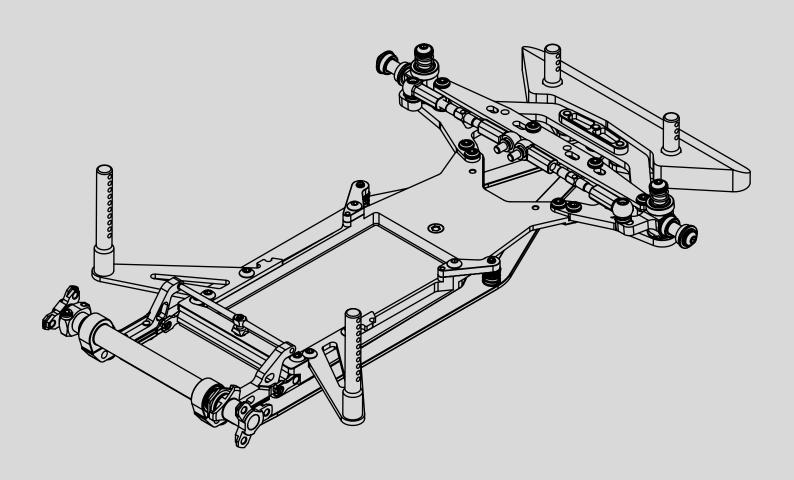


1/12-SCALE ELECTRIC ON-ROAD CAR



INSTRUCTION MANUAL



INTRODUCTION

Congratulations on purchasing your Awesomatix car!
The A12X car was produced by UAB Awesomatix company.

BEFORE YOU START

The A12X car is a high-quality, innovative 1/12-scale on-road car and should only be built by those with previous experience of building R/C model racing cars.

This is not a toy and is not intended for use by children without the direct supervision of a responsible, knowledgeable adult. Please read the instruction manual carefully and fully understand it before beginning assembly. If you encounter any problems or have any questions, please do not hesitate to contact the Awesomatix team at **support@awesomatix.com**.

Ensure that you are happy with your kit purchase and are committed to use of it prior to beginning the assembly of your A12X. Your car cannot be returned to UAB Awesomatix for a refund or exchange once it has been fully or partially assembled.

This kit is a radio controlled model racing product and could cause personal injury or harm if not used as intended. The A12X car is designed for use on r/c car race tracks; it should not be used in areas primarily intended for use by the general public. UAB Awesomatix accept no responsibility for any injury caused by making or using this product.

Due to our policy of continuous product development, the exact specifications of the kit may vary. UAB Awesomatix reserve all rights to modify or change product specifications without prior notice. All rights reserved.

ASSEMBLY NOTES

You can find useful tips for assembly of the A12X and an editable setup sheet on the Internet website: http://site.petitrc.com/reglages/awesomatix/setupa12/

GENERAL PRECAUTIONS

- Many of the items in this kit are small enough to be accidentally swallowed and are therefore potential choking hazards, making them potentially fatal. Please ensure that when assembling the kit you do so out of the reach of small/young children.
- Take care when building, as some parts may have sharp edges.
- Please read this manual carefully to understand which ancillary items (tools, electrics, electronics etc) are used with this kit.
 Awesomatix Innovations accept no responsibility for the operation of any such ancillary items.
- · Exercise care when using tools and sharp instruments.
- Follow the operating instructions for the radio equipment at all times.
- · Never touch rotating parts of the car as this may cause injury.
- · Keep the wheels of the model off the ground when checking the operation of the radio equipment.
- · 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 roads or areas where its operation can conflict with or disrupt pedestrian or vehicular traffic.
- Do not run your car in poor light or if it goes out of sight. Any impairment to your vision may result in damage to your car or, worse, injury to others or their property.
- As a radio controlled device, your car is subject to radio interference from things beyond your control. Any such interference may cause a loss of control of your car so please consider this possibility at all times.
- · When not using RC model, always disconnect and remove battery.
- Insulate any exposed electrical wiring to prevent dangerous short circuits.

Take maximum care in wiring, connecting and insulating cables. Make sure cables are always connected securely.

Check connectors for if they become loose and if so reconnect them securely. Never use R/C models with damaged wires.

A damaged wire is extremely dangerous and can cause short-circuits resulting in fire.

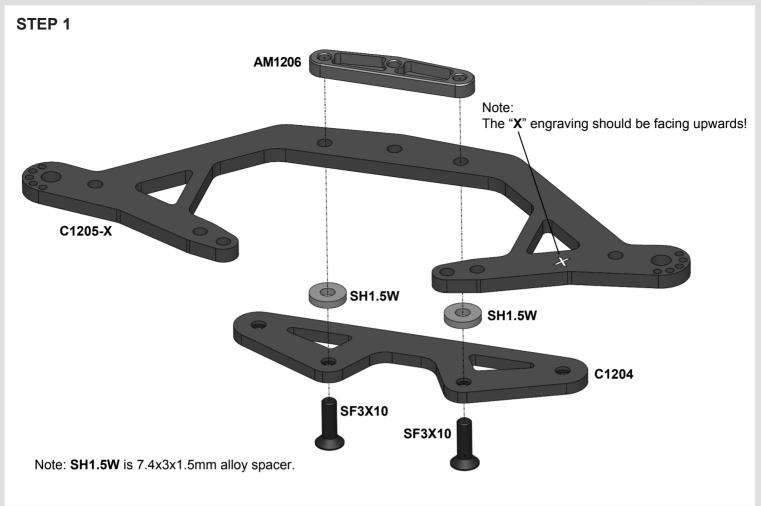
EQUIPMENT RECOMMENDED (NOT INCLUDED)

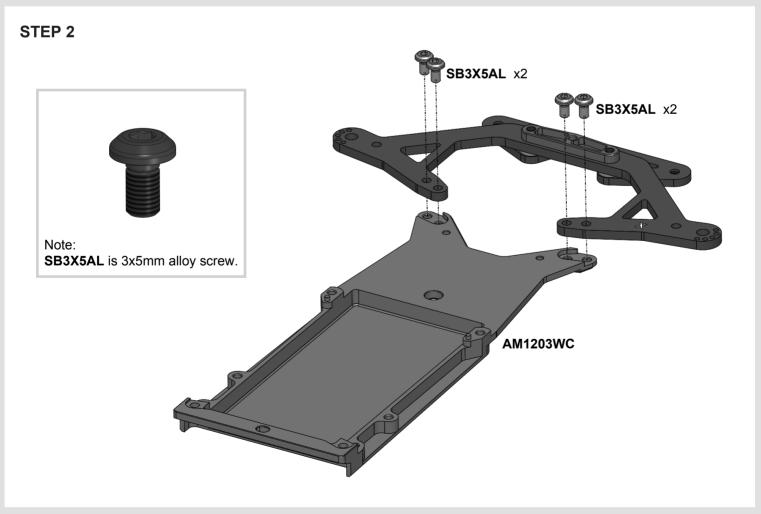
- Radio Transmitter
- · Radio Receiver
- · Electronic Speed Control
- · Steering Servo
- · Servo Saver
- · Electric Motor
- Pinion Gear (64 or 48 Pitch)
- Spur Gear (64 or 48 Pitch)
- 1S Li-Po Battery
- 1/12 scale Body Shell
- 1/12 scale Wheels and Tires

