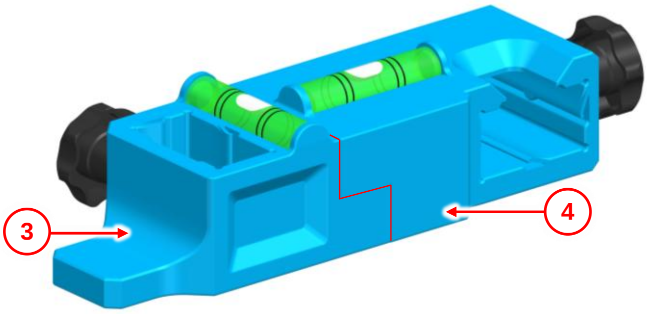
Smart Tool Bike Setup PRO

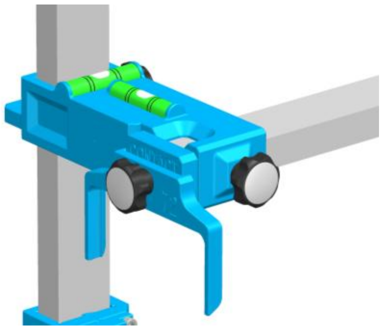
SADDLE HEIGHT AND SETBACK MEASURING ROD - PRO VERSION

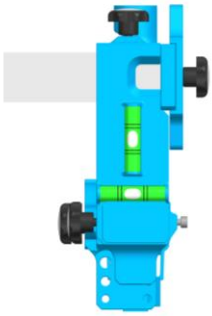
NEW VERSION (REV. 3) – INTEGRATED LEVELING SYSTEM

UPDATE DESCRIPTION

- This new version (**CODE 008-ST-BS-PRO-R3**) replaces the previous revision (CODE 008-ST-BS-PRO-R2).
- The version of CODE 008-ST-BS-PRO-R3 includes the integrated leveling system for components Part 3 and Part 4 (refer to the BILL OF COMPONENTS).







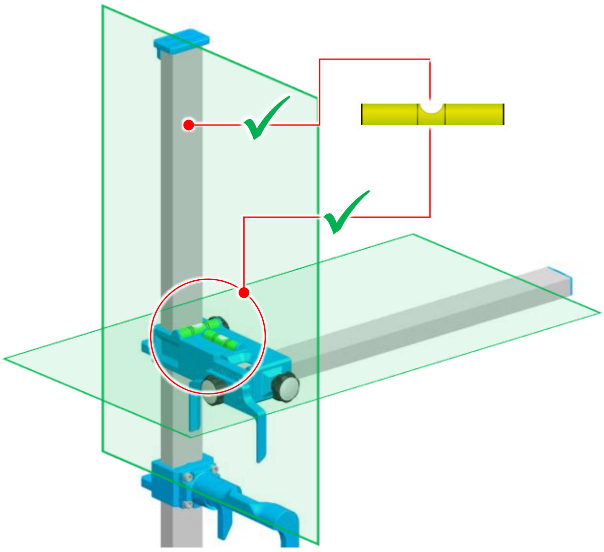
ATTENTION!

WHEN THE SLIDING COMPONENT (PART 3 AND PART 4), EQUIPPED WITH INTEGRATED BUBBLE LEVELS, IS PLACED ON A FLAT SURFACE, IT IS POSSIBLE THAT THE BUBBLE WILL BE AT THE EDGE OF THE TOLERANCE RANGE DELIMITED BY THE TWO BLACK LINES.

IT IS RECOMMENDED NOT TO ATTEMPT TO REPOSITION THE LEVELS IN ANY WAY, AS EXPLAINED BELOW.

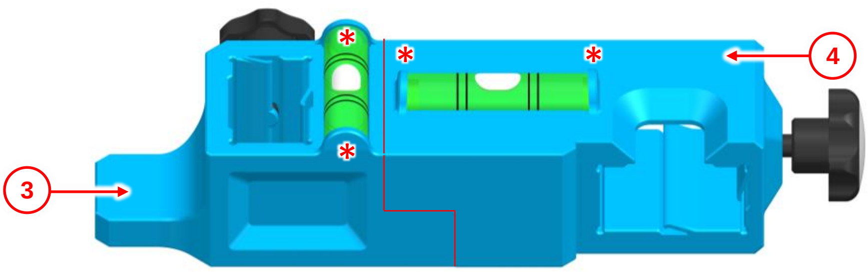
INTEGRATED PRECISION

- The bubble levels are positioned using a direct calibration procedure, meaning **the calibration is done with the Part 3 and Part 4 components installed on the vertical rod**.
- The calibration is performed using a digital level with a resolution of 0.05° (accuracy: ± 0.2°). This tight tolerance of precision will play an important role if the tool is positioned correctly during the saddle setback and saddle height measurements.
- The optimal position of the rod is obtained by using the integrated air bubbles, following these 3 conditions:
  1. Centering of the pivoting anatomical caliper (marked with the printed arrow) with the centerline of the SADDLE using the transverse movement handle of centering cone of the central movement (see section PRELIMINARY ADJUSTMENT OF THE ROD);
  2. Rod in the vertical position relative to the side view of the bicycle (see section SADDLE SETBACK MEASUREMENT);
  3. Rod in the vertical position relative to the sagittal plane, viewed of the bicycle from behind the saddle (see section PRELIMINARY ADJUSTMENT OF THE ROD).



