manual

SIMSONN

Racing Simulator Pedals

Plus X V2

Thank you for choosing **SIMSONN**! Before using the Plus X V2 Pedals, please read this manual carefully. It contains important information on how to use the product safely. Please keep this manual for future reference.


RACING
UNLIMITED

User Precautions

Please read this chapter carefully to learn about device support, disclaimers, and warranty information, ensuring your pedal set accompanies you safely on every drive.

Contents

7 Product Overview

13 Initial Setup

19 Software Installation & Configuration

27 Pedal Adjustment

52 Maintenance Guide

54 Safety & Recycling

Device Support and Software Download

You can access the product's user manual, installation and calibration videos, mounting templates, and other electronic documents on the Support page of the official website: *http://simsonn.com*. Official software is also available for download there.

Contact

If you have any questions not covered in this manual or the instruction videos, please feel free to email us at ***support@simsonn.com***
Customer Service Hotline: 400-161-1681

We will reply to your inquiry as soon as possible after receiving it.

Disclaimers and Warnings

Please read this manual carefully before using the product to understand your rights, responsibilities, and safety instructions; failure to do so may result in property damage, safety incidents, or personal injury.

The user agrees to be responsible for their own actions and all consequences arising there from.

The user agrees to use this product only for legitimate purposes and to accept all terms and conditions of this document, as well as any related policies or guidelines established by ***Hunan Leixuan Intelligent Technology Co., Ltd.*** (hereinafter referred to as ***Leixuan***).

By using this product, you are deemed to have understood, acknowledged, and accepted all the terms and contents of this document.

Leixuan shall not be liable for any loss resulting from improper use of the product in violation of this manual. In the event of equipment damage caused thereby, Leixuan reserves the right to refuse warranty service.

DANGER

This product is not a toy. Users under the age of 18 should use it only under adult supervision. Please exercise extra caution when operating in environments where children are present.

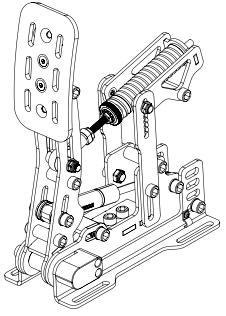
Do not expose the device or power supply to damp or rainy environments to avoid short circuits, equipment damage, or risks of fire and electric shock.

Warranty

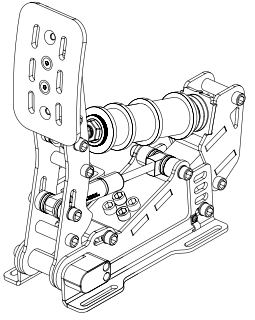
We provide a 12-month warranty for defective products (excluding any damage or misuse caused by the buyer).

Accessories are covered by a 3-month warranty.

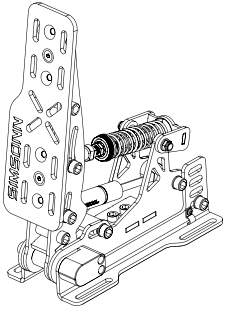
Product Overview



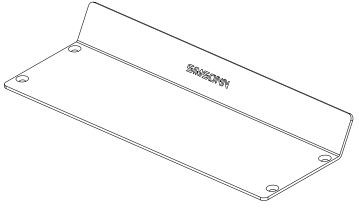
Clutch



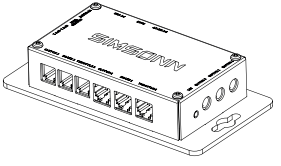
Brake



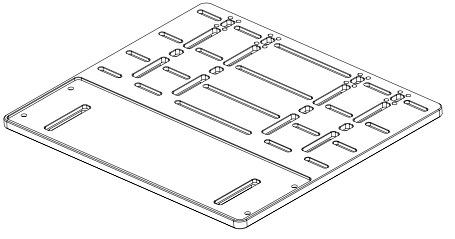
Throttle



Heel Plate

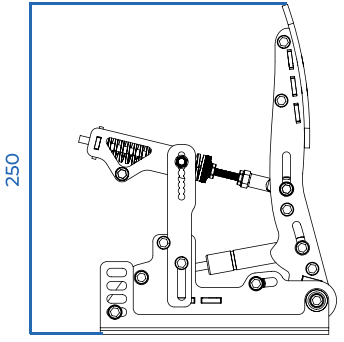


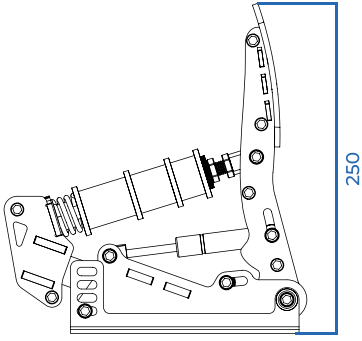
Control Box

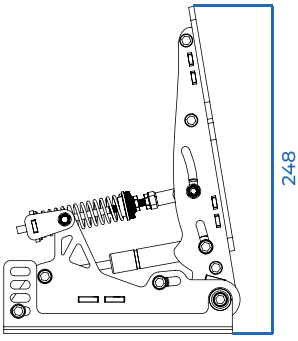


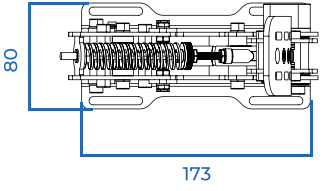
Base Plate

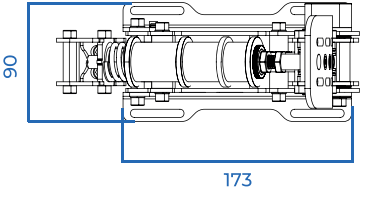
Product Dimensions

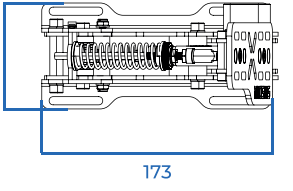


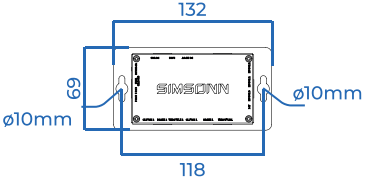


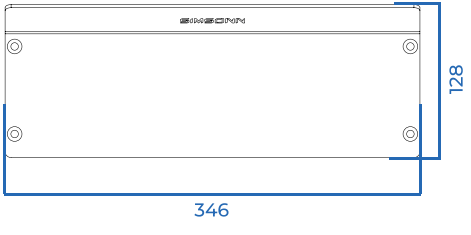


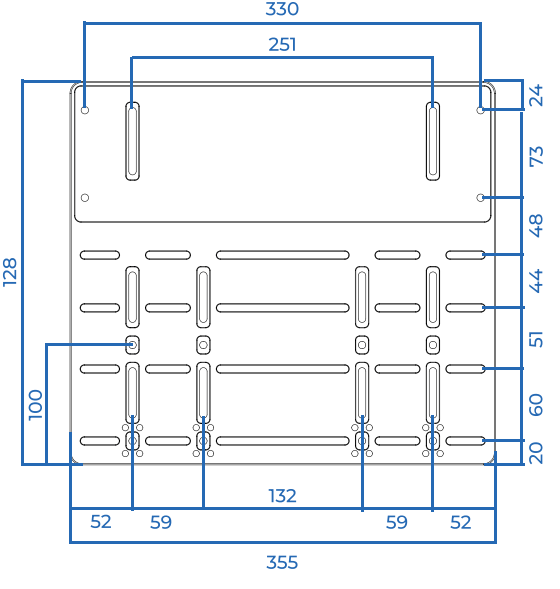







132
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Package Contents

- Throttle Pedal
- Brake Pedal
- Clutch Pedal (if purchased)
- Control Box Cable
- USB Cable
- Product Manual
- Accessory Kit
- Heel Plate (if purchased)
- Heightening Plate (if purchased)
- Base Plate (if purchased)

Three Pedals Set

- **Black Round Wire Spring** *1 (20-80-1.5mm)
- **Blue Mold Spring** *1 (20-80-2.0mm)
- **Red Mold Spring** *1 (20-80-2.5mm)
- **70HA Yellow Rubber Dampers** *3 (19mm / 28mm / 37mm)
- **80HA Blue Rubber Dampers** *3 (19mm / 28mm / 37mm)
- **Damping Spacers** *13 (5mm)
- **Damping Spacer** *1 (10mm)
- **Hex Wrenches** *3 (2mm / 3mm / 5mm)
- **Open-End Wrenches** *2 (8mm + 10mm / 17mm)
- **Socket Head Cap Screws** *14 (M6-12mm)
- **Hex Bolts** *6 (M6-12mm)
- **Hex Thin Nuts** *14 (M6)
- **Washers** *14 (M6-10-1mm)
- **USB to Type-C Adapter** *1