TOOLS RECOMMENDED (NOT INCLUDED)

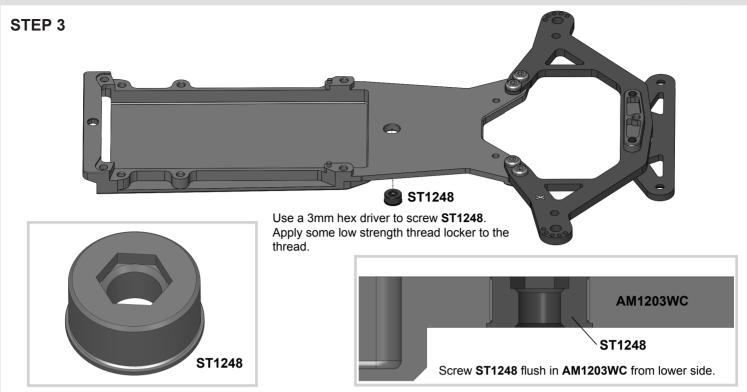
- 1.5 mm, 2.0 mm, 2.5 mm, 3.0 mm Hex Drivers
- 12mm Wrench
- · Sewing Needle or Sharp Pin
- · Hobby Knife
- · Ride Height Gauge
- · Thin CA Glue
- Thread Lock
- · Double Side Tape
- · Silicone Grease
- Joint Grease

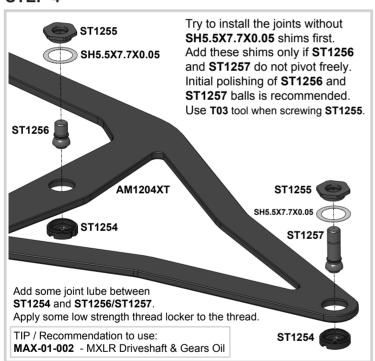




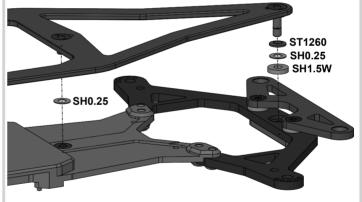






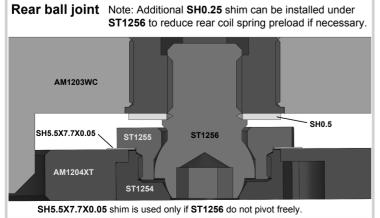


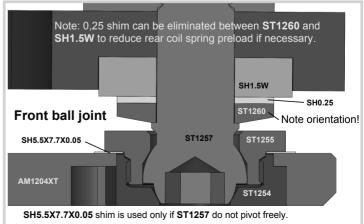
Note: The kit's rollcenter set is **LRC** (Low Roll Center) set. Optional rollcenter sets are available (not kit included): **ELRC** - Extra Low Roll Center set (-1mm lower rollcenter) **HRC** - High Roll Center set (+1mm higher rollcenter) **EHRC** - Extra High Roll Center set (+2,8mm higher rollcenter)



Use a 2mm hex driver to screw **ST1256** and **ST1257**. Apply some low strength thread locker to the thread.

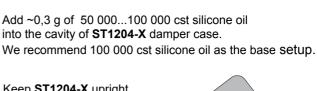
After assembly make sure that **AM1203WC** pivots freely relative to **AM1204XT**.

