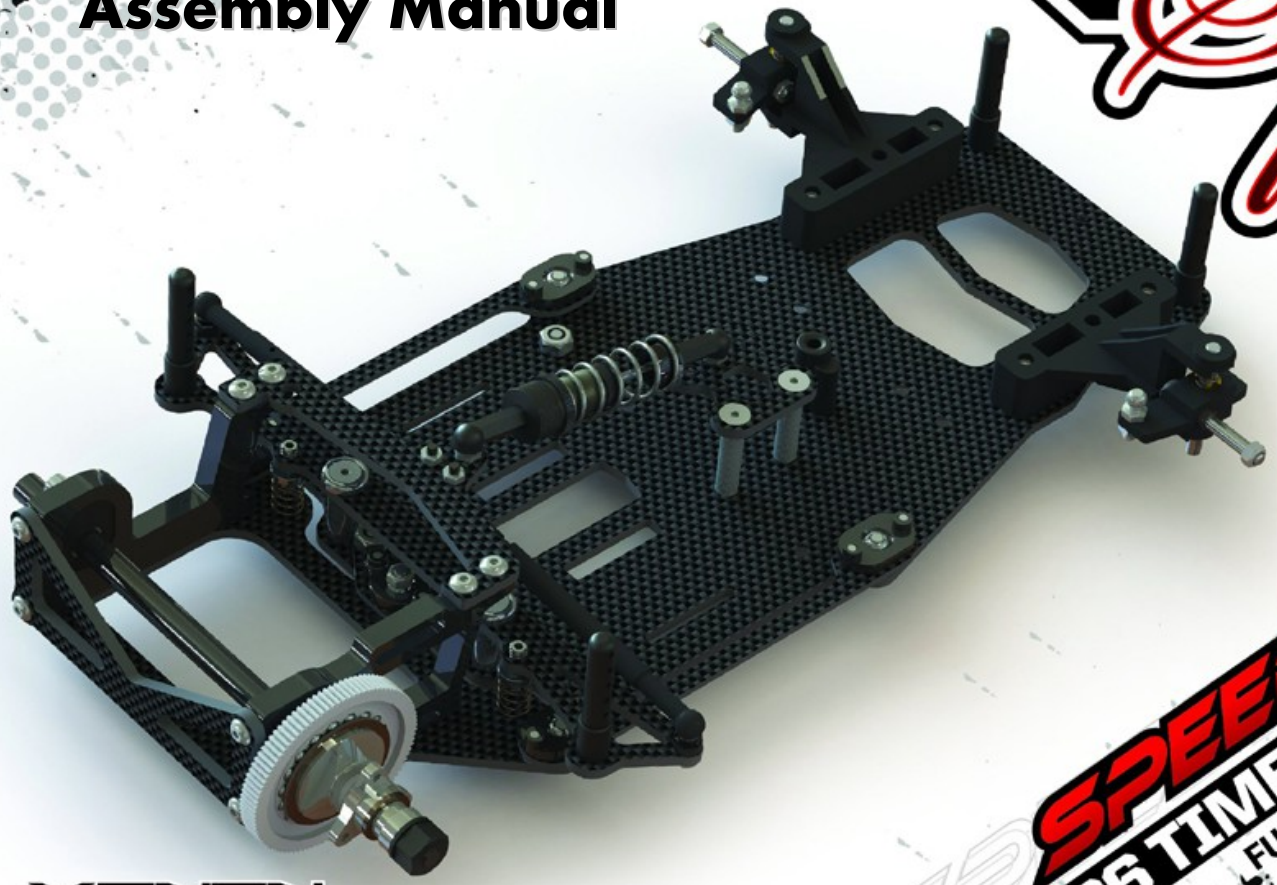
REV 8R Sport

Assembly Manual



Rev.8 Sport Kit Part #1804

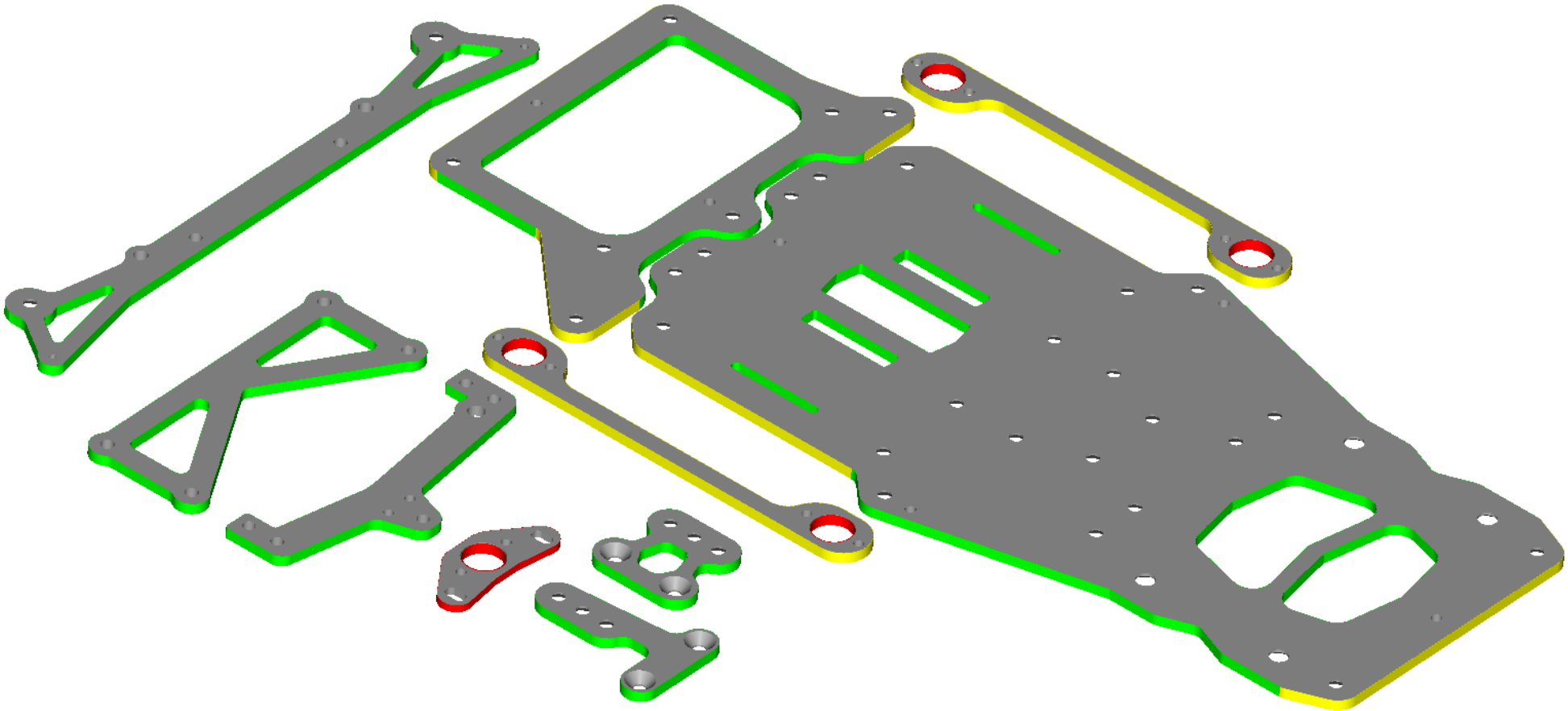
SPEEDMERCHANT

26 TIME NATIONAL CHAMPION

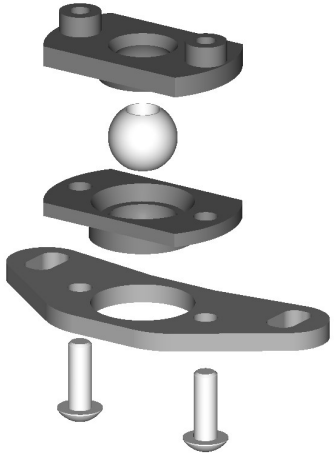
FULL KIT-LESS, BODY, TIRES & ELECTRONICS

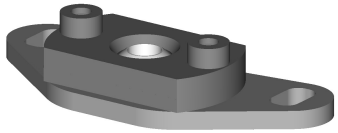
MADE IN THE USA

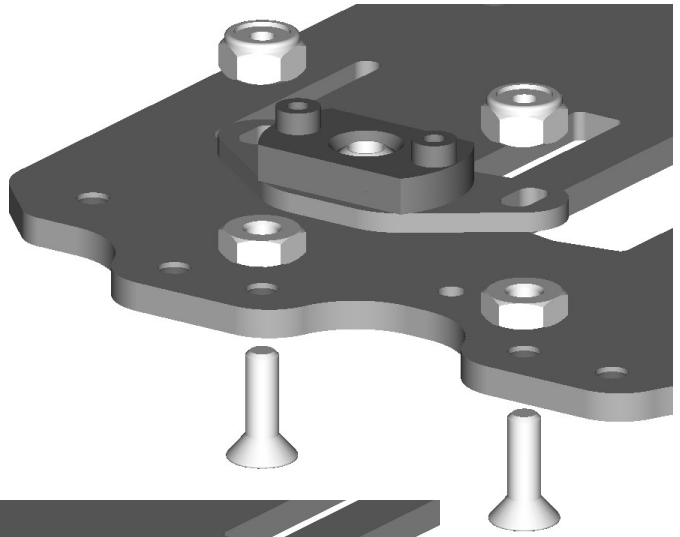
XENON RACING

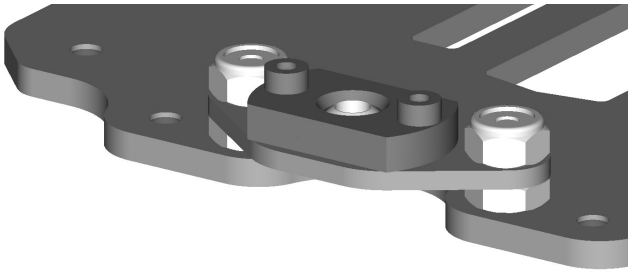


Some people like to sand/seal the chassis and other carbon fiber components with superglue for performance and feel. Do not sand or seal the areas shown highlighted in red. The chassis and rear pod plate areas highlighted in yellow are key areas for measuring the chassis. Care should be taken not to have glue extend below the chassis, as this could affect ride height measurement. Other components highlighted in yellow should not be rounded, only sealed, as this could effect strength.

