



GT Ring System for Thrustmaster Wheels

Adjustments and Tuning

Ver. 1.0

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Using the Progressive Brake Adjuster

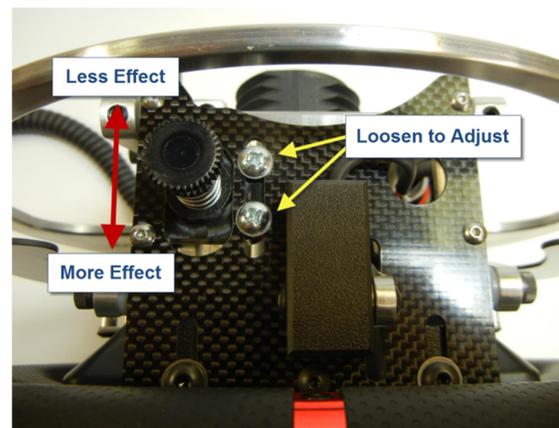
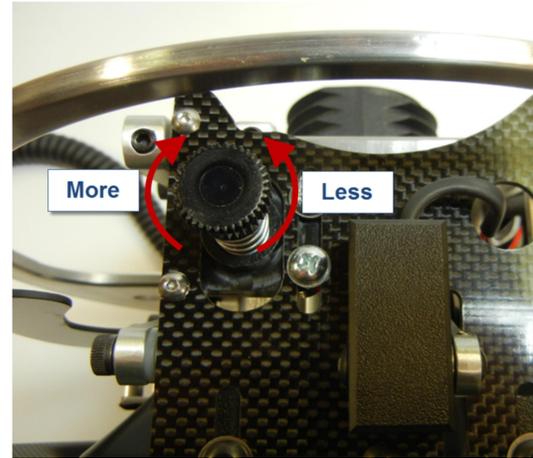
The progressive brake tension adjuster uses a conical rubber on an adjuster screw to give your brake ring a progressive feel. This is designed to give you more of a “sweet” spot feel where the brakes are coming in. The use and adjustment is entirely your preference, but I generally prefer to set it so that it starts getting stiff just before threshold braking, and quite stiff when the brakes lock.

Since this “sweet” spot varies widely between simulators and cars, we’ve made it adjustable on the fly. Just turn the adjuster screw in to enable the progressive rubber sooner, or out to reduce or disable the effect.

Note: You must be able to depress the brake 100% at least once after the wheel turns on for calibration. If you run the rubber so stiff that you cannot reach 100% you may need to back it off a bit.

The overall effectiveness, how quickly the brake gets stiffer, can also be adjusted by moving the adjuster assembly closer or further from the ring mount shaft.