WARNINGS

- The bubble levels are installed on the vertical sliding component (Part 3) and the Part 4 component (connected to Part 3).
- The bubble levels are glued to Part 3 and Part 4 using *Loctite*, **DO NOT REMOVE THEM!**
- It is not recommended to separate the Part 3 and Part 4 components as this is unnecessary.
- Do not attempt to move or remove the bubble levels as this may cause the side support fins to break (ref. *).
- Do not clean the bubble levels with alcohol or cleaners, as this may erase the black circular lines that define the leveling range.

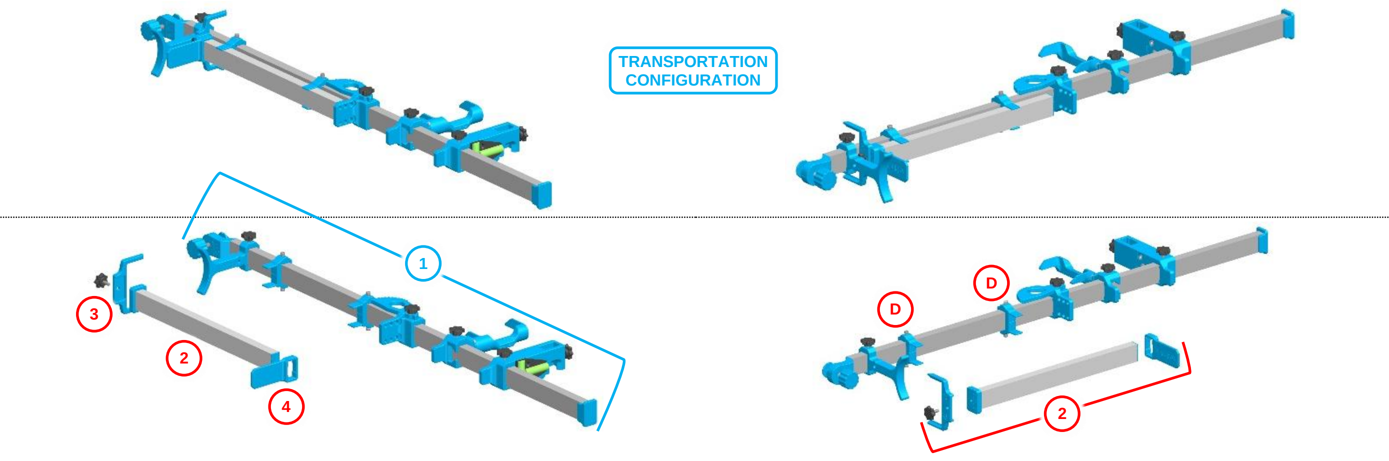


THE FOLLOWING PARAGRAPHS SHOW THE OLD VERSION OF BUBBLE LEVELS, THE USE METHODS ARE THE SAME.

DESCRIPTION

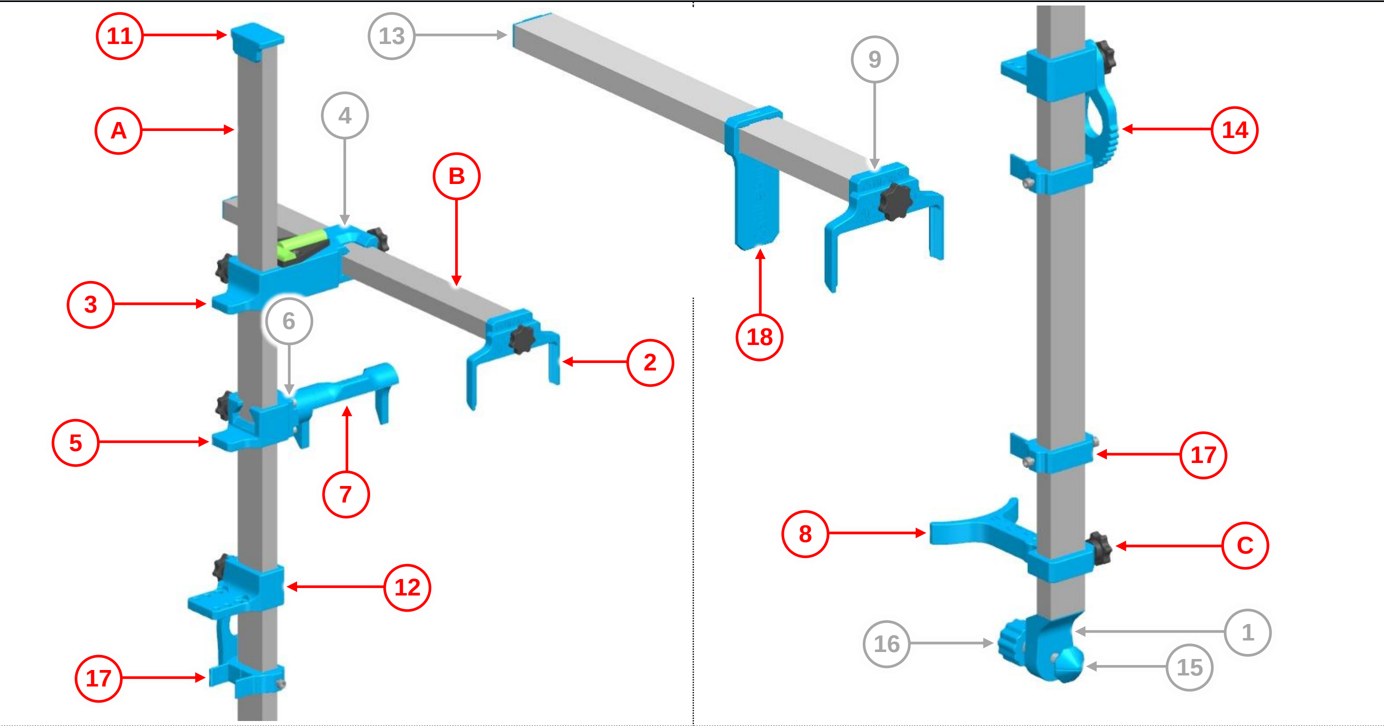
- This Technical tool allows for the simple adjustment/measurement of 4 fundamental dimensional distances for bike setup:
  - **BIOMECHANICAL REFERENCE POINT:**
    - Measurement of the distance from the tip to the Biomechanical Reference Point of the Saddle using the Caliper for Saddle Biomechanical Reference Point measurement and the sliding gauge "Saddle Point" (use the horizontal rod individually);
  - **SADDLE SETBACK:**
    - Distance from the bottom bracket to the saddle tip by removing the Caliper for Saddle Biomechanical Reference Point measurement located on the setback horizontal rod.
    - Distance from the bottom bracket to the biomechanical reference point of the saddle with the use of the Caliper for Saddle Biomechanical Reference Point measurement;
  - **SADDLE HEIGHT:**
    - Distance from the bottom bracket to the biomechanical reference point of the saddle using the tilting support for Saddle biomechanical reference point.
- The tool is available, based on user's need, with a choice of biomechanical reference width between 70, 72, 75 o 80 mm.
- The centering group at the bottom bracket (NO-DRIVE side) is equipped with an adjustable excursion cone to better center the calipers of the biomechanical reference point with the midline of the frame/saddle based on the different widths of bottom brackets on the market.
- The bidirectional bubble level facilitates the vertical and frontal positioning of the rod during the setup with the tibial part of the leg. The tilting support, positioned in the middle of the rod, is used to provide greater stability to the rod, once leveled, adjusting it in contact with the frame during the saddle setback adjustment.
- The tool has a reduced volume in the transport configuration, where the setback rod becomes one with the main rod.