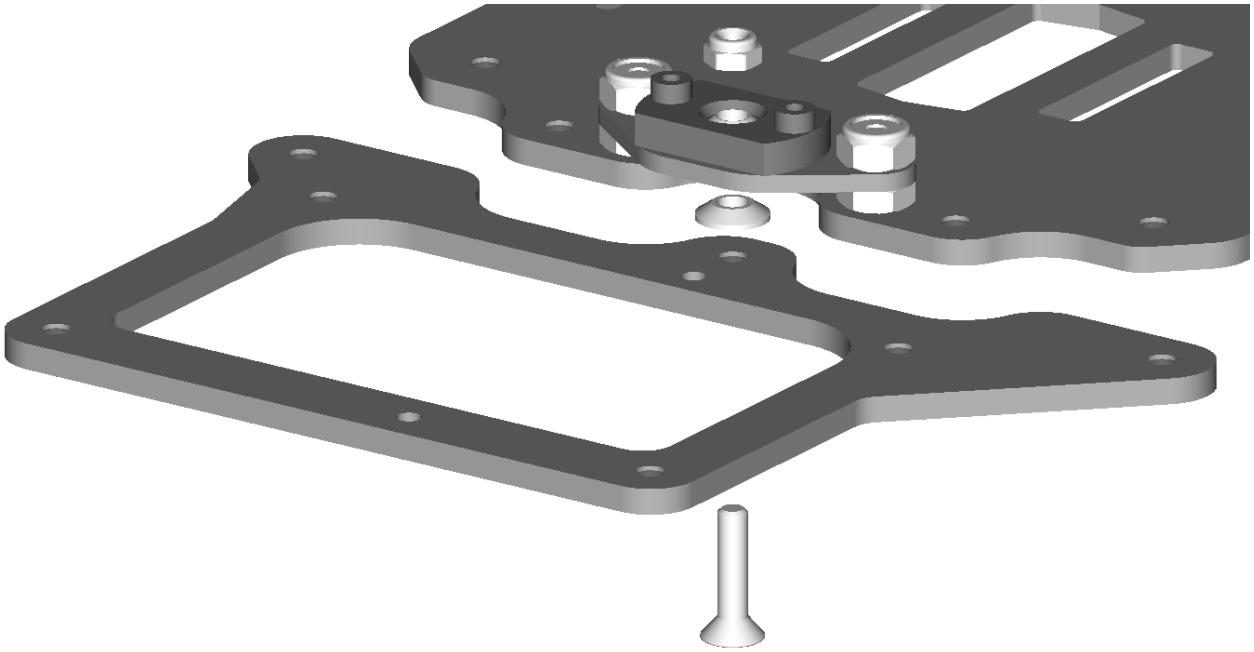






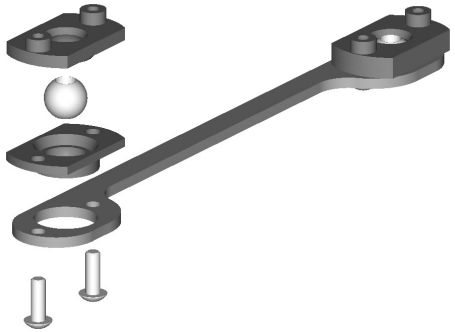


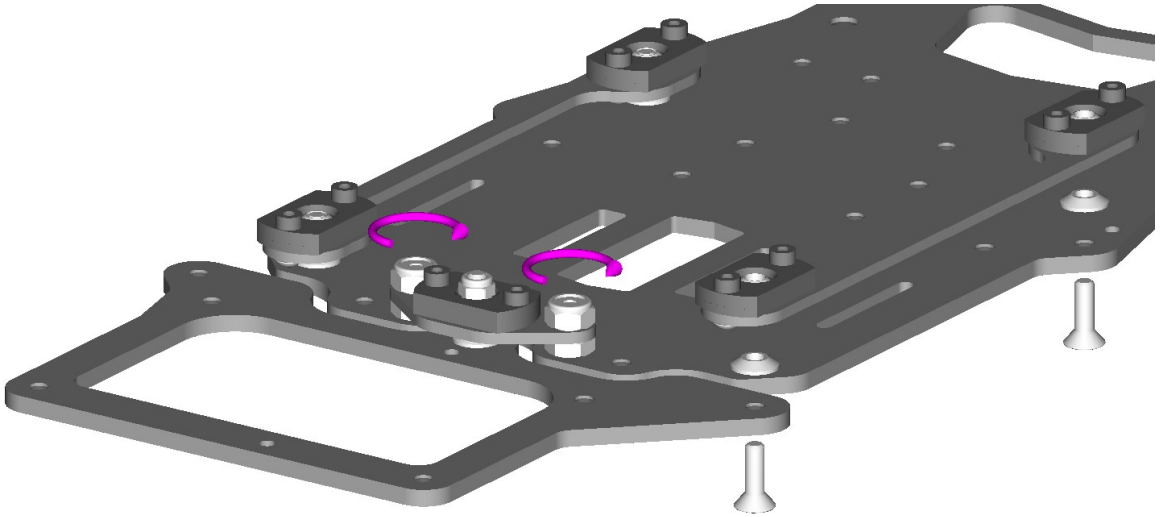
Assemble the center pivot as shown. Do not over-tighten the 2-56 button head screws. Find a 4-40 screw from the kit, and partially screw it into the ball. Use this screw to pivot the ball to judge how much to tighten the 2-56 screws. The ball should not have play in the socket, and it should not be overly tight. There are access holes in the chassis to adjust the 2-56 screws as they seat.



Attach the center pivot to the main chassis, leave the lower nuts loose until the pivot is installed onto the screws. Use needle nose pliers to hold the lower nuts in place while tightening the screws. Then install locking nuts.

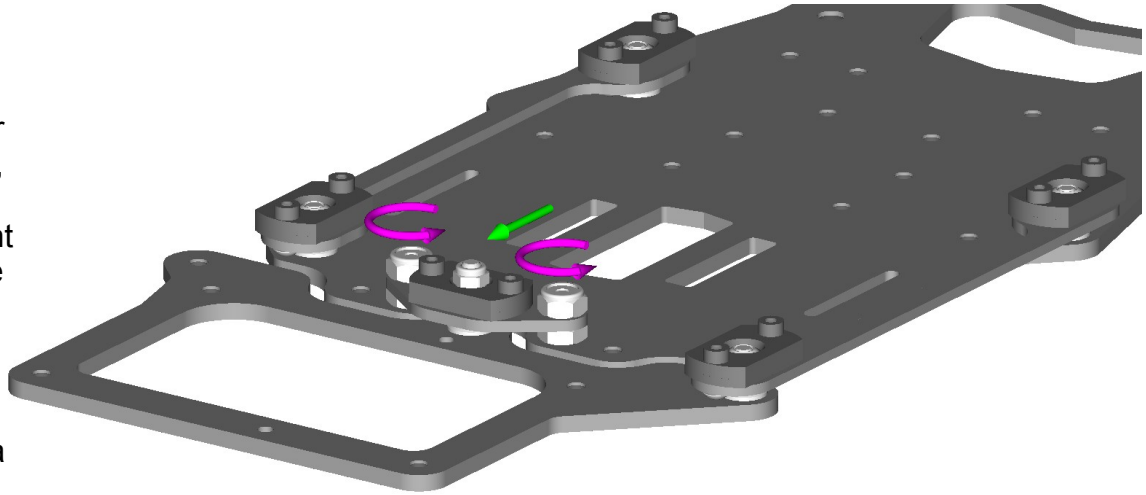
Thread the screw into the lower pod plate, low roll center cone, into the pivot ball first. This screw needs to be tight, be careful not to break your wrench or strip the hex in the screw. After the pod plate is attached, then install the locking nut.