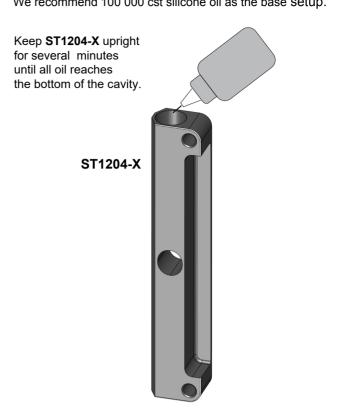


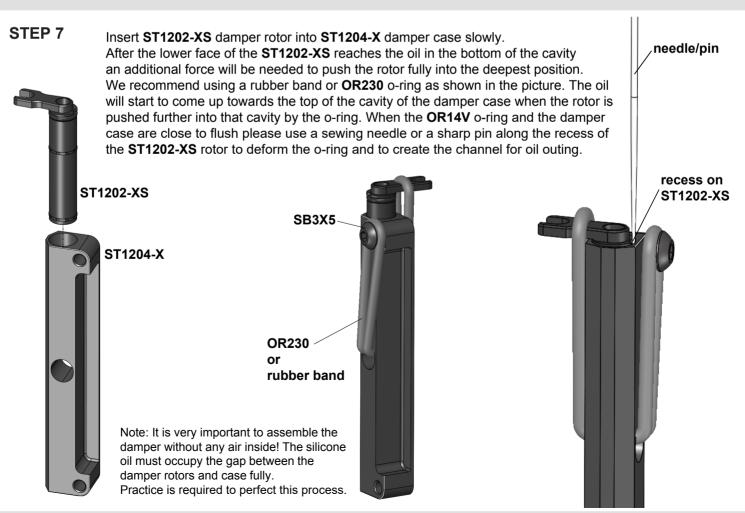






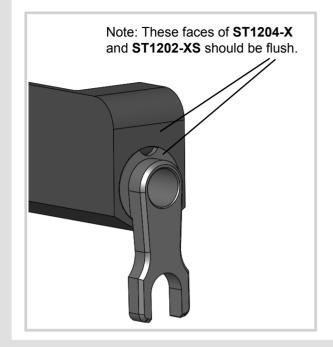


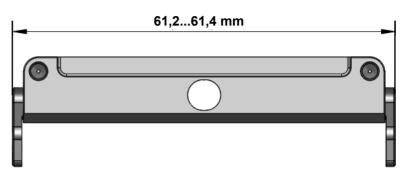




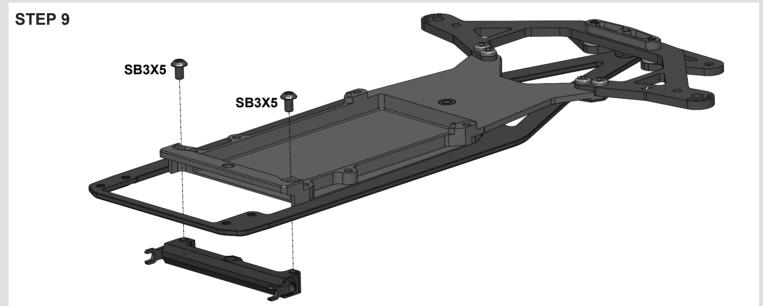


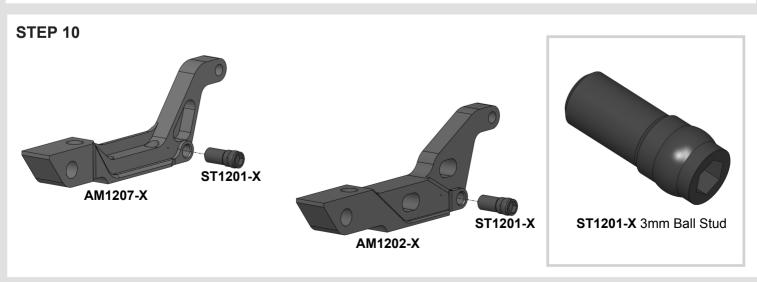
Repeat STEPS 5,6 &7 for other side of **ST1204-X** and check that both **ST1202-XS** rotors are correctly installed (flush with the **ST1204-X** face)





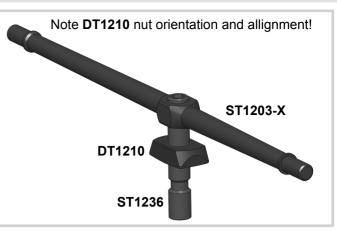
Note: Check this recommended size.

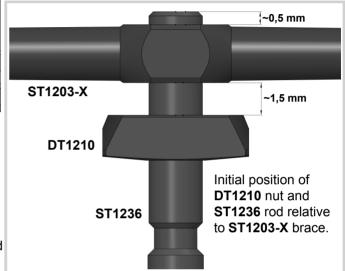


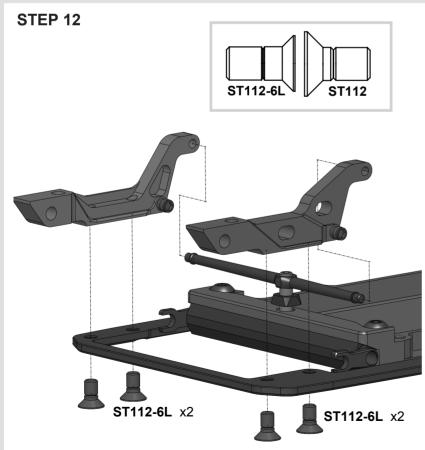


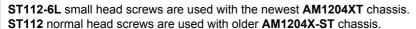


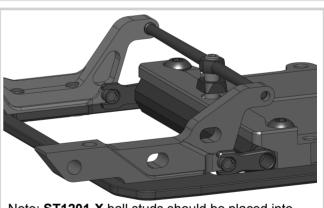






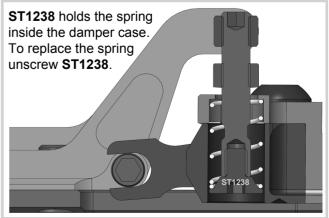




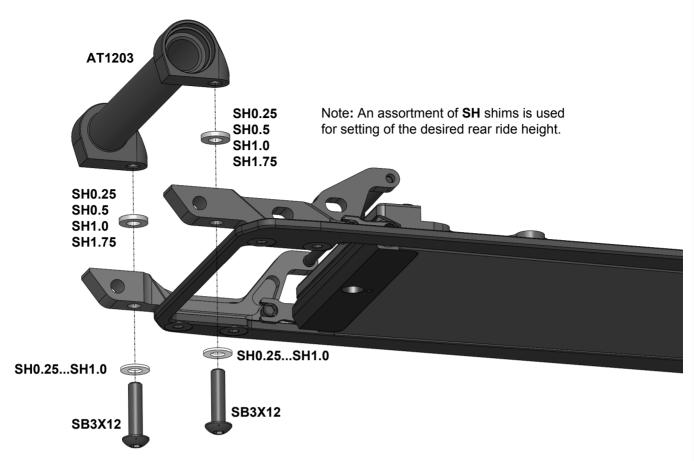


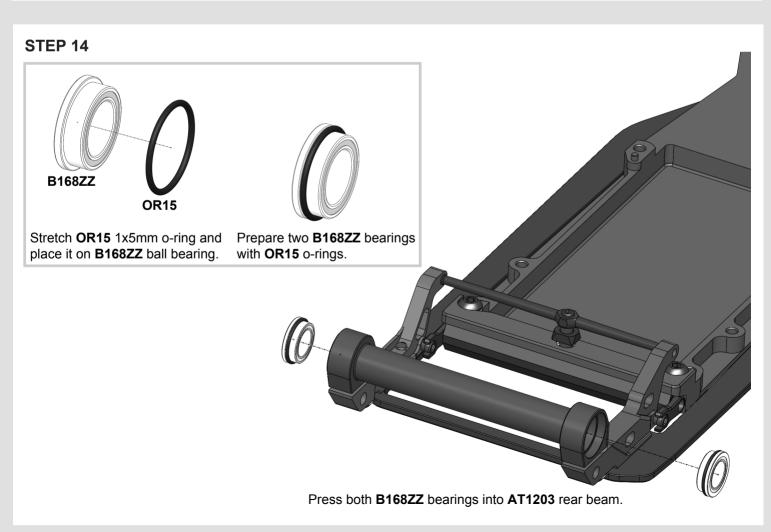
Note: **ST1201-X** ball studs should be placed into slots of **ST1202-XS** rotors.

The tips of **ST1203-X** brace should be placed into holes of **AM1202-X** and **AM1207-X**.



