



Instruction Manual v.1.0



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



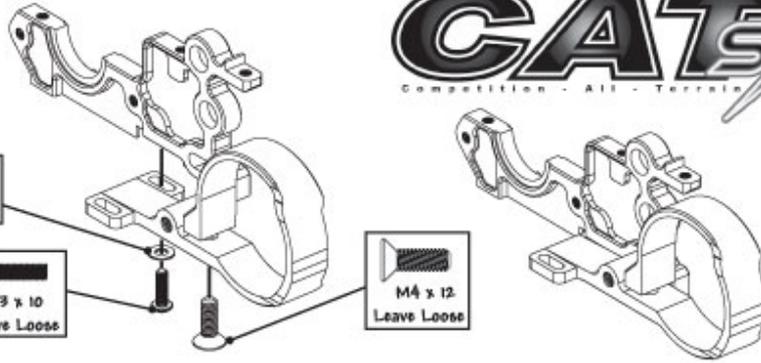
www.racing-cars.com

Schumacher USA Inc
6302 Benjamin Road
Suite 404
Tampa
Florida 33634
U.S.A

S1157

Step 1

A



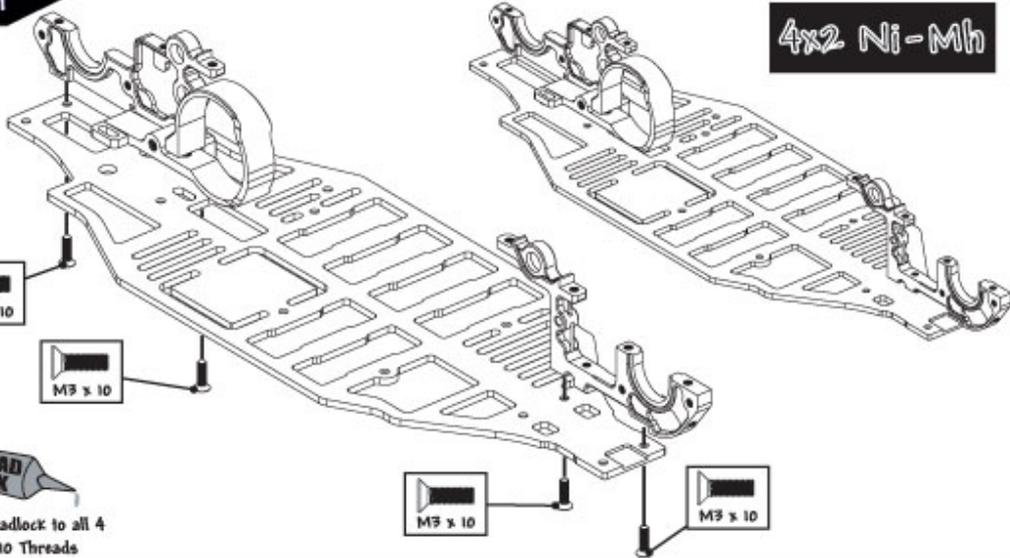
Step 1

B

4x2 Ni-Mh



Apply Threadlock to all 4 M3 x 10 Threads



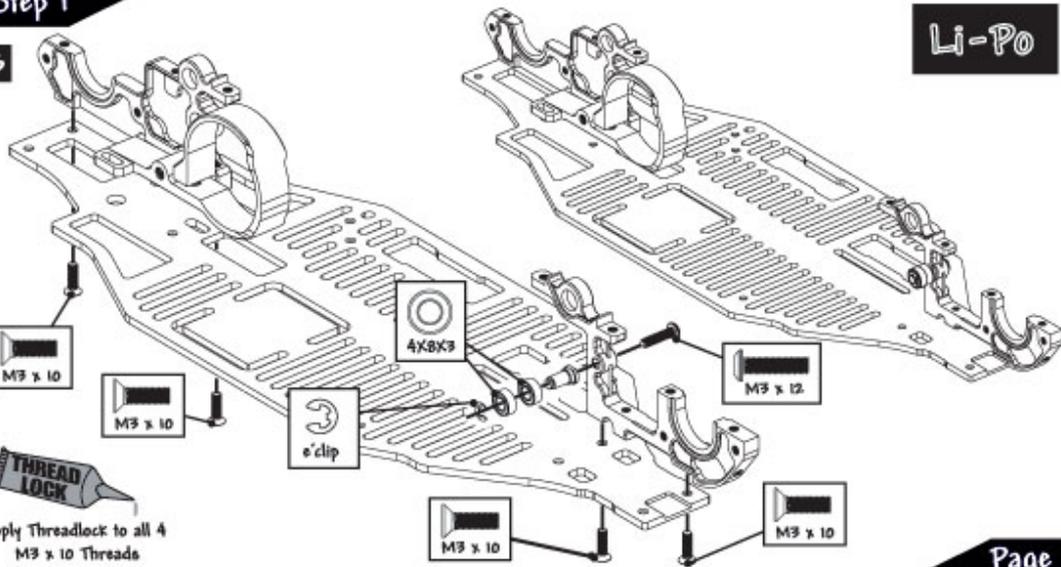
Step 1

B

Li-Po



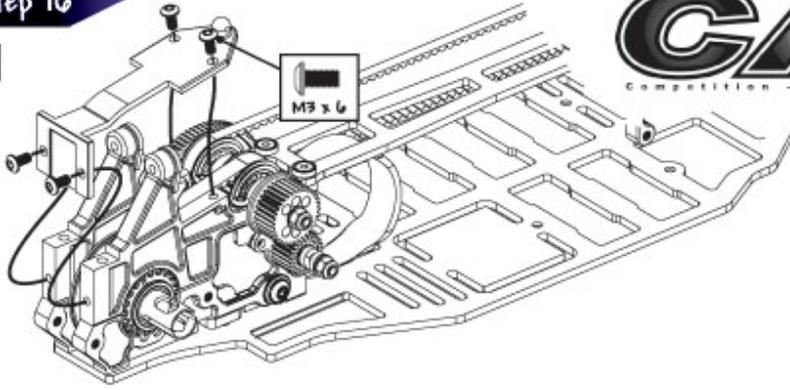
Apply Threadlock to all 4 M3 x 10 Threads



Step 16

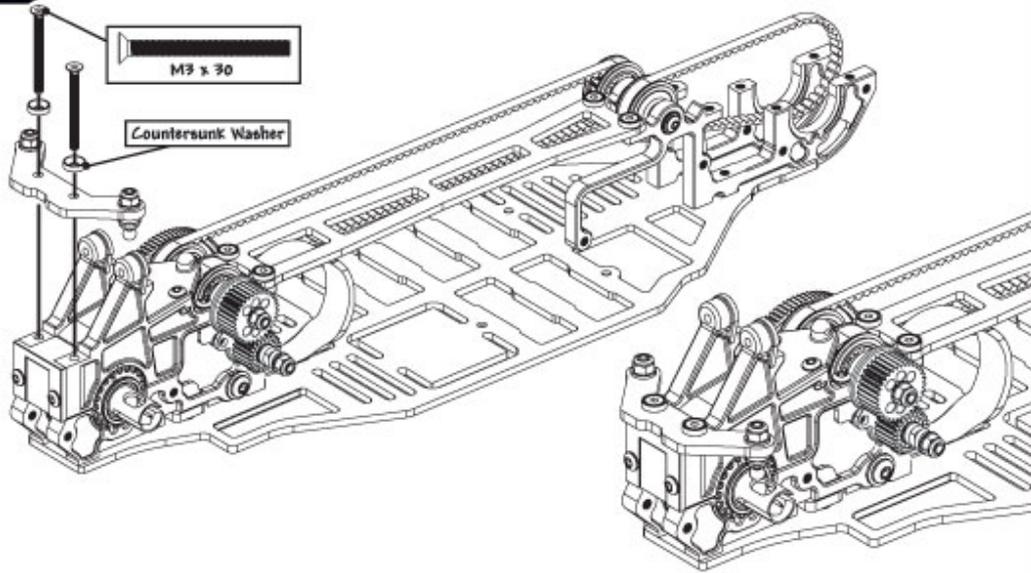


A



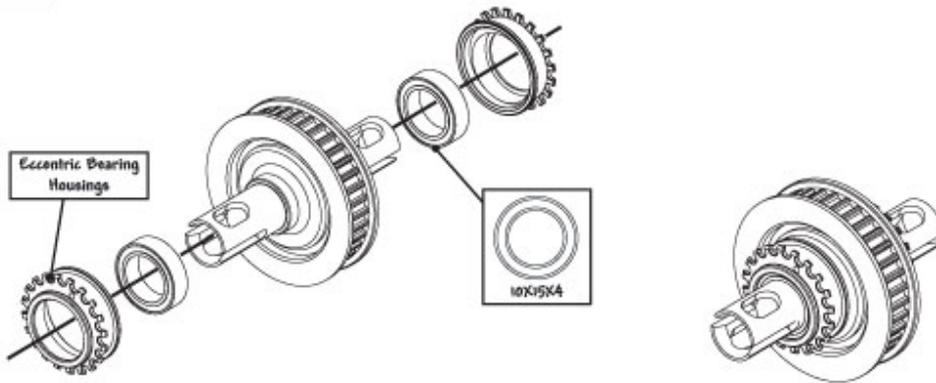
Step 16

B

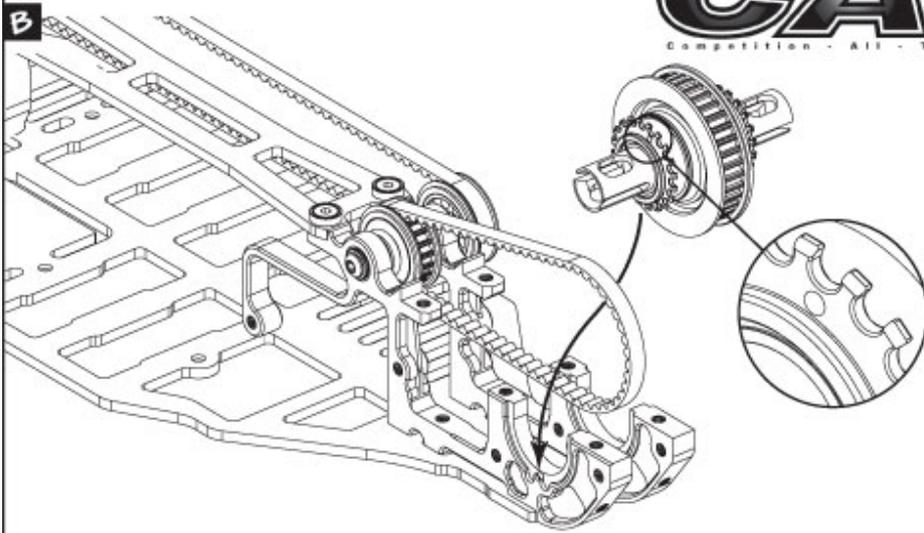


Step 17

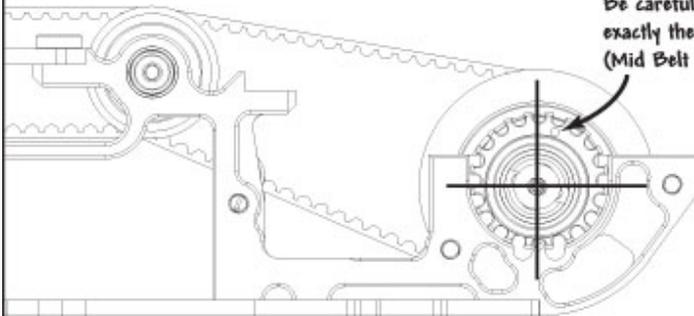
A



Step 17

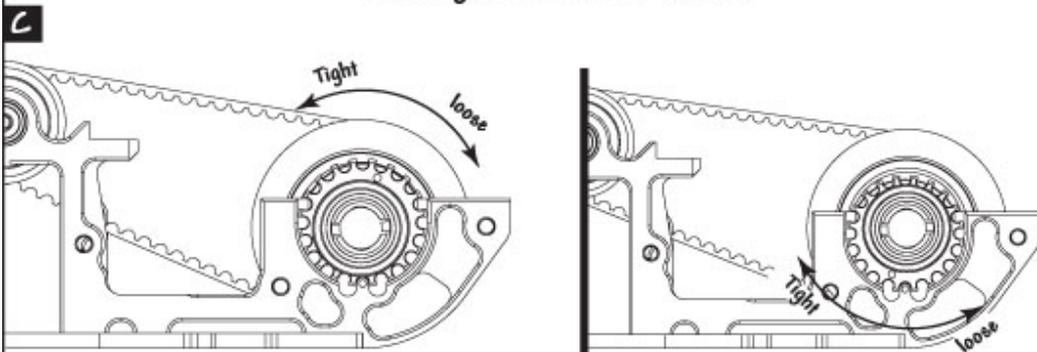


Be careful to position both eccentric bearing housings exactly the same, the starting position is as shown. (Mid Belt tension and low diff.)



Step 17

Setting FRONT Belt Tension



LOW DIFF

HIGH DIFF

Step 17

D

M3 x 20

CATx
Competition - All - Terrain

Now check that the transmission rotates freely

Step 18

2mm Washer

M3 Nyloc

1mm Washer

Ball Stud Ultra Long

Step 19

A

M3 x 20

Countersunk Washer

Step 19

B

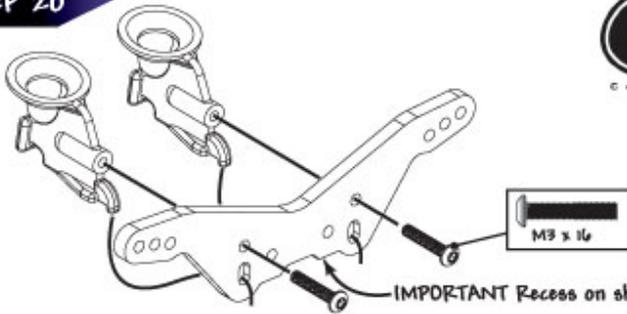
M3 x 4

Page 12

Step 20



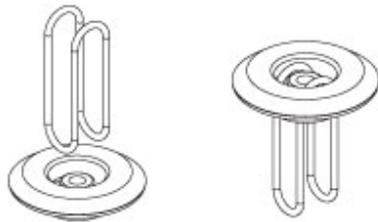
A



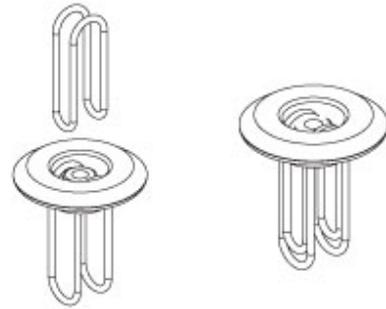
IMPORTANT Recess on shock bracket MUST be on the OTHER side

Step 20

B

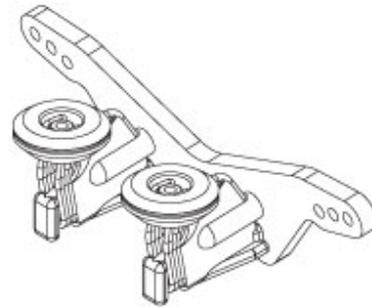
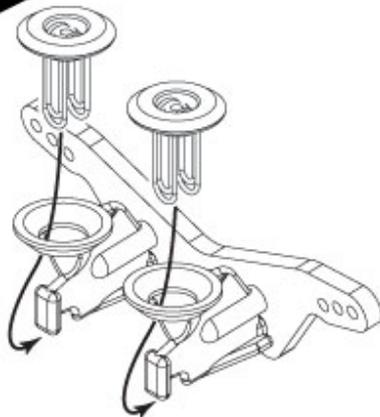


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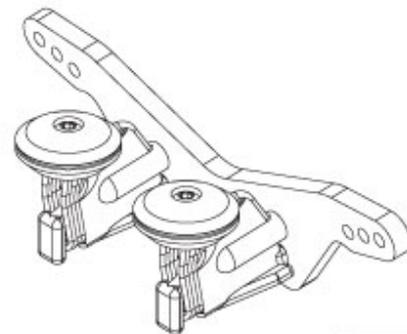
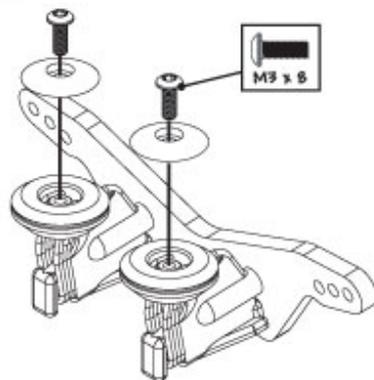
Step 20

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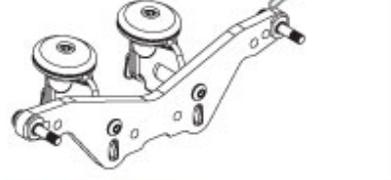
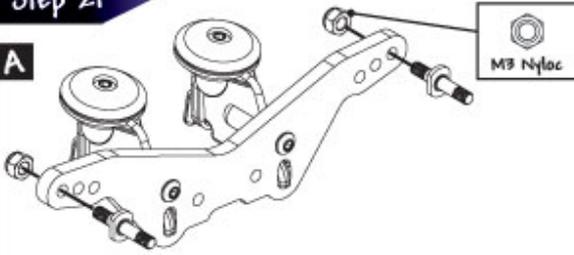
Step 20

