

Assembly Manual



#1700 1/12th Rev.6 Competition Kit

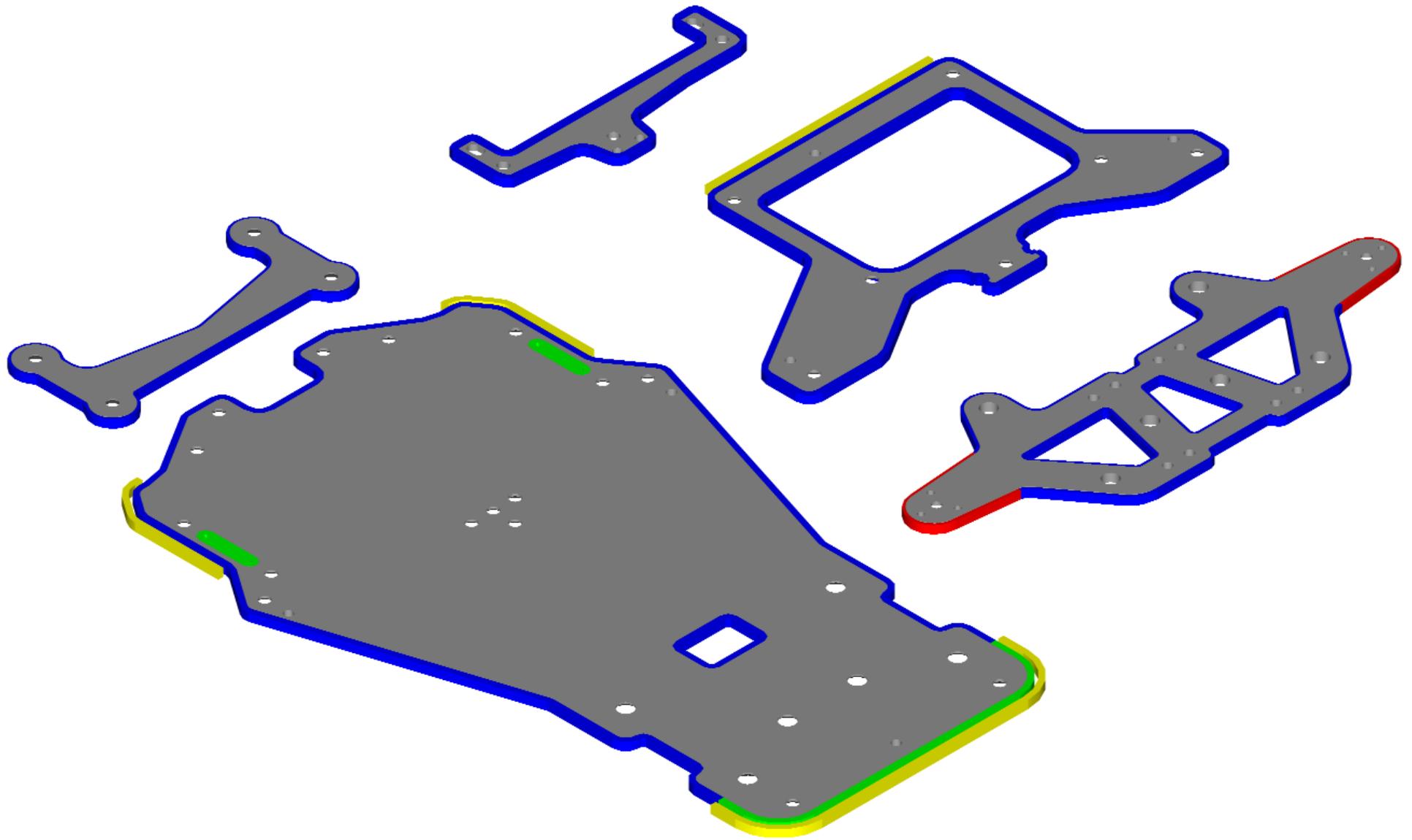
SPEEDMERCHANT

25 TIME NATIONAL CHAMPION

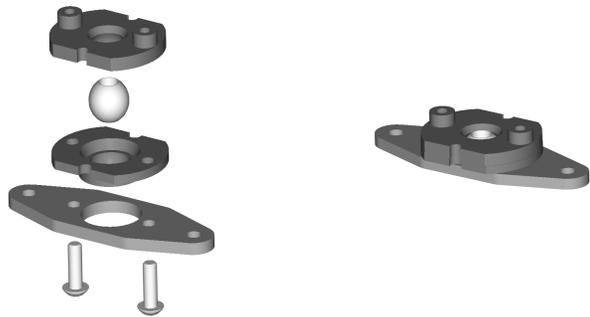
FULL KIT LESS, BODY, TIRES & ELECTRONICS

