

## ***Pro Series F1 LC Pedal Set***

### **USER MANUAL**

### **Load Cell Spec**



## INTRODUCTION

Thank you for purchasing our F1 LC Pedal Set. We are sure you will enjoy your purchase.

The compact design of the F1 LC Pedals makes it suitable for fitting in to compact F1 style cockpits where footwell space is limited.

The Pro Series range of controls are products that were designed and developed by SimworX with the ultimate aim of supplying the most realistic motorsport inspired controls for the ultimate virtual racing experience. Each product is pre-tested prior to shipping to ensure your investment is ready to go once you've received it. We continually upgrade our controls to ensure the pedals are robust and give positive feel and feedback. A 12 bit resolution USB interface ensures accurate pedal control whilst the unique Hydraulically loaded Load Cell activation system enables the braking system to be fully tuned in to your racing style.

A load cell works the way it feels. It is measuring force (same as a brake) and feels like a brake because it gets harder to get it to "max" due to the progressive resistance that gets harder and harder. The perfect pedal for sim racing is to have hydraulics in the system because that's what real brakes are, and in conjunction with the load cell, the force outputs to a 12 bit resolution circuit board for accuracy. SimworX has also introduced a rocker arm that the load cell cylinder system pressures up, and by introducing variable durometer dampers that works against the rocker arm's action, a very finely tuned end stop feel can easily be attained. In a good race pedal system, the pedal barely moves once the pads touch the rotor. A good racecar brake pedal feels like stepping on a brick once full pad pressure has been attained and that is achievable with this system. If that's not to your liking, you can back it off by using the thumb screw and/or interchanging the supplied dampers. Brake feel is very subjective, that's why all of these adjustments have been introduced.

The following instructions will guide you through the installation process and the various adjustability options built into the unit

## PACKAGE CONTENTS

- 1x Pro F1 LC Pedal Set
- 1x 3M USB Cable
- 3 x Urethane Load Cell Rocker Arm Bushes
- 1x Stainless Steel Bolt Pack with Alloy Washers
- 1 x Allen Key Set

## FITTING

For owners of existing SimworX simulators and/or chassis units, the mounting points for the pedals are already in place. Locate the pedals and with the supplied bolt set insert them in to the pre-tapped bolt holes. .

For fitting to other simulators, make sure the frame is strong enough to withstand the forces you can exert on the brake pedal. On the next page you will find a drilling guide for your Pedals base plate. Position the pedal set plate at your preferred location and using the rear slots either side of the base plate, carefully mark the hole position through the rear base slot onto your mounting surface. As a rule we usually recommend marking the mounting bolt holes halfway in the slots so you can move its position backwards and forwards to your requirements.

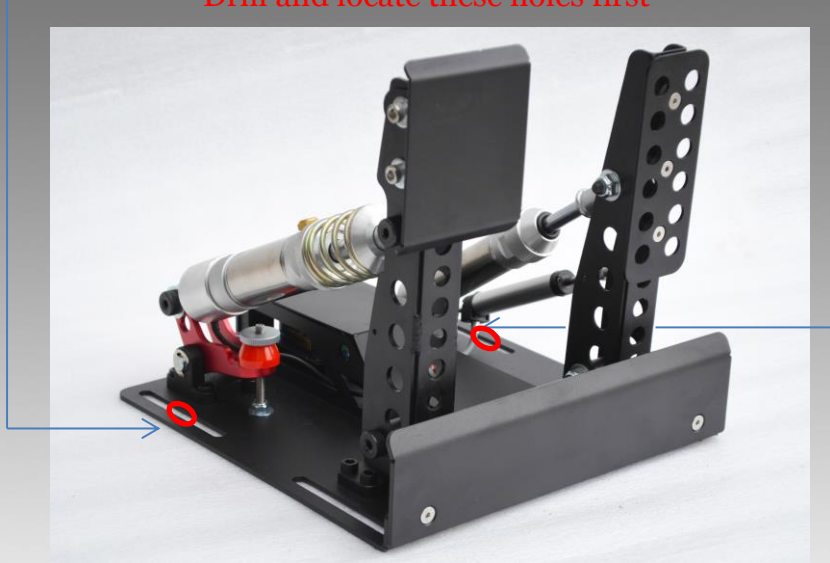
Once you are satisfied with its location, drill a small pilot hole at each bolt location. Finish the hole size for the forward slots at 8.5mm

Bolt the pedal set in place using two of the supplied bolts and alloy cup washers in the bolt pack. Loosely fasten the slot bolts and adjust the pedal position incrementally until you are satisfied with its final position. Once satisfied mark through the two bolt holes on the front slots, take the pedal set off again and drill the final two 8.5mm holes where you marked them.

