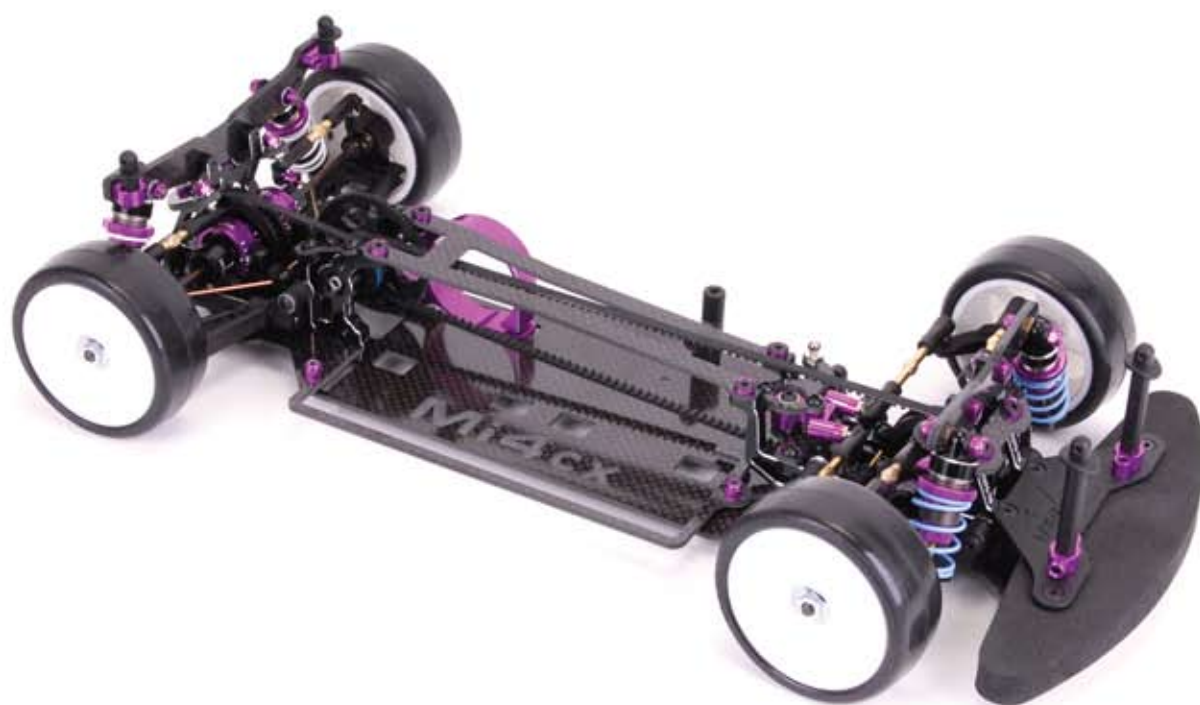


Mi4GX

Instruction Manual v 1.0



CompetitionX
A WEB SITE **Schumacher** SERIOUS RACER
racing-cars.com

Schumacher Racing - 71-73 Tenter Road - Moulton Park - Northampton - NN3 6AX - ENGLAND

S1215

Additional Items Required

Transmitter, receiver and servo

(including AA batteries for it)



Electronic Speed Control



Battery Pack



Battery Tape



Motor



Pinion Gear



Battery Charger



Bodyshell & Paint



Wheels & Tyres



Tools

HWO10 Wiha Precision
Circlip Pliers



CR044 Curved Body Scissors



ED110115 Hex Driver 1.5 x 120mm
ED110120 Hex Driver 2.0 x 120mm
ED110155 Hex Driver 2.5 x 120mm



ED150155 Nut Driver 5.5 x 100mm
ED150170 Nut Driver 7.0 x 100mm



Turnbuckle Wrench 4mm ED190009



LF7107 - Solder

Mi4cx

Schumacher Racing stocks and distributes the following manufacturers products and full product listings are available on our website at www.racing-cars.com.

PLEASE NOTE THAT SOME OF THE PRODUCT RANGES BELOW ARE ONLY AVAILABLE IN THE UNITED KINGDOM.

CORE-RC
COM

N:SRAM

Speed
Passion
RC Technology Revolution

GM
RACING

Wiha

East Coast
BodiesTune

TEAM
SOREX

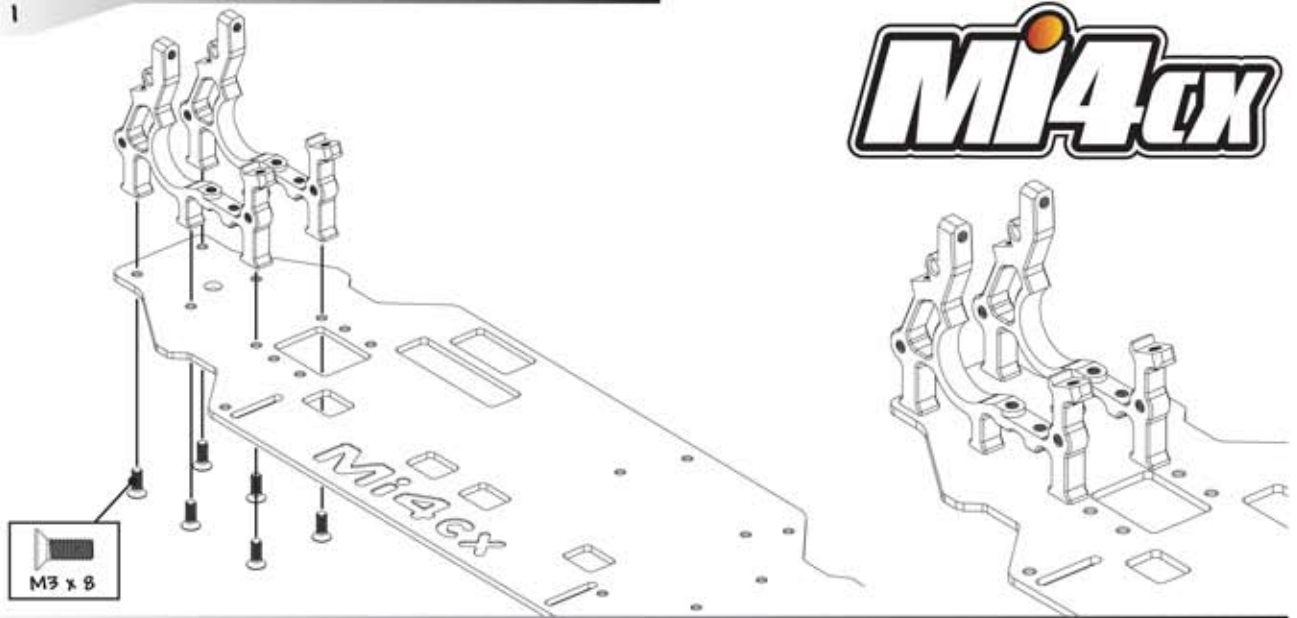
EPS
Specialized RC Tools

IMPORTANT SAFETY NOTES

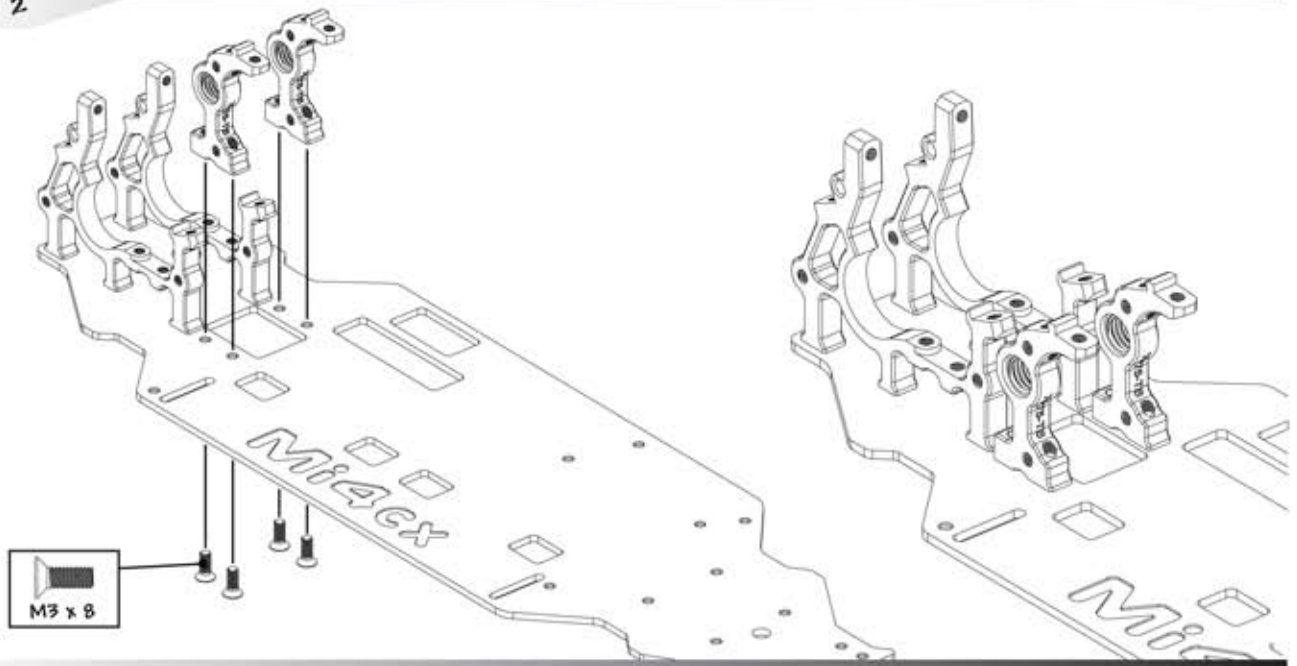
- This product is not suitable for children under the age of 14, without the direct supervision of an adult.
- Select an area for assembly that is away from the reach of small children. The parts in this kit are small and can be swallowed by children causing choking and possible internal injuries.
- Exercise care when using hand tools and sharp instruments during assembly.
- Carefully read all manufacturers warnings and cautions for any additional parts used in the construction.
- In line with our policy of continuous development the exact details of the kit may vary.

Step 1

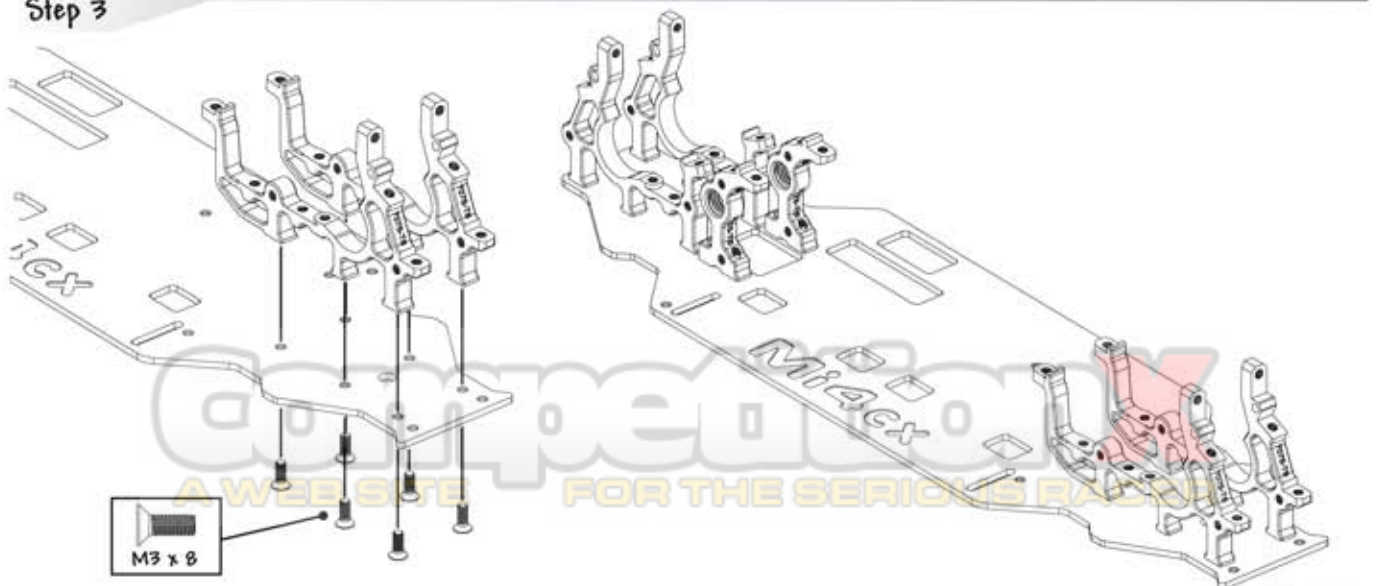
MI4cx



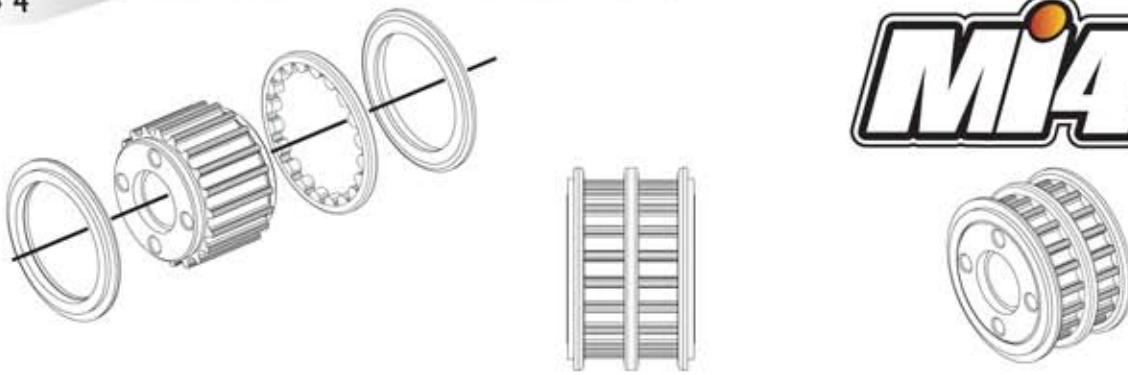
Step 2



Step 3

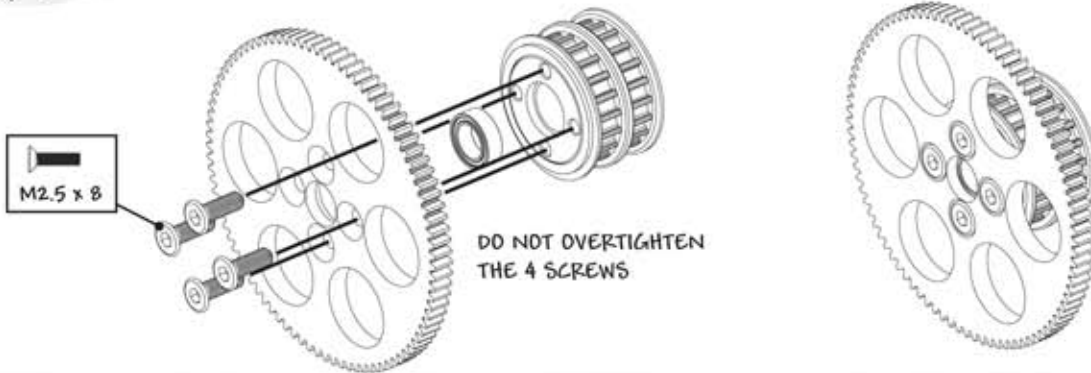


Step 4



Mi4cx

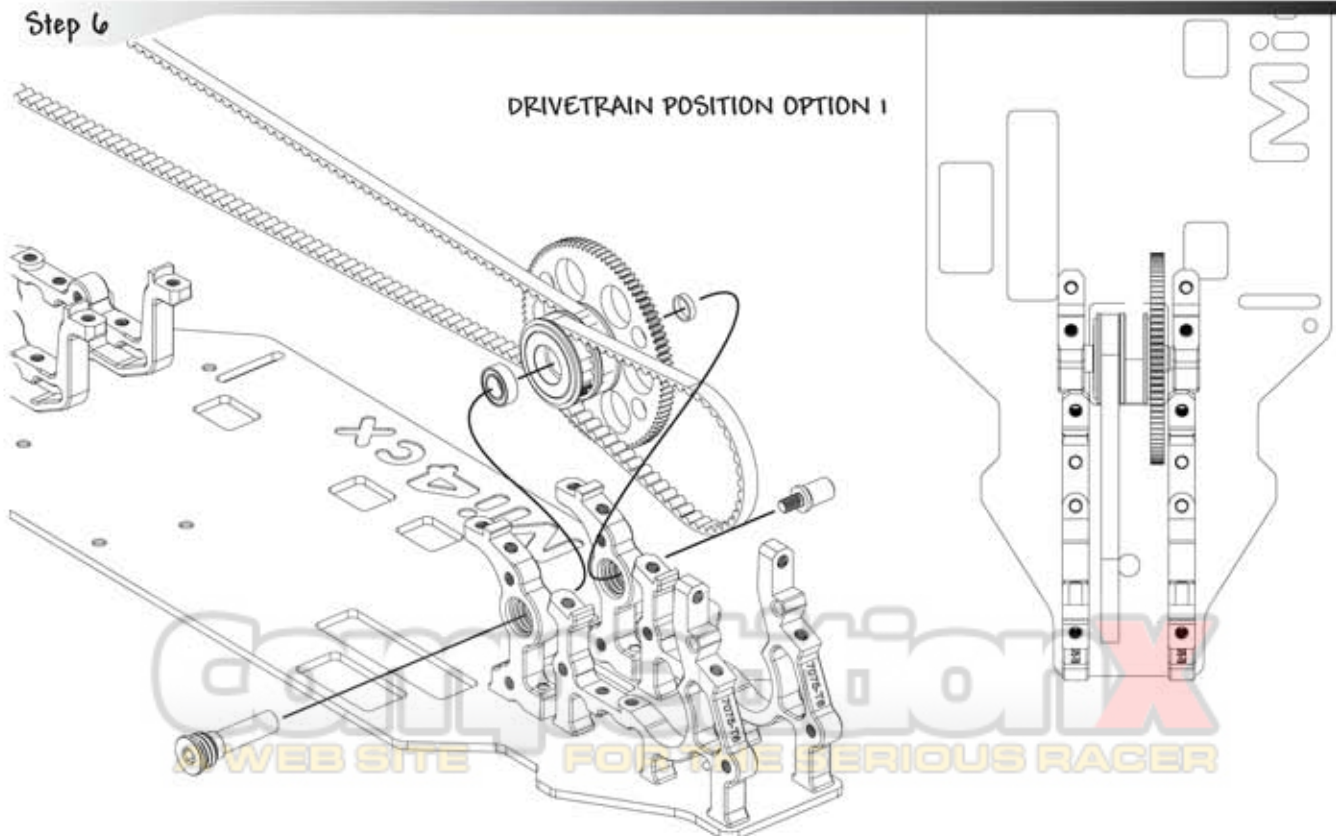
Step 5



IMPORTANT TRANSMISSION OPTIONS

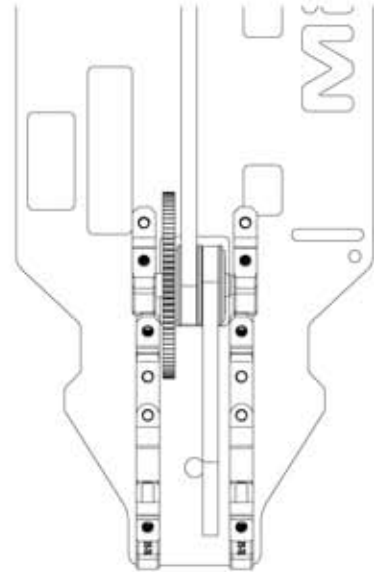
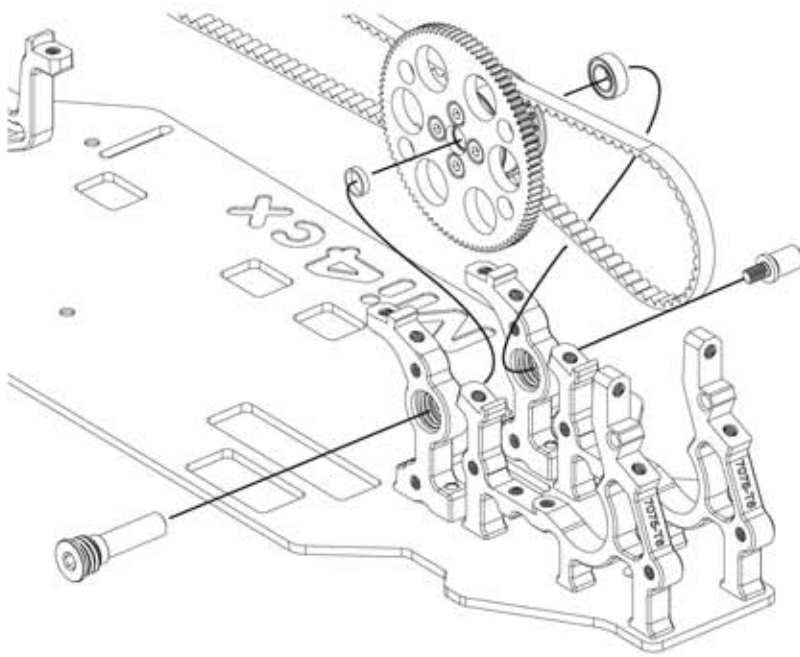
The Schumacher Mi4LP has the ability to flip the transmission to alter the left to right weight balance. Depending on what weight limit you run to, this is a vital tool to balance the car. If you use a lightweight Servo, ESC and RX use Option 2 transmission layout. If you have heavier equipment use Option 1 and move the radio gear as close as possible to the centre of the car. The motor position also aids in left to right balance. The U3582 Schumacher Precision Pivot Balance Set is an ideal system to balance your Mi4LP.

