

MT ZERO 6 LCD

MT ZERO 6 LCD OEM

MT ZERO 6 LCD BMW

de Betriebsanleitung
Übersetzung der
Originalbetriebsanleitung
Radauswuchtmaschinen

en Operating instructions
Translation of the original
operating instructions
Wheel balancer

fr Mode d'emploi
Traduction du manuel d'utilisation
d'origine
Equibreuses de roue

es Manual de instrucciones
Traducción de las instrucciones
originales
Máquinas de equilibrado de ruedas

it Manuale operatore
Istruzioni originali
Equilibratrici per ruote

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1. Symbols used

1.1 In the documentation

1.1.1 Warning notices - Structure and meaning

Warning notices warn of dangers to the user or people in the vicinity. Warning notices also indicate the consequences of the hazard as well as preventive action. Warning notices have the following structure:

Warning symbol	KEY WORD – Nature and source of hazard! Consequences of hazard in the event of failure to observe action and information given. ➤ Hazard prevention action and information.
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The key word indicates the likelihood of occurrence and the severity of the hazard in the event of non-observance:

Key word	Probability of occurrence	Severity of danger if instructions not observed
DANGER	Immediate danger impending	Death or severe injury
WARNING	Possible danger impending	Death or severe injury
CAUTION	Possible dangerous situation	Minor injury

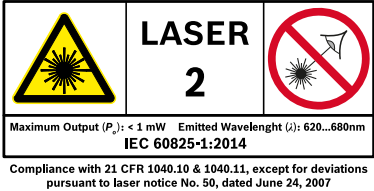


1.1.2 Symbols in this documentation

Symbol	Designation	Explanation
!	Attention	Warns about possible property damage.
i	Information	Practical hints and other useful information.
1. 2.	Multi-step operation	Instruction consisting of several steps.
➤	One-step operation	Instruction consisting of one step.
↪	Intermediate result	An instruction produces a visible intermediate result.
➔	Final result	There is a visible final result on completion of the instruction.

1.2 On the product

- ! Observe all warning notices on products and ensure they remain legible.

1.2.1 Safety symbols


Symbols	Description	Definition	M ¹	P ²
	WARNING There are devices fitted to the product that use laser beams!*	Indicates the type and properties of the laser equipment used on the product and the immediate risks of exposure.	X	X
	WARNING Source of the laser beam!*	Indicates the positions of the laser devices.	X	X
	DANGER – live parts when opening the MT ZERO 6 LCD!	Risk of injury, heart failure or death from electric shock when touching live parts (e.g. main switch, circuit boards). <ul style="list-style-type: none"> • Work on electrical systems or equipment must only be performed by qualified electricians or trained personnel under the guidance and supervision of an electrician. • Disconnect the MT ZERO 6 LCD from the mains voltage system before opening. 	X	X

* Version with positioning laser only

¹ M = MT ZERO 6 LCD AWx

² P = MT ZERO 6 LCD AWxP





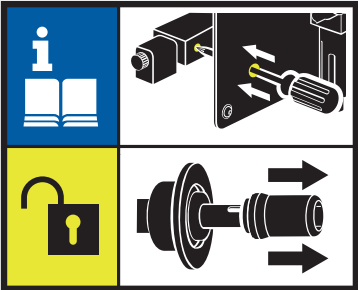
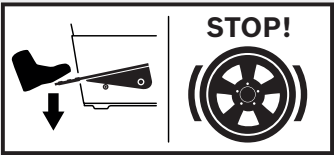

1.2.2 Certification symbols

Symbols	Description	Definition	M ¹	P ²
	EAC identification	Confirms the suitability of the machine for Russia.	X	X
	Type plate	Machine model, 10-digit ID number, voltage (V), frequency (Hz), connected load (kW), amperage (A), max. supply pressure (kPa), degree of protection (IP), year of manufacture, CE mark, EAC mark, serial number of the machine, barcode.	X	X

¹ M = MT ZERO 6 LCD AWx

² P = MT ZERO 6 LCD AWxP

1.2.3 Symbols on the product

Symbols	Description	Definition	M ¹	P ²
	Direction of wheel rotation	The wheel must turn in the direction of rotation indicated (see sec. "Checking the direction of rotation").	X	X
	Compressed-air supply	After the compressed-air supply has been disconnected, the machine parts under pressure will move to their resting positions automatically.		X
	Start/stop balancing	Adhesive label on the wheel protection casing. Indicates the direction for starting and stopping the rotation of the flange (wheel).	X	X
	Intended voltage supply	Information on the voltage set and safety warning	X	X
	Releasing the pneumatic flange	In case of a faulty compressed-air valve, proceed as specified to remove the wheel.		X
	Using the pedal with single function	Adhesive label on the body above the pedal. Indicates the functions depending on how it is used. <ul style="list-style-type: none"> • Pedal down: lock shaft/wheel. 	X	
	Using the pedal with double function	Adhesive label on the body above the pedal. Indicates the functions depending on how it is used. <ul style="list-style-type: none"> • Pedal up: lock/release the pneumatic flange. • Pedal down: lock shaft/wheel. 		X

¹ M = MT ZERO 6 LCD AWx

² P = MT ZERO 6 LCD AWxP

2. User information

2.1 Important notes

Important information on copyright, liability and warranty provisions, as well as on equipment users and company obligations, can be found in the separate manual "Important notes on and safety instructions for Beissbarth Tire Equipment". These instructions must be carefully studied prior to start-up, connection and operation of the MT ZERO 6 LCD and must always be heeded.

2.2 Safety instructions

All the pertinent safety instructions can be found in the separate manual "Important notes on and safety instructions for Beissbarth Tire Equipment". These instructions must be carefully studied prior to start-up, connection and operation of the MT ZERO 6 LCD and must always be heeded.

Positions of the laser sources

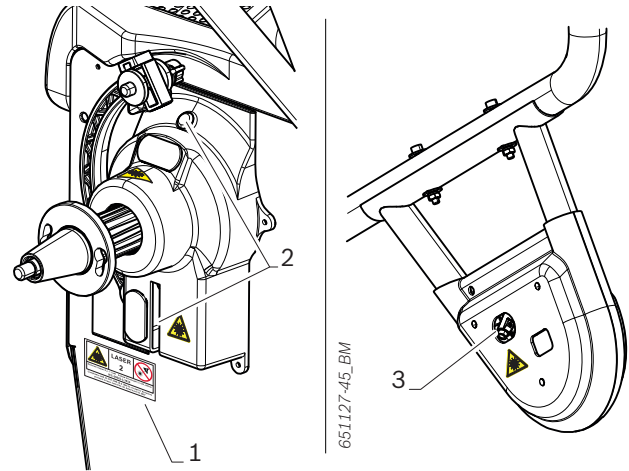
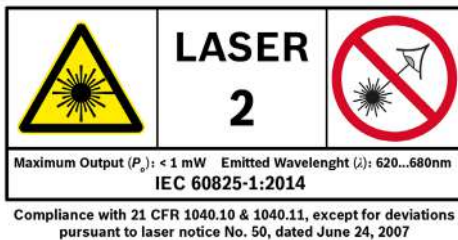


Fig. 1: Positions of the laser sources

- 1 Main information plate position
- 2 Laser sources on the lighting system
- 3 Laser sources on the probe

Safety standards for the use of the position indicator with laser beam



LASER RADIATION
DO NOT DIRECTLY LOOK INTO THE BEAM
LASER-CLASS-2 DEVICE

Function	Specification
Radiated wave length	620 nm - 680 nm
Maximum laser radiation output	< 1 mW

- The laser beam of the lighting system and the sonar probe only serves as a position indicator for attaching the balance weights. Any use other than the intended use will be considered non-compliant. The manufacturer rejects any responsibility for improper use of the device.

Safety instructions

- Severe eye injury from exposure of the eyes to the laser beam (more than 0.2 seconds). Do not look directly into the laser source and do not expose eyes to laser beam.
- Never direct the laser beam toward people or animals, and do not look directly into the laser beam or its reflection. The laser beam may blind people, resulting in accidents or eye injury.
- In case the laser beam hits your eyes, immediately close your eyes and remove your head from the laser beam.
- Never use laser goggles as safety goggles. Laser goggles are used to better visually detect the laser beam and not as protection from laser radiation.
- Never use laser goggles as sun glasses or behind the wheel when driving. Laser goggles do not offer complete protection from UV beams and limit the perception of differences in color.
- Do not modify the laser equipment.
- Switch off the wheel balancing machine before performing any maintenance work, particularly if work is to be performed in the immediate vicinity of the laser sources or of areas directly exposed to the laser beams.
- The laser equipment must be repaired by trained and briefed personnel using only original spare parts. This enables the laser equipment to be used safely.


- Do not use the laser equipment in areas exposed to explosion hazards or environments with flammable liquids, gases or dust. Sparks may form in the laser equipment and ignite dust or vapors.
- Protect the laser equipment from warmth as well as continuous solar irradiation, fire, water and moisture. Explosion hazard.


3. Product description

3.1 Intended use

The MT ZERO 6 LCD is a wheel balancing machine with mechanical (MT ZERO 6 LCD AWx) or pneumatic (MT ZERO 6 LCD AWxP) wheel clamping. The MT ZERO 6 LCD can be used to balance passenger car, small van and motorcycle wheels with a rim diameter between 10" - 30" and a rim width between 1" - 15"¹⁾.

The MT ZERO 6 LCD is to be used exclusively for this purpose and solely for the range of applications specified in these instructions. Any other purpose is not consistent with the intended use and is therefore not permissible.

 The manufacturer does not accept any liability for possible damage arising from improper use.

 ¹⁾ * These dimensions refer to standard rims (A); for rims with a special shape (B - C), special accessories should be used.

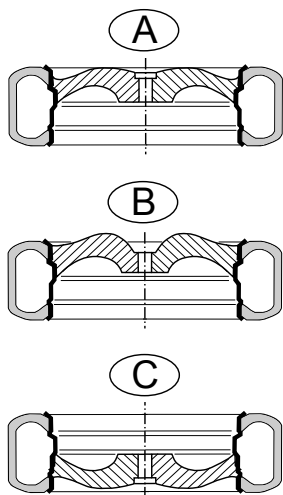




Fig. 2: Rim types

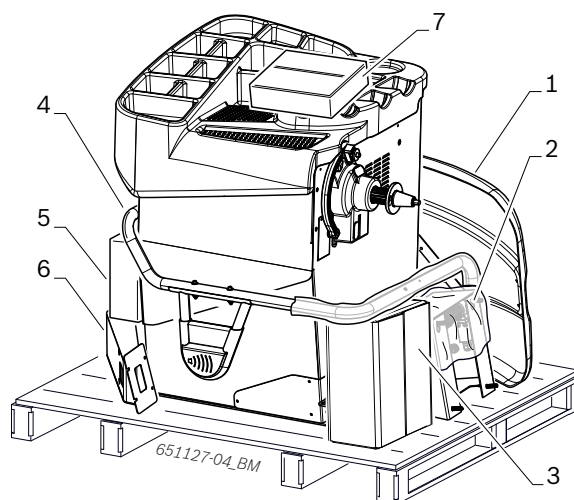
3.2 Prerequisites

The MT ZERO 6 LCD must be installed on a flat surface made of concrete or similar material and anchored in position.

-  An uneven or vibrating surface can lead to inaccurate imbalance measurements.
-  Any non-contiguous floor covering or deviation from the above-mentioned safety requirements releases the manufacturer from all liability for damage to objects and/or personal injury.

3.3 Scope of delivery

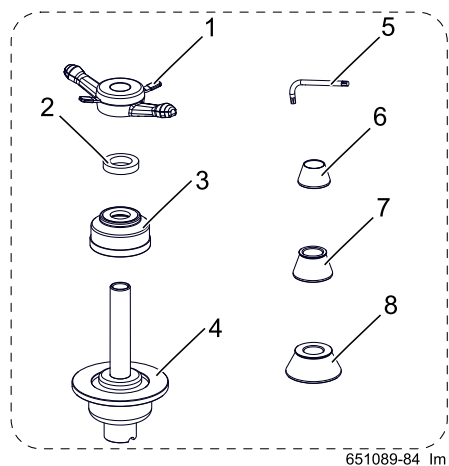
3.3.1 MT ZERO 6 LCD



Denomination	Order number	Qty.
1 Wheel guard	1 695 600 809	1
2 Wheel guard moving unit	-	1
3 Mechanical quick-action clamp parts set ¹⁾	1 695 602 400	1
3* Mechanical quick-action clamp (NA) parts set ¹⁾	1 695 655 837	1
3** Parts set, pneumatic quick-action clamp ¹⁾	1 695 655 602	1
3*** Pneumatic quick-action clamp parts set, L = 130 mm ¹⁾	1 695 601 006	1
4 Support frame with sonar	-	1
5 Digital control panel	-	1
6 Holder for digital control panel	-	1
7 Equipment	-	1
Operating instructions	1 695 600 968	1
Instructions for tire service devices	1 695 000 006	1

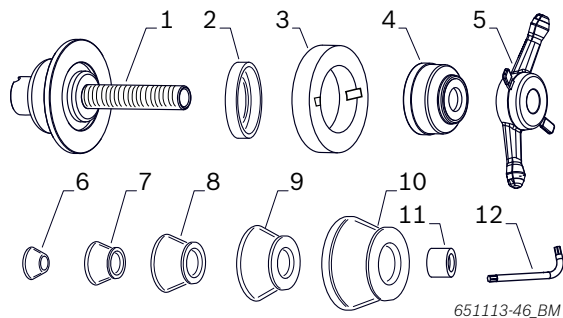
¹⁾ May be included in the scope of delivery depending on the version ordered

3.3.2 Parts set, mechanical quick-action clamp



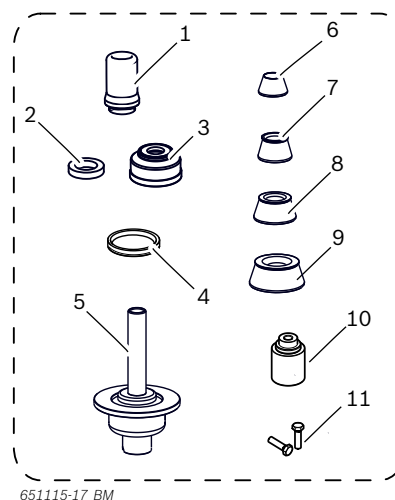
Designation	Order number	Qty.
1 Quick locking nut	1 695 616 200	1
2 Spacer ring	1 695 616 100	1
3 Concave socket	1 695 616 500	1
4 Basic centering flange	-	1
5 Allen key	1 695 635 000	1
6 Centering cone 42 – 65 mm	1 695 632 500	1
7 Centering cone 54 - 80 mm	1 695 652 862	1
8 Centering cone 75 - 110 mm	1 695 605 600	1

3.3.3 Mechanical quick-action clamp (NA) parts set



Denomination	Code for ordering	No.
1 Basic centering flange	-	1
2 Rubber cap	1 695 624 800	1
3 Spacer ring	1 695 655 316	1
4 Concave sleeve	1 695 616 500	1
5 Quick-locking nut	-	1
6 Centering cone, 42–65 mm	1 695 632 500	1
7 Centering cone, 60–74 mm	1 695 655 841	1
8 Centering cone, 72–94 mm	1 695 655 840	1
9 Centering cone, 89–132 mm	1 695 653 449	1
10 Centering cone, 90–112 mm	1 695 655 839	1
11 Spacer ring	1 695 654 895	1
12 Allen key	1 695 635 000	1

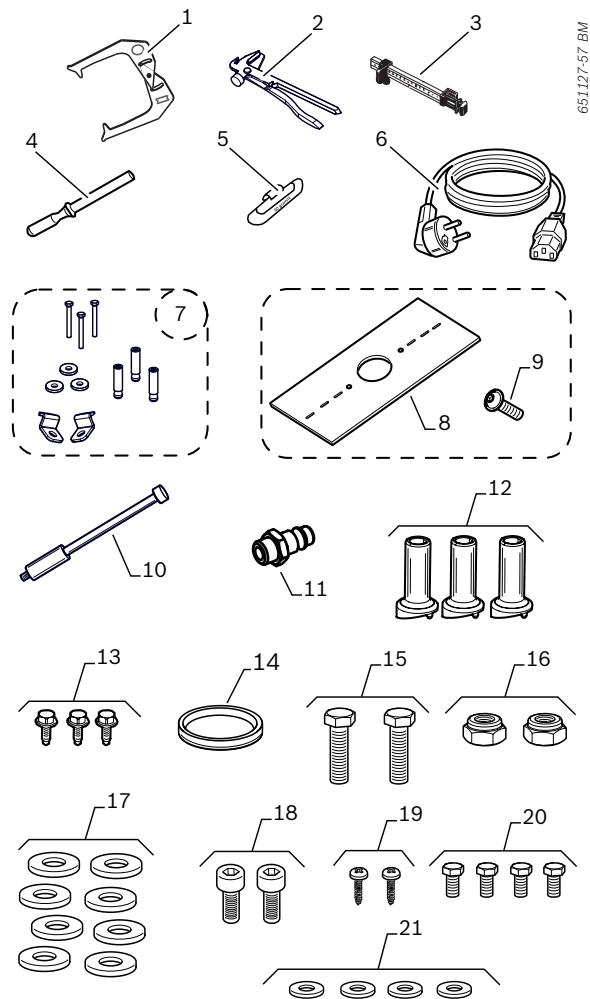
3.3.4 Parts set, pneumatic quick-action clamp



Designation	Order number	Qty.
1 Wheel locking sleeve L=100 mm ¹⁾	1 695 653 212	1
1* Wheel locking sleeve L=130 mm ¹⁾	1 695 600 999	1
2 Spacer ring	1 695 616 100	1
3 Concave socket	1 695 616 500	1
4 Rubber cap	1 695 624 800	1
5 Basic centering flange	-	1
6 Centering cone 42 – 65 mm	1 695 632 500	1
7 Centering cone 54 - 80 mm	1 695 652 862	1
8 Centering cone 75 - 110 mm	1 695 605 600	1
9 Centering cone 120 - 174 mm	1 695 606 300	1
10 Basic centering flange	1 695 653 255	1
11 Hexagon bolt ISO 4017 MA8x30	1 695 020 514	2

¹⁾ May be included in the scope of delivery depending on the version ordered

3.3.5 Equipment



Denomination	Code for ordering	Qty.
1 Measuring compass	1 695 602 700	1
2 Balance weight holder	1 695 606 500	1
3 Weight positioning gauge	1 695 629 400	1
4 Plastic spatula	1 695 656 585	1
5 60-g balance weight	1 695 654 377	1
6 230-V power supply cable ¹⁾	1 695 652 991	1
6* 110-V power supply cable ¹⁾	1 695 042 146	1
7 Floor mounting parts set	1 695 655 582	1
8 Calibration plate	1 695 600 938	1
9 Hex socket head cap screw ISO 7380 M8x20	1 695 042 418	1
10 Calibrating pin	1 695 656 719	1
11 Quick-release coupling – MT ZERO 6 LCD AWxP ¹⁾	1 695 042 398	1
12 Cone holder	1 695 627 500	3
13 Self-tapping screw 6.3x16	1 695 041 397	3
14 Rubber cap – MT ZERO 6 LCD AWx ¹⁾	1 695 624 800	1
15 Screw M8x50 ISO 4017	1 695 040 041	2
16 Low nut M8 EN ISO 10511	1 695 002 003	2
17 Washer M8 ISO 7089	1 695 002 101	8
18 Screw M8x25 ISO 4762	1 695 030 504	4
19 Self-tapping screw 4.2x16 UNI 6947	1 695 000 307	4
20 Screw M5x12 ISO 4017	1 695 000 410	4
21 Washer M5 ISO 7089	1 695 040 163	4

¹⁾ May be included in the scope of delivery depending on the version ordered

3.4 Special accessories

Designation	Code for ordering
Cone ø 89–132 inside 40 mm	1 695 653 449
Fourth centering cone Ø 120 to 174 mm	1 695 606 300
Rim spacer ring	1 695 606 200
Three-arm flange for light commercial vehicles	1 695 653 420
Infinitely variable universal flange for passenger cars (3-4-5-hole flange)	1 695 654 043
Quick-release coupling for flange (3-4-5-hole) kit	1 695 612 100
60-g balance weight, Zn-certified	1 695 654 376
Duo Expert centering system (3 sleeves in carrying case, 54–78 mm)	1 695 656 698
Adapter for standard rims kit	1 695 655 294
Adapter for standard rims with 4 holes	1 695 655 295
Adapter for standard rims with 5 holes	1 695 655 296
Adapter for standard rims with 6 holes	1 695 655 297
Adapter mount	1 695 655 298
DEMOBOX KIT FOR PASSENGER CARS	1 695 656 570
Quick release motorcycle wheel flange	1 695 654 039
Clamping kit for swinging arms (Ø 19 mm)	1 695 654 060
Wheel lift	1 695 911 173
Positioning laser with light ring	1 695 654 994
Adapter kit for Daimler Sprinter and VW Crafter	1 695 000 074
Centering kit for light trucks	1 695 656 783
Weight scraper	1 695 656 585

Designation	Code for ordering
Spacer plate	1 695 600 061
Large-diameter spacer plate	1 695 653 888
Rubber ring	1 695 624 800
Centering kit for GM/Opel	1 695 655 323
Centering kit for GM/Opel Expert	1 695 655 324
Three-way centering kit (42–111.5 mm)	1 695 654 851
Four-way centering kit (42–111.5 mm)	1 695 655 293
Centering kit for Daimler/Smart	1 695 655 326
Centering kit for BMW	1 695 656 822
Centering kit for Daimler	1 695 654 919
Centering cone for Peugeot and others (58/65 mm)	1 695 655 780
Centering cone for PSA/Renault and others (50/60/65 mm)	1 695 655 781
Centering cone for Mini Countryman and others (72.5 mm)	1 695 000 007
Centering cone for VW and others (65–84 mm)	1 695 000 073
Centering cone (50–60 / 66 / 71 mm)	1 695 656 571
Centering cone for light trucks (122–174 mm)	1 695 654 627
Centering cone for light trucks (88–174 mm)	1 695 654 849
Spacer sleeve for off-road wheels	1 695 901 667
Printer	1 695 042 875
Shelf for printer and special accessories	1 695 656 409
Bike ECO centering kit	1 695 654 718
Clamping tool holder	1 695 107 499

