

# ***Carpet Knife Generation X Assembly Manual and Tuning Guide***



**CALANDRA RACING CONCEPTS, INC.**

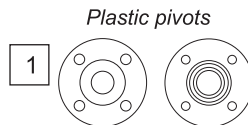
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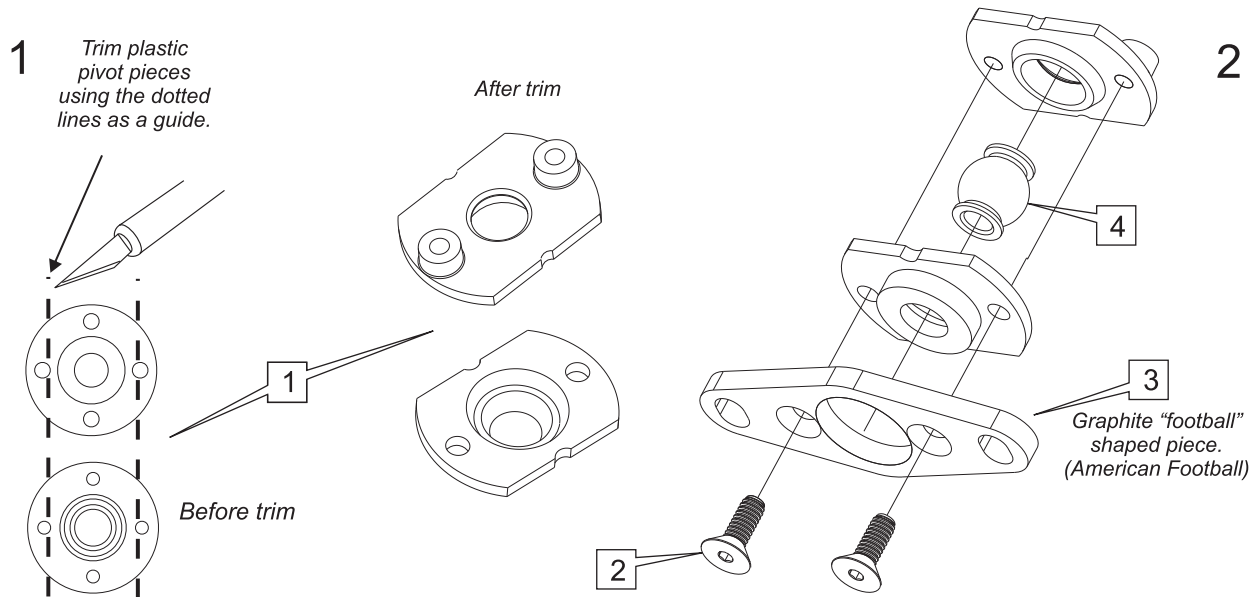
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## Center Pivot

### Bag 1

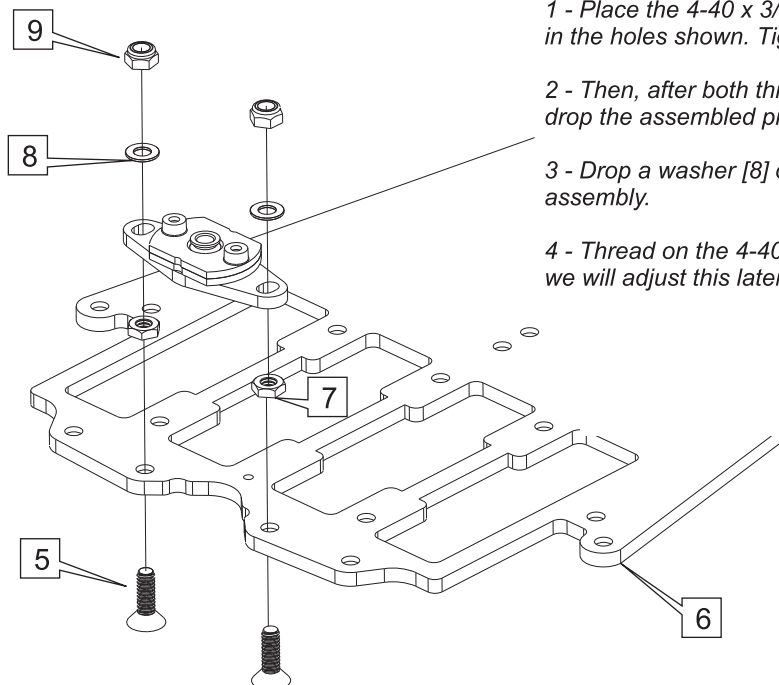
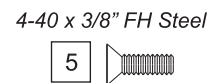
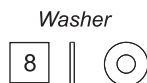


1. Using a hobby knife, or Dremel tool, trim the plastic pivots [1] as shown. This gives added motor and battery clearance.
2. Assemble the Center Pivot assembly as shown in Figure 2. Tighten the 2-56 flat heads [2] enough to remove any up and down play, be sure the flanged pivot ball [4] pivots freely.



## Center Pivot

### Bag 1



1 - Place the 4-40 x 3/8" screws [5] through the graphite chassis [6] in the holes shown. Tighten a 4-40 thin hex nut [7] down fairly tight.

2 - Then, after both thin hex nuts are tight on the 2 mounting screws, drop the assembled pivot plate over the screw posts.

3 - Drop a washer [8] over each screw above the pivot plate assembly.

4 - Thread on the 4-40 red locknuts [9]. Do not tighten them yet as we will adjust this later.

## Rear X-Pod

### Bag 3

4-40 x 1/4"  
Red Button Head



Red Locknut



Red Alum  
4-40 Ballstud



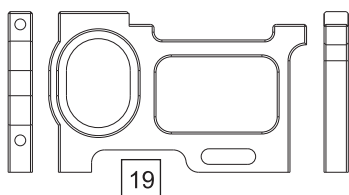
2-56 Steel  
Ballstud - Black



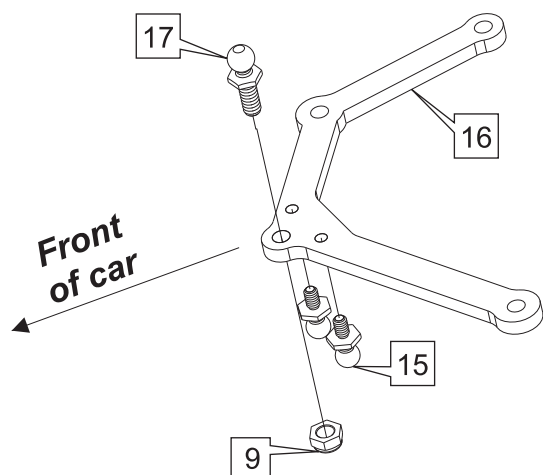
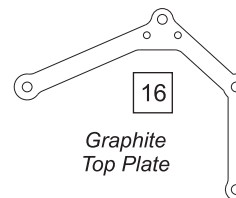
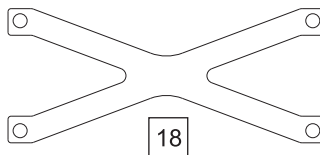
4-40 x 1/4"  
Red Alum FH



Lowered Pod  
Plates - Red



Graphite X-brace



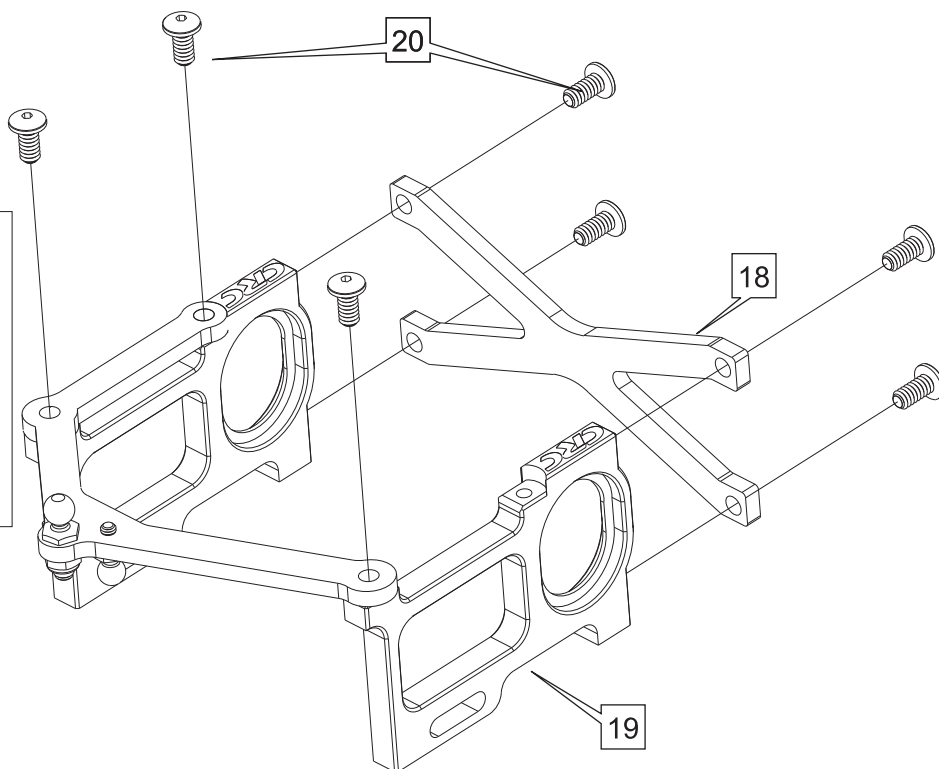
1 - Install the black 2-56 ballstuds [15] into the graphite top plate [16]. These steel balls thread into the graphite, no nut is needed. Be sure to start them straight and square.

2 - Push the red ballstud [17] through the graphite plate [16]. Use a red locknut [9] to secure it.

We will install the top plate on the aluminum pods next.

1 - Install the Graphite X-brace [18] to the back of the two aluminum pods [19]. Use 4 red button head screws [20] to attach the graphite piece to the aluminum.

2 - Attach the assembled top plate to the pod plates using 3 red button head screws [20].



## Rear Bottom Plate

### Bag 2

13 4-40 x 5/16" FH steel



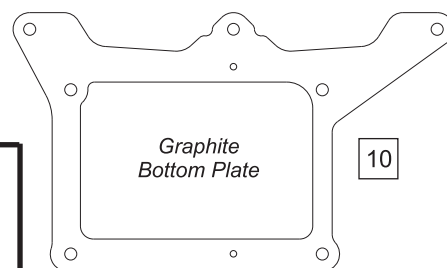
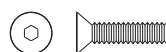
Red Low-Profile Ball



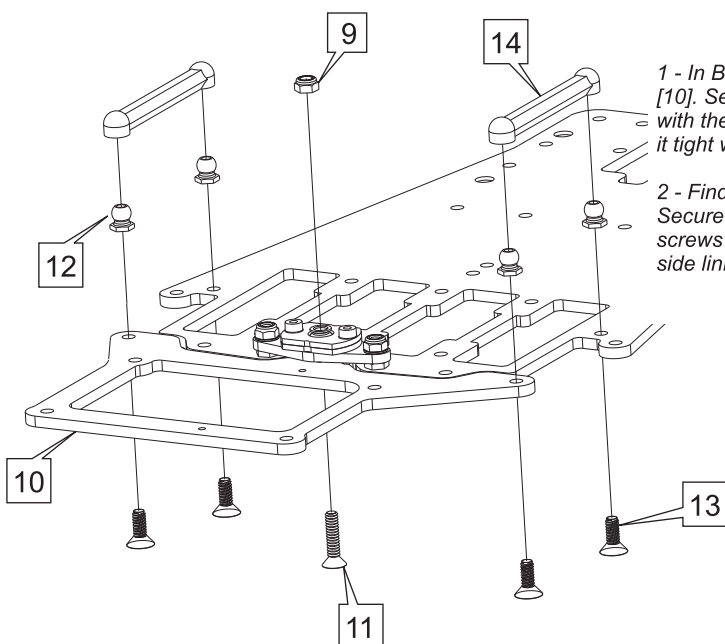
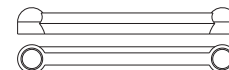
9 Red Locknut



11 4-40 x 1/2" FH Alum



One-Piece Side Links



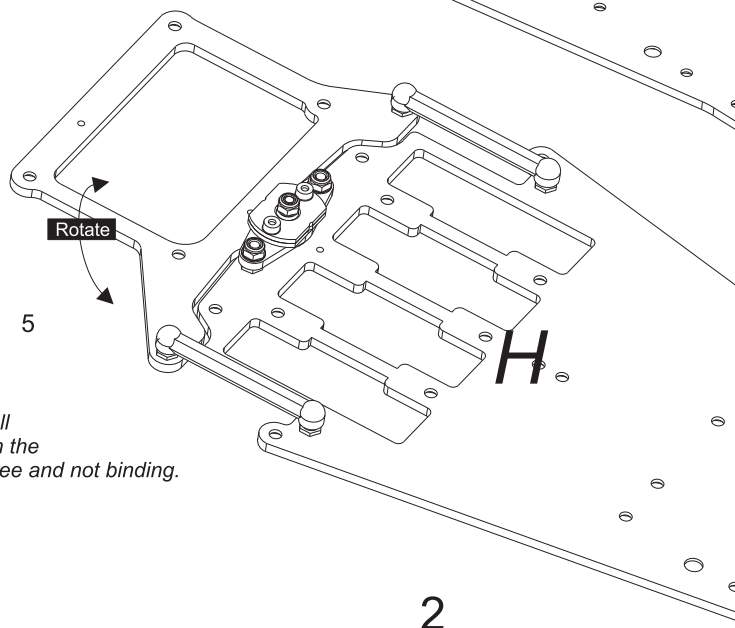
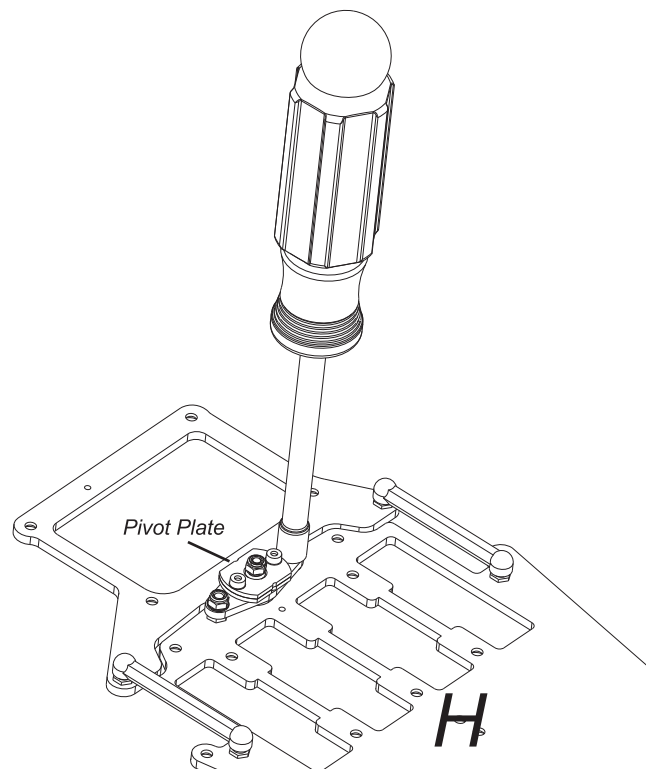
1 - In Bag 2, find the graphite bottom plate [10]. Secure it to the pivot ball assembly with the 1/2" red flat head screw [11]. Secure it tight with a red locknut [9].

