



**SP1**

User guide

Before you start please read the manual carefully before you use the steering wheel.

Any modifications, tampering, changes or unauthorized uses of the product will void the warranty.

The steering wheel has no waterproof feature, please keep it away from water, rain, moisture and other items containing liquid such as vape, cups etc.

This wheel is designed for simulation purposes only.

Disconnect the USB cable from both sides if you will not use the product for a long time.







# What you will find in the box

- 🔩 SP01 Throttle Pedal
- 🔩 SP01 Brake Pedal
- 🔩 USB-C Connection Cable
- 🔩 Brake Extension Cable
- 🔩 Throttle Mounting Bracket (Light, Left, Right)
- 🔩 Brake Mounting Bracket (Heavy, Left, Right)
- 🔩 Additional Hard Blue Spring
- 🔩 Additional Elastomer Kit (Soft Yellow, Medium Red, Hard Blue)
- 🔩 Additional Throttle Spacer
- 🔩 TX25 L Key
- 🔩 HEX4mm L Key
- 🔩 8mm Wrench
- 🔩 8x M5x10 Button TX Screws (black)
- 🔩 8x M8x20 Button Hex Screws (silver)
- 🔩 8x M8 Nuts

## 🔧 SPECS

### Main

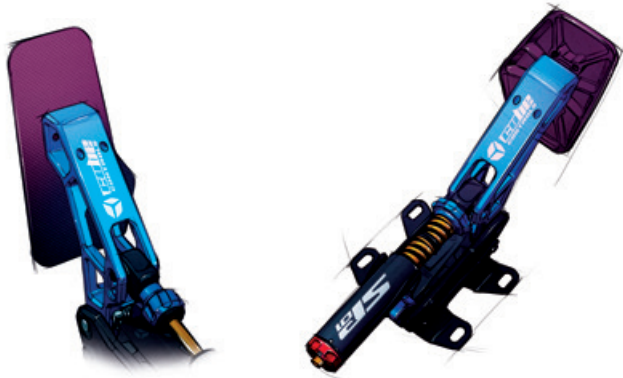
- 🔧 Precision press-fit ball bearings on ALL pivot point
- 🔧 CNC machined 6061 and 7075 aluminum main structure
- 🔧 Optimized FEM design for a cutting edge flex-free structure

### Throttle

- 🔧 Carbon or die cast aluminium pad faceplate depending on the version
- 🔧 Adjustable pedal throw by a dedicated knob on the main shaft
- 🔧 Easy to reach spring preload adjustment
- 🔧 Precision machined main shaft with high wear resistance plating
- 🔧 Tolerance machined self-lubricating nylon sleeve for the smoothest operation
- 🔧 16 bit resolution hall sensor
- 🔧 USB-C connector for the main control electronics
- 🔧 Throttle specific custom light brackets (with adjustable main pedal body angle in 5° increments)ring on the compression elements
- 🔧 Precision machined main shaft with high wear resistance plating

## Brake

- Custom lightweight die-cast pad faceplate with textured grip
- Fine-tuning spring preload option on the main pedal, and preload
- Custom designed fully hydraulic damper with 8 preload settings
- Springs and elastomers available for different customizations
- Self-centering springs and dampers washers
- Brake specific custom heavy brackets (with adjustable main pedal body angle in 5° increments)
- 200kg precision load cell
- 16-bit resolution



## 1. Let's get started

### 1.1 Mount the brackets

Both the Pedals will need their brackets to be mounted on the rig.

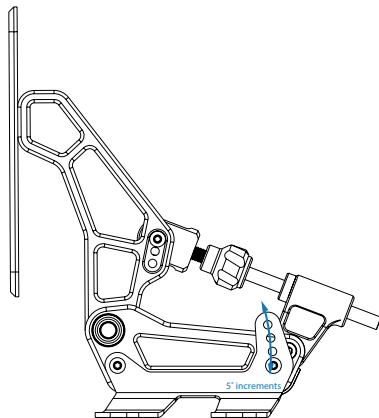
In order to do so, you will need to use the M5x10 Button TX Screws to mount the brackets to the side of the pedals (using the TX25 L Key you were supplied with).

**Remember that you can always customize the angle of the pedals, to adapt them to your rig structure and use them properly!**

### 1.2 Set your favourite pedals angle

When mounting the brackets you will be able to choose one of the three different height levels. The brackets can also be inverted to mount the pedals on an upward or downward angle depending on your preferences.