3.5 Component description

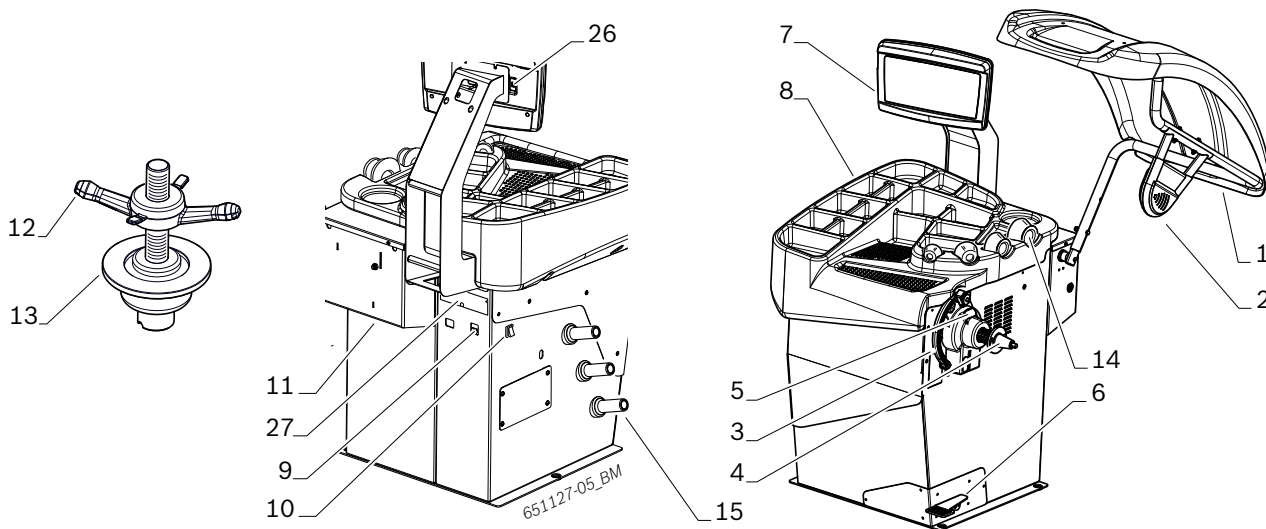


Fig. 3: MT ZERO 6 LCD AWx

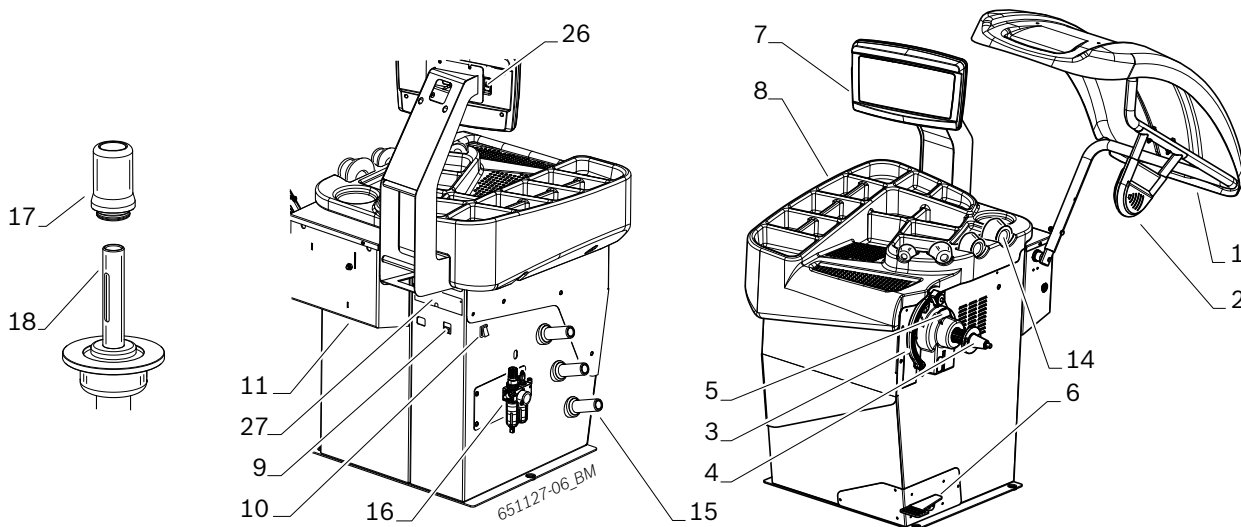


Fig. 4: MT ZERO 6 LCD AWxP

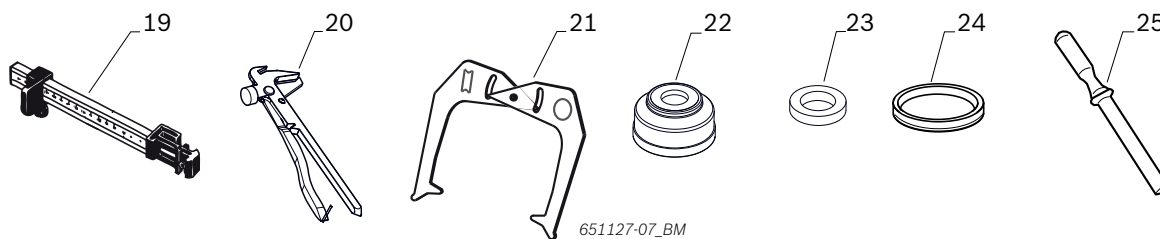





Fig. 5: Accessories


Item	Denomination	Function
1	Wheel guard	<ul style="list-style-type: none"> Protecting the operator from ejected objects (e.g. dirt, water). Starting and stopping measurement.
2	Sonar probe	<ul style="list-style-type: none"> Determines the rim width by means of the probe. Laser beam for indicating where to attach the clip-on balance weight on the outside of the wheel.
3	Rim-distance gauge (electronic)	<ul style="list-style-type: none"> Records rim distance and rim diameter. Determines the positions for attaching the adhesive balance weights.
4	Cone of drive shaft	Flange mount
5	Laser	If the Easyfix® function is switched off, the position of the adhesive balance weights is indicated by a laser beam as soon as the correct balancing position is reached
	Lighting	Always switched on whenever the electronic rim-distance gauge is in use.
6	Pedal	MT ZERO 6 LCD AWx
		Locking the shaft/wheel
		MT ZERO 6 LCD AWxP
		Pedal up Locking/releasing the pneumatic flange
	Pedal down Locking the shaft/wheel	
7	Digital control panel	Command interface for use of the wheel balancing machine.
8	Shelf	<ul style="list-style-type: none"> Storage of cones and tools. Shelf for balance weights and accessories.
9	Mains socket	Connection for power supply cable.
10	On/off switch	Switching the wheel balancing machine on and off.
11	Interface card	Internal interface card for connecting the measurement system.
12	Quick-locking nut	MT ZERO 6 LCD AWx: centering and securing the wheel on the cone
13	Centering flange	MT ZERO 6 LCD AWx: centering and securing the wheel on the cone
14	Securing cone	Centering the wheel on the flange shaft.
15	Clamping tool holder	Storing accessories
16	Oiler regulator filter unit for processing the compressed air with pneumatic connection	MT ZERO 6 LCD AWxP: <ul style="list-style-type: none"> Checking/setting the operating pressure Removing dirt Supplying oil to compressed-air system
17	Spacer plate	MT ZERO 6 LCD AWxP: centering and securing the wheel on the cone.
18	Centering flange with tie rod	MT ZERO 6 LCD AWxP: centering and securing the wheel on the cone
19	Weight positioning gauge	Manual measurement of the width and positioning of the adhesive balance weights with the programs ALU2, ALU3, adhesive balance weight statics, PAX2.
20	Balance weight holder	Removing the wheel weights from the rim.
21	Measuring compass	Manual measurement of rim width and rim diameter.
22	Concave socket	For use with quick-locking nut with outside cone attachment.
23	Spacer ring	Used in combination with the quick-locking nut to secure the wheels if a cone is used on the flange.
24	Rubber cap	For protective purposes when clamping aluminum rims.
25	Plastic spatula	For removing adhesive balance weights
26	USB port	For updating the software.
27	Connector plate	For protecting the connections used to connect the digital control panel

4. Initial commissioning

4.1 Unpacking

1. Place the packed goods near the installation location.
-  Use an appropriate fork lift or a pallet truck (with a minimum load capacity of 400 kg) to move the packed machine. Insert the forks between the support legs of the pallet and lift the packaging.
2. Remove the strap and retaining clamps from the pallet and the packaging carton.
 3. Carefully lift off the packaging.
 4. Take the standard accessories and the packaging material out of the transport crate.
-  Check if the MT ZERO 6 LCD and the accessories are in proper working order and that there are no visible signs of component damage. In case of doubt, do not commission the device and consult customer service.
-  Dispose of the packaging material at an appropriate collection site.

4.2 Transporting and handling the wheel balancing machine

-  On delivery, the machine is fastened to the pallet.

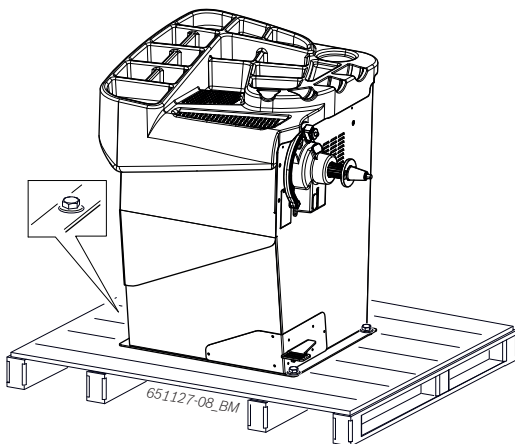




Fig. 6: MT ZERO 6 LCD on pallet

1. Remove fastening screws.
 2. Move the machine from the pallet to a suitable position intended for installation.
-  At least 2 people are needed for this job.

-  Do not lift the machine for transport by the shaft or measurement system. That area must not be subjected to impacts or potential damage.

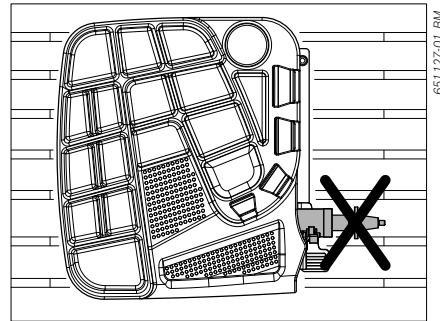



Fig. 7: Places by which the machine must not be lifted for transport

-  Do not hold the machine by the plastic covers for moving or lifting. Otherwise, there is a risk of damage during handling or transport.
3. Carefully position the first side of the machine and make sure that the machine is in balance and cannot tip over.

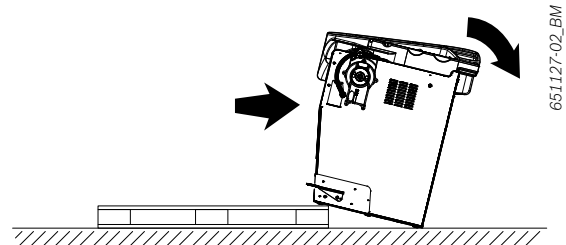


Fig. 8: First step of setup

4. Pull out the pallet from under the machine, and position the machine carefully.

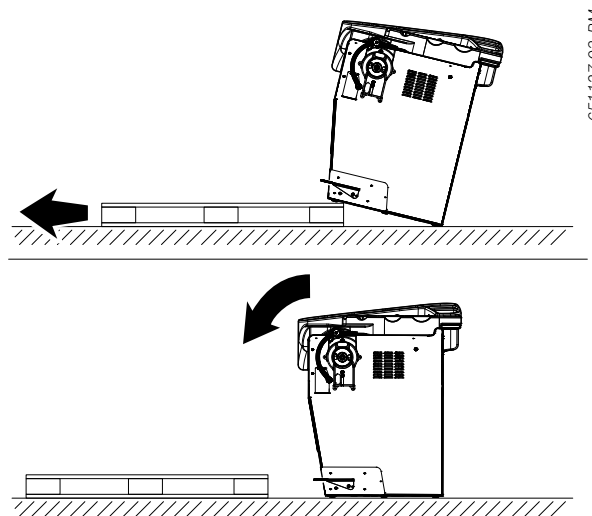


Fig. 9: Second step of setup

- Set up the machine in the intended area, paying attention to the specified safe distances.

i For safe and ergonomic operation of the wheel balancing machine, it is advisable to set it up at a distance of 500 mm from the nearest wall.

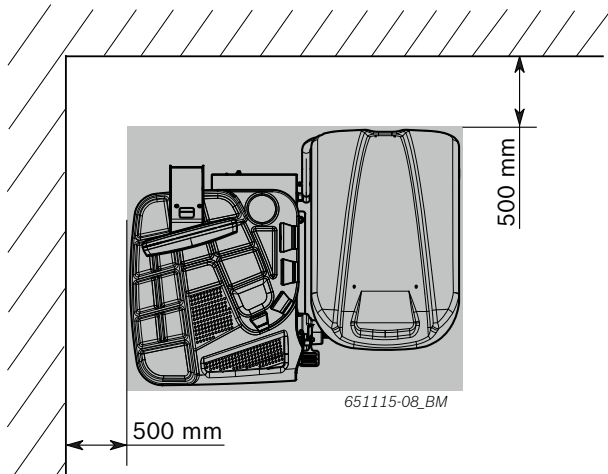


Fig. 10: Safe distances

4.3 Floor mounting



Warning – danger of tipping!

Considerable forces are involved in the wheel balancing process.

- Before using the machine, it is essential to fasten it to the ground according to the manufacturer's specifications.

- Place the MT ZERO 6 LCD on the ground at the intended final location. Use the bore holes in the base of the machine for orientation.

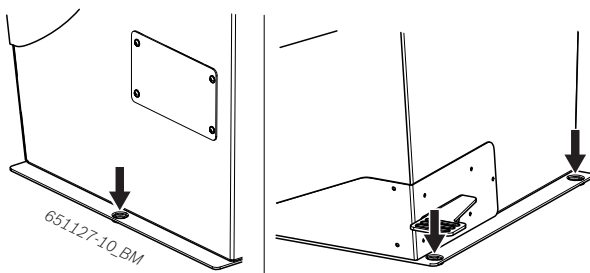


Fig. 11: Overview of mounting holes

- Position a power drill with a 14-mm bit, and drill holes 65 mm deep.

! We recommend cleaning the hole carefully before inserting the dowel.

- The wheel balancing machine must be secured to the ground at a minimum of 3 places with screws and dowels.

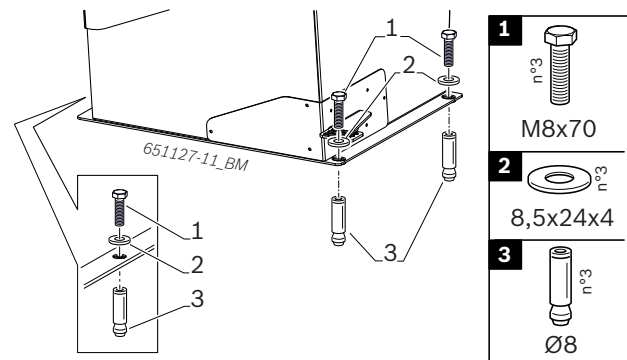


Fig. 12: Securing the MT ZERO 6 LCD

- Insert the dowels provided, insert the washers in between, and fully tighten them with a torque wrench at a tightening torque of 25 Nm.

4.4 Installing the wheel guard moving unit

i The screws for securing the unit are already attached to the MT ZERO 6 LCD.

- Remove the screws for securing the cover of the unit's casing.
- Remove the cover.

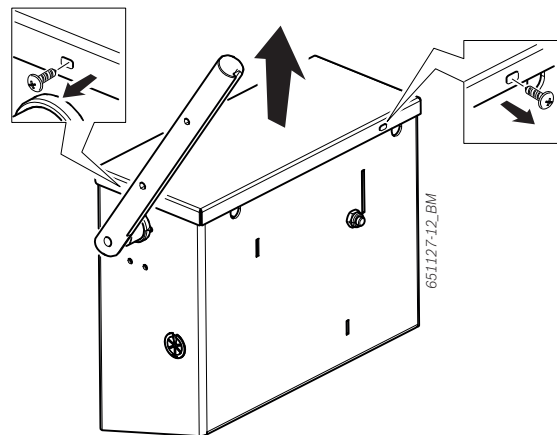


Fig. 13: Removing the cover

- Remove the screws from the bottom holes on the back of the casing.

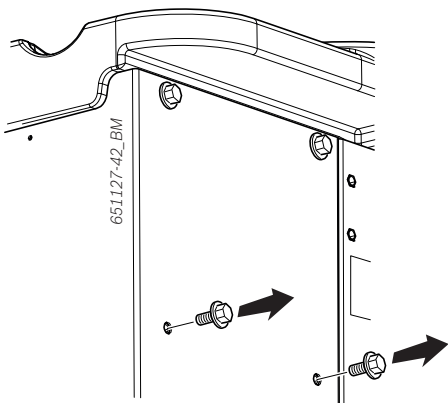


Fig. 14: Removing the bottom screws

- Position the screws and washers on the top holes leaving at least 5 mm of space between the structure's wall and the washer.

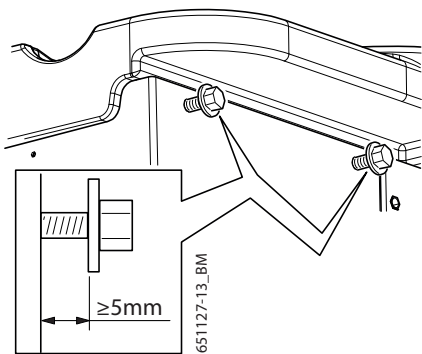


Fig. 15: Positioning the top screws

- Anchor the protective hood of the moving unit by aligning the top holes of the unit with the screws previously put in place.

! Make sure not to crush the cables extending from the bottom of the unit.

- Push the unit down, and make sure the screws are positioned correctly and as far in the holes as they will go.

i The unit must be parallel to the structure.

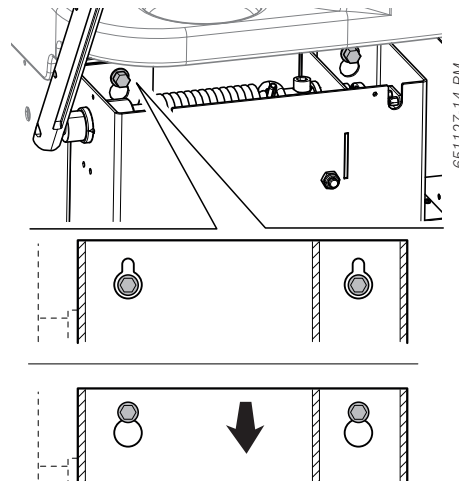


Fig. 16: Anchoring the moving unit

- Position the screws and washers previously removed on the bottom holes, but do not tighten them yet.

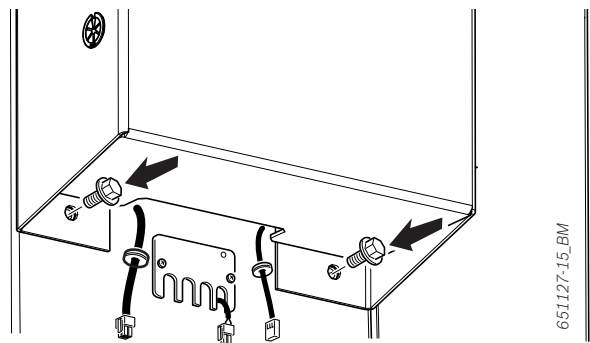


Fig. 17: Positioning the bottom screws

- Tighten the top screws on the holes in the unit with the tool.

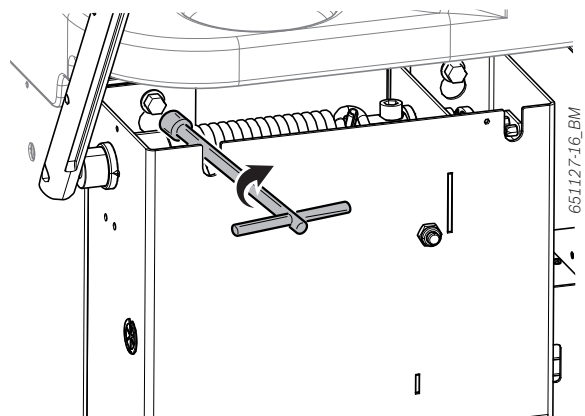


Fig. 18: Tightening the top screws

9. Tighten the bottom screws.

! Make sure the unit is parallel to the structure.

→ This concludes the installation of the moving unit of the protective hood.

4.5 Installing the support frame with sonar

1. Remove the support frame taking care not to damage the cables extending from it.

i The number of cables extending from the frame varies depending on the machine's version. On the wheel balancing machine with sonar functions and laser, 2 cables are routed from the frame, while there is just one cable on the version with sonar only.

2. Position the support frame on the machine shaft extending from the wheel guard moving unit.

3. Position the extending cables inside the receptacle of the machine shaft extending from the unit.

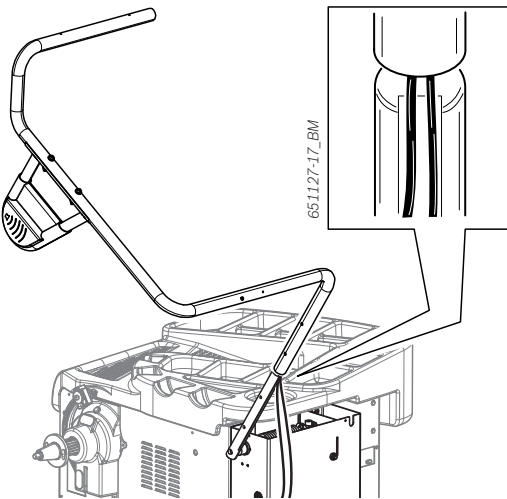


Fig. 19: Preparation for installation

4. Connect the frame to the machine shaft. Proceed with caution.

! Make sure not to crush the cables between the machine shaft and the frame.

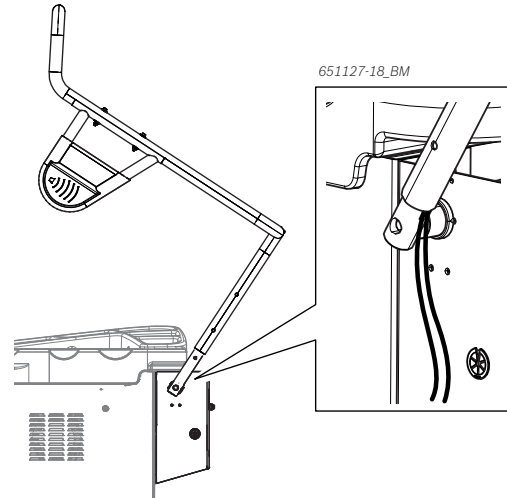


Fig. 20: Installing the support frame

5. Attach the screw set included in the scope of delivery to the bottom hole.

i See the figure for the direction of installation.

