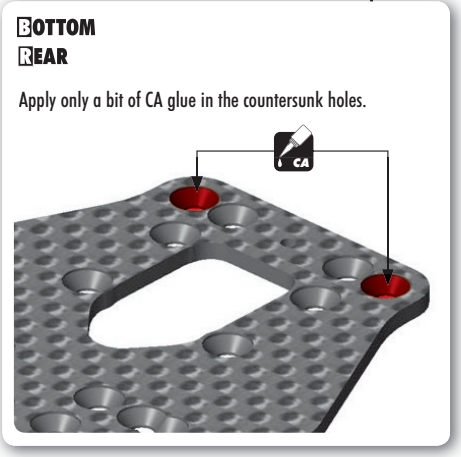
To protect and seal edges of graphite parts, sand edges smooth and then apply CA glue.

Do this for: chassis edges, countersunk holes, and shock towers.





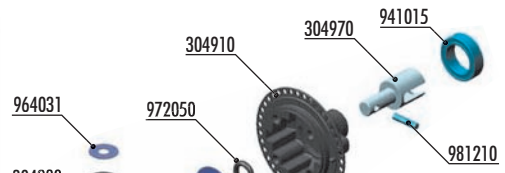
Apply only a bit of CA glue in the countersunk holes.



Apply only a bit of CA glue in the countersunk holes.

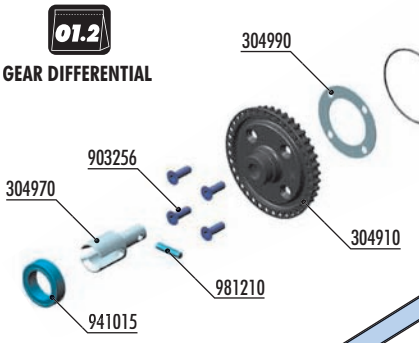
1. GEAR DIFFERENTIAL & FRONT SOLID AXLE

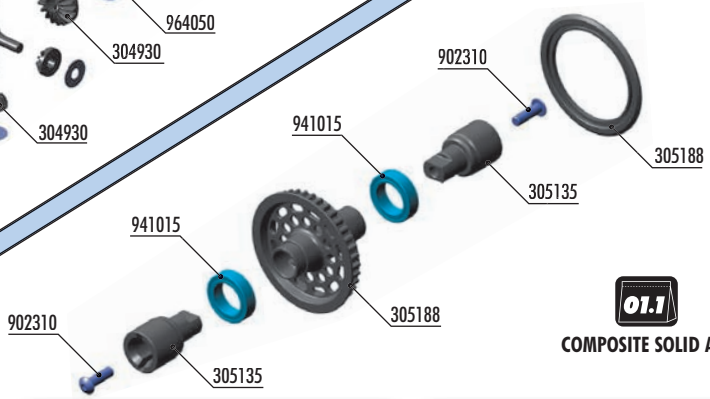
OPTION #304932
GRAPHITE GEAR DIFF BEVEL & SATELLITE GEARS (2+4)



OPTION #309002
SET OF CERAMIC BALL-BEARINGS (14)

01.2
GEAR DIFFERENTIAL





01.1
COMPOSITE SOLID AXLE

OPTION #304971
HUDY SPRING STEEL™ OUTDRIVES

OPTION #305136
ALU SOLID DRIVESHAFT ADAPTERS

OPTION #305137
STEEL SOLID AXLE DRIVESHAFT ADAPTERS
HUDY SPRING STEEL™

BAG
01.1
01.2

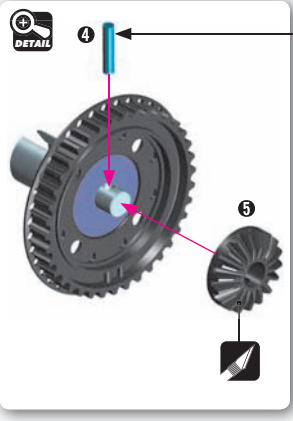
304900	XRAY GEAR DIFFERENTIAL - SET	902310	HEX SCREW SH M3x10 (10)
304910	COMPOSITE GEAR DIFF. CASE & COVER	903256	HEX SCREW SFH M2.5x6 (10)
304930	COMPOSITE GEAR DIFF BEVEL & SATELLITE GEARS (2+4)	941015	BALL-BEARING 10x15x4 RUBBER SEALED - OIL (2)
304970	ALU GEAR DIFF OUTDRIVE ADAPTER - 7075 T6 (2)	964031	WASHER S 3.5x10x0.2 (10)
304980	COMPOSITE GEAR DIFF CROSS PIN	964050	WASHER S 5x15x0.3 (10)
304990	DIFF GASKET (4)	971240	SILICONE O-RING 24x0.7 (10)
305135	COMPOSITE SOLID AXLE DRIVESHAFT ADAPTERS (2)	972050	SILICONE O-RING 5x2 (10)
305188	COMPOSITE SOLID AXLE 38T - SET	981210	PIN 2x10 (10)


964050
S 5x15x0.3

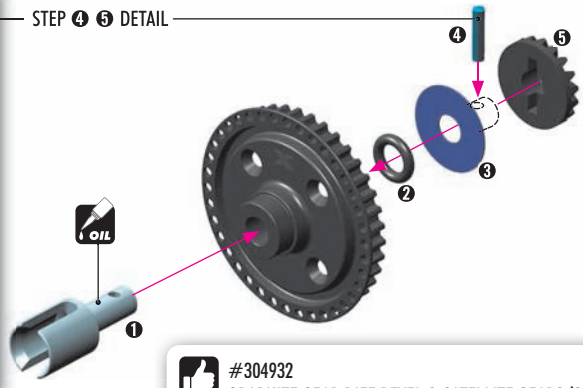

972050
O 5x2


981210
P 2x10

DETAIL



STEP 4 5 DETAIL



OPTION #304971
HUDY SPRING STEEL™ OUTDRIVES

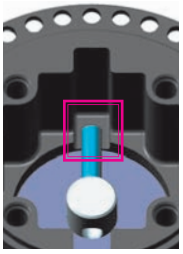
OPTION #304932
GRAPHITE GEAR DIFF BEVEL & SATELLITE GEARS (2+4)

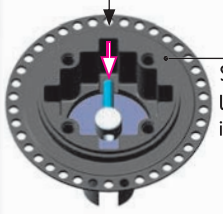

964050
S 5x15x0.3


972050
O 5x2

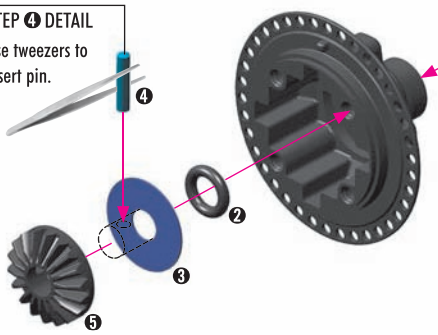

981210
P 2x10

NOTE ORIENTATION

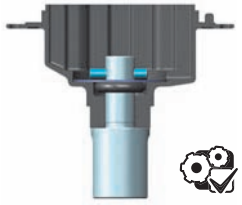




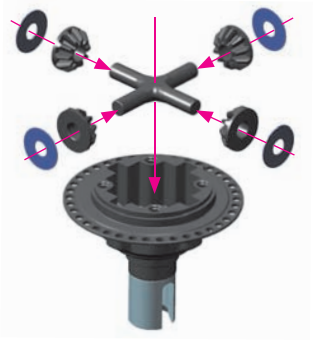
STEP 4 DETAIL
Use tweezers to insert pin.



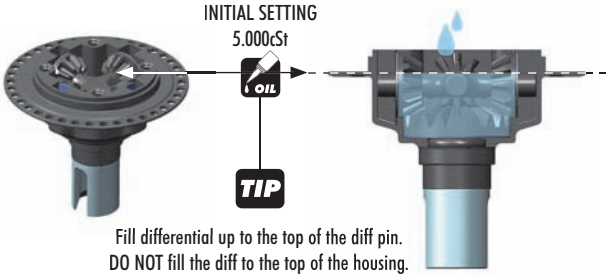
CUTAWAY VIEW



964031
S 3.5x10x0.2

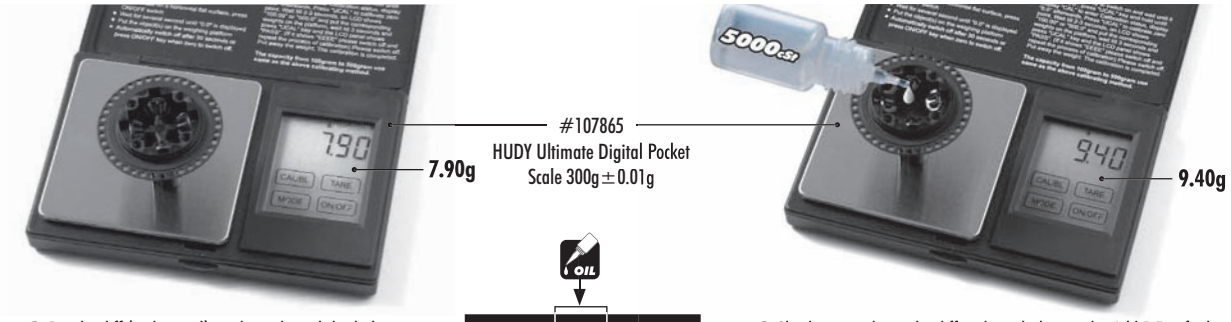


OPTION #304932
GRAPHITE GEAR DIFF BEVEL & SATELLITE GEARS (2+4)



Fill differential up to the top of the diff pin.
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:



❶ Put the diff (without oil) on the scale and check the weight (approximately 7.90g)

❷ Slowly pour oil into the diff and watch the weight. Add 1.5g of oil into the diff. The approximate weight of the diff including oil is 9.40g.

TIP TIPS FOR DIFFERENTIALS TIP

LOW TRACTION		MEDIUM TRACTION		HIGH TRACTION		SUPER-HIGH TRACTION	
1.000cSt	(HUDY #106410)	2.000cSt	(HUDY #106420)	5.000cSt	(HUDY #106450)	10.000cSt	(HUDY #106510)
2.000cSt	(HUDY #106420)	3.000cSt	(HUDY #106430)	6.000cSt	(HUDY #106460)	15.000cSt	(HUDY #106515)
		4.000cSt	(HUDY #106440)	7.000cSt	(HUDY #106470)	20.000cSt	(HUDY #106520)
		5.000cSt	(HUDY #106450)	8.000cSt	(HUDY #106480)		
				9.000cSt	(HUDY #106490)		
				10.000cSt	(HUDY #106510)		

NOTE

SOFTER oil increases rear traction, HARDER oil increases on-power steering and stability. It is important not to use soft oils in high-traction conditions as this would not increase traction, but would make the car loose as the car would become too twitchy.

However, if the oil is too soft, it could generate the same effect like the car has no traction. Therefore it is very important to choose the correct oil very carefully. We recommend using softer oil first, then try harder oil to better understand the effect on the car's behavior at the track. Choose the oil accordingly.

OPTION #104002
HUDY AIR VAC – VACUUM PUMP

TIP To make sure that all the air is removed from the diff oil, we recommend using the HUDY Air Vac.

TIP TIPS FOR FRONT DIFFERENTIAL

To increase on-power steering and cornering speed, the gear diff can also be used in the front. **NOTE:** If you use the gear diff in the front, we recommend using optional #304971 HUDY Spring Steel™ outdrives because the stress on the outdrives in the front is much higher than in the rear.

USE THESE OILS FOR FRONT DIFFERENTIAL

500.000cSt	(HUDY #106650)
1 000.000cSt	(HUDY #106692)
2 000.000cSt	(HUDY #106694)

To make the front differential tighter, you can use cleaning gum instead of oil.

IMPORTANT!

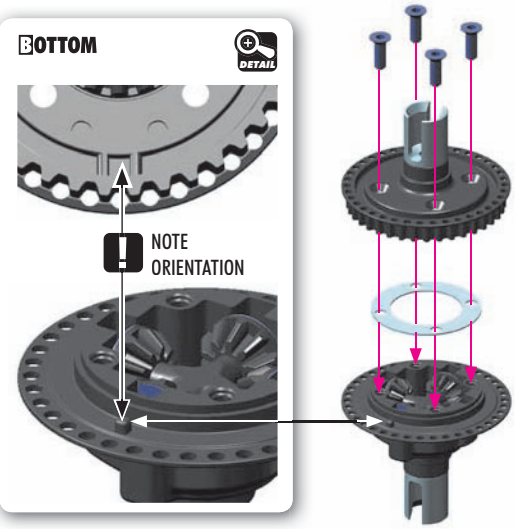
Using cleaning gum instead of oil in the gear differential can lead to gear breakage because the gears are working under dry conditions.

971240
O 24x0.7

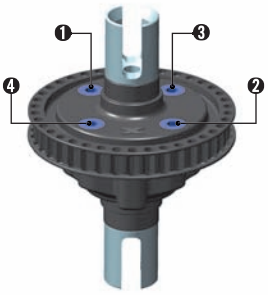
After disassembling the gear diff the large O-ring may have an increased size and may be more difficult to re-install. We recommend either inserting the old O-ring carefully in the diff cover, or replacing the old O-ring with a new O-ring if the old one cannot be made to fit properly.

1. GEAR DIFFERENTIAL & FRONT SOLID AXLE

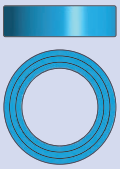
903256
SFH M2.5x6



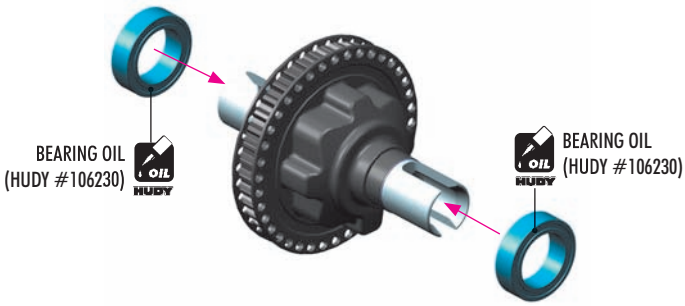
Tighten the screws equally but do NOT tighten them completely.



Finish tightening in this order.



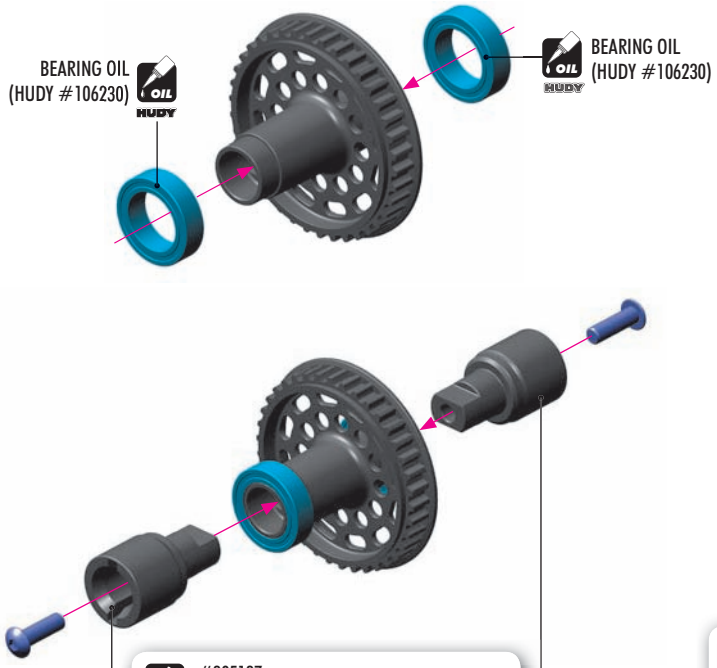
941015
BB 10x15x4

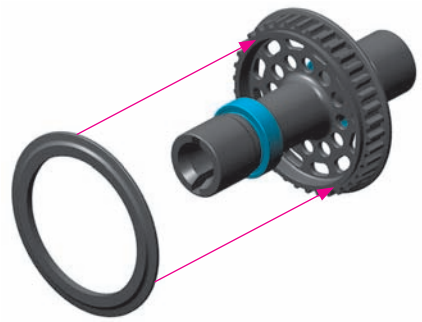


COMPOSITE FRONT SOLID AXLE

902310
SH M3x10

941015
BB 10x15x4

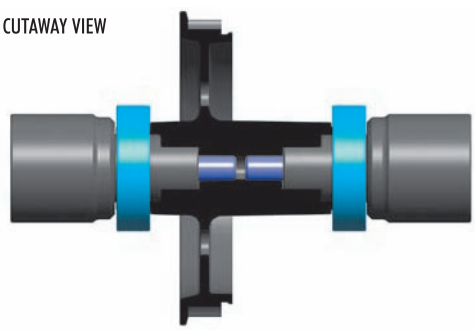




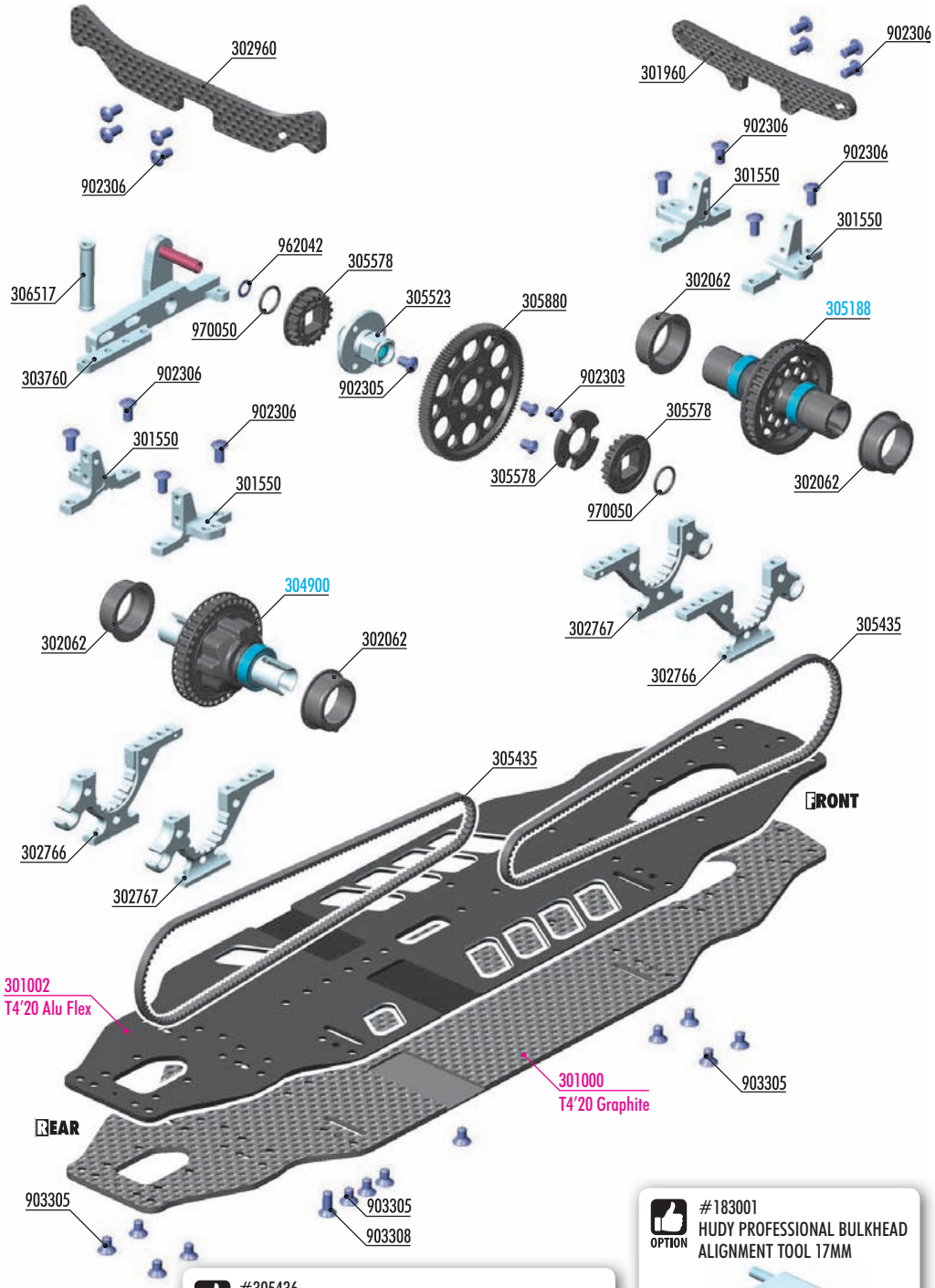
OPTION #305137
STEEL SOLID AXLE DRIVESHAFT ADAPTERS
HUDY SPRING STEEL™

OPTION #305136
ALU SOLID DRIVESHAFT ADAPTERS

CUTAWAY VIEW



SET-UP BOOK
FRONT & REAR AXLES



OPTION

OFFSET SPUR GEARS 48P		
#305772	72T / 48P	OPTION
#305776	76T / 48P	OPTION
#305778	78T / 48P	OPTION
#305779	79T / 48P	OPTION
#305781	81T / 48P	OPTION
#305784	84T / 48P	OPTION
#305784-O	84T / 48P	OPTION

OFFSET SPUR GEARS 64P		
#305860	90T / 64P	OPTION
#305862	92T / 64P	OPTION
#305866	96T / 64P	OPTION
#305866-O	96T / 64P	OPTION
#305869	99T / 64P	OPTION
#305870	100T / 64P	OPTION
#305870-O	100T / 64P	OPTION
#305874	104T / 64P	OPTION
#305876	106T / 64P	OPTION
#305878	108T / 64P	OPTION
#305880	110T / 64P	INCLUDED
#305880-O	110T / 64P	OPTION
#305882	112T / 64P	OPTION
#305884	114T / 64P	OPTION

OPTION #305578-O
FIXED PULLEY 20T - GRAPHITE (2)

OPTION #302063
ALU ADJUSTMENT BALL-BEARING HUB (2)

OPTION #305436
HIGH-PERFORMANCE DRIVE BELT LOW-FRICTION 3x351MM

OPTION #183001
HUDY PROFESSIONAL BULKHEAD ALIGNMENT TOOL 17MM

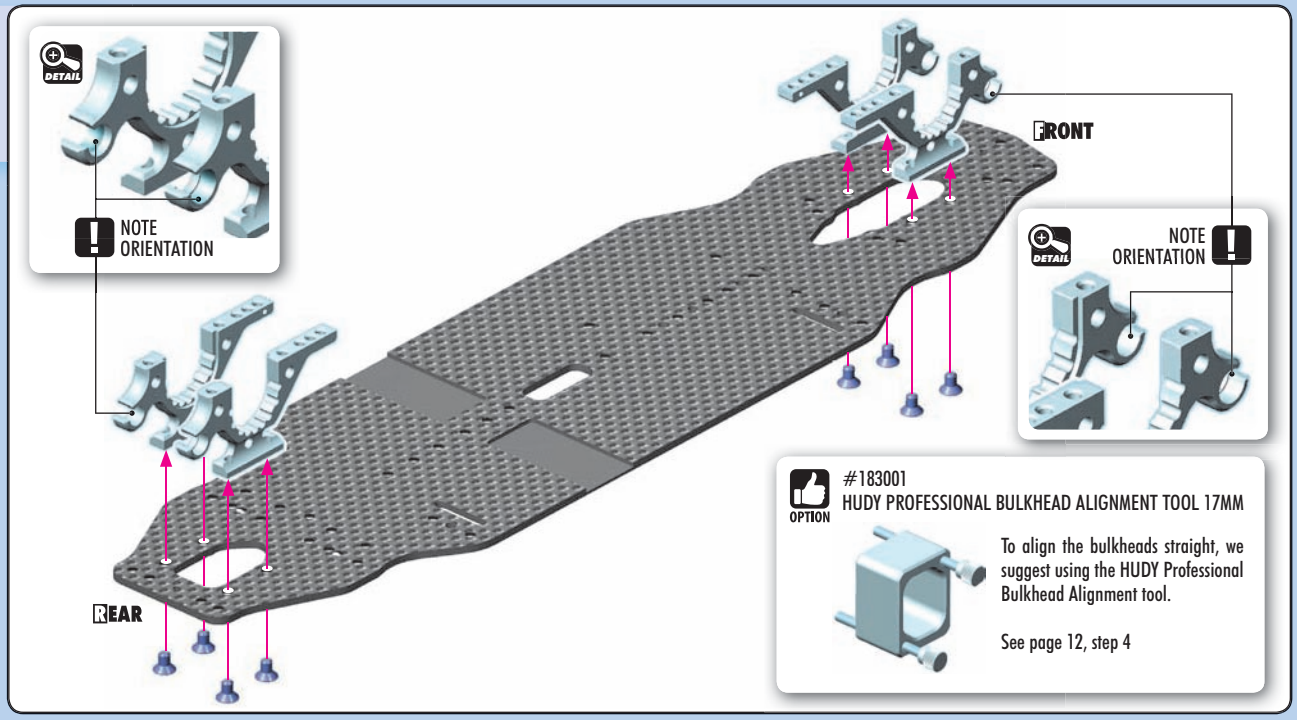
OPTION #301001
T4'20 ALU SOLID CHASSIS 2.0mm

BAG 02

301550	T4'20 ALU UPPER CLAMP WITH 2 ADJ. ROLL-CENTERS (L+R)
301960	T4'20 ULP GRAPHITE SHOCK TOWER FRONT 3.0MM
302062	T4 COMPOSITE ADJUSTMENT BALL-BEARING HUB (4)
302766	T4'20 ALU LOWER ADJUSTMENT BULKHEAD - FRONT R / REAR L
302767	T4'20 ALU LOWER ADJUSTMENT BULKHEAD - FRONT L / REAR R
302960	T4'20 ULP GRAPHITE SHOCK TOWER REAR 3.0MM
303760	T4'20 ALU MOTOR MOUNT
305435	HIGH-PERFORMANCE DRIVE BELT 3x351MM
305523	ALU SOLID LAYSHAFT WITH BEARINGS
305578	FIXED PULLEY FOR LAYSHAFT WITH BEARINGS 20T (2)
305880	OFFSET SPUR GEAR 110T / 64
306517	T4'20 ALU TOP DECK MOUNT
902303	HEX SCREW SH M3x4 SMALL HEAD - STAINLESS (10)
902305	HEX SCREW SH M3x5 (10)
902306	HEX SCREW SH M3x6 (10)
903305	HEX SCREW SFH M3x5 (10)
903308	HEX SCREW SFH M3x8 (10)
962042	WASHER S 4x6x0.1 (10)
970050	O-RING 5x1 (10)
304900	XRAY GEAR DIFFERENTIAL - SET
305188	COMPOSITE SOLID AXLE 38T - SET
301000	T4'20 GRAPHITE CHASSIS 2.2MM
301002	T4'20 ALU FLEX CHASSIS 2.0MM - SWISS 7075 T6

2. CENTRAL TRANSMISSION

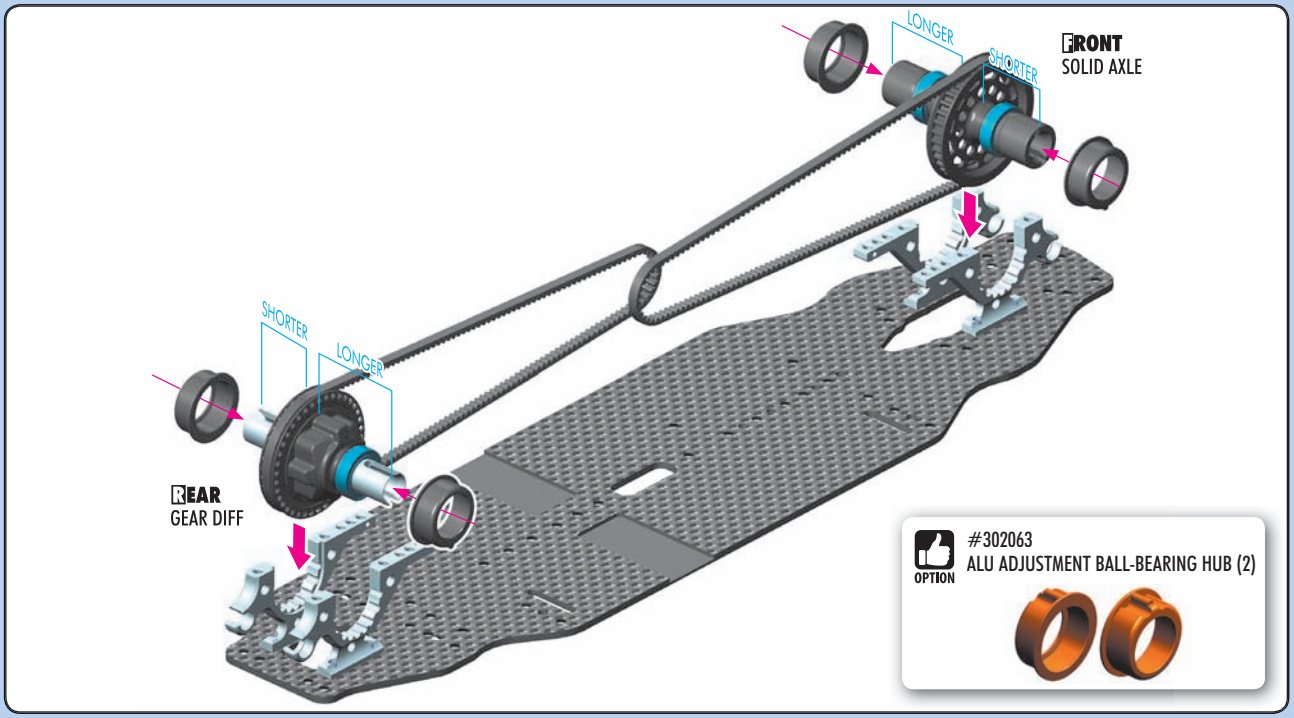
903305
SFH M3x5



OPTION
#183001
HUDY PROFESSIONAL BULKHEAD ALIGNMENT TOOL 17MM

To align the bulkheads straight, we suggest using the HUDY Professional Bulkhead Alignment tool.