E



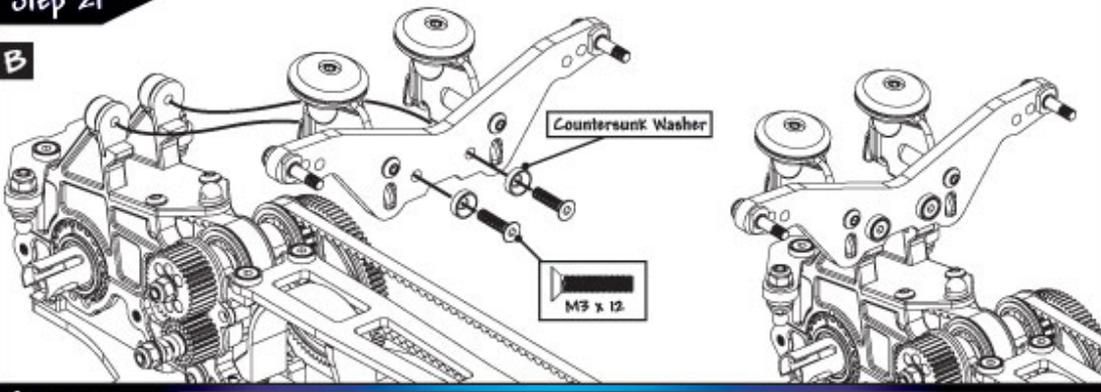
Step 21

A



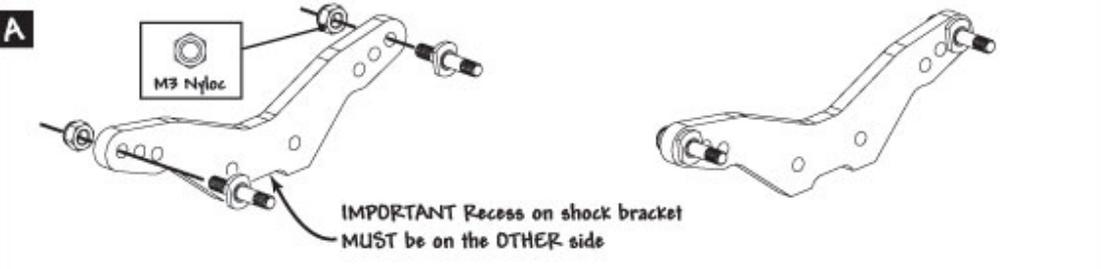
Step 21

B



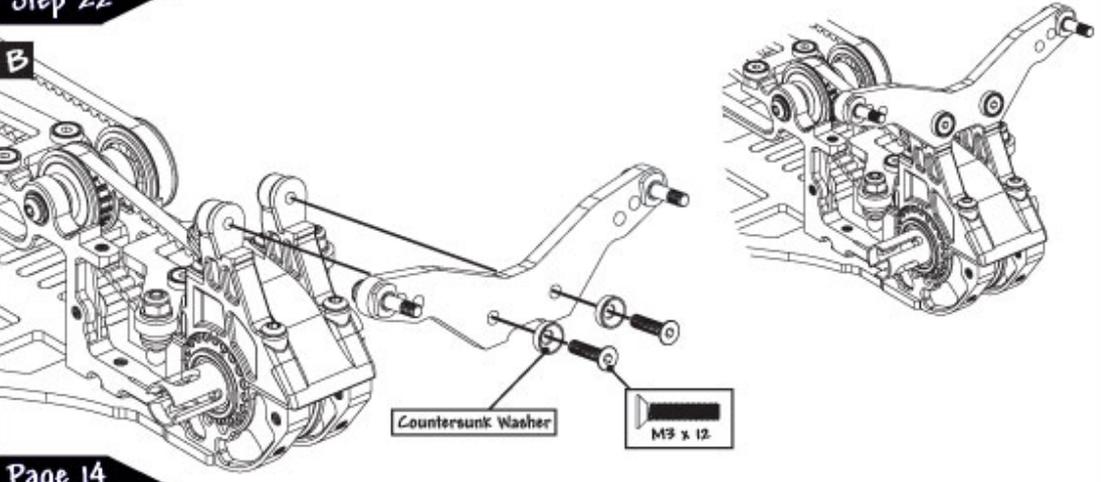
Step 22

A

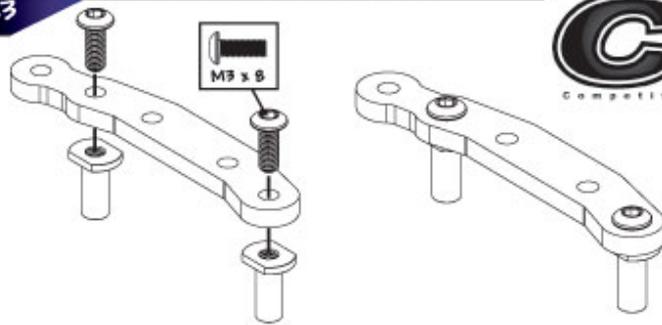


Step 22

B

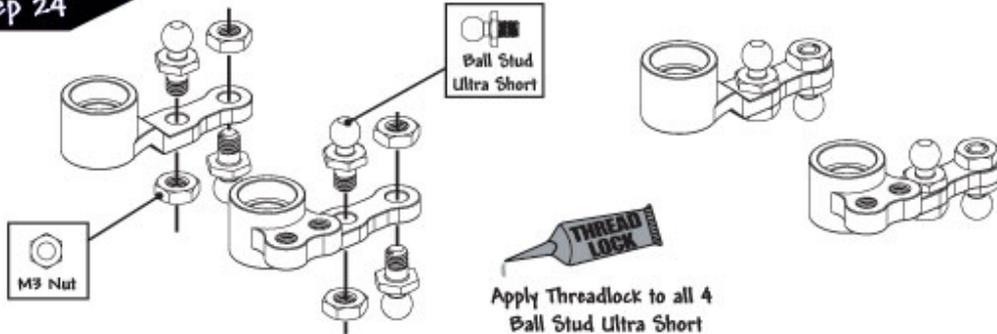


Step 23




Apply Threadlock to Both
M3 x 8 Threads

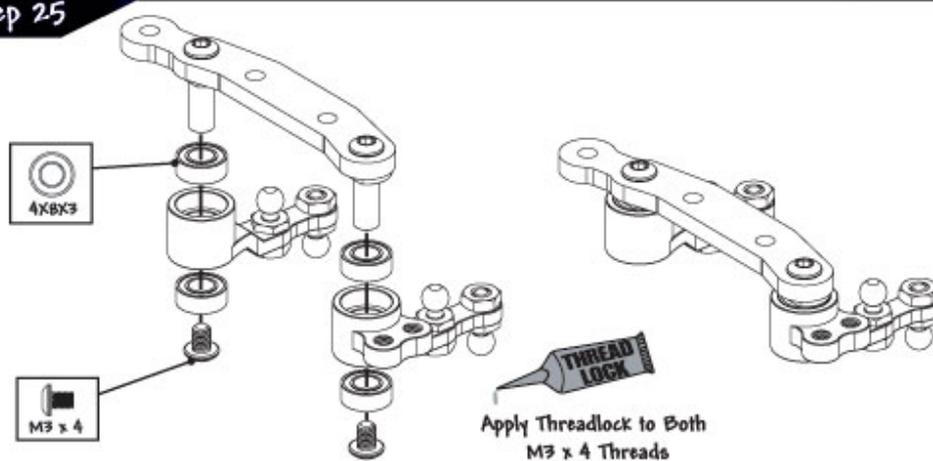
Step 24



Apply Threadlock to all 4
Ball Stud Ultra Short

Step 25

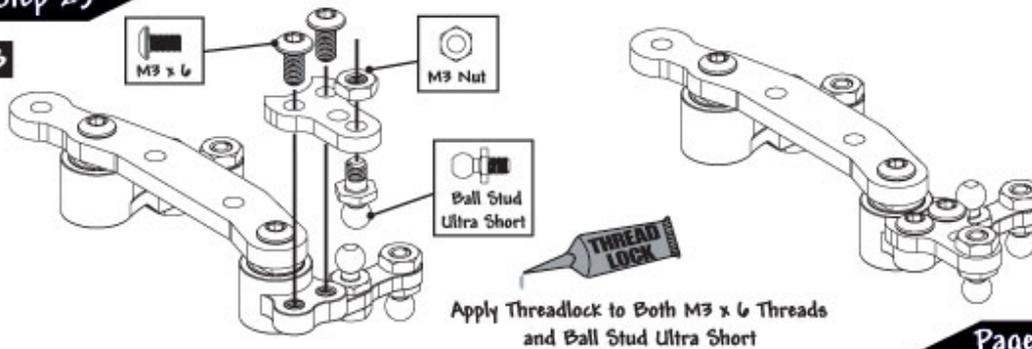
A



Apply Threadlock to Both
M3 x 4 Threads

Step 25

B

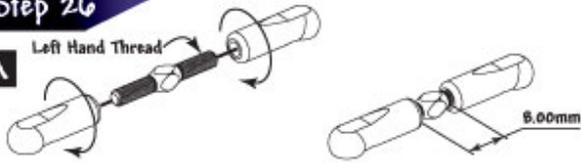


Apply Threadlock to Both M3 x 6 Threads
and Ball Stud Ultra Short

Step 26

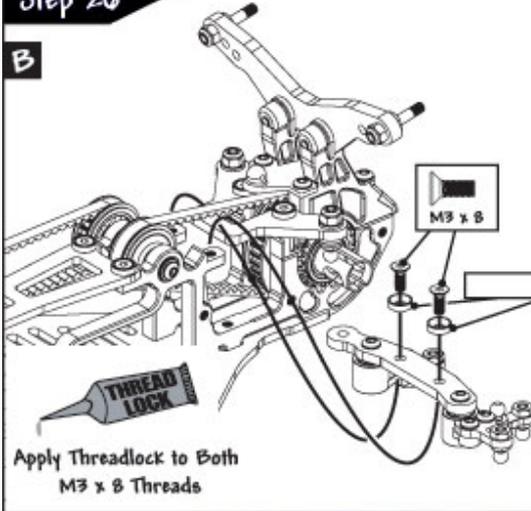
A

Left Hand Thread



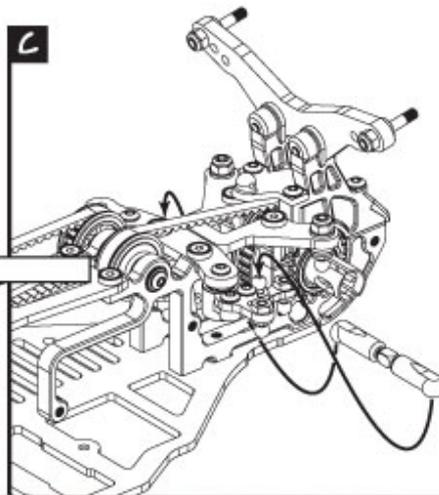
Step 26

B



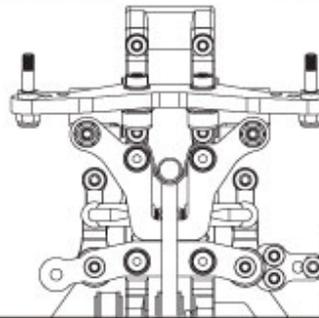
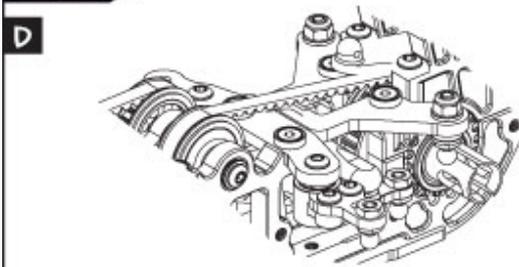
Apply Threadlock to Both
M3 x 8 Threads

C



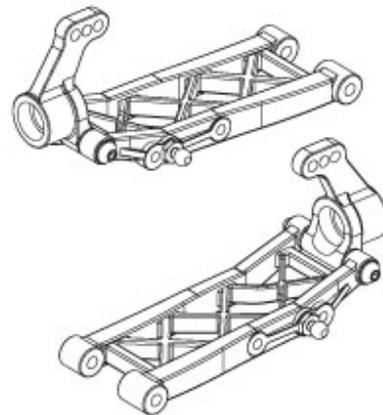
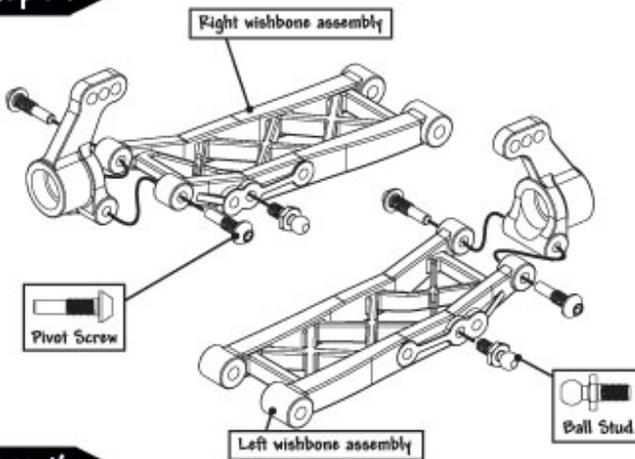
Step 26

D

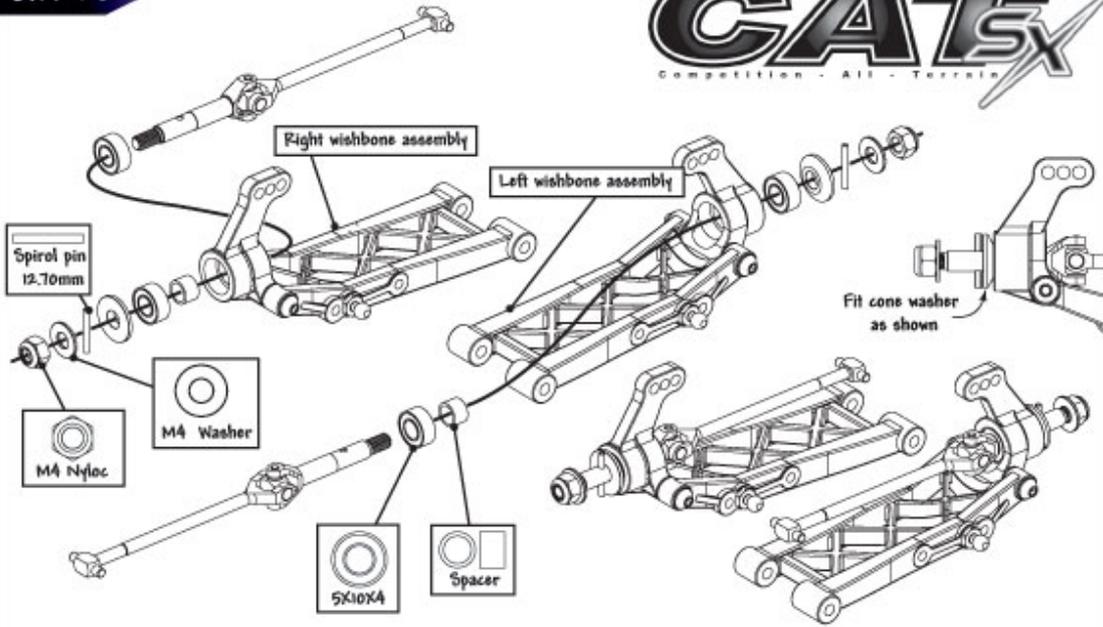


Steering should
Move Freely

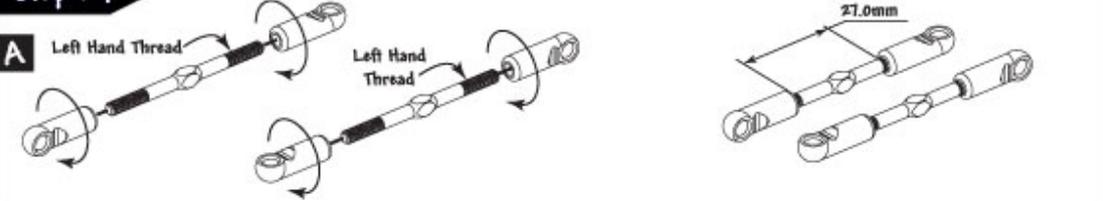
Step 27



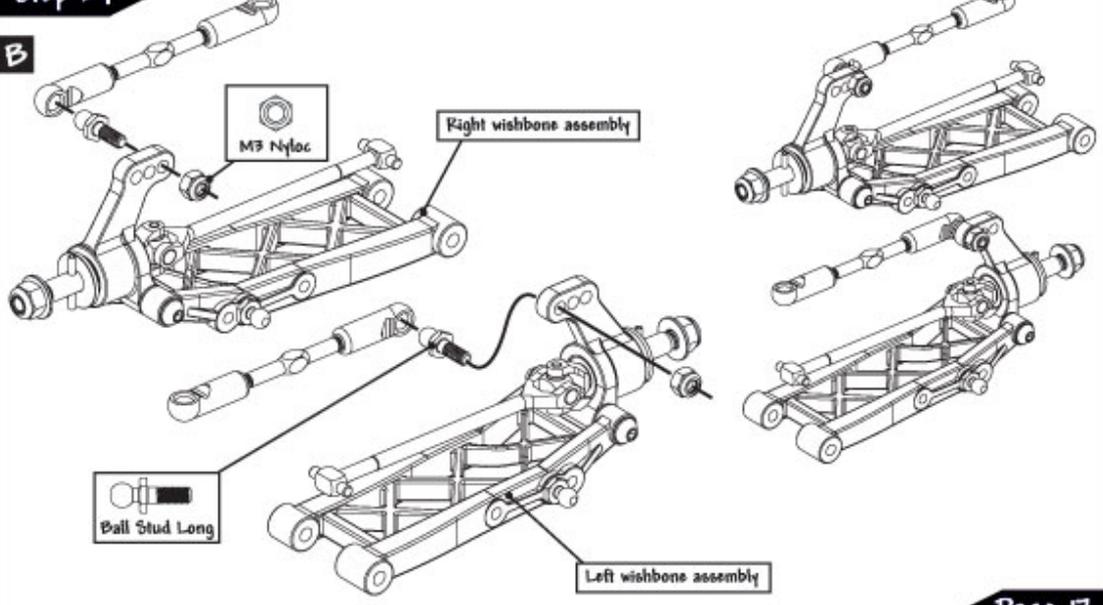
Step 28



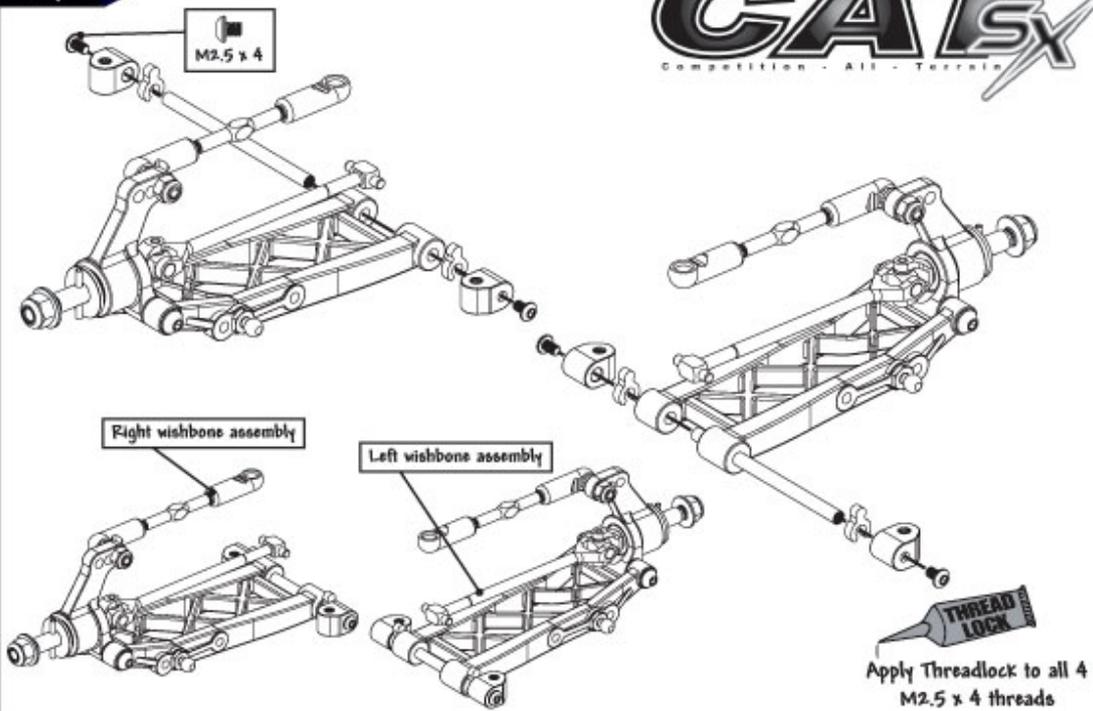
Step 29



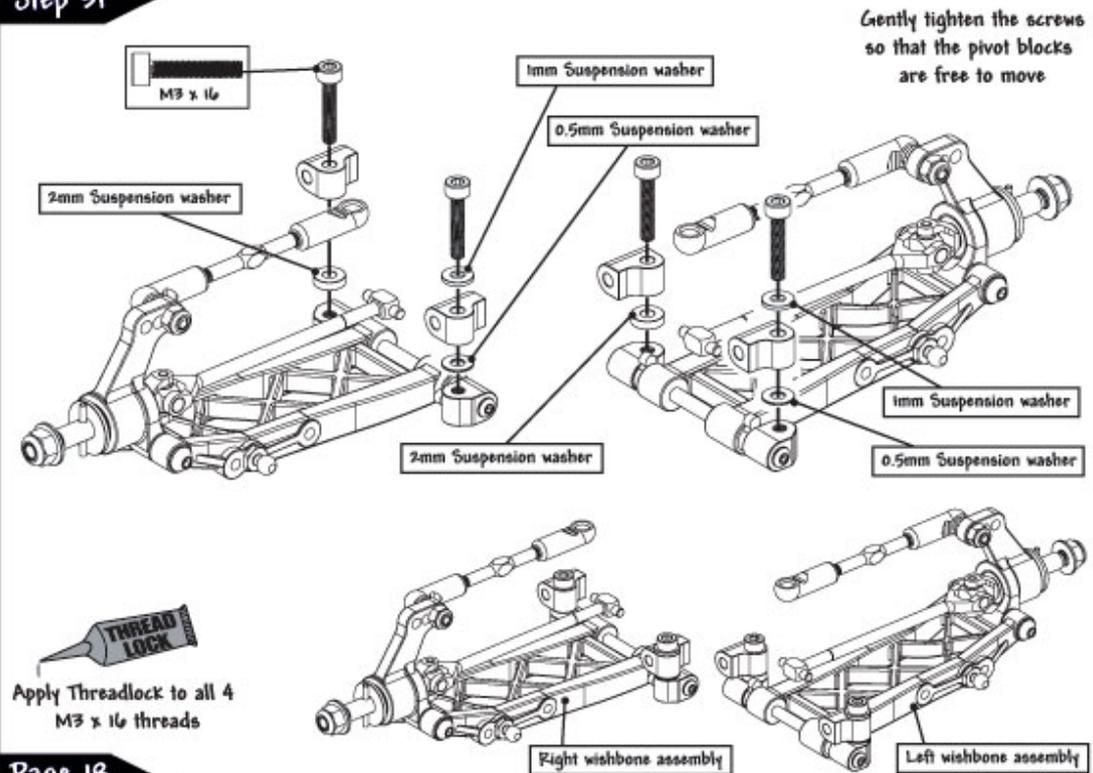
Step 29



Step 30



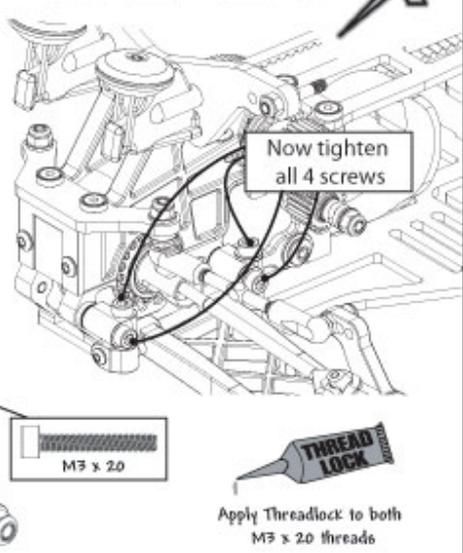
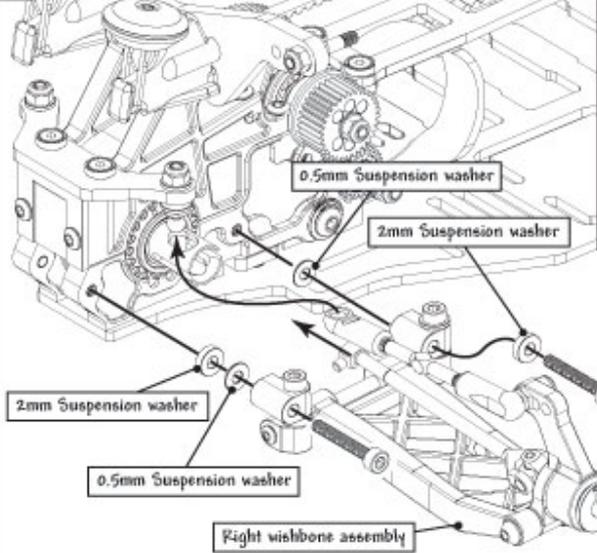
Step 31



Step 32

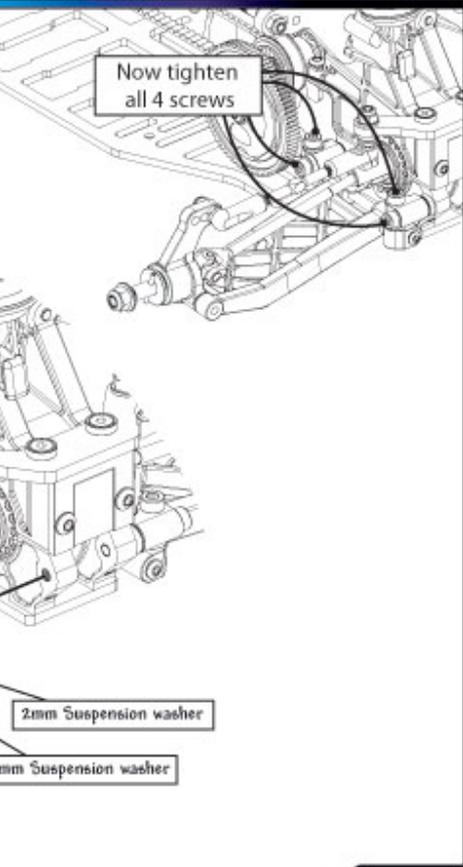
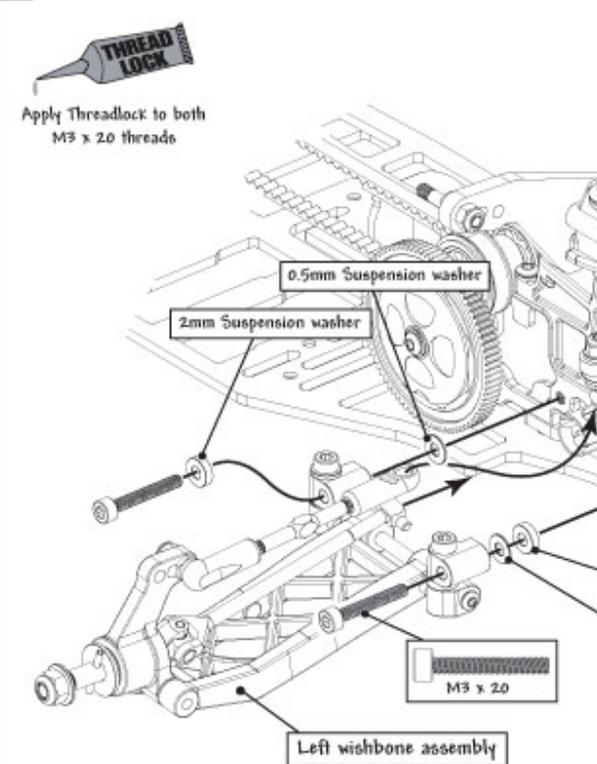


