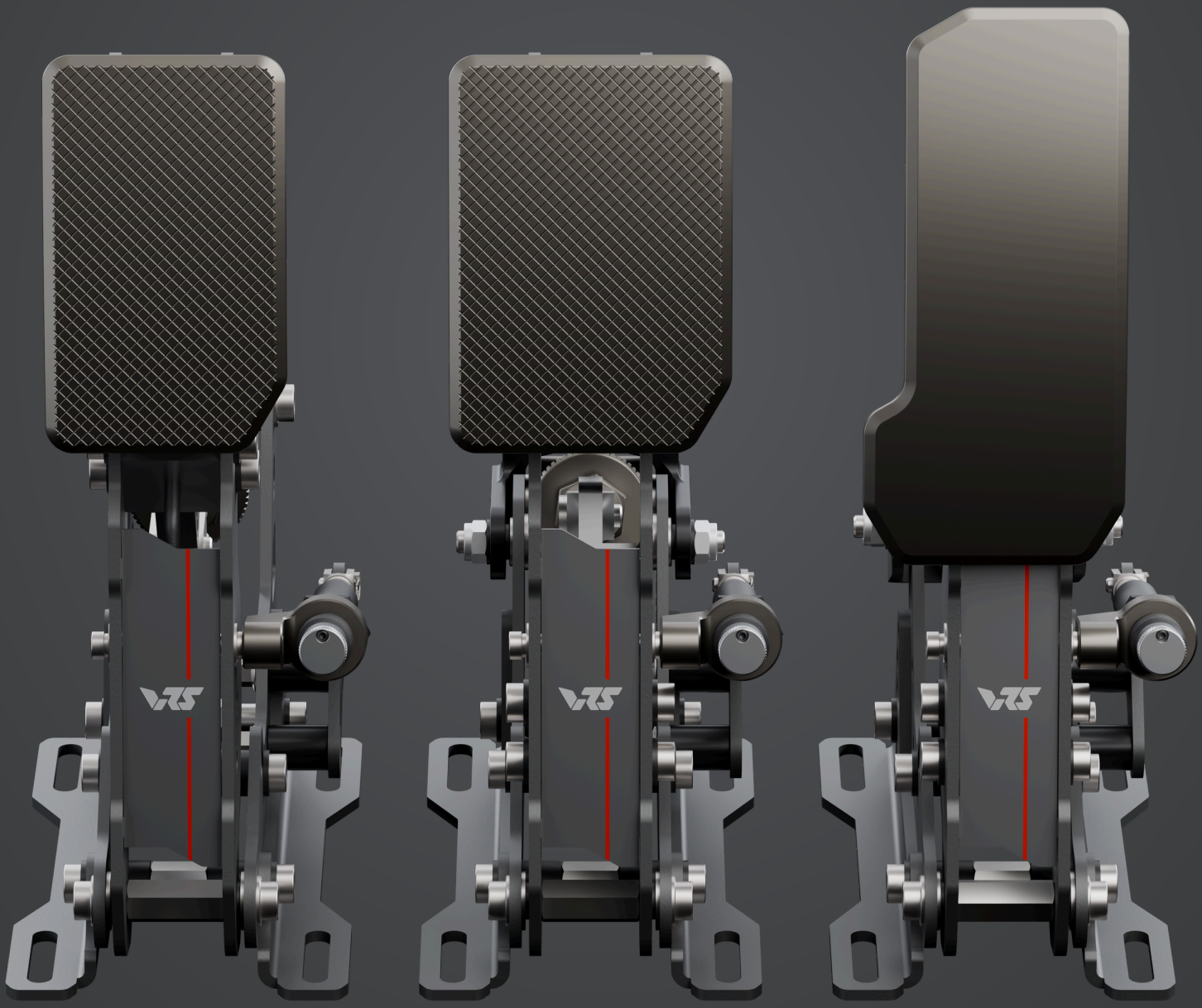
**DirectForce® Pro G2**
Pedals



# User Manual

# Foreword

This manual contains essential safety and usage instructions.
If you can't locate the information you need or notice any discrepancies, please visit our website or contact us for assistance.

**Website**
https://vrs.racing

**Downloads**
https://vrs.racing/downloads

**Contact us**
https://vrs.racing/contact

**Discord server**
https://discord.gg/4BQJDPJUDc

# Product information

**Product:** VRS® DirectForce® Pro G2 Pedals

| Model | Product | Contents |
|---|---|---|
| **DFP-PS1-G2S** | Throttle & Brake, Sport | Throttle and brake pedal, standard faces, damper optional |
| **DFP-PS2-G2S** | Clutch, Sport | Clutch pedal, standard face, damper optional |
| **DFP-PS1-G2E** | Throttle & Brake, Elite | Throttle and brake pedal, premium faces, 2 dampers fitted |
| **DFP-PS2-G2E** | Clutch, Elite | Clutch pedal, premium face, damper fitted |

## Accessories

| Model | Product |
|---|---|
| **DFP-DUK-G2** | G2 Damper Upgrade Kit |
| **DFP-TBU-G2** | G2 Throttle & Brake Face Upgrade Kit |
| **DFP-CLU-G2** | G2 Clutch Face Upgrade Kit |
| **DFP-BP1-G2** | G2 Baseplate |

## Warranty

Three year limited warranty. The G2 Damper Upgrade Kit has a one year limited warranty. For support and warranty information, visit https://vrs.racing. By using this product, you agree to the VRS Warranty and Terms of Use, available at https://vrs.racing/legal-documents

Do not dispose of this product with household waste. Take it to a collection point for electrical and electronic equipment.

**Made in Bulgaria**

**Responsible Party:**
Smarty Co. 120 Vantis Drive, Suite 300, Aliso Viejo, CA 92656, United States
+1 866-746-3888 info@vrs.racing

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# Warnings

Before using the DirectForce Pro G2 pedals, read the instruction manual for important safety and health information.

- This product is intended only for indoor use at room temperatures 5–40°C (41–104°F), relative humidity under 70%, and altitude up to 5000m (16,000ft).
- Ensure the pedals are firmly bolted to your rig or baseplate before use.
- Check all fasteners are tight and the pedals do not move under load. Check them again after any adjustment.
- Moving parts can pinch. Keep fingers, loose clothing and cables away from the pedal arms, springs, crank and linkages when a pedal is being pressed.
- Springs are under compression. Fully release the preload before you remove a spring, a knob or a linkage.
- The pedals are built to be pressed by a seated driver. Do not stand on a pedal, and do not use a pedal as a step or handle.
- Edges may be sharp. Wear shoes or socks when using the pedals.
- Repeated and/or prolonged use of computers and gaming controllers can cause a variety of musculoskeletal issues.
- If you feel any discomfort/pain/aches, either directly or indirectly as a result of using this device, seek help from a health care professional.
- Attempting repairs on any of the components voids your warranty.
- Choking hazard, not suitable for children.

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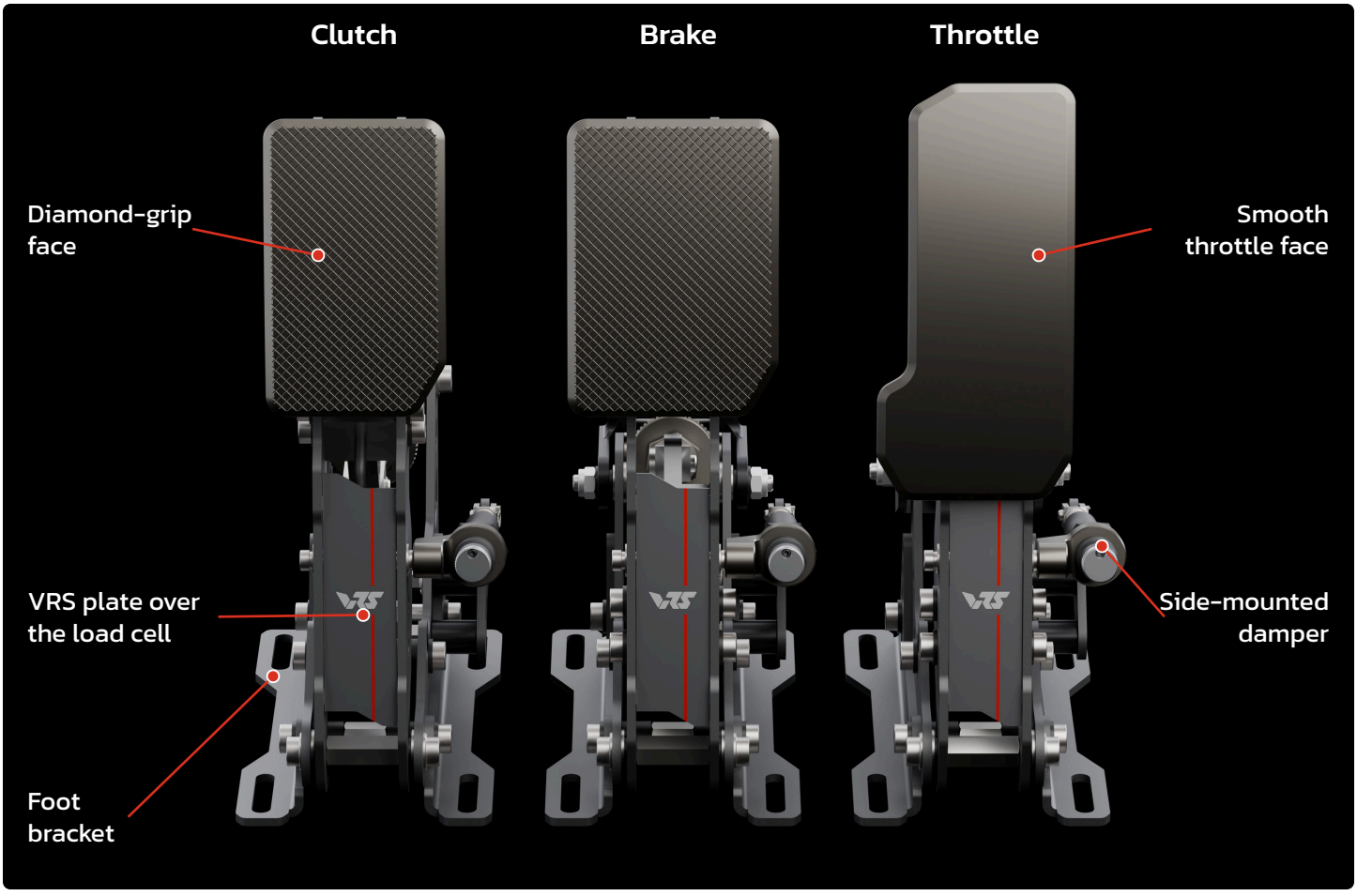
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# Features

