



GT Ring System for Thrustmaster Wheels

Product Information

Updated February 6, 2017

GT Rings installed on T300 Base with Ferrari GTE Wheel

(Wheel and Base sold separately)



Please visit www.SimAbility.com for more images.

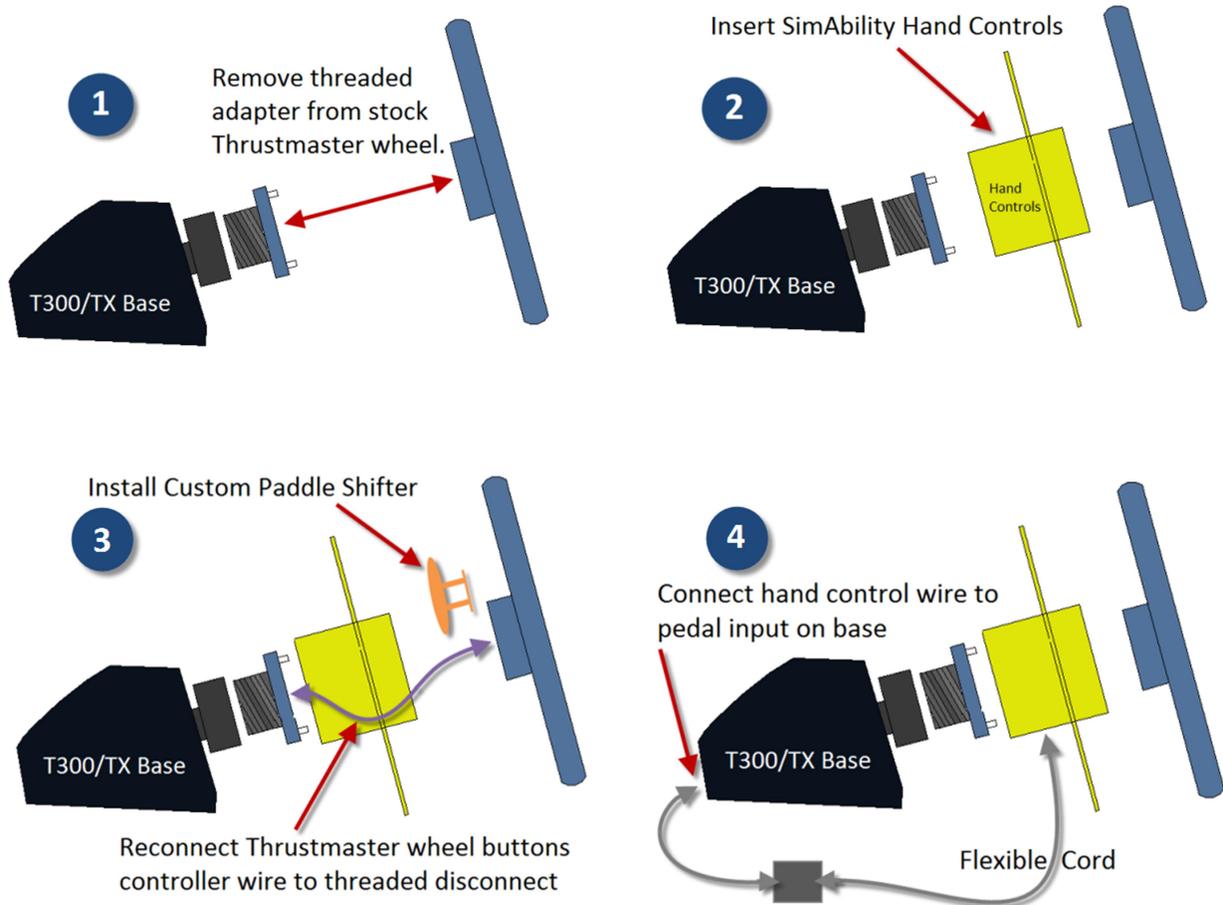
Installation Overview

One of our primary goals for all hand control for Thrustmaster products is to minimize modification to your Thrustmaster components. In fact, there is no modification whatsoever done to the T300/TX servo base for any of our products. The installation is always done on the removable Thrustmaster wheel.