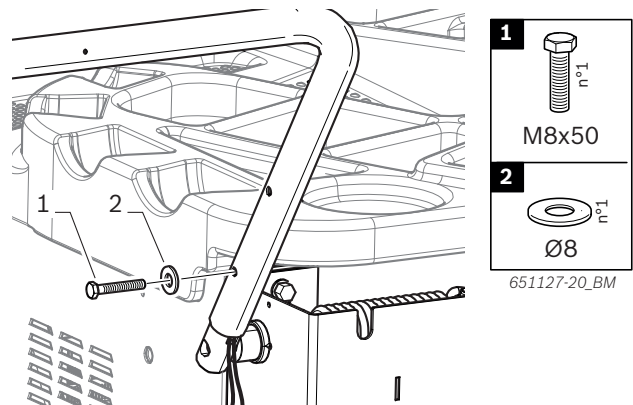



Fig. 21: Fitting the bottom screw

- Screw the screw set included in the scope of delivery into the threaded bore hole at the top.

 See the figure for the direction of installation.

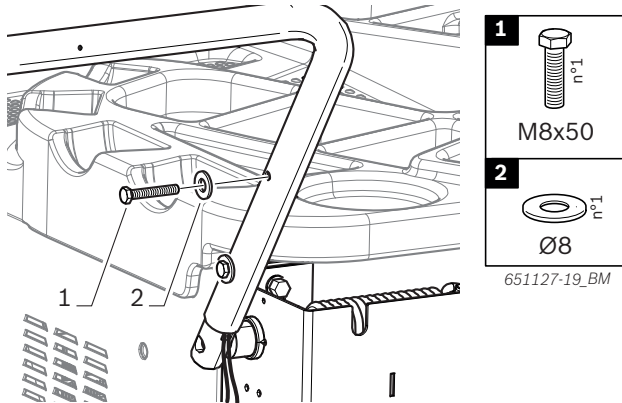


Fig. 22: Fitting the top screw

- Fit the screw set included in the scope of delivery for attaching the frame on the machine shaft, but do not tighten it yet.

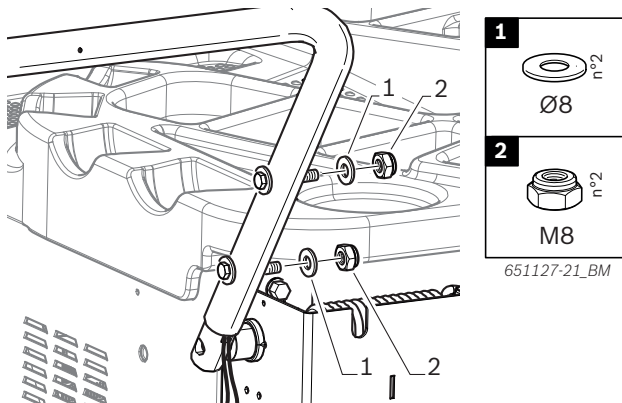



Fig. 23: Fitting the fastening screws

 Perform a visual inspection to make sure the support frame is parallel to the floor of the structure.

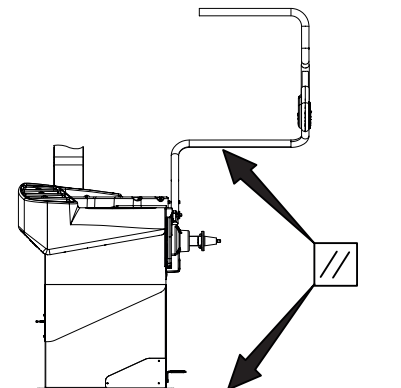



Fig. 24: Ensuring the parallel alignment of the support frame

 The coupling for attaching the frame has some play. If necessary, use it to set the correct position.

- Tighten the screw set.

4.6 Installing the wheel guard

- Remove the wheel guard.
- Position the wheel guard on the frame in such a way that the holes in the protective hood are aligned with the holes in the frame.
- Use the screw set included in the scope of delivery to secure the wheel guard.

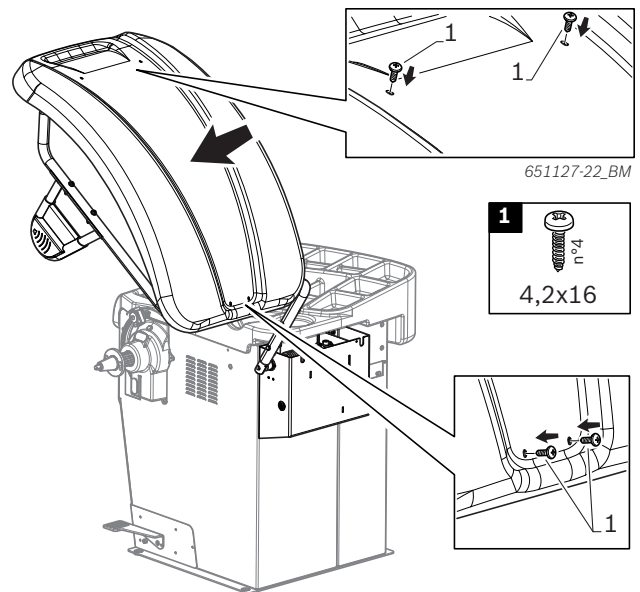



Fig. 25: Installing the wheel guard

4.7 Preparing the electrical connectors

 During this phase, the machine must not yet be connected to the voltage supply.

- Remove the grommet from the wheel guard moving unit.

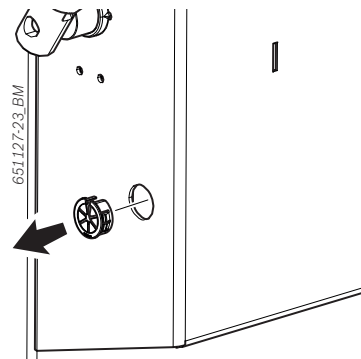


Fig. 26: Position of the grommet

- Place the cables extending from the support frame into the receptacle of the grommet, and position the grommet as specified by the dimensions listed here.

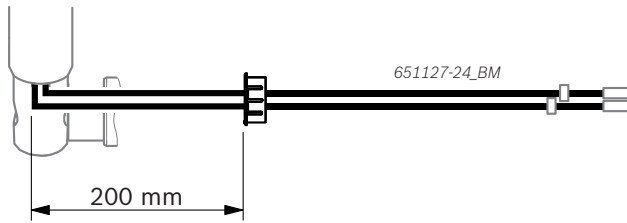


Fig. 27: Dimensions for positioning the grommet

- Position the cables in the receptacle of the grommet, and guide them towards the bottom until they extend from the casing of the unit.
- Position the grommet in its receptacle again.

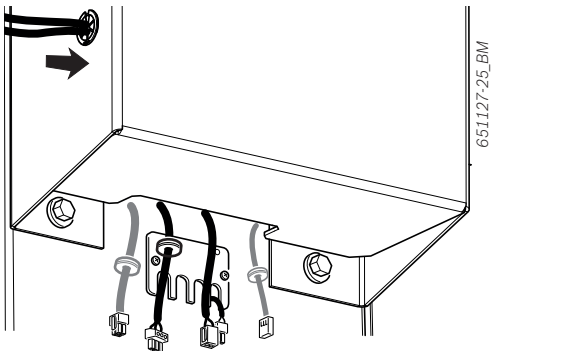


Fig. 28: Routing the cable through the unit

- Uninstall the plate of the interface card.

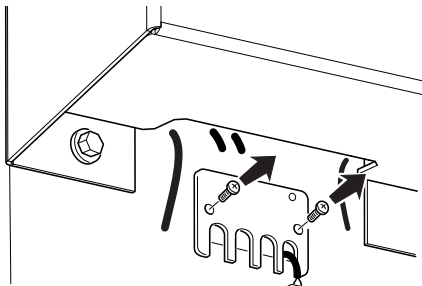


Fig. 29: Uninstalling the plate of the interface card

- Connect the connectors shown in this figure, and position the cables in the notches on the interface card plate.

Insert the washers for routing the cables into the notches of the plate.

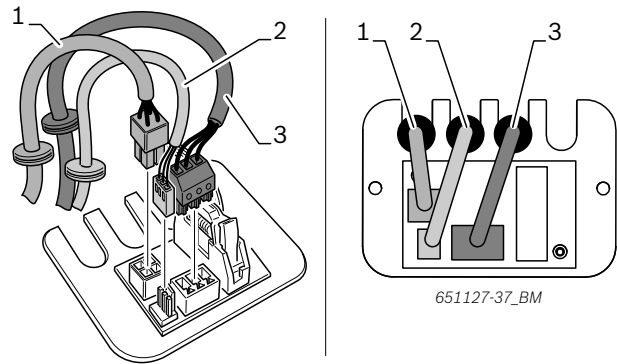


Fig. 30: Interface card connections

- Micro-switch cable
- Magnetic-sensor cable
- Sonar cable

If present, connect the laser cable to the extension inside the machine.

- Connect the laser cable.

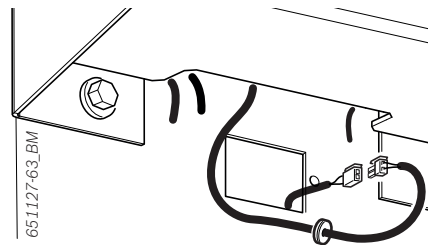


Fig. 31: Connecting an external laser cable

- Position the washer for routing the cable in the notch of the plate.

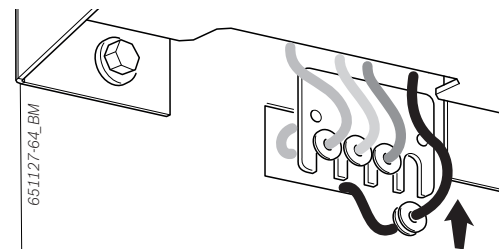


Fig. 32: Positioning the laser cable

9. Install the interface card plate on the machine.
Proceed with caution.

! Make sure not to crush the cables between the structure and the plate.

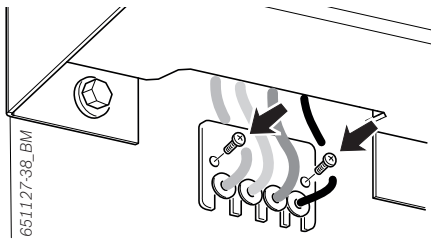


Fig. 33: Installing the interface card plate

! To avoid damaging the cables, make sure the cables are not excessively taut and have freedom of movement in their notches.

10. After completion of the connections described, install the cover of the wheel guard moving unit.

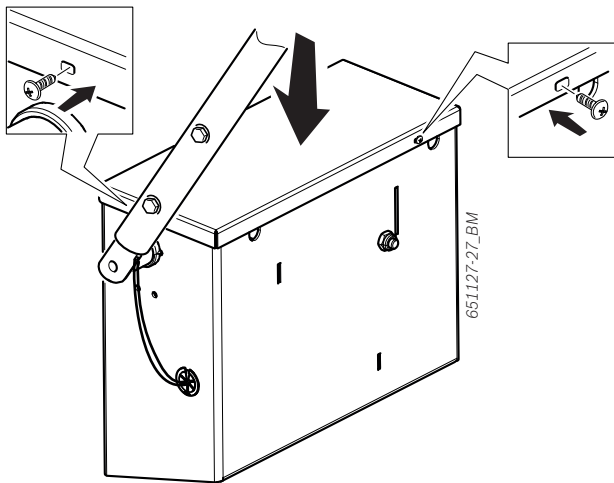


Fig. 34: Installing the cover

4.8 Mounting the digital control panel

1. Remove the holder for the digital control panel.
2. Use the screw set included in the scope of delivery to install the mount on the back of the casing.

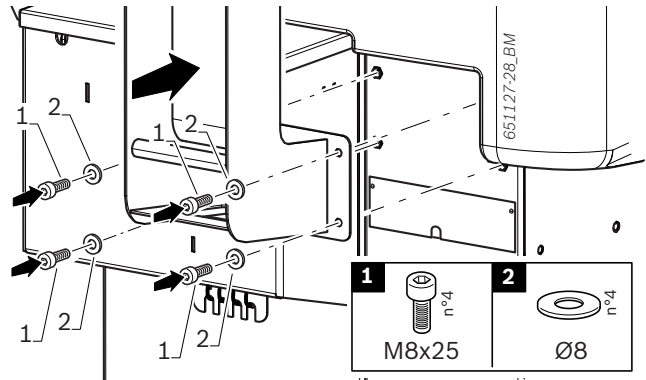


Fig. 35: Mounting the holder for the digital control panel

3. Remove the digital control panel.
4. Insert the cable into the holder and route it out of the base.

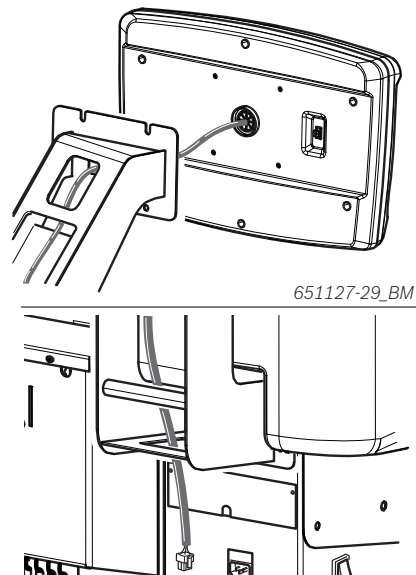


Fig. 36: Cable penetration

- Position the screws and washers for fastening the digital control panel in the holes provided for this purpose at the top of the control panel, leaving at least 5 mm clearance between the wall and washer.

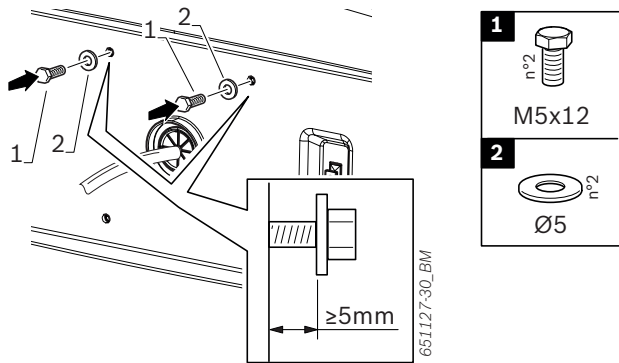


Fig. 37: Preinstalling the screws in the digital control panel

- Fasten the digital control panel to the holder. Do not crush the cable.

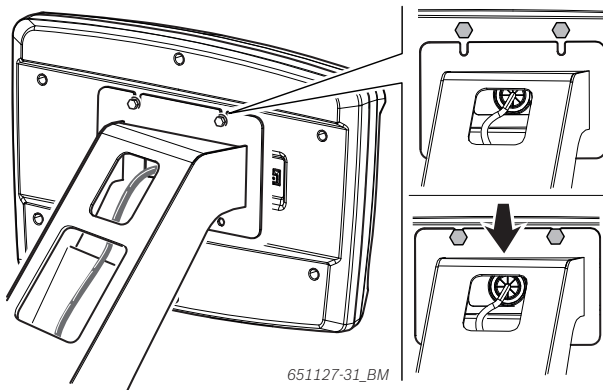


Fig. 38: Positioning the digital control panel

- Position the screws and washers for fastening the digital control panel in the holes provided for this purpose at the bottom of the control panel.

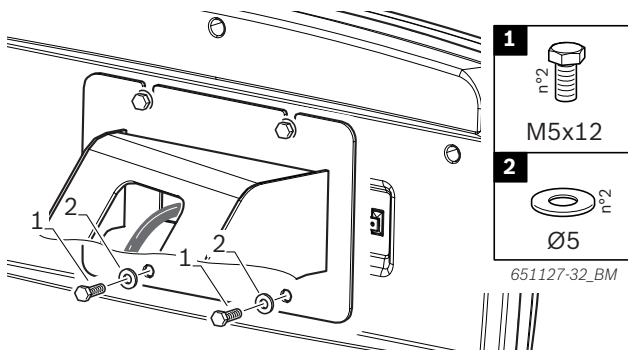


Fig. 39: Fastening the digital control panel

- Tighten the screws.

→ Mounting the digital control panel is completed.

4.9 Digital control panel connections

- Remove the connector plate.

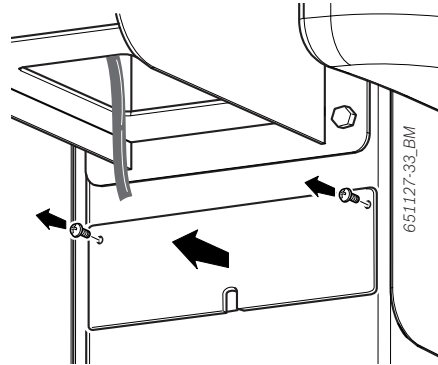



Fig. 40: Removing the connector plate

 The cable for connecting the digital control panel is lying loose in the connection area.

- Remove the cable from the connection area.
- Connect the cable from the digital control panel to the cable in the connection area.

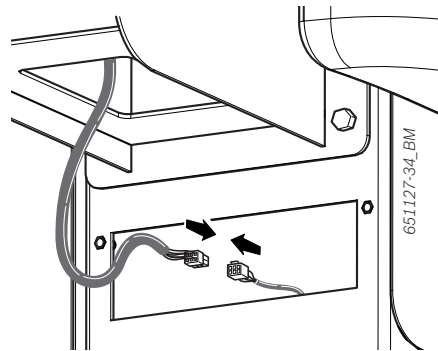


Fig. 41: Connecting the digital control panel

- Mount the connector plate.

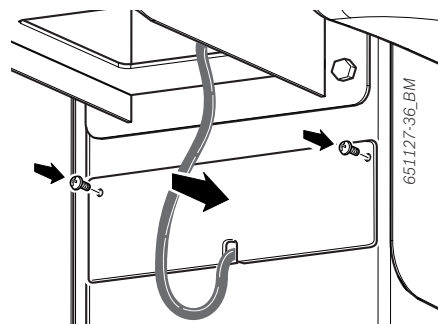


Fig. 42: Mounting the connector plate

→ Connecting the digital control panel is completed.

4.10 Installing the clamping tool holders

➤ Use the screw set included in the scope of delivery to install the holders as shown in the figure.

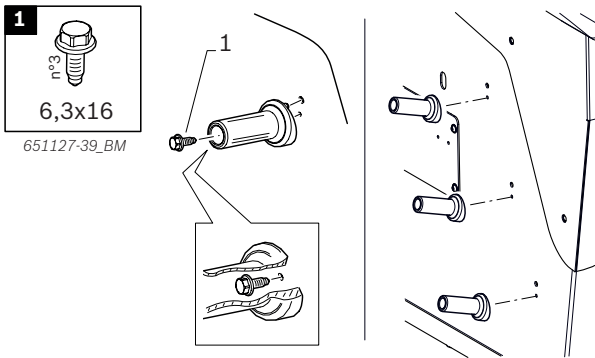


Fig. 44: Installing the clamping tool holders

4.11 Connecting the compressed air

i The compressed air connection is present only on MT ZERO 6 LCD AWxP.

1. Connect the MT ZERO 6 LCD AWxP to the compressed air supply.

i With a bayonet connection, it is sufficient to move the compressed air hose to the connection of the filter unit and tighten the threaded clamp.

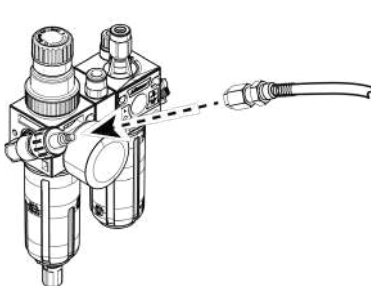


Fig. 45: Compressed air connection

2. Set a pressure between 8 – 10 bar.
 - ⇒ First pull the pressure reducer (red knurled screw) upwards. Then turn to set a pressure between 8 – 10 bar.
 - ⇒ Monitoring the pressure on the pressure gauge.

! A quick-release coupling with 1/4 thread is supplied with the vehicle to enable a compressed air connection to be made even if no bayonet connector is available.

3. Use a 14 mm wrench to remove the swivel connection at the filter unit.

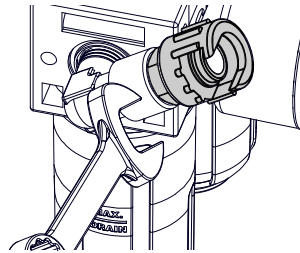


Fig. 46: Removing swivel connection

4. Pull out the swivel connection and attach the quick-release connection. Then tighten with a 14 mm wrench.

! Place the original seal back in position.

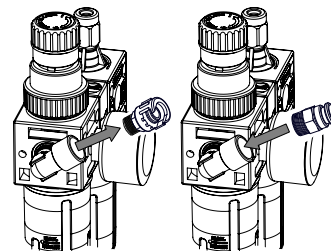


Fig. 47: Fitting the quick-release connection

4.12 Electrical connection



DANGER – risk of electric shock in the absence of grounding, in case of a faulty ground connection or a faulty power connector. Faulty phase, neutral-conductor or protective-conductor connections may cause electric shock, cardiac arrest and death!

- Work on the electrical installation or electrical equipment may only be carried out by a qualified electrician or by trained personnel under the direction and supervision of a qualified electrician.
- Even minor work on the electrical equipment may only be carried out by qualified and trained personnel.
- The MT ZERO 6 LCD may only be connected to the mains if its voltage matches the rated voltage on the rating plate.
- Ensure proper grounding before making the electrical connection.
- Always use a correct power supply cable for the country where the machine is to be used.
- Connect a mains plug to the power supply cable in accordance with the national standards of the country where the machine is to be used.
- In the event of a malfunction, switch the machine off immediately using the on/off switch, unplug the power supply cable and consult the "Faults" section of the operating instructions.

! The device must be connected to a standard electrical system that is equipped with a residual-current-operated circuit breaker with a wire cross-section of at least 3 mm conforming to European standards. The customer is responsible for providing fuse protection for the power connector.

! A socket is used to connect the machine to the mains. For this purpose, use the detachable cable with standard connector supplied with the device. The connector must always be readily accessible.

! A two-pole type "C" automatic circuit breaker must be used to protect the power connection. Single-pole automatic circuit breakers are not allowed.

! Adhere to the operating conditions in terms of temperature and environment listed in the "Technical data" section.