Step 6



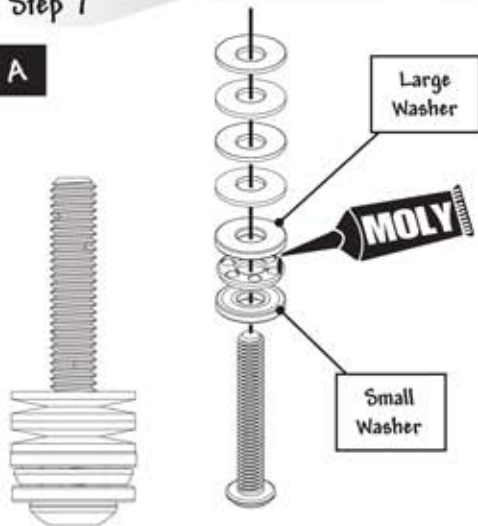
Step 6

DRIVETRAIN POSITION OPTION 2

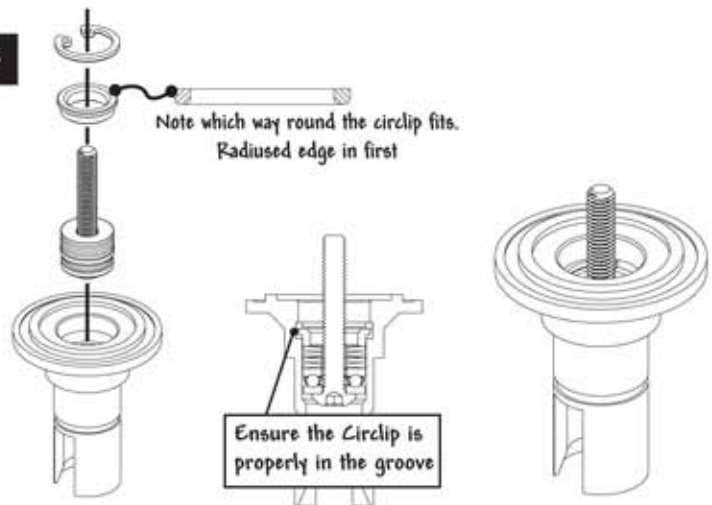


Step 7

A

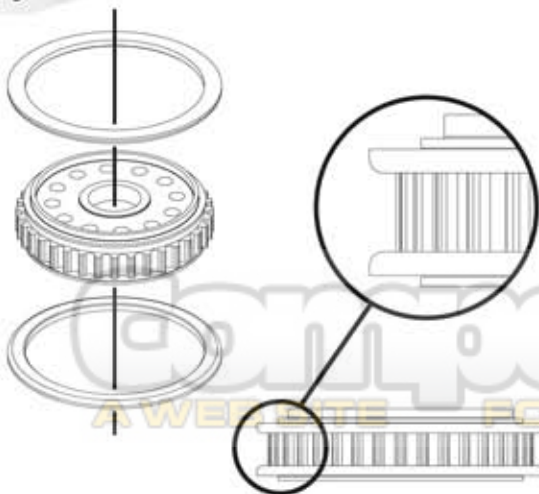


B

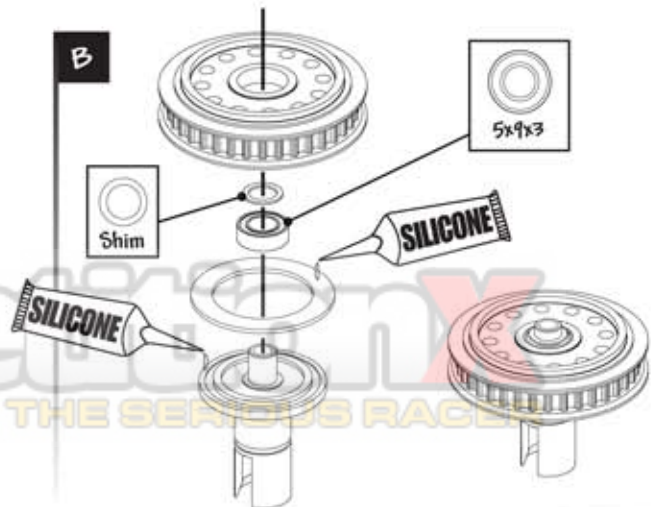


Step 8

A

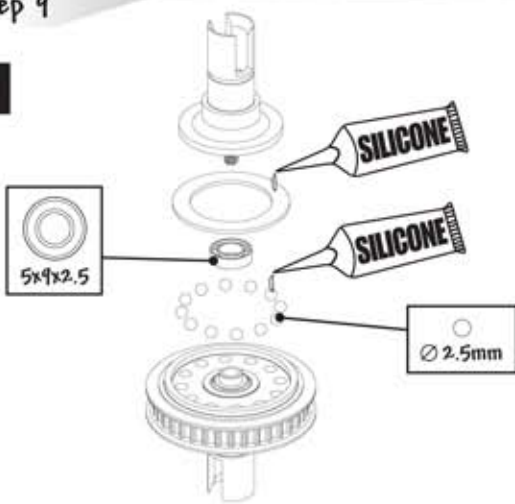


B

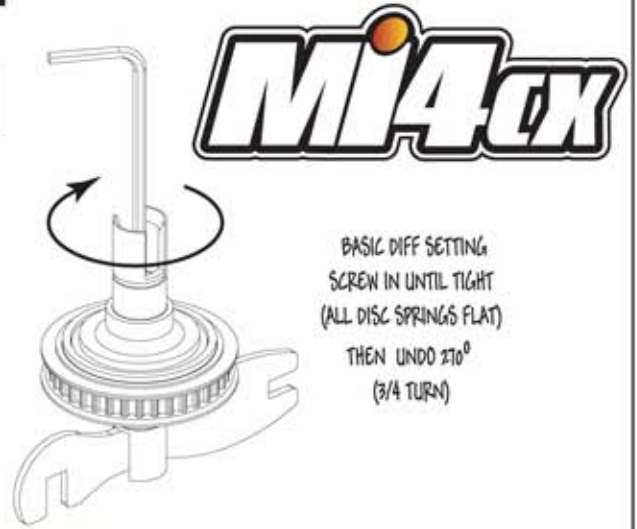


Step 9

A

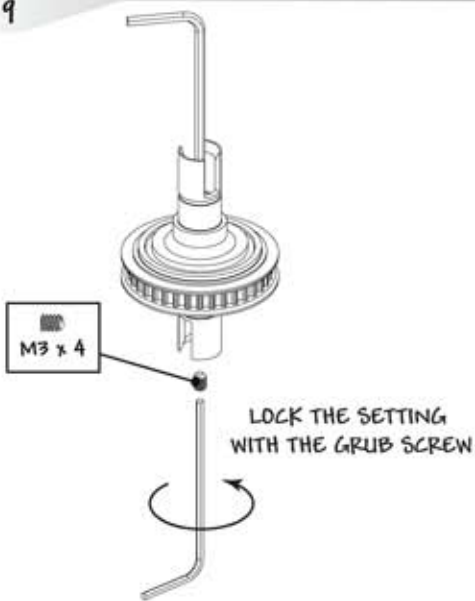


B

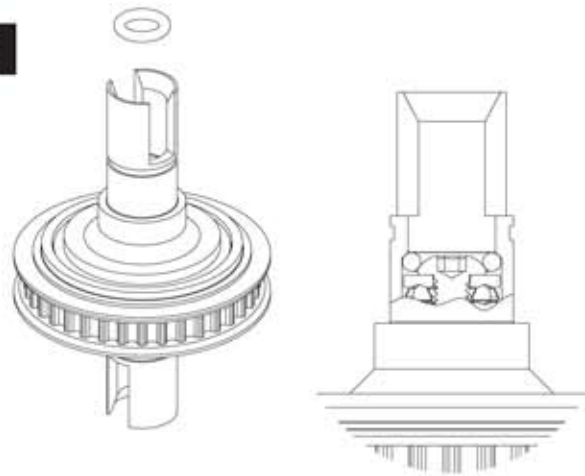


Step 9

C

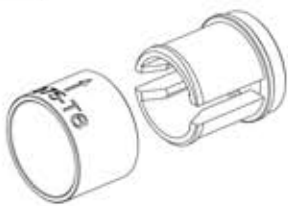


D



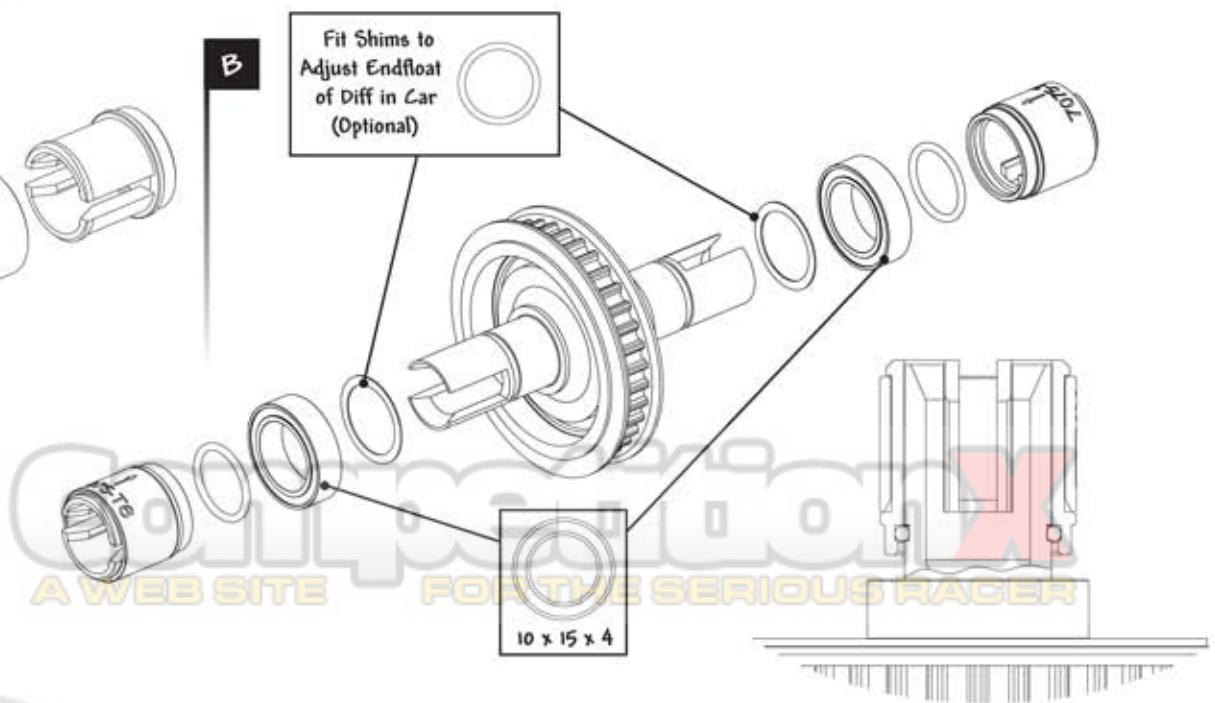
Step 10

A



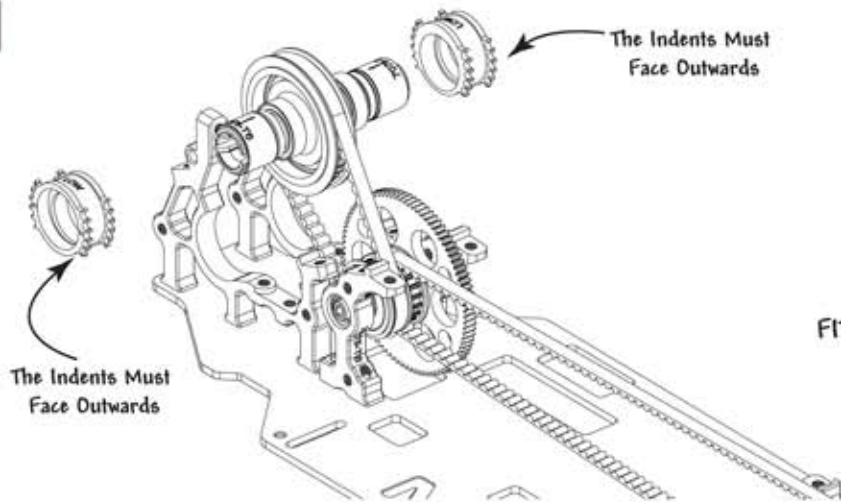
B

Fit Shims to Adjust Endfloat of Diff in Car (Optional)



Step 10

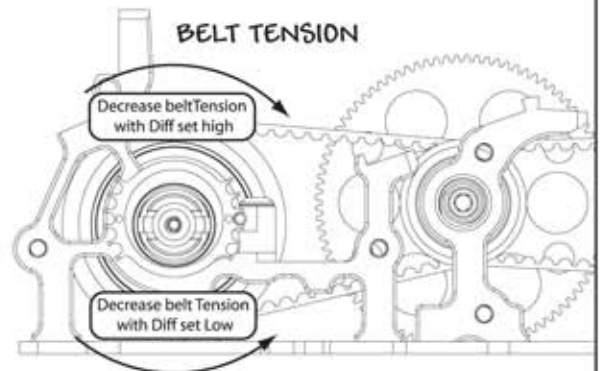
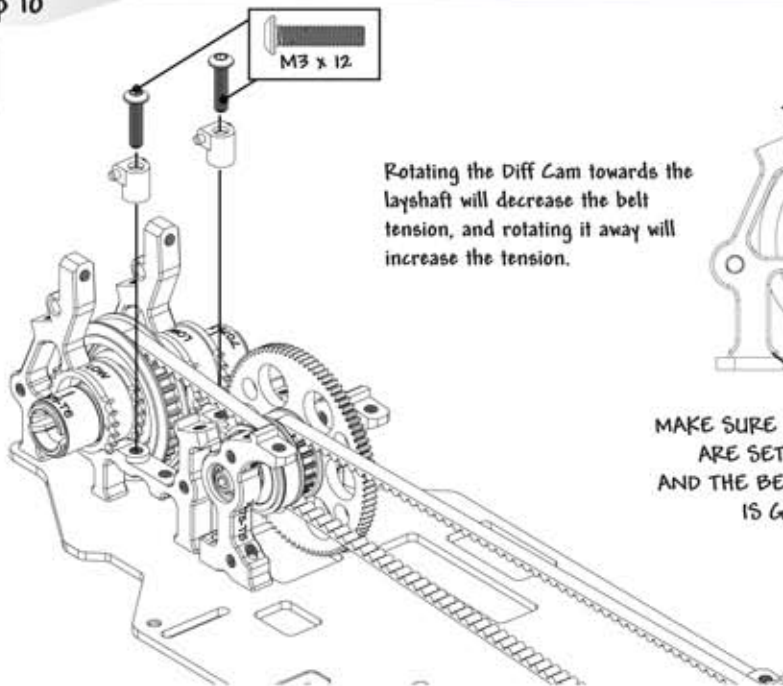
B



FIT THE DIFF IN THE CAR ACCORDING TO WHICH OPTION YOU CHOSE FOR THE DRIVETRAIN (FRONT BELT NEAREST GEAR)