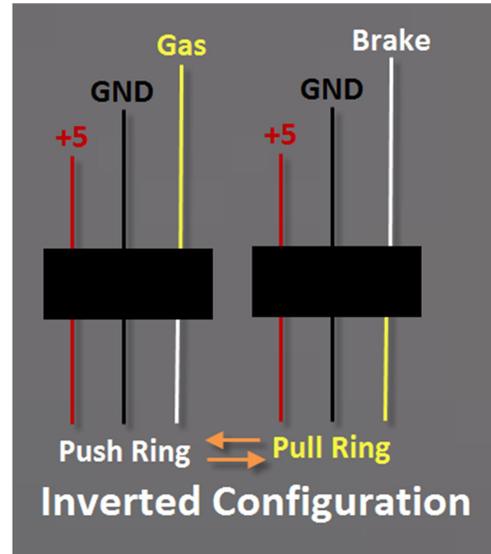
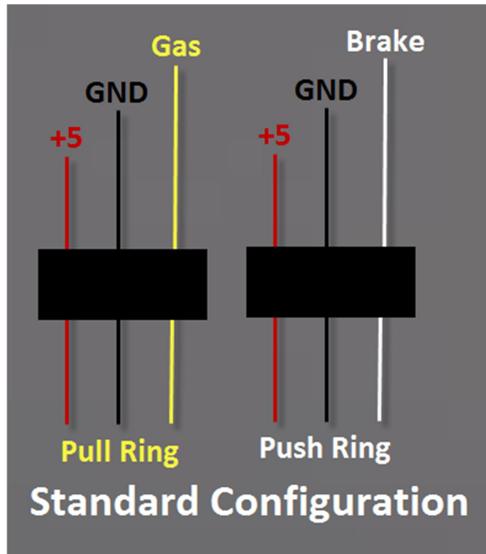
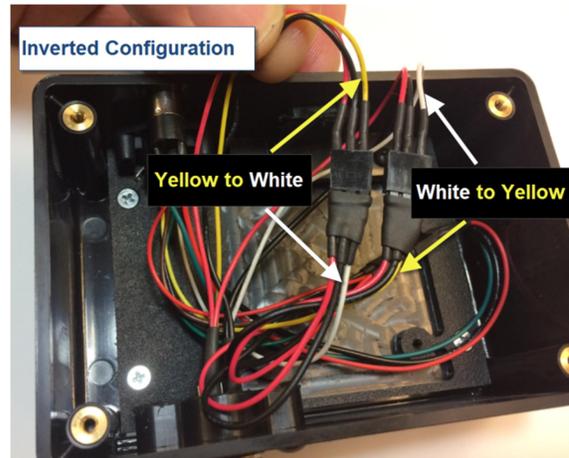
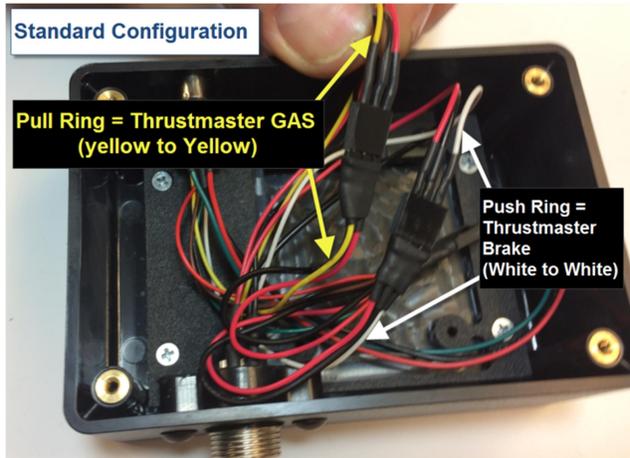
See the section “Reversing Throttle and Brake Rings” for instructions on how to move the adjuster assembly between rings.



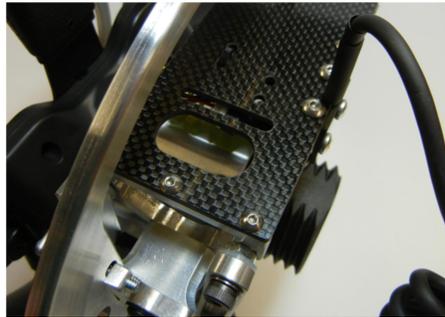
Reversing Throttle and Brake Rings

By default your SimAbility rings are configured so that the Pull Ring (large ring) maps to the Thrustmaster controller's gas and the Push Ring (small ring) map to the Thrustmaster controller's brake.