A



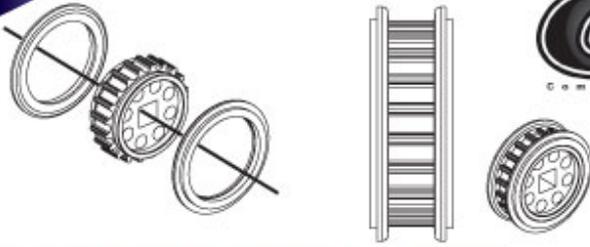
Step 32

B



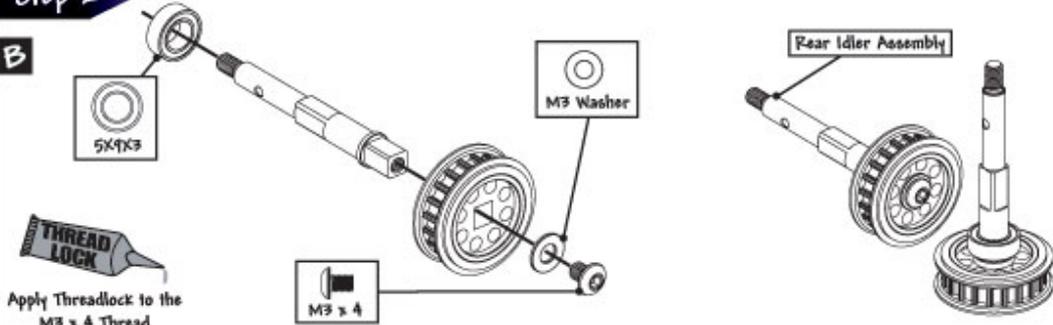
Step 2

A



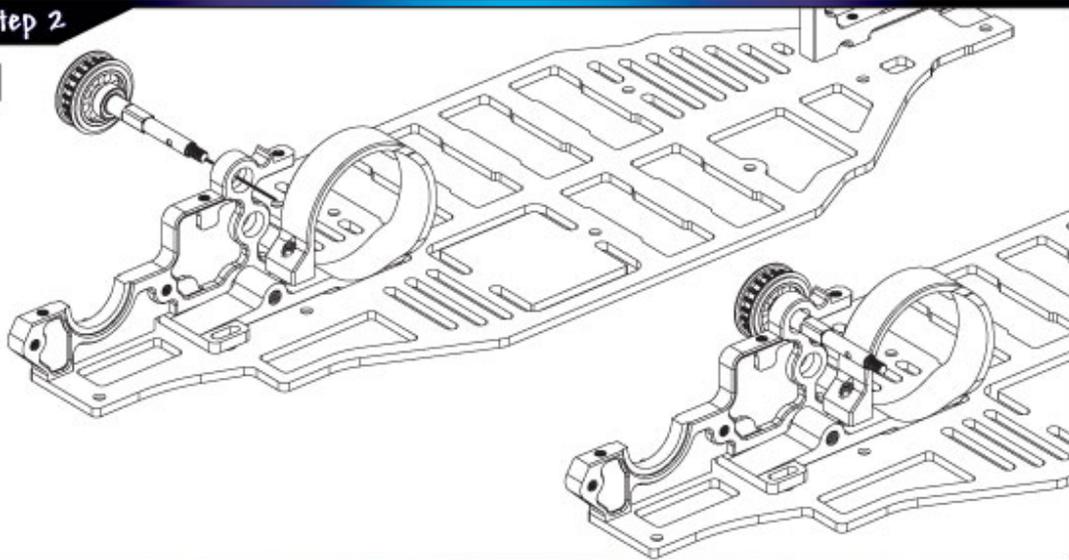
Step 2

B



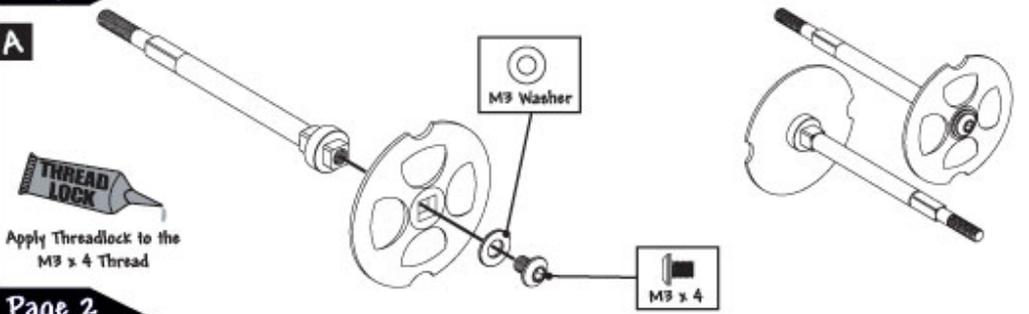
Step 2

C

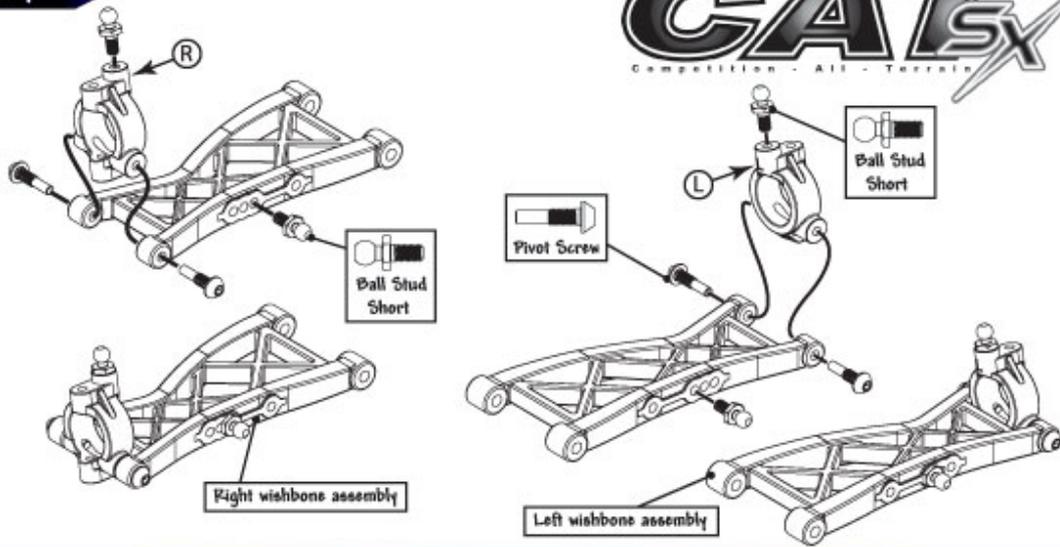


Step 3

A

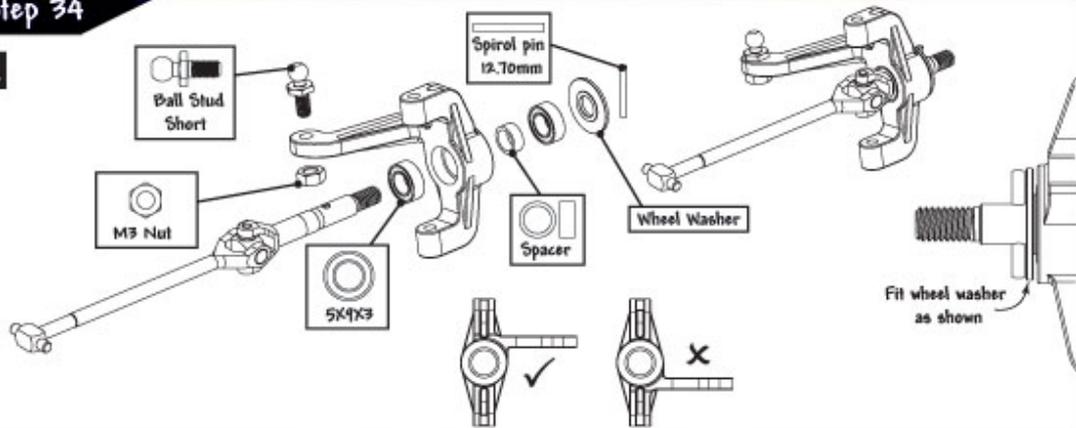


Step 33



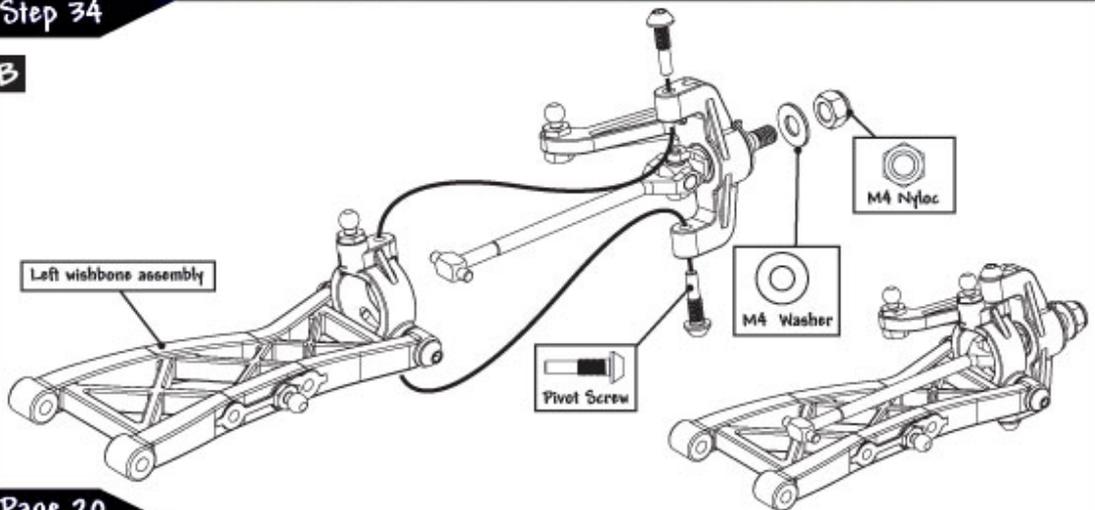
Step 34

A

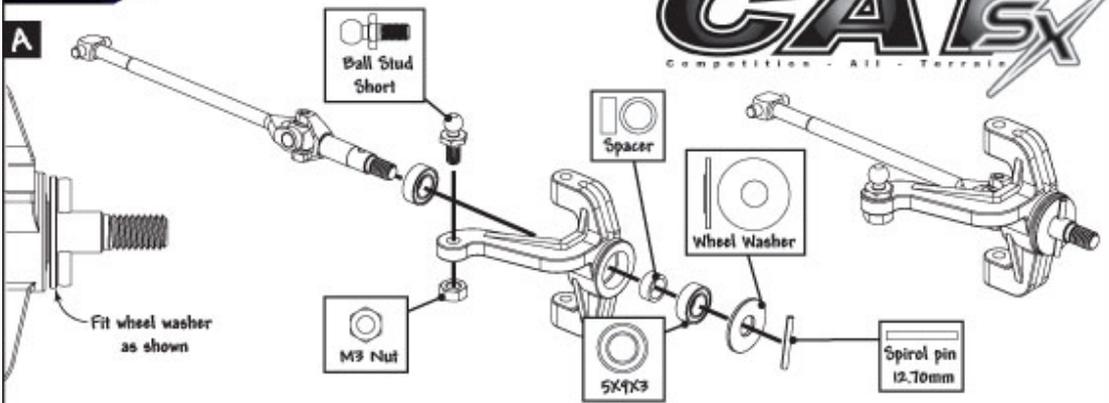


Step 34

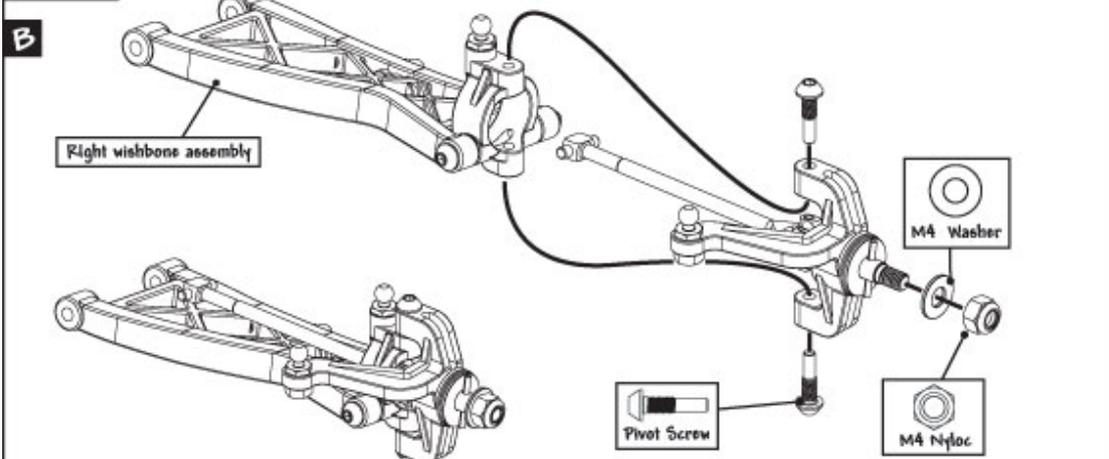
B



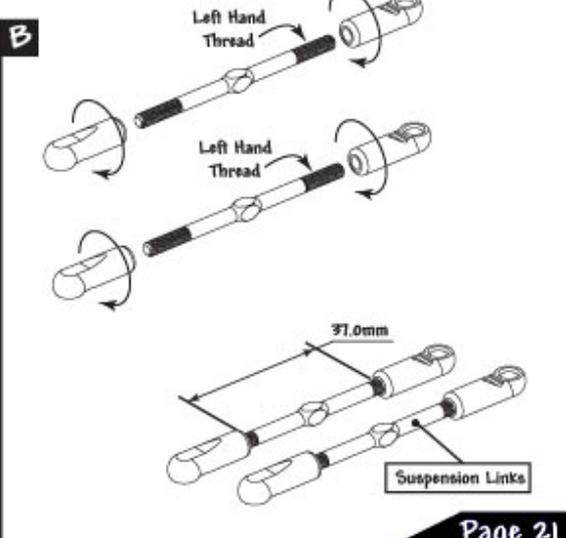
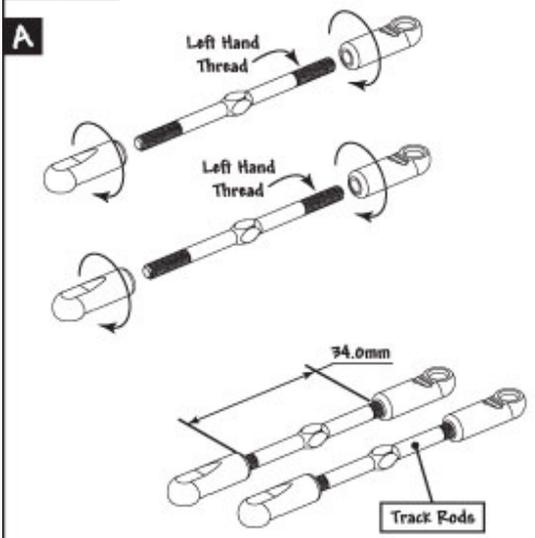
Step 35



Step 35



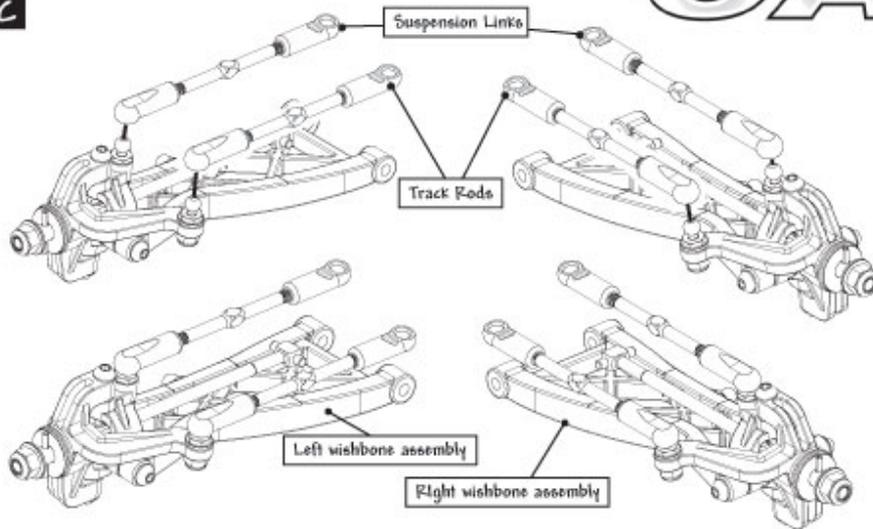
Step 36



Step 36

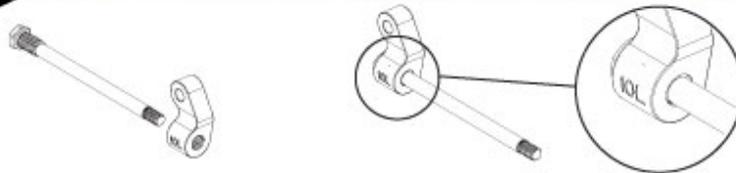
CAT_SX

C



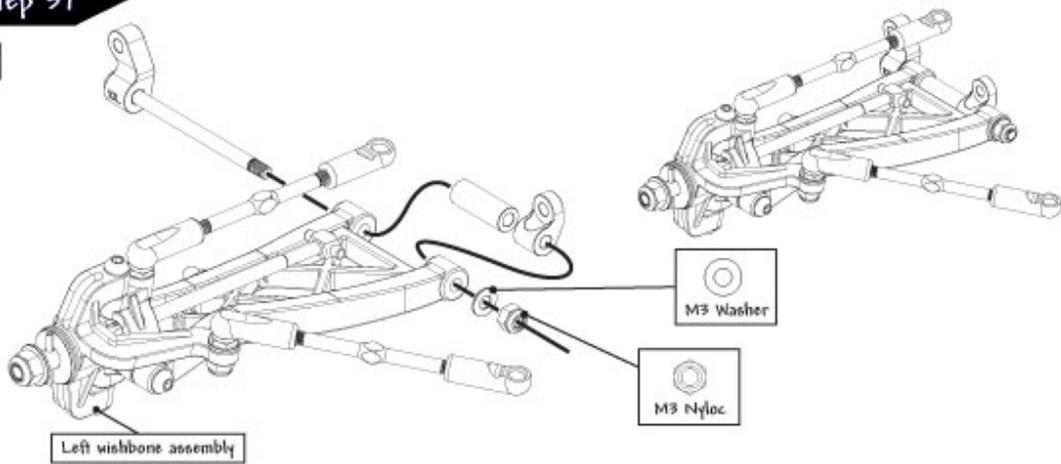
Step 37

A



Step 37

B



Step 38

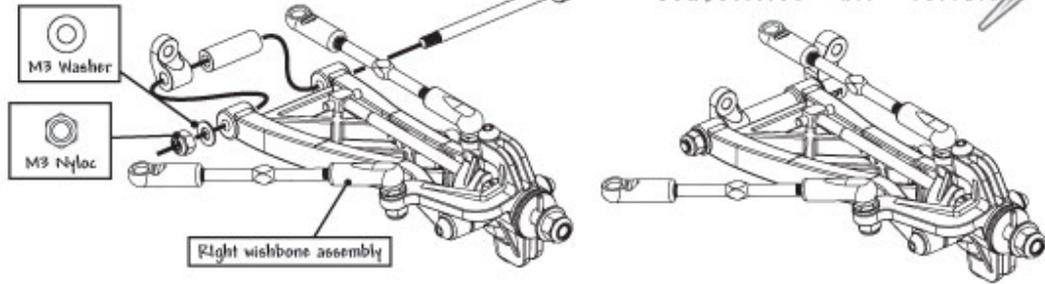
A



Step 38

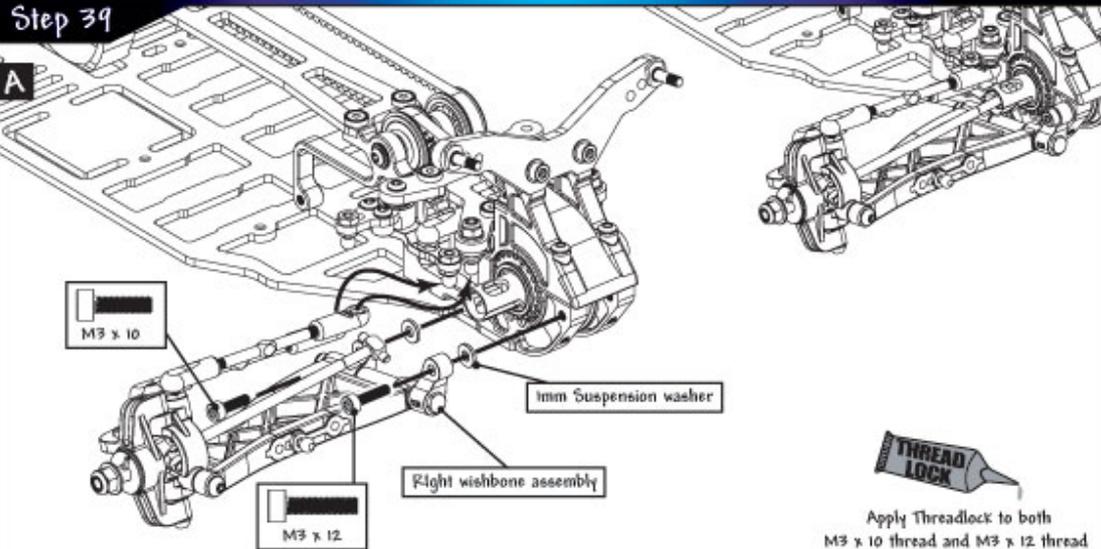


B



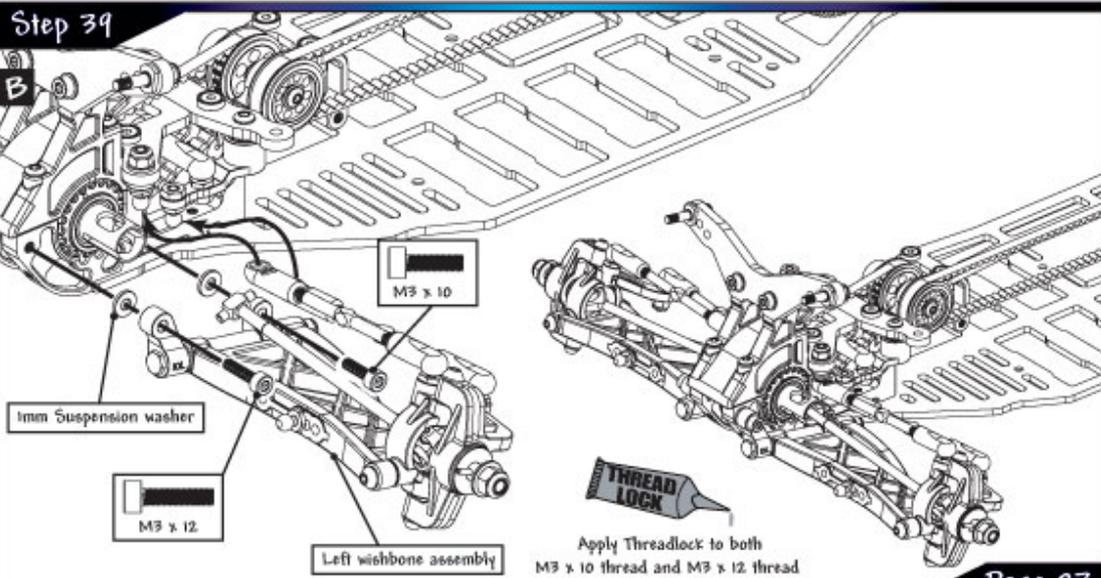
Step 39

A

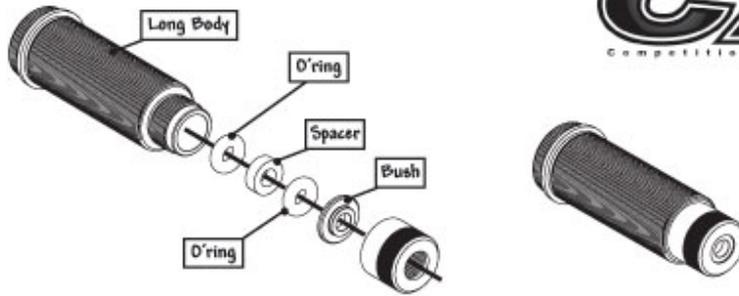


Step 39

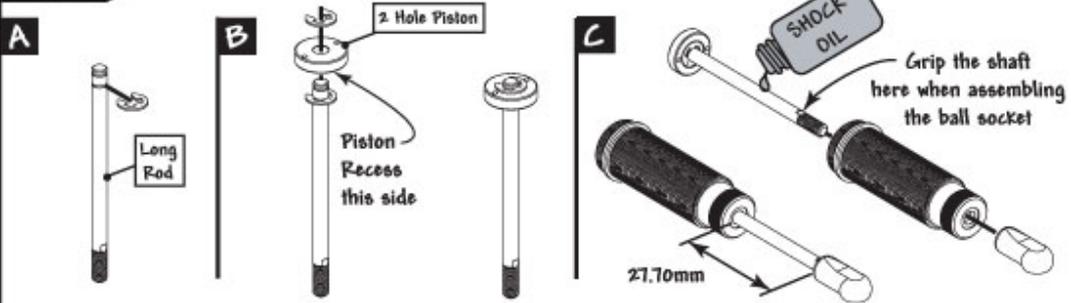
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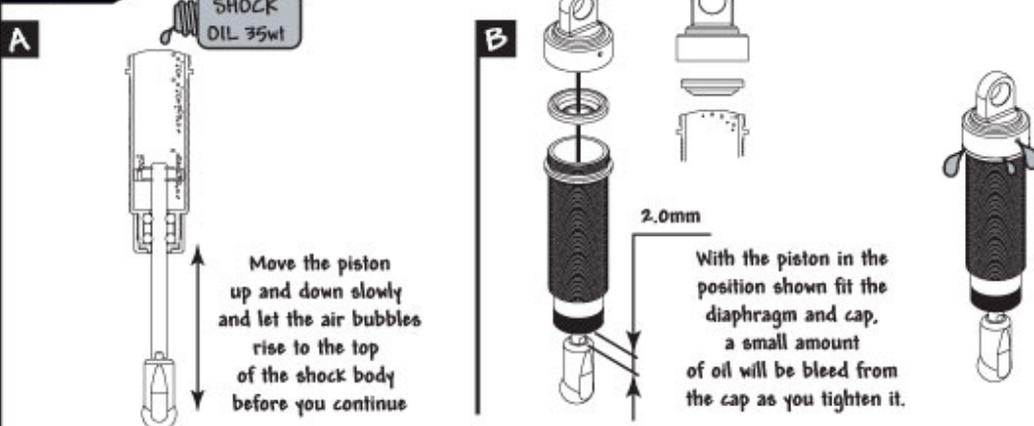
Step 40