See page 12, step 4



OPTION
#302063
ALU ADJUSTMENT BALL-BEARING HUB (2)

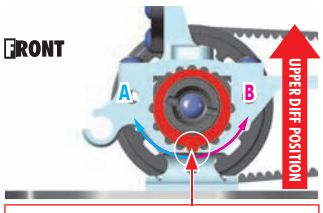
FRONT BELT TENSION ADJUSTMENT

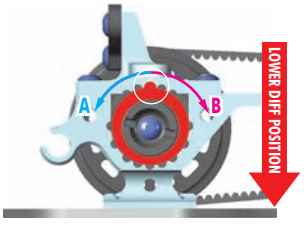
Front diff **UPPER** position - tab in bottom notch - provides **more steering**, but **less front traction**

Recommended for **medium-high** traction tracks and technical tracks.

Front diff **LOWER** position - tab in top notch - provides **more front traction,** but makes the car **push on-power.**

Recommended for **low-traction** tracks.





INITIAL POSITION FOR CARPET/ASPHALT
Place tab in this BOTTOM NOTCH

TO LOOSEN FRONT BELT: Rotate both front nylon hubs in arrow direction **A**

TO TIGHTEN FRONT BELT: Rotate both front nylon hubs in arrow direction **B**

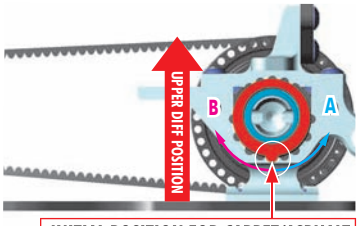
REAR BELT TENSION ADJUSTMENT

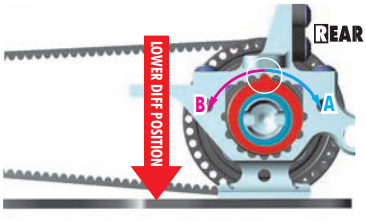
Rear diff **UPPER** position - tab in bottom notch - provides **more on-power steering,** but makes the rear slightly **more loose.**

Recommended for **medium-high traction** tracks.

Rear diff **LOWER** position - tab in top notch - provides **more rear traction** (mainly on-power), makes the car **more stable in chicanes**, but makes the car **push on-power.**

Recommended for **low-medium** traction tracks.





INITIAL POSITION FOR CARPET/ASPHALT
Place tab in this BOTTOM NOTCH

TO LOOSEN REAR BELT: Rotate both rear nylon hubs in arrow direction **A**

TO TIGHTEN REAR BELT: Rotate both rear nylon hubs in arrow direction **B**

902304
SH M3x4

970050
O 5x1

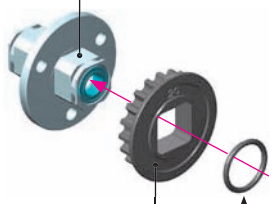
966081
CH-CLIP 8

SET-UP BOOK
GEARING ADJUSTMENT

1.

NOTE ORIENTATION

SHORT side



NOTE ORIENTATION

#966081 CH-CLIP 8 (10)
INCLUDED IN THE LAST AID BAG

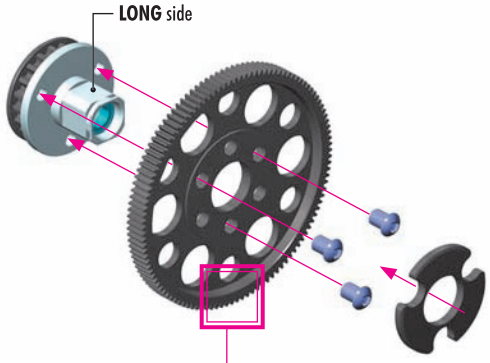
Another alternative to secure the pulley on the layshaft is to use the Clip which is included in the "Last Aid" Bag. To mount the clip on the layshaft, you have to use special Snap Ring Pliers.

Snap Ring Pliers

OPTION #305578-O
FIXED PULLEY 20T
GRAPHITE (2)

2.

LONG side

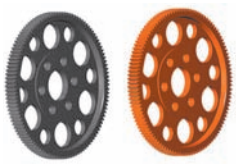


NOTE ORIENTATION

OPTION

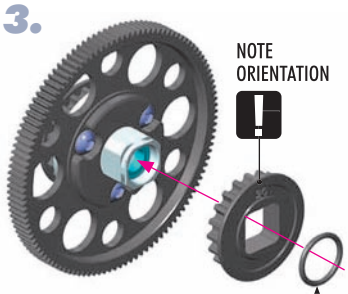
OFFSET SPUR GEARS 48P		
#305772	72T	OPTION
#305776	76T	OPTION
#305778	78T	OPTION
#305779	79T	OPTION
#305781	81T	OPTION
#305784	84T	OPTION
#305784-O	84T	OPTION

OFFSET SPUR GEARS 64P		
#305860	90T	OPTION
#305862	92T	OPTION
#305866	96T	OPTION
#305866-O	96T	OPTION
#305869	99T	OPTION
#305870	100T	OPTION
#305870-O	100T	OPTION
#305874	104T	OPTION
#305876	106T	OPTION
#305878	108T	OPTION
#305880	110T	INCLUDED
#305880-O	110T	OPTION
#305882	112T	OPTION
#305884	114T	OPTION



3.

NOTE ORIENTATION



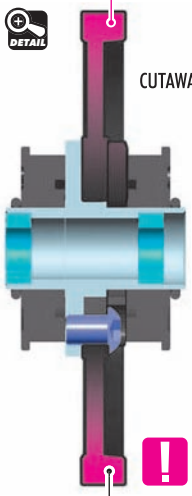
#966081 CH-CLIP 8 (10)
INCLUDED IN THE LAST AID BAG

Another alternative to secure the pulley on the layshaft is to use the Clip which is included in the "Last Aid" Bag. To mount the clip on the layshaft, you have to use special Snap Ring Pliers.

Snap Ring Pliers

DETAIL

CUTAWAY VIEW



NOTE ORIENTATION

902305
SH M3x5

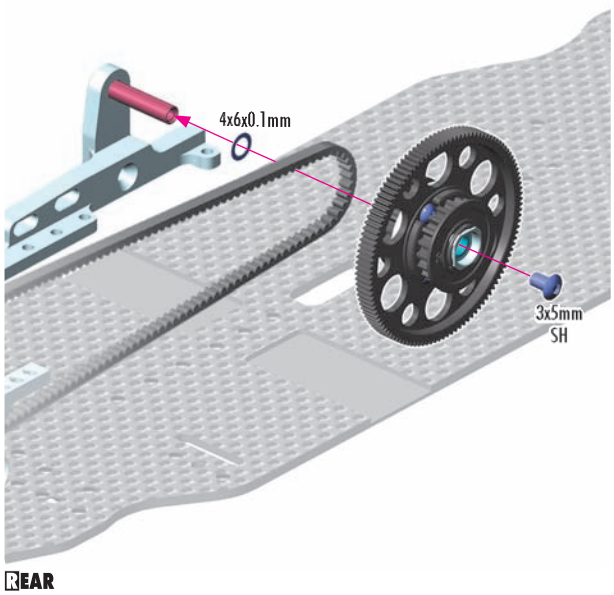
903305
SFH M3x5

903308
SFH M3x8

962042
S 4x6x0.1

1.

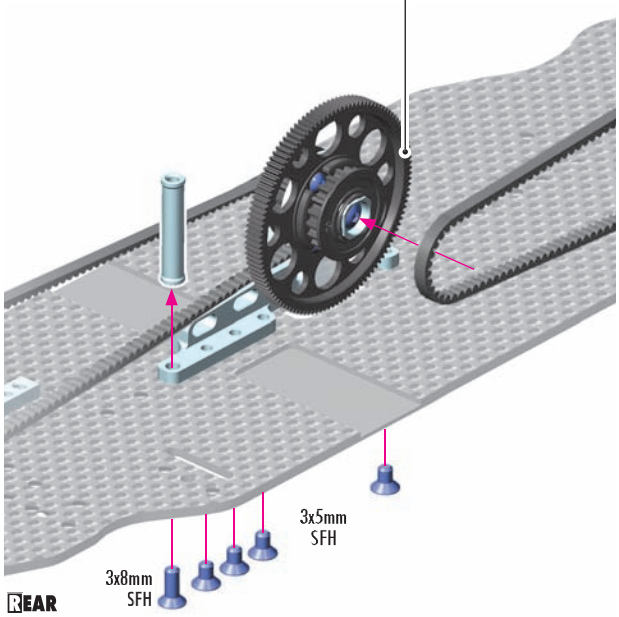
FRONT



REAR

2.

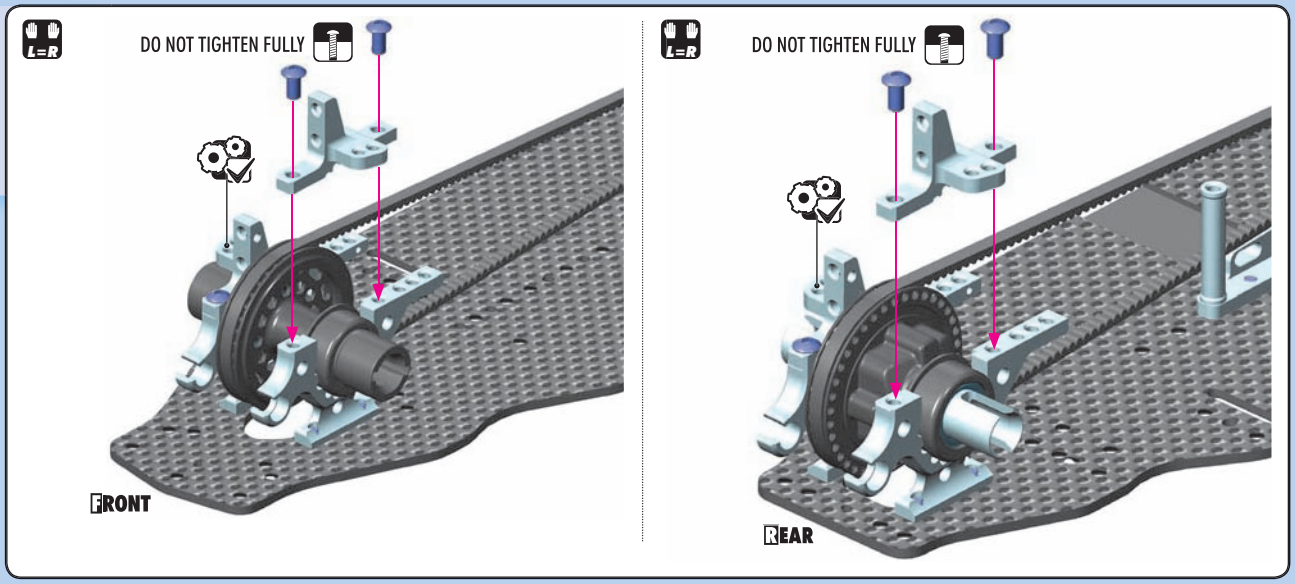
FRONT



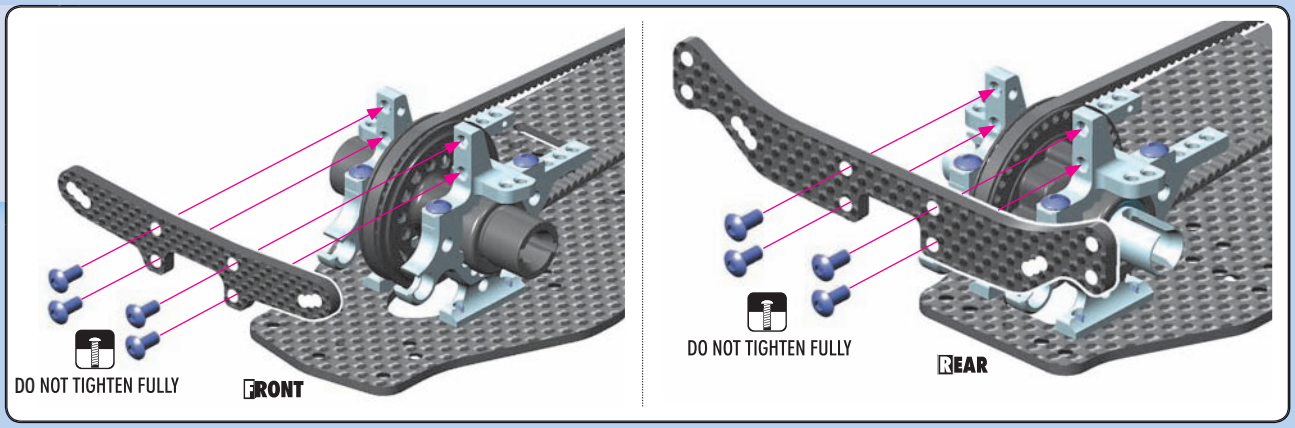
REAR

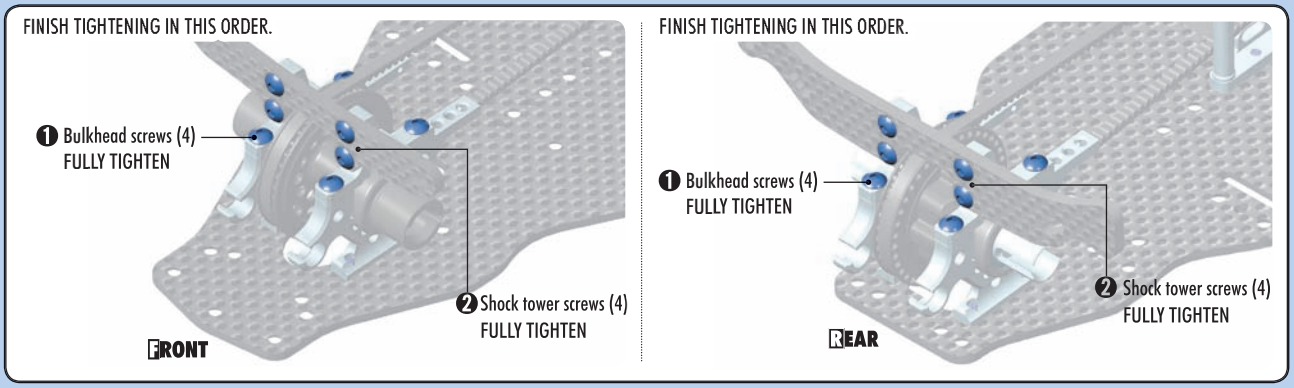
2. CENTRAL TRANSMISSION

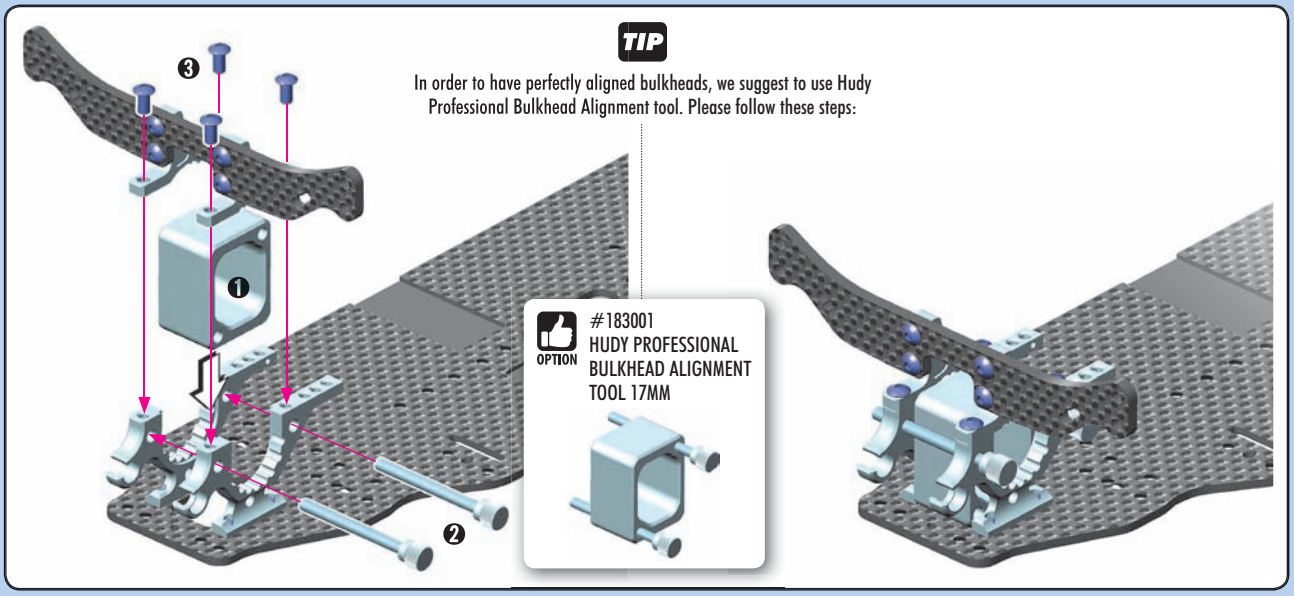
902306
SH M3x6



902306
SH M3x6







3. FRONT & REAR SUSPENSION

OPTION #303731 ALU LOWER 2-PIECE SUSPENSION 0.25 ECCENTRIC HOLDER STAND

OPTION #307217 TITANIUM SUSPENSION PIVOT PIN (2)

OPTION	FRONT ARMS - LONG			
	#302173-H	HARD	RIGHT	OPTION
	#302174-H	HARD	LEFT	OPTION
	#302173-G	GRAPHITE	RIGHT	INCLUDED
	#302174-G	GRAPHITE	LEFT	INCLUDED

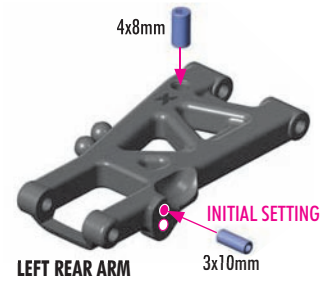
OPTION	REAR ARMS - LONG			
	#303173-H	HARD	RIGHT	OPTION
	#303174-H	HARD	LEFT	OPTION
	#303173-G	GRAPHITE	RIGHT	INCLUDED
	#303174-G	GRAPHITE	LEFT	INCLUDED

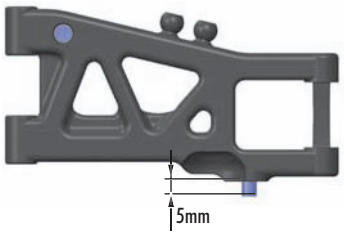
BAG 03

302173	FRONT SUSPENSION ARM LONG RIGHT - GRAPHITE	303730	T4'20 ALU REAR LOWER 2-PIECE SUSPENSION HOLDER - FRONT (1)
302174	FRONT SUSPENSION ARM LONG LEFT - GRAPHITE	307216	SUSPENSION PIVOT PIN (2)
302713	T4'20 ALU FRONT LOWER 1-PIECE SUSPENSION HOLDER - FRONT - FF	362315	ECCENTRIC BUSHING SET (2)
302723	T4'20 ALU FRONT LOWER 1-PIECE SUSPENSION HOLDER - REAR - FR		
303129	COMPOSITE SET OF WHEELBASE SHIMS (3x1MM; 1x2MM) (2)	901310	HEX SCREW SB M3x10 (10)
303173	REAR SUSPENSION ARM LONG RIGHT - GRAPHITE	901408	HEX SCREW SB M4x8 (10)
303174	REAR SUSPENSION ARM LONG LEFT - GRAPHITE	903306	HEX SCREW SFH M3x6 (10)
303723	T4'20 ALU REAR LOWER 1-PIECE SUSPENSION HOLDER - REAR - RR		

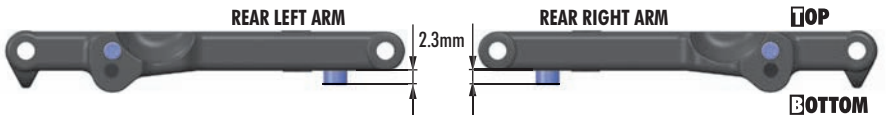
SET-UP BOOK
REAR DOWNSTOP ADJUSTMENT

2x L=R REAR ARMS



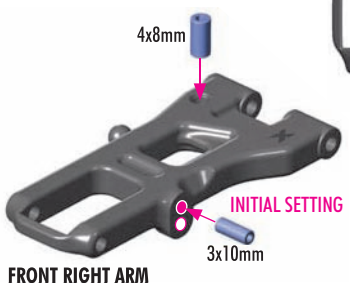


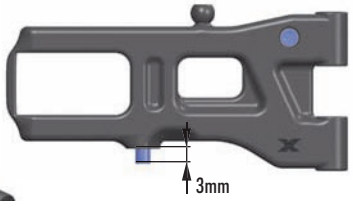
OPTION	REAR ARMS - LONG			
	#303173-H	HARD	RIGHT	OPTION
	#303174-H	HARD	LEFT	OPTION
	#303173-G	GRAPHITE	RIGHT	INCLUDED
	#303174-G	GRAPHITE	LEFT	INCLUDED



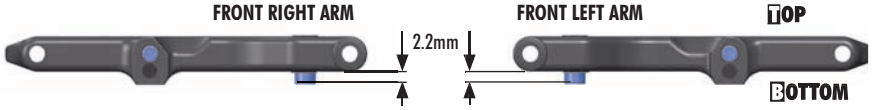
SET-UP BOOK
FRONT DOWNSTOP ADJUSTMENT

2x L=R FRONT ARMS





OPTION	FRONT ARMS - LONG			
	#302173-H	HARD	RIGHT	OPTION
	#302174-H	HARD	LEFT	OPTION
	#302173-G	GRAPHITE	RIGHT	INCLUDED
	#302174-G	GRAPHITE	LEFT	INCLUDED



10

303129
SHIM 3x6x1

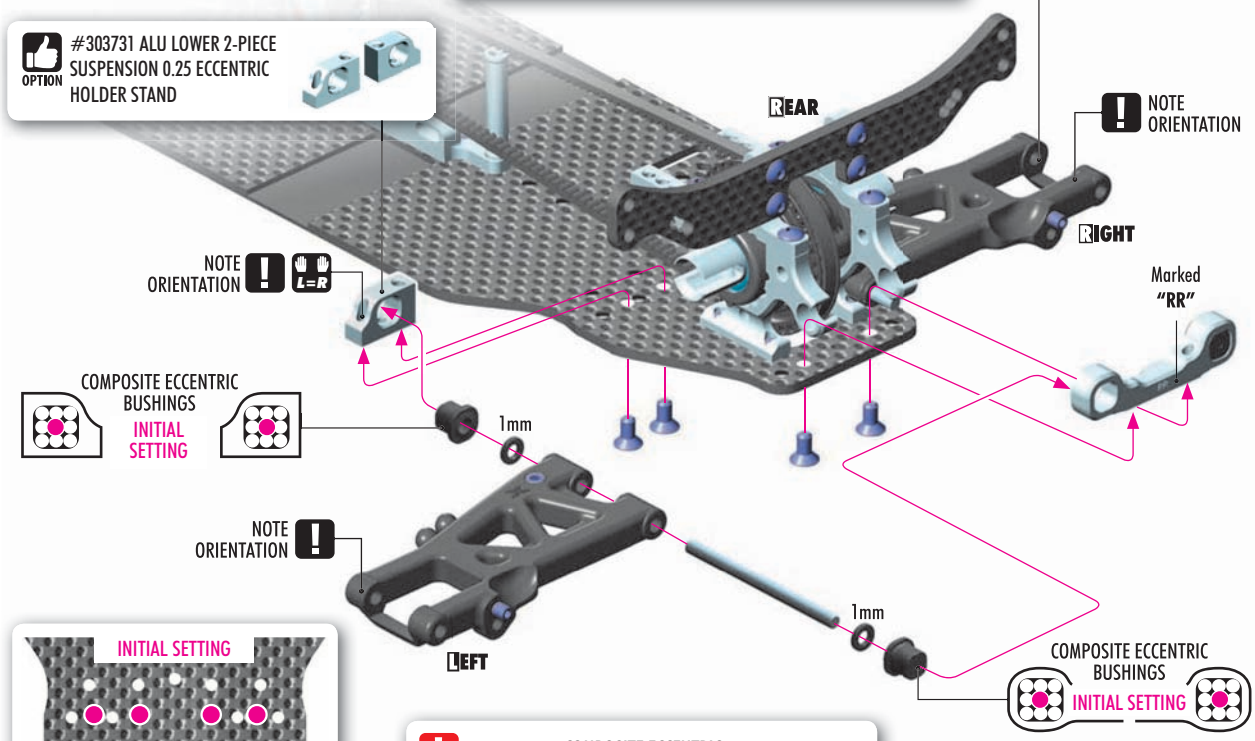
903306
SFH M3x6

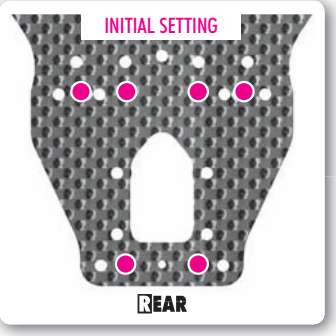
REAR SUSPENSION

It is extremely important that the arms move freely on the pivot pins. If they do not, use the Arm Reamer (3.0mm) to slightly resize the holes in the arms.