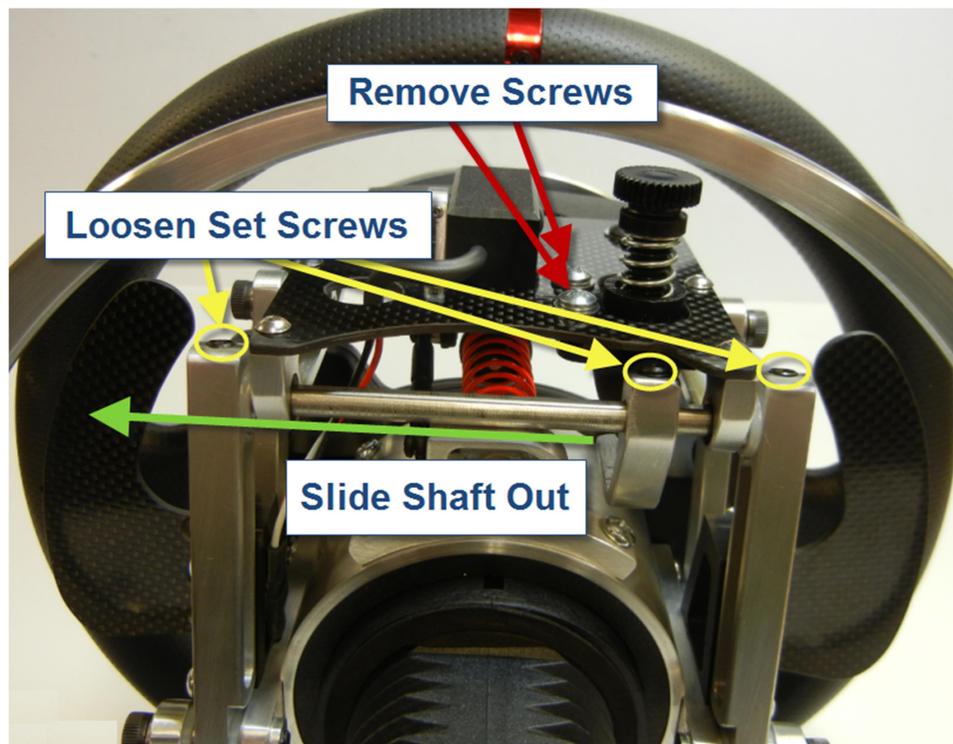
You can easily reverse these inside the connector box by swapping the 3-wire yellow to yellow connectors with the 3-wire white to white connectors. Just be sure to keep the red and black wires on each side of the connector aligned. Otherwise your controller will operate backwards.



If you're using the conical brake rubber and adjuster then you'll want to move that as well. Both the top and bottom plates have holes cut for the adjuster and mounting screws.



1. Remove wheel from base.
2. Loosen the 3 set screws shown in the diagram below.
3. Slide the shaft out far enough that you can remove the brake adjuster arm.
NOTE: Use pliers to gently clamp the shaft and then rotate it slightly back and forth as you work it out. Keep the two arms and platform as straight as possible. Once something gets crooked, the shaft will bind.
4. Remove the 2 screws securing the adjuster assembly to the plate.
5. Drop the adjuster housing out of the plate. Angle it so that it clears.
6. Slide the shaft back in and tighten the set screws on both arms.
7. Repeat the procedure to install the arm and adjuster on the other ring plate.



Adjusting the Pull Ring Static Position

The static position (**full off**) of the Pull Ring is adjustable by about 32mm (1 ¼").

