

# Operating Manual

## Wheel Alignment System

**MTH040150A**

Version\_V1.5\_2022/06



## Contact

### **Manthey-Racing GmbH**

Technical Support

Rudolf-Diesel-Str. 11-13  
53520 Meuspath  
Deutschland

Telefon: +49 (0) 2691 9338 807

E-Mail: [techsupport@manthey-racing.de](mailto:techsupport@manthey-racing.de)

## Download Area

Assembly and Operating Instructions as well as Technical Manuals are available for download through the following link.

<http://www.manthey-racing.de/downloads.htm>

## Forward

This manual outlines the functionality of the Manthey Racing Wheel Alignment System and explains operation of the system and its components step by step.

Please read these operating instructions carefully before using the system. All users of the system must be instructed on the work steps described in this manual.

The wheel alignment system is designed to simplify and optimise the measurement of vehicle geometry. However, some safety instructions must be observed during use. These can be found on pages 7 to 9.

Though the system has been manufactured to precise tolerances and high quality, it must be noted that any measuring system can only deliver accurate results if, in addition to the correct operation, care is taken in the handling and storage of the system components.

It is expressly stated that some components contained within the system (Camber Gauge, Track Lasers, etc.) require regular measurement accuracy checks. In most cases these checks can be conducted by the operator. These checks are described as much as possible in this manual. In some cases the component to be tested will have to be sent to Manthey-Racing GmbH for calibration checks. This manual outlines the wheel alignment system including all available optional accessories. In addition to the basic equipment, use of the optional accessories will be described.

These instructions do not claim to be complete.

For questions regarding the operation of the system or component testing/calibration after damage or incident, please contact Manthey-Racing GmbH.

**It is recommended that wheel alignment system receives an annual inspection and calibration by Manthey-Racing GmbH.**



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# 1. Warning and Safety Instructions

The classification of warning and safety information is made using the respective signal word (Danger, Warning, Attention) in addition to the warning icon.



**Warning of death or serious bodily injuries, which will occur in the event of non-compliance.**



**Warning of death or serious bodily injuries, which will occur in the event of non-compliance.**



**Warning of minor bodily injuries in the event of non-compliance.**



**Warning of property damage in the event of non-compliance.**



**Indicates additional information to aid the work step.**



**Specifies required tightening torque [Nm].  
The specified tightening torque must be observed.**



**Class 2 Laser. Avoid looking directly into the laser beam. Risk of eye damage!**

In order to prevent injuries, deterioration of vehicle operation and road safety, or damage to the vehicle as a result of improper work, these warning and safety instructions must be read carefully and followed completely.

Manthey-Racing GmbH is unable to identify all dangerous situations which may occur through the incorrect use of the system. Attempting to perform repair, maintenance, or adjustment work without the appropriate training, tools, and equipment can result in death or injury to yourself or others. Additionally, damage to, or operational issues with the vehicle can also arise.

It is therefore expressly stated that all work in the work steps described must only be carried out in compliance with the applicable guidelines and regulations of the local authorities, health, accident and environmental protection or taking into account the applicable legal provisions.

## 1.1 General Safety Information

**⚠ DANGER**

Risk of injury and accident during and after work on the vehicle.

- Repairs are to only be carried out if access to the repair-handbook in the PIWIS Information System is also available.
- Follow the safety instructions.
- Follow the repair handbooks of the vehicle series in the PIWIS Information System.

**⚠ DANGER**

Falling vehicle risk:

Risk of Squeezing or Crushing.

Damage to vehicle.

- Do not place any rigid objects under the lifted vehicle.
- Secure lifting platform against lowering.
- Remove all objects under vehicle before lowering.
- Raise the vehicle using only the designated vehicle lifting points.
- Outer-most vehicle lifting points should be used as a matter of priority.

**⚠ WARNING**

Improper handling of safety-related fasteners risk:

Risk of injury.

Loosening of fastener.

- Always use new fastening screws and nuts after every dismantling.
- Observe the specified tightening torques.
- Visually inspect the components used.

**⚠ WARNING**

Working with compressed air:

Risk of eye injuries.

Damage and contamination of components.

- Wear safety glasses with side protection.
- Secure the compressed air discharge point with suitable materials.
- Place the compressed air discharge point on suitable areas.

**⚠ WARNING**

Falling objects or loads:

Risk of Squeezing or crushing.

- Secure components against falling.

**⚠ WARNING**

Sharp or sharp-edged objects:

Risk of Cracks, Punctures, or Cuts.

- Wear Personal Protective Equipment (PPE).

**⚠ WARNING**

Heavy Components:

Risk of Crushing.

- Wear Personal Protective Equipment (PPE).
- If necessary seek assistance during task.

## 1.2 Special Safety Information

### NOTE

The wheel alignment system is intended exclusively for measurement of vehicles (Street and Race).

### ⚠ DANGER

For every measurement, the specifications stated in this manual must be observed.

### ⚠ DANGER

The alignment system may only be used for vehicles with a **maximum wheel load of 600 kg**

### ⚠ WARNING

In the event of improper use and failure to observe the safety and warning guidelines described, the following dangers / damage can occur:

- Incorrect measurement values can be displayed.
- The system can be damaged mechanically or electrically.
- The platforms can tip over.
- The vehicle can be damaged.
- Failure to follow the safety and warning guidelines can lead to operator injury.

### NOTE

In order to avoid the dangers mentioned, the following protective measures should be observed:

- The work area around the vehicle must be cordoned off.
- The setup and operation of the measuring wheel system may only be carried out by trained personnel.
- Use the wheel alignment system only on a flat and stable surface.
- The wheel load scales and toe lasers should receive **annual** calibration in order to guarantee consistently accurate measurement results. In the event of damage due to improper handling, the system inspection and calibration should be carried out immediately.
- Do not look directly into the laser beam.
- The complete wheel alignment system must be stored and transported in the supplied flight case.
- The system must be protected from moisture (especially salt water).
- Lids and drawers must be closed using both hands. The flight case may only be transported while locked.

## 2. Benefits of the System

- The precisely manufactured system allows very high measurement accuracy.
- Ease of use reduces human errors to a minimum.
- The alignment wheels roller ball feet ensure minimal friction at their contact points. This allows the chassis to move freely and unrestricted by counterforces at the tyre contact point.
- By using wheel hub mounted gauging equipment, fluctuations in tire dimensions or stiffness due to air pressure, manufacturing tolerances and wear do not affect the measurements.
- Suspension component access is significantly increased by the alignment wheels.
- Bluetooth data transmission means that no cables are required.
- The system can be quickly set up and dismantled.
- Measurement can be quickly carried out by just one person.
- The alignment wheels can be changed individually. The adaptation to other vehicles is possible with wheel hub adapters.
- The system is supplied in a large, stable flight case with storage space for weight bags (driver's weight) and shims (incl. accessories) for changes to the wheel alignment.
- The entire system can be transported easily and safely in the custom-made flight case.





### 3. Component Overview



**Case Lid**



**Upper Compartment**



**Drawer 1**



**Drawer 2**



**Drawer 3**



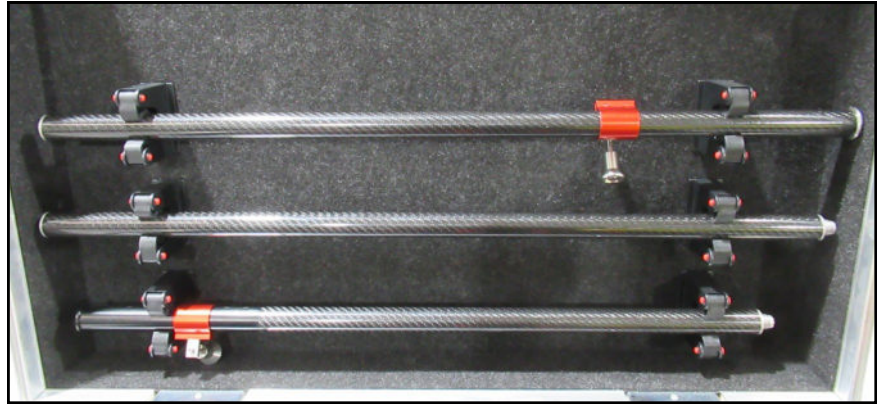
On the following pages, all of the available components (including purchasable optional accessories ) are outlined.

### 3. Component Overview

#### 3.1 Contents - Case Lid

The 3-Piece track width ruler is stored in the lid of the transport. The track gauge is part of the system standard equipment.

To ensure simple and precise handling, the 3-Piece ruler is constructed from rigid and lightweight carbon fibre composite.





### 3. Component Overview

#### 3.2 Contents - Upper Compartment



The upper compartment of the flightcase is intended for storage of the optionally available components.

Here, the weight bags (10x10kg & 2x5kg) along with the four optional wooden blocks can be safely stored here.

If the optional "Quick Release" steering wheel level for Porsche race cars is purchased, the USB charger for this item can also be stored here.

- ① Weight Bag - 10 kg
- ② Weight Bag - 5 kg
- ③ Height Block\*
- ④ Mini-USB Charging Cable and Charger



\*The optionally available height blocks are used in cases where the airjacks alone do not raise the vehicle high enough to allow clearance for the alignment platforms underneath.





## 3. Component Overview

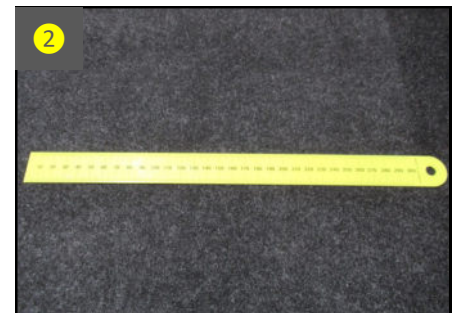
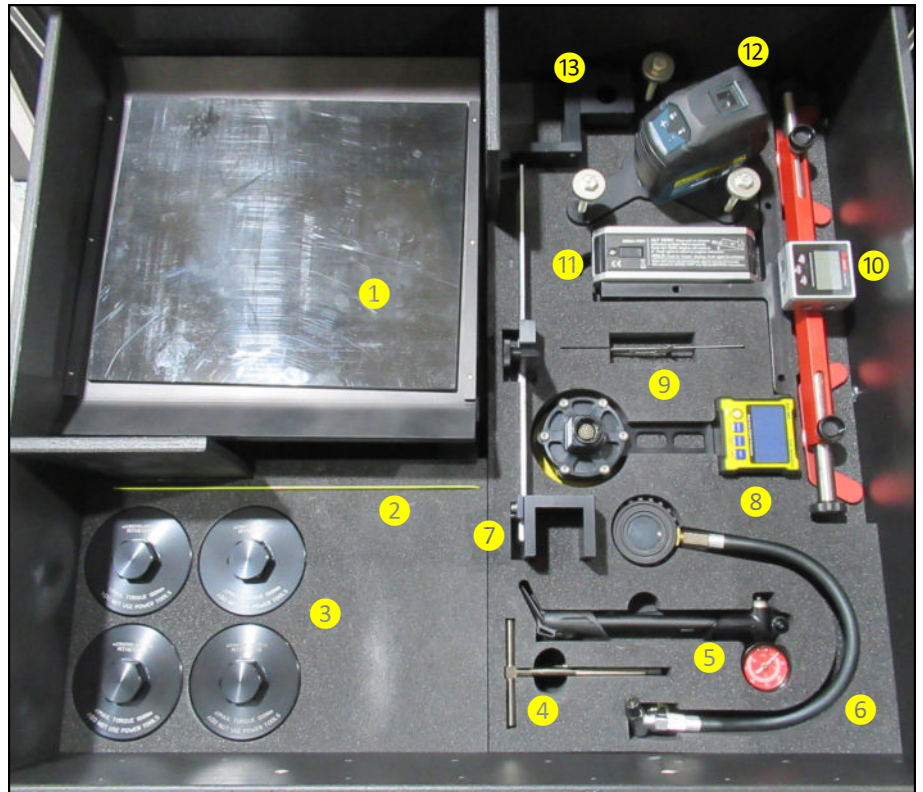
### 3.3 Contents - Drawer 1

- ① Turntable
- ② Steel Ruler - 300 mm
- ③ Centrelock Wheel Nuts\*
- ④ Bore Gauges
- ⑤ Damper Pump
- ⑥ Air Pressure Gauge.

\*The standard centre lock wheel nuts of Porsche brand vehicles (991 Series) are not compatible for use with the alignment wheels. Use of the centre lock wheel nuts (3) shown opposite is mandatory for this application.

#### ⚠ WARNING

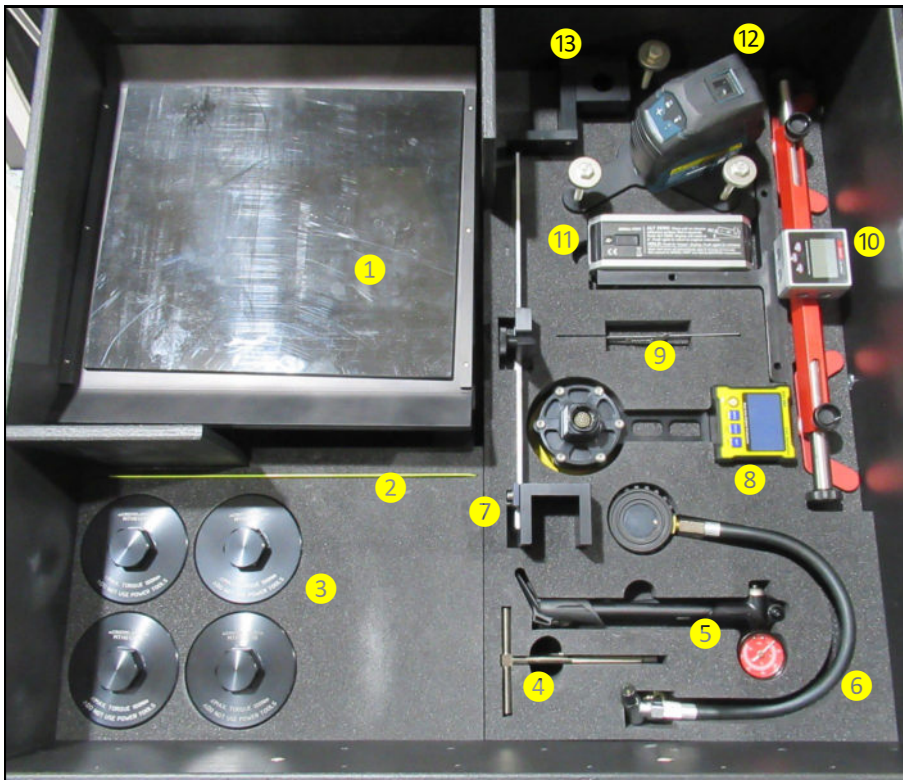
The tightening torque specification of 100Nm must not be exceeded! An impact wrench must NOT be used to tighten the centre lock wheel nuts!





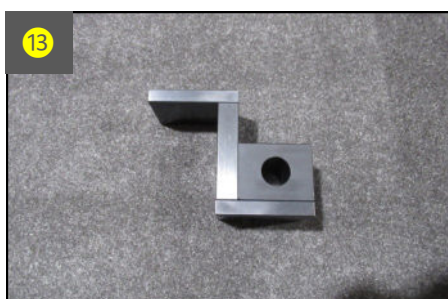
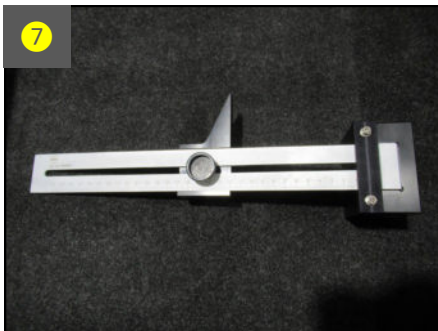
### 3. Component Overview

#### 3.3 Contents - Drawer 1 (Cont.)



- 7 Splitter Adjustment Tool - GT3R\*
- 8 Steering Wheel Level - "Quick Release"
- 9 Steel Ruler - 150 mm
- 10 Steering Wheel Level - "Universal"
- 11 Camber Gauge
- 12 Levelling Laser with Tripod
- 13 Ride Height Measurement Block GT3R

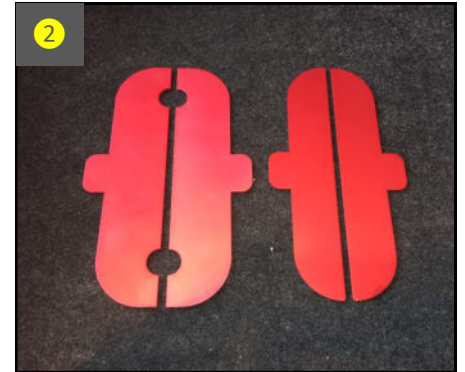
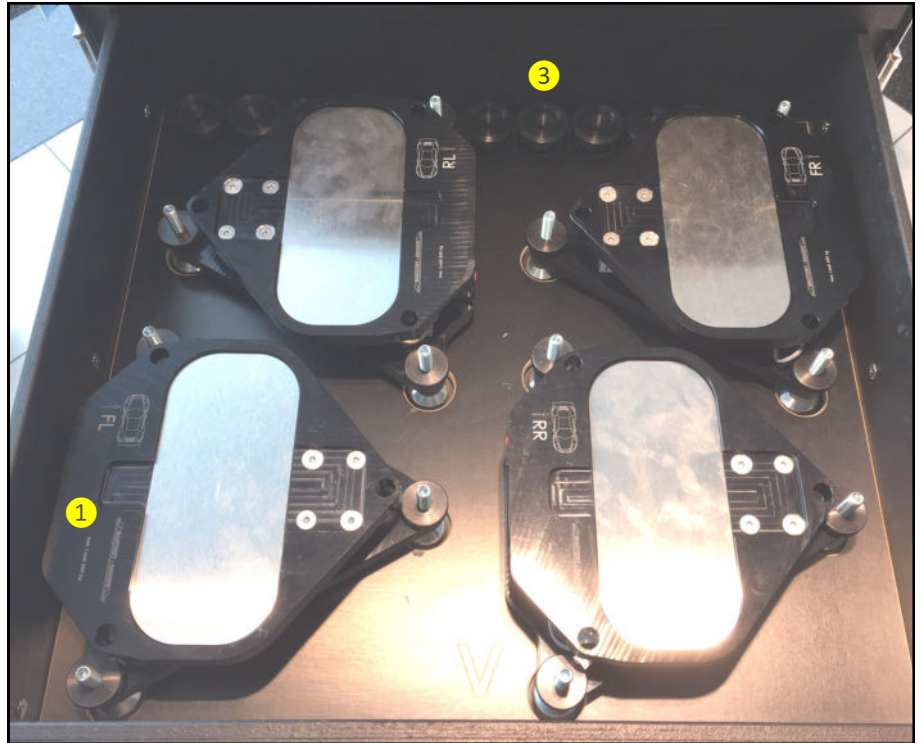
\* Use of the splitter adjustment tool (7) is outlined in the 911 GT3R (991.2) and 911 RSR technical documentation. As such, instruction for this is not repeated in this manual.



### 3. Component Overview

#### 3.4 Contents - Drawer 2

- ① Alignment platforms
- ② Limit Plates FA/RA
- ③ Pad Risers



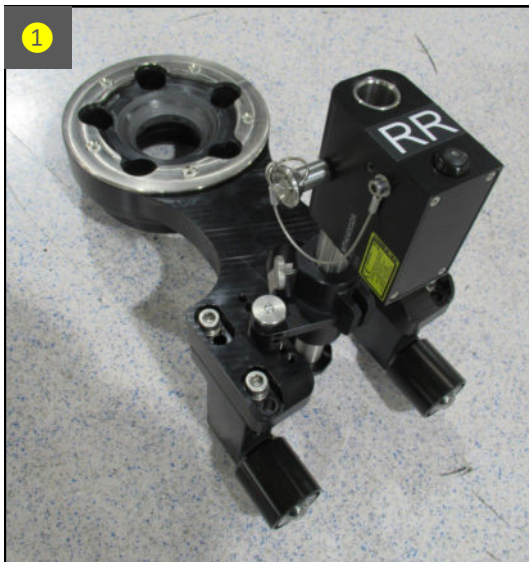
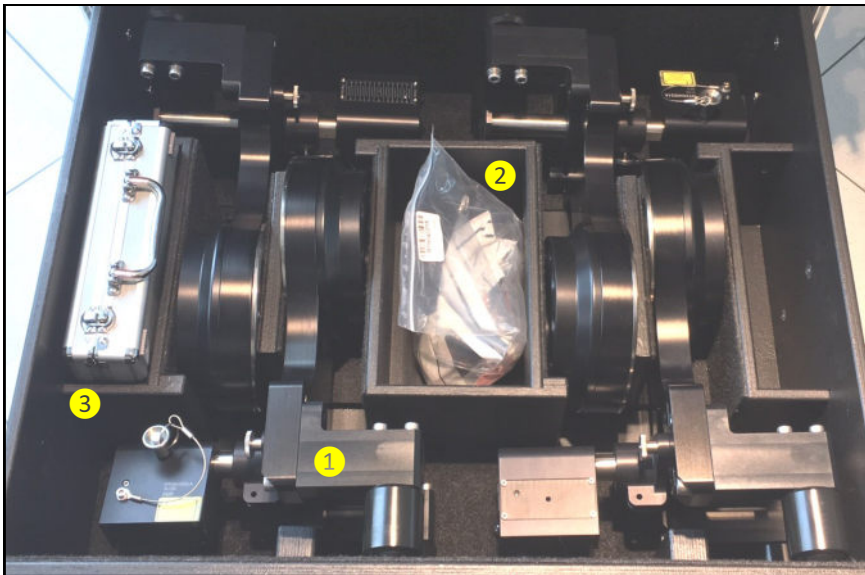


### 3. Component Overview

#### 3.5 Contents - Drawer 3

- ① Alignment wheel
- ② Screw/Shim Pack\*
- ③ Tablet with Accessories

\* The screws and adjustment shims included in the kit allow the alignment wheels to be adapted to individual vehicle requirements (offset compensation and height adjustment).



## 4. Component Functions Overview

### 4.1 Alignment Platforms

Four alignment platforms are included in the kit. Each alignment platform is assigned to a fixed position on the vehicle, and is marked accordingly.