TOOL CONFIGURATION



For transporting the tool, it is advisable to assemble parts 2-3-4 as shown in the pictures and insert the assembly into the appropriate clips (D parts).

ASSEMBLY INSTRUCTIONS



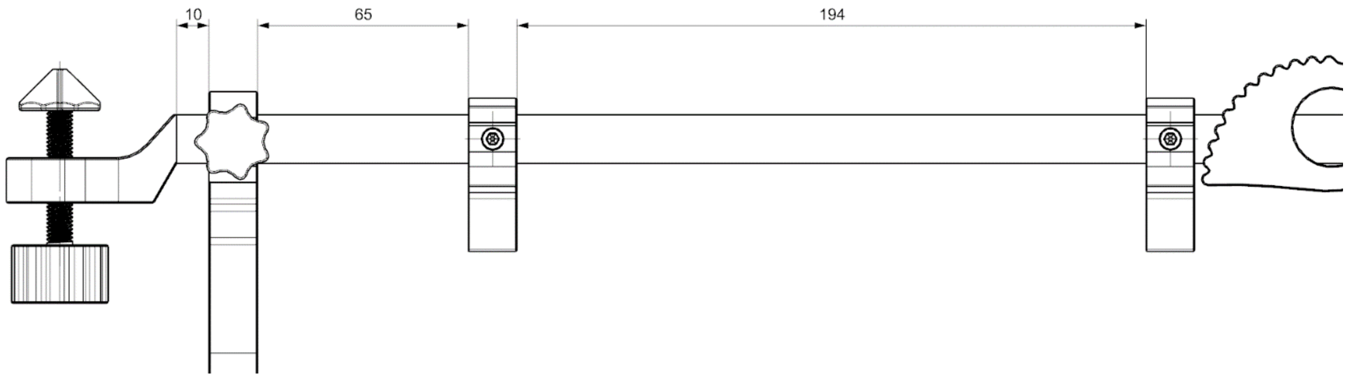
REMOVABLE COMPONENTS

A - Aluminum rod for saddle height measurement (30x15x900 mm)* * only for product REV. 1 code 008-ST-BS-PRO-**R1** (30x15x850 mm)	Part_08: Bottom bracket push support
B - Aluminum rod for setback (30x15x325 mm)	Part_11: Stop support on the vertical rod
C - Locking handles (6 pcs)	Part_12: Mobile support for frame and Tool Organizer
Part_02: Caliper for measuring Saddle Biomechanical Reference Point	Part_14: Tilting support for Frame support
Part_03: Mobile support for setback with bidirectional bubble level	Part_17: Rod transport clip for saddle setback measurement
Part_05: Mobile support for Saddle height measurement	Part_18: Saddle Point Meter
Part_07: Tilting support for Saddle Biomechanical Reference Point	-
Parts 01 – 04 – 06 – 09 – 13 – 15 – 16 not removable (glued or already assembled)!	