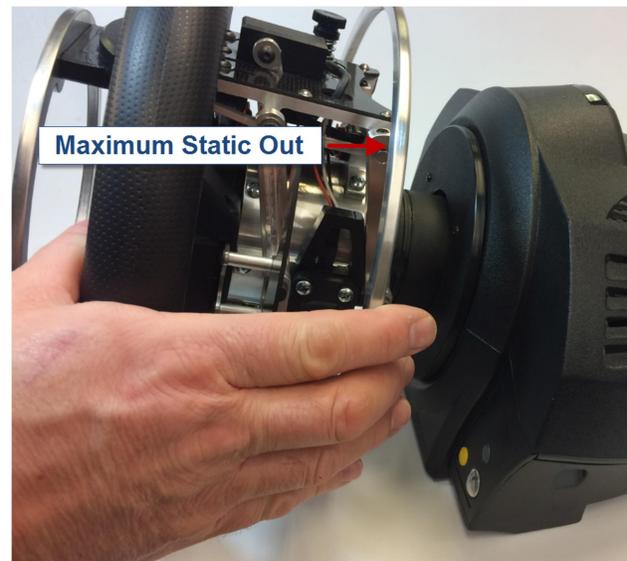
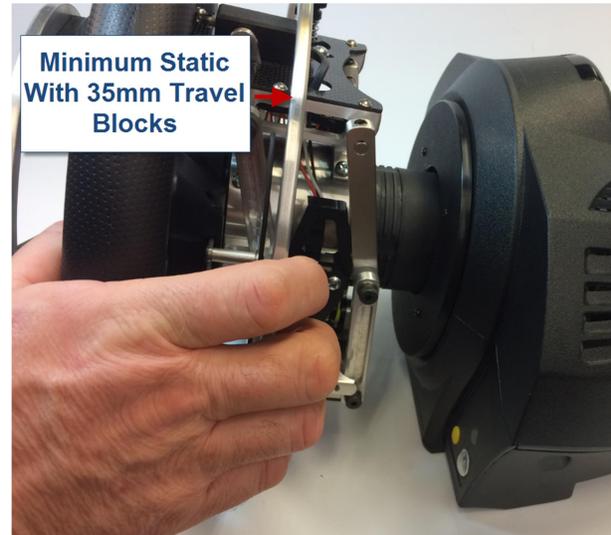
This is a matter of preference and is based on your shifting technique (if you are using the paddle shifters) and overall comfort.

Setting the ring near its full minimum static position will generally make the paddle shifters easier to reach, especially for up shifting. However, you may find your fingers holding the other side of the wheel to get in the way.

Setting the ring further out (away from the wheel) means you will have more room to keep your fingers wrapped around the wheel, but may get in the way of the paddle shifters.

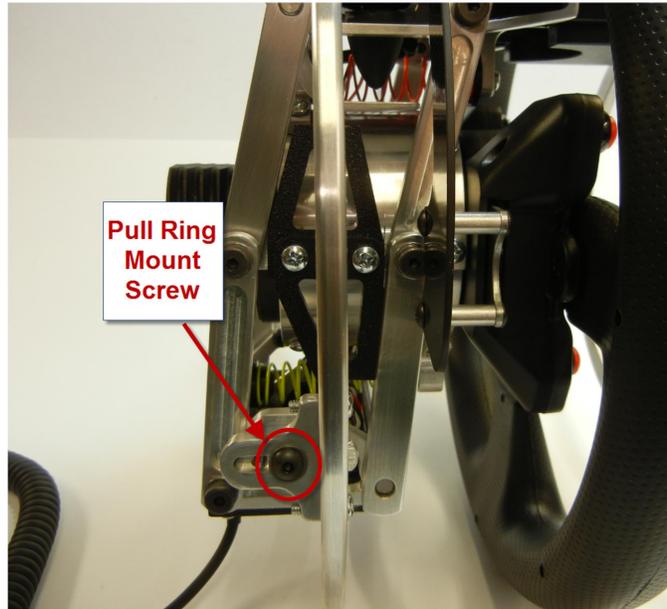
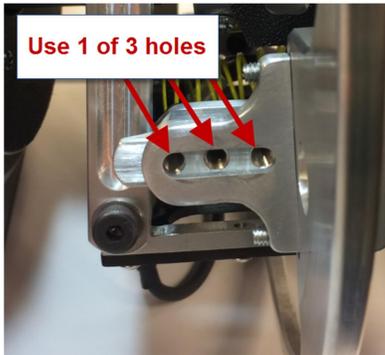
Experiment to find your favorite position.

Note: When adjusting to the minimum static position, be sure that the Pull Ring arms are hitting the stop blocks while at **full on**, rather than having the ring touch the wheel first. If the ring touches the wheel first then you will get inconsistent **full on** positions depending on where you are pulling on the ring. I.E. You will not always get full throttle. Change to smaller travel blocks if you need the ring moved back (towards the wheel) further.