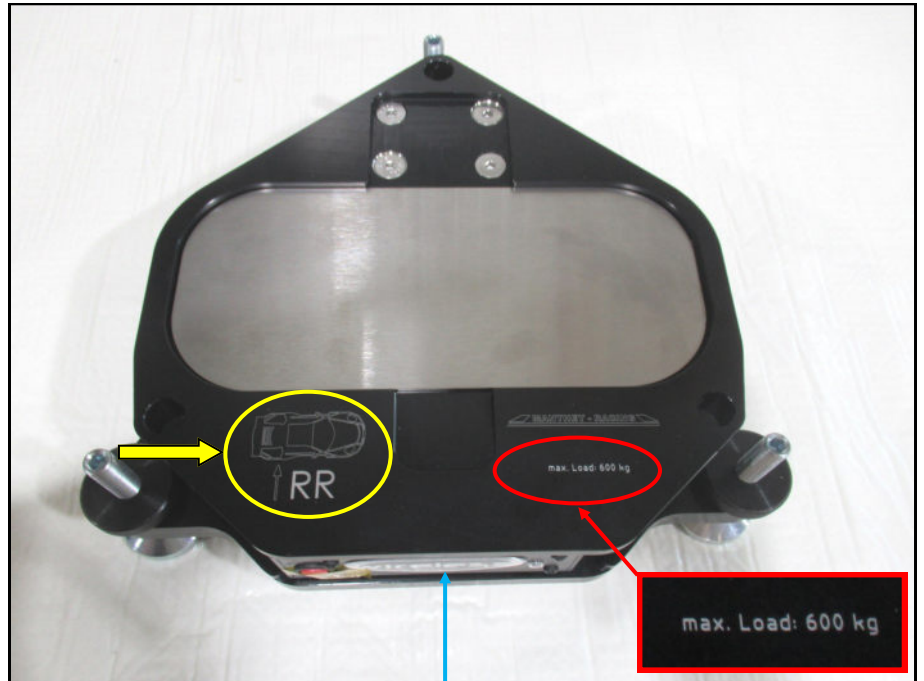
The alignment platforms fulfill two functions: Firstly, the four alignment platforms function as a true and absolutely level reference surface. Secondly, each alignment platform has an integrated wheel load scale (Load cell) to determine and transfer the individual wheel loads.

RR → Rear Right

RL → Rear Left

FR → Front Right

FL → Front Left



#### NOTE

**Incorrect assignment of the alignment platforms will lead to reversed wheel load values!**

#### WARNING

**The 600kg maximum load rating of the alignment platforms must never be exceeded. The vehicle must be lowered slowly and evenly onto the alignment platforms. Failure to do so will lead to damage of the load cell.**

The on/off power switch for the scales is located on the front side of the alignment platform.

This side should face toward the outside of the vehicle.

The status LED signals the current state of the batteries.

LED ● Charge State - **OK**

LED ● Battery Status - **Critical**

LED ● Battery Low - **Change**



#### WARNING

**The vehicle may only be measured using the wheel alignment system on a suitably firm and stable surface! The alignment platforms could tip over otherwise!**

**Failure to observe can lead to severe injuries and property damage!**

#### WARNING

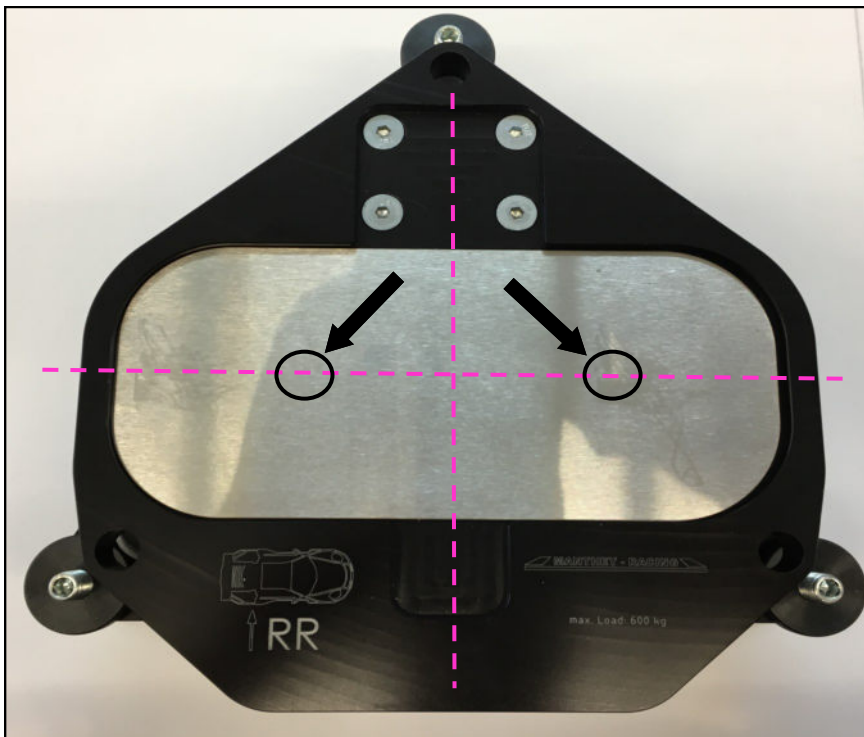
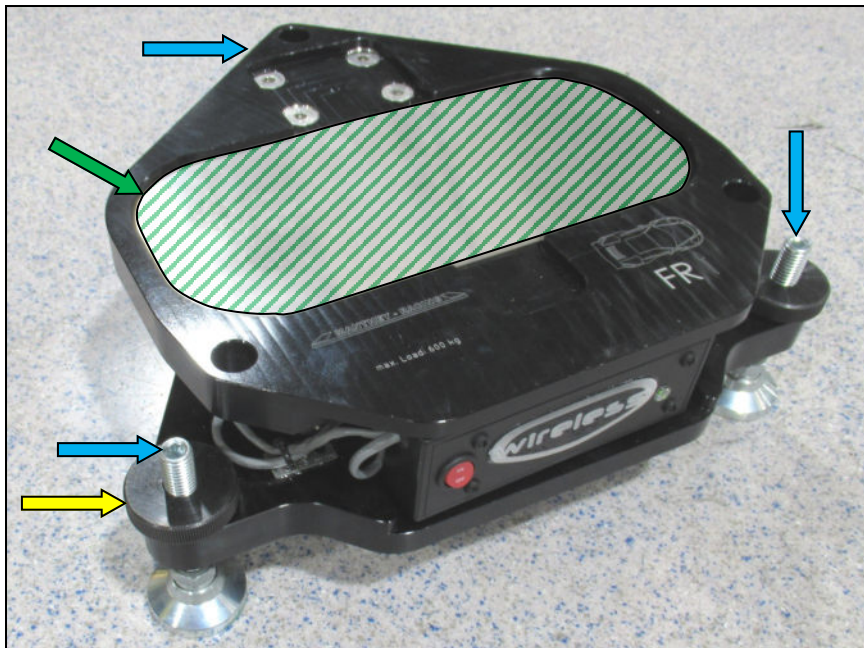
**Lowering the vehicle too quickly (e.g. via the quick release valve of the lifting system) can irreparably destroy the load cells of the wheel load scale.**

**Damaged or defective load cells due to overloading are excluded from any warranty!**



## 4. Component Functions Overview

### 4.1 Alignment Platforms



Position the four alignment platforms under the alignment wheel at their respective corners. The roller balls of the alignment wheels must only contact the alignment platforms in the green hatched area.

**WARNING**

If the roller balls are positioned outside of the green hatched area, the vehicle can roll off the alignment platform! Risk of personal injury and property damage!

The height adjustment and levelling of the alignment platform is done using the three threaded feet.

**NOTE**

Hex Wrench Size: 8mm

Once the height and alignment of the alignment platform has been set, the threaded feet must be secured against unintentional adjustment by using the knurled locking nuts.

**WARNING**

The height adjustment / levelling of the alignment platform must not be carried out under load (vehicle weight on the alignment platform)!

The alignment platforms are to be placed under the vehicle such that the roller balls of the alignment wheels are centred in the contact area.

## 4. Component Functions Overview

### 4.1 Alignment Platforms

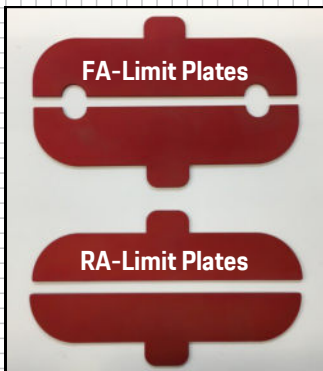
The three marked holes are used to accommodate the levelling sleeves while aligning the alignment platform.



In order to limit the movement of the vehicle on the alignment platforms to a minimum during measurement, the limit plates must be inserted as shown.

Always place notched limit plates on the front axle alignment platform.

Always place the straight edged limit plates on the rear axle alignment platforms.



The limit plates are inserted on one vehicle side only (Front and Rear Axle)!

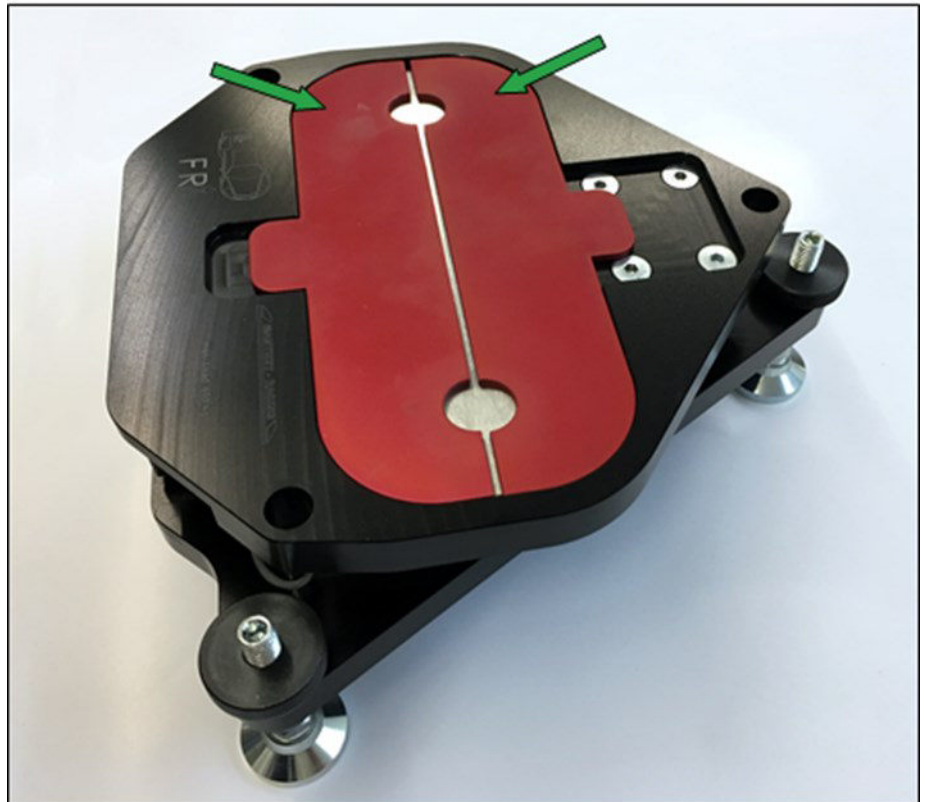
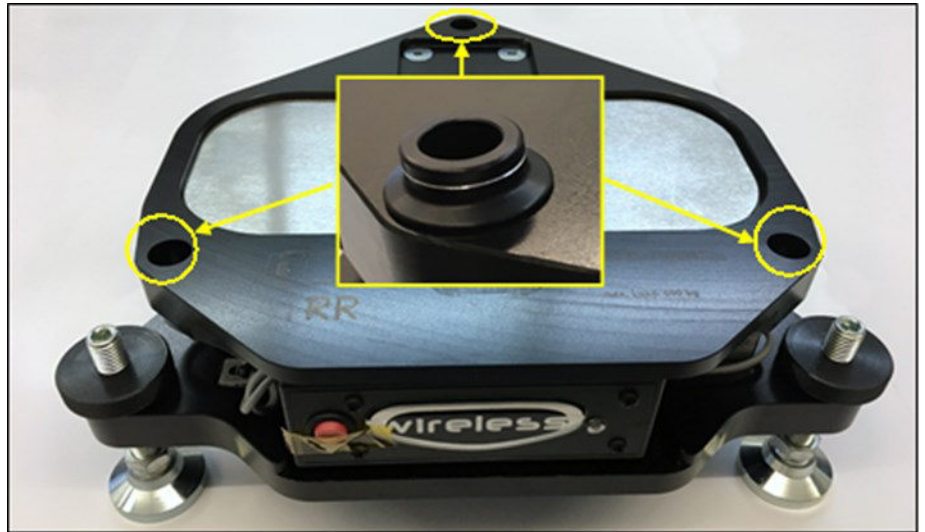
Before lowering the vehicle onto the alignment platforms, temporarily remove the limit plates. Once lowering is complete, reinsert the limit plates, ensuring they are properly seated.

#### ⚠ WARNING

**Use of the system without the limit plates in position is not permitted.**

#### NOTE

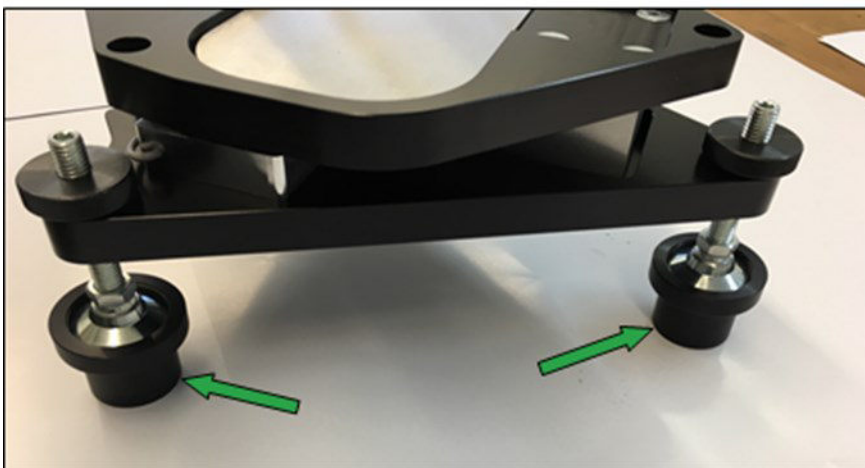
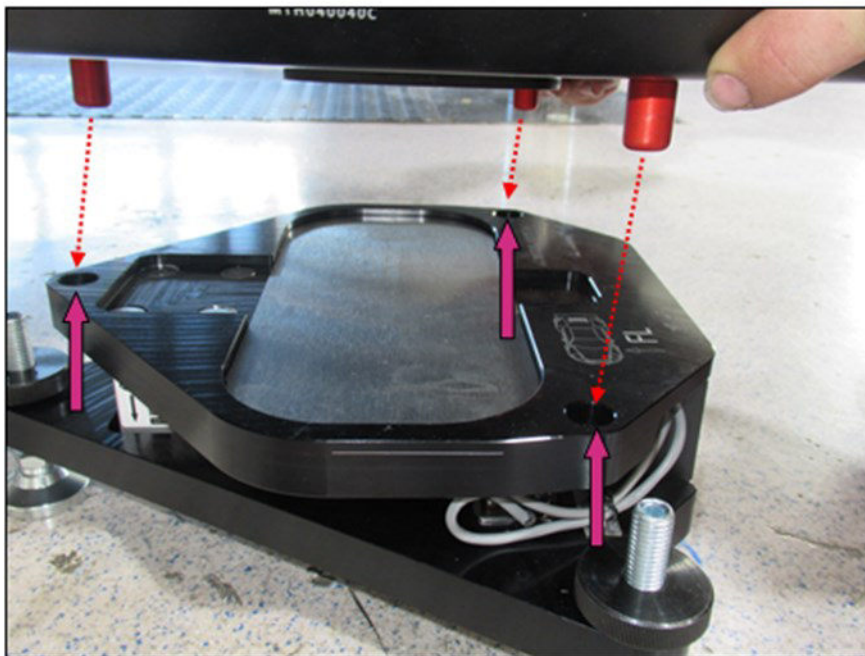
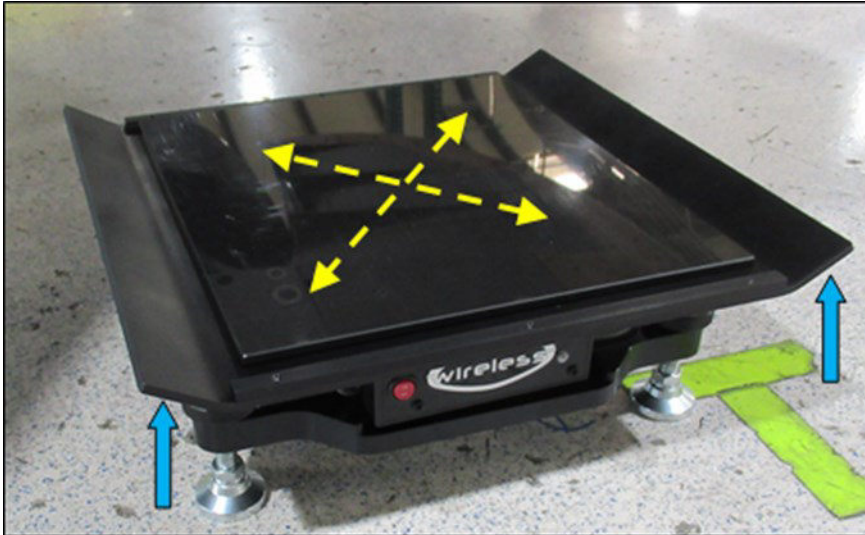
**The inserts are subject to a certain amount of wear over time and must be replaced if they become heavily worn.**





## 4. Component Functions Overview

### 4.1 Alignment Platforms



If the user wishes to measure the vehicle height, weight, or wheel load distribution with the road wheels fitted, this can be done so using the optionally available turntables.

The turntables are designed such that the vehicle is secure against unintentionally rolling off the alignment platforms by the incorporated retaining flanges. The floating plate design allows the chassis to settle freely on the alignment platforms.



To mount the turntables, align and insert the three red dowels located underneath the turntable with the holes previously used for the levelling laser. The turntables should only be mounted after the alignment platforms have been full set up.

Nine riser feet are included in the kit for very uneven surfaces. These can be used on up to three alignment platforms and allow for height difference compensation of approx. 40 mm.

#### **⚠ WARNING**

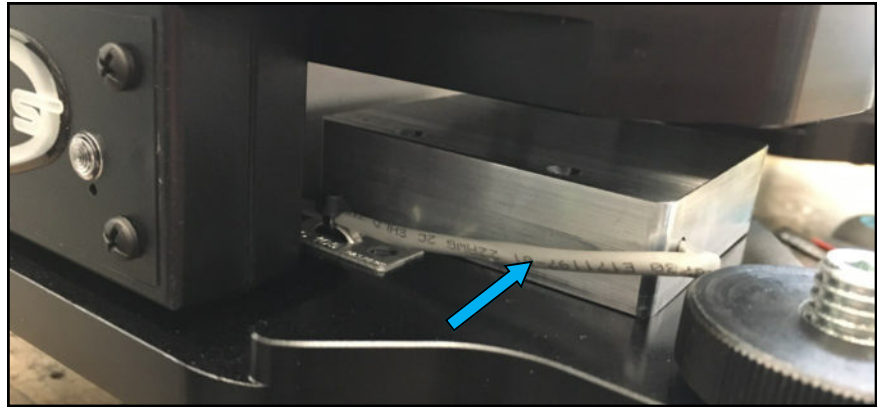
The riser feet are not intended for use on level surfaces.

## 4. Component Functions Overview

### 4.1 Alignment Platforms

The batteries in the alignment platforms must be changed after approx. 50-60 operating hours. The status LED located on the alignment platforms alight red when the batteries are weak.

To change the batteries, turn the alignment platform over and remove the two hex screws indicated.



#### NOTE

**Hex Wrench Size: 4 mm**

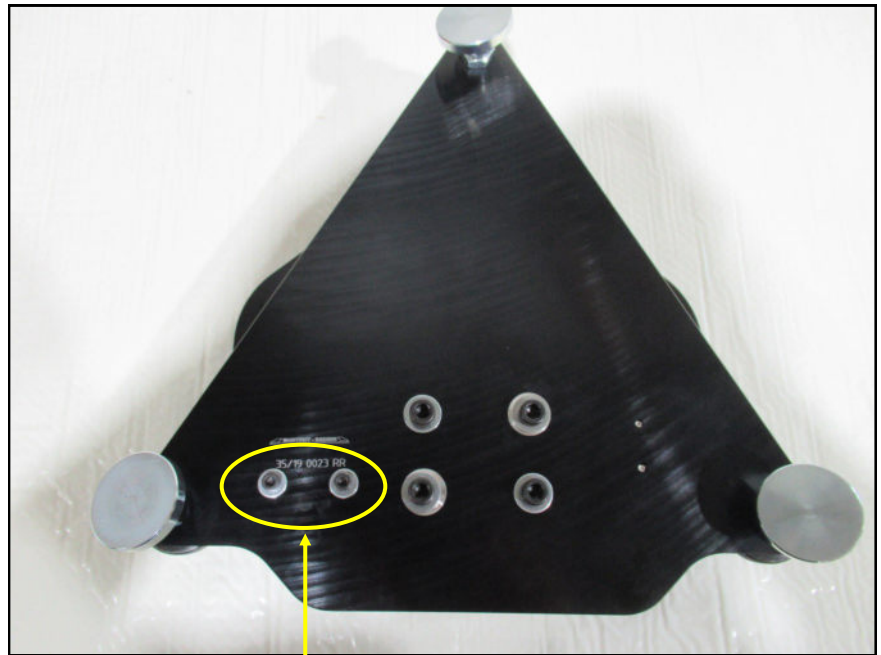
Remove the battery holder, taking care not to damage the power cables.

Insert three new Type LR6-AA batteries.

#### NOTE

**Rechargeable cells are not to be used. Rechargeable cells operate at a lower voltage (1.2 Volts).**

**Batteries with an operating voltage of 1.5V must be used (e.g. Alkaline).**



Dispose of the old batteries in accordance with the applicable local regulations for battery disposal.

Reinsert the battery holder secure it using the two screws.



**Battery Holder Screws**  
**Tightening Torque:**

**3 Nm**





## 4. Component Functions Overview

### 4.2 Wheel Load Scale Tablet



The following pages give you a brief use overview of the system for wheel load measurement included in the kit.

#### NOTE

As with all components of the measuring system, you should also handle the wheel load scales and associated tablet carefully.

Annual testing and calibration of the load cells is recommended by Manthey Racing.

In the event of improper handling (e.g. drops), we highly recommend immediate testing of the components.

The wheel loads measured are transmitted via Bluetooth to the tablet and graphically displayed in real time via the installed "Computerscales XLi" app.