#107633 HUDY Arm Reamer 3.0mm

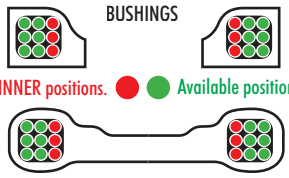
OPTION #303731 ALU LOWER 2-PIECE SUSPENSION 0.25 ECCENTRIC HOLDER STAND



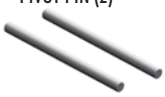


COMPOSITE ECCENTRIC BUSHINGS

Do not use INNER positions. Available positions



OPTION #307217 TITANIUM SUSPENSION PIVOT PIN (2)



SET-UP BOOK

TOE-IN
TRACK-WIDTH
WHEELBASE
ROLL CENTER
ANTI-SQUAT
PRO-SQUAT

ECCENTRIC BUSHINGS HAVE TWO DIFFERENT OFFSETS FROM THE CENTER

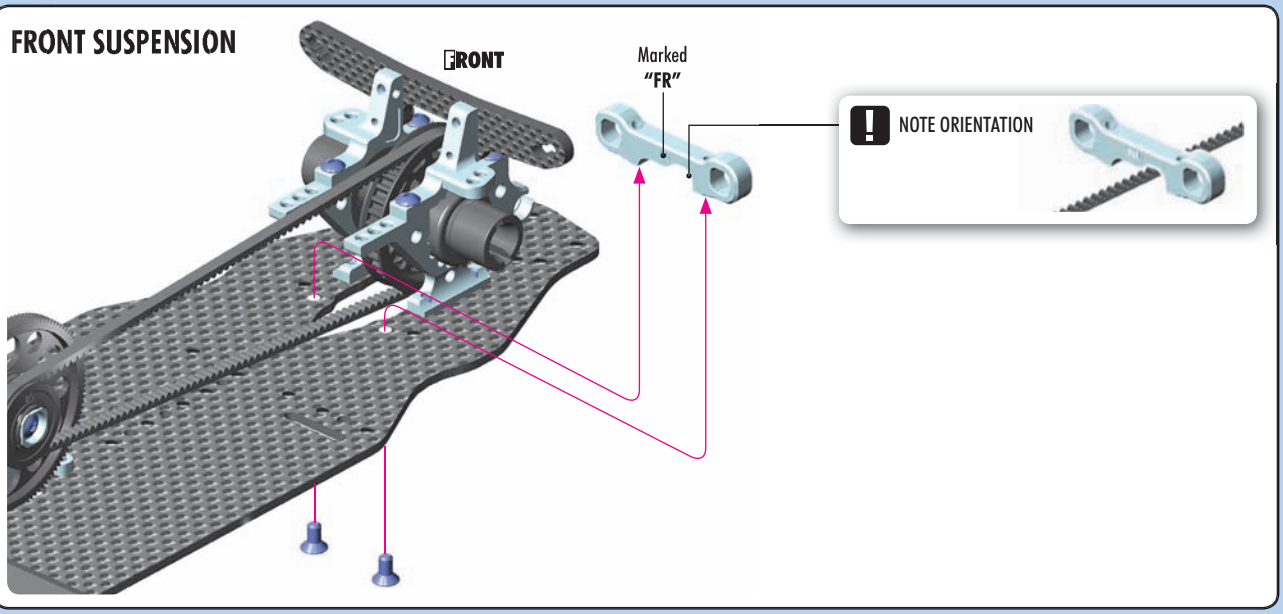
Middle position = 0.5 mm or 0.5° from center

Outer position = 1mm or 1° from center

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

903306
SFH M3x6

FRONT SUSPENSION

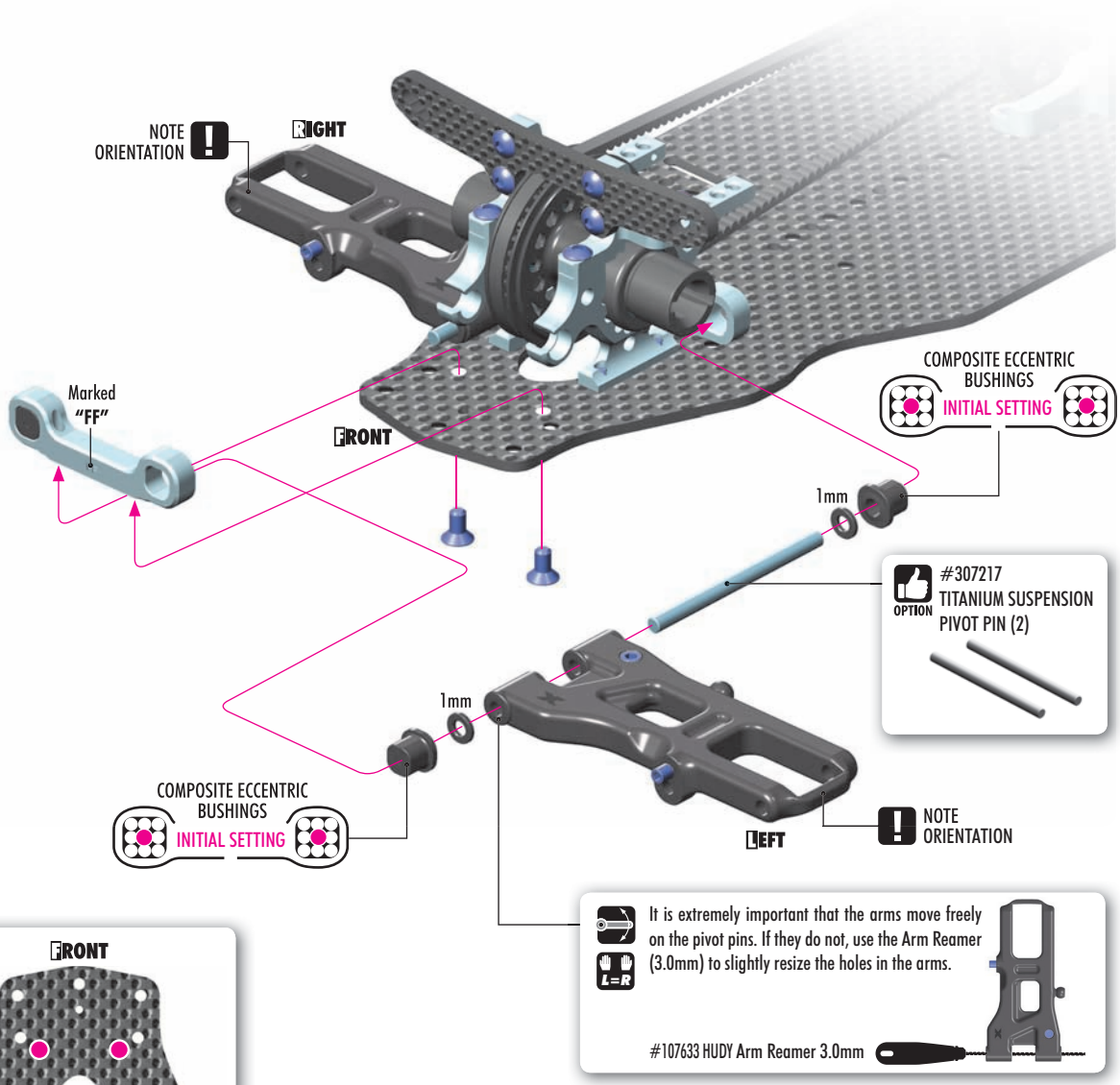


10

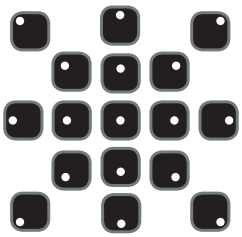
303129
SHIM 3x6x1

903306
SFH M3x6

FRONT SUSPENSION



All possible mounting alternatives of eccentric bushings



ECCENTRIC BUSHINGS HAVE TWO DIFFERENT OFFSETS FROM THE CENTER.

Middle position = 0.5 mm or 0.5° from center

Outer position = 1mm or 1° from center

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

SET-UP BOOK

TOE-IN
TRACK-WIDTH
WHEELBASE
ROLL CENTER
ANTI-DIVE
KICK-UP

4. STEERING

OPTION #301061
T4'20 GRAPHITE UPPER DECK 1.6MM

OPTION #302548
ALU STEERING PLATE 8MM FOR DUAL SERVO SAVER

OPTION #303212-O
ALU ADJ. TURNBUCKLE L/R 26mm - ORANGE - SWISS 7075 T6 (2)

OPTION #303212
ALU ADJ. TURNBUCKLE L/R 26mm - SWISS 7075 T6 (2)

OPTION #302612-O
ALU ADJ. TURNBUCKLE M3 L/R 39mm ORANGE - SWISS 7075 T6 (2)

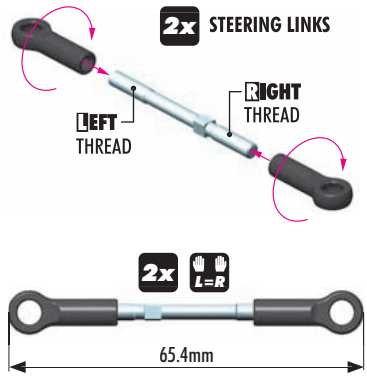
OPTION #302610
ADJ. TURNBUCKLE L/R 40mm HUDY SPRING STEEL™ (2)

OPTION #302525
ALU DUAL-SERVO SAVER ARM

OPTION #303071
BELT TENSIONER

BAG 04

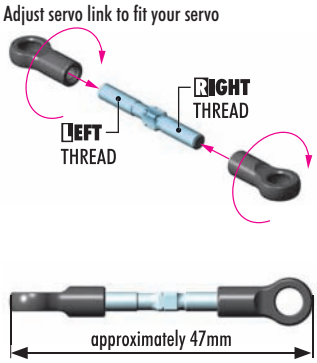
301060	T4'20 GRAPHITE UPPER DECK 2.0MM
301172	ALU UPPER DECK COLLAR FOR FLEX ELIMINATION
302526	COMPOSITE DUAL SERVO SAVER ARM
302537	T4'20 ALU STEERING POST FOR DUAL SERVO SAVER (2)
302544	ALU SHIM FOR RADIAL PLAY ADJUSTMENT OF STEERING ARM (2)
302547-O	T4 ALU STEERING PLATE 8.5MM FOR DUAL-SERVO SAVER - ORANGE
302612	ALU ADJ. TURNBUCKLE M3 L/R 39 MM - SWISS 7075 T6 (2)
302663	COMPOSITE BALL JOINT 5 MM - OPEN - V2 (8)
303126-K	ALU SHIM 3x6x5.0MM - BLACK (10)
303129	COMPOSITE SET OF SHIMS (3x1MM; 1x2MM) (2)
303210	REAR TURNBUCKLE L/R 26 MM - HUDY SPRING STEEL (2)
303454	BALL JOINT 4.9MM - OPEN (4)
362650	BALL END 4.9MM WITH THREAD 6MM (2)
362652	BALL END 4.9MM WITH THREAD 10MM (2)
372503	COMPOSITE SERVO SAVER - X-STIFF - SET - V2
902305	HEX SCREW SH M3x5 (10)
902306	HEX SCREW SH M3x6 (10)
902308	HEX SCREW SH M3x8 (10)
903306	HEX SCREW SFH M3x6 (10)
903308	HEX SCREW SFH M3x8 (10)
930306	BALL-BEARING 3x6x2.5 STEEL-SEALED - OILED (2)
940508	BALL-BEARING 5x8x2.5 RUBBER-SEALED - OILED (2)



OPTION #302612-O
ALU ADJ. TURNBUCKLE M3 L/R 39mm ORANGE - SWISS 7075 T6 (2)

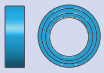
OPTION #302610
ADJ. TURNBUCKLE L/R 40mm HUDY SPRING STEEL (2)

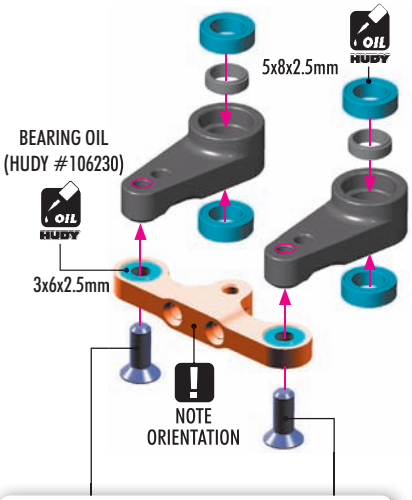
SERVO LINK
Adjust servo link to fit your servo




903308
SFH M3x8


930306
BB 3x6x2.5

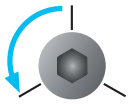

940508
BB 5x8x2.5



Tighten the screws gently but fully, and then loosen 1/3 turn so the composite dual-servo saver moves freely.

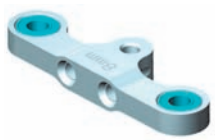
❶ tighten fully
❷ loosen 1/3 ccw
❸ check free movement

1/3 (120° CCW)



OPTION #302548
ALU STEERING PLATE 8MM FOR DUAL SERVO SAVER

Optional 8mm steering plate reduces steering response and increases cornering speed. Recommended for big open tracks, but also on technical tracks with many chicanes as it decreases over-steering and increases stability of the car in chicanes.



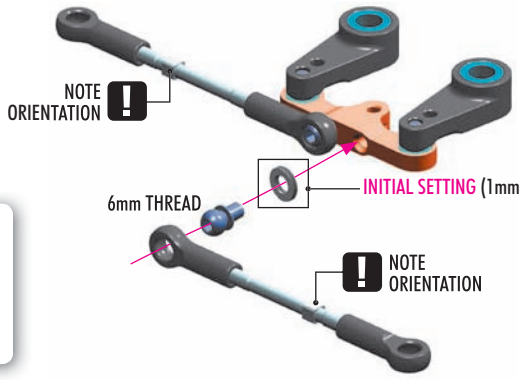
When using 8mm steering plate, remove a bit of material from the ball joints so they do not touch each other.

OPTION #302525
ALU DUAL SERVO SAVER ARM

We recommend using the aluminum dual-servo saver arms when better steering response is needed. Also recommended for asphalt tracks.


303129
SHIM 3x6x1

2x L=R

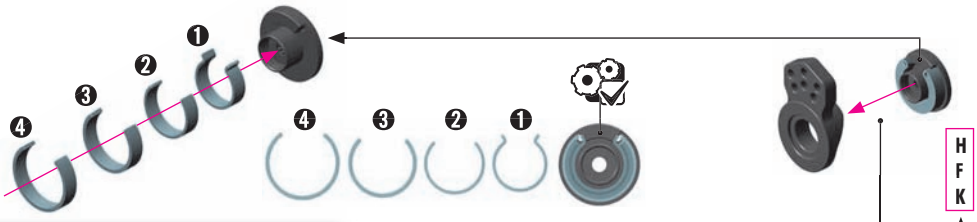


TIP Install the pivot balls with Professional Multi Tool (HUDY #183011)

TIP
To change Ackermann angle, use 2 identical shims (of same thickness) between the alu steering plate and ball ends.

303129
SHIM 3x6x2

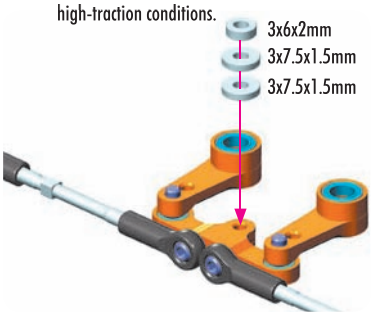
303126-K
SHIM 3x6x5

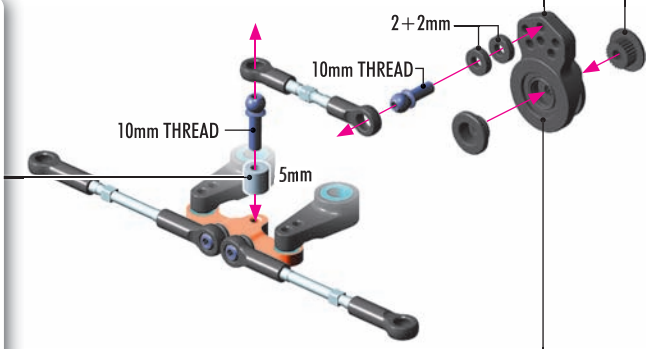


H = (24T) Hitec
F = (25T) Futaba, Robe, Savox
K = (23T) KO, JR, Airtronics, Sanwa

OPTION

When using optional aluminum steering arms, we suggest using optional shims #303134-K (3x7.5x1.5mm) + #303123-K (3x6x2mm) when you want to eliminate steering lock in high-traction conditions.





INITIAL SETTING

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

OPTION HUDY

ALU SERVO HORNS - OFFSET	
#293491	KO, Sanwa - 23T
#293492	Hitec - 24T
#293493	Futaba - 25T
CLAMP ALU SERVO HORNS - OFFSET	
#293401	KO, Sanwa - 23T
#293402	Hitec - 24T
#293403	Futaba - 25T

OPTION HUDY

HUDY ALU SERVO HORNS	
#293497	KO, Sanwa - 23T
#293498	Hitec - 24T
#293499	Futaba - 25T
HUDY CLAMP ALU SERVO HORNS	
#293404	KO, Sanwa - 23T
#293405	Hitec - 24T
#293406	Futaba - 25T

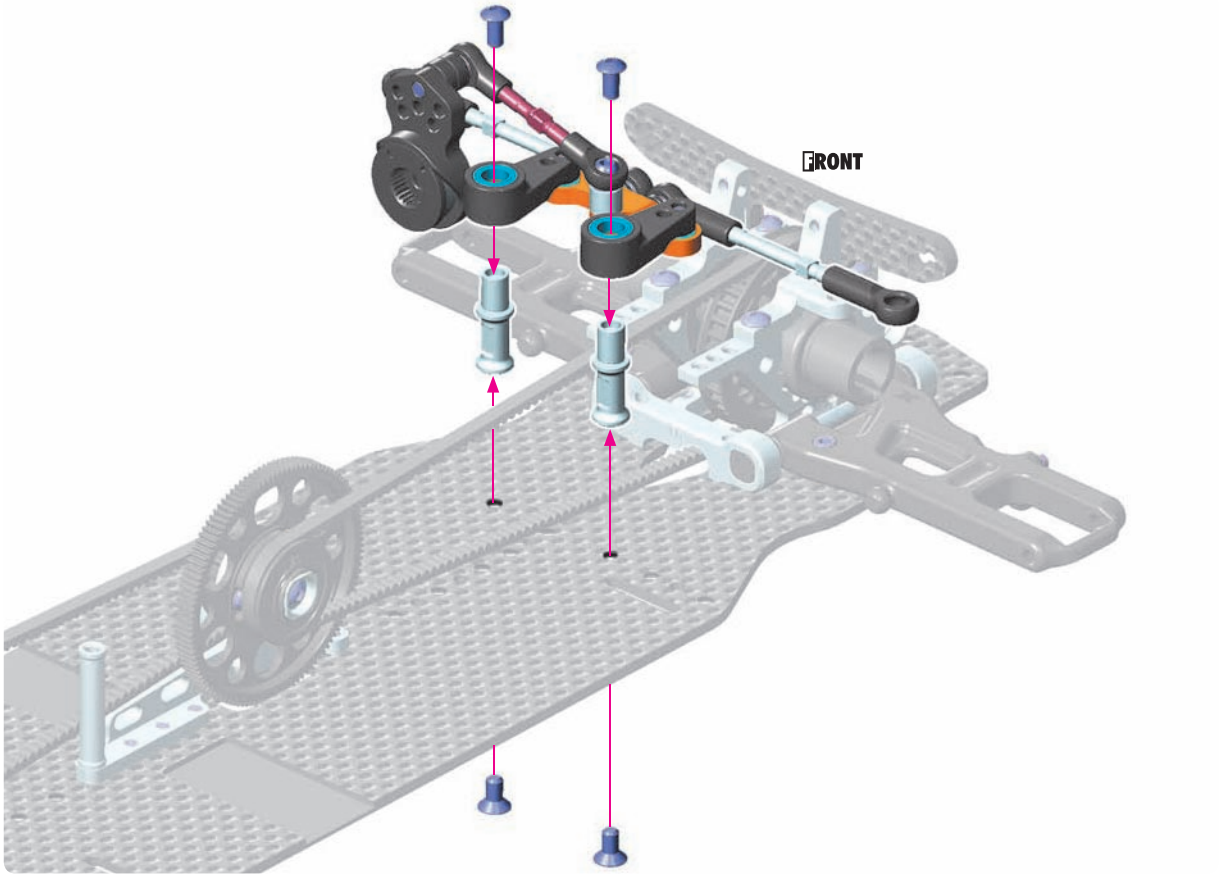
OPTION HUDY

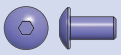
HUDY ALU SERVO HORNS	
#293501	KO, Sanwa - 23T
#293502	Hitec - 24T
#293503	Futaba - 25T
HUDY CLAMP ALU SERVO HORNS	
#293407	KO, Sanwa - 23T
#293408	Hitec - 24T
#293409	Futaba - 25T

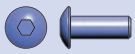
IMPORTANT!
When than aluminum horn is used, the steering servo saver is not used. This increases the risk of breaking the servo in serious crashes.

902305
SH M3x5

903306
SFH M3x6




902306
SH M3x6

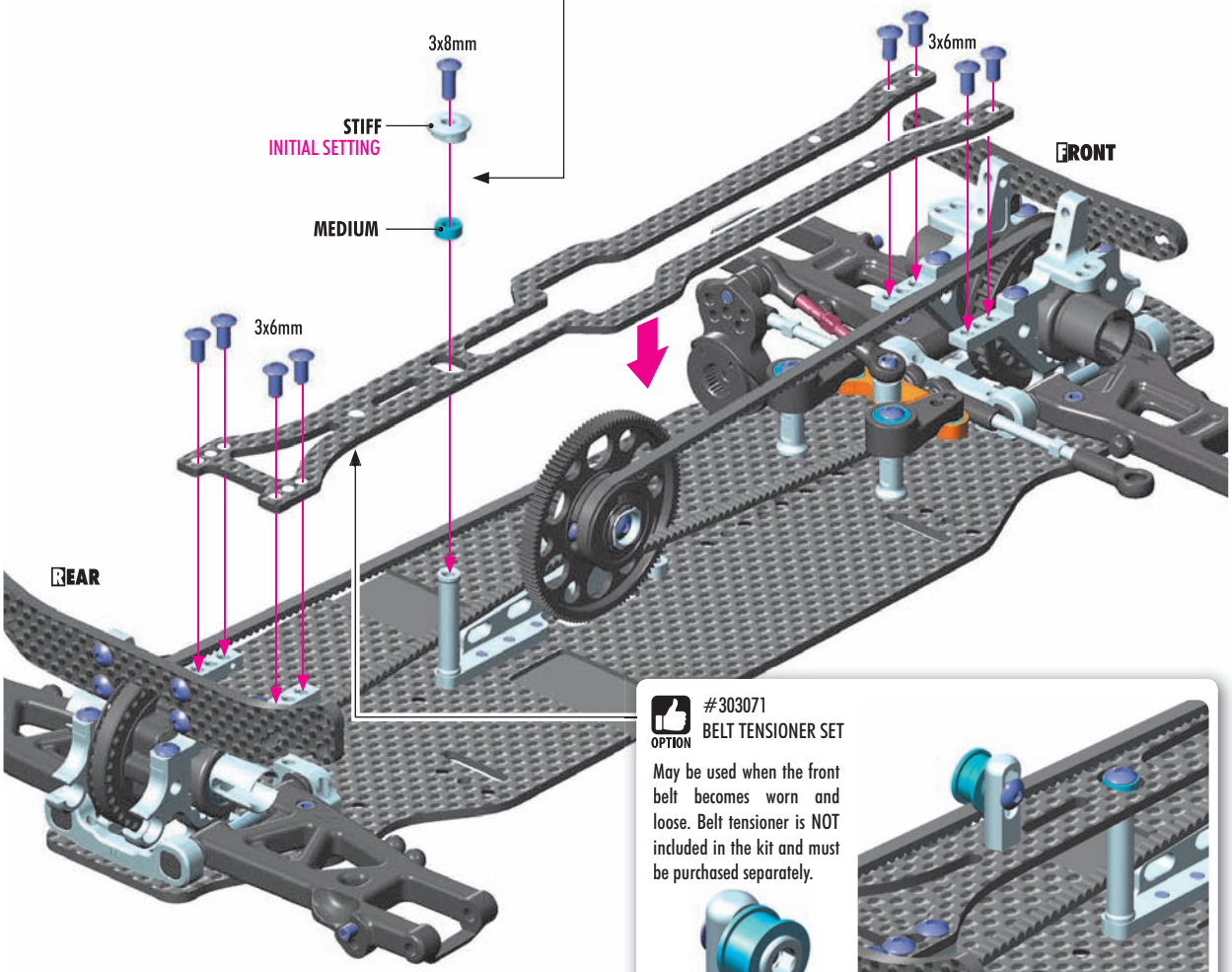

902308
SH M3x8


930306
BB 3x6x2.5

TOP DECK FLEX SETTINGS

The new feature of the top deck is the flex setting adjustment.
There are three different flex setting alternatives.

SOFT	MEDIUM	STIFF
		
Post is not connected to the top deck. This allows maximum flex setting and provides maximum steering characteristics. However, the car is less stable on-power.	Post is connected to the top deck via ball bearing. This allows the top deck to flex to the sides but not to the front/rear. This setting eliminates a bit of steering but improves stability.	Post is connected to the top deck via aluminum bushing. This setting provides maximum stability as it stiffens the entire car and eliminates flex to sides and front/rear.



OPTION

#303071
BELT TENSIONER SET

May be used when the front belt becomes worn and loose. Belt tensioner is NOT included in the kit and must be purchased separately.

OPTION

#301061
T4'20 GRAPHITE TOP DECK 1.6MM

We recommend using optional 1.6mm top deck for super-low traction conditions or in combination with aluminum chassis as it provides more overall traction and steering.

