

Thank you for purchasing the Mini Tweak Station! We hope this tool will elevate your racing to the next level!

The Mini Tweak Station is not a new concept but new to the 1/28 scale game. We originally designed the Mini Tweak Station 6 years ago after a local racer asked for something that could help them define when and where to adjust their front suspension. Modeling after similar tweak stations for larger scales, we brought the design down to support 86mm-106mm wheelbases for the Kyosho Mini-z. Our first prototype consisted of most of the same parts you see today but had more of a skeleton design to save time when 3d printing.

If you're familiar with benefits tweak stations then this is nothing new. However, we've incorporated some innovative revisions to make it more accurate, more compact and easier to use. The Mini Tweak Station consists of only a handful of parts-The 3d printed "T", the 3d printed level, guide rod, knurled thumb turns, wheelbase spacers and a chassis spacer.

Each Mini Tweak Station ships assembled for compact transport.



The 3d printed "T"-

Considered the rear of the Mini Tweak Station, this is where we establish the 3 points of contact to create our level plane. The "T" is where we install our thumb turns, guide rod, and chassis spacer.



The 3d printed level-

Considered the front of the Mini Tweak Station and is where we see the truth about our suspension. Each level is placed by hand on a true level surface and set with a dab of glue. This guarantees your Mini Tweak Station is accurate every time, all the time.



Guide rod-

Nothing more than a stainless steel 3mm x 100mm rod. This rod is hand set into the "T" with a pressure fit. The stainless-steel guide rod provides the connection between the "T" and level. The level rides smoothly from front to back for wheel base adjustment and pivots side to side as your two wheels make contact. There is no need for a bearing given the depth and accuracy of the hole in the level.

**Knurled thumb turns-**

Knurled aluminum thumb turns are needed to adjust the three points that make our level plane on the "T". These are hand threaded into the 3d printed hole in the "T". We do not tap and thread the holes to ensure that the thumb turns do not back out easily during use.

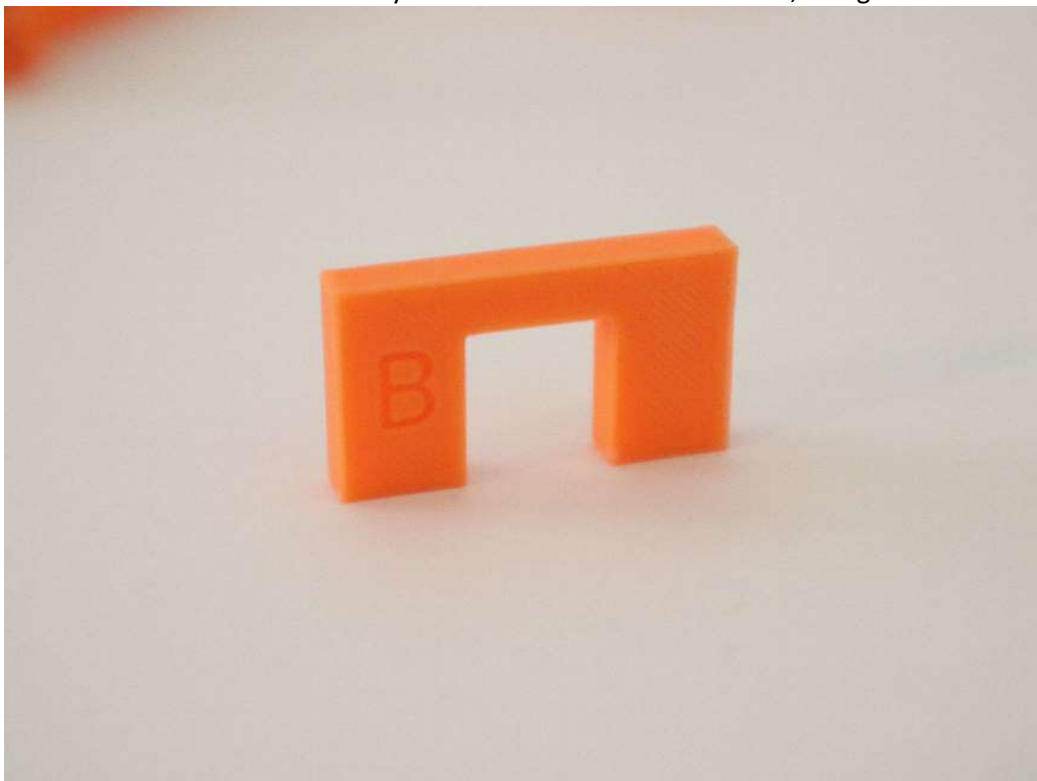


Wheelbase spacers-

Included in the kit are two wheelbase spacers- 98mm and 102mm. These are installed on the guide rod between the "T" and the level to ensure that you have the proper spacing between the front and rear wheels.

