Original
Operating instructions

Weber wheel balancer
Model: Profi STW 202

Version 1.1
Status: June 2023

www.weber-werke.de
Weber GmbH
Sülzbach 1
D-37293 Herleshausen
Tel: +49 (0) 5654 / 343

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The information contained in this manual has been carefully checked, but errors cannot be completely ruled out. This manual is intended for users with technical knowledge in the field of vehicle inspection and repair. Technical and content-related changes are reserved.

All pictures shown may be examples. Colour deviations possible!

1 Security

1.1 Introduction

The installation and operating instructions are part of a wheel balancer.

An expert is someone who has sufficient knowledge in the field of tyre technology due to his professional training and experience and who is familiar with the relevant state regulations, accident prevention regulations and generally recognised rules of technology:
z. e.g. BG rules, DIN standards, VDE regulations, technical rules of other member states of the European Union.

No liability is accepted for personal injury, damage to the wheel and the wheel balancer caused by failure to observe these operating instructions.

The following safety instructions warn of dangers and are intended to help prevent personal injury and damage to property. For your own safety, compliance with the safety instructions in these operating instructions is absolutely essential. In addition, the respectively valid national and international safety regulations of the responsible authorities for occupational safety and accident prevention must be observed. Each operator is responsible for compliance with the regulations.

1.2 Safety instructions for commissioning

The wheel balancer is approved for installation and use in dry rooms. Installation in damp and wet rooms and rooms with explosion hazards is not permitted.

The operator is responsible for the selection of the installation site, the ground conditions, the load-bearing capacity of intermediate ceilings, etc. The operator must ensure that the ground conditions meet the requirements. It must be ensured by testing or architect's specifications that the ground conditions meet the requirements or foundations must be constructed that meet the requirements.

The mains connection on site may only be carried out by approved electrical contractors. The usual national regulations must be observed.

1.3 Safety regulations for operation

The operating instructions must be accessible and must be observed by every user. The legal regulations for accident prevention must be observed. Legal provisions and regulations take precedence over the operating instructions.

The wheel balancer may only be operated by authorised and instructed persons who have reached the age of 18. To prevent unauthorised use, some wheel balancers have a lockable main switch (if available).

Please read all safety regulations and technical instructions for this machine before setting up, connecting and operating the machine.

The machine was manufactured in compliance with ISO 9000 regulations. In terms of design, the requirements for excellent quality and user-friendly use were taken into account.

The operating instructions contain all relevant data on the machine. Keep the operating instructions in a safe place for later use.

Do not install the wheel balancer in extremely hot or cold environments. Avoid placing the machine too close to radiators, gas and water taps, humidifiers, air conditioners or other equipment that may pose a risk.

The wheel balancer should not be permanently exposed to direct sunlight.

Avoid liquids entering the display. Do not place any liquid containers on the weight compartments or in the immediate vicinity of the display.

The machine should not be brought into contact with corrosive liquids and other substances harmful to the surface.

The unit must be installed on a level, load-bearing surface. Make sure that vibrations of the floor caused by other devices or influences are excluded. The machine must be fixed to the floor.

Only properly instructed and qualified personnel may be allowed to use this machine.

All modification and conversion work on the machine not authorised by the manufacturer can lead to considerable damage to property and personal injury. The manufacturer / supplier accepts no liability for this.

1.4 Intended use

This machine may only be used for the purpose for which it is designed by the manufacturer. No other use is permitted.

Unauthorised interventions or modifications to the machine are not permitted.

The correct function of the safety devices must be checked regularly. Safety devices must not be put out of operation or their function manipulated in any other way. In the event of irregularities in the safety devices, the wheel balancer must not be used.

Weber GmbH accepts no liability for damage caused by improper operation and use for other than the intended purpose.

The main switch is also an emergency stop switch and must be switched off in dangerous situations.

1.5 Safety instructions for service work

Maintenance and repair work may only be carried out by authorised service technicians of the contractual partners of Weber GmbH.

Before maintenance and repair work, the wheel balancer must be disconnected from the electrical mains (main switch off, fuse off). Suitable measures must be taken to prevent it from being switched on again.

Work on the electrical part of the wheel balancer or on the supply cable may only be carried out by authorised experts or electricians.

1.6 Meaning of the stickers

Wear protective gloves

Read operating instructions

Wear safety glasses

Switch off the machine's power source during maintenance work

WARNING against rotating machine parts

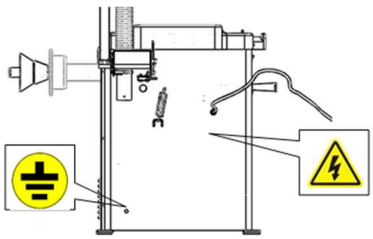
This sticker, located next to the balancer shaft, reminds the user that it is a rotating part and is therefore a hazard.

Earthing symbol

This sticker is located on the rear left side of the machine and indicates where the earth cable should be connected.

Lightning symbol

This label on the back of the machine indicates where the power supply cable should be connected.



Positioning of the stickers on the back of the machine.

CE

This mark indicates that this machine model has received the CE certificate.

1.7 Safety devices on the wheel balancer

Main switch: The main switch de-energises the machine and stops the balancing process.

Wheel protection arch: The wheel protection arch made of impact-resistant plastic prevents stones, weights or other materials from flying off the wheel/tyre. The wheel protection arch must always be folded down for your own safety.

Wheel arch switch: A microswitch on the wheel guard arch prevents the balancer from starting without the wheel guard arch folded down.

Attention:
All safety instructions must be strictly observed before and when using the machine. Mechanics or other authorised persons must be thoroughly trained before using the machine. The safety instructions must be signed by each authorised person.

1.8 Operating instructions

1. Anwendungsbereich
Diese Betriebsanweisung gilt für das Arbeiten mit Radwuchtmaschinen.
2. Gefahren für Mensch und Umwelt
 - Verletzungsgefahr durch drehendes Rad - Quetschgefahr durch den Schutzbogen oder Spann-Mechanismus - Reißgefahr durch scharfe Kante an Felgen oder durch herausstehende Drähte an Reifen
3. Schutzmaßnahmen und Verhaltensregeln
- Selbständige Bedienung nur, wenn die Person mindestens 18 Jahre alt ist, unterweisen, ihre Befähigung nachgewiesen hat und vom Unternehmer beauftragt wurde. - Bei Arbeiten mehrerer Personen ist ein Aufsichtsführender zu bestimmen. - Immer ordnungsgemäße und sachgemäße Arbeits- und Arbeitshilfsmittel verwenden. - Geeignete Schutzkleidung bzw. Schutzmittel tragen (z.B. Schutzbrille, Gehörschutz, Sicherheitsschuhe etc.). - Nur bestimmungsgemäße Benutzung unter Beachtung der Betriebsanleitung. - Immer den vorgesehenen Schutzbogen benutzen, das Rad erst bearbeiten wenn es komplett im Stillstand ist. - Sicherungen gegen Verkehrsgefahren treffen (z.B. Absperrungen, Sicherungsposten) - Achten Sie beim Betrieb der Reifenwuchtmaschine auf alle beweglichen Teile. - Bei allen Bewegungen der Wuchtmaschine keine anderen Personen gefährden. - Sich nicht im Bewegungsbereich der Wuchtmaschine aufhalten - Achten Sie auf genügend Abstand, damit Sie nicht erfasst werden können. - Achten Sie immer darauf, dass das zu Wuchtende Rad fest an der Maschine gespannt ist.
4. Verhalten bei Störungen
- Bei erkennbaren Gefährdungen den Betrieb sofort einstellen. Wuchtmaschine gegen Weiterbenutzen sichern. - Festgestellte Mängel dem Vorgesetzten melden. - Störungen nur im Stillstand (stromlos) beseitigen bzw. Fachpersonal herbeiholen.
5. Verhalten bei Unfällen / Erste Hilfe
 - Ruhe bewahren - Ersthelfer heranziehen - Notruf: _____ - Unfall melden
6. Instandhaltung
- Reparatur nur von hierzu beauftragten fachkundigen Personen oder Fachfirmen

2 Technical manual

2.1 Scope of delivery

The scope of delivery of the wheel balancer includes:

1	Wheel balancer
4	Balancing cones
1	Quick-release nut
1	Balance shaft
1	Plastic pressure piece for quick-release nut
1	Protective ring for plastic pressure piece
1	Balancing weight tongs
1	100 g calibration weight
1	Allen key
1	Small parts set

Optionally available

STW110001
Balancing weight tongs Balancing machine

STM100
Balancing machines Starter package

TRA0325
Motorbike balancer shaft

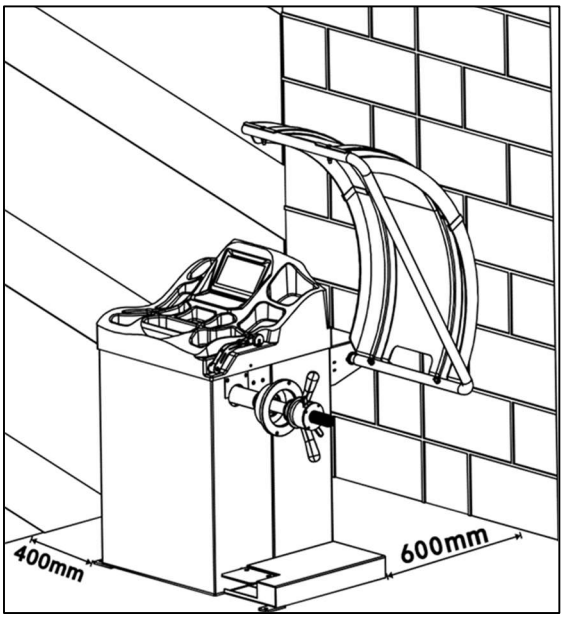
To simplify the operator's work, the wheel balancer can be equipped or used with accessories. Only original accessories from the manufacturer should be used.

2.2 Technical data

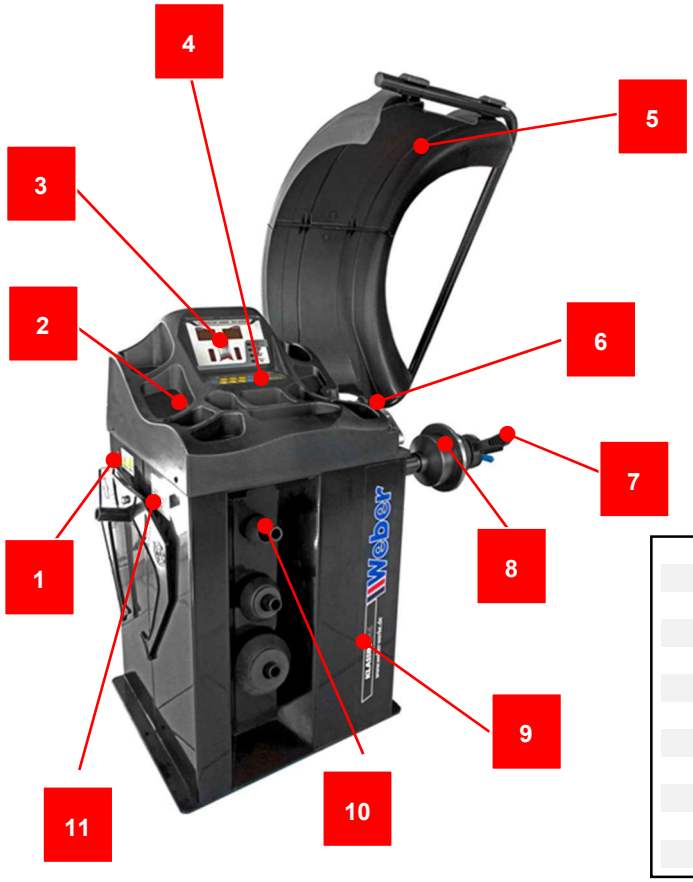
Rim width	1.5 - 20 inch
Rim diameter	10 - 24 inch
Wheel diameter	990 mm
Wheel weight max.	65 kg
Balancing speed	200 rpm.
Balancing time	approx. 8 sec.
Engine power	0.2 kW
Electrical connection	230 V / 1 Ph / 50 Hz
Accuracy	± 1 g
Noise level	≤ 70 dB
Working temperature	5 - 50 °C
Dead weight	approx. 100 kg

Note: Specifications are subject to change without notice.