CHASSIS FLEX SETTING
TOP DECK SETTING

5. FRONT & REAR TRANSMISSION

OPTION

DRIVE SHAFTS	
#305323	50MM - STEEL
#305324	52MM - STEEL
#305326	52MM - ALU
#305332	52MM - ECS
#305333	50MM - ECS

OPTION

STEERING BLOCKS		
#302252	MEDIUM	OPTION
#302253	HARD	INCLUDED
#302254	GRAPHITE	OPTION
#302256	ALU	OPTION

OPTION

#305242
DRIVE SHAFT REPLACEMENT CAP
3.5MM - ORANGE - STRONG (4)

OPTION

#303212-O
ALU TURNBUCKLE L/R 26mm
ORANGE - SWISS 7075 T6 (2)

OPTION

#309002
SET OF CERAMIC
BALL-BEARINGS (14)

OPTION

#307222 TITANIUM FRONT ARM PIVOT PIN (2)
#307322 TITANIUM REAR ARM PIVOT PIN (2)

OPTION

#303210
TURNBUCKLE M3 L/R 26mm
HUDY SPRING STEEL™ (2)

OPTION

UPRIGHTS		
	#303351	1° - R MEDIUM (2-HOLE)
	#303352	0° - R/L MEDIUM (2-HOLE)
	#303353	1° - R HARD (2-HOLE)
INCLUDED	#303354	0° - R/L HARD (2-HOLE)
	#303360	0° - R/L GRAPHITE (2-HOLE)
	#303361	1° - L MEDIUM (2-HOLE)
	#303362	0° - R/L MEDIUM (1-HOLE)
	#303363	1° - L HARD (2-HOLE)
	#303364	0° - R/L HARD (1-HOLE)
	#303358	ALU 1° - R/L (4-HOLE)
	#303359	ALU 2° - R/L (4-HOLE)

BAG 05

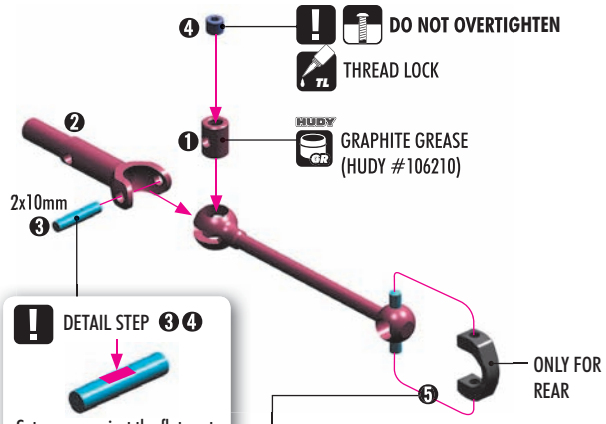
302253	COMPOSITE STEERING BLOCK - HARD
302291	STEEL STEERING BUSHING (2+2)
302363	COMPOSITE C-HUB RIGHT - 4° DEG. - MEDIUM - V2
302364	COMPOSITE C-HUB LEFT - 4° DEG. - MEDIUM - V2
302663	COMPOSITE BALL JOINT 4.9MM - OPEN - V2 (8)
302814	T4'20 ANTI-ROLL BAR FOR BALL-BEARINGS - FRONT 1.4 MM
303122-K	ALU SHIM 3x6x1.0MM - BLACK (10)
303123-K	ALU SHIM 3x6x2.0MM - BLACK (10)
303127-K	ALU SHIM 3x6x4.0MM - BLACK (10)
303212	ALU ADJ. TURNBUCKLE M3 L/R 26 MM - SWISS 7075 T6 (2)
303354	COMPOSITE UPRIGHT 0° OUTBOARD TOE-IN - HARD
303433	ALU ANTI-ROLL BAR BUSHING - 6MM (2)
303455	COMPOSITE ANTI-ROLL BAR BALL JOINT 4.9 MM (4)
303457	BALL JOINT 4.9MM - EXTRA SHORT OPEN (4)
303803	ANTI-ROLL BAR FOR BALL BEARINGS - REAR 1.3 MM
305231	DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
305241	DRIVE SHAFT REPLACEMENT CAP 3.5 MM (4)
305221	ECS (ES) DRIVE SHAFT 51MM FOR 2MM PIN - HUDY SPRING STEEL™ (1)
305253	ECS DRIVE SHAFT COUPLING FOR 2MM PIN - HUDY SPRING STEEL™
305254	ECS (ES) DRIVE SHAFT CASE FOR 2MM PIN - HUDY SPRING STEEL™
305328	ALU DRIVE SHAFT SWISS 7075 T6 - HARDCOATED - 50MM
305334	ECS ES (ES) DRIVE SHAFT 51MM - HUDY SPRING STEEL™ - SET
305341	DRIVE AXLE - LIGHTWEIGHT - HUDY SPRING STEEL™
305346	ECS DRIVE AXLE FOR 2MM PIN - HUDY SPRING STEEL™
305350-K	ALU WHEEL HUB - BLACK (2)
305392	DRIVE SHAFT PIN 2 x 10 WITH FLAT SPOT (2)
305394	ECS DRIVE SHAFT PIN 2 x 9 WITH FLAT SPOT (2)
307221	FRONT ARM PIVOT PIN (2)
307321	REAR ARM PIVOT PIN (2)
362648	BALL END 4.9MM WITH THREAD 4MM (2)
362649	BALL END 4.9MM WITH THREAD 5MM (2)
362651	BALL END 4.9MM WITH THREAD 8MM (2)
362652	BALL END 4.9MM WITH THREAD 10MM (2)
901302	HEX SCREW SB M3x2.5 (10)
901304	HEX SCREW SB M3x4 (10)
902205	HEX SCREW SH M2x5 (10)
902310	HEX SCREW SH M3x10 (10)
930306	BALL-BEARING 3x6x2.5 STEEL-SEALED - OILED (2)
940510	BALL-BEARING 5x10x4 RUBBER SEALED - OIL (2)
980210	PIN 2x10 (10)

901302
SB M3x2.5

305392
P 2x10

305394
P 2x9

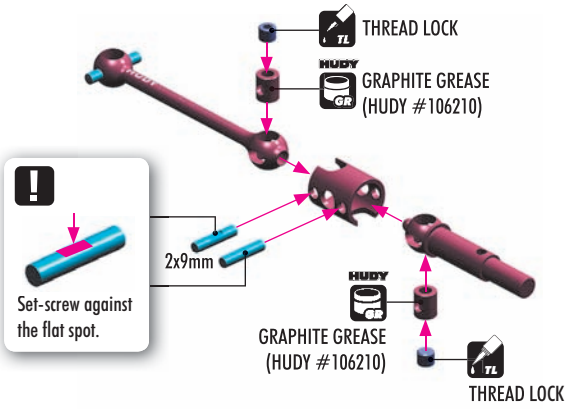
2x REAR TRANSMISSION



TIP For easy installation of the #305241 plastic caps, use pliers as shown.

OPTION #305242
DRIVE SHAFT REPLACEMENT CAP
3.5MM ORANGE - STRONG (4)

2x FRONT TRANSMISSION



ECS DRIVE SHAFTS

ECS drive shafts are available in 51mm length in kit, or optional 50mm & 52mm lengths. The ECS drive shafts were developed to decrease front wheel vibration when racing with a solid front axle, thus providing a much smoother and quieter ride and increased steering.

OPTION

DRIVE SHAFTS	
#305323	50MM - STEEL
#305324	52MM - STEEL
#305326	52MM - ALU
#305332	52MM - ECS
#305333	50MM - ECS

Longer drive shafts (52mm) make the car easier to drive because they give more traction and better stability, mainly in chicanes. However, the car will understeer more than with shorter (50mm) shafts which give a lot of steering and make the car more aggressive. Both left & right shafts should ALWAYS be the same length at one end of the car (front or rear).

52mm shafts are recommended for **carpet high-traction** tracks.
51mm shafts are recommended for **carpet** tracks and **large asphalt** tracks.
50mm shafts are recommended for **low-traction** or **tight asphalt** tracks.

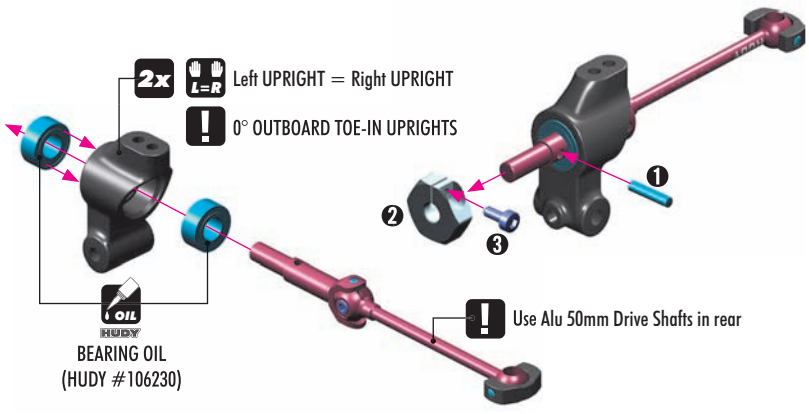
The new 51mm drive shafts which are included in the kit are the best compromise between 50 and 52mm lengths.

902205
SH M2x5

940510
BB 5x10x4

980210
P 2x10

L=R REAR TRANSMISSION



OPTION

	UPRIGHTS		
	#303351	1° - R MEDIUM	(2-HOLE)
	#303352	0° - R/L MEDIUM	(2-HOLE)
	#303353	1° - R HARD	(2-HOLE)
INCLUDED	#303354	0° - R/L HARD	(2-HOLE)
	#303360	0° - R/L GRAPHITE	(2-HOLE)
	#303361	1° - L MEDIUM	(2-HOLE)
	#303362	0° - R/L MEDIUM	(1-HOLE)
	#303363	1° - L HARD	(2-HOLE)
	#303364	0° - R/L HARD	(1-HOLE)
	#303358	ALU 1° - R/L	(4-HOLE)
	#303359	ALU 2° - R/L	(4-HOLE)

REAR TOE-IN
TRACK-WIDTH

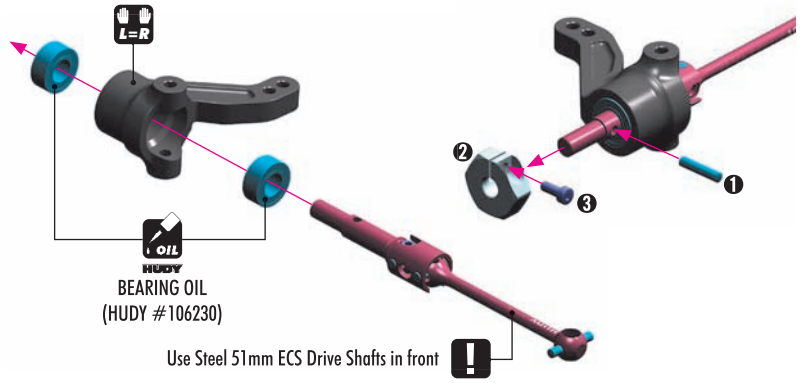
902205
SH M2x5

940510
BB 5x10x4

980210
P 2x10

SET-UP BOOK
REAR TOE-IN
TRACK-WIDTH

L=R 2x FRONT TRANSMISSION



OPTION

ALU OFFSET WHEEL HUBS		
#305350-K	0mm	INCLUDED
#305351	-0.75mm	OPTION
#305352	+0.75mm	OPTION
#305353	+1.5mm	OPTION

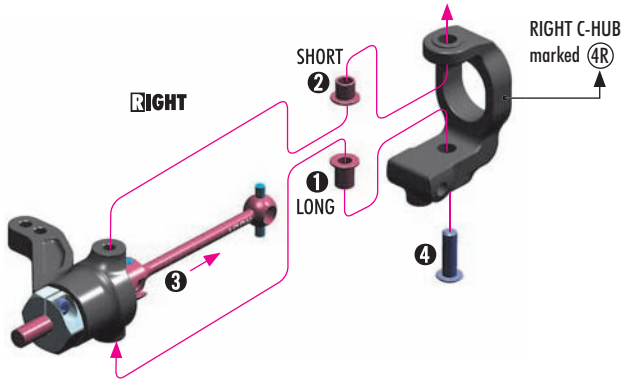
OPTION

STEERING BLOCKS		
#302252	MEDIUM	OPTION
#302253	HARD	INCLUDED
#302254	GRAPHITE	OPTION
#302256	ALU	OPTION

902310
SH M3x10

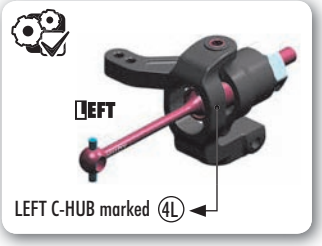
SET-UP BOOK
CASTER ADJUSTMENT

L=R 2x FRONT TRANSMISSION

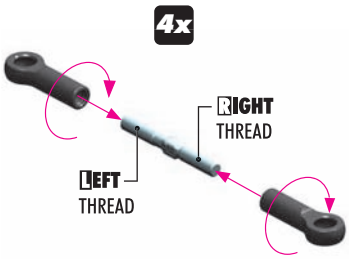


OPTION

C-HUBS FRONT TRANSMISSION			
#302335	2° - RIGHT	ALU	OPTION
#302336	2° - LEFT	ALU	OPTION
#302337	4° - RIGHT	ALU	OPTION
#302338	4° - LEFT	ALU	OPTION
#302339	6° - RIGHT	ALU	OPTION
#302340	6° - LEFT	ALU	OPTION
#302361	2°- RIGHT	MEDIUM	OPTION
#302362	2°- LEFT	MEDIUM	OPTION
#302363	4°- RIGHT	MEDIUM	INCLUDED
#302364	4°- LEFT	MEDIUM	INCLUDED
#302365	6°- RIGHT	MEDIUM	OPTION
#302366	6°- LEFT	MEDIUM	OPTION
#302371	2°- RIGHT	HARD	OPTION
#302372	2°- LEFT	HARD	OPTION
#302373	4°- RIGHT	HARD	OPTION
#302374	4°- LEFT	HARD	OPTION
#302375	6°- RIGHT	HARD	OPTION
#302376	6°- LEFT	HARD	OPTION
#302383	4°- RIGHT	GRAPHITE	OPTION
#302384	4°- LEFT	GRAPHITE	OPTION

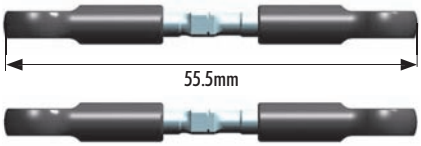


SET-UP BOOK
CAMBER ADJUSTMENT



FRONT 2x L=R

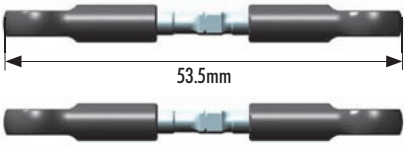
FRONT LEFT = FRONT RIGHT



OPTION
#303212-O
ALU TURNBUCKLE L/R 26mm
ORANGE - SWISS 7075 T6 (2)

REAR 2x L=R

REAR LEFT = REAR RIGHT



OPTION
#303210
TURNBUCKLE M3 L/R 26mm
HUDY SPRING STEEL™ (2)

303122-K
SHIM 3x6x1

303127-K
SHIM 3x6x4

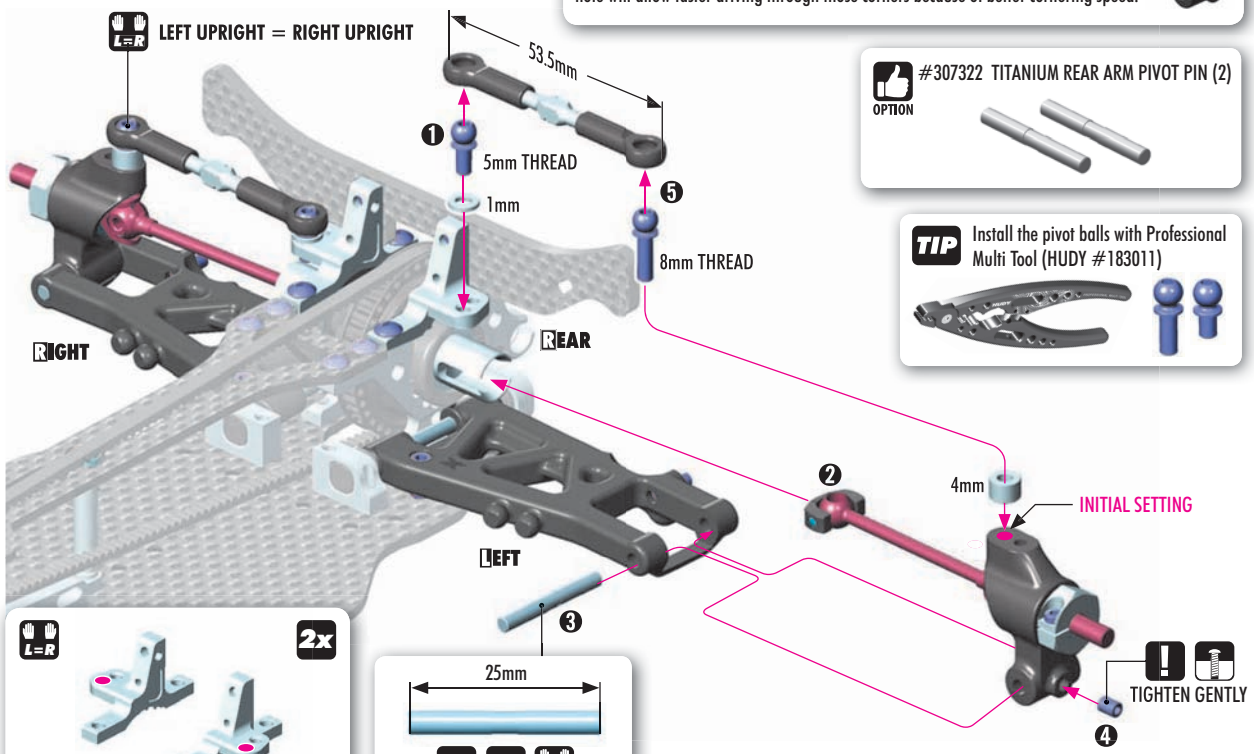
901304
SB M3x4

REAR SUSPENSION

OPTION The information about the optional Active rear suspension is at the end of the manual.

OPTION 1-HOLE REAR UPRIGHTS (See page 21)

An optional 1-hole rear upright is available for fine tuning. This optional upright may be used on high-traction tracks or tracks with long sweepers, since the position of the center hole will allow faster driving through those corners because of better cornering speed.



OPTION #307322 TITANIUM REAR ARM PIVOT PIN (2)

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

L=R 2x

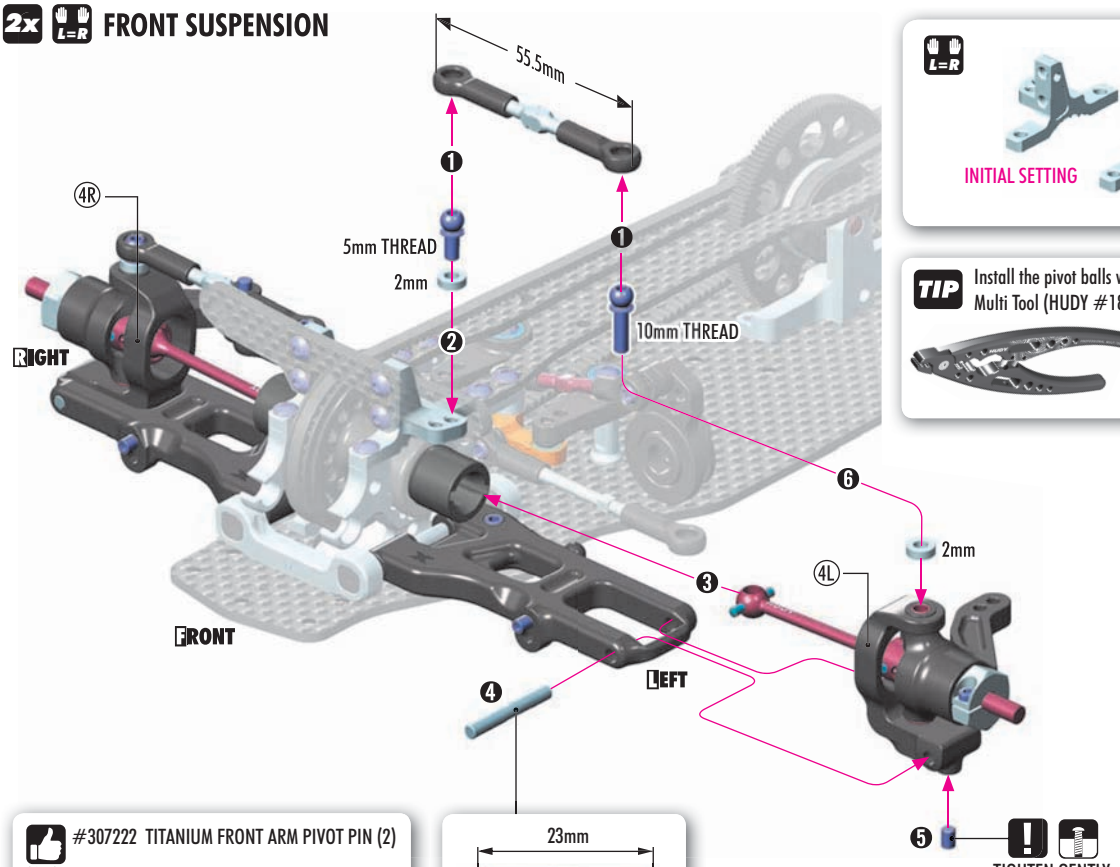
INITIAL SETTING

SET-UP BOOK
ROLL CENTER CAMBER

303123-K
SHIM 3x6x2

901304
SB M3x4

2x L=R FRONT SUSPENSION

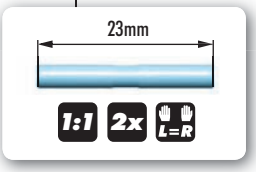


L=R 2x

INITIAL SETTING

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

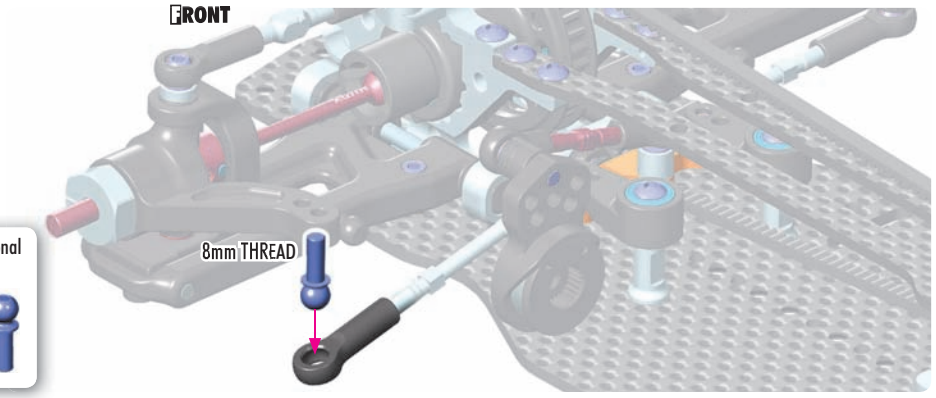
OPTION #307222 TITANIUM FRONT ARM PIVOT PIN (2)



SET-UP BOOK
ROLL-CENTER

5. FRONT & REAR TRANSMISSION

2x L=R

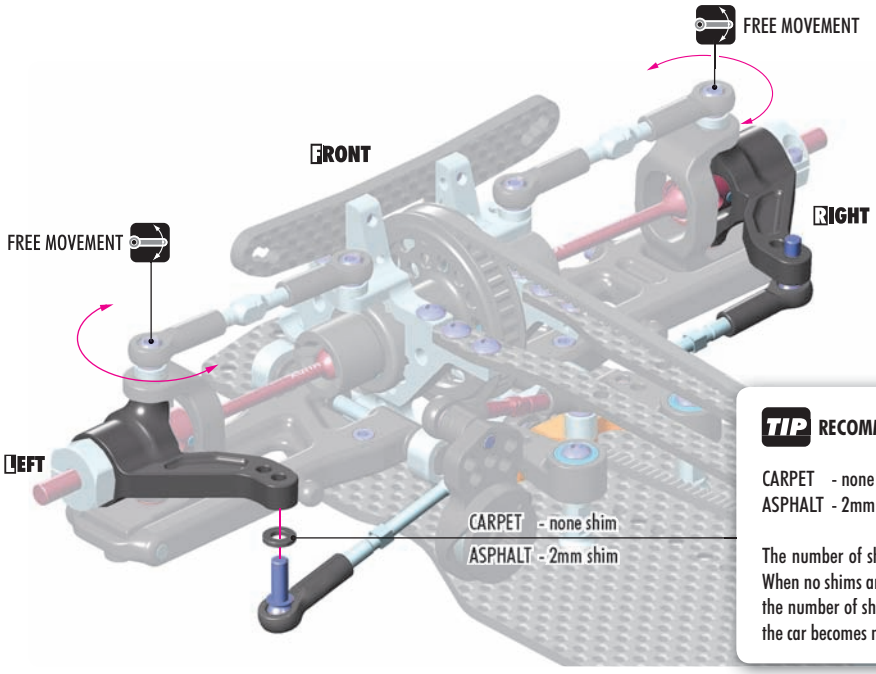


TIP Install the pivot balls with Professional Multi Tool (HUDY #183011)

FRONT TRANSMISSION

L=R

INITIAL SETTING



TIP **RECOMMENDED BUMPSTEER SETTINGS:**

CARPET - none shim
ASPHALT - 2mm thick shim

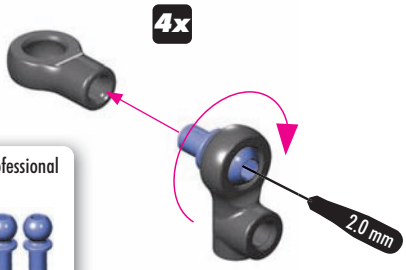
The number of shims changes the angles of the steering linkage. When no shims are used, the car is easy to drive into the corner. As the number of shims is increased, in-corner steering increases but the car becomes more difficult to drive.

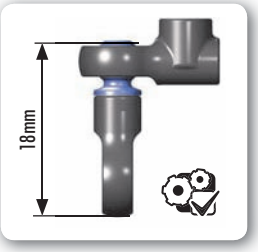
ACKERMANN BUMPSTEER

4x

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

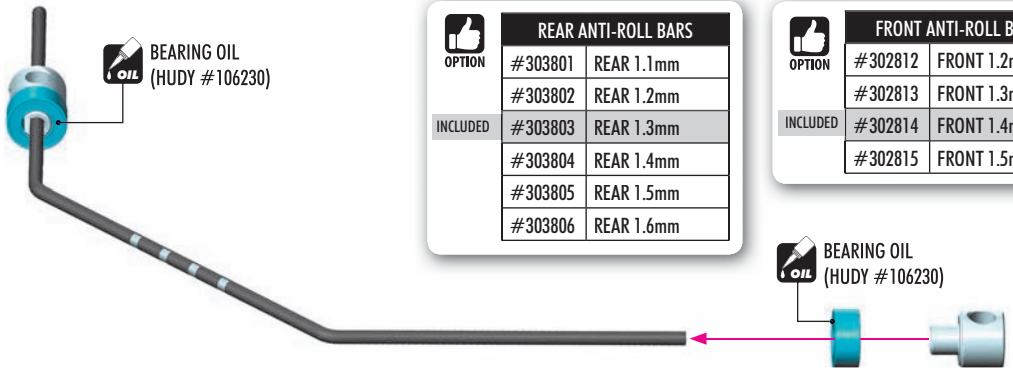
4x





930306
BB 3x6x2.5

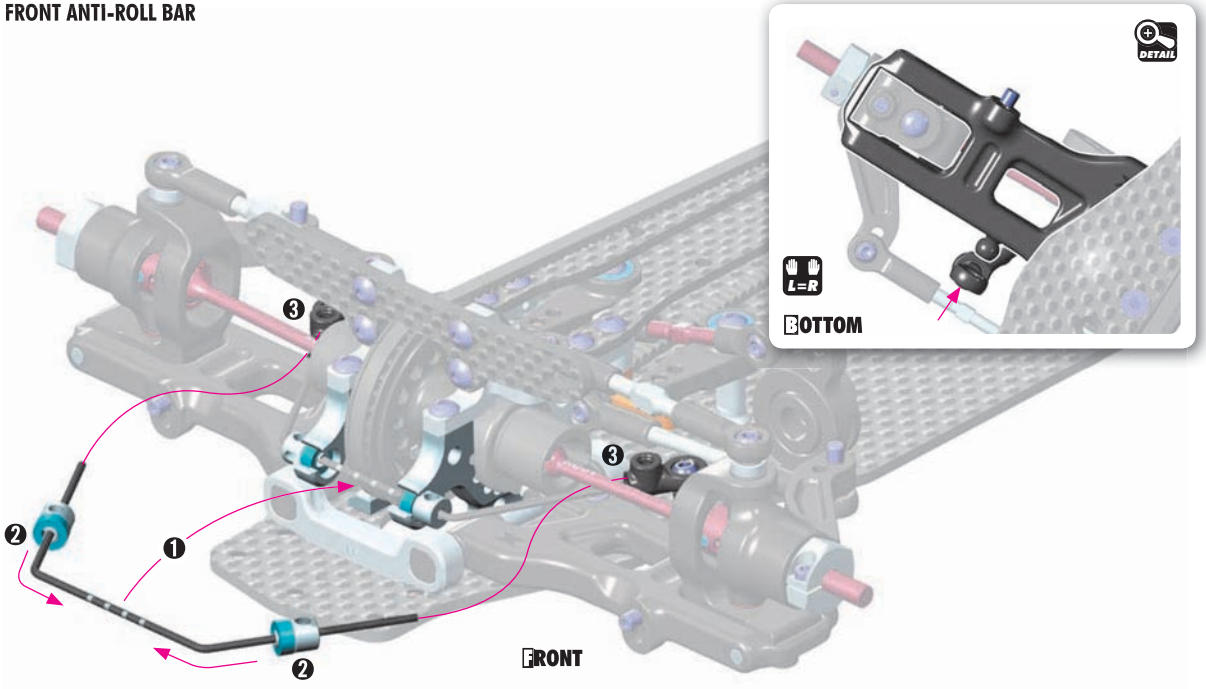
2x



OPTION	REAR ANTI-ROLL BARS	
	#303801	REAR 1.1mm
	#303802	REAR 1.2mm
INCLUDED	#303803	REAR 1.3mm
	#303804	REAR 1.4mm
	#303805	REAR 1.5mm
	#303806	REAR 1.6mm