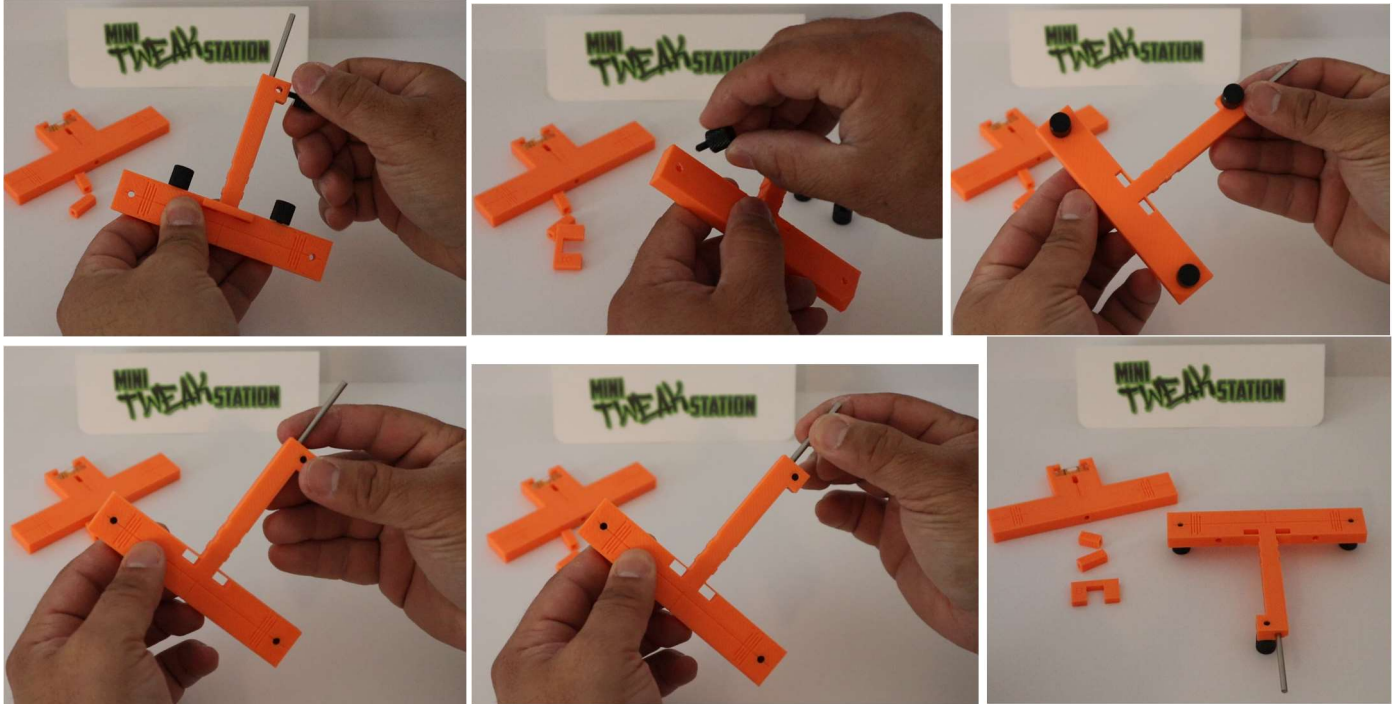
**Chassis spacer-**

Also included is a chassis spacer that elevates the wheels on the "T". The purpose is for leveling the front or rear suspension to the chassis independently. The "U" provides a parallel surface to the "T" meant to make contact with the flat underside of the chassis. This allows you to level the wheels to the flat, straight surface of the chassis.



Assembling your Mini Tweak Station-

Each Mini Tweak Station ships assembled for compact transport. Start by removing the knurled thumb turns from their transport position and threading them into the underside or unmarked side of the "T". The guide rod should already be installed. If it is not, carefully insert the guide rod into the hole at the front of the "T" until it is fully seated.



Using your Mini Tweak Station-

Remove the "U" shaped chassis spacer from the "T" and set this aside for later. Locate a working area with a hard flat surface that is clear of dust and debris. Place the "T", thumb turns down on the working surface. Grab the level and place the marked surface of the level on top of and parallel to the "T" with the bubble level towards you. Adjust the thumb turns on the sides of the "T" until it is level from side to side.



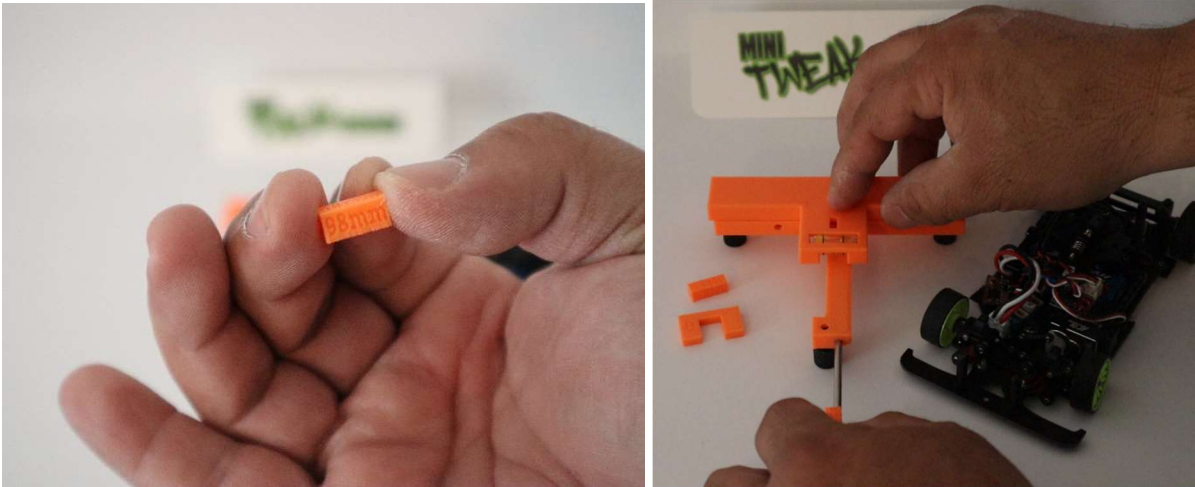
Now place the level parallel with the shaft of the “T” and adjust the thumb turn on the shaft until it is level front to back.