Step 41



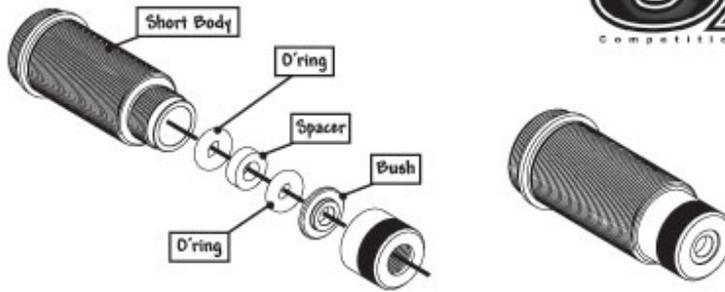
Step 42



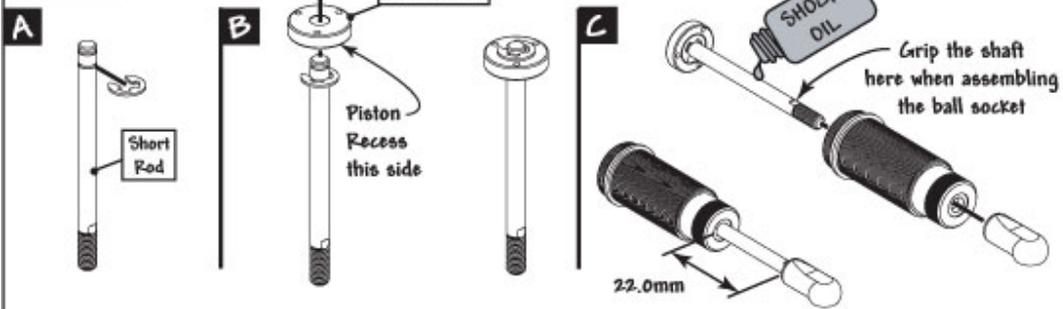
Step 42



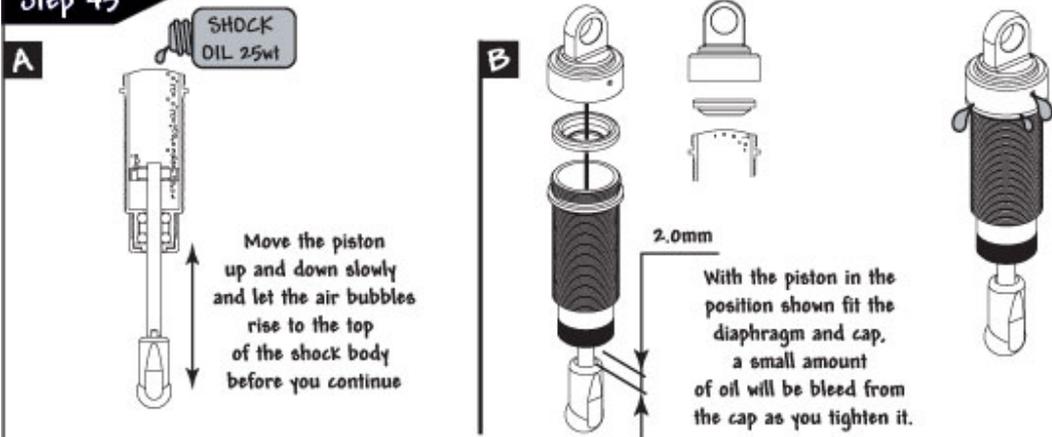
Step 43



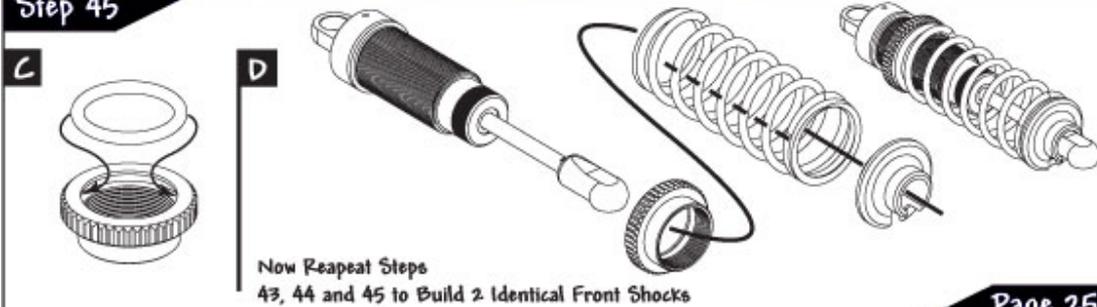
Step 44



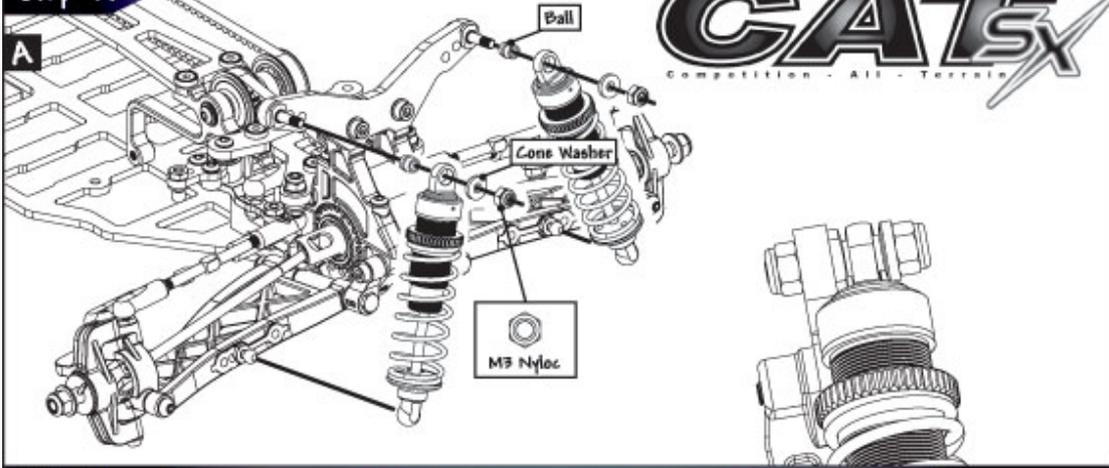
Step 45



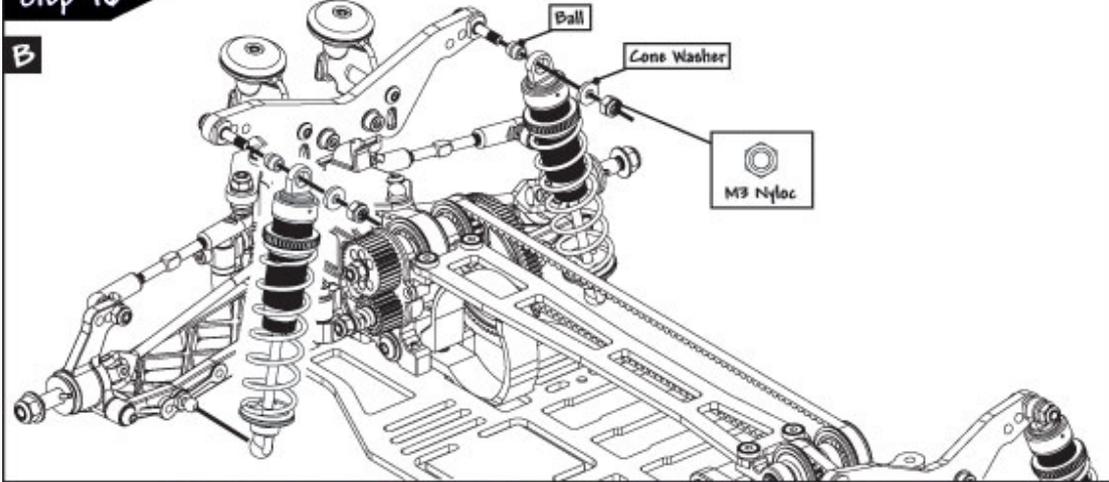
Step 45



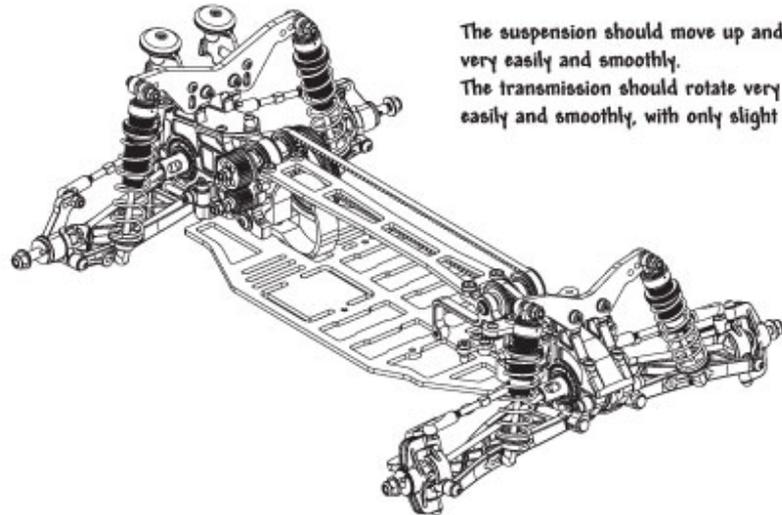
Step 46



Step 46



Step 46



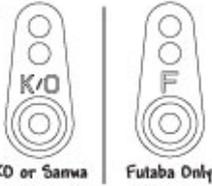
The suspension should move up and down very easily and smoothly.
The transmission should rotate very easily and smoothly, with only slight Belt drag.

Radio Installation for Ni-Mh CAT-SX



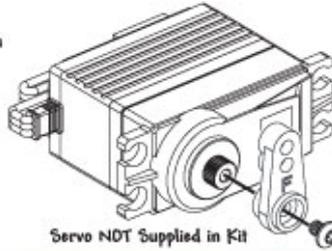
Step 47

A Choose the correct Servo Horn

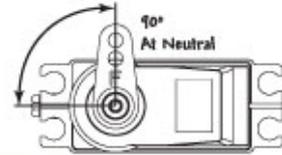


KO or Sanwa

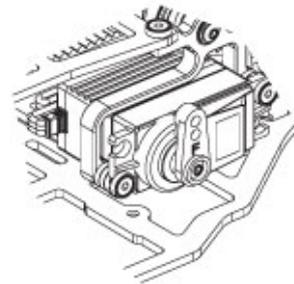
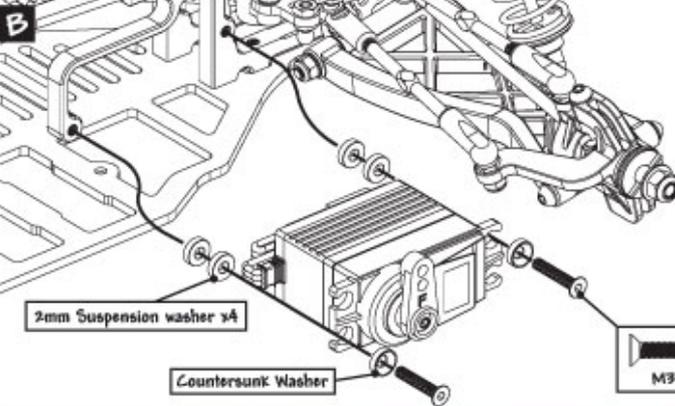
Futaba Only



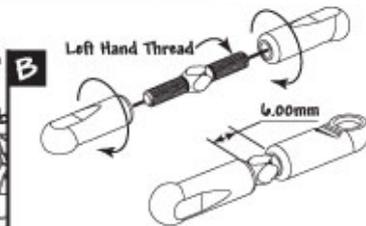
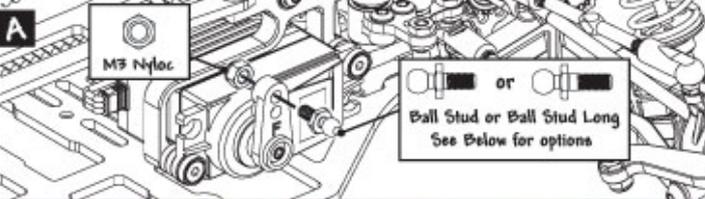
Servo NOT Supplied in Kit



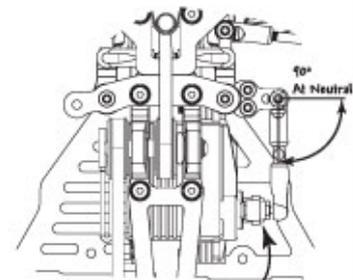
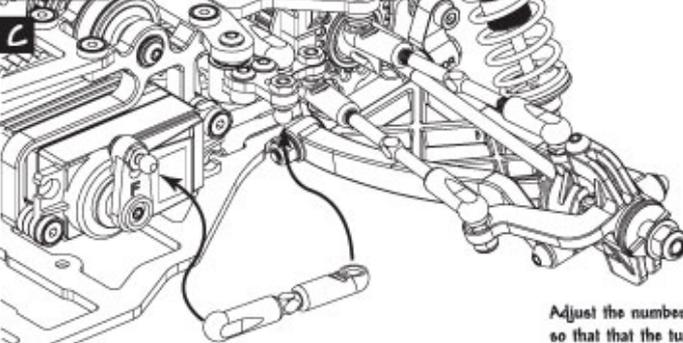
Step 47



Step 48

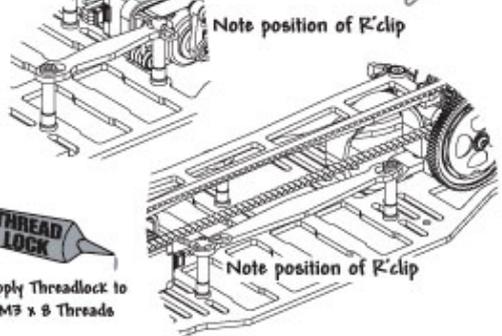
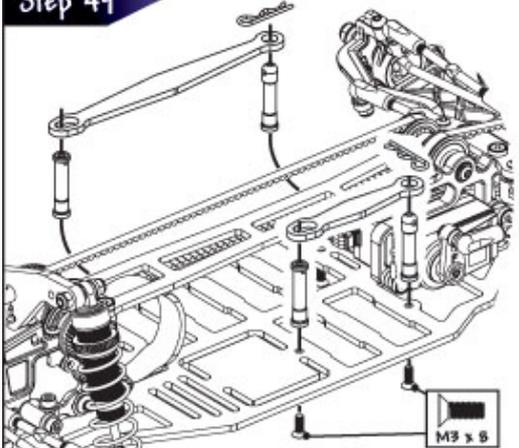


Step 48



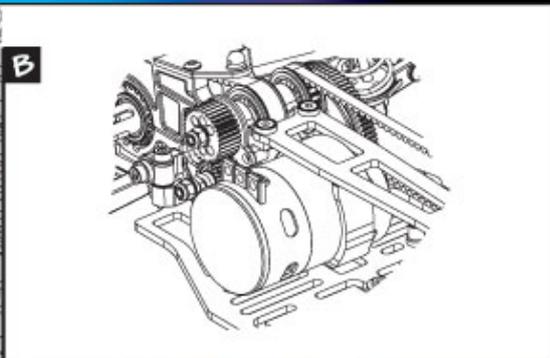
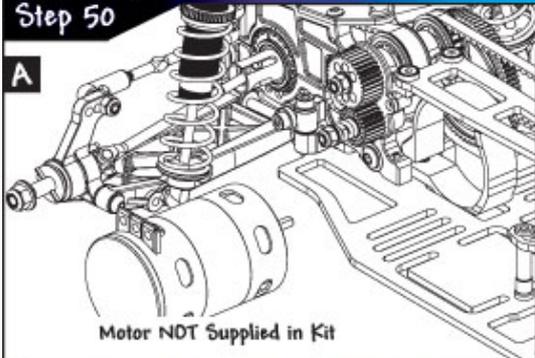
Adjust the number of washers to move ball stud so that that the turnbuckle is at 90° to the arm (If washers are needed then use the ball stud long)

Step 49

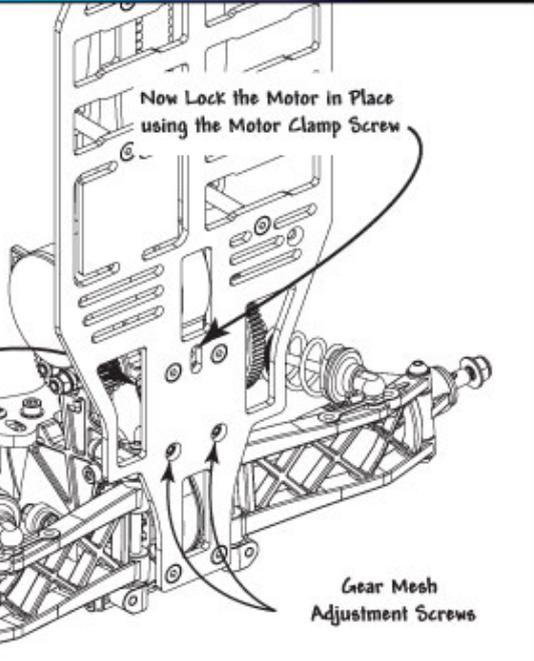
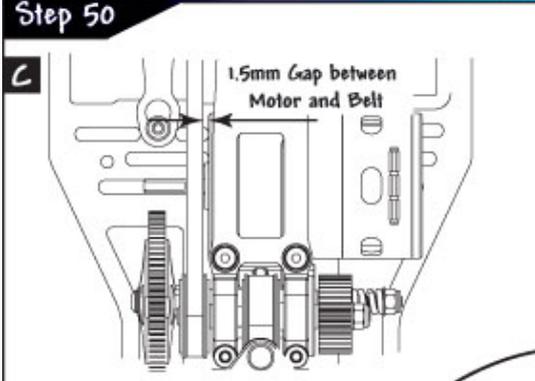


Apply Threadlock to M3 x 8 Threads

Step 50



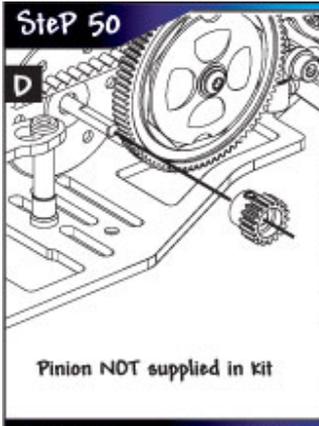
Step 50



Gear Mesh Adjustment Screw

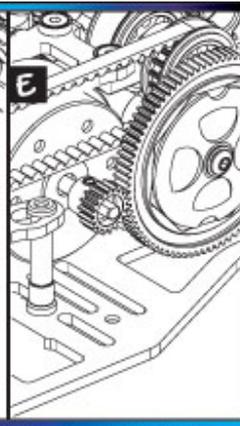
Gear Mesh Adjustment Screws

Step 50



D

Pinion NOT supplied in kit

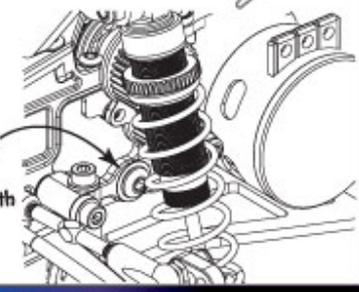


E

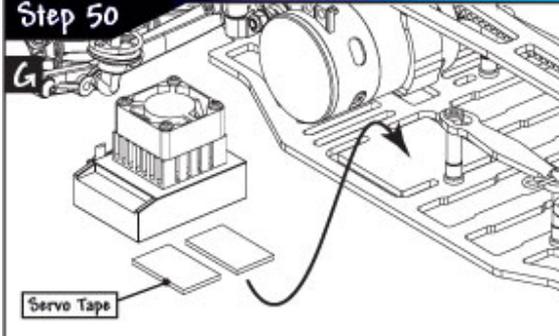


F

Now Lock the Motor Position using the 3 Gear Mesh Adjustment Screws 1 on the side and 2 Screws underneath as shown on the previous page

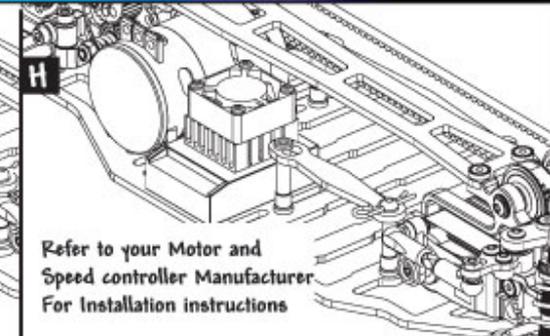


Step 50



G

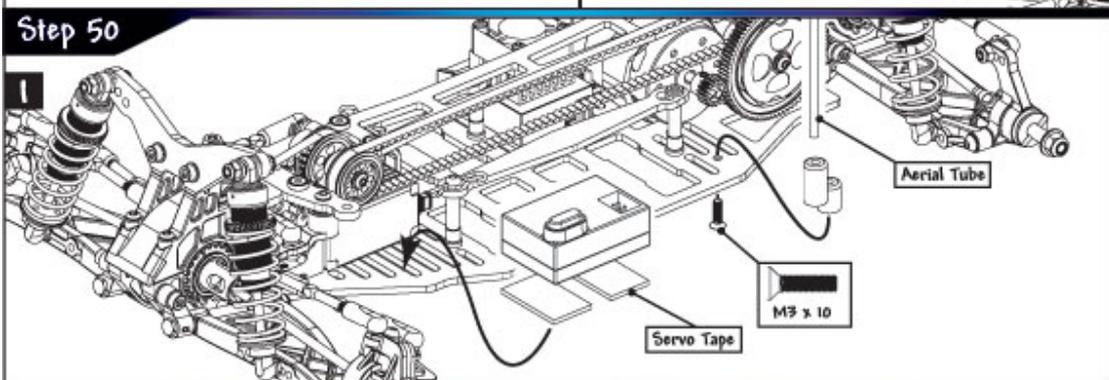
Servo Tape



H

Refer to your Motor and Speed controller Manufacturer For Installation instructions