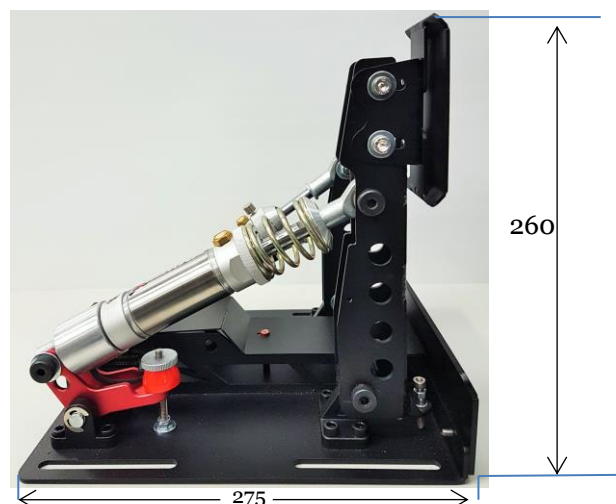
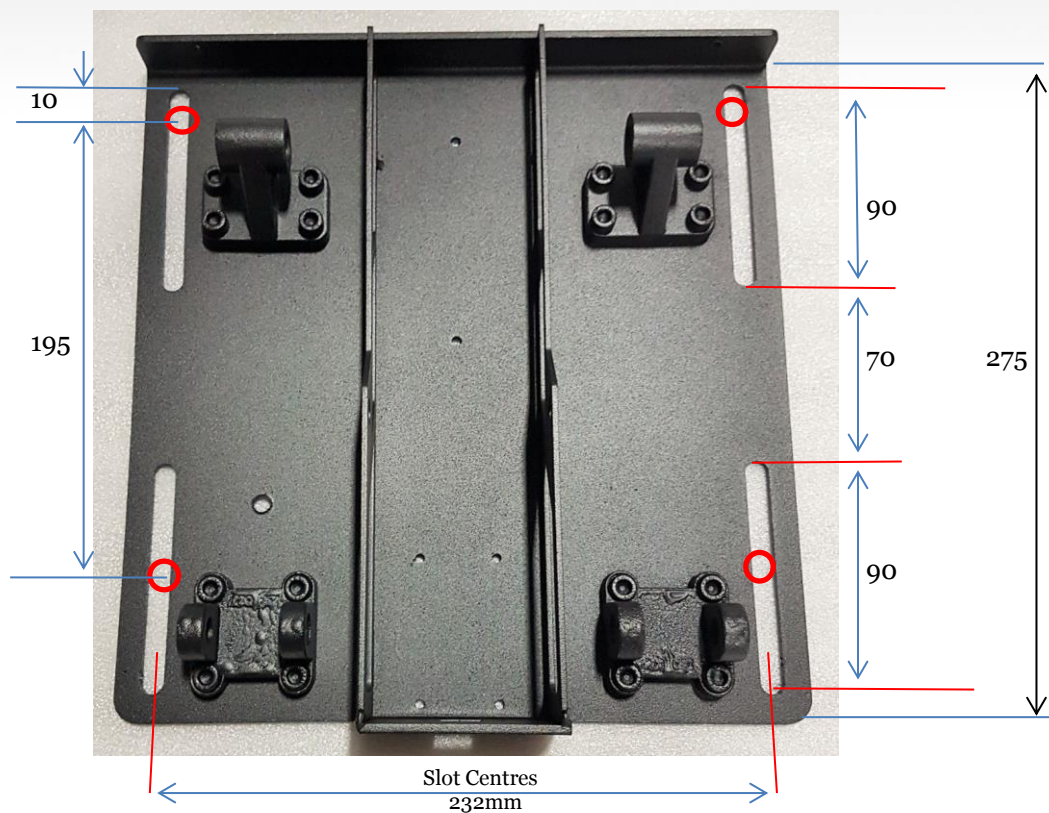
For final permanent mounting, push in the four slot bolts and tighten securely. Please make sure they are secured tightly to ensure that the pedal set doesn't flex under the pressure. The mounting surface needs to be strong enough to withstand the 120kgs+ of pressure that can be exerted on the brake pedal. Any flex in the mount plate will affect the pressure exerted on the Load cell.