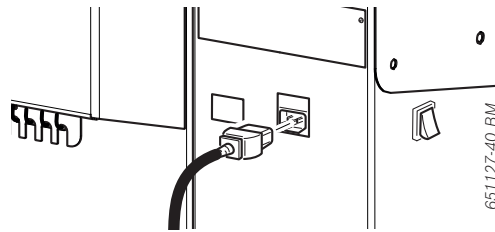


Fig. 48: Connecting the power supply cable to the machine

4.13 Ignition

1. Lift the wheel guard fully.
2. Connect the power supply cable to the mains.

! Make sure the power supply cable is connected to the machine as described in the "Electrical connection" section.

3. Switch the machine on with the on/off switch.

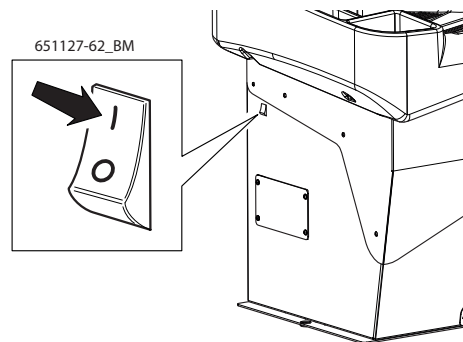


Fig. 49: Switching on the wheel balancing machine

4.14 MT ZERO 6 LCD calibration

! After initial commissioning, a calibration must be performed.

1. Calibrate the flange.
2. Calibrate the electronic rim distance gauge and sonar.
3. Calibrate the MT ZERO 6 LCD.
4. Perform a reference measurement.

! The calibration process is described in the "Calibration" section.

! If one is present, also calibrate the external laser display as described in the "Calibrating an external laser display" section.

5. Fitting and removing the flange

The flange must be fitted in the following situations:

- Initial commissioning
- Change of flange type (universal – 3-4-5-hole*)
- Change of wheel type (passenger car – motorcycle*)

* **Special accessories**

! Balancing accuracy will be affected if the flange has not been properly fitted to the shaft. Before fitting the flange, clean and degrease (remove corrosion protection) the cone of the shaft and the flange opening.

5.1 MT ZERO 6 LCD AWx

5.1.1 Removing the flange

I The MT ZERO 6 LCD AWx must be connected to the mains.

1. Push the pedal down.
⇒ This will lock the shaft.
2. Slacken off the hex socket head cap screw.

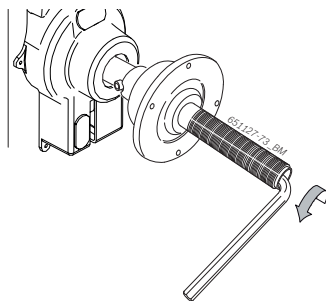


Fig. 50: Slackening off the hex socket head cap screw

3. Loosen the flange by tapping it on the cone end with a rubber mallet.
4. Pull the flange off the cone.

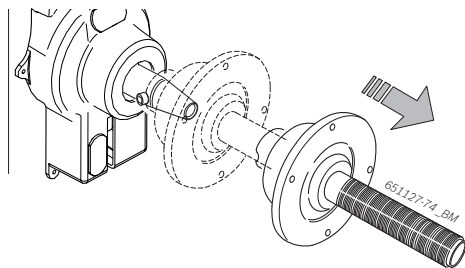


Fig. 51: Pulling the flange off the cone

→ Flange detached.

5.1.2 Fitting the flange

I Clean and degrease the shaft and the flange opening.

1. Push the pedal down.
⇒ This will lock the shaft.
2. Slide the flange onto the shaft.

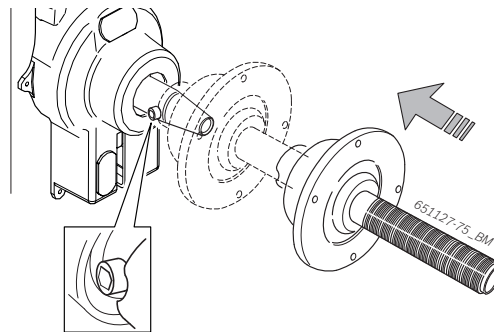


Fig. 52: Sliding the flange onto the shaft

3. Tighten the hex socket head cap screw.

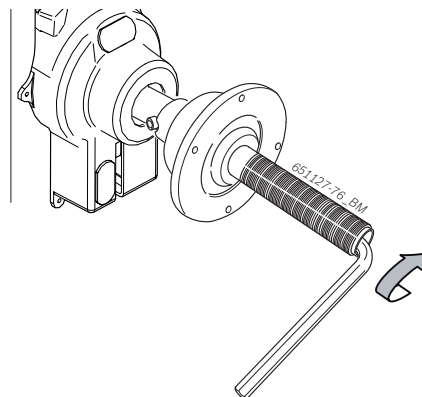


Fig. 53: Tightening the hex socket head cap screw

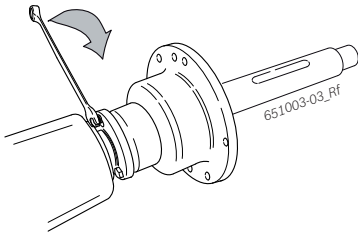
→ Flange fitted.

5.2 MT ZERO 6 LCD AWxP

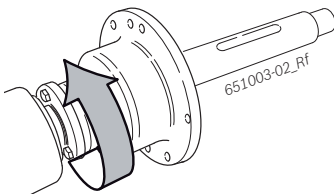
5.2.1 Removing the flange

 The MT ZERO 6 LCD AWxP must be switched on.

1. Slacken off both screws on the coupling ring with a wrench (13 mm).

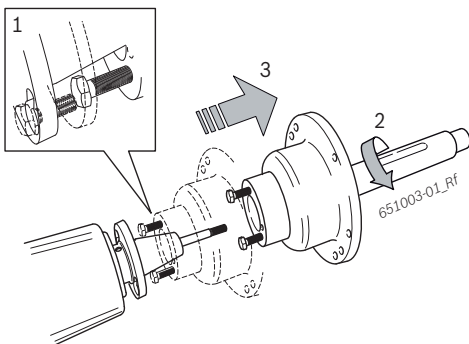


2. Turn the coupling ring.



⇒ Both screws are located on the left-hand side of the holes.

3. Push the pedal up.
 - ⇒ The piston (flange) will be extended.
4. Loosen the flange by tapping it on the cone end with a rubber mallet.
5. Pull the flange off the cone until both screws are clear of the coupling ring.

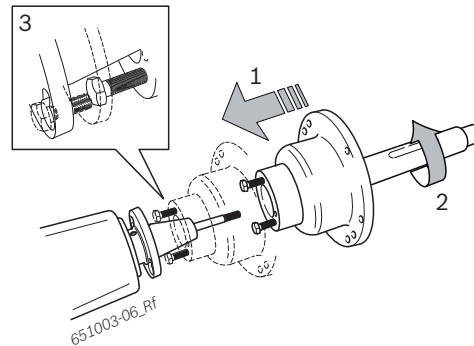


6. Unscrew the flange from the shaft (setscrew).

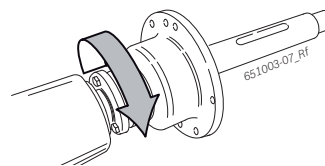
→ Flange detached.

5.2.2 Fitting the flange

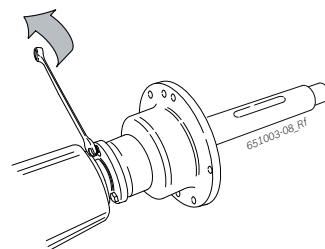
1. Switch on the MT ZERO 6 LCD AWxP using the on/off switch.
2. Push the pedal up.
 - ⇒ The shaft (setscrew) will be extended.
3. Slide the flange onto the shaft.
4. Screw the shaft fully into the flange. Only tighten lightly!
5. Slide the flange over the cone towards the coupling ring until the two screws enter the left side of the holes.



6. Push the pedal up.
 - ⇒ The shaft (setscrew) will be retracted.
 - ⇒ The heads of the screws are now behind the coupling ring.
7. Turn the coupling ring.
 - ⇒ Both screws are located on the right-hand side of the holes.



8. Tighten both screws with a wrench (13 mm).



→ Flange fitted.

6. Attaching and removing a wheel



WARNING – wheel may slip!

Risk of crushing of fingers and other body parts when attaching and removing the wheel.

- Wear protective gloves.
- Wear safety shoes.
- Do not reach between the wheel and shaft.
- Always use two people to attach heavy wheels.

6.1 MT ZERO 6 LCD AWx

6.1.1 Attaching a wheel

1. Switch on the MT ZERO 6 LCD AWx using the on/off switch.
 - ⇒ Wait for the software to load completely.
2. Position the correct cone on the shaft (flange).

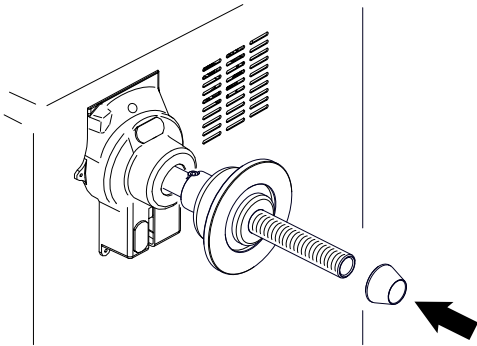


Fig. 54: Positioning the correct cone on the shaft (flange)

3. Remove any dirt with a wire brush.
4. Rest the wheel on the shaft at the cone.
5. Slide the disengaged quick-locking ring onto the shaft, and press it firmly against the wheel.

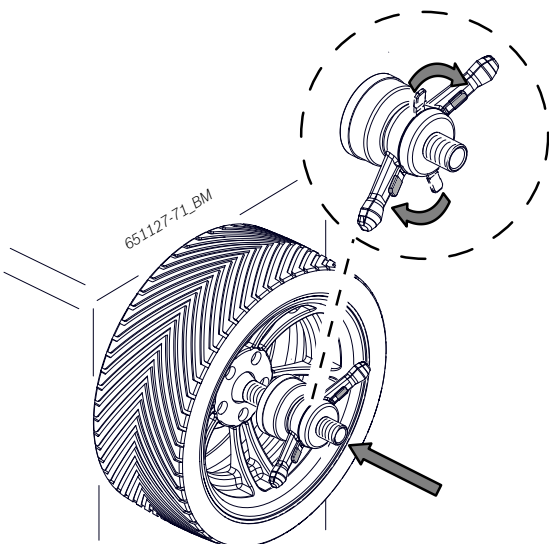


Fig. 55: Positioning the disengaged quick-locking nut on the shaft

6. Release the lock, and turn the quick-locking ring clockwise until the wheel is firmly held in place.

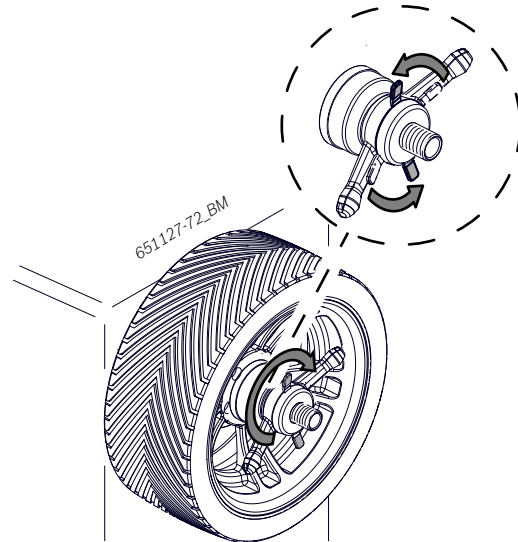


Fig. 56: Turning the quick-locking nut counterclockwise

➔ Wheel secured.

i For high-quality balancing, it is essential to tighten the quick-locking nut securely.

! Make sure the wheel is held in place securely by the clamping device.

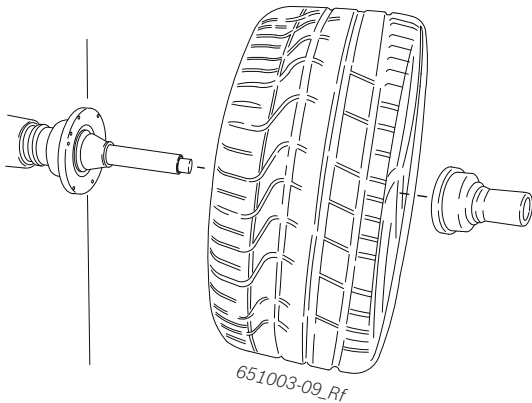
6.1.2 Removing a wheel

1. Turn the quick-locking nut counterclockwise, and release the wheel.
2. Disengage and remove the quick-locking nut.
3. Remove the wheel.

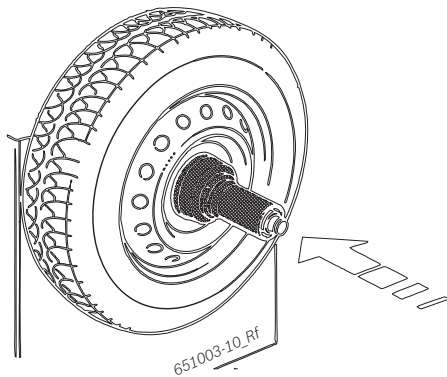
6.2 MT ZERO 6 LCD AWxP

6.2.1 Attaching a wheel

1. Switch on the MT ZERO 6 LCD AWxP using the on/off switch.
 - ⇒ Wait for the software to load completely.
2. Push the pedal up.
 - ⇒ The tie rod will move to the right.
3. Remove any dirt with a wire brush.
4. Position the correct cone and the wheel on the shaft (flange).



5. Slide the spacer plate onto the shaft, and press it against the wheel.



WARNING – risk of crushing hands!

When the wheel is clamped using the pedal, there is a risk of hand injury by crushing.

- Do not hold the spacer plate with your hands within range of the locking mechanisms.
- Do not place your hands between the spacer plate and the wheel.

6. Push the pedal up.
 - The tie rod will move to the left.
 - The spacer plate will be pressed against the wheel.
 - Wheel secured.

- ❗ Make sure the wheel is held in place securely by the clamping device.

6.2.2 Removing a wheel

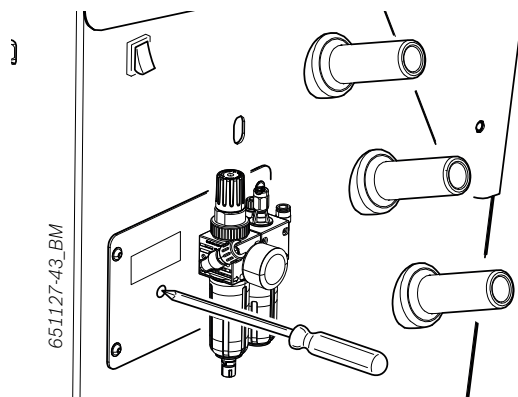
1. Push the pedal up.
 - ⇒ The tie rod will move to the right.
 - ⇒ The wheel will be released.
2. Pull the spacer plate off the shaft supporting the wheel with one hand.
3. Pull the wheel off the shaft.

6.2.3 Wheel removal in the event of faults

In the event of faults of the compressed-air system or a loss of power of the MT ZERO 6 LCD AWxP, the clamping mechanism can be moved by hand and the wheel can be removed.

- ⓘ Before doing so, check the compressed-air supply and try to resolve the fault by switching the machine off and on again.

1. Press the unlocking button and simultaneously insert a screwdriver into the left side of the casing.
 - ⇒ The tie rod will move to the right.



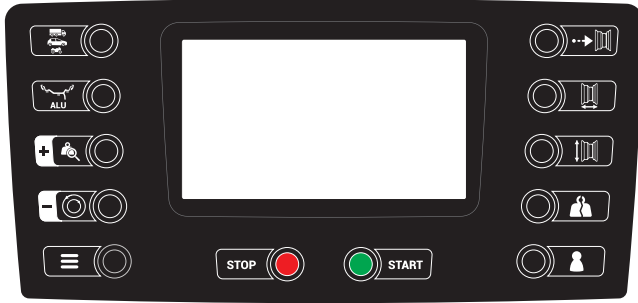
2. Pull the spacer plate off the shaft supporting the wheel with one hand.
3. Pull the wheel off the shaft.

- ⓘ When the machine is switched on after the wheel has been forcibly removed, the flange will stay disengaged until the pedal for locking is operated again.

- ❗ If the fault persists, contact customer service.

7. Operation

7.1 Control keys



pannello di comando_BM

Fig. 57: Digital control panel

Key	Denomination	Description
	<VEHICLE>	Selects the vehicle type: Truck, passenger car or motorcycle
	<ALU>	Opens the balancing program, select by means of <-> or <+>.
	<+>	<ul style="list-style-type: none"> Changes the values Selects the balancing program
	<->	
	<END>	<p>With the OSD function active (standard): After the key is pressed, selection of static and dynamic imbalance optimization is displayed based on the type of vehicle to be balanced.</p> <p>With the OSD function inactive: Display of the exact, non-rounded imbalance value measured.</p>
	<OPT>	When displaying the imbalance: Opens the match program (minimize imbalance).
	<MENU>	<ul style="list-style-type: none"> Accesses the setting menus. Accesses the calibration menu. Access to the submenus. Concluding confirmation of the selected setting. Confirms completion of the phases for calibration, "OPT".
	<RIM DISTANCE>	Displays the distance of the rim from the MT ZERO 6 LCD.
	<RIM WIDTH>	Displays the rim width.
	<RIM DIAMETER>	Displays the rim diameter.

Key	Denomination	Description
	<SPLIT>	<ul style="list-style-type: none"> Opens the SPLIT program. Cancels the SPLIT program mode.
	<USER>	Change of user.
	<START>	<ul style="list-style-type: none"> Starts the measurement process. Selects the balancing plane.
	<STOP>	<ul style="list-style-type: none"> Ends measurement. Ends the menu.

7.2 Display

The wheel balancing machine is equipped with a TFT display on which the information regarding the balancing parameters is displayed. The displays will vary depending on the working phase.

The position of the content on the most important screens is shown in the following. The following sections contain a detailed description of the device's operation.

After the MT ZERO 6 LCD is switched on, the basic screen for balancing appears.

7.2.1 Basic balancing screen

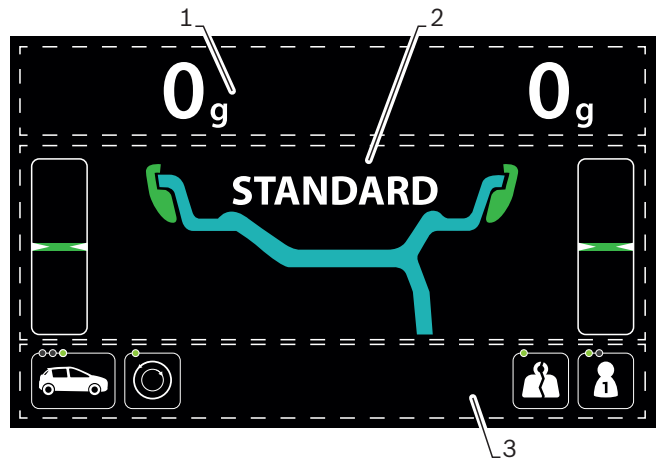


Fig. 58: Basic balancing screen

- 1 Display of the weights required for balancing
- 2 Display of the balancing procedure for the assigned program
- 3 Status area with display of possible functions

7.2.2 Data collection screen

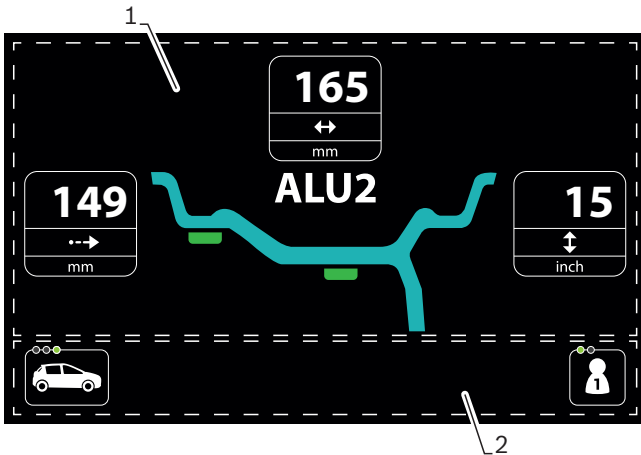


Fig. 59: Data collection screen

- 1 Display of rim data and balancing program
- 2 Status area with display of user and vehicle type

8. Balancing the wheel

8.1 Important notes on balancing



DANGER – incorrectly balanced wheels!




Risk of injury due to changes in vehicle handling characteristics.

- The MT ZERO 6 LCD must rest on a flat surface and be firmly bolted to the ground.
- The specified flange must be fitted to a clean and grease-free machine shaft.
- Use the specified accessories (cone, spacer rings).
- The rim must make proper contact with the flange. Remove any dirt.
- If many corrections are needed to calculate and position the balance weights, calibrate the wheel balancing machine.
- Perform a verification measurement after attaching balance weights.

Designations used:

Denomination	Description
Distance	Distance between the rim and the MT ZERO 6 LCD
Rim diameter	Measured wheel diameter or rated wheel diameter specified on the rim
Rim width	In the standard programs, this value corresponds to rim width, for ALU2 (PAX2) and ALU3 (PAX3), it corresponds to the distance between the 2 balancing planes.
1st balancing plane = weight on inside	Balance weight nearest to the rim-distance gauge in resting position.
2nd balancing plane = weight on outside	Balance weight farthest from the rim-distance gauge in resting position.

Tab. 1: Designations used

-  The balancing plane is the plane on which the balance weight is attached.
-  The position of the balancing planes depends on which program is selected.
-  Static balancing is recommended for wheels with a rim width of less than 3.5". In this case, only the rim diameter value is entered.

i The current settings for attachment of an adhesive balance weight (see "Attaching adhesive balance weights" section) only apply to PAX2 and ALU2 (inside and outside) as well as ALU3 (outside). Otherwise, always attach the adhesive and clip-on balance weights at the 12-o'clock position.

i In this description, the audible signal for confirming position detection is active.

! When acquiring/entering the rim data, hold the handle of the electronic rim-distance gauge correctly and put it in the rest position manually to avoid errors during balancing.

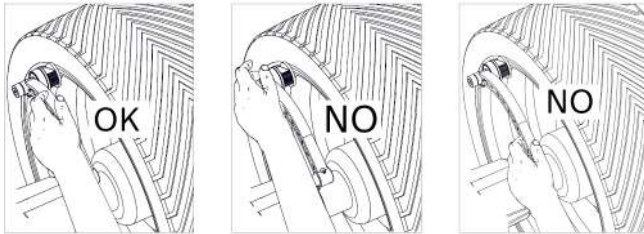


Fig. 60: Correct handling of the electronic rim-distance gauge

8.2 Working range



DANGER – risk of injury when the wheel is turning!