2.3 Distances to the surroundings of the wheel balancer



2.4 Wheel balancer description



1	Main switch
2	Cover with weight compartments
3	Display
4	Keyboard / Control panel
5	Wheel guard arch
6	Measuring arm "Distance" / "Diameter
7	Balance shaft
8	Contact surface for rim
9	Machine body
10	Cone holder
11	Gauge rim width

2.5 EU Declaration of Conformity

We

Weber GmbH
Sülzbach 1
37293 Herleshausen

hereby declare that the machine described below, by virtue of its design and construction and in the version placed on the market by us, complies with the relevant basic safety requirements of the EC Directive. In the event of a change to the machine not agreed with the signatory, this declaration loses its validity.

Designation: Wheel balancing machine

Model: Weber Profi Wheel Balancer STW - 202
Manufacturer's designation: (ZH825)

Serial number:

Relevant EC Directive: 2006 / 42 / EC

In particular, the following Standards referred to:
EN 60204-1:2018
EN ISO 12100: 2010
EN IEC 61000-6-1:2019
EN 61000-6-3:2007 +A1:2011

Reference number of technical data: SHES200400571801/02

Certificate: SHES2004005718MDC
Valid from 25.02.2019

Issuer of the certificate:
SGS-CSTS
NO.588 West Jindu Road
Songjiang District,
201612 Shanghai China
Identification number: 0023

Authorised person to compile the technical documentation: Andreas Weber
(address as above)

Herleshausen, December 2020

Place/DateAndreas

Weber / Managing Director

3 Preparation of the wheel balancer

3.1 Foreword

Before removing from the packaging, the assembly instructions must be read through and followed exactly. Non-observance leads to exclusion of liability and warranty. Please note that there is a risk to life and limb in the event of incorrect assembly. Weber GmbH does not assume any liability, guarantee or warranty for products and parts thereof destroyed by improper assembly or handling. Please observe the sheet "Initial commissioning by a qualified person".

3.2 Unpack

Unpack the machine using the appropriate tools. Pay special attention to the sensitive machine parts such as the keyboard, display, cover and balancer shaft.
Lifting the machine by the balancing shaft can damage the sensors. The supplier / manufacturer accepts no liability for any resulting defects.
Carefully unpack the machine and check that it is in perfect condition and that no parts are damaged or missing.

3.3 Set up

When setting up the machine, ensure that the valid safety regulations are observed. A clearance of 60 cm should be maintained between the machine and adjacent walls / surfaces. The space requirement must be adapted to the respective local conditions after mounting the wheel guard arch and screwing in the balancer shaft.
Avoid moving the machine on the balancing shaft and the wheel protection arch. This can cause damage to the bearing of the guard or to the switching mechanism.

3.3.1 Notes on the disposal of packaging material!

Packaging materials are to be reused or disposed of properly in accordance with the country-specific regulations.

3.4 Site selection

The wheel balancer is approved for installation in closed, dry workshop rooms. Use in damp and wet rooms and rooms with explosion hazards is not permitted.

3.5 Floor condition / footprint

The wheel balancer must be set up on a sufficiently firm floor which can withstand the force exerted on the floor support surface. The supporting surface must be level. The operator is responsible for the correct selection of the installation site and for ensuring the load-bearing capacity of the floor. The concrete quality must be C20/25.

CAUTION: Soils that do not meet the requirements can cause serious damage to property **and** personal injury.Use fixing anchors that fit into the machine's designated fixing holes to ensure proper anchoring to the ground.

Use one of the following heavy duty anchors for fixing: Fischer bolt anchor FBN II 10/30 Fischer

If the unevenness of the floor is more than 0.25%, shims of sufficient size can be used as levelling material.

For proper working it is absolutely necessary to anchor the wheel balancer in the foundation.

4 Mounting the wheel balancer

4.1 Mounting the wheel guard arch

Pull the cable for the contact switch through the connection flange for the wheel guard arch (Fig. 1) and connect it to the switch. Now screw the connection flange to the machine with the 3 screws from the small parts set.

Screw the wheel arch together in the middle (Fig. 2) and slide it onto the corresponding frame. Secure the wheel arch on the frame with the 2 screws.

Slide the wheel guard arch with the frame onto the connecting flange and mount it with the screw provided.

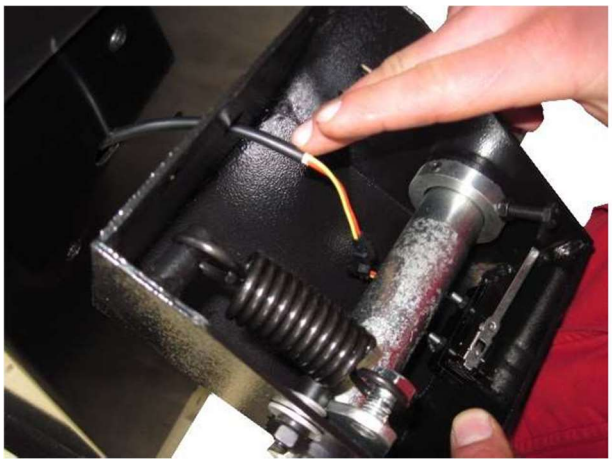


Fig. 1

Fig. 2

For your own safety, the wheel guard arch must always be folded down during the balancing process.

4.2 Mounting the balancer shaft

Push the wheel balancer shaft into the opening provided and screw it to the machine with the supplied long Allen screw using the Allen key (Fig. 3).

Fig. 3

4.3 Electrical connection

The wheel balancer is designed as standard for connection to a socket, 230 V / 50 Hz / 1 Ph. The machine is equipped with a CE-tested connection plug as standard. The circuit for the required socket must be fused separately.

Any electrical connection must comply with the following requirements:
Observe the type plate on the machine;

Proper earthing is required for proper operation. Do not connect the unit to air, water, telephone lines or other unsuitable objects.

All electrical connection work may only be carried out by a qualified electrician, taking into account the regulations of the VDE and / or the responsible energy and supply company. All applicable CE or DIN regulations must be observed.

5 Wheel assembly

A distinction is made between two different clamping methods for wheel assembly.

5.1 Mounting method 1 - cone mounting on the back of the rim

Most steel wheels can be mounted correctly using this method. The wheel is centred on the cone from the inside of the hub.

- Clean the surface of the rim before using this method.
- Choose the best fitting cone for the centre hole of the rim.
- Push the cone with the large surface towards the flange onto the shaft so that it rests against the flange.
- Take a suitable plastic cap (optional) and place it on the clamping nut.
- Lift the wheel onto the shaft and centre the centre hole of the rim with the cone resting on it.
- Attach the wheel to the balancer shaft using the quick-release nut. Make sure that it is centred correctly.

5.2 Mounting method 2 - cone mounting on the front of the rim

A wheel should only be centred in this way if the inner surface does not allow the cone to be positioned correctly. The wheel is centred on the cone from the outside of the hub.

- Choose the best fitting cone for the centre hole of the rim.
- Lift the wheel towards the flange so that it rests on the balancer shaft on the flange.
- Push the cone with the large surface towards the outside onto the balancing shaft.
- Centre the centre hole of the rim by pushing on the cone.
- Attach the wheel to the balancer shaft using the quick-release nut (without plastic cap).

6 Proper handling of the quick-release nut and balancer shaft

CAUTION: Improper use of the quick-release nut or incorrect clamping and unclamping of the wheel can damage the quick-release nut and balancer shaft. The manufacturer / importer / seller accepts no liability for damage caused by improper use. This damage is not covered by the guarantee / warranty.

6.1 Mounting and dismounting the wheel

- When clamping and unclamping the wheel, the rim must be guided to the centring cone at an even distance without touching the balancing shaft, as shown in Fig. A.
- Move the quick-release nut to the rim by actuating the mechanism. Do not operate the quick-release nut tightening mechanism any more.

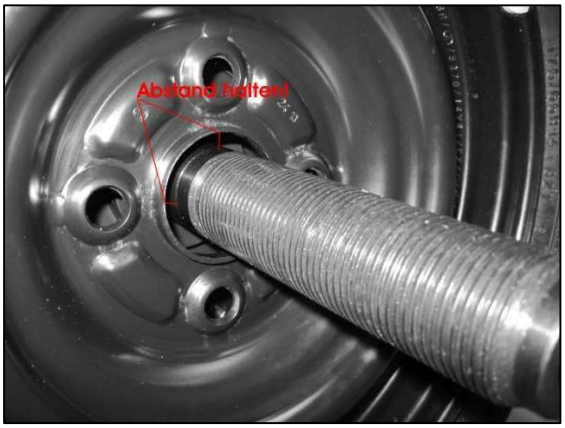


Fig. A

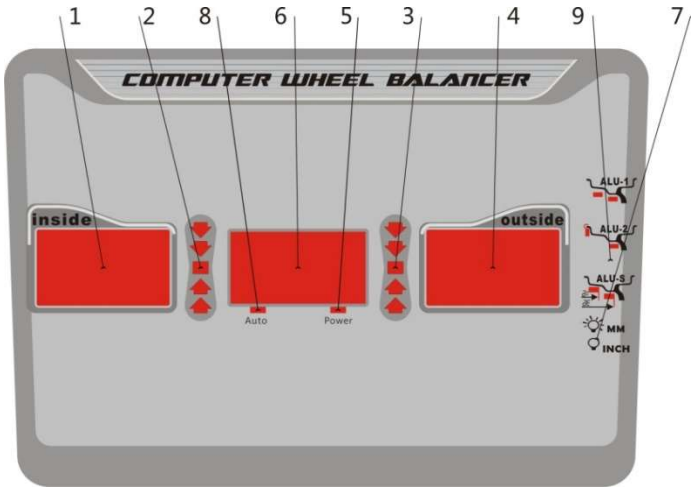
6.2 Unhitching the wheel

- Unscrew the quick-release nut until the rim is completely loose as shown in Fig. B, only then may the quick-release nut mechanism be operated. Failure to do so may result in damage to the quick-release nut and balancer shaft.
- When removing the wheel, take care not to damage the thread of the balancer shaft. Proceed as shown in fig. A.