Two Pedals Set

- **Black Round Wire Spring** *1 (20-80-1.5mm)
- **70HA Yellow Rubber Dampers** *3 (19mm / 28mm / 37mm)
- **80HA Blue Rubber Dampers** *3 (19mm / 28mm / 37mm)
- **Damping Spacers** *13 (5mm)
- **Damping Spacer** *1 (10mm)
- **Hex Wrenches** *3 (2mm / 3mm / 5mm)
- **Open-End Wrenches** *2 (8mm+10mm / 17mm)
- **Socket Head Cap Screws** *10 (M6-12mm)
- **Hex Bolts** *4 (M6-12mm)
- **Hex Thin Nuts** *10 (M6)
- **Washers** *10 (M6-10-1mm)
- **USB to Type-C Adapter** *1

Base Plate Kit (if purchased)

- Low Profile Socket Head Cap Screws *4 (M6-10mm)
- Low Profile Socket Head Cap Screws *4 (M6-16mm)
- Countersunk Head Screws *4 (M6 - 8mm)
- Countersunk Head Screws *4 (M6 - 40mm)
- Countersunk Head Screws *6 (M4 - 6mm)
- Hex Thin Nuts *4 (M6)
- Hex Wrenches *2 (2.5mm / 4mm)
- Carpet Anti-Slip Blocks *6
- Floor Anti-Slip Blocks *6
- Heightening Spacers *4 (M6-30mm)
- European Standard Sliding Nuts *4 (40 Type-M6)

Product Specifications

	Dimensions	Weight	Sensor
Throttle Pedal	179 * 80 * 248mm	1.56 kg	Pressure Sensor + Angle Sensor
Brake Pedal	230 * 90 * 250mm	2.26 kg	Pressure Sensor + Angle Sensor
Clutch Pedal	179 * 80 * 250mm	1.64 kg	Pressure Sensor + Angle Sensor
Heel Plate	347* 128 * 3mm	1.15 kg	——
Base Plate	355 * 320 * 10mm	2.33 kg	——

Processor Chip: CPU1 + CPU2 : 32 Bit / 120MHz

Initial Setup

In this section, we will install and set up the SIMSONN Plus X V2.

The following sections of this manual will provide detailed instructions on hardware adjustments and software settings.

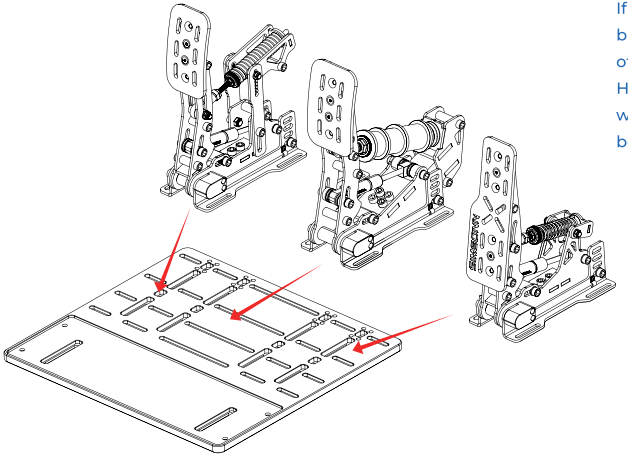
Pedal Installation

Since the SIMSONN Plus X V2 Pedals can withstand relatively high operating forces (up to 200kg on the brake pedal), the pedals must be installed on a very sturdy base.

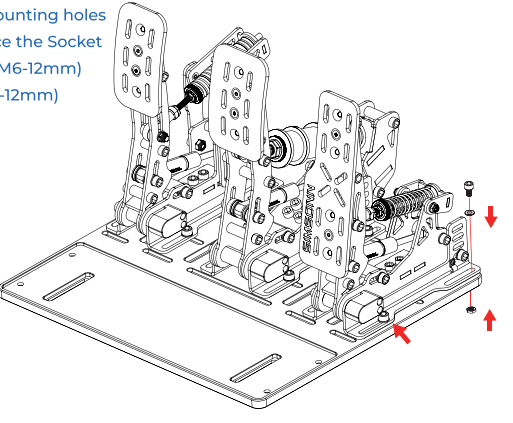
Recommended installation solutions include 40/80 aluminum profiles, double-layer MDF flooring, or the SIMSONN Pedal Base Plate (optional).

Using the SIMSONN Base Plate for installation as an example.

Pedal Installation:



Note:
If the angle sensor housing blocks the front mounting holes of the pedal, replace the Socket Head Cap Screws (M6-12mm) with Hex Bolts (M6-12mm) before installation.

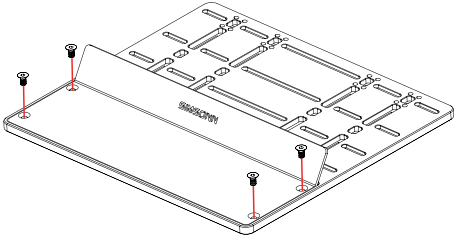


1. Place the three (or two) pedals on the base plate and adjust them to the desired position, ensuring the mounting holes on the pedal bases align with the holes on the base plate.

2. Place the washers over the pedal mounting holes, then insert the Socket Head Cap Screws (M6-12mm) through the washers and holes. Secure them from the bottom with Hex Thin Nuts (M6), and finally tighten the screws with a Hex Wrench (5mm).

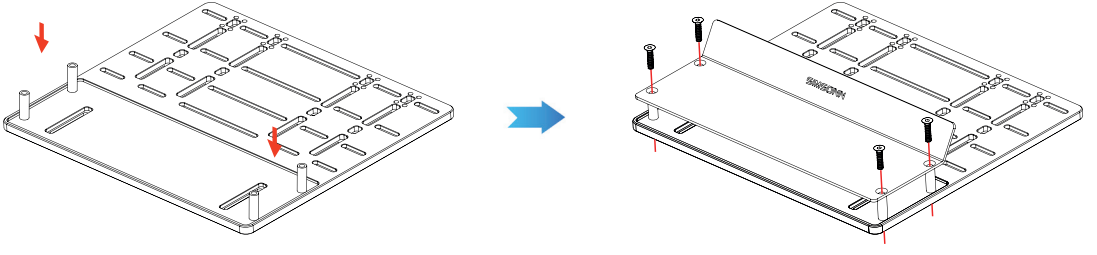
Heel Plate Installation

(Flat Position):



1. Place the heel plate into the recessed area of the base plate and align the mounting holes. Insert the countersunk head screws (M6-8mm) into the holes, then tighten them using a hex wrench (4mm).

Heel Plate Installation
(Raised Position):



1. Align the heightening spacers (M6-30mm) with the mounting holes in the recessed area of the base plate, then place the heel plate over the spacers. Finally, use a hex wrench (4mm) to tighten the countersunk head screws (M6-40mm).

Cable Connection:

According to the labels on the pedal cables, connect them to the corresponding ports on the Control Box. Then, insert the included Type-C Cable into the PC port on the Control Box and connect the other end to the corresponding port on your computer.

(If your computer does not have a Type-C port, use the included adapter to connect the cable to the computer's USB 3.0 port.)

Additionally, the Control Box features a reserved port for the vibration feedback module. If you purchase the vibration feedback module, install it at the rear of the pedals and connect its cable to the corresponding port on the Control Box. After connecting the power supply, the module is ready to use.

Plug and Play

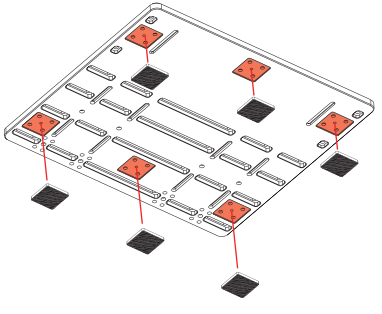
The pedals have been factory calibrated, with a brake force of approximately 60kg. Simply connect the pedals to your computer through the Control Box, assign the pedal inputs in your game, and start playing.

Anti-Slip Block

The Base Plate Kit includes additional Floor Anti-Slip Blocks and Carpet Anti-Slip Blocks. You can choose the appropriate components for installation based on your specific setup.

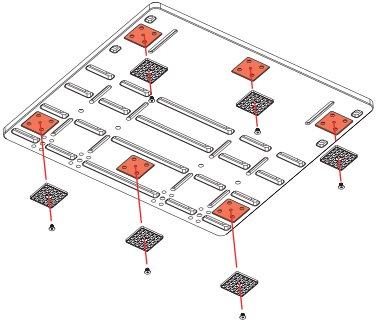
Floor Anti-Slip Block Installation:

The Floor Anti-Slip Blocks are made of rubber and feature adhesive backing. Simply remove the protective film and attach them to the slots on the bottom of the Base Plate.