Step 50



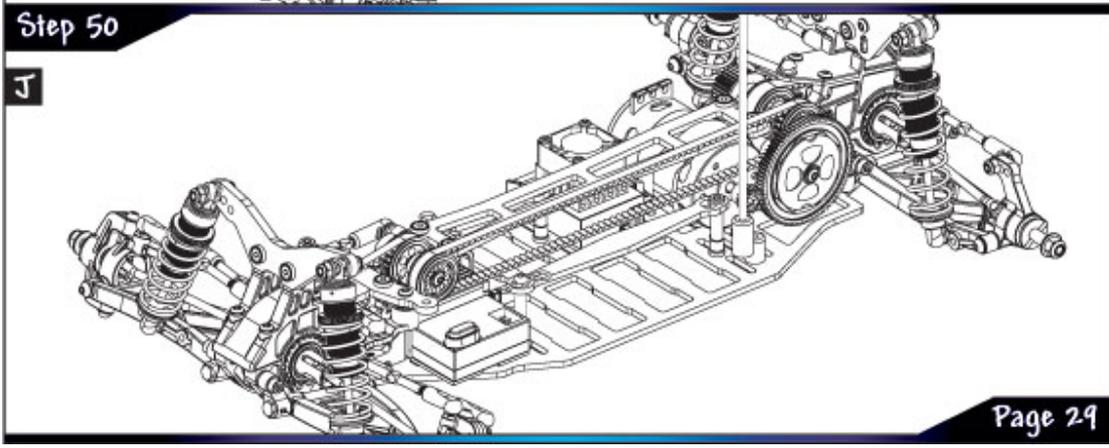
I

Aerial Tube

Servo Tape

M3 x 10

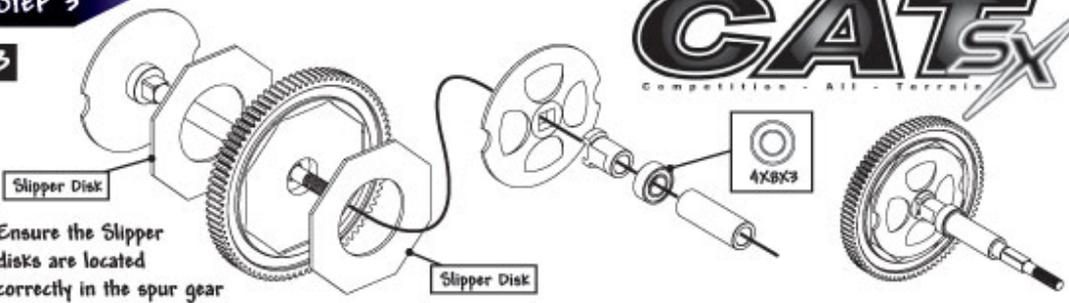
Step 50



J

Step 3

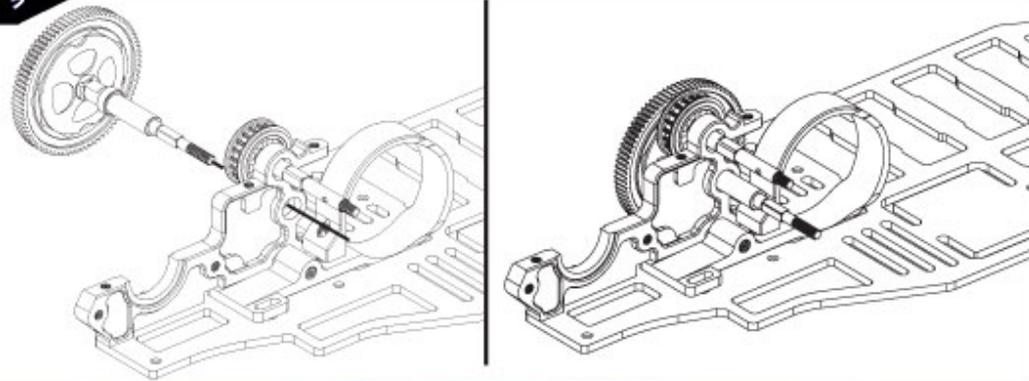
B



Ensure the Slipper disks are located correctly in the spur gear

Step 3

C



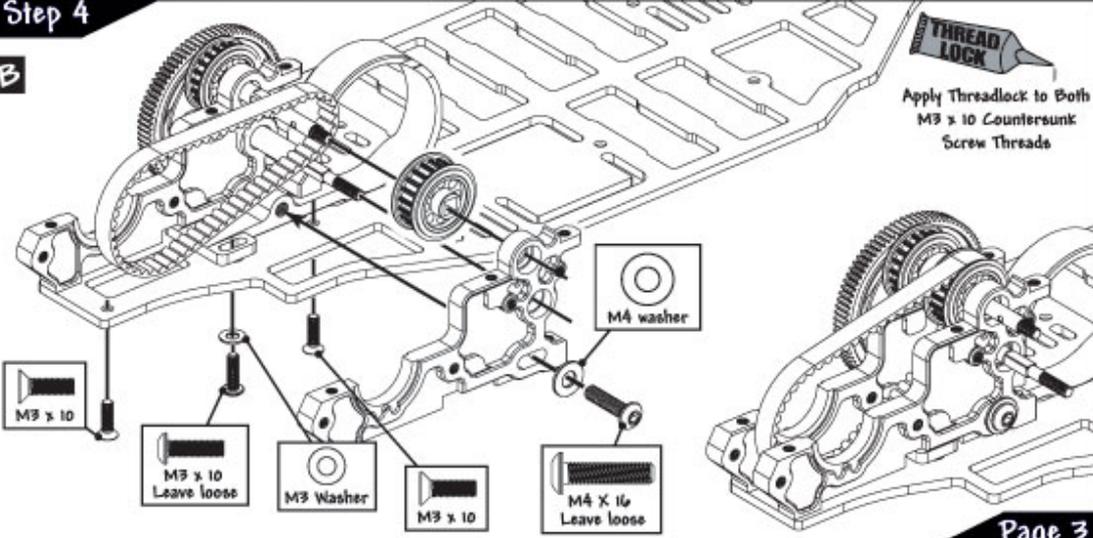
Step 4

A



Step 4

B

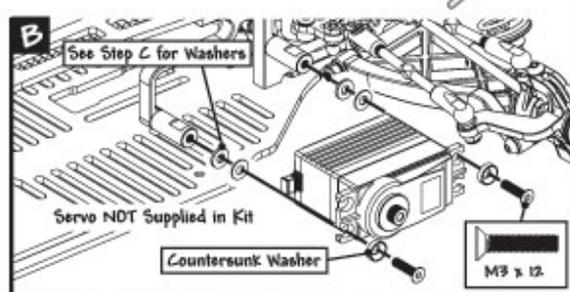
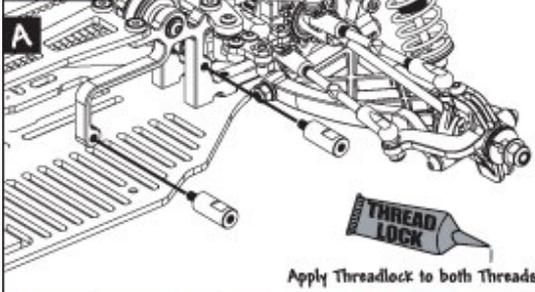


Apply Threadlock to Both M3 x 10 Countersunk Screw Threads

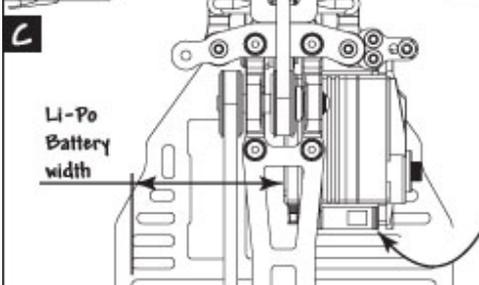
Radio Installation for Li-Po CAT-SX



Step 47

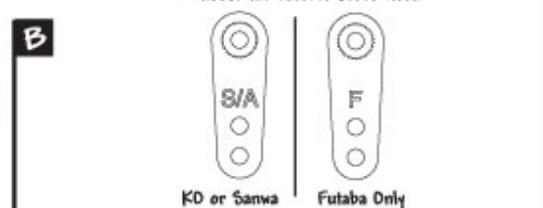
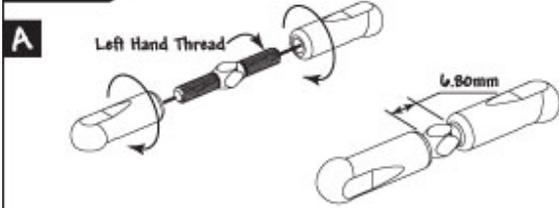


Step 47

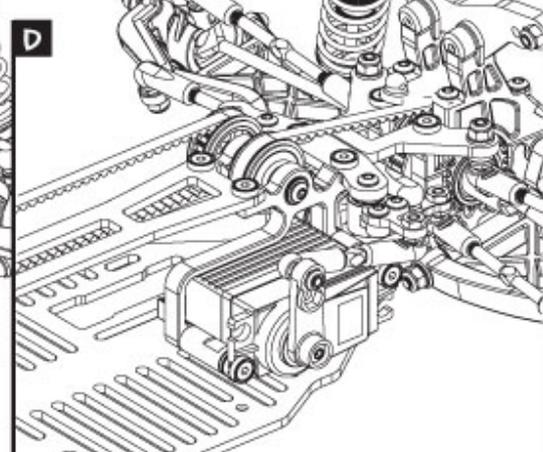
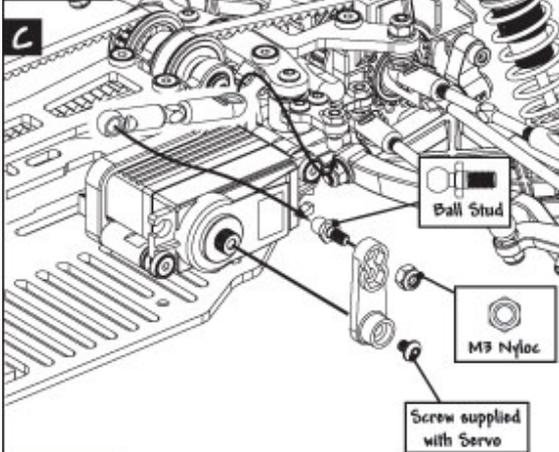


Adjust the number of washers so that the distance from the back of the servo to the end of the slots in the chassis, is the same as the width of your Li-Po Batteries

Step 48



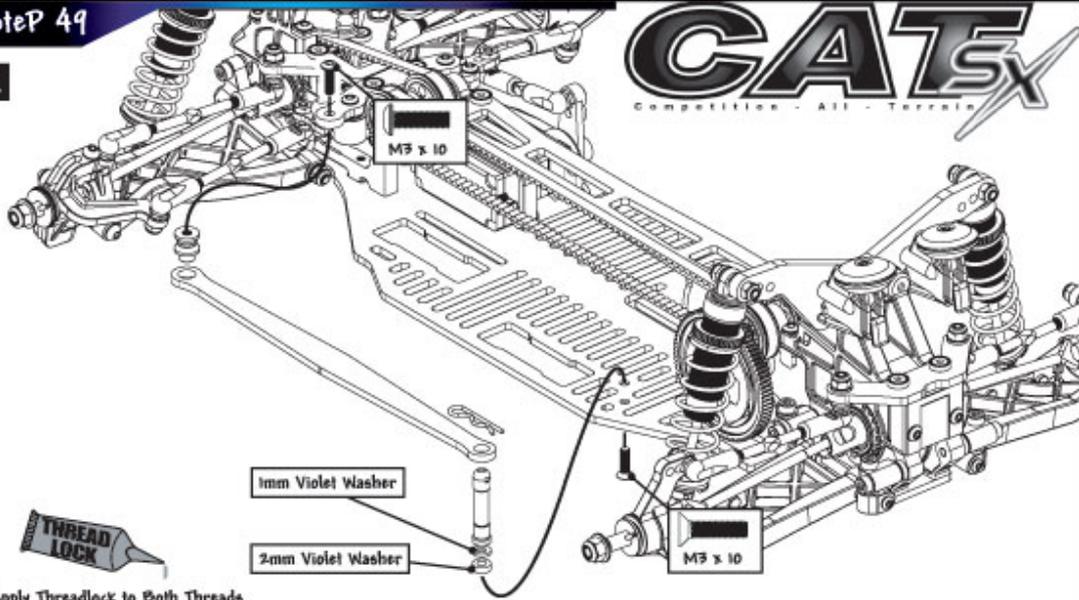
Step 48



Step 49

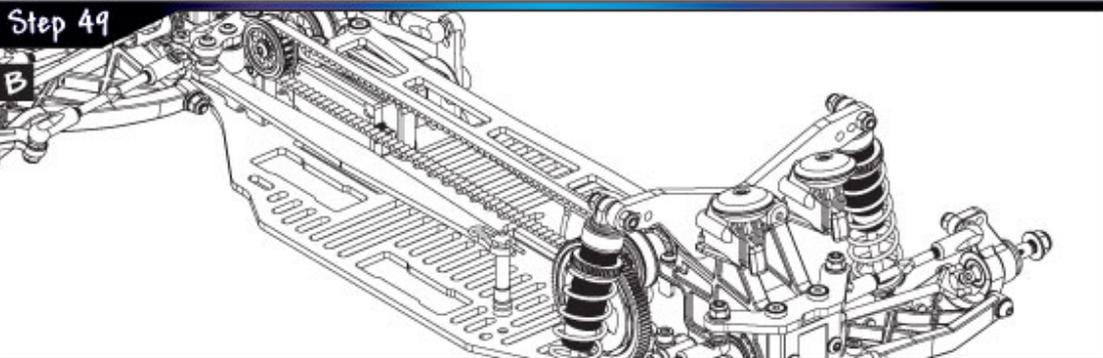


A



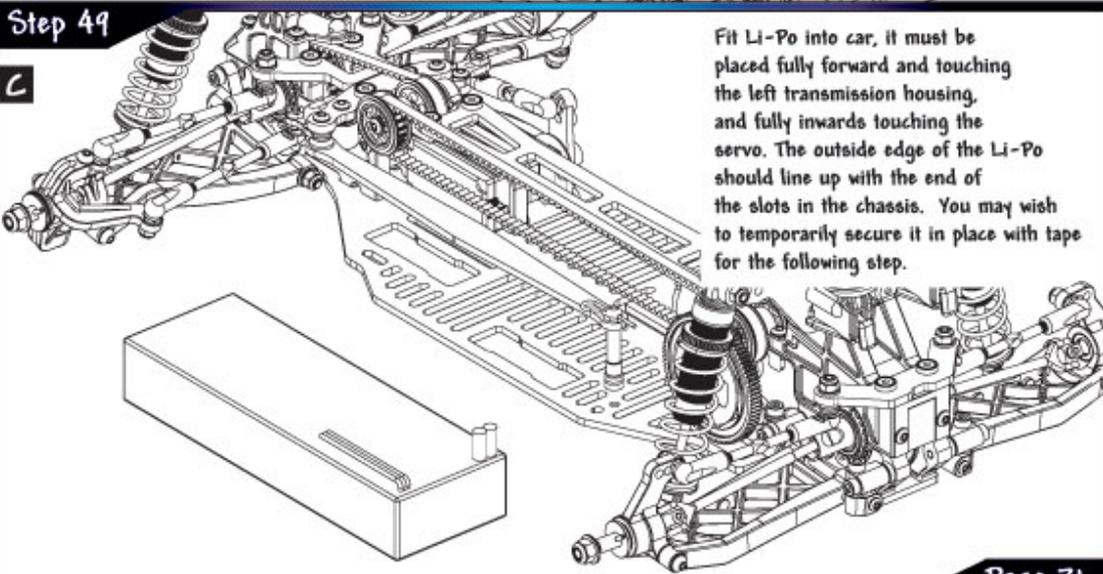
Step 49

B



Step 49

C



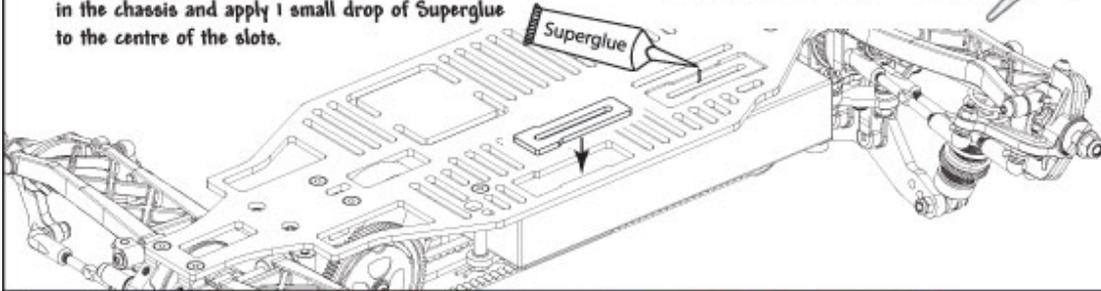
Fit Li-Po into car, it must be placed fully forward and touching the left transmission housing, and fully inwards touching the servo. The outside edge of the Li-Po should line up with the end of the slots in the chassis. You may wish to temporarily secure it in place with tape for the following step.

Step 49

- D** With the Li-Po correctly placed on the chassis, lay the Li-Po locators in the chassis and apply 1 small drop of Superglue to the centre of the slots.

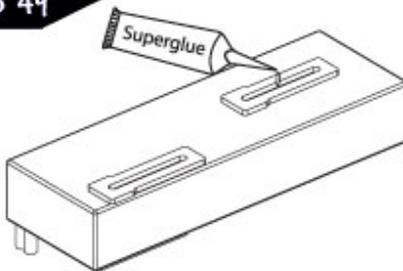
CAT_x

Competition - All - Terrain

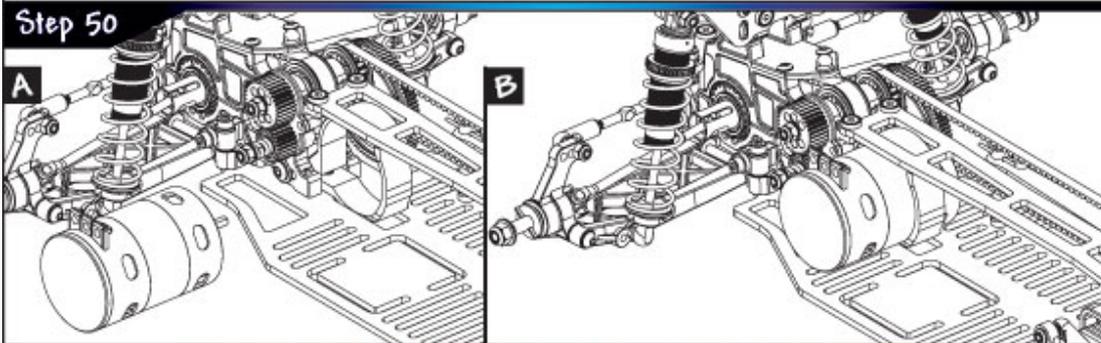


Step 49

- E** With the Li-Po out of the car add more glue to securely fasten the locators to the Battery.



Step 50



Step 50

- C** Now Lock the Motor in Place using the Motor Clamp Screw
- 1.5mm Gap between Motor and Belt
- Gear Mesh Adjustment Screw
- Gear Mesh Adjustment Screws

Step 50

D

Pinion NOT supplied in kit

E

F

Now Lock the Motor Position using the 3 Gear Mesh Adjustment Screws 1 on the side and 2 Screws underneath as shown on the previous page

Step 50

E

Aerial Tube

Servo Tape

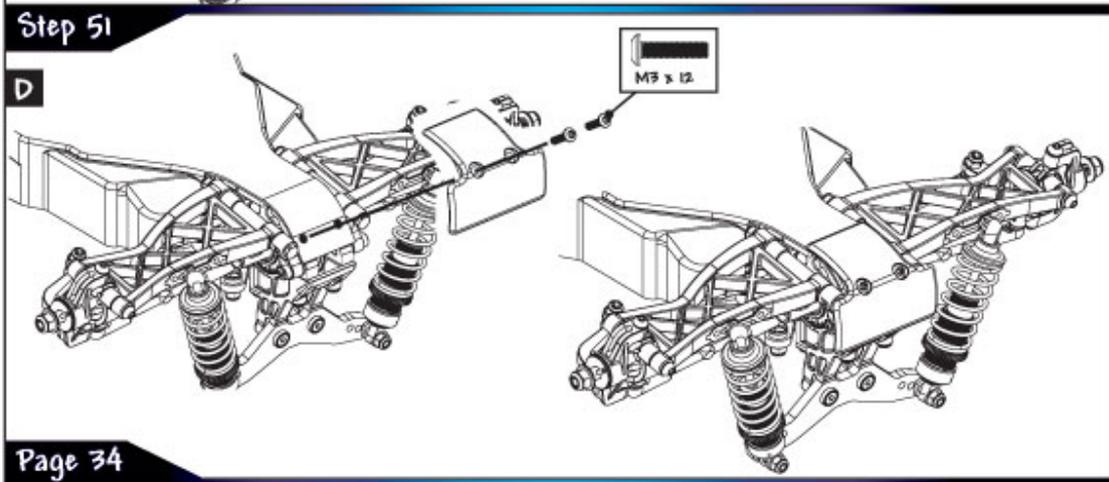
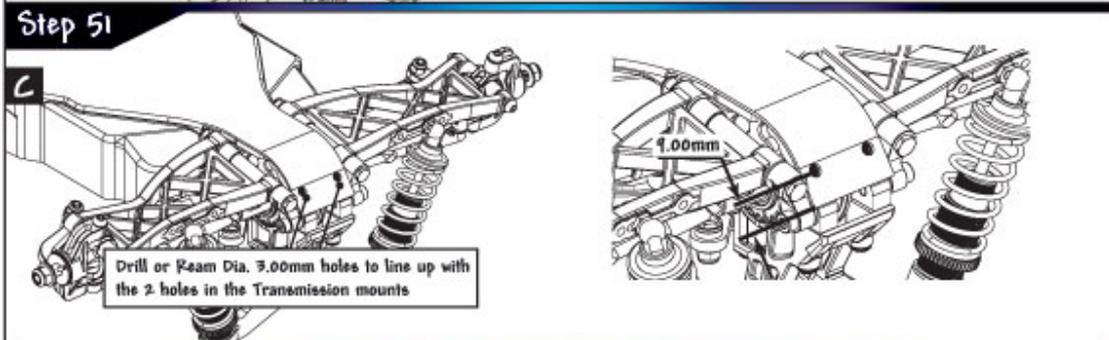
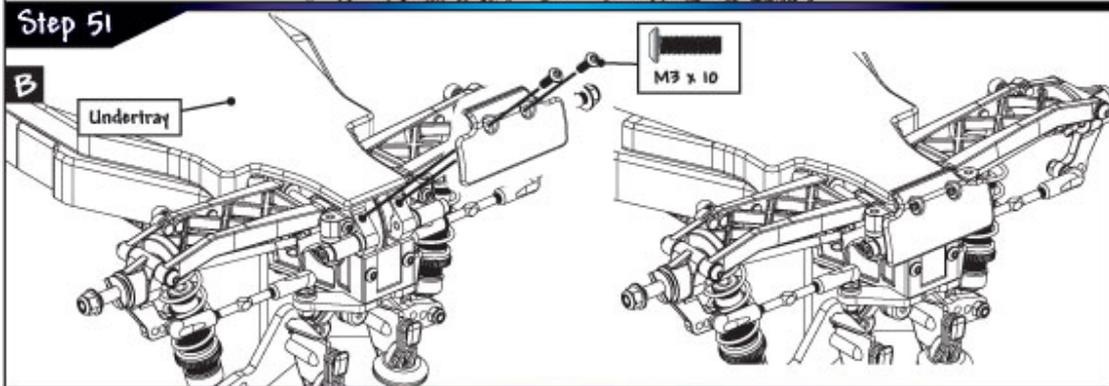
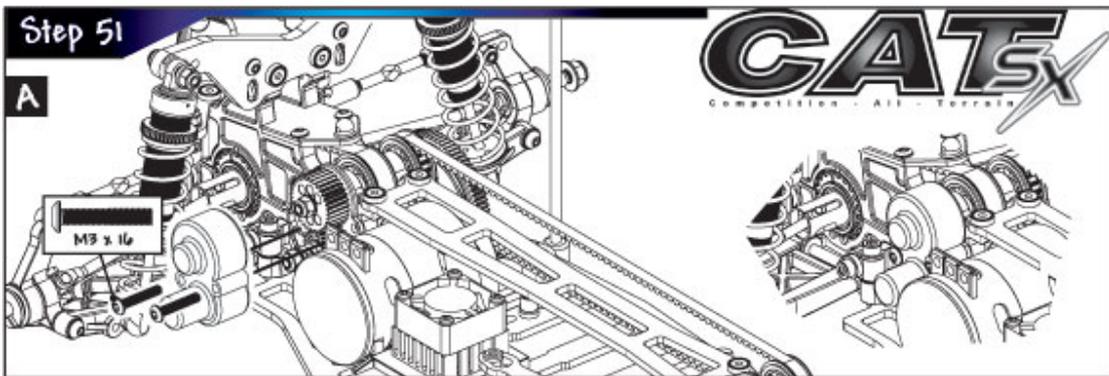
Servo Tape

M3 x 10

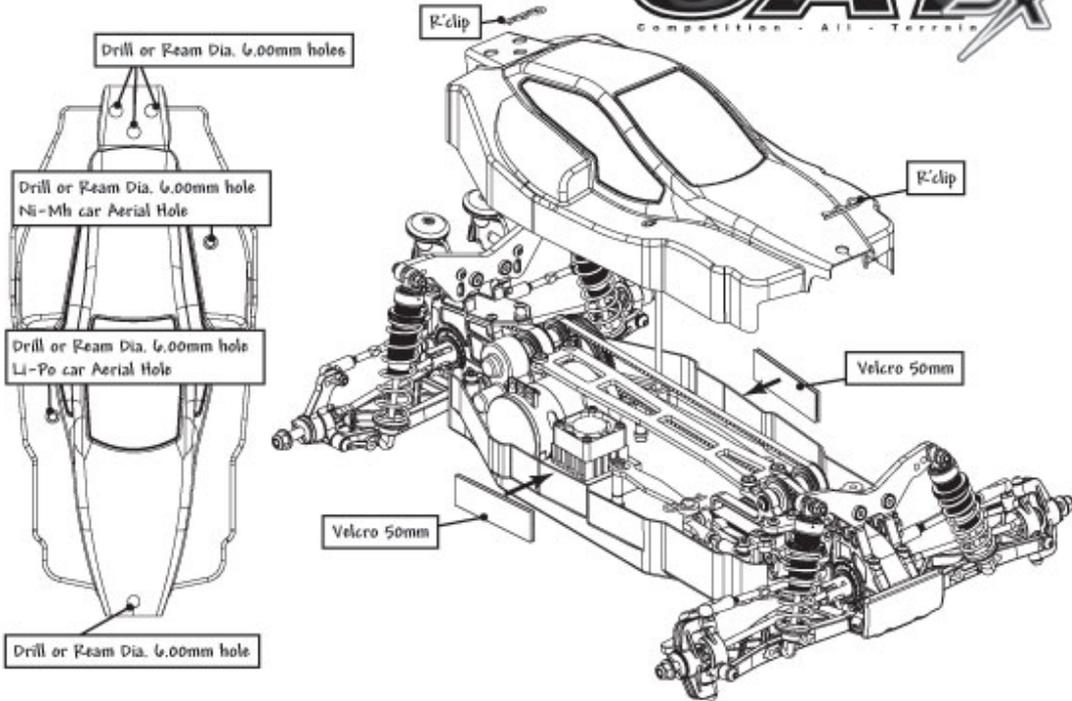
Refer to your Motor and Speed controller Manufacturer For Installation instructions