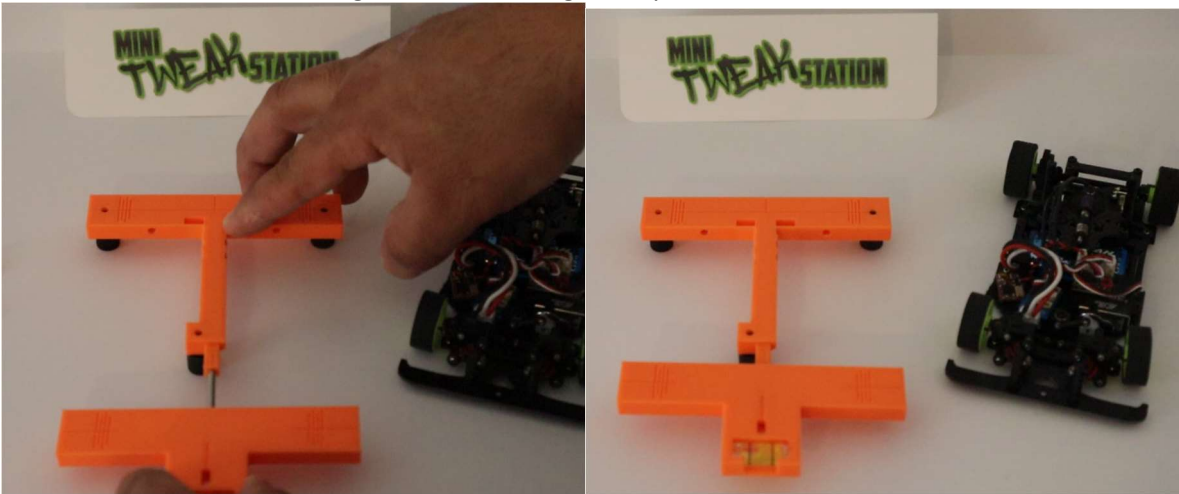
Verify that it's level one more time from side to side and front to back. IMPORTANT: Make note of the contact points of the thumb turns on your working surface. Any relocation from these contact points will require the “T” to be leveled again to this new area.



Determine if your wheelbase is 98mm or 102mm and slide the appropriate wheelbase spacer onto the guide rod.

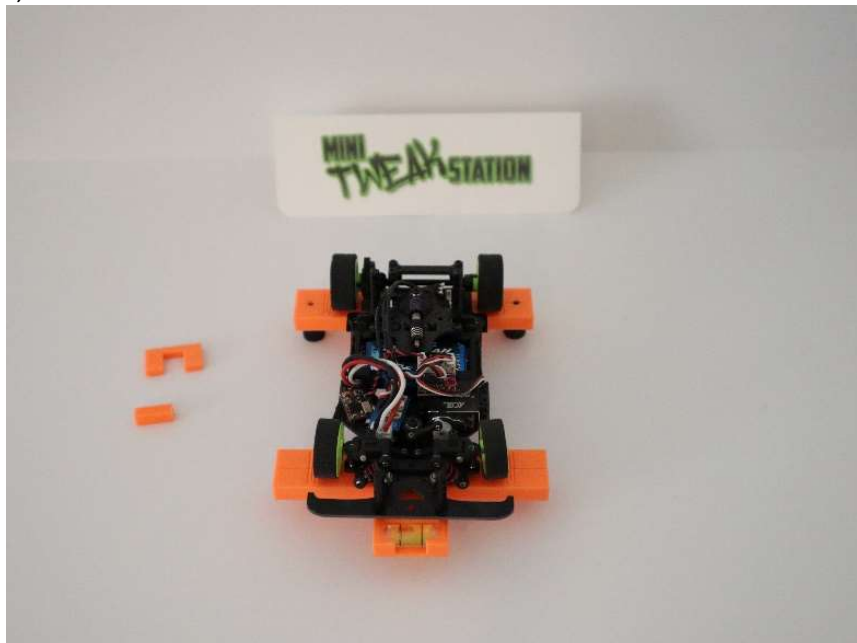


Next, slide the level onto the guide rod, marking side up.