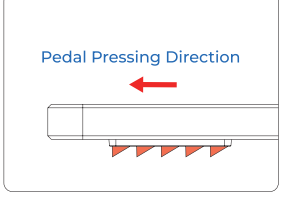


Carpet Anti-Slip Block Installation:

The Carpet Anti-Slip Blocks are made of ABS material. Use a Hex Wrench (2.5mm) and Bolts (M4-6mm) to secure them into the slots on the bottom of the Base Plate.



Note:
Please place the vertical surfaces of the raised spikes on all Carpet Anti-Slip Blocks toward the rear of the pedal pressing direction to achieve the best anti-slip performance.



Software Installation & Configuration

The pedals come with the brand-new SIMSONN Manager software, allowing you to customize and configure your pedals like never before.

Download and Run SIMSONN Manager

Please visit the ***Support*** page at ***http://simsonn.com*** to download the software. After downloading, locate the installation package and double-click the SIMSONN Manager application to begin installation. Once installed, you can further configure and calibrate your pedals through the SIMSONN Manager software.

Overview

With SIMSONN Manager, you can configure pedal output curves (including non-linear curves), set pedal dead zones, and adjust the brake pedal curve. All settings can be saved to profiles and easily loaded again with just a few clicks.

Settings applied in SIMSONN Manager take effect in any simulator software, without requiring additional adjustments, control reassignment, or recalibration within the simulator software.

Offset and Calibration

SIMSONN Manager includes Offset and Calibration functions. You can click the **Offset** and **Calibration** buttons and follow the on-screen instructions to reset the pedal settings.

Since the pedals have already been properly offset and pre-calibrated before shipping, no additional offset adjustment or calibration is required for first-time use. Recalibration is only necessary after making any mechanical adjustments or replacing pedal components.

Pedal Offset and Calibration Procedure

1. Click to enter the device interface.

2. Check whether the device in the upper-left corner of the software interface is successfully connected and displays the correct firmware version.

3. Press the Throttle, Brake, and Clutch pedals individually, and check whether the corresponding progress bars in the software interface respond.

4. Click the **Offset** button. Do not press any pedals, then click the **Save** button and wait until the countdown is complete.

5. Click the **Calibration** button. Do not press any pedals, then click **Start Calibration**. Apply normal force to each pedal individually, click **Complete**, and wait for the calibration process to finish.

6. Press each pedal again and ensure that the blue progress bar moves smoothly from 0% to 100%, indicating that the calibration is successful.

Throttle and Clutch Dead Zone Adjustment

For the Throttle and Clutch pedals, you can adjust the bottom and top dead zones in SIMSONN Manager.

Bottom Dead Zone: The pedal output starts after the pedal moves beyond the set range.

Top Dead Zone: The pedal output reaches 100% before the pedal reaches its mechanical limit.

Throttle and Clutch dead zones are displayed as a percentage of the total pedal travel. The effect of dead zone settings can be checked in real time through the signal output bar.

Since the SIMSONN Plus X V2 uses soft limits, slight signal fluctuations may occur when the pedal is at rest or fully pressed. Therefore, we recommend setting the minimum bottom and top dead zones to 5%. This allows the pedal output to reach 0% or 100% without forcing the pedal into the limit position.

Especially when operating the Clutch pedal, a larger top dead zone may affect the clutch bite point, which is the point where the vehicle starts moving as the clutch pedal is released further. This behavior is largely affected by the software and vehicle type being used. A larger bottom dead zone can help prevent unnecessary clutch slipping and avoid inconvenience caused by accidental pedal input.

Brake Bottom Dead Zone Adjustment

The preload force on the Rubber Damper applies a small amount of force to the Load Cell. After calibration in SIMSONN Manager, this slight initial force will be converted into 0% output. The bottom dead zone can add additional offset, requiring a certain amount of initial force and movement before the Brake Pedal is activated.

Your Brake Pedal features a two-stage braking system. In the initial stage, the metal coil spring is compressed to simulate the gap between the brake pads and brake disc. The second stage compresses the Rubber Damper to simulate the main load applied to the brake disc. Setting a larger bottom dead zone ensures that braking input only begins after the metal coil spring is fully compressed, providing a more realistic braking experience.



Dead Zone Adjustment Diagram

Brake Force Settings

SIMSONN Manager allows you to set the maximum force of the Brake Pedal.

This setting is measured in kilograms (kg) and represents the actual braking force applied when your foot contacts the brake pedal surface (based on an average foot size).

When you apply the set maximum braking force, the pedal will send a 100% brake output signal to the simulator software. The maximum braking force of the Plus X V2 is 140kg.

The ideal maximum braking force setting depends on your personal preference. Even in similar real racing cars, the required peak braking force can vary significantly, as it depends on the size of the brake cylinders and other components installed in the specific vehicle. Generally, faster cars with higher downforce require greater braking force than slower cars with lower downforce.

Throttle, Brake, and Clutch Mapping

One of the key features of SIMSONN Manager is the ability to set custom signal output mappings for each pedal. Traditionally, racing simulator pedals use a one-to-one sensitivity relationship between pedal input and output. SIMSONN Manager allows you to create non-linear output curves using 10 zones (11 input points).

Each pedal includes preset curve type options. You can also select a custom curve and set the desired pedal output percentage at each pedal input point from 0% to 100%.

To ensure SIMSONN Manager works correctly, always make sure all in-game pedal settings are set to Linear.

Please note that some simulator software may provide in-game options that affect the linear output of the pedals.

We will explain this feature through several examples:

Use Case 1: Throttle Curve for Wet Conditions

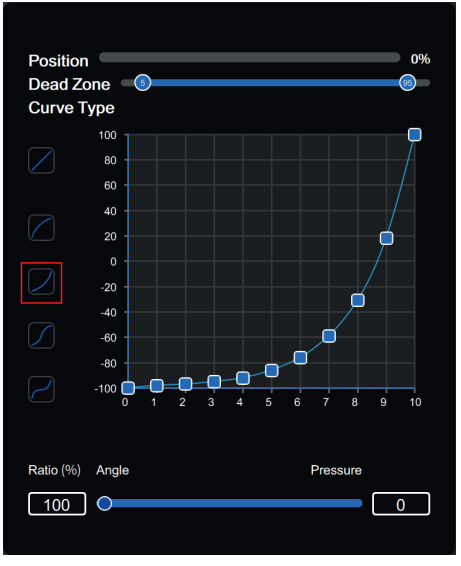
Professional racing drivers can adjust their vehicle's throttle response to make the initial input less sensitive. This helps prevent unexpected wheel spin when applying throttle on slippery surfaces, such as in rainy conditions. SIMSONN Manager allows you to set lower sensitivity during the early stage of throttle application.

Use Case 2: Throttle Curve for Underpowered Cars

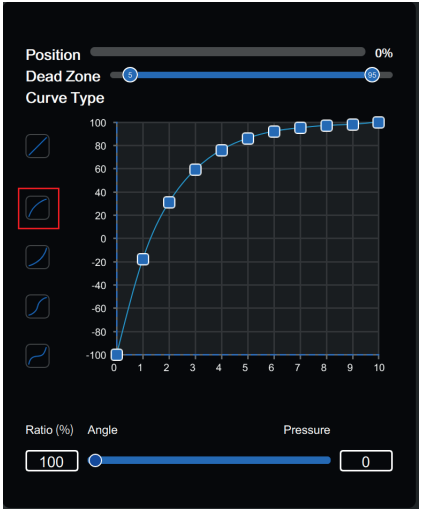
In contrast to Case 1, when driving an underpowered car with a lower risk of wheel spin, you may want the throttle response to be as aggressive as possible. SIMSONN Manager allows you to create a curve with higher sensitivity during the initial stage of throttle application.

Use Case 3: Clutch Curve with Optimized Bite Point Setting

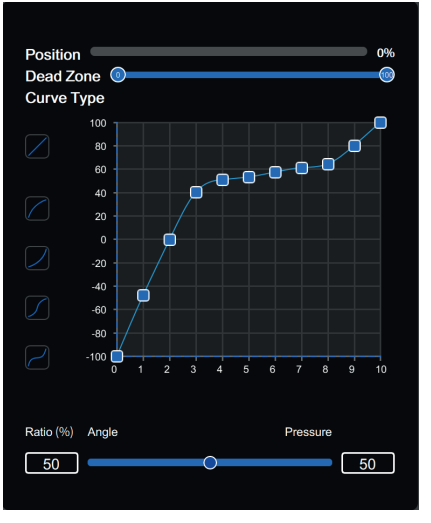
When launching from a standstill, achieving the ideal balance between clutch slip and engine RPM is essential for maximum acceleration. If you have identified the optimal clutch bite point, you can adjust the clutch output curve to reach and maintain this ideal position more precisely. In the example shown, the optimal bite point is located at approximately 75% clutch pedal travel.