Same as the first installation, you will need to tighten the screws according to the desired installation angle. Repeat the operation on both sides.

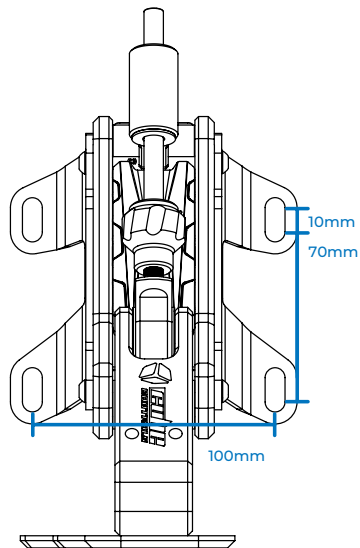




### 1.3 Installation

The next step is mounting the pedals to the simulator's plate: to do so you will need to use the M8x20 Button Hex Screws that you will find in the tools bag.

Remember, to lock the pedals in place you will need to tighten those screws with the M8 Nuts on the other side of the plate!



## **1.4 Connecting to the PC**

To connect it to the PC, simply plug the USB-C and the 4-pin cable of the brake pedal on the rear of the throttle pedal. If needed, use also the extension brake cable to connect it to the throttle pedal.

## **1.5 Calibrating the SP01**

The first time you connect the SP01, you will need to download the PedalUI app to calibrate the pedals' axis. After downloading it from the website and starting the program, you will see the Inputs page in which try out the pedals inputs. There is the possibility the pedals' inputs could be not correctly recognized by the program at first.



## CUBE CONTROLS SP01



INPUTS

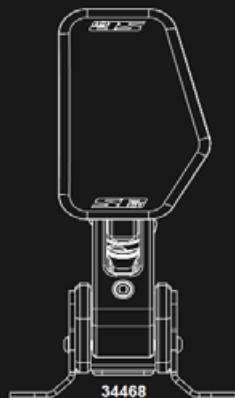
CALIBRATION

PROFILES

DEVICE

ABOUT

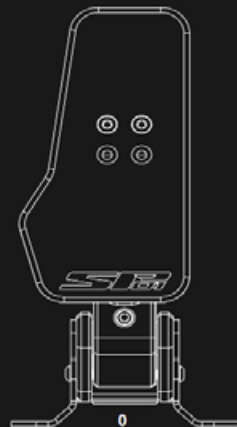
☐ ENABLE CLUTCH



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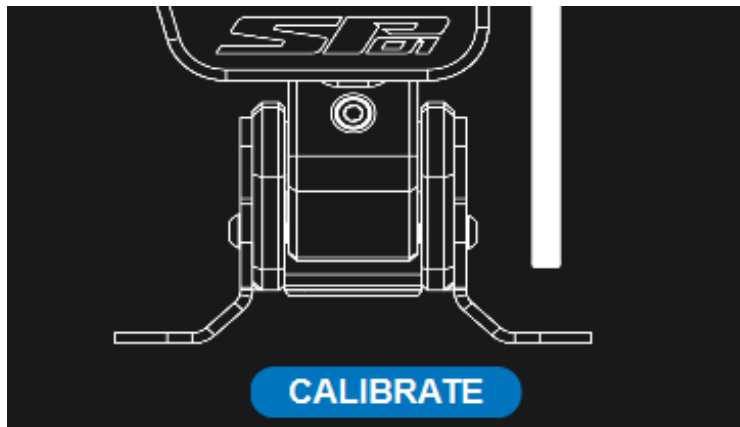


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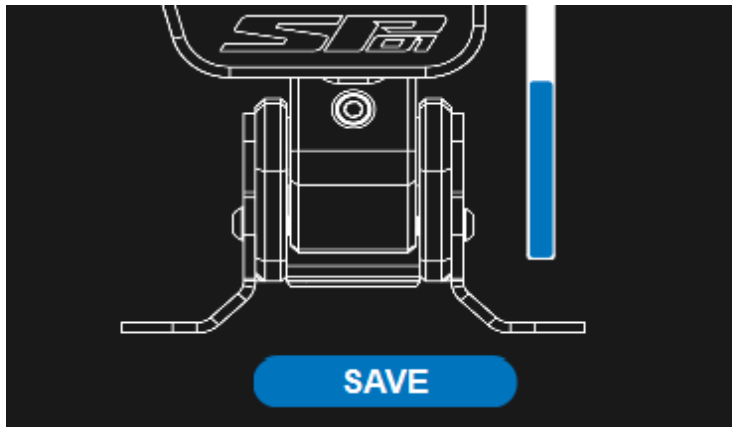
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In this case, by clicking on the “CALIBRATE” section, you will be able to calibrate them. Then simply clicking “CALIBRATE” once again will make the RAW values of the pedals appear. Pressing now the pedals full-course will make the system set the correct minimum and maximum values.