Fig. B

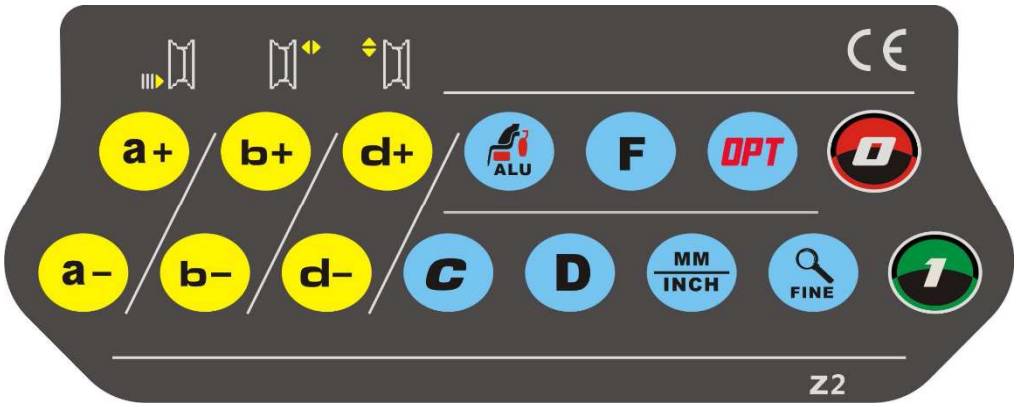
7 Operating elements of the machine

7.1 The display



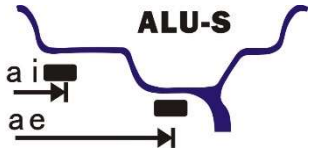
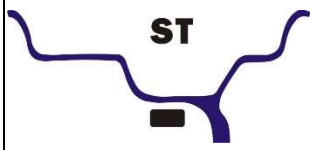
1	Digital display for displaying the internal unbalance value.
2	Indicator Displays to determine the unbalance position inside.
3	Indicator Displays to determine the unbalance position outside.
4	Digital display for displaying the external unbalance value.
5	Display of the balancing machine ready for operation.
6	Display for reading the width dimension "b
7	Display for dimension in mm or inches
8	Display automatic measuring
9	Alu correction mode

7.2 The control panel / the keyboard



Symbol	Function	Symbol	Function
a+ a–	Distance" setting to the wheel balancer	OPT	Optimisation of the unbalance
b+ b–	Rim width" setting	ALU	Selection of the "ALU" balancing modes
d+ d–	Setting "Rim diameter	F	Static balancing mode
C	Switch to calibration mode	FINE	Accurate unbalance indication in grams
	Stop / Cancel	D	Button for self-diagnosis, Self-calibration
	Starting the balancing process	MM INCH	Change unit of measurement mm / inch

7.3 Existing balancing programmes

Symbol	Equalisation mode	Operation	Add weights
	Standard mode	1. switch on the machine 2. input a,b,d value 3. start balancing process, after balancing process	Attach weights on both sides of the rim edge
	ALU1	1.switch on the machine 2. input a,b,d- value Press the Alus button, the display lights up. 4. start balancing process, after balancing process	Apply adhesive weights on both sides of the rim shoulder
	ALU2	1.switch on the machine 2.Input a,b,d value Press the ALU button, the display lights up. 4.Start balancing process, after balancing process	Apply adhesive weights to both sides of the rim shoulder.
	ALUS	1.switch on the machine Press the ALU button, the display lights up. 3. input ai / ae / d value 4. start balancing process, after balancing process	Adding adhesive weights to the two positions of the measuring arm head
	Static Mode	1. switch on the machine 2. input a,b,d value 3. start balancing process, after balancing process 4. press the F button	Attach adhesive weight

8 Setting the machine parameters

8.1 Basic settings

Press and hold the button, then press the D button to enter the menu. Press the buttons b+ and b− to change the parameters and the button a+ to move on.

Pos.	View	Function	Selection
1		Threshold value for the display of the unbalance	5 / 10 / 15
2		Sound	On / Off
3		Wide	On / Off
4		Light	1-8
5		Attaching weights with measuring arm	AN: Attach weights with measuring arm OFF: 12 o'clock position or laser position
6		Tyre weight (small tyres)	On / Off
7		Wheel arch balancing process Start	Fold down the wheel arch and start the balancing process.
8		Weight unit	Gram / Ounce
9		Wheel type operation	CAr: Car wheel Sco: Motorcycle Wheel

9 Calibration of the machine

9.1 Self-calibration of the balancing machine

Attention:

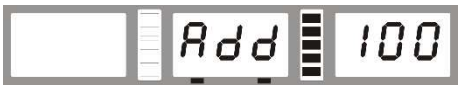
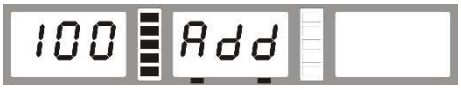
- The automatic calibration programme must be carried out after the first installation or assembly, or if the measurement accuracy is suspect, to ensure the measurement accuracy of the balancing.
- The machine must be fixed to the floor, otherwise incorrect measurement results will occur.
- Setting the wrong dimensions prevents the machine from being calibrated correctly and consequently all balancing values are wrong. In such cases, perform self-calibration again with the correct dimensions.
- Make sure that the wheel is properly tensioned. The wheel must not wobble or bang.

Switch on the balancer and mount a steel wheel (15 inch) on which impact weights can be mounted. Remove any impact weights already mounted from the wheel.

Now set the wheel parameters "a b d".

The 100g weight must be accurate and must not be damaged. Do not dispose of or use it for balancing. It is only needed for calibration.

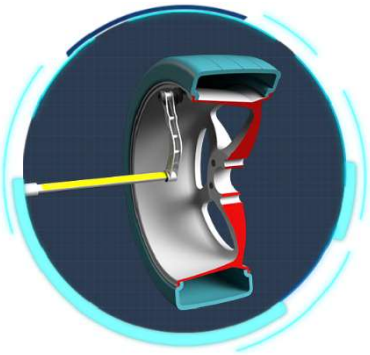
It is necessary that normal car tyres are installed on a rim and filled with the appropriate air pressure.

Step 1	Press and hold the button D, then press the button C	comes	
Step 2	Lower the wheel guard arch and then press the button 1 to start the balancing process, after balancing process	comes	
Step 3	Open the wheel guard arch, turn the wheel to position and attach the 100 gram weight to the outer 12 o'clock position, lower the wheel guard arch and press 1 to start the balancing process, after balancing process	comes	
Step 4	Open the wheel guard arch, turn the wheel to position and attach the 100 gram weight to the inner 12 o'clock position, lower the wheel guard arch and press the button 1 to start the balancing process.	comes	
Self-calibration finished			

9.2 Calibration of the measuring arm for the distance

Press + 			
Step 1			Pull the measuring arm to position "0 and hold, beat with 
Step 2			Pull the measuring arm to position "15 And hold, confirm with 
Step 3		>	Calibration of the measuring arm finished

9.3 Calibration of the measuring arm

Press  + 			
Step 1		Operation>	Set "d" by entering  , (e.g. if it is 16 inches, make it 16)
Step 2		Operation>	Move the measuring arm so that it touches the edge of the rim and hold it still. Press the button to confirm 
Step 3		Operation>	Calibration finished

10 General operating information

10.1 Before the balancing process

Do not use the appliance until you have read and understood the entire instructions and warnings.

The wheel guard must not be opened before the wheel stops. The STOP button is used to stop the machine immediately in an emergency.

Do not allow the control panel to get wet!

Chains, wristbands, loose clothing or foreign objects near the moving parts can pose a danger to the operator.

IMPORTANT! The basic setting when switching on the wheel balancer is always in "DYN" dynamic mode!

The wheel to be balanced must be absolutely clean. This is the only way to achieve good results.

-After the machine has been switched on, you are in the standard "Dynamic" mode (general programme for steel rims). This function is selected under normal conditions.

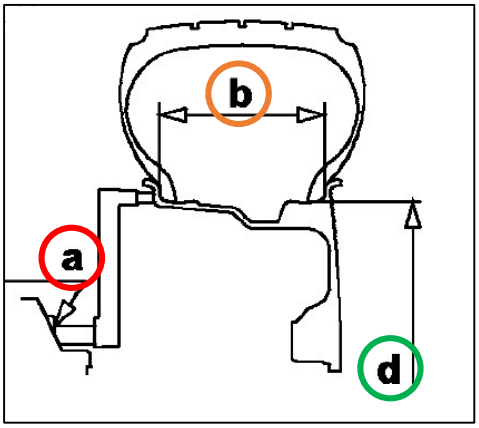
-With static balancing, the rim is treated as if it had only one lateral surface.

-Dynamic balancing checks the unbalance on both sides of the rim.

10.2 Entering the rim data

Before you can balance a wheel, you must enter the wheel data into the balancing machine.

It is important for the user to know how to enter the data, because incorrect data will lead to incorrect measurement results. The entered data is stored until you enter new data.



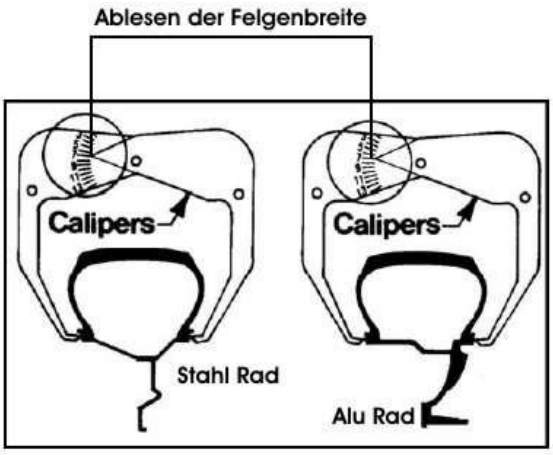
a→ Distance from the balancing machine to the inside of the rim

b→ Rim width

c→ Rim diameter

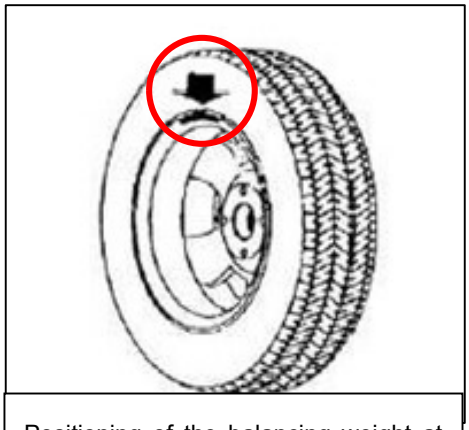
10.3 Acceptance points with the rim width gauge

The rim width gauge is used to read or check the rim width.
For its use, see the diagram below.

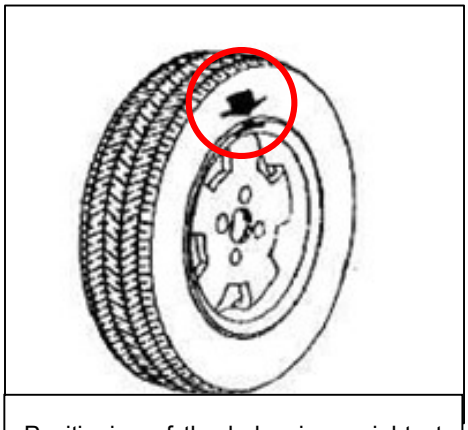


10.4 Attachment of impact balancing weights

Turn the wheel until the indicator shows the position of the unbalance on the inside. Once the position is reached, apply the foot brake (if present) and the impact weight can be attached at the 12 o'clock position. Repeat these steps for the outside of the wheel. After you have attached the weights to the inside and outside, balance the wheel to check.



Positioning of the balancing weight at 12 o'clock position of the wheel on the inside.



Positioning of the balancing weight at 12 o'clock position of the wheel on the outside.

10.5 Attaching adhesive weights

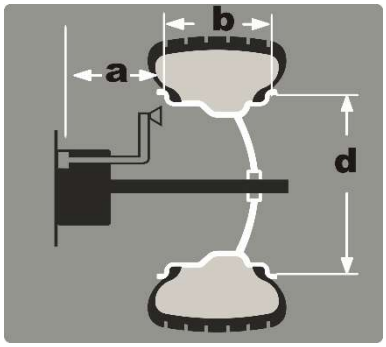
Turn the wheel until the indicator shows the position of the unbalance on the inside. Peel off the protective film from the adhesive surface of the weight and attach it to points on the rim that have already been measured. Repeat these steps for the second position of the wheel's unbalance. After you have attached the weights, balance the wheel to check it.

The surfaces to be bonded must always be clean, dry and free of grease.

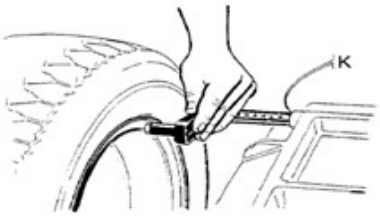
11 Operating the machine

11.1 DYN (standard mode)

- Clean wheel, remove balance weights, check pressure of wheel, choose type of installation according to wheel type.
- Switch on the machine
- Input a b d value



- Set the "a" value：Move the meter to the measuring position as shown in Fig.1.
  Hold the meter in this position for about 4 seconds if the storage is successful, and then return the meter to the
  successful, and then move the meter back to the 0 position.(The
  value measured in automatic mode is shown on de in the display). Or press a+ and a− to set the value manually....
- Use the width gauge to read the width value (**Fig. 2**), press b+ and b− to set the value "b".
- Read the diameter value (marked on the wheel), press d+ and d− to set the "d" value.