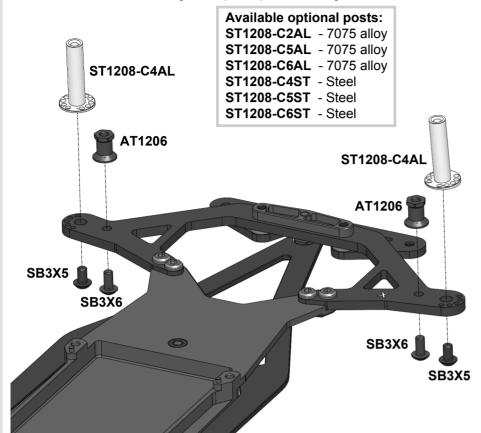






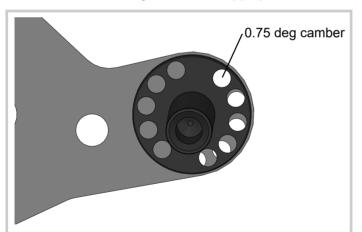


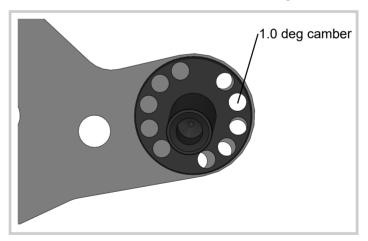
Note: ST1208-C4AL steering block posts provide 4 deg caster.

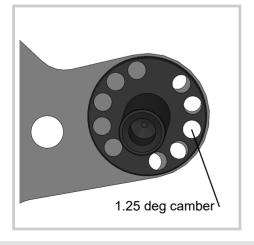


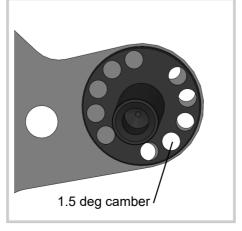


Alignment of the appropriate holes between ST1208-C4AL and C1205-X for camber settings.



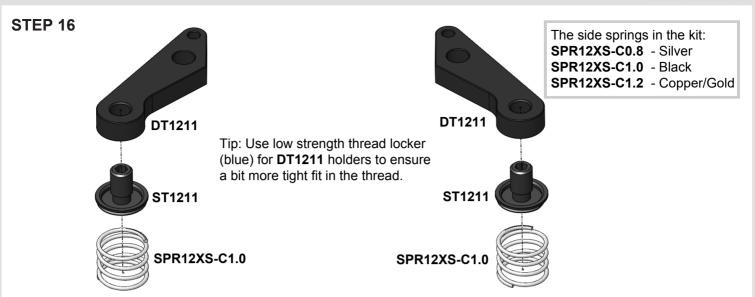






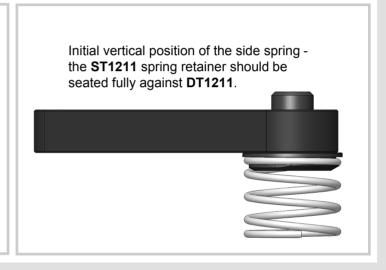


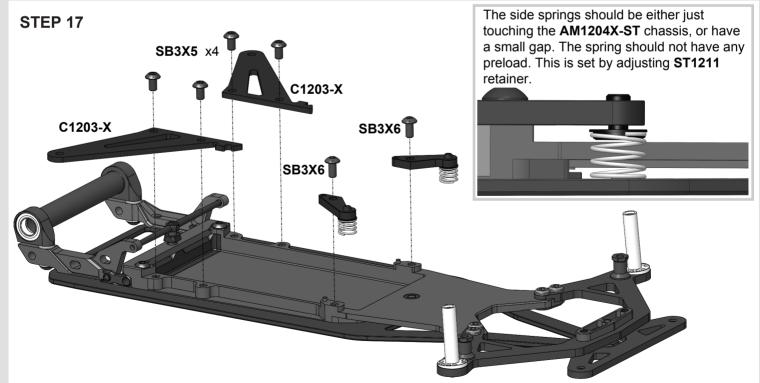






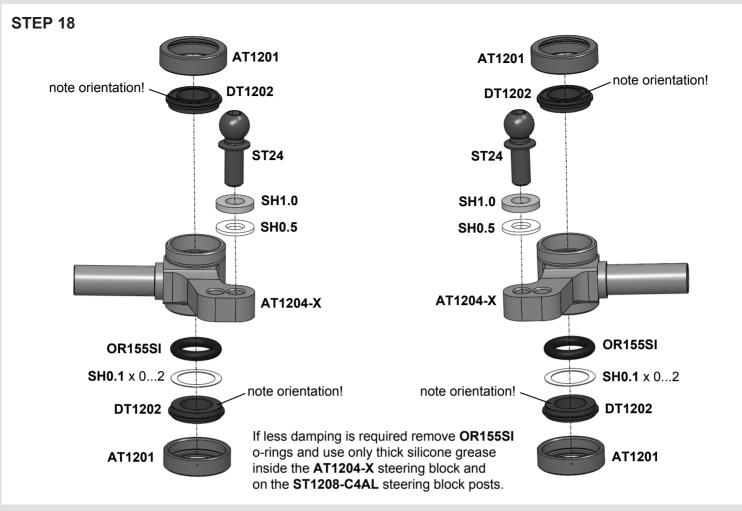
Snap the spring into the groove on **ST1211** retainer and rotate the spring to find the position that provides a perfect alignment of the spring and retainer.

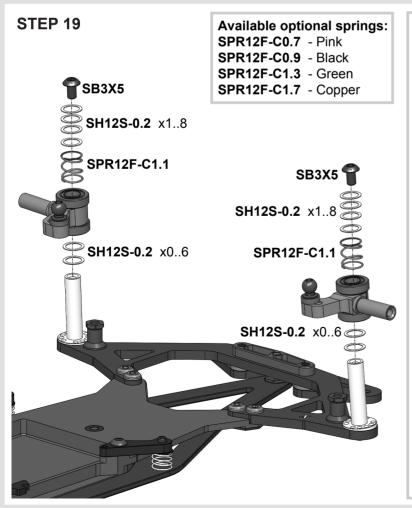


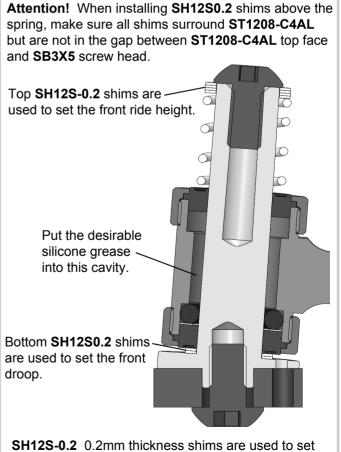


Note: Optional long springs SPR12S0.4, SPR12S0.5, SPR12S0.6 can be used with additional SH0.5 or SH1.0 spacers installed under the DT1211 holders. The left and right long side springs - both must always contact the AM1204X-ST chassis during side roll. The effective anti-roll rate of these long side springs is 2 times the specified spring rate. For example, the effective anti-roll rate of SPR12S0.4 long springs is actually equal to 0.8.