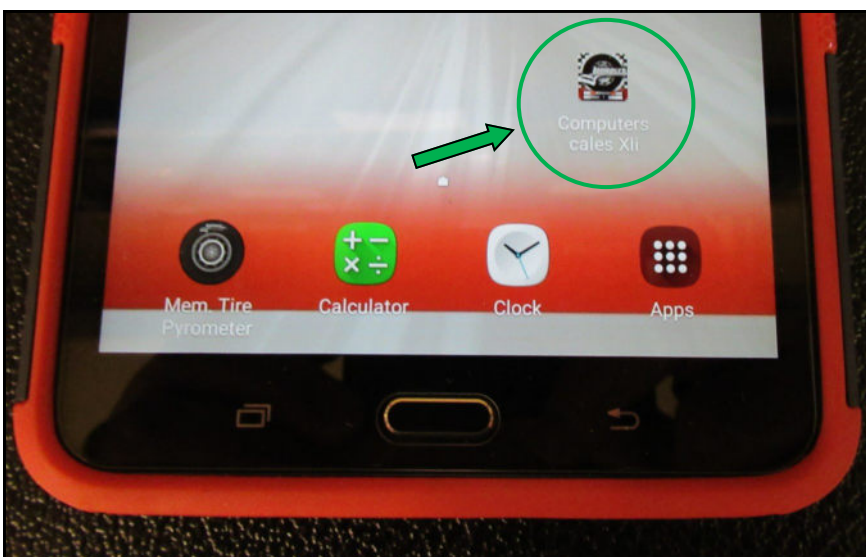
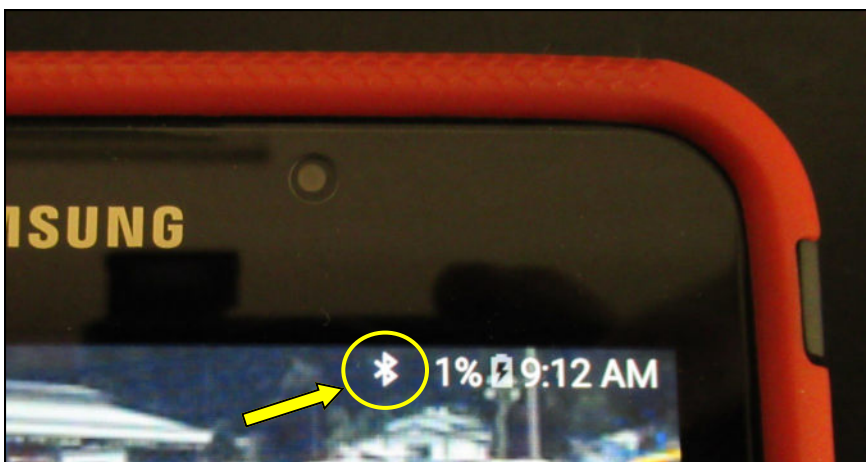
#### Operation is as follows:

- Switch the tablet on. Hold down the ON / OFF button (1) for 3 seconds.

If the tablet cannot be switched on, charge it with the charger included in the delivery. The USB charging connection is on the top of the device (2).

Wait until the Bluetooth symbol appears in the top right corner of the start screen.

↓ Start the "Computer-scales XLi" app.

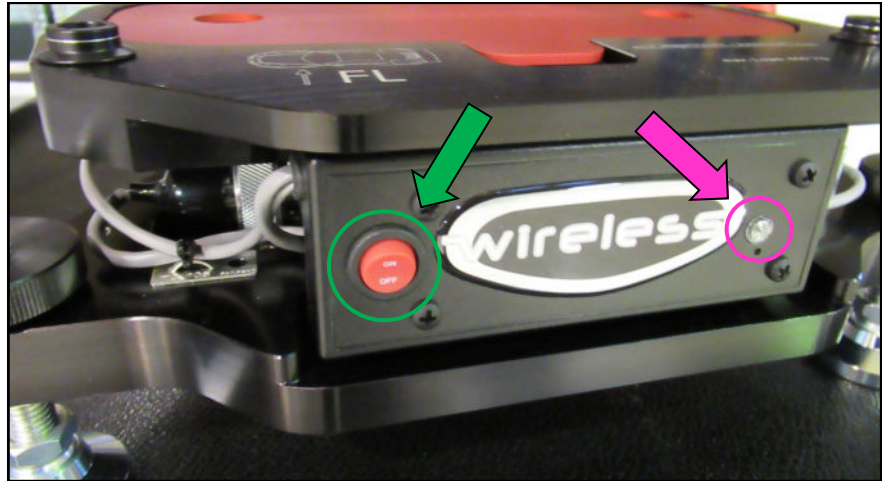


## 4. Component Functions Overview

### 4.2 Wheel Load Scale Tablet (Cont'd)

Switch on all four measuring plates. Start with the FL alignment platform.

The status LED begins to glow green continuously. If the connection between the measuring plates and the tablet is established, the status LEDs of all measuring plates begin to flash green.

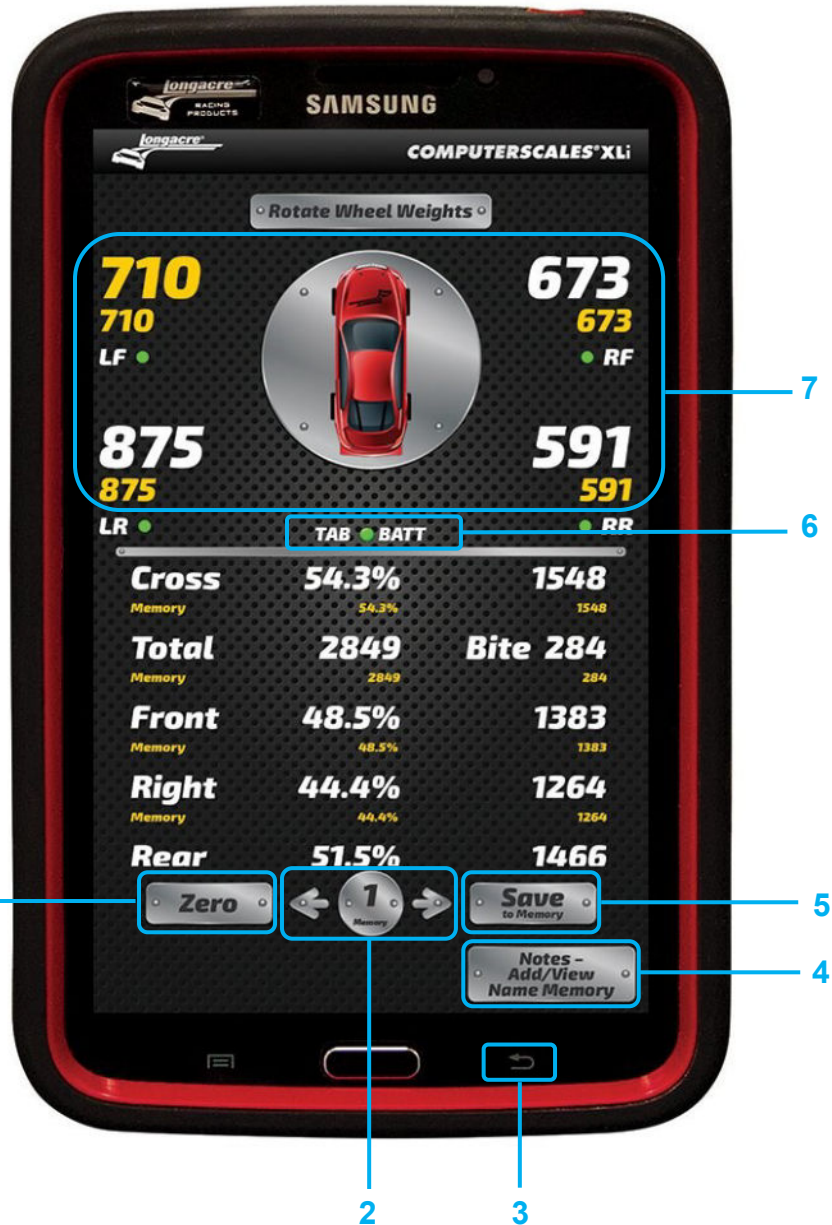


**NOTE**

Only the front left measuring plate (FL) communicates with the tablet. The three remaining measuring plates send their values to the measuring plate at the front left (FL). This in turn sends all 4 measured values to the tablet.

**Main Screen Functions:**

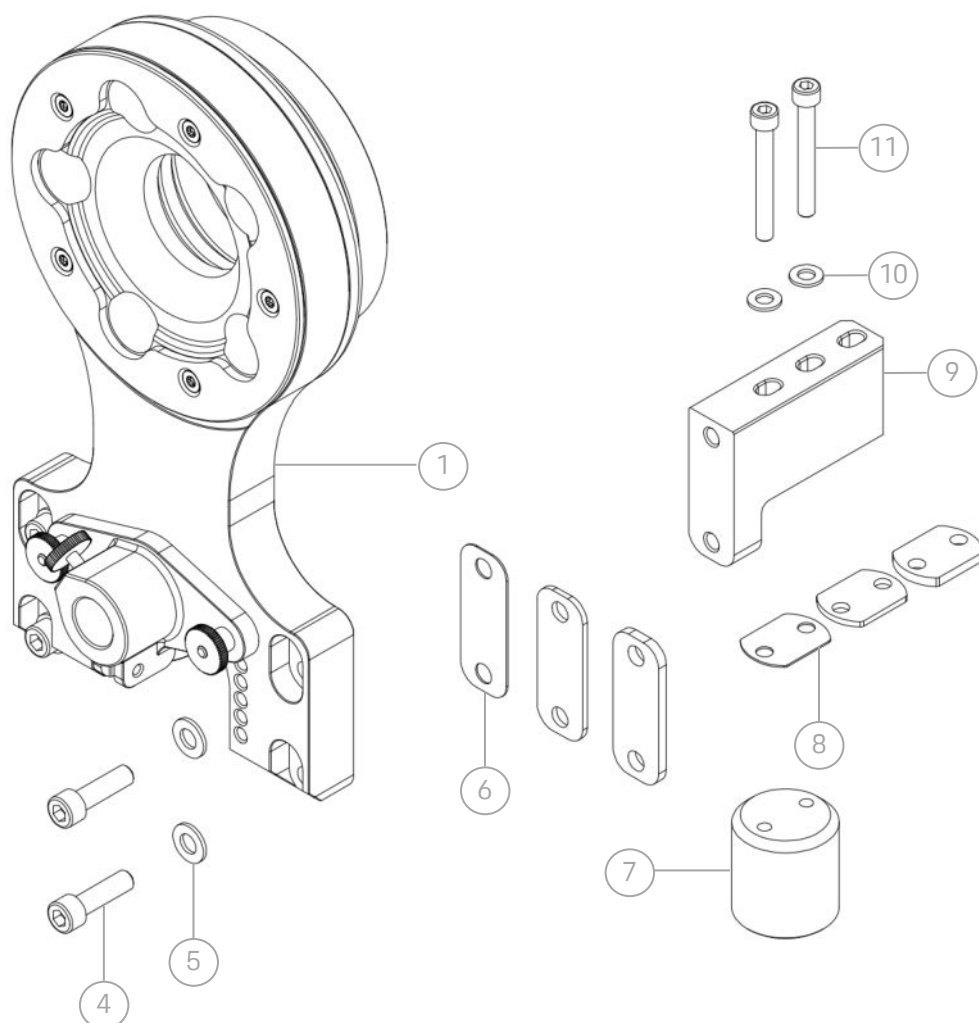
- 1 **ZERO** resets the four wheel loads to zero. Press **ZERO** before the vehicle is placed on the measuring plates.
  - 2 **MEMORY** stores up to 50 measurements. Use the arrow keys to navigate through the saved measurements.
  - 3 Exit the app with **BACK**.
  - 4 In **NOTES - ADD / VIEW**, written notes or voice messages can be recorded for the individual measurements.
  - 5 **SAVE** saves the current measurement.
  - 6 **TAB BATT** shows the battery level of the tablet
- Battery Fully Charged
  - Charge Battery Soon
  - Charge Battery Immediately
- 7 This area displays the load cell values measured



For further information, read the enclosed manufacturers operating instructions.

## 4. Component Functions Overview

### 4.3 Alignment Wheels



The individual components and possible alignment wheel configurations are outlined over the following pages.

The alignment wheels operate as a wheel replacement that is designed to guarantee almost unrestricted access to the chassis components during vehicle alignment process.

In addition to the standard center hub for vehicles from the Porsche Group, center hubs to suit vehicles from the Mercedes and BMW brands are also available on request.

**NOTE**

The custom-fit configuration - that is, the adjustment of the alignment wheels to the actual wheel radius - represents a central task and one that needs to be carried out with appropriate care.

**NOTE**

With this adjustable alignment wheel system, wheel radii of approx. 300 mm to 360 mm can be covered. This corresponds to static tire diameters of approx. 600 mm to 720 mm.

This ensures that a wide range of road and motor sports vehicles can be measured with this system.

The possible configurations and wheel radii are described in more detail on the following pages.

Pos.	Bezeichnung / Description	Menge / Qty.
1	<b>MESSRAD INKL. CENTER HUB</b> ALIGNMENT WHEEL INCL. CENTER HUB	4
2	<b>LASERWELLE SKALIERT</b> LASER SHAFT WITH SCALING	4
3	<b>SPURLASER</b> LASER UNIT TOE MEASURING	4
4	<b>INNESECHSKANTSHRAUBE M10X35</b> HEX SCREW M10X35	16
5	<b>UNTERLEGSCHIBE FÜR SCHRAUBE M10</b> WASHER - M10	16
6	<b>ET EINSTELLSCHIBE 1,0 MM / 3,0 MM / 5,0 MM</b> OFFSET ADJ. SHIM 1,0 MM / 3,0 MM / 5,0 MM	8 / 8 / 8
7	<b>SCHWERLAST KUGELROLLE</b> HEAVY DUTY BALL ROLLER	8
8	<b>EINSTELLSCHIBE HÖHE 1,0 MM / 3,0 MM / 5,0 MM</b> HEIGHT ADJ. SHIM 1,0 MM / 3,0 MM / 5,0MM	8 / 8 / 8
9	<b>L-WINKELAUSLEGER</b> L-BRACKET	8
10	<b>UNTERLEGSCHIBE FÜR SCHRAUBE M8</b> WASHER - M8	16
11	<b>INNESECHSKANTSHRAUBE M8X65</b> HEX SCREW M8X65	16



## 4. Component Functions Overview

### 4.3 Alignment Wheels (Cont'd)

The measuring wheels must be set based on the ET offset data of the wheels used. This allows the response behavior of the measurement system to changes in camber on the vehicle to match that of the vehicles wheels.

The approximate adjustment of the hub offset (position of the spherical feet) takes place using the slots (Offset Ranges A or B). The fine adjustment is carried out using the offset shims supplied (1 mm, 3 mm and 5 mm).

#### NOTE

**Offset Adjustment Range (ET):**  
10 mm to 77.5 mm

#### WARNING

The minimum thread depth for the L-Bracket screw must always be at least **15 mm**.

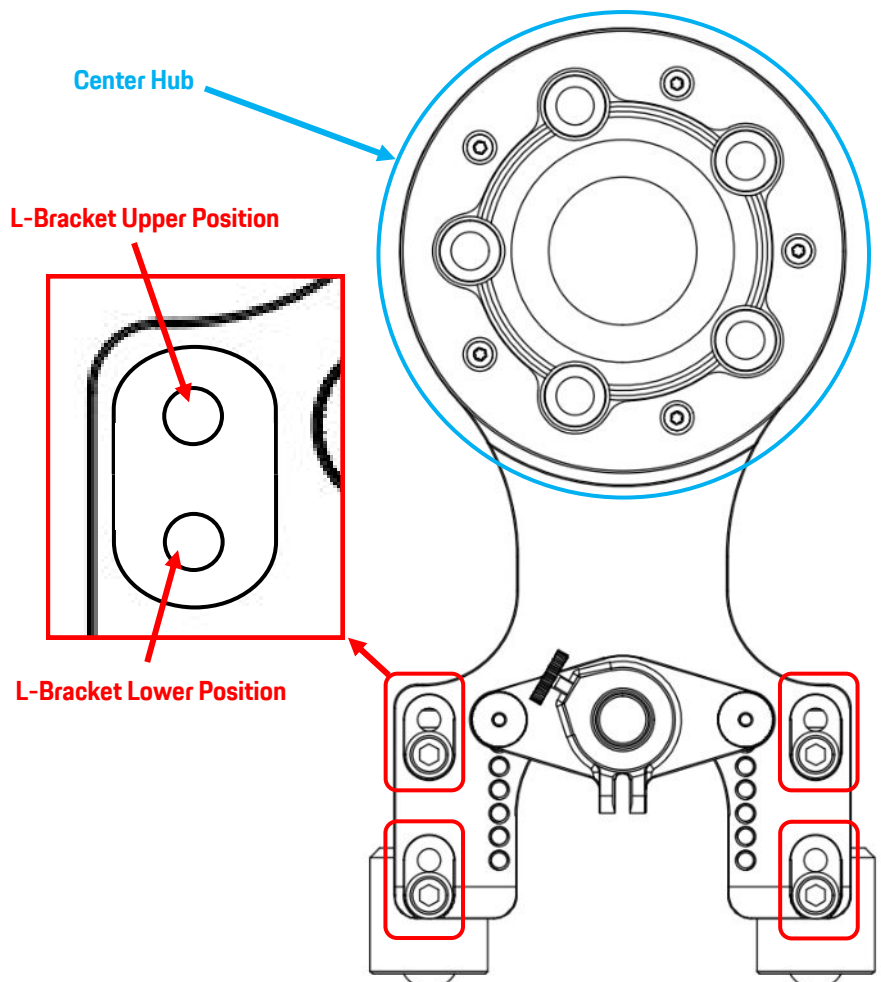
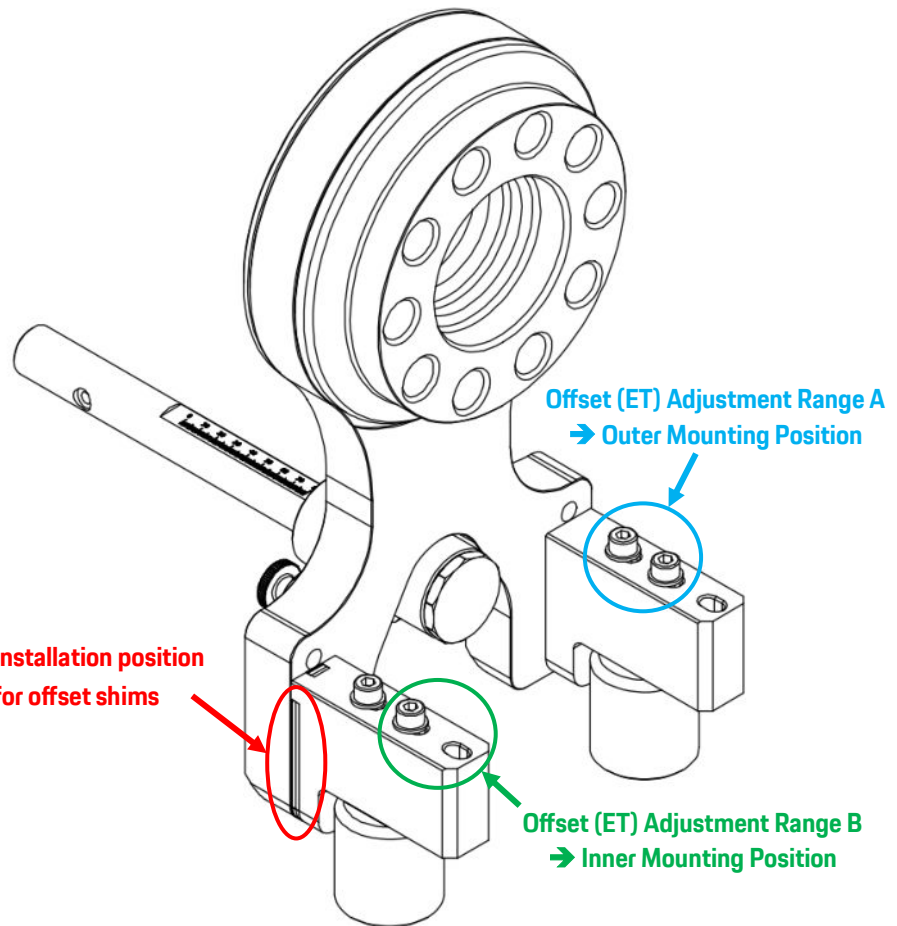
If no offset adjustment washers are used, the pre-installed M10x35 screws must be used.

The M10x40 screws supplied must be used for offset washers up to 5 mm thick.

The M10x45 L-Bracket screws are mandatory for offset shim thicknesses over 5 mm. The **minimum screw thread depth of 15 mm** into the L-Bracket of must always be observed.

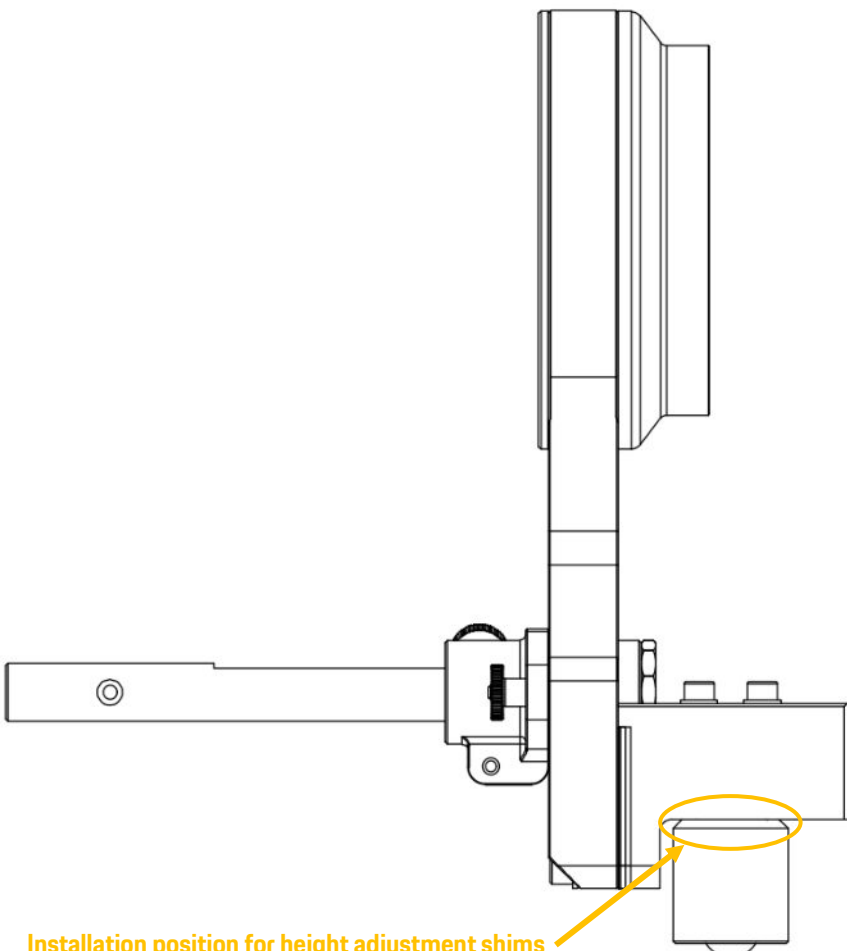
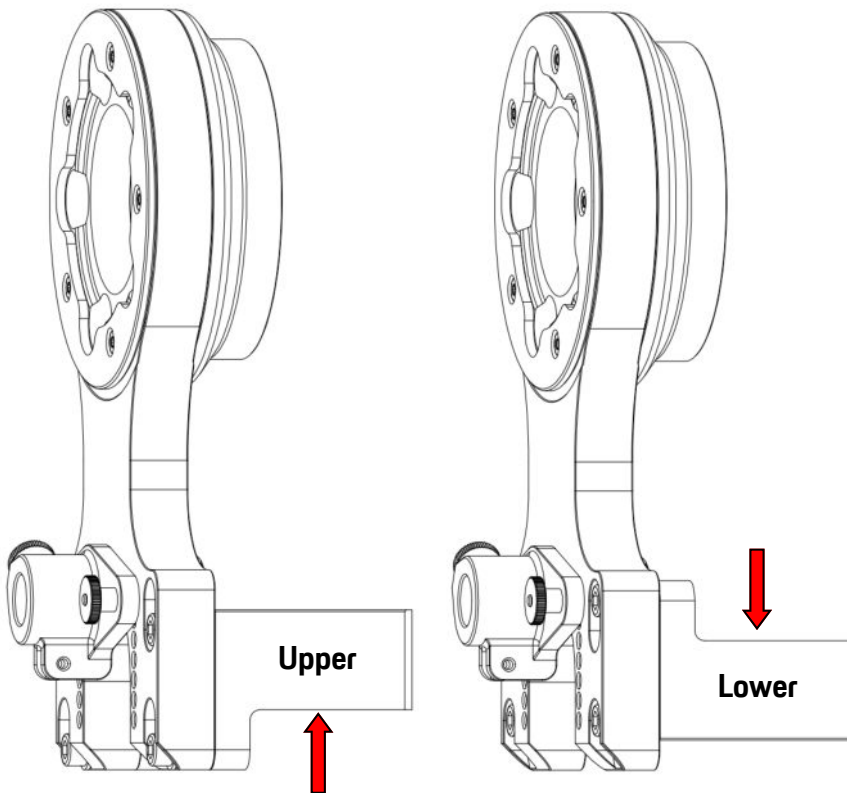
**Failure to comply can result in failure of the screw connection due to insufficient thread engagement!**

**Tightening Torque**  
**M10 Screws: 46 Nm**



## 4. Component Functions Overview

### 4.3 Alignment Wheels



Installation position for height adjustment shims

The alignment wheels must be adjusted to the static radius of the tires. For this purpose, the vehicle resting on the tires is measured and the real tire radius is determined.