WARNINGS FOR USE

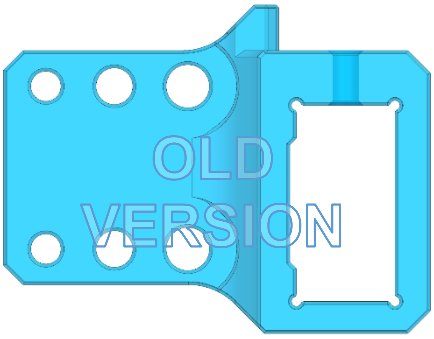
- Tighten the locking handles slightly. Excessive tightening may compromise the functionality of threaded holes.
- Do not expose the object to temperatures exceeding 30°C and/or directly to UV rays, as it may deform.
- It is possible to disassemble **parts (3+4) – 5 – 8 – 12 – 17** that slide on the vertical rod (**A**) by removing the Sliding Stop (**part 11**) by sliding them from the top, along with **parts B – 2 – 7 – 18**. Do not remove **parts 9 and 13** from the horizontal rod (**B**) for saddle setback measurement! Do not remove the Bottom Bracket Centering Cone Support (**part 1**) and **parts 15 – 16**.

OPTIMAL ASSEMBLY



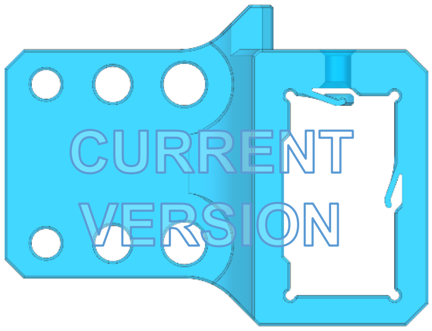
SLIDING PARTS

TYPE A (only for code 008-ST-BS-PRO-R1 purchased before 18/02/2024)



1. Infilare i componenti scorrevoli (**parti 8 – 17 – 12 – 5 – 3**) sull'asta nell'ordine raffigurato;
2. **NOTA ASSEMBLAGGIO SUPPORTO BASCULANTE (parte 14): tra il componente scorrevole (parte 12) ed il supporto basculante interporre la rondella e l'apposito dischetto in dotazione!**
3. Insert the supplied washer into the threaded hole of each component. MAKE SURE THAT THE FLAT SIDE OF THE WASHER IS COMPLETELY AT THE BOTTOM OF THE HOLE AND IN CONTACT WITH THE SHAFT! It is advisable to use a toothpick to facilitate this operation. The discs aim to protect the profile of the rod when closing the locking handles of the components and the screws in component **part 17**;
4. Screw the handles into the holes of the sliding components;
5. Install the Sliding Stop (**part 11**) on top of the rod: if necessary, apply a small amount of liquid soap to the outside of the wings to facilitate sliding.

TYPE B (only for code 008-ST-BS-PRO-R1 purchased after 18/02/2024 and SUCCESSIVE REVIEWS)



1. Assemble the sliding components (**parts 8 – 17 – 12 – 5 – 3**) on the rod in the order shown;
2. **NOTE FOR ASSEMBLING THE TILTING SUPPORT (part 14): place the washer provided between the sliding component (part 12) and the tilting support.**
3. Insert the two disks provided for the two **parts 17**. ENSURE THAT THE FLAT FACE OF THE DISC IS COMPLETELY AT THE BOTTOM OF THE HOLE IN CONTACT WITH THE ROD! It is recommended to use a toothpick to facilitate the operation. The discs aim to protect the profile of the rod when closing the set screws of the two clips.
4. Screw the handles into the holes of the sliding components;
5. Install the Sliding Stop (**part 11**) on top of the rod: if necessary, apply a small amount of liquid soap to the outside of the wings to facilitate sliding.

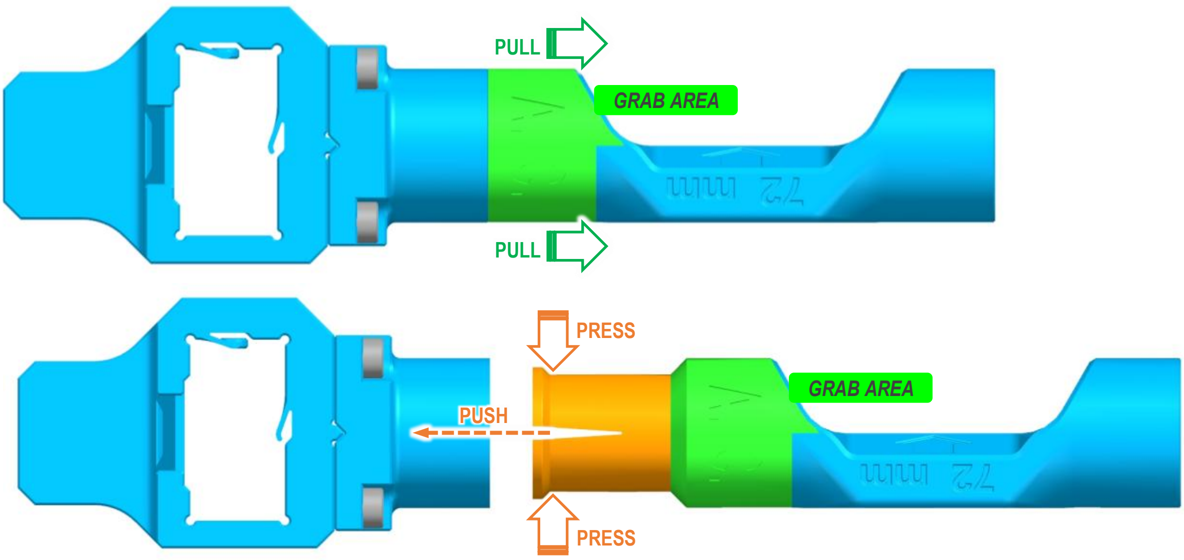
SLIDING

TYPE B sliding parts may initially have difficulty sliding on the shafts when the tool is first used. However, with time and use, the internal push tabs will adapt to the shaft section, facilitating proper sliding. If there is significant friction, slide the component repeatedly until you feel the shaft warming slightly. Wait approximately 20-30 minutes for the material to stabilize and return to normal temperature. Then, remove the component from the shaft, clean the shaft with a damp cloth, and remove any residue from the inside of the component using compressed air or a nylon bristle brush.