OPTION	FRONT ANTI-ROLL BARS	
	#302812	FRONT 1.2mm
	#302813	FRONT 1.3mm
INCLUDED	#302814	FRONT 1.4mm
	#302815	FRONT 1.5mm

FRONT ANTI-ROLL BAR

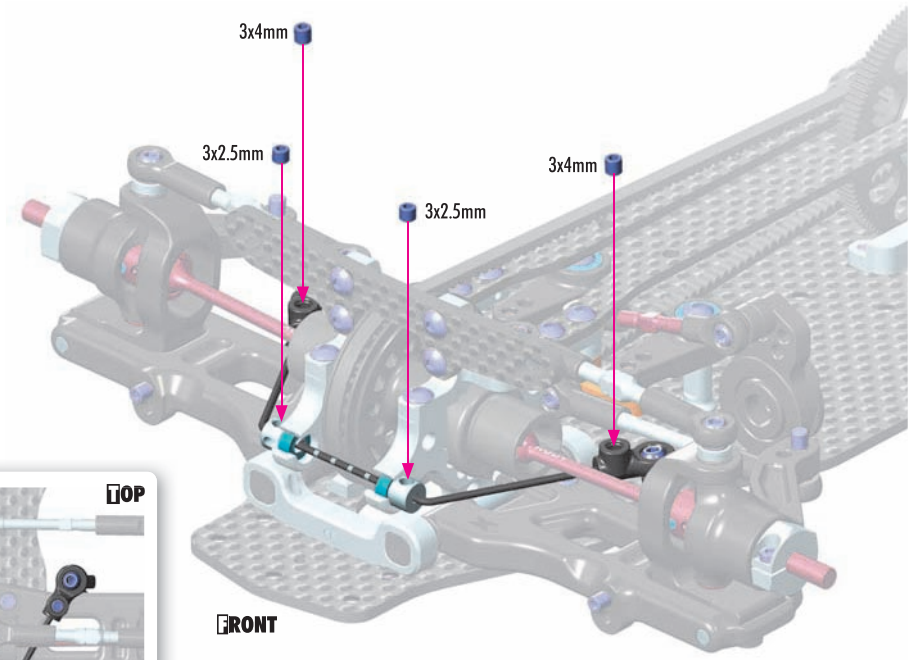


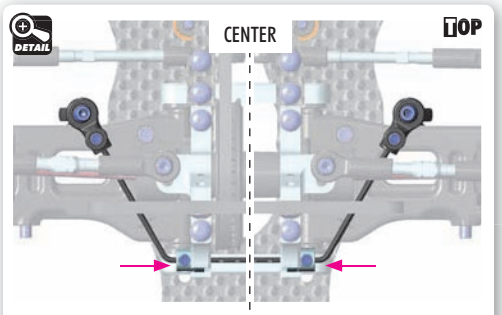
SET-UP BOOK
ANTI-ROLL BARS

FRONT ANTI-ROLL BAR

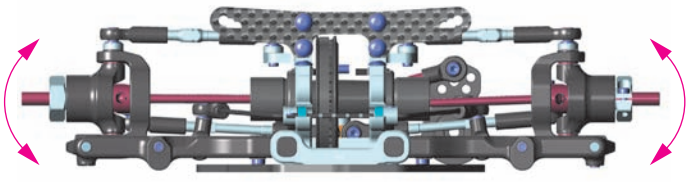
901302
SB M3x2.5

901304
SB M3x4





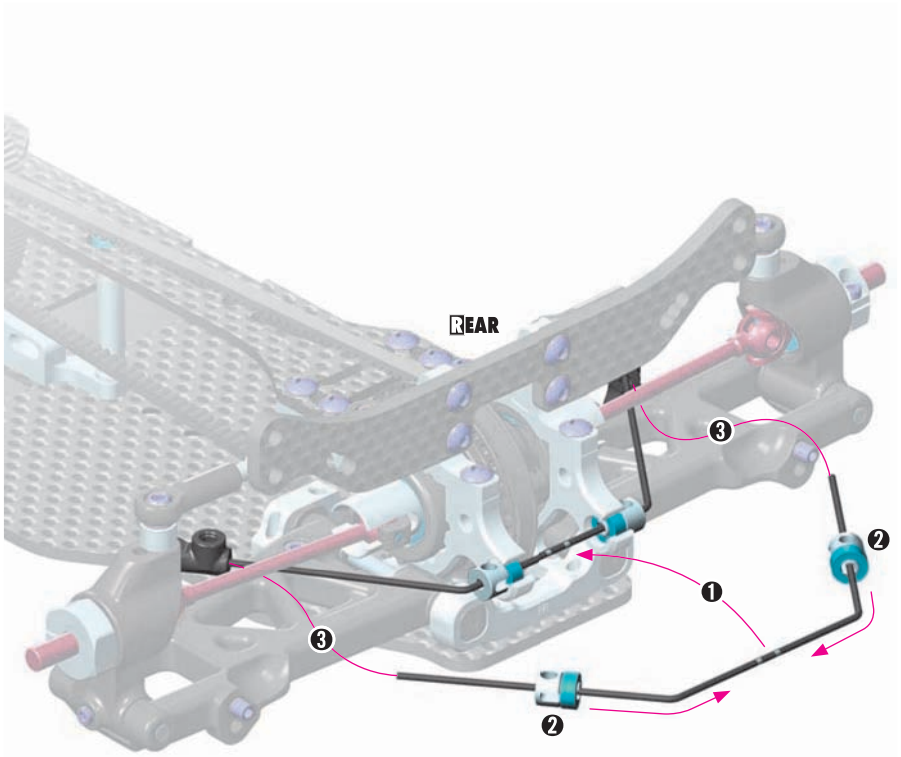
Set the bar into the center, remove the play in the bushings, and tighten the set-screws fully.



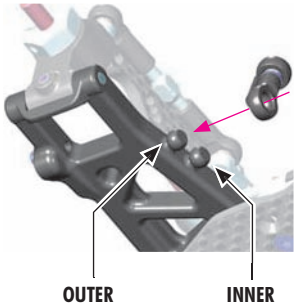
When the bars are set, verify that both sides move at the same time. If they do, the bars are set up correctly. If not, make sure that both downstops are the same and that the bar wire is flat.

If both sides still do not move at the same time, adjust the length of the bar holders.

REAR ANTI-ROLL BAR



2x L=R INITIAL POSITION



ANTI-ROLL BAR POSITION

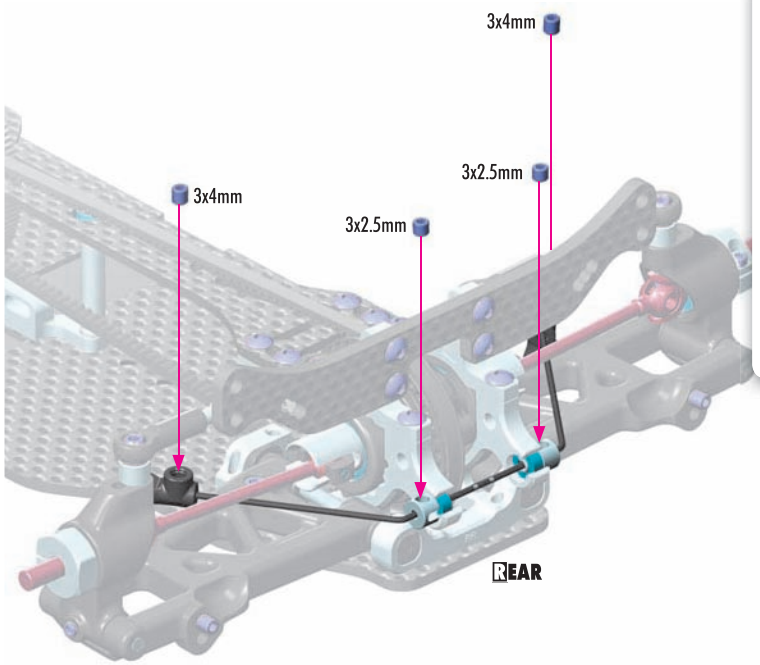
INITIAL SETTING = OUTER BALL

Use the **OUTER** ball on medium-high traction tracks. The car will roll less which will make it easier to drive with more cornering speed.

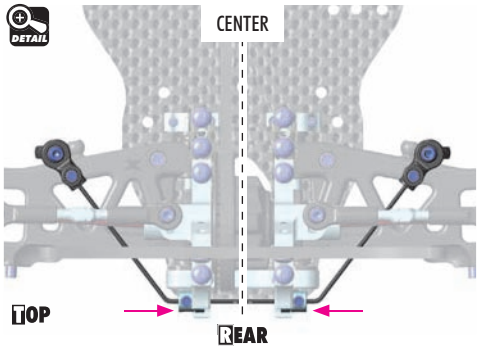
Use the **INNER** ball on low-traction tracks (mainly low-traction carpet tracks). The car will have more traction & more steering, but will be more difficult to drive because the car will roll more.

SET-UP BOOK
ANTI-ROLL BARS

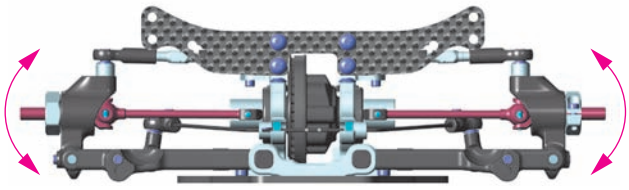
REAR ANTI-ROLL BAR



DETAIL



Set the bar into the center, remove the play in the bushings, and tighten the set-screws fully.



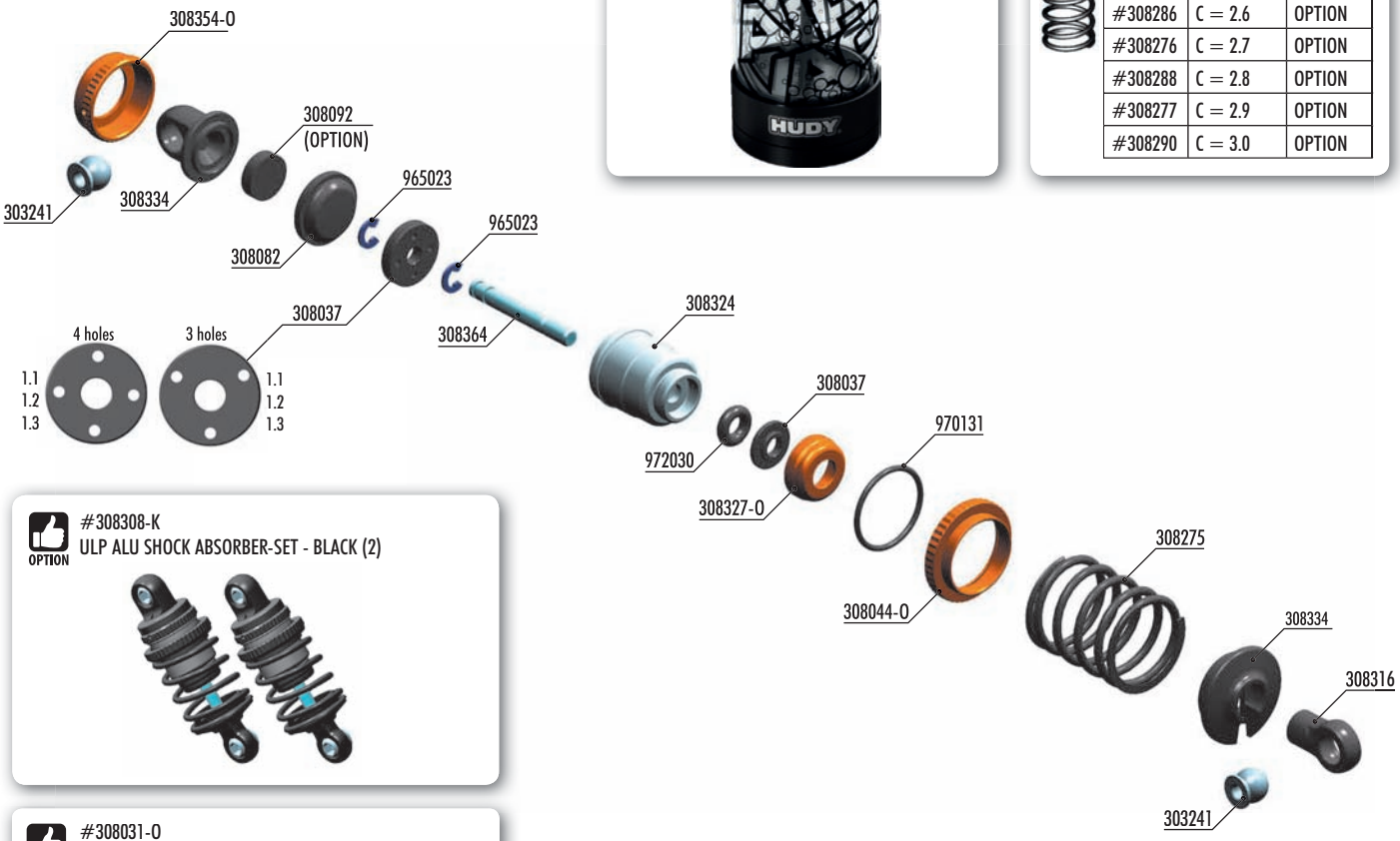
When the bars are set, verify that both sides move at the same time. If they do, the bars are set up correctly. If not, make sure that both downstops are the same and that the bar wire is flat.

If both sides still do not move at the same time, adjust the length of the bar holders.

901302
SB M3x2.5

901304
SB M3x4

4x



OPTION #104002
HUDY AIR VAC – VACUUM PUMP - ON-ROAD

OPTION

XRAY SPRINGS		
#308263	C = 2.3-2.6	OPTION
#308264	C = 2.5-2.8	OPTION
#308274	C = 2.3	OPTION
#308275	C = 2.5	INCLUDED
#308286	C = 2.6	OPTION
#308276	C = 2.7	OPTION
#308288	C = 2.8	OPTION
#308277	C = 2.9	OPTION
#308290	C = 3.0	OPTION

OPTION #308308-K
ULP ALU SHOCK ABSORBER-SET - BLACK (2)

OPTION #308031-O
ALU XRAY SHOCK SPRING RETAINING COLLAR - ORANGE (4)

OPTION #308031-K
ALU XRAY SHOCK SPRING RETAINING COLLAR - BLACK (4)

OPTION #308029
ULP ALU PROGRESSIVE SHOCK SYSTEM - SET (2)

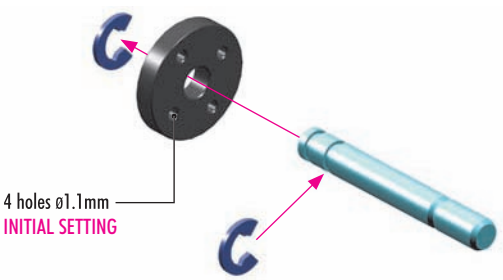
Progressive shock system for touring cars for improved traction and steering characteristics. Shock insert with 3 triangular cutouts used with piston WITHOUT holes. The hardness of the shock is influenced not by the holes in the piston, but rather by the insert.

BAG 06

303241	BALL UNIVERSAL 5.8 MM HEX (4)
308037	COMPOSITE PISTONS 4-HOLE 1.0-1.2MM, 3-HOLE 1.0-1.2MM
308044-O	ULP ALU SHOCK ADJUSTABLE NUT - ORANGE (2)
308082	T4 SHOCK ABSORBER MEMBRANE (4)
308092	T4 SHOCK FOAM INSERTS (4) (OPTION)
308308-O	ULP ALU SHOCK ABSORBER-SET - ORANGE (2)
308316	SHOCK BALL JOINT - OPEN (4)
308324	ULP ALU SHOCK BODY (2)
308327-O	ALU CAP FOR XRAY SHOCK BODY - ORANGE
308334	ULP COMPOSITE SHOCK PARTS
308354-O	ULP ALU SHOCK CAP-NUT WITH VENT HOLE - ORANGE (2)
308364	T4 HARDENED SHOCK SHAFT FOR ALU SHOCKS (2)
308275	XRAY SPRING-SET C=2.5
965023	E-CLIP 2.3 (10)
970131	O-RING 13 x 1.0 (10)
972030	SILICONE O-RING 3 x 2 (10)

965023
C 2.3

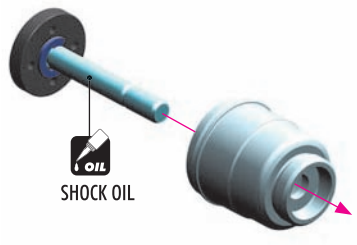
4x

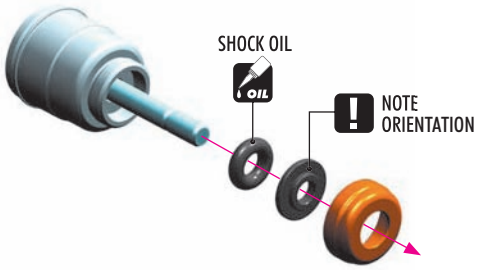


6. SHOCK ABSORBERS

972030
O 3x2

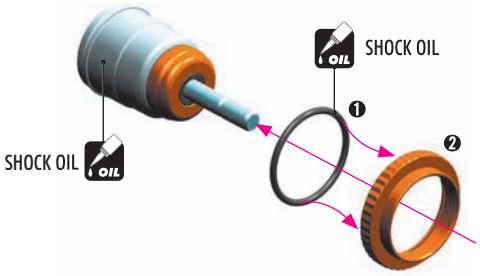
4x





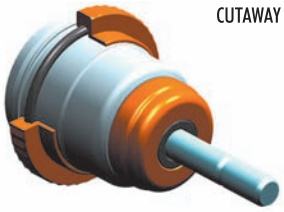
970131
O 13x1.0

4x



DETAIL

CUTAWAY VIEW

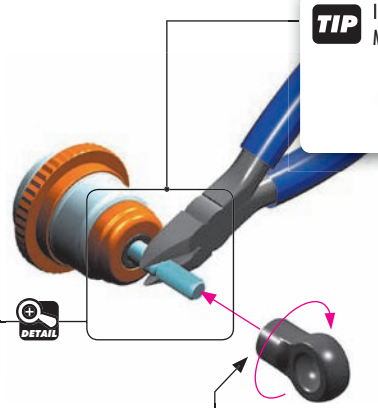


Be careful not to cross-thread the collar on the shock body.

4x

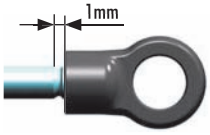
INCORRECT ✕

CORRECT ✓



TIP Install the ball joint with Professional Multi Tool (HUDY #183011)

DETAIL 4x



INITIAL SETTING

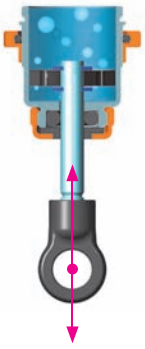
HINT: Pre-thread the ball joint using an M3 screw.
WARNING! Be careful not to pre-thread too far, since the ball joint may split or the plastic threads may strip out.

OIL 450cSt

4x OIL

SHOCK FILLING

1. Fully extend the piston rod so the piston is at the bottom of the shock body.
2. Hold the shock upright and slightly overfill the shock body with shock oil.
3. Let the oil settle and allow air bubbles to rise to the top. Slowly move the piston up and down to allow oil into all cavities within the shock body.
4. Extend the piston rod most of the way out of the shock body. Let the shock rest for 5 minutes to allow the air bubbles to escape.
5. Add shock oil as necessary.



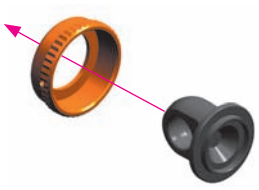
TIP OPTION HUDY #104002
HUDY AIR VAC – VACUUM PUMP

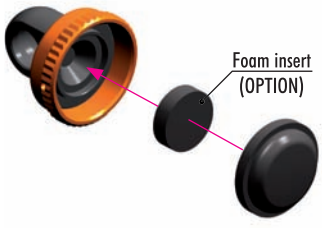
To make sure that all the air is removed from the shock oil, we recommend using the HUDY Air Vac.

OPTION HUDY

	SHOCK OILS (50ml)	
	#106325	250cSt
	#106330	300cSt
	#106335	350cSt
	#106340	400cSt
INCLUDED	#106345	450cSt
	#106350	500cSt
	#106355	550cSt
	#106360	600cSt
	#106365	650cSt
	#106370	700cSt
	#106375	750cSt
	#106380	800cSt

4x





DETAIL

CUTAWAY VIEW

After you insert the membrane, ensure that it is fully seated inside the alu cap.

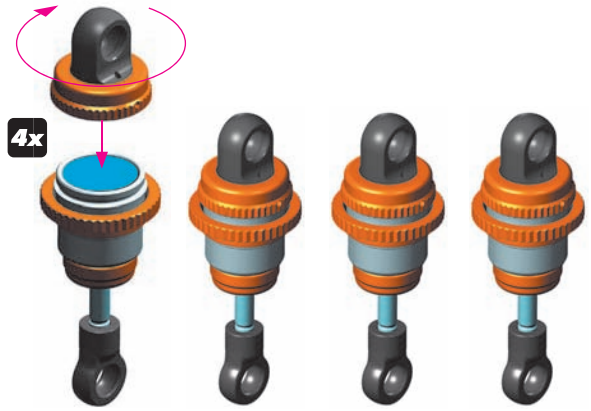
SET-UP BOOK
SHOCK DAMPING

❶ When installing the shock cap assembly on the shock body, some oil will leak out... this is normal.

❷ Tighten the cap and clean off any excess oil.

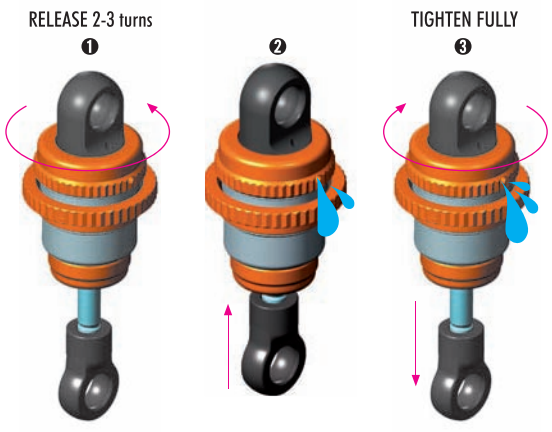
❸ After the shock is assembled, the shock rod will push itself out of the shock body fairly quickly.

❹ Follow the next procedure to adjust the rebound.



4x

REBOUND ADJUSTMENT



AFTER THE SHOCK IS ASSEMBLED YOU HAVE TO SET THE SHOCK REBOUND:

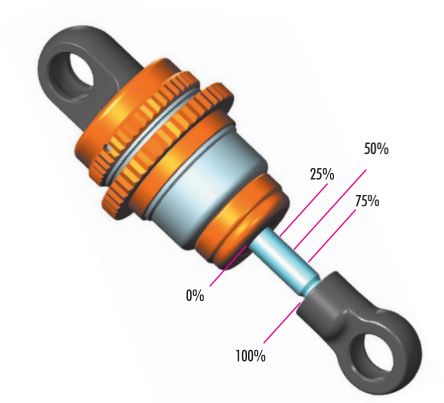
❶ Release the shock cap by 2-3 turns.

❷ Push the shock shaft fully up. For the first time the extra oil will release through the hole in the alu cap-nut.

❸ Tighten the shock cup. When tightening the shock cap, extra oil will again release through the hole in the alu cap - nut. When tightening, the shock shaft will push out from the shock body.

4x

REBOUND CHECK



REBOUND CHECK:

It is very important to push the shock shaft into the shock body slowly otherwise air can come into the shock body which would create bubles.

100%	rebound - do not do step 2 and 3
75%	rebound - repeat steps 1 to 3 until the shock shaft will push out 75% of its length
50%	rebound - repeat steps 1 to 3 until the shock shaft will push out 50% of its length
25%	rebound - repeat steps 1 to 3 until the shock shaft will push out 25% of its length
0%	rebound - repeat steps 1 to 3 until the shock shaft will push out 0% of its length

If the shock shaft does not rebound enough, you will have to refill the shock with shock oil, and then repeat the bleeding and rebound adjustment procedure.

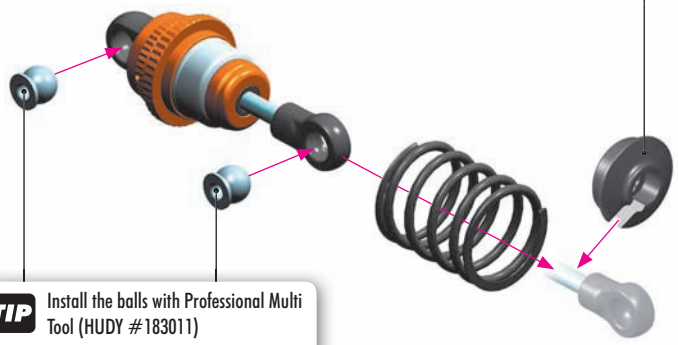
SET-UP BOOK
SHOCK DAMPING
SPRING RATE SELECTION

4x

SHOCK LENGTH ADJUSTMENT:

! It is VERY IMPORTANT that all shocks are equal length.

Fully extend the shock absorber and measure the end-to-end length; we recommend using digital calipers to give an accurate measurement. If a shock absorber is shorter or longer than others, adjust the shock length by tightening or loosening the ball joint on the shock rod.