MADE IN THE USA

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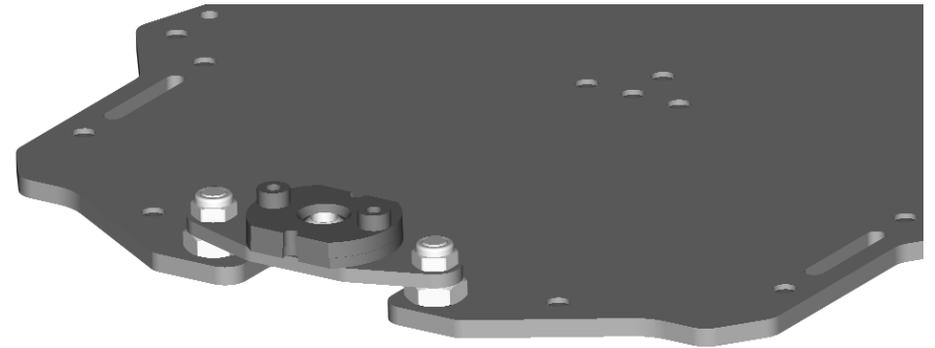
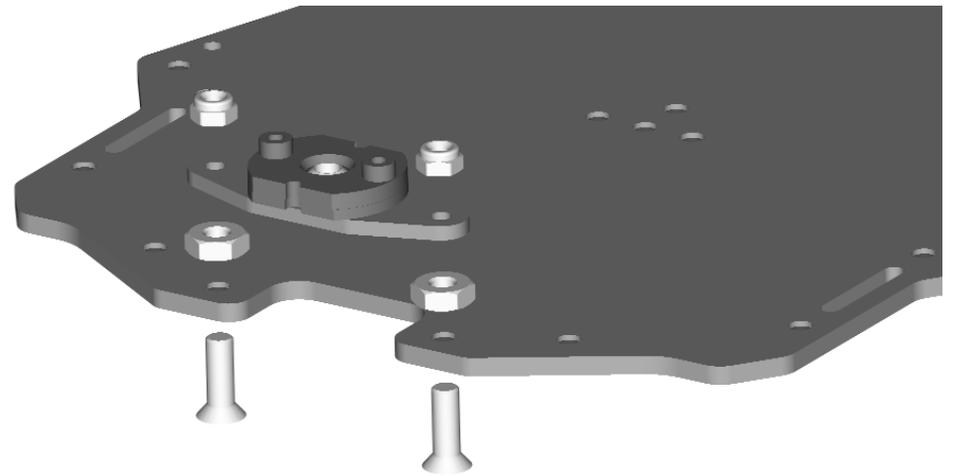


Some people like to sand and apply glue or clear/black fingernail polish to their chassis. Here are some tips; we heavily suggest that the (green) leading edge and battery tape slots get properly rounded. This will keep the battery tape slots from cutting the tape, and will allow the chassis to slide over the carpet without catching parts of the track. Around the outside edges of the arm (red) it is suggested to only Seal and do not to sand. The areas in yellow are key ride height measurement spots, dripping glue to the bottom side of the chassis will change your height reading.

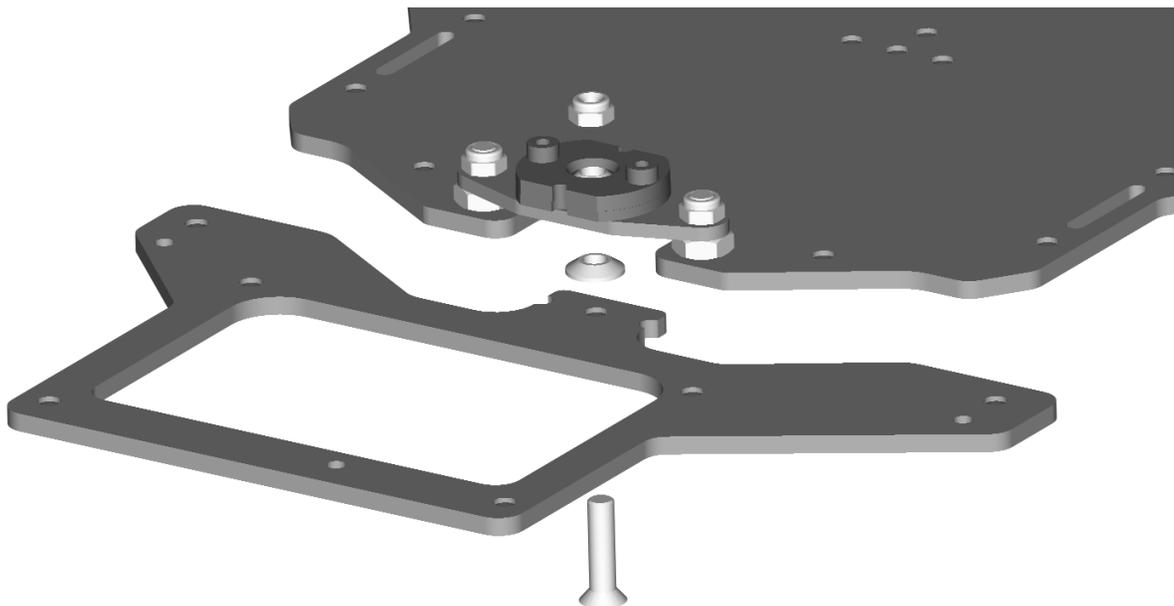


Assemble the center pivot as shown. Do not over tighten the button head screws. The pivot ball should be able to pivot freely, yet not have any side to side play.