QUICK RELEASE BRP TILTING SUPPORT

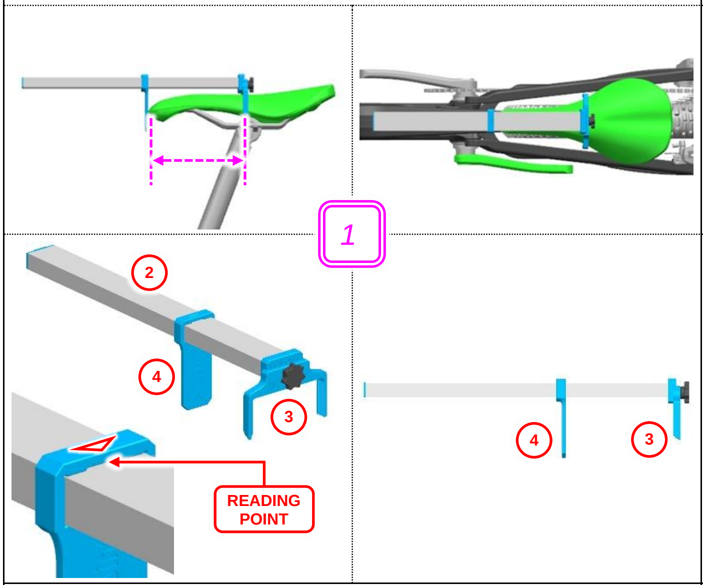
CAUTION!

- In case of installation/replacement of the TILTING SUPPORT (**part 7**), grip the support at the base (**AREA HIGHLIGHTED IN GREEN**) and pull with moderate force.
- To insert, position the TILT SUPPORT in correspondence with the hole of the sliding support, press the four wings lightly and push. NOTE: apply a minimal amount of transparent silicone grease on the outside of the wings of the male coupling.

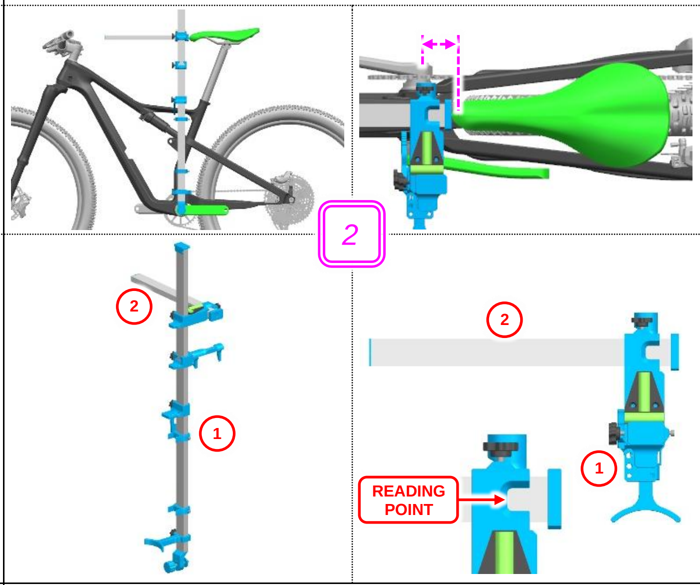


APPLICATION OF MEASUREMENTS

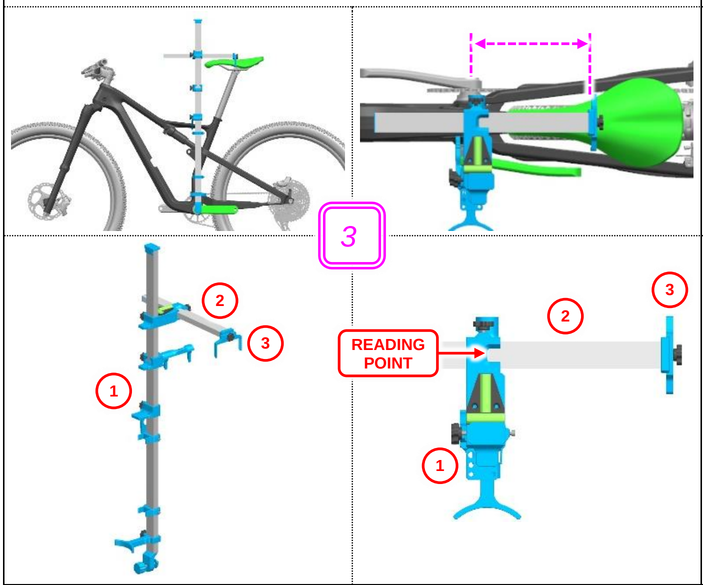
1. SADDLE BIOMECHANICAL REFERENCE POINT DISTANCE