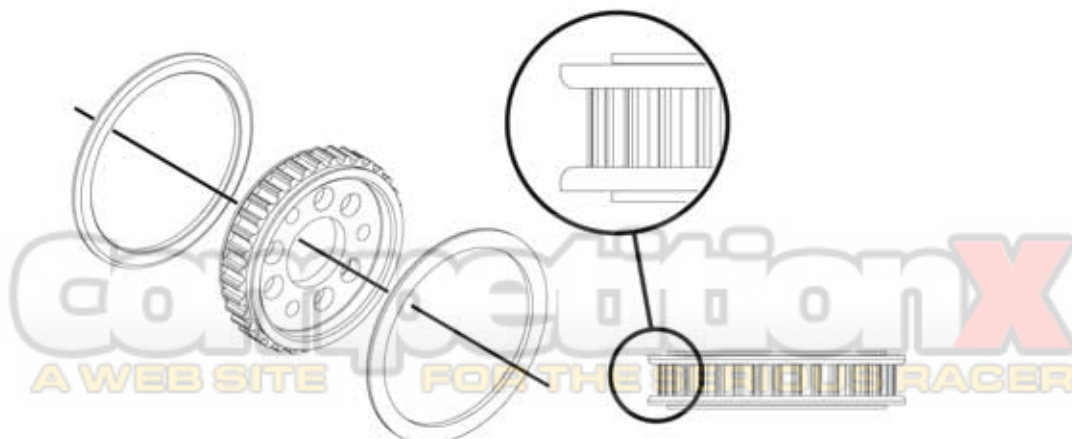
Step 10

C

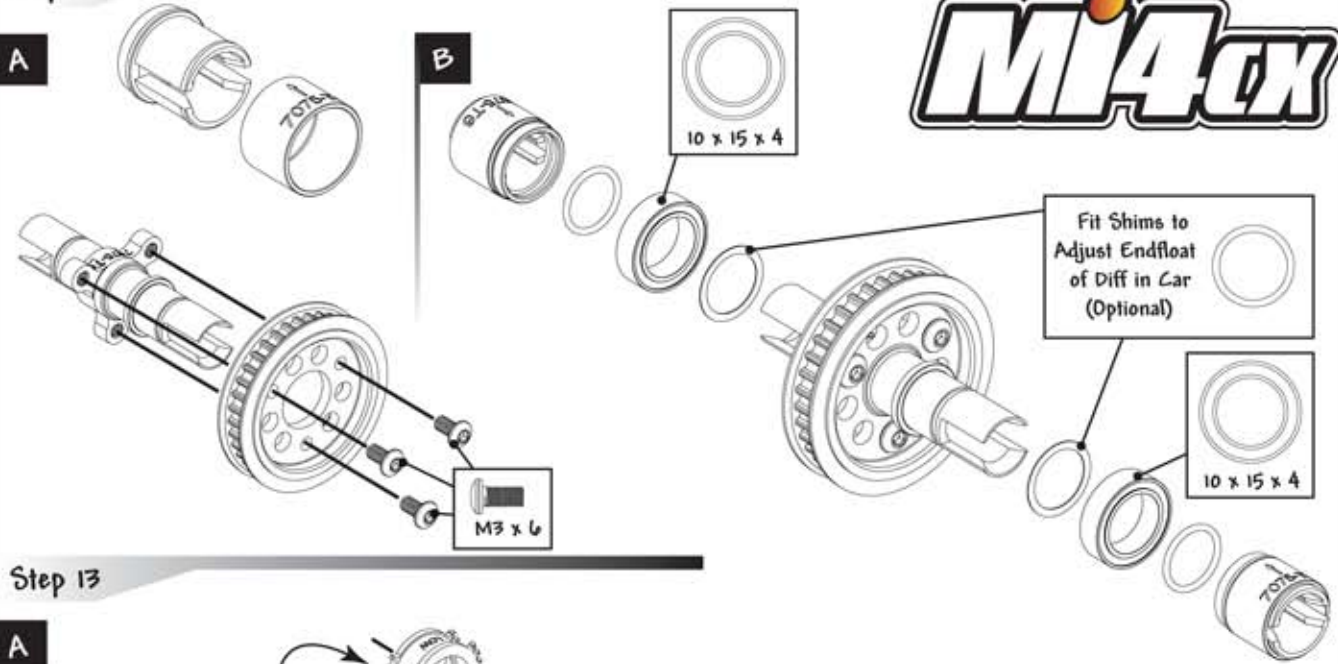


MAKE SURE BOTH CAMS ARE SET THE SAME AND THE BELT TENSION IS GOOD

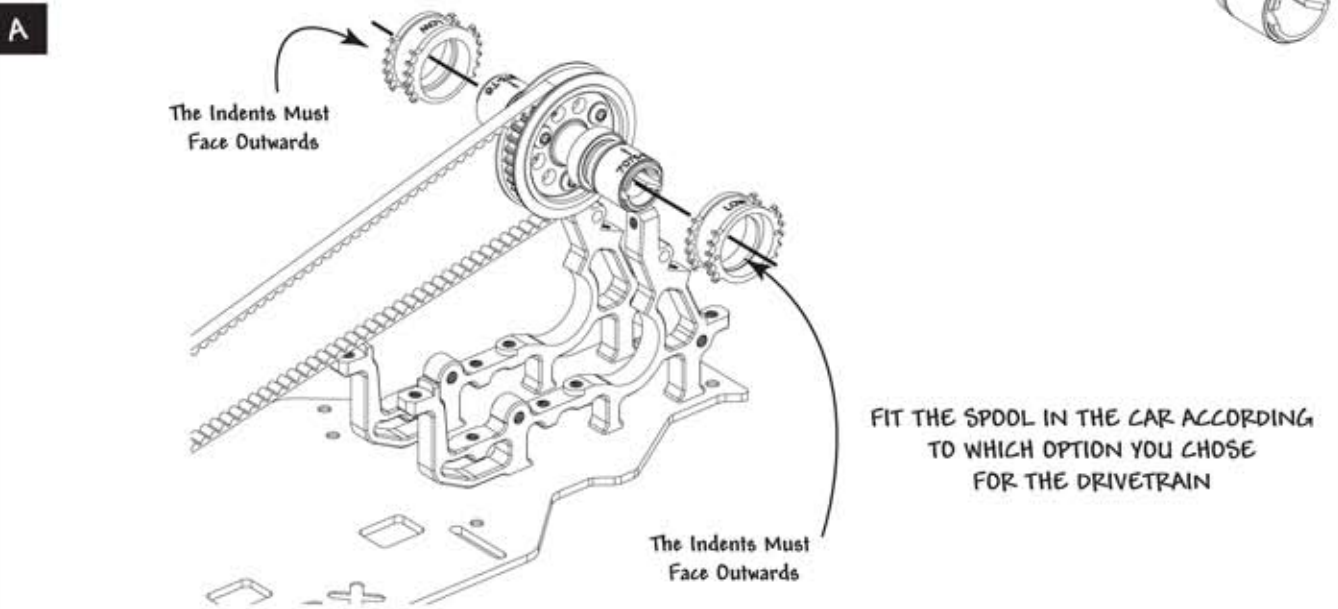
Step 11



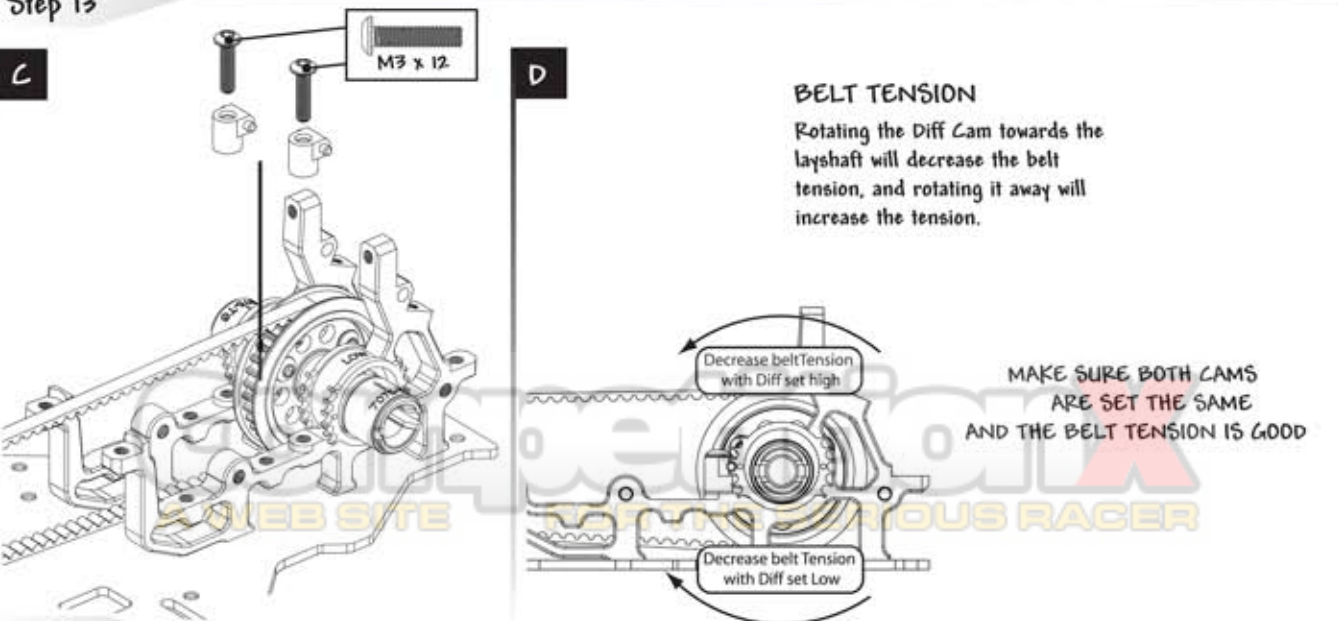
Step 12



Step 13

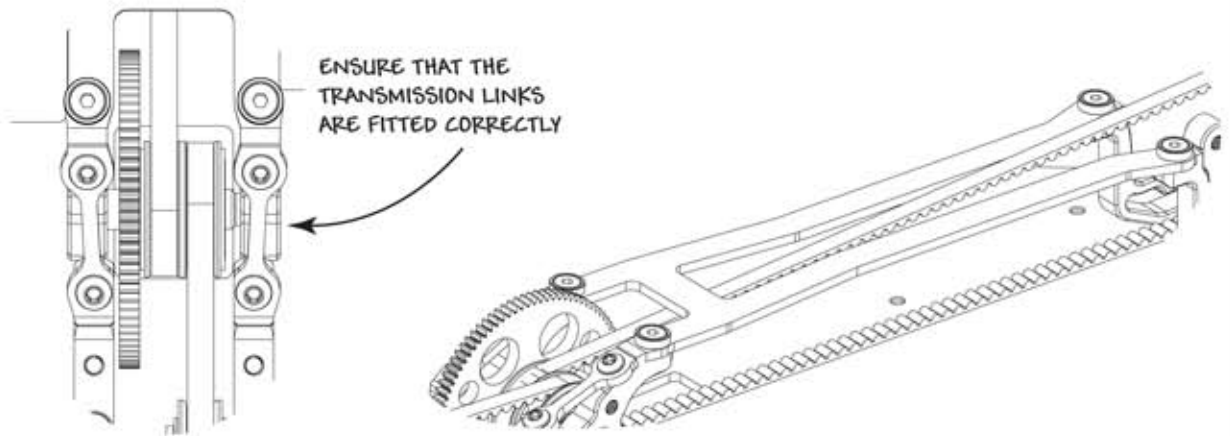
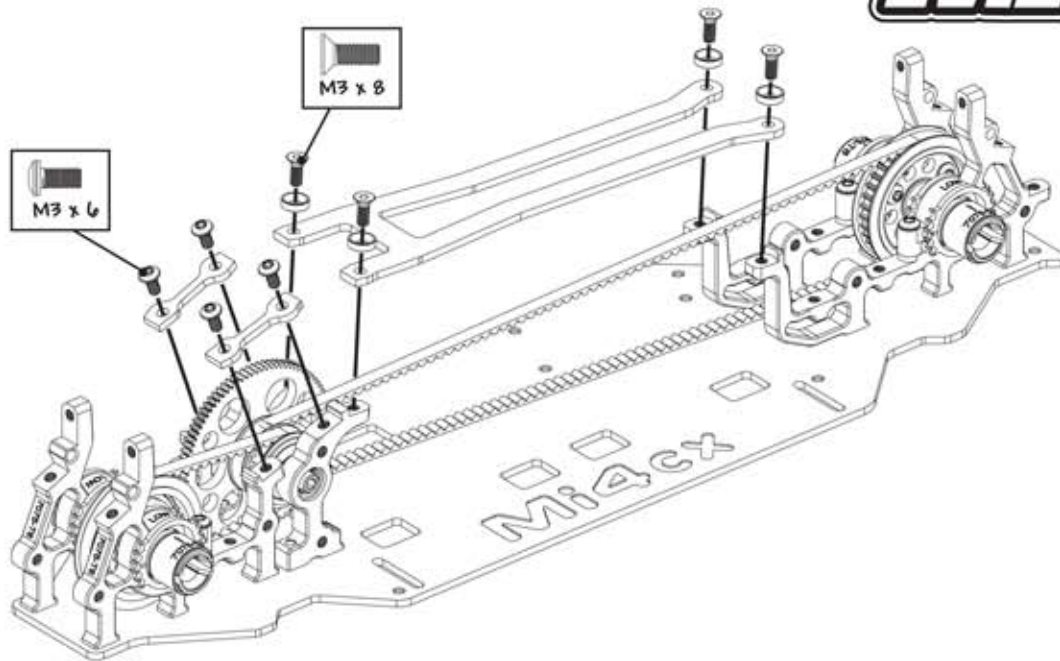