2 - Find the 4 red low profile balls [12]. Secure them as shown with the steel 5/16" screws [13]. When secure, pop the plastic side links [14] on the balls.

## Setting the One-piece links

1. Be sure the 2 aluminum locknuts on top of the pivot plate are slightly loose. There should be a washer under each alum locknut. Notice that the pivot plate "floats" or moves slightly on the 2 screws. This "floating" allows the links to "free up". This ensures that the rear pod plate pivots freely on the links and center pivot ball. This is a crucial step when setting up the Carpet Knife.
2. Snap the 2 links on the balls as shown above. They should rock freely on the pivot balls.
3. Place the chassis/backplate on a flat surface. No tires and no diff on the car! A smooth table or desk should do. Be sure that the rear bottom plate and chassis are in a straight line, flat against the table, again, no tires on the car. Lightly "tap" the chassis and rear pod releasing any tension in the links. Keep the chassis flat on the table for step 4.
4. Holding the chassis at the hold point "H" (not the rear pod) by pressing the chassis down to the table. Slowly tighten the 2 locknuts that secure the pivot plate (football shaped part). For now, just lightly snug one side then the other.
5. Pick up the car and check the pivoting action of rear lower plate. Rotate the rear plate from side-to-side. It should move free without binding or "clicking". If it does not, loosen the pivot locknuts and repeat steps 3+4.

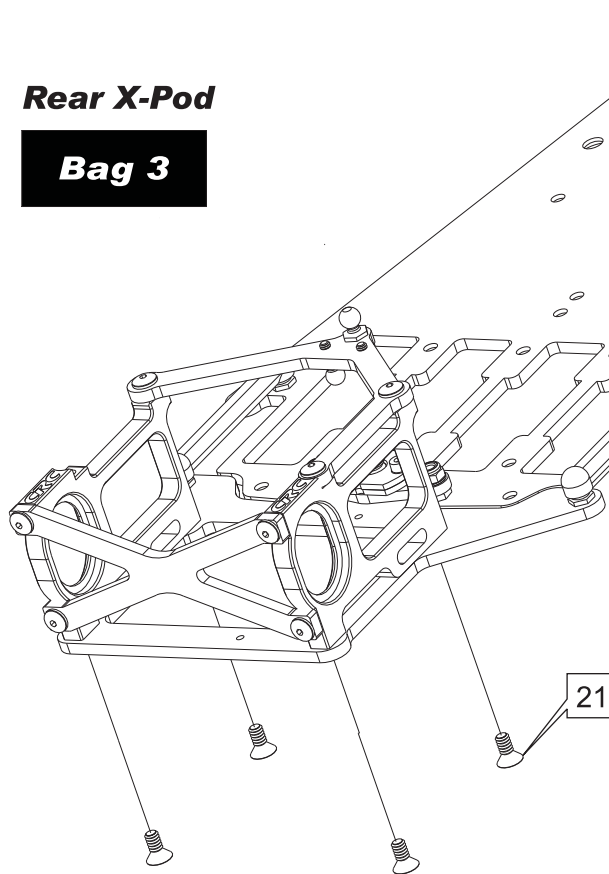
If it rotates smoothly, tighten the locknuts on the football pivot more securely. Do this by again holding the chassis down to the table at the hold point "H". Slowly and carefully fully tighten the locknuts that hold the football piece to the chassis. The handling of the Carpet Knife hinges (pun intended!) on the free movement of this rear plate. Be sure that the rear links and rear plate are free and not binding.





## Rear X-Pod

### Bag 3



1 - Install the completed rear pod to the chassis sub-assembly using 4 red alum flat head screws [21]. Keep an eye on these screws during the first few runs of your car. They tend to loosen until they take a "set" within.

We do NOT recommend thread lock in the aluminum to aluminum application. The best way to keep these tight is by keeping a close watch on their tightness after your first few runs.

In time, the screw will naturally "seat" and stay tight.

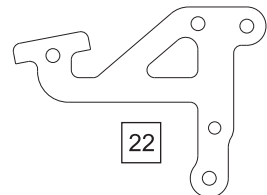
## Tweak Plates

### Bag 4

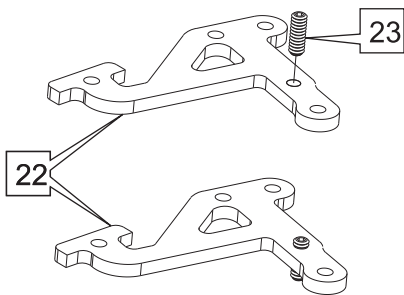
4-40 x 5/16"  
set screw



Metal Spring Holder



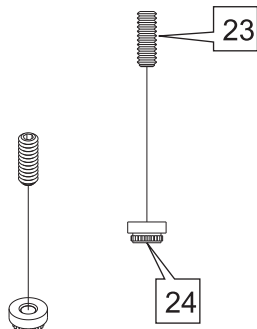
Graphite Tweak  
Plate (x2)



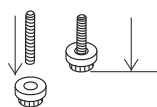
#### INSERT TWEAK SCREWS IN BRACE ASSEMBLY

1 - Place the Tweak Brace [22] on a smooth, flat table and thread the Tweak set screws [23] into the brace per the illustration. Try to be careful to thread it in straight and perpendicular.

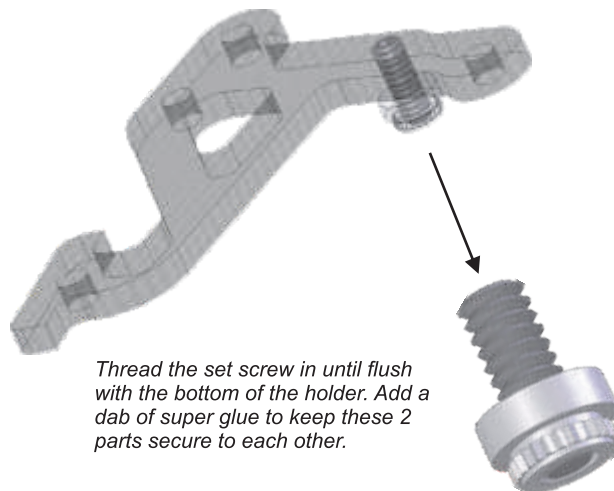
With the tweak screw threaded through the brace, super glue or thread lock the tweak screw to the metal spring holder [24] as shown in the illustration. The tweak screw should thread in until flush with the bottom of the spring holder.



Thread the set screw  
in until flush with the  
bottom of the holder.



Then, use super  
glue or threadlock  
to bond the two  
together.



Thread the set screw in until flush  
with the bottom of the holder. Add a  
dab of super glue to keep these 2  
parts secure to each other.

## Tweak Plates

### Bag 4

White  
Side Spring

25



4-40 x 1/2"  
Red Standoff

26



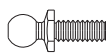
Red Locknut

9



Red Alum  
4-40 Ballstud

17



4-40 x 1/4"  
Red Button Head

20



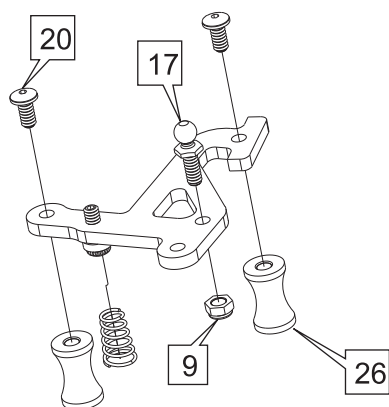
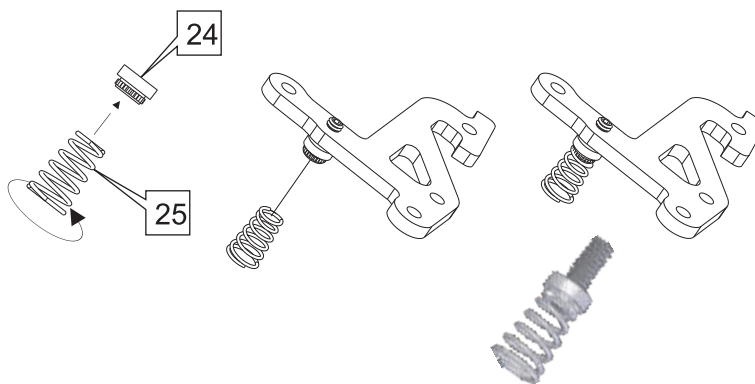
4-40 x 1/4"  
Red Alum FH

21



### ATTACH SPRING TO METAL RETAINER

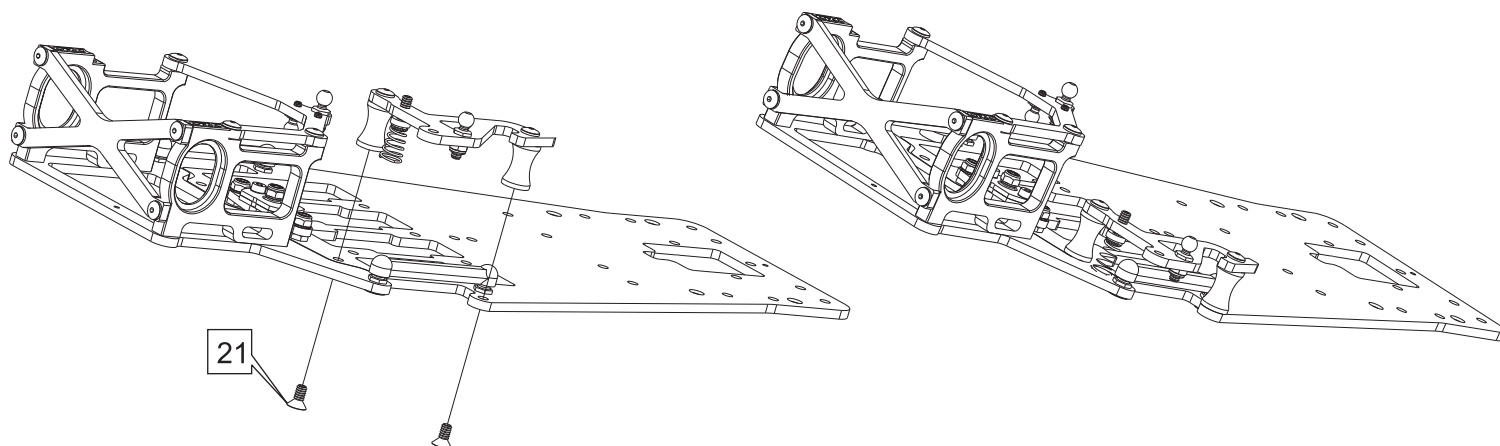
Use a small screwdriver or your fingernail to start the spring [25] into the groove on the metal retainer [24]. Pull the leading coil over the retainer and place the top coil into the groove. Then, holding the retainer securely, turn the spring clockwise to "open" the coil and snap the remaining portion over the groove.



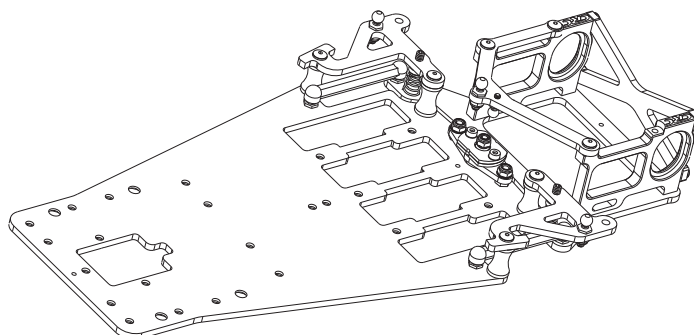
#### Assemble the Tweak Plates

1 - Use the red button head screws [20] to fasten the red standoffs [26] to the graphite tweak plate [22].

2 - Put the red ball stud [17] through the tweak plate and secure with a red locknut [9] as shown in the illustration.