Change the static position by loosening the two Pull Ring mounting screws and sliding the ring in or out.

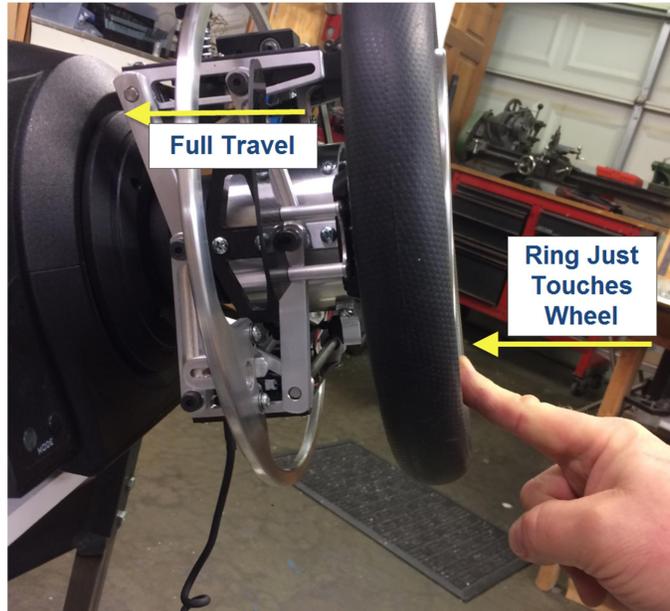
The Pull Ring mounting block has three different holes to accommodate the full 32mm (1 ¼") of travel. Move the mounting screw to a new hole if necessary.



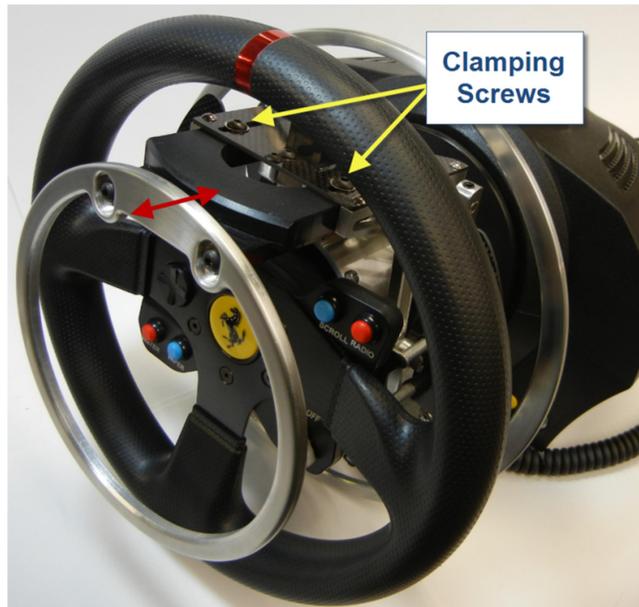
Adjusting the Push Ring Static Position

The Push Ring is adjustable inward and outward. While you can adjust it out quite a bit, you'll generally want to adjust it so that the very bottom of the ring just touches the wheel when fully pressed.

Because the ring can only be mounted on the very top (to accommodate different wheels), it's subject to some flex when you press the very bottom of the ring. When pressed on the sides or near the top, under normal conditions, there will be little to no flex. This flex also varies by the spring tension you use. Just experiment to find the best position for you.



To adjust, just loosen the two clamping screws and then slide the ring assembly in or out.