Step 13

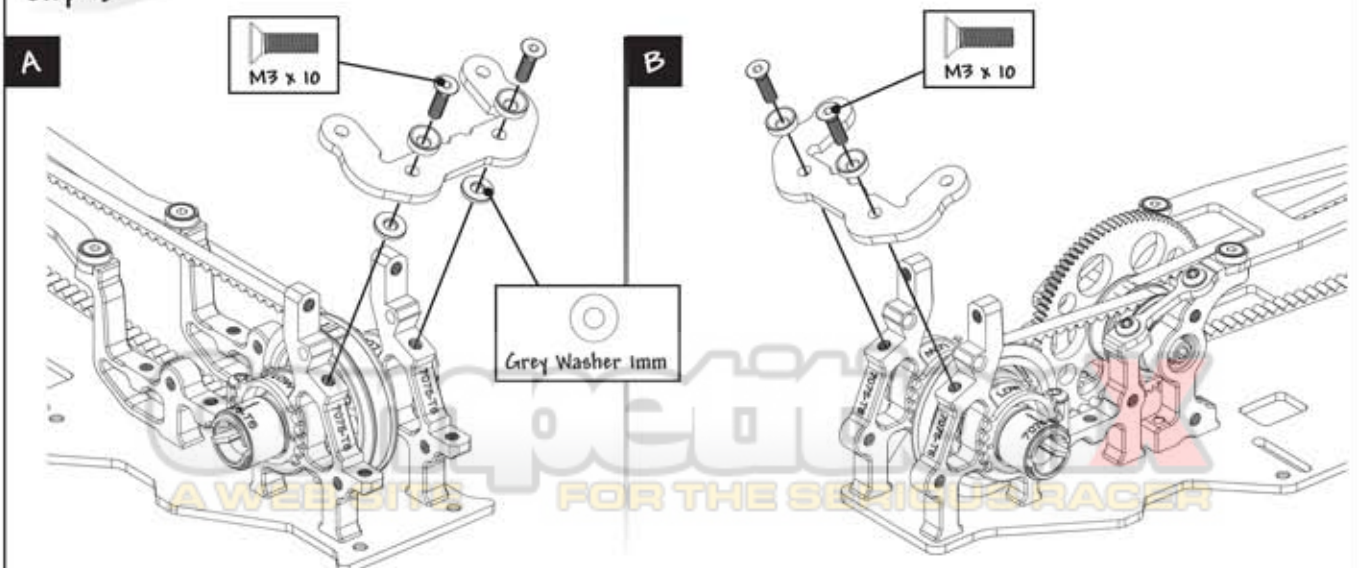


Step 14

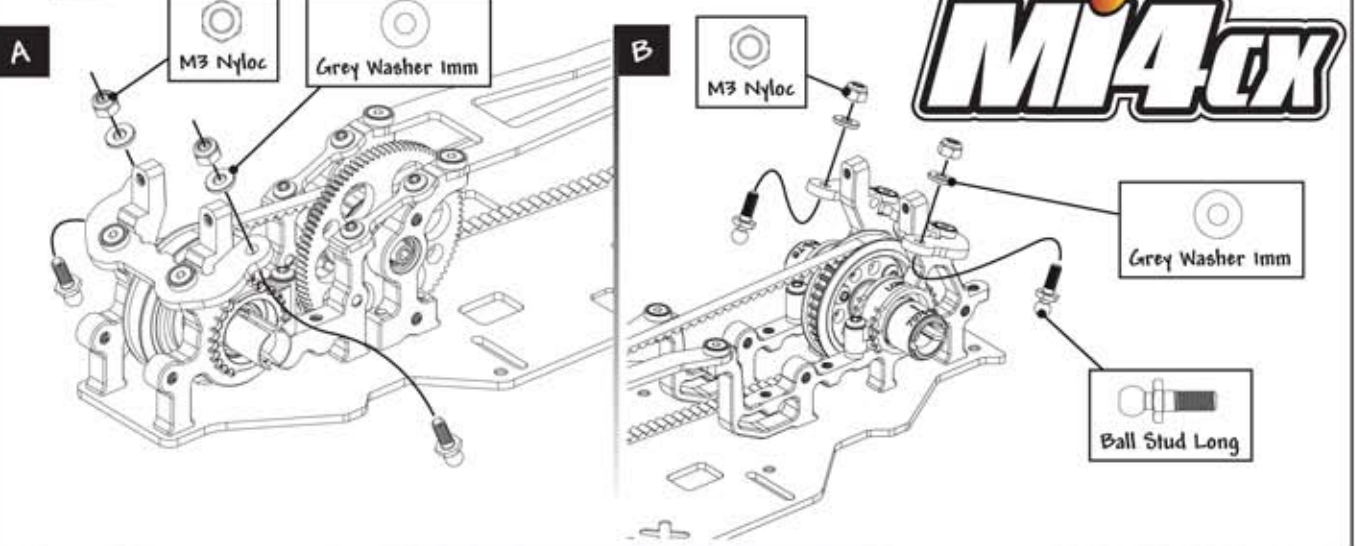
Mi4cx



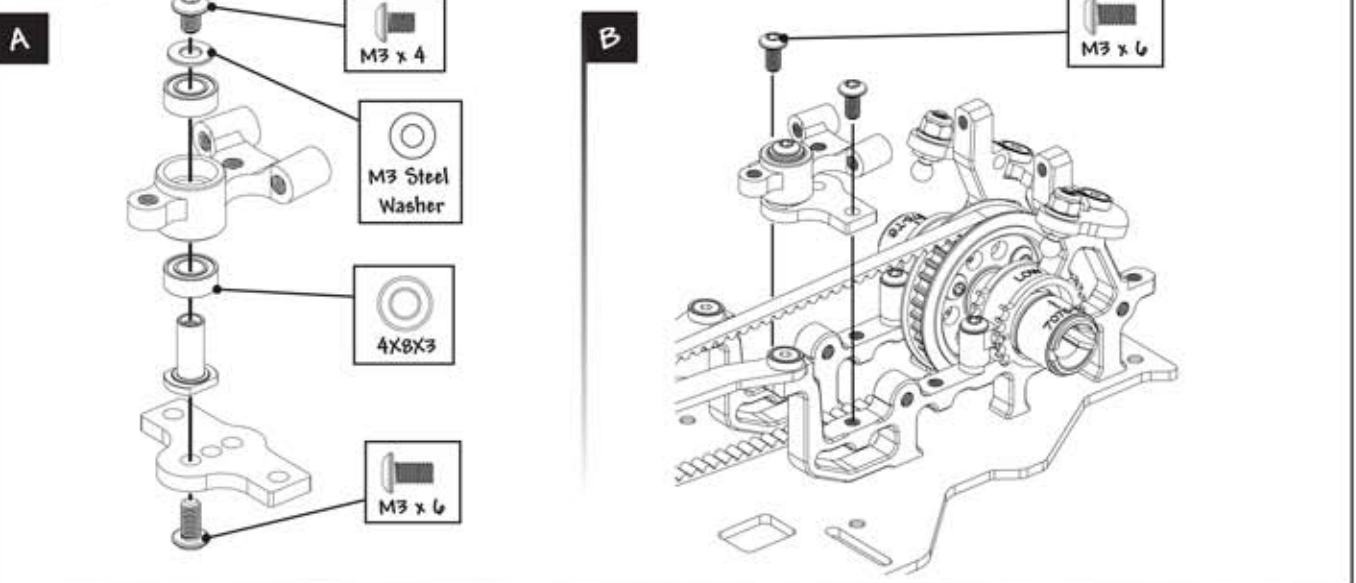
Step 15



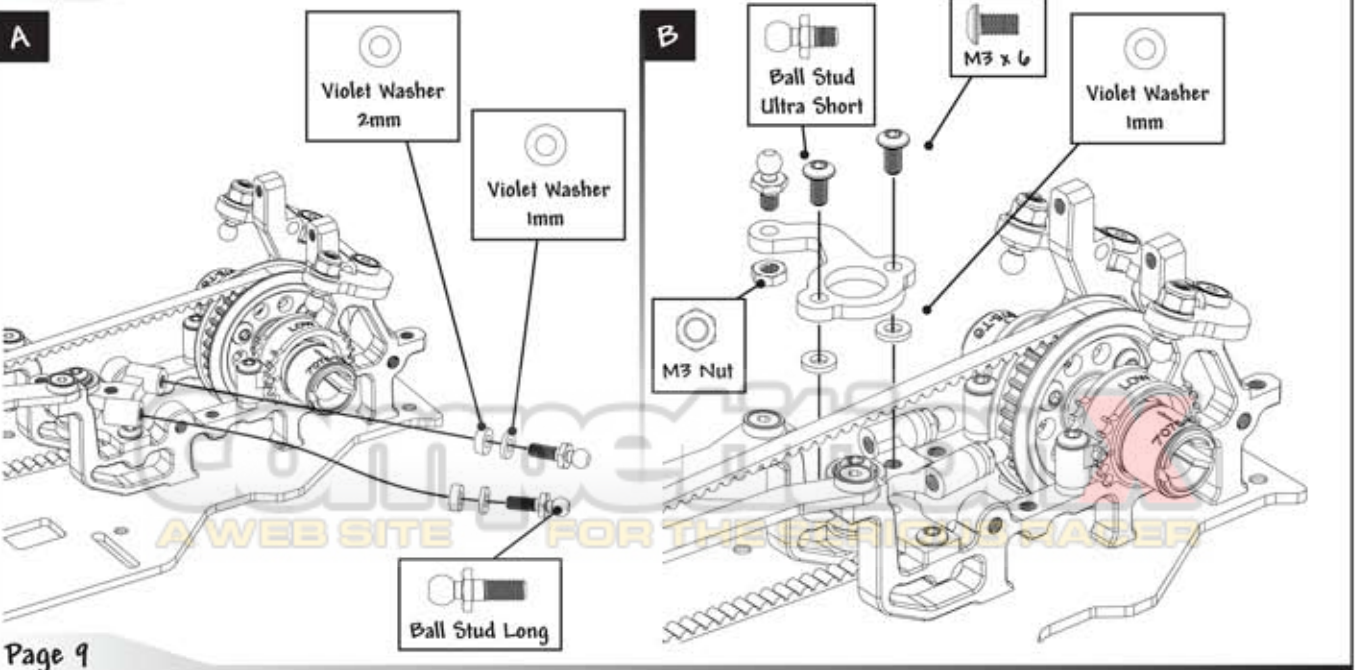
Step 16



Step 17

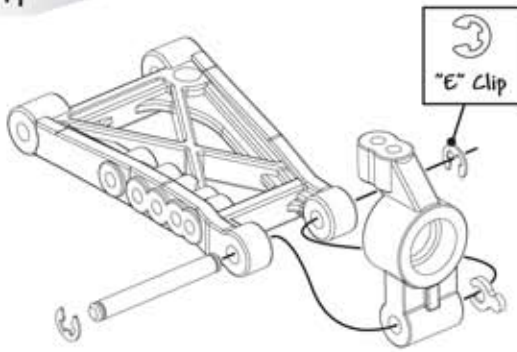


Step 18

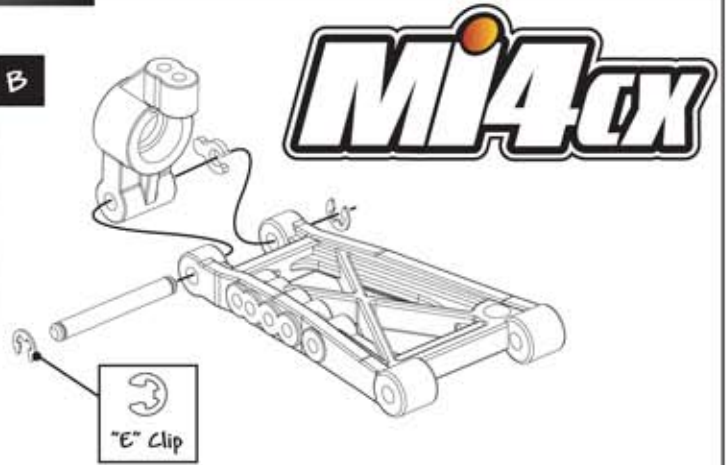


Step 19

A

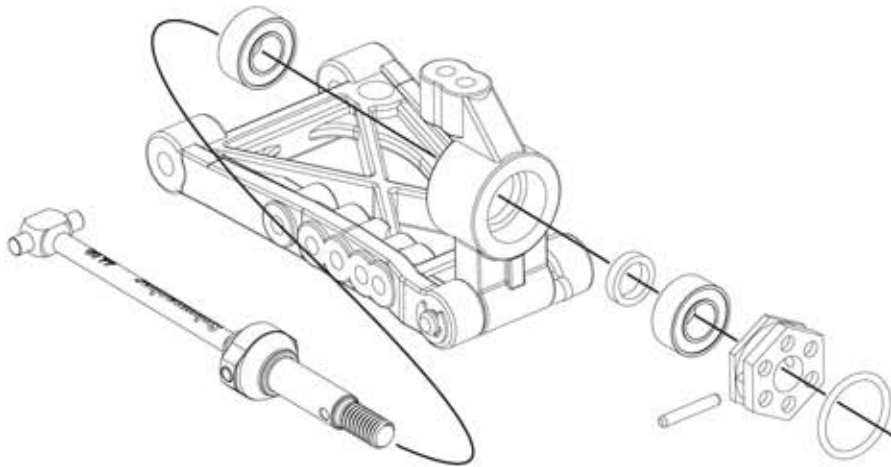


B



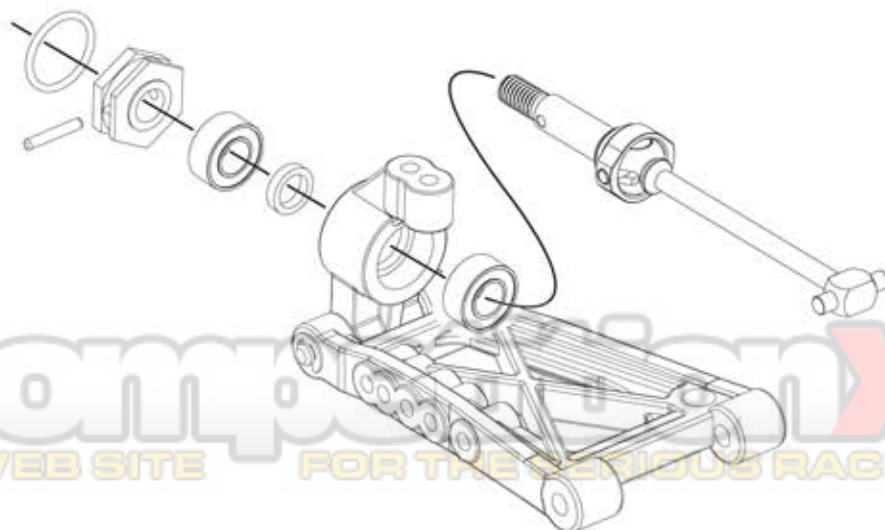
Step 20

A



Step 20

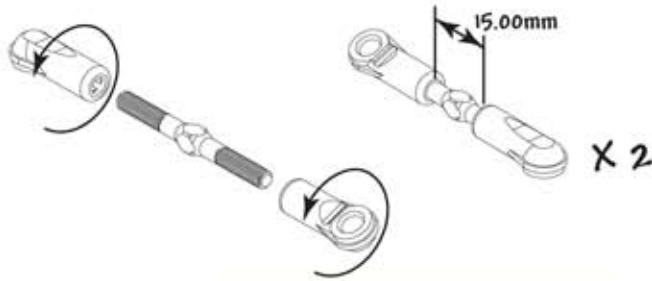
B



COMPETITION X
A WEB SITE FOR THE SERIOUS RACER

Step 21

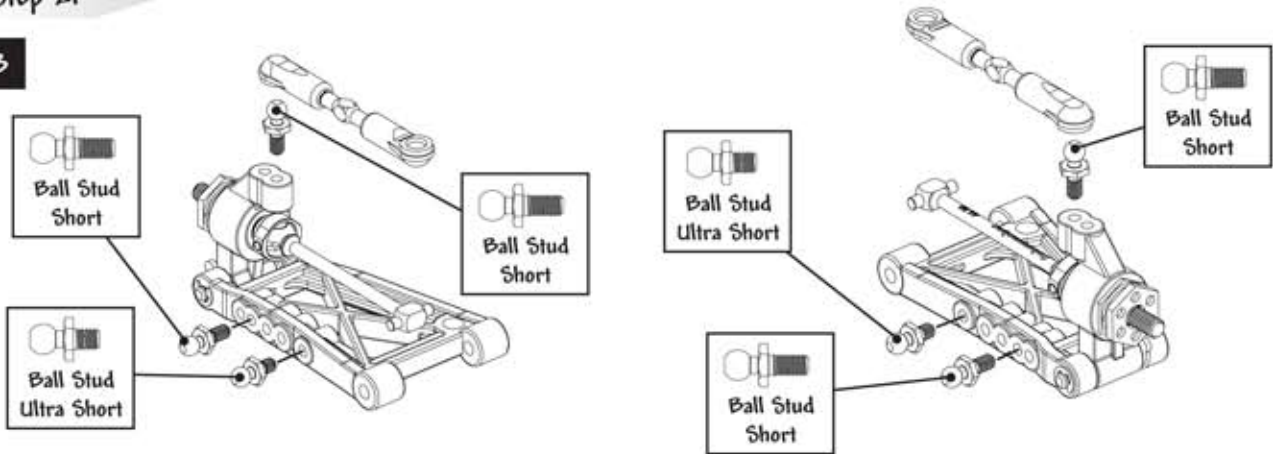
A



MI4CX

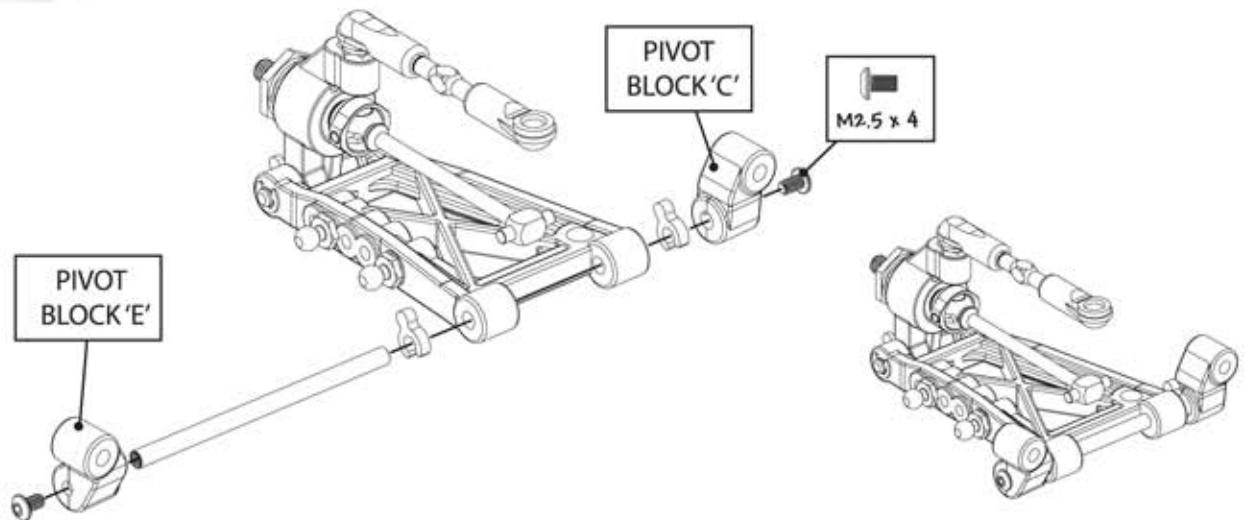
Step 21

B



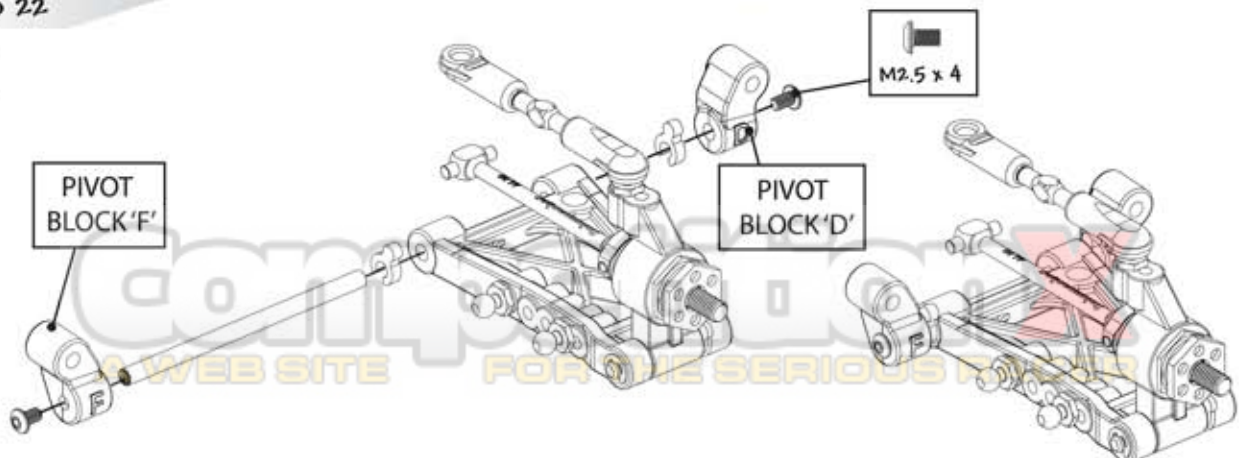
Step 22

A



Step 22

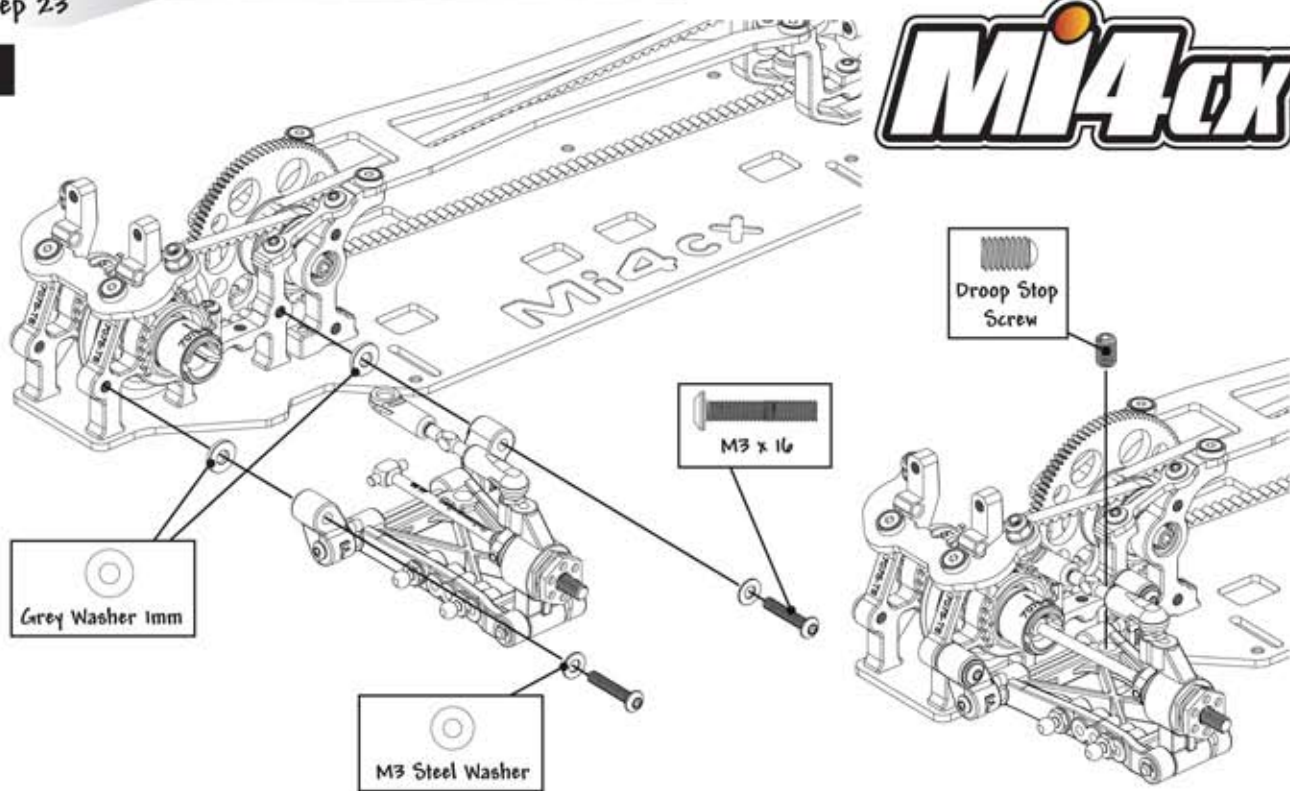
B



Step 23

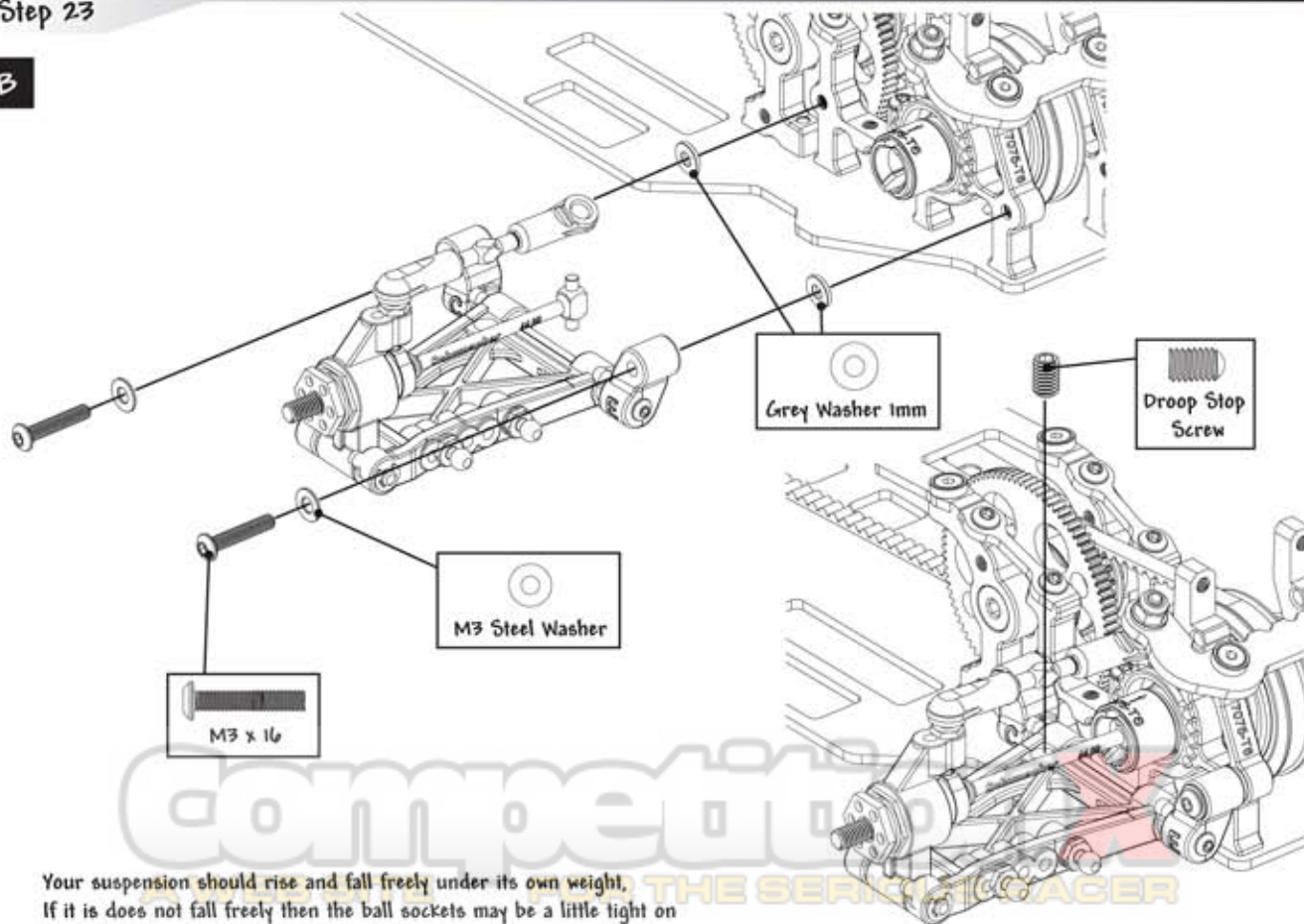
A

MI4cx



Step 23

B

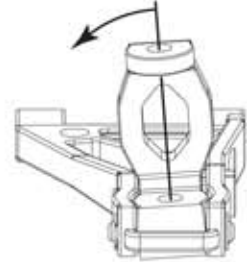
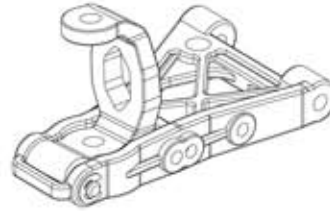
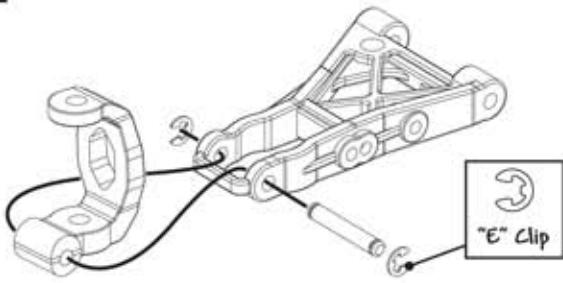


Your suspension should rise and fall freely under its own weight. If it does not fall freely then the ball sockets may be a little tight on the ball studs, you should pinch the ball sockets with a pair of pliers, this will loosen the socket off slightly, and allow you to fine tune the fit.

Step 24

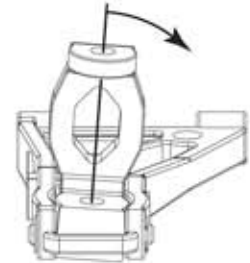
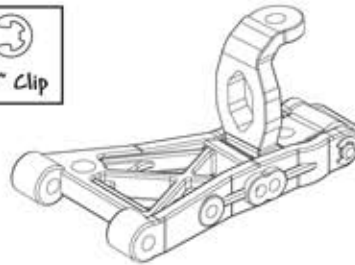
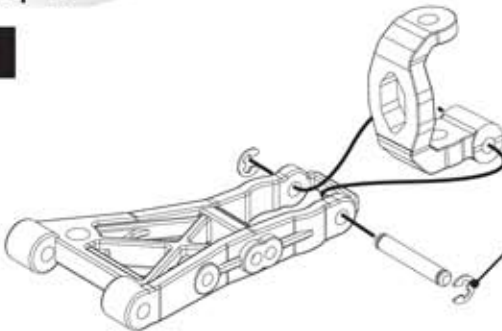
A

MI4cx



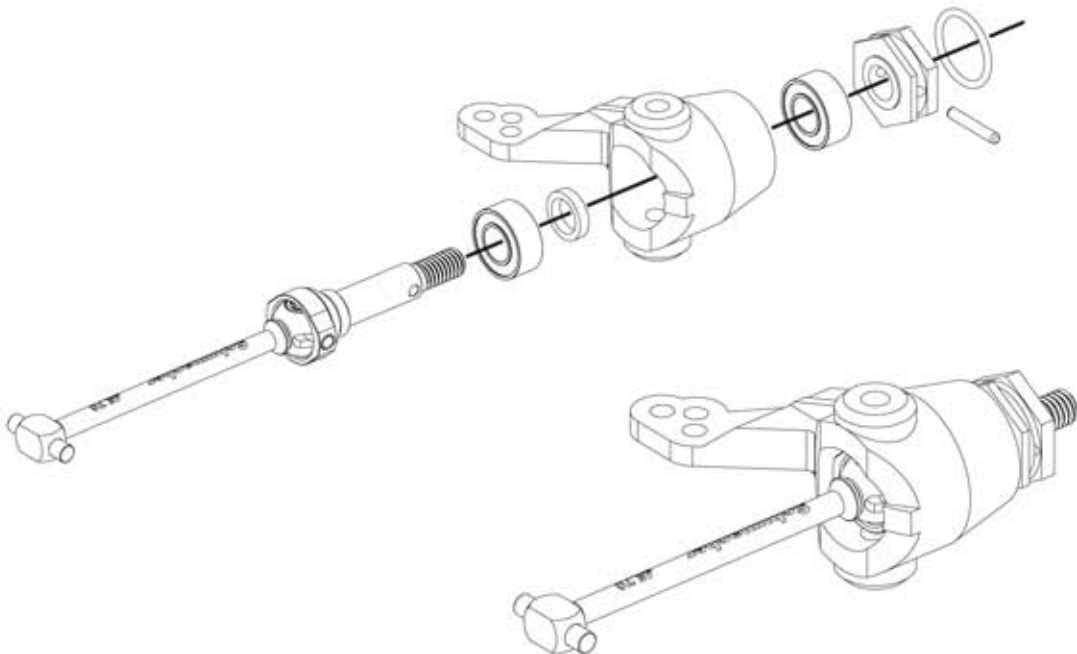
Step 24

B



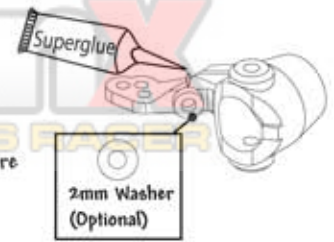
Step 25

A



Competition X
 A WEB SITE FOR THE FASTEST RACERS

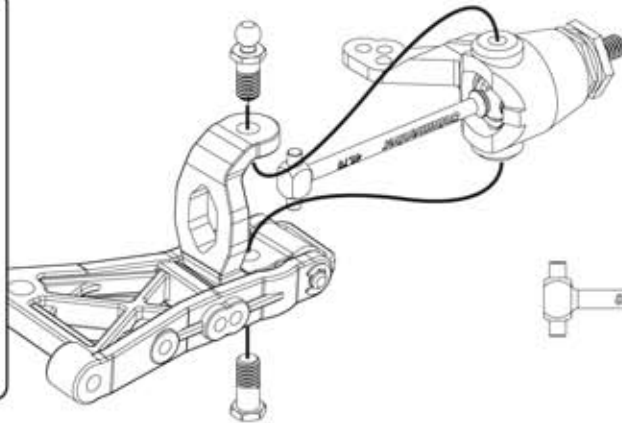
Use a washer to restrict steering lock and increase corner speed on outdoor tracks. Very light twisty tracks require more lock so the washer is not required.



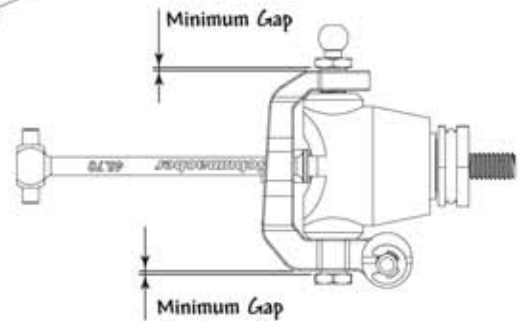
Step 25

B

Carefully Pre-tap the Hub Carrier using a Nut Runner and the M4 Pivot, this will ensure easier assembly with the yoke with better alignment.

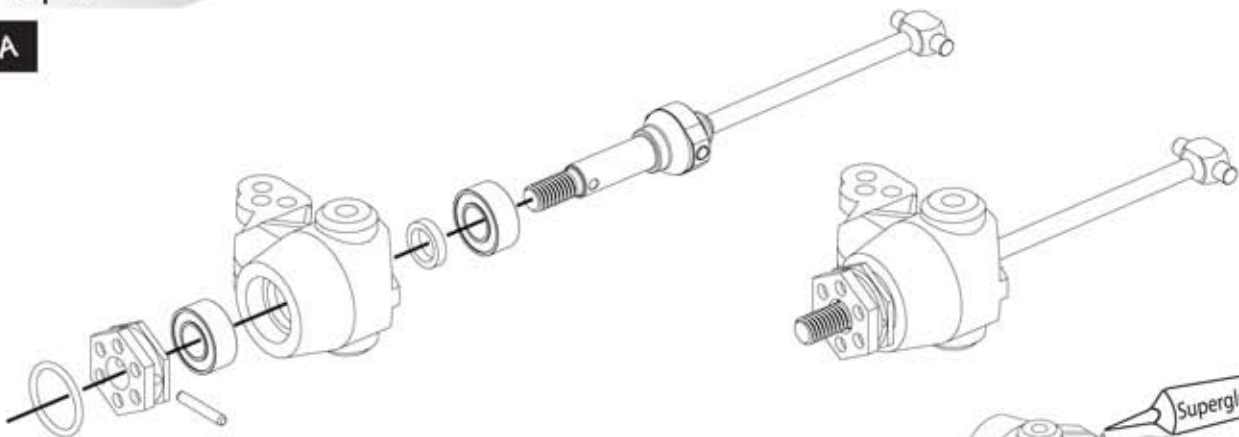


MI4cx

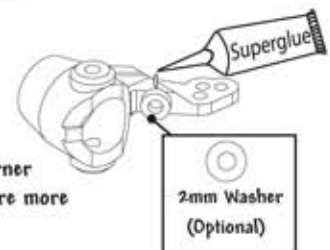


Step 26

A



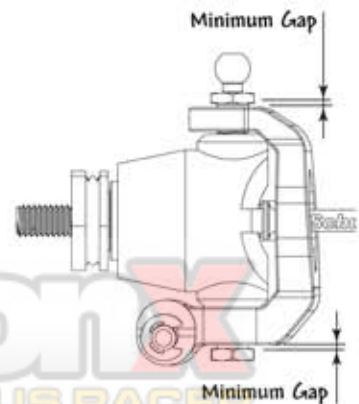
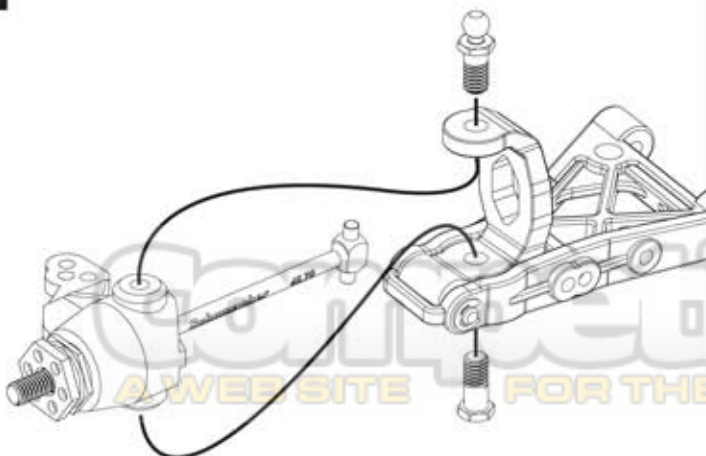
Use a washer to restrict steering lock and increase corner speed on outdoor tracks. Very tight twisty tracks require more lock so the washer is not required.



Step 26

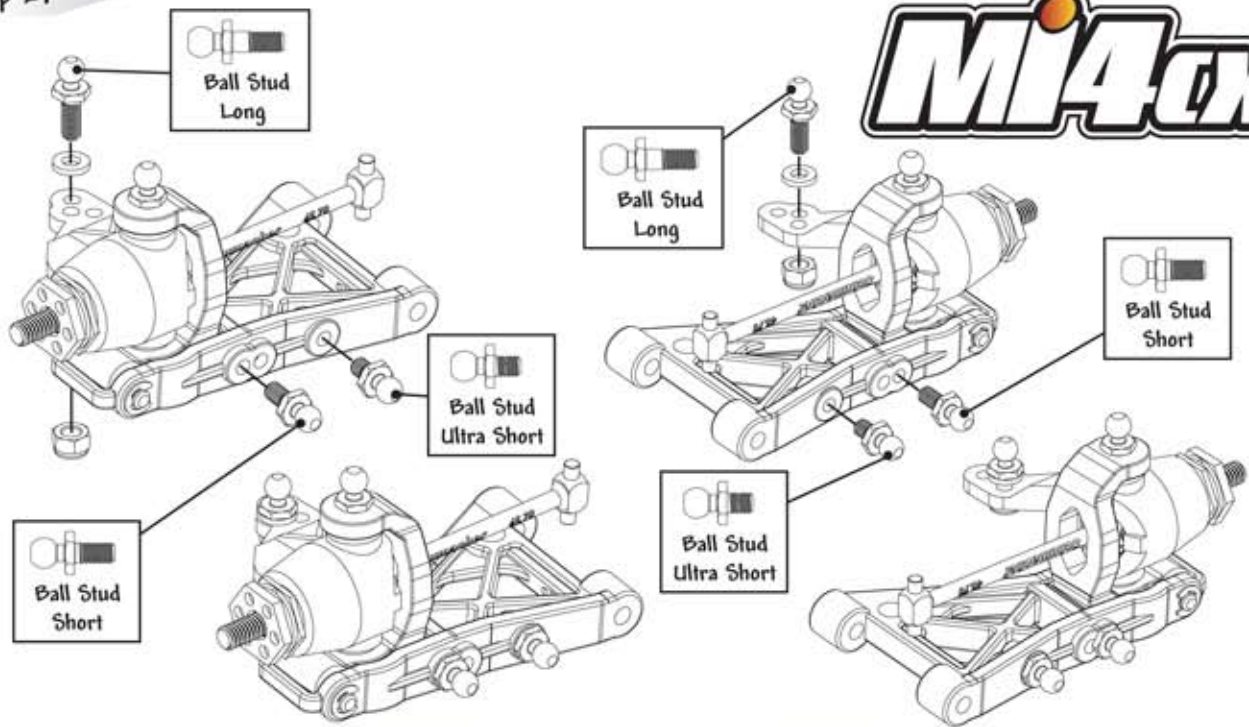
B

Carefully Pre-tap the Hub Carrier using a Nut Runner and the M4 Pivot, this will ensure easier assembly with the yoke with better alignment.