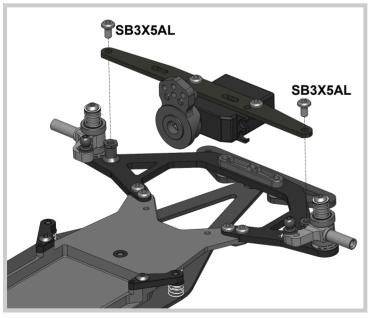


the front ride height and the front droop.



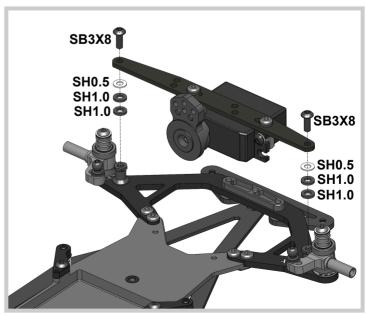
15mm thick mini Servo installation: SANWA SRG / MKS HV50P Servo installation: SB3X5AL SH1.0 C1201-X3 SB3X5AL SB3X5AL C1201-X3 SB3X5AL SH1.0 AT1202 SH0.5 **ST24-4.0**...x2 **ST24-4.0** x2 SH0.5 AT1202 **SB3X6** servo (not included!) Mini servo (not included!) Up to 35x30x15mm mini Servosaver (not included!) Servosaver (not included!) servos can be installed. Note: ST24-4.0 are 4.0mm ball studs. ST24-4.0 fit P1213 4.0mm ball cups.

STEP 21



SANWA SRG / MKS HV50P Servo installation

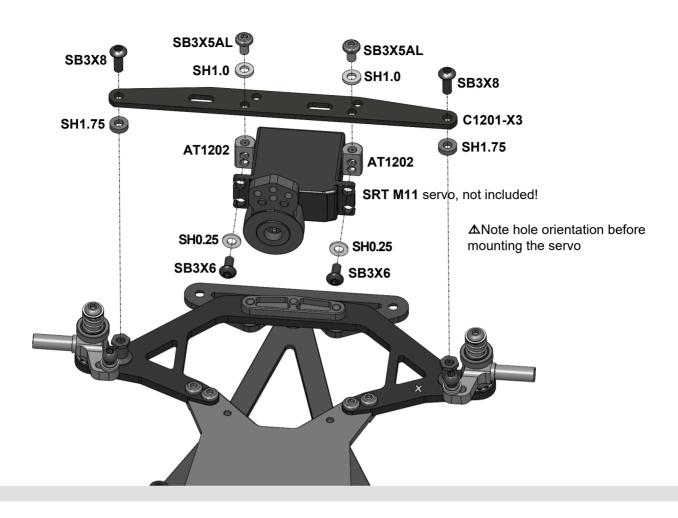
15mm thick mini Servo installation





STEP 20-21Bis

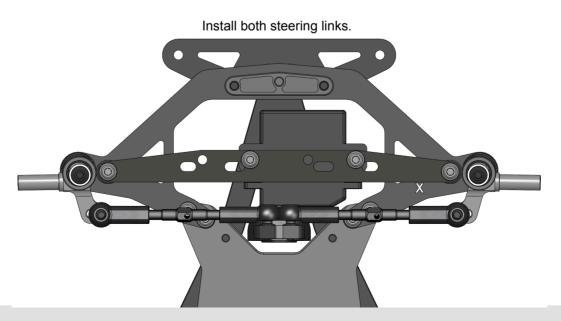
SRT M11 servo installation.



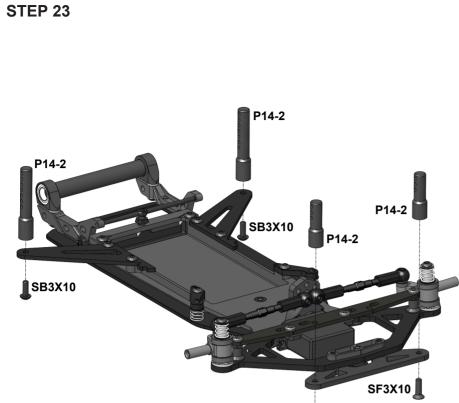
STEP 22



Note: P1213 4.0mm ball cups are used for the inner steering joints.