Detailed installation instructions are available on our website www.SimAbility.com

Documentation > GT Ring Hand Controls for Thrustmaster T300/TX > Installation Instructions

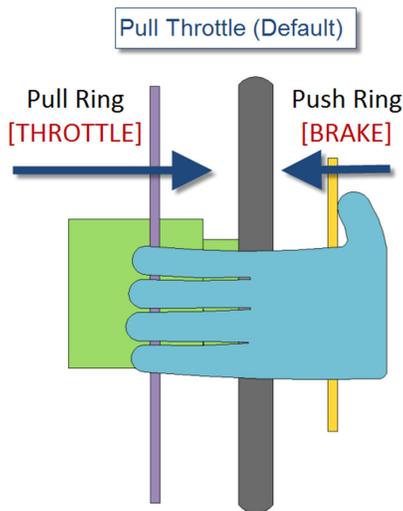
The below illustration demonstrates the basic concept of how the SimAbility GT Ring hand controls are installed between the stock Thrustmaster steering wheel and its threaded disconnect. Once installed, an external cable connects the hand controls to the pedal input on the back of the Thrustmaster base. All of the standard buttons and functions on the Thrustmaster wheel and base continue to work. And best of all, the Thrustmaster base sees the SimAbility hand controls just as if they were Thrustmaster pedals. This means you will retain compatibility across all platforms (PC and Console) that the base originally supported.



Throttle and Brake Operation

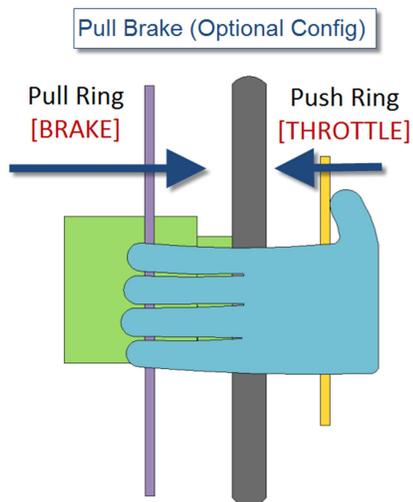
There are two configurations to choose from as shown below. Not sure which is best for you? No problem. It's relatively easy to switch between the two modes. Typically 30 to 45 minutes to complete the change.

1) Pull Throttle (AKA Sim Racing Mode). This is the configuration preferred by nearly all customers. Here you operate the throttle by pulling the ring with one or more fingers. The brake is operated by pushing with your thumb, or even the palm of your hand.



- Most drivers prefer the feel of operating the throttle with their fingers.
- Paddle shifting, both up and down, is easily accomplished in this mode.

2) Pull Brake (AKA Hardcore or Real Mode). This configuration emulates most real-world ring hand control systems such as Guidosimplex. In those systems, the pull ring is connected to the car's brake pedal allowing the driver to utilize the grip of both hands to operate the brake. The throttle requires less force making it a good fit for the push ring.



- This is the preferred setup if you use, or plan to use, hand controls like this in your real car.
- The primary disadvantage is that the paddle shifters are difficult to use—especially down shifting. The solution is to map shift buttons on the wheel, or use a sequential or H-Pattern shifter.