Danger of crushing limbs to persons in the restricted area when the wheel is turning.

- When the wheel is turning, the operator must stay in the work area.
- No personnel is permitted in the restricted area while the wheel is turning.
- Make sure the rotation of the wheel is not impaired by tools or other objects.

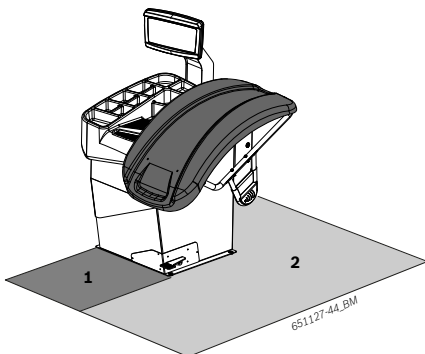


Fig. 61: Definition of work area

- 1 Area that can be occupied during a measurement
- 2 Area restricted during a measurement

8.3 Basic wheel balancing procedure

Perform the following steps to complete the balancing process of a wheel properly:

1. Switch on the MT ZERO 6 LCD.
2. Select the type of vehicle.
3. By using the automatic selection, determine the rim data with the balancing program.
4. Manual change of the balancing program (optional).
5. Measure imbalance.
6. Minimize imbalance (optional).
7. Apply split program (optional).
8. Attach balance weights.
9. Perform reference measurement.

i The various phases are described in detail in the following.

8.4 Selecting the type of vehicle

The MT ZERO 6 LCD is able to balance the wheels of passenger cars, trucks and motorcycles.

i To balance motorcycle wheels, additional, special wheel attachment flanges must be fitted.



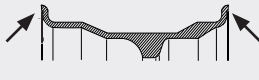



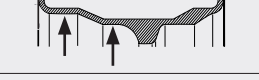
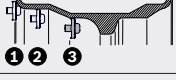
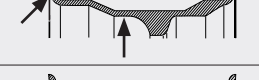











- Press the <VEHICLE> key repeatedly until the vehicle type to be balanced appears on the display.

i The symbol for the vehicle is always displayed at the bottom left on the screen.

Symbols	Description
	Symbol for trucks
	Symbol for motorcycles
	Symbol for passenger cars

i When the wheel balancing machine is switched on, the passenger car symbol will be selected by default.

8.5 Balancing programs overview

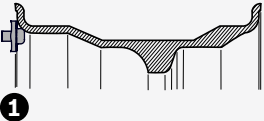
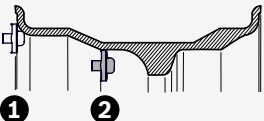
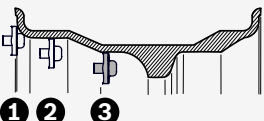
Balance weight position	Balancing program	Measurement locations	Inside weight	Outside weight	Preferred for rims made of		
	Standard		Clip-on balance weight	Clip-on balance weight	Steel	x	x
	Alu1 Pax1		Adhesive balance weight	Adhesive balance weight	Alloy Pax rim	x	x
	Alu2 Pax2		Adhesive balance weight	Adhesive balance weight	Alloy Pax rim	x	–
	Alu3		Clip-on balance weight	Adhesive balance weight	Alloy	x	–
	Alu4		Clip-on balance weight	Adhesive balance weight	Alloy	x	–
	Alu5		Adhesive balance weight	Clip-on balance weight	Alloy	x	–
	Static1		Clip-on balance weight		Steel	x	x
	Static2		Adhesive balance weight		Alloy	x	x
	Static3		Adhesive balance weight		Alloy	x	x

Tab. 2: Balancing programs overview

 See the following sections for the procedures of attaching adhesive and clip-on balance weights.

8.6 Automatic balancing program selection

The MT ZERO 6 LCD automatically selects the 3 standard balancing programs, **ALU2** and **ALU3**. Of the 3 programs, one is selected based on the number of points acquired by the electronic rim-distance gauge.

Number of measurement points	Automatically selected program
1	Standard 
2	ALU3 
3	ALU2 

! To prevent damage to the electronic rim-distance gauge, always move it to the rest position by hand.

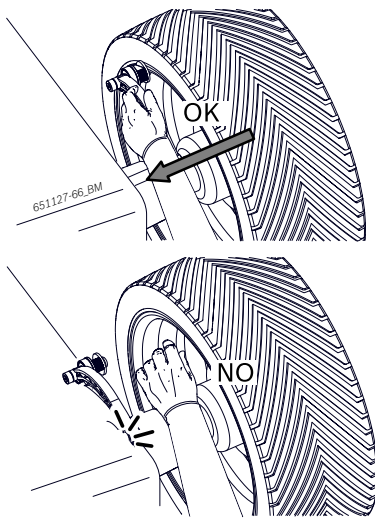


Fig. 62: Moving the electronic rim-distance gauge to the rest position by hand

i After the electronic rim-distance gauge has been moved to its rest position and the dimensions have been measured by the program, the process can be repeated if necessary. The process can be carried out for imbalance measurement until the first start.

- Take the electronic rim-distance gauge and approach the centering flange.
 ⇨ The monitor will show the following screen.

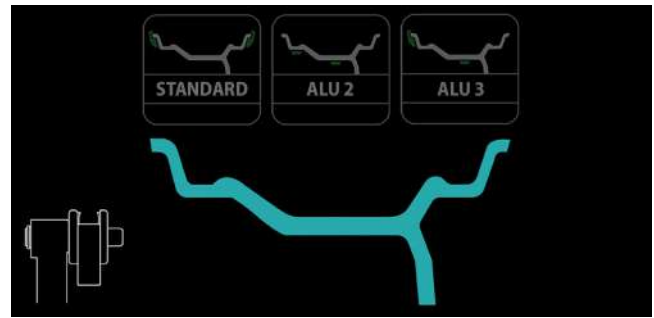


Fig. 63: Display for automatic selection

i Follow the instructions on the monitor if applicable. The software will respond directly to movement of the electronic rim-distance gauge and provide immediate feedback to the user.

- Position the electronic rim-distance gauge that measures the distance and diameter of the rim on the rim flange and keep it in that position for a second.

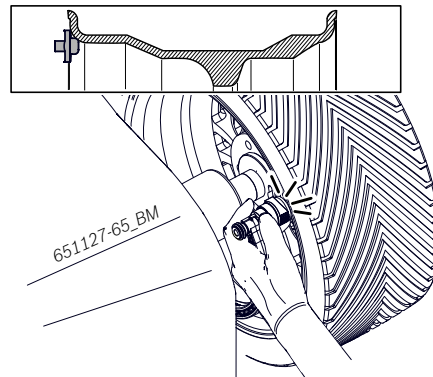


Fig. 64: Determining the 1st measurement point and 1st balancing plane for Standard and ALU3

⇨ An audible signal will confirm that the position has been acquired.

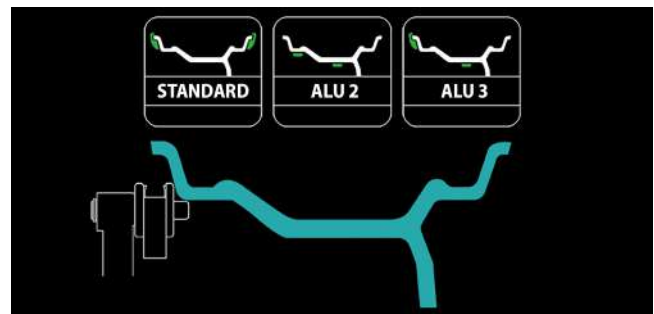


Fig. 65: Showing the 1st measurement point on the display

i If the electronic rim-distance gauge is returned to its rest position, the data collection screen will be shown and the **Standard** balancing program will be selected automatically.
 For **ALU2** and **ALU3**, proceed with the following steps without moving the rim-distance gauge to its rest position.

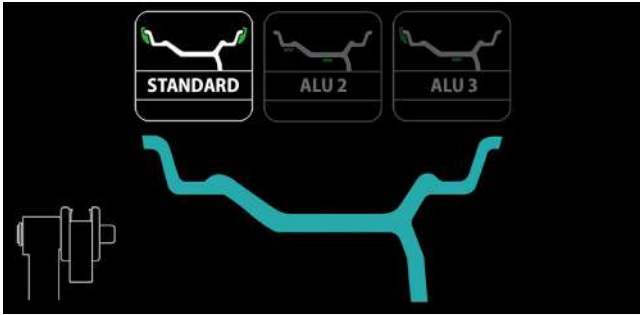


Fig. 66: Selecting the standard program

3. Position the electronic rim-distance gauge at the 2nd measurement point (without previously moving the electronic rim-distance gauge to its rest position), and keep it in that position for 1 second.

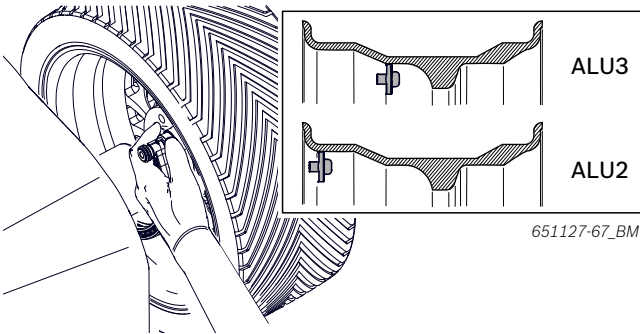


Fig. 67: 2nd measurement point and 2nd balancing plane for ALU3
 2nd measurement point and 1st balancing plane for ALU2

⇒ An audible signal will confirm that the position has been acquired.

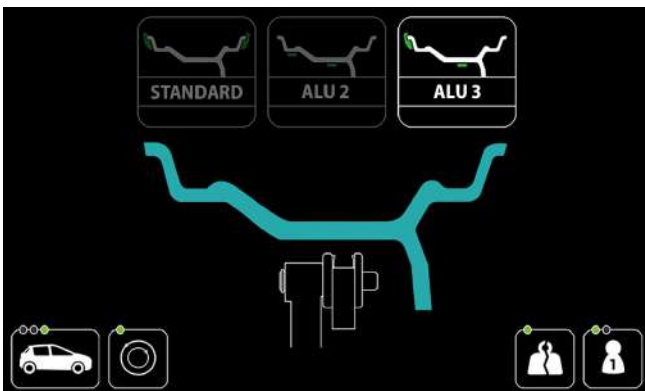


Fig. 68: Showing the 2nd measurement point for ALU3 on the display

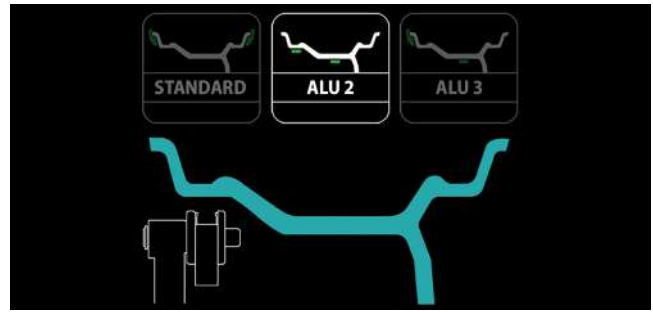


Fig. 69: Showing the 2nd measurement point for ALU2 on the display

i If the electronic rim-distance gauge is returned to its rest position, the data collection screen will be shown and the **ALU3** balancing program will be selected automatically.

For **ALU2**, proceed with the following steps without moving the rim-distance gauge to its rest position.

4. Position the electronic rim-distance gauge at the 3rd measurement point (without previously moving the electronic rim-distance gauge to its rest position), and keep it in that position for 1 second.

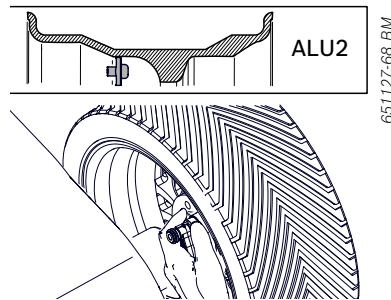


Fig. 70: 3rd measurement point and 2nd balancing plane for ALU2

⇒ An audible signal will confirm that the position has been acquired.

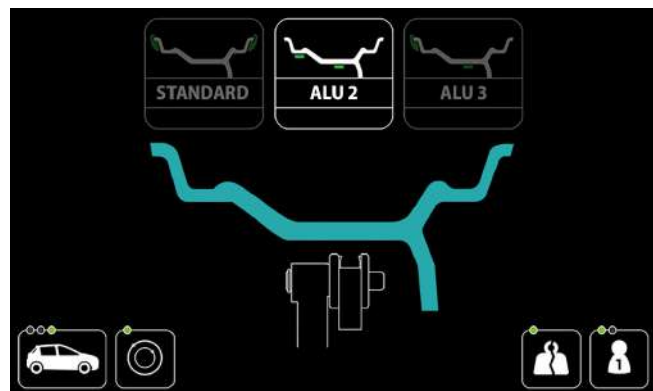


Fig. 71: Showing the 3rd measurement point for ALU2 on the display

i If the electronic rim-distance gauge is returned to its rest position, the data collection screen will be shown and the **ALU2** balancing program will be selected automatically.

8.7 Manual balancing program selection

1. Press the <ALU> key.
2. Press the <+> or <-> key to scroll through the available programs until the desired program is displayed.
 - ⇒ The programs appear on the display above the wheel profile.

i The program used last is always saved.

8.8 Acquiring rim data automatically

The data collection screen opens immediately following automatic selection of the program; the data recorded in the preceding phase and the required balancing program are displayed here.

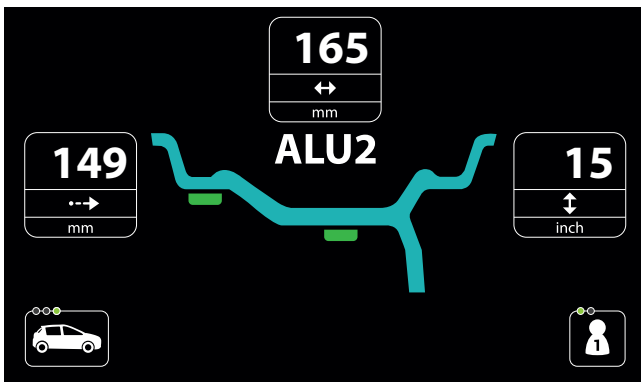


Fig. 72: Example of a data collection screen

Symbols	Description
	Distance between the rim and the wheel balancing machine
	Rim width
	Rim diameter

i The data collected can be changed manually.

i After the electronic rim-distance gauge has been removed, the screen for automatic balancing program selection will be shown again. That way, the dimensions can be measured again.

8.8.1 Standard, ALU1 (PAX1), ALU4, ALU5 and all static balancing programs

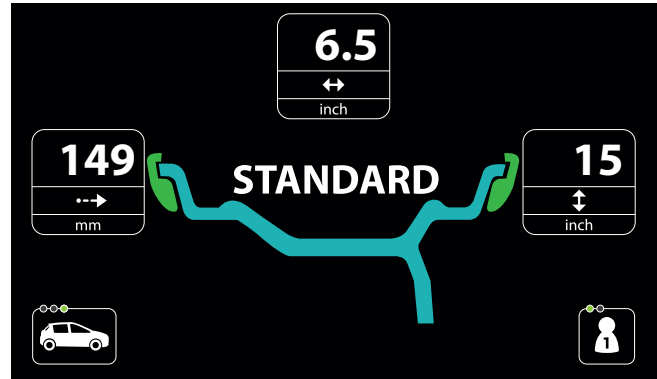


Fig. 73: Example of a data collection screen for static balancing programs

Distance and rim diameter

After the automatic selection of the balancing program, all input boxes will be automatically filled in.

i To change the values recorded for the various menu items, press the <RIM DISTANCE> or <RIM DIAMETER> key and scroll through the numerical values to the desired value with the aid of the <+> or <-> key.

Rim width

i The rim width can be measured electronically by sonar for the standard programs. See the "Technical data" section for specifications on the sensing range of the sonar probe.

i The data is automatically collected when the wheel guard is lowered to activate the start of the imbalance measurement or when the <START> key is pressed while the protective hood is already closed.

The input box will be gray to indicate that the data has not yet been collected.

i The data present before the protective hood has been lowered does not refer to the wheel currently attached.

8.8.2 ALU2 (PAX2) and ALU3

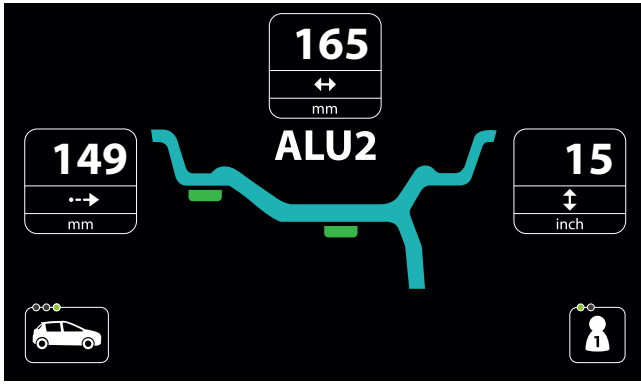


Fig. 74: Example of a data collection screen for ALU2 programs

Distance, rim diameter and rim width

After the automatic selection of the balancing program, all input boxes will be automatically filled in.

i To change the values recorded for the various menu items, press the **<RIM DISTANCE>**, **<RIM DIAMETER>** or **<RIM WIDTH>** key and scroll through the numerical values to the desired value with the aid of the **<+>** or **<->** key.

8.9 Manual rim data measurement

i If the rim distance and rim diameter cannot be measured electronically, the rim data can also be entered manually.

i Following deactivation of the electronic rim-distance gauge, take the following steps to enter the rim distance and rim diameter.

- Press the **<RIM DISTANCE>**, **<RIM DIAMETER>** or **<RIM WIDTH>** key.
- ⇒ The data collection screen is displayed.

8.9.1 Standard, ALU1 (PAX1), ALU4, ALU5 and all static balancing programs

Distance

1. Select balancing program.
2. Position the rim-distance gauge on the rim and read off the value at position "K" on the millimeter scale.

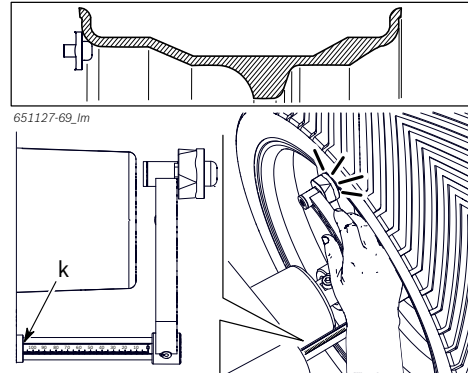


Fig. 75: Determining the distance between the rim and the MT ZERO 6 LCD

3. Press the **<RIM DISTANCE>** key to change the value.
4. Use the **<+>** or **<->** key to enter the recorded value.

Rim diameter

i The rim diameter can be determined (read off) at the rim itself or measured with the measuring compass.

1. Position the measuring compass as shown in the figure.

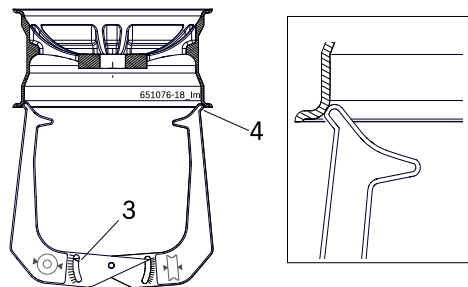


Fig. 76: Determining rim data with the measuring compass

- 3 Rim diameter scale
- 4 Outer tip for rim diameter Server

2. Read off the rim diameter.
3. Press the **<RIM DIAMETER>** key to change the value.
4. Use the **<+>** or **<->** key to enter the recorded value.

Rim width

1. Position the measuring compass as shown in the figure.

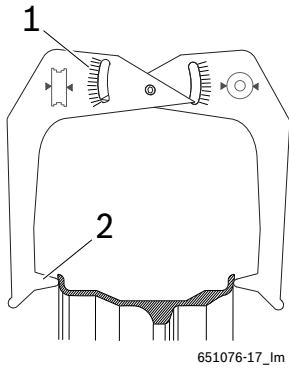


Fig. 77: Determining rim data with the measuring compass

- 1 Rim width scale
- 2 Inner tip for rim width

2. Read off the rim width.
3. Press the **<RIM WIDTH>** key to change the value.
4. Use the **<+>** or **<->** key to enter the recorded value.


→ All the necessary rim data have been recorded.

8.9.2 ALU2 (PAX2), ALU3

Distance and rim diameter

Identical to the manual measurement for the Standard, ALU1, ALU4, ALU5 and PAX1 balancing programs as well as all static balancing programs.

Rim width (distance between the two balancing planes)

 The manual rim-distance gauge can be used to determine the rim width (distance between the two balancing planes) in the Alu2, Alu3 and Pax2 balancing programs and to easily position and attach the adhesive balance weights.

1. Select balancing program.

2. Position the slide with stop of the weight positioning gauge (8) on the bead of the rim.

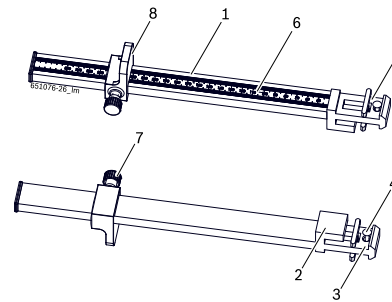


Fig. 78: Weight positioning gauge

- 1 Weight positioning gauge handle
- 2 Weight positioning gauge head
- 3 Inside balance weight holder
- 4 Ejector
- 5 Outside balance weight holder
- 6 Millimeter scale
- 7 Knurled screw
- 8 Weight positioning gauge slide with stop

3. Place the outside balance weight holder (5) on the plane where the balance weights are to be attached.

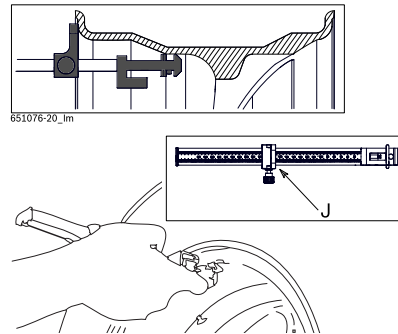





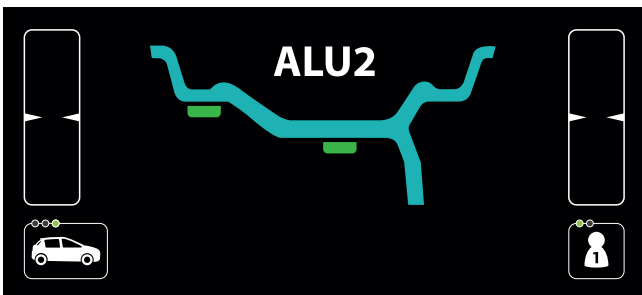
Fig. 79: Determining the measurement for an adhesive balance weight


4. Tighten the knurled screw (7) to lock the determined position.
5. Read off the value "J" on the millimeter scale.
6. Press the **<RIM WIDTH>** key to change the value.
7. Use the **<+>** or **<->** key to enter the recorded value.