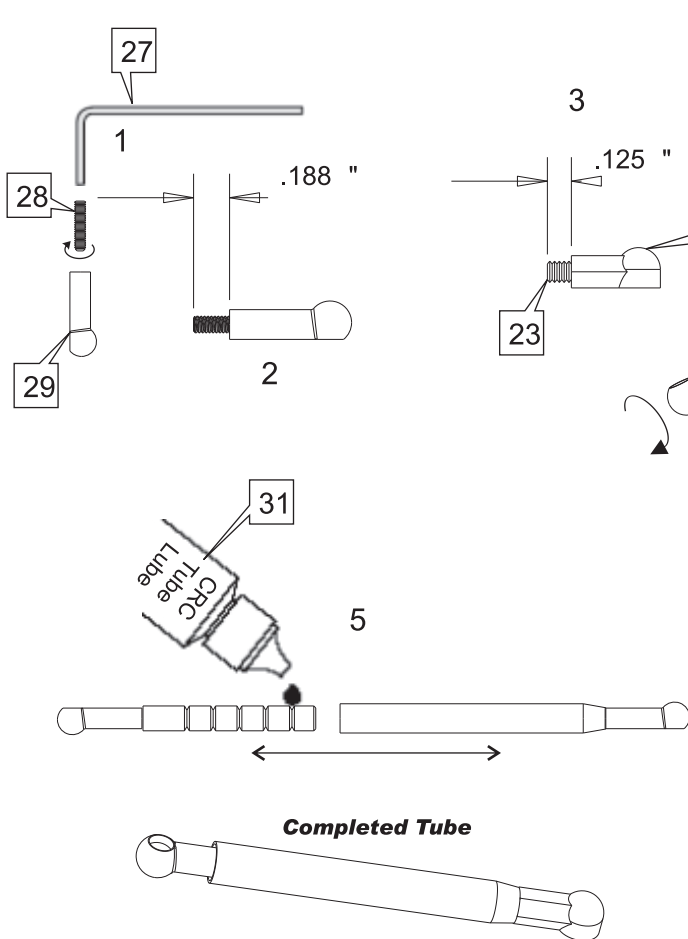
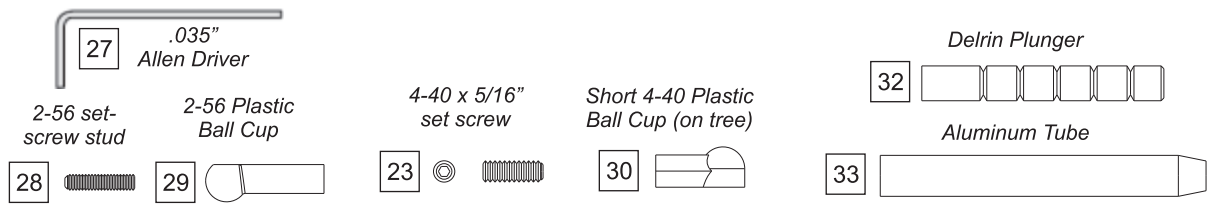


1 - Mount the completed tweak brace assembly to the chassis as shown using the 4-40 x 1/4" red flat head screws [21]. Do this for both left and right side tweak plates.



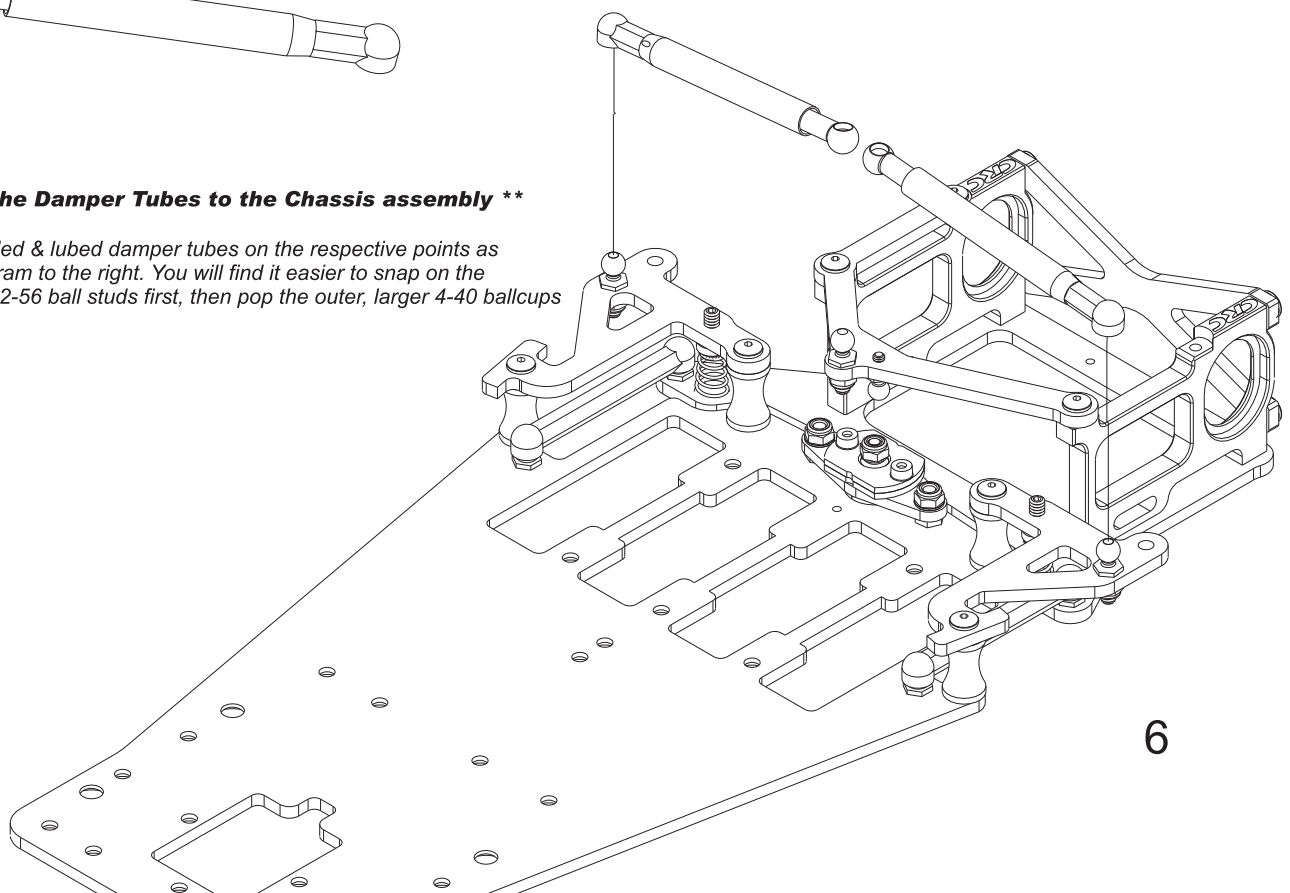
## Damper Tubes

### Bag 5



#### \*\* Adding the Damper Tubes to the Chassis assembly \*\*

Snap the assembled & lubed damper tubes on the respective points as shown in the diagram to the right. You will find it easier to snap on the centered, smaller 2-56 ball studs first, then pop the outer, larger 4-40 ballcups



## Adjustable Battery Position

### Bag 6

4-40 Thin Hex Nut

7

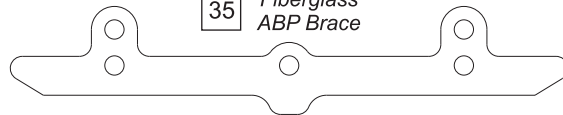


4-40 x 1/4"  
Steel FH

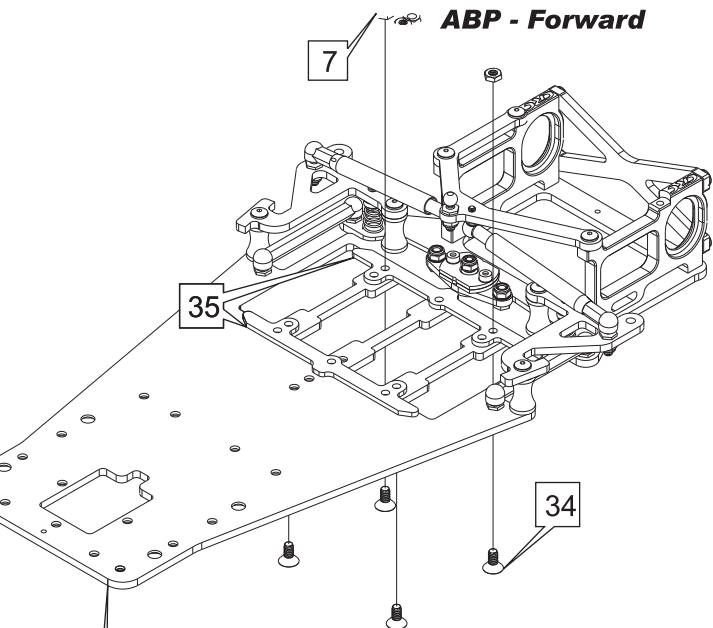
34



35 Fiberglass  
ABP Brace



#### ABP - Forward



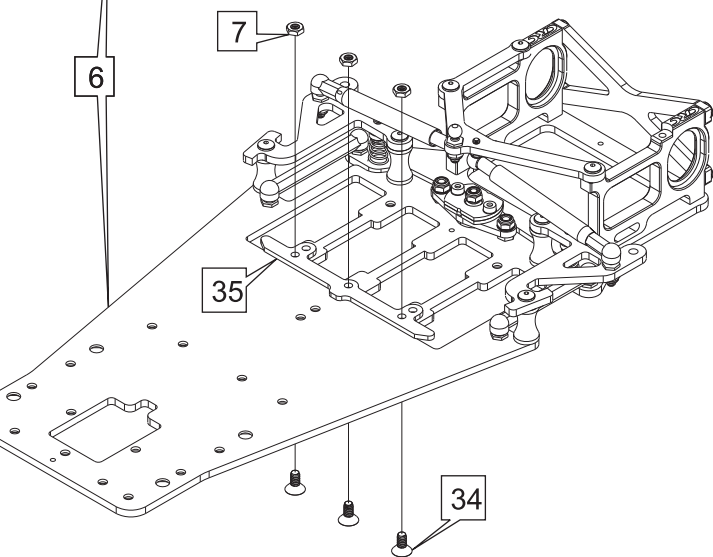
Your new Generation X car has CRC's Adjustable Battery Position (ABP) carried over from the 3.2R. This adjustability gives the car a wide range of handling possibilities. We recommend running the battery forward for medium to high grip carpet conditions.

Using the steel 4-40 x 1/4" flat head screws [34], push the screws through the chassis [6] and then **THREAD** them into the fiberglass ABP brace [35] as shown in the diagram to the left. For the forward battery position, you will use both ABP braces, 4 screws, and 2 nuts [7] on the rear brace.

Be careful not to strip the brace out by over tightening. Also, you can add a drop of super glue to the screws in the front brace to secure it further.

A secondary benefit to the ABP brace... as battery manufacturers "bend" the cell dimension rules, you are able to alter the fiberglass brace to allow inconsistent cells to fit your car. Recently, there have been a rash of both motors and batteries "exceeding" both legal and traditional size limits making it very difficult on the chassis manufacturers.

#### ABP - Rearward



The rearward ABP position generates more chassis rotation, mid and corner exit. This added rotation makes the car more aggressive and a bit harder to drive. This setup is typical used on lower bite carpet or asphalt. Drivers that like a lot of steering will use this rearward position.

For this position, you will use 3 screws and hex nuts and one brace. The rear brace is **NOT** needed. Using the steel 4-40 x 1/4" flat head screws [34], push the screws through the chassis [6] and then **THREAD** them into the fiberglass ABP brace as shown in the diagram to the left.

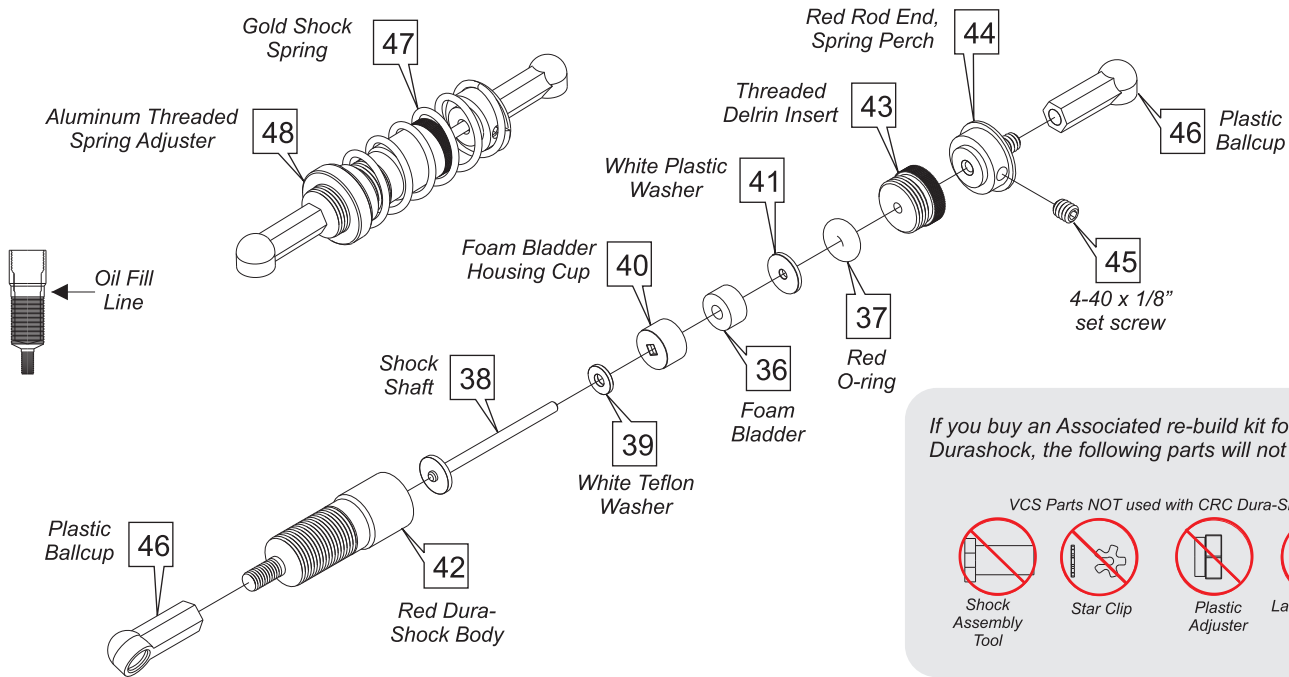
Use the low profile, thin 4-40 hex nuts [7] to lock the brace in position. Tighten securely.