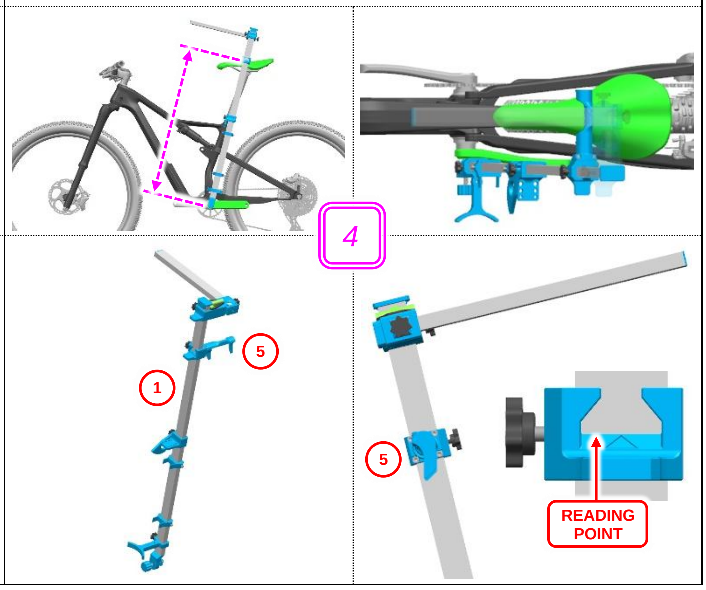
2. SADDLE SETBACK: DISTANCE BOTTOM BRACKET – TIP OF THE SADDLE



3. SADDLE SETBACK: DISTANCE BOTTOM BRACKET – SADDLE BRP



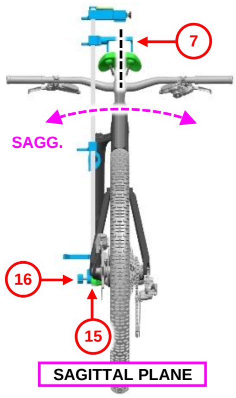
4. SADDLE HEIGHT: DISTANCE BOTTOM BRACKET - HEIGHT OF SADDLE BRP



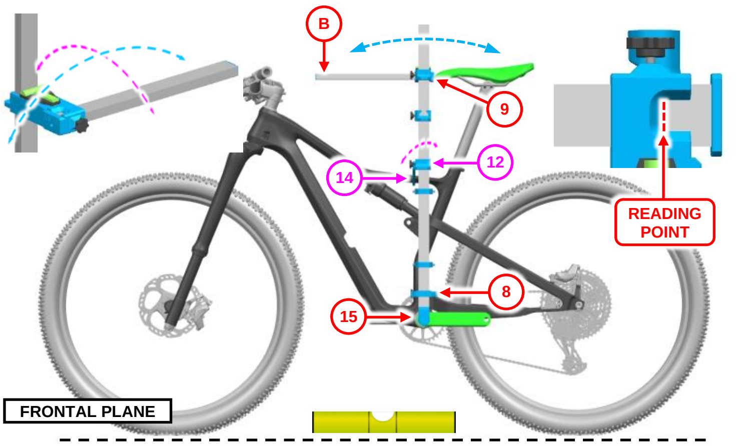
DETERMINING PARTS OF THE MEASUREMENTS
1 - Aluminum rod for saddle height measurement
2 - Aluminum rod for setback (30x15x325 mm)
3 - Caliper for measuring Saddle Biomechanical Reference Point
4 - Saddle Point Meter
5 - Tilting support for Saddle Biomechanical Reference Point

PRELIMINARY ADJUSTMENT OF THE ROD

- The optimal adjustment of the rod, before proceeding with the measurements, is t align the CENTERLINE of the biomechanical reference point support (indicated by the arrow) with the centerline of the SADDLE. This preliminary adjustment is necessary to eliminate the inclination error of the rod from the bottom bracket to the biomechanical reference point of the saddle when using "calipers" with preset width.
  Proceed as follows:
  1. Place the centering cone in the bottom bracket housing (**part 15**);
  2. Hold the rod vertically along the sagittal plane (**ref. SAGG.**) using the level;
  3. Adjust the transverse movement handle of the cone (**part 16**) to bring the center of the pivotal caliper (**part 7**) in line with the centerline of the saddle.
- At this point the PIVOTAL SUPPORT (for measuring the saddle height) will be aligned with the centerline of the frame.
- NOTE: this procedure should be performed for each bicycle as the dimensions and components of the bottom bracket may vary. Repeat using PIVOTAL SUPPORTS with a different biomechanical reference point.