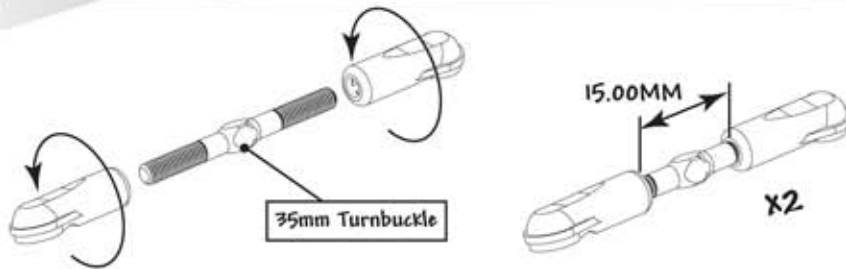
A WEB SITE FOR THE SERIOUS RACER

Step 27



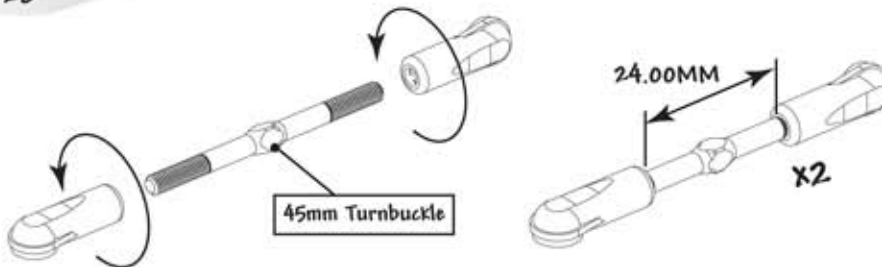
Step 28

A



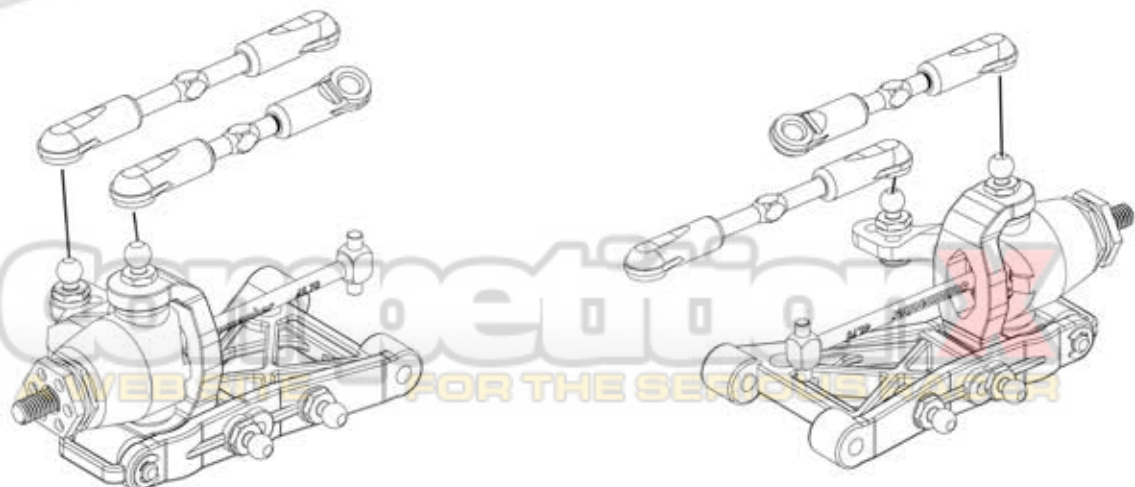
Step 28

B



Step 28

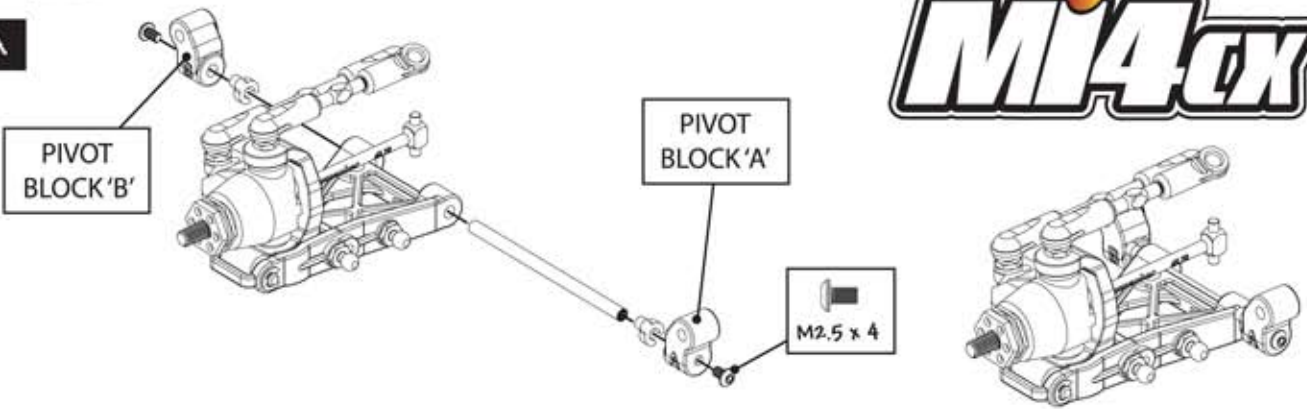
C



Step 29

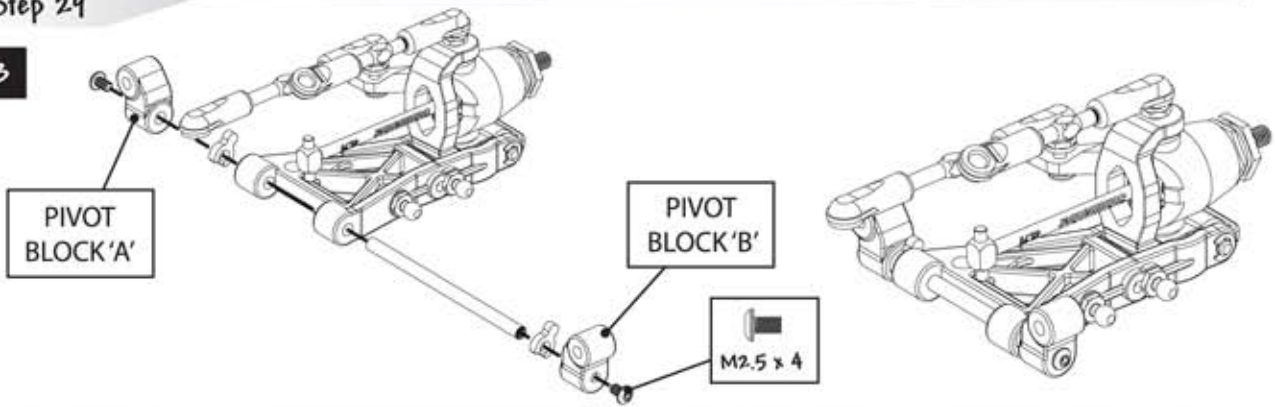
Mi4cx

A



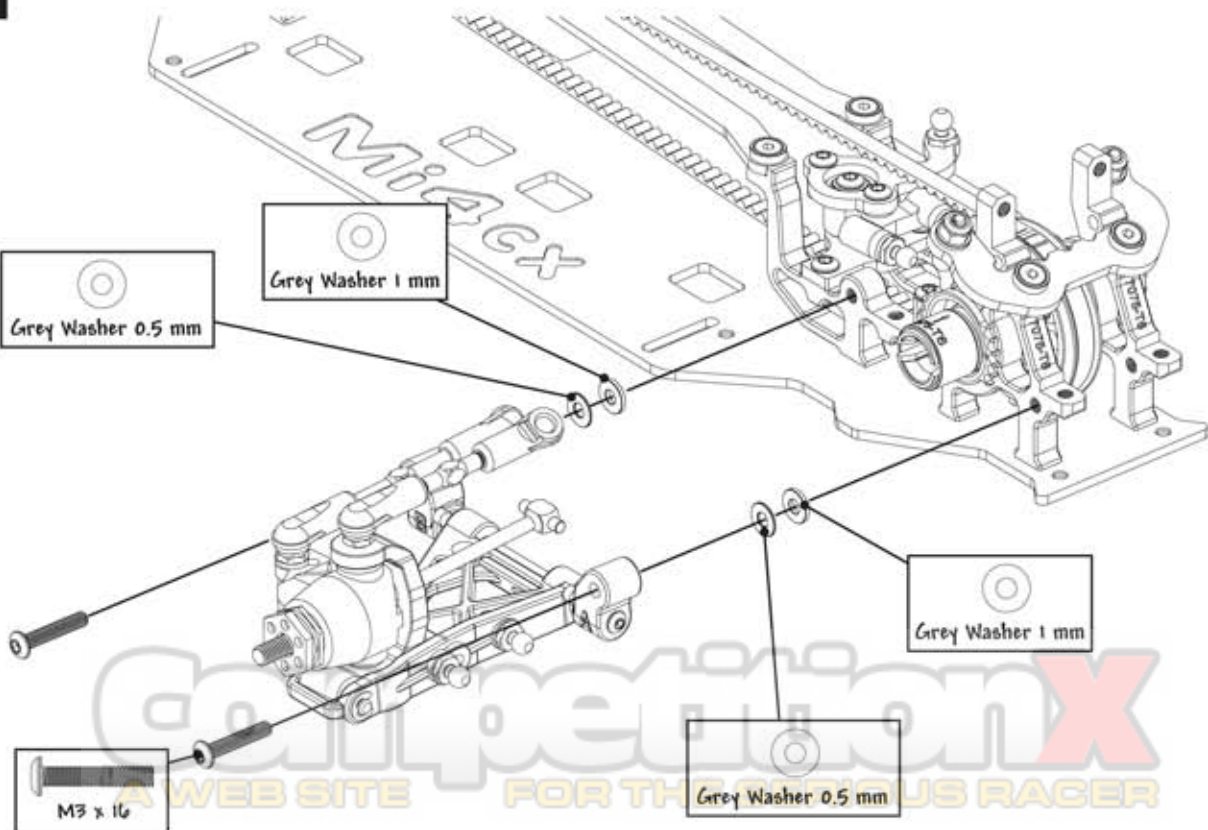
Step 29

B



Step 30

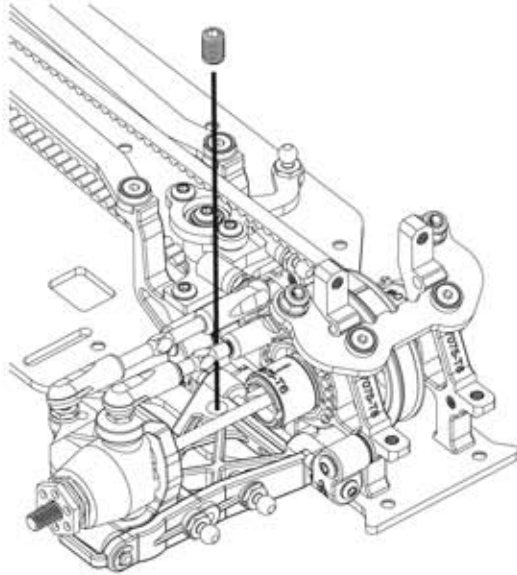
A



Step 30



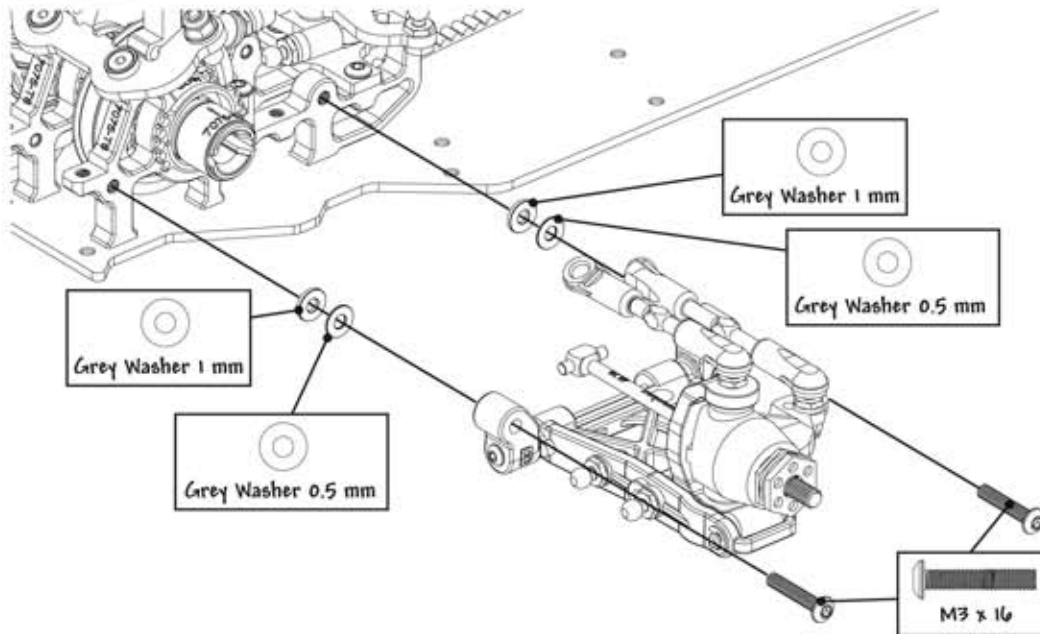
B



Your suspension should rise and fall freely under its own weight, if it does not fall freely then the ball sockets may be a little tight on the ball studs, you should pinch the ball sockets with a pair of pliers, this will loosen the socket off slightly, and allow you to fine tune the fit.

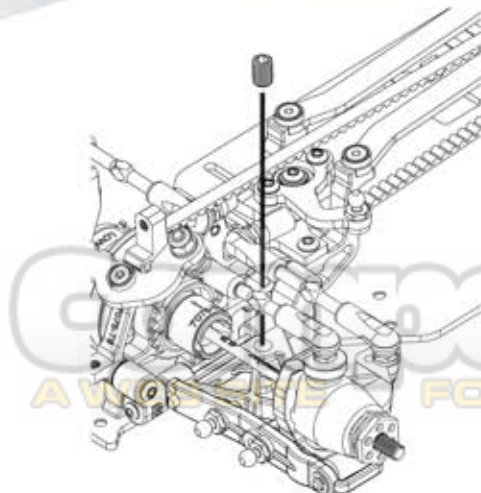
Step 30

C



Step 30

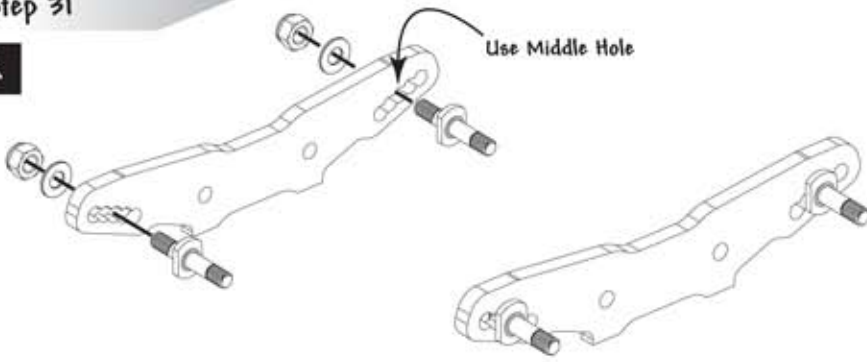
D



Your suspension should rise and fall freely under its own weight, if it does not fall freely then the ball sockets may be a little tight on the ball studs, you should pinch the ball sockets with a pair of pliers, this will loosen the socket off slightly, and allow you to fine tune the fit.

Step 31

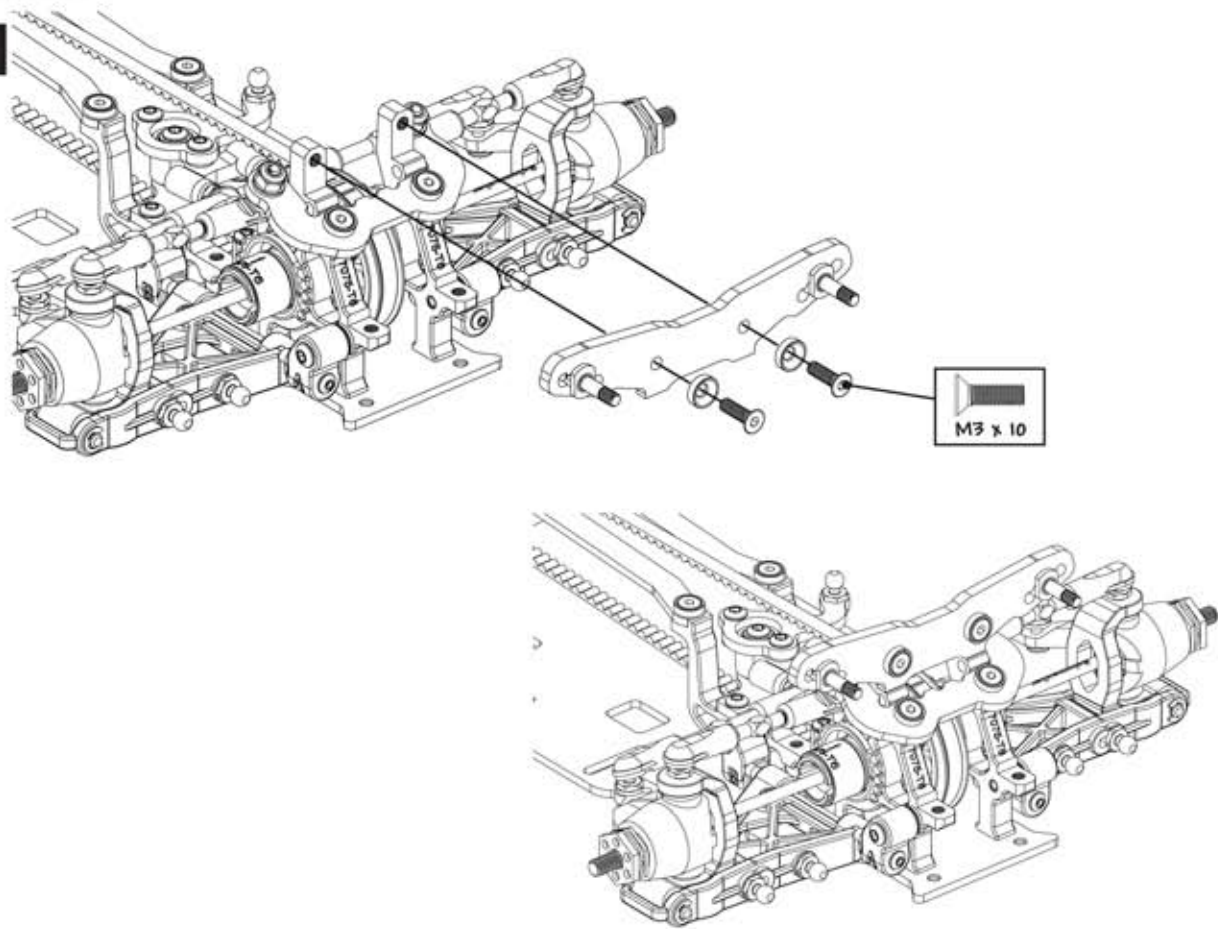
A



MI4CX

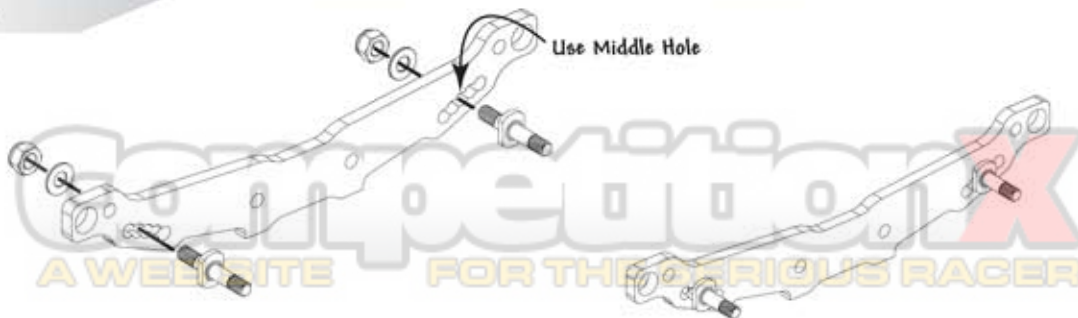
Step 31

B



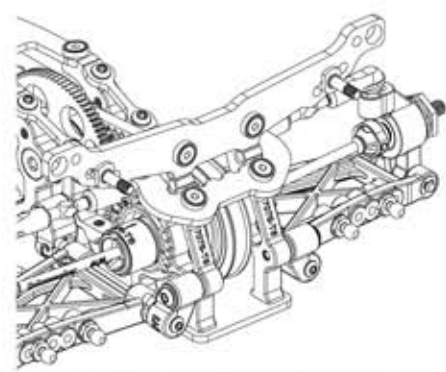
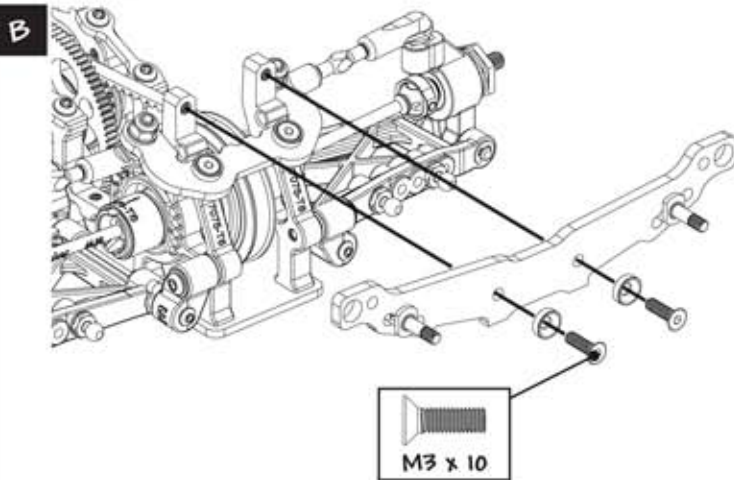
Step 32

A

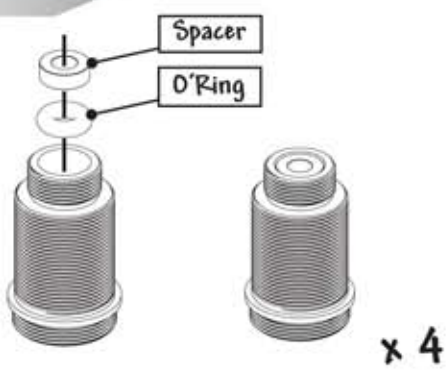


COMPETITION X
A WEBSITE FOR THE SERIOUS RACER

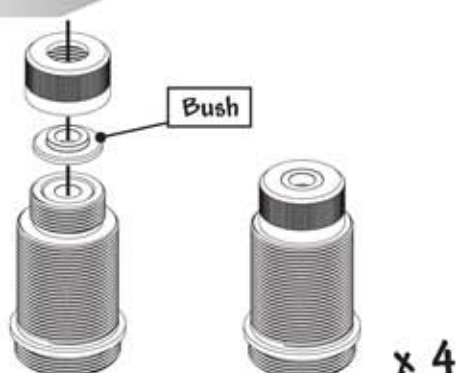
Step 32



Step 33



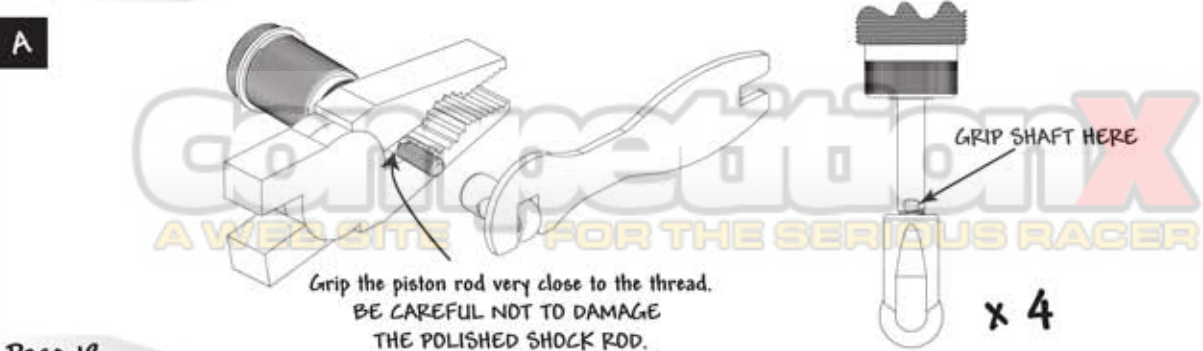
Step 34



Step 35



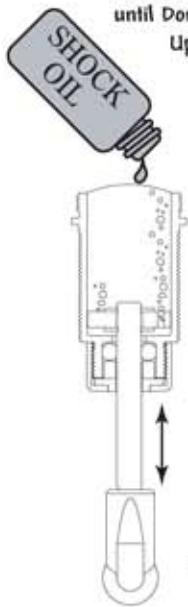
Step 36



Grip the piston rod very close to the thread.
BE CAREFUL NOT TO DAMAGE
THE POLISHED SHOCK ROD.