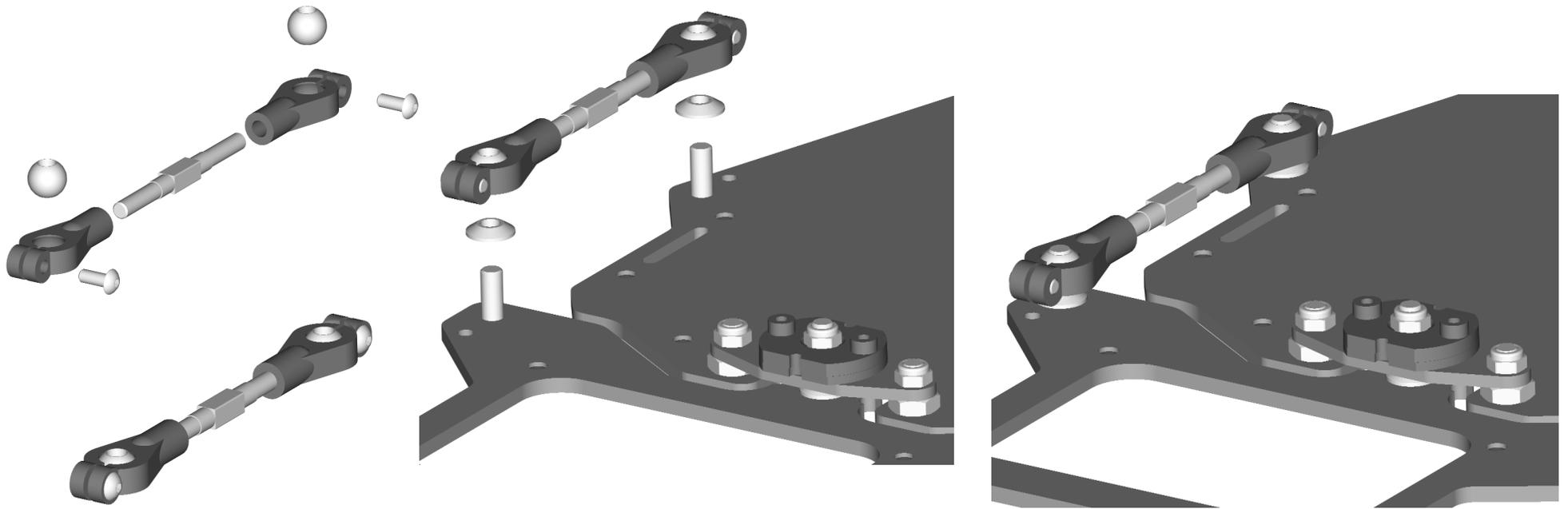
When new, it may feel slightly tight. The action should free up after the first few races. Slots in the lower pod plate allow for future adjustment.



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 low roll center cone, into the pivot ball first. This screw needs to be tight. After the pod plate is attached, then install the locking nut.