→ All the necessary rim data have been recorded.

8.10 Measuring imbalance


-  A wheel can only be balanced correctly if all the settings correspond to the mounted wheel.
 -  In the following description, automatic start is active.
 -  The measurement can be canceled at any time by pressing the **<STOP>** key.
1. Close the wheel guard.
 - ⇒ The balancing measurement will start automatically if automatic start is set. If it does not, press **<START>**.
 - ⇒ The following screen will appear.




-  If the Standard, ALU1 (PAX1), ALU4, ALU5 program or any static balancing program is used, the rim width will be acquired when the protective hood is lowered for activation of start.
2. On completion of measurement, the values of the balance weights required are shown on the display:
 - At the upper left for the internal balancing planes.
 - At the upper right for the external balancing planes.

-  By default, grams are set as the unit for the balance weight values. The user settings menu can be used to change to ounces.

3. Only open the wheel guard after the wheel has come to a complete stop.

-  If the wheel imbalance measured is severe (e.g. a static imbalance greater than 50 g), it is advisable to carry out the optimization procedure that uses the static imbalance of the rim to compensate for the static imbalance of the tire (see "Imbalance minimization" section).

-  With the non-standard programs (ALU2, ALU3, Pax2), the function for splitting the balance weights (split program) can be used to hide the outside balance weight behind the spokes. (See the "Splitting the balance weights (split program)" section.)

8.11 Attaching balance weights

The display shows the basic balancing screen with the value of the balance weights to be attached based on the entered and measured data and an indicator for positioning the balance weights.

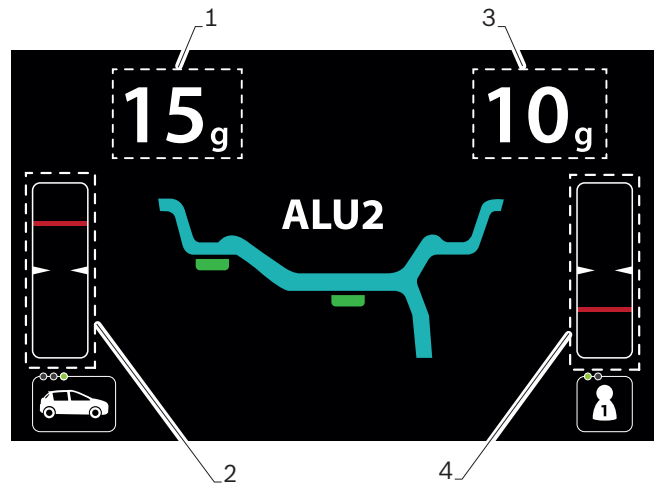


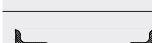




Fig. 80: Description of the balancing screen

- 1 Value of the balance weight to be attached on the first balancing plane
- 2 Indicator for positioning the balance weights of the first balancing plane
- 3 Value of the balance weight to be attached on the second balancing plane
- 4 Indicator for positioning the balance weight for the second balancing plane


8.11.1 Overview of tools for attaching the balance weights


Balance weight position	Rim-distance gauge		Balance weight holder	
	Electronic	Manual		
		Rim flange	Rim well	
	–	–	–	OK
	OK	OK	–	–
	OK	–	OK	–
	–	OK	–	–


8.11.2 Positioning the wheel

 Easyfix® will support the attachment of adhesive balance weights in Alu2, Alu3 and Pax2 by locking the electronic rim-distance gauge once it reaches the balancing plane. Easyfix® does not support all of the standard programs.

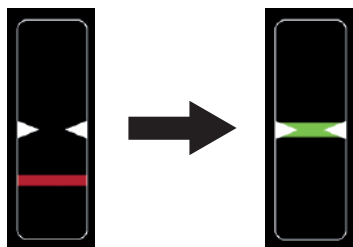
With automatic positioning

 For certain markets, some versions of the wheel balancing machine are equipped with an automatic wheel positioning and securing system for attaching the balance weights. With those versions, the machine will position the wheel automatically and the operator need only attach the balance weights.

 After the start of the imbalance measurement, the flange will slow to count the spokes (this function is active by default) and to position itself on the first balancing plane.

 Always make sure the rotation of the wheel is not impaired by tools or other objects.


- The wheel will automatically position itself on the first balancing plane at low speed.
 - ⇒ As soon as the correct position for attaching the balance weight is reached, the reference line for positioning is centered in the window at the left and displayed in green.




- ⇒ The balance weight to be attached is displayed at the upper left on the screen.
- Lift the protective hood fully.
 - Select a balance weight (clip-on or adhesive) of the required value.

Rim flange (ALU3 1st balancing plane and standard programs):


➤ Attach the clip-on balance weight and adhesive balance weights at the highest vertical position on the wheel (12 o'clock).

 Machine versions with an integrated laser indicator will direct a laser beam at the 12-o'clock position of the wheel. Position the balance weight at the center facing the indicator (see the "Attaching adhesive balance weights by laser indicator" section).

 For attaching clip-on balance weights, see the "Attaching the clip-on balance weights" section.

Attaching an adhesive balance weight in the rim well (ALU3 2nd balancing plane and ALU2, PAX2):

➤ Use the electronic rim-distance gauge to attach the adhesive balance weight using the weight positioning gauge or manually by following the integrated laser indicator.

 The way an adhesive balance weight is attached depends on the geometry of the electronic rim-distance gauge.

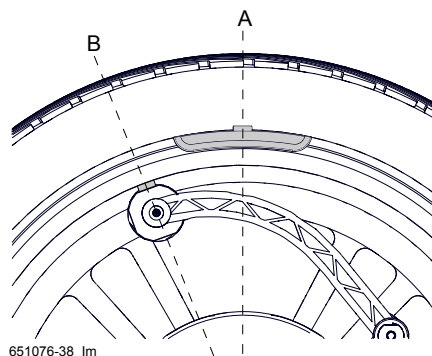






Fig. 81: Attaching an adhesive balance weight using the electronic rim-distance gauge


 For attaching adhesive balance weights using the electronic rim-distance gauge, see the "Attaching adhesive balance weights" sec.

 For attaching adhesive balance weights using the integrated laser indicator, see the "Attaching adhesive balance weights by laser indicator" section. The laser indicator will only be active if the attachment of the balance weight by electronic rim-distance gauge is deactivated.


4. Press the **<START>** key.
 - ⇒ The wheel will automatically position itself on the second balancing plane at low speed.
 - ⇒ As soon as the correct position for attaching the balance weight is reached, the reference line for positioning is centered in the window at the right and displayed in green. In addition, an audible signal sounds to confirm that the position is correct.
 - ⇒ The balance weight to be attached is displayed at the upper right on the screen.
5. Select a balance weight (clip-on or adhesive) of the required value.
6. Attach the balance weight according to the above instructions.


 For machine versions with external laser indicators, see the "Attaching adhesive balance weights by laser indicator" section.

-  The following happens when the **<START>** key is pressed again:
- The currently deactivated balancing plane is displayed.
 - The wheel will automatically position itself on the balancing plane selected.


 After the balance weights have been attached, the imbalance must be measured again to check the balance.

With manual positioning

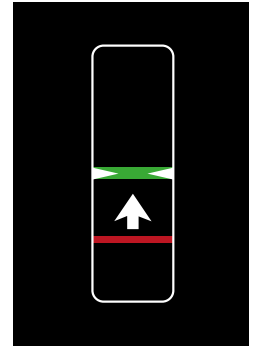
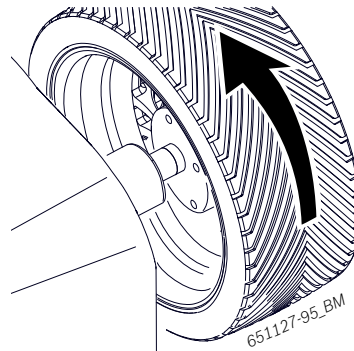
 On some versions for certain markets, automatic positioning is not available. The following instructions apply even if that function is deactivated.

 Before positioning, wait for the wheel to come to a stop.

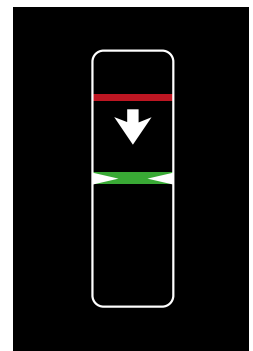
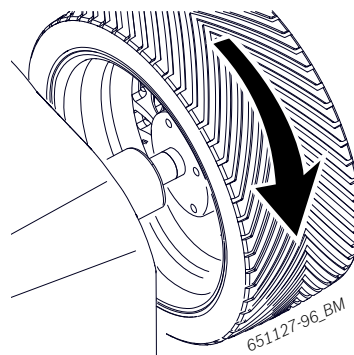
1. Lift the protective hood fully.

 The software suggests the closest lying balanced plane and displays the corresponding weight value on the screen.

2. Rotate the wheel by hand until the reference line is in the center of the window.
 - ⇒ The line moves up when the wheel is rotated clockwise.




- ⇒ The line moves down when the wheel is rotated counterclockwise.





3. Select a balance weight (clip-on or adhesive) of the required value.

Rim flange (ALU3 1st balancing plane and standard programs):

➤ Attach the clip-on balance weight and adhesive balance weights at the highest vertical position on the wheel (12 o'clock).

 Machine versions with an integrated laser indicator will direct a laser beam at the 12-o'clock position of the wheel. Position the balance weight at the center facing the indicator (see the "Attaching adhesive balance weights by laser indicator" section).

 For machine versions with external laser indicators, see the "Attaching adhesive balance weights by laser indicator" section.

 For attaching clip-on balance weights, see the "Attaching the clip-on balance weights" section.

Attaching an adhesive balance weight in the rim well (ALU3 2nd balancing plane and ALU2, PAX2):

- Attach the adhesive balance weight using the electronic rim-distance gauge or the weight positioning gauge.

ⓘ The way an adhesive balance weight is attached depends on the geometry of the electronic rim-distance gauge.

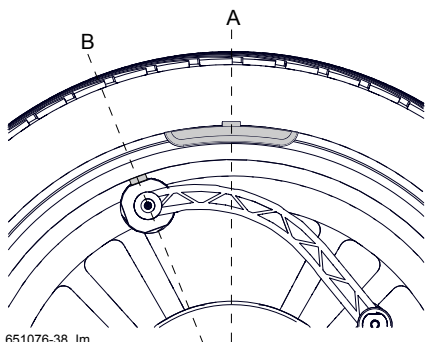


Fig. 82: Attaching an adhesive balance weight using the electronic rim-distance gauge

ⓘ For attaching adhesive balance weights using the electronic rim-distance gauge, see the "Attaching adhesive balance weights" sec.

ⓘ For attaching adhesive balance weights using the integrated laser indicator, see the "Attaching adhesive balance weights by laser indicator" section. The laser indicator will only be active if the attachment of the balance weight by electronic rim-distance gauge is deactivated.

4. Use the same procedure for the remaining balancing plane.

ⓘ After the balance weights have been attached, the imbalance must be measured again to check the balance.

8.11.3 Splitting balance weights (split program)

With the non-standard programs (ALU2, ALU3, Pax2), the balance weight for the second balancing plane can be hidden behind the spokes.

ⓘ Start the "SPLIT" program while the second balancing plane is active.

The screen for splitting the weights is shown in the following.

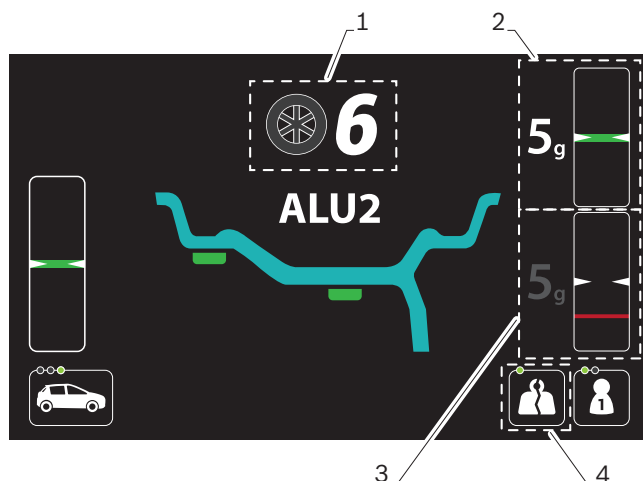


Fig. 83: Description of the "Split" screen

- 1 Number of spokes detected or set
- 2 Value of the balance weight and reference mark of the position for attaching behind the first spoke
- 3 Value of the balance weight and reference mark of the position for attaching behind the second spoke
- 4 SPLIT program symbol activated

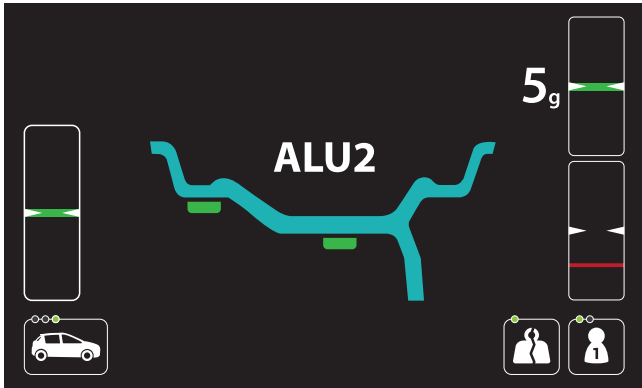
The wheel balancing machine is equipped with an ASD function for automatic spoke detection, which is active by default. Detection will be carried out automatically after the first start for the imbalance measurement.

ⓘ Automatic detection will require more time during the start than standard detection. If the function is not needed, it can be deactivated in the user settings menu.

1. Press the <SPLIT> key to activate the function.
 - ⇒ The screen for the function is displayed.
 - ⇒ The number of spokes is displayed at the top of the screen.

ⓘ If the function "ASD - Automatic spoke detection" is deactivated or if the value displayed on the screen needs be changed, enter the correct number of spokes with the aid of the <+> or <-> keys.

- ! Make sure the rotation of the wheel is not impaired by tools or other objects.
- 2. Rotate wheel until one spoke is in the 12 o'clock position and press the <SPLIT> key.
 - ⇒ The position of the spoke is now saved.
 - ⇒ The value of the number of spokes is hidden.
 - ⇒ The windows for positioning the weights appear on the screen.
 - ⇒ The values required for the balance weights are shown on the screen at the right next to the windows for positioning.

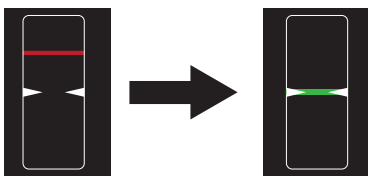


i The value of the balance weight and the positioning reference for attachment behind the second spoke will remain deactivated during this initial phase.

i On machine versions with an integrated laser indicator, it is possible to precisely indicate the positioning of the spoke at the 6-o'clock position instead of the 12-o'clock position after the function has been activated.

i To close the balancing screen for the "split" function and return to the basic screen, press the <SPLIT> key.

- 3. The wheel will automatically position itself in the first position for attaching a balance weight behind a spoke at low speed.
 - ⇒ As soon as the correct position for attaching the balance weight is reached, the reference line for positioning is centered in the window at the top and displayed in green.



- ⇒ The value of the balance weight is shown next to the window.

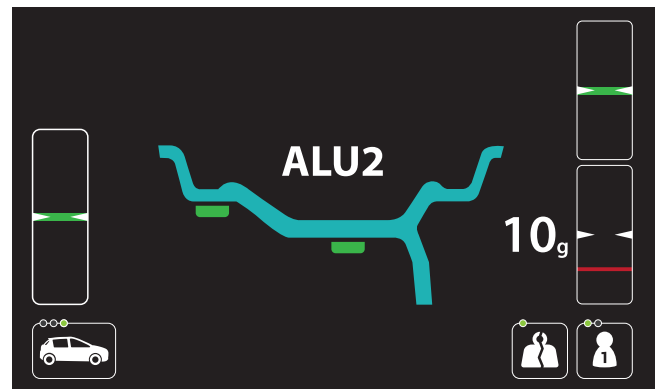
i Some machine versions require the wheel to be positioned manually according to the instructions shown on the display.

- 4. Attach the adhesive balance weight of the correct value using the electronic rim-distance gauge.
 - ⇒ Attach the balance weight behind the first spoke.

i For attaching adhesive balance weights using the integrated laser indicator, see the "Attaching adhesive balance weights by laser indicator" section. The laser indicator will only be active if the attachment of the balance weight by electronic rim-distance gauge is deactivated.

i For attaching adhesive balance weights, see the "Attaching adhesive balance weights" section.


- 5. Press the <START> key.
 - ⇒ The value of the balance weight to be attached in the second position behind the spoke will be activated.
 - ⇒ The value of the balance weight to be attached in the first position behind the spoke will be deactivated.





- 6. The wheel will automatically position itself in the second position for attaching a balance weight behind a spoke at low speed.
 - ⇒ As soon as the correct position for attaching the balance weight is reached, the reference line for positioning is centered in the window at the bottom and displayed in green.
 - ⇒ The value of the balance weight is shown next to the window.


i Some machine versions require the wheel to be positioned manually according to the instructions shown on the display.

7. Attach the adhesive balance weight of the correct value using the electronic rim-distance gauge.
 - ⇒ Attach the balance weight behind the second spoke.

 For attaching adhesive balance weights, see the "Attaching adhesive balance weights" section.

 For attaching adhesive balance weights using the integrated laser indicator, see the "Attaching adhesive balance weights by laser indicator" section. The laser indicator will only be active if the attachment of the balance weight by electronic rim-distance gauge is deactivated.

 To close the "SPLIT" program and return to the display of just one balance weight, press the <SPLIT> key again.

 After the balance weights have been attached, the imbalance must be measured again to check the balance.

8.12 Attaching the clip-on balance weights

The clip-on balance weights are shown on the screen as explained below.

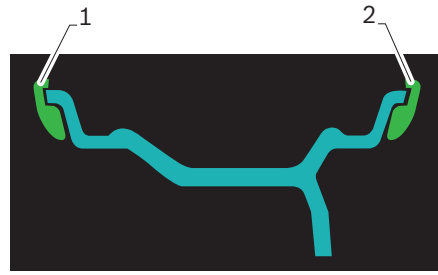



Fig. 84: Display of the clip-on balance weights

- 1 Weight on the inside of the rim (facing toward the wheel balancing machine)
- 2 Weight on the outside of the rim (facing toward the outside)

 Use the balance weight pliers to position the clip-on balance weights.

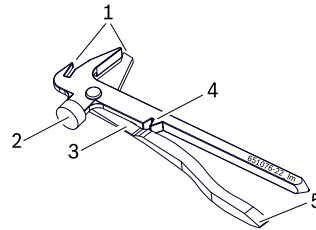


Fig. 85: Balance weight holder

- 1 Tip to remove the clip-on balance weight
- 2 Hammer for attaching the balance weight to the rim
- 3 Shears for trimming the adhesive balance weights
- 4 Recess for pressing in the clip-on balance weight
- 5 Blade for scraping off the adhesive balance weights

1. As soon as the exact position for attaching the balance weight is reached, place the adhesive balance weight on the edge of the rim.
2. Attach the clip-on balance weight to the rim using the hammer end of the balance weight pliers (2).

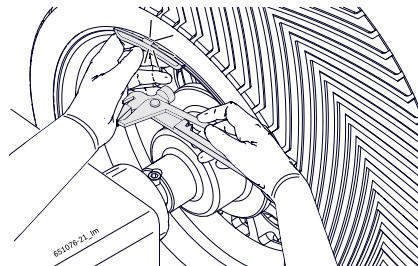



Fig. 86: Attaching a clip-on balance weight

 Use the tip (1) of the balance weight pliers to remove the adhesive balance weight.

8.13 Attaching adhesive balance weights

The adhesive balance weights are shown on the screen as explained below.

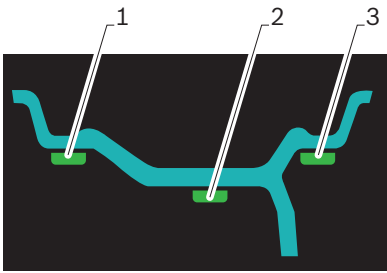


Fig. 87: Display of the adhesive balance weights

- 1 Adhesive balance weight inside the first rim well
- 2 Adhesive balance weight inside the second rim well
- 3 Adhesive balance weight outside

! Use the plastic spatula to remove the adhesive balance weight.

8.13.1 Overview of tools used

Balance weight position	Electronic	Rim-distance gauge	
		Internal balance-weight holder	External balance-weight holder
	OK	OK	-
	OK	-	OK
	-	OK	-

Tab. 3: Overview of tools used

8.13.2 With the electronic rim distance gauge

1. Insert the adhesive balance weight of the value required for balancing into the associated mount on the electronic rim distance gauge.
2. Remove the electronic rim distance gauge towards the balancing position, and wait for the acoustic confirmation.
 - ⇒ The electronic rim distance gauge will be locked in that position.
 - ⇒ The weight symbol is now green instead of yellow.
3. Turn the electronic rim distance gauge, and attach the balance weight by pushing firmly to make it adhere properly.