Assemble side links as shown above. Do not over-tighten the 2-56 button head screws. Find a 4-40 screw from the kit, and partially screw it into the ball. Use this screw to judge how much to tighten the 2-56 screws. The ball should not have play in the socket, and it should not be overly tight. There are access holes in the chassis to adjust the 2-56 screws as they seat.

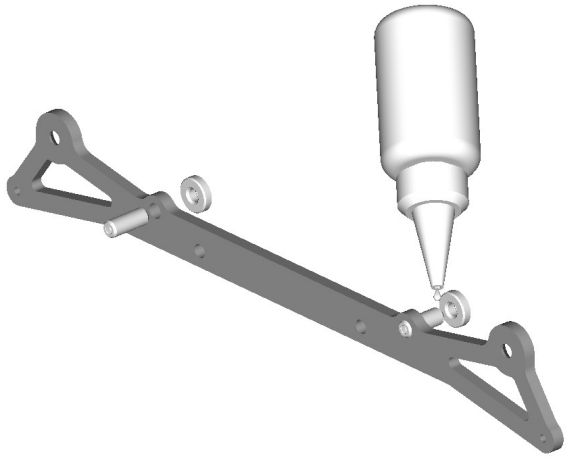
Attach the links to the chassis as shown (top right). Order should be 4-40 x 3/8 flat head screw through the chassis, low roll cone, screwed into the ball in the link. Tightening the link balls to the chassis will require substantial amount of torque. Be careful not to break your wrench or strip the hex in the screw.

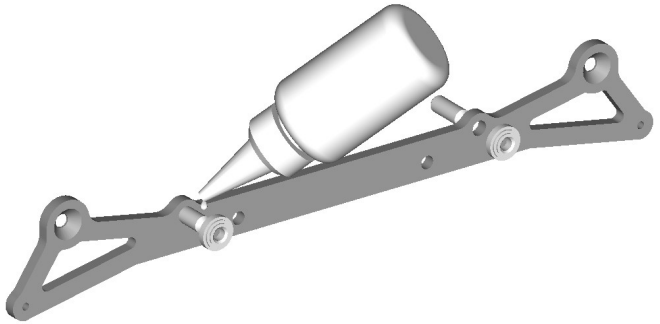


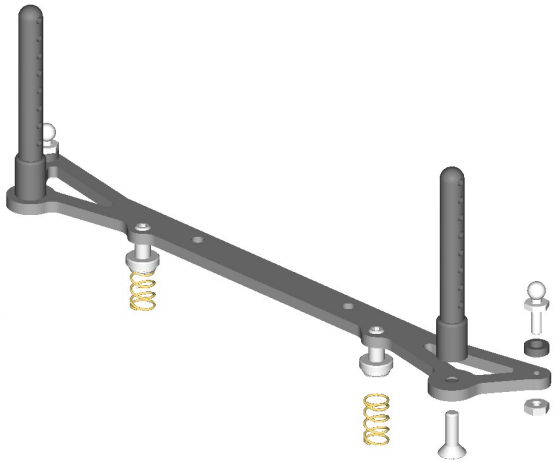
After installing the links, loosen the nylon lock nuts (top illustration, purple arrows) attaching the pivot to the chassis ¼ to half a turn. Place the chassis assembly on a flat surface. While holding the chassis down, use your thumb to put pressure on the center of the pivot in the direction of the green arrow, tighten the pivot nylon lock nuts (purple arrows). Your links are now adjusted.

Screw the 6-32 set-screws through the tweak plate so that the wrench side is flush with the top of the tweak plate (the bottom of the tweak plate has counter sunk holes for the body mounts)

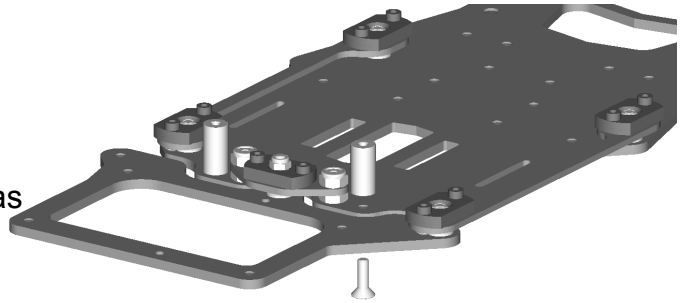
Apply a small amount of superglue to the end of the set-screw and screw the spring carrier onto the screw. Be careful that the smooth side of the carrier goes toward the tweak plate. Make sure that the superglue doesn't wick up the threads of the set-screw.





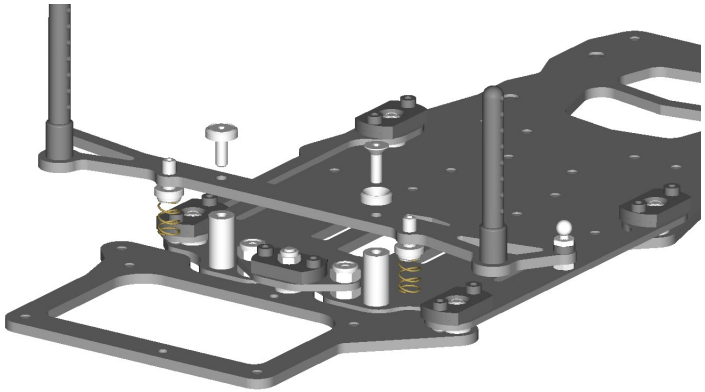


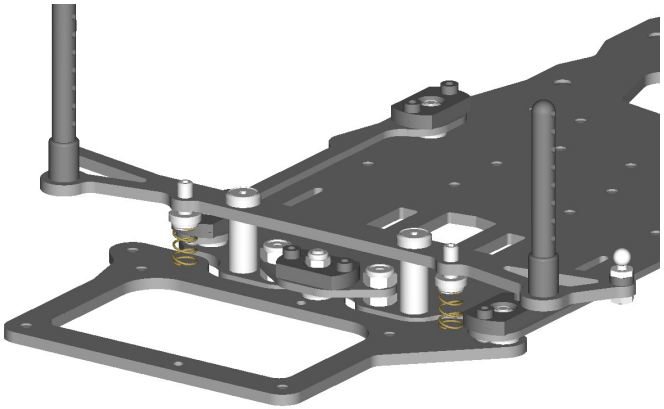
When the superglue has cured, assemble the tweak plate as shown:
Attach the linear rate springs to the carriers.
Install the 2-56 ball stud with spacers as shown.
Attach the body mounts to tweak plate as shown.
Attach stand-offs to the main chassis plate as shown (right).