Step 50

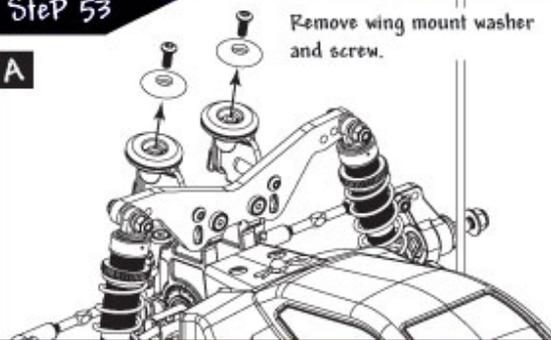
F



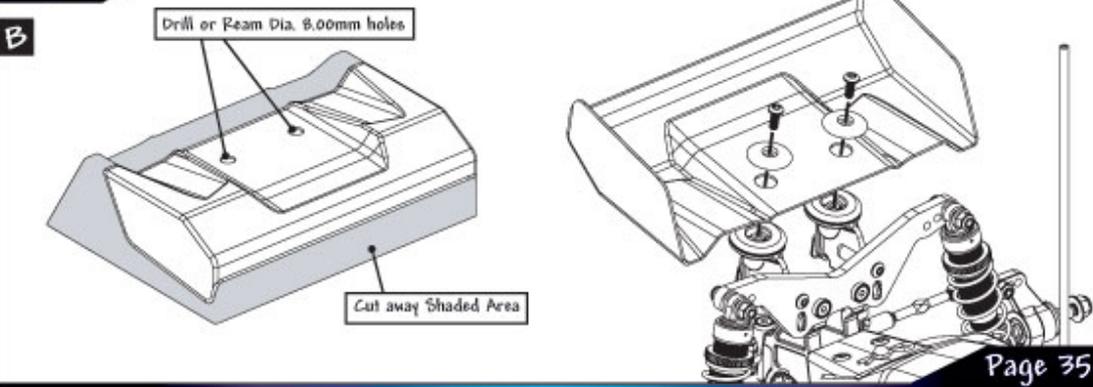
Step 52



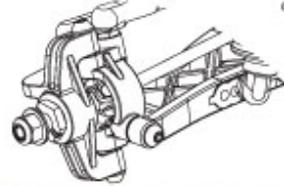
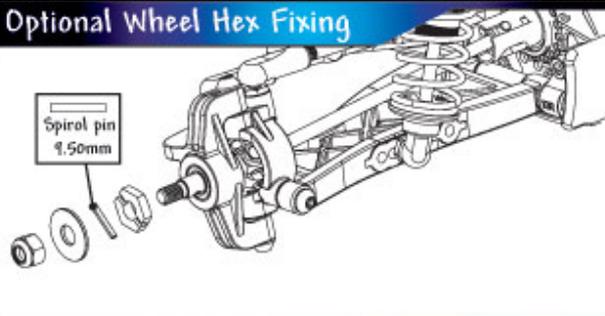
Step 53



Step 53



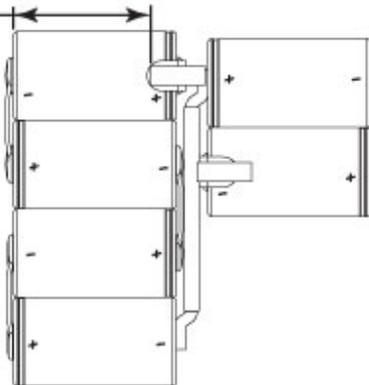
Optional Wheel Hex Fixing



Battery Assembly



35.00 minimum



Adjustable Ratio Chart



		Pinion												
		16	17	18	19	20	21	22	23	24	25	26	27	28
S p u r	34	14.37	13.52	12.77	12.10	11.50	10.95	10.45	10.00	9.58	9.20			
	32		13.36	12.62	11.95	11.36	10.82	10.32	9.88	9.46	9.07	8.74		
	30			12.47	11.81	11.22	10.68	10.20	9.76	9.35	8.97	8.63	8.31	
	28				11.6	11.08	10.55	10.07	9.63	9.23	8.86	8.52	8.21	7.91

Tooth Sum Minimum = 99 Tooth Sum Maximum = 108



		Pinion												
		16	17	18	19	20	21	22	23	24	25	26	27	28
S p u r	33	13.40	12.61	11.91	11.28	10.72	10.21	9.74	9.32	8.93	8.57			
	32		12.46	11.77	11.15	10.59	10.08	9.63	9.21	8.82	8.47	8.15		
	30			11.62	11.01	10.46	9.96	9.51	9.10	8.72	8.37	8.05	7.75	
	28				10.87	10.33	9.84	9.39	8.98	8.61	8.26	7.95	7.65	7.38

Tooth Sum Minimum = 99 Tooth Sum Maximum = 108



		Pinion												
		16	17	18	19	20	21	22	23	24	25	26	27	28
S p u r	32	12.45	11.72	11.07	10.48	9.96	9.49	9.05	8.66	8.30	7.97			
	30		11.58	10.93	10.36	9.84	9.37	8.95	8.56	8.20	7.87	7.57		
	28			10.80	10.23	9.72	9.26	8.84	8.45	8.10	7.78	7.48	7.20	
	26				10.11	9.60	9.14	8.73	8.35	8.00	7.68	7.38	7.11	6.86

Tooth Sum Minimum = 99 Tooth Sum Maximum = 108

Differentials

For consistent performance it is vital that the differential action should be smooth and free, the diff should be adjusted using the recommended settings in the manual.

Slipper

On most tracks it is best to start with the slipper on a loose setting, and gradually increase the spring tension until you achieve the most consistent drive away from the turns without spinning the car, but still generate enough drive when launching the car from the up ramps .

Front Differential/Axle

We have three main front drive options for the cat, the differential, (kit standard) this is probably the best all round option for most drivers, the one way front axle this is generally the fastest way round the track, but more difficult to drive, and the fixed front axle (spool) this option is universally used on touring cars due to the excellent traction away from the turns, but it has yet to be used much on off road cars, it could be useful on slippery dirt tracks.

Differential height

By rotating the eccentric bearing housings it is possible to run the differentials in the high or low position, and apart from accentuating the drive shaft plunges it does not affect the car a great deal. The team drivers will always insist that a high diff gives the car more grip at whichever end of the car it's used.

Front layshaft One Way

This option part further extends the drive system permutations, i.e. front differential and layshaft one way, spool front axle and layshaft one way, or for minimum overrun inertia, a one way layshaft and a one way front axle.

Ride height

Use the spring collars on the shock absorbers to adjust the front and rear ride heights, we would recommend setting the ride height to 20 mm at both ends of the car, measured between the bottom of the chassis and the ground with the car in running trim. First press the car down to the ground and then release it once or twice to settle the suspension before adjusting the ride height. The chassis should be level when viewed from the side.

Anti Roll Bars

Anti roll bars are an often overlooked set up aid that allows fine tuning of the suspension without major changes in shock and spring settings, they are mainly used to add roll stiffness to either the front or rear of the car.

Front Toe in

The front toe in should be set to 0° (both wheels pointing straight ahead), this will be the best setting for most track conditions. Adding slight toe out will increase initial turn in.

Front Wishbone Shock Mounting Hole

The middle hole in the wishbone is the standard setting for the lower shock absorber mounting. Moving the shock absorber to the outer hole increases the reaction of the steering as well as increasing the suspension stiffness, this position may cause a little too much initial turn in on corner approach. Using the inside hole will soften the suspension and also increase the total suspension travel, and will probably need spring and damping changes to make the best use of it. Anti roll bars are a good tuning aid when using different shock absorber positions on the wishbone.

Front Camber Links

Using a shorter upper camber link will increase the initial response of the car both in steering and grip, but this could make the car more difficult to drive. A longer link will make the car more predictable and smoother to drive, but will not increase overall grip. Lowering the inside ball stud will give a similar result to shortening the link, and raising it will give a similar result to lengthening the camber link, but with less total effect

Front camber

The usual team setting for static front camber is 1° negative (the top of the tyre leaning inwards) using more static camber can increase the side bite for better mid corner steering at the expense of forward traction.

Front rake adjustment

Under most circumstances 10° rake gives the best all round balance, but on less bumpy tracks 7.5° could improve the feel of the car. Remember using the 7.5° option also reduces the overall caster angle of the car by 2.5°

Front shock mount

The middle hole is the most widely used position on the front shock mount, moving the shock to the outer hole (apart from making the suspension stiffer) usually increases the reaction of the car and makes it feel more agile. Moving the shock to the inner hole makes the car easier to drive on high grip surfaces (this position also softens the suspension).

Rear camber

The usual team setting for static rear camber is 1.5° negative (the top of the tyre leaning inwards) using more static camber usually increases initial side bite at the expense of forward traction.

Rear camber links

Adjusting the rear camber links or raising and lowering the ball studs will give broadly the same results as the front. lengthening the camber link or raising the inboard ball will give less camber change, whereas shortening the link or lowering the ball will give more camber change.

Rear anti squat

Typically we would use anything between 0° (wishbones parallel to the chassis) up to 2° of anti squat, 0° allows the suspension to work better over the bumps but usually gives less power on traction. Increasing the anti squat will improve forward traction and also helps the rear of the car to rotate in the turns, but it is not so good over the bumps. So somewhere between the two would be the best compromise.

Rear wishbone shock mounting hole

The inner shock mount hole works best for most track conditions. Using the outer hole can improve the stability of the rear on high grip surfaces, but it will not work as well on very bumpy sections of the track without changes to the damping/springing.

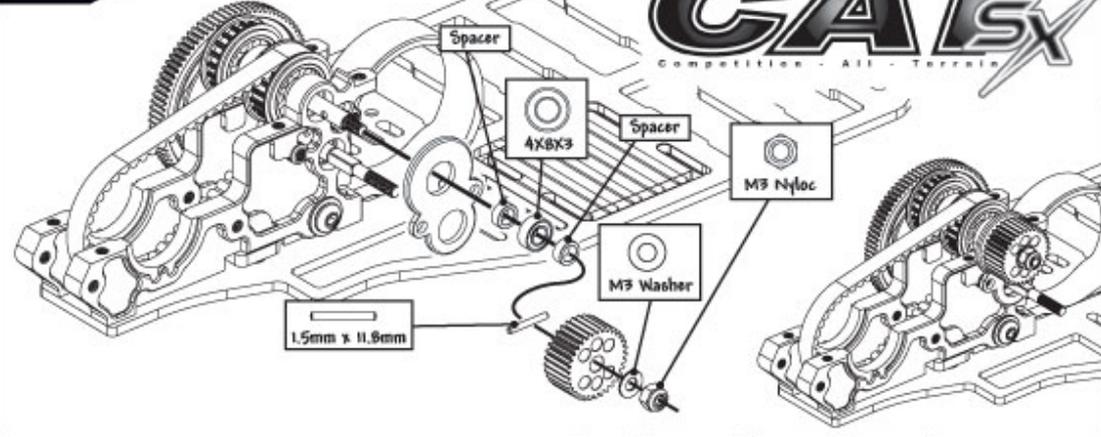
Rear wishbone wheel base shims

The Cat has three wheelbase options at the rear, short, med and long, the adjustment is provided by re positioning the quick clips on the wishbone pin. Moving the rear wishbones forward will give more traction grip, and moving the wishbone to the middle or rear position usually improves the car over ripples in the track and frees up the rear through sweeping turns.

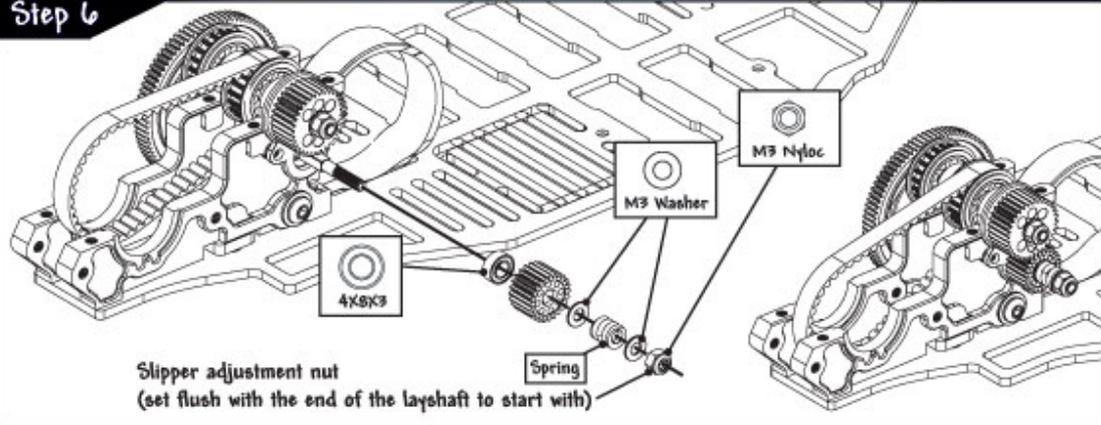
Rear shock mount

The middle hole is the most widely used position on the rear shock mount, moving the shock to the outer hole (apart from making the suspension stiffer) usually increases the reaction of the car and makes it feel more agile. Moving the shock to the inner hole makes the car easier to drive on high grip surfaces (this position also softens the suspension).