Drill and locate these holes first

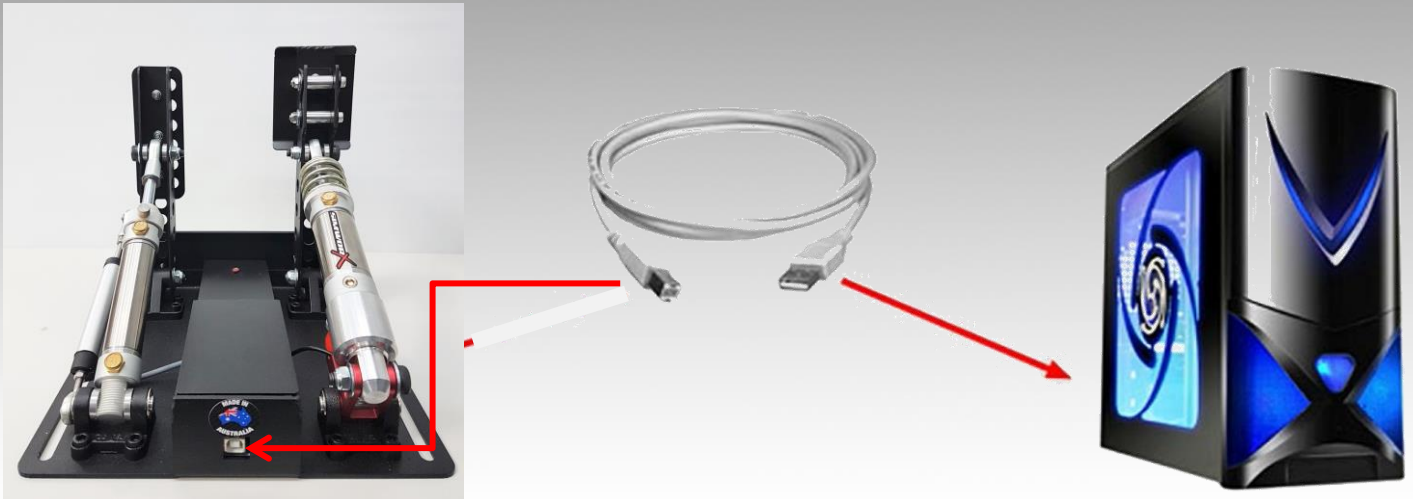


If satisfied with positioning of your pedals mark and drill the remaining front 2 holes



## CONNECTION

Plug in the supplied USB A to B cable into the rear of the pedal set and then into a spare USB port on your computer. The pedal set should be automatically be detected by Windows and self-install. You can confirm this by going to the 'devices and printers' and confirming that "Simworx Pro Series" is listed there. If its not listed, try another USB port on the computer end.



## CALIBRATION

This procedure is based on the windows 7/8.1/10 operating system, older systems may vary.

1. Once you have connected your pedals and the "Simworx Pro Series" device is visible in windows "Devices and Printers", right click on the "Simworx Pro Series" and select "Game Controller Settings"
2. From the next list, select "Simworx Pro Series" and click the "Properties" button.
3. Click the "Settings" tab in the next window.
4. Click "Reset to default"
5. Click "Calibrate"
6. Follow the on screen prompts to calibrate your device
7. Once completed, you will be taken to the testing window, press all the pedals and watch the visible red sliders to confirm calibration, if the red sliders do not travel the full extent, repeat from step 3.

Once correctly calibrated in Windows you can run your game and configure your in game controls.

