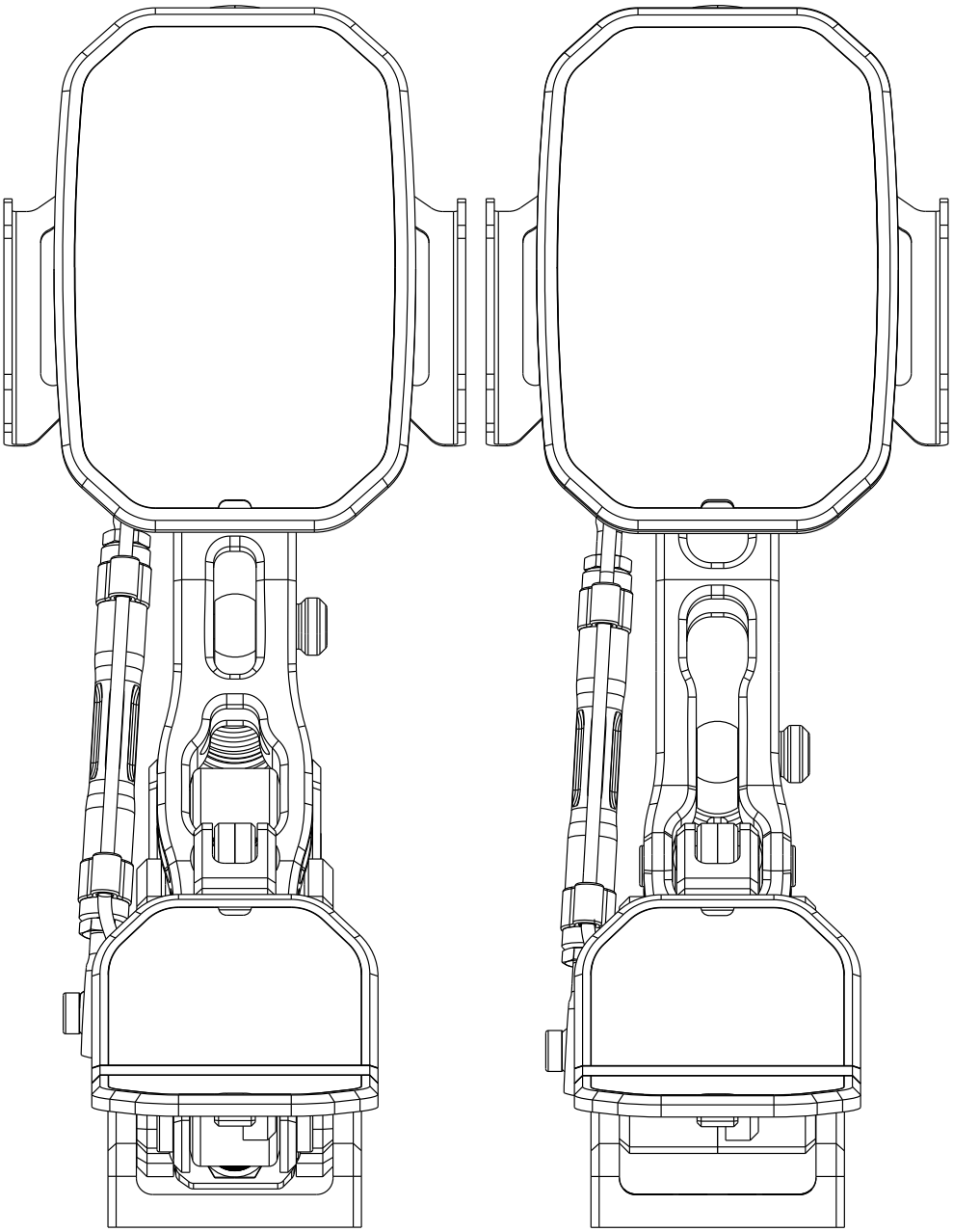
FATBLACKCAT



USER MANUAL



Thank you for purchasing PurrPRO FORMULA PEDALS. We are sure that it was the best choice! Enjoy your top-notch sim racing experience with our pedal set.

Before you start your new sim racing adventure, please read this manual carefully to use our product safely and adjust your pedals according to your needs, so you can get the best possible experience when using PurrPRO FORMULA PEDALS.

1. SAFETY

- The device must not be exposed to rain or humidity in order to avoid the risk of fire and the danger of electric shock.
- There is a risk of swallowing small parts of this equipment, so make sure to keep it away from children under the age of 6.
- This product is intended for adults. Do not let your children use it unsupervised.
- Always carefully check that all connections are tightened and assembled in accordance with the manual.
- Due to sharp edges, the equipment should only be used by one person. Keep other people away from the device when in use.
- The product is intended for indoor use only.
- Do not disassemble the product beyond the instructions provided in this manual.
- Never use this device if it is damaged or broken. If something unexpected happens, do not try to fix it yourself. Contact us immediately. Opening and attempting to repair it yourself may be dangerous for the user and will void the warranty.
- Remember to take 5–minute breaks every 20 minutes while playing. Do not exceed 2 hours of play.
- We strongly recommend that you do not drive a vehicle directly after playing a racing simulation game. Take a break and rest.

2. PACKAGE

PurrPRO THROTTLE pedal	2× DC Power Adapter 15V
PurrPRO BRAKE pedal	Additional springs and washers
Additional different grip pedal face cover	USB Type C to USB Type A cable, 2,0 m
Additional different grip ankle covers	Molex to Molex pedals connection cable, 0,5 m
Additional pedal face side footrests	Mount bolts M6, T-nuts M6
Mount washers M6	Manual QR code

3. CONTACT

If you encounter assembly issues or need assistance with this manual or our product, please contact us via support@fatblackcat.io or Discord.

Join our Discord server! Scan the QR code.

4. TECHNICAL SPECIFICATION

GENERAL

Platform compatibility	Windows PC, run by PurrOS software
Main material	CNC machined 6082 billet aluminium
Adjustable pedal angle	Yes, on mounting brackets, 18-degree range
Adjustable pedal face angle	Yes, by adjusting ERGO-LINK length
Adjustable vertical height	Yes, by adjusting Active Heel Support height
Cockpit mount	U-shaped bracket, M6 bolts and washers
Electronics	STM32 microprocessor, 16-bit on all axes
Power Adapter	2× AC/DC 15V 2,4A
Connectivity	USB Type C to Type A for PC connection, Molex to Molex between pedals
Colour	Black anodised aluminium/Carbon fiber
Overall weight	4,2 kg

PurrPRO THROTTLE

Throttle adjustable travel and stiffness	Yes, 91 mm travel limit in the base, three stiffness gradient positions in throttle arm, preload nuts in spring assembly
Throttle adjustable damping	Yes, adjustable hydraulic damper
Throttle sensor	Contactless magnetic, Hall sensor
Throttle haptics	Yes, PurrForce haptics exciter, set up in PurrOS or SimHub
Throttle size	244×298×90 mm (LxHxW)

PurrPRO BRAKE

Brake adjustable travel and stiffness	Yes, 73,5 mm travel limit, optional springs combo, preload nuts in spring assembly, preload nut in damper assembly
Brake adjustable push damping	Yes, adjustable top hydraulic damper
Brake adjustable trail damping	Yes, adjustable bottom hydraulic damper
Brake sensor	Loadcell sensor, 200 kg
Brake haptics	Yes, PurrForce haptics exciter, set up in PurrOS or SimHub
Brake size	262×298×90 mm (LxHxW)

5. PurrPRO FORMULA PEDALS ASSEMBLY OUT OF THE BOX

After taking out the pedals from the box you will notice that both PurrPRO THROTTLE and PurrPRO BRAKE have an adjustable mount foot under the base of the pedals. Additionally, the pedals come with side FOOTRESTS inside the box, but they are not mounted to the pedals. Now we will explain how you can mount side footrests to the pedals and how to mount the pedals to your simrig.

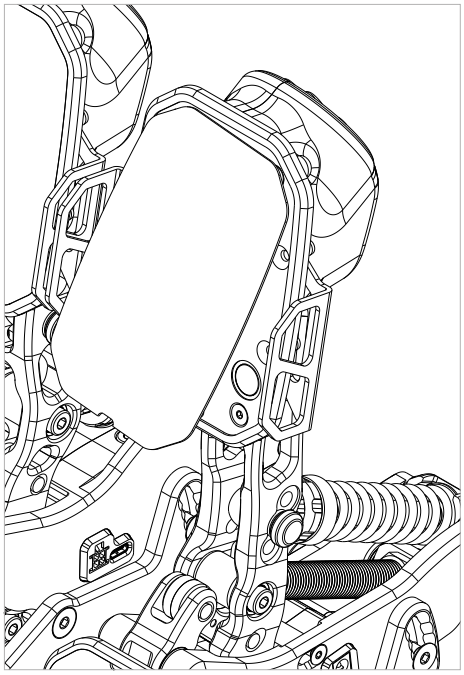
IMPORTANT: Pedals are designed to be mounted to a sturdy simrig, **DO NOT USE** them on the floor, as they won't be stable.

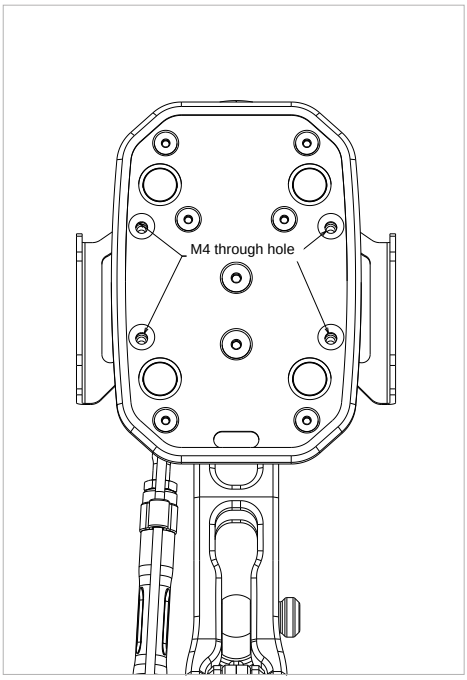
5.1. FOOTRESTS MOUNT

You will find a set of 2 left side footrests and 2 right side footrests. Please note that you can mount them on either side of the pedal face - this way you can choose to have the side wall higher or lower, depending on your preference.

To mount the footrests you will need to take the carbon pedal face off. To do that use a small plastic tool and pop a carbon pedal face at the bottom using a small cutout in the carbon plate. Be aware that the carbon face is held by magnets to stay in place, so you don't have to use much force to take it off.

After achieving that, use 4 through holes to mount side footrests in the position you want to use. When side footrests are bolted to the pedal head, put the carbon pedal face onto the pedal head and make sure it sits flush with a thicker carbon plate for comfort.





ATTENTION: It may happen that the magnetic stickers' glue in first-batch pedal sets is too weak and magnetic circles will not hold. If that happens please reapply them, by placing the glue side up at the magnet inside the carbon part and then placing the carbon plate as it would be mounted normally. Apply pressure with your finger in the place of the faulty magnetic sticker. You can apply a minimal amount of superglue on the magnetic sticker, but be very careful. Do not apply a whole drop of superglue as it will most likely glue the two carbon parts together if the glue spreads outside the magnetic sticker area.

5.2. SIM RIG MOUNT

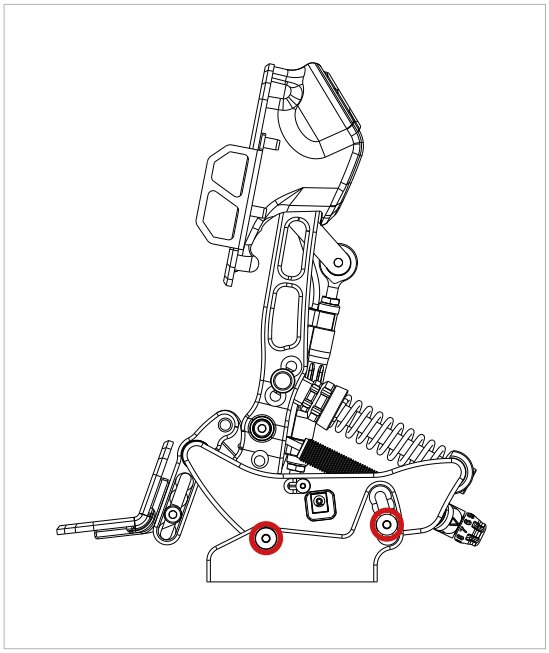
PurrPRO FORMULA PEDALS offer two ways of mounting the pedals to your simrig. Below you will find a drawing with hole dimensions and spacing. When mounting the pedals, try positioning them on your rig so that you will feel comfortable resting your whole leg on the A.H.S without feeling any tension in your leg muscles. Then press and release the pedal to check that there is no additional stress going through your legs when operating the pedals.