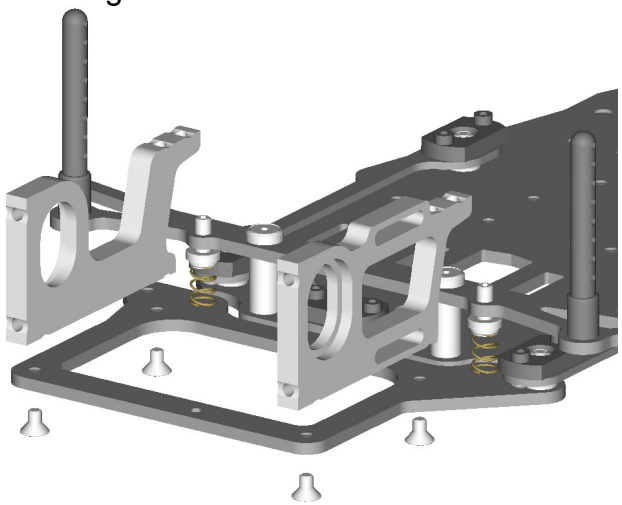
Attach the tweak plate to the stand-offs using 4-40 x 3/8” flat head screws with counter-sunk washers.

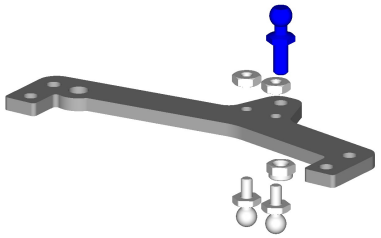
Back tweak springs out until the lower pod plate sits level with the chassis sitting flat on bench.

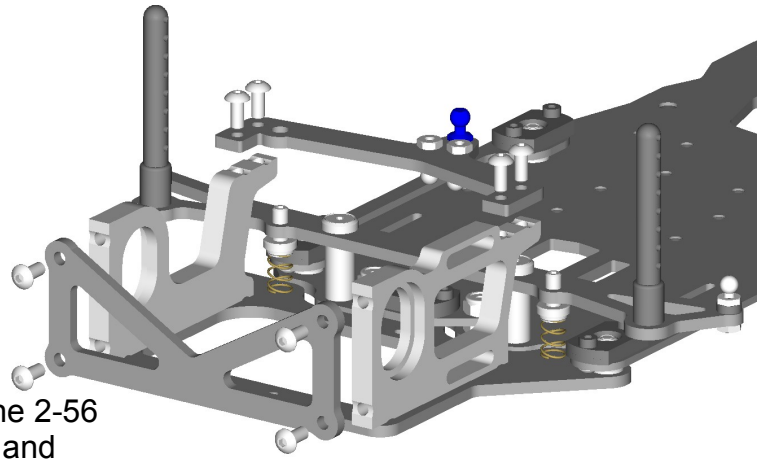




The aluminum bulkheads attach to the lower plate, then the rear plate to the bulkheads, all using flat head screws.



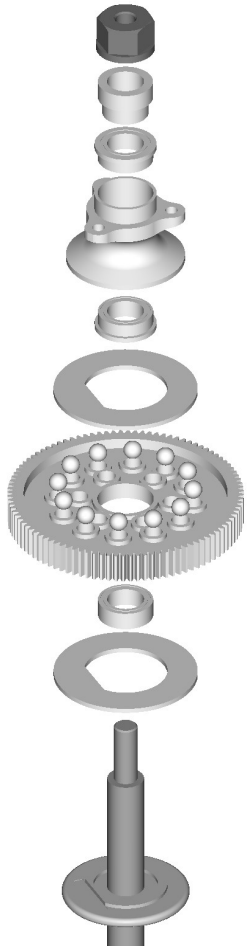




Pre-assemble the top plate with the 2-56 ball studs, then the 4-40 ball stud and spacer. Note orientation in the above drawing. Next attach the top plate with button head screws.

The quest to build the perfect differential has eluded many for quite some time. However, we have the secret right here.

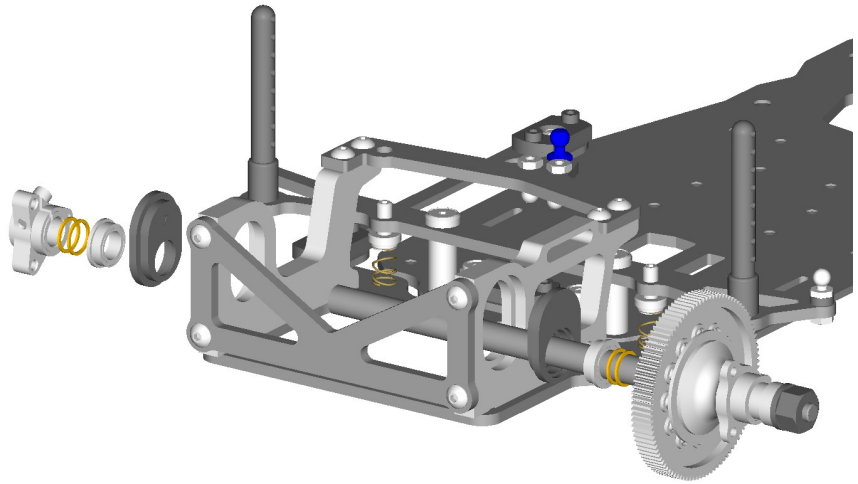
1. install un-flanged bearing.
2. place 3 – 4 dots of diff lube on the mounting flange to hold the diff ring (big washer) in place.
3. install spur gear of choice (there is one included in kit), then put a drop of diff grease in each perimeter hole. We recommend Stealth diff lube Associated No.6591.
4. put diff gear onto axle, locating un-flanged bearing installed earlier into the center of the spur gear
5. install diff balls into holes previously greased
6. place 3 – 4 drops of diff lube on diff ring mounting flange of right side hub, install second diff ring.
7. insert 2 flanged bearings into each side of the right side hub, slide onto axle
8. NOTE orientation of the thrust cone, install this next
9. using a nut driver, install the new diff nut. This is a new nut, and there are no threads. Carefully thread the diff nut onto the axle, being sure to keep the nut in-line with the axle.