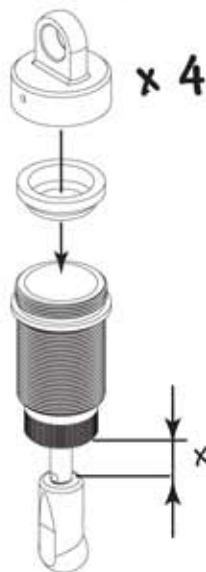
Step 36

B



Fill Slowly With Shock Oil until Domed. Move Piston Up and Down Slowly and Allow all Air Bubbles to Rise and disappear.

C



Adjust this distance (X) to suit the amount of rebound you want
Bigger Distance = More Rebound

MI4cx

D

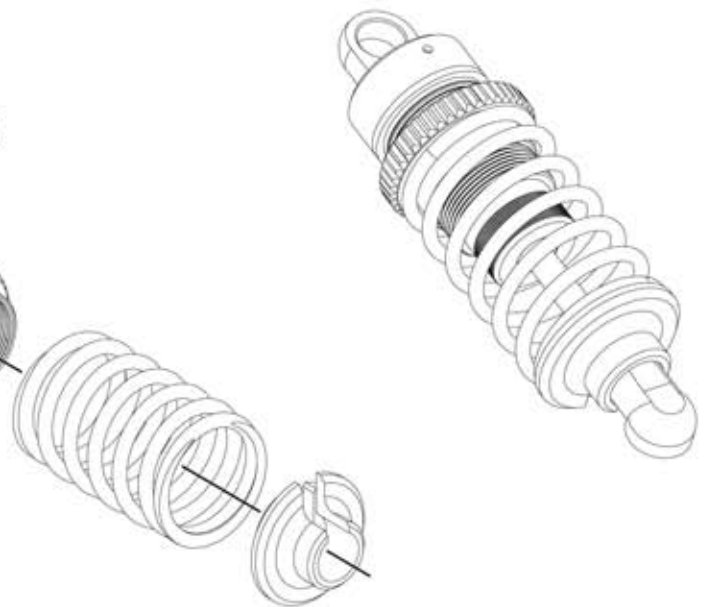


Step 37

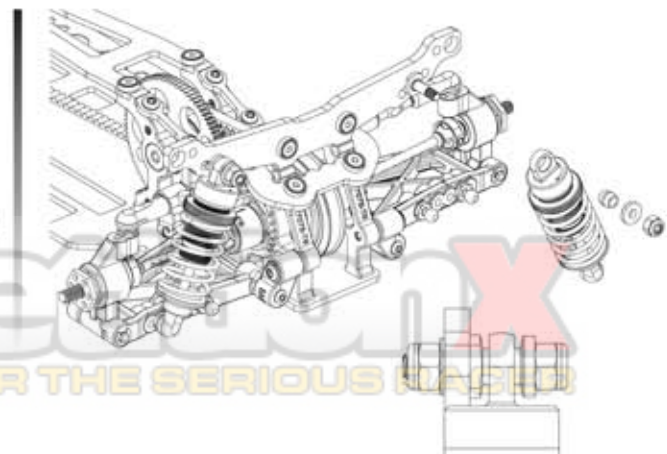
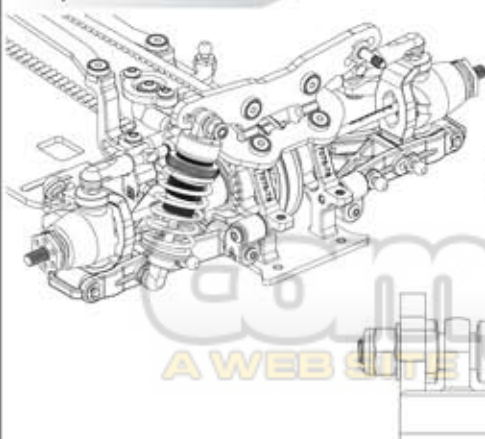


Lubricate the Threads with a SMALL amount of shock oil

Fit the Blue Springs to the Front Shock Absorbers
Fit the White Spring to the Rear Shock Absorbers



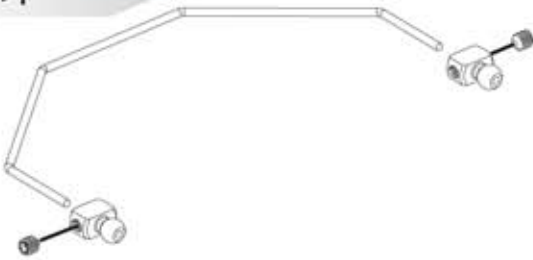
Step 38



A WEB SITE FOR THE SERIOUS RASER

Step 39

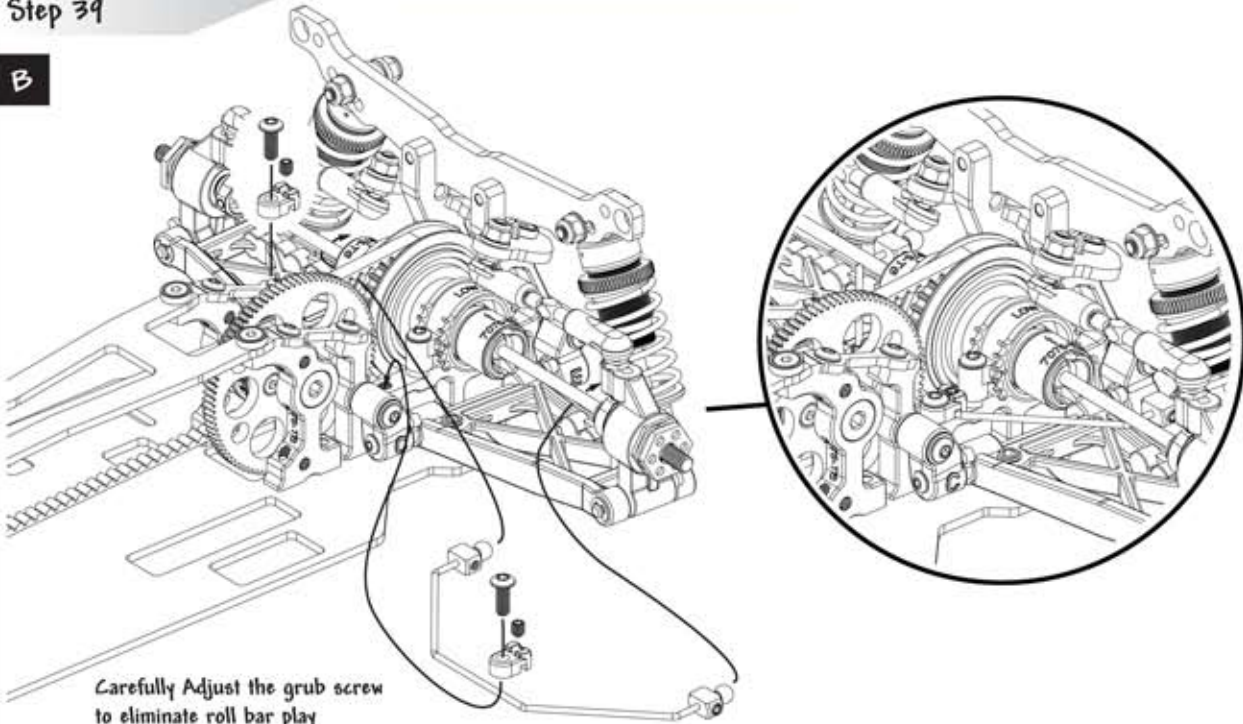
A



MI4cx

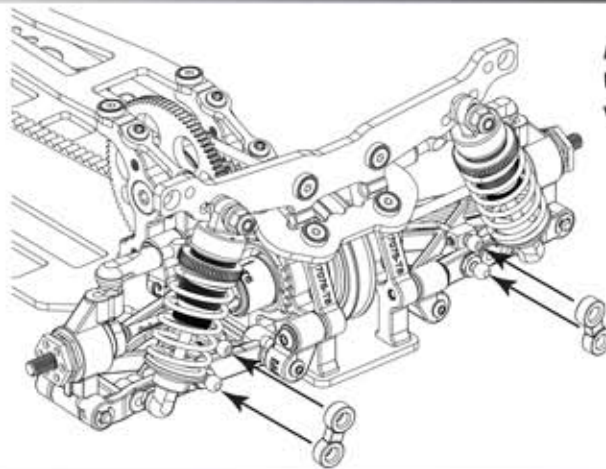
Step 39

B



Step 39

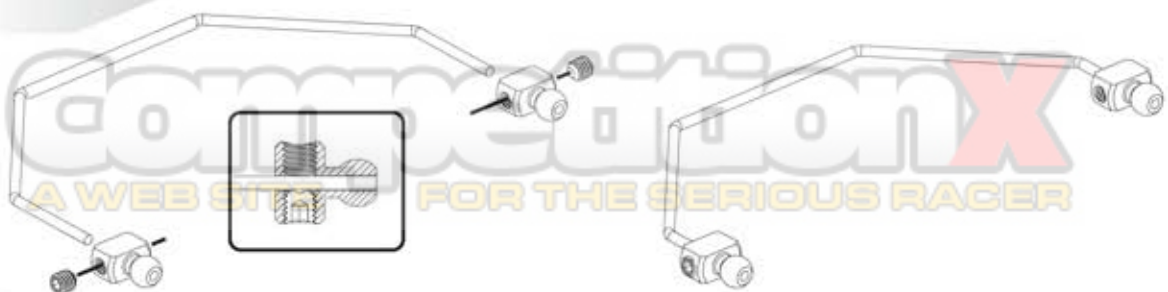
C



Anti-roll bar links should move freely. If they are tight on the balls squeeze them with pliers to loosen them.

Step 40

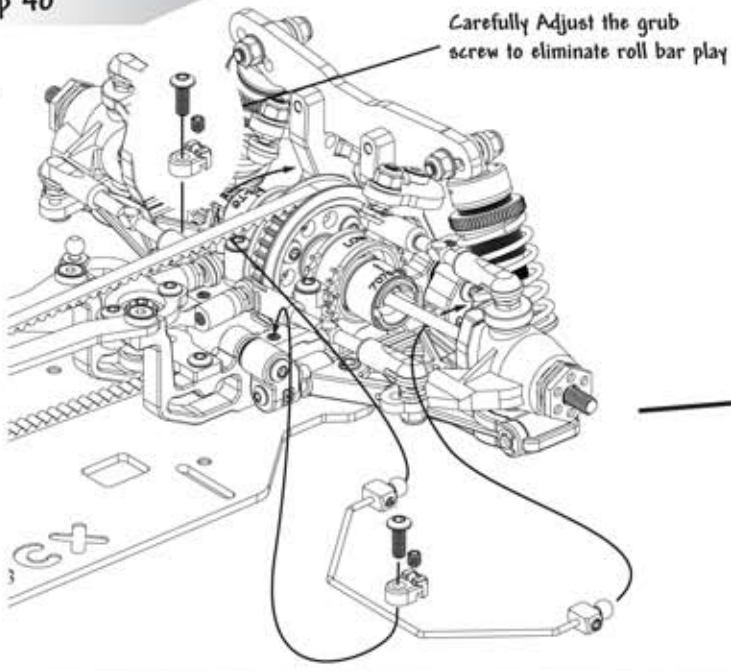
A



Page 21

Step 40

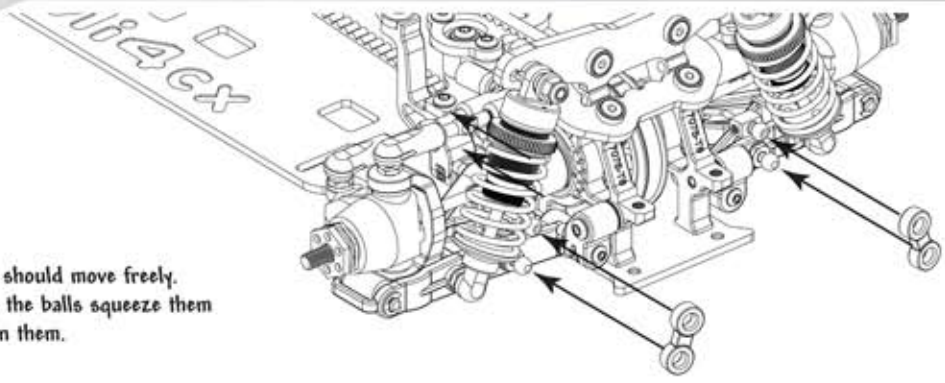
B



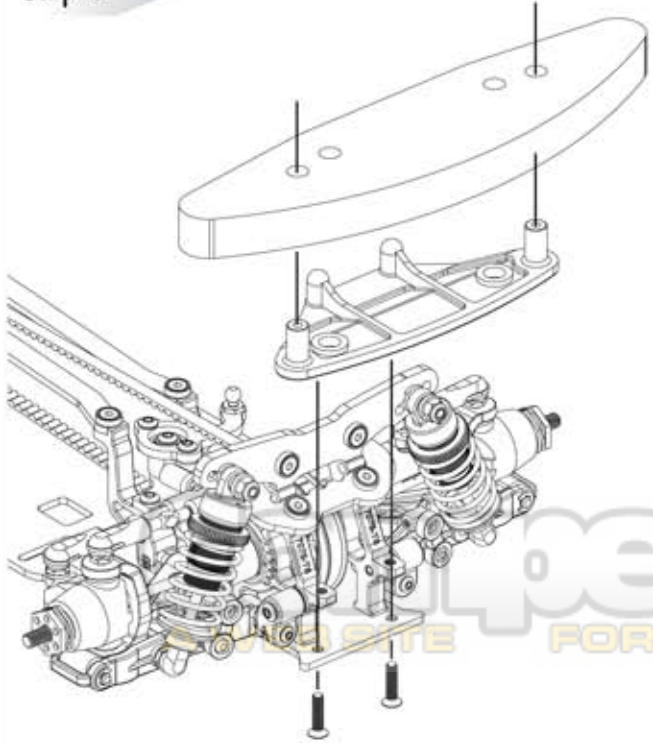
Step 40

C

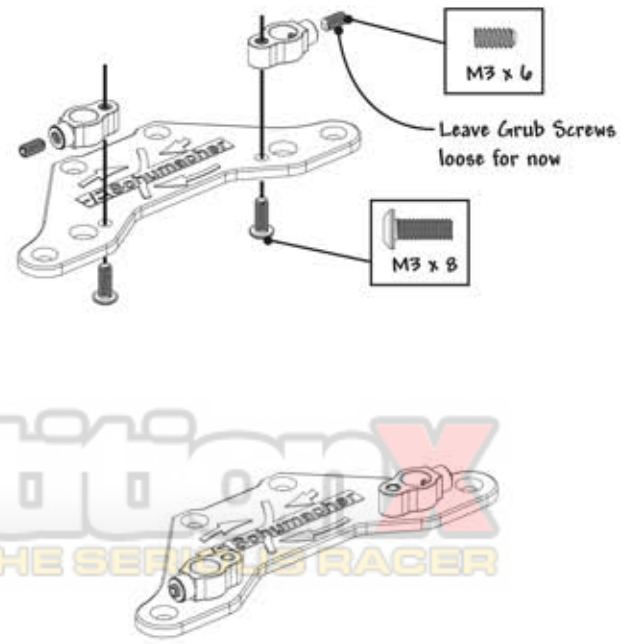
Anti-roll bar links should move freely. If they are tight on the balls squeeze them with pliers to loosen them.