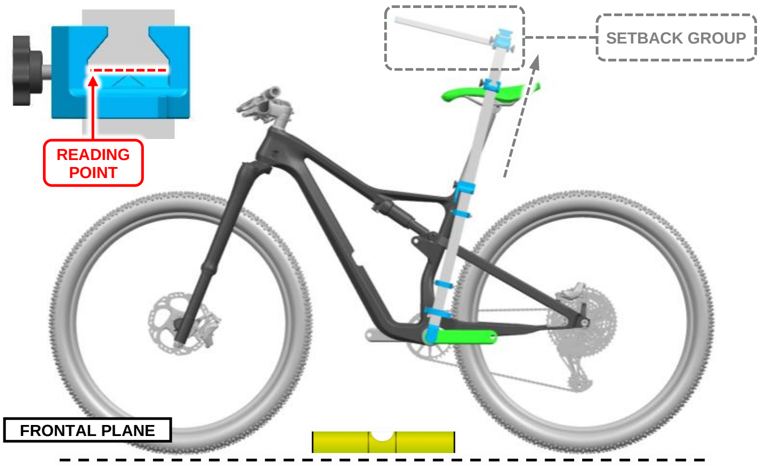


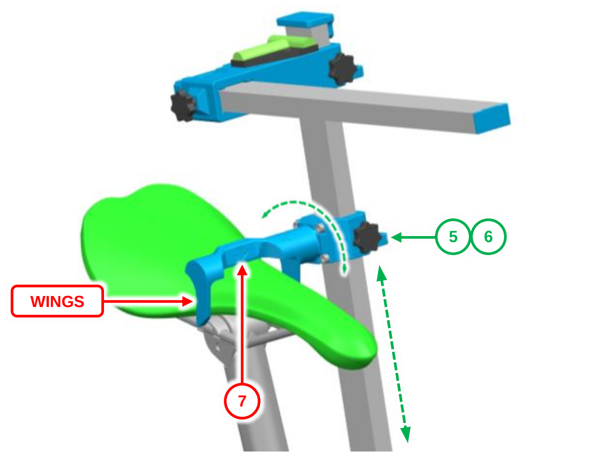
SADDLE SETBACK MEASUREMENT



- Make sure the bike's support is level!
- Place the Centering Cone (**part 15**) in the crankset/bottom bracket through-hole (NO DRIVE side);
- With the tibial part of the leg, apply a slight pressure to the Push Support (**part 8**) to keep the tool in place during the measurement phases;
- Using the Level, vertically adjust the position of the Mobile Support against the frame (**part 12**) and the inclination of the tilting support (**part 14**) in line with the frame to keep the rod vertical along the sagittal plane;
- With the help of the level, align the rod vertically along the frontal plane;
- Slide the measuring rod (**part B**) until the Stop Support lean against the Saddle tip (**part 9**).
- To measure from the bottom bracket to the biomechanical reference point of the saddle assemble the ADDITIONAL CALIPER to the stop support (**part 9**) using the dedicated handle.

MEASUREMENT OF SADDLE HEIGHT FROM BOTTOM BRACKET TO SADDLE BIOMECHANICAL REFERENCE POINT

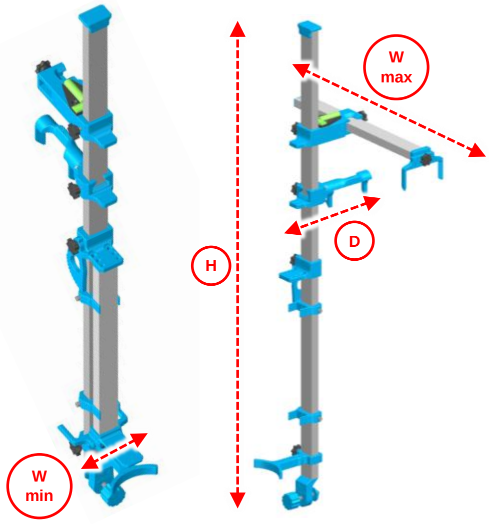




- Move the **Setback group** away so that it is not in the way;
- Lift the mobile support for saddle height measurement (**part 5 and 6**) and lower it near the surface of the saddle;
- Fine-tune the positioning near the surface of the saddle by identifying the contact with the central plane of the tilting support (**part 7**);
- NOTE: the inside of the **fins** of the tilting support, which define the Biomechanical Reference Point, must both be in contact with the lateral parts of the saddle. This positioning requires the synchronous movement of the mobile support (**part 5 and 6**) with the tilting support (**part 7**) so that the latter rests naturally on the surface of the saddle and laterally in contact with the inside of the wings.