**(Set the target tire pressure!)**

The alignment wheels for the front and rear axles can be set based on the values determined.

The working radius of the alignment wheels are roughly set using the L-Bracket **Upper** or **Lower** orientation.

Fine adjustment of the radius is achieved using the enclosed shims in thicknesses of 1 mm, 3 mm and 5 mm.

**NOTE**

As a check, the ride height can be determined in advance with the standard wheels and adjusted after the set measuring wheels have been attached.

**NOTE**

Wheel Radius Adjustment Range:  
300 mm - 360mm

**WARNING**

If more than 3 mm of height adjustment shims have to be installed between the L-Bracket and Roller Ball unit, the pre-installed M8x65 screws must be replaced by the M8x80 screws included in the kit.

The **minimum permitted thread depth** into the roller ball unit is **12 mm**.

Failure to observe can lead to failure of the screw connection!



**Tightening Torque**  
**M8 Screws:**

**25 Nm**


## 4.3 Alignment Wheels

### Alignment Wheel Configuration 1 - Tire Radius 300 to 315 mm

The configuration shown results in a tire radius of 300mm.

The settings used are:

L-Bracket to Alignment wheel Position:   
**Upper Mounting Holes**

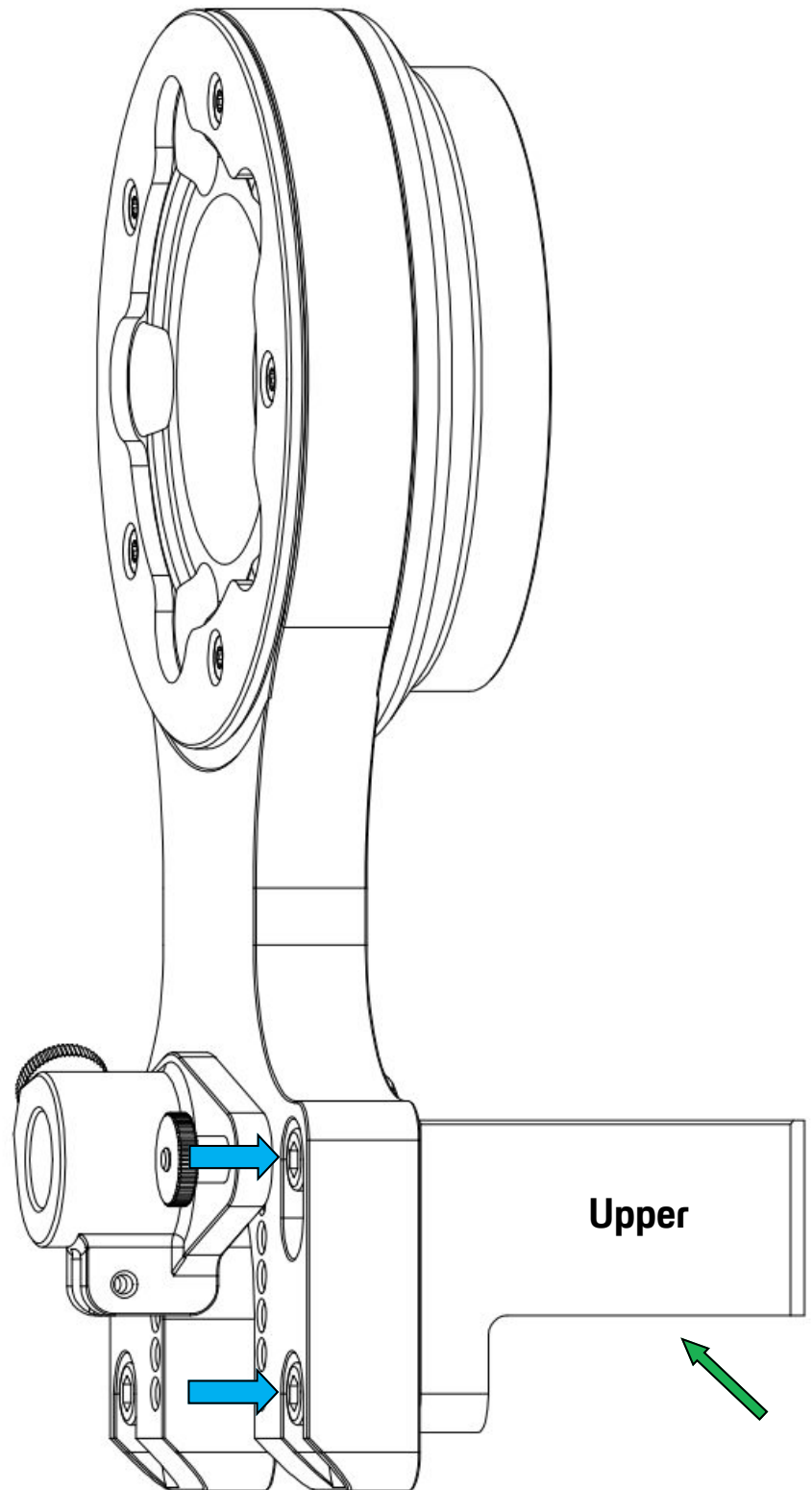
L-Bracket Orientation: **Upper** 

Ball Unit Height Shims: **None**

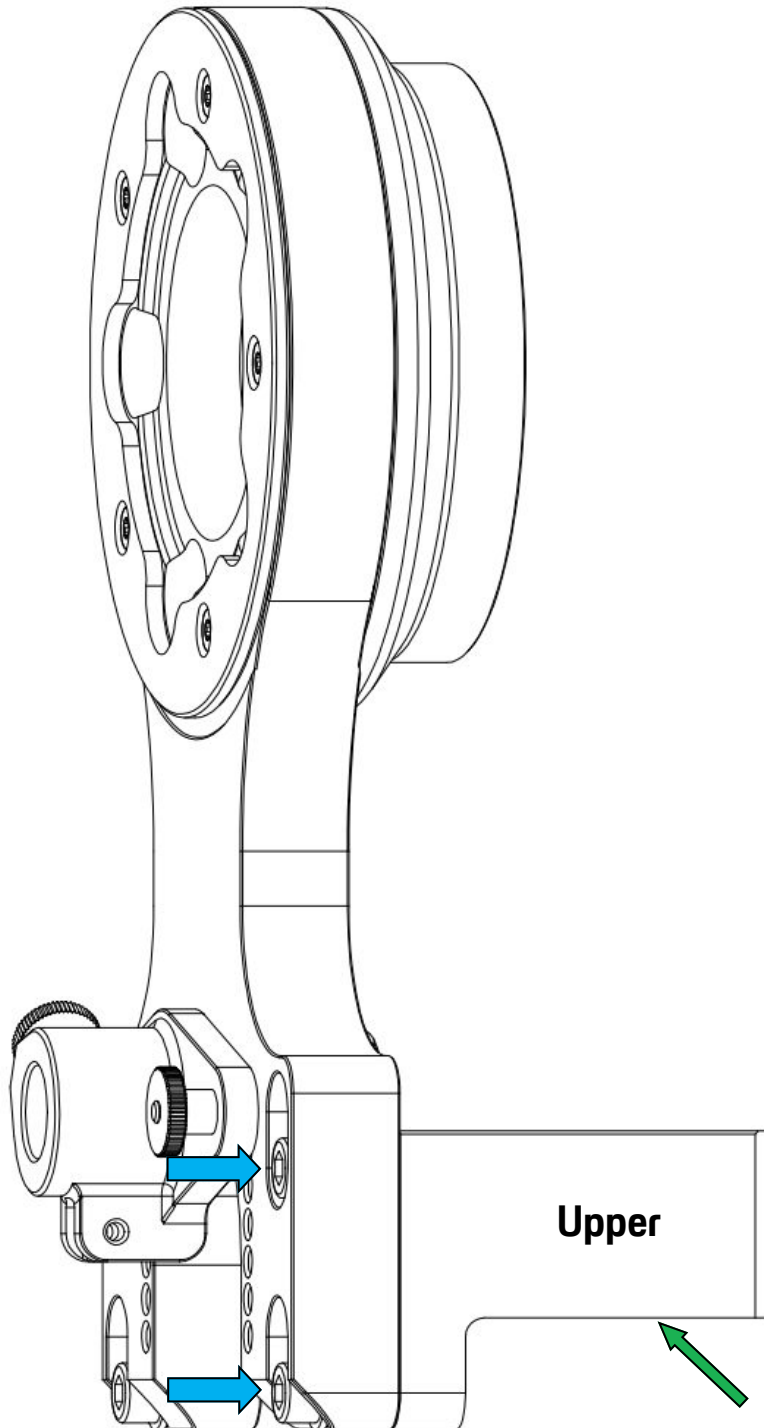
In this configuration, the radius can be increased up to 315 mm in 1 mm steps using the height adjustment shims placed between the L-Bracket and Roller Ball Unit.

 **WARNING**

When using adjustment shims for the offset and the wheel height setting, the previously mentioned minimum thread depths into the L-Bracket and Roller Ball units must be adhered to!







The configuration shown results in a tire radius of 315mm.

The settings used are:

L-Bracket to Alignment wheel Position:  
↓ **Lower Mounting Holes**

L-Bracket Orientation: **Upper**

Ball Unit Height Shims: **None**

In this configuration, the radius can be increased up to 330 mm in 1 mm steps using the height adjustment shims placed between the L-Bracket and Roller Ball Unit.


**⚠ WARNING**

When using adjustment shims for the offset and the wheel height setting, the previously mentioned minimum thread depths into the L-Bracket and Roller Ball units must be adhered to!

The configuration shown results in a tire radius of 330mm.

The settings used are:

L-Bracket to Alignment wheel Position:   
**Upper Mounting Holes**

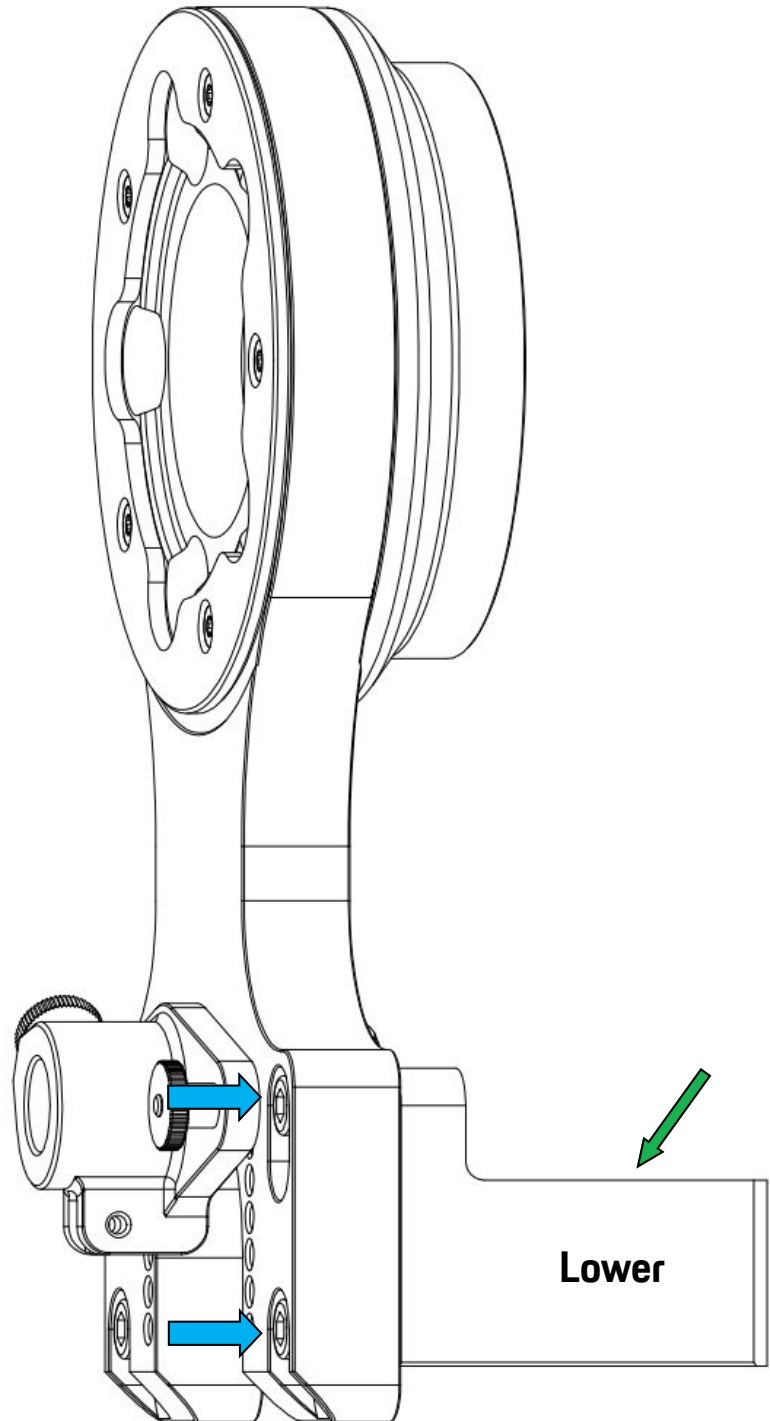
L-Bracket Orientation: **Lower** 

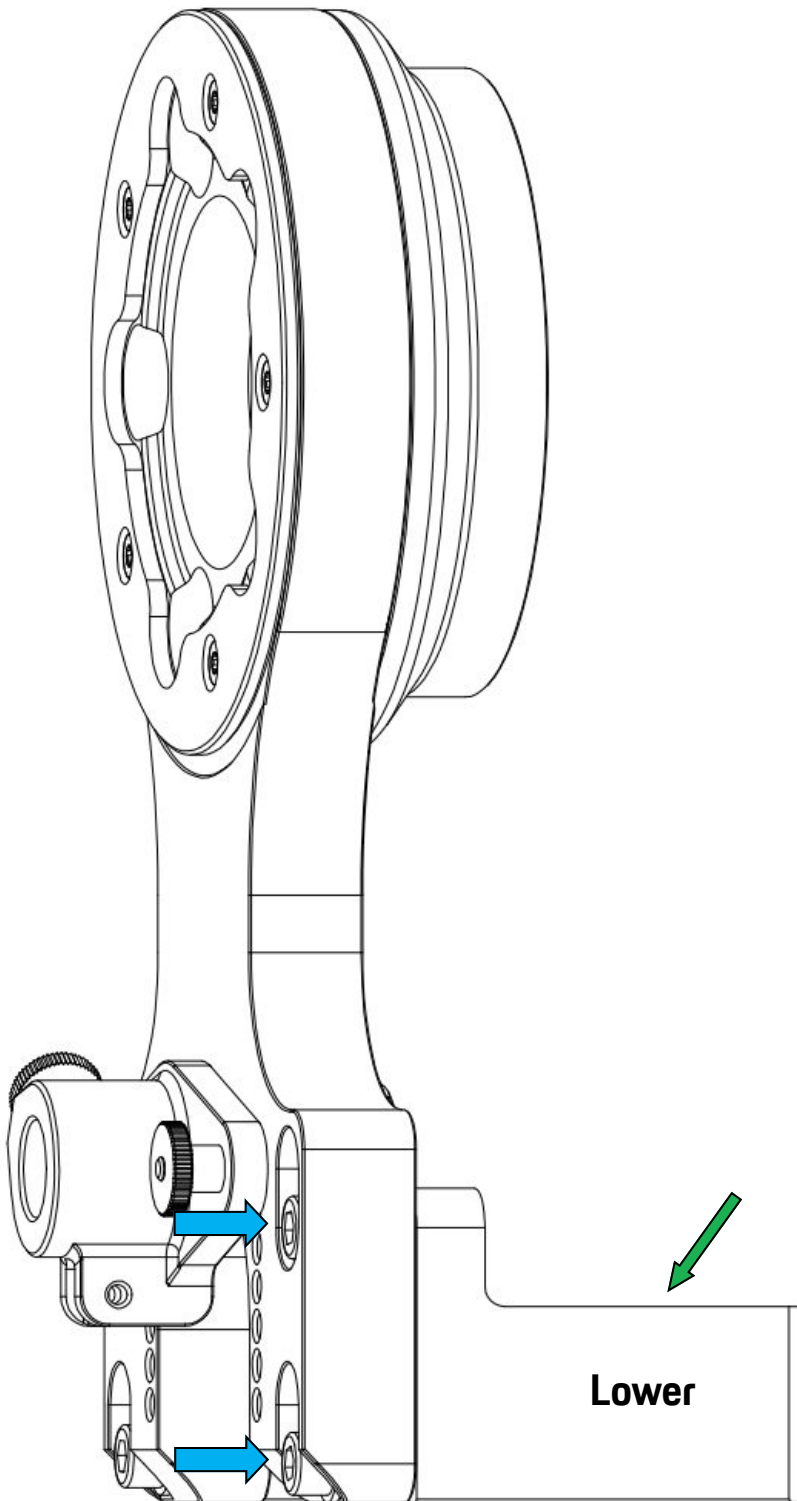
Ball Unit Height Shims: **None**

In this configuration, the radius can be increased up to 315 mm in 1 mm steps using the height adjustment shims placed between the L-Bracket and Roller Ball Unit.

**WARNING**

When using adjustment shims for the offset and the wheel height setting, the previously mentioned minimum thread depths into the L-Bracket and Roller Ball units must be adhered to!





The configuration shown results in a tire radius of 345mm.

The settings used are:

L-Bracket to Alignment wheel Position:  
↓ **Lower Mounting Holes**

L-Bracket Orientation: **Lower**

Ball Unit Height Shims: **None**

In this configuration, the radius can be increased up to 360 mm in 1 mm steps using the height adjustment shims placed between the L-Bracket and Roller Ball Unit.

**⚠ WARNING**

When using adjustment shims for the offset and the wheel height setting, the previously mentioned minimum thread depths into the L-Bracket and Roller Ball units must be adhered to!

This page gives an overview of the most important system setup data.

**WARNING**

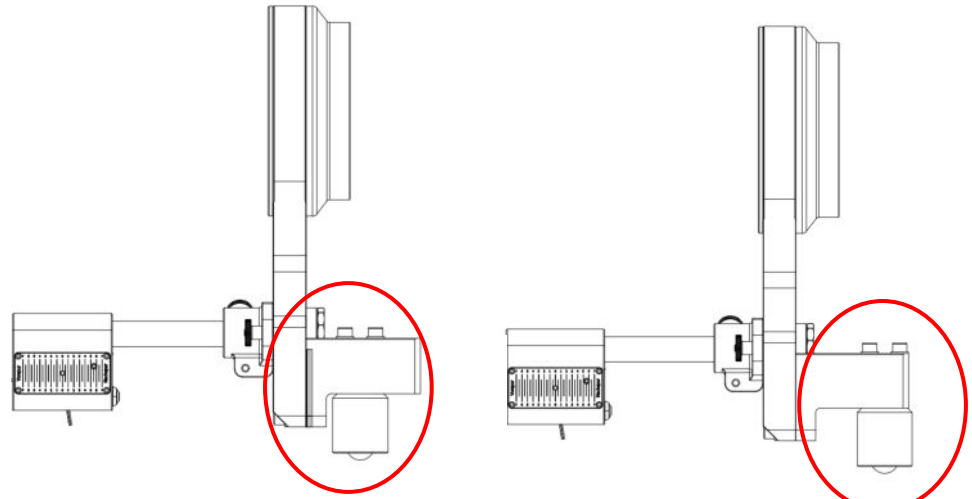
If individual components of the measuring wheel are visibly damaged by mechanical overload or a drop, these components must be replaced.

**NOTE**

Never put the alignment wheel down in such a way that the laser mounting shaft is exposed to mechanical loads. This shaft is trued and ground to very tight tolerances during manufacture.