## CRC Dura-Shock Assembly Instructions

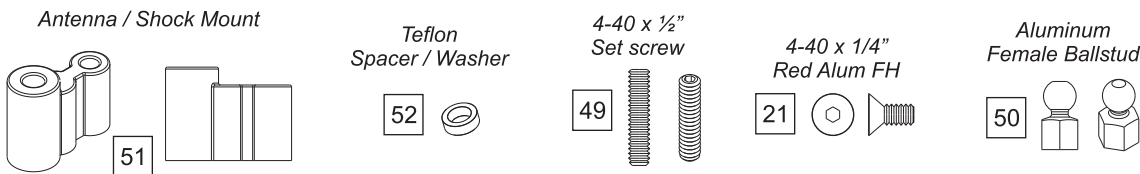
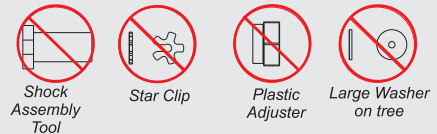
*\*\*\*Pre assembly inspection - Take the shock shaft and slide it through the black Delrin insert. Be sure the shaft slides through freely. If the shaft drags on the Delrin, simply spin an X-acto Knife tip in each end of the delrin piece. The knife will remove the small manufacturing burr that occasionally forms right near the end of the hole.*

- 1 - Using the supplied 30 weight silicone oil, soak the foam bladder [36] in oil. Squeeze the foam to ensure the oil has soaked in. Wet the red O-ring [37] as well.
- 2 - Populate the shock shaft [38] in this order; white washer [39], plastic cup [40] (open end away from piston), soaked foam sponge [36], small washer from parts tree [41], & pre-oiled red O-ring [37].
- 3 - Hold the shock body [42] upright and fill the body with oil to the line shown. Place the populated shaft in the oil slowly.
- 4 - Press the shaft slowly until it stops at the bottom of the shock. Slip the Delrin insert [43] over the shaft and begin to thread into the shock body.
- 5 - The insert will stop threading, hydro-locking as the shock has too much oil. Oil will spill out.
- 6 - Allow the oil to bleed out, tightening and loosening the delrin insert while keeping the shaft fully depressed inside the body. This will bleed the shock.
- 7 - When the shock is fully bled, no oil will leak and the shaft will rebound out very slowly when fully depressed. The shock shaft will rebound out 1/8".



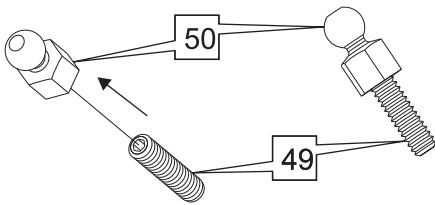
*If you buy an Associated re-build kit for the CRC Durashock, the following parts will not be used;*

*VCS Parts NOT used with CRC Dura-Shock*

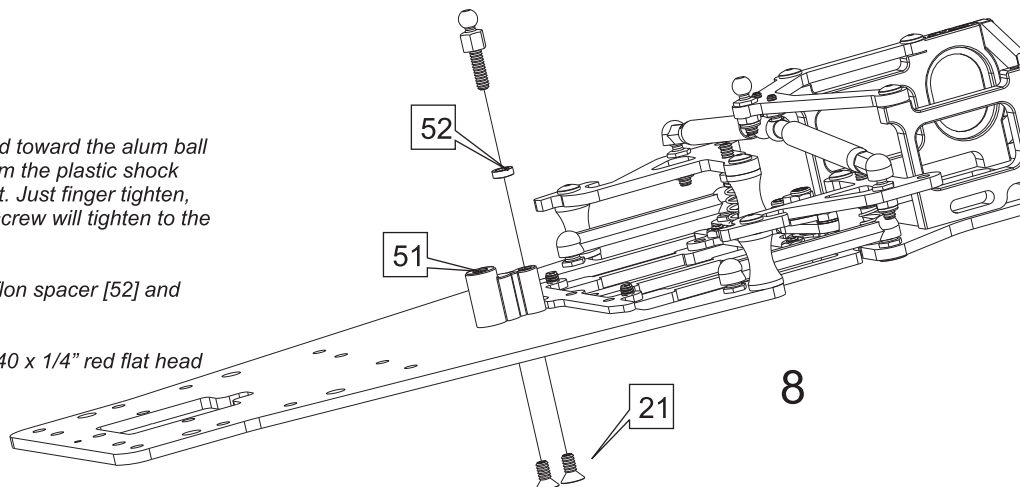


### Center Shock

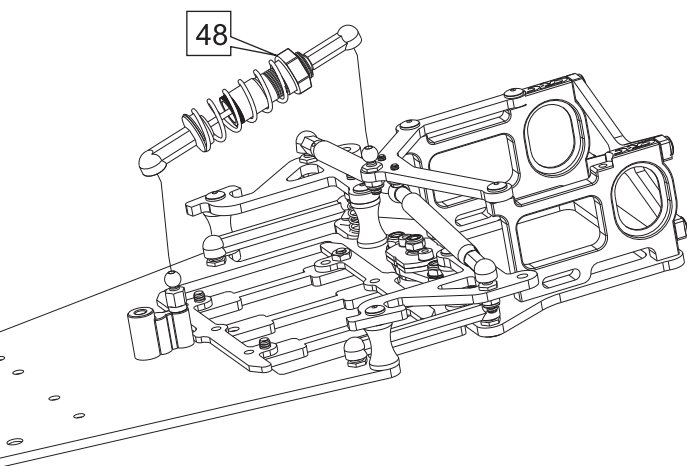
## Bag 7



- 1 - Install the 4-40 x 1/2" set screw [49] with the hex head toward the alum ball stud [50]. This will allow you to remove the set screw from the plastic shock mount [51] should the ballstud and set screw come apart. Just finger tighten, when the assembly is tightened into the mount, the set screw will tighten to the ballstud.
- 2 - Run this ballstud/set screw assembly through the Teflon spacer [52] and into the plastic shock/antenna mount until tight.
- 3 - The plastic mount is secured to the chassis with 2 4-40 x 1/4" red flat head screws [21].



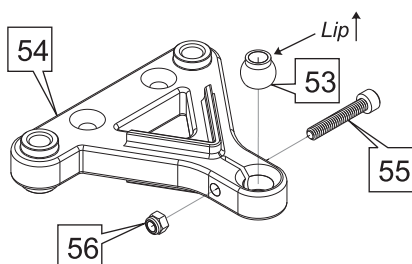
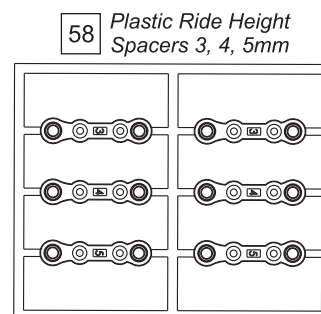
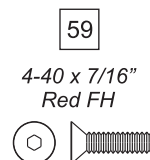
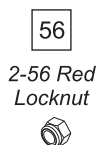
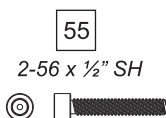




Install the shock on the ball studs as shown. Install shock with the threaded spring adjuster [48] toward the top. While this may seem unconventional, it helps keep the piston in the oil should the shock take on any air. It also makes spring changes easier.

## CRC Pro-Strut Front End

### Bag F



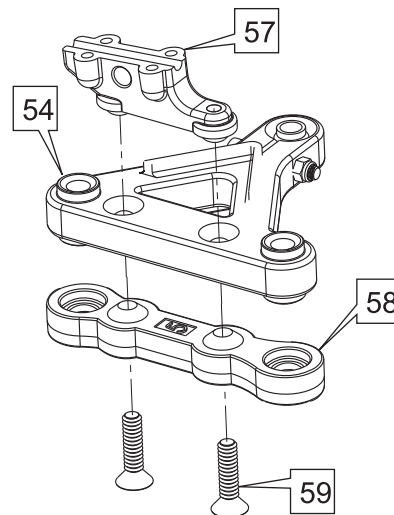
1 - Pop the delrin pivot ball [53] into the lower arm [54]. Place the arm on a strong table and push the ball in with the back of screwdriver handle. Or preferably, you can use CRC's 4279 Ball popper pivot ball tool. Notice the "lip" of the delrin pivot ball is pointing upward. The diagram to the left represents a right side lower arm. For the left side, flip the second arm over and be sure the pivot ball is installed with the lip again facing up.

2 - Once the ball is popped in, insert the black 2-56 clamp screw [55] through the horizontal hole in the lower arm. Thread the 2-56 red locknut [56] onto the black screw. Tighten the screw slowly continuously checking the pivot ball. When it begins to bind a bit, back the 2-56 screw off a bit. The ball should be free to pivot with just a bit of drag. There is no need to have this ball super loose and free, a slight drag will be just the right amount of clamping force.

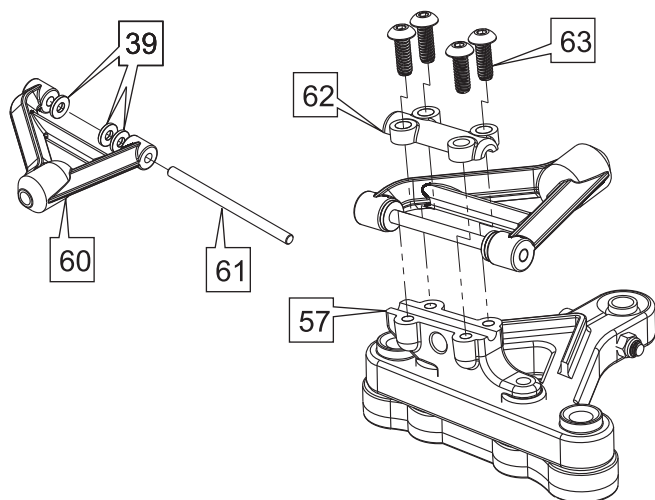
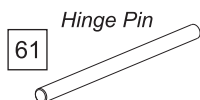
Check this fit after a few runs as the ball will wear and require additional clamping force.

1 - Install the upper A-arm mount [57] with the amount of Dynamic Caster desired. The options are 0, 5 and 10 degrees. The part shown to the right in the diagram is the 5 degree version and is a good starting point. The 10 will angle down more toward the front of the car with the 0 being parallel to the chassis. The general thought is the more Dynamic Caster, more steering the car will have at corner entry.

2 - With side cutters or good scissors, cut off (do NOT break off) the 3, 4 and 5 mm spacers [58] from the ride height tree. Use the 5 mm thickness for stock CRC High Roller tires trued to 1.8". For smaller tires, use the 4 and 3 mm versions. For fine front ride height adjustments, use the CRC #4262 optional front shim set. This set contains .010, .020 and .030" plastic ride height shims. After selecting the proper spacer, push the red 4-40 x 7/16" screw [59] through the plastic ride height spacer [58], then through the lower arm [54], and then thread the screw into the upper A-arm mount [57]. Be sure NOT to over tighten. just firm and snug, you are threading an aluminum screw into the plastic upper A-arm mount.



## CRC Pro-Strut Front End - cont.



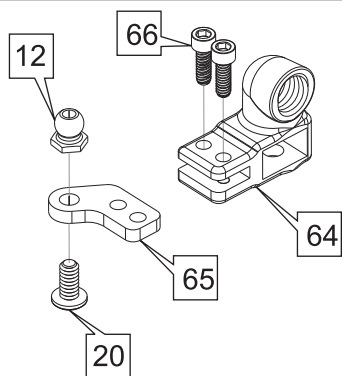
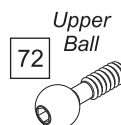
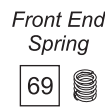
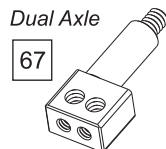
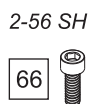
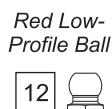
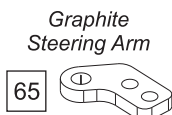
1 - Break the mold tree from the upper A-arm [60]. You can clean up the mold gates with an X-acto or Dremel tool.

2 - Locate the upper arm hinge pin [61] and slide it into one half of the upper arm. Locate 3 small white teflon washers [39]. Push the hinge pin through the 3 washers. Then continue to push the hinge pin all the way into the upper arm.

3 - Now, install the arm/pin/washer assembly onto the upper arm mount [57]. Put the hinge pin in the channel. At this point you can set your starting caster setting by moving these washers forward and back. The position shown to the left will result in a competitive handling. Moving them to the rear will increase steering from the center and exit of the corner.

If the fit of the upper arm is tight, these washers are made from teflon and will flatten slightly with use.

4 - Install the upper cap [62] with 4 black 2-56 button head screws [63]. The topper is the "clamp" for the hinge pin. Be sure to tighten so that any gap is gone, however, do not tighten beyond that point as damage can occur to the upper a-arm mount holes.



1 - Build up the left and right steering blocks [64] as shown to the left. Start by threading the red button head screw [20] through the graphite steering arm [65] and into the red low profile ball [12].

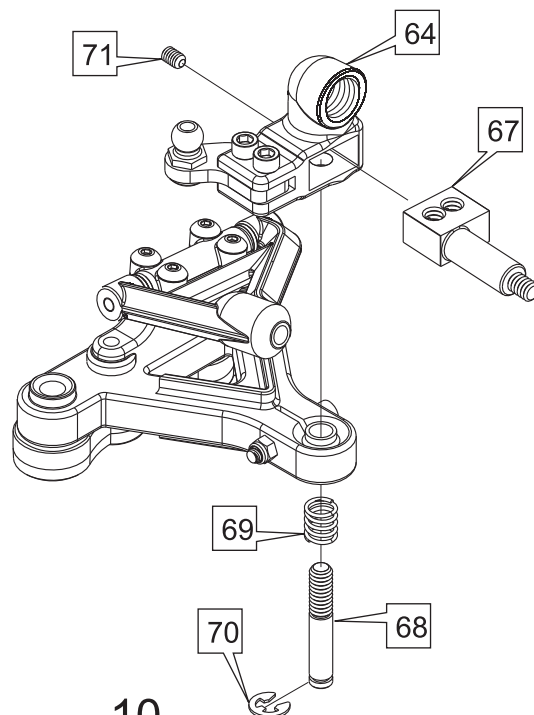
2 - Then, slide the graphite steering arm assembly into the steering block, lining up the 2 mounting holes. Using the black 2-56 socket head screws [66], fasten the arm to the steering block. DO NOT OVER tighten. You will drive the screw through the steering block, deforming the part.