Example Image 1



Example Image 2



Example Image 3

Save Configuration Profile

SIMSONN Manager allows you to store an unlimited number of configuration profiles. After adjusting the pedal curves, you can click the **Save** button to overwrite your previous configuration. Please note that preset profiles cannot be overwritten.

To save a new configuration profile, follow these steps:

1. Click the **Save As** button.
2. Enter the desired file name.
3. Click the **Complete** button.

Load Existing Configuration Profile

To use a previously saved configuration profile, follow these steps:

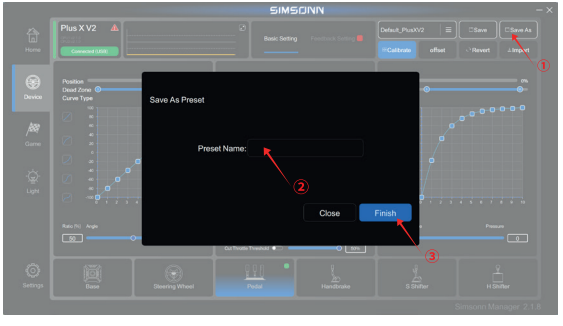
1. Click the **Import Preset** button.
2. Locate the configuration file and click the **Open** button.

To save the profile to the program presets, repeat the steps in **Save Configuration Profile**.

Worth Knowing

All configuration profiles are saved relative to your personal calibration values.

This means you can share pedal configuration profiles with other **SIMSONN Plus X V2** users and apply them directly without the need for recalibration.



Save Configuration Profile Illustration



Load Existing Configuration Profile Illustration

Pedal Adjustment

In addition to using SIMSONN Manager for configuration, you can further customize the Plus X V2's operating experience through various mechanical adjustments and component replacements.

Mechanical adjustments include pedal height, angle, travel, and other settings. Replaceable components include the springs for the Throttle and Clutch pedals, as well as the dampers for the Brake pedal. These adjustments allow users to better match their personal preferences and driving requirements, improving comfort and control precision.

Note:
To prevent abnormal pedal data values that may affect normal operation, always perform the pedal offset adjustment and calibration procedure after making any mechanical adjustments or replacing pedal components.

The following mechanical adjustments and component replacements are available:

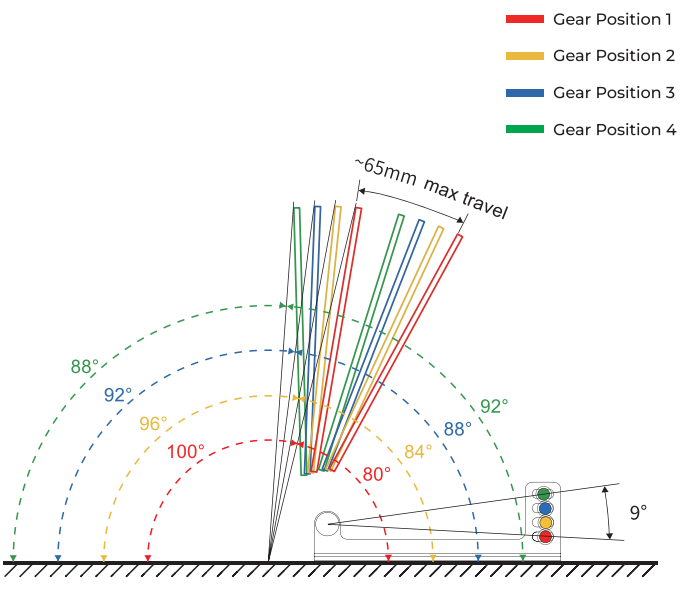
	Mechanical Adjustment	Component Replacement
All Pedals	Pedal Angle Pedal Face Height Pedal Travel	—
Throttle Pedal Clutch Pedal	Spring Preload Pedal Force Curve	Spring
Brake Pedal	Brake System Preload	Rubber Damper

All Pedals

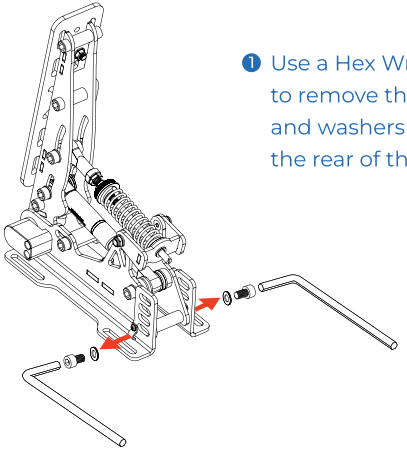
Pedal Angle Adjustment:

The pedal angle of the SIMSONN **Plus X V2** can be adjusted to match the height of your seat and setup.

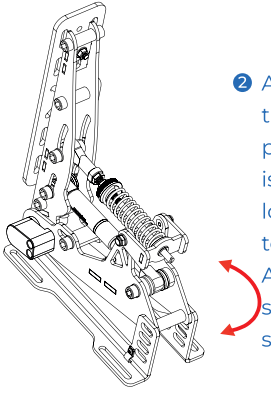
By default, the pedals are tilted backward by approximately 10 degrees, which is beneficial for users with higher seats or setups with an inclined base. If your seat is positioned lower relative to the pedals, you may need to tilt the pedals forward. The pedal angle can be adjusted forward by up to 9 degrees.



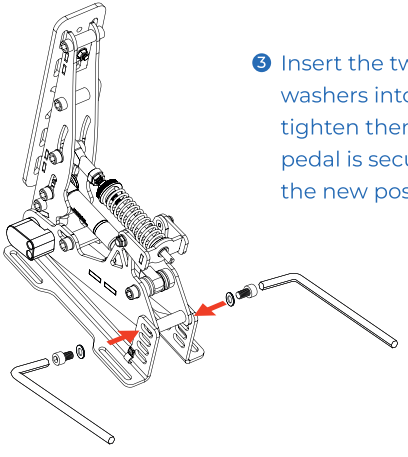
Using the **Throttle Pedal** as an example, you can adjust the pedal angle by following these steps:



❶ Use a Hex Wrench (5mm) to remove the two screws and washers located at the rear of the pedal.



❷ Adjust the rear section of the pedal to the desired position. (If the rear section is difficult to move, slightly loosen the two front screws to reduce friction resistance. After adjustment, make sure to retighten the front screws.)



❸ Insert the two screws and washers into the holes and tighten them to ensure the pedal is securely fixed in the new position.

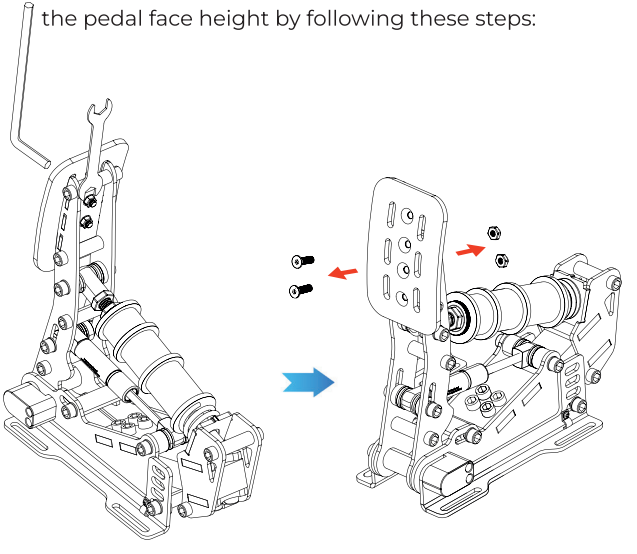
Pedal Face Height Adjustment:

Each pedal allows you to adjust the pedal face height to accommodate different foot sizes.

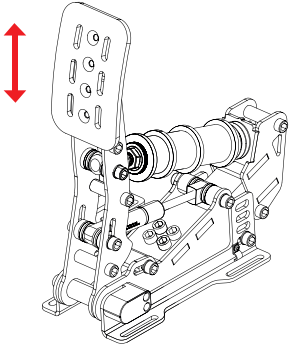
The front of the pedal face supports two height positions, with a 15mm spacing between each position. The rear of the pedal face supports fine adjustment. By default, the pedal face is set to the middle position.

If you race barefoot or have smaller feet, a lower pedal height may be more suitable for you.