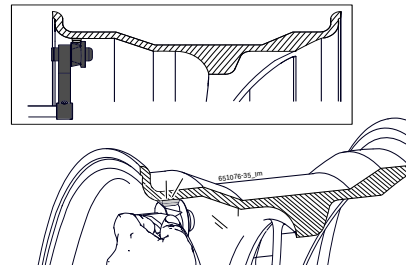


Fig. 88: ALU2 – attaching an adhesive balance weight in the 1st balancing plane

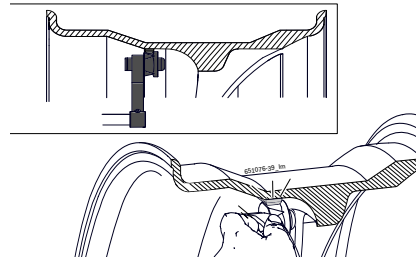


Fig. 89: ALU3 – ALU2 – attaching an adhesive balance weight in the 2nd balancing plane

8.13.3 With manual vernier caliper

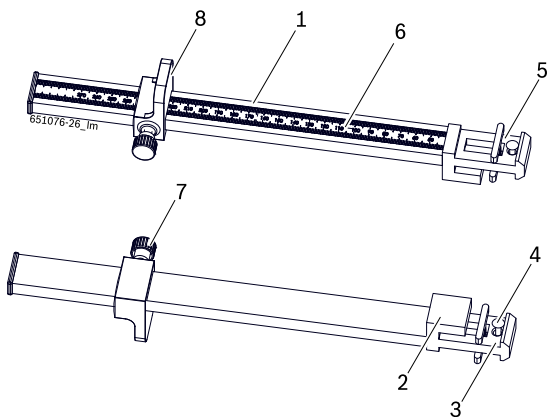


Fig. 90: Manual vernier caliper
Top: adjustable limit stop for well
Bottom: fixed limit stop for rim bead

- 1 Manual vernier caliper
- 2 Fixed limit stop
- 3 Insert for adhesive balance weight on rim bead
- 4 Ejector
- 5 Insert for adhesive balance weight in well
- 6 Millimeter scale
- 7 Knurled screw
- 8 Adjustable limit stop

Fastening the adhesive balance weight to the bead of the rim

(ALU3 1st balancing plane and standard programs):

1. Put the adhesive balance weight in the insert for the adhesive balance weight on the rim bead.

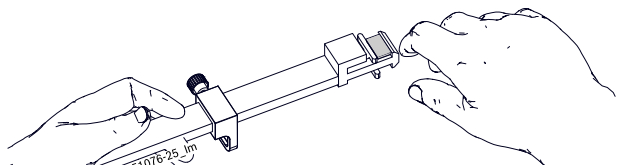
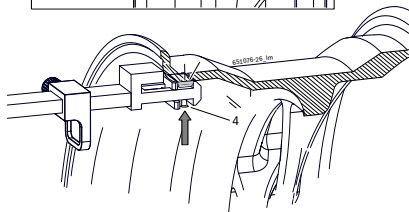
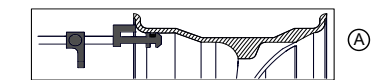


Fig. 91: Put the adhesive balance weight in the insert on the rim bead

2. Position the fixed limit stop (2) on the bead of the rim.



3. Using the ejector (4), attach the adhesive balance weight and push forwards to ensure firm adhesion.

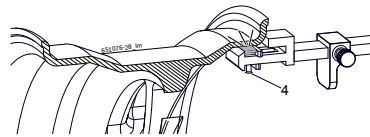
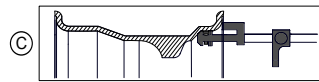


Fig. 92: Example of application - rim bead

- 1 Use the plastic spatula to remove existing adhesive balance weights.

Fastening the adhesive balance weight in the rim well (ALU3 2nd balancing plane and ALU2, PAX2):

- 1 The position of the adhesive balance weight is determined by dimension "J" of the balancing plane previously established.

1. Place the required adhesive balance weight in the insert for the adhesive balance weight in the rim well (5).

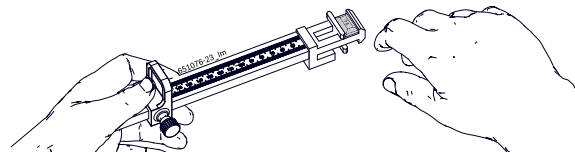


Fig. 93: Place the adhesive balance weight in the insert in the rim well

2. Position the adjustable limit stop (8) on the bead of the rim.
3. Using the ejector (4), attach the adhesive balance weight and push forwards to ensure firm adhesion.

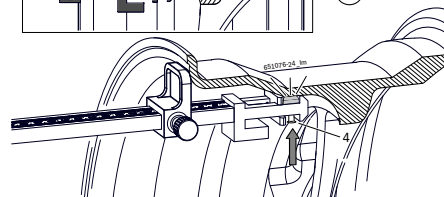
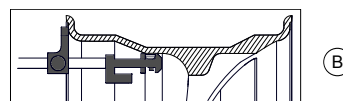
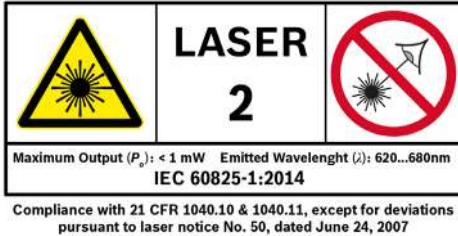


Fig. 94: Attach the adhesive balance weight in the rim well

8.14 Attaching adhesive balance weights by laser indicator

Some machine versions are equipped with a lighting system and a laser indicator to determine the the position for attaching the balance weight as quickly as possible.



DANGER – LASER RADIATION!

Risk of severe eye injury by exposure of the eyes to the laser beam (more than 0.2 seconds)

- Read the safety instructions in the "Safety standards for the use of the position indicator laser beam" section.

! The integrated laser indicator for attaching balance weights will only be active if attachment by electronic rim distance gauge is deactivated (see the "Machine settings menu" section).

i The laser indicator will be activated once the wheel is at rest in a balancing plane for attaching the balance weight.

Inside rim flange (ALU3 1st balancing plane and standard programs)

- A laser beam will be directed at the 12-o'clock position of the wheel. Attach the balance weight at the center facing the indicator.

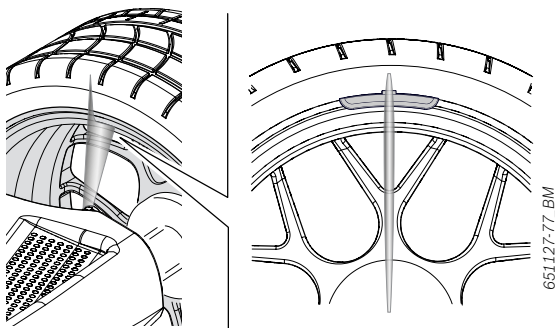


Fig. 95: Laser beam projection on the rim flange

i For attaching clip-on balance weights, see the "Attaching clip-on balance weights" section.

Attaching an adhesive balance weight in the rim well (ALU3 2nd balancing plane and ALU2, PAX2)

- A laser beam will be directed at the 6-o'clock position of the wheel. This is the exact location for attaching the balance weight.

i Attach the edge of the balance weight at the center facing the indicator.

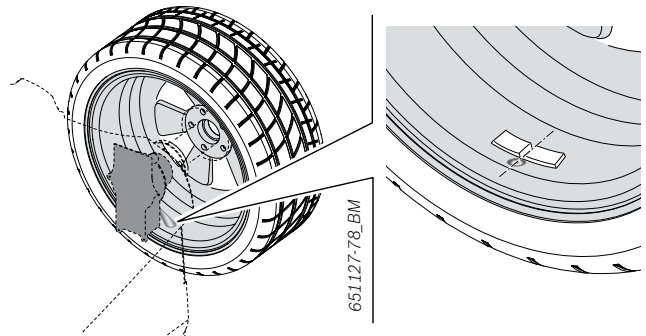


Fig. 96: Laser beam projection on the first balancing plane for ALU2

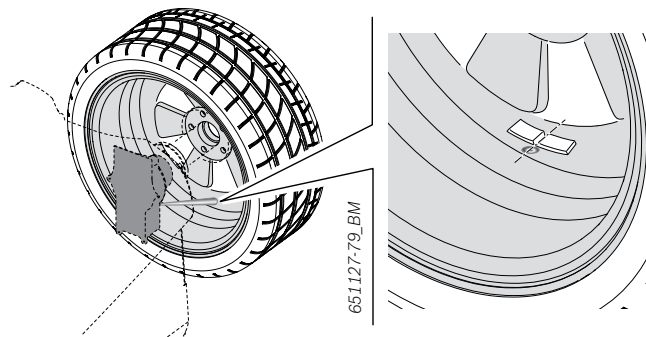


Fig. 97: Laser beam projection on the second balancing plane for ALU2 and ALU3

i The laser beam projection on the second balancing plane is used in the same way for the SPLIT program. The only difference is that the balance weight is attached behind a spoke.

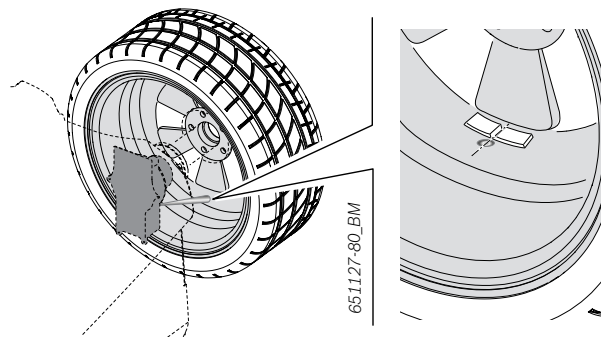


Fig. 98: Laser beam projection in the SPLIT program

Outside rim flange (ALU3 1st balancing plane and standard programs)

- A laser beam will be directed at the wheel. Attach the balance weight at the center facing the indicator.

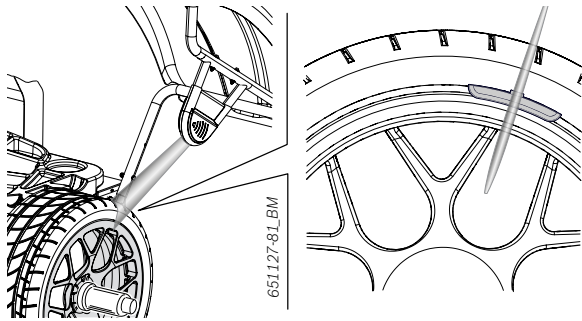


Fig. 99: Directing the laser beam at the rim flange

- ! Calibrate the device before its first use and subsequently according to the maintenance schedule.
- ! It is advisable to also calibrate the device whenever, during the balancing process, a great number of corrections is required for selecting and positioning the balance weights.
- i For the calibrating process, see the "External laser indicator calibration" section.
- i For attaching clip-on balance weights, see the "Attaching clip-on balance weights" section.

9. Imbalance minimization

If the measured imbalance of the wheel is severe (e.g. a static imbalance > 50 g), it is advisable to perform an "Imbalance minimization".

The program allows for the minimization of the total imbalance by compensating the static imbalance of the tire with that of the rim.

- ! Work as accurately as possible throughout the procedure!
- i Follow the instructions on the monitor.
- i The matching program can be terminated by pressing the <OPT> key.
- i In the following description, automatic start is active.

Phase 1

1. Press the <OPT> key to activate the function.
 - ⇒ The first screen with instructions will be shown.
2. Close the wheel guard.
 - ⇒ The measurement will start.

Phase 2

1. Turn the wheel until the tire valve is in the 12-o'clock position.
2. Press the <MENU> key.
 - ⇒ The reference position of the wheel will be saved on the first start.

Phase 3

1. Mark the tire for reference (at the position of the valve).
2. Remove the wheel from the flange.
- i In order to rotate the tire on the rim, it may be necessary to deflate it, unseat it (using a tire changing machine) and to re-inflate it after rotating.
3. Rotate the tire on the rim by 180 degrees so that the mark is across from the valve.
4. Re-assemble the wheel by fitting the tire correctly on the rim and inflating it to the specified pressure.

- ! Do not change the positioning of the valve across from the mark.

5. Attach the wheel to the wheel balancing machine.
6. Turn the wheel until the tire valve is in the 12-o'clock position.
7. Press the **<MENU>** key.
 - ⇒ The new position of the wheel on the flange will be saved.


Phase 4

- Close the wheel guard.
 - ⇒ The measurement will start.

Phase 5

The following values will be measured:


- Current Imbalance
- Run-out
- Tire imbalance
- Minimum possible imbalance

 After the values have been studied, further imbalance minimization is required.


1. Rotate the wheel by hand until the reference line is in the center of the window.
 - ⇒ The reference line is displayed in green.
2. Place a double mark on the tire (at the 12-o'clock position).
3. Press the **<MENU>** key.

Phase 6

1. Remove the wheel from the flange.

 In order to rotate the tire on the rim, it may be necessary to deflate it, unseat it (using a tire changing machine) and to re-inflate it after rotating.


2. Rotate the tire on the rim in such a way that the mark is at the same position as the valve.
3. Re-assemble the wheel by fitting the tire correctly on the rim and inflating it to the specified pressure.

 Do not change the positioning of the valve across from the mark.

4. Attach the wheel to the wheel balancing machine.
5. Turn the wheel until the tire valve is in the 12-o'clock position.
6. Press the **<MENU>** key.
 - ⇒ The new position of the wheel on the flange will be saved.


Phase 7

- Close the wheel guard.
 - ⇒ The measurement will start.

 If the test run is repeated, a message will appear on the monitor. In that case, proceed with minimization again (PHASE 5 onwards).

➔ On completion of the test run, the imbalance will be automatically compared to the minimum residual imbalance. If the difference between these two values is below the maximum permissible level, the tire and rim are optimally matched.


- Press the **<MENU>** key.
 - ⇒ Back to the basic balancing screen.

 If the test run is not properly completed, the entire procedure must be repeated (starting from PHASE 1).





10. Menu navigation

10.1 Menu access

- Press the <MENU> key.
 - ⇒ The first menu level will be called up.

 Access to the menus is allowed only from the basic machine screen. The "OPT" and "SPLIT" functions cannot be opened directly.

To navigate, follow the instructions in the table.

Key	Function
	Scrolling through the options
	
	<ul style="list-style-type: none"> • Access to the submenus. • Concluding confirmation of the selected setting.
	<ul style="list-style-type: none"> • Return to the previous menu level. • Exit the menu. Attention: Altered setting is stored nevertheless.

10.2 Settings menu

1. Press the <MENU> key.
 - ⇒ The first menu level will be called up.
2. Select the "Settings" menu item by navigating through the options with the aid of the <-> or <+> key.
3. Press the <MENU> key to confirm.
 - ➔ The second level of the menus for the settings is opened.

Item	Description
Language selection	List of languages available in the system
Screensaver	ON = Active OFF = Deactivated
Audible signal	ON = An audible signal sounds during acquisition of the measured data OFF = No audible signal sounds during acquisition of the measured data
Automatic start-up	ON = Start of measurement by closing wheel-guard hood OFF = Start of measurement by pressing the <START> key with wheel-guard hood closed
Unit for balance weight	g = Display in grams oz = Display in ounces
Display resolution for balance weight	1 g / 0.05 oz - Fine resolution 5 g / 0.25 oz - Standard resolution
"OSD" program for optimizing the static and dynamic wheel imbalance	ON = Active OFF = Deactivated

Item	Description
Tolerance for display value "0"	Entry of balance weight value below which the value "0" is to be displayed. Standard value: 5 g (0.15 oz) Maximum value: 25 g (1 oz) Wheelbase value: 0.5 g (0.05 oz)
Tolerance for display value of "0" when the "OSD" program is activated.	Balance weight input value below which the display value "0" should appear when the OSD program is activated. Standard value: 4 g (0.20 oz) Maximum value: 25 g (1 oz) Wheelbase value: 0.5 g (0.05 oz)

4. Make the desired changes.


 Press the <STOP> key to complete.

10.3 Calibration menu

1. Press the <MENU> key.
 - ⇒ The first menu level will be called up.
2. Select the "Calibration" menu item by navigating through the options with the aid of the <-> or <+> key.
3. Press the <MENU> key to confirm.
 - ⇒ The user is requested to enter a password.
4. Enter and confirm the password **2857**.
 - ➔ The calibration options are presented.

Item	Description
Calibrating the flange	Starts the process of calibrating the flange
Calibrating the rim-distance gauge/sonar probe	Starts the process of calibrating the electronic rim-distance gauge and the sonar probe
Calibrating the wheel imbalance	Starts the process of calibrating with wheel and balance weight

5. Open the desired process.

 The calibration process is described in the "Calibration" section.

 Press the <STOP> key to complete.

10.4 Statistics menu

1. Press the <MENU> key.
 - ⇒ The first menu level will be called up.
2. Select the "Display statistics" menu item by navigating through the options with the aid of the <-> or <+> key.
3. Press the <MENU> key to confirm.
 - ➔ The usage statistics are opened.

 Press the <STOP> key to complete.


10.5 Aids menu

1. Press the <MENU> key.
 - ⇒ The first menu level will be called up.
2. Select the "Aids" menu item by navigating through the options with the aid of the <-> or <+> key.
3. Press the <MENU> key to confirm.
 - ➔ The options regarding use of aids are displayed.

Item	Description
Activating/deactivating the internal automatic rim-distance gauge	ON = Active OFF = Deactivated
Activating/deactivating acquisition of the measured value with the automatic rim-distance gauge by pushing the pedal up.	ON = Active. Pushing the pedal up. In this phase, the locking/release of the pneumatic flange will be inactive. OFF = Deactivated. Locking the electronic rim-distance gauge for a waiting period of 1 second.
Activating/deactivating the rim-distance gauge function Easyfix® for automatic program selection	ON = Active OFF = Deactivated
Activating/deactivating the function to automatically record the number of "ASD" spokes.	ON = Active OFF = Deactivated
Activating/deactivating the internal laser display for attaching the adhesive balance weights	ON = Active In the 6 o'clock position, with laser displays. Positioning by electronic rim-distance gauge will be inactive. OFF = Deactivated In the 12 o'clock position, with electronic rim-distance gauge. The laser indicators (if present) will be inactive.
Automatic positioning of the wheel for attaching the balance weight	ON = Active OFF = Deactivated

 Press the <STOP> key to complete.

10.6 Service menu


 The user does not have access to this menu.


10.7 User Diagnostics menu

1. Press the <MENU> key.
 - ⇒ The first menu level will be called up.
2. Select the "User diagnostics" menu item by navigating through the options with the aid of the <-> or <+> key.
3. Press the <MENU> key to confirm.
 - ⇒ The user is requested to enter a password.
4. Enter and confirm the password **2857**.
 - ➔ The user diagnostics function is opened.

 Press the <STOP> key to complete.

11. Faults

 Other possible malfunctions are primarily of a technical nature and are to be checked and if necessary rectified by a qualified engineer. Always contact the customer service of your authorized Beissbarth equipment dealer.

 For rapid assistance, it is important to provide the information on the rating plate (label on MT ZERO 6 LCD) and describe the nature of the problem when calling.

Err	Possible causes	Remedy
	The displays do not light up when power is switched on.	Check the power connector. If the error message persists, contact customer service. Caution: Repeated fuse damage is an indication of a malfunction!
Err 1	<ul style="list-style-type: none"> Setting and calibration data lost from circuit board memory. One or more calibration operations (setting, calibration of electronic rim-distance gauge/rim-width gauge) not performed. 	Check and correct calibration and settings.
Err 2	Wheel-guard hood raised prior to completion of measurement.	Wait for end of measurement before raising wheel-guard hood.
Err 3	Wheel rotates backwards on start of measurement.	Check that wheel is stationary when starting and stop it from turning backwards on starting. If the error message persists, contact customer service.
Err 4	<ul style="list-style-type: none"> No motor operation. The motor is not reaching the required speed. Fault in electrical connection. 	<ul style="list-style-type: none"> Check the voltage (probably too low). Check the electrical connection or power supply cable. If the error message persists, contact customer service.
Err 5	Balance weight not attached to wheel.	Repeat calibration from the start and attach balance weight as specified by the process (see "Calibration"). If the error message persists, contact customer service.
Err 6	Wheel-guard hood not lowered.	Lower wheel-guard hood with wheel attached. If the error message persists, contact customer service.
Err 7	Excessive phase difference between the 2 measurement sensors.	<ul style="list-style-type: none"> Check for correct attachment of calibration weight ; Check machine connection; probably not MT ZERO 6 LCD stable and vibrating excessively; If the error message persists, contact customer service.
Err 8	No signal from measurement sensor.	Inform customer service.
Err 9	No signal from external sensor.	Inform customer service.
Err 10	<ul style="list-style-type: none"> No motor operation. Wrong signal from measurement sensor for sensing the position. 	Check the power connector. Inform customer service.
Err 11	<ul style="list-style-type: none"> No motor operation. Wrong signal from sensor for sensing the phase. 	Check the power connector. Inform customer service.
Err 17	Weight outside setting range (weight required for balancing is more than 250 g).	<ul style="list-style-type: none"> Check whether the wheel is correctly attached to the flange. Determine the outer weight position (in any case), attach a 100 g weight and start another measurement.
Err 18	Rim data not entered.	Enter rim data before performing measurement.
Err 19	Input signal of right measurement sensor lower than that of left sensor.	If the error message persists, contact customer service.
Err 20	<ul style="list-style-type: none"> Pedal pressed during measurement. Irregular rotational speed of motor. Wheel speed below minimum value 	<ul style="list-style-type: none"> Do not press pedal while motor is in operation: Make sure the MT ZERO 6 LCD is not subjected to any impact during measurement. Check the voltage (probably too low).
Err 21	Circuit board has detected excessively high wheel rotational speed with wheel-guard hood open (shat rotating at high speed without the machine having been started): Power supply unit deactivated.	<ul style="list-style-type: none"> Switch off the MT ZERO 6 LCD. Lower wheel-guard cover, switch the MT ZERO 6 LCD on again without moving the wheel. If the error message persists, contact customer service.
Err 22	Irregular measurement sensor signals.	If the error message persists, contact customer service.

Err	Possible causes	Remedy
Err 29	The rim-width gauge for the distance measurement is not in the rest position.	<ul style="list-style-type: none"> • Ensure that the rim-width gauge is in the rest position. • Check the analog value a5. • Repeat the procedure for calibrating the rim-width gauge.
Err 30	Calibration plate is not mounted on flange or not mounted correctly.	<ul style="list-style-type: none"> • Ensure that the calibration plate is mounted on the flange correctly. • Repeat calibration. <p><i>If the error message persists, contact customer service.</i></p>
Err 32	Pedal has been pressed.	Avoid pressing the pedal during the measuring cycle.
Err 42	Pneumatic flange is open.	Close the pneumatic flange by pressing the pedal.
Err 48	Time for obtaining the wheel width data by the measurement sensor expired.	Repeat measurement.
Err 49	Wheel cover not opened completely	Open wheel cover completely.
EEE EEE	Two keys pressed simultaneously.	Always press only one key at a time. <i>If the error message persists, contact customer service.</i>

12. Maintenance


12.1 Cleaning and maintenance

- ! Before cleaning and maintenance, switch off the MT ZERO 6 LCD and disconnect the mains plug.
- ! Do not use any solvent-based cleaning agents. Use alcohol or similar cleaning agents to clean plastic parts.