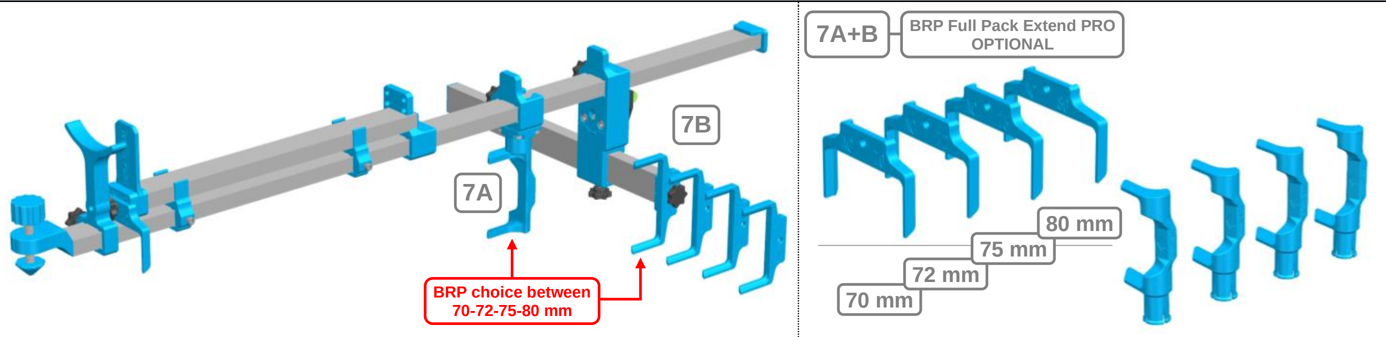
FEATURES

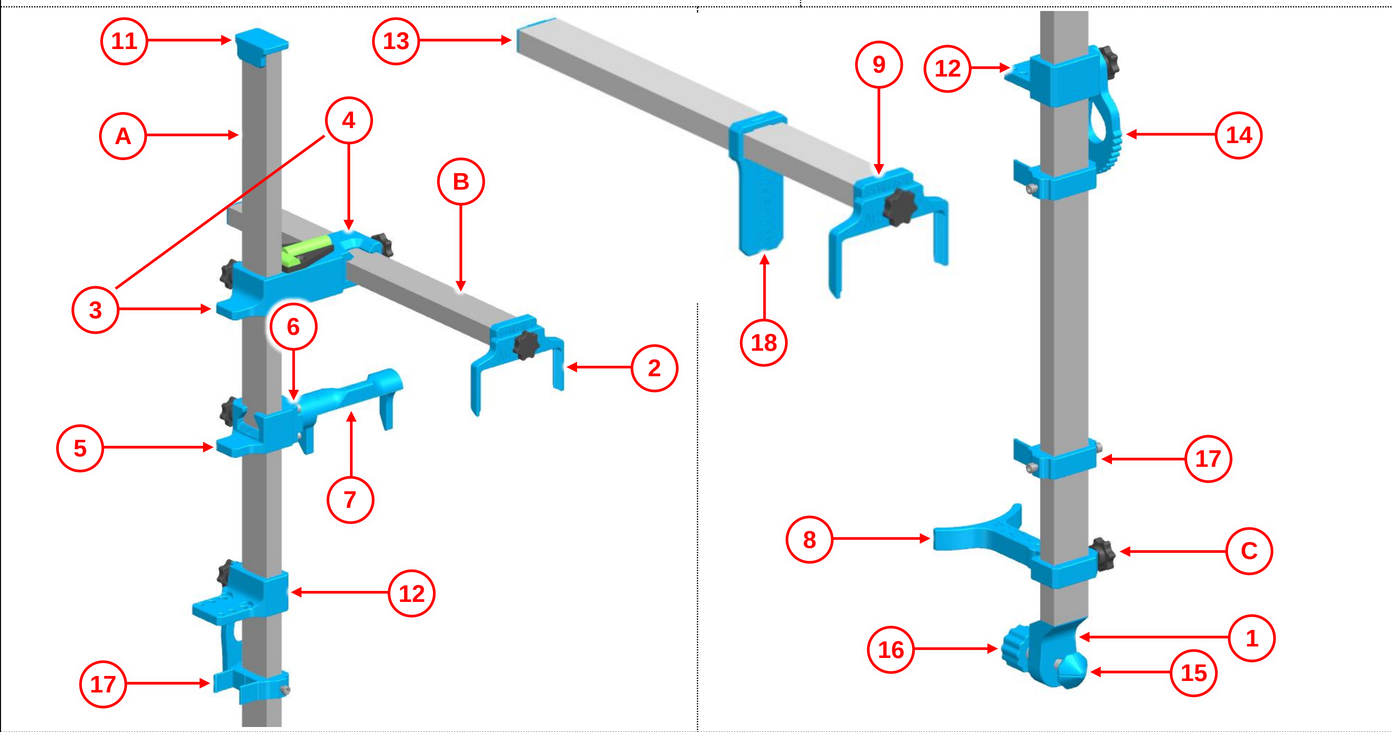
- Integrated and pre-calibrated bubble levels with vertical rod
- (H) Total height dimensions: 960 mm
  (for old product REV. 1 code 008-ST-BS-PRO-**R1**: 910 mm)
- (Wmax) Maximum width: 363 mm (with assembled saddle setback rod)
- (Wmin) Minimum width *: 88 mm
- (D) Maximum depth: 227 mm
- Maximum measurable height: 920 mm
  (for old product REV. 1 code 008-ST-BS-PRO-**R1**: 870mm)
- Measurable setback from the tip of the saddle: 24 - 310 mm
- Measurable setback from the anatomical center of the saddle: MAX 310 mm
- Weight: 595 gr.
- Precision: ± 1 mm
- Materials: aluminum, PETG parts, steel screws.



* with setback rod in transport configuration.

COMPONENTS





BILL OF COMPONENTS	
A - Aluminum rod for saddle height measurement (30x15x900 mm)* * only for product REV. 1 code 008-ST-BS-PRO-**R1** (30x15x850 mm)	Part_08: Bottom bracket push support
B - Aluminum rod for setback (30x15x325 mm)	Part_09: Saddle tip Stop Support for setback *
C - Locking handles (6 pcs)	Part_11: Stop support on the vertical rod
Part_01: Bottom bracket centering cone support *	Part_12: Mobile support for frame and Tool Organizer
Part_02: Caliper for measuring Saddle Biomechanical Reference Point	Part_13: Cap for sliding rod for setback measurement *
Part_03: Mobile support for setback with bidirectional bubble level *	Part_14: Tilting support for Frame support
Part_04: Fixed support for reading Saddle setback with bidirectional bubble level *	Part_15: Bottom bracket cone *
Part_05: Mobile support for Saddle height measurement	Part_16: Cone transverse travel handle *
Part_06: Fixed support for Saddle height measurement *	Part_17: Rod transport clip for saddle setback measurement
Part_07: Tilting support for Saddle Biomechanical Reference Point	Part_18: Saddle Point Meter
* Parts 01 – 03+04 – 06 – 09 – 13 – 15 – 16 not removable (glued or already assembled)!	