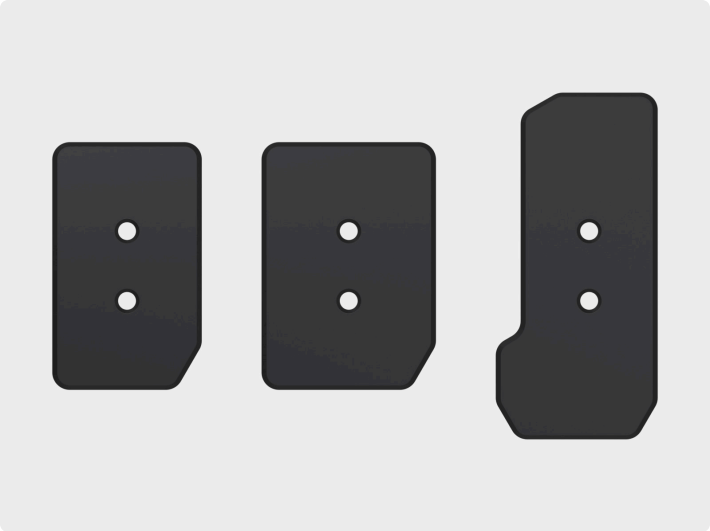
- Load cell sensor on every pedal: brake 200 kg, throttle 10 kg, clutch 80 kg
- One-piece CNC-machined brake crank, load cell carries the pedal arm directly
- Throttle spring on a center shaft with a ball-bearing swing bracket
- Tool-free CNC preload knob on every pedal
- Adjustable bell crank geometry and interchangeable springs
- Dual end stops on hex spacers, adjustable pedal travel and 5 tilt positions in the foot bracket
- Reworked clutch geometry with a smooth, progressive bite point
- Side-mounted hydraulic damper, factory-fitted on Elite and optional on Sport
- 3 mm steel frame in deep black powder coat, identical pedal arms on all three pedals
- Anodized VRS plate over the load cell



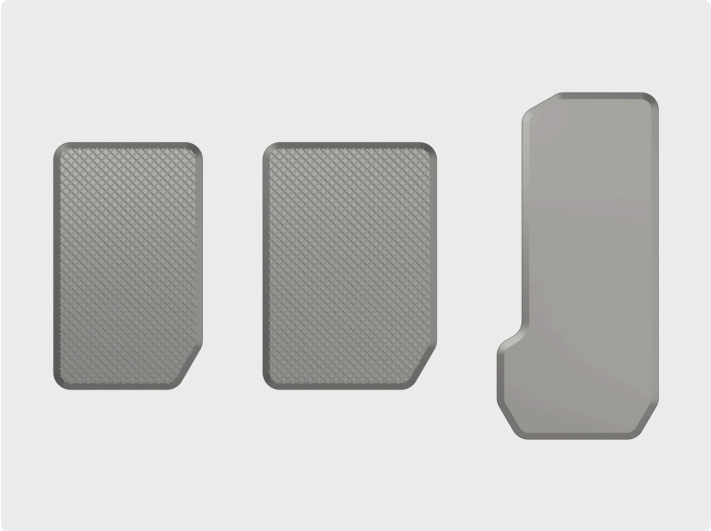
# Sport and Elite

Sport and Elite share the same frame, sensors, springs and bearings. Elite adds CNC-machined pedal faces and a factory-fitted hydraulic damper on every pedal. Set-up and adjustment are the same on both editions.

| | Sport | Elite |
|---|---|---|
| **Face material** | 2 mm aluminum sheet, CNC-machined edges, bent to R400 | 6061 aluminum, CNC-machined from solid, R400 |
| **Face finish** | Black anodized, smooth | Carbon gray anodized. Diamond grip on brake and clutch, throttle smooth |
| **Face fixing** | 2 × M5 × 12 countersunk Torx (T20) through the front | 4 × M4 × 12 Torx (T20) per face from the sides, no screws on the front |
| **Damper** | Optional (DFP-DUK-G2) | Fitted on every pedal |