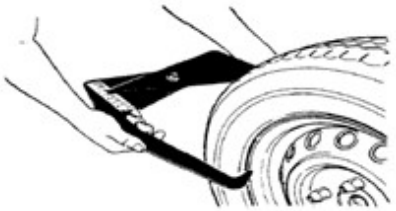


Fig.1 Fig.2

- Lower the wheel guard arch and press 1 to start the balancing process.
- In a few seconds, the wheel is brought up to operating speed and starts measuring the unbalance.
- The unbalance values remain on instruments 1 and 4 when the wheel is stationary. By pressing the key FINE the actual unbalance value can be displayed to the gram.

- If you slowly turn the wheel anticlockwise, the right display with fully lit LEDs shows the correct angular position in which the balancing weights (12 o'clock position) must be attached on the outside (see **Fig.3).**

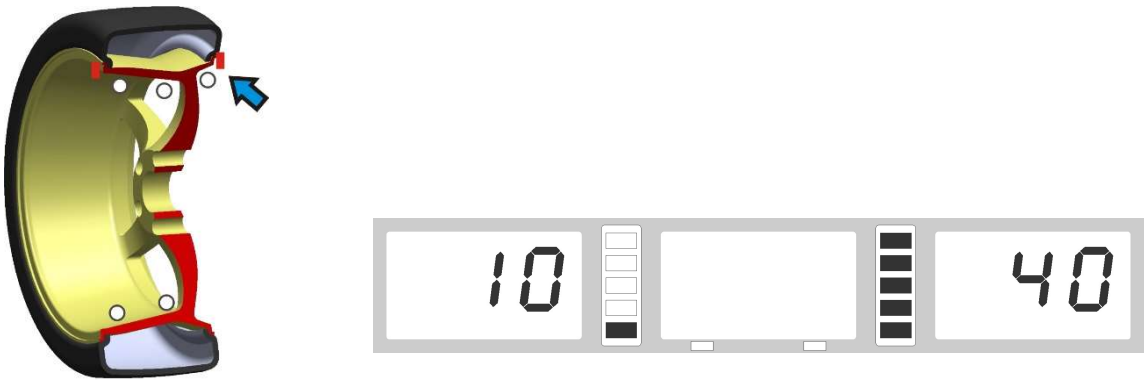


Fig. 3

- Slowly turn the wheel further anti-clockwise. Now the left display with fully lit LEDs, shows the correct angular position where the balancing weights (12 o'clock position) must be placed on the inside, as shown in **Fig.4.**

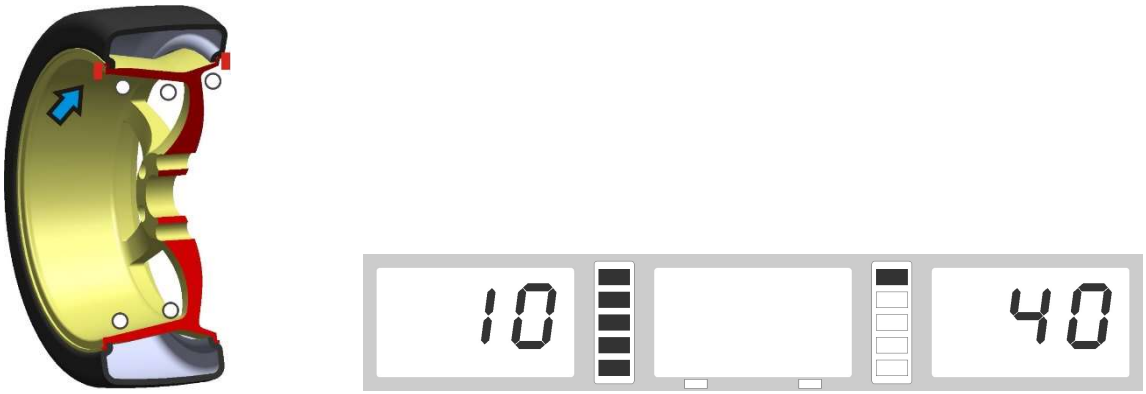


Fig. 4

- After you have finished attaching the balance weights, lower the wheel guard arch and press the button  , to start a new balancing process.
- When 00 00 is displayed (**Fig.5**), the balancing process is OK and finished.

Fig. 5

11.2 ALU-1 mode

(ALU-1, ALU-2 same function only the position for adding the weights is different)

- Set values for "a" "d" "b
- Press the button 

until the ALU1 display is active.
- Lower the wheel guard arch and press 

to start a balancing process.
- In a few seconds, the wheel is brought up to operating speed and starts measuring the unbalance.
- The unbalance values remain on instruments 1 and 3 when the wheel is stationary. By pressing the button 

the actual unbalance value can be read to the gram.
- If you slowly turn the wheel anticlockwise, the right display with fully lit LEDs shows the correct angular position in which the balancing weights (12 o'clock position) must be attached on the outside (see **Fig.6).**

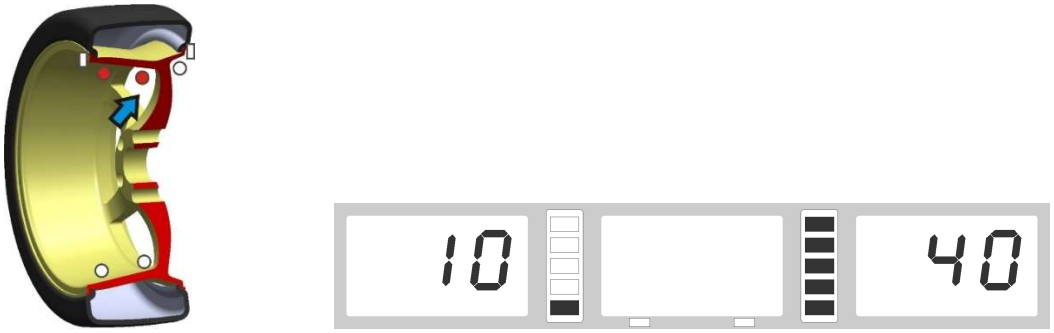


Fig. 6

- Slowly turn the wheel further anti-clockwise. Now the left display with fully lit LEDs, shows the correct angular position where the balancing weights (12 o'clock position) must be placed on the inside, as shown in **Fig.7.**

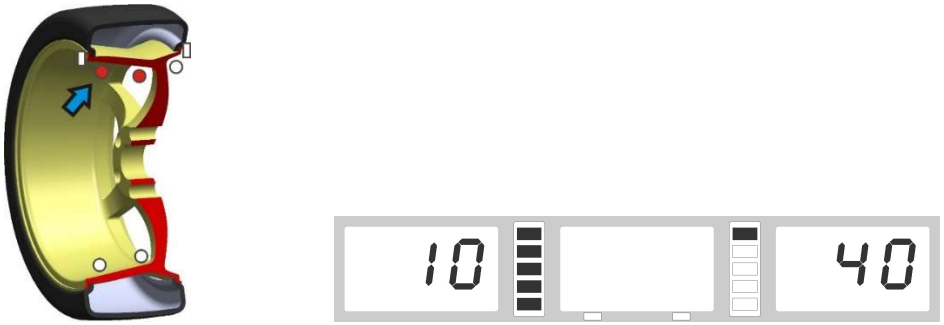


Fig. 7

- After you have finished attaching the balancing weights, lower the wheel guard arch and press the button 

, to start a new balancing process. When 00 00 is displayed (**Fig.8**), the balancing process is OK and finished.

Fig. 8

11.3 ALU-S mode

This mode is used for special rims. If ALU1 / ALU2 cannot be used, then you should select ALUS mode.

- Switch on the unit and press the button ALU until the ALU-S indicator lights up.
- Measure and set the values aI, aE, d
  - Set aI value: Pull out the meter and touch the FI position for 4 seconds **(Fig. 9)** to change the value a+ or press a–
  - Set aE value: Pull out the gauge and touch the point FE for 4 seconds, **(Fig. 9)**, measure value to change the value b+ or press b– ..
  - Set the d-value: Read off the rim diameter from the rim and set the d-value with d+ and . d–

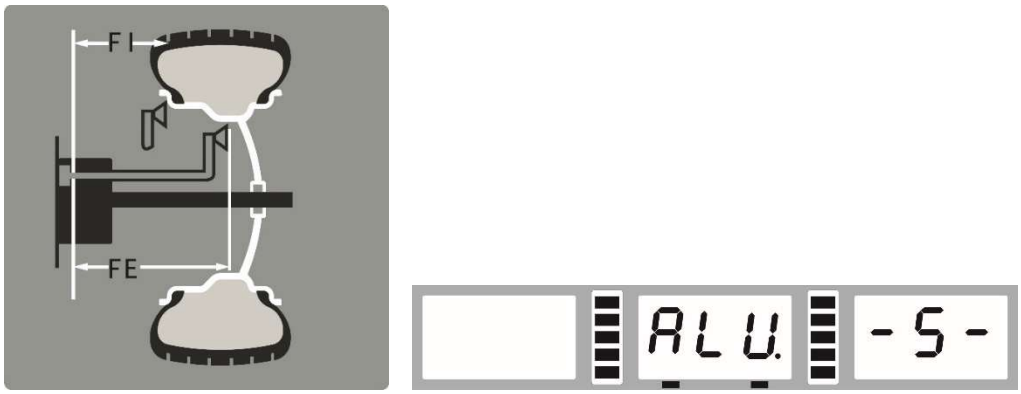


Fig. 9

- Lower the wheel guard arch and press 1 to start a balancing process.
- Mormal mode (SLC=OFF under 8.1 settings to change)
- In a few seconds, the wheel is brought up to operating speed and starts measuring the unbalance.
- The unbalance values remain on instruments 1 and 3 when the wheel is stationary. By pressing the button FINE the actual unbalance value can be displayed to the gram.
- If you turn the wheel slowly anti-clockwise, the right display with fully lit LEDs shows the correct angular position in which the balancing weights (12 o'clock position) must be attached on the outside (see **Fig.10).**

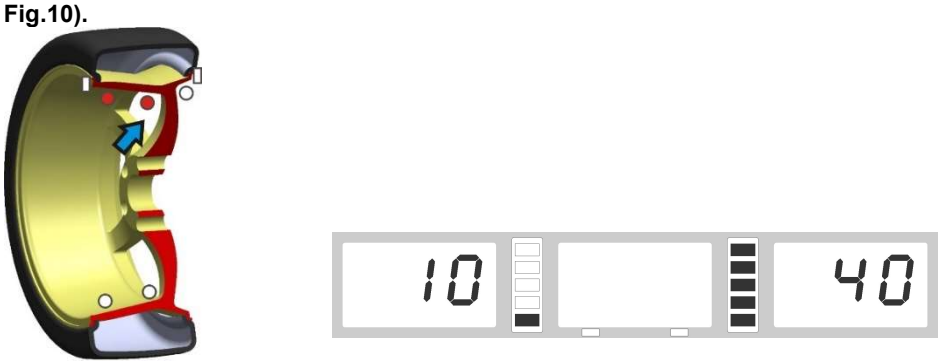


Fig. 10

- Slowly turn the wheel further anti-clockwise. Now the left display with fully lit LEDs, shows the correct angular position where the balancing weights (12 o'clock position) must be placed on the inside, as shown in **fig.11** .