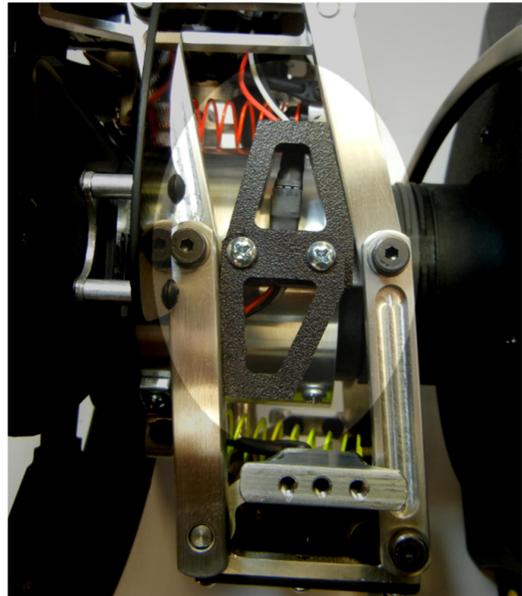
Changing Travel of the Push Ring and Pull Ring

The travel between **full off** and **full on** for both rings is adjustable by replacing the HDPE Plastic blocks mounted on the side of the hand controls.

The travel is a matter of preference. But in general you will want to use the 35mm blocks if they are comfortable as they may give you more precision. But if you find that difficult to reach, or the spring tension is too much to hold full throttle for long periods then try the smaller blocks.

We use these blocks instead of individual adjusters to ensure that you always have the exact same adjustment on each side. This would be difficult with adjusters, and if they are not matched the rings can bind or be inconsistent in their travel.

These blocks also provide a solid stop without the “clanking” noise of a hard adjuster.



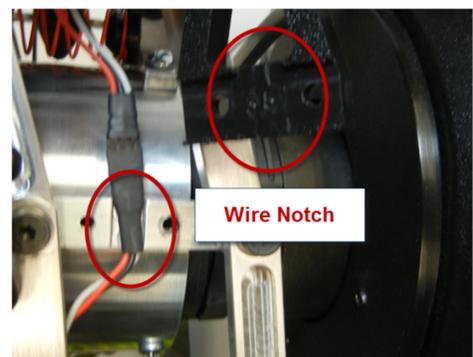
Each of the 4 individual blocks from each set are different, meaning that there is an upper and a lower for each side. Use caution to not get them mixed up. I recommend only changing one side at a time so that you always have one side assembled for reference.

The size is stamped on the back of each block. As of Nov. 2016 we are shipping with 30mm and 35mm blocks but smaller sizes are available upon request. The size refers to the approximate distance the ring will travel. For example, the ring with 35mm blocks will move about 35mm (1 3/8”) from full off to full on.



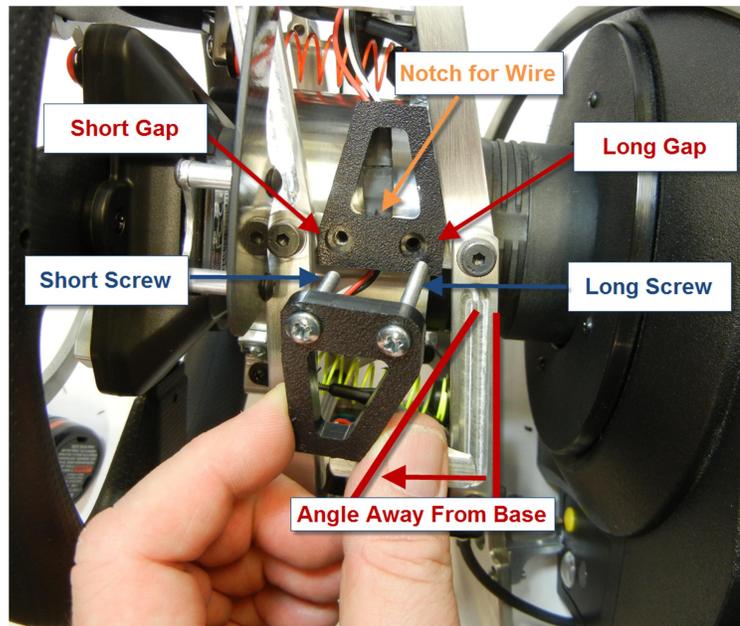
You can also mix and match blocks allowing, for example, 30mm blocks on the push ring and 35mm blocks on the pull ring.