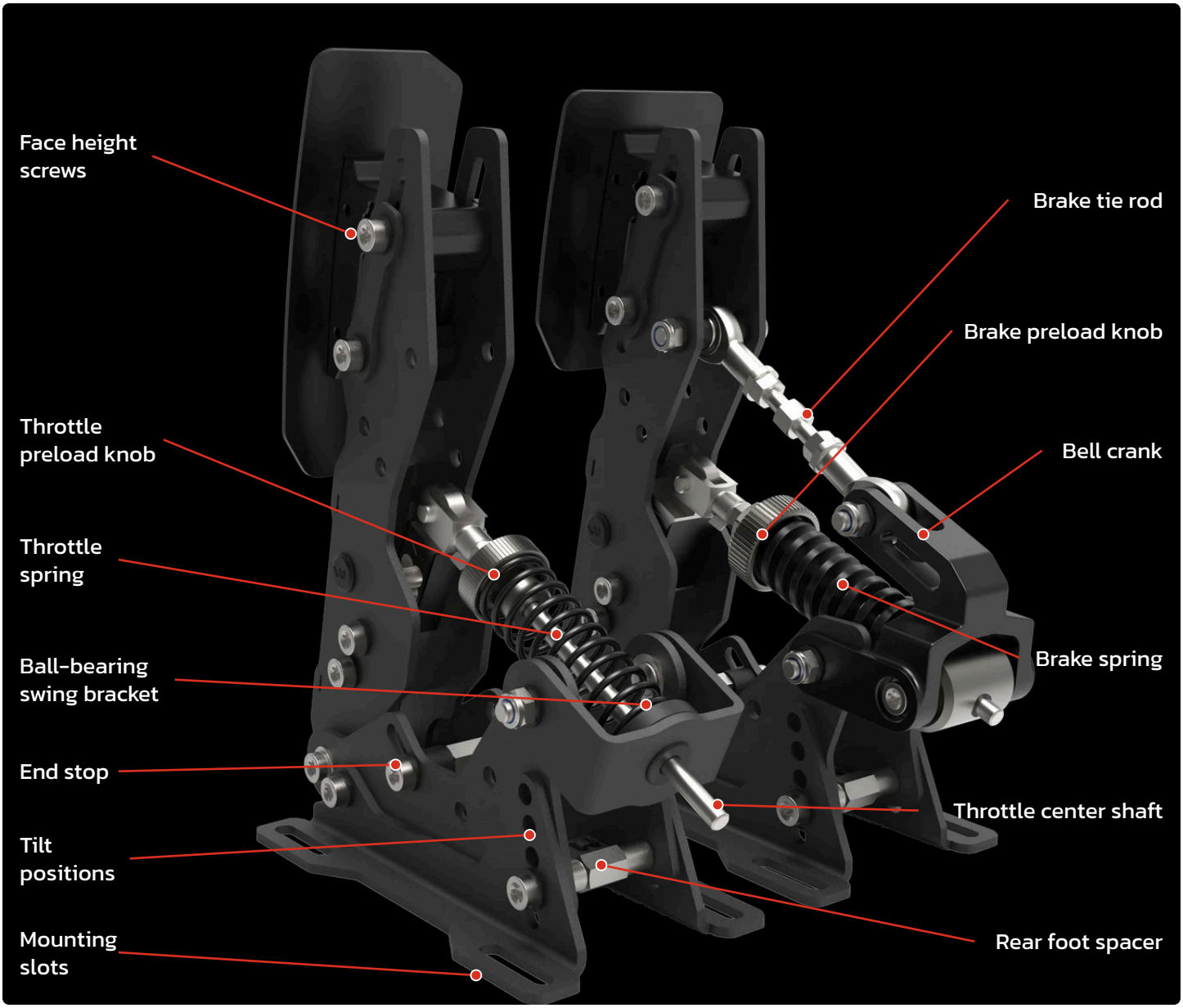
Sport faces: clutch, brake and throttle



Elite faces: clutch, brake and throttle

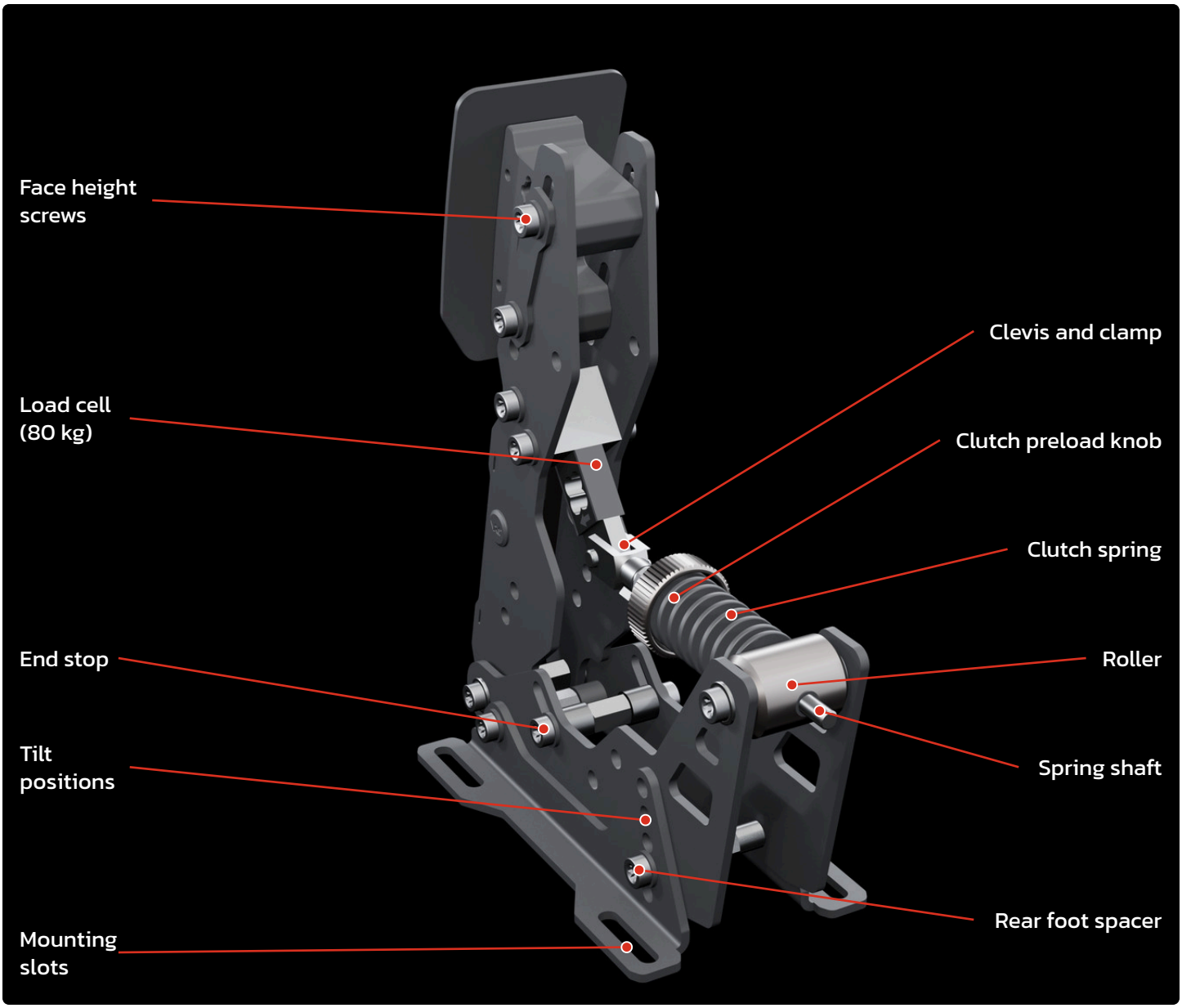
# Throttle and brake overview

Rear view of the throttle (left) and brake (right). Most of the adjustment points are here.



# Clutch overview

Rear view of the clutch. It shares its frame, foot brackets, end stops and tilt positions with the throttle and brake.




**Note** The clutch has no tie rod or bell crank, and it comes with one spring. See page 25.

# What's in the box?

### Throttle & Brake

- VRS® DirectForce Pro G2 Throttle & Brake Pedals
- VRS® Pedal controller
- Mounting fasteners: 8 × M6 × 25 screws, 8 × M6 washers, 8 × M6 flange nuts
- 2 brake springs: blue fitted, red supplied loose
- Elite only: 2 side-mounted dampers, fitted to the pedals
- Leaflet signed by the VRS team

### Clutch

- VRS® DirectForce Pro G2 Clutch Pedal (no Pedal controller, see below)
- Mounting fasteners: 4 × M6 × 25 screws, 4 × M6 washers, 4 × M6 flange nuts
- Elite only: 1 side-mounted damper, fitted to the pedal
- Leaflet signed by the VRS team

### What you need

- PC with USB port, Windows 10 or above, internet connection
- Clutch pedal: VRS® Pedal controller. It comes with the DirectForce Pro G2 Throttle & Brake set and is not included with the standalone clutch
- A game that supports controllers. See the game requirements for compatibility

### Tools you will need (not included)

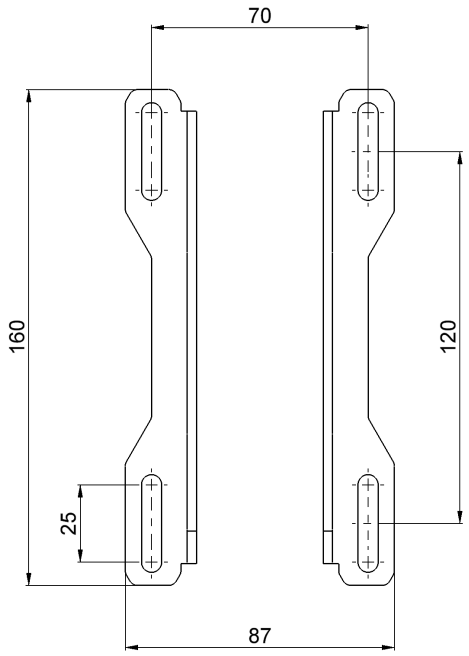
| Tool | Used for |
|---|---|
| **Torx T30** | Frame screws, end stops, pedal tilt, pedal face height |
| **Torx T20** | Pedal face screws, damper screw |
| **10 mm spanner** | Holding hex spacers, M6 nuts and lock nuts on the tie rod and bell crank, mounting flange nuts |
| **5 mm hex key** | Mounting screws |
| **Torque wrench** | Final tightening, see page 14 |

Preload knobs turn by hand, no tool is needed.

**Note** Every frame and face screw has threadlock applied at the factory. If you remove a screw several times, add a drop of medium-strength threadlock before refitting it.

# Mounting the pedals

1. **Choose the positions:**
   Set the pedals out on your rig or pedal deck. Each pedal is 87 mm wide over the foot brackets, or 92.5 mm with a damper fitted, so leave room for the damper at the side.
2. **Line up the bolts:**
   Each pedal uses 4 of the supplied M6 × 25 screws, washers and flange nuts in a 70 × 120 mm pattern. The slots are 6.5 mm wide with 25 mm of adjustment, so the bolt spread front to back can be 95–145 mm.
3. **Fix the pedal:**
   Fit all 4 screws with their washers and flange nuts and tighten them evenly. If your pedal deck is too thick for 25 mm screws, use longer M6 screws. The foot brackets must sit flat, so use a flat surface and make sure the pedal does not wiggle.
4. **Check the movement:**
   Press each pedal through its full stroke. The arm should move smoothly and without noise, and nothing should touch the neighboring pedal or the rig.




Mounting footprint, one pedal, bottom view. Dimensions in mm.

**Note** All three pedals share the same footprint, so the same hole pattern works for throttle, brake and clutch. In the standard layout the clutch sits to the left of the brake and the throttle to the right, with 105 mm between pedal centers.