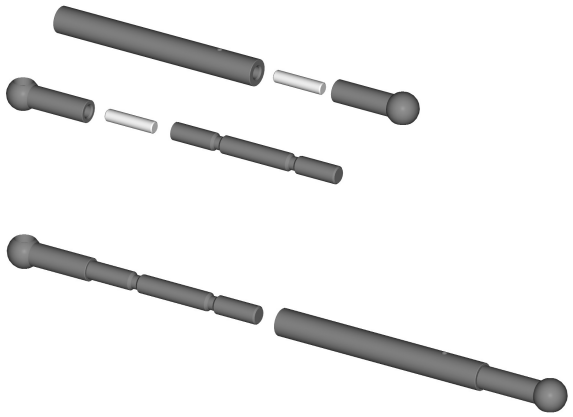


Screw the diff nut down until it just starts to compress the diff. From this point on the diff will need breaking in. Hold the left hub in one hand and the spur gear in the other. Twist back and forth several times, stop to give 1/8th of a turn to the diff nut. Do this for about ½ to ¾ of tightening the diff nut. Save checking for tightness with the wheels installed. The diff should be firm but smooth. The gear should slip a little when holding the left tire with left hand, right tire with right hand, and spinning the spur with your thumb.

Install bearing carriers into pod plates with flanged bearings. For 12th scale, the bearings go toward the bottom. Be sure that you are using the same height axle spacers on each side.

Install the axle with assembled differential to the chassis in this order, put two shims on the axle, slide into the rear pod as shown, install tw0 more shims on the opposite side, then the left side hub. There should be a very small amount of play between the bearing and left hub, causing the bearings to wear out quickly.





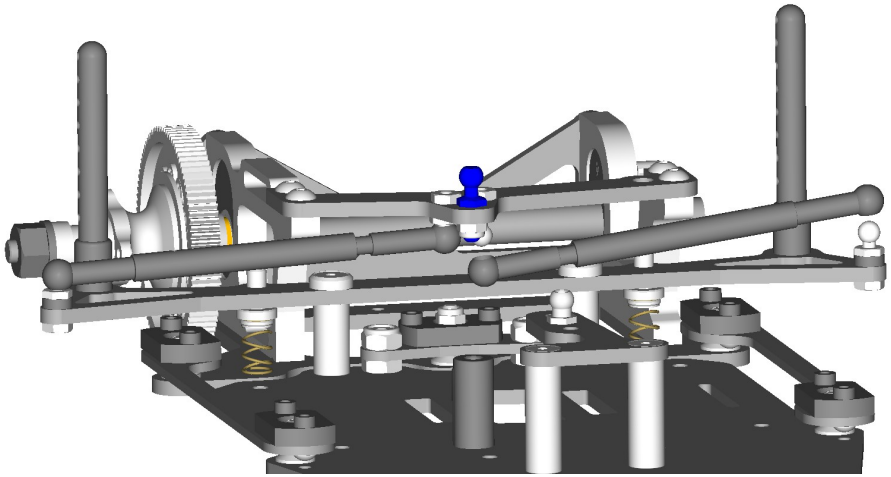
Assemble damper tubes as shown. Only screw the set-screw in half-way.

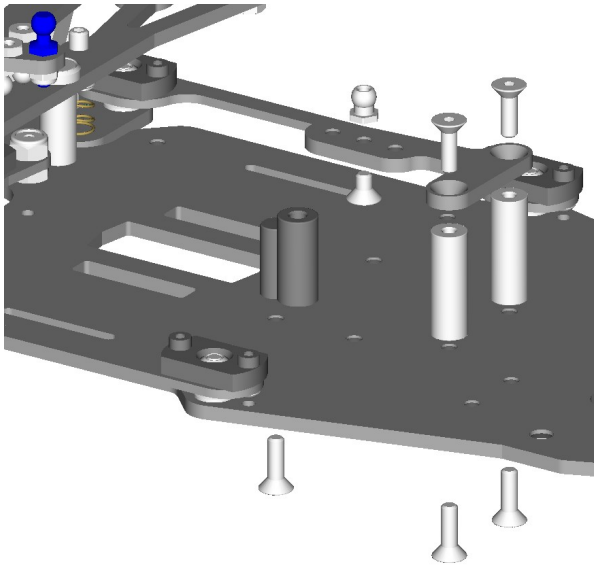
To properly fill the damper tube, squeeze a fair amount of Tube Spooge into the damper tube, set aside. Apply a light coating to the damper shaft, filling in the grooves.

Over a rag, 'screw' the damper shaft into the tube, allowing the spooge inside the tube to fully come in contact with the shaft. Some people will block the bleeder hole at the base of the tube with their thumb to help drive the Tube Spooge out the top, ensuring full coverage and consistent damping from build to build.

These dampers will need to be cleaned and rebuilt from time to time. Spraying them out with electric motor cleaner, and removing all debris from the bleeder holes will prep them for more Tube Spooge. We recommend starting with green (light) and tune from there.

Attach the tubes as shown, with the vents to the outboard side of the chassis, and the telescoping side toward the middle. This will help keep debris out of the tube longer.