Compatibility

- Our hand controls are designed to emulate the stock Thrustmaster two-pedal unit. Meaning your Thrustmaster base will retain compatibility with the PC and Console games it was designed to support.
 - T300 Base: PC / PS3 / PS4
 - TX Base: PC / Xbox One
- Our hand controls can also be connected to most aftermarket controllers such as Derek Speare Designs, Leo Bodnar, and SIM Display. Anything that supports the Allegro A1302 Hall Effect sensors should work. At this time we have only tested and confirmed on the DSD 12-bit controller.
- The GT Ring system can be installed on the below Thrustmaster Servo Bases. They should work on the T500 if the static paddles can be removed, and they should work on the new TS-PC Racer base but neither of these have been tested or verified.
 - Thrustmaster T300 (verified)
 - Thrustmaster TX (verified)
- The GT Ring system can be installed on all Thrustmaster wheel rims where the threaded adapter can be removed. This excludes the stock TX (plastic) wheel and the F1 wheel. All other wheel rims will work.



T300 PlayStation



Ferrari GTE F458



Leather 28 GT



VG Ferrari 599XX EVO



Stock TX
(Unsupported)



Ferrari F1
(Unsupported)

What's Included

- GT Ring Hand Control unit with Coiled Cord
- Installation Hardware
- Custom Carbon Fiber Shift Paddles
- Connector Box, Connector Cable, and Clutch Shunt
- Travel Block Set: 35mm (1.38"), 30mm (1.18"), and 25mm (0.98")
- Extra soft and stiff springs (exact rates vary by availability)
- Printed Instructions

GT Rings vs. Paddles

Is the SimAbility GT Ring system right for you? Your two basic options are paddles or rings. To help you decide, we've summarized the key advantages and disadvantages of the GT Ring system for most drivers.

Advantages of the GT Ring System

- Great feel and control of the push/pull rings.
- Both rings can easily be operated throughout the full rotation of the wheel. This is beneficial for all games, but especially good for rally, dirt, and truck driving games that require a lot of steering input.
- Easy to use an external shifter (H-pattern or sequential) because you can take one hand off the wheel and still have control of the gas and brake with the other hand!

Disadvantages of the GT Ring System

- More expensive than paddles.
- Installation is generally more involved, although a pre installation option is available by request. The pre installation does incur additional shipping and handling costs.

Features

Progressive Brake Adjuster



Pictured here, the progressive brake adjuster is installed on the push ring top swing assembly which is the default configuration. If you decide to use your pull ring for brake, then you can simply move the aluminum arm and adjuster assembly to the bottom swing assembly so you'll have the progressive brake adjuster on the pull ring.

Applying the precise amount of brake pressure is critical in real racing as well as sim racing. Although cost and space prevent us from utilizing hydraulic or load cell braking, we do our best to emulate those systems. In fact, this is another area where our hand controls exceed the quality of standard sim racing pedal sets.

We use a simple adjustable conical rubber to allow you to dial in that sweet spot. The adjuster simply moves the conical rubber up or down changing the point in which the aluminum arm contacts the rubber.



High Quality Hall Effect Sensors

We use Allegro A1302 5V Hall effect sensor along with a high quality Neodymium magnets on the throttle and brake sensors.

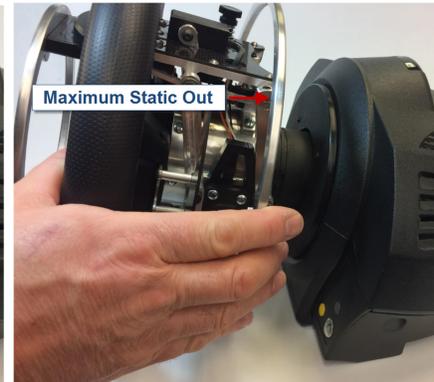
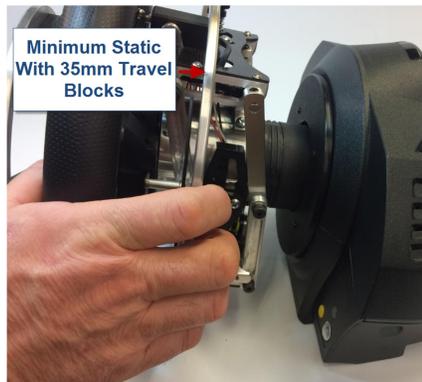
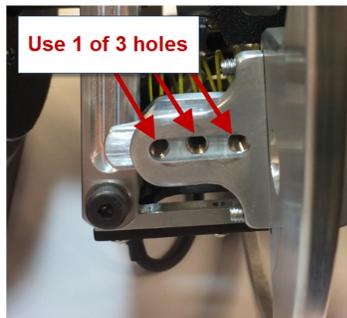
These sensors help us emulate the stock Thrustmaster potentiometers so your wheel will retain compatibility with the PC and Consoles it was designed to support. They are also compatible with most aftermarket controllers for those hardcore PC gamers.