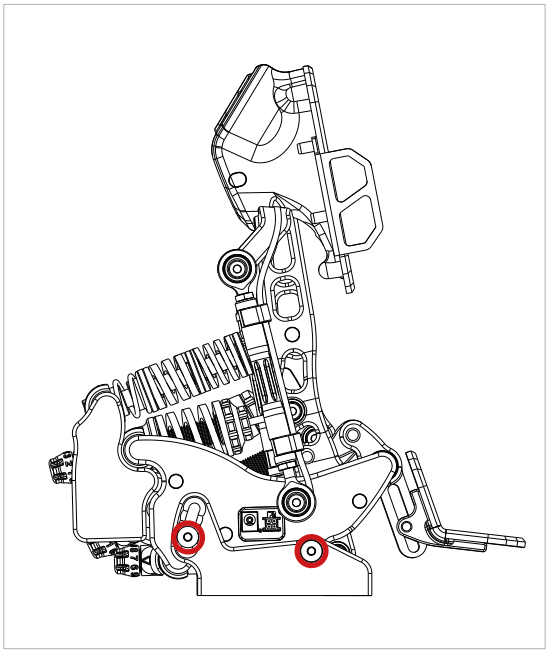
5.2.1 PEDAL PLATE MOUNT

When your simrig has a pedal plate, you mount pedals using M6 bolts and M6 washers from underneath the pedal plate, bolting the pedals to the simrig using the M6 threaded holes in the pedal foot.

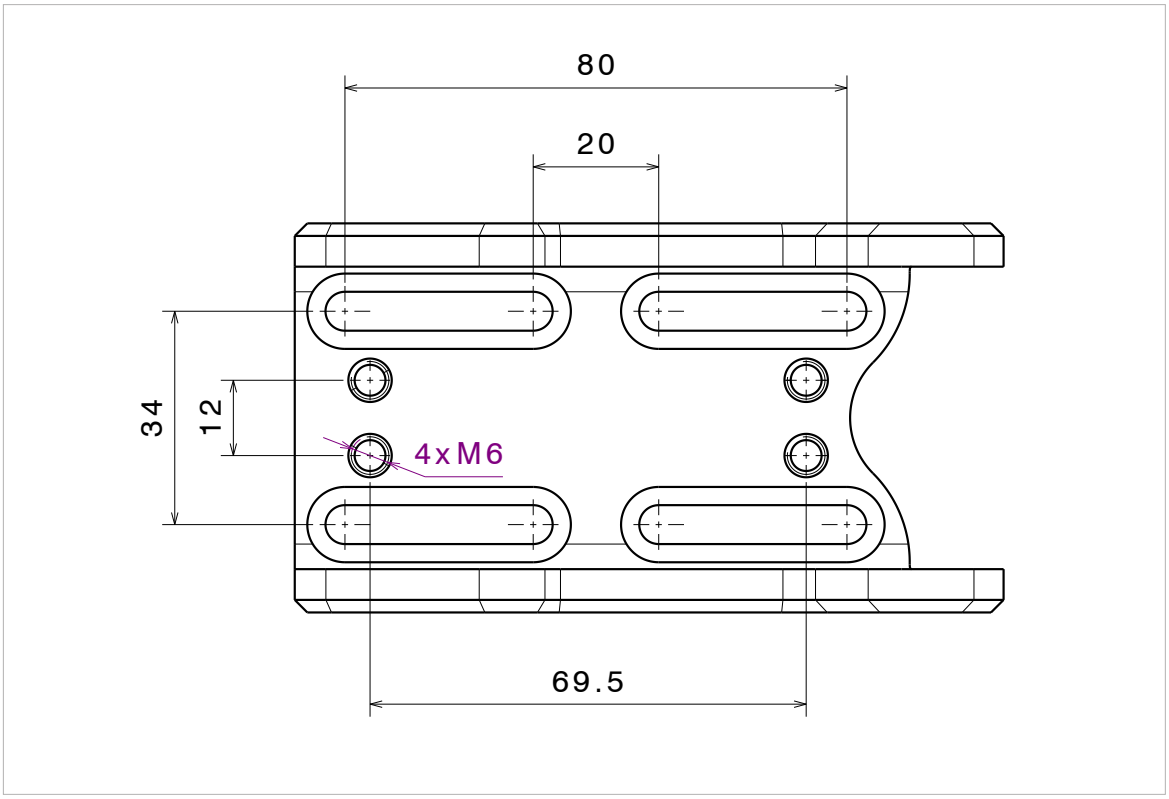
5.2.2 ALUMINIUM PROFILE MOUNT

When your simrig has a pedal mount section made of aluminium profiles you mount pedals using an M6 T-nut slid inside the groove in the aluminium profile, M6 bolts and M6 washers from above the pedal foot. To have access to mounting slots from above the pedal foot, you need to disassemble the pedal base from the pedal foot by unbolting 4 bolts as shown below.





After achieving that, you first mount the pedal foot to the simrig in the position you want and fully torque the M6 bolts **BEFORE** mounting the pedal base back onto the pedal foot.



> Recommended M6 bolts torque is 10 Nm. After securely tightening all bolts, pedals are ready for operation.

6. CONNECTING TO THE PC

PurrPRO FORMULA PEDALS are designed as two separate pedals: PurrPRO THROTTLE and PurrPRO BRAKE. Both pedals first need to be connected together using the provided **Molex to Molex 0,5 m 4-pin** cable.

On PurrPRO BRAKE Molex connector on the USB-C connector side is always recognised as PurrPRO THROTTLE. Molex connector on the other side of the brake pedal will be recognised as PurrPRO CLUTCH.

Pedals are connected to the PC using the 2-metre **USB-C to USB-A** cable included in the box. Prefer a USB 2.0 port directly on the motherboard (no hub).

Each pedal requires an external power supply for operation due to PurrForce haptics demands. Two AC/DC 15V power supplies are included in the box. Connect them to the DC socket on the side of the pedal **before** connecting them to the power outlet.

IMPORTANT: Without power supplies pedals won't operate on PC USB connection only.

7. PurrOS

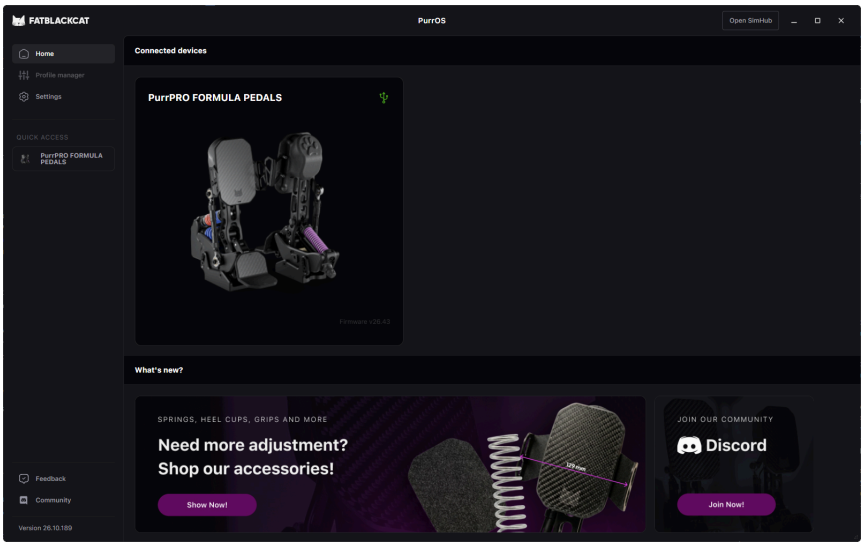
PurrPRO FORMULA PEDALS are calibrated and configured in PurrOS, our desktop application for Windows. It calibrates the pedals, shapes their response, stores your setup profiles and keeps the firmware up to date.

7.1. INSTALLING PurrOS

Download PurrOS here: PurrOS

Install the application by double-clicking the installer and following the on-screen steps. PurrOS detects your pedals automatically, so you can connect them to your PC and their power supplies (see section 6) either before or after you open the application.

7.2. HOME SCREEN



The Home screen lists every connected device. Each PurrPRO FORMULA PEDALS set appears as a single tile — one tile per set — with a USB status icon and its installed firmware version.

The sidebar on the left gives you:

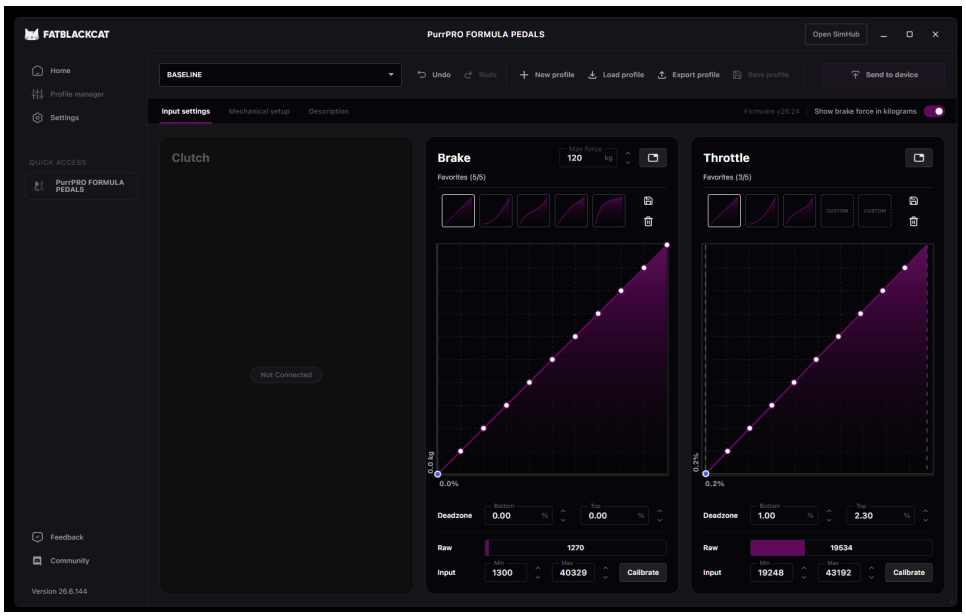
- **Home** — connected devices and product news
- **Profile manager** — your saved profiles (WIP, coming soon)
- **Settings** — application settings
- **Quick access** — a shortcut straight to your pedals

Click the device tile, or the Quick access shortcut, to open the pedal settings page. **Open SimHub** in the top-right corner launches SimHub (or asks you to locate it). Your PurrForce haptics are set up on the pedal settings page, in the **PurrForce control** tab, or in SimHub — see section 11. The application version is shown at the bottom of the sidebar (Version 26.10.189 at the time of writing).

The tile shows the installed firmware as, for example, **Firmware v26.43**.

7.3. CALIBRATION

The pedal settings page holds four tabs — **Input settings**, **PurrForce control**, **Mechanical setup** and **Description** — with the profile bar across the top. Every tab shows three pedal columns: Clutch, Brake and Throttle. If no clutch is connected, its column shows **Not Connected**. The **PurrForce control** tab is covered in section 11.