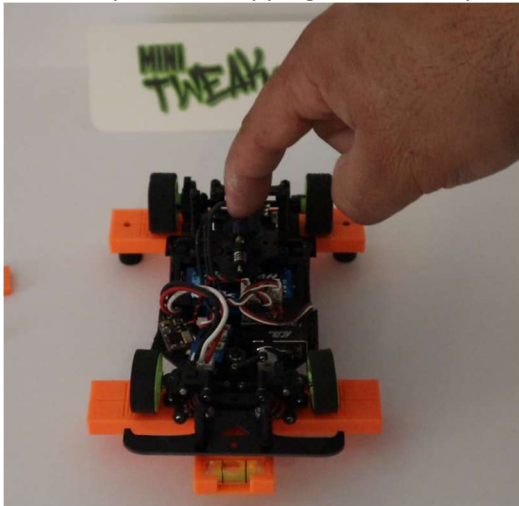


Initial verification

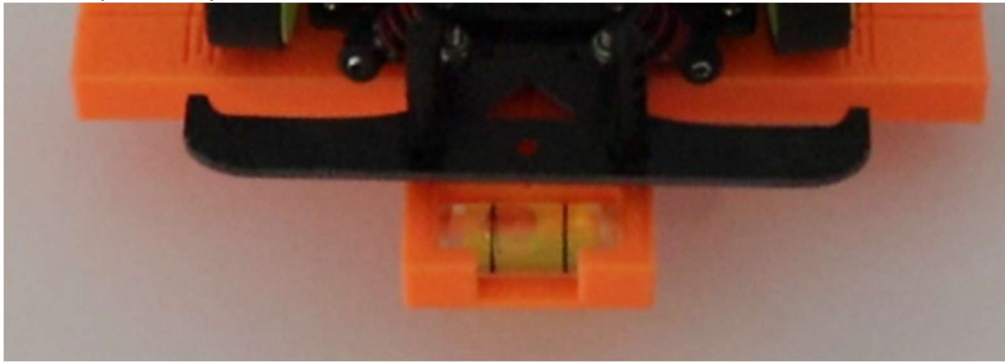
Now that you've leveled the Mini Tweak Station, remove the body from your chassis. Place the chassis on the Mini Tweak Station with the rear wheels on the "T" and the front wheels on the level. Ensure that the chassis is centered, side to side and front to back.



Gently tap the center of the rear suspension, either on the screw of the disk damper, the chassis connection of your tri-damper or the top shock. Tapping the rear suspension causes it to naturally settle.



Check the position of the bubble. The position of the bubble in the level reveals the relation of all four wheels to each other. The goal is to get the bubble to the center of the level. If not, then you will need to adjust the front and rear suspension independently.

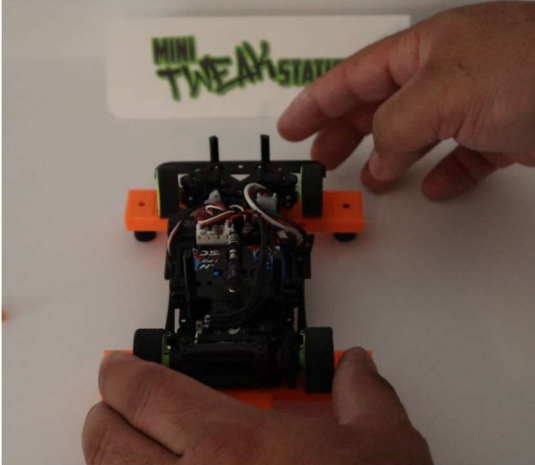


Rear end leveling, independently-

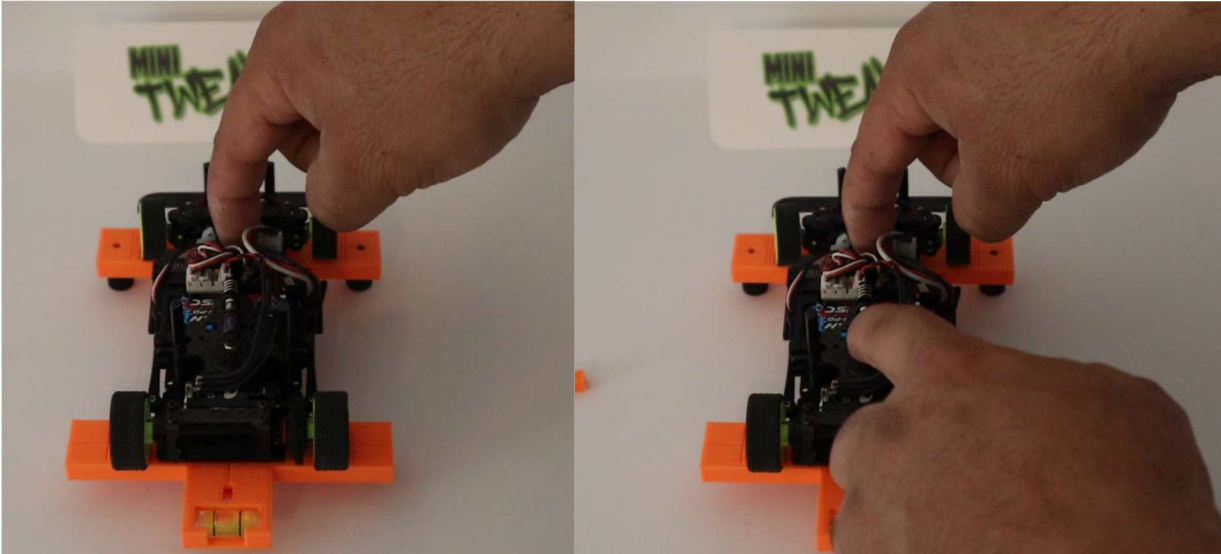
Start by removing the chassis from the Mini Tweak Station. Insert the "U" chassis spacer into the holes in the top of the "T" and ensure that it is fully seated.