Step 41

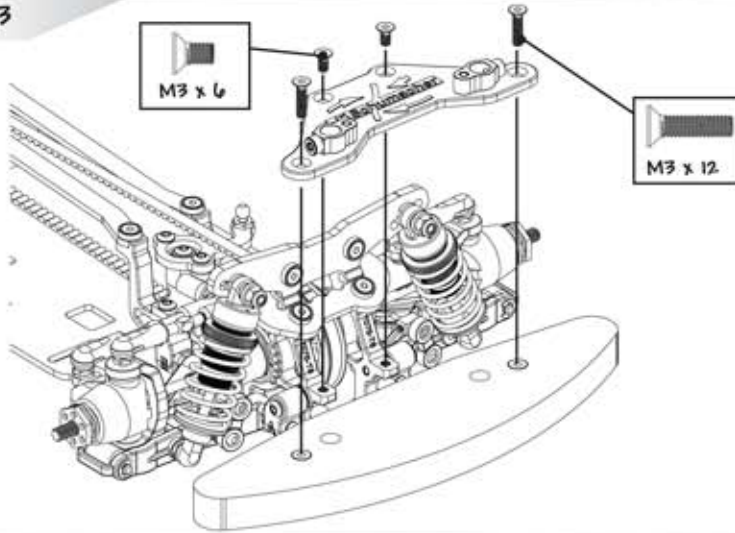


Step 42



Step 43

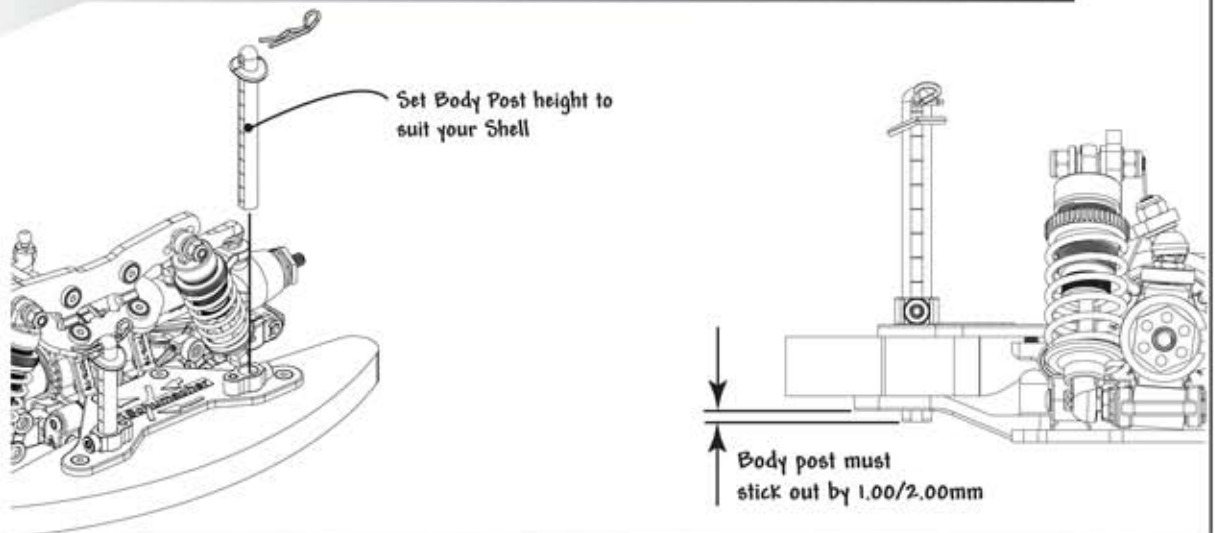
A



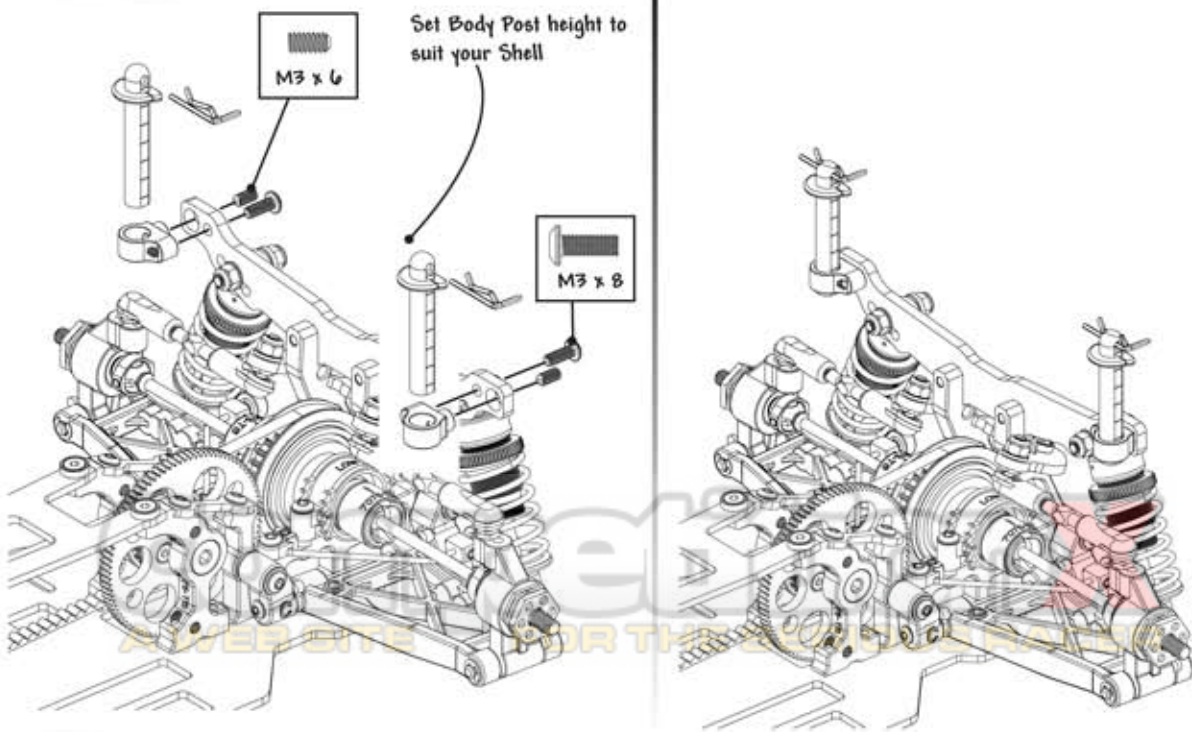
MI4cx

Step 43

B

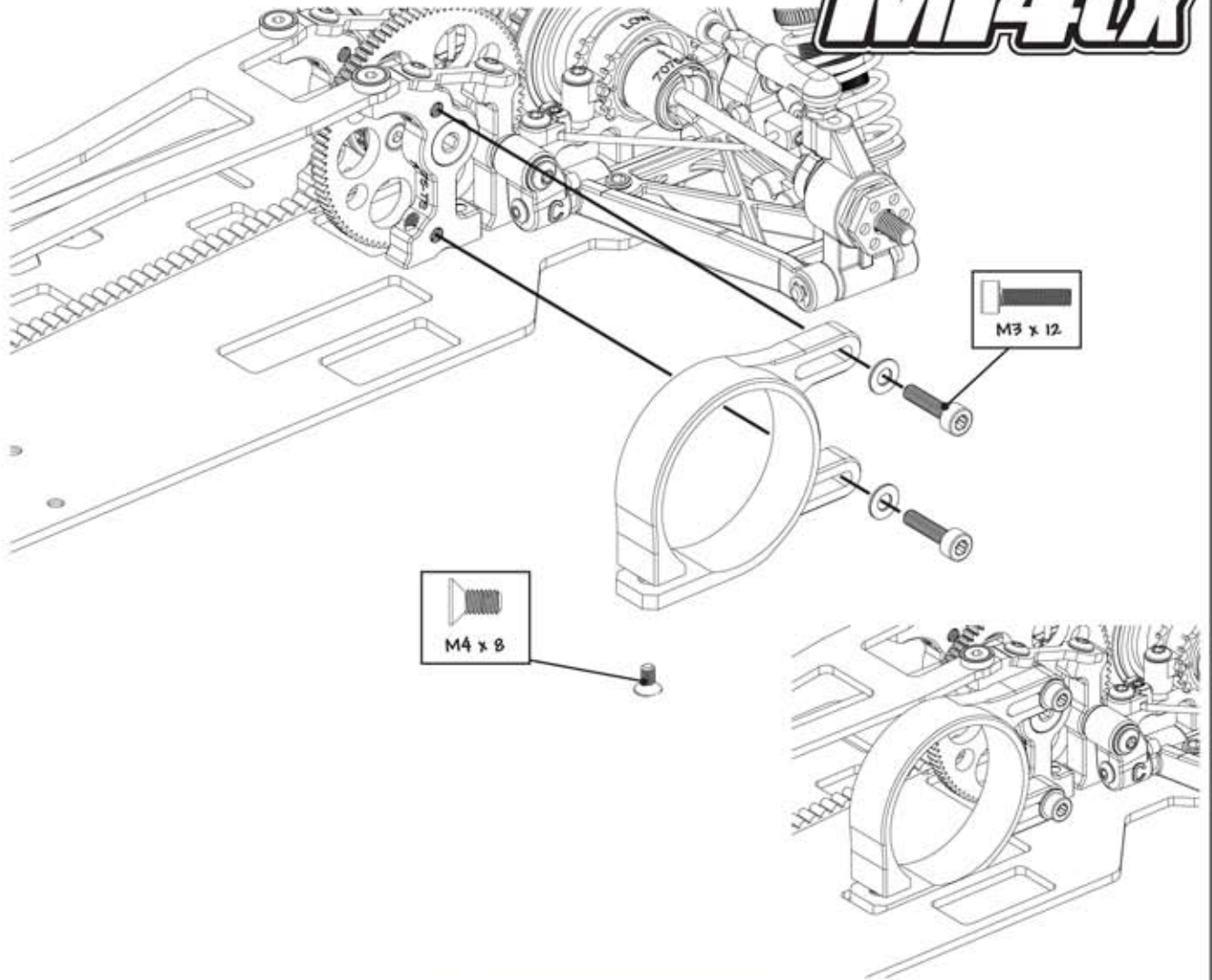


Step 44



Step 45

MI4CX

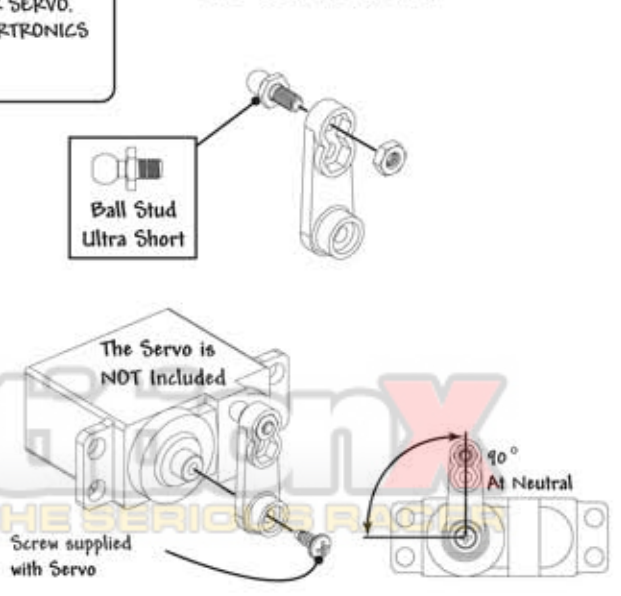
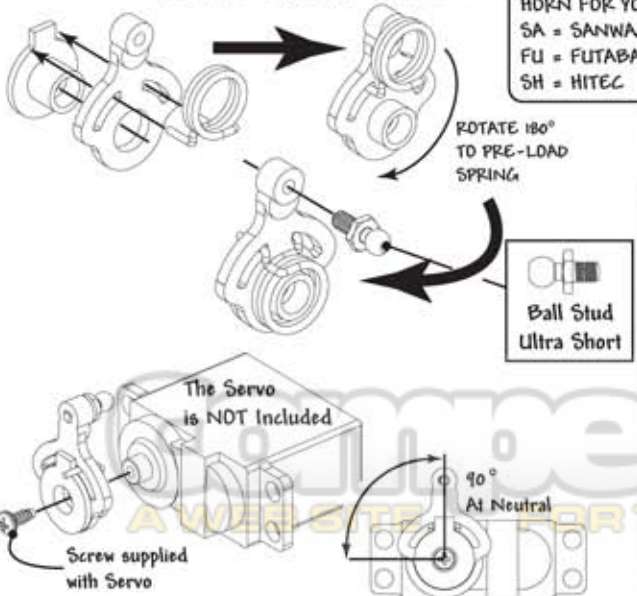


Step 46

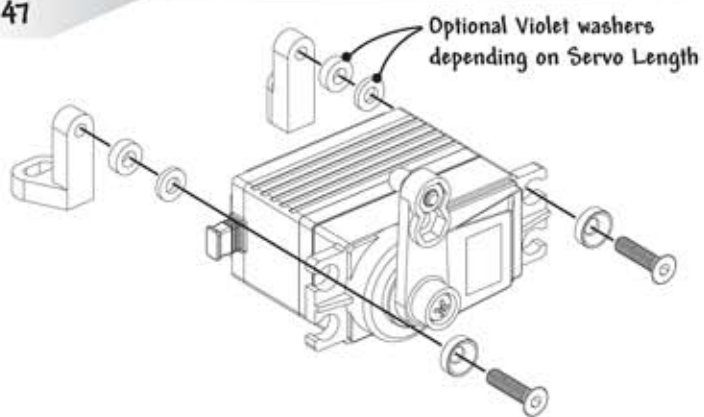
SERVO SAVER OPTION

CHOOSE THE CORRECT HORN FOR YOUR SERVO.
 SA = SANWA/AIRTRONICS
 FU = FUTABA
 SH = HITEC

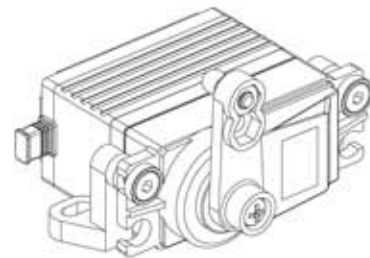
NO SERVO SAVER



Step 47



MI4CX

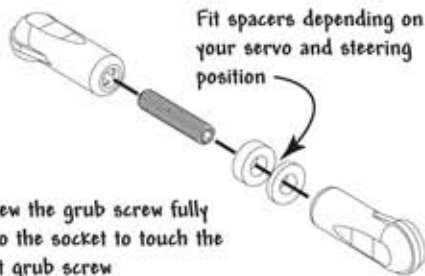


Step 48

A

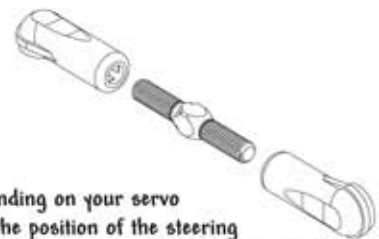


Screw the grub screw fully into the socket



Screw the grub screw fully into the socket to touch the first grub screw

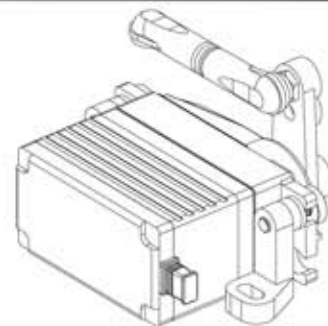
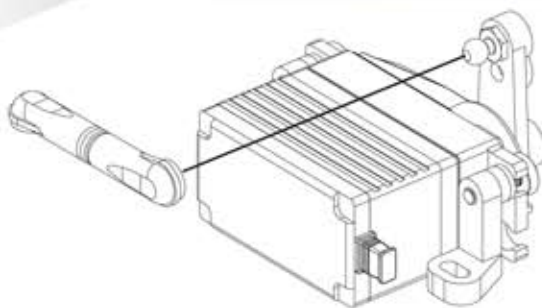
B



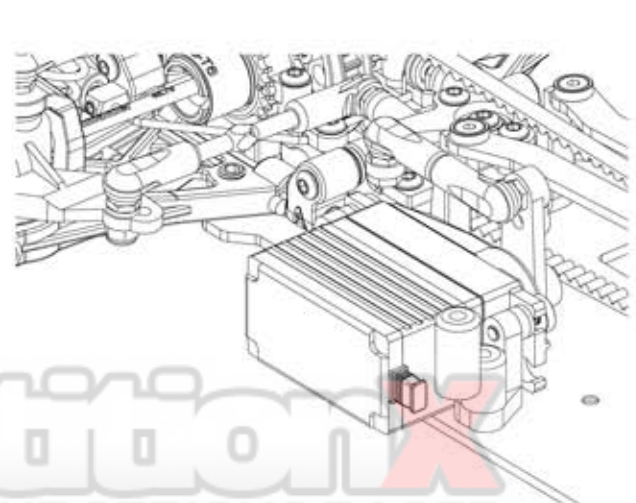
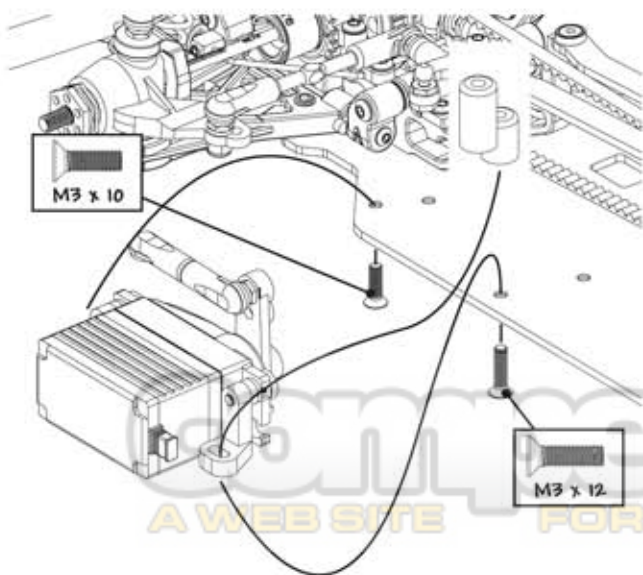
Depending on your servo and the position of the steering you may need to use the 24mm turnbuckle

Step 48

C



Step 49



A WEB SITE FOR THE SERIOUS RACER

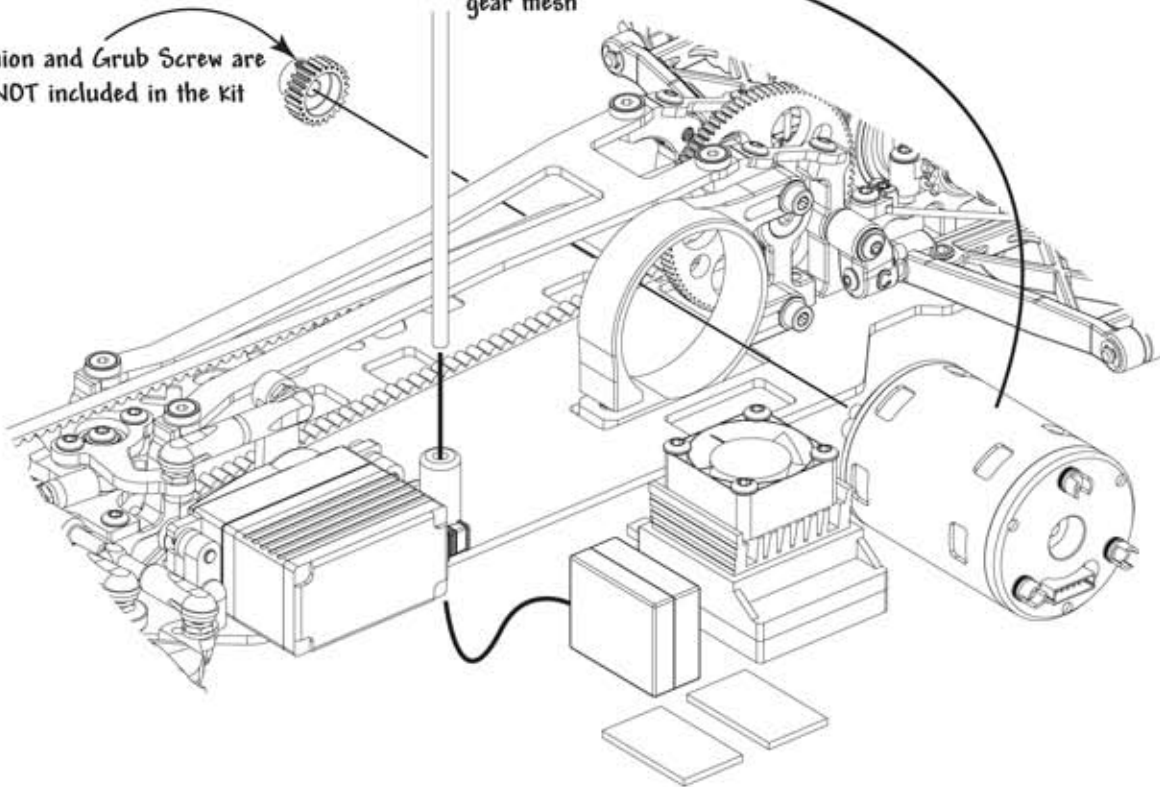
Step 49

C



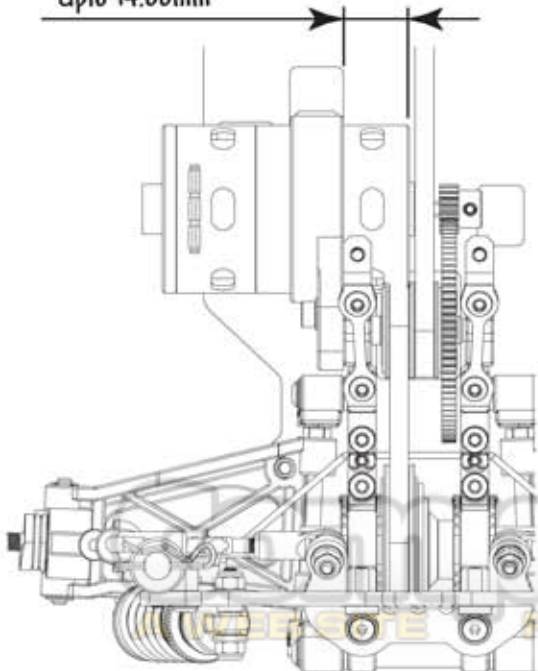
Insert motor into clamp
and tighten the clamp screw
underneath the car
Then adjust the
gear mesh

Pinion and Grub Screw are
NOT included in the kit



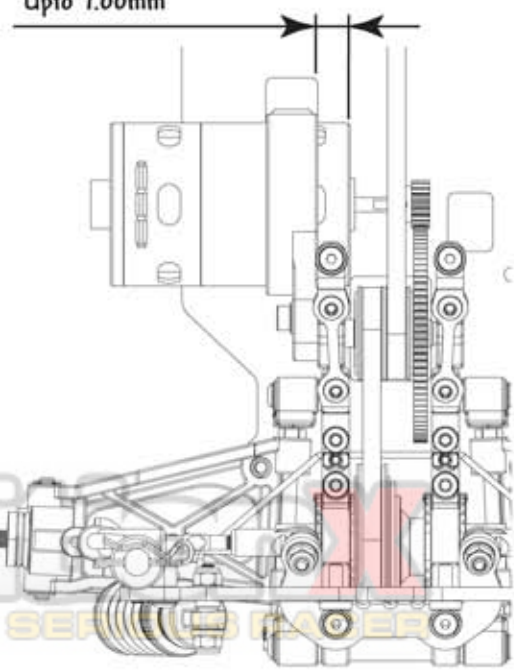
Drivetrain Option 1
Motor Position With Spur and Pinion
tooth sum of 109 or GREATER

Upto 14.00mm



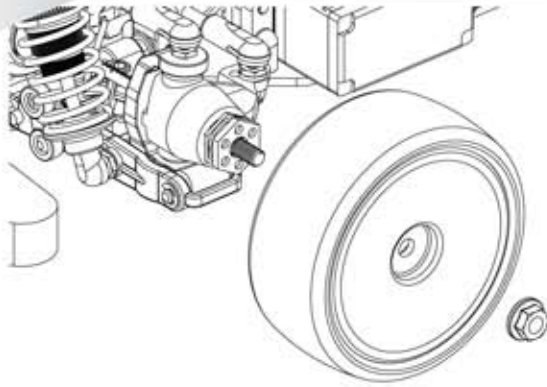
Drivetrain Option 1
Motor Position With Spur and Pinion
tooth sum of LESS than 109

Upto 7.00mm



USE SITE FOR THE SEPARATED PLATE

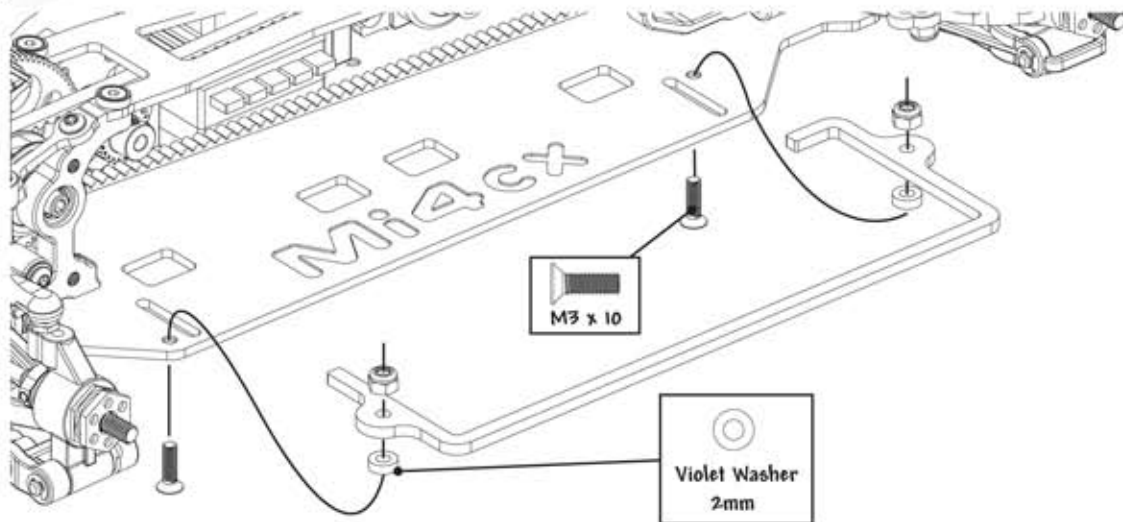
Step 50



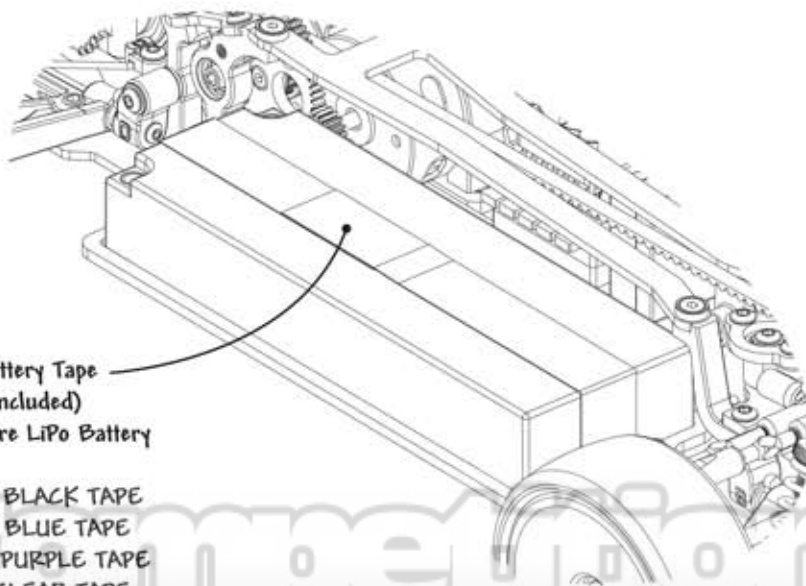
Mi4cx

The Wheels and Tyres are NOT included in the Kit.