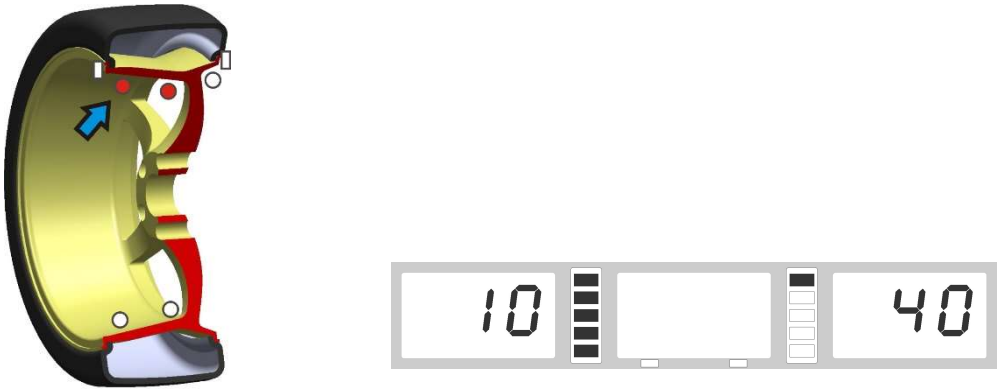


Fig. 11

- After you have finished attaching the balance weights, lower the wheel guard arch and press the button  , to start a new balancing process. If 00 00 is displayed (**Fig.12**), then the balancing process is OK and finished

Fig. 12

Attach weights with measuring arm (SLC=ON under 8.1 in Settings)

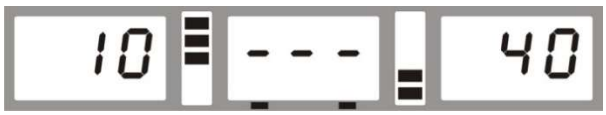


Fig.13

Slowly turn the wheel anticlockwise until the right-hand display lights up fully with LEDs. (Fig. 14)

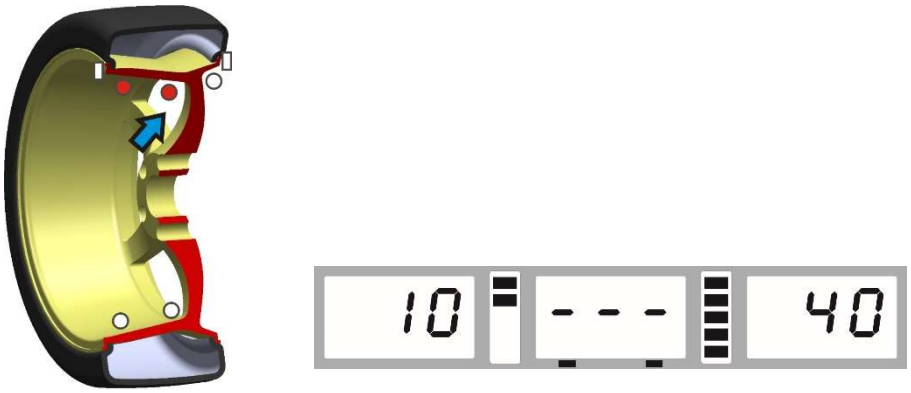


Fig.14

Take the adhesive weight and remove the protective film from the adhesive strip and place the adhesive weight centrally on the measuring arm head. (Fig 16)

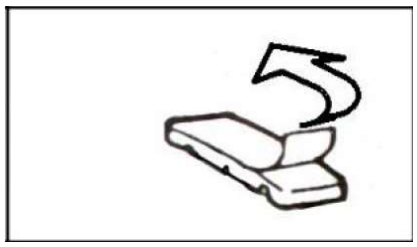


Fig. 15

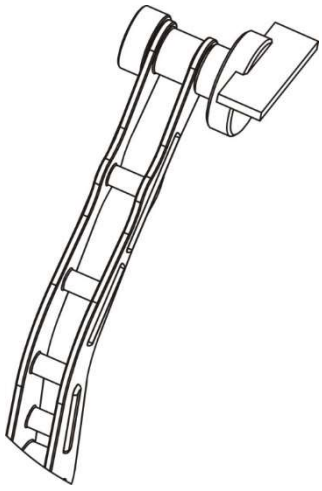


Fig. 16

Pull out the measuring arm until a square appears in the middle display. (Fig. 17)

Fig. 17

Press the measuring arm with the adhesive weight against the rim so that the adhesive weight sticks.

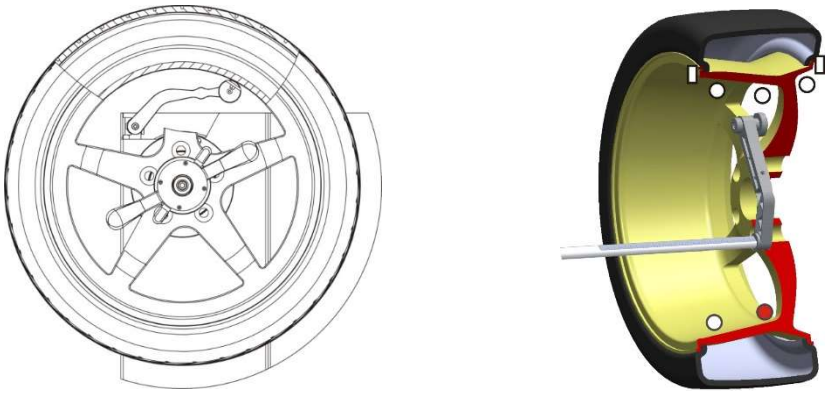


Fig. 18

Turn the wheel counterclockwise until the right LED in the display lights up.

Fig. 19

Take the adhesive weight and remove the protective film from the adhesive strip and place the adhesive weight centrally on the measuring arm head. (Fig 16)

Pull out the measuring arm until a square appears in the middle display. (Fig. 20)

Fig. 20

Press the measuring arm with the adhesive weight against the rim so that the adhesive weight sticks. (Fig. 21)

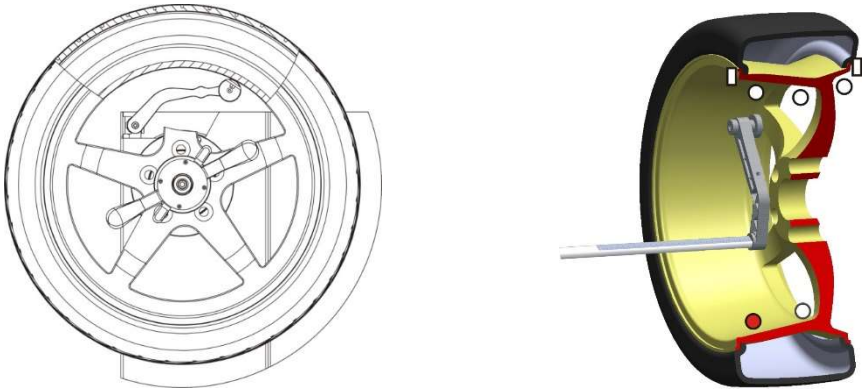


Fig. 21

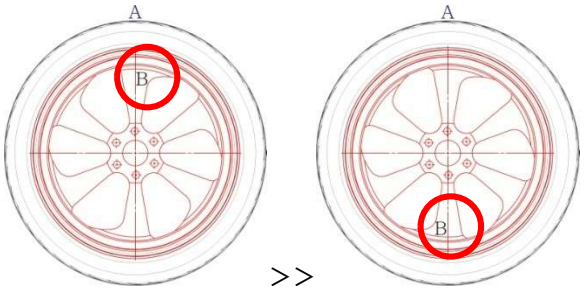
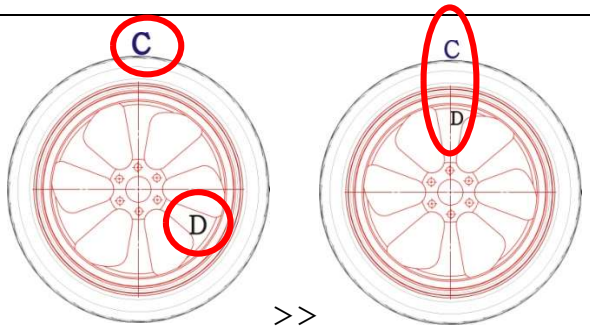
After you have finished attaching the balance weights, lower the wheel guard arch and press the button  , to start a new balancing process. If 00 00 is displayed (**Fig.22**), then the balancing process is OK and finished

Fig. 22

12 Optimisation function (OPT)

Note:

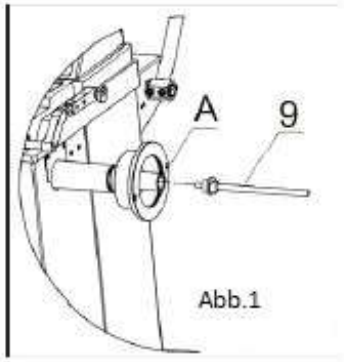
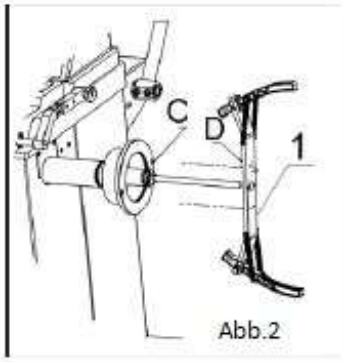
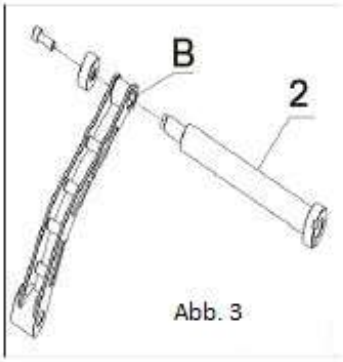
- This function may only be performed by an experienced user.
- If the value of the unbalance is too high, then select the function OPT
- Mount the wheel and enter the values (a / b / d).

1	OPT press	comes>	
2	Close the wheel guard arch and press 	comes>	
3	Using the tyre changer, rotate the tyre 180 degrees on the rim.	Reference >	
4	Close the wheel guard arch and press 	comes>	
5	Turn the wheel until four LEDs light up (two on each side, see in the right picture), mark position C with chalk on the tyre.	Reference >	
6	Turn the wheel until two LEDs light up (one on each side, see in the right picture), mark position D with chalk on the edge of the rim.	Reference >	
7	With the help of the tyre changer, bring the marks C and D on top of each other.	Reference >	

8	Close the wheel guard arch and press 	comes >	If the unbalance is now lower than before, then the optimisation was successful.

13 Motorbike wheels

Use the wheel balancer shaft recommended by us. This is an optional accessory with the item numberTRA0325.

Schritt 1	Schritt 2	Schritt 3
		

1. Dismantle the balancer shaft for cars. See chapter 4.2 in reverse order.
2. Screw part 9 into position A.(Fig.1)

1. Put part 1 over part 9.
2. Screw position D to position C.(Fig. 2)

1. Remove the standard measuring head for the car.
2. Replace the standard measuring head with the motorbike with no. 2. Fix no. 2 with the screw at position B (Fig.3).

Press and hold  , then press  .

To adjust the machine, press  to scroll through the settings until it reaches the

type have arrived. Press  and  to change the wheel type.

order	Display	Function	Display wheel type after turn on balancer
1		Car wheel	
2		Motorcycle wheel	

When the balancing machine is switched on, a signal sounds and the display shows which wheel type is selected.

14 Maintenance

14.1 General information

This wheel balancer requires only minor maintenance to keep the machine in good working order

- Keep the area around the machine free and clean.
- Keep the display clean and clear.
- Use only an evaporative cleaner.
- Do not use solvents that leave oil or solid residues.
- Keep the adapters, cones, threaded spindle, pressure vessel and quick-release nut clean.
- Accumulations of grease and dirt lead to inaccurate balancing and premature wear.
- Clean these items once a day with an evaporating solvent.
- After cleaning, store these items at the designated storage points.

14.2 Daily maintenance

Clean the following components and parts and carry out a visual inspection.

- Balancing flange
- Cones
- Balance shaft
- Quick-release nut
- Distance measuring gauge
- Width gauge

14.3 Monthly maintenance

- Thorough cleaning of the wheel balancer
- Checking the electrical connection
- Calibration of the measuring arms (if possible)
- Self-calibration
- Checking the machine parts for possible damage or wear

14.4 Dismantling and disposal

During dismantling, injuries can be caused by components falling over.

To avoid personal injury and/or environmental damage during dismantling and disposal, it is essential to observe the following points:

- To avoid injuries, make sure that suitable tools are used and that the dismantled machine parts are stable.
- Wear personal protective clothing and equipment.

14.4.1 Disposal of components

Dispose of assemblies properly!
Improper disposal of sub-assemblies can cause environmental damage and and can be prosecuted!

Dispose of the assemblies in accordance with the locally applicable regulations. Ensure that the operating materials are disposed of in an environmentally friendly manner. Observe the local regulations for proper waste recycling or disposal.