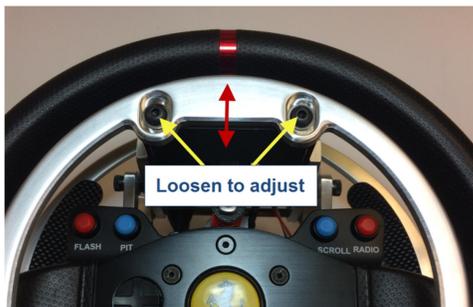
And of course, Hall sensors are far superior to the stock potentiometers because they will never wear out or get dirty. Your hand controls will always operate smoothly!

Adjustable Ring Positions

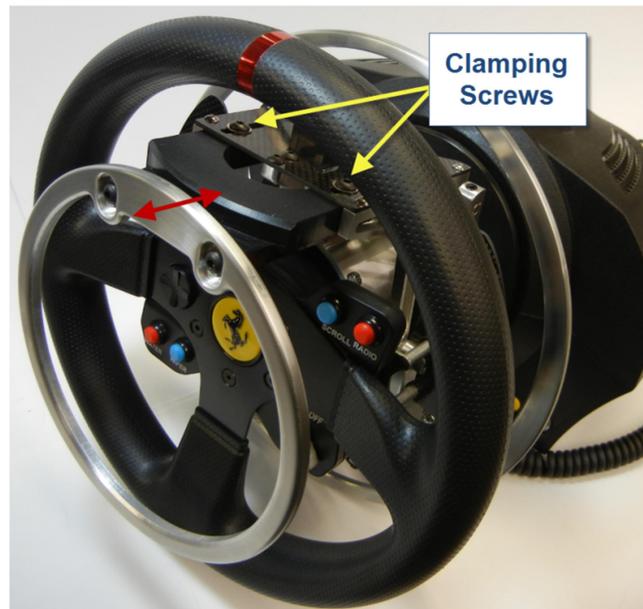
The Pull Ring placement has a wide range of adjustability. Each side of the ring mount has a machined slider for fine tuning along with three different holes for coarse tuning.



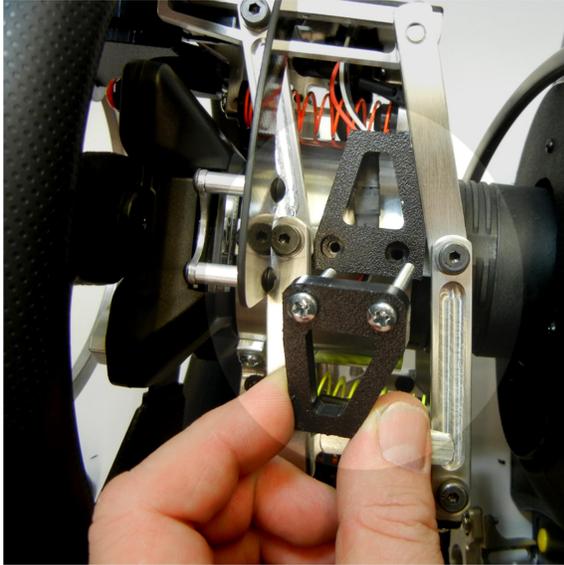
The Push Ring can also be adjusted inwards or outward, as well as slightly upward or downward.