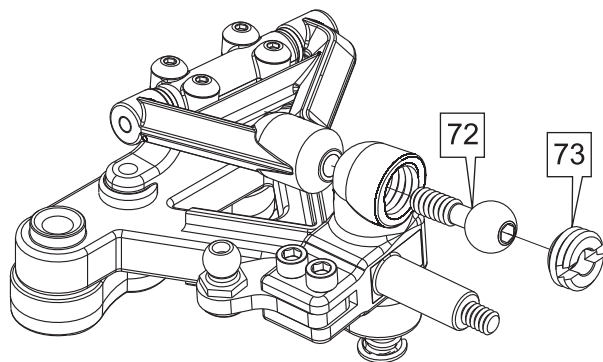
1 - Push the Dual aluminum axle [67] into the plastic steering block [64]. Push it all the way in firmly. Notice you can install the axle inline or trailing. Typically, this is installed trailing for 1/12th road racing. This will slightly slow the steering response as compared to inline.

2 - Take the King pin [68] on the end of the Allen key and slide it through the lower arm pivot ball [53], & then thread it into the steering block. Thread it in until some resistance is met. This is the King pin beginning to thread into the top of the steering block after traveling entirely through the dual axle.

3 - Add the spring [69] to the king pin. The preload on the spring can be adjusted with the king pin length. When on the king pin, you want the end of the spring flush with the e-clip groove. Start by adjusting the king pin so you have to slip the e-clip [70] under the spring to get it in the groove. Just a bit of preload.

4 - Once happy with the preload position, lock the king pin with the 4-40 brass set screw [71] through the back of the steering block.

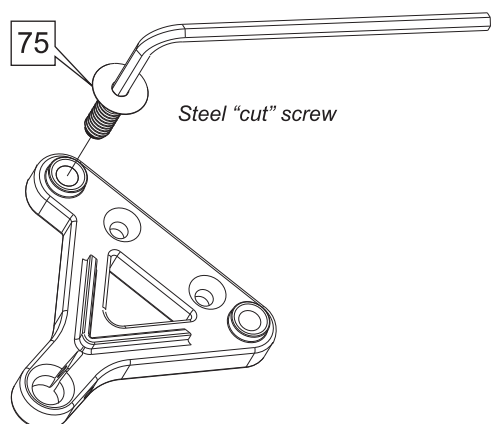




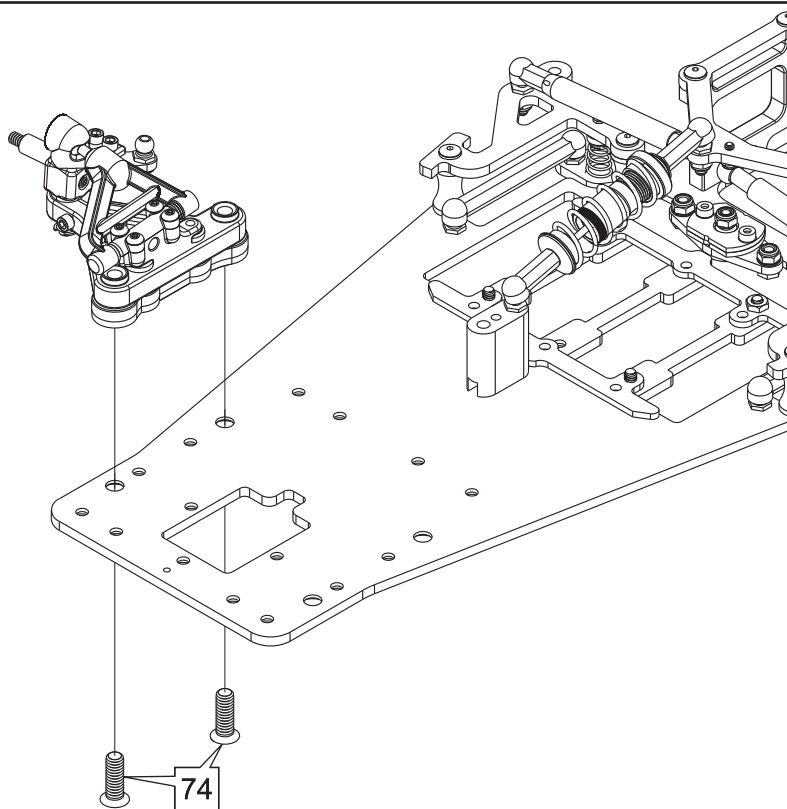
1 - Take the upper pivot ball [72] and push it through the steering block and thread into the upper arm. Thread it in so there are no threads showing.

2 - Take the slotted capture insert [73] and thread it into the steering block. **THIS IS A BIT TRICKY ....** as the insert must be fitted at a down angle as shown to the left. **DO NOT** try to insert it horizontally into the steering block. It is actually threaded in at a down angle toward the center of the car.

3 - Tighten this capture insert so that the steering movement is bound and slow. Yes, we are actually slightly over tightening this piece **FOR NOW**. With the steering movement bound from over tightening, move the steering to it's limits, back and forth. What we are doing is "breaking in" the upper ball/capture insert. After a minute or so of break in, loosen the insert just enough so the steering is free. Not too much or you will induce excessive free play.



Steel "cut" screw



## Installing the Lower arm to the Chassis

The lower arm is molded to be very tight on the red aluminum 8-32 screw [74]. This keeps the arm secure on the chassis. However, this tight fit causes a great strain on the red aluminum phillips screw head. To lessen the chance of stripped screws, we have included a steel "Thread Cutting" screw [75]. This screw has a hex head to allow you to drive the screw in the plastic, cutting threads perfect for 8-32 screw.

1 - Before using the aluminum 8-32 screws, cut threads with the steel hex head 8-32 screws.

2 - After the threads are formed, use the aluminum 8-32 screws to mount the front suspension assembly to the chassis [6]. Push the screw through the chassis and then screw into the lower front suspension arm.

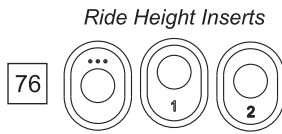
3 - Tighten both screws firmly. Remember, it is an aluminum screw in a plastic arm, so be careful not to strip the head nor the threads in the arm.

4 - Do both left and right.

5- You can add or remove washers or use CRC's 4262 plastic shim kit for fine ride height adjustments.

## Bag 8

### Differential Axle



1/4" x 3/8"  
Flanged Bearing



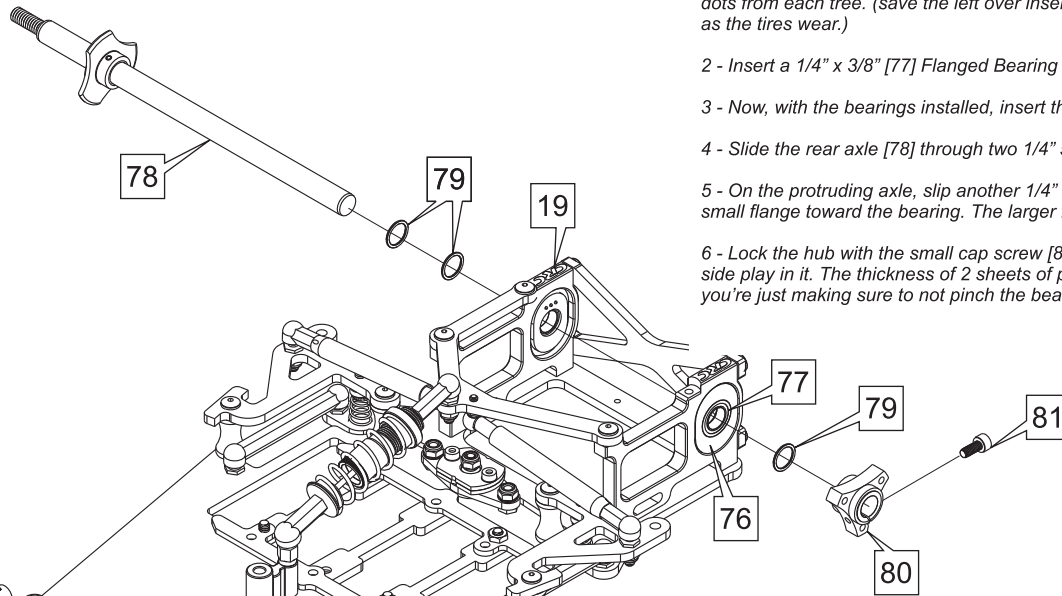
1/4" Shim



Red Clamp Hub



m2.5 x 6mm  
Socket Cap



1 - Locate the 2 trees of rear bearing carrier / ride height inserts [76]. Remove the insert with the 3 dots from each tree. (save the left over inserts as you will use these to increase the rear ride height as the tires wear.)

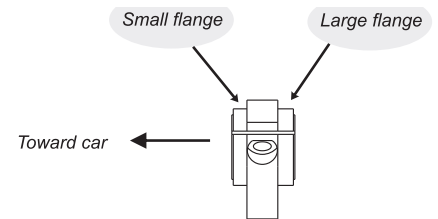
2 - Insert a 1/4" x 3/8" [77] Flanged Bearing into each of the #3 spacers.

3 - Now, with the bearings installed, insert the ride height spacers into the rear pod plates [19].

4 - Slide the rear axle [78] through two 1/4" shims [79] and into the 2 rear pod bearings.

5 - On the protruding axle, slip another 1/4" shim over the axle. Then slip the hub [80] on with the small flange toward the bearing. The larger flange should face out.

6 - Lock the hub with the small cap screw [81] so that the axle has a very small amount of side to side play in it. The thickness of 2 sheets of paper is plenty. You don't want excessive play here, you're just making sure to not pinch the bearings.



## Bag 9

### Differential

Light "D" ring



1/4" x 3/8"  
Plain Bearing



Diff Hub



1/4" x 3/8"  
Flanged Bearing



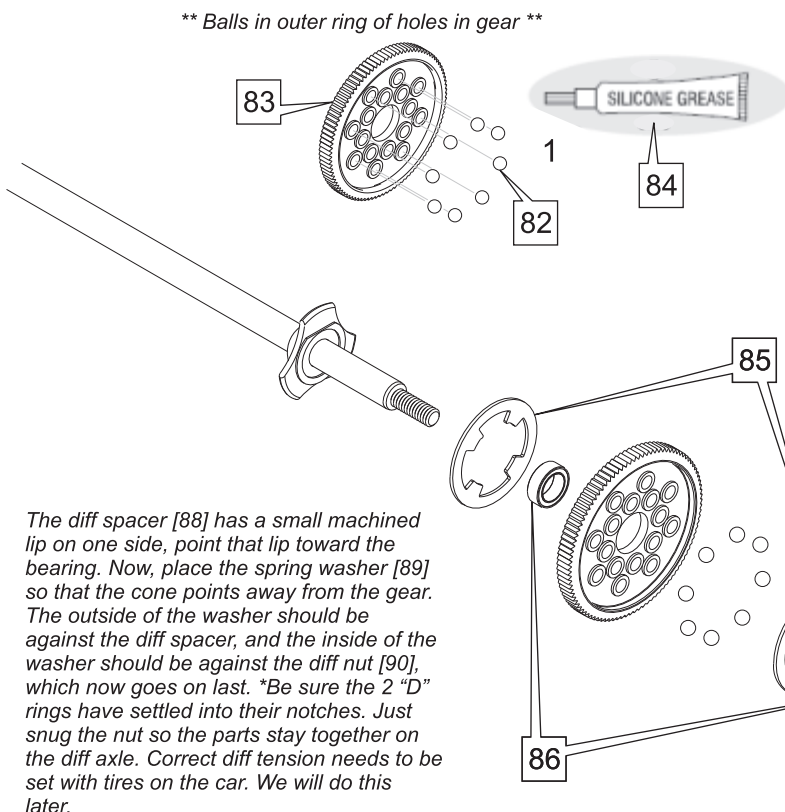
Diff Spacer



Spring Washer



Nylon Diff Nut



\*\* Balls in outer ring of holes in gear \*\*

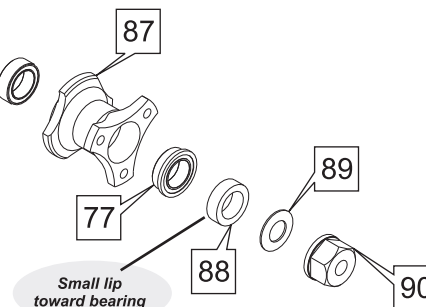
#### 1 - INSTALL AND GREASE THE DIFF BALLS

Pop the 1/8" diff balls [82] into each of the outer ring of holes in the diff gear [83]. The balls snap into the socket. Place a small dab of silicone diff grease [84] on each ball. Use very little!

#### 2 - DIFF ASSEMBLY

\*(Holding the car on it's side, with the rear axle pointing upright will ease assembly of the diff.) Place 1 diff ring [85], and then a 1/4" x 3/8" plain bearing [86] over the end of the axle. Align the diff ring so that it notches into the axle flange. Place the assembled gear with the greased diff balls over the axle and push it down over the plain bearing. Next, insert the other plain bearing into the back of the diff hub [87]. Then, align the second diff ring with the notch on the back of the diff hub. \*(place a small dab of the diff grease on the hub first to hold the ring in place.)\* Now, slide the hub, bearing, & diff ring down over the axle. Next, slide a flanged bearing [77] over the axle and into the front of the diff hub.

The diff spacer [88] has a small machined lip on one side, point that lip toward the bearing. Now, place the spring washer [89] so that the cone points away from the gear. The outside of the washer should be against the diff spacer, and the inside of the washer should be against the diff nut [90], which now goes on last. \*Be sure the 2 "D" rings have settled into their notches. Just snug the nut so the parts stay together on the diff axle. Correct diff tension needs to be set with tires on the car. We will do this later.