**NOTE**

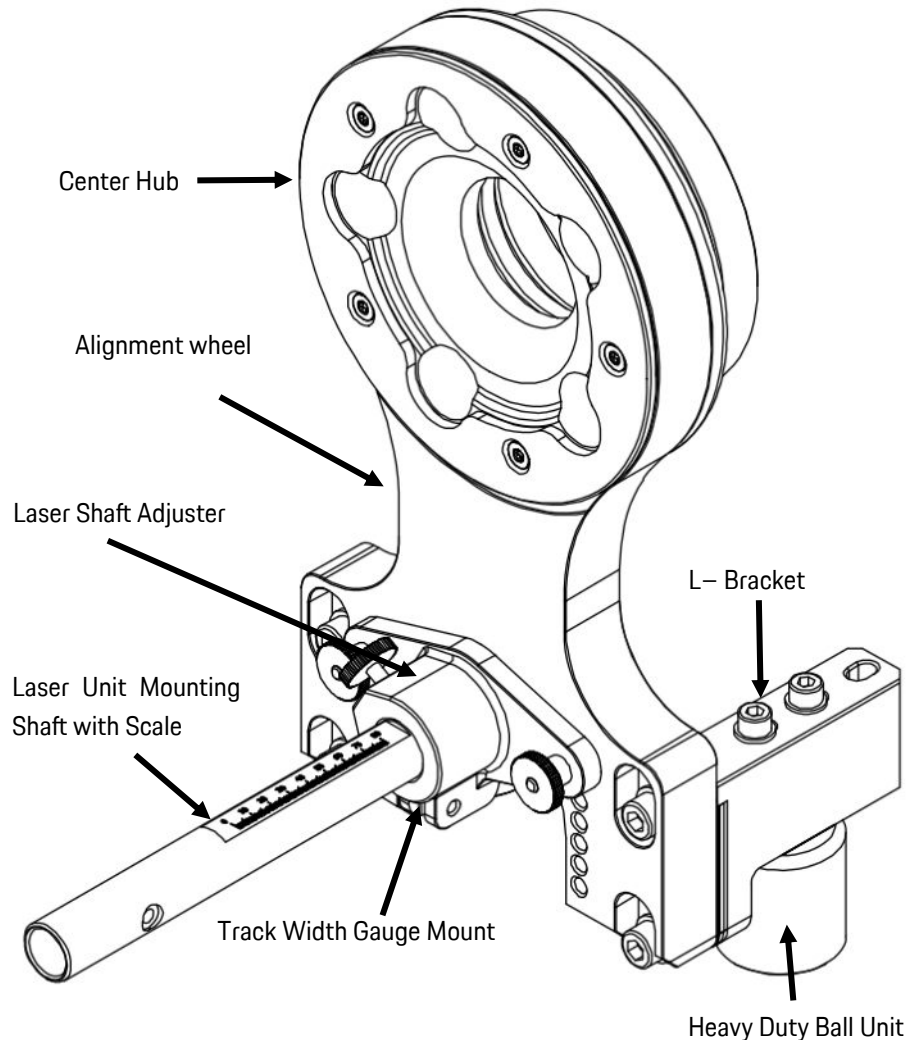
Check the ball units at regularly for damage and contamination. Damage and / or dirt can impair the function of the smooth-running steel rollers.



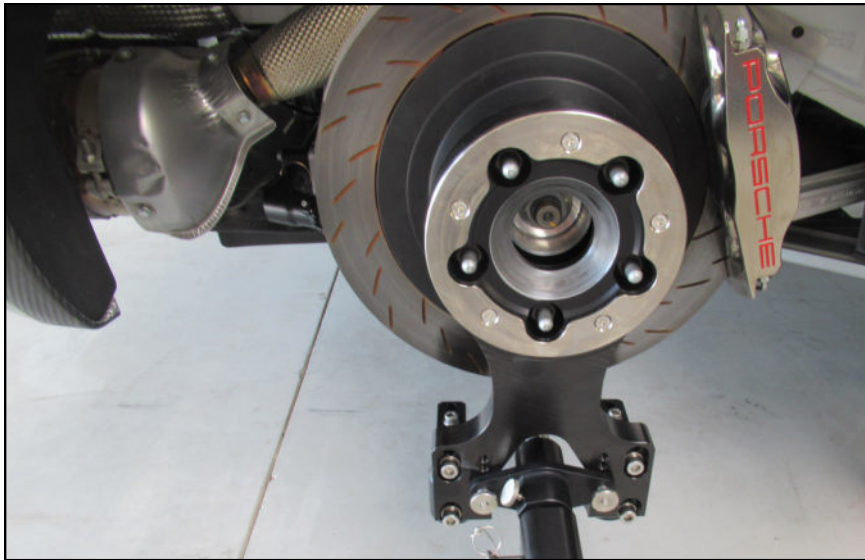
Kugelrolle in Einstellbereich A

Kugelrolle in Einstellbereich B

Position		Achievable Settings	
L-Bracket	Ball Unit Range	Tire Radius [mm]	Offset/ET [mm]
Configuration 1		300 - 315	
Configuration 2		315 - 330	
Configuration 3		330 - 345	
Configuration 4		345 - 360	
	A		10,0 - 50,0
	B		37,5 - 77,5







Multiple mounting options are available for connecting the measuring wheels to the vehicle via the variable center hub.

Attachment of the measurement hub to the Porsche 718 Cayman GT4 Clubsport is possible using the 5-hole mount with a 5x130 PCD.

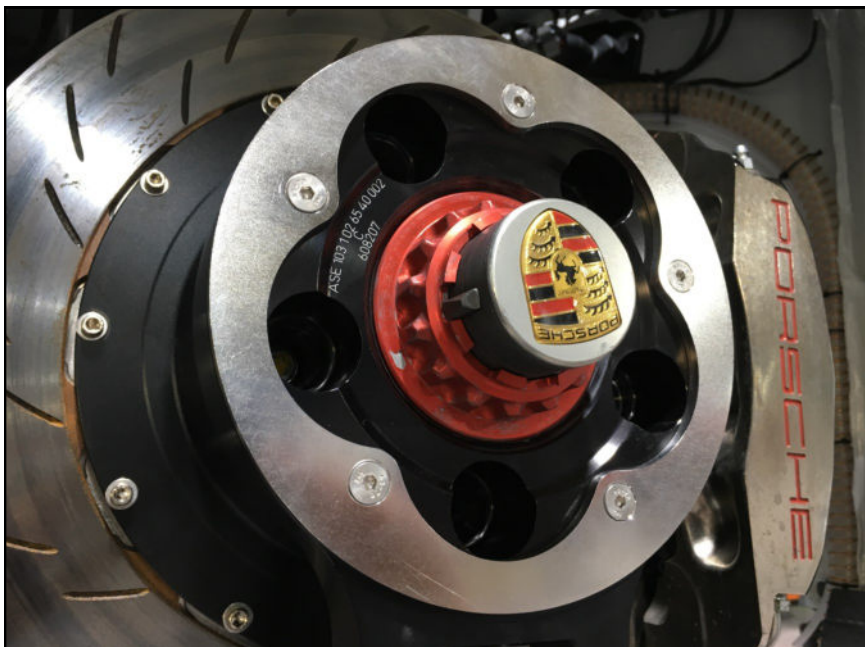


**Tightening Torque**

**M14 Wheel Nut: 140 Nm**

For attachment of the alignment wheels to a production vehicle from the Porsche brand, longer wheel bolts with a spherical collar must be used.

Part Number: 56110276 (2x Sets Req'd)



**NOTE**

**Tapered nuts or bolts must NOT be used.**

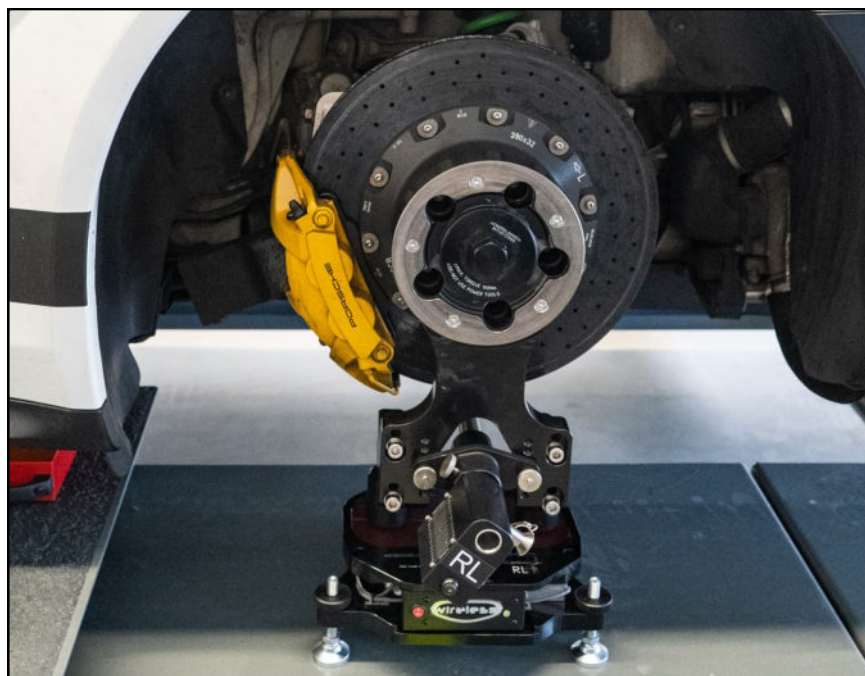
Attachment of the alignment wheel to the Porsche 911 GT3 Cup or 911 GT3R possible using the standard centre lock wheel nut.



**Tightening Torque**

**Centre Lock Nut: 520 Nm**

For GT road models (GT3RS / GT2RS) with standard central locking, the measurement wheel is attached using the optionally available centre locking wheel nut MTH012990A.



**Tightening Torque**

**MTH012990A: 100 Nm**

**Wheel Alignment System**



## 4. Component Functions Overview

### 4.4 Toe Laser

The toe lasers serve as a central component of the wheel alignment system, each unit carrying out two functions.

Firstly, the unit projects a laser line to indicate the toe position for the wheel on which it is mounted. Secondly, the body of the laser unit features a scale plate onto which the opposing laser projects a line, allowing determination of the toe measurements.

**NOTE**

The toe position of the rear axle is projected onto the scale plate of the track laser of the front axis and vice versa.

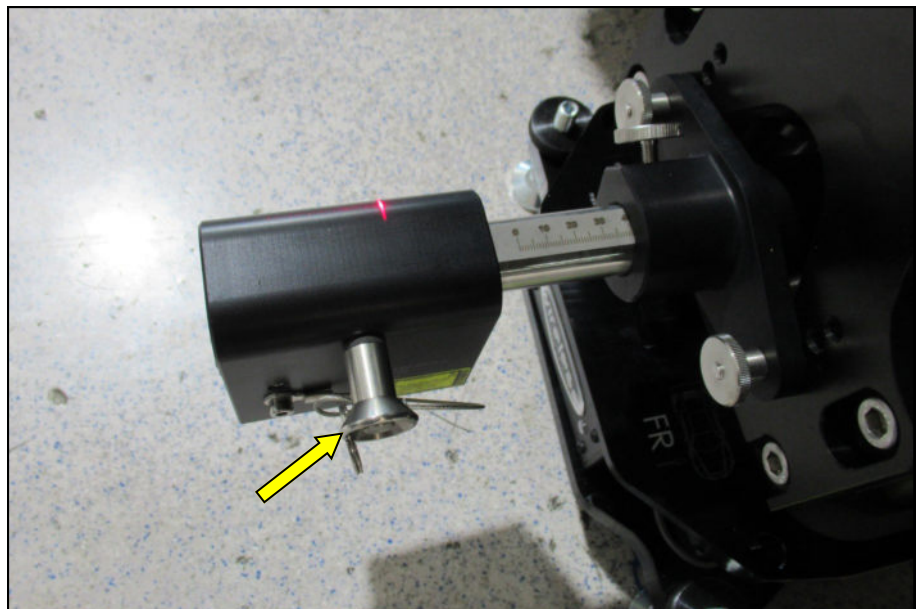
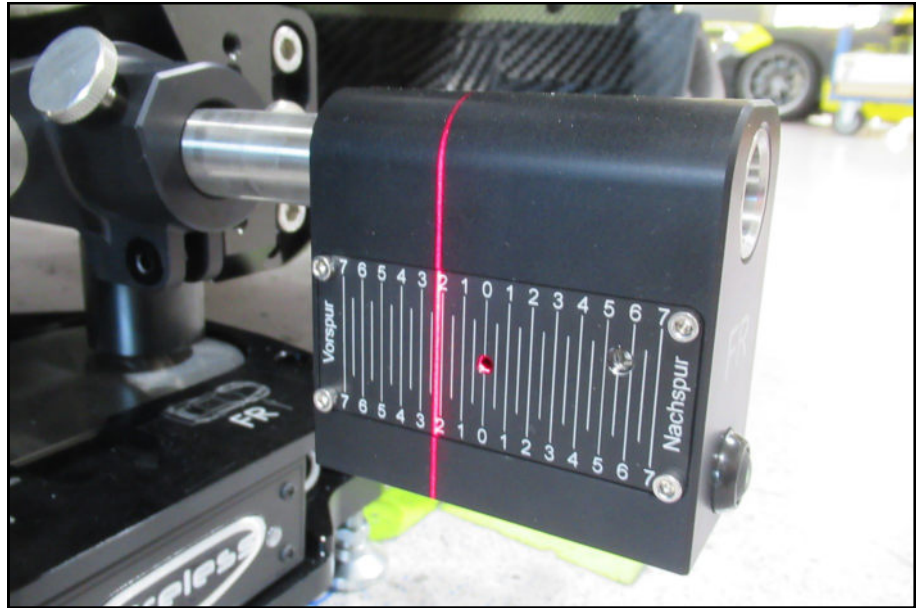
The position of the laserline on the scale plate indicated the toe measurement can be read there directly.

The laser is powered on by pressing the push button switch located on the side of the unit. ↓

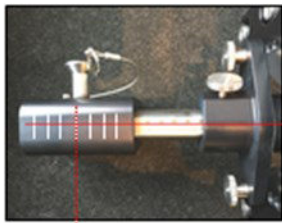
**NOTE**

The toe lasers are position specific and are labelled accordingly (FL/FR/RL/RR).

The laser units are mounted by sliding the unit onto its respective mounting shaft and is secured into position by the locking pin located on the rear of the unit. ↓



Axle - 1



Alignment wheel w/ Laser Shaft and Toe Laser Unit

Vehicle Centreline

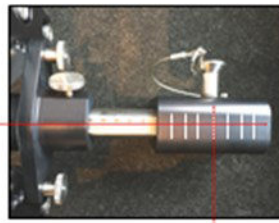
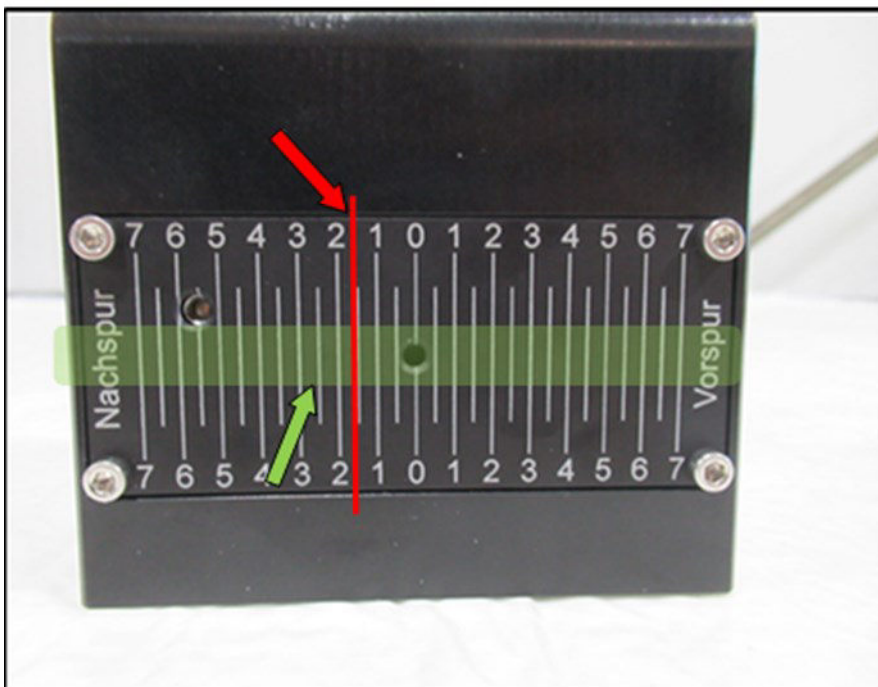
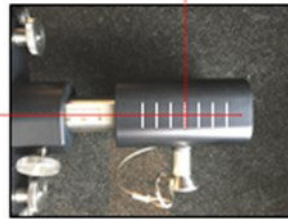
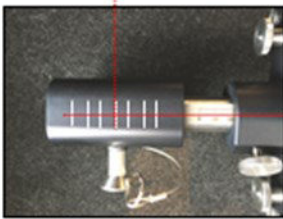


Diagram of the correctly adjusted toe lasers on the laser mounting shafts.

Axle - 2



In order to account for the geometry differences between the front and rear axles, the alignment wheels require adjustment to measure the toe angles.

The distance between the two laser units on the front and two laser units on the rear axle must be identical. The resulting positions of the laser units will form a square. The laser units must also be aligned symmetrically about the centreline of the vehicle.

To adjust the toe lasers, the track width difference between the front and the rear axle must be determined. This measurement is achieved using the track width gauge.

**NOTE**

**Prior to measurement of the vehicles toe geometry, all four toe lasers must be powered on and properly aligned .**

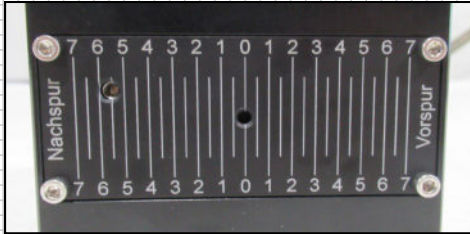
**The steering must also be centred and suitably secured in position.**

Once set up and activated, each of the toe laser units will project a line onto the scale on the laser unit body of the opposing axle. When reading the toe values.

It is important to take readings from the midpoint of the laser line. If the beam is angled to far up or down, there may be slight deviations from the actual value.



The scales in this system utilise **milli-metres [mm]** indicate toe values as opposed to the conventional unit of degrees. The scale graduation marks have been spaced with a multiplying factor of 5.1:1 to improve readability.



Should the user wish to compare their measured value with conventional measurements methods, it is possible to convert the measurements using the formulae shown opposite.

### Toe Laser Battery Replacement:

The battery compartment of the laser unit is located on the underside of the unit housing

Remove the four countersunk screws using a 2.5mm hex wrench.

Remove the cover to access the battery compartment.


Replace the two AAA - LR03 1.5 V batteries

Close the battery compartment again and fasten the cover with the four counter-sunk hex screws.

Toe Angle in Minutes of Arc:

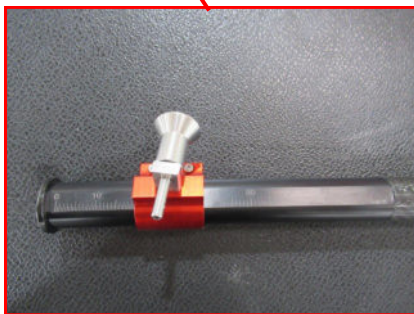
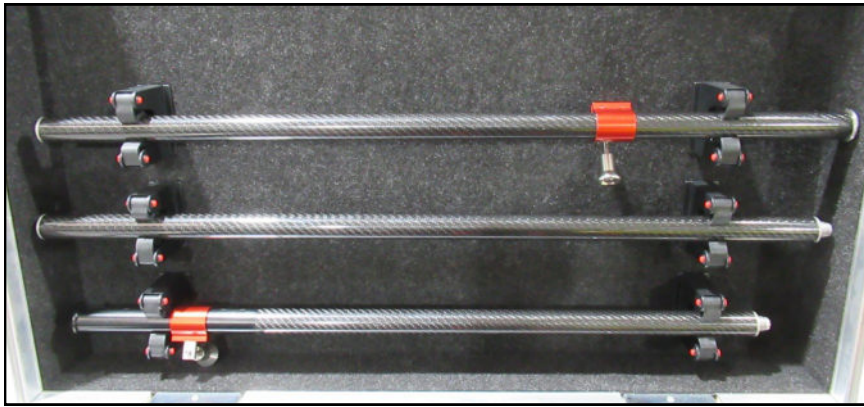
$$\text{Toe Angle [min]} = (\text{Measured Laser Value [mm]} \times 5.1) \times \frac{3438}{\text{Wheel Base [mm]}}$$



 **Tightening Torque**  
**Battery Cover Screws: 2.0 Nm**



## 4.5 Track Width Gauge



↓ The track width gauge is prepared for use by threading together the three carbon pole sections.

↓ A clamp bracket with ball indent locking pins is attached to each of the outer parts.

The first bracket is positioned on the outer rod element with an endstop and no scale.

↓ On the opposite end, the pole section featuring a ruled segment marked with a 2:1 measuring scale, the clamp bracket is positioned about the scale. This bracket serves as a reference for reading the track width scale.

The clamping screws of the gauge rule are only to be hand-tightened.






**Tightening Torque**  
**M4 Clamping Screws: 2,5 Nm**

The gauge ruler is attached to the bracket on the underside of the measuring wheel with the ball lock pins.


The track gauge is required to determine the track width of the front and rear axles.

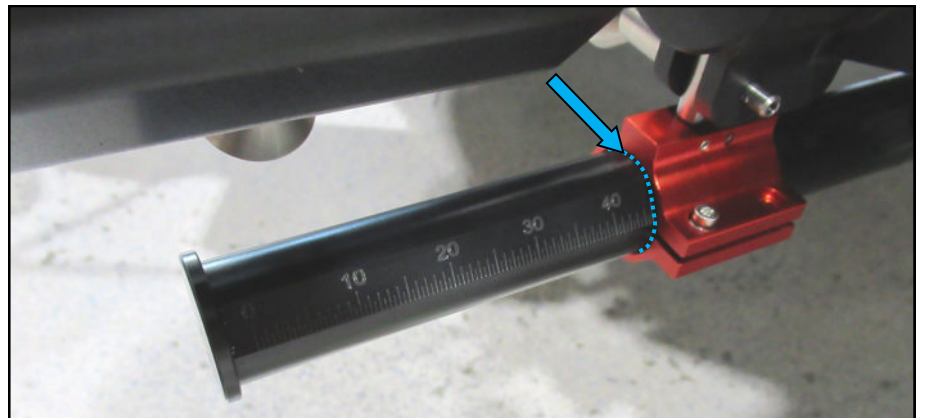
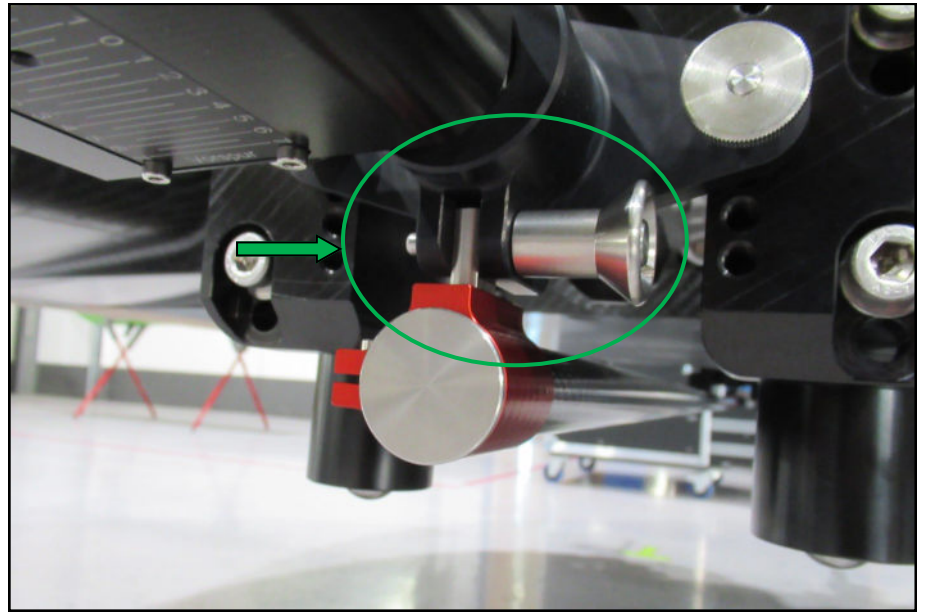
If the track width values are known, the track lasers can be set accordingly on the alignment wheel laser mounting shafts.