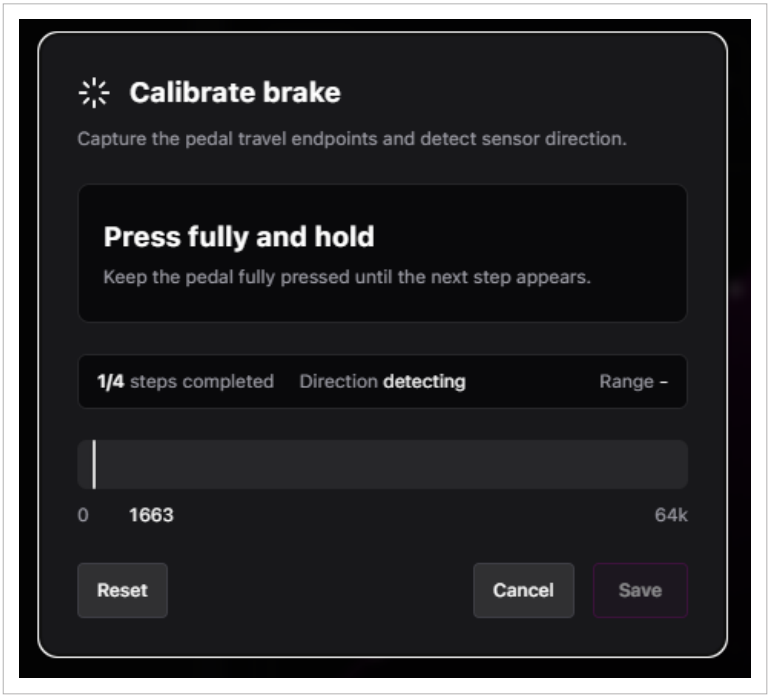


Calibration sets each pedal's full range of travel. Calibrate the pedals one at a time, on the **Input settings** tab. Click **Calibrate** in the pedal column to open the dialog.

> **IMPORTANT:** Before you click **Calibrate**, make sure the pedal is fully released and do not touch it. About a second after the dialog opens, PurrOS records the released position automatically — whatever position the pedal is in, so a slightly pressed pedal would be saved as released.

PurrOS then guides you through the remaining steps, advancing each time the reading settles:

- **Press fully and hold** — "Keep the pedal fully pressed until the next step appears."
- **Release again** — "Keep the pedal fully released until the next step appears."
- **Press fully again** — "Keep the pedal fully pressed until the next step appears."
- **Calibration capture complete** — "Review the captured range and save when ready."



The dialog is titled for the pedal (for example **Calibrate brake**), and the status line reports progress (for example "1/4 steps completed · Direction detecting · Range –"), with the live raw value on the bar below. If anything looks wrong, **Reset** restarts the capture. **Save** stays disabled until all steps are done and a valid range has been captured. Save keeps the new calibration in your PurrOS profile; it reaches the pedals when you click **Send to device** (see 7.6). The pedals store what you send: it survives power cycles, but a firmware update resets it (see 7.8). **Cancel** discards the capture.

> **IMPORTANT:** Because of the Active Heel Support and the weight of your leg, we recommend not **putting your heel on the heel rest** during calibration - press the pedal using only the pedal face.

Min, **Max** and **Raw.** Min and Max hold the captured raw sensor values and Raw shows the live reading, so you can check the pedal responds across its whole travel. You can set Min and Max with the arrows or type the values in directly.

Deadzones. Set **Bottom** and **Top** deadzones for each pedal, from 0 to 25%. A Bottom deadzone ignores the first part of the travel; a Top deadzone lets you reach 100% before the end of the travel.

Brake force in kilograms. Max force sets the pedal force at which the brake reaches 100% output, anywhere from 15 to 195 kg. The brake uses a 200 kg load cell with 195 kg max braking force — set Max force lower and you reach full braking at that figure instead. **Show brake force in kilograms** switches the live readout between kilograms and percent; it does not change the graph scale.

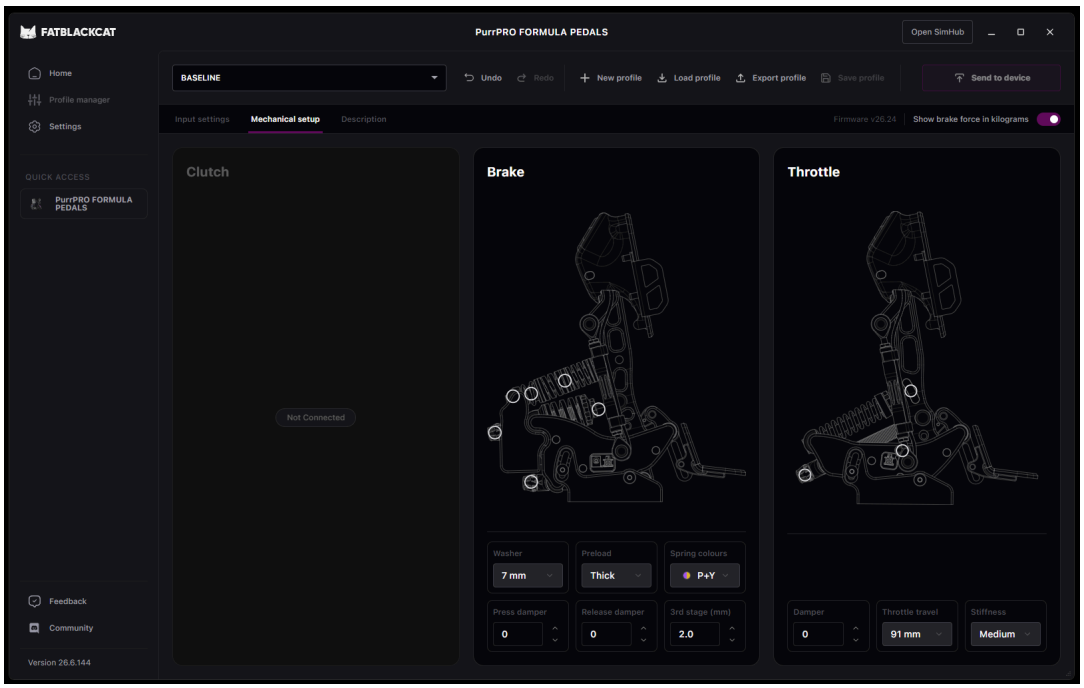
Calibration can also be done manually, by typing values into the **Min** and **Max** fields. The same applies to the deadzone fields.

7.4. PEDAL CHARACTERISTICS

Each pedal has its own response curve, on its **Input settings** card. The curve has 11 points. On the throttle and clutch, the two end points are fixed and the nine inner points are draggable; on the brake, the 100% end point can also be dragged along the Y axis. Drag the points to shape how input translates into output — a curve bent below the diagonal gives finer control at the start of the travel, above it gives a more aggressive initial response.

Favourites keeps up to five curves per pedal. Double-click a tile to apply its curve; the save icon overwrites the selected tile with the current curve, and the bin icon clears the selected tile. Favourites are shared across all of your profiles.

7.5. MECHANICAL SETUP



The **Mechanical setup** tab is where you record the physical configuration of your pedals. It is stored in the profile and is informational only — it is never sent to the pedals.

For the brake you log **Washer**, **Preload**, **Spring colours**, **Press damper**, **Release damper** and **3rd stage (mm)**. For the throttle you log **Damper**, **Throttle travel** and **Stiffness**. The numbered callouts on each drawing correspond to the fields below it.

Keep these fields matched to what you have fitted after any mechanical change. See sections 9 and 10 for the adjustments themselves.

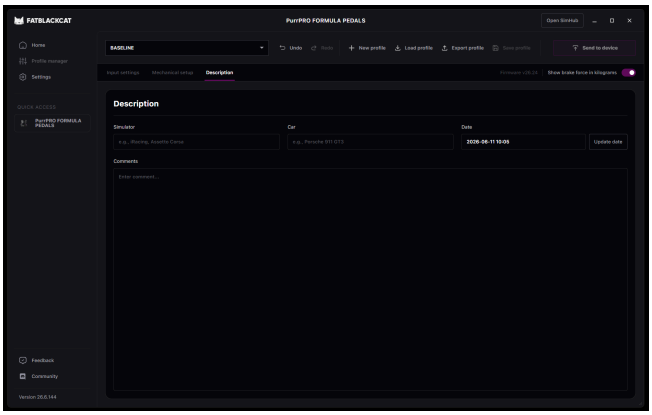
7.6. PROFILES

The profile bar runs across the top of the pedal settings page:

- **Profile selector** — switch between your saved profiles
- **Undo / Redo** — step back and forth through your changes
- **New profile**, **Load profile**, **Save profile**
- **Load device profile** — last entry in the profile selector; bring the settings currently on the pedals into PurrOS
- **Export profile** — save current profile settings to a file
- **Send to device** — write the current settings to the pedals

Save profile (Ctrl+S) overwrites the selected profile in your Documents\PurrOS folder. **Export profile** saves a copy to a **.fbc_profile** file anywhere you choose. It loads on any PC running PurrOS, but it carries the calibration of the unit it was saved from — calibration is restored correctly only on that same unit.

Load device profile reads the pedal settings only: calibration (range and direction), Bottom/Top deadzones and each pedal's curve — Max force follows from the brake calibration. Mechanical setup and Description keep the values of the profile that was open. If you have unsaved changes, PurrOS asks first (**Cancel**, **Discard** or **Save**). Nothing is written to disk: the result appears as "Device profile", so save it as a profile if you want to keep it. Your existing profile files are untouched; on the next start, select your profile again from the selector.



The **Description** tab labels a profile with the **Simulator** and **Car** it was built for, a **Date** (auto-filled and editable), and free-text **Comments** — useful once you keep a profile per car or per track.

> **IMPORTANT:** Changes to calibration, deadzones, curves and Max force reach the pedals when you click **Send to device**. A few actions send straight away: the deadzone keyboard shortcuts, **Save** in the full-screen calibration window (opened with its keyboard shortcut), and **Save** in the unsaved-changes prompt. A greyed-out **Send to device** button means the pedals already have exactly what's on screen. **PurrForce control** settings are the exception: they are saved in the profile, apply as you change them, and are never sent to the pedals (see section 11).

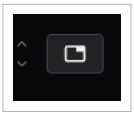
> **PurrPRO FORMULA PEDALS keep your calibration and settings in their own memory once you send them with Send to device or apply a calibration, so they are processed on the pedals themselves, for the fastest possible response and precision, and stay with the pedals on any PC. A firmware update resets them (see 7.8). PurrOS does not need to be open for normal operation of the pedals; only PurrForce haptics need it running.**

In games you should usually only do the initial calibration of the pedals (as in iRacing); all settings and characteristics can then be changed in PurrOS.

7.7. IN-GAME OVERLAY



The PurrOS overlay puts the essentials on screen while you drive, so you can adjust without leaving the car. Open it with **Open real-time overlay window** on any pedal's Input card (optional global keyboard shortcuts are available but off by default). The overlay stays on top of the game and is not click-through.



The Open real-time overlay window button, on each pedal's Input card.

It carries the Clutch, Brake and Throttle tabs, your Favourites curves, the response graph and the deadzone fields. The full view shows live traces and the graph; the mini view shows compact bars.

A calibration you apply in the full-screen calibration window is sent to the pedals at once, and so are the deadzone keyboard shortcuts. Changes to curves, Favourites and deadzones made with the mouse in the overlay stay in your PurrOS profile until you click **Send to device** on the pedal settings page.

Live output draws your pedal input in real time. **Record** saves it as a CSV file in your Documents\PurrOS\telemetry folder — timestamp, elapsed time, and the raw and scaled value for each pedal, at 250 samples per second by default — so you can review your inputs as telemetry.

7.8. FIRMWARE UPDATES

PurrOS keeps your pedals up to date over the air. When a new firmware version is available, a **Firmware update available** button appears on the set's tile on the Home screen; click it to start the update.

> **IMPORTANT:** Every firmware update resets calibration (including Max force), deadzones, response curves and axis inversion to factory defaults — this is by design. The reset happens as soon as the pedals start receiving the new firmware, so an update that is interrupted or fails after that point resets them too. Your saved profile file is not touched.

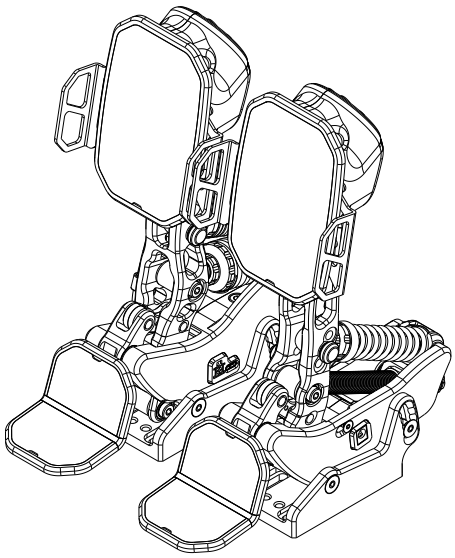
After an update. After the update, PurrOS tries to restore your calibration (including Max force), deadzones, response curves and axis inversion automatically (only for pedals that were already on firmware v26.25 or newer). It shows no message, so check your settings before you drive. If your pedals were updated from firmware older than v26.25, recalibrate them; do not send an older profile. Otherwise, if your settings are not back, choose your saved profile in the profile selector (the list headed **Saved Profiles**) and press **Send to device**, or recalibrate. A profile restores calibration correctly only on the same unit it was saved from.