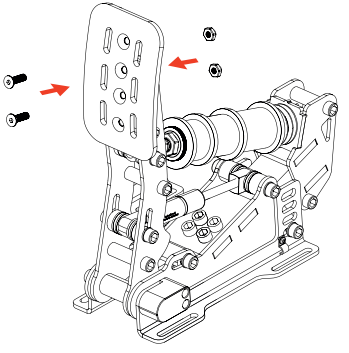
Using the **Brake Pedal** as an example, you can adjust the pedal face height by following these steps:



❶ Use an Open-End Wrench (8mm) and a Hex Wrench (3mm) to remove the screws and nuts securing the pedal face.



❷ Move the pedal face to the desired position.

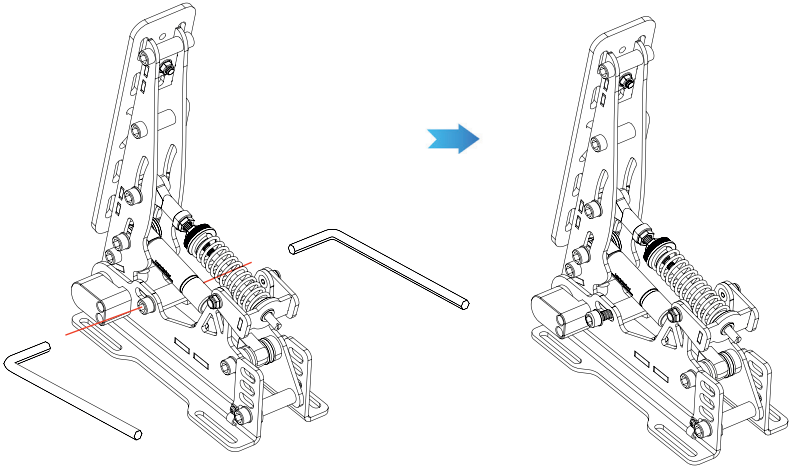


❸ Reinsert the screws and tighten the nuts to ensure the pedal face is securely installed at the desired height.

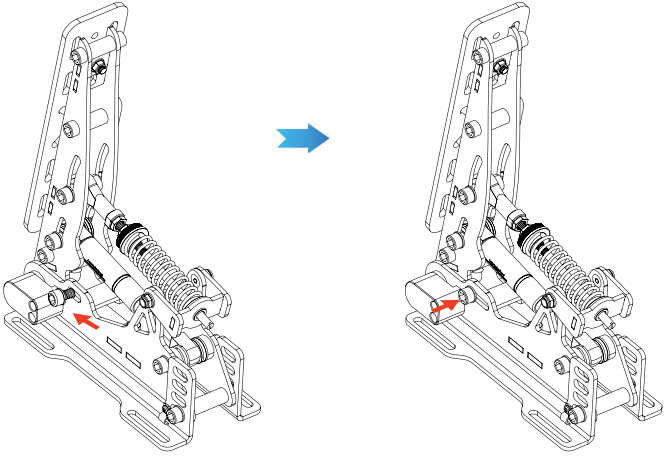
Pedal Travel Adjustment:

The pedal travel of the SIMSONN Plus X V2 is limited by the blue stop studs on the base.

Using the **Throttle Pedal** as an example, you can adjust the pedal travel by following these steps:



1. Use a Hex Wrench (5mm) to loosen the screws on both ends of the stop stud. (Only loosen the screws; do not remove them completely.)



❷ Move the stop stud to the desired position, then retighten the screws.

Throttle and Clutch Pedals

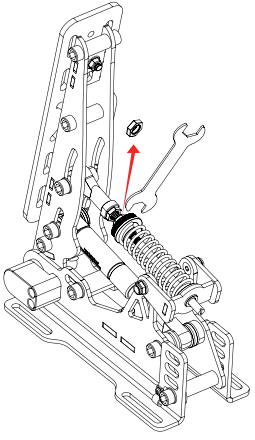
Spring Preload Adjustment:

At the front of the metal coil spring, there is a mechanism for adjusting the spring preload. By shortening or extending the spring's resting length, you can change the initial force required to move the pedal, while the slope of the force curve remains unchanged.

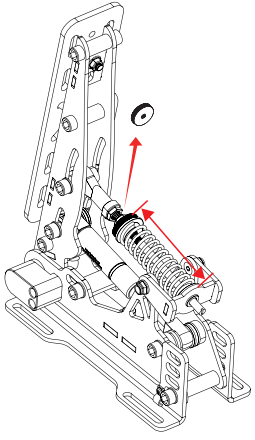
⚠Note:

Check that the locking nut on the fixing threaded rod remains firmly against the rod end bearing to ensure a secure connection.

Using the **Throttle Pedal** as an example, you can adjust the spring preload by following these steps:



❶ Use an Open-End Wrench (10mm) to loosen the locking nut at the front of the preload adjustment nut.



❷ Rotate the preload adjustment nut to set the desired preload, then tighten the locking nut against the front of the preload adjustment nut.

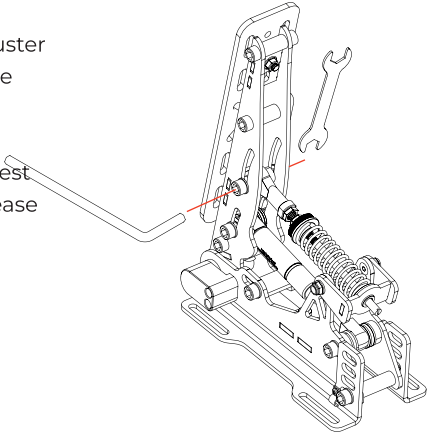
Pedal Force Curve Adjustment:

Throttle Pedal:

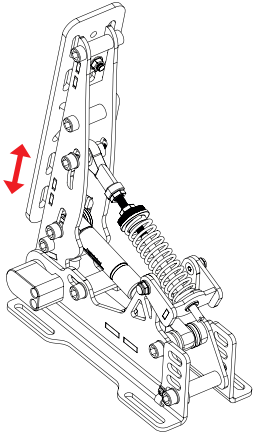
On the Throttle Pedal arm, you will find an adjuster (slider) for adjusting the slope of the pedal force curve. When the adjuster is set to the highest position, more force is required to reach the maximum pedal travel compared with the lowest setting, and the overall required force will increase slightly.

Adjustment Steps:

This adjustment allows you to optimize pedal response and control experience according to your personal preferences.

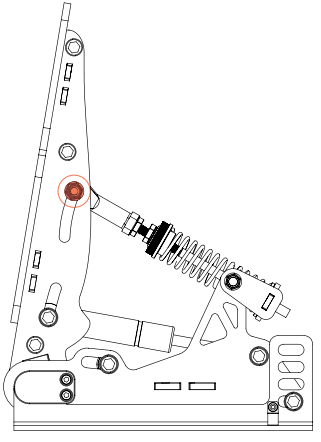


❶ Use a Hex Wrench (5mm) and an Open-End Wrench (10mm) to loosen the screws and nuts on both sides of the adjustment slider. (Only loosen the screws and nuts; do not remove them completely.)

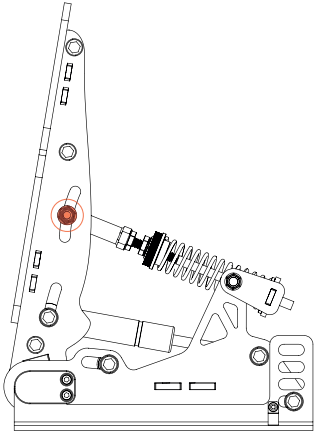


❷ Move the adjustment slider to the desired position, then retighten the screws and nuts.