The machine consists of:
- Steel and aluminium (e.g. housing, turntable, plug)
- Copper (e.g. motor, electrical cables)
- Plastic (e.g. electrical cables)
- Electronic components (e.g. circuit boards)

15 Self-diagnosis, error messages and troubleshooting

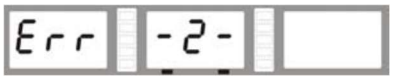
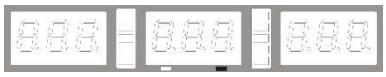
15.1 Self-diagnosis

Press the key D to enter the self-diagnosis. Press the ALU key to move on. Press C or D to exit the self-diagnosis.

Pos.	View	Function	Function normal
1		Display	Everything illuminated
2		Rotation angle sensor for position recording	Turning the shaft, position value changes from 0-127
3		Distance potentiometer	The values in the left display are between 327-340, if you pull out the measuring arm the values should change.
4		Diameter potentiometer	The values in the left display are between 327-340, turn the measuring arm and the values change in another direction.
5		Pressure sensor	Press the balancing shaft by hand the values change 4X-4X 6X-6X

15.2 Error messages

Attention: To be on the safe side, please use the self-diagnosis, as soon as the display shows the error code, check the components or replace them if necessary.

Pos	Error code	Reason	Solution
1		1. No turning 2. Rotation is executed	1. Check or replace the power board 2. Check or replace the position encoder or the control board 3. Adjusting the photocell holder
2		1. Rim not tightened or too loose 2. Positioning sensor	1. Tightening the rim 2. Check or replace the positioning sensor
3		1. Tyre pressure too low 2. Severe deformation of the wheel	1. Correct tyre pressure to default values 2. Checking the wheel
4		1. Position encoder failure 2. Control board failure	1. Check or replace the positioning sensor 2. Check or replace the control board
5		1. Error contact switch 2. Control board failure	1. Check or replace limit switch 2. Check or replace the control board
6		1. Error main supply board 2. Error control board	1. Check or replace the power board 2. Check or replace the control board
7		1. Data lost 2. Control board failure	1. Recalibration of the machine 2. Check or replace the control board
8		1. Did not add 100 g during self-calibration 2. Error control board 3. Error power board	1. Recalibration of the machine 2. Check or replace the control board 3. Check or replace the power board
9		1. Contact switch error 2. Error control board	1. Check or replace contact switch 2. Check or replace the control board
10		1. Error control board 2. Error power board	1. Check or replace the control board 2. Check or replace the power board
11		1. Measuring arm problem 2. Problem with the distance potentiometer	1. Calibration of the measuring arm 2. Replacing the distance potentiometer and calibrating the measuring arm

12		1. The machine is locked	1. Contact the dealer
13		1. Data protection	1. Contact the dealer 2. Update

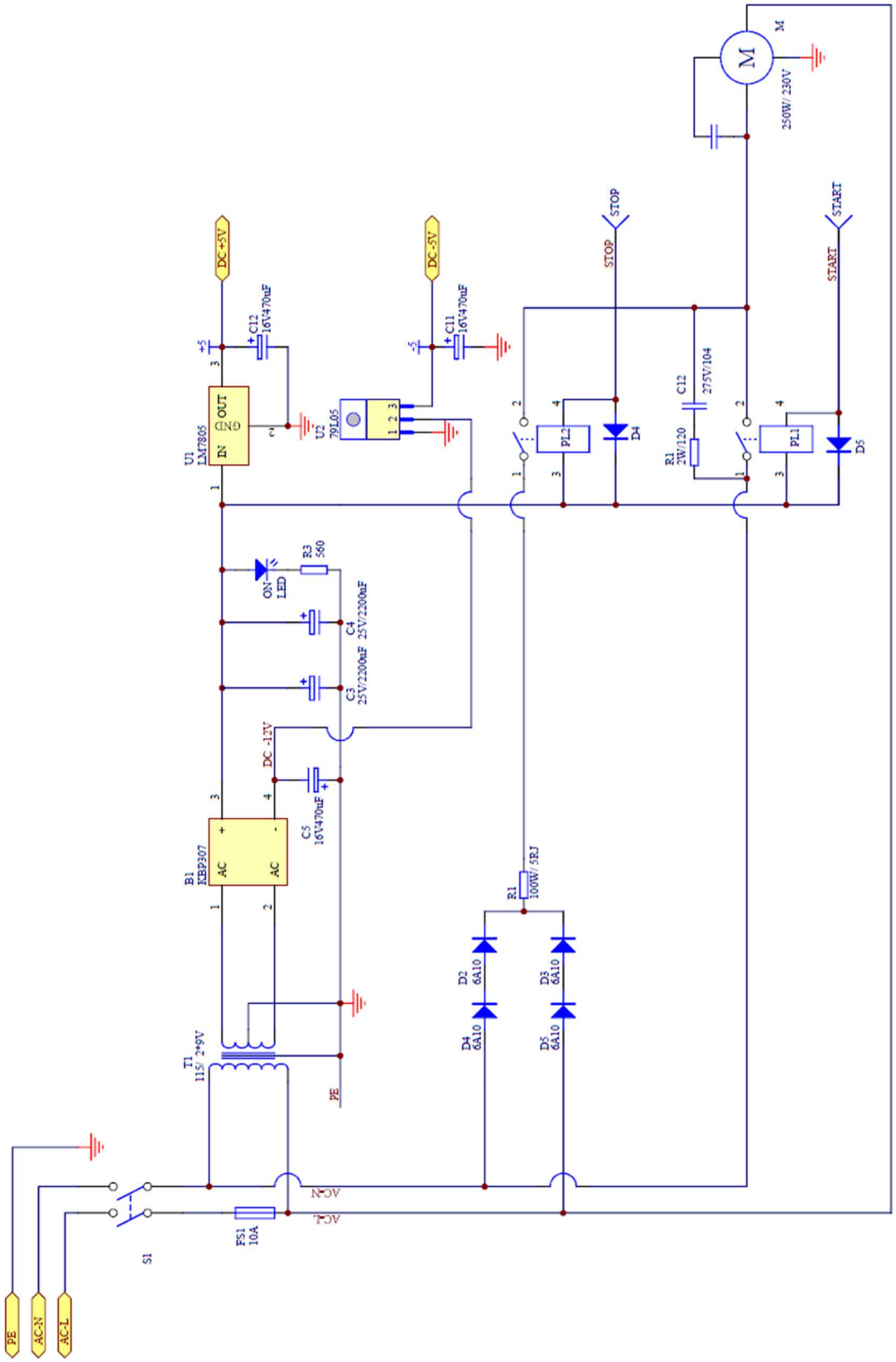
15.3 Troubleshooting

Symptom	Cause	Solution
No display after switching on.	1. Power supply failure. 2. Power supply unit of the machine defective. 3. Faulty connection between circuit board and power supply unit. 4. Defect of the main board.	1. Check the external power supply. 2. Change the power supply unit. 3. Check the connecting cables and the plug connections. 4. Replacing the main board.
The buttons "START", "Dis", "Br" and "Dia" do not accept input.	1. Plug connections loosened. 2. Main board defective.	1. Remove the machine cover and check the plug connection. 2. Change the main board.
Display is OK, but wheel is not braked.	1. Loose connection between motherboard and power supply. 2. Fault in the power supply unit. 3. Defective motherboard.	1. Fixing the cable/plug connection between the main board and the power supply unit. 2. Change the power supply unit. 3. Change the main board.
Too low number of revolutions, malfunction during braking, inaccuracy during balancing.	1. Drive belt too loose.	1. Open the machine, tension the drive belt. Adjust the motor and drive belt exactly to each other.
Inaccurate balance values.	1. Machine was set up unstably. 2. Wheel not properly tensioned. 3. Power supply inside the machine faulty. 4. Too much voltage fluctuation in the power supply. 5. The calibration has changed.	1. Set up and fasten according to the operating instructions. 2. Loosen the wheel and tension it again, but precisely. 3. Check all electrical connections inside the machine. 4. Ensuring standard-compliant energy supply. 5. Recalibration of the machine according to the operating instructions

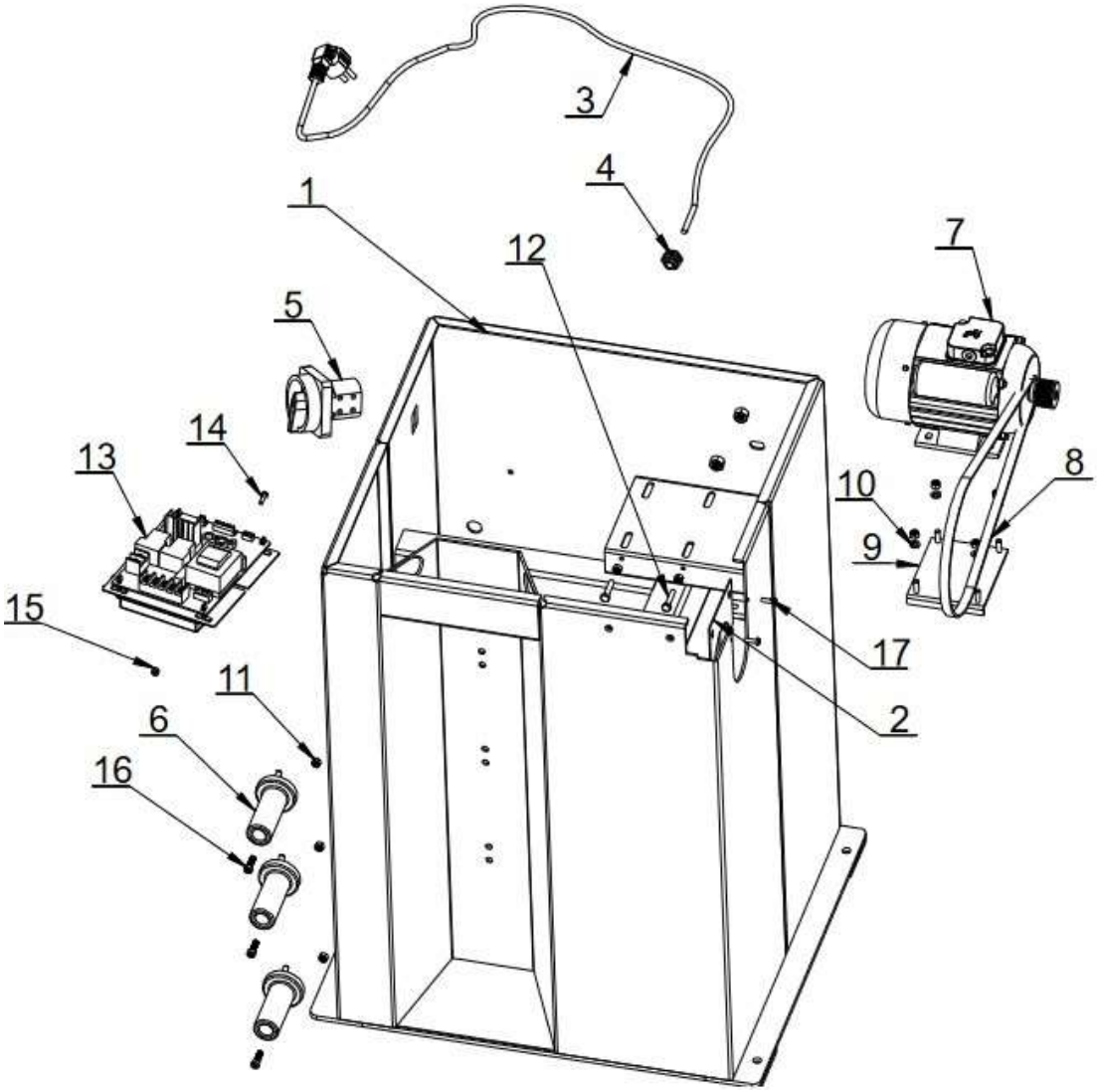
The rectification of defects must be carried out by competent persons. If necessary, the instructions and authorisation of the central service must be obtained.