> **IMPORTANT:** Keep the pedals **powered and connected** until the update dialog shows **Update complete** (if the update fails, its title reads **Update failed**). Do not disconnect or power off the device during the update. PurrOS shows "Please ensure your device remains connected and powered on during the update process", then "Device is rebooting...", then "Update complete".

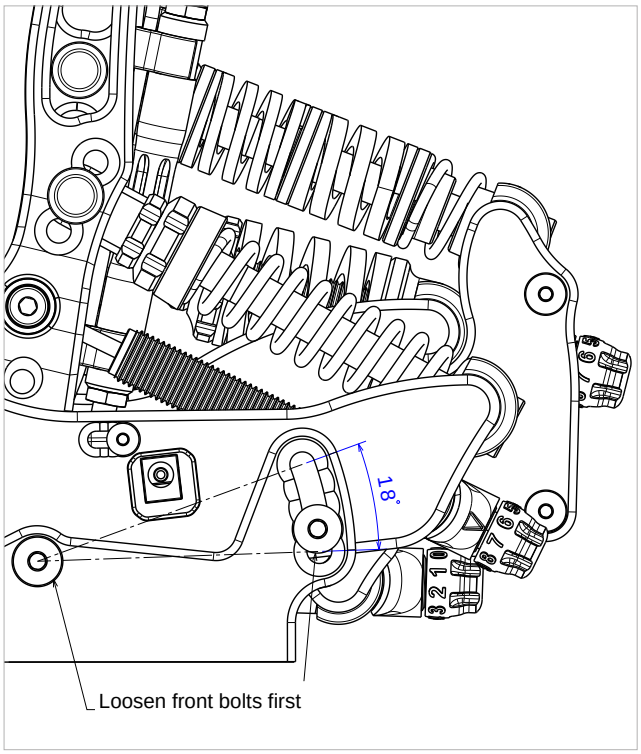
If an update is interrupted. PurrOS shows **Update didn't complete**: "Your pedals are safe — the last firmware update didn't finish. Click Resume firmware update to complete it." Click **Resume firmware update**. If it says "This unit needs to be updated on its own — disconnect any other FATBLACKCAT pedals first", unplug your other sets and resume. **Resume firmware update** stays greyed out until the other pedals are disconnected. If it shows **Product not confirmed**, click **Get help** to contact support. If the **Firmware update available** button doesn't come back, contact us.

8. GENERAL PEDALS ADJUSTMENT

PurrPRO FORMULA PEDALS offer a wide range of adjustment inspired by solutions offered for the race car pedals at the highest level of motorsport. We designed our pedals so they would feel almost like made to measure for your precision of inputs and comfort. By this approach you will focus on gaining performance on track, not trying to adjust yourself to the pedals!



8.1. PEDAL BASE ANGLE

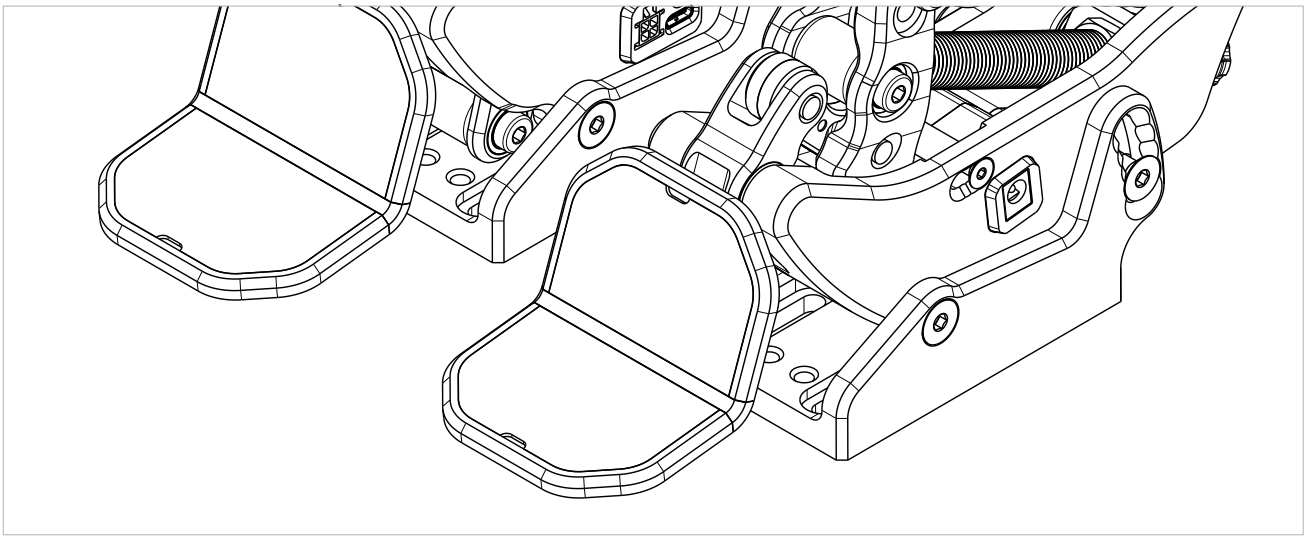


The PurrPRO FORMULA PEDALS mounted on the simrig offer the ability to adjust the whole pedal angle within an 18-degree range. It's important to choose the correct pedal base angle for your driving position as it ensures that your foot will have as much surface area touching the N.T.P.F and A.H.S plates for comfort of driving and operating the pedals. To adjust the pedal angle you will need to loosen the front two bolts to allow a degree of freedom for axis of rotation and loosen the rear two bolts to make adjustment possible. You will notice indents that will help you choose your angle position which provide a level of additional support after tightening bolts back again.

> Recommended M6 bolts torque is 10 Nm. After securely tightening all bolts, pedals are ready for operation.

8.2. ACTIVE HEEL SUPPORT HEIGHT

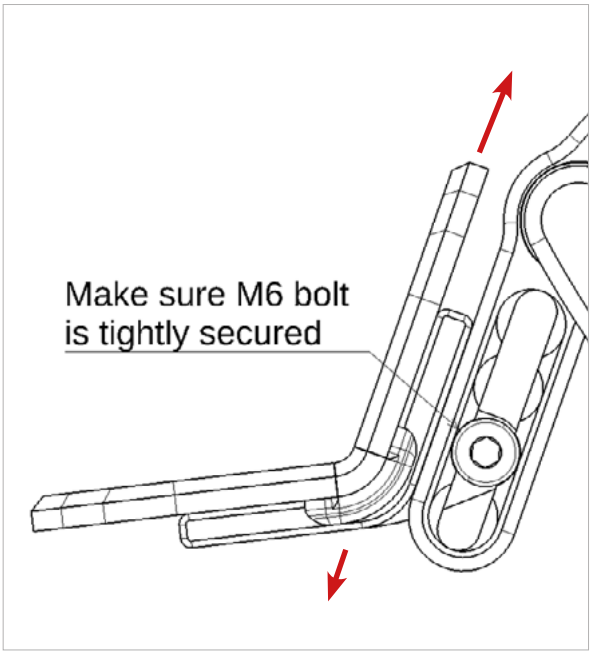
PurrPRO FORMULA PEDALS offer innovative pedal kinematics with ACTIVE HEEL SUPPORT and NON TILT PEDAL FACE features.



ACTIVE HEEL SUPPORT (A.H.S) is a feature found only on PurrPRO FORMULA PEDALS. A solution inspired by design found only at the highest level of motorsport is an active support for your leg and ankle during pedal operation.

A.H.S will increase your input precision and comfort of driving even during long racing sessions - you can adjust the height of the A.H.S by undoing one M6 bolt and moving the whole assembly higher or lower depending on your preference. You don't need to take the M6 bolt out completely - just loosen it so you can slide the A.H.S up and down.

Be aware that M6 bolts holding A.H.S assembly have light threadlock applied - we recommend Loctite 222.



You will notice indents with 10 mm steps in the internal face of the A.H.S assembly base part - this is where you should lock your position of choice. After adjusting the height remember to tighten the M6 bolt.

Foot size vs A.H.S height position

- < EU size 39 - A.H.S 1 (highest position)
- EU size 39–43 - A.H.S 2
- EU size 44-46 - A.H.S 3
- EU size 47+ - A.H.S 4 (lowest position)

Recommended M6 bolts torque is 10 Nm. After securely tightening all bolts, pedals are ready for operation.

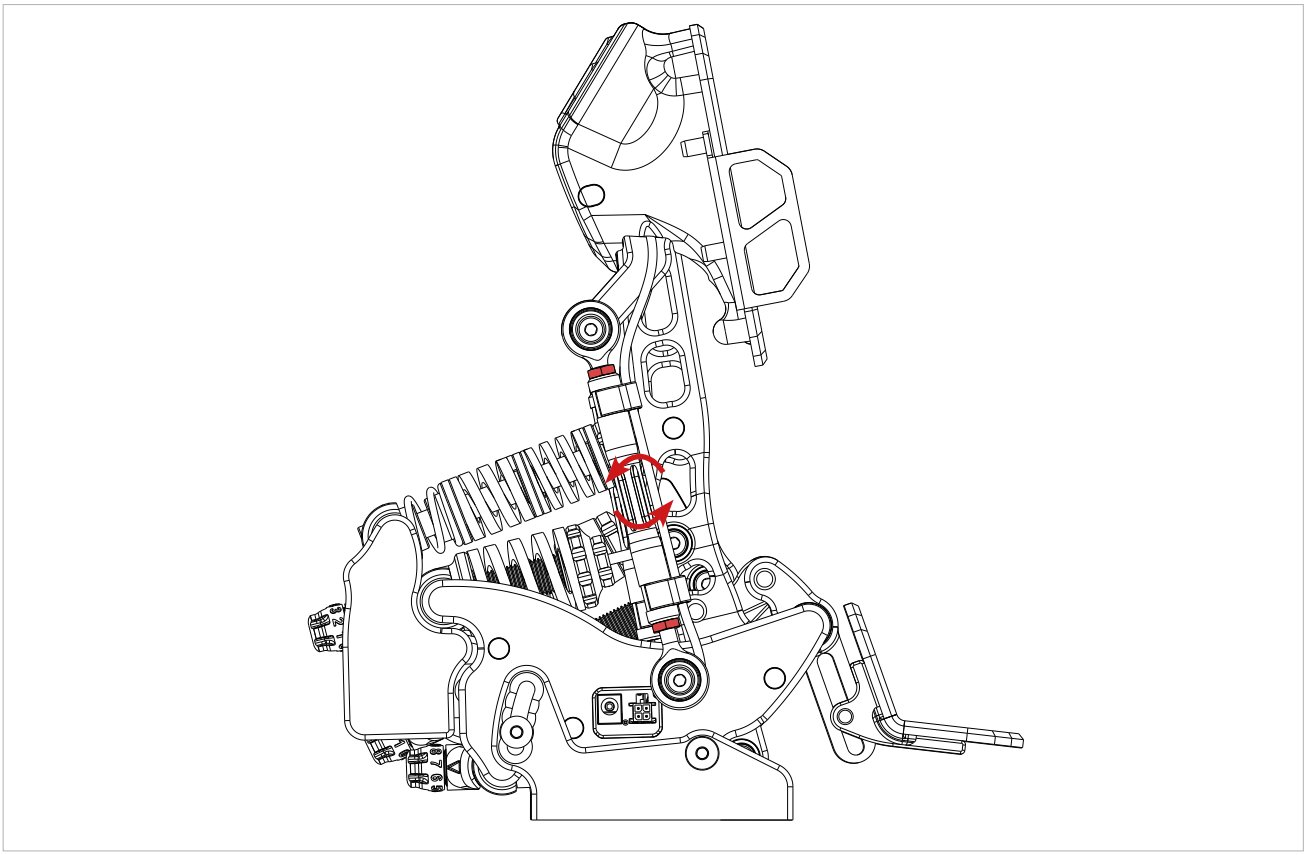
8.3. PEDAL FACE ANGLE

PurrPRO FORMULA PEDALS offer innovative pedal kinematics with ACTIVE HEEL SUPPORT and NON TILT PEDAL FACE features.