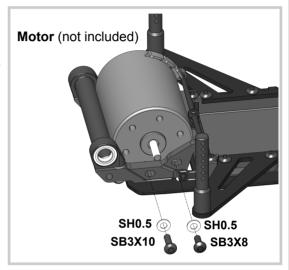


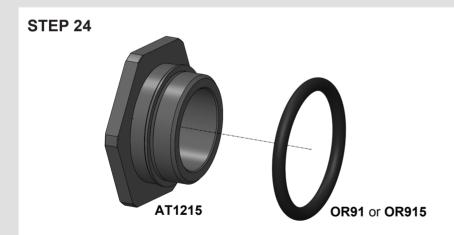




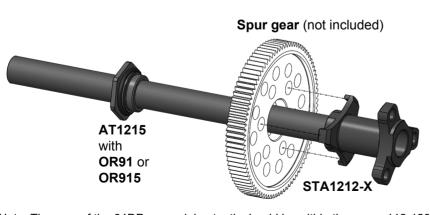
SF3X10

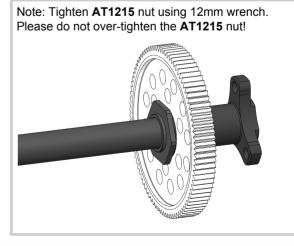






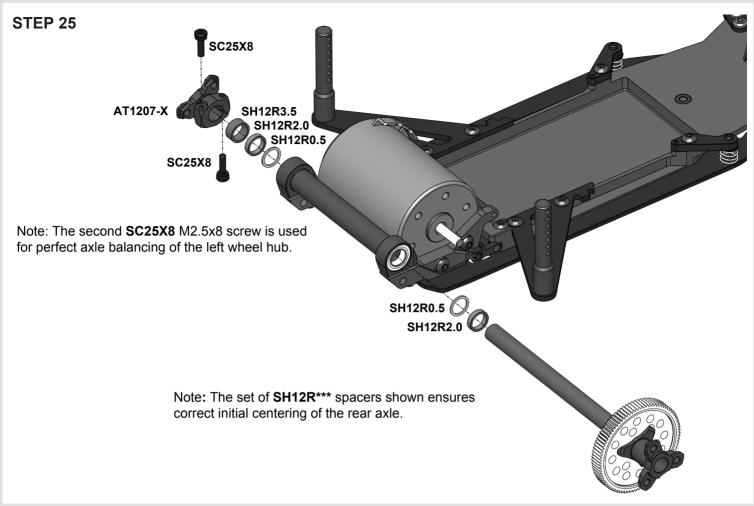




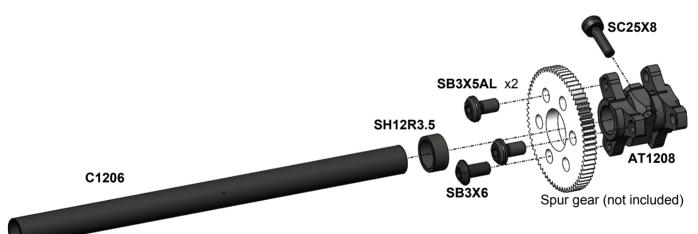


Note: The sum of the 64DP spur+pinion teeth should be within the range 112-120. $\label{eq:control}$





Carbon Spool set **CS-1** (optional).



Note: Optional **ST1212** steel axle can be used instead of **C1206** carbon axle.

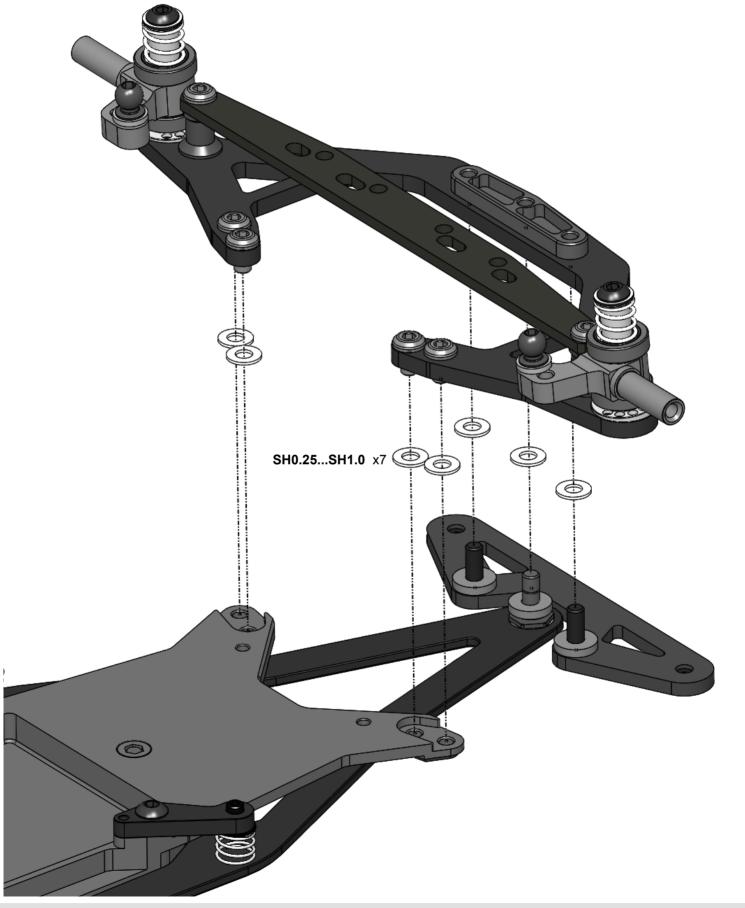
Note: Two SB3X5AL M3x5 alloy screw with one SB3X6 M3x6 steel screw are used for perfect axial balancing of the right wheel hub.

SB3X5AL x2

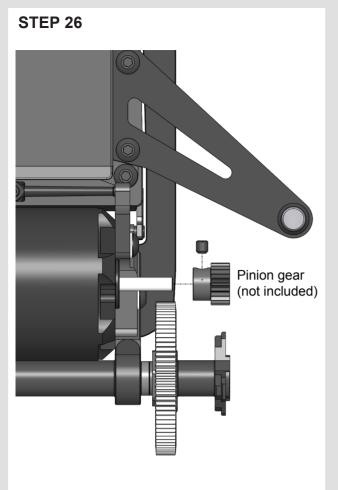
SB3X6

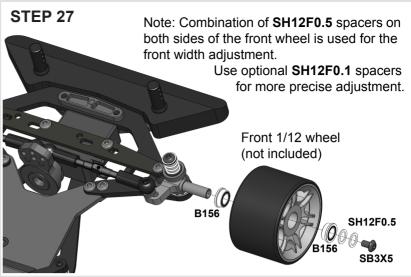


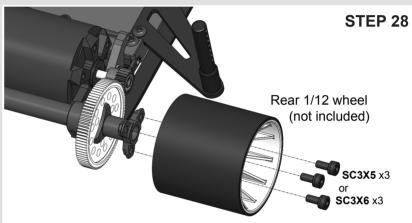
Note: When using larger diameter tires, it maybe necessary to use spacers under the **C1205-X** to obtain the desired ride height. Adjusting the number or thickness of shims under and above the steering block will not be sufficient to lower the ride height to a desirable setting.





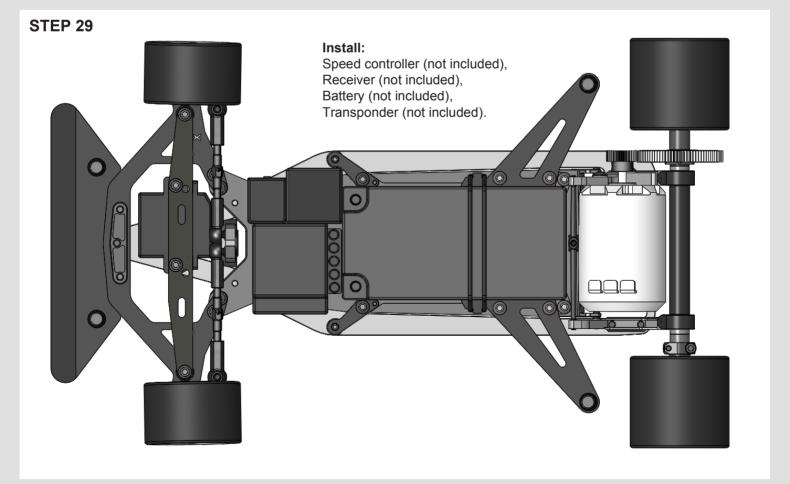






Note: The sum of the 64DP spur+pinion teeth should be within the range 112-120.