**Baseplate** The optional G2 Baseplate (DFP-BP1-G2) comes with its own mounting hardware and 2 hex keys. It needs a rig or cockpit with a pedal deck mounting surface. Instructions: vrs.racing/downloads

# Connecting and calibrating

1. **Connect the pedals:**
   Plug the cable of each pedal into a port on the VRS® Pedal controller (see page 13). The controller comes with the Throttle & Brake set, and the clutch pedal uses the same one. The load cell cable is fixed with a tie wrap at the cable plate. Keep that fixing, and make sure the cable still has enough slack when the pedal is fully pressed.
2. **Connect to your PC:**
   Connect the pedal controller to a USB port on your PC with the 1.6 m cable. Windows lists it as "VRS DirectForce Pro G2 Pedals".

### Software

The VRS One application lets you calibrate the pedals, set the maximum force and dead zones, and update the firmware. For the download please visit the official VRS webpage:
https://vrs.racing/downloads

### Calibration

1. Open VRS One and go to the pedals page.
2. Start the calibration, press each pedal fully to its end stop and release it.
3. Check the input bars: each pedal should read 0% at rest and reach 100% at full press.
4. Set the brake maximum force and any dead zones you want.

**Important** Calibrate again after every hardware change: preload, spring, tie rod, bell crank, end stop, tilt or face height. Also calibrate after a factory reset, because the pedals can read as stuck on until you do.



Load cell cable fixed to the cable plate with a tie wrap.

# Pedal controller

The VRS® Pedal controller reads the load cells and connects your pedals to the PC. It is included with the Throttle & Brake set. The standalone clutch pedal does not include one: it plugs into the controller from your Throttle & Brake set.







| Specification | |
|---|---|
| **Load cell amplifier and ADC** | AD7193 ultra low noise load cell amplifier and sigma-delta ADC |
| **Resolution** | 24 bits, 14.3 effective bits (ENOB) |
| **Enclosure** | All aluminum |
| **Connection** | USB 2, 1.6 m cable |
| **Pedal ports** | 3 (throttle, brake and clutch) |
| **Size** | 68 × 28 × 94 mm including the mounting bracket |

**Note** Effective bits (ENOB) are the resolution you really get: the 24-bit converter delivers about 14 clean bits.

# Adjusting your pedals

The G2 pedals can be tuned on the rig, there is no need to unbolt them. Change one thing at a time, calibrate, and drive before you change the next.

| Adjustment | Pedals | Tool | What it changes |
|---|---|---|---|
| **Preload** | All | By hand | Raises the force through the whole stroke |
| **Spring** | Brake | See page 22 | Blue or red. The red spring roughly doubles the force at the same travel |
| **Tie rod length** | Brake | 10 mm spanner | Shorter: more travel, softer start. Longer: shorter, firmer pedal |
| **Bell crank** | Brake | T30, 10 mm spanner | Changes the leverage and the shape of the force curve |
| **End stops** | All | T30, 10 mm spanner | Sets the limit of the pedal travel at full press |
| **Tilt** | All | T30, 10 mm spanner | Tilts the whole pedal, 5 positions over about 20° |
| **Face height** | All | T30 | Moves the face along the 27 mm slots to suit your foot |
| **Damper** | All (Elite fitted, Sport optional) | See page 20 | Adds hydraulic resistance that steadies the pedal when trail braking |

### Tightening torques

| Fastener | Tool | Torque |
|---|---|---|
| **M6 frame screws** | T30 | 9 Nm |
| **Pedal face screws, Sport and Elite** | T20 | 4 Nm |
| **M6 lock nuts on the brake pivots and spring** | T30, 10 mm spanner | 2.5 Nm |
| **M6 lock nuts on the throttle crank and spring** | T30, 10 mm spanner | 4 Nm |

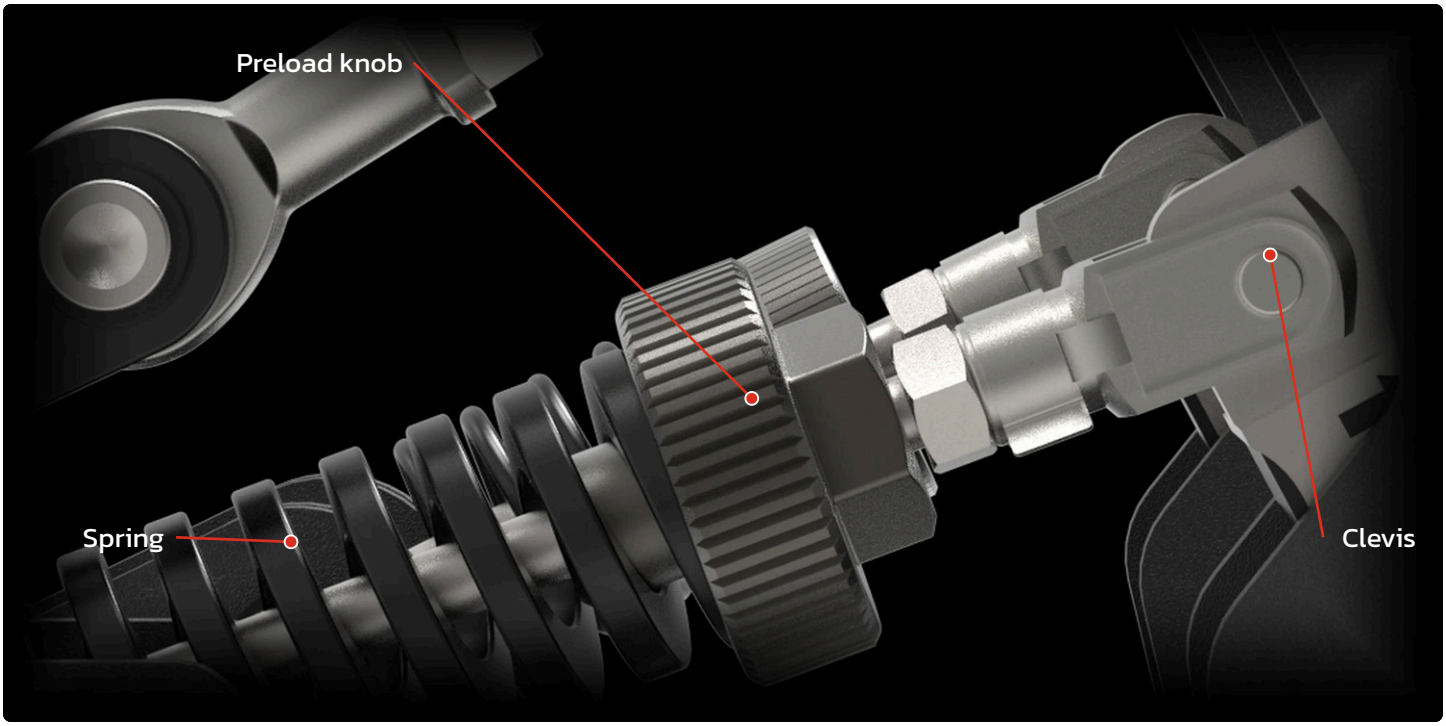
Lock nuts on pivots use a low torque so the pivot can still turn freely. Do not overtighten them. Check your torque wrench setting before you start.

### Reading the force curves

The graphs on the next pages show the force at the pedal face. Brake curves are plotted against pedal travel, the throttle against pedal angle. Use them as a guide: your own feel and your seat position matter more than any single number.

# Preload

1. **Find the knob:**
   Each pedal has a knurled CNC knob on the spring shaft, next to the pedal arm.
2. **Turn it by hand:**
   Turn the knob so it moves toward the spring to add preload, away from the spring to remove it. One full turn changes the preload by about 1 mm, so count the turns to return to a setting.
3. **Calibrate:**
   Run the calibration in VRS One, because the pedal now reads a higher force at rest and at full press.