The **full off** position remains the same. Only the full on position is changes. This means the sensors will not need to be calibrated when the blocks are changed. The wheel will just need to be turned off and back on so that it can calibrate to the new **full on** setting.



To change the blocks, just remove the two screws, insert the new block(s) and re-install the screws. Below are some tips.

- Only change one side at a time.
- The long screw always goes on the base side of the wheel.
- The right-side top block has a notch for the sensor wire.
- You can use different sized for the Pull Ring and the Push Ring.
- If you need less than 30mm of travel then please contact me.



Adjusting the Ring Heights

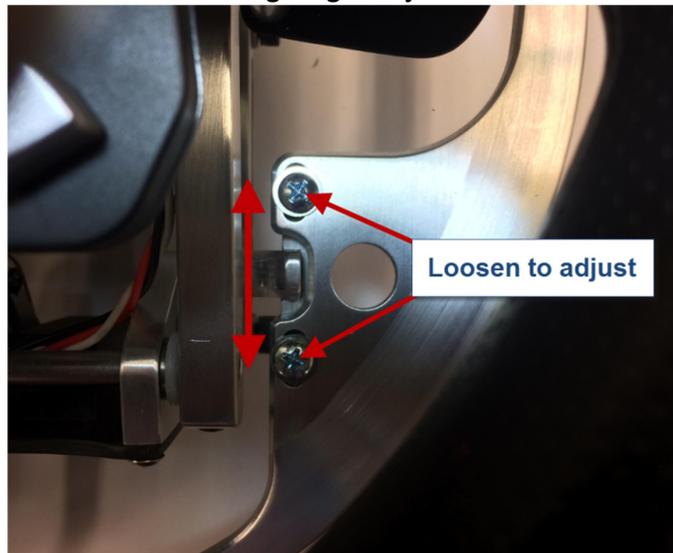
The height of both the Push Ring and the Pull can be adjusted slightly as shown in the diagrams.

We provide this adjustment because the rings don't travel straight back and forth, but rather in a slight arc. This means the rings will change height slightly as they move. In some cases you may prefer the rings slightly higher or lower and you can change that with these adjustments.

Push Ring Height Adjustment



Pull Ring Height Adjustment



Spring Rates

Below are the spring rates and color of the available springs. These are Losi RC car springs and you can find additional rates by searching for the Losi part number. I can also order them for you, but you'll most likely be able to find them for a better price in your area.

Losi Part #	Length	Rate	Color	Status (G29)
5144	2.75"	1.4	gold	Installed on Gas
5146	2.75"	1.6	gray	N/A
5147	2.75"	1.8	white	N/A
5148	2.75"	2	yellow	N/A
5150	2.5"	2.3	pink	Spare provided
5152	2.5"	2.6	red	N/A
5154	2.5"	2.9	orange	N/A
5156	2.5"	3.4	silver	Installed on Brake
5158	2.5"	3.7	green	Spare provided
5160	2.5"	4.1	Blue	N/A

Recalibrating HAL Effect Sensors

You should never have to recalibrate the HAL effect sensors, but if you do, it's quite simple.

Follow the below procedure and experiment a bit. You'll get a feel for it. All you are doing is rotating a magnet mounted to a shaft.

1. Connect the base to a PC.
2. Open the Thrustmaster Game Controller settings from with Windows Control Panel so that you can see the input. Select "settings" rather than "properties". You can also download and use DXTweek.
3. Loosen the set screw.
4. Insert a $\frac{3}{32}$ " hex wrench and rotate the shaft in the same direction that it would if you were operating the ring.
5. Rotate until you see the input level just come off of zero.
6. Tighten the set screw.
7. Unplug and plug the base back into the PC to test. There will always be a small dead zone, but if you feel it's too much then try recalibrating again. This time go a little further past zero.

NOTE: If you do not see any input, simply turn the shaft about 180 degrees from where you started and power the wheel off and back on.