The push ring is simply attached with two screws and can be replaced with a paddle or other plate design. It's really open to DIY customization projects.



Adjustable Ring Travel

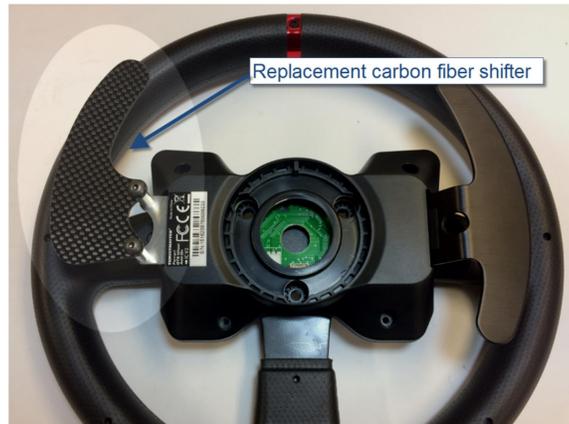


The distance of travel for the pull ring and push rings are controlled independently by changing the "Travel Stop Blocks". These blocks are made from High Density Polyethylene (HDPE) which means they are solid enough to provide a solid non-mushy stop, but soft enough to eliminate annoying clanking sounds when hitting the full on and full off stops.

Each wheel is supplied with a set of 35mm (1.38"), 30mm (1.18"), and 25mm (0.98") travel stop blocks. (Smaller blocks are available by request). The measurements refer to the approximate distance each ring moves. The total travel will vary slightly due to other adjustments.

Carbon Fiber Shift Paddles

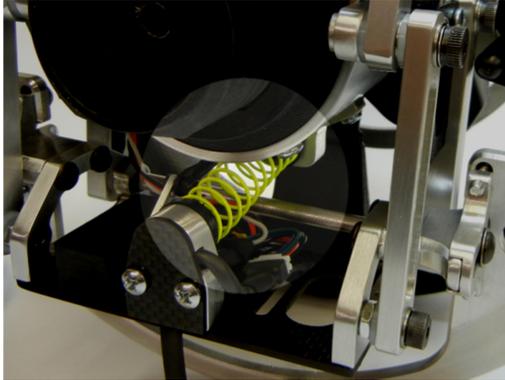
We provide carbon fiber shift paddles and mounts. This is actually a requirement because the bottoms of the stock paddles interfere with the hand controls. These custom replacement paddles are designed to improve the accessibility, functionality, and overall feel of the shift paddles. And of course the carbon fiber feels and looks great!



The shifter mounts are also designed with the DIY user in mind. The shift paddle height can be changed by replacing the standoffs. Also, an entirely different paddle could be fabricated and attached with two screws.

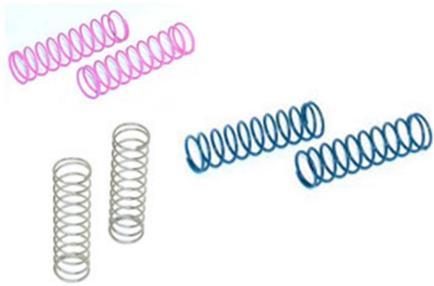


Changeable Springs



The compression springs can be independently changed for each ring. The available spring rates range from 1.4 lbs per inch to 4.1 lbs per inch.

The unit ships with a couple of extra springs and additional rates are available upon request. But because they are standard Losi RC car springs it's probably easier to buy them locally, or on the Internet. Below are the Losi Part # and possible rates.