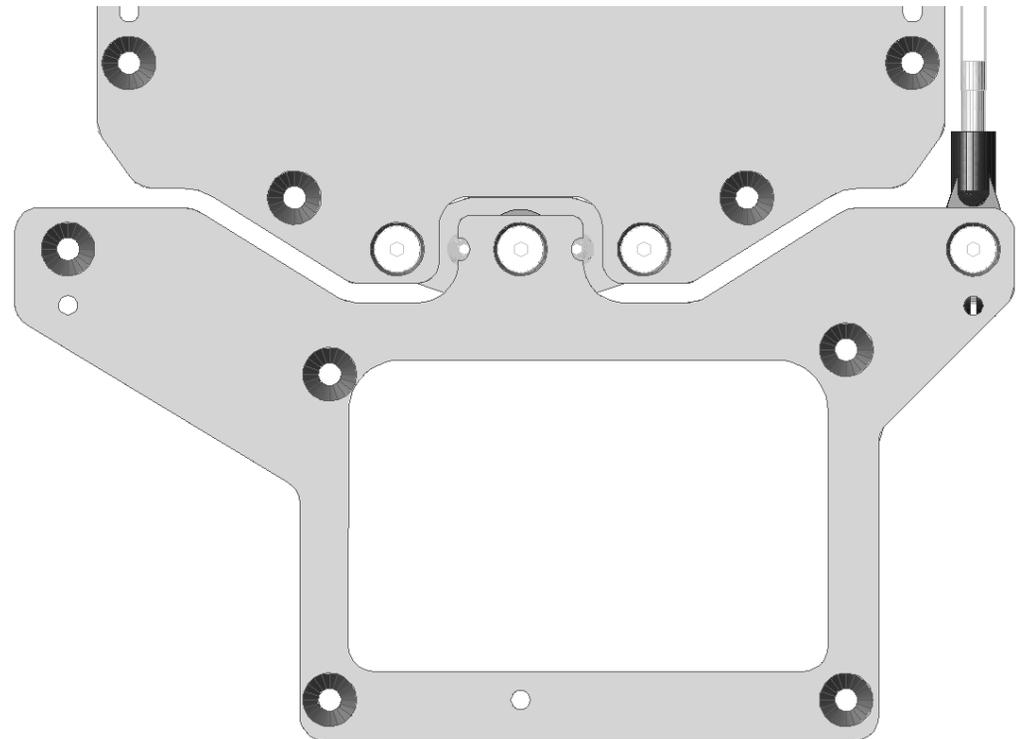


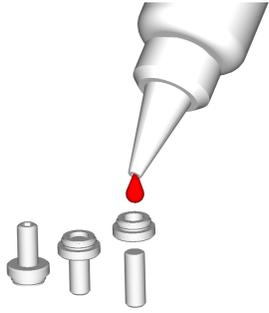
Assemble side links as shown, balls should be installed before the rod end screws. The small screws should drop into one side of the rod end, then thread into the back side. The rod end screws should be positioned to the outside of the chassis to make adjustments easy. When attaching the side links to the chassis, to tighten the links (shorten) the turnbuckle wrench should be turned toward the center of the chassis. This will make fine tuning easier to remember.

Tightening the link balls to the chassis will require substantial amount of torque. Be careful not to break your wrench.

After installing only one link, check to see that the gap is even all the way across the chassis/pod split. The plates in your kit match, as they were cut from the same sheet, nested as they are shown here.

Rough measurement link length is 2.125" hole to hole.



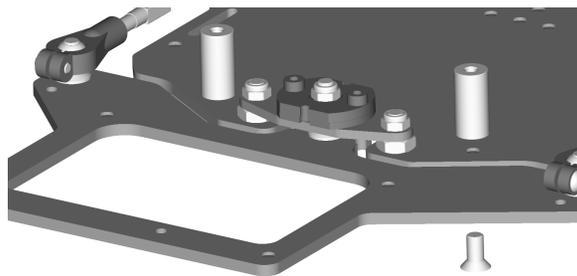
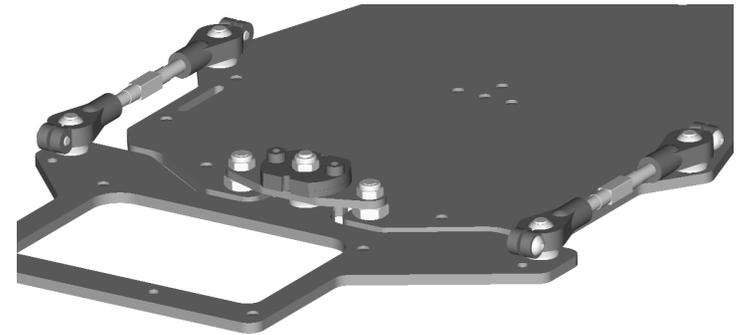


Assemble the tweak spring screws and carriers. Using red thread lock, or super glue, glue the non-wrench side into the carrier as shown, set aside to cure. The screw should be just flush, or not quite protrude from the carrier.

After installing the second link, make adjustments to the rod end screws until the links pivot on the balls freely. This will effect the next adjustment greatly.

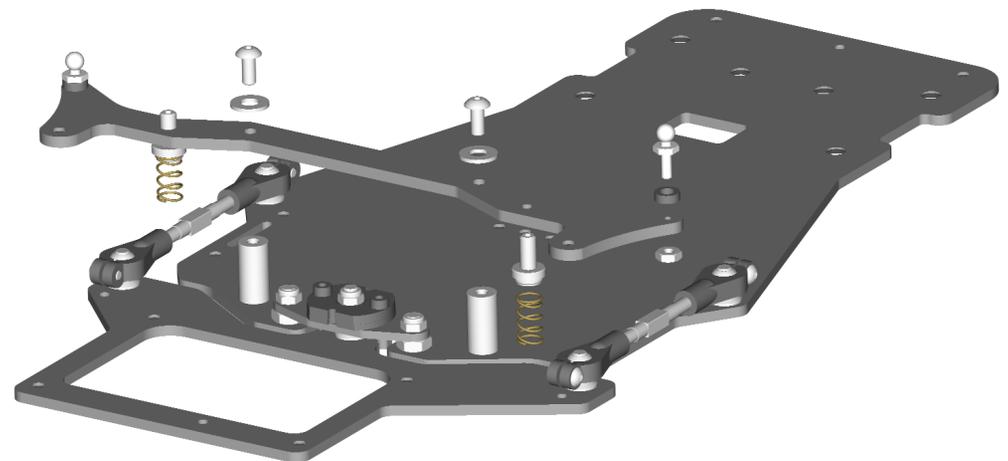
From here you will only need to make minor adjustments to that second link until the center pivot is free, and doesn't feel like it binds or snaps when twisted from side to side. Make adjustments a little at a time.

- if the motion feels 'clicky', then the link is long and needs to be tightened.
- if the motion feels 'tight', then the link is short and needs to be lengthened.