You may find that when assigning the brake pedal in the game, you may notice a flickering on the calibration bar due to a slight pre-load tension on the load cell. This is related to what you have set the pedal position and rocker arm damper tension to. Adding a touch of Dead Zone to the brakes will eliminate that initial static pre-load.

As we use the Leo Bodnar BU0836-LC interface for our pedals there is a handy Leo Bodnar Calibration exe file [DIView.exe - For Accurate Calibration](#) that is available for download from his website to assist in the calibration:

### BU0836-LC Load Cell Joystick Controller



[Click Here to DIView.exe download](#)

[Product Description](#)

[More Details](#)

[How to Use](#)

[Product Downloads](#)

[Additional Images](#)



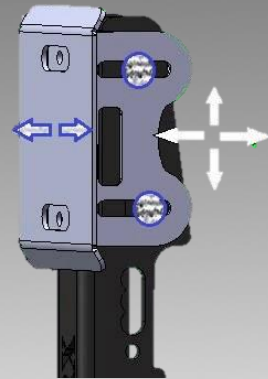
## ADJUSTMENTS

### Pedal Face Angle



The pedal face on the brake pedal is fitted with angle and height adjustments. To adjust, using a 5mm allen key and 10mm spanner, loosen off the two nuts (pointed out by the red arrows) a few turns to loosen the pad assembly. Once loose, you will be able to adjust the pad upwards & down, as well as tilt the pedal face backward and forwards until you're comfortable with the position.

Once you're satisfied with the position, tighten up the bolts firmly to ensure that the pad does not move under load.



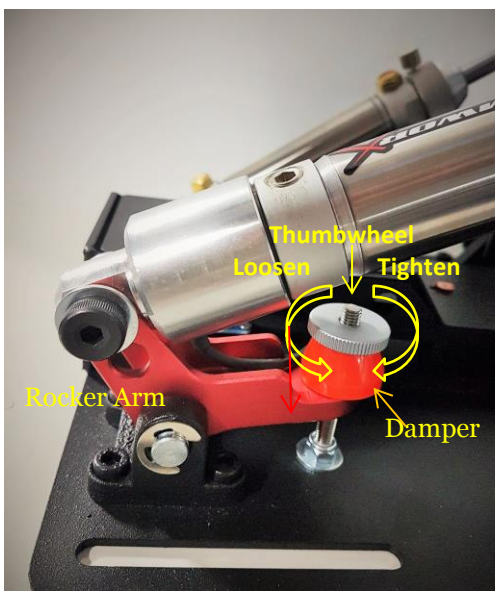
### Brake Tensioner Ring

The brake cylinder is fitted with a dedicated spring tensioner for adjusting the initial preload to the brake pedal to mimic the initial pad travel to the rotor. This is useful for fine tuning that initial pedal travel. If required, to adjust, hold the brake cylinder and spin the tensioner ring at the base of the brake spring. Once the tensioner ring starts to feel tight to turn, you have reached the maximum tension point. Do not try and force the tensioner ring further.



### Brake Pedal Feel

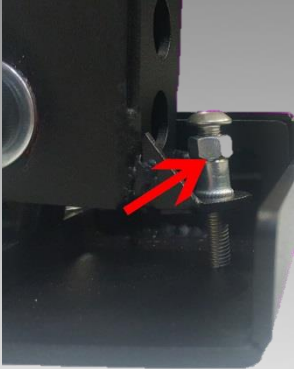
The pedals come with four urethane dampers which have different durometers and heights that act on the Load Cell Cylinder Rocker Arm. The Red is the "soft" damper and the Black is the "Hard" damper. The thumbwheel enables the pedal feel to be infinitely adjustable. As standard, the soft grade damper (RED) is fitted. The short red damper will give you a more solid feel, the short and long black dampers will give you a much harder pedal end feel. To change the dampers, if needed, is a very simple process as outlined below..