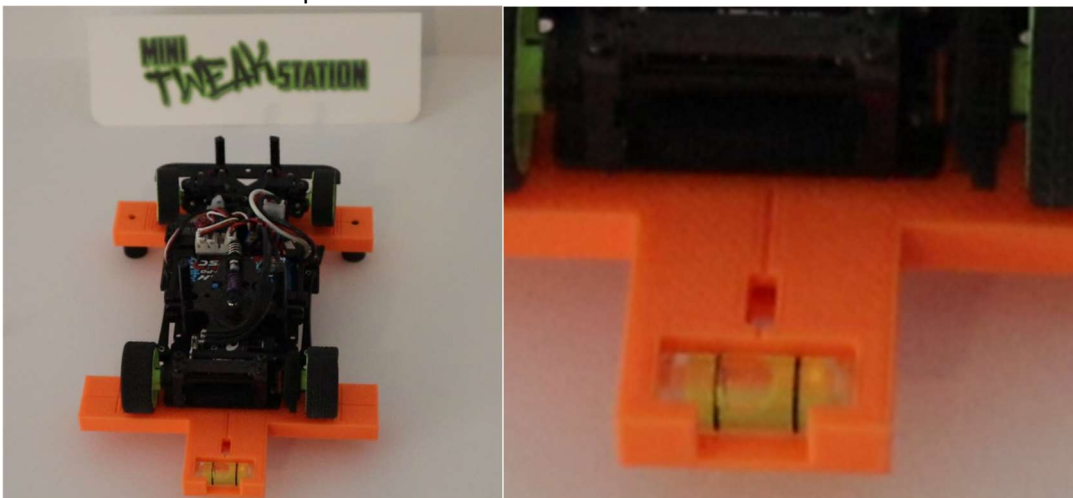
Place the front of the chassis on the “U” with the rear wheels on the level. Center the chassis, left to right and front to back. *NOTE: The “U” is a flat surface that makes even contact with the underside of the chassis and elevates the front wheels. This ensures that any adjustments to the rear suspension will be level to the chassis and not the front wheels.*



Gently support the chassis by placing a finger on the chassis closest to the “T” (applying pressure ensures the chassis sits flat on the “U”). Gently tap the center of the rear suspension, either on the screw of the disk damper, the chassis connection of your tri-damper or the top shock. Tapping the rear suspension causes it to naturally settle on the level.

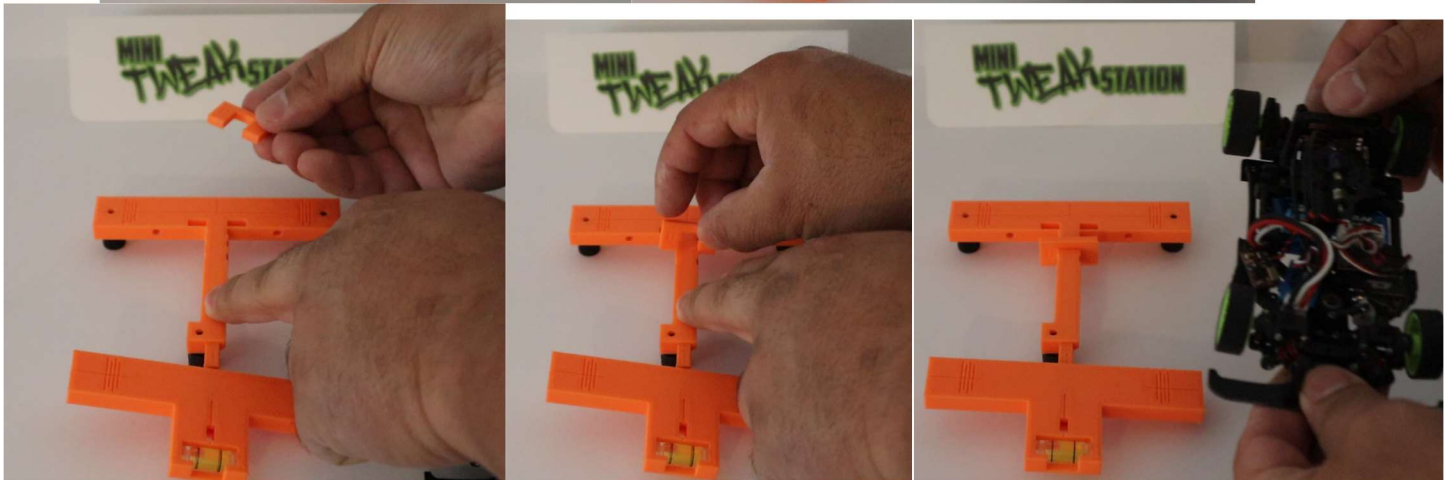
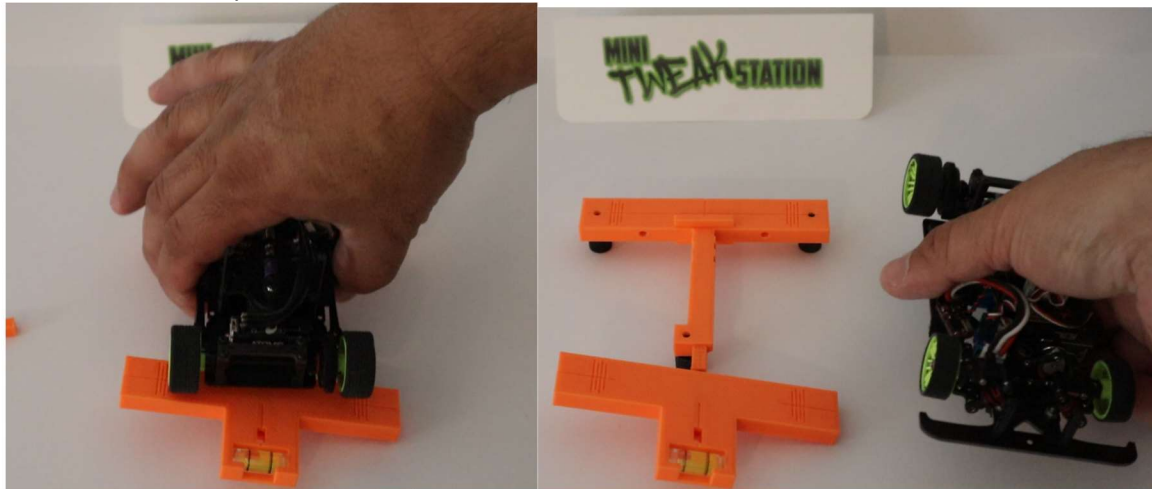