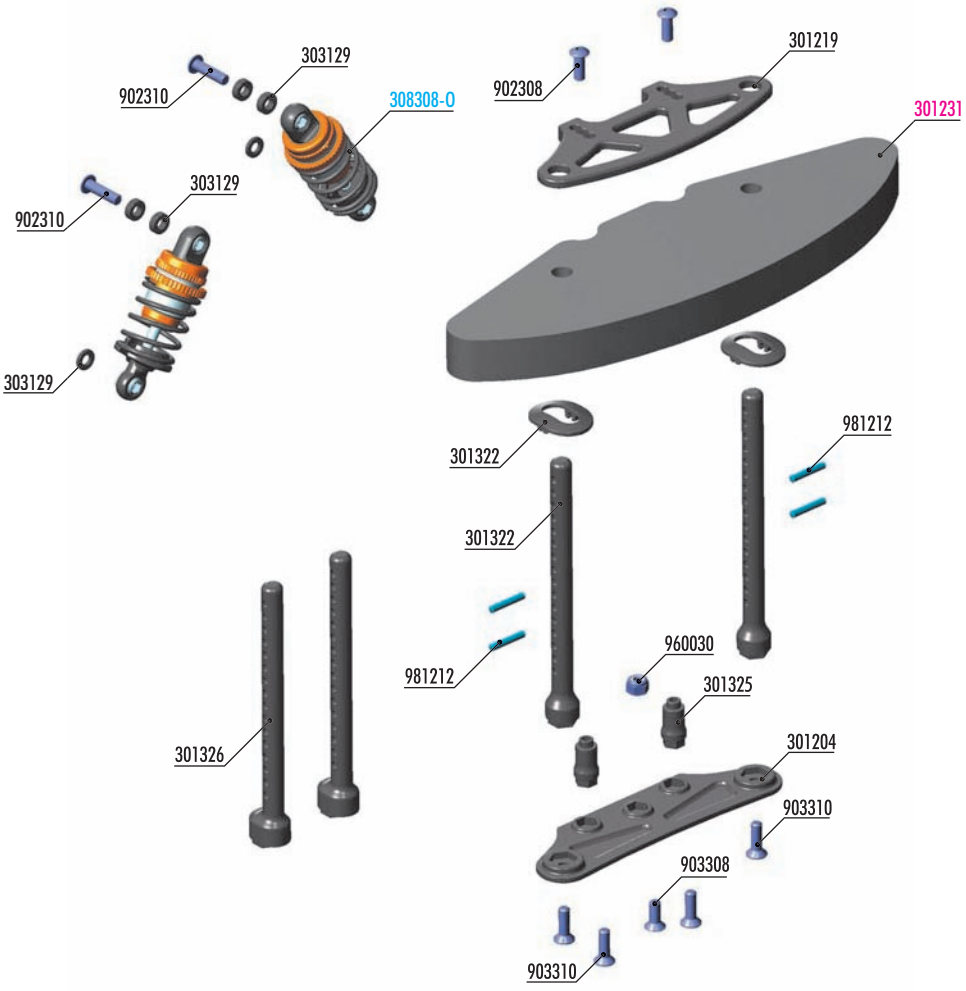
TIP Install the balls with Professional Multi Tool (HUDY #183011)

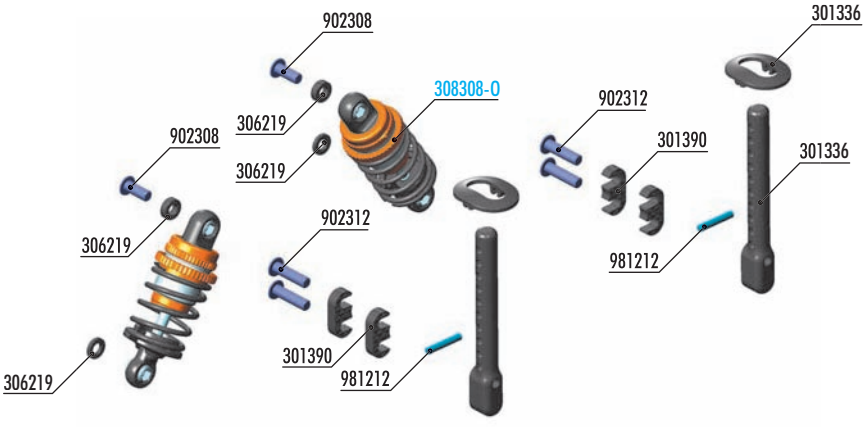
OPTION #308031-O
ALU XRAY SHOCK SPRING RETAINING COLLAR - ORANGE (4)

OPTION #308031-K
ALU XRAY SHOCK SPRING RETAINING COLLAR - BLACK (4)

ASSEMBLY VIEW

7. FRONT & REAR ASSEMBLY



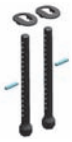


OPTION

REAR BODY MOUNT SET		
#301336	0mm	INCLUDED
#301337	+1mm	OPTION
#301338	+2mm	OPTION

OPTION

FRONT BODY MOUNT SET		
#301322	0mm	INCLUDED
#301323	+1mm	OPTION
#301324	+2mm	OPTION



OPTION

FRONT ECC. BODY MOUNT SET		
#301326	0mm	INCLUDED
#301327	+1mm	OPTION
#301328	+2mm	OPTION

OPTION

#301351-0
ALU ADJUSTABLE BODY POST STOP (2)

OPTION

#301210
GRAPHITE UPPER HOLDER FOR BUMPER 2.5MM

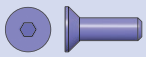
OPTION

#301232
T4 FOAM BUMPER WIDE - HARD

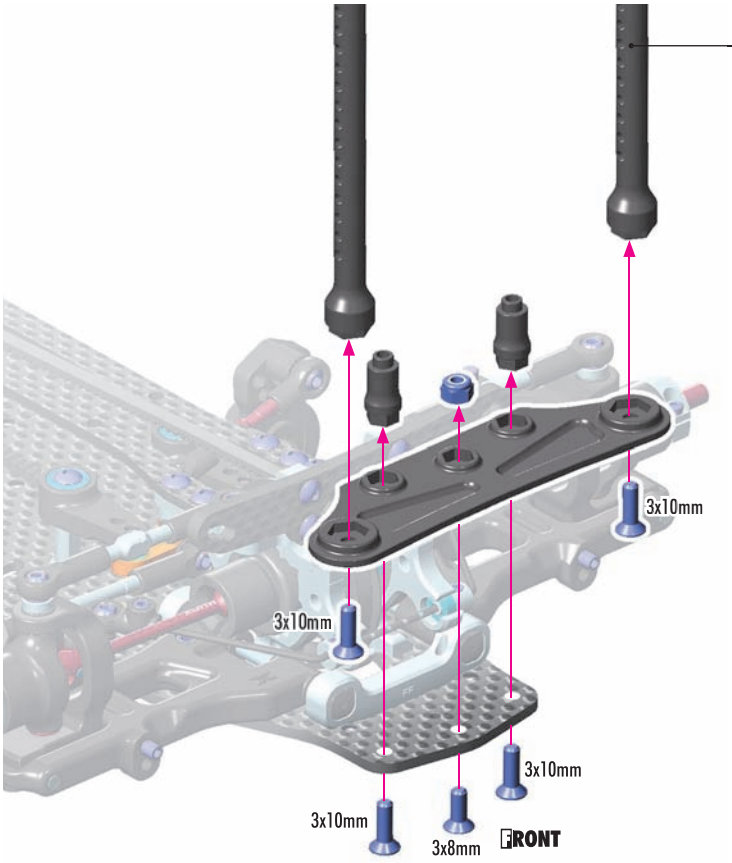
BAG 07

301204	COMPOSITE BUMPER	902308	HEX SCREW SH M3x8 (10)
301219	COMPOSITE UPPER HOLDER FOR BUMPER	902308	HEX SCREW SH M3x8 (10)
301322	FRONT BODY MOUNT SET	902310	HEX SCREW SH M3x10 (10)
301326	FRONT ECCENTRIC BODY MOUNT SET	903308	HEX SCREW SFH M3x8 (10)
301325	T4 COMPOSITE BRACE FOR BUMPER - LOW (2)	903310	HEX SCREW SFH M3x10 (10)
301336	REAR BODY MOUNT SET	960030	NUT M3 (10)
301390	GRAPHITE ADJ. SHIM FOR REAR BODY POST 3.0MM (2)	981212	PIN 2x12 (10)
303129	COMPOSITE SET OF WHEELBASE SHIMS (3x1MM; 1x2MM) (2)		
306219	COMPOSITE SET OF SERVO SHIMS (4)	301231	T4 FOAM BUMER - LIGHT & STRONG
		308308-0	ULP ALU SHOCK ABSORBER-SET - ORANGE (2)

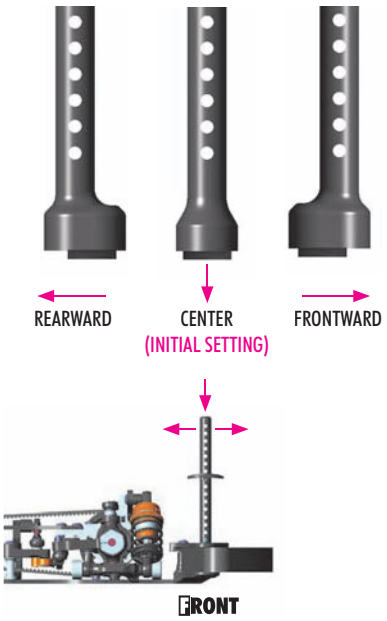

903308
SFH M3x8


903310
SFH M3x10


960030
N M3



FRONT BODY POST ORIENTATION

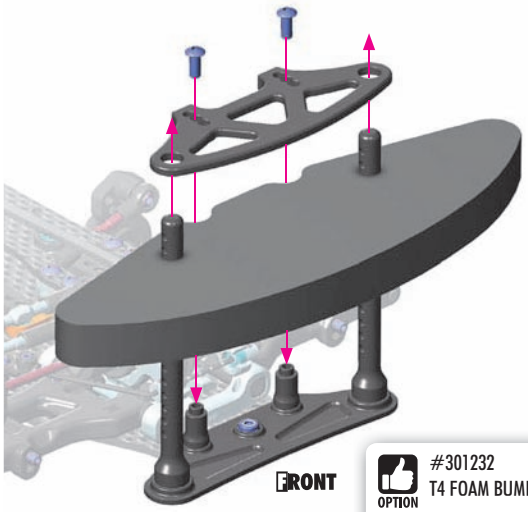


It is important to use the same body setting (rearward, center, frontward) both on front and rear body posts at the same time.

TIP This new, innovative & unique feature allows adjustment of the body position for all kind of surfaces, traction conditions, touring classes, using only one body. There are three different body positions; rearward, center, and forward. Depending on the conditions the body posts position can be easily changed which allows the body to be moved.

- The body in the REARWARD POSITION makes the car super stable and very easy to drive. It makes the car easier to drive over chicanes and be more predictable in high-traction conditions.
- The body in the CENTER POSITION makes the car more aggressive and steer faster, but is a bit more difficult to drive in low-grip conditions.
- The body in the FORWARD POSITION is the most aggressive. It makes the car steer a lot, but is more difficult to drive when the traction is high or when the track has a lot of chicanes.

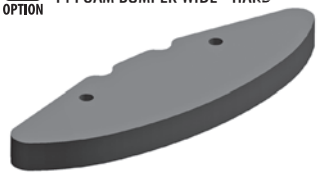

902308
SH M3x8



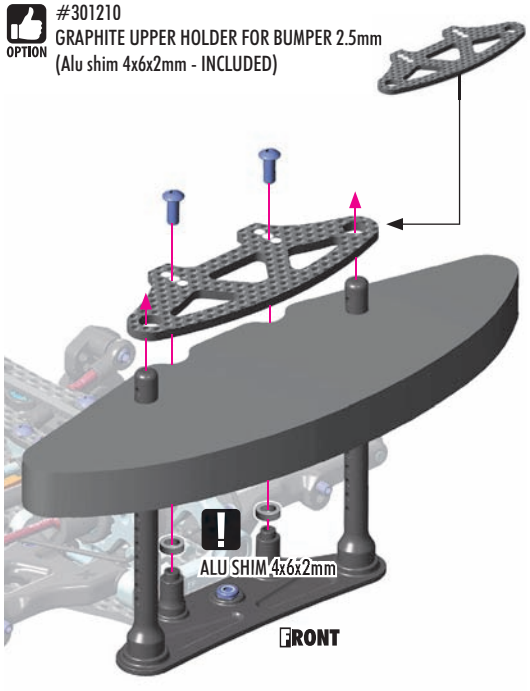
DETAIL

INITIAL SETTING

OPTION #301232
T4 FOAM BUMPER WIDE - HARD

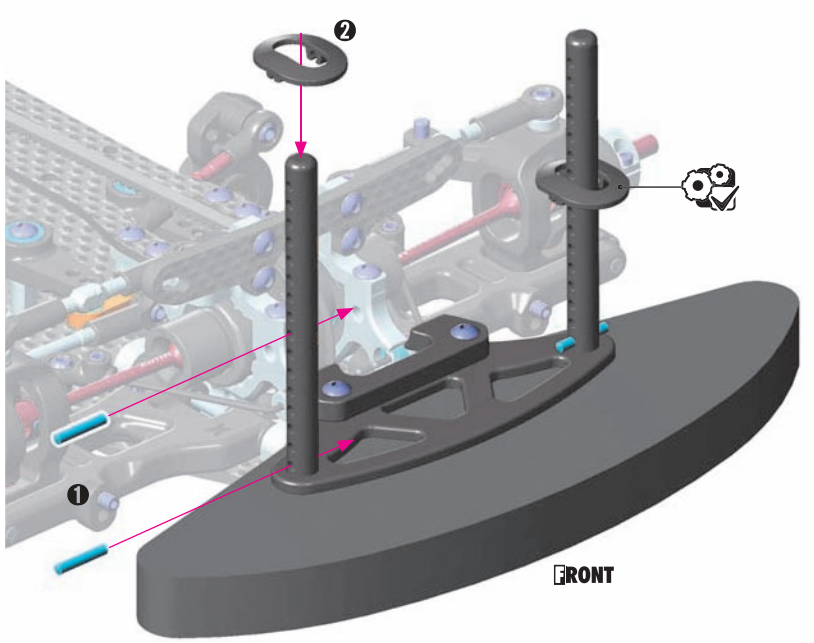


OPTION #301210
GRAPHITE UPPER HOLDER FOR BUMPER 2.5mm
(Alu shim 4x6x2mm - INCLUDED)



981212
P 2x12

2x L=R



OPTION #301351-0
ALU ADJUSTABLE BODY POST STOP (2)

Very handy, easily externally adjustable body post from Swiss 7075 T6 aluminum. Allows for adjustment of body height by 3mm without needing to change the position on the body post.

OPTION

FRONT ECC. BODY MOUNT SET		
#301326	0mm	INCLUDED
#301327	+1mm	OPTION
#301328	+2mm	OPTION

OPTION

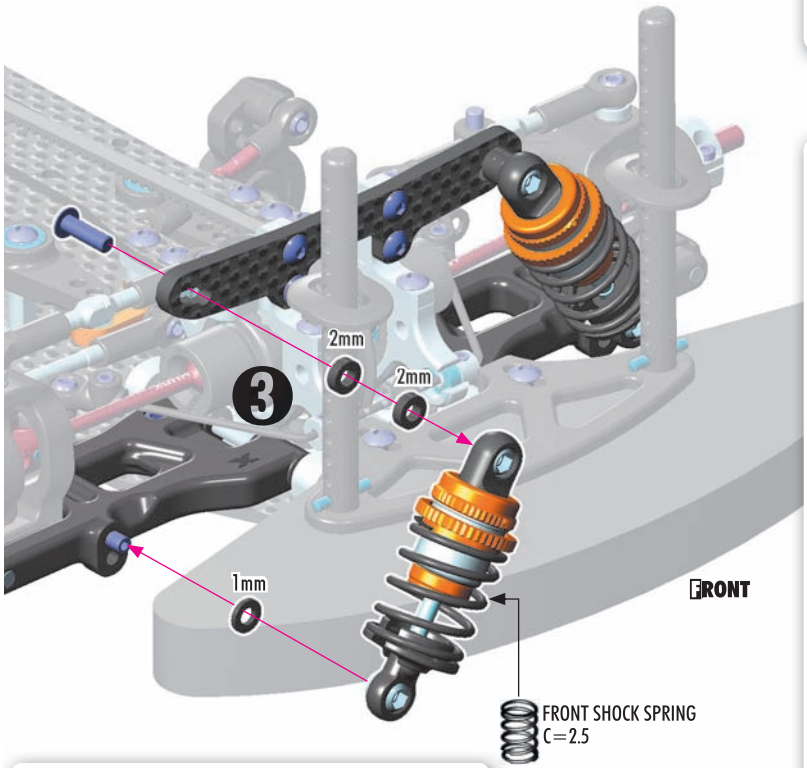
FRONT BODY MOUNT SET		
#301322	0mm	INCLUDED
#301323	+1mm	OPTION
#301324	+2mm	OPTION

902310
SH M3x10

303129
SHIM 3x6x1

303129
SHIM 3x6x2

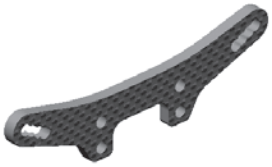
L=R



INITIAL SETTING

OPTION #308307-0
XRAY T4 ALU SHOCK ABSORBER-SET - ORANGE (2)

OPTION #301962
SLP SHOCK TOWER FRONT 3.0MM GRAPHITE



For some very specific racing conditions like extremely-low traction, these SLP shocks with SLP shock tower are available as an option.

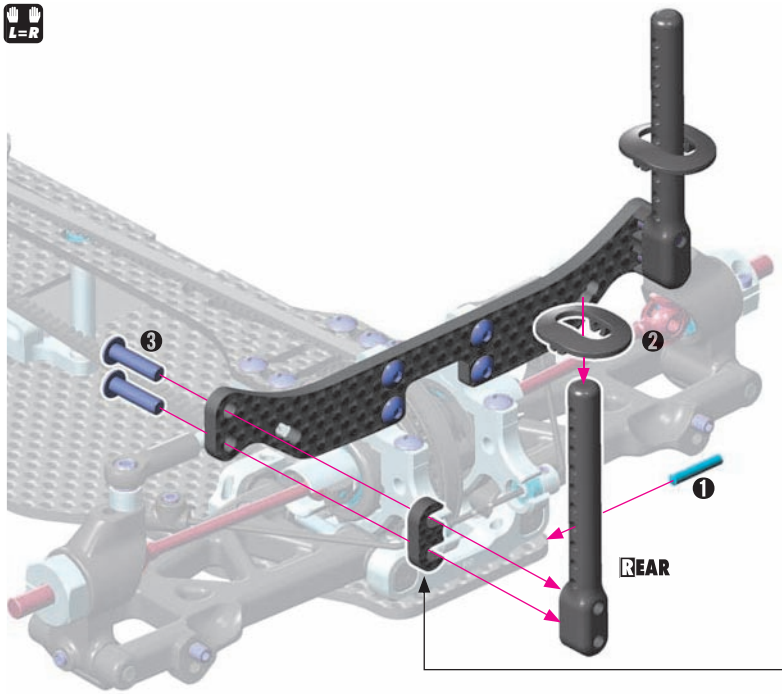
OPTION #308039
ULP ALU PROGRESSIVE SHOCK SYSTEM - SET (2)

OPTION The information about optional lower shock tower is at the end of the manual.

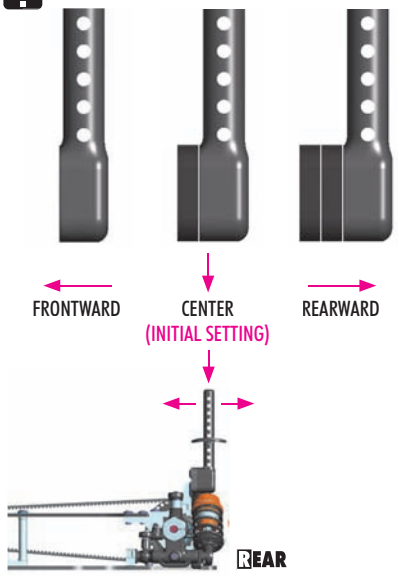
SET-UP BOOK
SHOCK POSITION
RIDE HEIGHT
DROOP

902312
SH M3x12

981212
P 2x12



REAR BODY POST POSITION



It is important to use the same body setting (rearward, center, frontward) both on front and rear body posts at the same time.

OPTION

#301351-O
ALU ADJUSTABLE BODY POST STOP (2)

Very handy, easily externally adjustable body post from Swiss 7075 T6 aluminum. Allows for adjustment of body height by 3mm without needing to change the position on the body post.

OPTION

REAR BODY MOUNT SET		
#301336	0mm	INCLUDED
#301337	+1mm	OPTION
#301338	+2mm	OPTION

902308
SH M3x8

306219
SHIM 3x6x1

306219
SHIM 3x6x2

OPTION The information about optional lower shock tower is at the end of the manual.

INITIAL SETTING

OPTION

#308307-O
XRAY T4 ALU SHOCK ABSORBER-SET - ORANGE (2)

OPTION

#302962
SLP SHOCK TOWER REAR 3.0MM GRAPHITE

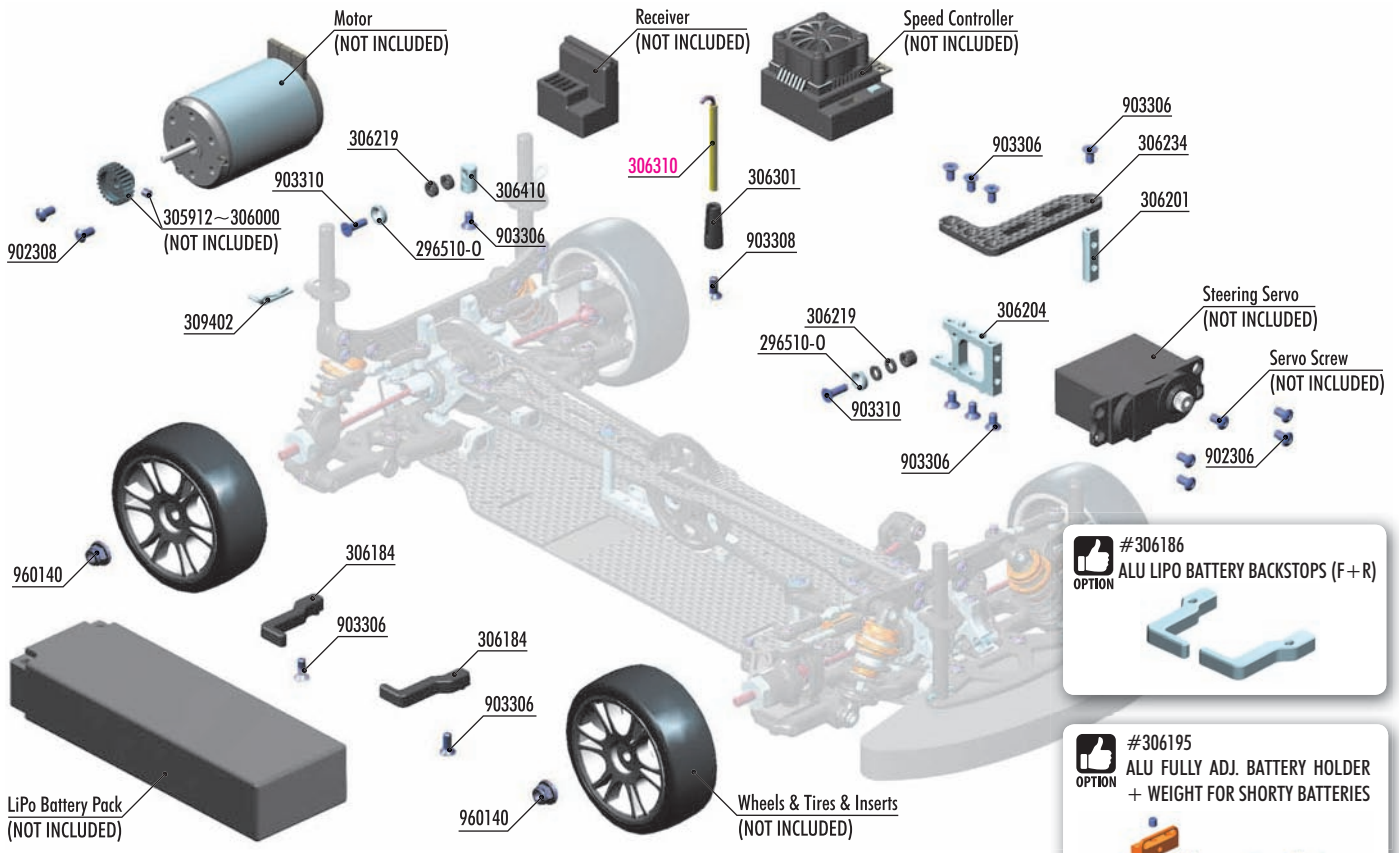
For some very specific racing conditions like extremely-low traction, these SLP shocks with SLP shock tower are available as an option.

OPTION

#308039
ULP ALU PROGRESSIVE SHOCK SYSTEM - SET (2)

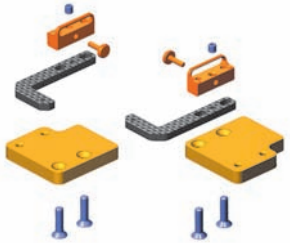
SET-UP BOOK
SHOCK POSITION
RIDE HEIGHT
DROOP

7. FINAL ASSEMBLY



OPTION #306186
ALU LIPO BATTERY BACKSTOPS (F+R)

OPTION #306195
ALU FULLY ADJ. BATTERY HOLDER
+ WEIGHT FOR SHORTY BATTERIES

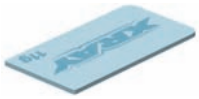


OPTION

ALU REAR WING SHIM			
#353561	SILVER	XRAY	OPTION
#293561	SILVER	HUDY	OPTION
#293561-0	ORANGE	HUDY	OPTION

OPTION #306165
GRAPHITE BATTERY STRAP

OPTION #306551
XRAY PURE TUNGSTEN
CHASSIS WEIGHT 11g



OPTION #306191
T4 GRAPHITE + ALU FULLY
ADJUSTABLE BATTERY HOLDER

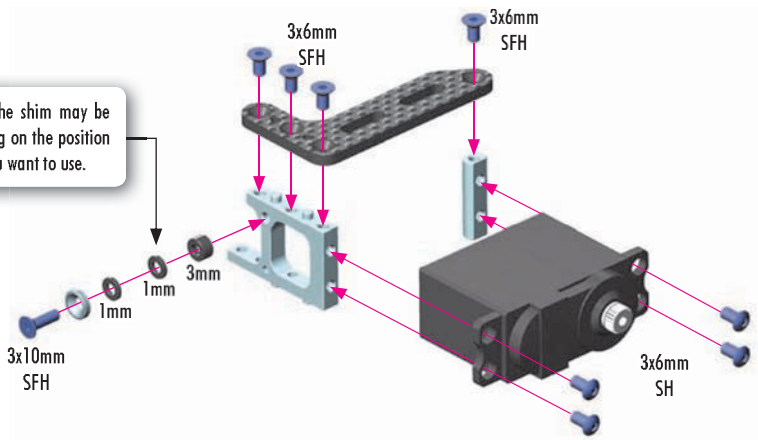
OPTION #306194
T4 GRAPHITE + BRASS FULLY
ADJUSTABLE BATTERY HOLDER

OPTION #306410
ALU FAN MOUNT

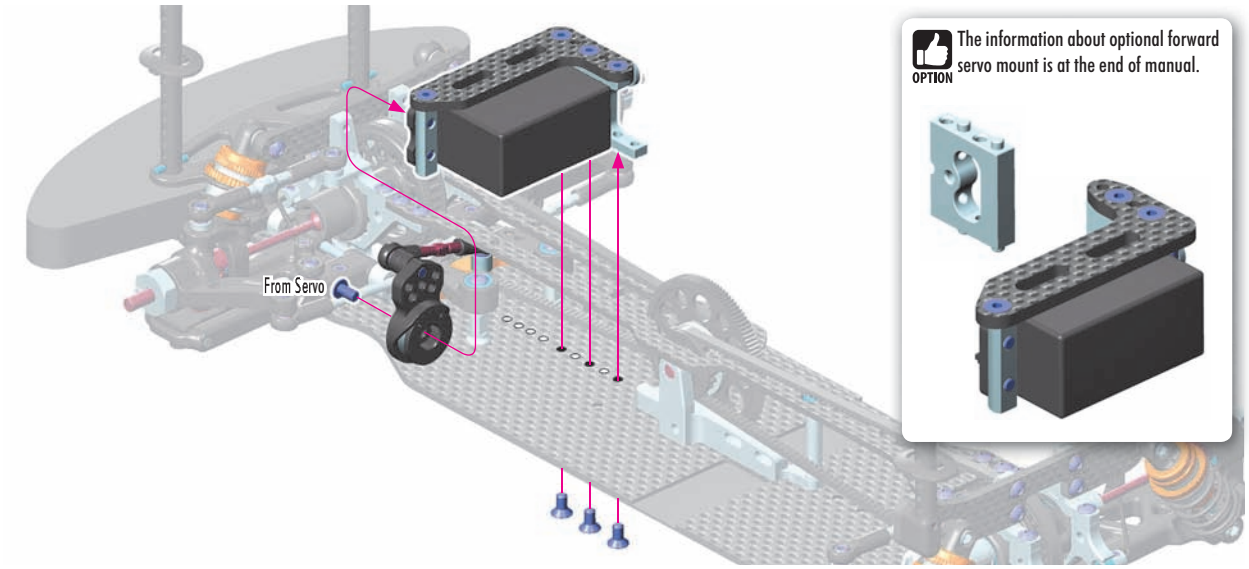
BAG 07

296510-0	ALU COUNTERSUNK SHIM - ORANGE (10)	309402	BODY CLIP FOR 6MM BODY POST (4)
305912~306000	NARROW PINION GEAR ALU HARD COATED (OPTION)	902306	HEX SCREW SH M3x6 (10)
306184	LONG COMPOSITE LIPO BATTERY BACKSTOP (1+1)	902308	HEX SCREW SH M3x8 (10)
306201	ALU SERVO MOUNT - LONG	903306	HEX SCREW SFH M3x6 (10)
306204	ALU SERVO MOUNT - BLACK	903308	HEX SCREW SFH M3x8 (10)
306219	COMPOSITE SET OF SERVO SHIMS (4)	903310	HEX SCREW SFH M3x10 (10)
306234	GRAPHITE FLOATING SERVO HOLDER NARROW 3.0MM	960140	NUT M4 WITH FLANGE (10)
306301	ANTENNA MOUNT - THIN		
306410	ALU UNIVERSAL MOUNT	306310	ANTENNA (2)

The thickness of the shim may be changed depending on the position of the batteries you want to use.