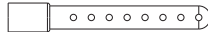


## Bag 10

4-40 x 1/8"  
Set Screw

45

91 Body Post



Body Post Collar

94



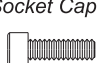
4-40 x 3/8"  
Red FH

92

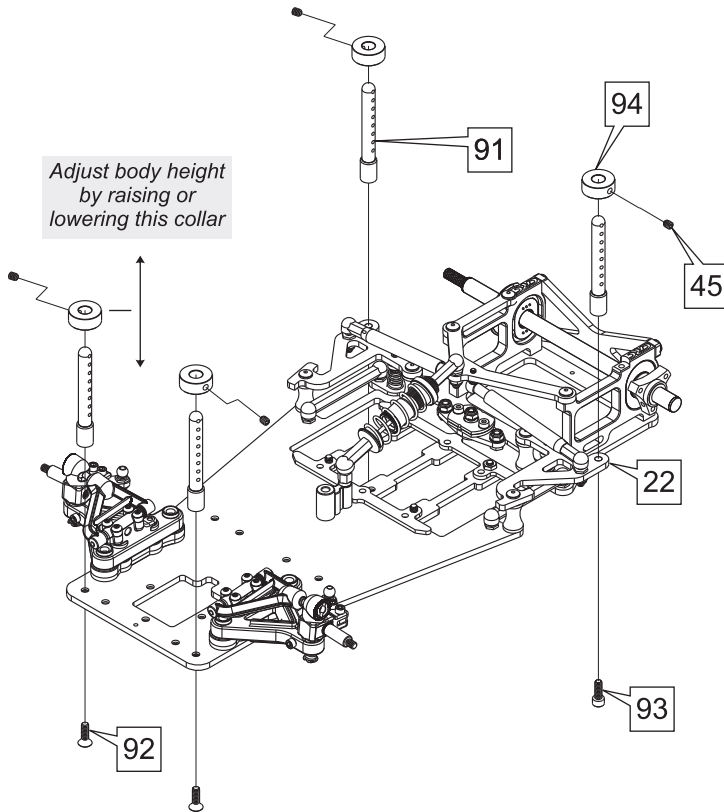


4-40 x 3/8"  
Red Socket Cap

93



Adjust body height  
by raising or  
lowering this collar



### BODY POSTS

Secure both front body posts [91] to the chassis with the red 4-40 x 3/8" screws [92].

For the rear body posts, use the red socket cap screw [93]. Mount the body post to the Tweak Plate [22].

Thread the 1/8" set screw [45] into the plastic collar [94]. Adjust the collar up and down the body post to accommodate the body shell used. Lock the collar with the set screw.

## Mounting Tires

## Bag 11

4-40 x 5/16"  
Red Socket Cap

95



3/16" Shim

96



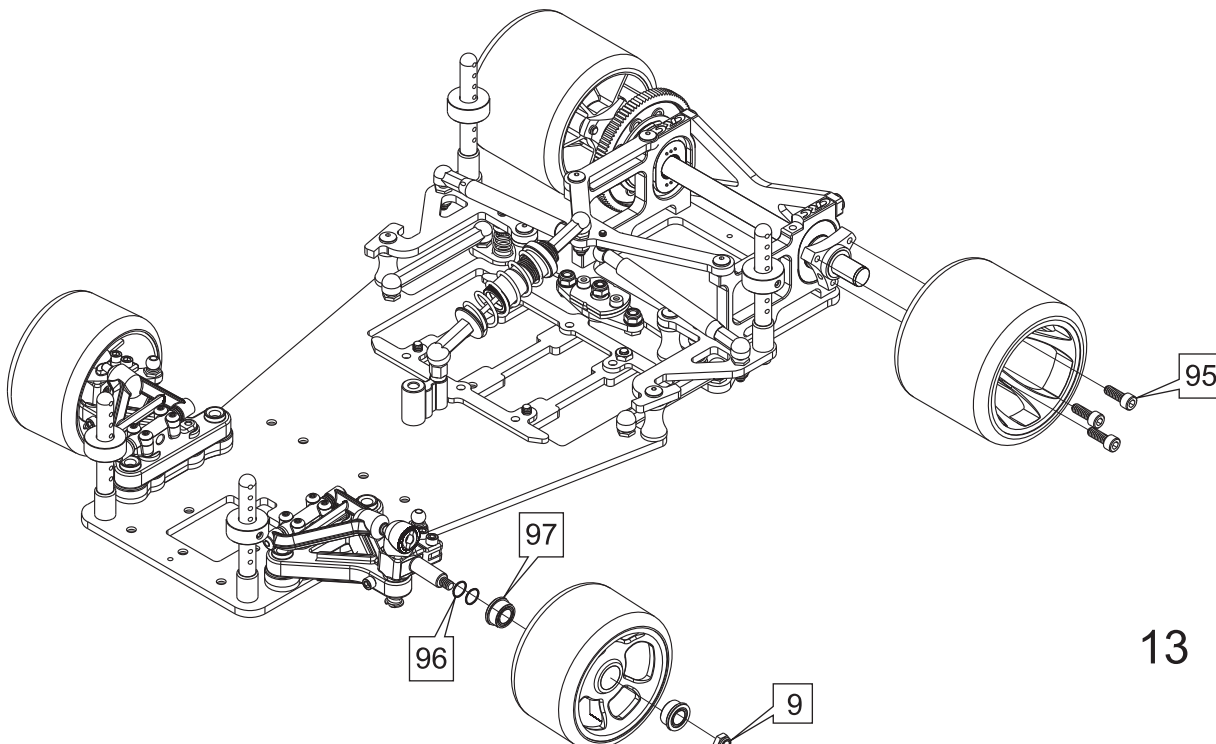
3/16" x 5/16"  
Flanged Bearing

97



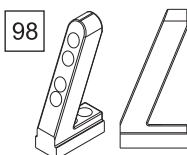
Red Locknut

9





Red Servo Mount



4-40 x 1/4"  
Red Alum FH



## Red Aluminum Servo Mounts

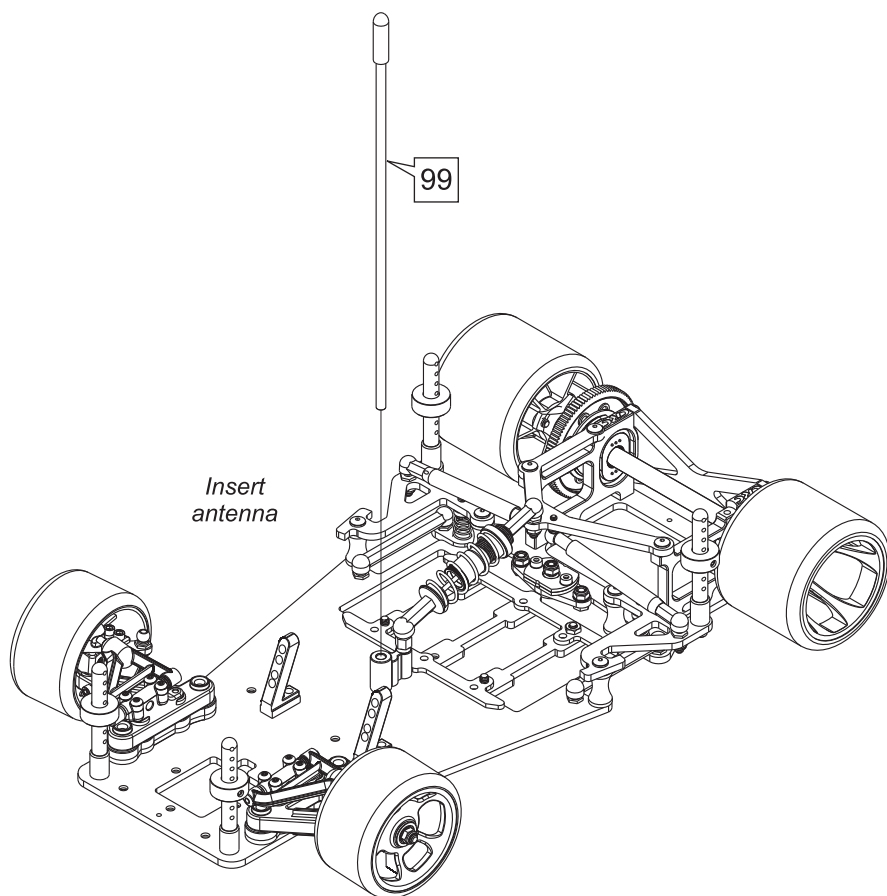
CRC has pre-drilled the Generation X for both JR, Expert and Hitec on one side, and Futaba/KO/Sanwa on the other side. Refer to the diagrams on the right for instruction on what brand to use and in which locations.

Right side

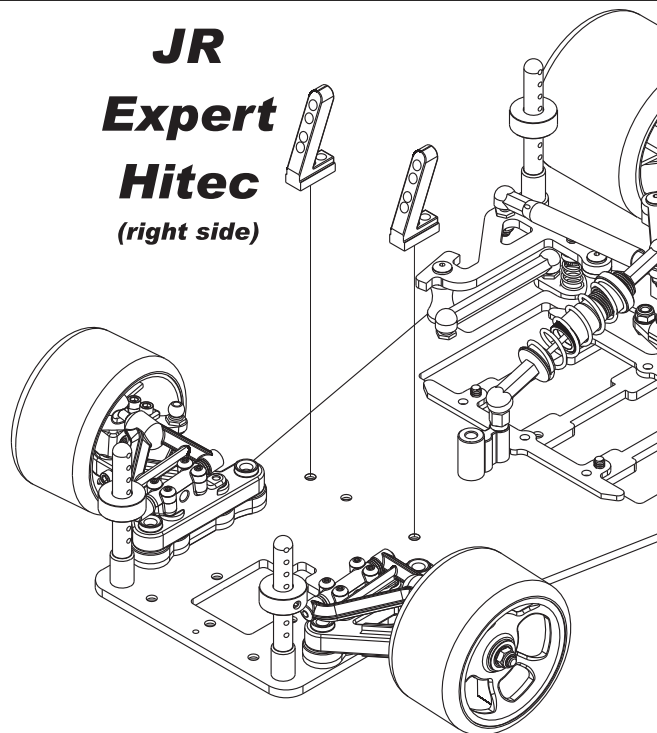
JR - 3550, 3650, Expert 451, Hitec 225

Left side

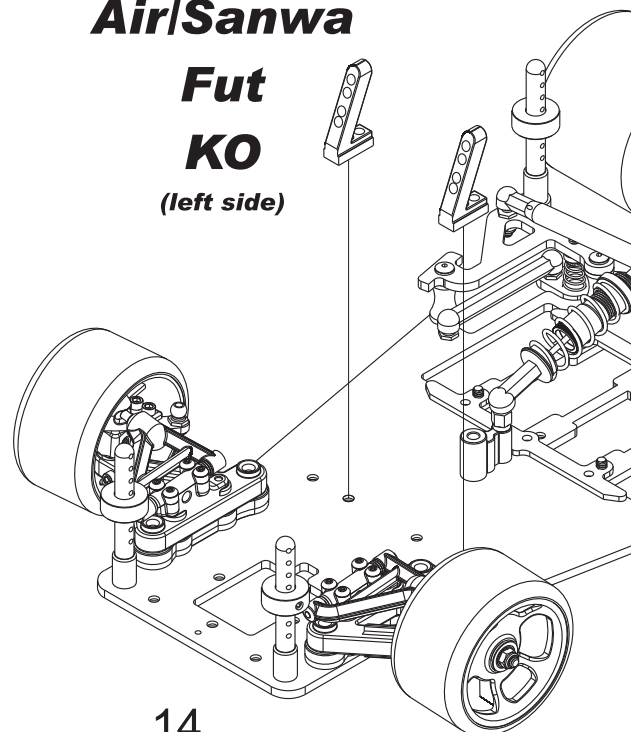
Futaba 9650, KO 949, Air/Sanwa 94141,94145



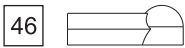
**JR**  
**Expert**  
**Hitec**  
(right side)



**Air/Sanwa**  
**Fut**  
**KO**  
(left side)



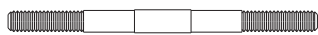
Plastic Ball Cups



46

100

Steering Tie Rod



Red Alum  
4-40 Ballstud

17



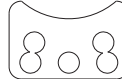
Red Locknut

9



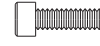
Servo Saver Brace

101



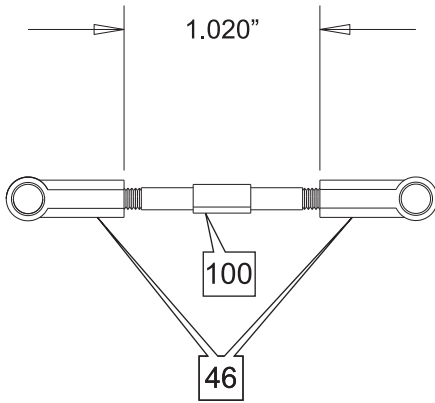
4-40 x 3/8"  
Red Socket Cap

93



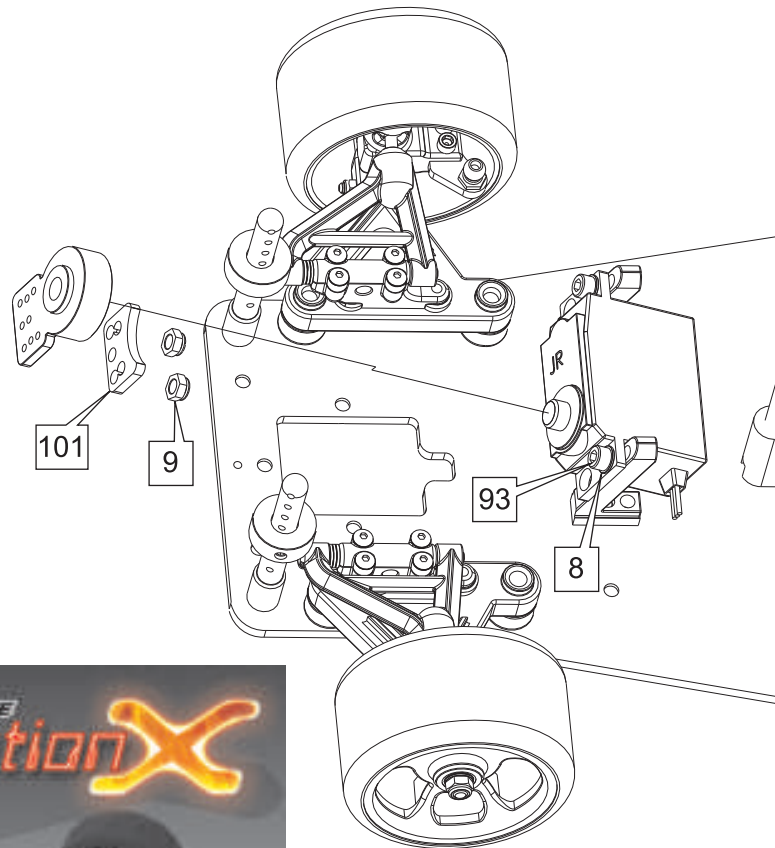
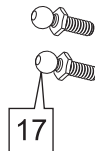
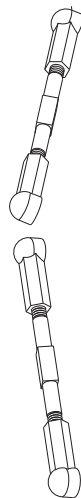
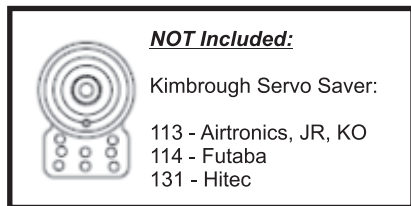
Washer

8



Make 2 tie rods as shown to the left. This 1.02" gap should be a good starting point for toe-in adjustment. You will need to adjust the final length after the car is fully ready to run.