Note: Use SC3X5 or SC3X6 depending of the rear rims chosen. Some rims may need optional 3x8 mm screws (not included).



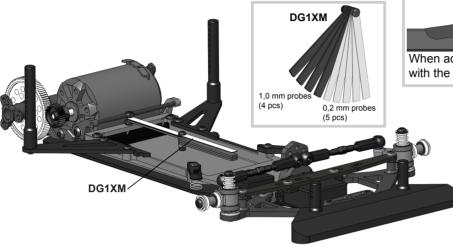


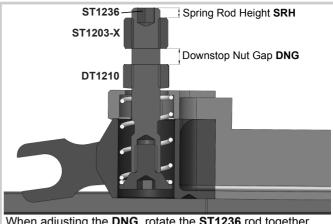
Setting of the Rear Downstop (RD).

Rear Downstop - the RD value in the A12X car indicates how far the motor pod can drop below the bottom surface of the rear damper. In the A12X car the RD directly depends on the gap between the nut DT1210 and the rod ST1203-X - Downstop Nut Gap DNG. Therefore, to determine **RD**, it is nessary to measure the **DNG** value.

Equation for the Rear Downstop RD: RD = 3 mm - DNG.

When measuring the Downstop Nut Gap DNG, insert the DG1XM gauge into the gap between the brace ST1203-X and the nut DT1210.





When adjusting the DNG, rotate the ST1236 rod together with the DT1210 nut using a 1,5 mm hex driver.



After installing the DNG, orient the DT1210 nut with its long face along the motor.

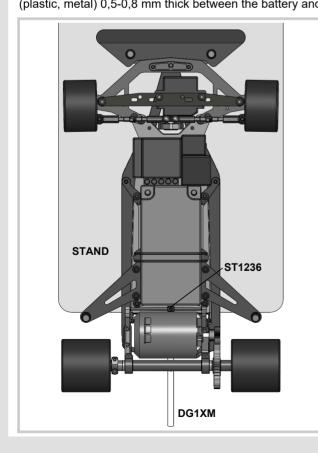
Setting of the Gap Under Damper (GUD).

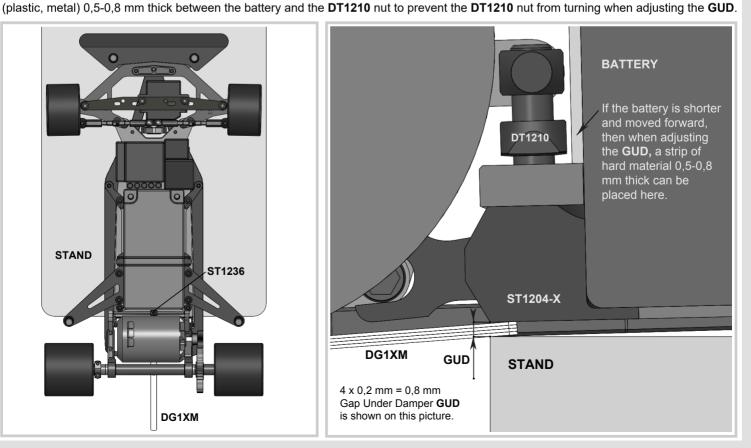
Gap Under Damper - the GUD value indicates how far the bottom surface of the rear damper is above the chassis level. We strongly recommend installing the GUD after installing the rear downstop RD!!!

The **GUD** value can be measured using the **DG1XM** gauge when the fully equipped car is placed on the flat stand like on the picture. When measuring the GUD, insert the DG1XM gauge in the gap between the ST1204-X body and the stand.

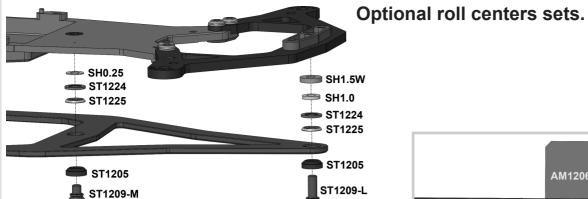
The GUD is set via preload of the rear spring SPRXR. Rotate the rod ST1236 using 1,5 mm hex driver; turn clockwise to reduce the rear spring preload and to decrease the GUD; turn counterclockwise to increase the rear spring preload and to increase GUD.

The battery prevents the **DT1210** nut from rotating in most cases and the previously set rear downstop setting is not changed. Note: If the battery case is slightly shorter, always secure the battery in the rearmost position or place a strip of hard material

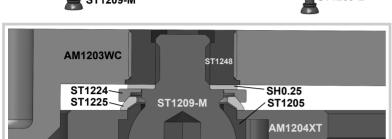


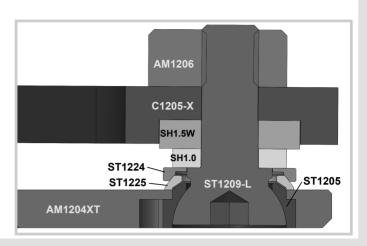


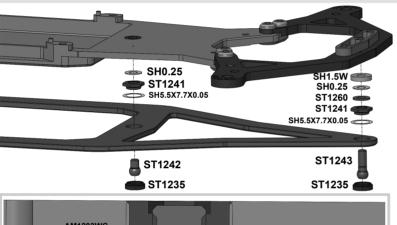




ELRC Set ST1205 - 2 pcs ST1209-M - 1 pcs ST1209-L - 1 pcs ST1224 - 2 pcs ST1225 - 2 pcs

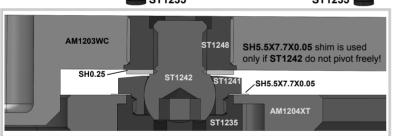


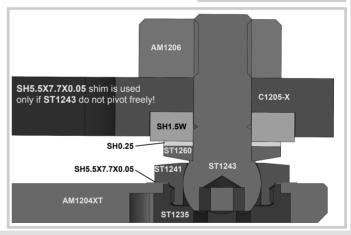


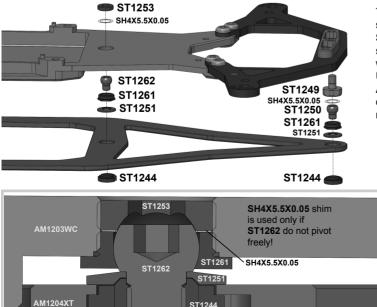


Try to install the joints without SH5.5X7.7X0.05 shims first. Add these shims only if ST1242 and ST1243 do not pivot freely. Use T03 tool when screwing ST1241.