Check the position of the bubble and adjust the suspension as needed until the bubble is centered. This ensures that the rear wheels are level and parallel to the chassis.

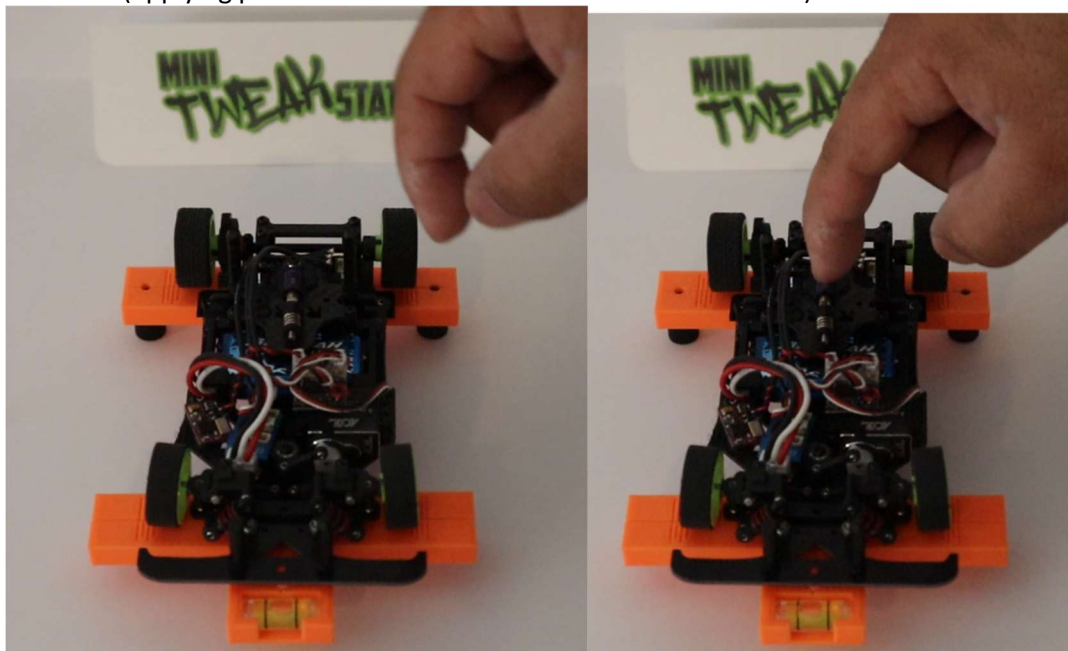


Front end leveling, independently-

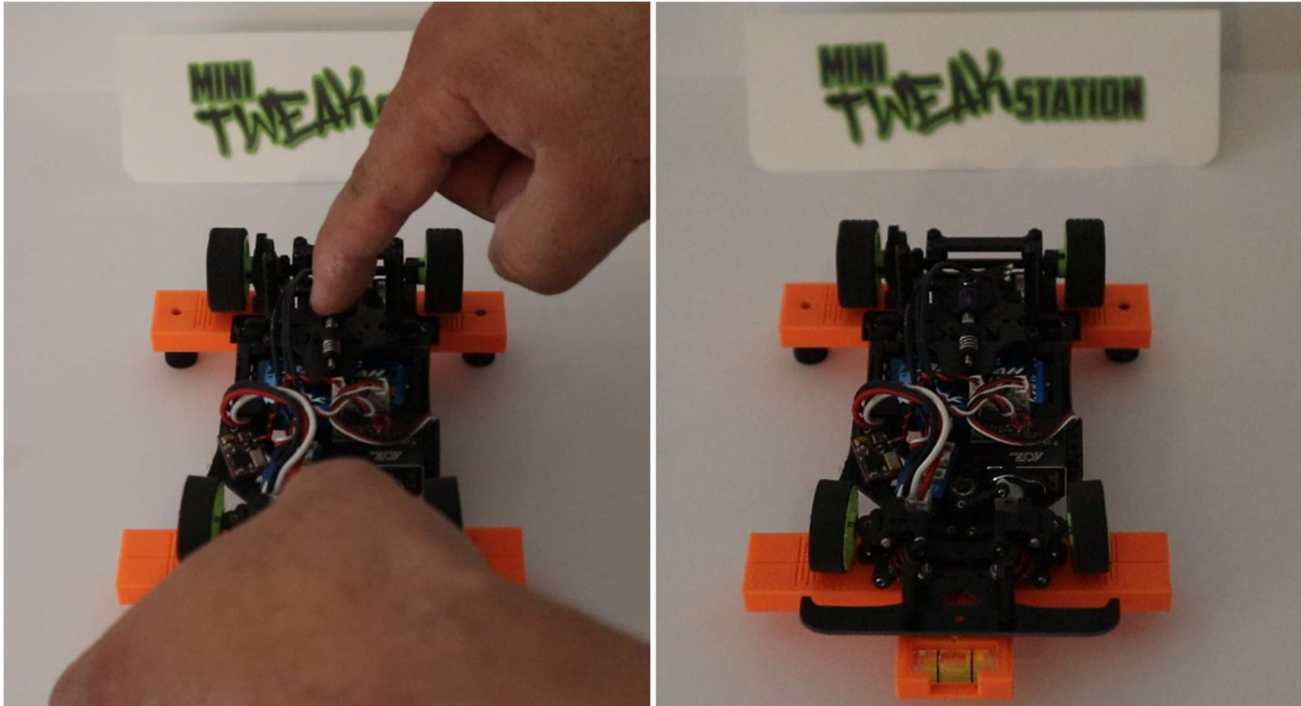
Remove the chassis and slide the "U" onto one of the slots on the shaft of the "T". Use the appropriate slot that is closest to the "T" but only makes contact with the chassis and not the motor mount.