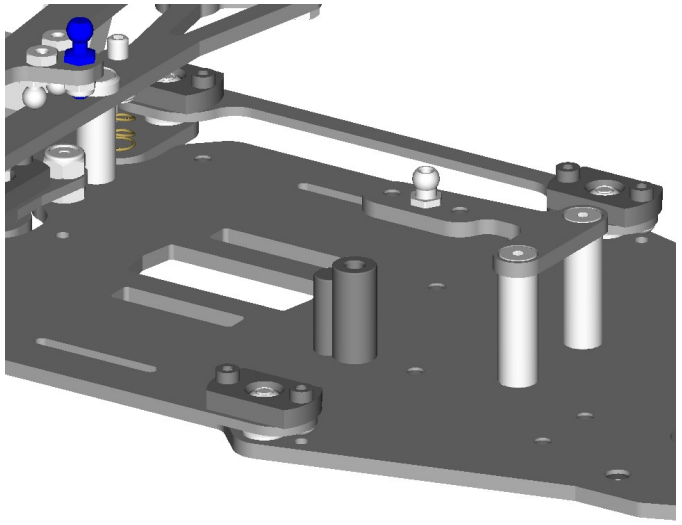


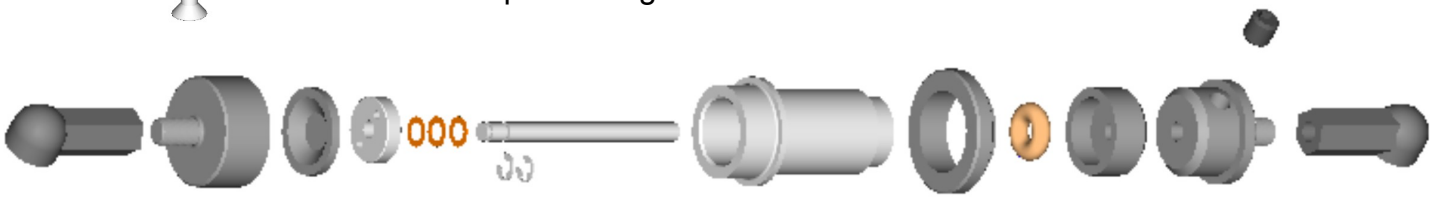


There are two different shock mounting plates included in the kit. This manual shows one configuration. Use the configuration that best suits your needs.

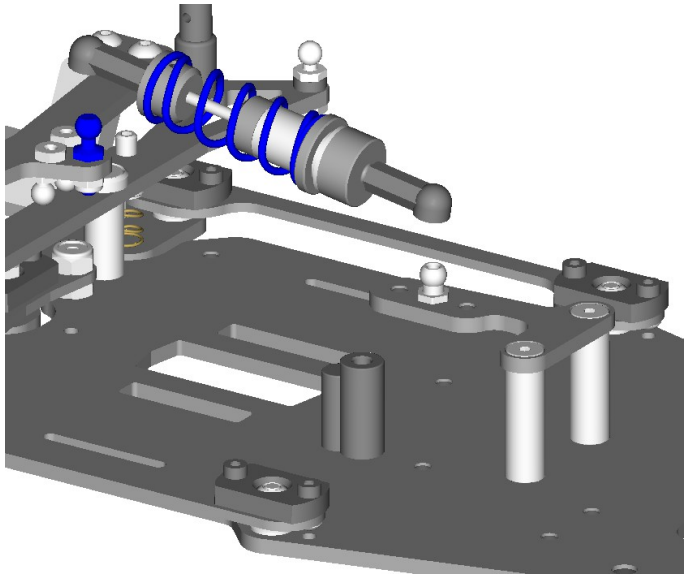
Using the flat head screws, attach the stand-offs for the shock mount and the antenna mount as shown. Then attach the shock mount plate as shown.

Note that the antenna mount can go in any of the left-over holes in the chassis for best positioning.

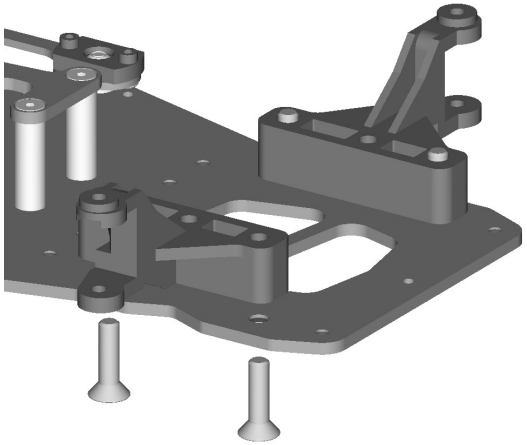




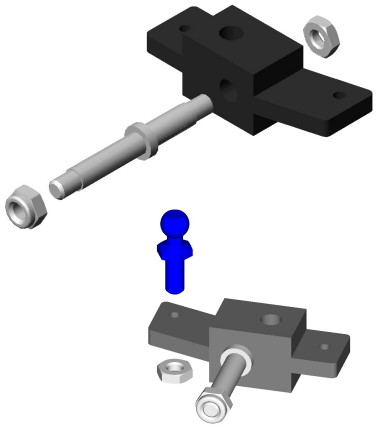
To assemble the main shock (damper):
- start by installing the threaded ride height adjuster knurled side first
- put some oil on the o-ring, and install in the bottom of the main shock body
- attach the bottom of the main housing, capturing the o-ring
- install e-clip to shock shaft in the lower position
- add the included three tiny shims
- install the piston, followed by the remaining e-clip
- put a few more drops of oil inside the main body so that it drips out the hole
- install shock piston assembly
- install main spring (not shown), and lower end of shock, securing with set-screw
- fill shock with oil (25 – 35 wt recommended to start), set aside to bleed air bubbles
- thread ball-cup onto the shock cap while waiting for air to settle
- bleed air from shock by slowly cycling piston, allowing the air to come to the surface
- if bleeding air is complete, slide on rubber bladder, and install cap
- thread on ball-cup onto remaining shock end



Installing the shock on the chassis in the direction shown will help keep debris off the shock shaft longer, helping to keep damping consistent, and providing better longevity between rebuilds.



Install old-skool arms as shown. Note direction of arms (bump forward)!