16 Circuit diagrams

16.1 Electrical circuit diagram

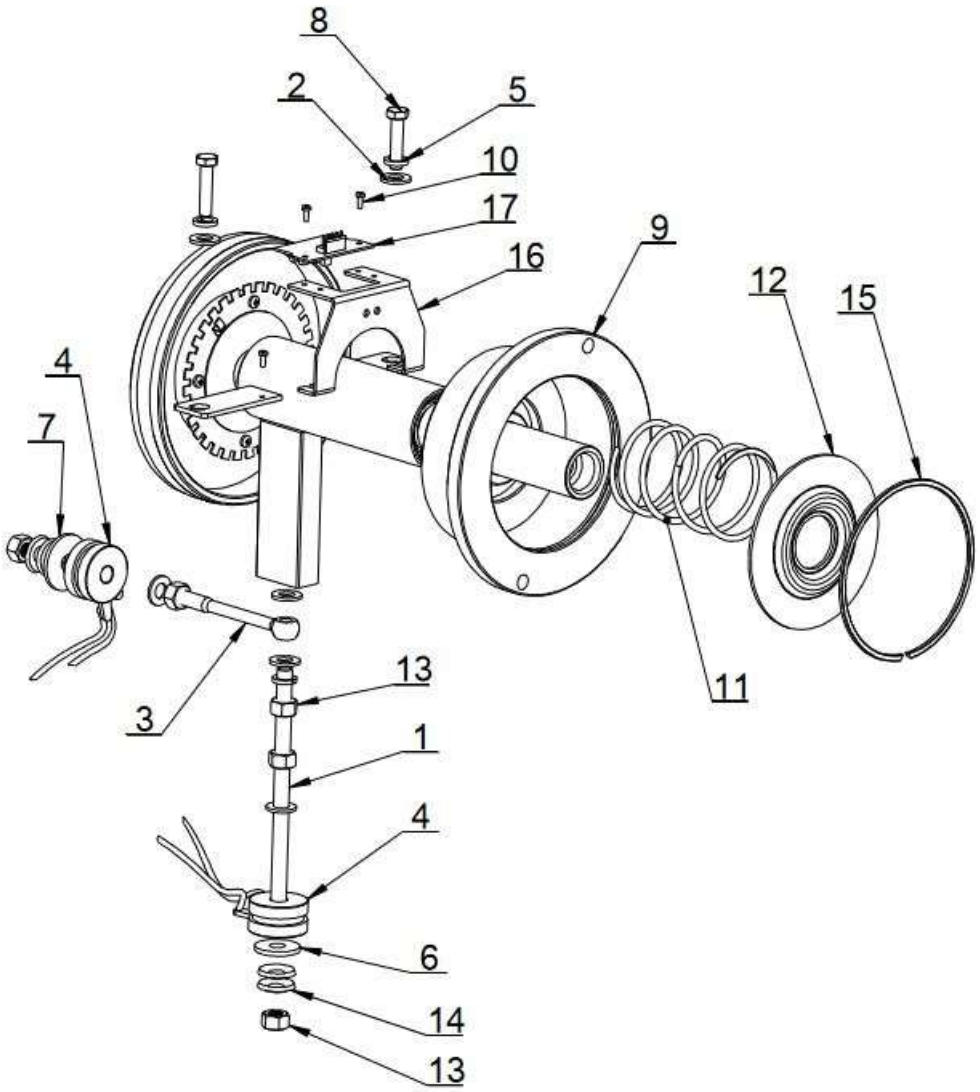


17 Spare parts drawing and list



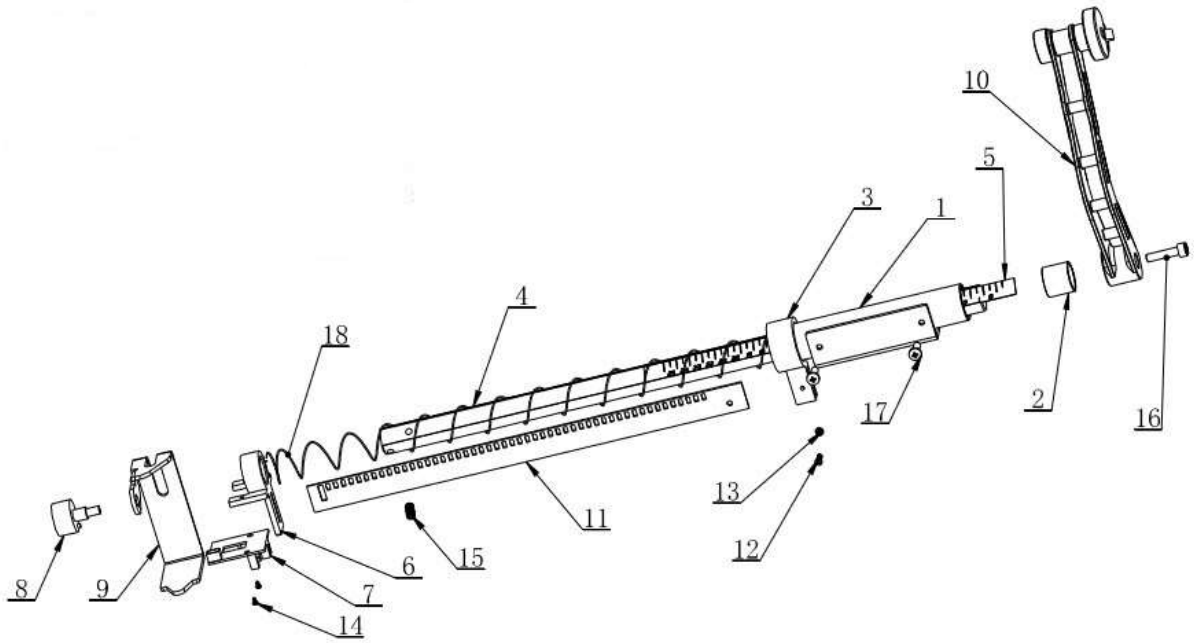
No.	Description	Part number	Piece
1	Housing	2067557	1
2	Small side plate	2043601	1
3	Plug	4001901	1
4	Cable glands	4002201	1
5	Mains switch	4004394	1
6	Bracket	2034301	4
7	Engine MY6324	4003001	1
8	Belt 380J5	6000171	1
9	Firm seat	2034501	1

No.	Description	Part number	Piece
10	WasherΦ6	6000138	4
11	Hexagon nut GB41 /M6	6000309	8
12	Screw M6X30	6000120	1
13	Control box	2065781	1
14	Screw M5X16	6000271	4
15	Hexagon nut GB41 /M5	6000125	2
16	Screw M6X25	6000294	4
17	Screw M5X10	6000270	2

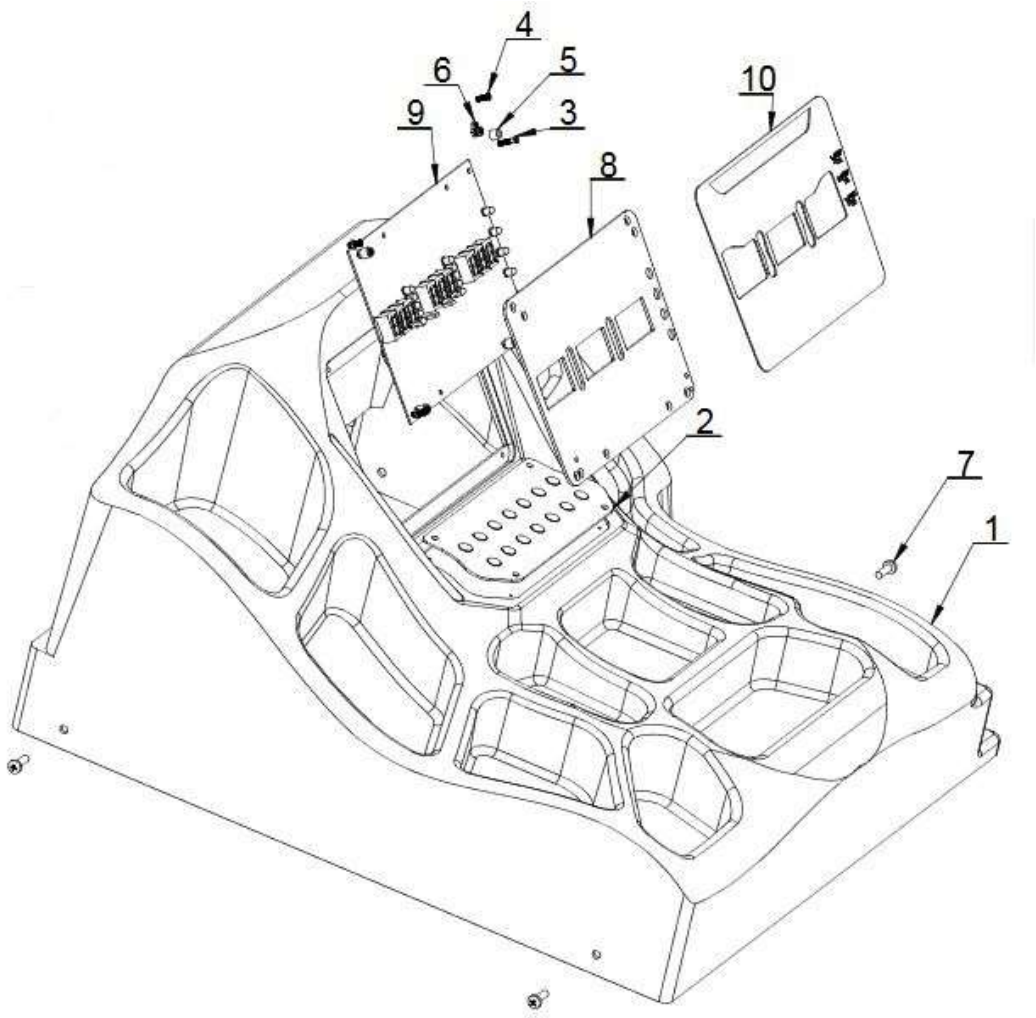


No.	Designation	Part number	Piece
1	Screw M10X160	6000201	1
2	Washer GB95 Φ10	6000134	6
3	Screw M10X160	6000176	1
4	Pressure sensor	4001701	2
5	Spring washer GB93 Φ10	6000197	3
6	Spring washer GB93 Φ30x10x3	2052501	1
7	Spring washer GB93 Φ38x10x3	2037401	1
8	Screw GB5783 M10X25	6000184	2
9	Axle complete	2032901	1
10	Screw GB818 M4X10	6000267	4
11	Spring	2042801	1
12	Plastic cover	3005013	1