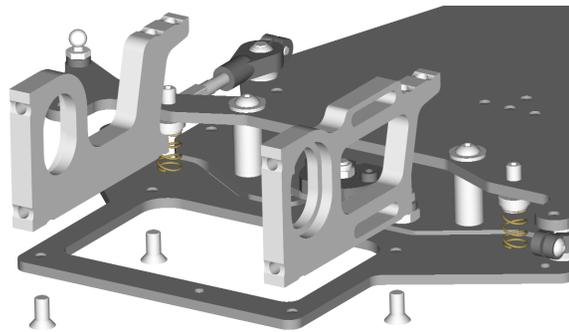


Assemble the tweak plate stand-offs to the chassis.

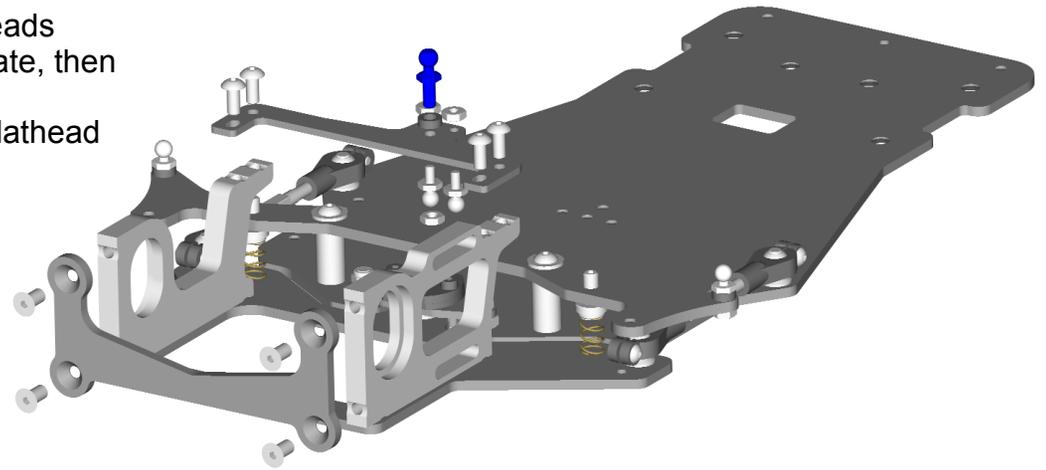
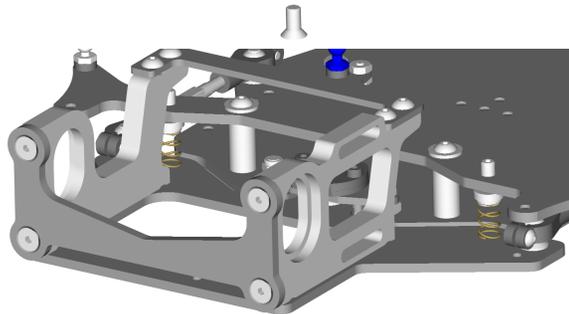
Install the tweak spring carriers built earlier, start with them mounted about 1/16" from the bottom of the tweak plate. Attach the linear rate springs.



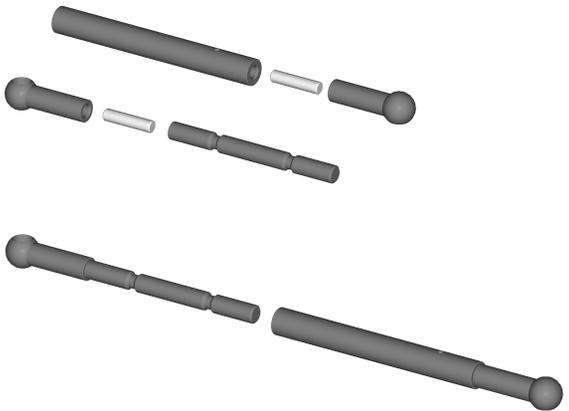
Install the 2-56 ball stud with spacers as shown. Attach the whole assembly to the chassis on the stand-offs.



The aluminum bulkheads attach to the lower plate, then the rear plate to the bulkheads, all using flathead 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.

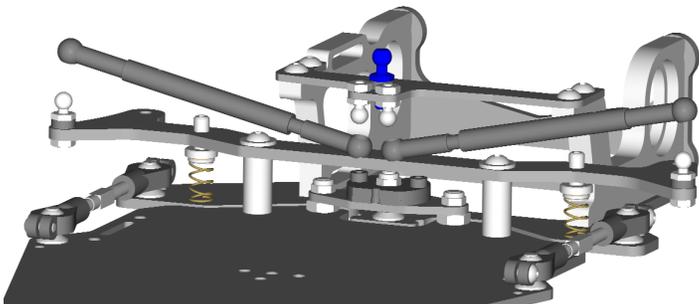


Assemble damper tubes as shown.

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.