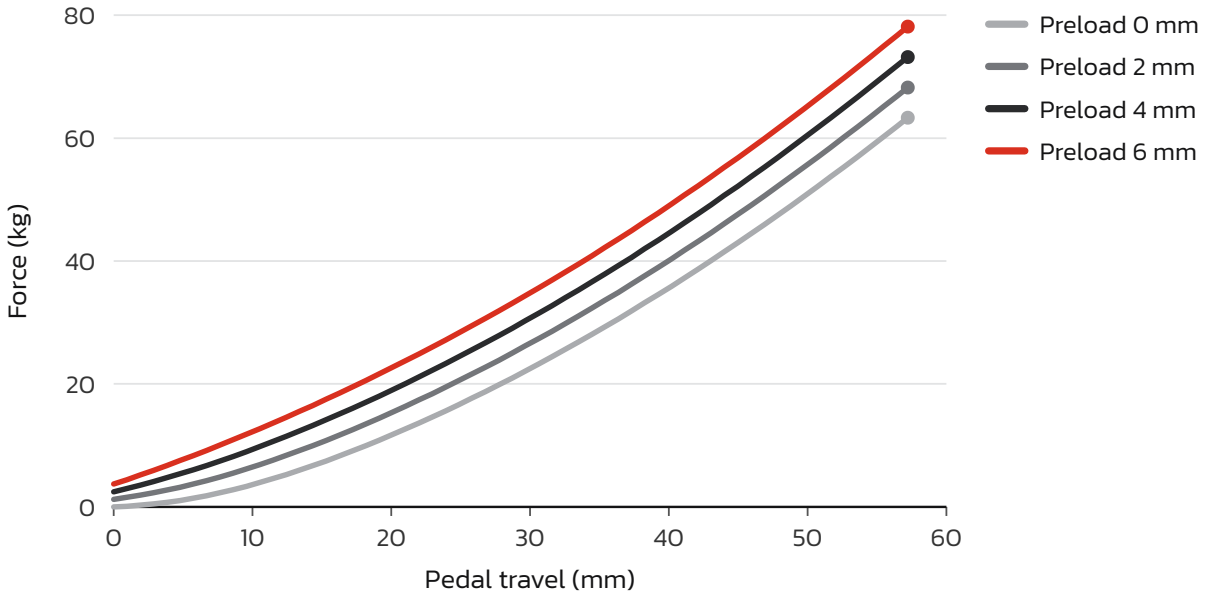

More preload raises the force through the whole stroke. Use the least preload that gives you the feel you want: the springs last longest with moderate preload, and a very high setting on the throttle can stop the calibration from reaching 100%.

**Brake** On the brake, use the knob to remove any free movement of the pedal arm. That is your starting point.

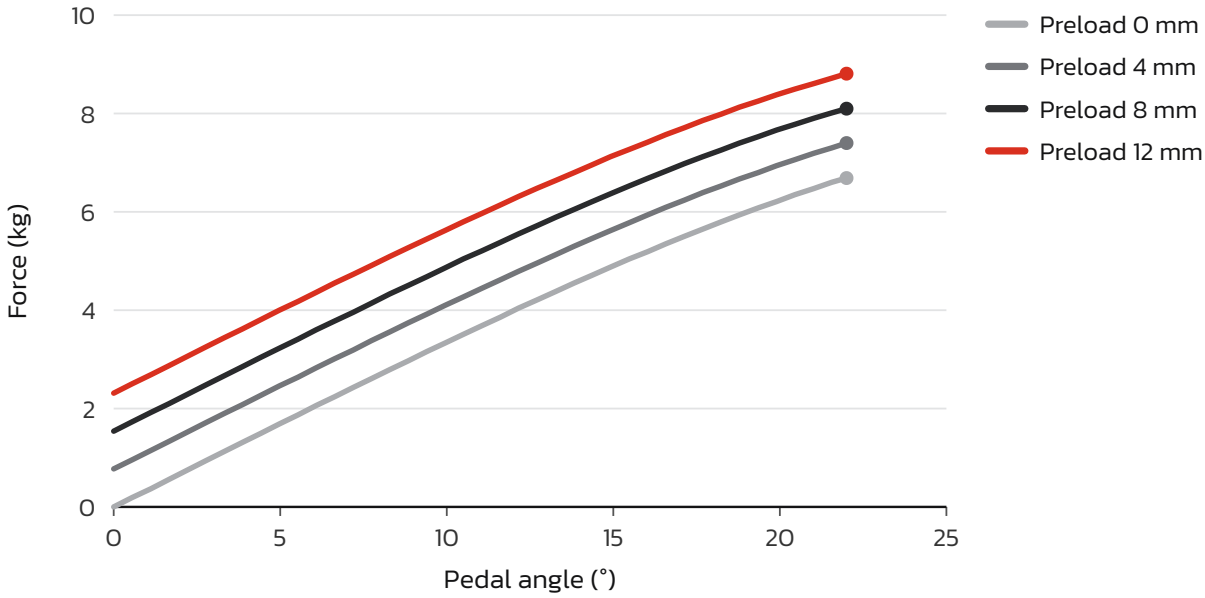
**Note** The throttle shaft has a short thread on purpose, so the spring can never block and damage the load cell. Do not force any knob once it stops turning freely, and do not unscrew it past the end of the thread.

# Preload curves

**Brake: force vs. pedal travel at four preload settings, blue spring**

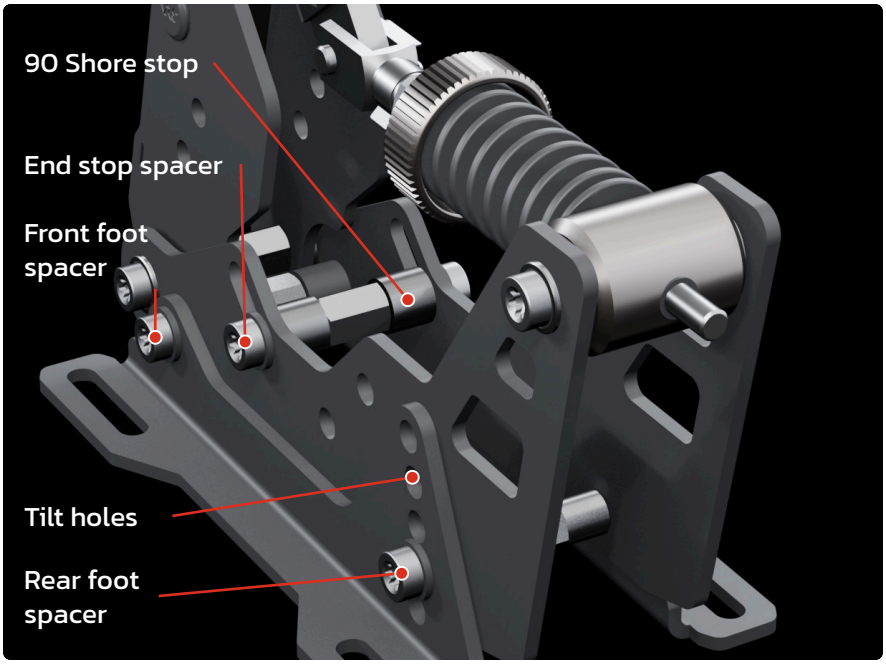



**Throttle: force vs. pedal angle at four preload settings**



# End stops and tilt

These work the same way on the throttle, brake and clutch. The picture shows the clutch.




### End stops

The harder 90 Shore polyurethane stops (dark gray) sit on the hex spacer in the slanted slots of the side plates and set the limit at full press. The softer 70 Shore rubber stops (black) sit on the front foot spacer and give a quiet return. They look alike, so do not swap them.

1. Hold the spacer in the slots with a 10 mm spanner and loosen the T30 screw at each end.
2. Slide it along the slots, the same on both sides. Closer to the pedal arm gives less travel.
3. Tighten both screws to 9 Nm, press the pedal through its full stroke and run the calibration.

### Tilt

The 5 holes at the rear of each foot bracket tilt the whole pedal around the front foot spacer, about 20° in total. The factory position is the second hole from the bottom. The feet stay bolted to your rig.