Various dampers as supplied with your pedals

The brake assembly can be adjusted for brake stroke / tension. With four settings. Soft, Medium Soft, Hard & Medium Hard. Each setting changes the amount of braking force & travel of the pedal. You will be supplied with 4 Urethane dampers. Our default damper is the soft (RED) which is fitted as standard and the medium soft (Short red) and the two Black hard dampers are supplied in a box with your pedals. The softest damper is the Red colour Damper as it gives more squash, the medium soft is the short Red damper and the hardest is the Black colour capped Dampers. The softest damper set provides the most travel and softest feel, whereas the hard damper setting provides a short travel with a very firm pedal. You can also adjust the feel with the thumb wheel by screwing it in and out. To fit the alternative damper, unscrew the thumb wheel and replace the damper. Replace the thumbwheel and screw down to the required feel..

## **ADJUSTMENTS**

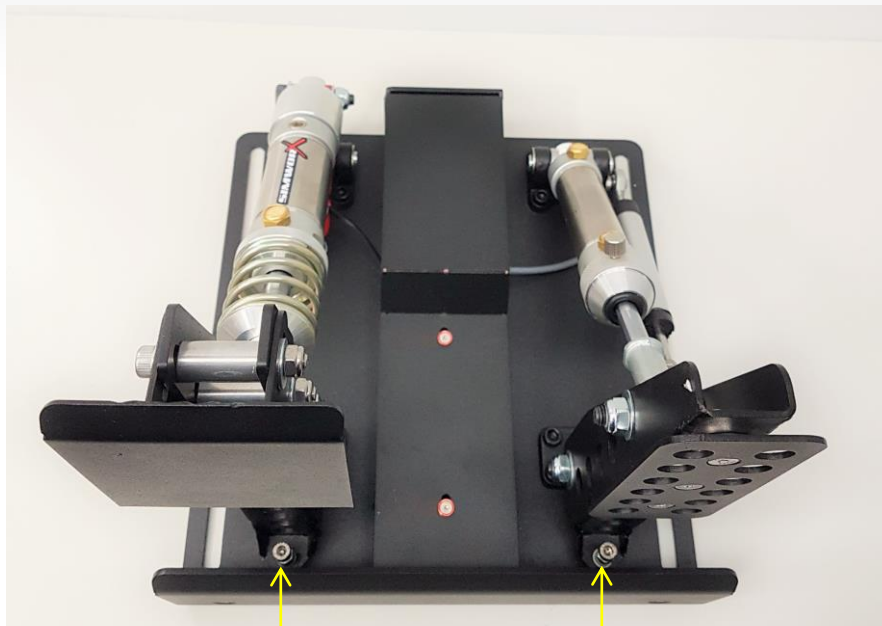


### **Pedal Rebound Adjust**

After any adjustment, you may need to alter the pedal rebound to get the pedal sitting nicely again. To do this, use an 8mm spanner to loosen the locking nut (pointed out by the red arrow) then use a 3mm allen key to adjust up or down the stop until the pedal is in your desired position. Once you're happy with the position, tighten the locking nut firmly.

### **Pedal Rebound Adjustment**

If required, your pedals are fitted with an adjustable set point that can be changed using a 3mm allen key and an 8mm spanner.



**Pedal Set Points are adjusted via the screw stops at the base of the pedals**

### **Accelerator Pedal Stroke Adjust**

The accelerator pedal stroke can be adjusted for a shorter stroke by rotating the alloy adjuster at the top of the cylinder. Undo the thumbscrew on the adjuster, rotate the adjuster to your desired position. Once satisfied re-tighten the thumbscrew.

Once you're totally satisfied with its stroke length don't forget to recalibrate the accelerator axis.



*Please Note:*

***After any of these adjustments, you will need to go through the calibration process again.***



## TROUBLESHOOTING

**Problem:** 'In the game, my car doesn't brake / accelerate effectively'

**Solution:** Recalibrate the pedal set in the windows game devices and re assign them in game.

**Problem:** 'My pedal set is not detected by windows'

**Solution:** Try an alternative USB port on the computer, Listen for the audible 'connect/disconnect' noise from windows. Alternatively try a different USB cable.

If you have any problems installing/calibrating or setting up your Pro GT pedal set, contact SimworX support on the below email or give us a call and are more than happy to assist.

*We appreciate your feedback, any feedback relayed via Facebook or email is greatly appreciated.*

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