903306
SFH M3x6

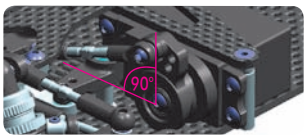


OPTION The information about optional forward servo mount is at the end of manual.

For improved weight balance and for more space for electronics, we recommend using a narrow, light servo.

IMPORTANT!

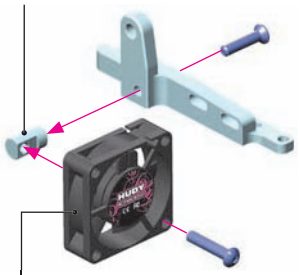
When adjusting steering on the radio, we recommend using full steering adjustment in order to get the best steering from the car. It is important to verify that the steering block does not touch the C-hub; that would lead to chassis tweak due to extra servo strain.



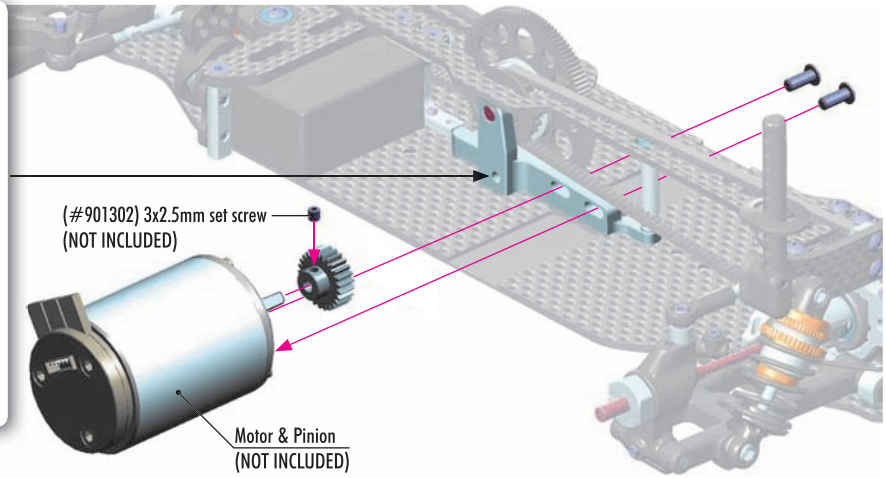
Attach servo arm to servo output shaft using screw from servo. Servo saver must be perpendicular to chassis when servo is in neutral.

902308
SH M3x8

OPTION #306410
ALU FAN MOUNT

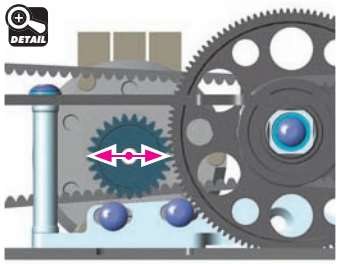


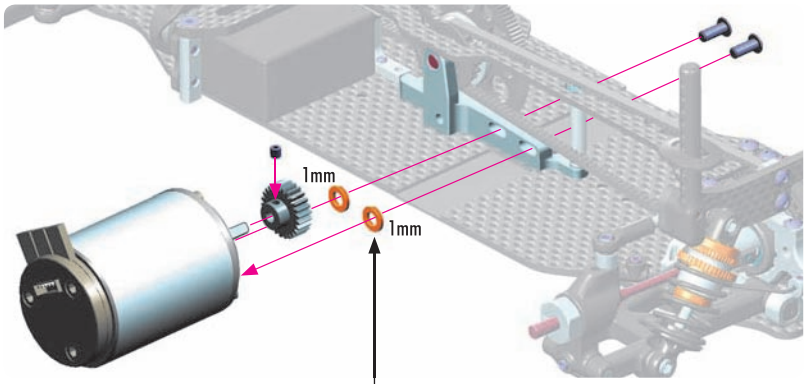
OPTION #293110 HUDY BRUSHLESS RC FAN 30MM
#293111 HUDY BRUSHLESS RC FAN 40MM



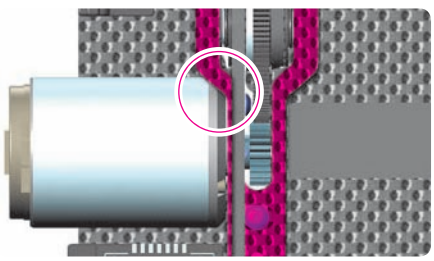
Adjust the motor so the pinion meshes with the spur gear properly. Make sure the gear mesh is not too tight.

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





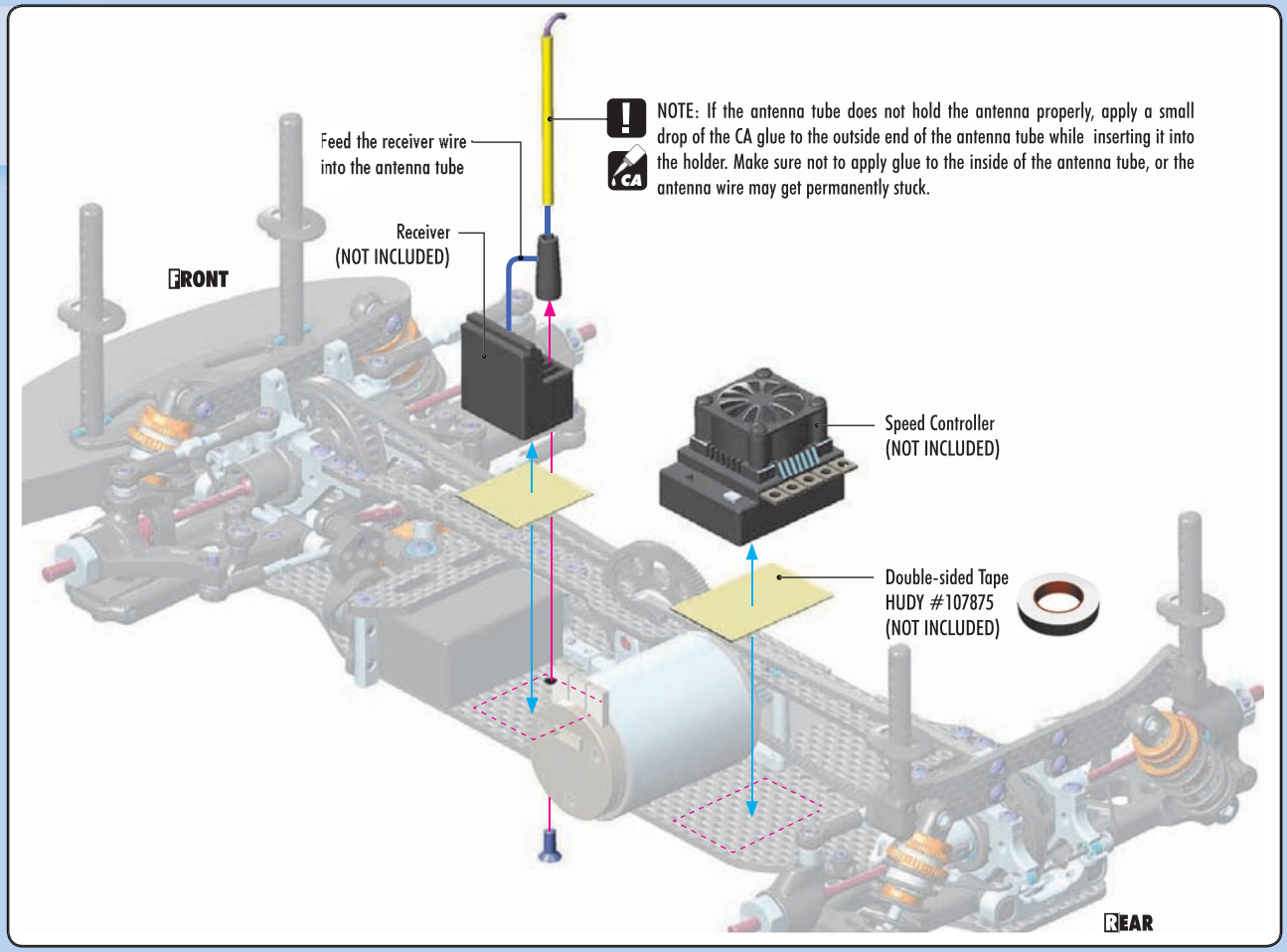
TIP Some motors do not have a chamfer on the motor housing. If your motor does not have a chamfer on the housing and you want to use a small pinion, the motor may touch the top deck. Use a moto-tool with grinding bit or file to remove material from the top deck; this will allow the motor to be moved closer to the spur gear or you can shim out the motor by using #303122-0 (3x6x1mm) shims.



SET-UP BOOK
GEARING ADJUSTMENT

7. FINAL ASSEMBLY

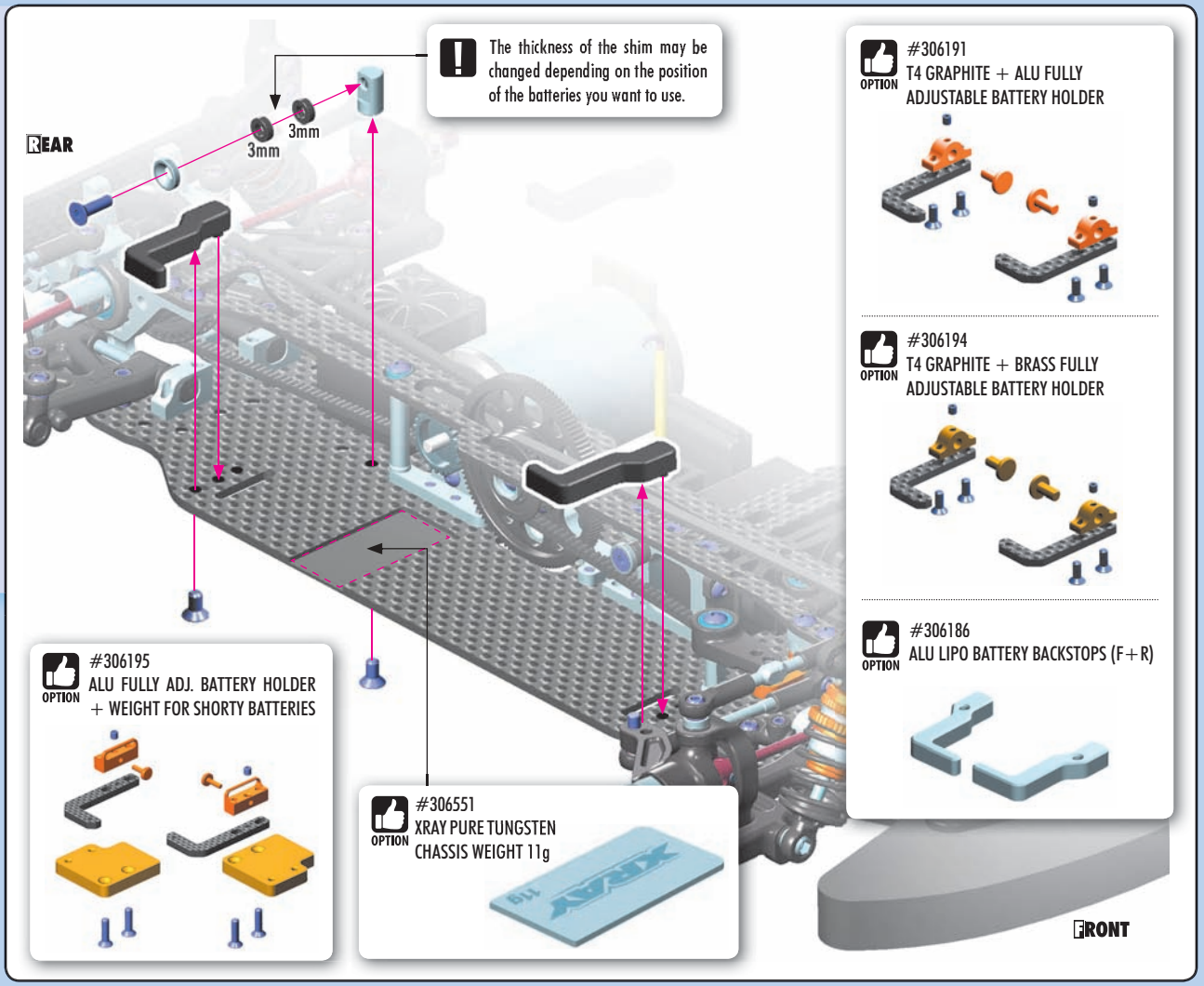
903308
SFH M3x8



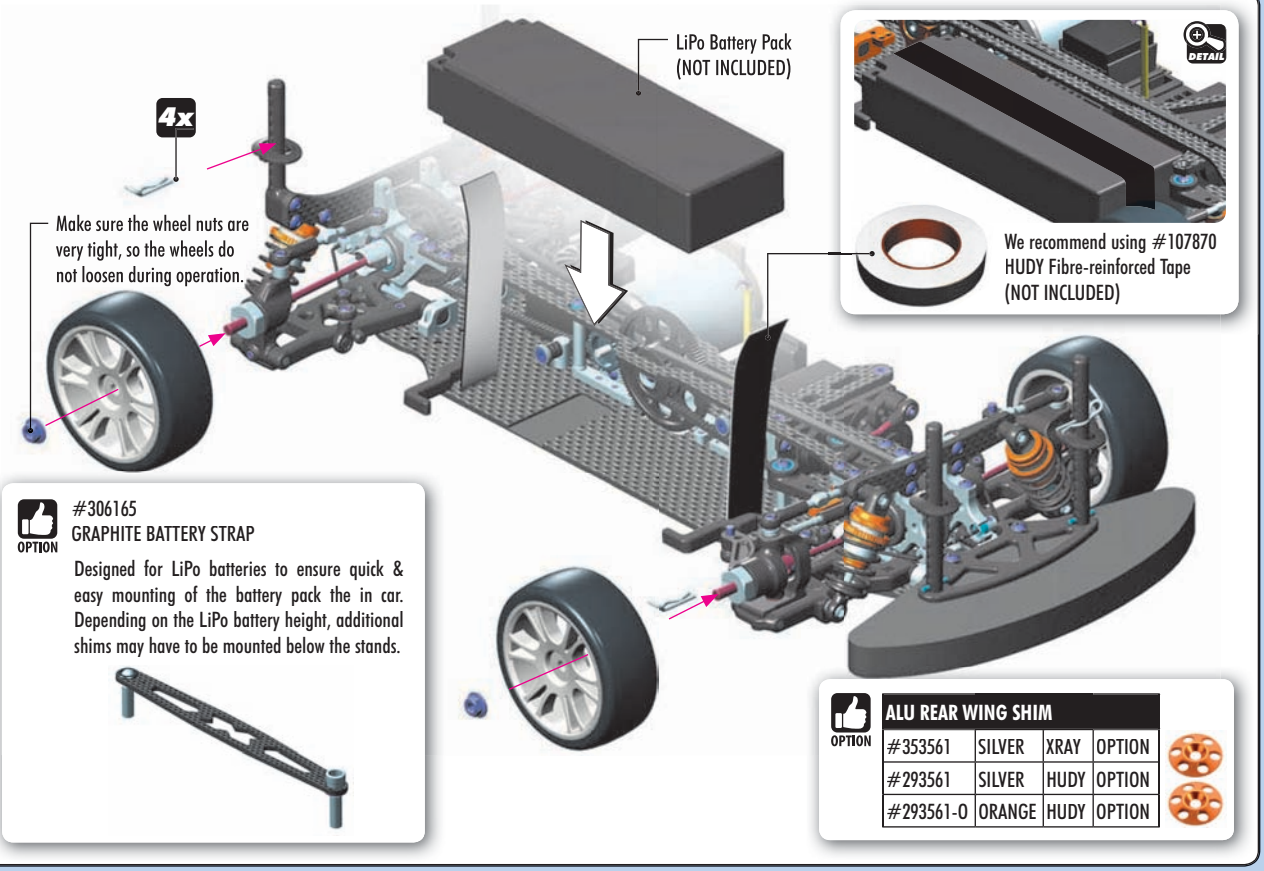
306219
SHIM 3x6x3

903306
SFH M3x6

903310
SFH M3x10



960140
N M4



OPTION

#306165
GRAPHITE BATTERY STRAP

Designed for LiPo batteries to ensure quick & easy mounting of the battery pack the in car. Depending on the LiPo battery height, additional shims may have to be mounted below the stands.

OPTION

ALU REAR WING SHIM			
#353561	SILVER	XRAY	OPTION
#293561	SILVER	HUDY	OPTION
#293561-O	ORANGE	HUDY	OPTION

EXTRA INFORMATION ABOUT OPTIONAL PARTS FOR T4'20

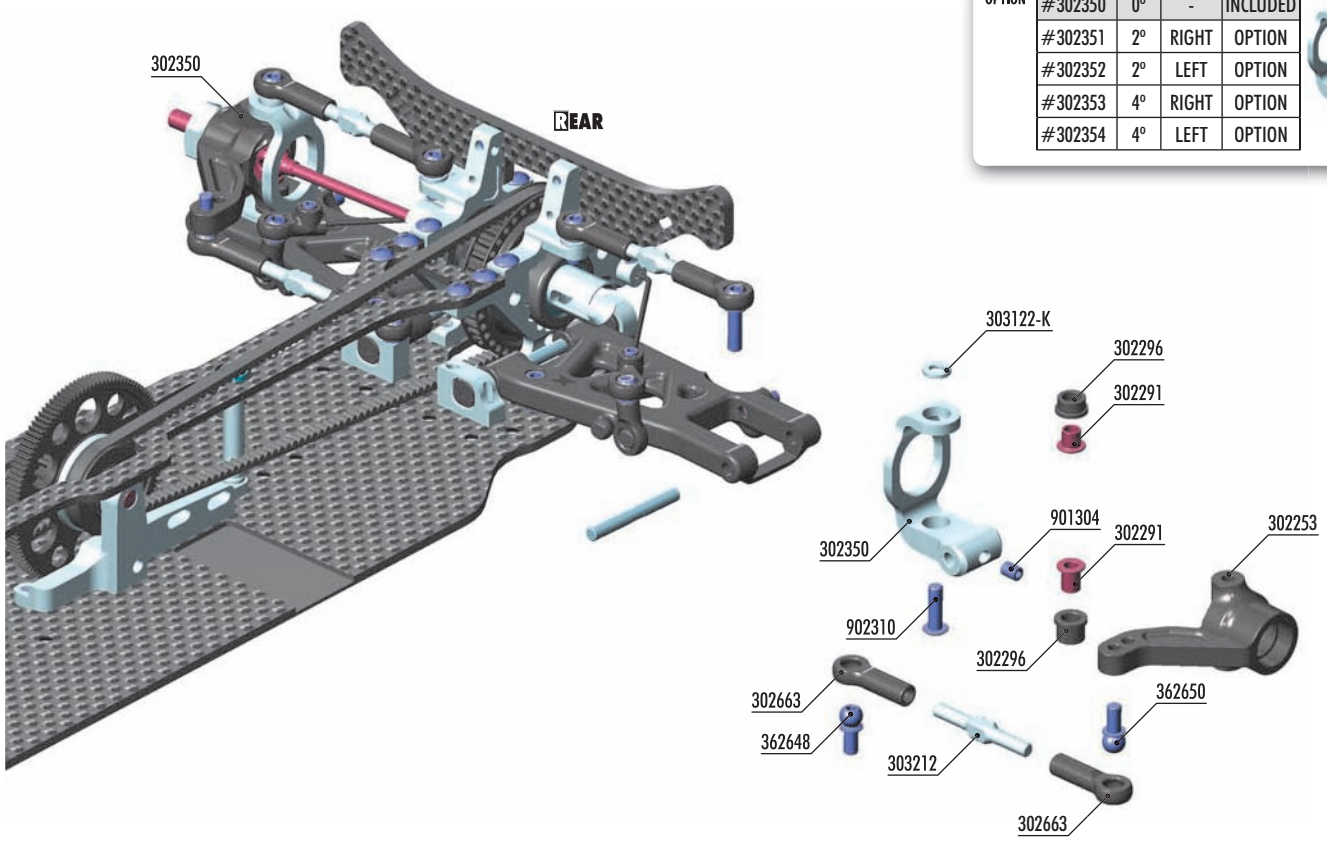
OPTION

OPTION

#300902
T4'20 ACTIVE REAR SUSPENSION™ SET

OPTION

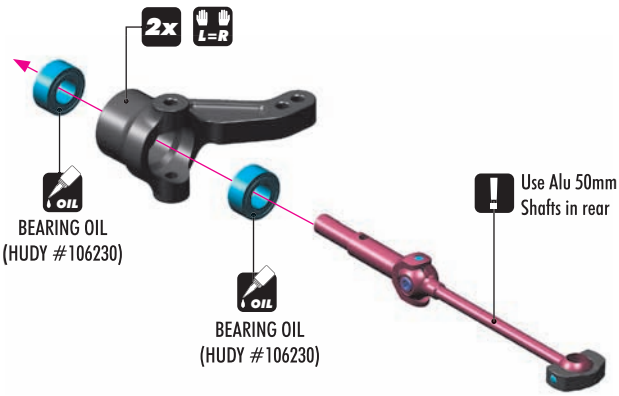
ALU C-HUB ACTIVE REAR SUSP.			
#302350	0°	-	INCLUDED
#302351	2°	RIGHT	OPTION
#302352	2°	LEFT	OPTION
#302353	4°	RIGHT	OPTION
#302354	4°	LEFT	OPTION



902205
SH M2x5

940510
BB 5x10x4

980210
P 2x10



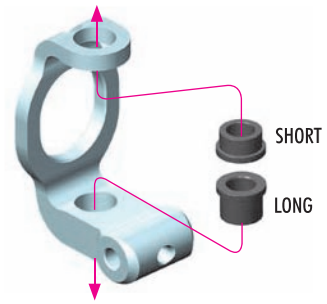
OPTION

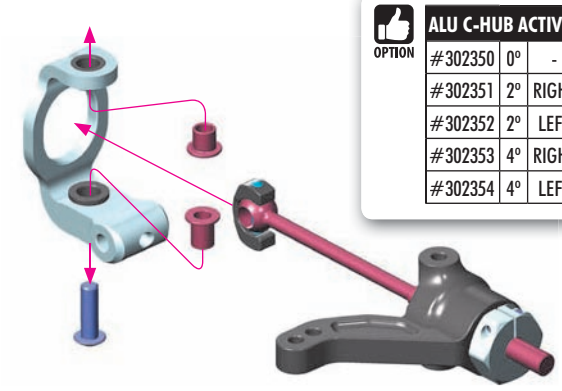
DRIVE SHAFTS	
#305323	50MM - STEEL
#305333	50MM - ECS

	ALU WHEEL HUBS - OFFSET	
INCLUDED	#305350-K	(0 mm)
	#305351	(-0.75 mm)
	#305352	(+0.75 mm)
	#305353	(+1.5 mm)

	STEERING BLOCKS	
	#302252	MEDIUM
INCLUDED	#302253	HARD
	#302254	GRAPHITE
	#302256	ALU

902310
SH M3x10





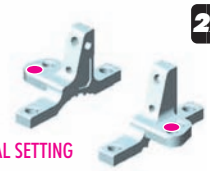
OPTION

ALU C-HUB ACTIVE REAR SUSP.			
#302350	0°	-	OPTION
#302351	2°	RIGHT	OPTION
#302352	2°	LEFT	OPTION
#302353	4°	RIGHT	OPTION
#302354	4°	LEFT	OPTION

303122-K
SHIM 3x6x1

901304
SB M3x4

L=R 2x



INITIAL SETTING

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

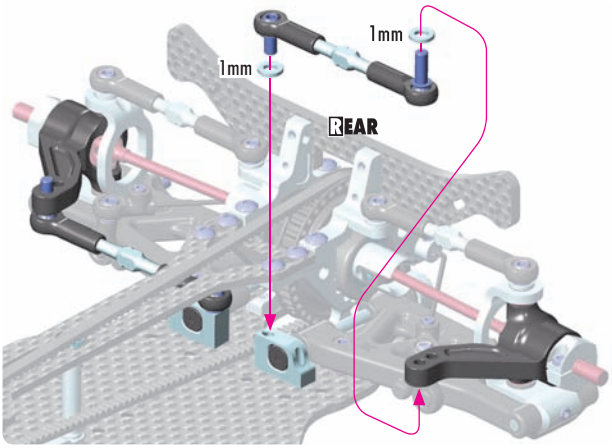
OPTION #307322 TITANIUM REAR ARM PIVOT PIN (2)

303122-K
SHIM 3x6x1

ARS™ MOUNTING ALTERNATIVES

There are two alternatives how to mount ARS linkage. Depending if you want to have increased or decreased toe-in when the car is pressed

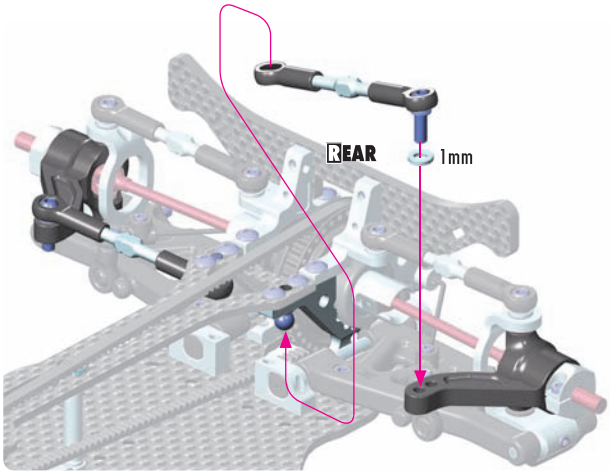
ALTERNATIVE DECREASING TOE-IN



The link is mounted from the bottom of the steering block to the RF suspension holder. With this setting, the toe-in decreases when the car is pressed. This means that if you set the toe-in to 3°, then when the car enters the corner, the toe-in decreases which increases cornering speed but decreases rear traction. Recommended for medium-high traction conditions.

By adding more shims under steering block, the toe-in is more decreasing under pressing the car.

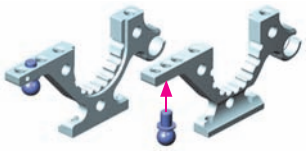
ALTERNATIVE INCREASING TOE-IN



The link is mounted from the top of the steering block to the bulkhead. With this setting, the toe-in increases when the car is pressed. This means that if you set the toe-in to 3°, then when the car enters the corner, the toe-in increases which increases rear traction and stability but generates more push. Recommended for low-medium traction conditions.

By adding more shims on the top of the steering block, the toe-in is more increasing under pressing the car.

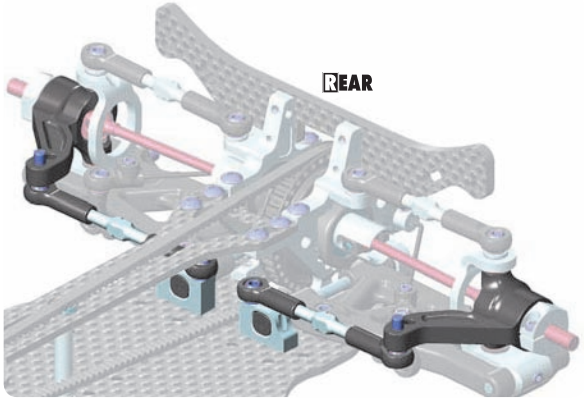
When using the ARS mounting alternative, mount the ball joints to the bulkheads before mounting the bulkheads to the chassis.