NON TILT PEDAL FACE (N.T.P.F) is a feature found only on PurrPRO FORMULA PEDALS. A solution inspired by design found only at the highest level of motorsport is a pedal face feature that keeps a constant angle in relation to your driving position.

When setting up N.T.P.F you should look for the most comfortable geometry for your foot during the whole operation range of the pedal. In the resting position it could be that your contact surface area will not be the biggest - you should seek the optimal angle for the top 70–100% of the pedal travel to be your optimal angle for biomechanics of your foot.

N.T.P.F is set up from the factory at the optimum reference angle, but you can change its angle by adjusting ERGO-LINK length, by loosening two counter nuts at both ends of the ERGO-LINK and rotating it clockwise or anticlockwise to change its length. Be careful with the cable for the PurrForce haptics - you can detach it by sliding it off the ERGO-LINK and moving it to the side for the time of the adjustments.



IMPORTANT: If the ERGO-LINK length changes too much, it may happen that at the maximum travel of the pedal you will cause a clash with the pedal arm. Be cautious with your adjustments!

IMPORTANT: ERGO-LINK counter nuts at the top and bottom of it should always be tightly secured. Otherwise there is a risk that the rod end could be damaged if the counter nut clashes with parts behind it.

9. THROTTLE

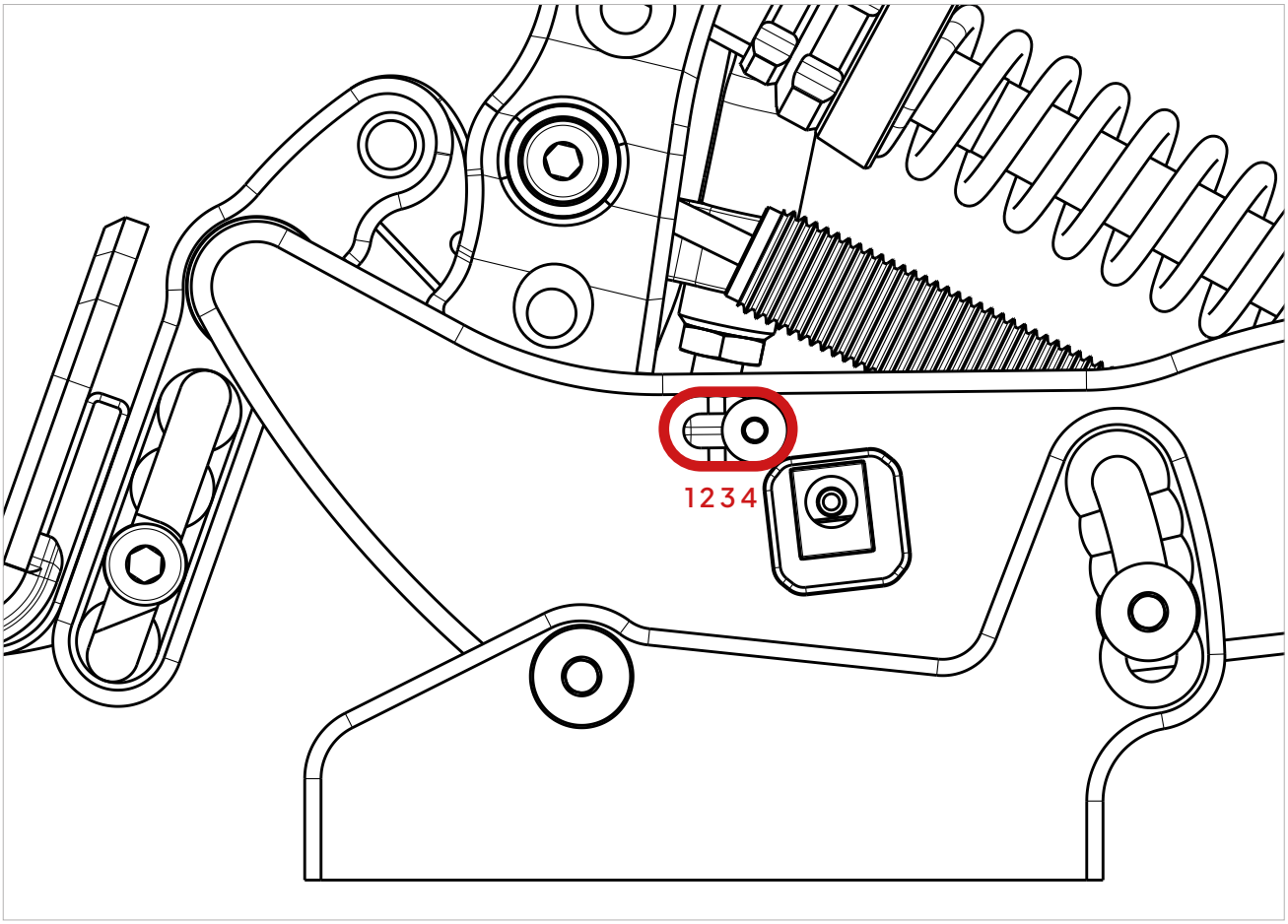
PurrPRO THROTTLE offers a range of adjustments for pedal travel, stiffness and hydraulic damping, giving you the best control over your throttle inputs in any situation.

9.1. THROTTLE TRAVEL

You can adjust throttle pedal travel by moving the adjustment slider in the base of the pedal. Loosen the bolt on the side of the pedal base and move the slider to the desired position. Do not unbolt it completely.

There are 4 positions for travel limit:

1. **35 mm** of pedal travel (measured at the top edge of pedal face)
2. **54 mm**
3. **73 mm**
4. **91 mm**

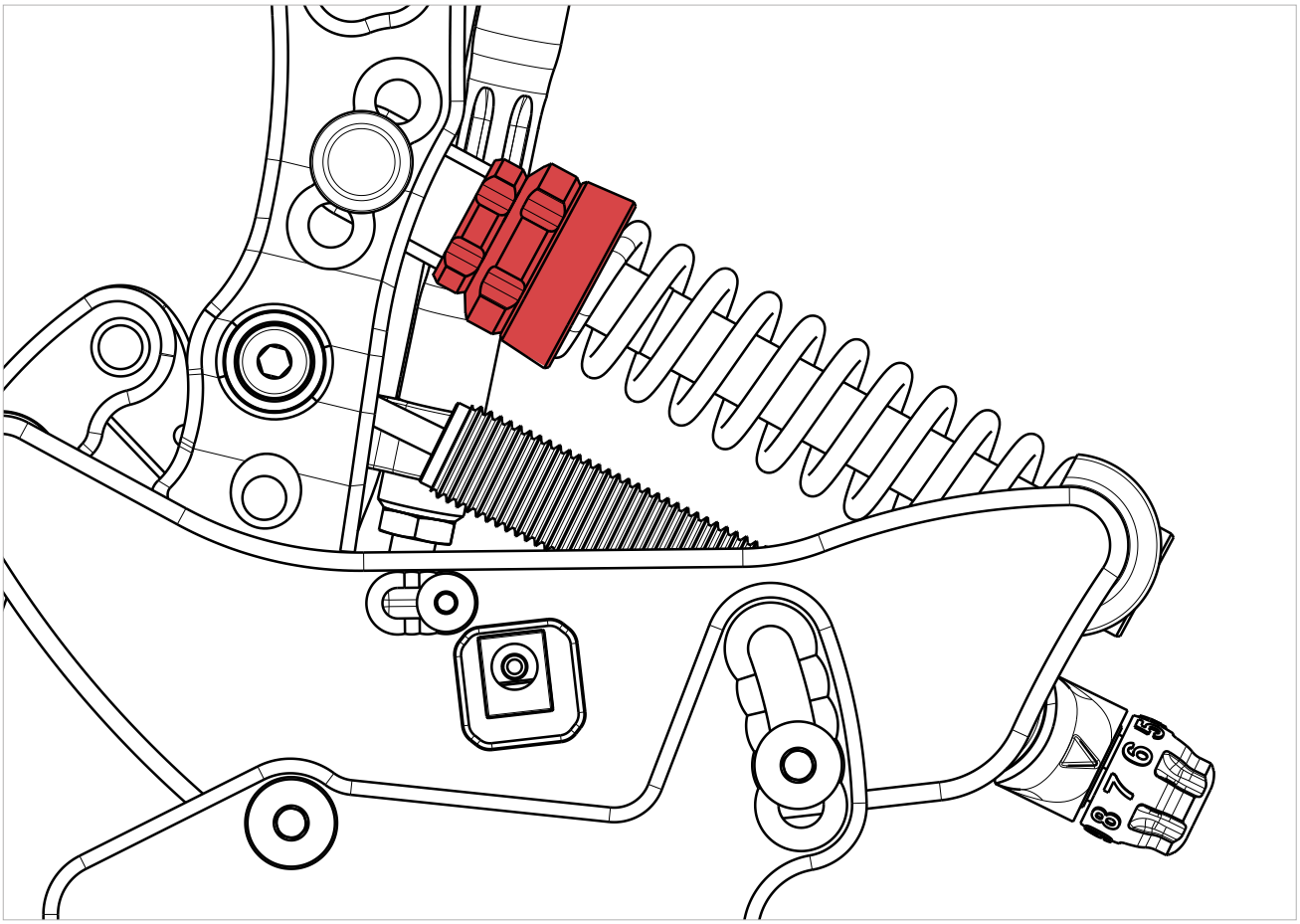


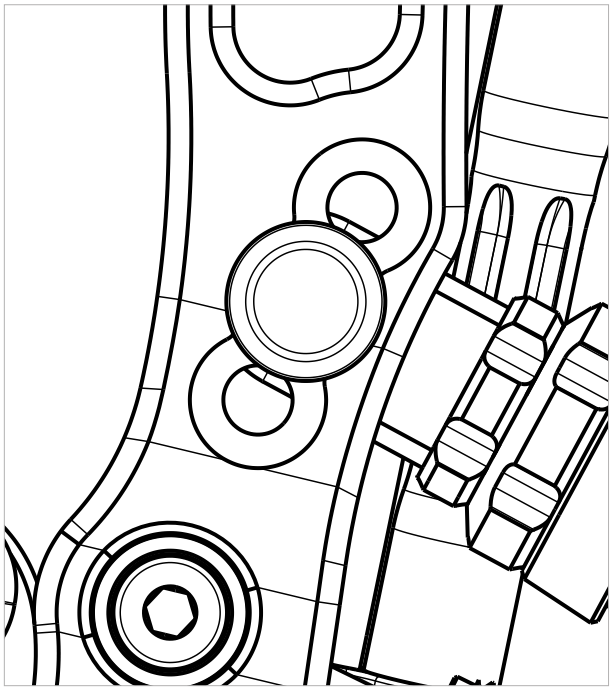
Tighten the M4 bolt so it doesn't slide when the pedal is pressed.

> Recommended M4 bolts torque is 3 Nm. After securely tightening all bolts, pedals are ready for operation.

9.2. THROTTLE PRELOAD AND STIFFNESS

You can adjust throttle preload by loosening the counter nut on the preload nut at the throttle spring assembly and then rotating the preload nut to add compression to the throttle spring. After doing so, tighten the counter nut to the preload nut.