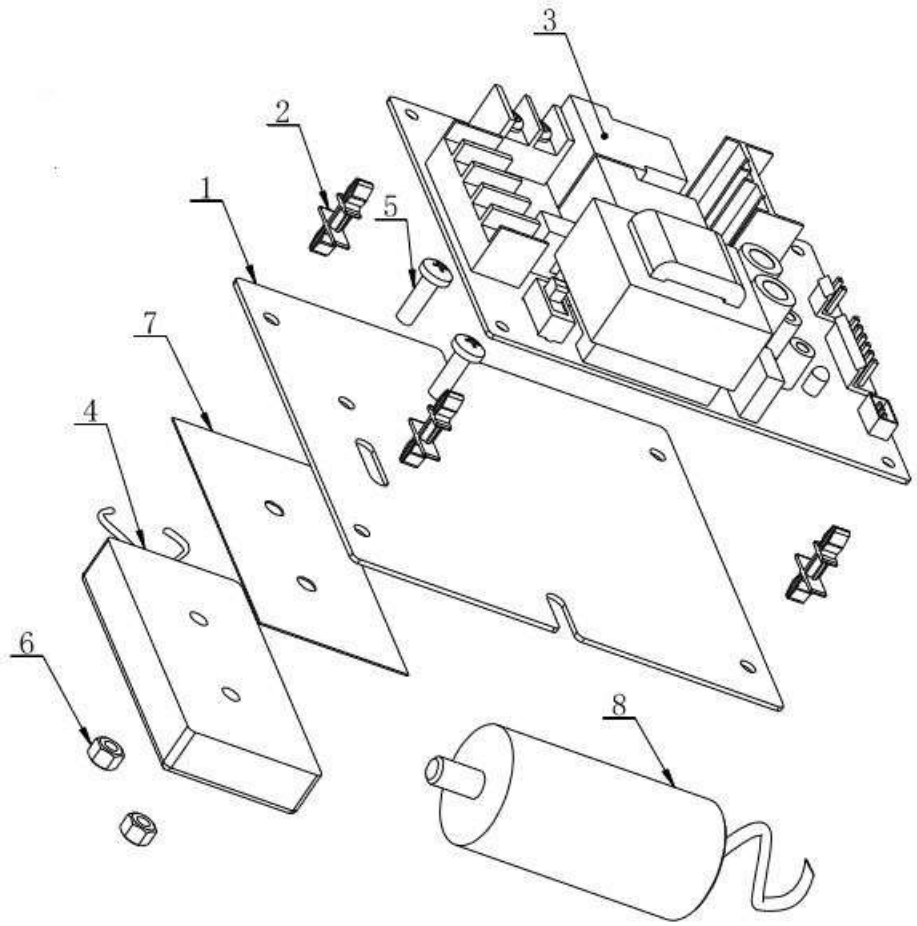
No.	Designation	Part number	Piece
13	Hexagon nut GB41 M10	6000336	1
14	Copper washer	6000159	1
15	Circlip	2067389	1
16	Support plate	2034001	1
17	Pick Up Plate	5000401	1



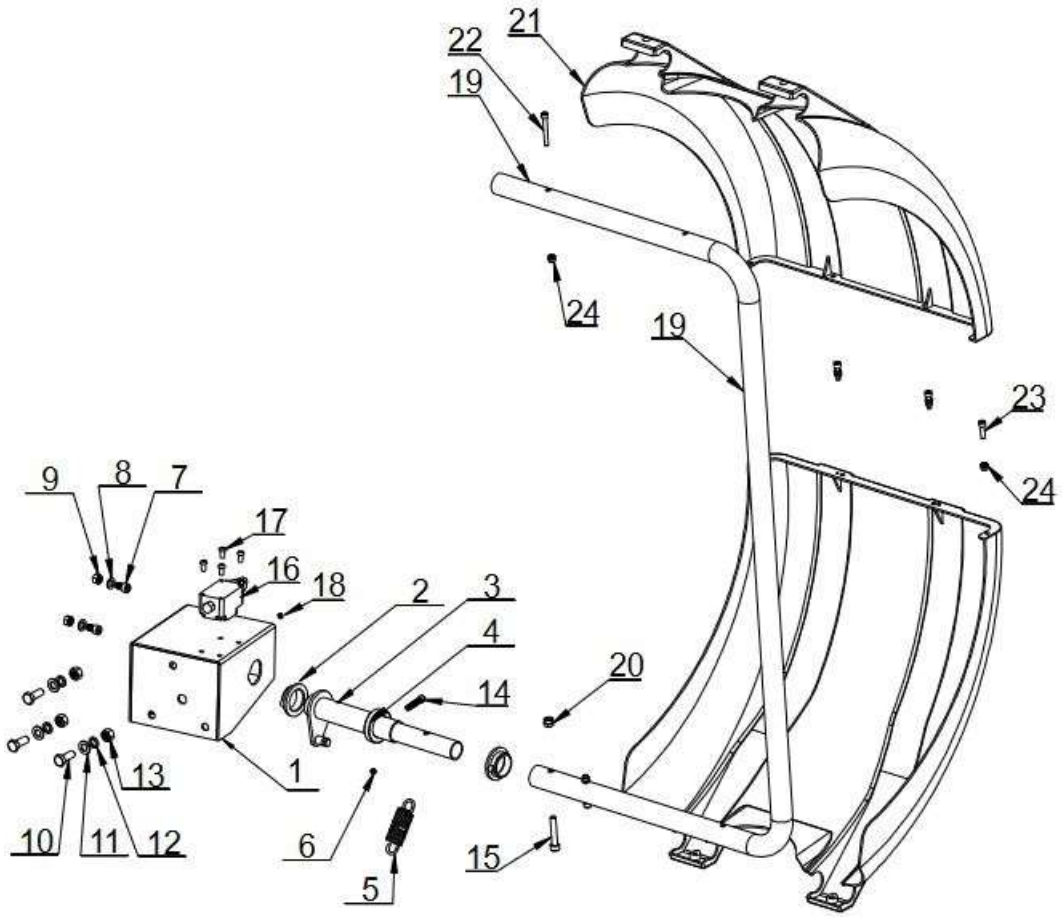
No.	Description	Part number	Piece
1	Wave	2064812	1
2	Plastic sleeve	2064398	1
3	Distance sensor board	2067562	1
4	Aluminium ruler	2046301	1
5	Scale	5001388	1
6	Recording	2067563	1
7	Recording	2067439	1
8	Potentiometer RV24/202	4004471	1
9	Ruler holder	2066172	1
10	Measuring arm	2065780	1
11	Distance sensor grid	2067437	1
12	Screw M3x12	6000375	1
13	Hexagon nut GB41 M3	6000124	1
14	Screw GB845 ST4. 2x16	6000160	2
15	Screw GB80 M6x12	6000230	2
16	Screw GB70 M6x20	6000114	1
17	Screw GB818 Mx16	6000271	2
18	Tension spring	2034401	1



No.	Description	Part number	Piece
1	Head with tool tray	3005248	1
2	Keyboard	5001376	1
3	Screw GB819 M3x16	6000374	4
4	Screw GB819 M3x10	6000375	4
5	Spacer	4004389	4
6	Hexagon nut GB41 M3	6000124	12
7	Screw GB818 M5X16	6000271	4
8	Fixation plate	2065291	1
9	Computer board	5001320	1
10	Display cover	5001379	1

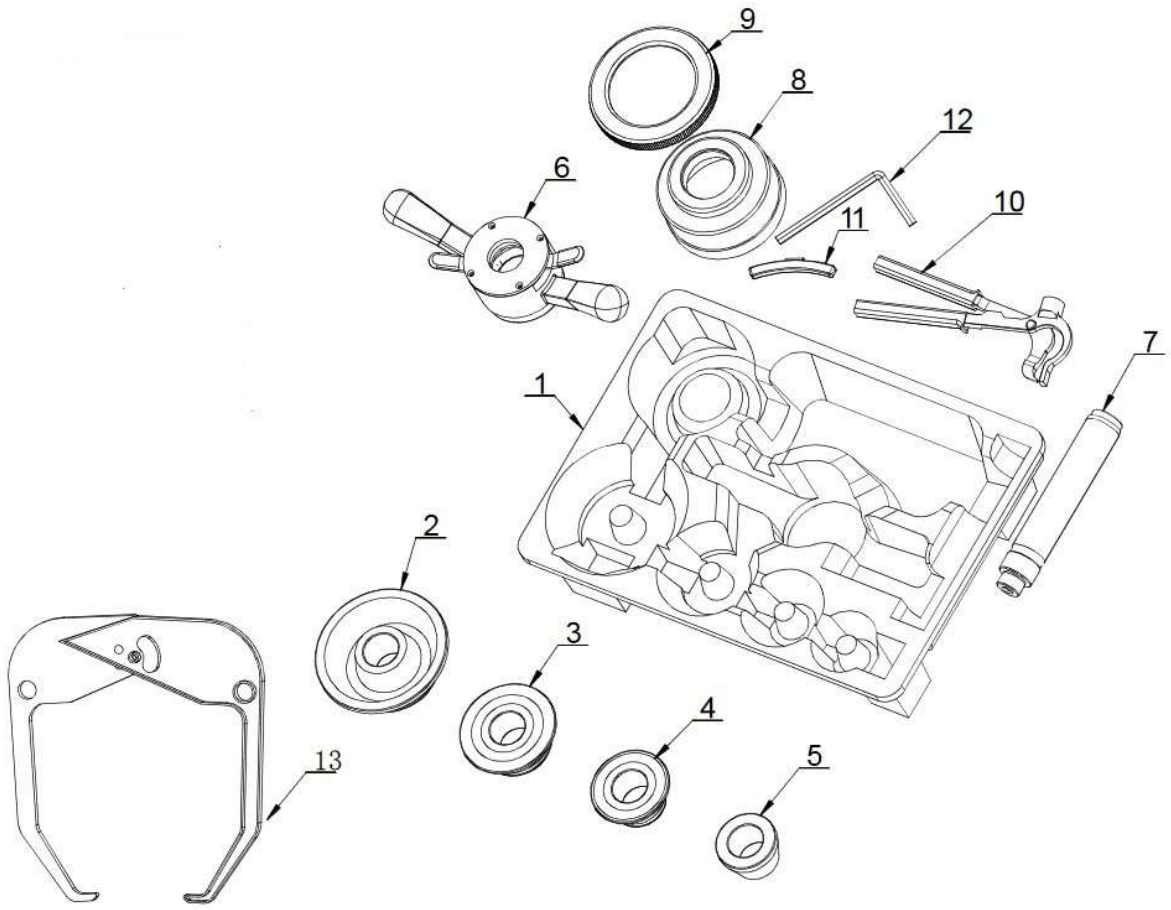


No.	Description	Part number	Piece
1	Mounting plate for the power supply	2066353	1
2	Supports	4004380	4
3	Power supply board	5001321	1
4	Resistance	5001350	1
5	Screw GB818 M5x16	6000271	2
6	Hexagon nut GB41 M5	6000125	2
7	Conductor path	3005175	1
8	Capacitor	5001351	1



No.	Description	Piece
1	Protective cover	1
2	Plastic sleeve	2
3	Wave	1
4	Wire end ferrule	1
5	Tension spring	1
6	Screw M6X10	1
7	Screw M8X20	2
8	Washer Φ8	2
9	Hexagon nut M8	2
10	Screw M10X25	3
11	Washer Φ10	3
12	Spring washer Φ10	3

No.	Description	Piece
13	Hexagon nut M10	3
14	Screw M6X35	1
15	Screw M8X45	1
16	Microswitch	1
17	Screw M6x12	2
18	Hexagon nut M4	2
19	Curved tube	1
20	Hexagon nut M8	1
21	Plastic cover	2
22	Screw M6X45	2
23	Screw M6X20	4
24	Hexagon nut M6	6



No.	Description	Part number	Piece
1	Packaging insert	7000114	1
2	Cone 4	2033701	1
3	Cone 3	2033601	1
4	Cone 2	2033501	1
5	Cone 1	2033401	1
6	Clamping nut	2042901	1
7	Threaded bolt	2042201	1
8	Plastic cap	3005018	1
9	Rubber buffer	3005019	1
10	Balancing tongs for impact weights	2065780	1
11	Calibration weight	6000210	1
12	Key	6000169	1
13	Rim knife	3005056	1

18 Initial commissioning

Attention
In order to maintain the warranty claims, the fully completed proof of first commissioning must be returned to the manufacturer.

- Wheel balancer professionally unpacked and transported to the installation site.
- Operating instructions read and understood
- Wheel balancing machine set up and secured on level ground
- Electrical connection properly made
- Wheel guard arch attached
- Basic settings checked or changed
- Wheel balancing machine calibrated

No deficiencies were found, so that there are no objections to commissioning.

ATTENTION: Please return the proof of the first commissioning prepared below to the manufacturer in order for the WARRANTY CLAIMS to be valid.

Detach and send or fax to Weber GmbH, Sülzbach 1, 37293 Herleshausen, Germany, Fax +49 (0) 5654-794.

PROOF OF THE FIRST COMMISSIONING

Wheel balancing machine TYPE WEBER STW 202, year of manufacture_____,

Serien-Nr._____

Date of purchase: _____ Dealer address: _____

_____

_____

Date: _____ **Signature: _____**

Address of the operator

By fax to: +49 (0) 5654-794

Weber GmbH

Assembly video

STW-202

Homepage Weber-Werke

Youtube channel Weber-Werke