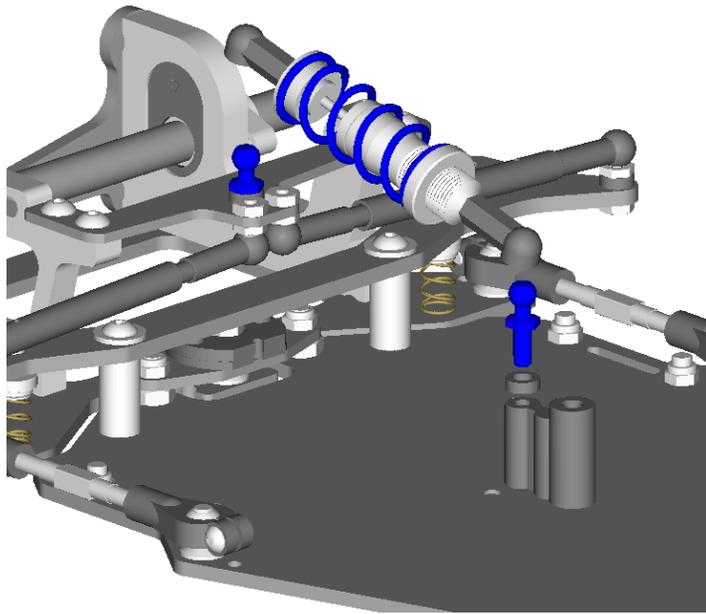
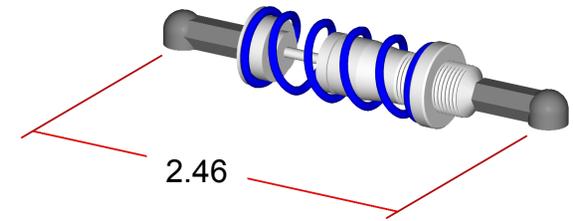
These dampers will need to be cleaned and rebuilt from time to time. Spraying them out with electric motor cleaner, and removing all debris from the bleeder holes will prep them for more Tube Spooge. We recommend starting with red (medium) and tune from there.



Build the shock using the instructions contained in the shock packaging.

The overall length of the shock tunes the pod droop. We accomplish this by shortening the ball cups that are included in the kit to provide more adjustment. The dimension shown should get your pod plate flat (no droop). 1/32" should be trimmed off the ball cup.

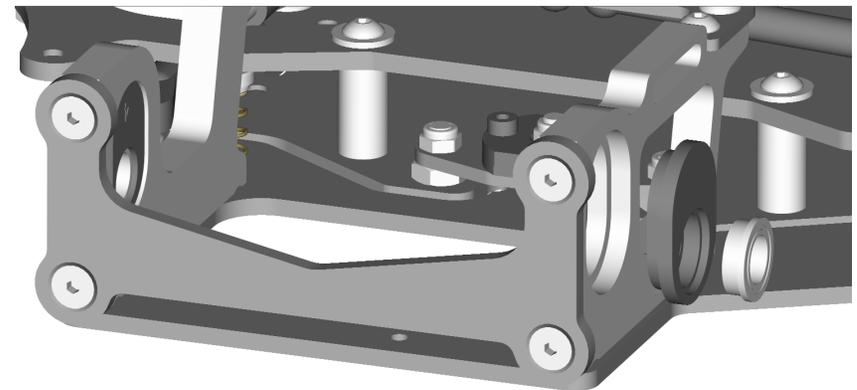
To make installing the ball cups easier, pre-thread them using a regular 4-40 screw included with the kit. However, do not use a tap to pre-thread.

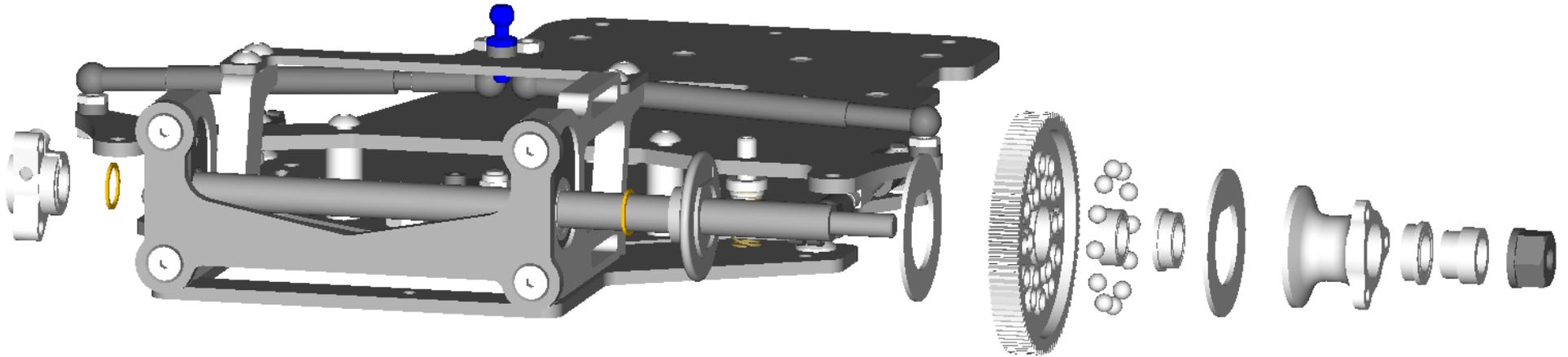


Assemble the shock/antenna mount to the main chassis. The position shown is the forward/aft position. With the newer electronics, the team has found the need for more options in mounting the shock/antenna mount. This can be re-positioned to suit your needs when installing your electronics.