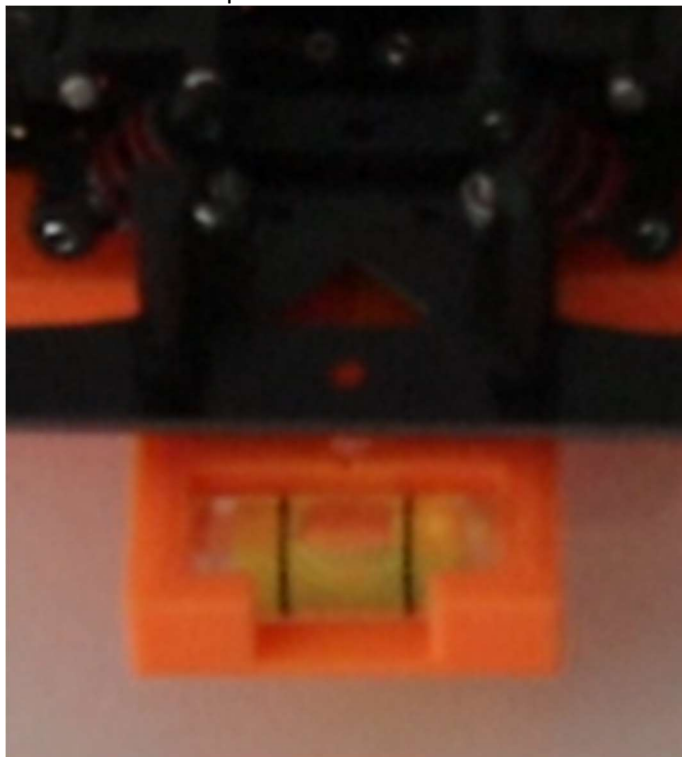
Center the chassis left to right and front to back. Gently support the chassis by placing a finger on the chassis closest to the "T" (applying pressure ensures the chassis sits flat on the "U").



Gently tap the front suspension in the center. Tapping the front suspension causes it to naturally settle on the level.

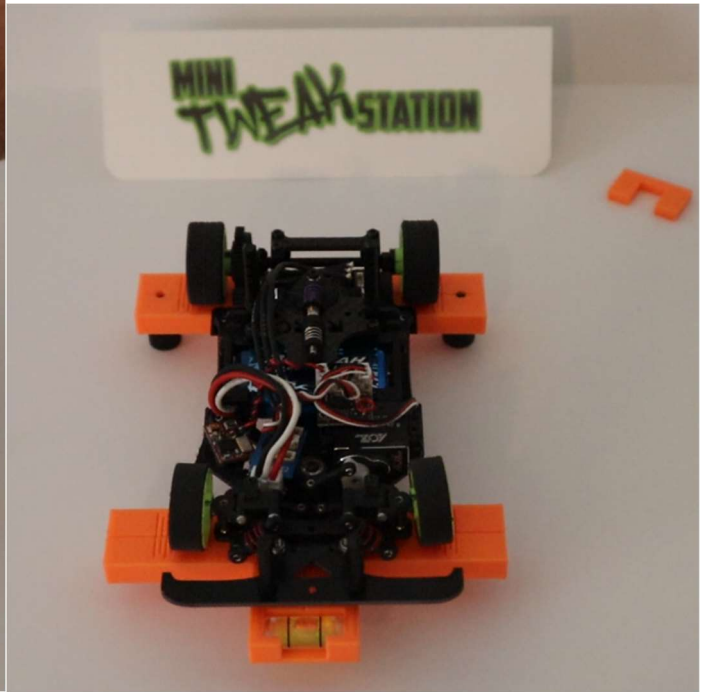
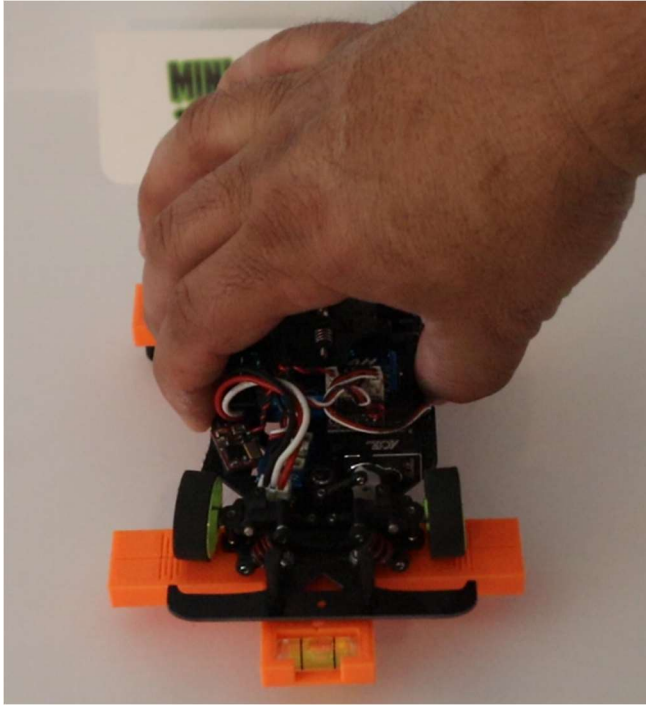