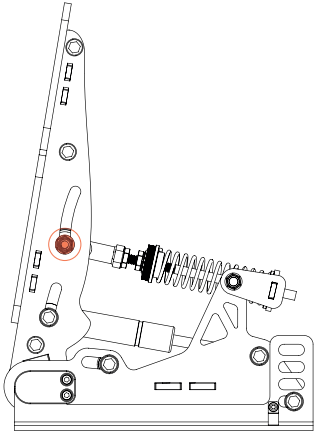
Force Curve Diagram for Different Positions:



Maximum Force

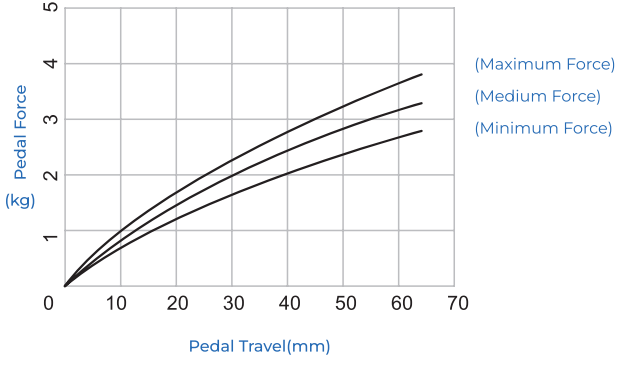


Medium Force

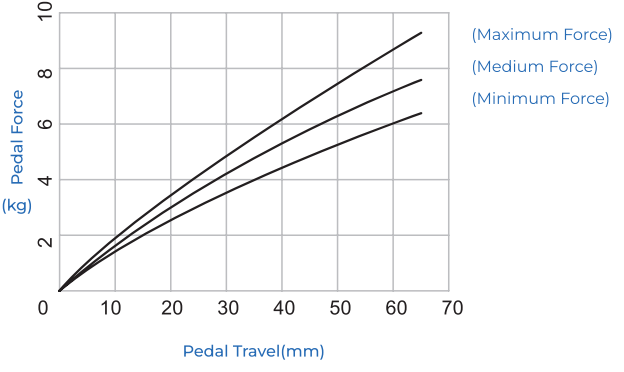


Minimum Force

Force Curve Diagram for Positions (1.5mm Spring)



Force Curve Diagram for Positions (2.0mm Spring)



Clutch Pedal:

Force Adjustment:

Unlike the Throttle Pedal, adjusting the force curve of the Clutch Pedal requires adjusting two sliders. One slider is located on the moving front arm of the pedal, while the other slider is located in the slot of the static rear arm. These two sliders are used to adjust the force of the Clutch Pedal.

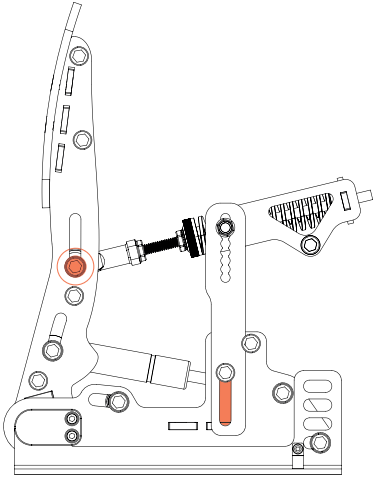
Minimum Force: The screw on the front arm should be positioned at the lowest point of the slot, while the screw on the rear arm should be positioned at the highest point of the slot.

Maximum Force: The screw on the front arm should be positioned at the highest point of the slot, while the screw on the rear arm should be positioned at the lowest point of the slot.

Medium Force: Both screws on the front and rear arms should be positioned in the middle of their respective slots.

Note:
The entire assembly must be moved together; do not adjust the front or rear section separately.

The two adjustment mechanisms must be positioned at opposite locations within their respective slots to ensure the correct force curve adjustment.

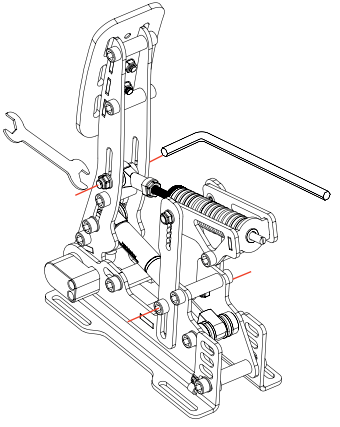


Force Curve Adjustment:

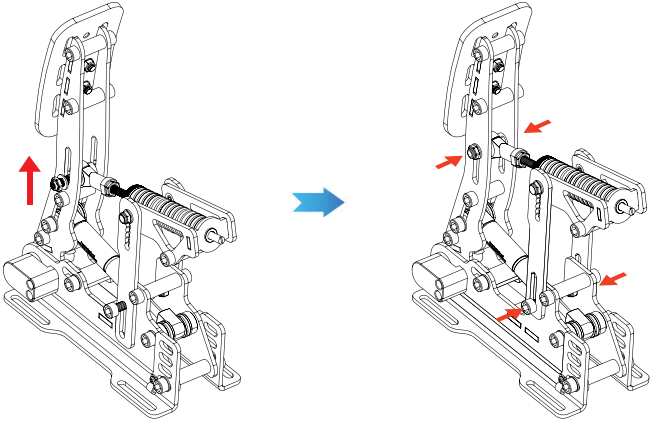
A pivoting assembly is located at the rear of the Clutch Pedal arm, which rotates together with the pedal arm. The position of the pivoting assembly among the 8 mounting holes determines the shape of the force curve.

Top Hole Position: The most concave force curve.
Bottom Hole Position: The flattest force curve.

Adjustment Steps:

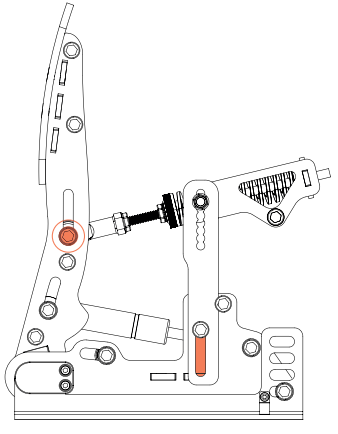


❶ Use a Hex Wrench (5mm) and an Open-End Wrench (10mm) to loosen the screws and nuts on both sides of the pedal arm and rear arm. (Only loosen the screws and nuts; do not remove them completely.)

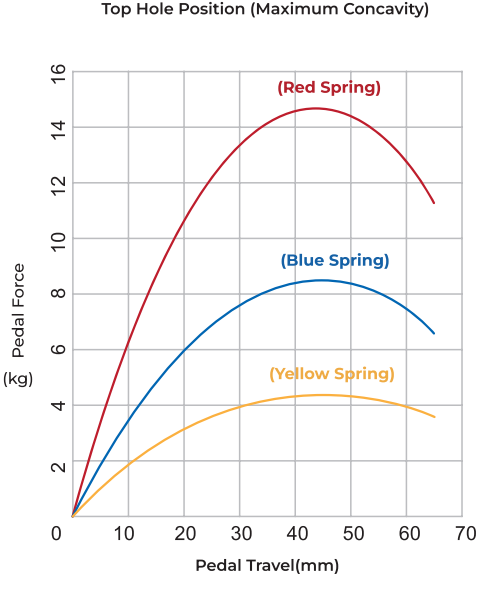


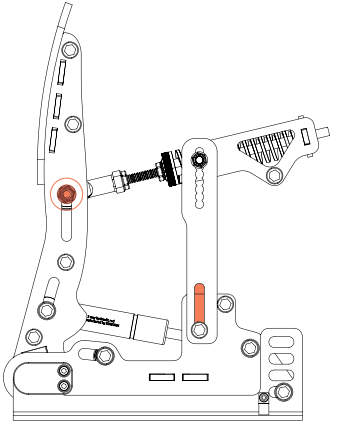
❷ Adjust the slider on the pedal arm and the entire assembly on the rear arm to the desired positions, then tighten the bolts on both sides. (Please note that the two adjustment mechanisms must be positioned at opposite locations within their respective slots.)

Force Curve Diagram for Different Positions:

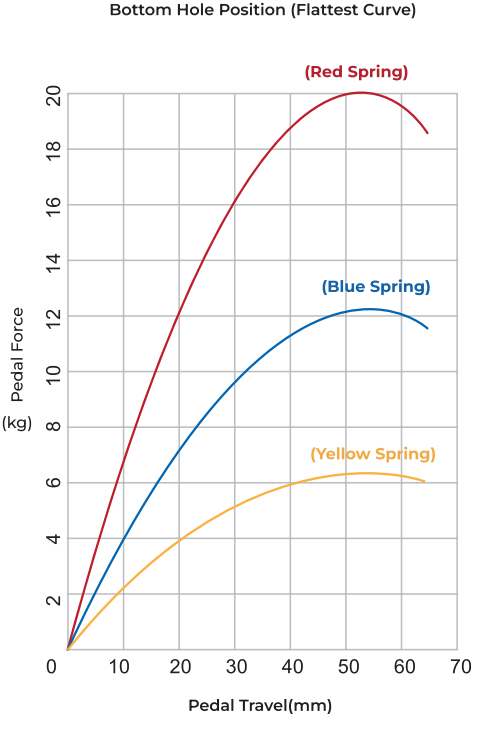


Top Hole Position (Maximum Concavity)





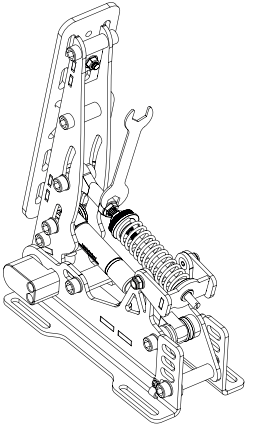
Bottom Hole Position (Flattest Curve)

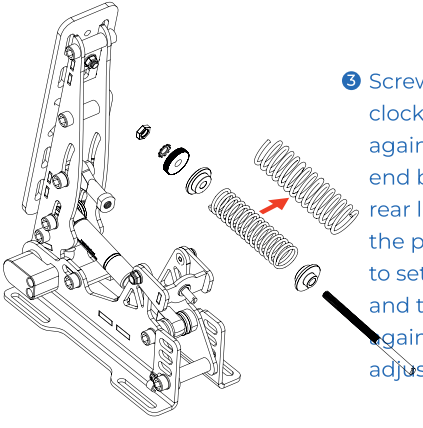


Spring Replacement

The Throttle Pedal comes pre-installed with a medium-force round wire spring and includes an additional low-force round wire spring. The Clutch Pedal comes pre-installed with a low-force yellow molded spring and includes a medium-force blue molded spring and a high-force red molded spring to accommodate different players' preferred pedal forces.