Losi Part #	Length	Rate	Color
5144	2.75"	1.4	gold
5146	2.75"	1.6	gray
5147	2.75"	1.8	white
5148	2.75"	2	yellow
5150	2.5"	2.3	pink
5152	2.5"	2.6	red
5154	2.5"	2.9	orange
5156	2.5"	3.4	silver
5158	2.5"	3.7	green
5160	2.5"	4.1	Blue

The Connector Box

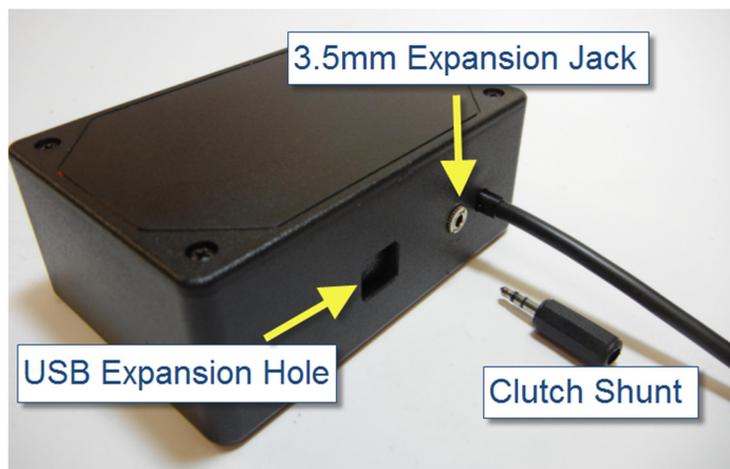
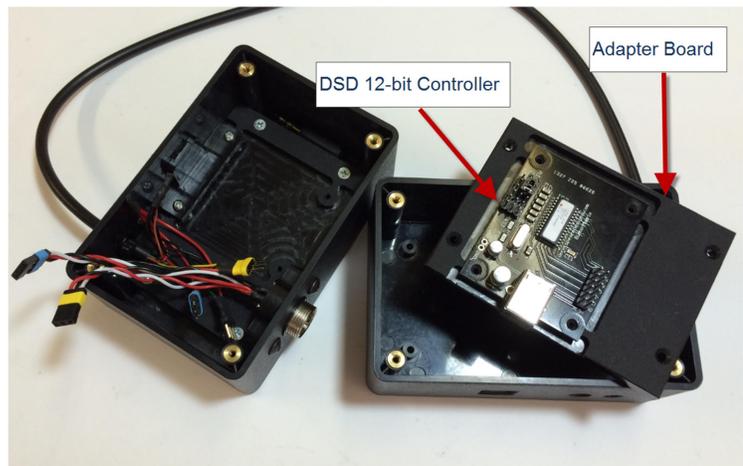
The primary function of the Connector Box is to provide a stable mounting point for the coiled cord. Whether it's sitting next to the wheel base, attached to the side of the base with two-sided tape, or mounted in any number of other imaginary ways.



The SimAbility Connector Box also provides a 3.5mm jack to allow easy connection of a future clutch. (Yes, we do have plans to build a clutch "trigger" for the Thrustmaster TH8A and Fanatec ClubSport shifters). Or if you're the DIY type, you could connect your own 10.0KΩ potentiometer.

We provide a "dead clutch" or shunt to plug in if you are not using the port. The shunt keeps the disconnected Thrustmaster clutch input from wavering/ jittering. It's required with any analog controller that does not have a potentiometer connected. A shunt is just a matter of connecting the signal wire directly to the ground so it looks like the input is always off. It would have been easier for us to just do that in the connection box but we wanted to make it easy for you to connect other components whether it is a future SimAbility clutch or your own DIY handbrake or clutch.

The Connector Box is also designed to make it easy to install an aftermarket controller for hardcore PC gamers looking for higher resolution, reduced dead zone, and reduced paddle travel if needed. At this time we only provide an adapter board for the Derek Spear Designs 12-bit controller, but we do plan to incorporate the Leo Bodnar controller in the future. (I just don't own one yet). Even if you have a different controller board it should be fairly easy to install and connect any other controller provided it fits in the box.



Clutch Shunt and DIY wiring information.