Check the position of the bubble and adjust the suspension as needed until the bubble is centered. This ensures that the front wheels are level and parallel to the chassis.

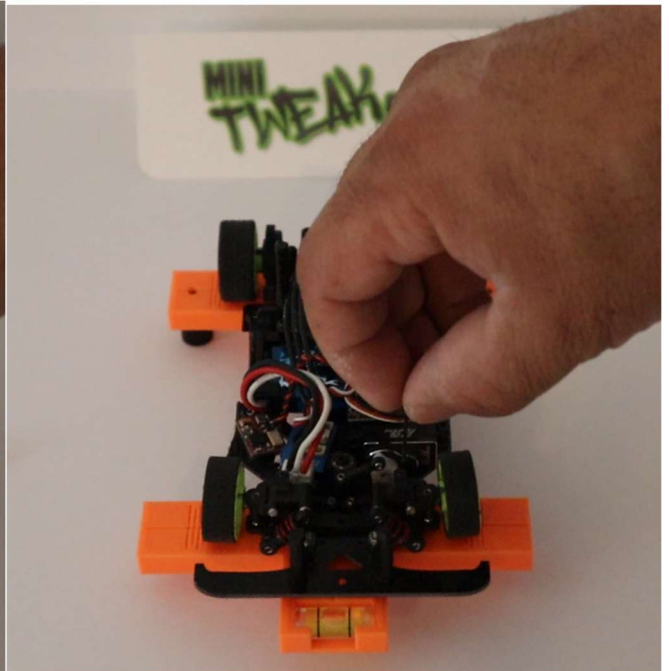
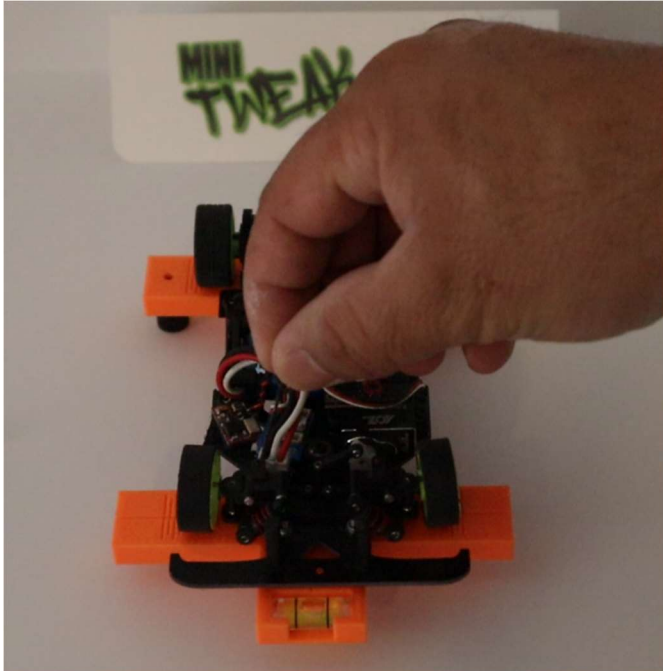


Final verification

Place the chassis on the Mini Tweak Station with the rear wheels on the "T" and the front wheels on the level. Center the chassis left to right and front to back. The bubble should be in the center or very close to center.



Make adjustments to the front suspension until the bubble is centered.



Troubleshooting tweak

If you were not able to achieve center or near center of the bubble here are some places to start:

- Ensure that all suspension screws and adjustments are tight
- Ensure that all droop is even
- Ensure that all suspension is preloaded appropriately
- Ensure that all suspension moves freely
- Ensure that the chassis is centered from left to right and front to back and that all wheels are pointed in the forward direction when placed on the Mini Tweak Station
- Ensure that you are placing the Mini Tweak Station on the same points of contact that it was leveled to on the work surface
- Ensure that the bubble level is not loose
- Ensure that the level spins freely on the guide rod with and without the wheelbase spacer
- Ensure that the “U” is fully seated in the “T” when used
- Ensure that you test drive the car before and after making changes to ensure that the changes have taken effect
- Ensure that any shims used to make adjustments are flat and free of debris when installed