Using the **Throttle Pedal** as an example, you can replace the pedal spring by following these steps:





1. Use an Open-End Wrench (10mm) to loosen the two locking nuts and the preload adjustment nut, releasing the spring preload.

2. Rotate the threaded rod counterclockwise to separate it from the rod end bearing, then remove the assembly. After replacing the spring, reinstall all components back into their original positions.

3. Screw the threaded rod clockwise until it is tightened against the top of the rod end bearing, then tighten the rear locking nut. Next, rotate the preload adjustment nut to set the desired preload, and tighten the locking nut against the front of the preload adjustment nut.

Brake Pedal

Operating Principle:

The braking performance of the Plus X V2 Brake Pedal is based on the force applied by the user. The greater the applied force, the higher the signal output sent to the simulator software. Unless the output curve is modified in SIMSONN Manager, the output will remain linear.

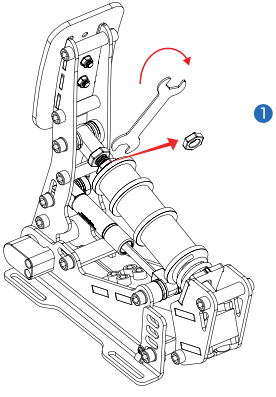
Your Brake Pedal is equipped with a two-stage braking system consisting of a Rubber Damper and a metal coil spring. First, the coil spring is compressed, followed by compression of the Rubber Damper. The coil spring simulates the gap between the brake pads and brake disc, while the Rubber Damper simulates the main load applied to the brake disc.

Through SIMSONN Manager, you can adjust the dead zone of the Brake Pedal. You can choose to start brake signal output immediately while the metal coil spring is being compressed, or only begin brake signal output after the metal coil spring has been fully compressed.

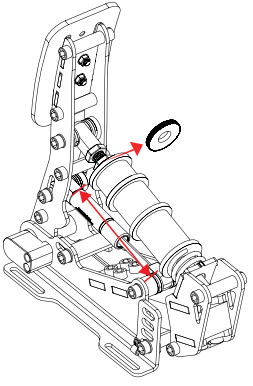
Brake System Preload Adjustment:

At the front of the Rubber Damper, there is a mechanism for adjusting the preload of the braking system. By shortening or extending the resting length of the Damper and Spring, you can change the initial force required to move the pedal, while the slope of the force curve remains unchanged.

You can adjust the Brake Pedal brake system preload by following these steps:



1. Use an Open-End Wrench (17mm) to loosen the locking nut at the front of the preload adjustment nut by turning it clockwise.



❷ Rotate the preload adjustment nut to set the desired preload. Then retighten the locking nut against the preload adjustment nut to secure it in place.

Brake Pedal Resistance:

The Plus X V2 allows multiple settings to adjust the Brake Pedal resistance.

This can be achieved by changing the following options:

1. Total Length of the Rubber Damper;
2. Hardness of the Rubber Damper.

Note:
The resistance adjustment determines the amount of pedal travel when a fixed force is applied to the Brake Pedal. The total force required to achieve 100% pedal output in the simulator software can be adjusted in SIMSONN Manager.

Pedal Feel: Resistance adjustment directly affects the feeling during braking. Higher resistance requires more force to press the pedal.

Pedal Travel: When the user applies a fixed amount of force, higher resistance results in shorter pedal travel, and lower resistance results in longer pedal travel.

Rubber Damper Settings:

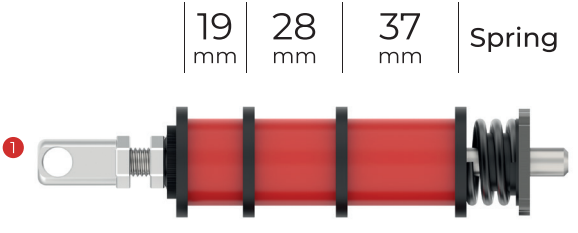
The Brake Pedal comes pre-installed with three red Rubber Dampers of different specifications, a metal coil spring, and **one 10mm** spacer. It also includes three different specifications of yellow and blue Rubber Dampers, along with **thirteen 5mm** spacers.

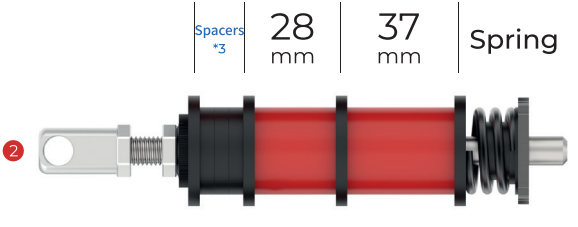
Each Rubber Damper color is marked with **SOFT**, **MEDIUM**, or **HARD**, along with the corresponding hardness value.

The **red (SOFT)** Rubber Damper supports a maximum load of **60kg**. The **yellow (MEDIUM)** Rubber Damper supports a maximum load of **100kg**. The **blue (HARD)** Rubber Damper supports a maximum load of **140kg**.

Using the **Red (SOFT)** Rubber Damper as an example, possible combinations of the Rubber Damper and Spring are as follows:

[Softest Combination]
Factory Configuration





Spacers *4 | 19 mm | 37 mm | Spring

3



Spacers *5 | 19 mm | 28 mm | Spring

4



Spacers *8 | 37 mm | Spring

5



Spacers *10 | 28 mm | Spring

6



Hardest Combination

Spacers *12 | 19 mm | Spring

7

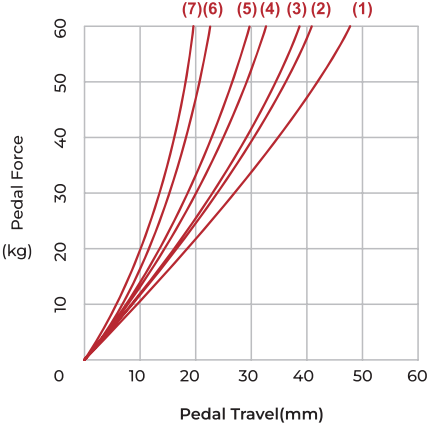


* Additionally, you can remove the coil spring and keep the 10mm spacer to achieve a firmer pedal feel. Alternatively, remove the 10mm spacer and keep the coil spring to achieve longer pedal travel.

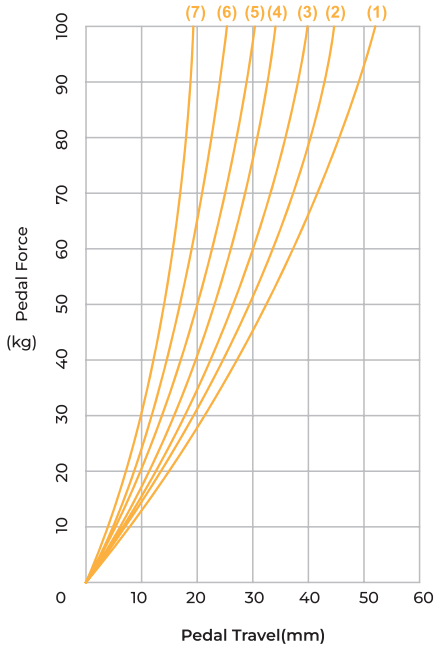
Note:

Please avoid mixing Rubber Dampers with different hardness levels whenever possible, as we cannot accurately predict the resulting force feedback behavior. In addition, the maximum load capacity of your Rubber Damper combination is limited to the maximum load rating of the softest Rubber Damper used in the combination.