### Track Width Measurement:

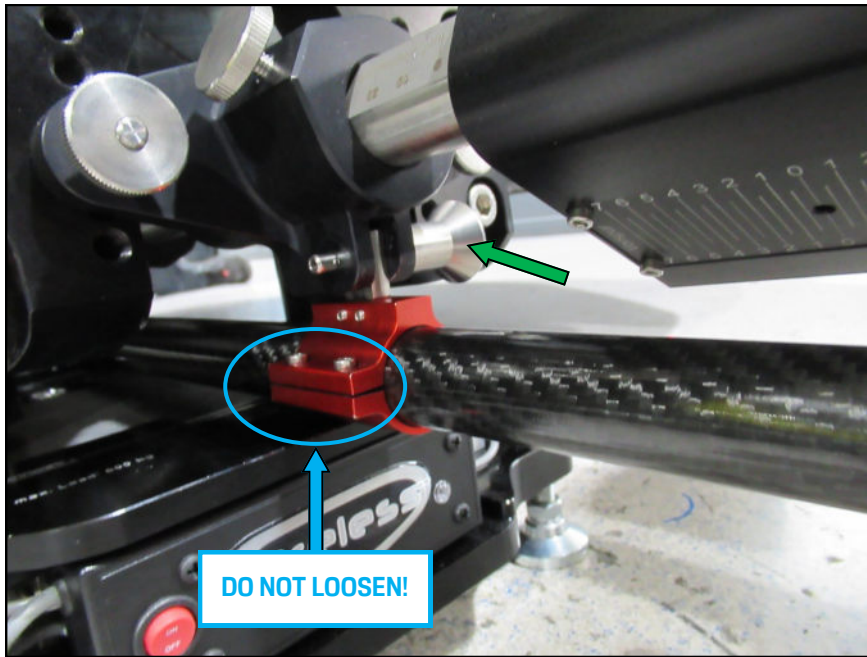
- Assemble the track width gauge as described on page 37. Do not tighten the two clamps on the outer pole segments yet.
- Guide the assembled gauge between the ball units from the left side of the vehicle to the right side of the vehicle.
- Mount the ruler on the mounting onto the alignment wheels using the ball indent locking pins. If not already done, lower the vehicle with the alignment wheels mounted onto the alignment platforms and "settle" the chassis. 
- Align the ruler on the scale side with the "40" marker on the scale (scale midpoint).
- Secure the bracket clamp on the pole segment with no scale using the two clamping screws. 
- Next, secure the clamping bracket on the scale side. Read and note the scale value indicated by the front edge of the clamping bracket. 

For example, from the image opposite, we can see a reading 45 is indicated.

 **Tightening Torque**  
**M4 Clamping Screws: 2,5 Nm**

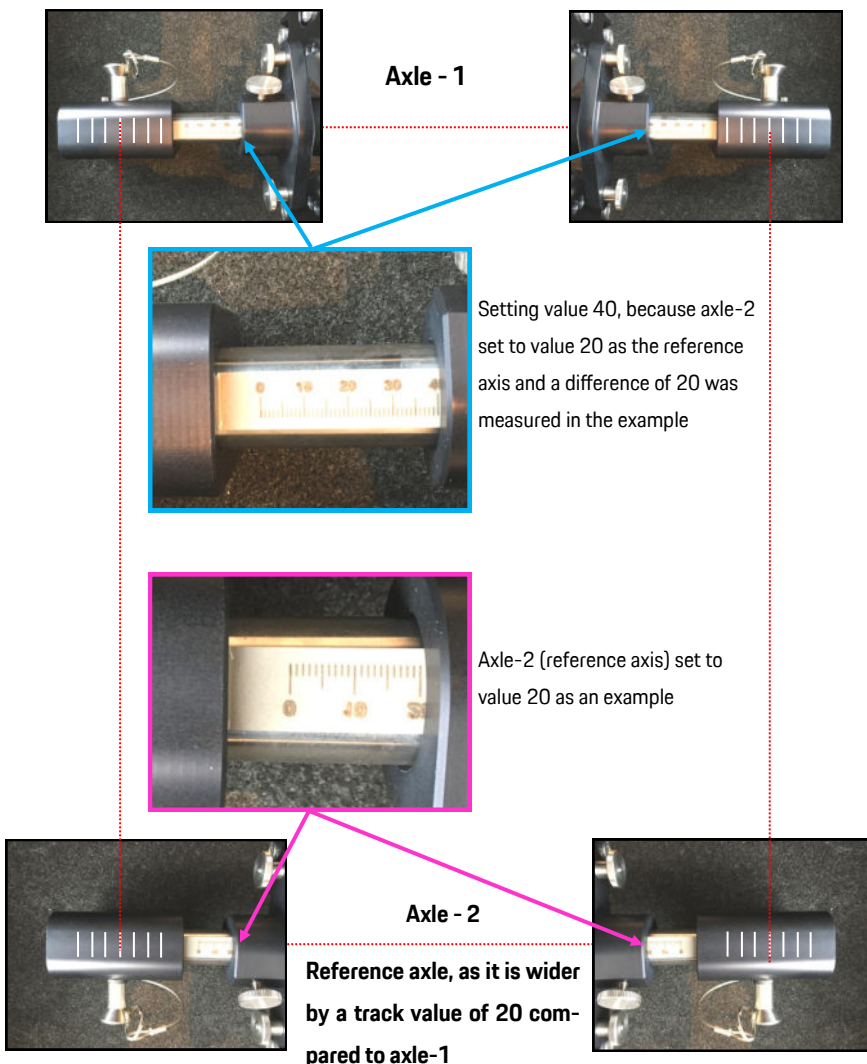






**Schematic representation of the setting of all four toe lasers using the example described:**

Alignment wheel with Laser  
Shaft and Toe Laser



- When the track width value of the front axle is noted, the track width ruler is dismantled from the front axle alignment wheels using the ball indent locking pins.

**Do NOT loosen the bracket clamps!**

- Remove the gauge from the front axle and mount it onto the rear axle alignment wheels. Mount the side without scale to the alignment wheel first.
- In the majority of cases, the track width of the front and rear axles will be different. Loosen the clamping bracket from the ruled pole segment and then mount it onto the alignment wheel as before.
- Secure the bracket clamp in position using the clamping screws
- Make a note of the scale value reached.

Example: The scale value indicated is 20.

This results in a track width difference from the front axle (FA) to the rear axle (RA) of:

$$40 (\text{Axle-1}) - 20 (\text{Axle-2}) = 20$$

Determination:


Rear axle with scale value of 20 is wider by scale value 20 than axis 1. Axis 2 is therefore the reference axis.

Notice: Axle-2 with scale a value of 20 is wider by a scale value 20 than Axle-1.

The 2:1 scaling of the ruler allows the determined values to be set directly on the laser unit. No conversions are required.


**NOTE**

Should the gauge position change significantly over the course of the suspension adjustment e.g. due to a large camber adjustment or change in ride height, the track lasers must be readjusted again before the final toe measurement.

Press the "On-Off-Level" button. 

"Level" appears in the display.

The device is ready to measure. The angle to the horizontal is displayed.

By pressing the "HOLD" key, the currently shown value is "frozen" in the display. If "HOLD" is pressed again, the device returns to the measuring mode. The current angle of inclination is displayed again. 

To switch off, press the "On-Off-Level" button. When not in use, the device switches off automatically after 3 minutes.

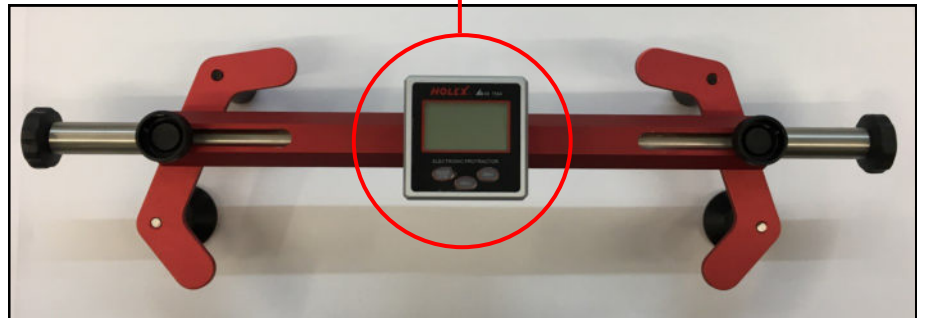
To change the battery, the cover on the back must be removed. A 9V block battery is used.

### Technical Data:

Resolution:	0,05°
Accuracy:	±0.1°
Battery type:	9V Block 6LR61

### NOTE

In order to minimize the affect of off-center steering when measuring the vehicle, it is recommended to clamp the inclinometer with the holding frame inside the steering wheel rim as shown opposite and position the steering wheel straight (at zero) based on the displayed value.





## 4.7 Steering Wheel Level - "Quick Release"

For racing vehicles with a QR-30 quick release hub from Krontec, an electronic steering wheel scale with a quick release mount is optionally available.

### Technical Data:

Resolution:	0,02°
Accuracy:	0,08°
Range :	± 90°
Battery type:	Li-Ion Battery Pack

Mount the steering wheel scale with a quick-release mount between the steering column and steering wheel.

### NOTE

The QR-30 quick release fastener from Krontec with an integrated 22-pin connector is used in the current vehicles of the Porsche Group.

### NOTE

If the steering is set to the "straight ahead" position using the steering wheel balance, the steering should be secured against inadvertent rotation using suitable means.



## 4. Component Functions Overview

### 4.8 Camber Gauge

#### Quickstart

The digital drop scale included in the scope of delivery was designed for precise measurements with an accuracy of  $0.01^\circ$  in the range of  $0^\circ - 90^\circ$ .

#### ON/OFF Button

By pressing the ON / OFF key, the drop scale is switched on and off. If the protractor is not moved for five minutes, it switches itself off via the AUTO-OFF function.

#### Indicator Arrows

The indicator arrows show in which direction the protractor must be moved in order to reach the horizontal ( $0.00^\circ$ ) or vertical ( $90^\circ$ ).

#### HOLD Button (Freeze)

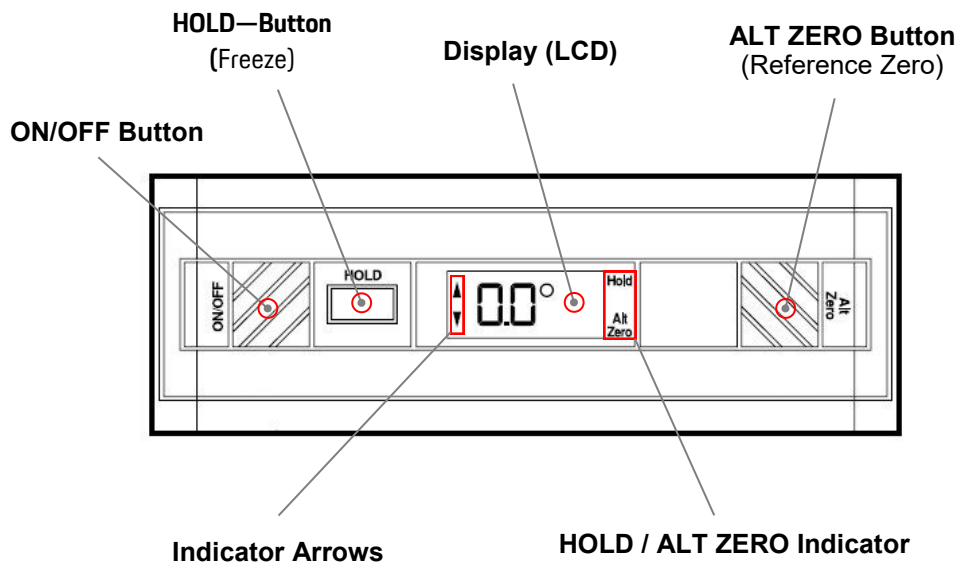
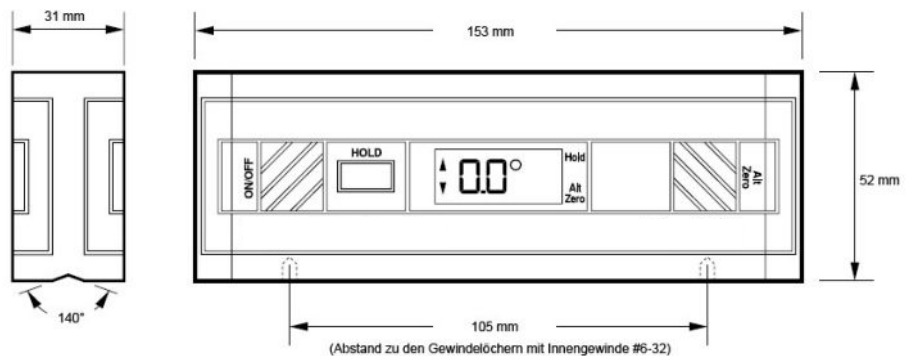
To freeze a value shown in the display, press the HOLD key. The value to be frozen should be shown in the display for approx. 5 seconds before pressing the HOLD key. The HOLD mode is indicated to the operator by flashing indicator arrows, a flashing decimal point and a flashing degree symbol. To exit HOLD mode, press the HOLD button again.

#### ALT ZERO Button (Reference Zero)

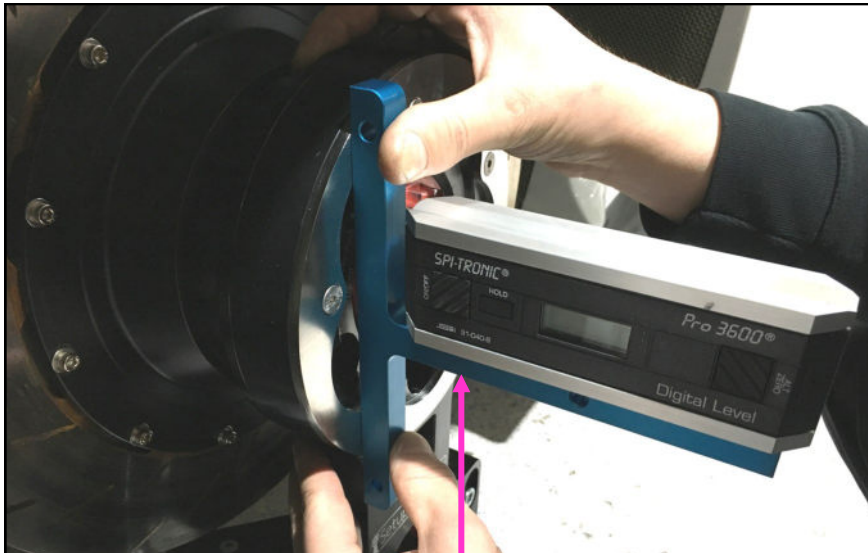
To set a reference value other than  $0.00^\circ$ , place the protractor on the new reference surface, wait 5 seconds and then press the ALT ZERO key. "Alt" followed by "-0-" appears briefly in the display. The new reference area has been adopted. Measurements can now be made in relation to the new reference surface (ALT Zero is shown in the display). To exit this mode, press the ALT ZERO key again.

Further instructions for the digital protractor can be found through the following link:

[https://www.manthey-racing.de/PRO3600\\_Manual.pdf](https://www.manthey-racing.de/PRO3600_Manual.pdf)







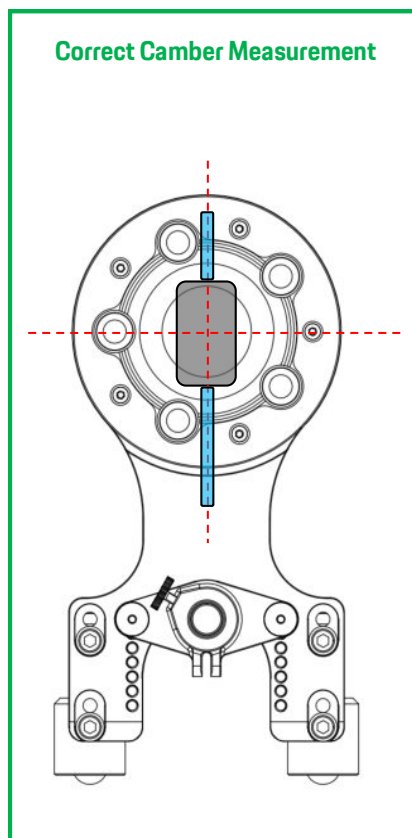
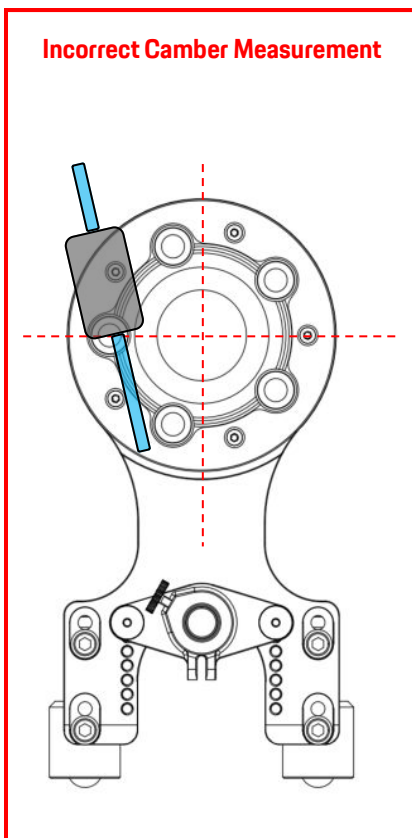
The digital camber gauge included in the kit (incl. mounting frame) is used to determine the wheel camber.

Read the enclosed operating instructions for the SPI-Tronic Pro3600 camber gauge carefully. Before each use, the balance should be checked for correct function.

**For an exact camber determination, complete the following:**

- Switch on the fall scale.
- Hold the camber scale vertically as close as possible to the center of the wheel hub on the flat surface of the measuring wheel. Keep the balance as steady as possible during the measurement.
- Avoid moving the vehicle during the measurement.
- Read off and note the measured value only when it no longer changes (duration approx. 3 seconds).

For more information on the drop scale, read the enclosed operating instructions.



**NOTE**

The camber gauge should be referenced/zero'd display before each measurement on a known level reference surface.

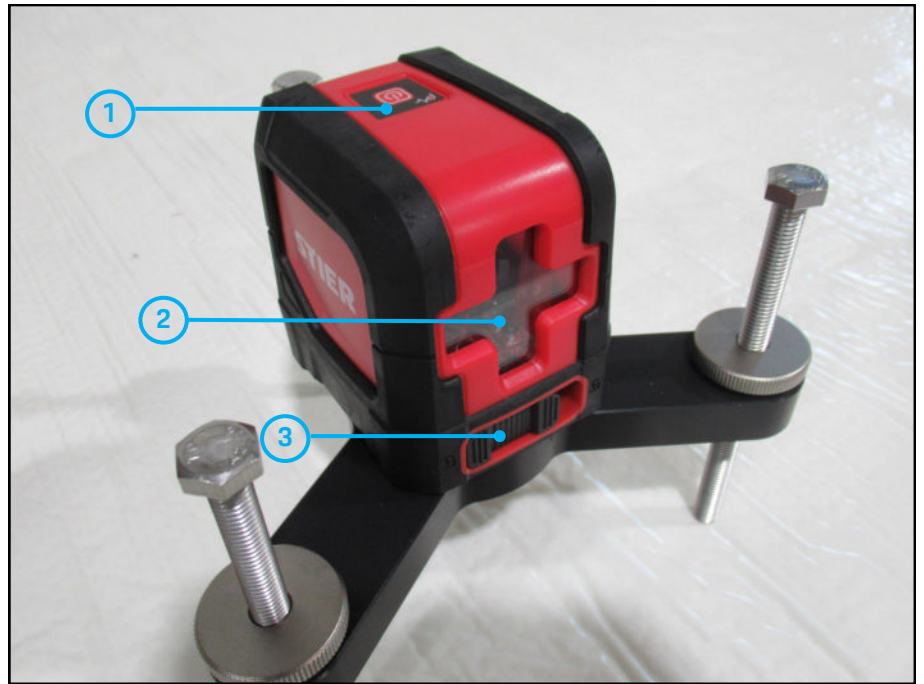
**NOTE**

The camber gauge must not be positioned over the countersunk head screws on the reference surface of the alignment wheel.

### Quickstart

The leveling laser included in the scope of delivery is used to align the alignment platforms and to check the vehicle height. For more information, read the enclosed operating instructions.

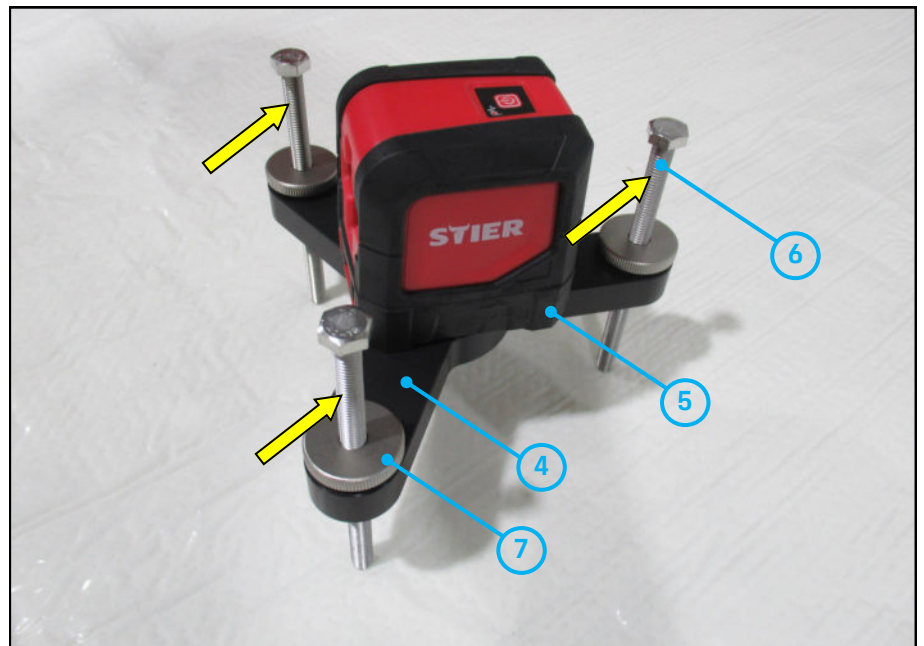
- 1 On/Off Switch
- 2 Laser Source Lens
- 3 On/Off Self-Levelling
- 4 Tripod
- 5 Battery Compartment
- 6 Threaded Levelling Rods
- 7 Knurled Nut



**Class 2 Laser Source**

**Never look directly into the laser source!**

Align the laser height and level by adjusting the three threaded rods. ↓



#### NOTE

The laser has a maximum inclination compensation of  $\pm 4$  degrees. Align the laser as straight and level as possible when adjusting the height.

#### NOTE

For flight case transportation, the self-leveling must be locked using the slide lock (3).