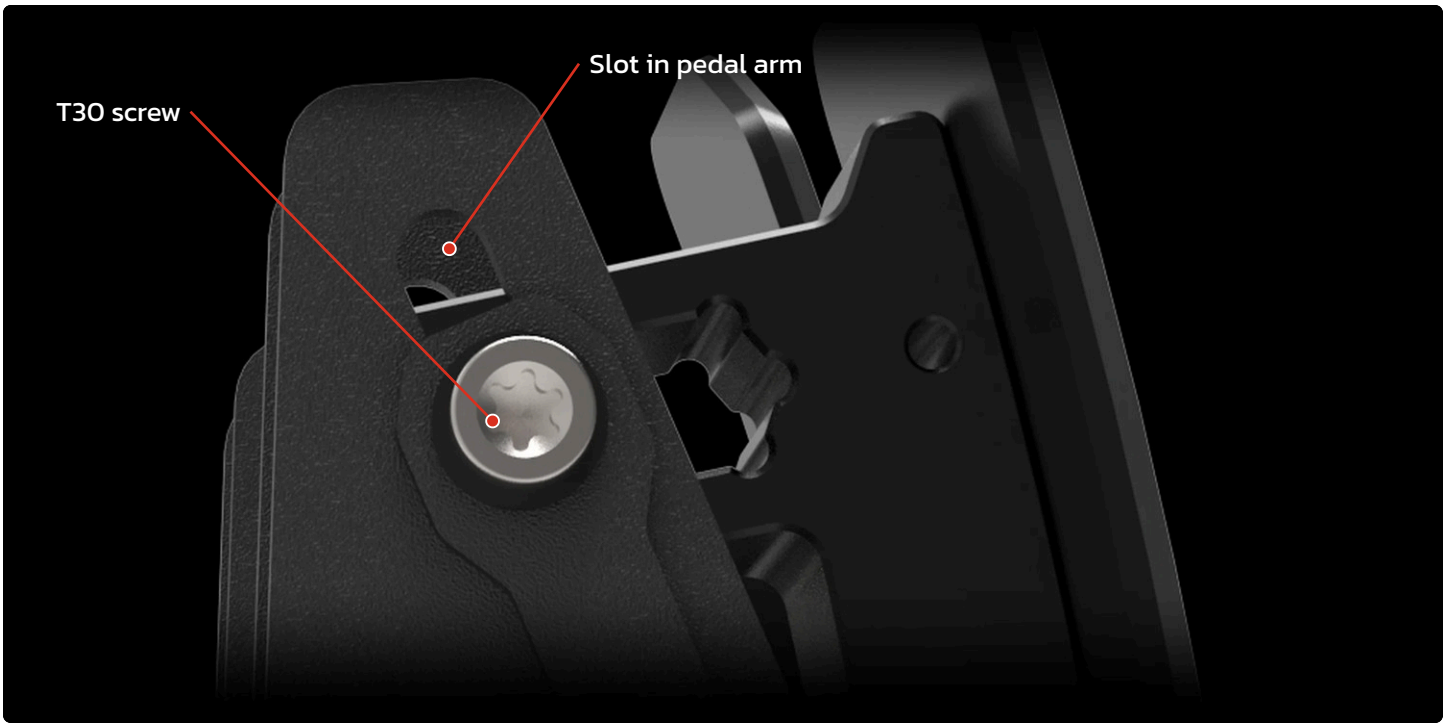
1. Loosen the T30 screws of the front foot spacer a little.
2. Hold the rear foot spacer with a 10 mm spanner, undo its 2 T30 screws and tilt the pedal to the new hole.
3. Refit the screws in the same hole on both sides, tighten all 4 to 9 Nm and run the calibration.

# Pedal faces

### Face height

The pedal arms have 27 mm slots, so the face can sit higher or lower to suit your foot.

1. Loosen the 2 T30 screws on each side of the pedal arm a little.
2. Slide the face to the height you want, keeping it square to the arm.
3. Keep the pedal arm plates aligned, tighten all 4 screws to 9 Nm and run the calibration, because the leverage on the load cell has changed.




### Changing the faces

Sport faces use 2 × M5 × 12 countersunk Torx screws through the front, tightened to 4 Nm. Elite faces use 4 × M4 × 12 Torx screws per face from the sides, so the front stays clean. Both use a T20. Elite faces can be added to a Sport pedal with the Throttle & Brake Face Upgrade Kit (DFP-TBU-G2) or the Clutch Face Upgrade Kit (DFP-CLU-G2). Each kit includes the mounting hardware. See page 19.

**Note** Check that the face screws are tight and the faces do not move under load before your first drive and after every face change. Re-check the screws regularly. Modifying the pedal faces voids your warranty.

# Fitting Elite faces

Elite faces fit any Sport pedal. Use the Throttle & Brake Face Upgrade Kit (DFP-TBU-G2) or the Clutch Face Upgrade Kit (DFP-CLU-G2). Each face is made for its pedal: the brake and clutch faces have the diamond grip, the throttle face is smooth. Each face is fixed with 4 × M4 × 12 Torx screws with threadlock already applied. The pedal can stay on your rig.

1. **Remove the Sport face:**
   Undo the 2 countersunk screws at the front of the face with a T20 and lift the face off. Keep the screws in case you refit the Sport face later.
2. **Fit the Elite face:**
   Hold the Elite face in place on the pedal arm and fit the 4 M4 × 12 screws from the sides, 2 on each side. Turn them in until they just hold the face.
3. **Line it up:**
   Set the face square and centered on the pedal arm, with the same gap on both sides.
4. **Tighten:**
   Tighten the 4 screws to 4 Nm with a T20, working crosswise.
5. **Check:**
   Press the pedal hard a few times and check that the face does not move. Then run the calibration in VRS One.



Elite brake face fitted to the pedal arm.

**Note** Face height is set with the T30 screws in the pedal arm slots, as on the Sport pedals. See page 18.

**Important** Check that the face screws are tight before your first drive and after every face change. Re-check them regularly. Do not overtighten the M4 screws.

# Damper

The side-mounted hydraulic damper adds a fluid resistance to the pedal. It steadies the pedal when you trail brake and helps you find and hold the braking threshold without needing a very stiff spring.

- **Elite:** a damper is fitted to every pedal at the factory.
- **Sport:** add a damper at any time with the G2 Damper Upgrade Kit (DFP-DUK-G2). One kit contains 1 damper, 1 Allen key for damper adjustment and the mounting hardware, and fits the throttle, brake or clutch.
- The bearings for the damper are already installed in the pedal arm, so the kit fits with the pedal on the rig.



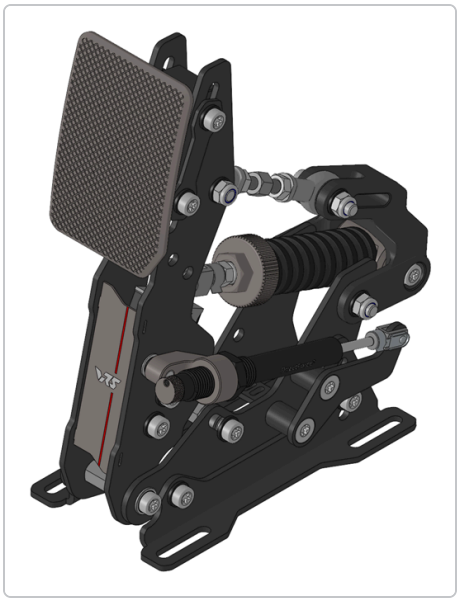

To fit a damper, see page 21. After you fit a damper, press the pedal through its full stroke and check that all parts move freely, then run the calibration in VRS One.

- ⚠ Ensure the damper is firmly fastened before use. Check all screws are tight and re-check them regularly. Do not overtighten: too much force can damage the threads or the damper shaft.
- ⚠ Contains oil. Do not open, puncture or disassemble the damper. If the damper leaks, stop using it and clean up the oil immediately. Spilled oil can make floors slippery.
- ⚠ Avoid contact with eyes and skin. If contact occurs, rinse with water.
- ⚠ Keep away from heat sources. Damping feel may change with temperature.
- ⚠ Dispose of the damper according to local regulations. Do not dispose of it with household waste.
- ⚠ Modifying or disassembling the damper voids your warranty.

# Fitting a damper

The G2 Damper Upgrade Kit (DFP-DUK-G2) adds a damper to a Sport throttle, brake or clutch. The steps are the same on all three pedals. Elite pedals have the damper fitted at the factory. The bearings for the damper are already in the pedal arm, so the pedal can stay on your rig.

1. **Fit the bracket:**
   Mount the damper bracket on the side of the pedal frame with the 2 spacers between bracket and frame. Fit the 2 M6 × 30 countersunk screws and tighten them to 10 Nm with a 4 mm hex key (not included).
2. **Remove the rubber caps:**
   Pull out the 2 VRS branded rubber caps from the pedal arm, 1 on each side. Keep them in case you remove the damper later.
3. **Fit the damper to the pedal arm:**
   The damper comes pre-assembled. Fit its end to the pedal arm and secure it with the small M4 × 10 Torx screw, 4 Nm with a T20.
4. **Connect the clevis:**
   Fit the clevis at the other end of the damper to the bracket.
5. **Set the damping:**
   Set the damper to setting 2, the factory setting. Turn the numbered cap to choose the setting, then lock it with the locking screw using the Allen key from the kit.
6. **Test:**
   Press the pedal slowly through its full stroke. It should move smoothly, and the damper must not touch the neighboring pedal or the rig. Then run the calibration in VRS One.



Damper fitted to the brake: bracket on the frame, damper on the pedal arm.

### Changing the damping

Loosen the locking screw with the Allen key, turn the cap to a new setting and tighten the locking screw again. Change one step at a time and drive before you change it again. The locking screw stops the setting from moving if your foot touches the cap.