Step 5



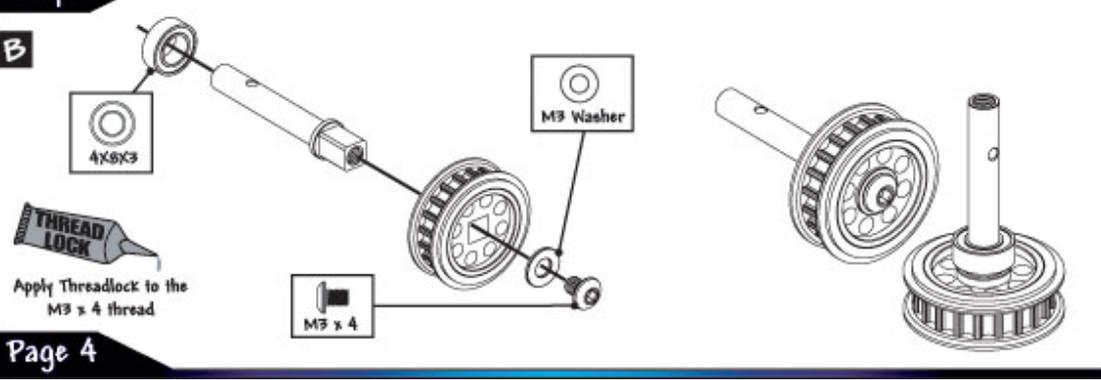
Step 6



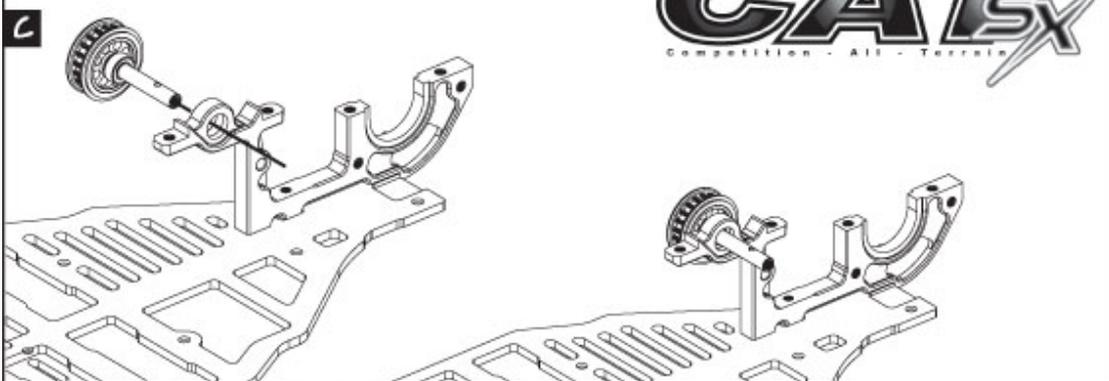
Step 7



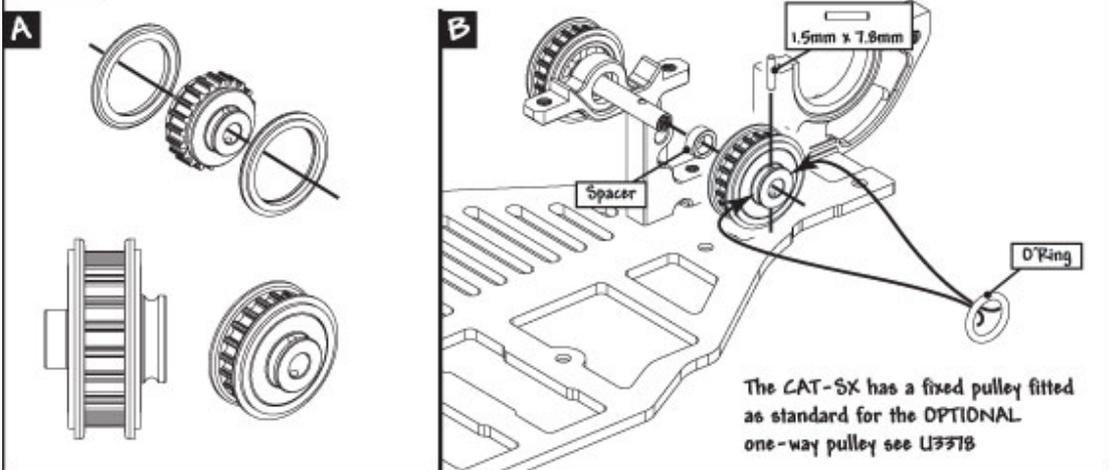
Step 7



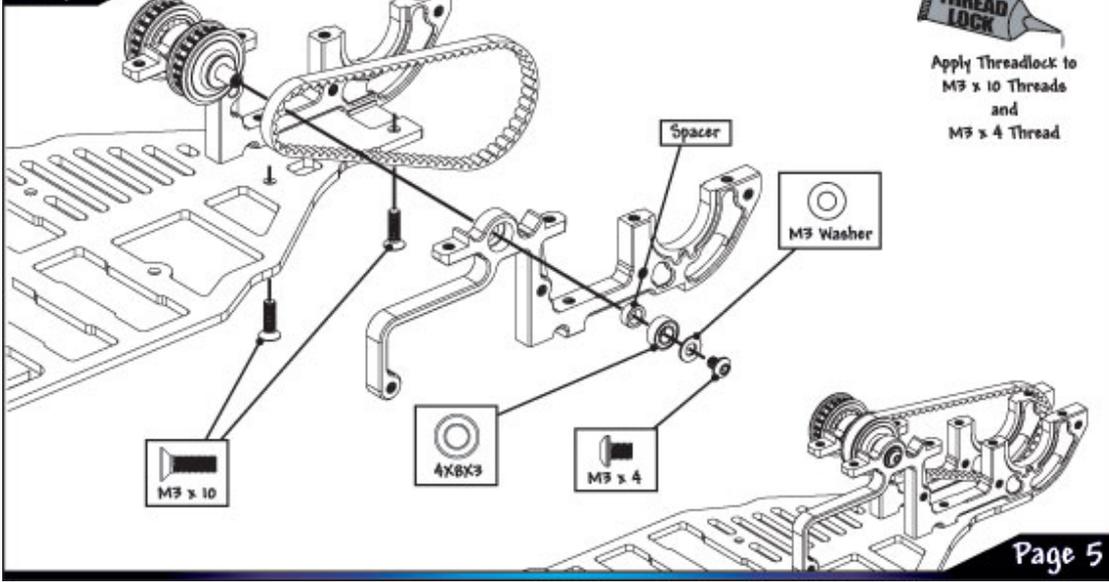
Step 7



Step 8



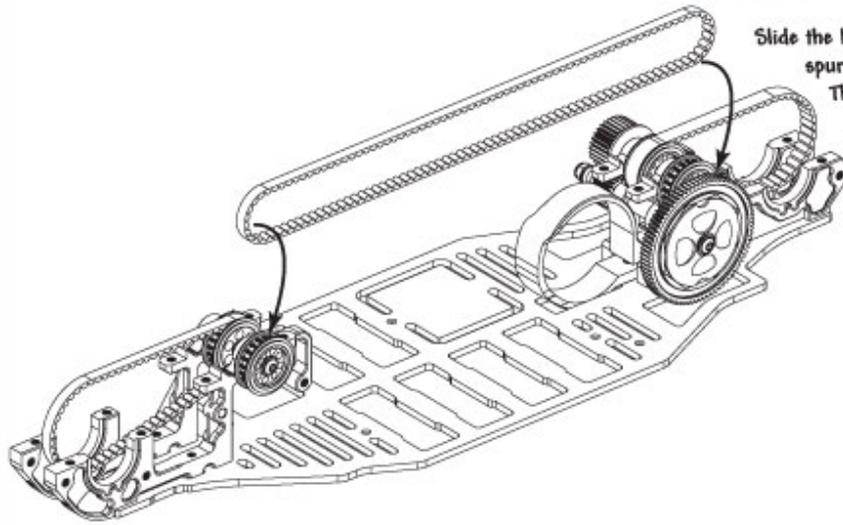
Step 9



Step 10



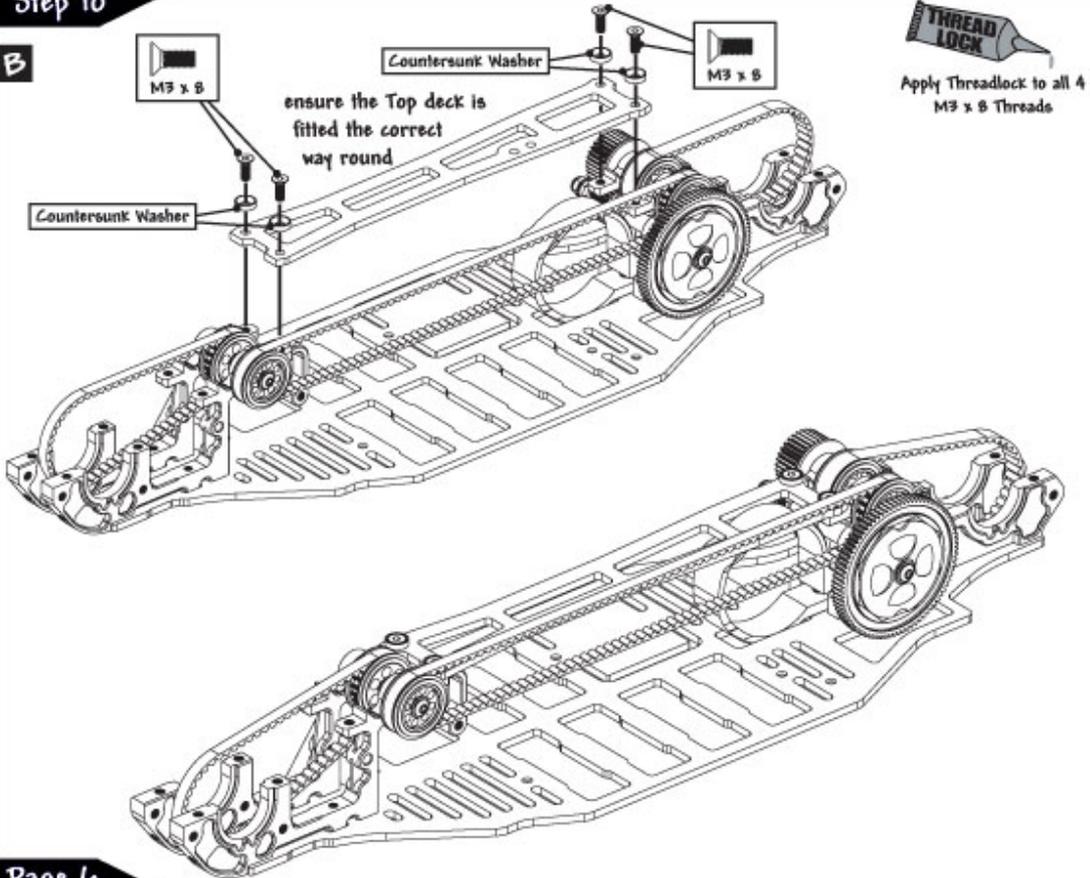
A

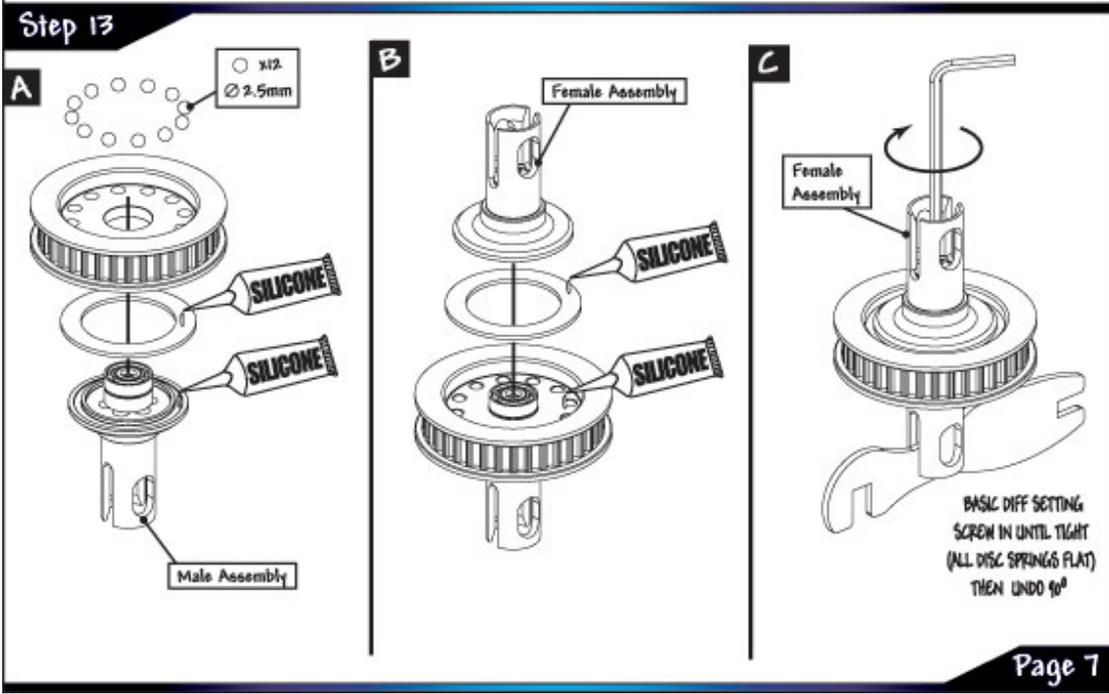
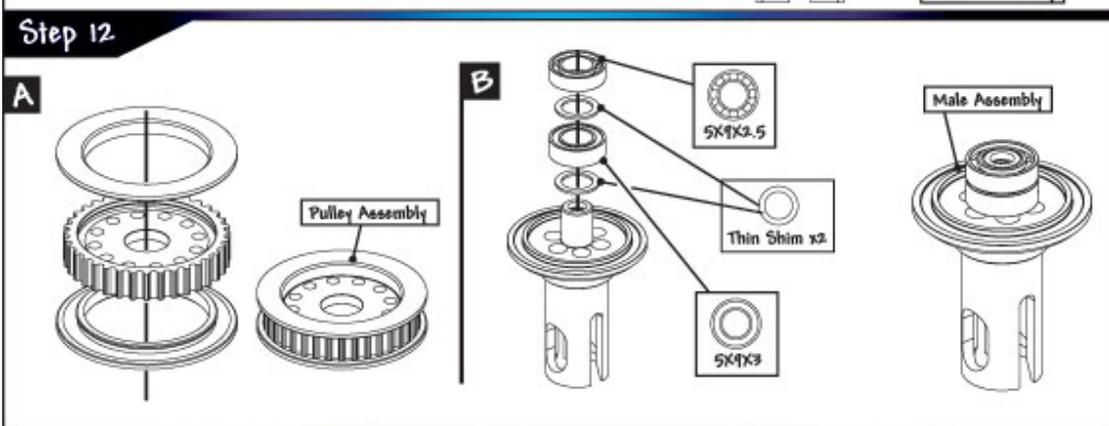
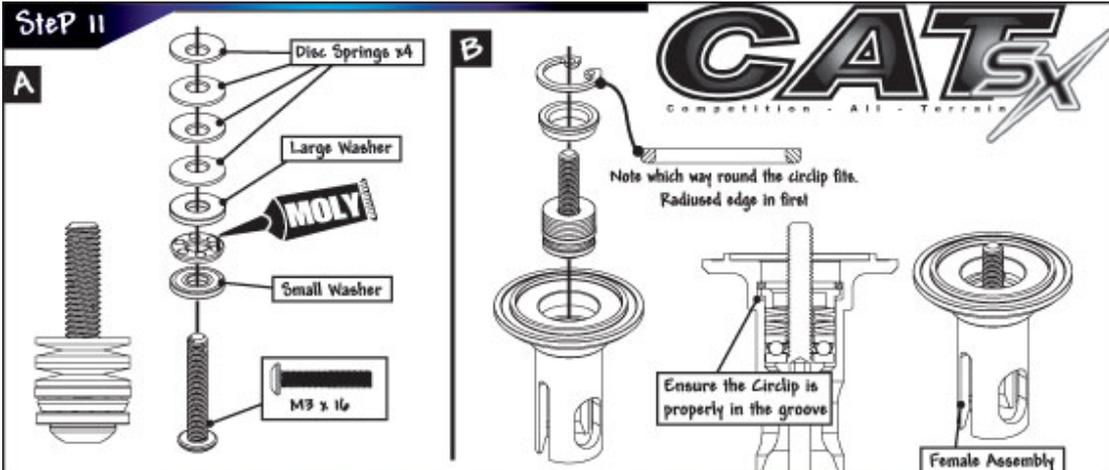


Slide the belt between the spur gear and the pulley. This end must be done first.

Step 10

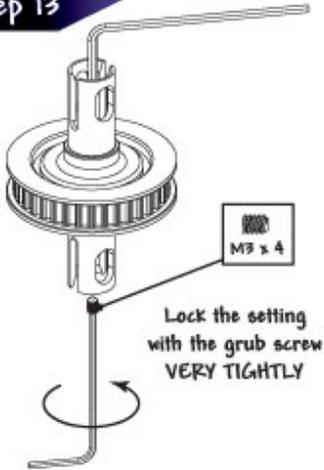
B



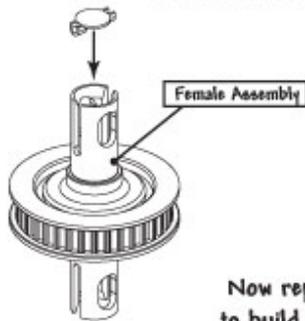


Step 13

D



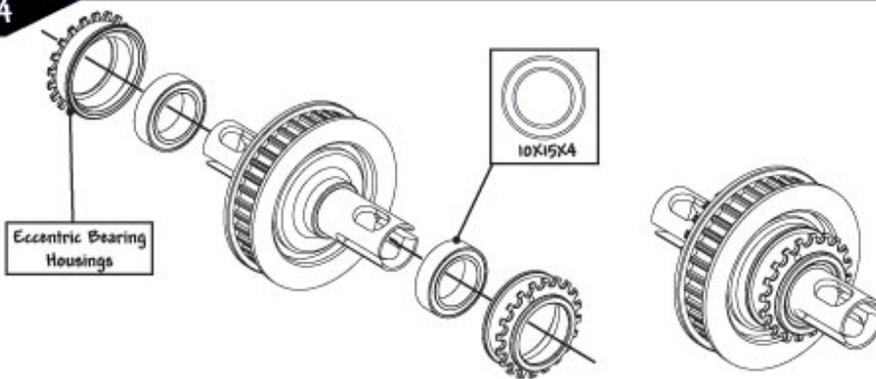
E



Now repeat steps 11, 12 and 13 to build 2 identical differentials

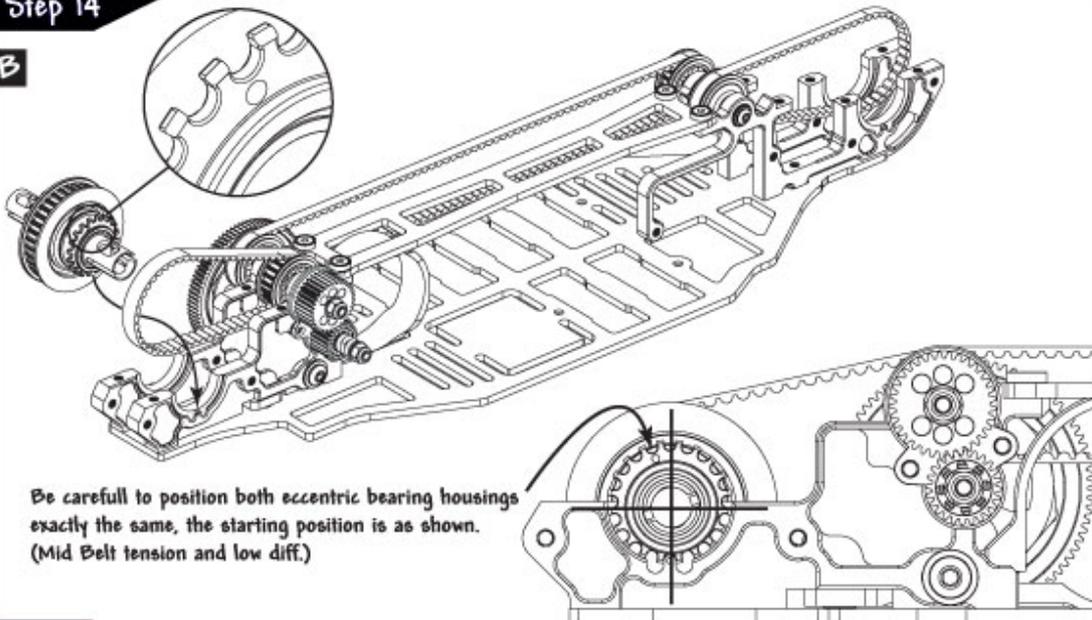
Step 14

A



Step 14

B

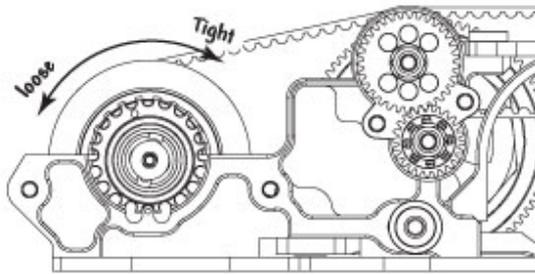


Step 14

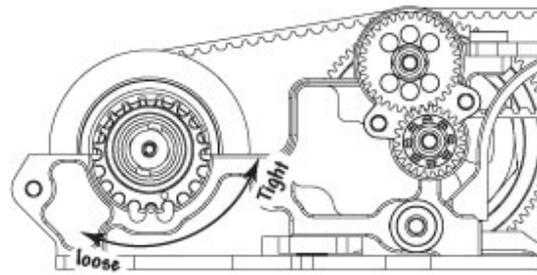
Setting REAR Belt Tension



C



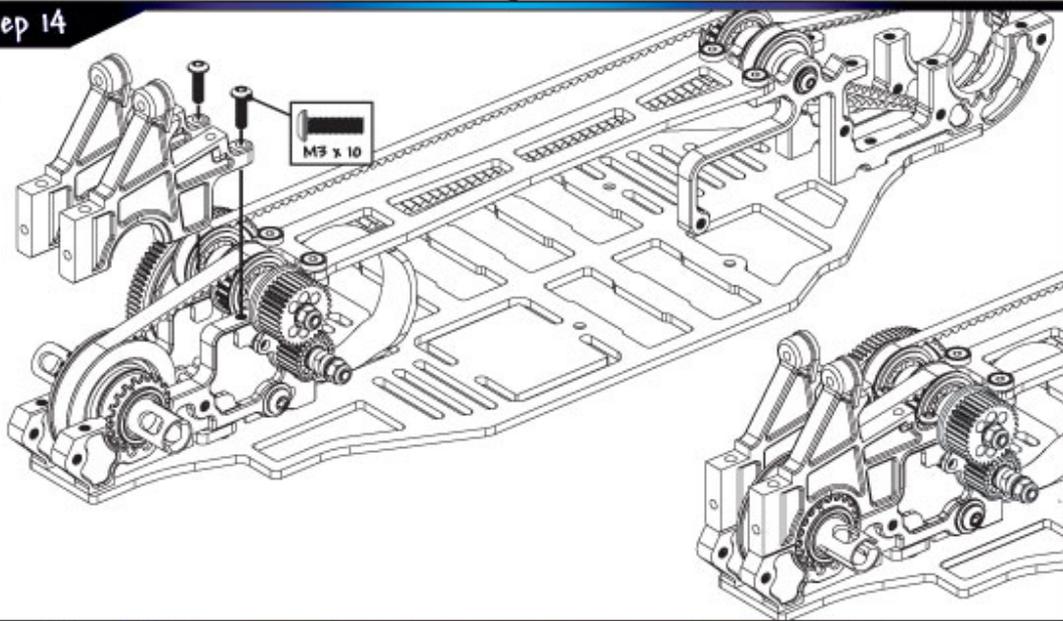
LOW DIFF



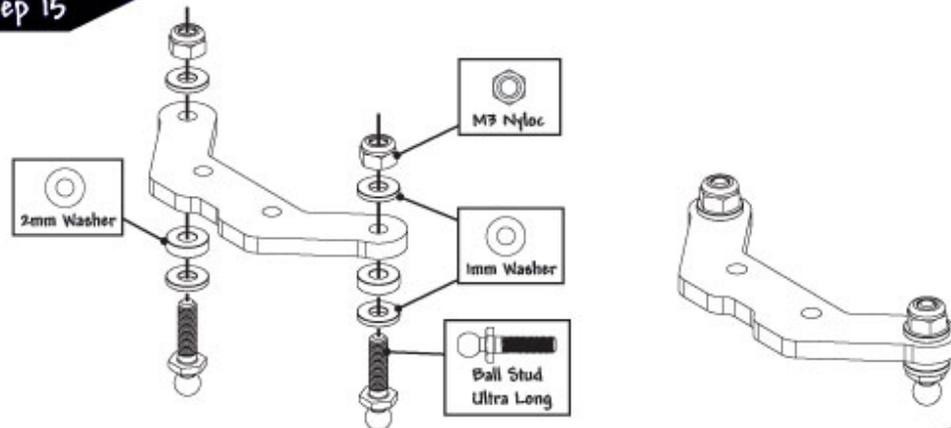
HIGH DIFF

Step 14

D



Step 15



Cat-SX Spare Parts

ELECTRIC - OFF ROAD CARS
 K078 Cat SX - (4-2) NI-MH
 K071 Cat SX - Stick LiPo



CHASSIS PARTS

U1042 Aerial Mount - Universal
 U111 Aerial Tube - Pack 4
 U112 Velcro 1/2metre x 1metre
 U12101 Ball Grippa Sockets - (pk 10)
 U12106 Bumpers & Diff Cover - Cat SX
 U12107 CF 4+2 Cell Straps & Posts
 U12108 CF Chassis; 4+2 Cell - Cat SX
 U12109 CF Chassis; Stick LiPo - Cat SX
 U12110 CF Top Deck - Cat SX
 U12111 CF Shock Mount; Front - Cat SX
 U12112 CF Shock Mount; Rear - Cat SX
 U12114 LiPo Strap & Posts - Cat SX
 U12115 Battery Posts; No Clip pr
 U12116 Battery Posts; R. Clip pr
 U12117 Servo Mount; LiPo - Cat SX pr
 U12118 Wing Mount - Off Road

BODYSHELLS & DECALS

U1304 Decal Sheet - Cat SX pr2
 U15010 Bodyshell & Decals; Clear - Cat SX
 U15011 Undertray - Cat SX
 U15100 Wing - Cat SX

SUSPENSION

U1712 Ball Grippa Joints - U/Sb Stud 4prs
 U1713 Alloy Block; Screw - M4-3 (pr)
 U1710 Alloy Block; Pivot - M4-3 (pr)
 U1717 Shock Mounting Post - M4-3 (pr)
 U1711 Ball Grippa Joints; X-Long 4prs
 U17300 Hub Carrier; Front - Cat SX pr
 U17301 Hub Carrier; Rear - Cat SX pr
 U17302 Pivot Block; Front 10degree pr
 U17303 Pivot Block; Front 7.5degree pr
 U17304 Pivot Block; Front - Cat SX pr
 U17305 Pivot Pin; Screw Type 12mm pr
 U17306 Pivot Pin; Screw Type 5mm pr
 U17307 Pivot Pin; Threaded 1/8x50mm pr
 U17308 Radius Arm; CNC Alloy LM - Cat SX
 U17309 Radius Arm; CNC Alloy RH - Cat SX
 U17310 Servo Horn; Futaba & Sanyo
 U17311 Spacers; Wheel Bearing 2prs
 U17312 Steering Post - Cat SX pr
 U17313 Tube; Wishbone - Cat SX pr
 U17314 Wishbone; Front - Cat SX Std pr
 U17315 Wishbone; Rear - Cat SX Std pr
 U17316 Yoke - Cat SX pr
 U17407 Wishbone; Front - Cat SX Med Flex pr
 U17408 Wishbone; Rear - Cat SX Med Flex pr
 U17411 CF Link Mount Front 44mm Kit Std - Cat SX
 U17412 CF Link Mount Front 38.5mm - Cat SX
 U17413 CF Link Mount Rear 37.5mm - Cat SX
 U17414 CF Link Mount Rear 49mm - Cat SX
 U17415 CF Link Mount Rear 49mm Kit Std - Cat SX
 U17416 CF Steering Mount & Arm - Cat SX
 U1750 Ball Grippa Joints-Short Stud 8prs
 U1051 Ball Grippa Joints - Long Stud 8prs

SHOCK ABSORBERS

U12114 Race Shock Collar; threaded adjuster (pr)
 U12111 Race Shock Seal Rebuild Pack (pr)
 U12107 Race Shock Body; Fr Off Road pr
 U12108 Race Shock Body; Fr Off Road pr
 U12109 Race Shock Piston; CNC 2 Hole Off Road
 U12110 Race Shock Piston; CNC 3 Hole Off Road
 U12111 Race Shock Rod; Fr - Off Road pr
 U12112 Race Shock Rod; Fr - Off Road pr
 U12113 Race Shock Rod; Fr - Off Road pr
 U12114 Race Shock Seal Hog; Off Road pr
 U12115 Race Shock Top Cap; Off Road pr
 U12116 Race Shocks; Front Off Road - Fully Assembled (pr)
 U12117 Race Shocks; Rear Off Road - Fully Assembled (pr)
 U12118 Spring Stop & Spacer Mouldings (pr)

SPRINGS

U12119 Spring Tuning Set; Fr-Off Road 4pr
 U12120 Spring Tuning Set; Rr-Off Road 4pr
 U12121 Springs; Off Road XF 2.0 White
 U12122 Springs; Off Road XF2.5 Yellow
 U12123 Springs; Off Road XF3.0 Red
 U12124 Springs; Off Road XF3.5 Grey
 U12125 Springs; Off Road XF4.0 Blue
 U12126 Springs; Off Road XF4.5 Black
 U12127 Springs; Off Road XF4.5 White
 U12128 Springs; Off Road XF3.0 Yellow
 U12129 Springs; Off Road XF2.5 Red

SPRINGS Cont...

U12130 Springs; Off Road XF3.0 Grey
 U12131 Springs; Off Road XF3.5 Blue
 U12132 Springs; Off Road XF4.0 Black

SHOCK OIL

G010 Pure Silicone Shock Oil - 10w
 G015 Pure Silicone Shock Oil - 15w
 G020 Pure Silicone Shock Oil - 20w
 G025 Pure Silicone Shock Oil - 25w
 G030 Pure Silicone Shock Oil - 30w
 G035 Pure Silicone Shock Oil - 35w
 G040 Pure Silicone Shock Oil - 40w
 G045 Pure Silicone Shock Oil - 45w
 G050 Pure Silicone Shock Oil - 50w

TRANSMISSION

U12133 Pre-Diff Screw Set
 U13140 Diff Washer; ProSpec - M4-3 (pr) replaces tri-lobe
 U13121 Alloy Mount; Front LH Trans-Cat SX
 U13122 Alloy Mount; Front RH Trans-Cat SX
 U13123 Alloy Mount; Rear LH Trans-Cat SX
 U13124 Alloy Mount; Rear RH Trans-Cat SX
 U13131 Belt; Kevlar 4mmx10t
 U13132 Belt; Kevlar 4mmx10t
 U13133 Belt; Kevlar 6mmx12t
 U13134 Cone; Rear Wheels pr
 U13135 Covers; Idler Gears - Cat SX
 U13136 Diff Output; Female - Cat SX
 U13137 Diff Output; Male - Cat SX
 U13138 Diff; Complete Assembled
 U13139 Eccentric; CNC Alloy - Cat SX pr
 U13140 Drive Shaft; Front - Cat SX pr
 U13141 Drive Shaft; Rear - Cat SX pr
 U13142 Gear; CNC 231 Layshaft
 U13143 Gear; CNC 231 Layshaft
 U13144 Gear; CNC 241 Layshaft
 U13145 Gear; CNC 321 Idler - Cat SX
 U13146 Gear; CNC 331 Idler - Cat SX
 U13147 Gear; CNC 341 Idler - Cat SX
 U13148 Gear; CNC 801 Spur - Slipper
 U13149 Gear; CNC 811 Spur - Slipper
 U13150 Gear; CNC 821 Spur - Slipper
 U13151 Idler Post; Fr Belt - Cat SX
 U13152 Layshaft - Cat SX
 U13153 Motor Mount - Cat SX
 U13154 Mount; Upper Trans - Cat SX set 4
 U13155 Pulley; 3/4t Diff - Cat SX
 U13156 Pulley; CNC Alloy 201 4mm - Cat SX
 U13157 Pulley; CNC Alloy 201 6mm - Cat SX
 U13158 Pulley; CNC Alloy 201 Front - Cat SX
 U13159 Roll Pins Set 4x3/8x8m/2 - Cat SX
 U13160 Shaft; Front Idler - Cat SX
 U13161 Shaft; Rear Idler - Cat SX
 U13162 Slipper Pad; PTFE Octagon pr
 U13163 Slipper Set - Cat SX
 U13164 Spacer Shim; 4x10x2.5 pr 4
 U13165 Spacers; Layshaft - Cat SX pr
 U13166 Washers & Pins; Off Road Front Wheels
 U13167 CNC Spool Assembly HD - Cat SX
 U13168 Pinion; Hard Alloy 48dp - 14T
 U13169 Pinion; Hard Alloy 48dp - 15T
 U13170 Pinion; Hard Alloy 48dp - 16T
 U13171 Pinion; Hard Alloy 48dp - 17T
 U13172 Pinion; Hard Alloy 48dp - 18T
 U13173 Pinion; Hard Alloy 48dp - 19T
 U13174 Pinion; Hard Alloy 48dp - 20T
 U13175 Pinion; Hard Alloy 48dp - 21T
 U13176 Pinion; Hard Alloy 48dp - 22T
 U13177 Pinion; Hard Alloy 48dp - 23T
 U13178 Pinion; Hard Alloy 48dp - 24T
 U13179 Pinion; Hard Alloy 48dp - 25T
 U13180 Pinion; Hard Alloy 48dp - 26T
 U13181 Pinion; Hard Alloy 48dp - 27T
 U13182 Pinion; Hard Alloy 48dp - 28T
 U13183 Pinion; Hard Alloy 48dp - 29T
 U13184 Pinion; Hard Alloy 48dp - 30T
 U13185 Pinion; Hard Alloy 48dp - 31T
 U13186 Pinion; Hard Alloy 48dp - 32T