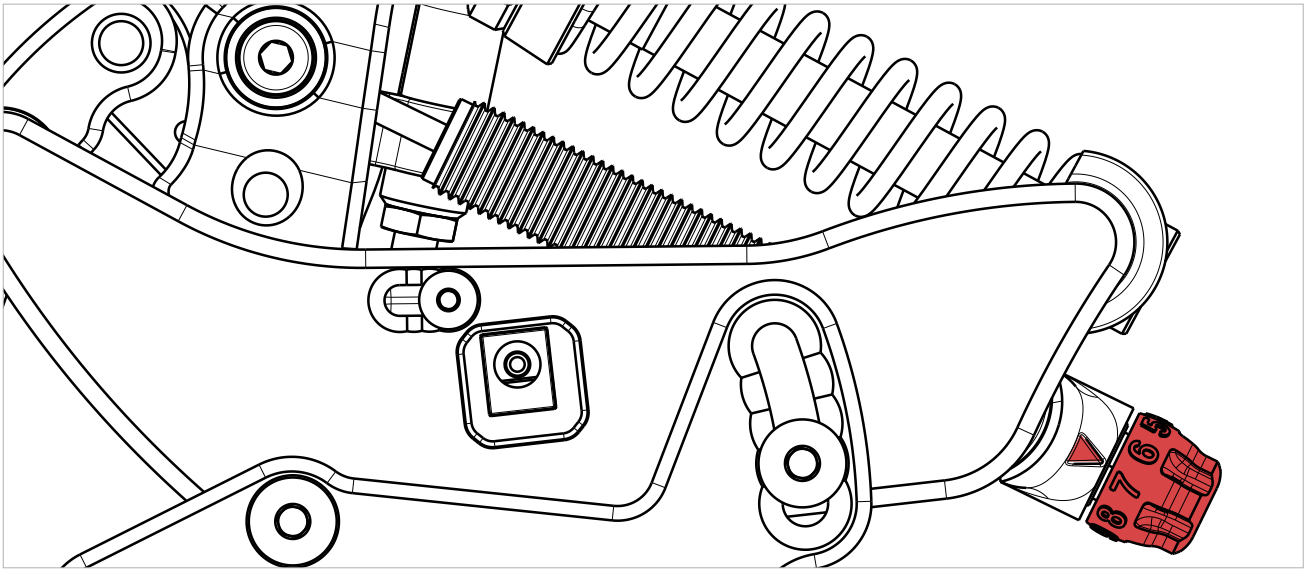


You can adjust stiffness of the throttle pedal by choosing one of three positions on the throttle pedal arm. The top hole is the stiffest setting with the steepest force gradient. The bottom hole is the softest setting with the flattest force gradient. Loosen the preload nut to remove spring compression. Take the Magnetic Quick Pin out of the socket and move it to a different position. Pay attention to the throttle spring assembly rod end bearing so it won't fall out of the pocket.

When you choose one of three positions, simply put a Magnetic Quick Pin into the hole and adjust spring preload to your preference.

9.3. THROTTLE HYDRAULIC DAMPING

You can adjust the throttle hydraulic damper. At the back of the pedal you will find an adjustment knob with 0–9 positions. Simply adjust the damping level by rotating the knob to your desired position. For throttle we recommend starting with position 4 and adjusting lower or higher to your preference. The adjustment knob can be rotated continuously and it will always have a damping level which is indicated by knob position.

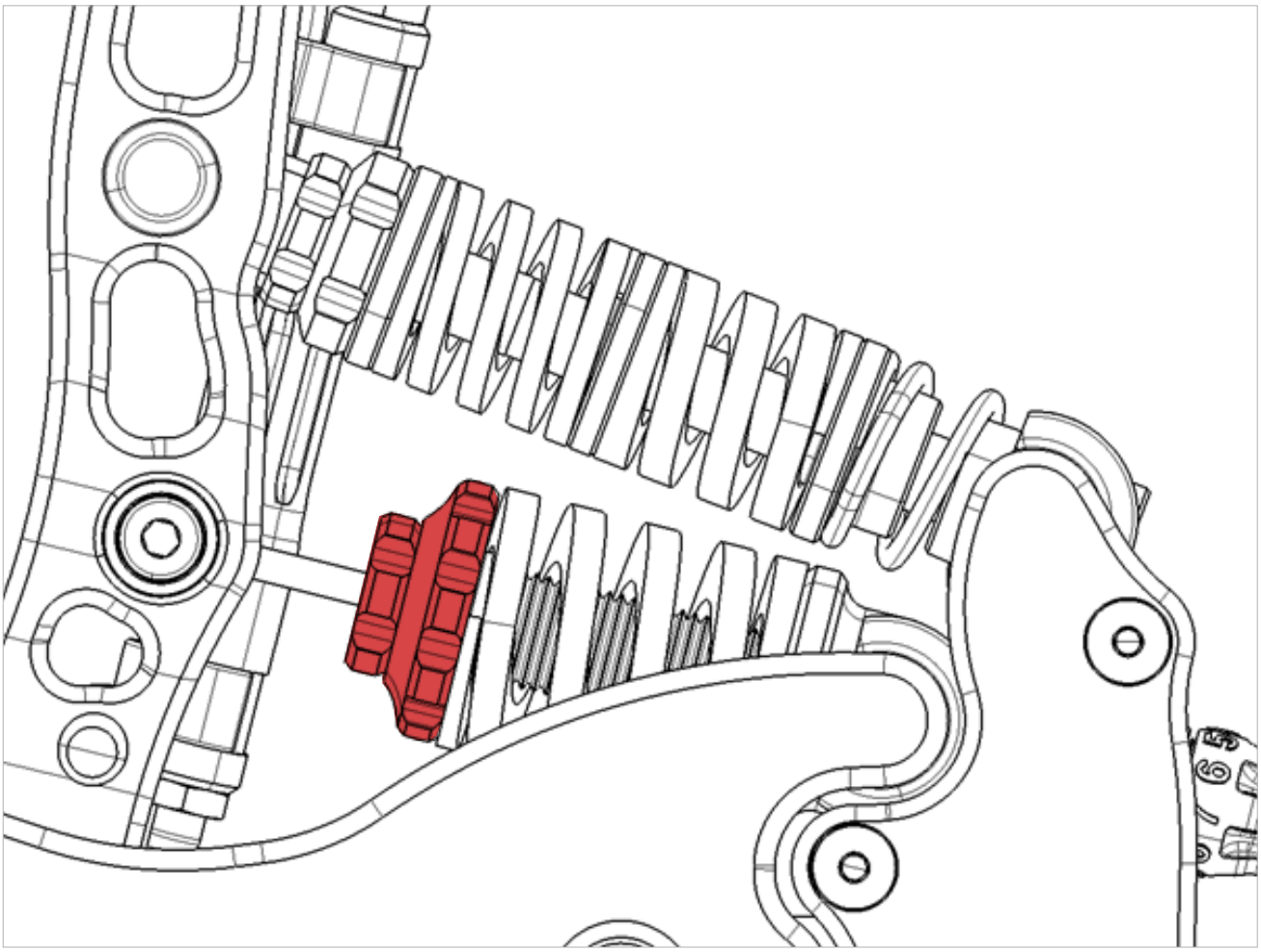


10. BRAKE

PurrPRO BRAKE offers a wide range of adjustments for pedal travel, stiffness, two-stage hydraulic damping and optional 3rd stage braking giving you the best control over your braking pressure and pedal release. You can achieve 195 kg of max brake pedal force at the pedal face and make the pedal feel like in your road car or like in old-school racing cars.

10.1. BRAKE STIFFNESS AND TRAVEL

Brake pedal stiffness and travel are a combination of nominal brake spring assembly setup and 3rd stage damper-spring combo setup. You can choose to activate the 3rd stage, but you don't have to if you don't need it. We recommend using the 3rd stage especially in combination with softer brake spring assembly setups.



10.1.1 BRAKE SPRING ASSEMBLY

You can adjust brake preload in a similar way as on the throttle pedal. Instead of only one spring like on PurrPRO THROTTLE, on the brake pedal you have a combination of 3 springs. Two main modulation springs and one light preload spring. In the box you will find a whole set of springs and washers with different colours and stiffnesses. From stiffest to softest:

Yellow die spring 25 mm

Red die spring 25 mm

Blue die spring 25 mm

Green die spring 25 mm

Purple die spring 25 mm

Thick preload compression spring

Thin preload compression spring

Additionally, you will find washers to pair the springs together. Brake preload springs have extra exchangeable washers with 7, 10 or 13 mm heights to adjust the amount of travel for the last stage of brake pedal release. The shortest and tallest preload washers differ by 24 mm of pedal travel for the preload spring. Pedals from the factory are set up with a 10 mm height preload washer which has a maximum of 20 mm of pedal travel on the preload spring.

> **IMPORTANT**: Please pay attention to the plastic washers that are stacked between the springs; they are not universal and should be stacked in a way that they will support the internal diameter of the springs.

Possible brake spring assembly combinations:

YELLOW - RED - THICK PRELOAD - 10 MM WASHER

YELLOW - BLUE - THICK PRELOAD - 10 MM WASHER

YELLOW - GREEN - THICK PRELOAD - 10 MM WASHER

YELLOW - PURPLE - THICK PRELOAD - 10 MM WASHER

YELLOW - RED - THIN PRELOAD - 10 MM WASHER

YELLOW - BLUE - THIN PRELOAD - 10 MM WASHER

YELLOW - GREEN - THIN PRELOAD - 10 MM WASHER

YELLOW - PURPLE - THIN PRELOAD - 10 MM WASHER

YELLOW - RED - THICK PRELOAD - 13 MM WASHER

YELLOW - BLUE - THICK PRELOAD - 13 MM WASHER

YELLOW - GREEN - THICK PRELOAD - 13 MM WASHER

YELLOW - PURPLE - THICK PRELOAD - 13 MM WASHER

YELLOW - RED - THIN PRELOAD - 13 MM WASHER

YELLOW - BLUE - THIN PRELOAD - 13 MM WASHER

YELLOW - GREEN - THIN PRELOAD - 13 MM WASHER

YELLOW - PURPLE - THIN PRELOAD - 13 MM WASHER

YELLOW - RED - THICK PRELOAD - 7 MM WASHER

YELLOW - BLUE - THICK PRELOAD - 7 MM WASHER

YELLOW - GREEN - THICK PRELOAD - 7 MM WASHER

YELLOW - PURPLE - THICK PRELOAD - 7 MM WASHER

YELLOW - RED - THIN PRELOAD - 7 MM WASHER

YELLOW - BLUE - THIN PRELOAD - 7 MM WASHER

YELLOW - GREEN - THIN PRELOAD - 7 MM WASHER

YELLOW - PURPLE - THIN PRELOAD - 7 MM WASHER

RED - BLUE - THICK PRELOAD - 10 MM WASHER

RED - GREEN - THICK PRELOAD - 10 MM WASHER

RED - PURPLE - THICK PRELOAD - 10 MM WASHER

RED - BLUE - THIN PRELOAD - 10 MM WASHER

RED - GREEN - THIN PRELOAD - 10 MM WASHER

RED - PURPLE - THIN PRELOAD - 10 MM WASHER

RED - BLUE - THICK PRELOAD - 13 MM WASHER

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RED - GREEN - THIN PRELOAD - 7 MM WASHER

RED - PURPLE - THIN PRELOAD - 7 MM WASHER

BLUE - GREEN - THICK PRELOAD - 10 MM WASHER

BLUE - PURPLE - THICK PRELOAD - 10 MM WASHER

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BLUE - PURPLE - THIN PRELOAD - 7 MM WASHER

GREEN - PURPLE - THICK PRELOAD - 10 MM WASHER

GREEN - PURPLE - THIN PRELOAD - 10 MM WASHER

GREEN - PURPLE - THICK PRELOAD - 13 MM WASHER

GREEN - PURPLE - THIN PRELOAD - 13 MM WASHER

GREEN - PURPLE - THICK PRELOAD - 7 MM WASHER

GREEN - PURPLE - THIN PRELOAD - 7 MM WASHER

Recommended combinations for car class:

2000s F1: YELLOW - RED - THICK PRELOAD - 13 MM WASHER

Hybrid F1: RED - BLUE - THICK PRELOAD - 10 MM WASHER

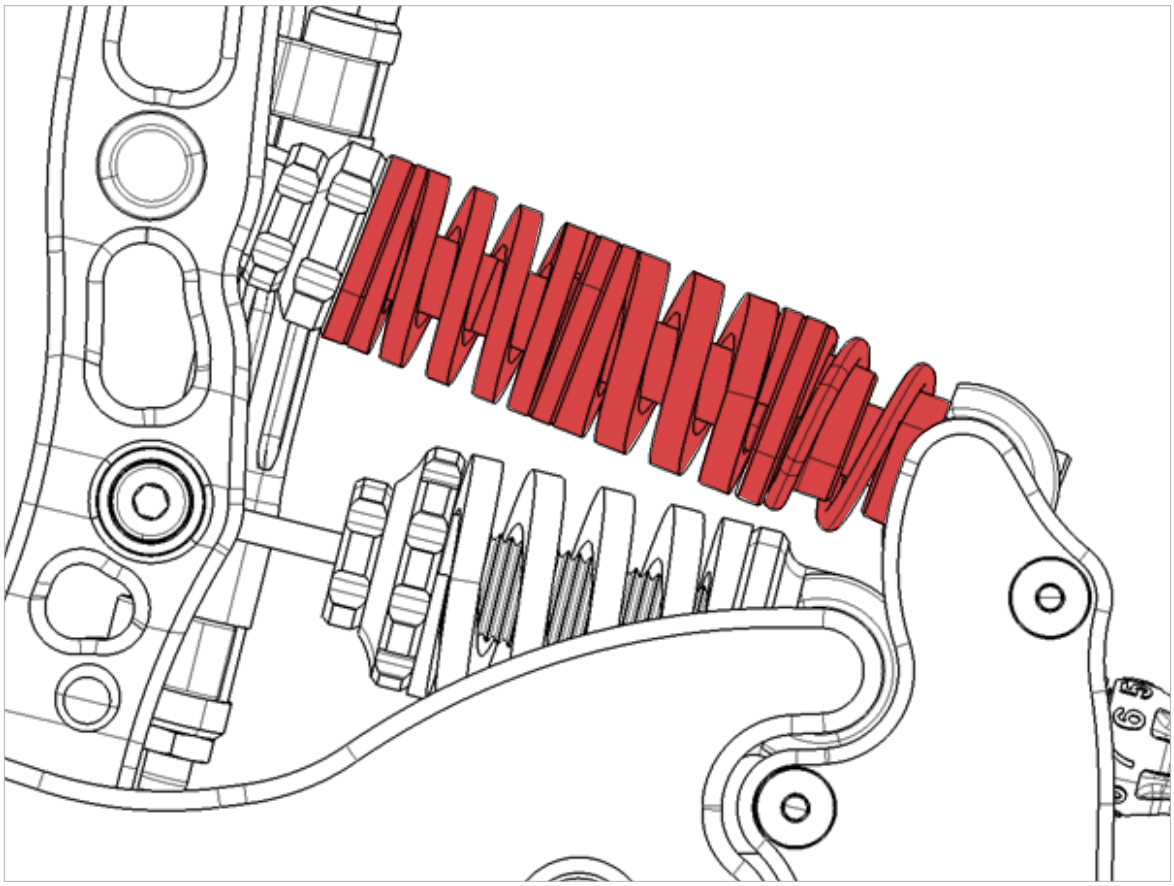
Prototype: YELLOW - BLUE - THICK PRELOAD - 10 MM WASHER

GT3: RED - BLUE - THICK PRELOAD - 10 MM WASHER

Modern road car: BLUE - GREEN - THIN PRELOAD - 10 MM WASHER

Vintage road car: GREEN - PURPLE - THIN PRELOAD - 7 MM WASHER

DAN SUZUKI: BLUE – GREEN – THICK PRELOAD – 10 MM WASHER

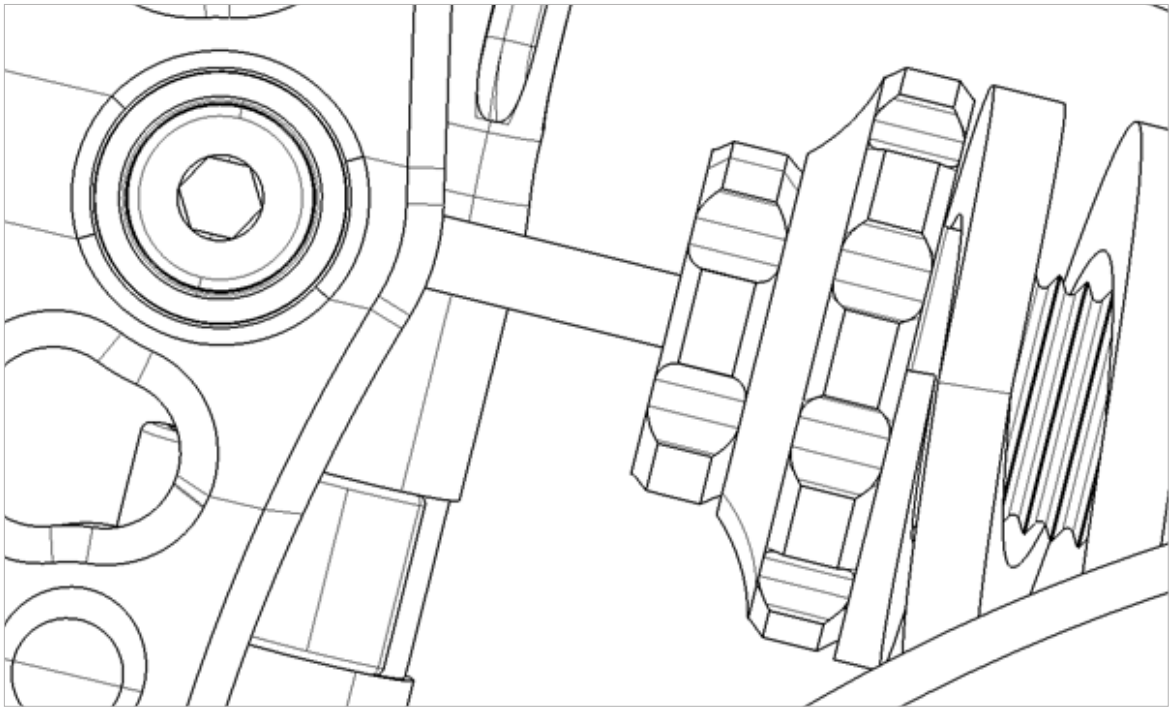


10.1.2 3RD STAGE DAMPER-SPRING COMBO

PurrPRO BRAKE offers an innovative approach to the maximum braking pressure phase during racing. We designed a 3rd stage damper-spring combo which helps to add modulation feeling at the very top of the braking pressure.

For example, you can set up your PurrPRO BRAKE pedal in a way that the 3rd stage will activate around 85-90% of your maximum braking pressure calibrated in the game - this will make it easier for you to modulate and find grip in the tyres at this crucial moment.

In the box you will find two big die springs - yellow, mounted from the factory on the PurrPRO BRAKE pedal and a blue one, which is optional to combine with softer brake spring assembly setups.



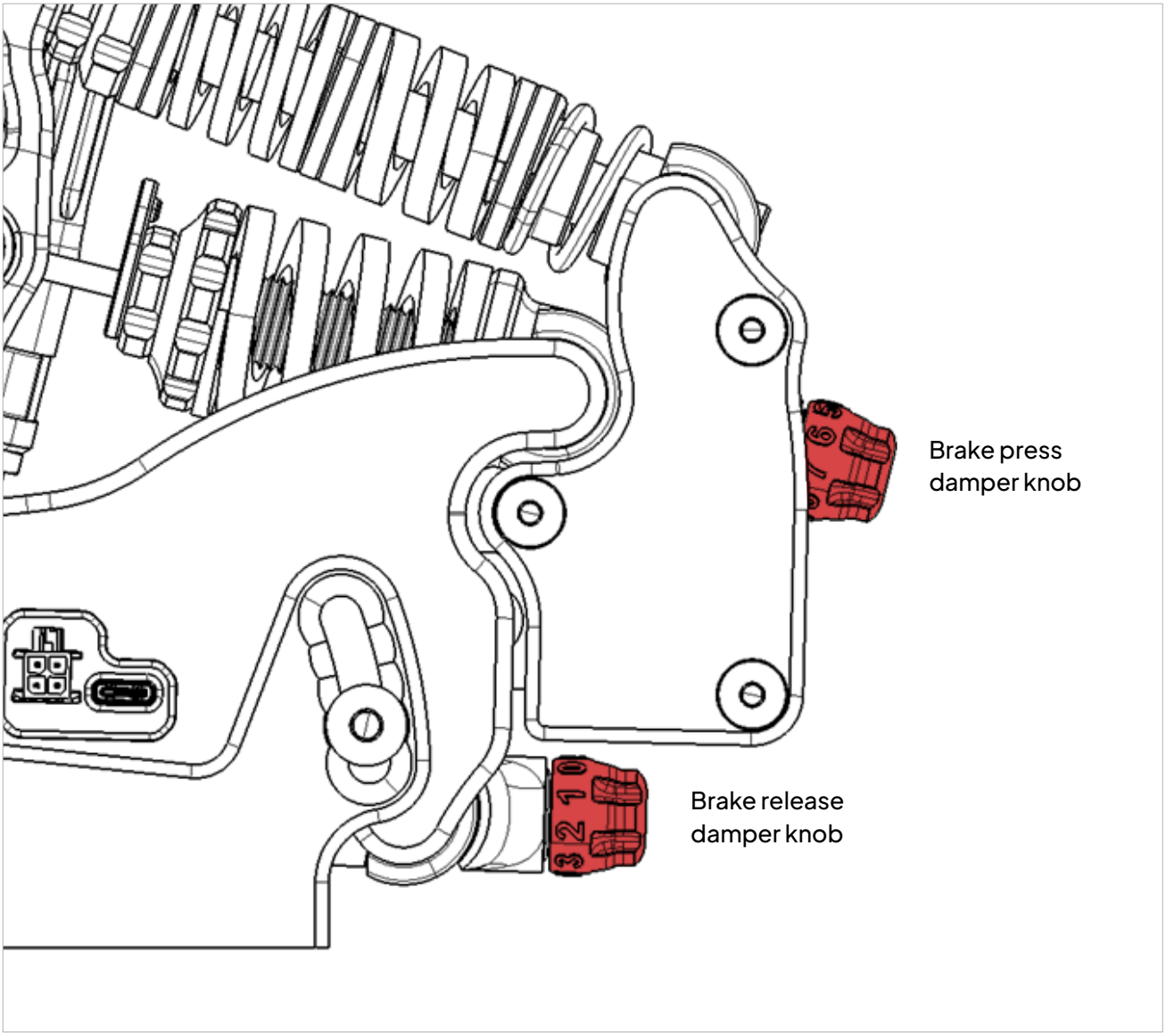
You adjust when the 3rd stage will be activated with the 3rd stage nut. First loosen the counter nut and then rotate 3rd stage nut to move hydraulic damper to desired position. **Distance between the hydraulic damper cylinder and bearing on the brake pedal arm will define the point of activation for the 3rd stage.** Every 2,32 mm between hydraulic damper and bearing on the brake pedal arm equals 10 mm of pedal travel at the top edge of the pedal face. After setting up the 3rd stage position, remember to tighten the counter nut for the 3rd stage nut.

> Minimum distance between the hydraulic damper and brake pedal arm bearing is 2,2 mm, which means the 3rd stage won't activate before 10 mm of brake pedal travel.

Depending on the 3rd stage damper-spring combo position and brake spring assembly setup - 3rd stage can also be your hard stop indicator for desired pedal travel.

10.2. BRAKE HYDRAULIC TWO-STAGE DAMPING

PurrPRO BRAKE is the only brake pedal on the market with two-stage hydraulic damping for pressing and releasing the pedal. In the 3rd stage damper-spring combo you will find a hydraulic damper with an adjustment knob at the back of the pedal - this hydraulic damper is responsible for adjusting the level of damping when you are pressing the brake pedal. We recommend that you don't be afraid to use higher settings for the hydraulic damping effect on our pedals.



Under PurrPRO BRAKE you will find a second hydraulic damper with an adjustment knob at the back of the pedal - this hydraulic damper is responsible for adjusting the level of damping when the brake pedal is released during the trailbraking phase of cornering. At the back of the pedal you will find adjustment knobs with 0–9 positions. Simply adjust the damping level by rotating the knob to your desired position. We recommend trying higher settings for the hydraulic damping effect to help smooth out your trailbraking. Factory default setting for both dampers is 4.