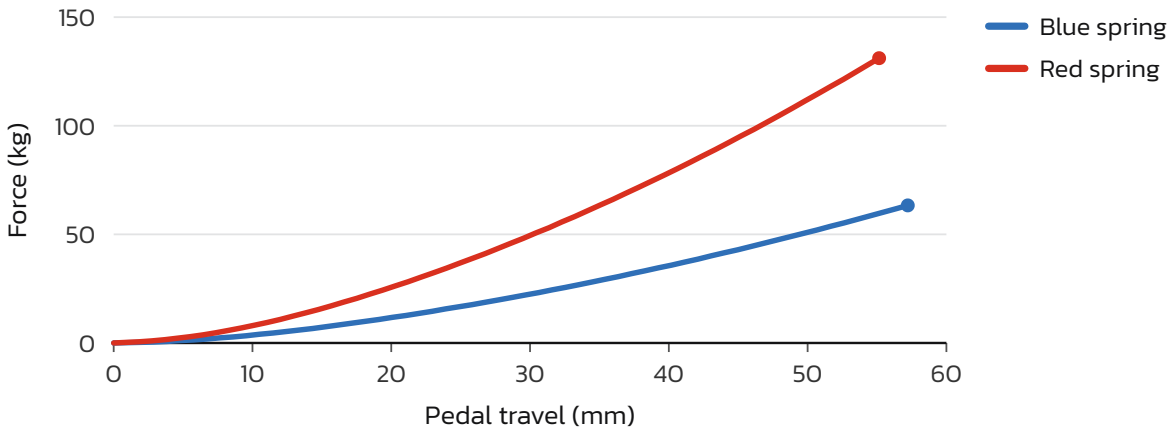
**Note** With a damper fitted, each pedal is 92.5 mm wide instead of 87 mm. Leave room at the side when you place the pedals.

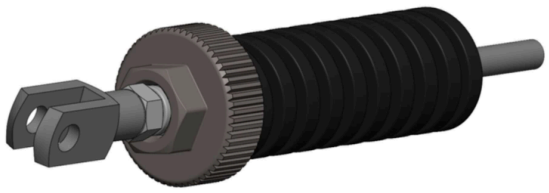
# Brake spring

The brake comes with two springs. They look the same in black, the colored tag tells them apart. The blue spring is the softer one and the red spring roughly doubles the brake force at the same travel.

1. **Release the preload:**
   Turn the knob away from the spring until the spring is loose.
2. **Disconnect the spring assembly:**
   Remove the clamp that locks the clevis to the crank and lift out the spring assembly. The clevis is secured to the shaft with Loctite, so do not unscrew it.
3. **Change the spring:**
   Slide the spring off the free end of the shaft and fit the other spring. Keep the washer under the knob and the white plastic spacer.
4. **Reconnect:**
   Add a little grease to the spring shaft, insert the spring assembly and lock it with the clamp. Check that the clamp is fully home.
5. **Set up:**
   Use the knob to remove any free movement of the pedal arm, set your preload and run the calibration in VRS One.

**Brake: blue vs. red spring, force vs. pedal travel at minimum preload**



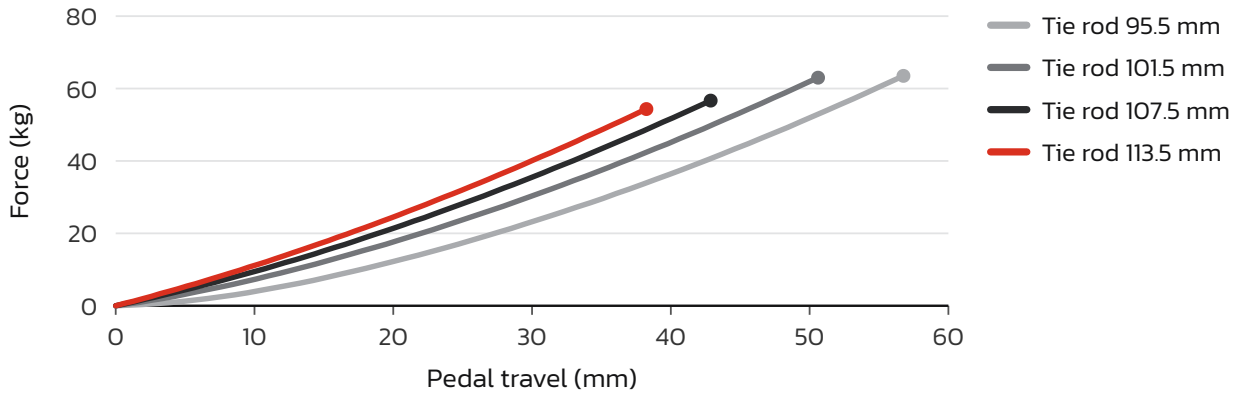
⚠ Never remove the clamp while the spring is under preload.

# Brake tie rod

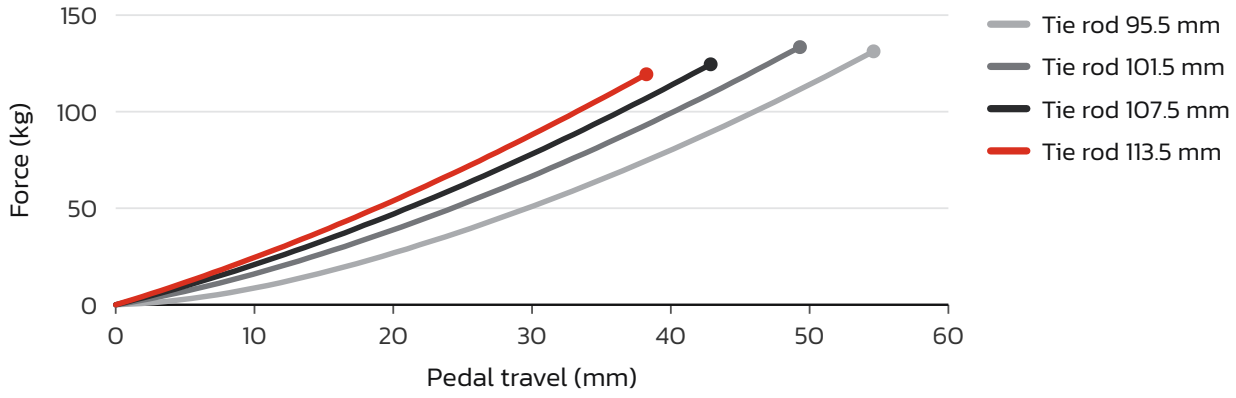
The tie rod joins the bell crank to the crank. A shorter tie rod gives more travel and a softer start, a longer one gives a shorter, firmer pedal. It leaves the factory at 95 mm between the centers of the rod end holes. The graphs show lengths up to 113.5 mm.

1. **Loosen the lock nuts:**
   Loosen the nut at each end of the threaded stud with a 10 mm spanner. One end has a left-hand thread, so that nut turns the opposite way.
2. **Set the length:**
   Turn the stud. Both rod ends move at once, so the rod gets longer or shorter. Keep the stud symmetric between the rod ends.
3. **Lock it:**
   Keep the rod ends parallel to each other and tighten the nuts. Use the spring knob to remove any free movement of the pedal arm, then run the calibration in VRS One.

**Tie rod length, blue spring**



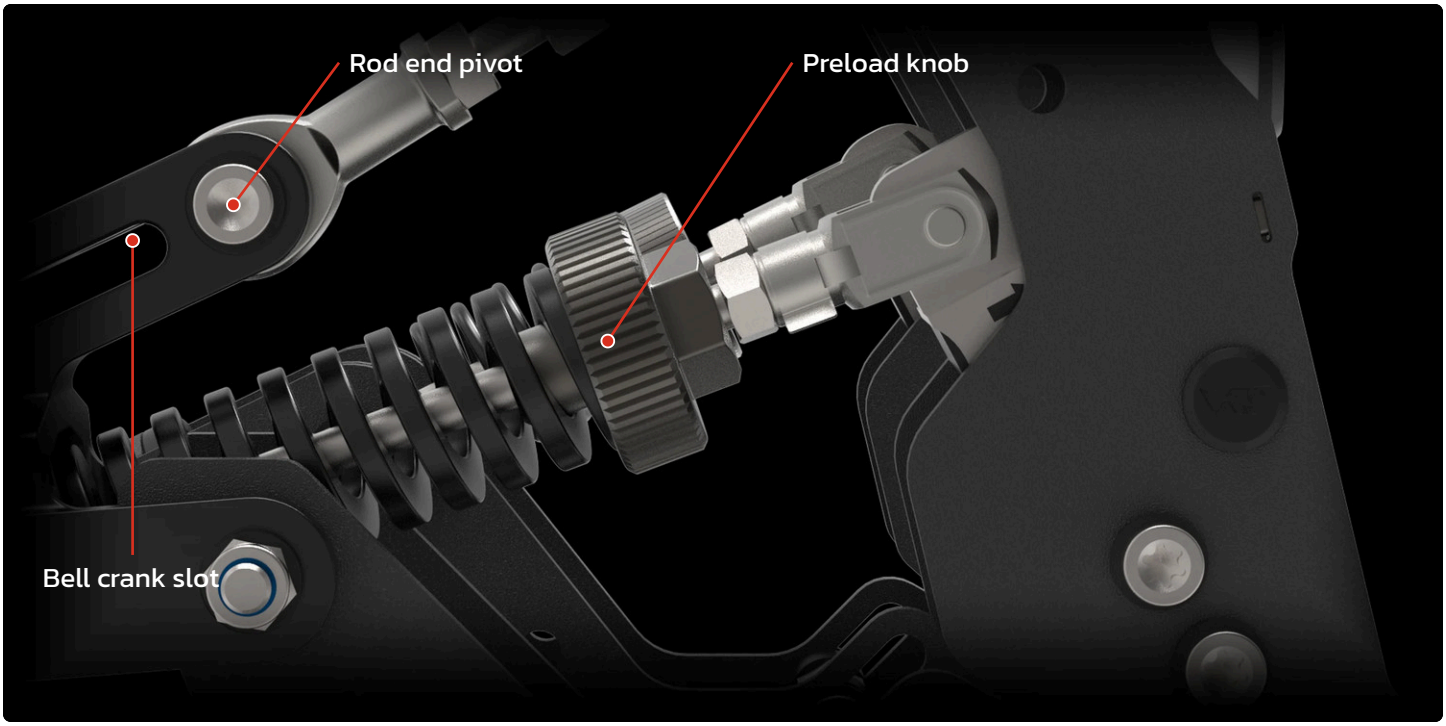

**Tie rod length, red spring**



# Bell crank

The lower rod end of the tie rod sits in a slot in the bell crank. Moving it along the slot changes the leverage on the spring and so the shape of the force curve. The bell crank is on the brake only.