### Technical Data:

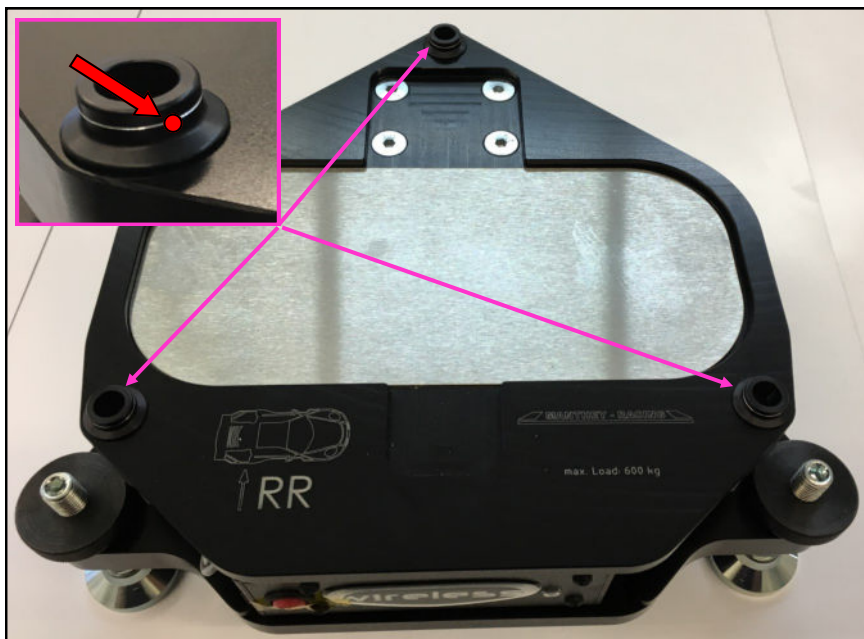
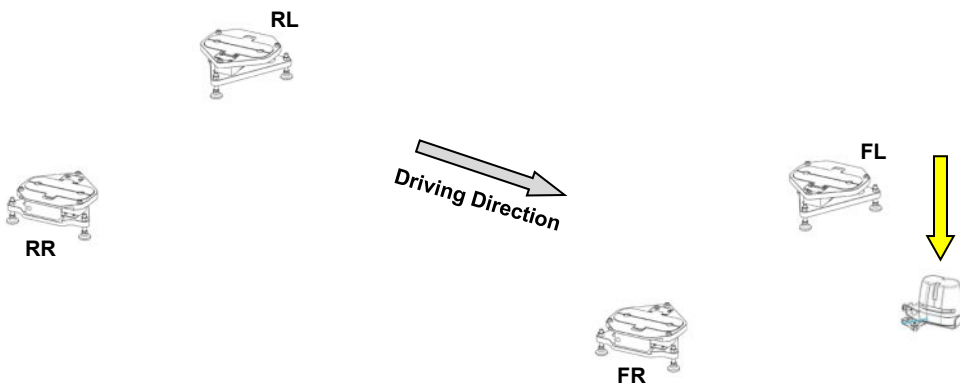
Working Area:  $\leq 20$  m

Accuracy: 1.0 mm at 5m

Beam Angle:  $2 \times 120^\circ$

Battery type: 2x 1,5V Type AA

Laser Class: 2



→ Position the four alignment platforms under the vehicle with the mounted measuring wheels so that they are centered on the alignment platforms.

→ Do **NOT** set the vehicle down with the measuring wheels on the alignment platform at this point.

→ Bring the four alignment platforms to a similar level by adjusting the three feet. Make sure that the adjustment feet still have enough adjustment range (thread length) in both directions (higher and lower).

→ Position the levelling laser approx. 0.5 to 1.0 m centrally in front of the vehicle and switch on the cross line laser. Make sure that the laser is level (less than  $\pm 4^\circ$ ). Activate the self-leveling function of the laser.

→ Insert the three leveling sleeves in the first alignment platform. Start at the alignment platform at the front left in the direction of travel.

Align the height of the laser using the three threaded feet on the tripod approximately with the marking on the leveling sleeves.

**NOTE**

The leveling laser must not be moved while the alignment platforms are being aligned.

→ Now align the first alignment platform using the adjustment feet so that the laser beam can be seen in the middle of the groove on all three leveling sleeves.

Adjust the three other alignment platforms using the same procedure. Once all the alignment platforms have been adjusted, the feet are secured against unintended adjustment using the knurled lock nuts.

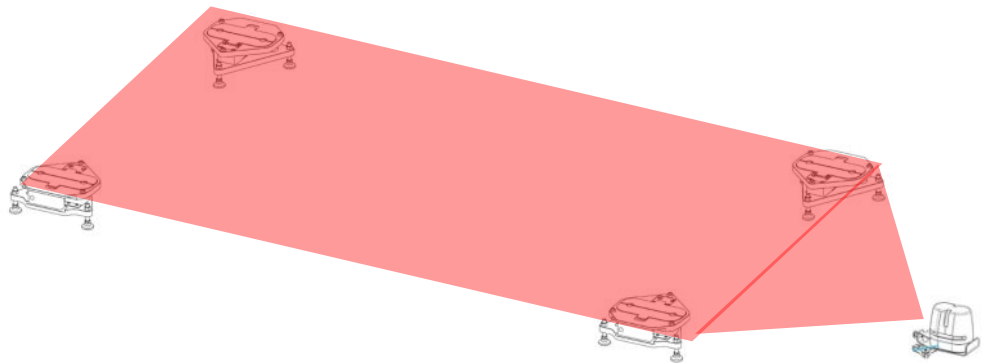
**NOTE**

**It is recommended to check the exact alignment of the alignment platforms again after fixing the feet.**

**If all alignment platforms are properly setup, they will form one level surface.**

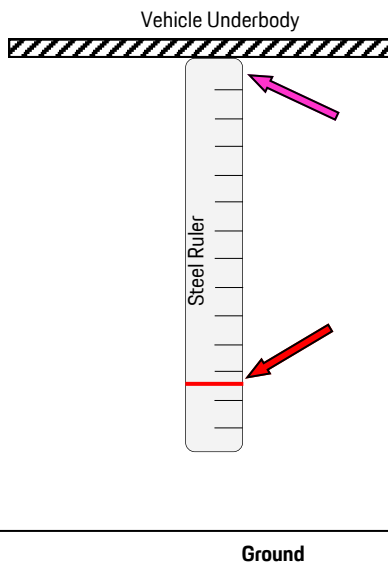
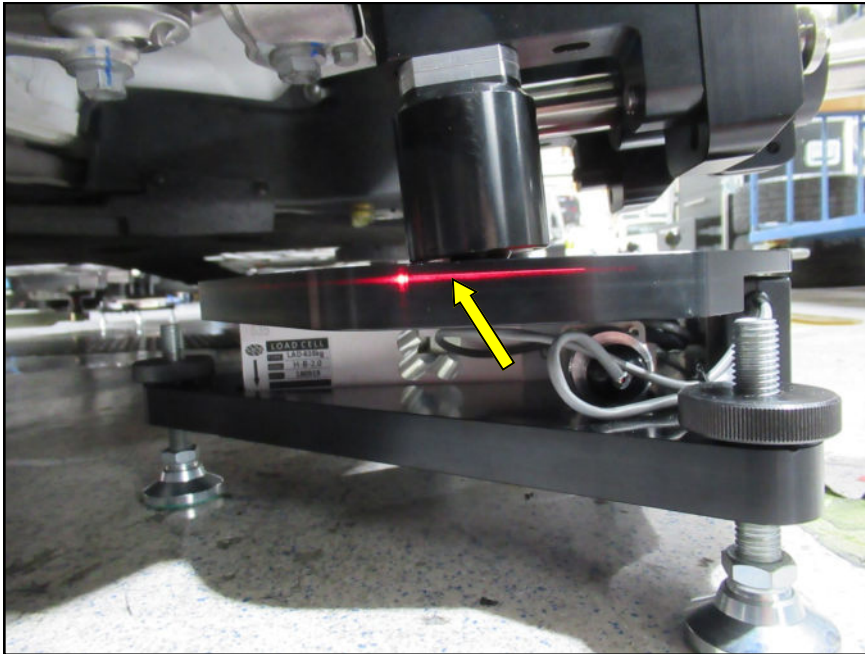
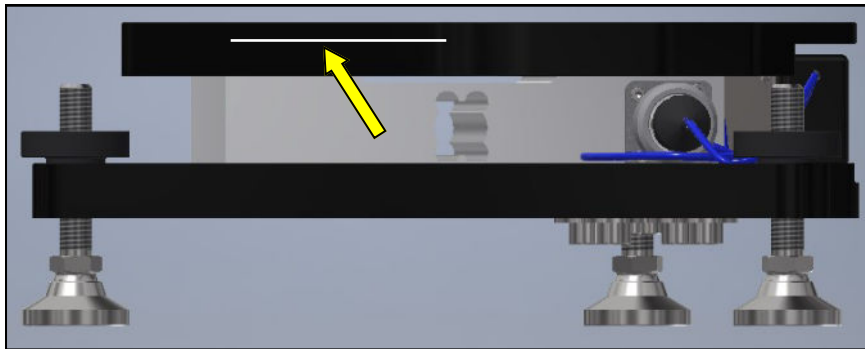
**NOTE**

**The precise positioning of the alignment platforms is the basis for an accurate measurement.**





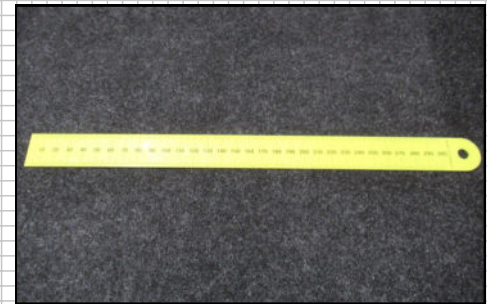
## Determination of Vehicle Ride Height



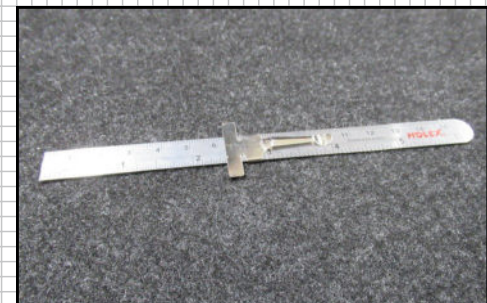
With the help of the steel rulers (150 mm and 300 mm) included in the kit, the vehicle height can be determined at any point on the underbody.

For this purpose, the leveling laser, which was used to align the platforms, is positioned in front of the vehicle and aligned with the marks on the alignment platforms. The markings are located at the level of the contact surface of the alignment platform.

If the steel ruler is placed at a defined measuring point on the vehicle, the driving height can be read directly from the steel ruler (indicated by the laser line).



300mm Steel Ruler



150 mm Steel Ruler

**NOTE**

For street cars, to calculate the vehicle static ride height on the wheels/tyres, add the respective ride height offset to the ride height measured with the vehicle on the system.

Refer to Section.8, Alignment System Database for the ride height offsets

For the MY2019 911 GT3R, the ride height calibration tool (MTH040103) can be ordered with the ride height laser installed.

With the help of the calibration tool, the ride height lasers can be calibrated according to the PAG specification.

**Calibration is completed as follows:**

The vehicle underbody must be set according to the specifications of the 911 GT3R technical manual.

Toolset must be open (CLU setup) and "live data" called up for the voltage values of the laser.

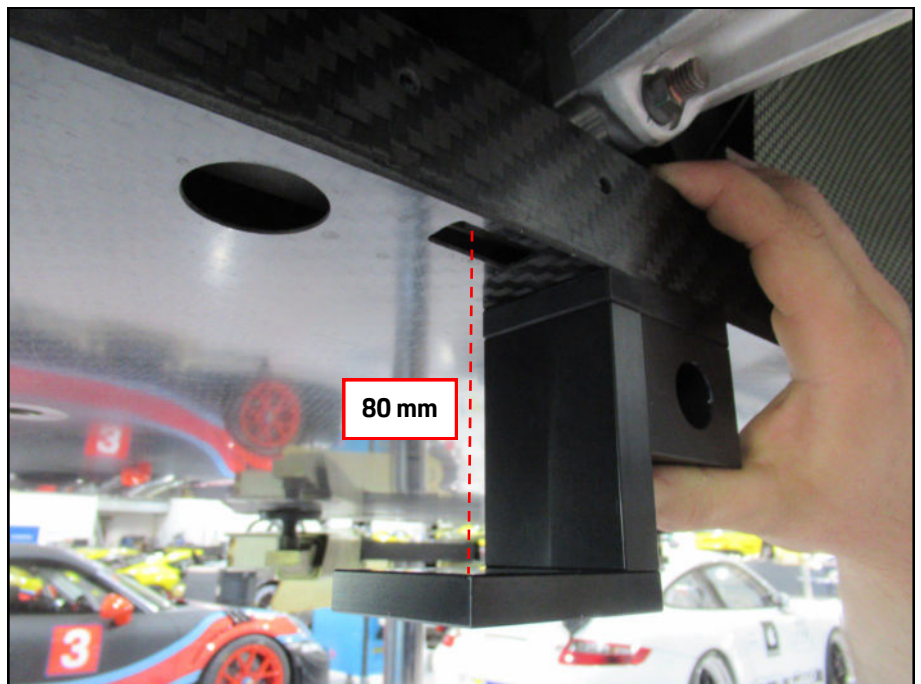
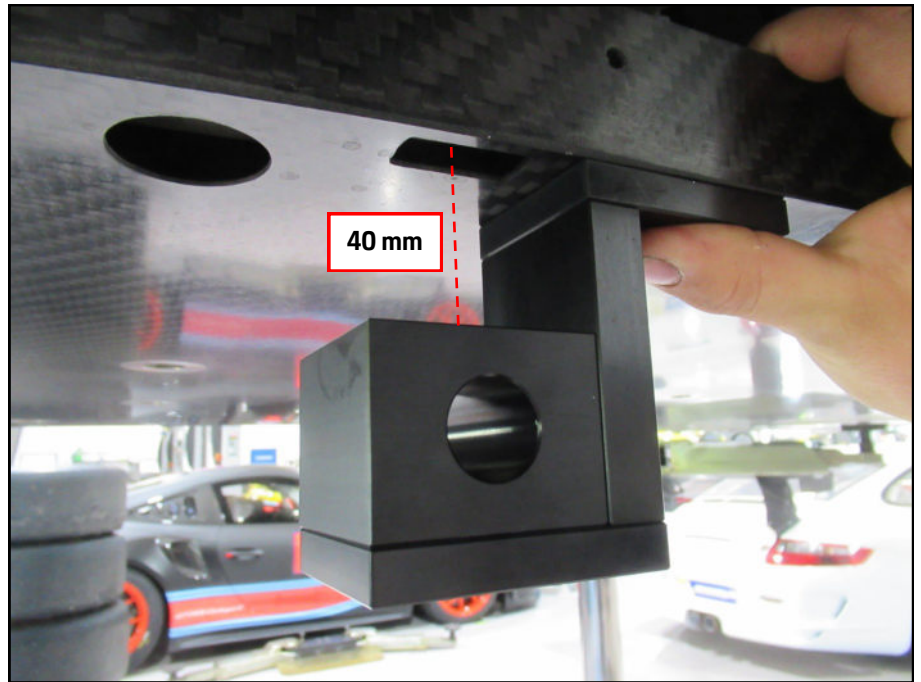
Position the measuring block with the short calibration side (40 mm) flat on the underbody next to the exit opening of the ride height laser as shown opposite.

Note the voltage value given in the live data.

Turn the measuring block so that the long calibration side of the measuring block (80 mm) is positioned at the exit opening of the ride height laser so that the laser beam is centered on the surface.

Note the voltage value given in the live data.

Enter the two voltage values in the CLU setup under "Calibration of the driving height laser" and send the CLU setup with the new calibration values.





## 5. Establishing Alignment Wheel Settings - New Vehicle First Use



In order to set the alignment wheels to correctly match the tire sizes, the vehicle height with the desired wheel/tire combination must first be determined and the alignment wheels must be adjusted to this static diameter.

The process is as follows:

→ Align the alignment platforms at the measuring station according to the instructions on pages 45/46.

→ Place the turntables onto the measuring tables.

→ Carefully lower the vehicle onto the turntable. Ensure that the tires rest only on the moving plates and not on the edge of the turntable!

→ Settle the suspension.

→ Check the alignment of the alignment platforms again using the levelling laser.

→ Set the air pressure of the tires to the desired target air pressure.

→ Insert the steering wheel level and bring the steering to the centred position (straight direction of travel).

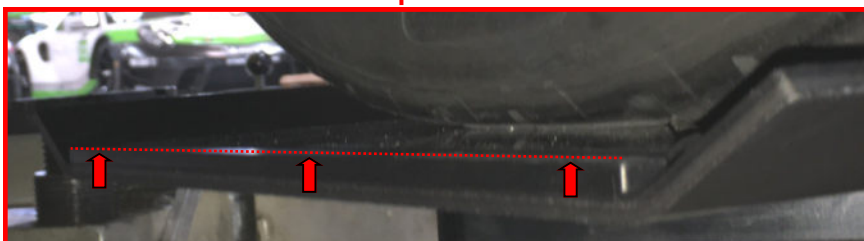
→ Now align the levelling laser with the upper edge of the turntable. Check that all four turntables are correctly aligned.

↓ The positions of the adjustable feet of all four measuring tables should be marked on the floor, as the measuring tables can move when the vehicle is raised.

**The levelling laser must no longer be moved/adjusted once it has been aligned!**

→ Measure the ride height at the measurement points specified in the workshop manuals or technical manuals similar to page 47.

Note/Record the values for the ride heights displayed on the front and rear axles.



→ Dismount the wheels from the vehicle.

→ Adjust the alignment wheels to the offset (ET) values of the front axle and rear axle rims using the offset adjustment shims, as per the instructions (Pg. 26).

→ Mount the alignment wheels on the vehicle as per the mounting instructions (Pg. 33).

→ Before setting down the vehicle, check that the measuring tables are still in their original positions.

→ Place the vehicle with the mounted measuring wheels carefully on the measuring table. Pay attention to the central alignment of the measuring wheels on the support surface.

→ Insert the inserts on the front and rear axles.

→ Settle the suspension.

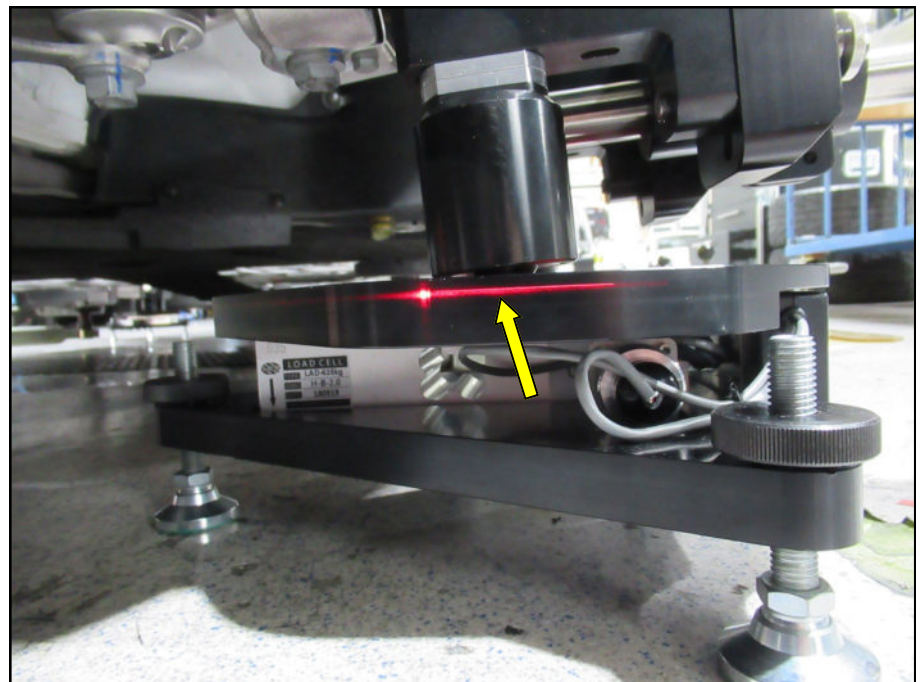
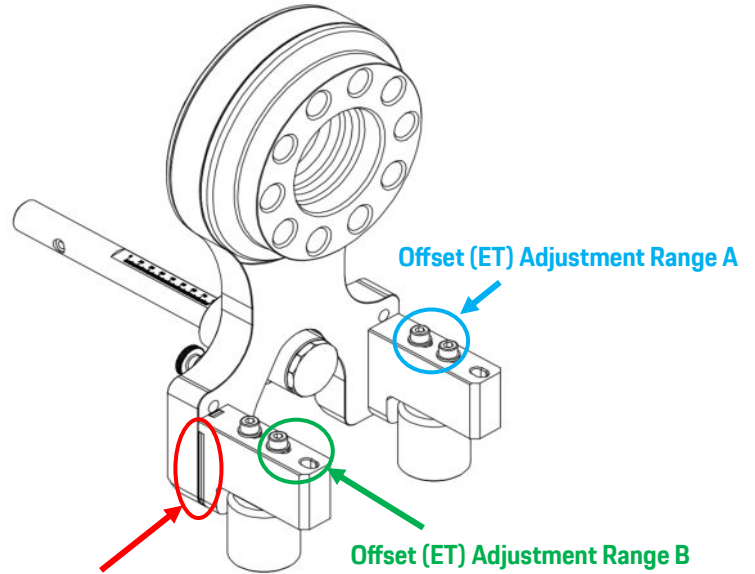
→ Check the position of the steering wheel balance and re-centre if necessary.

**Align the levelling laser with the marking on the alignment platforms!**

→ Now measure the vehicle height again at the identical measuring points on the vehicle. Make a note of the readings.

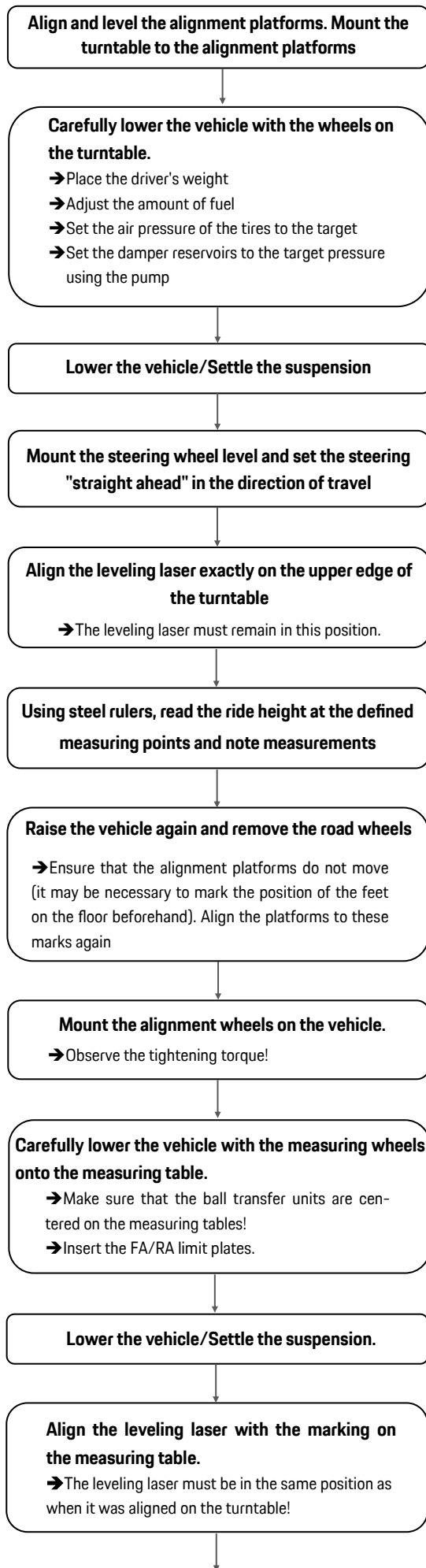
→ Compare the ride height measurements taken with the wheels/tires fitted to those with the alignment wheels fitted. The resulting difference between the measurements is the required adjustment that needs to be made to the alignment wheels, done so by means of adjustment shims and/or orientation of the L-Brackets.