Step 51



Humped LiPo Installation With Tape



Use Battery Tape
(NOT Included)
to secure LiPo Battery

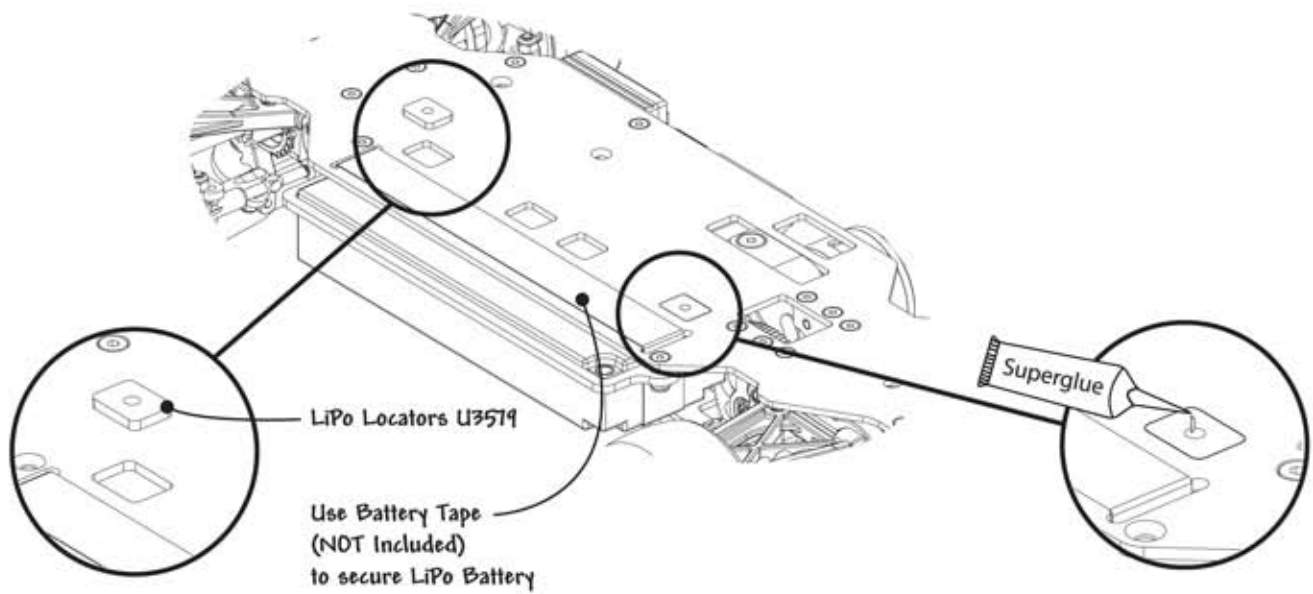
CR005 BLACK TAPE
CR006 BLUE TAPE
CR037 PURPLE TAPE
HI039 CLEAR TAPE

ImpetionX

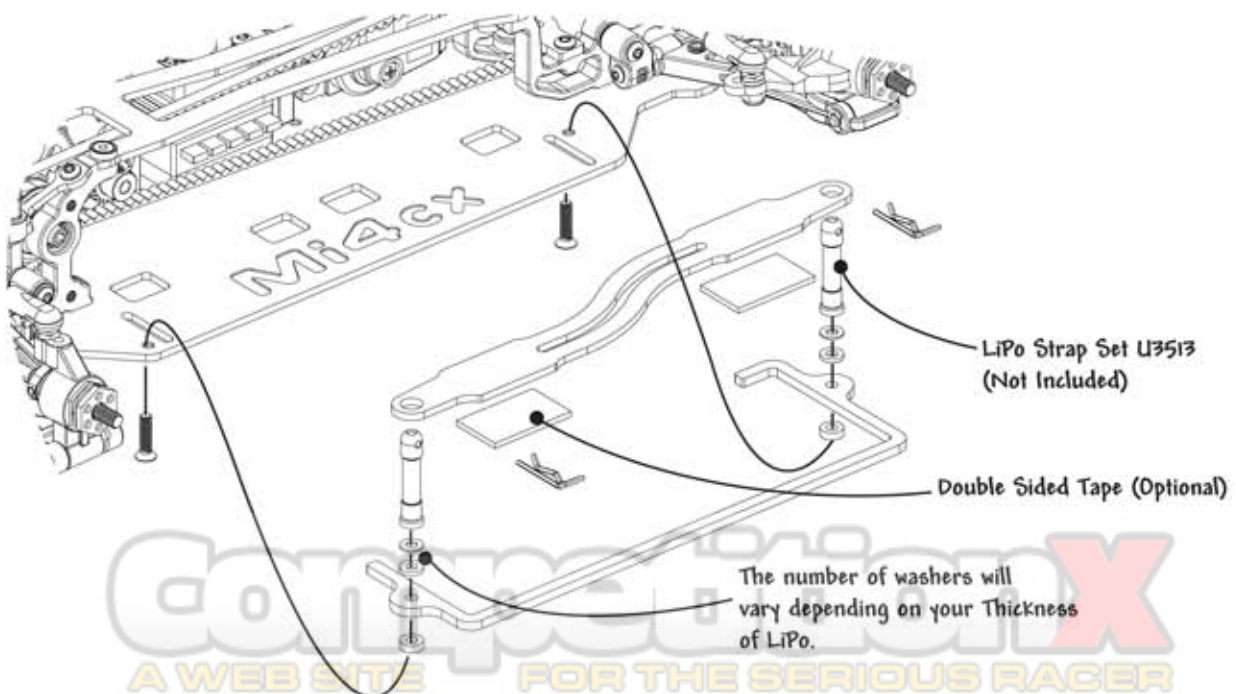
A WEB SITE FOR THE SERIOUS RACER

Flat Bottomed LiPo Installation With Tape and Locators

Mi4cx



LiPo Tray Installation with Strap for LiPo's

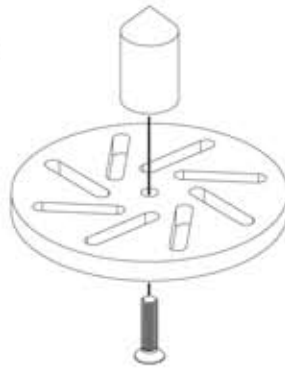


COMPETITION X
A WEB SITE FOR THE SERIOUS RACER

Car Balancing Jig U3582

A The Balancing Jig, with the aid of a pair of scales, is used to accurately and independantly measure the corner weights of your car.

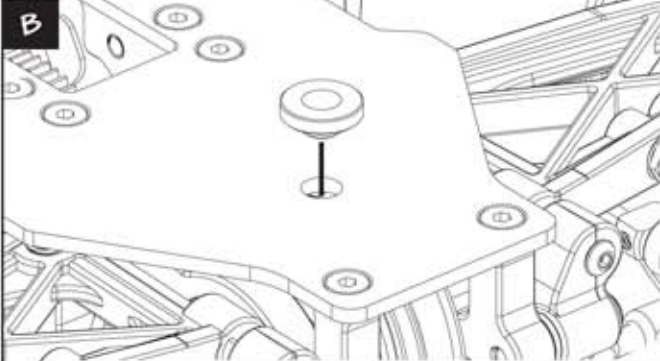
We use a Three point balancing system to eliminate any false readings caused by chassis tweak.



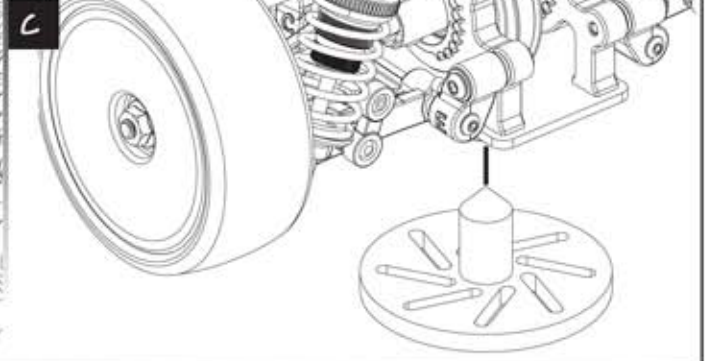
MI4CX



Car Balancing Jig U3582



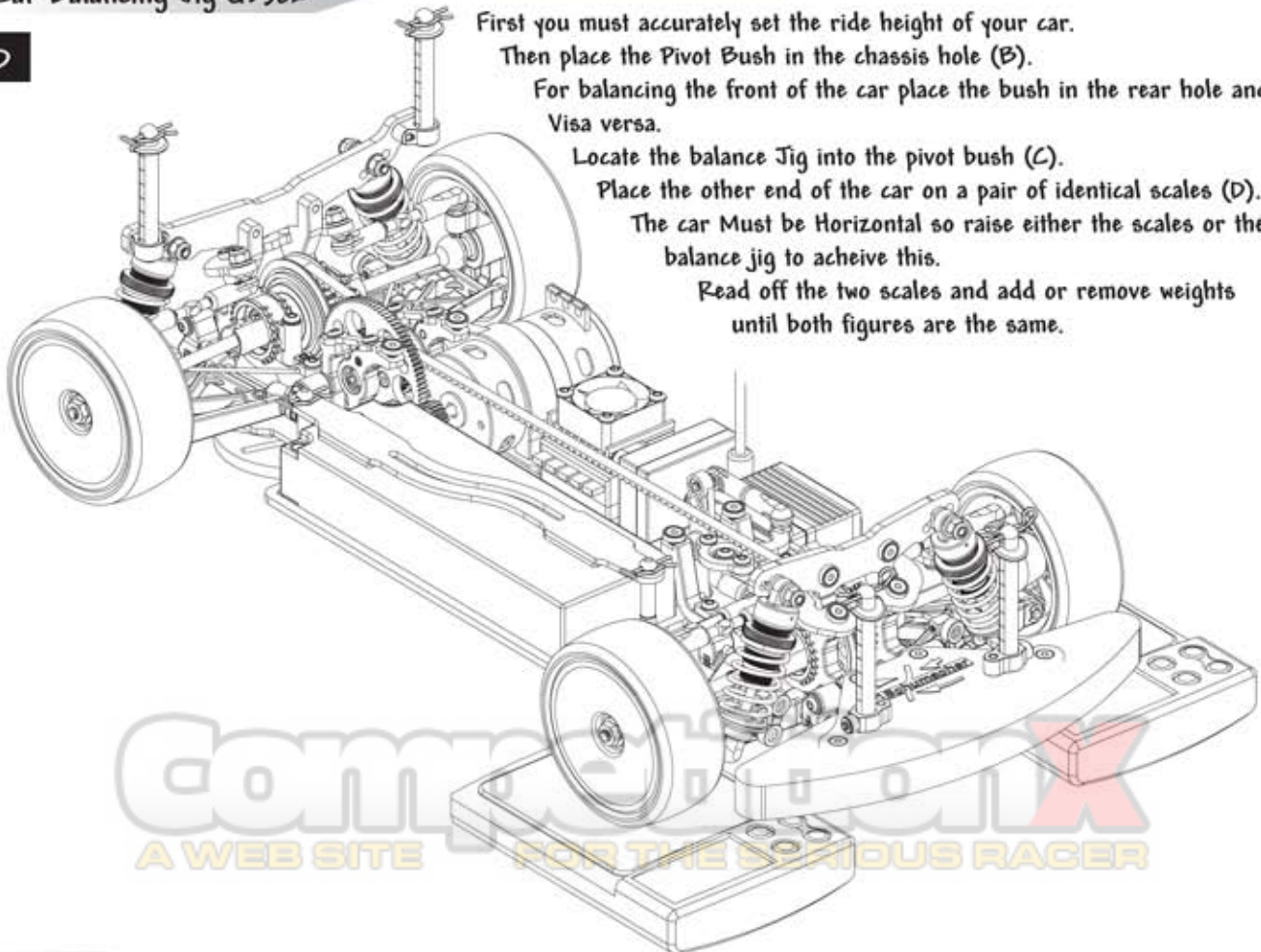
Car Balancing Jig U3582



Car Balancing Jig U3582

D

First you must accurately set the ride height of your car.
Then place the Pivot Bush in the chassis hole (B).
For balancing the front of the car place the bush in the rear hole and
Visa versa.
Locate the balance Jig into the pivot bush (C).
Place the other end of the car on a pair of identical scales (D).
The car Must be Horizontal so raise either the scales or the
balance jig to acheive this.
Read off the two scales and add or remove weights
until both figures are the same.



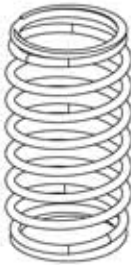
COMPTON
A WEB SITE FOR THE SERIOUS RACER

Track Settings



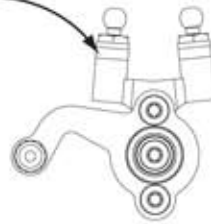
Springs

The spring rate controls the suspension stiffness. Spring adjusters only change the ride height. They DO NOT alter the suspension stiffness. On slippery or bumpy tracks use soft to medium rate springs, on flat or high grip tracks run medium to hard rate springs.



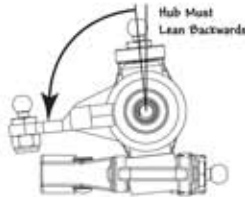
Steering

By Adding and removing the washers under the ball joint, you alter the cars Ackerman and steering response. Adding washers will make the steering more aggressive, where less washers will make for a softer response.



Front Caster

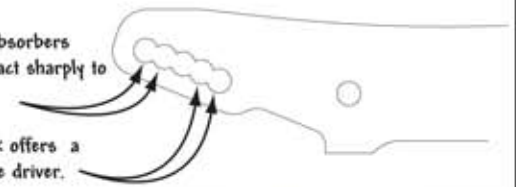
The front caster can be altered by changing the yoke. The car comes with 4° caster as standard. Less caster will give a quicker steering response, but could lead to power on understeer. More caster will give the opposite, slightly slower turn in, but more power on steering.



Shock Brackets (Shock Mounting)

Vertical shock absorbers make the car react sharply to driver inputs.

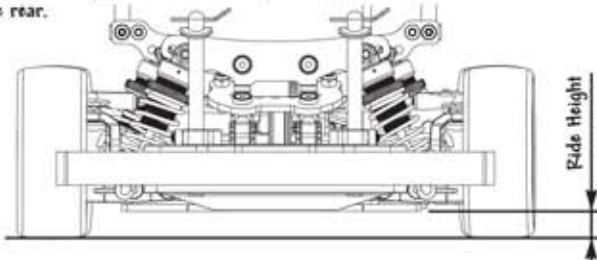
A laydown shock offers a softer feel to the driver.



Ride Height

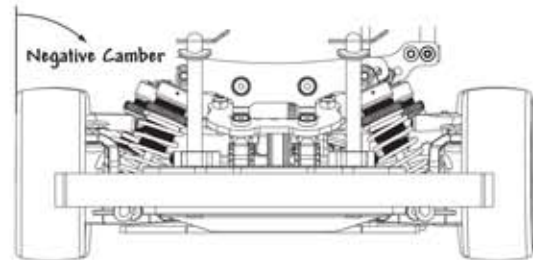
In general always run the car as low as possible, without the chassis grounding out, as it rolls into corners.

A good starting point with rubber tyres is 5.5mm at the front and 6.0mm at the rear.



Front and Rear Camber

With maximum negative camber the car will have high levels of grip, but there may be the possibility of sudden breakaway in corners. Reducing the camber gives a more progressive slide, but may give less grip.



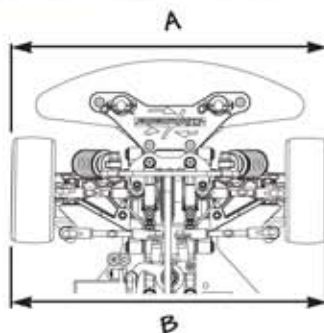
Front Toe-in

The front toe-in is set by adjusting the steering trackrod turnbuckles.

Toe-In = A less than B
Toe-Out = A greater than B

Toe-in will give a more stable car, but will give less sharp turn in. Toe-out will give the opposite, less stability with sharper turn in to the corners.

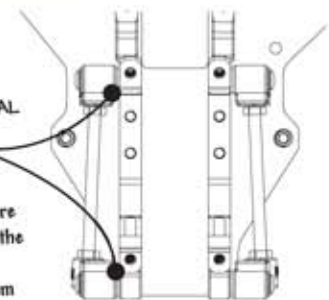
We recommend to start at about 0° or 1° toe-out.



Front and Rear Track Width

TRACK WIDTH ADJUSTMENT (In-board)

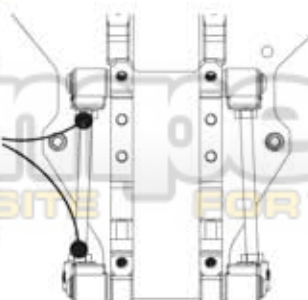
The track width of the car may be altered by adding or removing EQUAL thickness grey suspension washers between the Screw blocks and the transmission housings. When changing the track width ensure the driveshafts are fully engaged in the Diff outputs. And the width does not exceed 190mm



Front and Rear Wheelbase

WHEELBASE ADJUSTMENT (In-board)

The wheelbase may be adjusted by moving the Qwik clips to either the front or the back of the wishbones. Shorter wheelbase results in a more agile car, but use longer wheelbase for a smoother less aggressive car. Also moving the wishbone forwards and backwards alters the weight distribution at either end of the car, this results in more or less traction, and more or less steering.

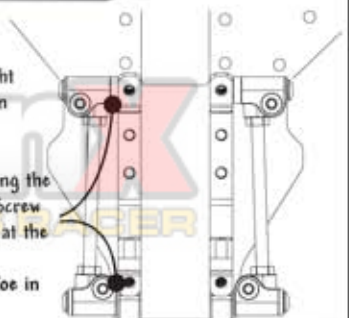


Front and Rear Inboard Toe-in

USING OPTIONAL ALLOY PIVOT BLOCKS

More inboard toe in will improve straight ahead traction and car stability, but can reduce corner speed on fast sweepers.

The toe-in is set by adding or removing the grey suspension washers between the Screw blocks and the transmission housings, at the front or rear of the wishbones. Each 0.50mm washer will change the Toe in by Approx 0.60°



Track Settings



TRANS LINKS

To improve the rear end grip of the car use **THINNER** trans links (more flex), but to reduce the rear end grip use **THICKER** trans links (less flex). This adjustment allows tuning the balance of the car on various tracks.



Gear Chart 48dp

Maximum Tooth Sum = 128.....Minimum Tooth Sum = 91.....Internal Ratio = 1.8:1

	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	
89	11.44	10.68	10.01	9.42	8.90	8.43	8.01	7.63	7.28	6.97	6.68	6.41	6.16	5.93	5.72	5.52	5.34	5.17	5.01	4.85	4.71	4.58	4.45	4.33	4.22	4.11	
87	11.19	10.44	9.77	9.21	8.70	8.24	7.83	7.46	7.12	6.81	6.53	6.26	6.02	5.80	5.59	5.40	5.22	5.05	4.89	4.75	4.61	4.47	4.35	4.23	4.12	4.02	
85	10.93	10.20	9.56	9.00	8.50	8.05	7.65	7.29	6.95	6.65	6.38	6.12	5.88	5.67	5.46	5.28	5.10	4.94	4.78	4.64	4.50	4.37	4.25	4.14	4.03	3.92	
70								6.00	5.73	5.48	5.25	5.04	4.85	4.67	4.50	4.34	4.20	4.06	3.94	3.82	3.71	3.60	3.50	3.41	3.32	3.23	
66													4.75	4.57	4.40	4.24	4.10	3.96	3.83	3.71	3.60	3.49	3.39	3.30	3.21	3.13	3.05

Gear Chart 64dp

Maximum Tooth Sum = 170.....Minimum Tooth Sum = 121.....Internal Ratio = 1.8:1

	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
118	11.18	10.62	10.11	9.65	9.23	8.85	8.50	8.17	7.87	7.59	7.32	7.08	6.85	6.64	6.44	6.25	6.07	5.90	5.74	5.59	5.45	5.31	5.18	5.06	4.94	4.83	4.72	4.62	4.52	4.43	4.33	4.25
116	10.99	10.44	9.94	9.49	9.08	8.70	8.35	8.03	7.73	7.46	7.20	6.96	6.74	6.53	6.33	6.14	5.97	5.80	5.64	5.49	5.35	5.22	5.09	4.97	4.86	4.75	4.64	4.54	4.44	4.35	4.26	4.18
114	10.80	10.26	9.77	9.33	8.92	8.55	8.21	7.89	7.60	7.33	7.08	6.84	6.62	6.41	6.22	6.04	5.86	5.70	5.55	5.40	5.26	5.13	5.00	4.89	4.77	4.66	4.56	4.46	4.37	4.28	4.19	4.10
106	10.04	9.54	9.09	8.67	8.30	7.95	7.63	7.34	7.07	6.81	6.58	6.36	6.15	5.96	5.78	5.61	5.45	5.30	5.16	5.02	4.89	4.77	4.65	4.54	4.44	4.34	4.24	4.15	4.06	3.98	3.89	3.82
96										6.17	5.96	5.76	5.57	5.40	5.24	5.08	4.94	4.80	4.67	4.55	4.43	4.32	4.21	4.11	4.02	3.93	3.84	3.76	3.68	3.60	3.53	3.46
90												5.23	5.06	4.91	4.76	4.63	4.50	4.38	4.26	4.15	4.05	3.95	3.86	3.77	3.68	3.60	3.52	3.45	3.38	3.31	3.24	

Front Inboard Pin Options

USING OPTIONAL ALLOY PIVOT BLOCKS

ROLL CENTRE ADJUSTMENT

By adding or removing the Grey Suspension washers between the pivot blocks you are able to change the height of the roll centre. Generally a lower pin will give more grip, and a higher pin will reduce grip.

KICK UP OR ANTI-DIVE

The best balance on the car is usually with a level wishbone pin, however a small amount of anti-dive can improve stability under braking

By adding the Grey Suspension washer at the front of the wishbone you will get anti-dive. 0.5mm = 0.5°

By adding the Grey Suspension washer at the rear of the wishbone you will get Kick-up. 0.5mm = 0.5°

Rear inboard Pin Options

USING OPTIONAL ALLOY PIVOT BLOCKS

ROLL CENTRE ADJUSTMENT

By adding or removing the Grey Suspension washers between the pivot blocks you are able to change the height of the roll centre. Generally a lower pin will give more grip, and a higher pin will reduce grip.

SQUAT OR ANTI-SQUAT

The best balance on the car is usually with a level wishbone pin, however a small amount of Anti Squat can improve on power traction.

By adding the Grey Suspension washer at the rear of the wishbone you will get Anti-Squat. 0.5mm Difference = 0.5°

By adding the Grey Suspension washer at the front of the wishbone you will get Pro-Squat. 0.5mm Difference = 0.5°

Diff Height (High or Low)

DIFF HEIGHT

Diff height adjustment is provided so that the car may run level driveshafts at ride height with different diameter tyres.

Front and Rear Suspension Link

WIDTH ADJUSTMENT

The width of the inboard suspension link can be altered by Speed Secret link Brackets

HEIGHT ADJUSTMENT

The height of the inboard suspension link can be altered by adding or removing the violet spacer washers, between the link mount and the ball stud, or under the link mount bracket.

This adjustment alters the camber gain of the suspension, generally a lower ball stud (or shorter link) gives more instant cornering grip followed by a sudden breakaway, whereas a higher ball (or longer link) gives smoother more progressive cornering grip.