Install the servo saver (not included) and assorted hardware as shown below.



15

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# Gen-X Spare Parts List

(Sorted by kit ID#)

<b>ID#</b>	<b>Kit / Part Description</b>	<b>Part #</b>	<b>Packaged Part Description</b>
1	Plastic Pivot Pieces	1274	Plastic Center Pivot Pieces
2	2-56 Flat Head screw	12753	2-56 x 1/4" Flat Head - Hex (4)
3	Graphite Football	3272	Graphite Pivot Plate - Gen X
4	Flanged Pivot Ball	4019	Aluminum Pivot Balls
5	4-40 x 3/8 steel flat head	1428	3/8" x 4-40 FH Allen-SS
6	Graphite Main Chassis	3255	Chassis-Gen X
7	4-40 thin hex nut	12772	Small Hex Nuts CK Pivot Plate (10)
		3273	ABP adjusting plates (2) GenX
8	Small Washer	1209	Servo Mount Washer (10)
9	4-40 red locknut	1412	Alum Locknuts-Red Anodized (10)
		1410	Andzd Alum Screw Set - CK
10	Graphite Bottom Plate	3266	Bottom plate- Gen X
11	Long red flat head screw	1410	Andzd Alum Screw Set - CK
12	Red pivot Ball	13615	Anodized Low Roll Center Balls (4)
13	4-40 x 5/16 steel flat head	1426	5/16 x 4-40 FH Allen-SS (4)
14	One-Piece side links	1380	One-Piece Links for CK (2)
15	Black 2-56 ballstud	1384	2-56 Ballstuds & Ballcups for Damper tubes (4)
16	Graphite Top Plate	3265	Top plate - Gen X
17	Red Ball Stud	1409	Anodized 4-40 Ball Studs (4)
18	X-Brace	3274	Rear X-brace - Gen X
19	Aluminum Pods	3340	Low Profile Motor Pod-Gen X
20	Red Button Head screw	1410	Andzd Alum Screw Set - CK
21	4-40 x 1/4 alum flathead	1410	Andzd Alum Screw Set - CK
22	Graphite Tweak Plate	3270	Tweak plate- Gen X (1)
23	Tweak Screw	1288	5/16 x 4-40 set screw-twkw 3.2 & Gen X
24	Metal Spring Holder	12871	Metal Spring Holders
25	Side Spring	1296	Side Spring- White - Med
		1280	Rear Side Spring Set
26	Red Standoffs	1260	CRC Hour-glass Standoff 1/2
27	.035 allen wrench	13695	.035 Allen wrench
28	2-56 set screw stud	1397	2-56 Stud for Damper Tubes w/ .035 hex head
		3269	Red Torpedo Tube (1) Gen X
29	2-56 Plastic Ball Cup	1384	2-56 Ballstuds & Ballcups for Damper tubes (4)
		3269	Red Torpedo Tube (1) Gen X
30	Short 4-40 Ball Cup	32694	Short ball cup-(4) Gen X damper tube
		3269	Red Torpedo Tube (1) Gen X
31	CRC Tube Lube	4212	CRC Tube Lube - Heavy (white cap)
32	Delrin Plunger	32693	Delrin Plunger for Short Gen X Damper Tube
		3269	Red Torpedo Tube (1) Gen X
33	Aluminum Tube	32691	Red Aluminum Tube - Gen X (Tube Only)
		3269	Red Torpedo Tube (1) Gen X
34	Steel 4-40 x 1/4" flathead	1424	1/4 x 4-40 FH Allen-SS (4)
		3273	ABP adjusting plates (2) GenX
35	ABP Braces	3273	ABP adjusting plates (2) GenX
36	Foam Bladder	13451	Durashock rebuild kit (2)
		4281	DuraShock Complete - Red
37	Red Shock O-Ring	13451	Durashock rebuild kit (2)
		4281	DuraShock Complete - Red
38	Shock Shaft	4283	Dura-Shaft for VCS/Dura shock
		4281	DuraShock Complete - Red

# Gen-X Spare Parts List

(Sorted by kit ID#)

<u>ID#</u>	<u>Kit / Part Description</u>	<u>Part #</u>	<u>Packaged Part Description</u>
39	White Teflon Washer	1253	Front Hinge pin Teflon washers - (8)
40	Plastic Cup for foam	13451	Durashock rebuild kit (2)
		4281	DuraShock Complete - Red
41	Small Washer	13451	Durashock rebuild kit (2)
		4281	DuraShock Complete - Red
42	Shock Body	4285	Dura-Shock Conversion - Red
		4281	DuraShock Complete - Red
43	Threaded Delrin Plug	13458	Threaded Shock Insert - Durashock
		4281	DuraShock Complete - Red
44	Rod End, Spring Perch	13456	VCS Rod end/Sprng Pearch - Anodized
		4281	DuraShock Complete - Red
45	4-40 x 1/8 set screw	13783	1/8th Set Screw (6)
46	Plastic Ball Cup	1231	Steering Plastic Ballcups (8)
47	Shock Spring	1348	Gold Spring - VCS
48	Threaded Spring Retainer	13459	Alum VCS Spring Adj Collar (2)
		4281	DuraShock Complete - Red
49	4-40 x 1/2 set screw	1391	4-40 x 1/2 Set Screws
50	Female Hex Ballstud	1407	Anodized Hex Balls
51	Antenna Mount	3346	Antenna/shock mnt-plastic
52	Teflon Spacer	3346	Antenna/shock mnt-plastic
53	Delrin Pivot ball	3246	Delrin pivot ball (4) Pro Strut
54	Lower Arm	3247	CRC Front Arm set-up and low
55	2-56 Clamp Screw	3242	Clamp screw+nut-Pivot ball (2)
56	2-56 Locknut	3242	Clamp screw+nut-Pivot ball (2)
		1472	2-56 mini locknuts (red) (8)
57	Upper A-arm Mount	3243	Upper Arm mnt set-0,5,10 (2)
58	Plastic Ride Height Spacers	3233	Molded ride height spacers - 3, 4, & 5mm
59	4-40 x 7/16" Red FH	1453	4-40 x 7/16" FH Alum 7075-Red
60	Upper A-arm	3247	CRC Front Arm set-up and low
61	Upper Hinge Pin	3245	CRC FE Hinge Pin (2)
62	Upper Cap	3243	Upper Arm mnt set-0,5,10 (2)
63	2-56 Button Head	3254	2-56 x 1/4 BH-for upper cap (10)
64	Steering Blocks	3251	CRC Steering Block set
65	Graphite Steering Arm	3252	Graphite Steering arm (pr.)
66	Socket Head 2-56 screw	3253	2-56x1/4 SH-steering arm (10)
67	Dual Aluminum Axle	3235	CRC Dual Front Axle (pr.)
68	King Pin	3250	CRC 1/12 King Pin set-polished
69	Front End Spring	3392	Front End Spring .50mm (pr.)
70	E-Clip	1382	1/8 E-clips-100 pieces
71	Brass Set Screw	3234	Brass 4-40 Set screws-2 pr.
72	Upper Pivot Ball	3244	CRC Big Upper Ball Stud (2)
73	Capture Insert	3251	CRC Steering Block set
74	Red 8-32 Front End Screws	12392	8-32 Front End screws (red)
		1410	Andzd Alum Screw Set - CK
75	Thread Cutting Screw	N/A	
76	Axle Carrier / Ride Height Spacer	1385	Plastic Ride Heights 1-4
77	1/4 x 3/8 Flanged Axle bearing	13861	1/4 x 3/8 Flanged Axle bearing (1)
		1386	1/4 x 3/8 Flanged Axle bearing (10)
78	Rear Axle	4228	Large D-ring Axle - Red
		4220	Complete Large D Ring Diff Assembly - Red

# Gen-X Spare Parts List

(Sorted by kit ID#)

<u>ID#</u>	<u>Kit / Part Description</u>	<u>Part #</u>	<u>Packaged Part Description</u>
79	1/4" rear axle shim	4732	1/4 Shim Set (20)
		4220	Complete Large D Ring Diff Assembly - Red
80	Left Clamp Hub	3333	Super light left clamp hub-red
		4220	Complete Large D Ring Diff Assembly - Red
81	Socket Head Clamp Screw	3332	M2.5 x 6mm Cap Head Screw (6)
		3333	Super light left clamp hub-red
82	1/8" Diff Balls	1229	Diff Balls for gear (100 pcs.)
83	Diff Gear	1230	Spur gear for 1/12th (98T)
84	Silicone Diff Grease	4205	Diff Lube - Silicone 4cc
85	Diff Ring	4202	Lightened Large D-rings
		4220	Complete Large D Ring Diff Assembly - Red
86	1/4 x 3/8 Unflanged Axle bearing	13871	1/4 x 3/8 Unflanged Axle bearing (1)
		1387	1/4 x 3/8 Unflanged Axle bearing (10)
87	Diff Hub	4224	Large Ring Diff Hub - Red
		4220	Complete Large D Ring Diff Assembly - Red
88	Diff Spacer	4121	Aerodiff Spacer collar
		4220	Complete Large D Ring Diff Assembly - Red
89	Spring Washer	4123	Belleville Spng wash-3 bolt(2)
		4220	Complete Large D Ring Diff Assembly - Red
90	Plastic Locknut	4126	8-32 Nylon Locknut (2)
		4220	Complete Large D Ring Diff Assembly - Red
91	Body Mounts	1378	Body Post Set-for CK
92	4-40 x 3/8 Red Flat Head Screw	1410	Andzd Alum Screw Set - CK
93	4-40 x 3/8 Socket Cap Screw	1410	Andzd Alum Screw Set - CK
94	Plastic Collar	1378	Body Post Set-for CK
95	4-40 x 5/16 Cap Head Screw	1410	Andzd Alum Screw Set - CK
96	3/16 front wheel shim	4745	3/16 Shim Set (20) x .010
97	3/16 x 5/16 Flanged Bearing	32481	3/16 x 5/16 Flanged Bearing (1)
		3248	3/16 x 5/16 Flanged Bearing (10)
98	Servo Mount	4017	Aluminum Servo Mount - 4 hole Anodized
99	Antenna Mast	1347	Fiberglass rollover w/Tip
100	Steering Tie Rod	3217	Steering Tie Rod (2)
101	Servo Saver Brace	4088	Graphite Servo Saver Brace



# Gen-X Spare Parts List

(Sorted by Part #) - (**Bold** = option part)

<u>Part #</u>	<u>Packaged Part Description</u>	<u>ID#</u>	<u>Kit / Part Description</u>
1209	Servo Mount Washer (10)	8	Small Washer
1229	Diff Balls for gear (100 pcs.)	82	1/8" Diff Balls
1230	Spur gear for 1/12th (98T)	83	Diff Gear
1231	Steering Plastic Ballcups (8)	46	Plastic Ball Cup
1253	Front Hinge pin Teflon washers - (8)	39	White Teflon Washer
1260	CRC Hour-glass Standoff 1/2	26	Red Standoffs
1274	Plastic Center Pivot Pieces	1	Plastic Pivot Pieces
<b>1280</b>	<b>Rear Side Spring Set</b>	25	Side Spring
1288	5/16 x 4-40 set screw-twkl 3.2 & Gen X	23	Tweak Screw
<b>1295</b>	<b>Side Spring- Blue - Soft</b>		
1296	Side Spring- White - Med	25	Side Spring
<b>1297</b>	<b>Side Spring- Red - firm</b>		
<b>1298</b>	<b>Side Spring- Green X-firm</b>		
<b>1299</b>	<b>Side Spring Purple XX-Firm</b>		
<b>1339</b>	<b>Blue Spring - VCS</b>		
<b>1340</b>	<b>Red Spring - VCS</b>		
<b>1341</b>	<b>Copper Spring - VCS</b>		
<b>1342</b>	<b>CRC Stiff Silver .050</b>		
<b>1343</b>	<b>CRC Super Stiff Silver .055</b>		
<b>1344</b>	<b>Center Spring Set</b> - (includes 1340,1341,1342,1343)		
1347	Fiberglass rollover w/Tip	99	Antenna Mast
1348	Gold Spring - VCS	47	Shock Spring
<b>1357</b>	<b>1/12th Scale Kydex Bumper</b>		Front Bumper
1378	Body Post Set-for CK	91	Body Mounts
		94	Plastic Collar
1380	One-Piece Links for CK (2)	14	One-Piece side links
1382	1/8 E-clips-100 pieces	70	E-Clip
1384	2-56 Ballstuds & Ballcups for Damper tubes (4)	15	Black 2-56 ballstud
		29	2-56 Plastic Ball Cup
1385	Plastic Ride Heights 1-4	76	Axle Carrier / Ride Height Spacer
1386	1/4 x 3/8 Flanged Axle bearing (10)	77	1/4 x 3/8 Flanged Axle bearing
1387	1/4 x 3/8 Unflanged Axle bearing (10)	86	1/4 x 3/8 Unflanged Axle bearing
1391	4-40 x 1/2 Set Screws	49	4-40 x 1/2 set screw
1397	2-56 Stud for Damper Tubes w/ .035 hex head	28	2-56 set screw stud
1407	Anodized Hex Balls	50	Female Hex Ballstud
1409	Anodized 4-40 Ball Studs (4)	17	Red Ball Stud
1410	Andzd Alum Screw Set - CK	9	4-40 red locknut
		11	Long red flat head screw
		20	Red Button Head screw
		21	4-40 x 1/4 alum flathead
		74	Red 8-32 Front End Screws
		92	4-40 x 3/8 Red Flat Head Screw
		93	4-40 x 3/8 Socket Cap Screw
		95	4-40 x 5/16 Cap Head Screw
1412	Alum Locknuts-Red Anodized (10)	9	4-40 red locknut
1424	1/4 x 4-40 FH Allen-SS (4)	34	Steel 4-40 x 1/4" flathead
1426	5/16 x 4-40 FH Allen-SS (4)	13	4-40 x 5/16 steel flat head
1428	3/8" x 4-40 FH Allen-SS	5	4-40 x 3/8 steel flat head
1453	4-40 x 7/16" FH Alum 7075-Red	59	4-40 x 7/16" Red FH
1472	2-56 mini locknuts (red) (8)	56	2-56 Locknut