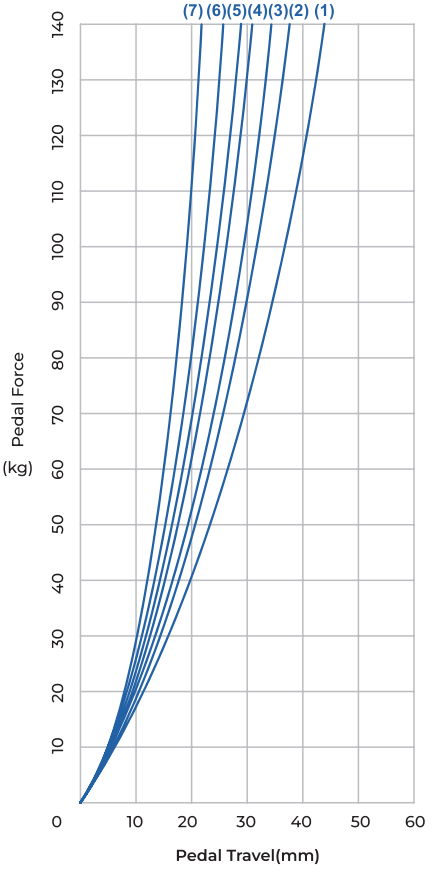
Red Damper (60HA) Force Curve Diagram - 60kg



Yellow Damper (70HA) Force Curve Diagram - 100kg

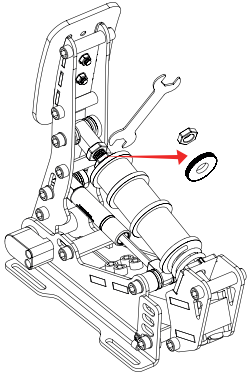


Blue Damper (80HA) Force Curve Diagram - 140kg

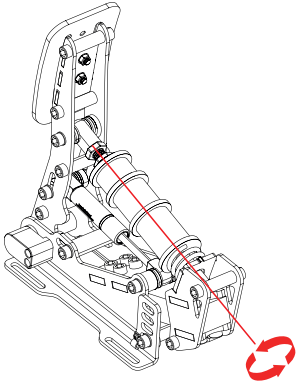


Rubber Damper Replacement:

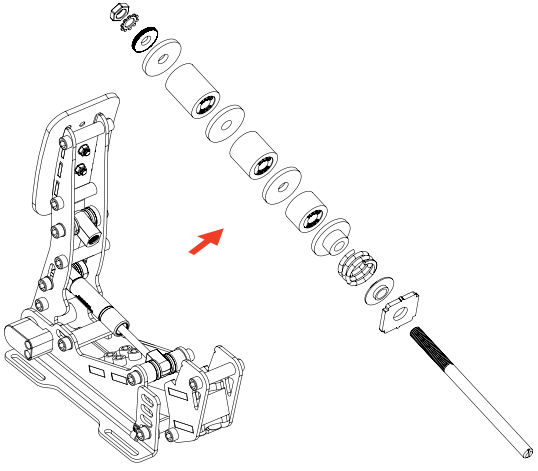
You can customize your ideal damper combination by following the steps below:



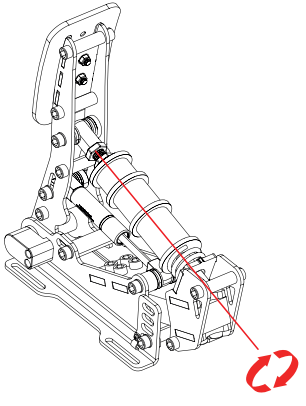
❶ Use an Open-End Wrench (17mm) to loosen the locking nut, external tooth washer, and knurled nut at the front of the threaded rod securing the damper. Move them to the front position to release the resistance and spring preload.



❷ Rotate the threaded rod to disengage it from the rod end bearing. Then remove the locking nut, external tooth washer, and knurled nut, and pull out the threaded rod.



❸ Remove the Rubber Damper assembly from the pedal. Replace the Rubber Damper as needed, then reassemble the remaining components in their original positions, ensuring that all parts are properly installed and complete.



4. Use the handle end of the Open-End Wrench to rotate the threaded rod clockwise and screw it back into the rod end bearing. Then adjust the desired preload by turning the knurled nut, ensuring sufficient tension is applied to the Rubber Damper assembly to prevent it from popping out.

Note:

The locking nut must be firmly tightened against the knurled nut to ensure that the adjustment setting remains secure.

Do not screw the knurled nut beyond the threaded limit of the rod. If this occurs, you can compensate by adding additional spacers.

By following these steps, you can effectively adjust the Rubber Damper to optimize the Brake Pedal response and pedal feel.

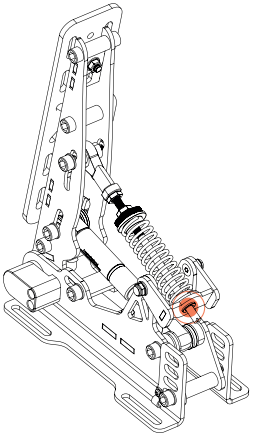
Maintenance Guide

The SIMSONN Plus X V2 is designed to minimize wear and noise. To extend the service life of the pedals, we recommend following the maintenance procedures below:

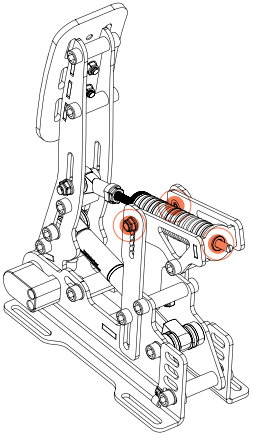
Preventive Lubrication – Throttle and Clutch Pedals

Most pivot points on the SIMSONN Plus X V2 use self-lubricating bearings. However, there are four locations on the Throttle and Clutch pedals that require preventive lubrication.

Recommended Lubricant:
Use a PTFE dry spray lubricant for the Throttle and Clutch pedals. Lubrication is recommended every 100 hours of operation.



Throttle Pedal
Lubrication Points

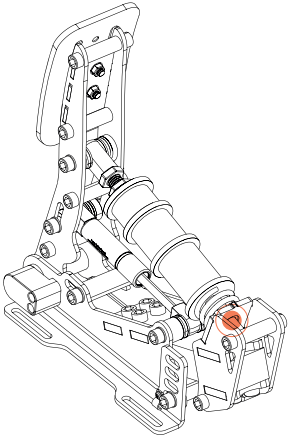


Clutch Pedal
Lubrication Points

Preventive Lubrication – Brake Pedal

The Brake Pedal only requires lubrication if unnecessary noise occurs. In this case, check whether the noise is coming from the bearing on the rear side of the Brake Pedal (the bearing through which the rod passes). If so, apply a small amount of lubricant to the bearing.

Recommended Lubricant: PTFE dry spray lubricant is also recommended for the Brake Pedal.



Brake Pedal
Lubrication Point

Safety

Notes on using SIMSONN Plus X V2.

Basic Product Description and Intended Use

The SIMSONN Plus X V2 is a sensor-based pedal set designed to connect to a computer for use with driving simulators. The product is specifically designed and intended for simulator use only. It must not be used on public roads, test tracks, or as a component of a real vehicle.

Safety Precautions

Personal Safety Equipment:

No specific personal protective equipment is required when using this product. However, we still recommend wearing shoes during operation to ensure better comfort and control.

Installation Requirements:

The product must be securely installed on a simulator rig or base to prevent movement during operation. Stability between the simulator seat and pedal set is essential for safe use.

Please follow the above precautions to optimize your experience and ensure safe operation.

Recycling

We are committed to ensuring that our products have the longest possible service life. However, when you need to dispose of a SIMSONN product or any of its components, please do so responsibly.

Packaging Material Recycling

Eco-Friendly Packaging:
The packaging of the SIMSONN Plus X V2 mainly consists of materials such as paper, cardboard, and polyethylene foam. If you do not plan to keep the packaging, please recycle it to support environmental protection.

Spare Parts Support

After-Sales Service:
We provide one year of after-sales support for our products to ensure that your needs are met during use. In the unlikely event that the product needs to be discarded, please follow local recycling guidelines to ensure environmentally responsible disposal.

Disassembly and Material Separation:
If disassembly is required, please use the included tools. This will allow you to separate the different materials used in the product, making subsequent recycling and processing easier.

By following these guidelines, you can not only extend the service life of the product but also contribute to environmental protection.

Thank you for your attention and support towards sustainable development!


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Welcome

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Simsonn

Hunan Leixuan Intelligent Technology Co., Ltd. reserves the right to modify product designs and specifications (including but not limited to dimensions, colors, etc.). The final product is subject to the actual item.