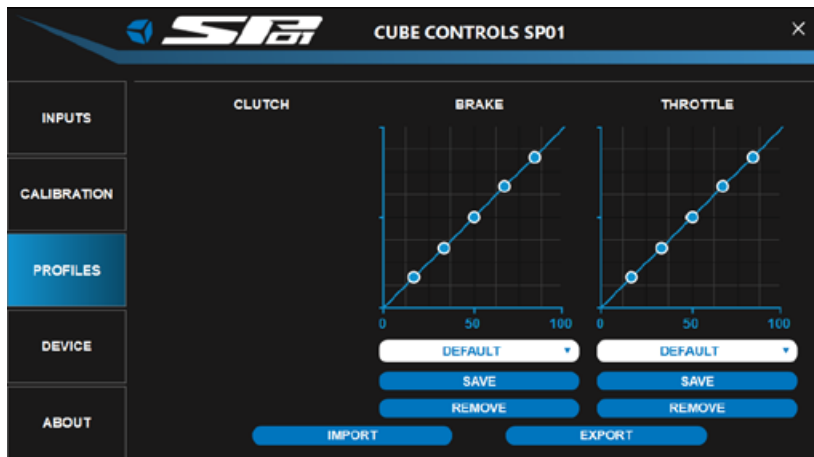


After that, simply click “SAVE”.



Now the SP01 pedals are correctly calibrated, as you will be able to see on the Inputs page!

## 1.6 Customize and Save your Profiles



Last but not least, remember to try out the non-linear pedal output curves in the Profiles section to fully customize your experience! Each pedal's curve allows you to map non-linear output using its five zones (divided by 6 input parameters). You can make your own custom curves by simply moving the input points on the graph, to reach the desired feedback for pedals' throw.

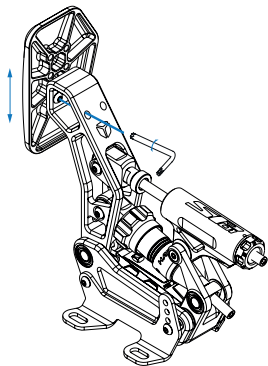
Remember to Save once you're done and you also have the possibility to Import or Export profiles.

## 2. Adjustments

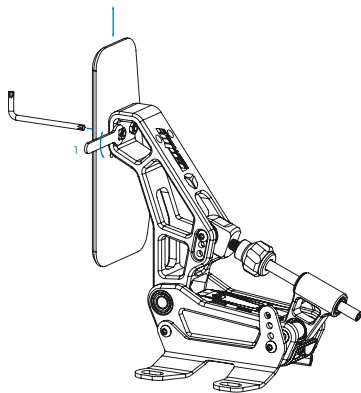
### 2.1 Pad Adjustments

Both pads can be adjusted to one's preferences.

The brake pad can be set in four different positions moving the two M5x10 screws on the back. Simply remove them using the TX25 key, reposition the pad as you see fit and secure the screws again.

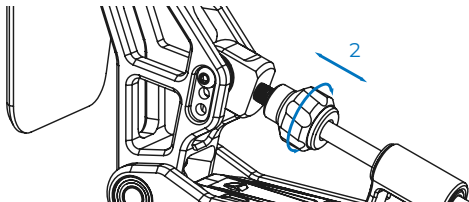


The Formula Version can be adjusted at two different heights thanks to the two M5x10 countersunk screws on the front of the pad using the TX25 key. Holding still the nuts on the other side with the supplied wrench, simply remove the screws and you're good to go.