# Gen-X Spare Parts List

(Sorted by Part #) - (**Bold** = option part)

<u>Part #</u>	<u>Packaged Part Description</u>	<u>ID#</u>	<u>Kit / Part Description</u>
<b>2172</b>	<b>1/12th Magenta Front Pro-Cuts</b>		Tires
2173	1/12th Purple Front Pro-Cuts		Tires
<b>2174</b>	<b>1/12th Black Front Pro-Cuts</b>		Tires
<b>2175</b>	<b>1/12th Pink Rear Pro-Cuts</b>		Tires
<b>2176</b>	<b>1/12th Magenta Rear Pro-Cuts</b>		Tires
2178	1/12th Grey Rear Pro-Cuts		Tires
<b>2179</b>	<b>1/12th White Rear Pro-Cuts</b>		Tires
<b>2180</b>	<b>1/12th Grey Front Pro-Cuts</b>		Tires
3217	Steering Tie Rod (2)	100	Steering Tie Rod
3233	Molded ride height spacers - 3, 4, & 5mm	58	Plastic Ride Height Spacers
3234	Brass 4-40 Set screws-2 pr.	71	Brass Set Screw
3235	CRC Dual Front Axle (pr.)	67	Dual Aluminum Axle
<b>3236</b>	<b>3 mm Graphite Ride Height Spacer</b>		
3242	Clamp screw+nut-Pivot ball (2)	55	2-56 Clamp Screw
		56	2-56 Locknut
3243	Upper Arm mnt set-0,5,10 (2)	57	Upper A-arm Mount
		62	Upper Cap
3244	CRC Big Upper Ball Stud (2)	72	Upper Pivot Ball
3245	CRC FE Hinge Pin (2)	61	Upper Hinge Pin
3246	Delrin pivot ball (4) Pro Strut	53	Delrin Pivot ball
3247	CRC Front Arm set-up and low	54	Lower Arm
		60	Upper A-arm
3248	3/16 x 5/16 Flanged Bearing (10)	97	3/16 x 5/16 Flanged Bearing
<b>3249</b>	<b>3/16 x 5/16 unflanged (10)</b>		
3250	CRC 1/12 King Pin set-polished	68	King Pin
3251	CRC Steering Block set	64	Steering Blocks
		73	Capture Insert
3252	Graphite Steering arm (pr.)	65	Graphite Steering Arm
3253	2-56x1/4 SH-steering arm (10)	66	Socket Head 2-56 screw
3254	2-56 x 1/4 BH-for upper cap (10)	63	2-56 Button Head
3255	Chassis-Gen X	6	Graphite Main Chassis
3265	Top plate - Gen X	16	Graphite Top Plate
3266	Bottom plate- Gen X	10	Graphite Bottom Plate
3269	Red Torpedo Tube (1) Gen X	28	2-56 set screw stud
		29	2-56 Plastic Ball Cup
		30	Short 4-40 Ball Cup
		32	Delrin Plunger
		33	Aluminum Tube
3270	Tweak plate- Gen X (1)	22	Graphite Tweak Plate
3272	Graphite Pivot Plate - Gen X	3	Graphite Football
3273	ABP adjusting plates (2) GenX	7	4-40 thin hex nut
		34	Steel 4-40 x 1/4" flathead
		35	ABP Braces
3274	Rear X-brace - Gen X	18	X-Brace
3332	M2.5 x 6mm Cap Head Screw (6)	81	Socket Head Clamp Screw
3333	Super light left clamp hub-red	80	Left Clamp Hub
		81	Socket Head Clamp Screw
3340	Low Profile Motor Pod-Gen X	19	Aluminum Pods
<b>3342</b>	<b>Option Left Bulkhead Gen-X</b>		

# Gen-X Spare Parts List

(Sorted by Part #) - (**Bold** = option part)

<u>Part #</u>	<u>Packaged Part Description</u>	<u>ID#</u>	<u>Kit / Part Description</u>
3346	Antenna/shock mnt-plastic	51	Antenna Mount
		52	Teflon Spacer
<b>3390</b>	<b>Front End Spring .45mm (pr.)</b>		
3392	Front End Spring .50mm (pr.)	69	Front End Spring
<b>3394</b>	<b>Front End Spring .55mm (pr.)</b>		
<b>3396</b>	<b>Front End Spring .60mm (pr.)</b>		
4017	Aluminum Servo Mount - 4 hole Anodized	98	Servo Mount
4019	Aluminum Pivot Balls	4	Flanged Pivot Ball
<b>4020</b>	<b>Wire Keepers -Clips and Ties</b>		
4088	Graphite Servo Saver Brace	101	Servo Saver Brace
4121	Aerodiff Spacer collar	88	Diff Spacer
4123	Belleville Spng wash-3 bolt(2)	89	Spring Washer
4126	8-32 Nylon Locknut (2)	90	Plastic Locknut
<b>4160</b>	<b>1/12 Courage C-60 Evo-3 LMP Body - Lightweight</b>		
4202	Lightened Large D-rings	85	Diff Ring
4205	Diff Lube - Silicone 4cc	84	Silicone Diff Grease
<b>4210</b>	<b>CRC Tube Lube - Light</b>		
4212	CRC Tube Lube - Heavy (white cap)	31	CRC Tube Lube
<b>4214</b>	<b>CRC Tube Lube - Super Heavy</b>		
4220	Complete Large D Ring Diff Assembly - Red	78	Rear Axle
		79	1/4" rear axle shim
		80	Left Clamp Hub
		85	Diff Ring
		87	Diff Hub
		88	Diff Spacer
		89	Spring Washer
		90	Plastic Locknut
4224	Large Ring Diff Hub - Red	87	Diff Hub
4228	Large D-ring Axle - Red	78	Rear Axle
<b>4262</b>	<b>Front ride height shim set. .010, .020, .030"</b>		
<b>4278</b>	<b>Machined Delrin Pivot w/alum</b>	1	Plastic Pivot Pieces
<b>4279</b>	<b>Steel Ball Popper Tool</b>		
4281	DuraShock Complete - Red	36	Foam Bladder
		37	Red Shock O-Ring
		38	Shock Shaft
		40	Plastic Cup for foam
		41	Small Washer
		42	Shock Body
		43	Threaded Delrin Plug
		44	Rod End, Spring Perch
		48	Threaded Spring Retainer
4283	Dura-Shaft for VCS/Dura shock	38	Shock Shaft
4285	Dura-Shock Conversion - Red	42	Shock Body
4732	1/4 Shim Set (20)	79	1/4" rear axle shim
4745	3/16 Shim Set (20) x .010	96	3/16 front wheel shim
<b>6405</b>	<b>100T 64P Spur Gear</b>	83	Diff Gear
12392	8-32 Front End screws (red)	74	Red 8-32 Front End Screws
12753	2-56 x 1/4" Flat Head - Hex (4)	2	2-56 Flat Head screw
12772	Small Hex Nuts CK Pivot Plate (10)	7	4-40 thin hex nut

# Gen-X Spare Parts List

(Sorted by Part #) - (**Bold** = option part)

<u>Part #</u>	<u>Packaged Part Description</u>	<u>ID#</u>	<u>Kit / Part Description</u>
12871	Metal Spring Holders	24	Metal Spring Holder
13451	Durashock rebuild kit (2)	36	Foam Bladder
		37	Red Shock O-Ring
		40	Plastic Cup for foam
		41	Small Washer
13456	VCS Rod end/Sprng Pearch - Anodized	44	Rod End, Spring Perch
13458	Threaded Shock Insert - Durashock	43	Threaded Delrin Plug
13459	Alum VCS Spring Adj Collar (2)	48	Threaded Spring Retainer
13615	Anodized Low Roll Center Balls (4)	12	Red pivot Ball
13695	.035 Allen wrench	27	.035 allen wrench
13783	1/8th Set Screw (6)	45	4-40 x 1/8 set screw
13861	1/4 x 3/8 Flanged Axle bearing (1)	77	1/4 x 3/8 Flanged Axle bearing
13871	1/4 x 3/8 Unflanged Axle bearing (1)	86	1/4 x 3/8 Unflanged Axle bearing
32481	3/16 x 5/16 Flanged Bearing (1)	97	3/16 x 5/16 Flanged Bearing
32691	Red Aluminum Tube - Gen X (Tube Only)	33	Aluminum Tube
32693	Delrin Plunger for Short Gen X Damper Tube	32	Delrin Plunger
32694	Short ball cup-(4) Gen X damper tube	30	Short 4-40 Ball Cup

# CARPET KNIFE Generation X

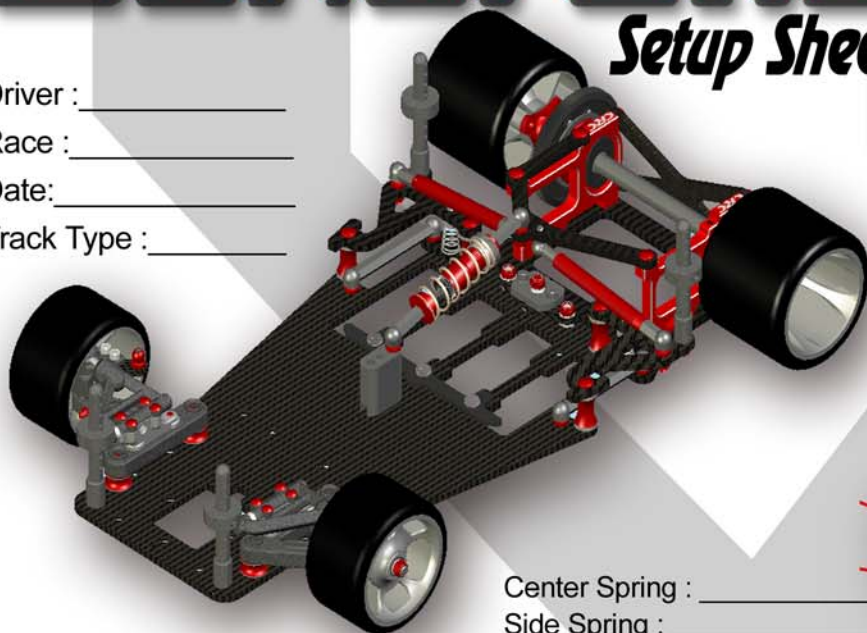
## Setup Sheet

Driver : \_\_\_\_\_

Race : \_\_\_\_\_

Date: \_\_\_\_\_

Track Type : \_\_\_\_\_



### Rear End



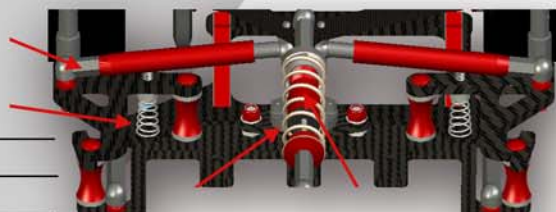
Battery Position: \_\_\_\_\_

Center Spring : \_\_\_\_\_

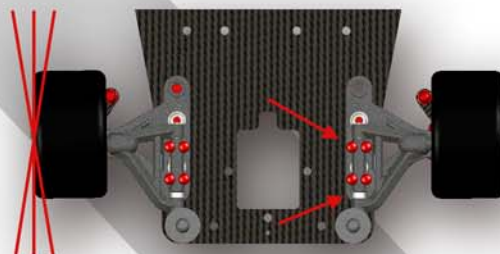
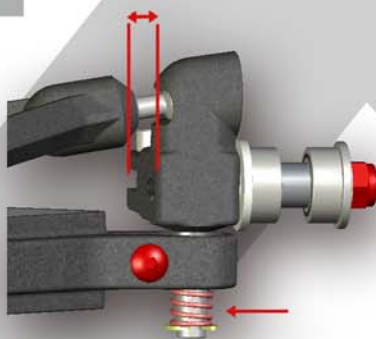
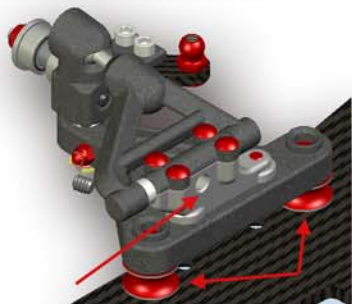
Side Spring : \_\_\_\_\_

Damper Tube : \_\_\_\_\_

Shock Oil : \_\_\_\_\_ wt



### Front End



Ride Height Adjuster : \_\_\_\_\_

Caster Block : \_\_\_\_\_°

Front Spring : \_\_\_\_\_

Camber : \_\_\_\_\_°

Caster Shims : \_\_\_\_\_

Toe Angle : \_\_\_\_\_°

### Tires - Ride Height - Droop

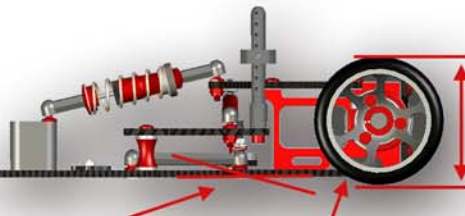
Front Tire Cmpd : \_\_\_\_\_

Tire Size : \_\_\_\_\_



Rear Tire Cmpd : \_\_\_\_\_

Tire Size : \_\_\_\_\_



Ride Height : Front \_\_\_\_\_ mm

Rear Pod Droop : \_\_\_\_\_

Center : \_\_\_\_\_ mm

Rear : \_\_\_\_\_ mm

Other Notes: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



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