Cat-SX Spare Parts



BEARINGS & BALLS

6000	2x0 - Microtube
H0291	Bearing Blaster Aerosol 500ml
U1901	Silicone Diff Lube - Pot
U1400	Ball Bearing - 4 x 8 x 3 Non Fl. (pr)
U1491	Ball Bearing - 5 x 9 x 3 Non Fl. (pr)
U1954	Pro - Thrust Bearing
U1957	Moly Ase Grease - Pot
U2048	Ball Bearing - 5 x 10 x 4 Shielded (pr)
U2451	Diff Balls; T/C 2.5mm p02
U2514	Ball Bearing - 5 x 9 x 2.5 (pr)
U2862	Ceramic Bearing - 50104 Shielded (pr)
U2016	Ball Bearing - 10104 (pr)
U2017	Ceramic Bearing - 10104 (pr)
U2018	Ceramic Nitride Diff Balls 2.5mm (p02)
U2985	Ceramic Bearing Set - Cat SX 30pcs
U2986	Ceramic Bearing - 4x8x3 (pr)
U2987	Ceramic Bearing - 5x9x3 MR95 (pr)

SPEED SECRET - OPTION PARTS

CR01	LORE TI Screws - M3x8 Button Head p04
CR02	LORE TI Screws - M3x10 Button Head p04
CR03	LORE TI Screws - M3x12 Button Head p04
CR04	LORE TI Screws - M3x10 Cat Head p04
CR05	LORE TI Screws - M3x8 Cat Head p04
CR06	LORE TI Screws - M3x10 Cat Head p04
CR07	LORE TI Screws - M3x12 Cat Head p04
CR08	LORE TI Ball Studs - Ultra Short p04
CR09	LORE TI Ball Studs - Short p04
CR10	LORE TI Ball Studs - Long p04
H024	Alloy 6 Fin Motor Washers; purple
U1978	Titanium Turnbuckle; purple - 50mm (pr)
U2059	Titanium Turnbuckle; purple - 25mm (pr)
U2050	Kwik Flip; U1910 & 2.0mm
U2566	Titanium Turnbuckle - 45mm (pr)
U2970	Alloy Mount; Front Upper Trans. pr
U2971	Alloy Mount; Rear Upper Trans. pr
U2972	One Way; Complete - Cat SX
U2973	Ase & One Ways - Cat SX
U2974	Outputs; One Way - Cat SX pr
U2975	Pulley; 75T Overdrive Diff - Cat SX
U2976	Pulley; 75T Overdrive One Way - Cat SX
U2977	Pulley; 76 One Way - Cat SX
U2978	Pulley; One Way 20t - Cat SX
U2979	Roll Bar Set; Front - Cat SX set 3
U2980	Roll Bar Set; Rear - Cat SX set 3
U2981	Wheel Hex; Front - Cat SX pr
U2404	Alloy Yokes 7.5 deg - Cat SX pr

SPEED PACKS

CR024	LORE RC - Serrated M4 Steel Wheel Nut p04
CR095	LORE RC - Serrated Alloy M4 Nuts; Blue pt 4
CR096	LORE RC - Serrated Alloy M4 Nuts; Purple pt 4
U1247	SPEED PACK - Wing Mount D Ring
U1301	SPEED PACK - Hi-Tensile Wheel Screws
U1544	SPEED PACK - Short M3; Cap Hd
U1545	SPEED PACK - M3 Cap Hd 14x30mm
U1547	SPEED PACK - M3 Nuts
U1548	SPEED PACK - M3 Washers
U1549	SPEED PACK - M4 Nuts & Washers
U1550	SPEED PACK - Socket Wrenches (p02)
U1551	SPEED PACK - E Clips 2x1pcs
U1552	SPEED PACK - R Clips
U1639	SPEED PACK - Small Pins (p0)
U1700	SPEED PACK - M4x12 Cat Hi Tensile (4)
U1760	SPEED PACK - D Rings; Various
U2028	SPEED PACK - Grab-Sit Screws M3 M4
U2356	SPEED PACK - M3x6 to 70 Cat Screws (p010)
U2671	SPEED PACK - Circlips Various 18 pcs
U2760	SPEED PACK - M3 Button Hd; 4 to 20
U2856	SPEED PACK - Sticky Cable Clips (p010)
U2857	SPEED PACK - Small Cable Ties (p020)
U2988	M3 Cat Washers - Purple Alloy (p010)
U2032	SPEED PACK - M3x8 Cat Allen Hi-T
U2033	SPEED PACK - M3x10 Cat Allen Hi-T
U2191	Alloy Spacers M3x7mm 0.5; 0.2, 0mm (p010)
U2146	SPEED PACK - M2.5 Screws pt 10
U2964	SPEED PACK - M4x6 Button p04

ELECTRONICS

U2172	Soldering Iron & Stand 12 Volt
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TEAM CLOTHING

G215	Fit Towel
G221L	Set Jacket; Red/Black Embroidered-Lg
G221M	Set Jacket; Red/Black Embroidered-Med
G221S	Set Jacket - Red/Black - small
G221X	Set Jacket - Red/Black-X-Large
G221XL	Set Jacket; Red/Black Embroidered-XL
G221L	T Blue - Large
G221M	T Blue - Medium
G221S	T Blue - Small Man
G221XL	T Blue - X-Large
G221XXL	T Blue - XX-Large
G222L	T White - Large
G222M	T White - Medium
G222S	T White - Small Man
G222XL	T White - X-Large
G222XXL	T White - XX-Large
G223L	Polo - Large
G223M	Polo - Medium
G223S	Polo - Small Man
G223XL	Polo X-Large
G223XXL	Polo - XX-Large
G224	Cap - Black; Medium 58cm
G225	Cap - Black; Large 61cm
G226L	Sweat - Large
G226M	Sweat - Medium
G226S	Sweat - Small
G226XL	Sweat - X-Large
G226XXL	Sweat - XX-Large

TOOLS

H001	Hex Scissors; curved
H022	Alloy Camber Gauge - 1/10th
U2381	Schumacher Hex Driver - 1.5mm
U2370	Schumacher Hex Driver - 2.0mm
U2371	Schumacher Hex Driver - 2.5mm
U2372	Schumacher Hex Driver - 3.0mm
U2373	Schumacher M3 Nut Driver
U2374	Schumacher M4 Nut Driver
U2808	Schumacher Body Feeler

2.2" OFF-ROAD TYRES

U655	Mini Spitz - Front Tyres - Green - 2.2 (pr)
U656	Mini Spitz - Rear Tyres - Green - 2.2 (pr)
U657	Mini Spitz - Front Tyres - Blue - 2.2 (pr)
U658	Mini Spitz - Rear Tyres - Blue - 2.2 (pr)
U659	Mini Spitz - Front Tyres - Yellow - 2.2 (pr)
U658	Mini Spitz - Rear Tyres - Yellow - 2.2 (pr)
U655	Full Spitz - Front Tyres - Yellow - 2.2 (pr)
U656	Full Spitz - Rear Tyres - Yellow - 2.2 (pr)
U660	Mini Pin - Blue - Front - 2.2 (pr)
U660	Mini Pin - Blue - Rear - 2.2 (pr)
U660	Mini Pin - Yellow - Front - 2.2 (pr)
U660	Mini Pin - Yellow - Rear - 2.2 (pr)

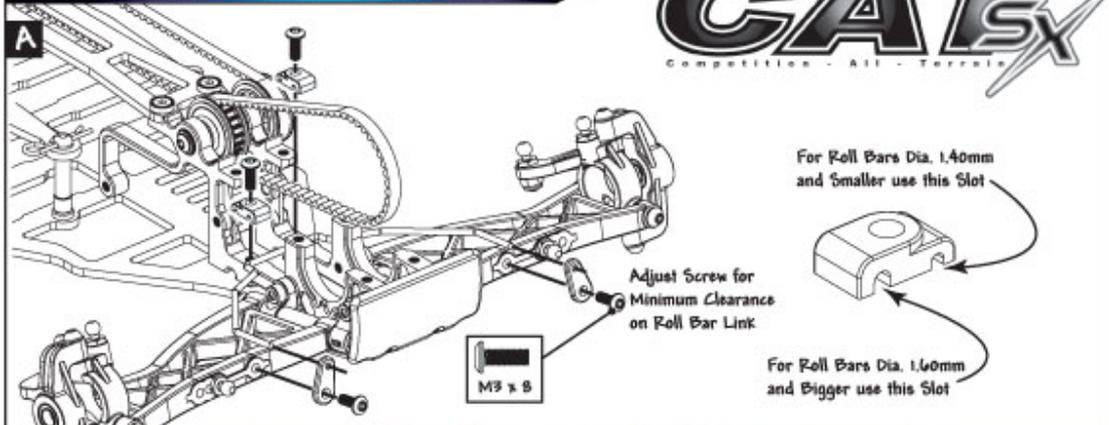
OFF-ROAD TYRES - ORIGINALS

T650	Full Spitz - Rear Tyres - Soft CAT (pr)
T651	Full Spitz - Front Tyres - Soft CAT (pr)
T652	Black - Rear Tyres - Blue - CAT (pr)
T653	Black - Front Tyres - Blue - CAT (pr)

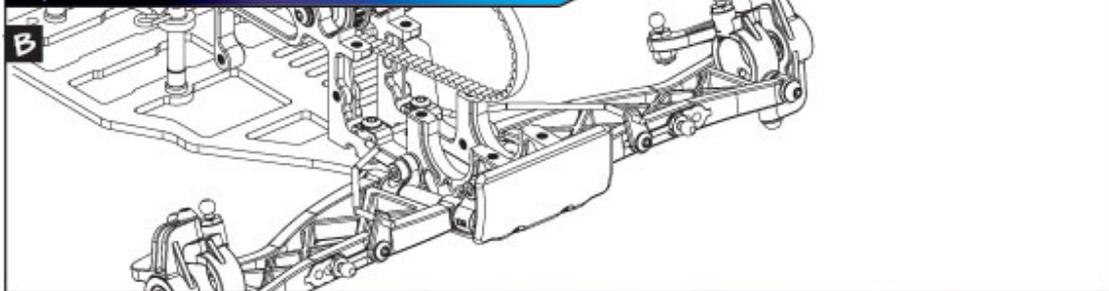
WHEELS & INSERTS

U2982	Wheel; Front 4WD Off Road - White (pr)
U2983	Wheel; Rear - Off Road - White (pr)
U2405	Wheel; Front 4WD Off Road - Yellow (pr)
U2406	Wheel; Rear - Off Road - Yellow (pr)
U2452	Foam Tyre Insert; Hard - Front - CAT (pr)
U2453	Foam Tyre Insert; Hard - Rear - CAT (pr)
U2460	Foam Tyre Inserts; Soft - Ultra Wide (pr)
U2461	Foam Tyre Inserts; Hard - Ultra Wide (pr)
U2799	Foam Tyre Insert; Med - Front - CAT (pr)
U2794	Foam Tyre Insert; Med - Rear - CAT (pr)

Speed Secrets - U3379 Front Roll Bars



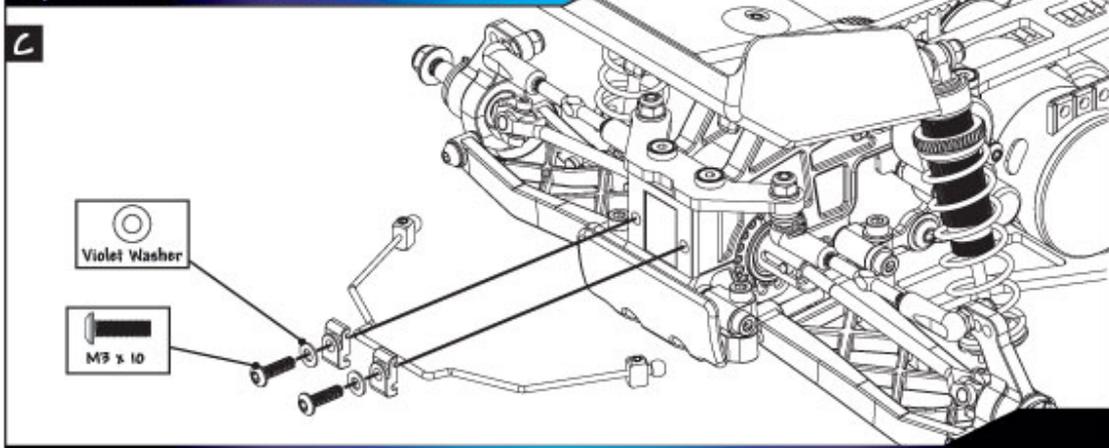
Speed Secrets - U3379 Front Roll Bars



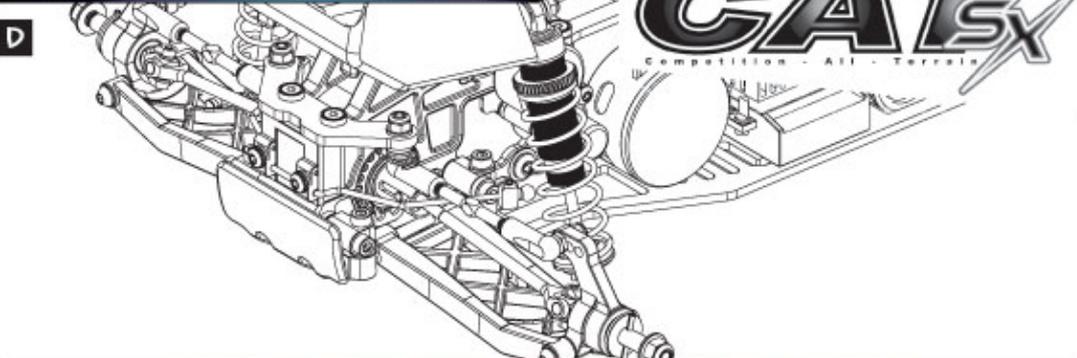
Speed Secrets - U3380 Rear Roll Bars



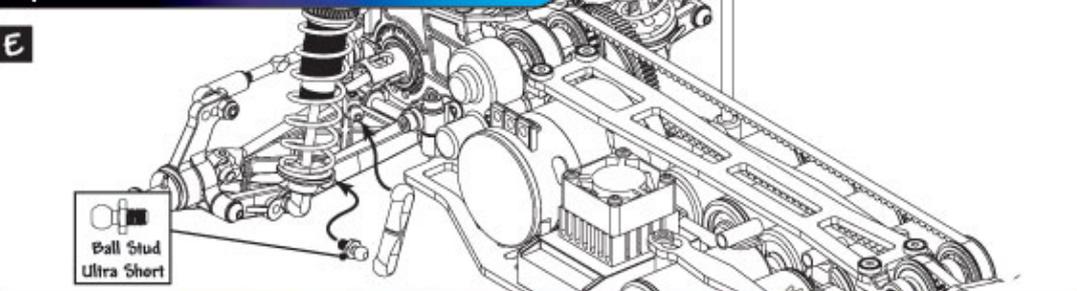
Speed Secrets - U3380 Rear Roll Bars



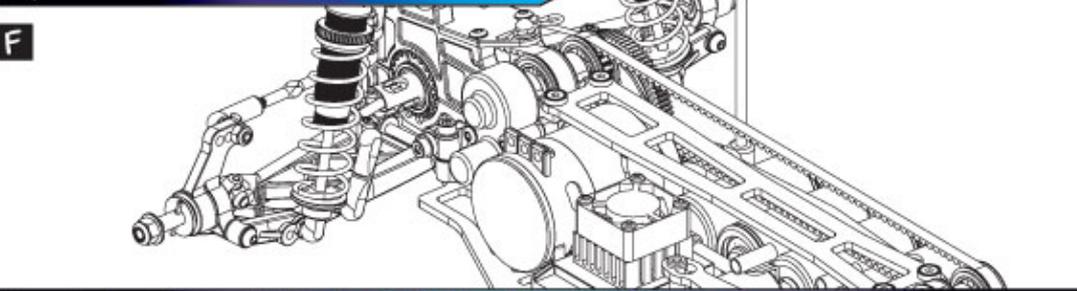
Speed Secrets - U3380 Rear Roll Bars



Speed Secrets - U3380 Rear Roll Bars

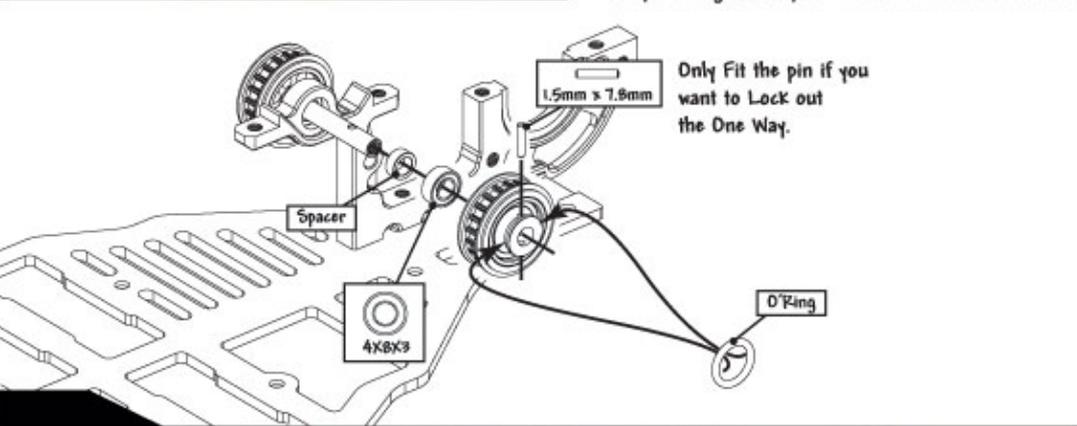


Speed Secrets - U3380 Rear Roll Bars

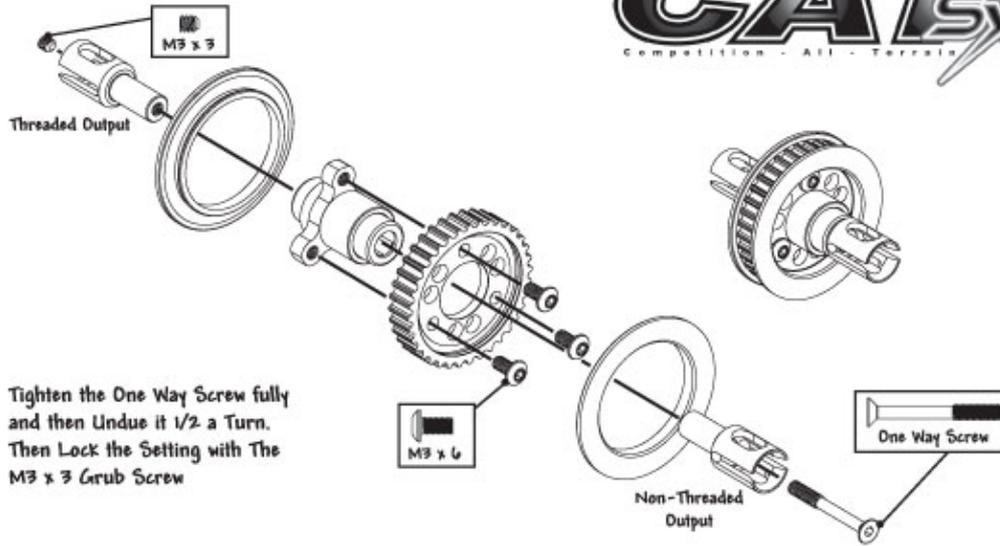


Speed Secrets - U3378 Layshaft One Way

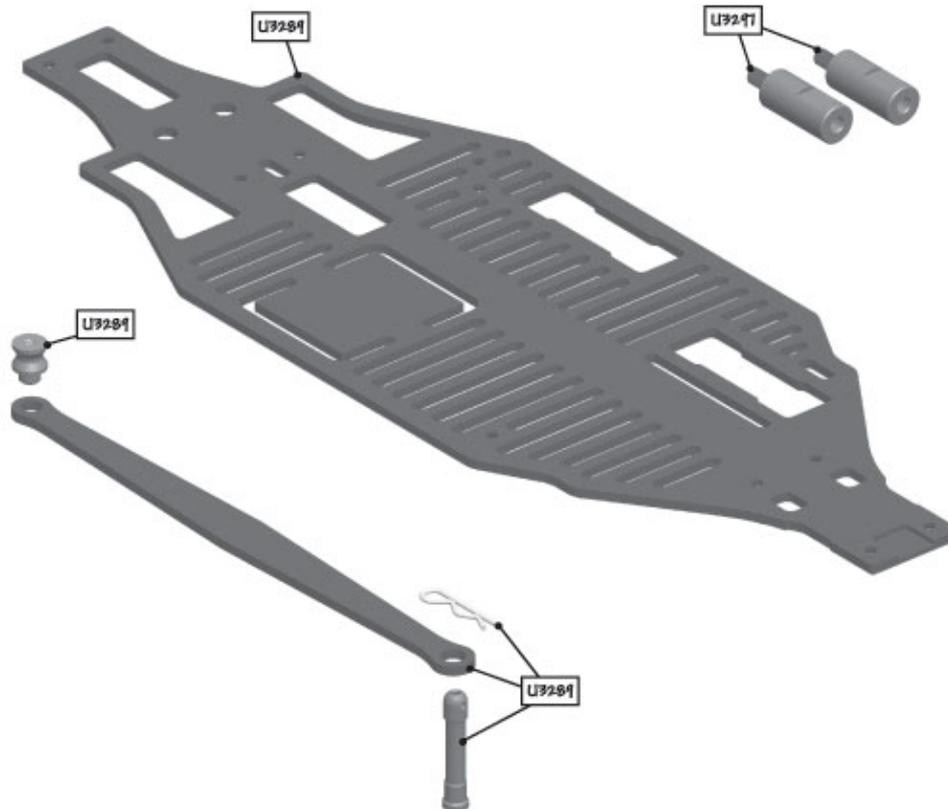
Replace Page 5, Step BB with the Illustration Below.

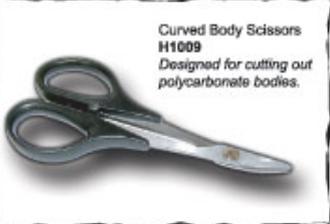


Speed Secrets - U3372 Front One Way



Li-Po Spares





Curved Body Scissors
H1009
Designed for cutting out polycarbonate bodies.

CAT^{EX}

Competition - All - Terrain



Purple Alloy Camber Gauge
H1032



Speed Passion BL ESC
LPF - 5.5T
SPEXT98801LPF



SP13840 SP CV2.0 Comp BL Motor; 4.0T
SP13845 SP CV2.0 Comp BL Motor; 4.5T
SP13845ER1 Rotor 4.5T BL; Power Band 13mm
SP13855 SP CV2.0 Comp BL Motor; 5.5T
SP13865 SP CV2.0 Comp BL Motor; 6.5T
SPF105 SP Ultra Stock BL Motor; 10.5T
SPF135 SP Ultra Stock BL Motor; 13.5T
SPF175 SP Ultra Stock BL Motor; 17.5T
SPF75 SP CV2.0 Comp BL Motor; 7.5T
SPF85 SP CV2.0 Comp BL Motor; 8.5T



Speed Passion BL ESC
GT - 2.5T
SPEXT98801



Hex Driver - 1.5mm
U2789

Hex Driver - 2.0mm
U2790

Hex Driver - 2.5mm
U2791

M3 Nut Driver
U2795

M4 Nut Driver
U2796

Body Reamer
U2818



Rear Mini Pin 2.2"
Blue - U6602
Yellow - U6608



4wd Front Mini Pin 2.2"
Blue - U6601
Yellow - U6607



MiniPin Yellow Pre-Glued Rear
U6742 (not shown)
MiniSpike 2 Yellow Pre-Glued Rear
U6740



MiniPin Yellow Pre-Glued Front
U6741 (not shown)
MiniSpike 2 Yellow Pre-Glued Front
U6739



G020 ~ 20 weight (thin)
G025 ~ 25 weight
G030 ~ 30 weight
G035 ~ 35 weight
G040 ~ 40 weight
G045 ~ 45 weight
G050 ~ 50 weight
G055 ~ 55 weight (thick)

The best silicone shock oil you can buy!!



MiniSpike 2 Yellow Rear U6558
MiniSpike 2 Blue Rear U6518
MiniSpike 2 Green Rear U6516



MiniSpike 2 Yellow Front U6557
MiniSpike 2 Blue Front U6517
MiniSpike 2 Green Front U6515