1. Loosen the lock nut of the rod end pivot while holding the screw with a T30.
2. Slide the pivot to its new position in the slot, keeping the washers and spacers in their order. Tighten the lock nut to 2.5 Nm so the pivot still turns freely.
3. Press the pedal slowly through its full stroke to check nothing touches, then run the calibration.



# Clutch pedal

The clutch spring sits on a polished stainless steel shaft that runs through a slide bearing in the roller. A clevis joins the shaft to the pedal arm. The geometry and linkage give a progressive bite point, with continuous resistance through the whole stroke and a softer drop-off than the first generation.

| Adjustment | On the clutch | See page |
|---|---|---|
| **Preload** | Turn the knob by hand. It has a POM washer against the spring | 15 |
| **End stops and tilt** | Same as the throttle and brake | 17 |
| **Face height and faces** | Same slots. Sport face 60 × 100 mm, Elite face 60 × 99.5 mm | 18 |
| **Damper** | Elite: fitted. Sport: optional, DFP-DUK-G2 | 20 |
| **Tie rod, bell crank** | Not on the clutch | |

### Adding the clutch to a Throttle & Brake set

1. Mount the clutch with its 4 M6 × 25 screws, washers and flange nuts, to the left of the brake.
2. Plug its cable into the free port on the Pedal controller from your Throttle & Brake set. The standalone clutch does not include a controller.
3. Run the calibration in VRS One and check that the clutch input reaches 100%.

### Taking out the spring assembly

1. Turn the knob away from the spring until the spring is loose.
2. Remove the clamp that locks the clevis to the pedal and lift out the spring assembly. The clevis is secured to the shaft with Loctite, so do not unscrew it.
3. To refit, add a little grease to the spring shaft, insert the assembly with its white plastic spacer and lock it with the clamp.
4. Press the pedal and check that the roller moves smoothly and without noise, then set your preload and run the calibration.

⚠ Never remove the clamp while the spring is under preload.

# Care and troubleshooting

## Care

- Wipe the pedals with a soft, dry cloth. Do not use solvents on the anodized parts.
- The spring shafts run with a little grease. Add a little if you take a spring assembly out. Do not oil the ball bearings or the load cells.
- Check the mounting bolts, frame screws and lock nuts from time to time, and tighten any that have loosened.
- Check the cables for wear where they pass close to moving parts.

## Troubleshooting

| Problem | What to do |
|---|---|
| **The pedals are not detected** | Check the cables at the pedal controller. Try another USB port, connected directly to the PC. Update VRS One to the latest version. |
| **A pedal reads as pressed at rest** | Run the calibration in VRS One. This is normal after a factory reset or a hardware change. |
| **A pedal does not reach 100%** | Run the calibration again and press fully to the end stop. If you have a high throttle preload, reduce it a little. |
| **The pedal feels loose or has free play** | Check the mounting bolts, the tie rod nuts and the clevis clamp. Use the spring knob to remove the free movement. |
| **A knocking noise at the end of the stroke** | Check that the end stop screws are tight and that the 90 Shore (dark gray) and 70 Shore (black) stops are not swapped. |
| **The spring assembly makes noise or has noticeable friction (any pedal)** | Release the preload, rotate the spring a little on its shaft, set the preload again and test. Repeat if needed. |
| **The pedal arm does not move smoothly** | Check that the pedal arm plates are aligned, that the cable has slack and that no lock nut is overtightened. |

Still stuck? Our support team and the community can help. See the links on the last page of this manual.

# Specifications

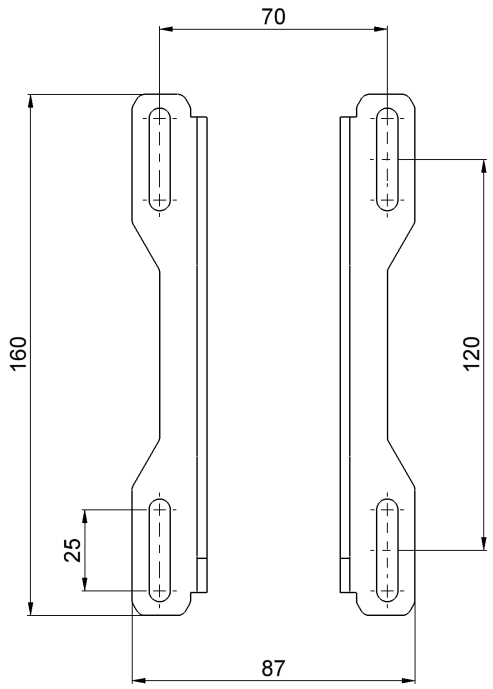
| General | |
|---|---|
| **Sensor type** | Load cell on every pedal |
| **Pedal controller** | See page 13 |
| **Frame** | 3 mm laser-cut steel, deep black powder coat |
| **Machined parts** | 6061 aluminum crank, face supports and knobs, sandblasted and anodized |
| **Shafts and spacers** | 304 stainless steel, spring shafts polished |
| **Pivots** | Shielded flanged ball bearings and miniature ball bearings |
| **Spring guides** | POM slide bearings, PTFE spacers |
| **End stops** | On Hex10 stainless spacers: 90 Shore polyurethane at full press, 70 Shore rubber at rest |
| **Tilt** | 5 positions in the foot bracket, about 20° in total |
| **Pedal arms** | Identical on all three pedals: 3 mm steel, 230 × 54 mm |
| **Face height adjustment** | 27 mm slots in the pedal arms |
| **Face curvature** | R400 on all faces, both editions |
| **Sensor cover** | Anodized aluminum VRS plate over the load cell |
| **Fasteners** | A2 stainless Torx with pre-applied threadlock. Frame screws 9 Nm, face screws 4 Nm, damper bracket screws 10 Nm |
| **Tools** | T30 (frame), T20 (pedal faces) |

| | Brake | Throttle | Clutch |
|---|---|---|---|
| **Load cell** | 200 kg | 10 kg | 80 kg |
| **Spring** | Blue and red tag, Ø25 mm, free length 76 mm | Ø24.8 mm, free length 88.9 mm | Light green tag, Ø25 mm, free length 51 mm |
| **Preload** | CNC knob, tool-free | CNC knob, tool-free | CNC knob, tool-free |
| **Mechanism** | One-piece CNC crank, adjustable tie rod (95 mm from factory) and bell crank | Center shaft, ball-bearing swing bracket | Reworked geometry, clevis linkage with roller |
| **Face, Sport** | 70 × 100 mm | 55–65 × 139 mm | 60 × 100 mm |
| **Face, Elite** | 70 × 99.5 mm | 55–65 × 139.5 mm | 60 × 99.5 mm |

# Dimensions

| | Brake | Throttle | Clutch |
|---|---|---|---|
| **Width over foot brackets** | 87 mm | 87 mm | 87 mm |
| **Width with damper** | 92.5 mm | 92.5 mm | 92.5 mm |
| **Overall length** | 200 mm | 194 mm | 202 mm |
| **Height to top of face** | 244 mm | 256 mm | 244 mm |
| **Foot bracket length** | 160 mm | 160 mm | 160 mm |
| **Mounting pattern** | 70 × 120 mm | 70 × 120 mm | 70 × 120 mm |

| | |
|---|---|
| **Fixing** | 4 × M6 per pedal, slotted |
| **Slot width / adjustment** | 6.5 mm / 25 mm |
| **Bolt spread front to back** | 95–145 mm |
| **Foot bracket** | 160 × 53 mm, 3 mm steel, 23 mm flange, left and right mirrored |




Dimensions in mm, measured at rest. Specifications subject to change without notice.

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