Next install the axle carriers. Be sure you are using matching numbers, and that the orientation matches. For this chassis, the bearings will generally be mounted lower than center on the axle carriers.

Install flanged bearings in each axle carrier.





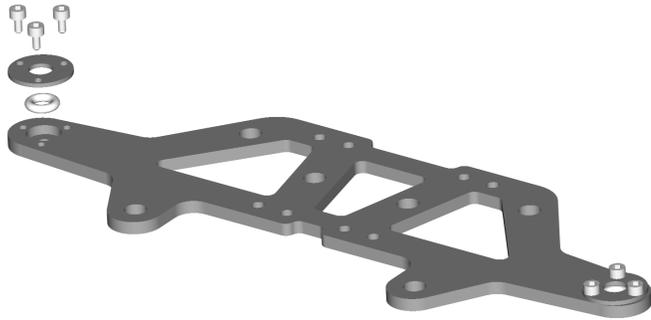
Install the axle to the chassis in this order, put one shim on the axle, slide into the rear pod as shown, install one more shim on the opposite side, then the left side hub. There should be a very small amount of play between the bearing and left hub. Otherwise a pre-loading condition will occur, wearing the bearings out prematurely.

NOTE, DO NOT OVER TIGHTEN THE CLAMPING SCREW ON THE LEFT SIDE HUB. Tighten the clamping screw until it bottoms in the hub, then about 1/8th to 1/4 turn more should be enough to secure the hub to the axle.

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 HIGHLY 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.

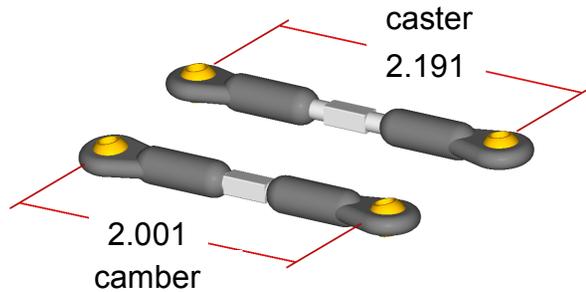
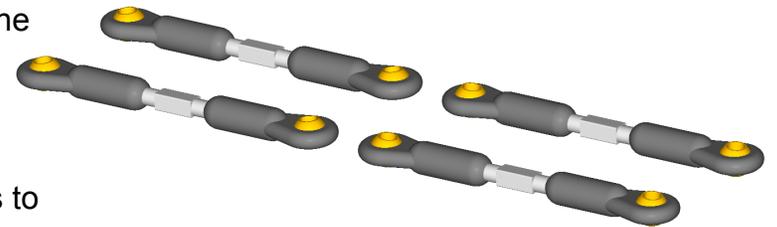
Screw the diff nut down until it just starts to compress the diff. From this point on the diff will need breaking in. Hold the left hub in one hand and the spur gear in the other. Twist back and forth several times, stop to give 1/8th of a turn to the diff nut. Do this for about 1/2 to 3/4 of tightening 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.



The front lower arm now features retainers for our lower pivot o-rings. Install the o-ring followed by the carbon retainer, all attached with 3 socket head cap screws.

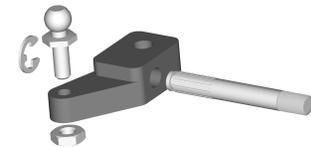
Build 4 links keeping careful note of the construction. One link will have a threaded ball, the other will fit the king pin. Assemble all links so that turning the wrench to the front of the car tightens (shortens) the link. This will make adjustments easy when getting ready for races.

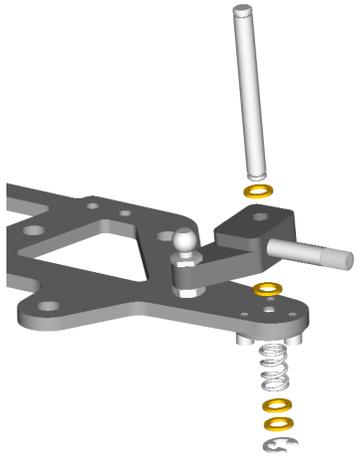
To minimize confusion, lay the parts out on a towel in your work area, and pre-arrange the parts. Keep the threaded balls in the middle and the un-threaded balls to the outside.



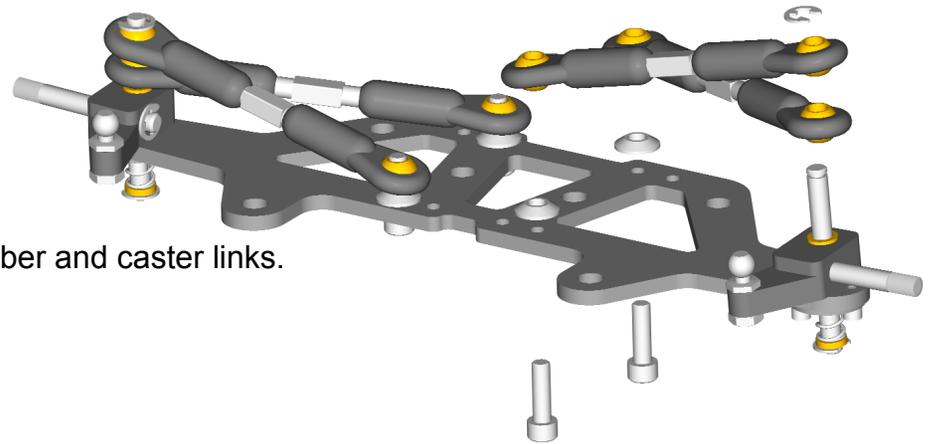
The following lengths will get you to a ball park of 3° caster and -2° camber.