→ Once the alignment wheels have been adjusted, the ride height should be checked again with the alignment wheels installed.





## 6. Measurement Process Flow (Initial Measurement)



On the following pages, the vehicle measurement procedure is outlined on a flow-chart

The complete process is described here.

**NOTE**

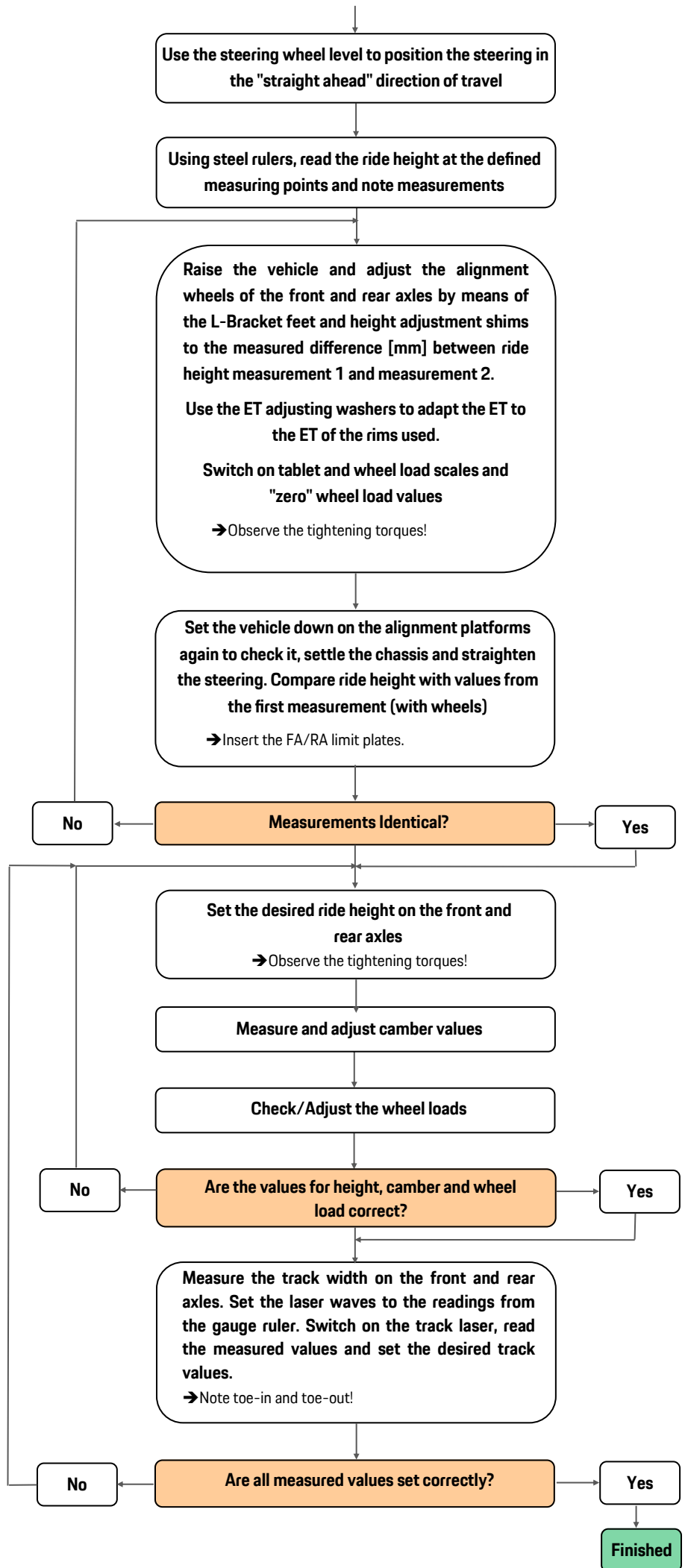
Every change in the camber and ride height requires a control and, if necessary, an adjustment of the track width using a track gauge and possibly a new adjustment of the values for the laser units.

**NOTE**

In principle, every time a parameter is changed, the other values are checked again and adjusted if necessary!

**NOTE**

When the vehicle measurement is finished, all values must be checked again after the loosened screw connections have been tightened.



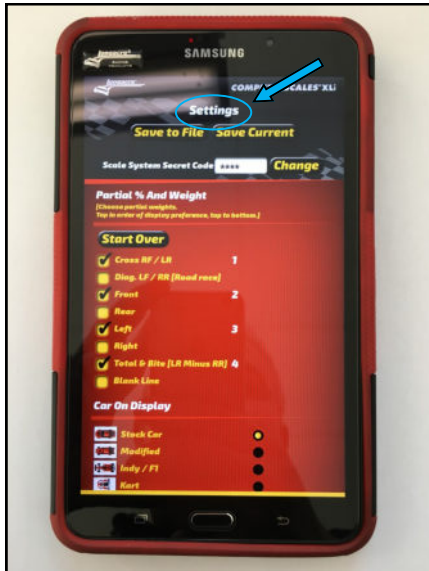
## 7. Trouble-Shooting

### 7.1 Load Cell Calibration

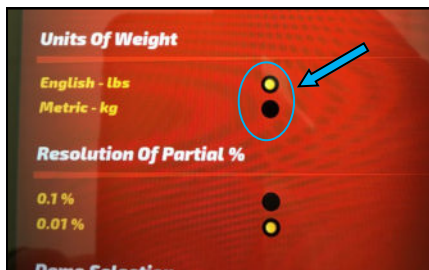
**Step 1:** Switch on the tablet and the wheeled truck  
*(follow the sequence and instructions on pages 23/24)*

**Step 2:** Start the "Computer Scales XLI" app

**Step 3:** Call up the "Settings" page by swiping from right to left.

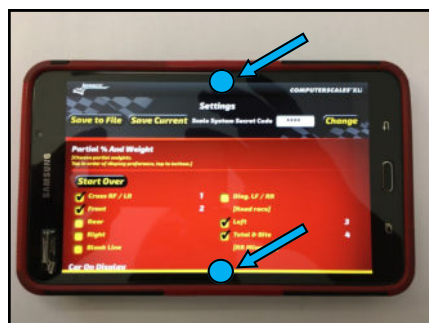


**Step 4:** Scroll down and switch from "Metric - kg" to "English - lbs" under "Units of Weight"



**Step 5:** Rotate the tablet 90 ° (landscape)

**Step 6:** Press the top and bottom of the screen at the same time



**NOTE**

The wheel load scales should only be calibrated if the wheel load values are obviously incorrectly displayed.

**NOTE**

The operator is responsible for procuring the weights required for calibration.

**NOTE**

For the most accurate calibration possible, the calibration **MUST** be performed with a weight of 800 lbs (363.0 kg).

**NOTE**

Conversion factor pounds [lbs] to kilograms [kg]:

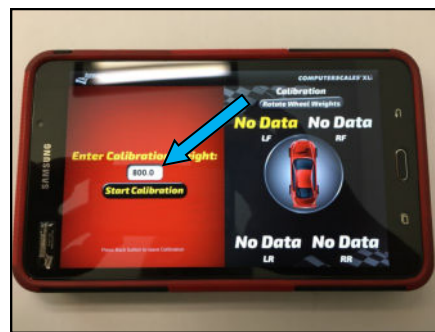
$$1 \text{ lbs} = 0.4536 \text{ kg}$$



**Step 7:** Acknowledge the displayed warning with **"Yes"**



**Step 8:** Enter the value **800.0** under **"Enter Calibration Weight"** and press **"Start Calibration"**

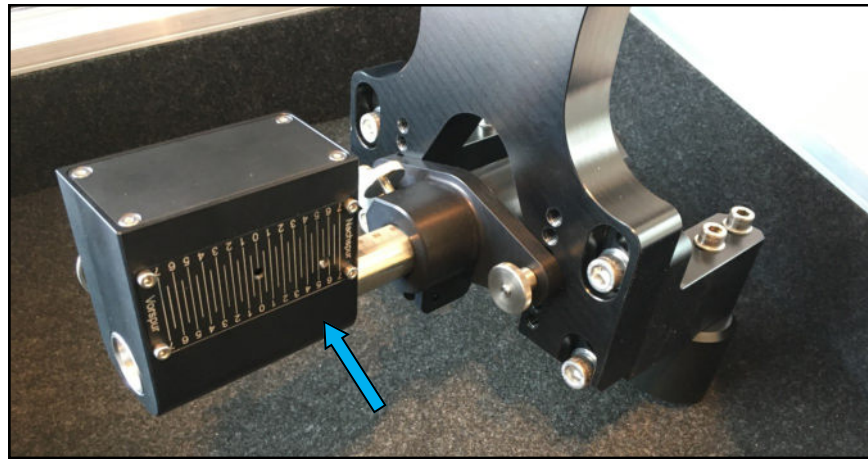
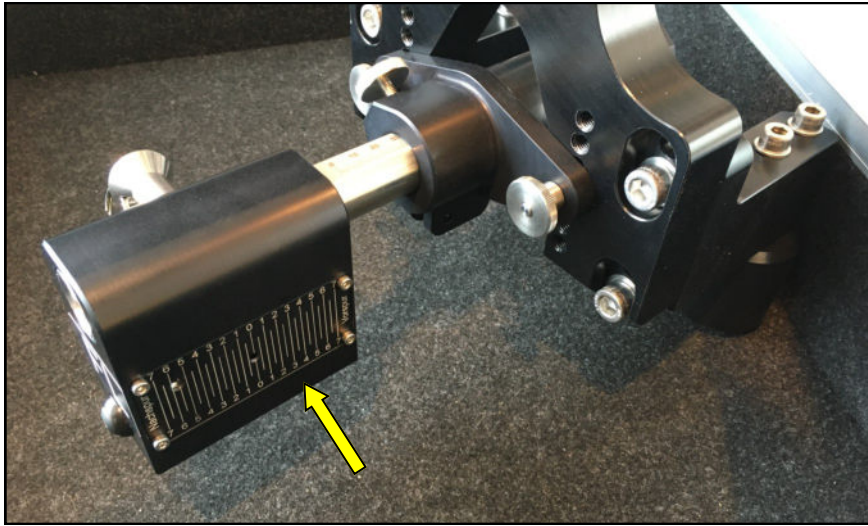


- Step 9:** Select the wheel load scale to be calibrated (**LF / LR / RF / RR**)
- Step 10:** Press the **"Zero"** button
- Step 11:** Place the calibration weight of **363.0 kg** on the corresponding wheel load scale
- Step 12:** Press the **"Calibrate"** button. The corresponding wheel load scale is now calibrated. Remove the weight from the wheel load scale and acknowledge the calibration with **"Done"**
- Step 13:** Switch to the next wheel load scale and **repeat steps 9 - 12**
- Step 14:** Once the desired wheel load scales have been calibrated, complete the calibration with **"Done"**
- Step 15:** When all wheel load scales are calibrated, return to the **"Settings"** menu by pressing the **"Back"** button.



**Step 16:** Under **"Units of Weight"** change the setting again from **"English - lbs"** to **"Metric - kg"**

## 7.2 Toe Laser Calibration Check



The following test can be conducted to ensure that the toe laser functions correctly after improper handling or incorrect storage.

Firstly, it must be ensured that the alignment wheels are secured.

The laser unit is turned on and the laser line position is read on the scale of the opposing axle and noted/recorded.

The laser unit locking pin with is pulled out and the laser unit removed from the mounting shaft.

The laser unit is rotated 180° around the axis of the ball lock pin, mounted back onto the shaft and fixed with the ball lock pin.

The housing is now upside down above the shaft, but the laser beam continues to point in the same direction as before.

If the laser line continues to indicate the same value after the rotation as before, this confirms that the laser source components are operational and correctly aligned.

Perform this check for all four track lasers.



**Class 2 Laser Source**

**Never look directly into the laser source!**

Next the laser shaft is straightness or whether the screw-on mounting flange is perpendicular to the shaft.

The laser shaft is set to any width value with the toe laser. The laser line is projected onto the scale plate on the laser unit on the opposing axis.

Read off the displayed value.

To check the shaft straightness, it is rotated 180° about its central axis so that the scale is on the underside of the shaft.

The width value previously set on the laser shaft must be set again. The position of all other parts are retained.

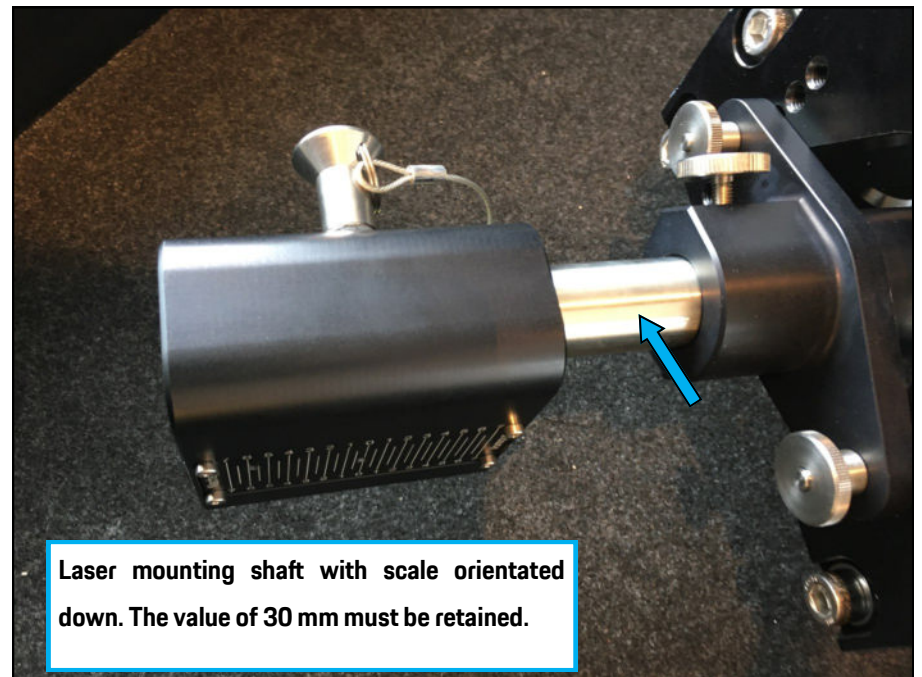
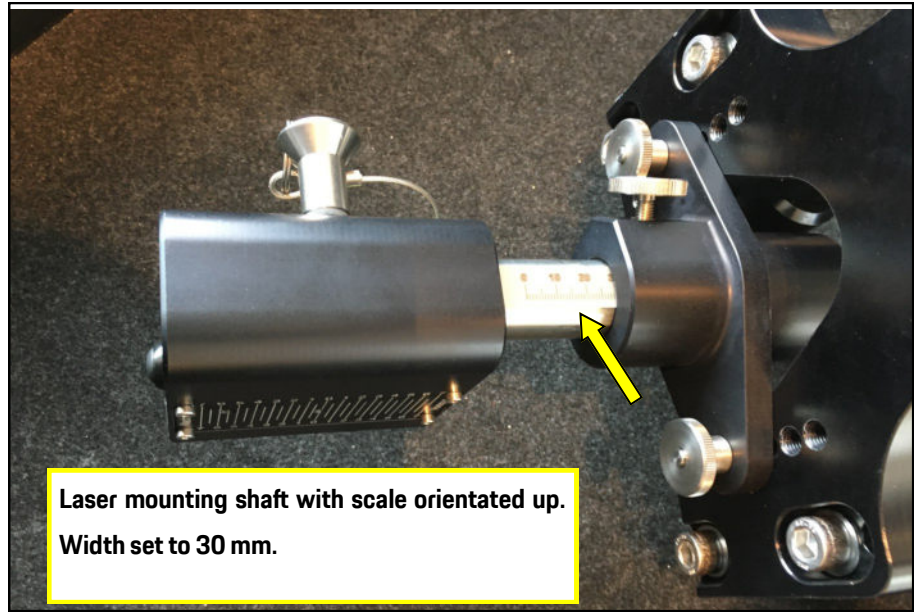
If the laser beam continues to indicate the same point as previous after the rotation, the laser shaft is straight.

The screw-on mounting flange can now also be rotated 180° around the shaft axis in order to check that it is perpendicular.



### Class 2 Laser Source

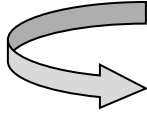
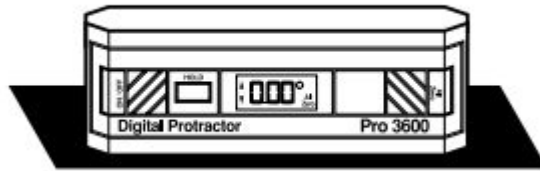
**Never look directly into the laser source!**





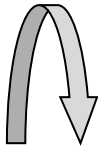
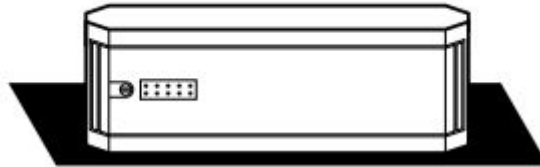
## 7.3 Camber Gauge Calibration Check

1



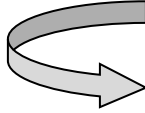
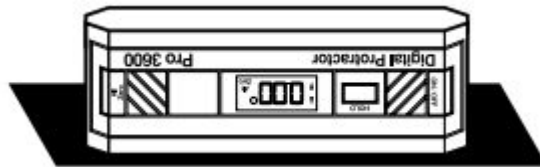
Rotate by 180°

2



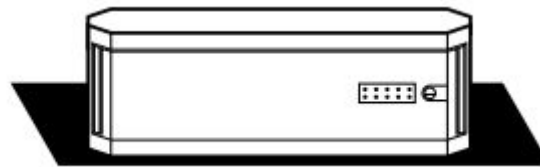
Rotate by 180°

3



Rotate by 180°

4



### Checking the camber gauge

The camber gauge should be checked for accuracy before each use, in any case after a fall or when used in ambient temperatures that deviate by more than 5°C from the last calibration. The drop scale is checked with the following simple steps.

#### Step 1:

Position the camber gauge on a level surface with the display facing you. The surface does not have to be exactly horizontal. Turn on the camber gauge and wait 10 seconds. Make a note of the displayed value.

#### Step 2:

Rotate the camber gauge horizontally by 180 degrees (display points away from you). Wait 10 seconds and write down the displayed value.

#### Step 3:

Now turn the camber gauge vertically by 180 degrees (display points in your direction, scale is upside down). Wait 10 seconds and note the displayed value.

#### Step 4:

Then turn the camber gauge again horizontally by 180 degrees (display points away from you, scales are still upside down). Wait 10 seconds and write down this value.

If the individual values differ by more than 0.1°, the drop scale MUST be recalibrated using the "Superset".

#### NOTE

The "Superset" procedure is outline in the enclosed manufacturers instructions.

## Wheel Alignment System Setup Database

For Motorsport vehicle measurement applications:

- 35 kg Fuel Weight
- 75 kg Driver Weight (Weight Split: 60kg Seat/15kg Footwell)

Vehicle	Tyre	Dimensions	Axle	Tyre Pressure [Bar]	ET Wheel [mm]	Offset (ET) Adjustment Shims [mm]	Height Adjustment Shims [mm]	Offset Adjustment Range [A/B]	L-Bracket Mounting Holes	L-Bracket Orientation
718 Cayman GT4 CS	Michelin N2	26 / 64-18	FA	2.00	41	0	11	B	Upper	Upper
		27 / 68-18	RA	2.00	47.5	5	3	B	Upper	Lower
911 GT3 Cup Gen II	Michelin	27 / 65-18	FA	2.00	28	5	7	A	Lower	Upper
		31 / 71-18	RA	2.00	53	5	4	A	Lower	Lower
911 GT2RS CS	Michelin	27 / 65-18 SBL	FA	2.00	28	15	4	A	Lower	Upper
		31 / 71-18 SBM	RA	2.00	46.6	5	0	B	Lower	Lower
911 GT3R MJ2019	Michelin	30 / 68-18	FA	1.80	33	5	8	A	Upper	Lower
		31 / 71-18	RA	1.80	37.5	5	4	A	Lower	Lower
	Pirelli DHD2	325 / 680-18	FA	1.50	33	5	6	A	Upper	Lower
		325 / 705-18	RA	1.50	37.5	5	11	A	Upper	Lower
911 GT3 CUP MR 680	Michelin	325 / 680-18	FA	1.50	33	5	4	A	Upper	Lower
		325 / 705-18	RA	1.50	37.5	5	10	A	Upper	Lower
992 GT3 CUP	Michelin Cup N3	30 / 68-18	FA	2.00	17	5	6	A	Upper	Unten
		31 / 71-18	RA	2.00	37.5	5	3	A	Lower	Unten
		30 / 65-18	FA	2.00	23.5	5	5	A	Lower	Upper
		31 / 71-18	RA	2.00	44.5	7	14	B	Upper	Lower

The measuring points for the ride height can be found in the relevant technical manual.

For Street vehicle measurement applications:

- Fuel Level: Full
- 75kg on Driver Seat Position

Vehicle	Tyre	Ride Height Offset	Axle	Tyre Pressure [Bar]	ET Wheel [mm]	Offset (ET) Adjustment Shims [mm]	Height Adjustment Shims [mm]	Offset Adjustment Range [A/B]	L-Bracket Mounting Holes	L-Bracket Orientation
718 Cayman GT4	Michelin	-16	FA	2.00	41	0	5	A	Lower	Upper
		+10	RA	2.30	47.5	10	0	B	Lower	Lower
911 GT3 (992)	Michelin	+14	FA	2.00	46	0	5	A	Lower	Upper
		+7	RA	2.30	45	10	0	B	Lower	Lower
911 GT3RS MR (991.2)	Michelin	-23	FA	2.00	28	0	5	A	Lower	Upper
		-12	RA	2.30	46.6	10	0	B	Lower	Lower
911 GT2RS MR (991.2)	Michelin	-23	FA	2.00	33	0	5	A	Lower	Upper
		-12	RA	2.30	37.5	10	0	B	Lower	Lower
991 GT3 (991.1/991.2)	Michelin	-15	FA	2.00	47.0	0	5	A	Lower	Upper
		+7	RA	2.30	55.0	10	0	B	Lower	Lower

The measuring points for the ride height can be found on the respective setup sheet