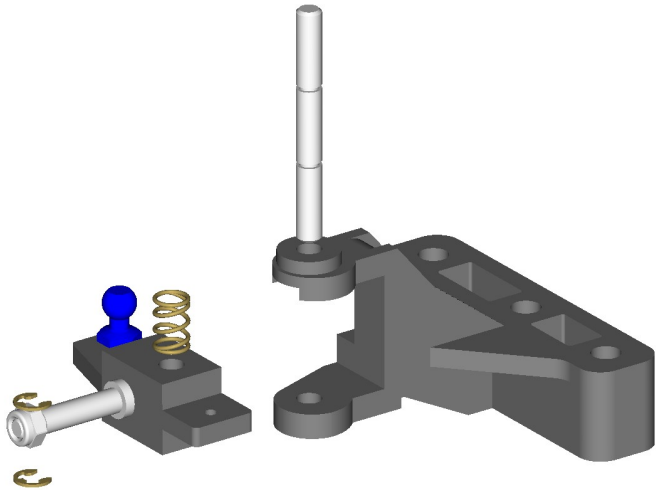
Push straight knurled side of front axle through the knuckle. Be sure to note direction of the knuckle. Use a thin flat nut to secure axle to knuckle.

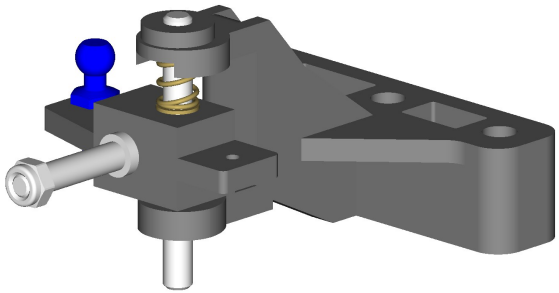
If a .112 diameter or No.34 drill is not available, use a body reamer or hobby knife blade to slowly open the hole for the ball stud. Screw ball stud through the knuckle, and secure with 4-40 thin flat nut.

Easiest method of installing knuckles into old-skool arms, push the kingpin through the top of the arm. Install spring onto kingpin as it comes through arm, then the knuckle. Note direction of arm and knuckle!

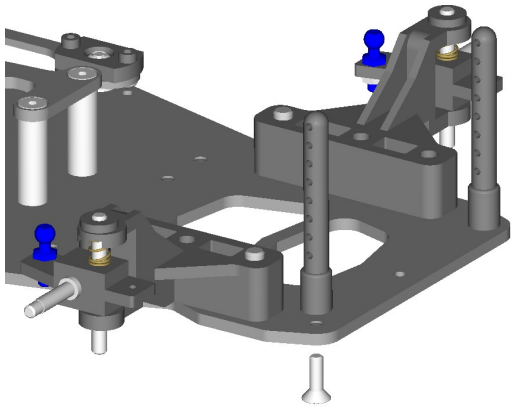
Continue pushing the kingpin through the knuckle, it will be hard to push through the new knuckle. Align the e-clip groves above and below the knuckle. With your finger tip, gently separate the spring from knuckle while slipping the e-clip into the slot with needle-nose pliers. Let the spring go gently, then the e-clip. Next drive the e-clip in with the back of a hobby knife blade.

For the lower e-clip, using a pair of needle nose pliers, slide the e-clip with the open end first between the lower edge of the knuckle. Pinch the knuckle and lower arm to hold the e-clip in place. Use the back edge of a hobby knife blade to drive the e-clip in the rest of the way while keeping gentle pressure on the knuckle and lower arm.

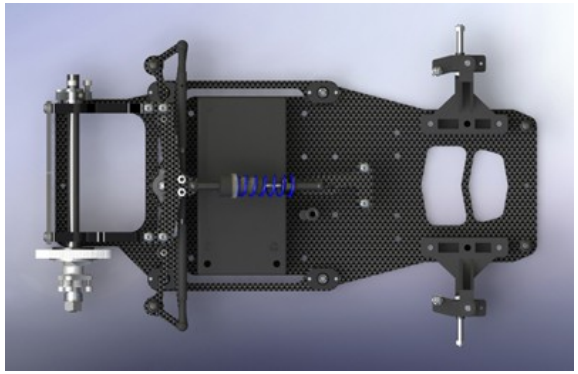


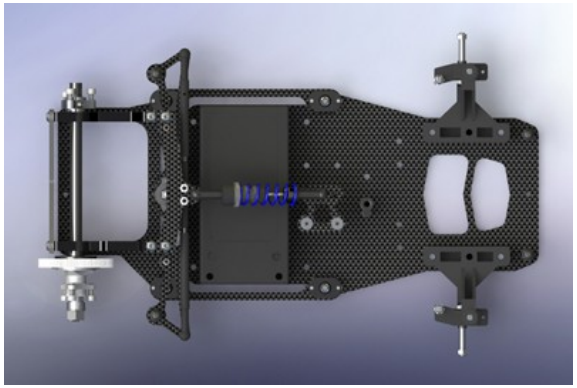


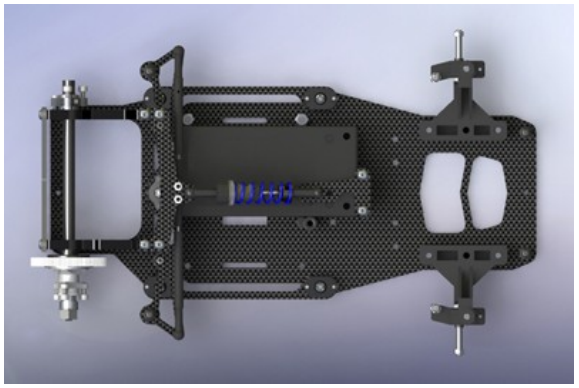
Attach front body mounts as shown using flat head screws.

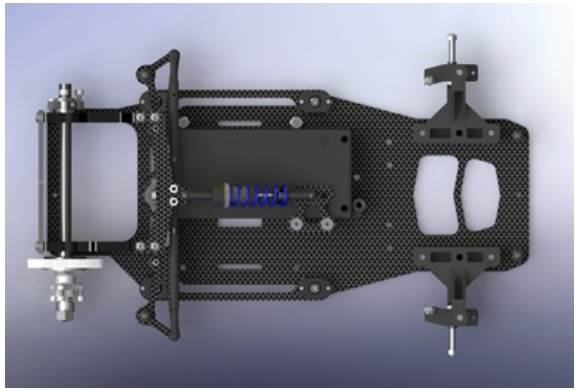


Chassis layout









As you can see, the Rev 8 has been designed to allow for many different configurations. This allows the racer to choose the electronics they desire, and balance the chassis for best possible performance.