Assemble steering knuckles as shown. DO NOT ream out kingpin hole. The pin is meant to fit tight.

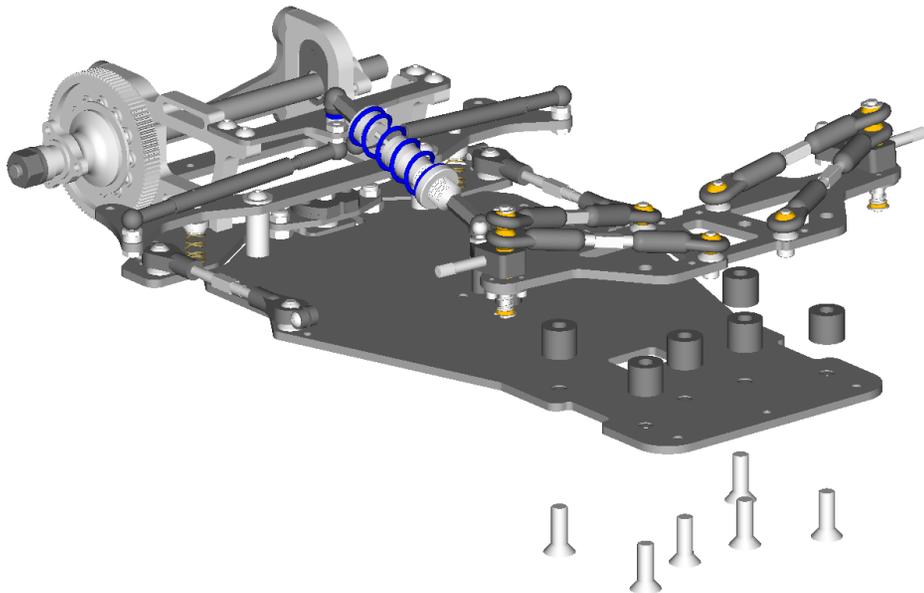




Order of assembly. Add some red or green Tube Spooge to the king pin when installing in o-ring. We also use Tube Spooge on the king pins to help damp the front end. Don't be afraid to leave some on the king pin after assembly, usually applied to the spring up near the o-ring.



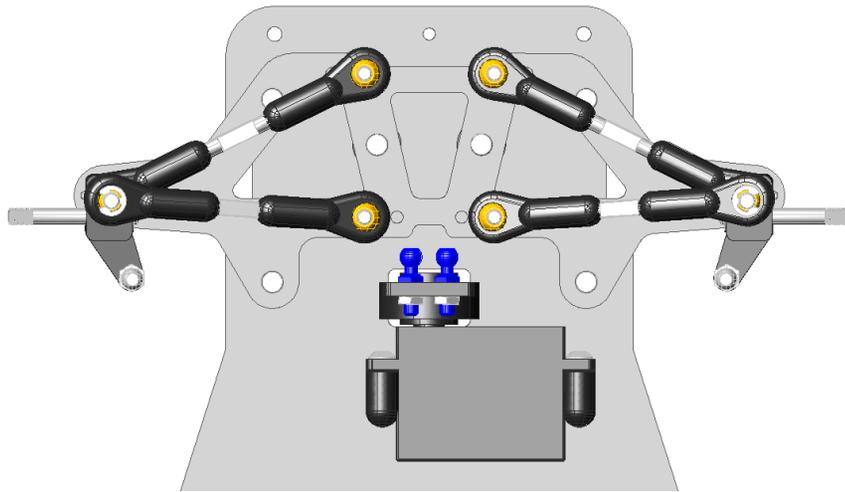
Final assembly of the front suspension. Low roll cones under the camber and caster links.



Using the spacers included in the kit, attach the front lower arm to the chassis using the (6) flat head phillips screws. Use a full sized screw driver with a tip in good condition. Do not use a power screw driver.

The screws can be tightened to the point that the arm is loose, then follow a pattern working your way from the center to the outside to avoid introducing a tweak into the chassis.

In lower grip situations, the center spacers can be left out to introduce a little more flex in the lower arm.



Installing the servo will require holes be drilled and counter sunk from the bottom side. The servo holes aren't drilled in our kits because most servos differ from manufacturer, even within the same manufacturer.

A medium sized servo saver is recommended, like the Kimborough #201. Use the two holes closest to center for the ball studs.

Install the servo mounts if you need them, center the servo saver straight up, and center the servo saver in the relief hole in the chassis. The notch in the lower arm is there to serve as a visual aid to align the servo.

Carefully mark and then re-check that the marks are actually centered on the mounting holes. Front to back is not so much an issue, side to side will adversely effect how a car will turn.