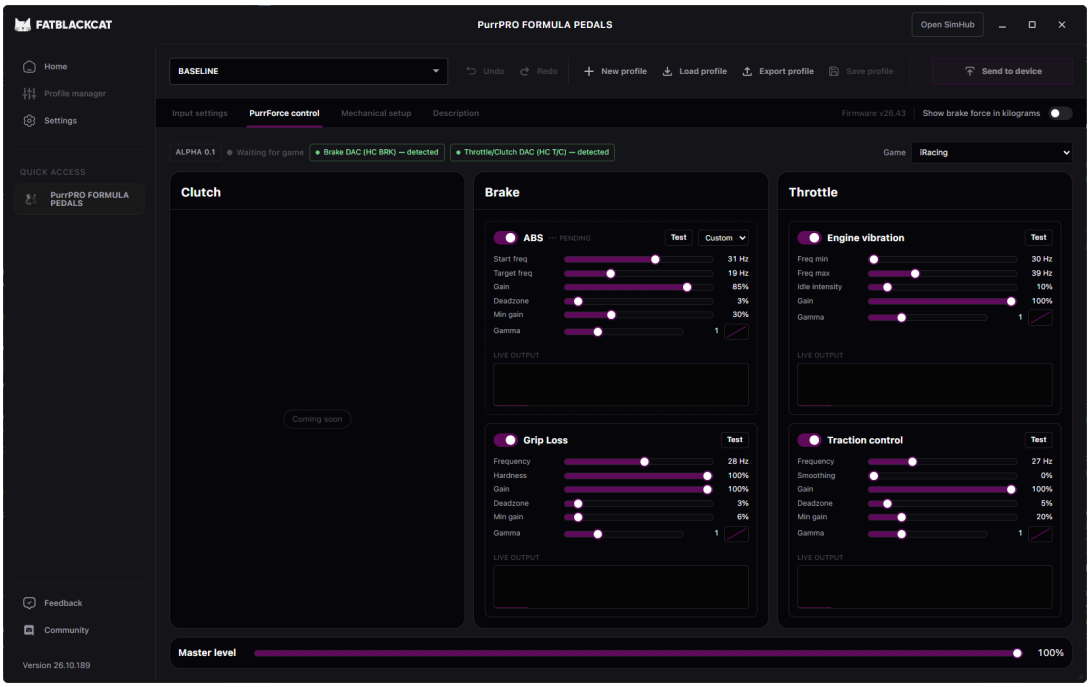
11. PurrForce HAPTICS

PurrPRO FORMULA PEDALS are designed with an integrated haptics system in mind. PurrForce will enhance your immersion and will guide you in your efforts to find lap time on track! Each pedal has its own PurrForce Shaker. You can run it from PurrOS, in iRacing (section 11.1), or from SimHub (section 11.3). Use one or the other at a time.

11.1. PurrForce CONTROL IN PurrOS

PurrOS can run the PurrForce effects for you, with no extra software. It works with iRacing today; more simulators are planned. You need a Windows PC with PurrOS 26.10.189 or later, and PurrOS has to be running while you drive. The effects play through the two PurrForce audio devices built into the pedals. You do not need to keep the tab open.

Open it. Click the pedal set's tile on the Home screen (or its Quick access shortcut) to open the pedal settings page, then open the **PurrForce control** tab. The tab becomes available once a profile has been loaded or created.



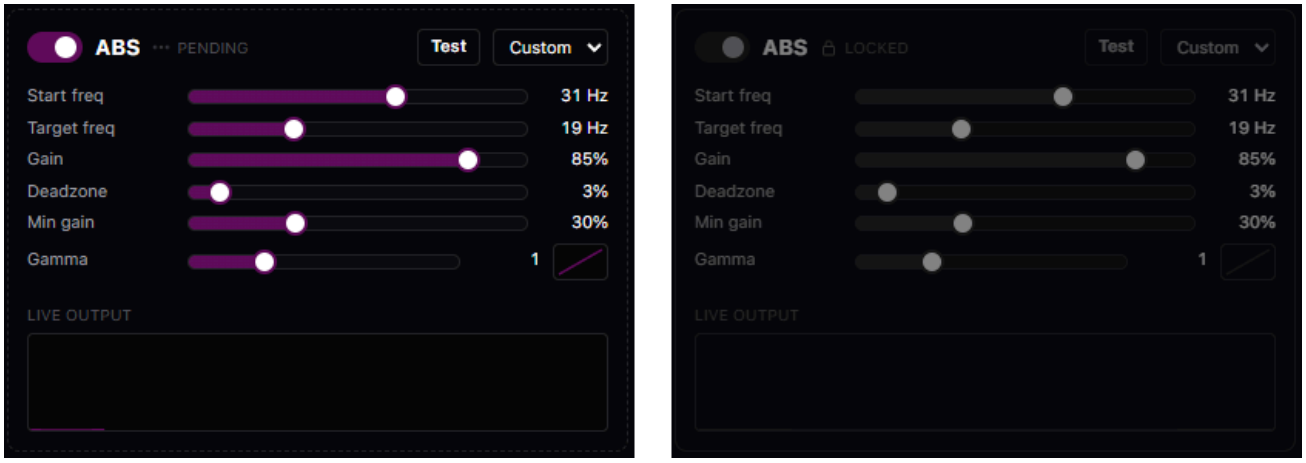
Status bar. Game connected or **Waiting for game** shows whether PurrOS is connected to the game chosen in the **Game** menu. **Brake DAC (HC BRK)** and **Throttle/Clutch DAC (HC T/C)** read **detected** once the matching PurrForce device is found. The **Alpha 0.1** badge means PurrForce control is an early release: effects and settings may change in later versions of PurrOS.

Effects. The Brake column has **ABS** and **Grip Loss**; the Throttle column has **Engine vibration** and **Traction control**; the Clutch column shows **Coming soon**. Every effect has an on/off switch, a **Test** button that plays about one second of the effect at its current settings (no game needed), sliders, and a **Live output** graph. **Master level**, at the bottom, sets the overall strength of all effects from 0 to 100%.

The sliders of each effect:

- **ABS** — choose a preset from the menu, then fine-tune **Start freq** and **Target freq** (8–45 Hz): the pitch when ABS kicks in and the pitch it settles to. The menu reads **Custom** once you change a value by hand.
- **Grip Loss** — **Frequency** (8–45 Hz) is the pitch; **Hardness** runs from smooth to harder.
- **Engine vibration** — **Freq min** and **Freq max** (30–60 Hz) are the pitch at idle and at the redline; **Idle intensity** is the strength at idle.
- **Traction control** — **Frequency** (20–45 Hz) is the pitch; **Smoothing** runs from sharper to smoother.

Gain is the overall strength of an effect. **Deadzone** keeps it silent until the input passes that point, and **Min gain** is the strength it starts at from there. **Gamma** shapes how the strength builds: 1 is even, higher values build later.



ABS while Pending (left) and while Locked (right).

ABS and Grip Loss. PurrOS switches between the two effects for you, following the car's ABS. You feel no ABS vibration until the car's ABS has engaged: before that, ABS shows **Pending** and stays adjustable, or **Locked** on a car without ABS. Once the ABS has engaged, Grip Loss is marked **Locked** and is reduced, not switched off. While Traction control is active, Engine vibration is muted. Grip Loss gives feedback when the front axle loses grip under braking.

> **IMPORTANT:** PurrForce control settings are saved in your profile with everything else and apply as you move a slider. They are never sent to the pedals, so there is no **Send to device** step for haptics. Click **Save profile** to keep your changes.

11.2. TROUBLESHOOTING

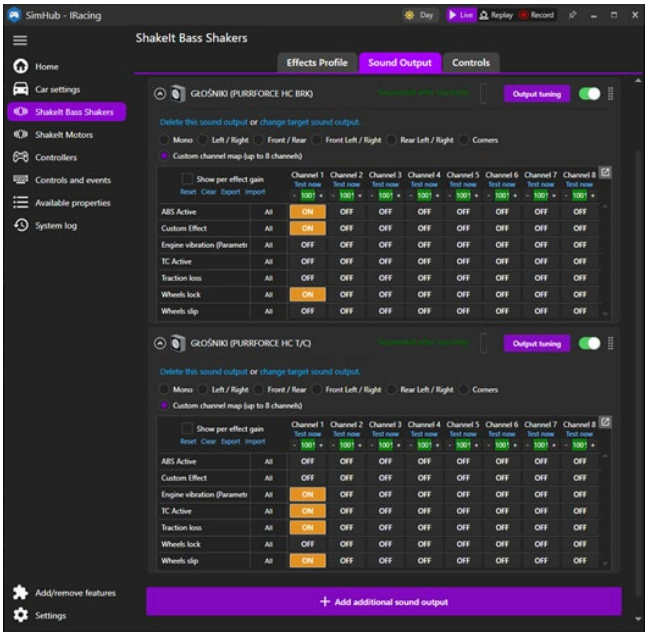
- **A PurrForce device reads not detected.** Check that both devices are connected to your PC and that each pedal has its own power supply (section 6). In Windows Sound settings, under Output, they must appear as **PurrForce HC BRK** and **PurrForce HC T/C**. Do not rename them. After you reconnect a device, restart PurrOS.
- **No vibration in the game.** Press **Test** first: it works without a game, so if you feel it, the PurrForce hardware is working. Then check that **Game** is set to iRacing and iRacing is running (the status bar reads **Game connected**), that the effect's switch is on, that **Master level** is above zero and that **Deadzone** is not set too high. You feel no ABS vibration until the car's ABS has engaged (ABS shows **Pending** or **Locked**).
- **Vibration is weak or late.** If SimHub is running, close it and restart PurrOS. Also check that the PurrForce devices are not muted or at zero in Windows Sound settings.

11.3. USING SIMHUB INSTEAD

PurrForce is also fully compatible with the SimHub ShakeIt Bass Shaker module, so you can run your haptics from SimHub instead of PurrOS. Use one or the other at a time.

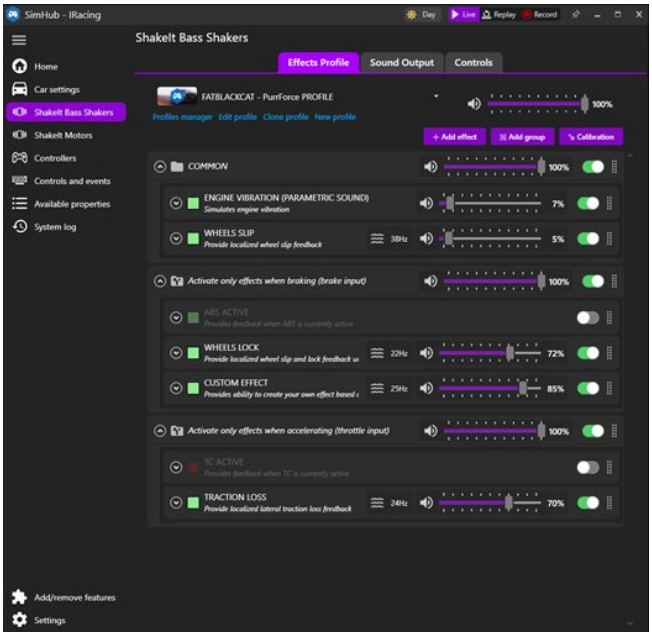
Here you can download baseline profiles: PurrForce SimHub PROFILES

Load the profile in the SimHub ShakeIt Bass Shakers module and then go to the Sound Output tab and load **PurrForce HC BRK** (for the brake pedal) and **PurrForce HC T/C** (for the throttle and clutch pedals). Your configuration should look like this:



> **Depending on the Windows language version you will have to choose Sound Output again with the "Change target sound output" button.**

After setting up the hardware part of PurrForce, it's time to play with the effects. Go to the effects profile tab where you can change settings for your effects in the PurrForce profile. You can modify that profile to your liking — you can add your own effects too.



> **IMPORTANT:** Please always use the licensed SimHub version; **the free version will add a lot of delay to the effects** which will not feel right during driving!

12. RECYCLING

We try to make our products as durable as possible. Please act responsibly when you need to discard (parts of) this product. Please use the appropriate paper waste stream to dispose of the packaging if you don't want to keep it. We support our products with spare parts for many years after the original production date. In the very unlikely case the product itself needs to be scrapped, please make sure to follow local guidelines for responsible recycling. If you need to disassemble the product, please use the provided tools to do so. This allows you to separate the various materials used in the product. If you are unsure how to responsibly recycle the product, you may always send it back to us by mail.

13. MAINTENANCE

PurrPRO FORMULA PEDALS have been designed to have a minimum of wear, tear and noise. In order to keep your pedals in good shape for many years, we recommend that you clean the dust off your pedals every two weeks. After unboxing and using pedals for the first couple of hours please check ACTIVE HEEL SUPPORT and ERGO-LINK bolts and nuts. Check them regularly every couple of weeks. Due to the nature and geometry of the carbon pedal faces there could be some noise and cracking coming from carbon plates under pressure from your foot - there is nothing to worry about - due to very tight tolerances, this can happen. Especially on aluminium profile rigs there could be some noises coming from the pedals during operation - usually that's perfectly normal - due to the number of moving parts and materials making contact during operation, the pedals will make sounds.



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