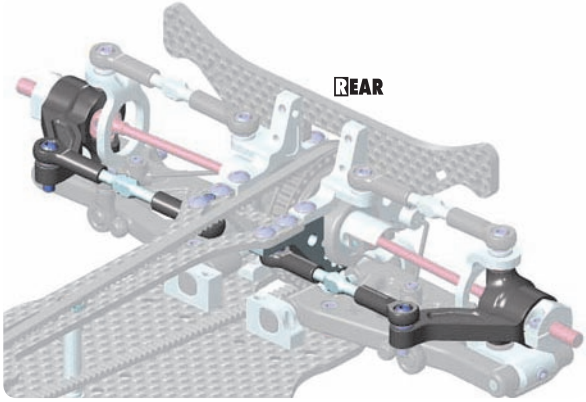


The optional ARS aluminum C-hubs were redesigned to work with the new T4'20 rear suspension geometry and are available in 0° | 2° | 4° caster.

ALU C-HUB ACTIVE REAR SUSPENSION™	
 0°	C-hub is recommended for high-tratcion conditions as it generates greater off-power steering, rotation and cornering speed.
 2°	C-hub angled toward the front of the car helps to generate more traction but in the same time generates more off-power steering and cornering speed compared to standard rear suspension. Recommended for medium-traction conditions.
 4°	C-hub angled toward the front of the car generates maximum traction. Recommended for very-low-traction conditions. As the wheelbase will be shortened a lot with this setting, it is recommended to lengthen the rear wheelbase by moving the rear arms fully back.

The effect of the toe-in change can be checked on a set-up station. Set the desired toe-in, than press the car to the ground and check how much the toe-in changes and in which direction.





10
306219
SHIM 3x6x1

901310
SB M3x10

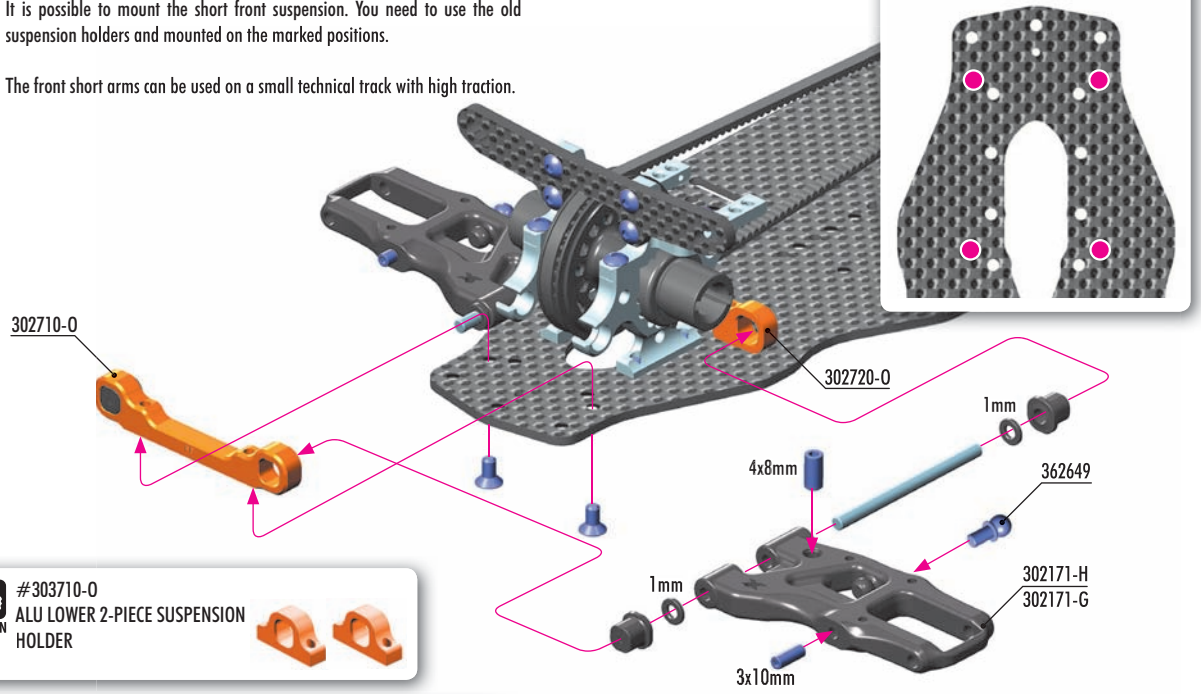
901408
SB M4x8

903306
SFH M3x6

SHORT FRONT SUSPENSION ARMS ALTERNATIVE

It is possible to mount the short front suspension. You need to use the old suspension holders and mounted on the marked positions.

The front short arms can be used on a small technical track with high traction.



OPTION #303710-0
ALU LOWER 2-PIECE SUSPENSION HOLDER

OPTION #302712-0 ALU FRONT 1-PIECE SUSPENSION HOLDER (FF-LOW)
#302722-0 ALU FRONT 1-PIECE SUSPENSION HOLDER (FR-LOW)

OPTION #302711 BRASS FRONT 1-PIECE SUSPENSION HOLDER - FRONT - FF
#302721 BRASS FRONT 1-PIECE SUSPENSION HOLDER - REAR - FR

OPTION

FRONT ARMS - SHORT		
#302171-H	HARD	OPTION
#302171-G	GRAPHITE	OPTION

10
306219
SHIM 3x6x1

901310
SB M3x10

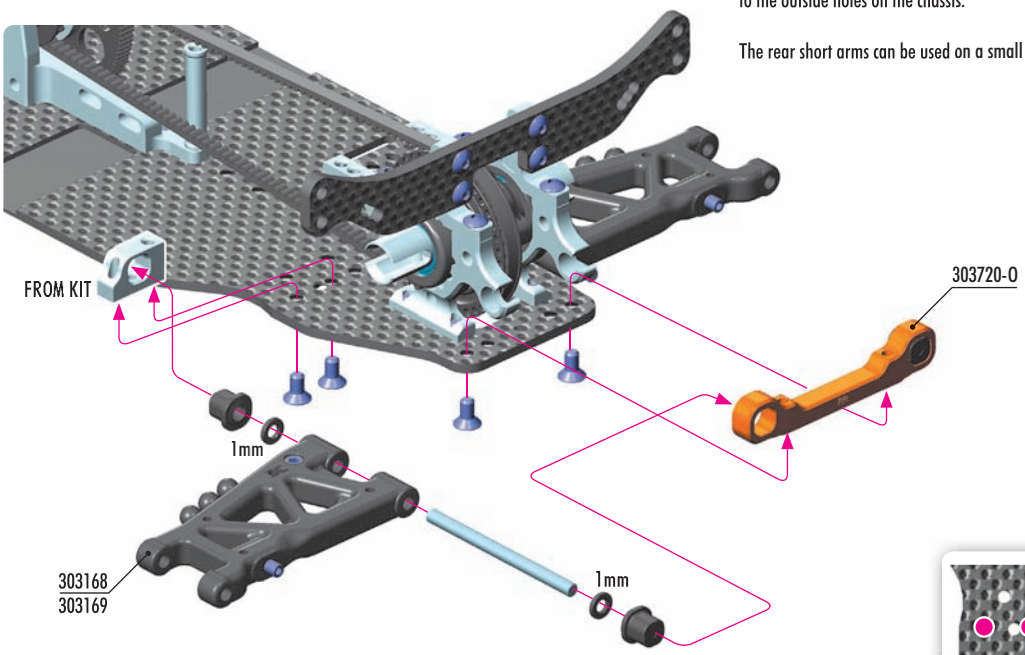
901408
SB M4x8

903306
SFH M3x6

SHORT REAR SUSPENSION ARMS ALTERNATIVE

It is possible to mount the short rear suspension arms from previous T4 versions. You need to use the old RR suspension holder and move the RF block to the outside holes on the chassis.

The rear short arms can be used on a small technical track with high traction.



OPTION #303721
BRASS REAR 1-PIECE SUSPENSION HOLDER - REAR - RR

OPTION

REAR ARMS - SHORT		
#303168	HARD	OPTION
#303169	GRAPHITE	OPTION

303129
SHIM 3x6x1

306219
SHIM 3x6x3

902306
SH M3x6

903306
SFH M3x6

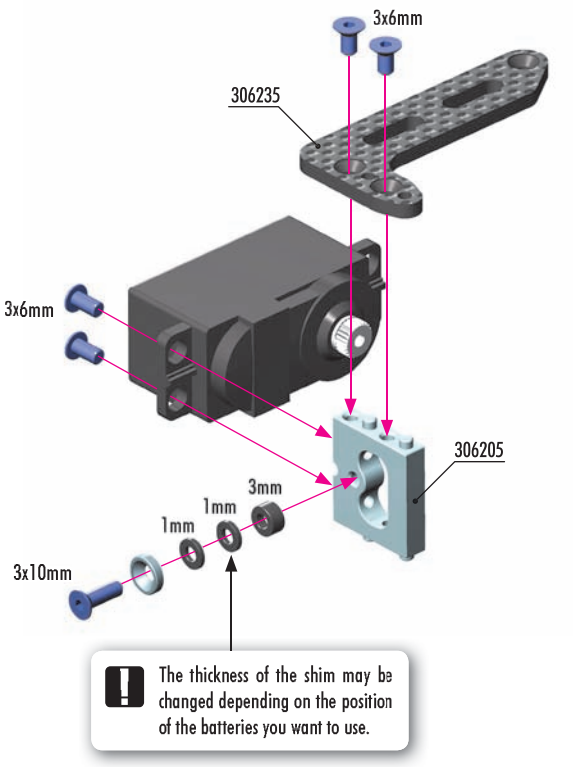
903310
SFH M3x10

FLOATING FORWARD MOUNT SERVO HOLDER

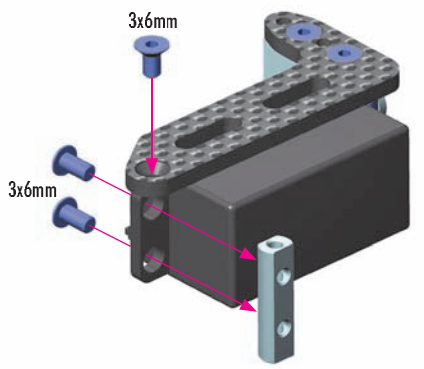
OPTION

Optional floating forward mount servo holder set allows mounting of the servo holder to the chassis more forward which leads to increased steering and steering response.

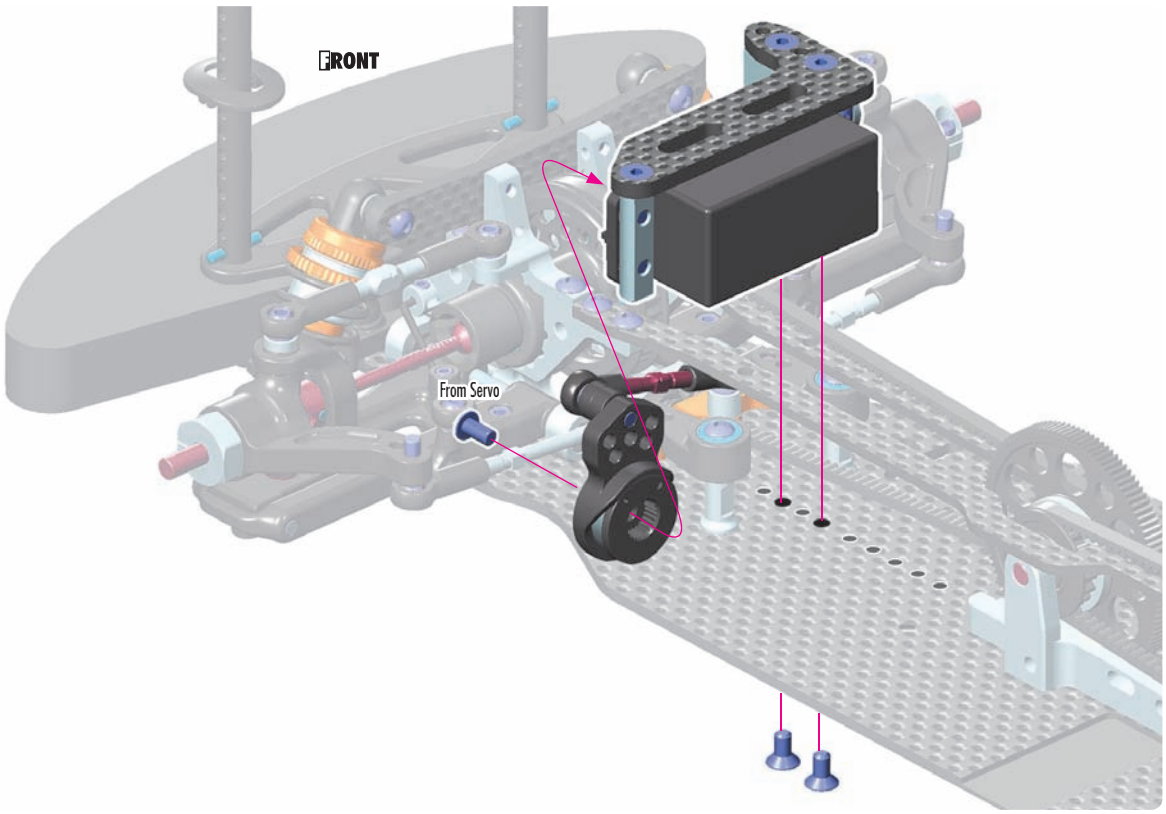
Recommended for conditions where better steering response is needed. Makes the car more reactive but less stable.



The thickness of the shim may be changed depending on the position of the batteries you want to use.



903306
SFH M3x6



306219
SHIM 3x6x1

306219
SHIM 3x6x2

902306
SH M3x6

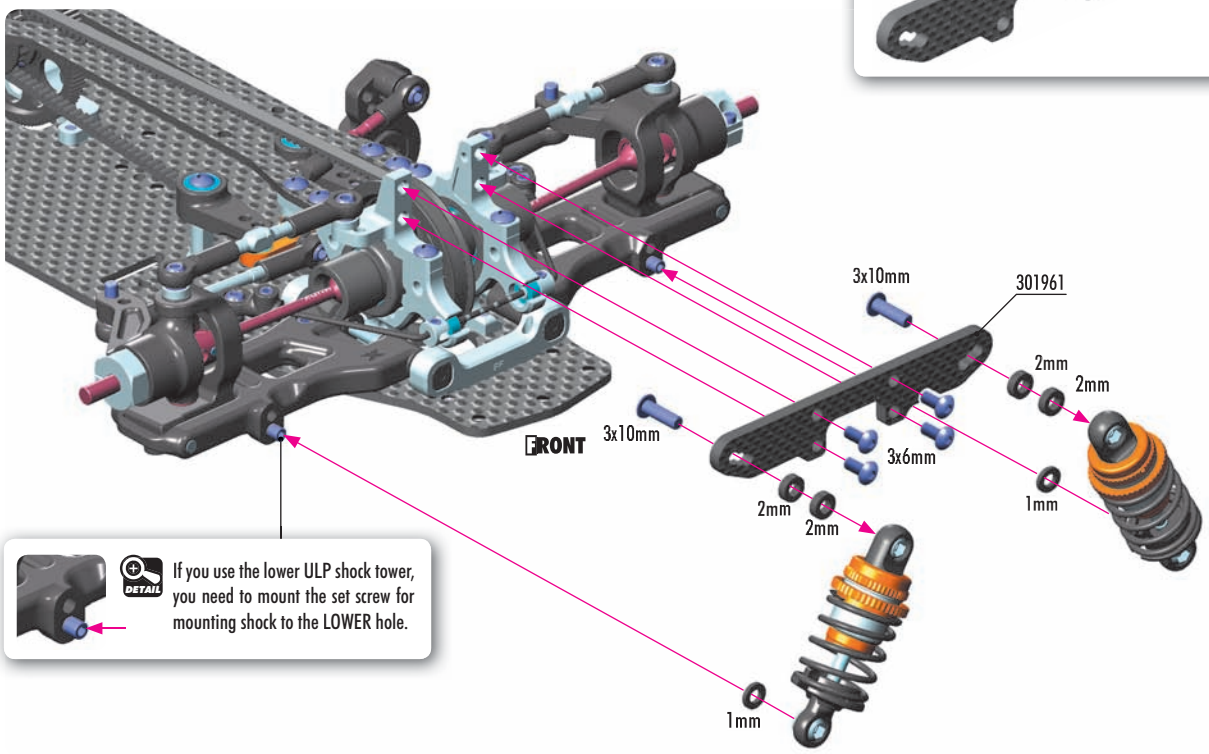
902310
SH M3x10

ULP LOWER SHOCK TOWER FOR LOWER SHOCK MOUNTING – FRONT

The new feature of the T4'20 arms is to mount the shocks lower. To use this option you need to use optional low ULP shock towers which allows you to mount shocks 4mm lower to lower the CG.

With the lower shock mounting, the car is more stable as it rolls less, is easier to drive over chicanes, and has improved steering response. Recommended for medium-high technical tracks, especially for carpet.

OPTION #301961
T4'20 ULP GRAPHITE SHOCK TOWER FRONT 3.0MM - LOWER



DETAIL If you use the lower ULP shock tower, you need to mount the set screw for mounting shock to the LOWER hole.

306219
SHIM 3x6x1

306219
SHIM 3x6x2

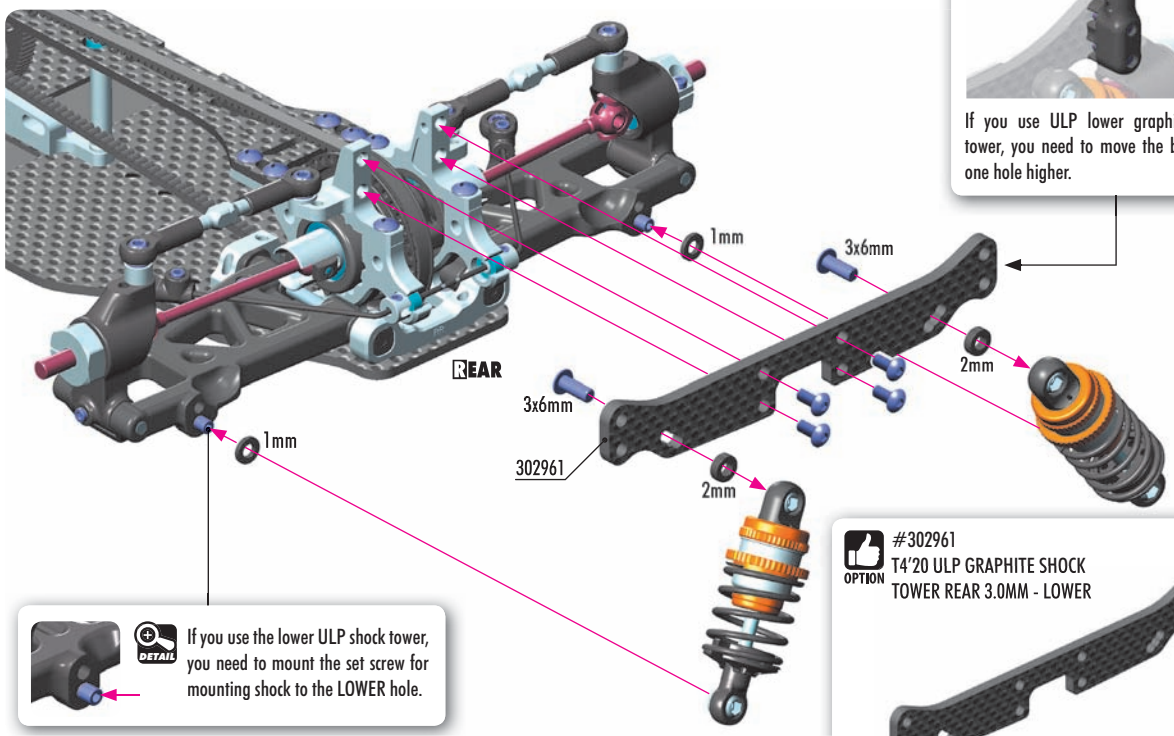
902306
SH M3x6

ULP LOWER SHOCK TOWER FOR LOWER SHOCK MOUNTING – REAR

The new feature of the T4'20 arms is to mount the shocks lower. To use this option you need to use optional low ULP shock towers which allows you to mount shocks 4mm lower to lower the CG.

With the lower shock mounting, the car is more stable as it rolls less, is easier to drive over chicanes, and has improved steering response. Recommended for medium-high technical tracks, especially for carpet.

If you use ULP lower graphite shock tower, you need to move the body post one hole higher.

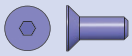


DETAIL If you use the lower ULP shock tower, you need to mount the set screw for mounting shock to the LOWER hole.

OPTION #302961
T4'20 ULP GRAPHITE SHOCK TOWER REAR 3.0MM - LOWER

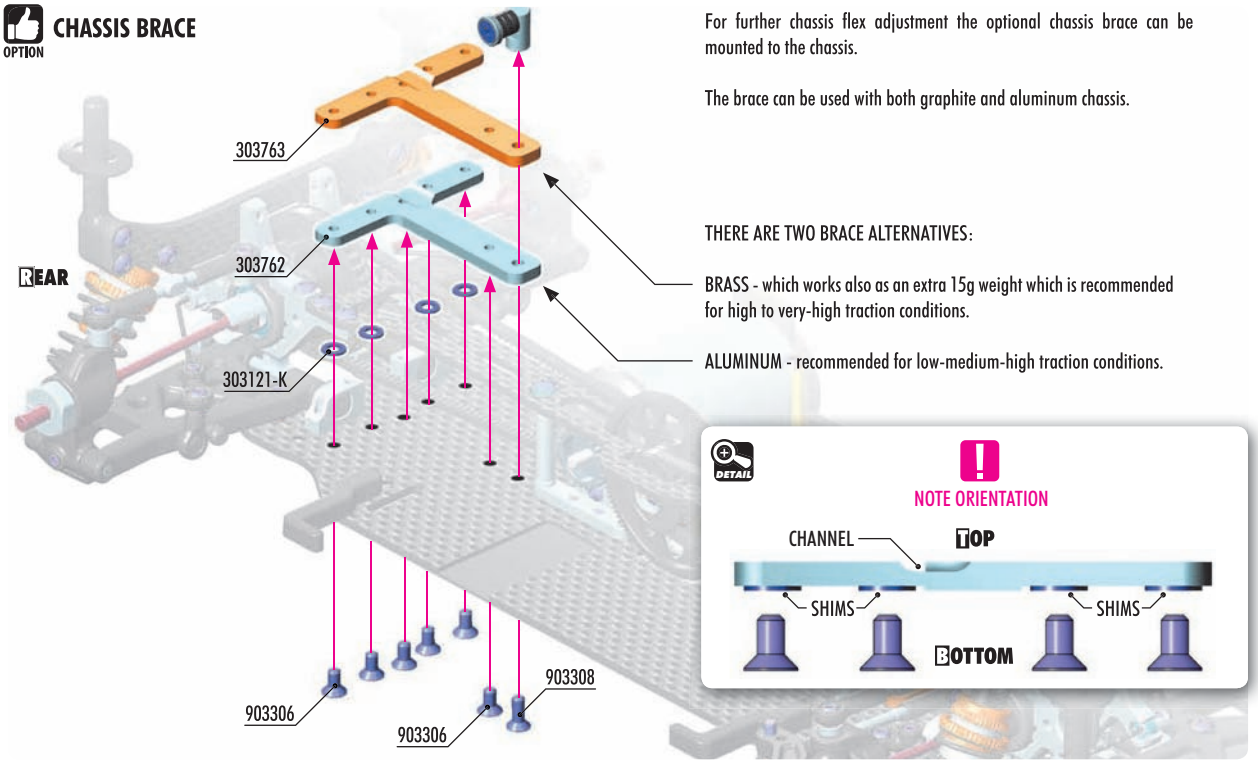

303121-K
SHIM 3x6x0.5


903306
SFH M3x6


903308
SFH M3x8

CHASSIS BRACE

OPTION



For further chassis flex adjustment the optional chassis brace can be mounted to the chassis.

The brace can be used with both graphite and aluminum chassis.

THERE ARE TWO BRACE ALTERNATIVES:

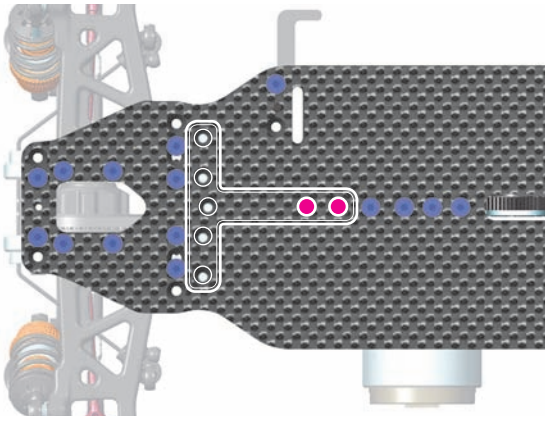
BRASS - which works also as an extra 15g weight which is recommended for high to very-high traction conditions.

ALUMINUM - recommended for low-medium-high traction conditions.

THE BRACE ALLOWS GREAT CHASSIS FLEX ADJUSTMENT POSSIBILITIES DEPENDING ON WHICH SCREWS ARE CONNECTED

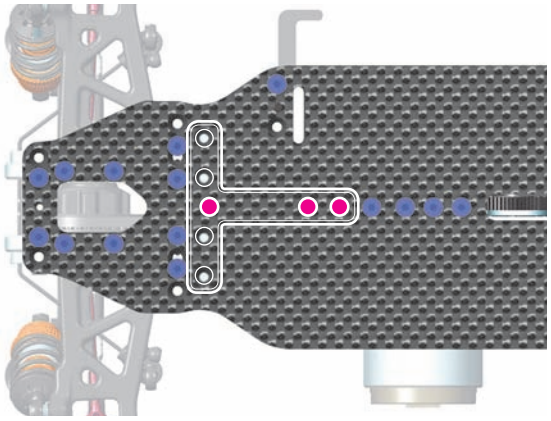
SOFT

Install only the first two screws as shown. Improves on-power stability.



MEDIUM

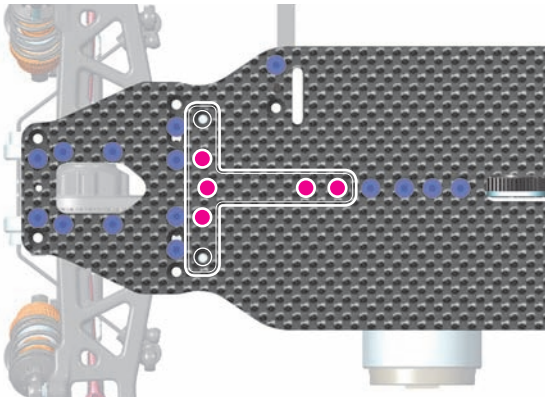
Install all screws along chassis center line. Generates more stability and traction.



STIFF

Install all screws along center line plus inner side holes. Generates more off-power steering and rotation.

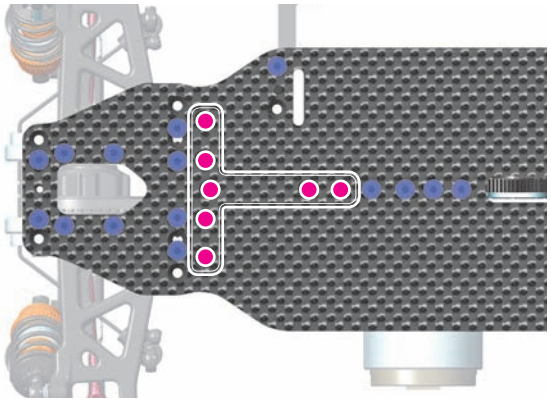
IMPORTANT!
When installing screws on the sides, add shims between the brace and the chassis.



EXTRA STIFF

Install brace with all 7 screws. Recommended for high-traction conditions, gives a lot of off-power steering and rotation.

IMPORTANT!
When installing screws on the sides, add shims between the brace and the chassis.



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