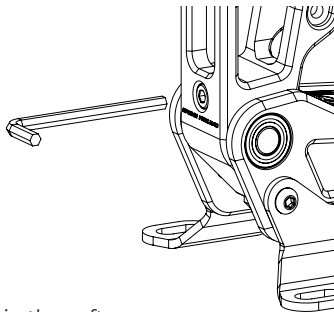
## 2.2 Throttle Adjustments

You can set the end stroke of the SP01 throttle pedal via the adjustment knob. This way you can change the pedal excursion angle as far as 10 degrees.



You can also set the spring pre-load (and also the return speed) using the supplied HEX4mm L key on the screw in the front of the pedal.

You will also be able to increase or reduce your throttle full throw mounting an additional throttle washer that you can find in your base kit!



### **IMPORTANT:**

After every adjustment is necessary to calibrate the throttle again in the software.



## 2.3 Brake Adjustments

You are supplied with Elastomers, Springs and Washers to customize and adjust the SP01 brake pedal, specifically:

- 🔩 1 Soft Yellow Elastomer
- 🔩 1 Medium Red Elastomer
- 🔩 1 Hard Blue Elastomer
- 🔩 1 Hard Blue Spring
- 🔩 3 Protective Washers (Large)

These elements can be changed, installed and mix-matched to obtain the perfect resistance for the taste of every driver. Along with every spring and damper you will also need to mount the relative self-centring washer with the flat surface outward-facing.

When first installed, the rubber dampers will initially need a break-in period and may seem slightly deformed: do not worry, as this is normal and only temporary.

### **IMPORTANT:**

For the Brake to work properly remember to always install the correct self-centring washer.

Then unscrew the preload knob itself until you free the shaft, to remove that and the compromable elements that you wish to replace.

## 2.4 Damper Settings

The Damper setting can be changed simply turning the red setting ring on the damper itself.

You can choose from 12 total values, going from 0.0 (the less intrusive) to 6.0 (the most intrusive) and all values between.

### **IMPORTANT:**

For the most optimal configuration we suggest to use a low setting, between 0 and 2. Higher values can result in a too much intrusive hydraulic dampening.

Before you tighten back again the preload knob and secure the main shaft onto the pedal joint, make sure spring and elastomers are correctly seated in the respective self-centering washer to avoid any damage to the comprisable elements.

When re-tightening the central axis, be careful of your strenght: using excessive force may result in stripping the shaft thread, or make the break not work correctly damaging the components.

## 2.5 The Importance of Customization

Thanks to our accessory kit (base and extra) you have great possibility for customization. If you purchased the SP01 Extra Kit or also with your base customization kit you will have in your hands multiple combinations to ensure that you find your perfect fit.

In the SP01 Extra Kit specifically you will find additional elements that will incredibly increase your customization capabilities.

Specifically:

- 🔩 Spring Kit (3 pieces)
  - 🔩 1 Soft Red Spring
  - 🔩 1 Medium Yellow Spring
  - 🔩 1 additional Hard Blue Spring
- 🔩 Elastomer Kit (3 pieces)
  - 🔩 1 additional Soft Yellow Elastomer
  - 🔩 1 additional Medium Red Elastomer
  - 🔩 1 additional Hard Blue Elastomer
- 🔩 9 additional Protection Washers (4 Small, 2 Medium, 3 Large)
- 🔩 2 Tuned Expansion Cups (1 Soft Black, 1 Hard Red)

## IMPORTANT

Just a couple of pointers in choosing your own combination:

- ✔ Springs are softer than the respective Elastomers
- ✔ Small washers go only with the soft red and the medium yellow springs
- ✔ Medium washers go only with elastomers when accompanied by a Tuned Expansion Cup
- ✔ Large washers go with elastomers only when NOT accompanied by a Tuned Expansion Cup, or go always with the Hard Blue Spring
- ✔ Elastomers are slightly conical: only one face mount to the respective washer 100% perfectly, the other side you will always experience a little gap

## 2.6 About your Tuned Expansion Cups

Tuned Expansion Cups can make the difference in tightening your braking!

Their functionality is quite straightforward: the Tuned Expansion Cups are created to contain your elastomers stopping their natural expansion when compressed.

The difference between the Soft Black and the Hard Red is just a matter of millimetrical size of the gap they leave to the elastomer compression.

Mounting them is also very easy: make sure you remove the End Axis Sleeve (or Bush) from the Black Conical piece and block the Expansion Cup between the two. Then you can mount it back again and you're good to go!





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