HRC Set	
ST1235	 2 pcs
ST1241	 2 pcs
ST1242	- 1 pcs
ST1243	- 1 pcs
SH5.5X7.7X0.05	- 2 pcs







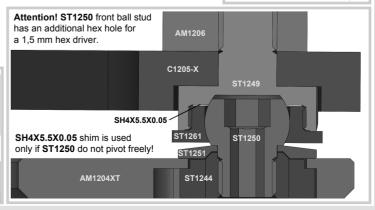
ST1244

Try to install the joints without **SH4X5.5X0.05** shims first. Add these shims only if ST1250 or ST1262 do not pivot freely. Use T03 tool when screwing ST1261. Use 1,5 or 2 mm hex driver when screwing ST1250 and ST1262.

Use the 1,5 mm Allen key in the recess of AM1204XT to secure ST1244 when tightening or unscrewing ST1250 and ST1262. Use 2,5 mm hex driver when screwing ST1253.

ST1244	- 2 pcs
ST1249	- 1 pcs
ST1250	- 1 pcs
ST1251	 2 pcs
ST1261	 2 pcs
ST1262	- 1 pcs
ST1253	- 1 pcs
SH4X5.5X0.05	- 2 pcs

EHRC Set





Spare parts

Spare parts			
Parts #	Description	Parts #	Description
AM1202-X	Motor Mount	SPR12XR-C1.0L	Rear Spring C1.0 Long
AM1203WC	Battery Plate	SPR12XR-C0.8	Rear Spring C0.8
AM1204XT	Chassis Plate	SPR12XR-C1.2	Rear Spring C1.2
AM1206	Front Nut	SPR05	Body Clip
AM1207-X	Left Bulkhead	B156	3/16x5/16x1/8 Flanged Bearing
AT1201	Steering Block Nut	B168	1/4x3/8x1/8 Flanged Bearing Spring
AT1202	Servo Post	SH12S-0.2	Shim 0.2mm
AT1203	Rear Beam	SH12F0.5	Front Axle Spacer 0.5mm
AT1204-X	Steering Block	SH12R0.5	Rear Axle Spacer 0.5mm
AT1206	Servo Plate Post	SH1.5W	7.4x3x1.5mm Spacer
AT1207-X	Left Hub	SH12R2.0	Rear Axle Spacer 2.0mm
AT1215	Spur Nut	SH12R3.5	Rear Axle Spacer 3.5mm
AT25-2	Turnbuckle 39mm	SH0.1	6x8x0.1mm Shim
DT1202	Steering Washer	SH0.25	6x3x0.25mm Spacer
DT1211	Side Spring Holder	SH0.5	6x3x0.5mm Spacer (Silver)
DT1210	Downstop Nut	SH1.0	6x3x1.0mm Spacer (Gray)
ST1201-X	3mm Ball Stud	SH5.5X7.7X0.05	5.5x7.7x0.05mm Shim
ST1202-XS	Damper Rotor	OR155SI	1.5x5mm O-Ring Silicone
ST1203-X	Downstop Rod	OR230	2x30mm O-Ring
ST1204-X	Damper Case	OR14V	1x4mm O-Ring Viton
ST1236	Rear Spring Rod	OR15	1x5mm O-Ring
ST1238	Rear Spring Seat	OR91	9x1mm O-Ring
ST1208-C4AL	Steering Block Post	OR915	9x1.5mm O-Ring
ST1248	Battery Plate Nut	SC25X8	M2.5x8 Cap Head Screw
ST1254	LRC Seat	SC3X5	M3x5 Cap Head Screw
ST1255	LRC Nut	SC3X6	M3x6 Cap Head Screw
ST1256	LRC Rear Ball	SB3X5	M3x5 Button Head Screw
ST1257	LRC Front Ball	SB3X6	M3x6 Button Head Screw
ST1211	Spring Retainer	SB3X8	M3x8 Button Head Screw
ST24-4.0	4.0mm Ball Stud	SB3X10	M3x10 Button Head Screw
ST24	4.8x6mm Ball Stud	SB3X12	M3x12 Button Head Screw
ST1260	Tapered Spacer	SF3X10	M3x10 Flat Head Screw
P1215	Foam Bumper	SB3X5AL	M3x5 Alloy Screw
P13XH	Ball Cup	ST112-6L	Centering Screw
P1213	Ball Cup 4.0 mm	STS-A12	A12 Stickers Sheet
P14-2	Body post	SIO100K	100k Silicone Oil
C1201-X3	Servo Plate	STA1212-X	Composite Axle
C1203-X	Body Holder	DG1XM	DG1XM Gauge
C1204	Bumper Plate	T03	6/7mm Wrench
C1205-X	Suspension Plate	AK1.5	1.5mm Allen Key
SPR12F-C1.1	Front Spring C1.1		
SPR12XS-C1.0	Side Spring C1.0		
SPR12XS-C0.8	Side Spring C0.8		
SPR12XS-C1.2	Side Spring C1.2		

Optional Parts

Parts # RHG 4.6 CS-1 AT1204-ZTL ST1208-C5AL ST1208-C6AL ST1208-C6 ST1216 ST1212 C1206 OR155PU SH12R5.5 AT1208 SPR12F-C1.7 SPR12F-C1.3 SPR12F-C0.9 SPR12F-C0.7	Description Ride Height Gauge Carbon Spool Set Steering Block Zero Trail Steering Hub Post 5 Deg Steering Hub Post 6 Deg Steering Hub Post 2 Deg Steering Hub Post 6 Deg Balance Weight 5 g Spring Steel Axle Carbon Axle 1.5x3mm O-Ring PU Rear Axle Spacer 5.5mm Right Hub Front Spring C1.7 Front Spring C0.9 Front Spring C0.7	Parts # C1205-6.0 C1201-6.0 C1201 C1205-ZT C1205-X-1.5 C1201-ZT ST1208-C2ST ST1208-C4ST ST1208-C5ST ST1208-C6ST SPR12S-C0.4 SPR12S-C0.5 SPR12S-C0.6 ELRC HRC EHRC AM1204X-STS	Description Suspension Plate Servo Plate Servo Plate Suspension Plate Zero Trail Suspension Plate Servo Plate Servo Plate Servo Plate Zero Trail Steering Hub Post 2 Deg Steering Hub Post 4 Deg Steering Hub Post 5 Deg Steering Hub Post 6 Deg Side Spring Long C0.4 Side Spring Long C0.5 Side Spring Long C0.6 Extra Low Roll Center Set High Roll Center Set Steel Soft Chassis Plate
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