12.2 Service intervals

To ensure proper operation and performance of the MT ZERO 6 LCD, carry out the following work in the specified intervals:

Maintenance	Once a week	Semi-annually	Annually
Clean off the moving mechanical parts, use spray oil or kerosene to clean them thoroughly, and lubricate them with lubricating oil or a suitable grease.	x		
Remove condensate.	x		
Check the oil level in the oil mist lubricator.	x		
Calibrate the flange.		x	
Calibrate the electronic rim distance gauge.		x	
Calibrate the sonar system.		x	
Calibrate the MT ZERO 6 LCD.		x	
Perform reference measurement.		x	
Calibrate the external laser.		x	
Change the oil in the oil mist lubricator.			x

 The calibration process is described in the "Calibration" section.

12.3 Spare and wearing parts

The manufacturer cannot accept any liability for damage arising from the use of non-genuine spare parts.

Designation	Order no.
Spacer plate	1 695 653 212
Centering cone, 42–64.5 mm	1 695 632 500
Centering cone, 54–79.5 mm	1 695 652 862
Centering cone, 74–111.5 mm	1 695 605 600
Centering cone, 120–174 mm	1 695 606 300
Balance weight holder	1 695 606 500
Manual vernier caliper	1 695 629 400
Measuring compass	1 695 602 700
Balance weight	1 695 654 377
Balance weight, calibrated	1 695 654 376

Designation	Order no.
Electrical-voltage label	1 695 100 789
Laser safety label	1 695 654 484
Laser source label	1 695 600 941

Tab. 4: Spare and wearing parts

12.4 Maintenance work

12.4.1 Removing condensate

1. Turn the red knob at the bottom of the water separator counterclockwise.
2. Remove the accumulated condensate.
3. Turn back the red knob on the water separator.

12.4.2 Recommended oil mist lubricator lubricants

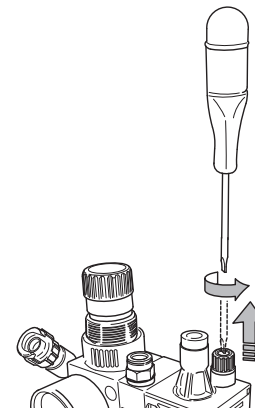
Item/component	Lubricant	Standard
Pneumatic system	ESSO FEBIS K 32	ISO 32

Tab. 5: Lubricant table

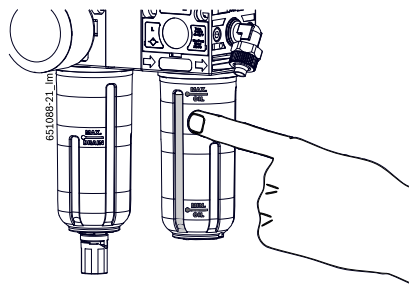
! The manufacturer does not accept any liability for damage arising from the use of different lubricants.

12.4.3 Topping up the oil in the oil mist lubricator

1. Remove the compressed-air connection.
2. Unscrew the container on the oil mist lubricator.



3. Top up the oil mist lubricator with fresh oil to the maximum level.

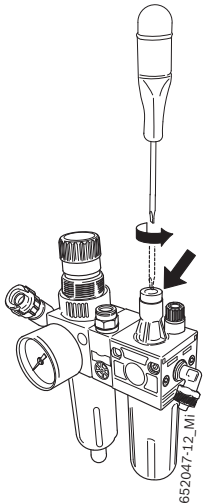


12.4.4 Changing the oil in the oil mist lubricator

1. Remove the compressed-air connection.
2. Unscrew the container on the oil mist lubricator.
3. Drain and dispose of the oil.
4. Top up with fresh oil.

12.4.5 Setting the lubricating oil flow

1. Unscrew the container on the oil mist lubricator.
2. Use a screwdriver to set the screw indicated by the arrow in such a way that 1 drop of oil emerges for every 3 opening and closing operations of the flange.



12.5 Diagnosis

i The diagnostics menu is used for maintenance carried out by customer service. The user has no access to any of the menu functions but can call up the statuses of the elements displayed.

1. Press the **<MENU>** key.
⇒ The first menu level will be called up.
2. Select the "User diagnostics" menu item by navigating through the options with the aid of the **<->** or **<+>** key.
3. Press the **<MENU>** key to confirm.
⇒ The user is requested to enter a password.
4. Enter and confirm the password **2857**.
➔ The user diagnostics function is opened.

i If machine malfunctions are reported or noticed during use, run a self-diagnosis.

12.6 Calibration

i As part of service and upkeep (every six months), on flange replacement or in the event of measurement inaccuracies, it is advisable to calibrate the MT ZERO 6 LCD in the following sequence:

1. Calibrate the flange.
2. Calibrate the electronic rim-distance gauge and the sonar probe.
3. Use a wheel and a balance weight for calibration.
4. Perform a reference measurement.
5. Calibrate the external laser indicator.

12.6.1 Calling up the calibration menu

i Sound and automatic start are active in the following description.

1. Press the **<MENU>** key.
2. Select the "Calibration" menu item by navigating through the options with the aid of the **<->** or **<+>** key.
3. Press the **<MENU>** key to confirm.
⇒ The user is requested to enter a password.
4. Enter and confirm the password **2857**.
➔ The calibration options are presented.

12.6.2 Calibrating the flange

i Follow the instructions on the monitor.

1. Fit the flange.

i Do not attach a wheel.

i On the mechanical version, do not use a clamping device.

i On pneumatic versions, install the spacer plate and secure it on the machine shaft.

2. Calling up the calibration menu
⇒ The calibration options are presented.
3. Select the "Flange calibration" menu item by navigating through the options with the aid of the **<->** or **<+>** key.
4. Press the **<MENU>** key to confirm.
⇒ The calibration process will start.
5. Close the wheel guard.
⇒ The measurement will start.


i Calibration can be exited, at any time without saving the settings by pressing the **<STOP>** key.

- Flange calibration complete.
 - The wheel imbalance has been set to a value of "0".
6. Press the **<MENU>** key.
 - ⇒ The calibration options are presented again.

12.6.3 Calibrate the electronic rim-distance gauge and the sonar probe.

 Follow the instructions on the monitor.

1. Call up the calibration menu.
 - ⇒ The calibration options are presented.
2. Select the "Rim-distance gauge" menu item by navigating through the options with the aid of the **<->** or **<+>** key.
3. Press the **<MENU>** key to confirm.
 - ⇒ The calibration process will start.

 Calibration can be exited, at any time without saving the settings by pressing the **<STOP>** key.


 When the rim data is calibrated, the handle of the electronic rim-distance gauge must be held correctly to avoid errors during balancing.



Fig. 100: Correct handling of the electronic rim-distance gauge

4. Set the electronic rim-distance gauge B to 0 mm to read off the distance.

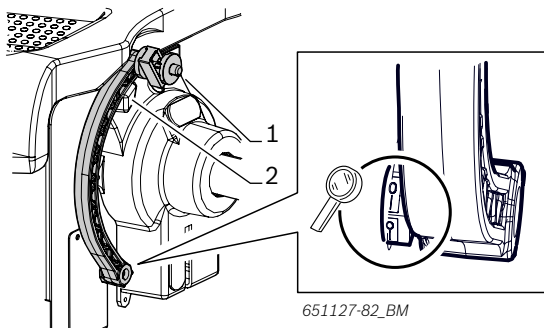


Fig. 101: "0" distance position of the electronic rim-distance gauge

- 1 Electronic rim-distance gauge
- 2 Mount for the electronic rim-distance gauge

5. Set the value "0" with the aid of the **<->** or **<+>** key.
6. Press the **<MENU>** key to confirm.
 - ⇒ The next screen is displayed.

7. Place the electronic rim-distance gauge in contact with the inside of the flange.
8. Measure the distance and set the exact value that has been read off.
9. Press the **<MENU>** key to confirm.
 - ⇒ The next screen is displayed.

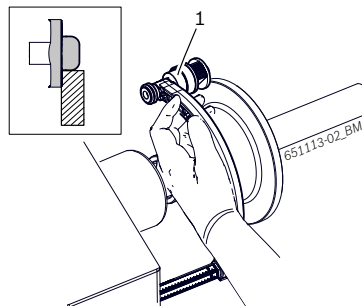



Fig. 102: Measuring the distance
1 Electronic rim-distance gauge

10. Move the electronic rim-distance gauge to its rest position.

 The rest position is the position where the electronic rim-distance gauge is resting fully in its mount.

11. Attach the provided calibration plate to the threaded hole of the flange.
12. Position the plate in the vertical 12-o'clock position.

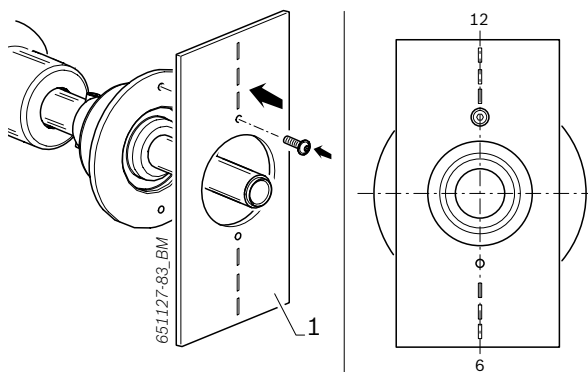


Fig. 103: Attaching the calibration plate
1 Calibration plate

13. Close the wheel protection and confirm by pressing **<MENU>**.
 - ⇒ The next screen is displayed.
14. Open the wheel protection, place it in its home position and confirm by pressing **<MENU>**.
 - ⇒ The next screen is displayed.

15. Remove the calibration plate.

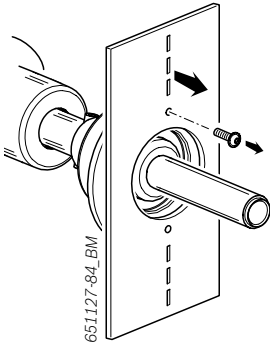


Fig. 104: Removing the calibration plate

16. Attach a motor vehicle's wheel that is in very good condition, of intermediate size and on a steel rim (e.g. width of 5.5", diameter of 14") to the flange.

17. Enter the information for rim distance, width and diameter by hand.

i To change the values for the various menu items, press the **<RIM DISTANCE>**, **<RIM DIAMETER>** or **<RIM WIDTH>** key and scroll through the numerical values to the desired value with the aid of the **<+>** or **<->** key.

18. Place the electronic rim-distance gauge against the rim flange.

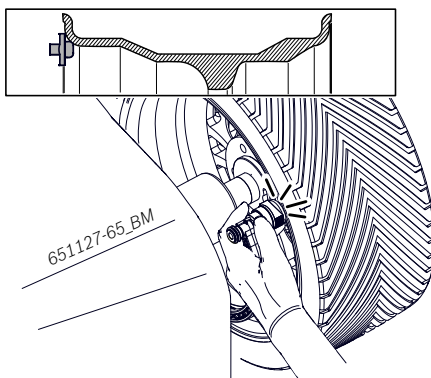


Fig. 105: Placing the electronic rim-distance gauge on the rim

19. Hold the electronic rim-distance gauge against the rim and confirm by pressing **<MENU>**.

→ Calibration completed.

20. Press the **<MENU>** key.

⇒ The calibration options are presented again.

12.6.4 Calibrating by wheel and balance weight

i Follow the instructions on the monitor.

1. Attach a motor vehicle's wheel that is in very good condition, of intermediate size and on a steel rim (e.g. width of 5.5", diameter of 14") to the flange.
2. Call up the calibration menu.
 - ⇒ The calibration options are presented.
3. Select the "Calibration with wheel and balance weight" menu item by navigating through the options with the aid of the **<->** or **<+>** key.
4. Press the **<MENU>** key to confirm.
 - ⇒ The calibration process will start.

i Calibration can be exited, at any time without saving the settings by pressing the **<STOP>** key.

5. Enter the information for rim distance, width and diameter by hand.

i To change the values for the various menu items, press the **<RIM DISTANCE>**, **<RIM DIAMETER>** or **<RIM WIDTH>** key and scroll through the numerical values to the desired value with the aid of the **<+>** or **<->** key.

6. Press the **<MENU>** key to confirm.

⇒ The next screen is displayed.

7. Press the **<MENU>** key and close the wheel-guard hood.

⇒ The measurement will start. Wait until the process is completed.

8. Lift the wheel guard fully.

9. Use the **<->** or **<+>** key to set a balance weight of 60 g.

10. Press the **<MENU>** key to confirm.

⇒ The next screen is displayed.


11. Attach the balance weight with the entered value to the 12-o'clock position on the inside of the wheel.


12. Press the **<MENU>** key and close the wheel-guard hood.

⇒ The measurement will start. Wait until the process is completed.

13. Lift the wheel guard fully.

14. Remove the balance weight from the inside of the wheel.

 After the start, the external laser (if present and active) will direct a beam at the wheel.


 The external laser must have been calibrated.

15. Attach a balance weight to the outside of the wheel at the centre of the laser beam and confirm with by pressing **<MENU>**.


⇒ The next screen is displayed.

16. Close the wheel guard.

⇒ The measurement will start. Wait until the process is completed.

 If there is no external laser, position the balance weight at the 12-o'clock position on the outside of the wheel, press the **<MENU>** key and close the wheel guard.


17. Turn the wheel until the balance weight is in the 6-o'clock position.

 The process described here is very important for calibration.

18. Press the **<MENU>** key.

19. Remove the balance weight.


→ Calibration complete.


 The calibration performed will be automatically saved permanently.

20. Press the **<MENU>** key.


⇒ The calibration options are presented again.

12.6.5 Reference measurement

 Exact centering of the wheel is a basic prerequisite for this reference measurement and for all balancing operations.

 In the following description, automatic start is active.

1. Attach a motor vehicle's wheel that is in very good condition, of intermediate size and on a steel rim (e.g. width of 5.5", diameter of 14") to the flange.

 Use the same sample wheel previously used in the calibration phase.

2. Enter the rim data.

3. Close the wheel guard.


⇒ The measurement will start.


4. Attach a balance weight of 60 g to the inside in order to create an artificial imbalance.


5. Close the wheel guard.

⇒ The measurement will start.

⇒ The MT ZERO 6 LCD must show the exact imbalance value with a maximum inaccuracy of 5 g.

 After the measurement, the wheel will automatically position itself on the first balancing plane at low speed. The balance weight attached must be vertically beneath the axis of rotation (6-o'clock position).

 Some machine versions require the wheel to be positioned manually according to the instructions shown on the display.

 The calibration process must be repeated in the following cases:

- Error of the intentionally added imbalance exceeding 5 g.
- Deviation from the position of the specified imbalance (balance weight not between the 5:30 and 6:30 positions).

6. Remove the balance weight.

7. Release the wheel, and rotate it by approx. 90°.



8. Secure the wheel again.

9. Close the wheel guard.

⇒ The measurement will start.

→ After this reference measurement, the imbalance displayed must not exceed 10 g per side (15 g for particularly heavy wheels). The error may result from the rim centering tolerances. If the reference measurement indicates a greater imbalance, check the components used for centering the wheel for wear, play and contamination.

12.6.6 External laser indicator calibration

-  The calibration plate is required for the calibration.
-  The laser will only switch on if the wheel comes to a stop at the position for attaching the clip-on balance weight.

➤ Remove the cover of the sonar probe.

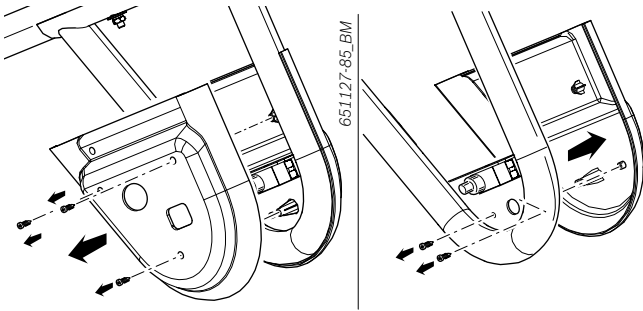



Fig. 106: Removing the cover of the sonar probe

The following describes 2 different procedures: one for the mechanical version and one for the pneumatic version.

Mechanical version

1. Remove any dirt on the flange with a wire brush.
2. Place the calibration plate included in the scope of delivery against the flange's surface.
3. Lock the calibration plate by using a quick-clamping ring and by inserting a small cone.

 Make sure the calibration plate is centered relative to the flange shaft.

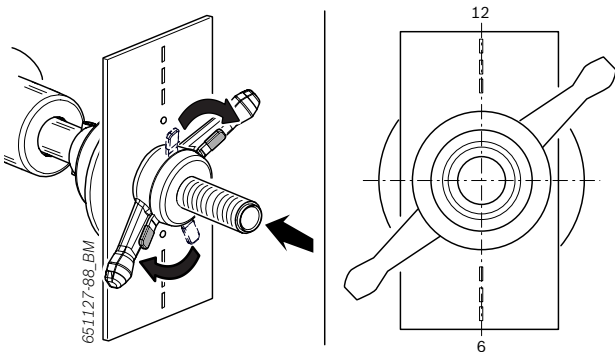




Fig. 107: Attaching the calibration plate

4. Close the wheel guard.
 - ⇒ The measurement will start. Wait until the process is completed.
 - ⇒ After the start, the laser beam will be activated.

-  Some machine versions require the wheel to be positioned manually according to the instructions shown on the monitor.
-  During the calibration of the device, the laser beam will be directed at the holes in the calibration plate.

5. Lift the wheel guard fully.
6. Release the quick-clamping ring to be able to turn the calibration plate.

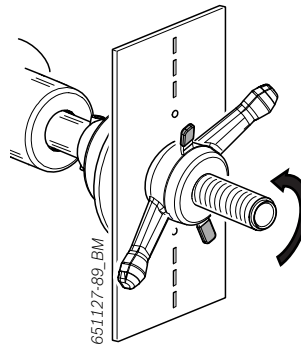



Fig. 108: Releasing the clamping ring

-  Once the shaft rotates, the laser will be deactivated. If necessary, reposition the shaft by hand.

7. Turn the calibration plate, and hold it in place when it is centered across from the shaft until the beam intersects with the holes.

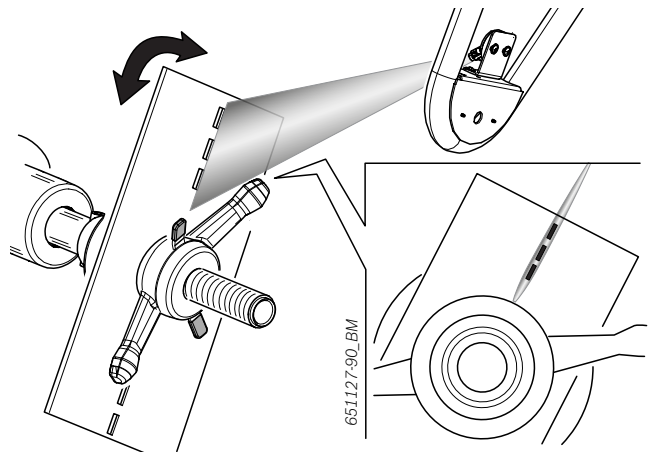


Fig. 109: Laser beam being emitted

8. Use a quick-clamping ring to lock the calibration plate in such a way that it is centered across from the shaft.

! Once the beam intersects with all the holes, the calibration will be complete. If it does not, adjust the position of the accessories in the places pictured and make sure the position of the laser beam is correct.

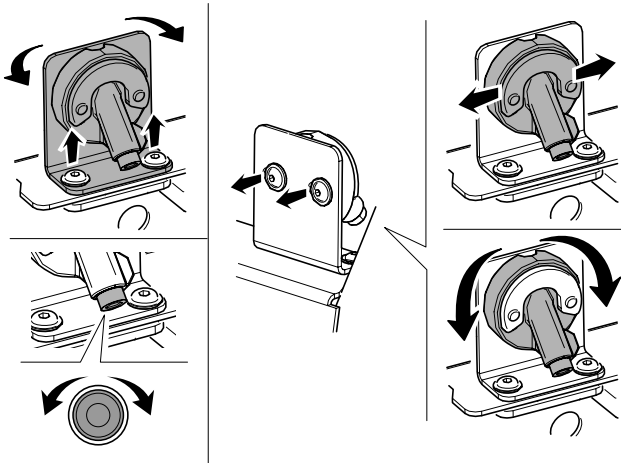


Fig. 110: Adjusting an external laser

→ Calibration complete.

9. Remove the quick-clamping ring on the calibration plate.
10. Install the cover of the sonar probe.

Pneumatic version

1. Push the pedal up.
 - ⇒ The tie rod will move to the right.
2. Remove any dirt with a wire brush.
3. Place the calibration plate included in the scope of delivery against the flange's surface.
4. Insert a small cone to center the calibration plate on the flange shaft.
5. Slide the spacer plate onto the shaft, and press it against the plate in such a way that the plate is centered on the shaft.

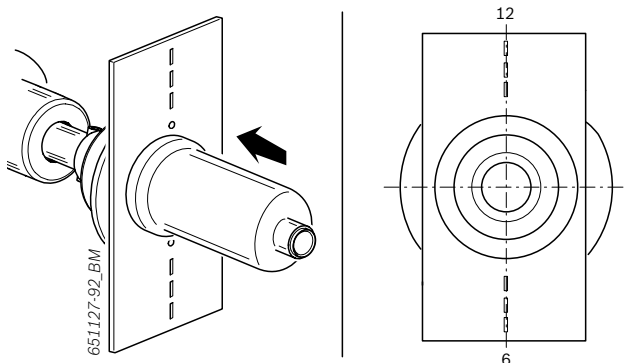


Fig. 111: Attaching the calibration plate



WARNING – risk of crushing hands!

When clamping by pedal, there is a risk of hand injury by crushing.

- Do not hold the spacer plate with your hands within range of the locking mechanisms.
- Do not place your hands between the spacer plate and the calibration plate.

6. Push the pedal up.
 - ⇒ The tie rod will move to the left.
 - ⇒ The spacer plate will be pressed against the calibration plate.
 - ⇒ The calibration plate is now fixed in place.
7. Close the wheel guard.
 - ⇒ The measurement will start. Wait until the process is completed.
 - ⇒ After the start, the laser beam will be activated.

i Some machine versions require the wheel to be positioned manually according to the instructions shown on the monitor.

i During the calibration of the device, the laser beam will be directed at the holes in the calibration plate.

8. Lift the wheel guard fully.

i Release the spacer plate to be able to turn the calibration plate.

9. Push the pedal up.
 - ⇒ The tie rod will move to the right.

i Once the shaft rotates, the laser will be deactivated. If necessary, reposition the shaft by hand.

10. Turn the calibration plate, and hold it in place when it is centered across from the shaft until the beam intersects with the holes.

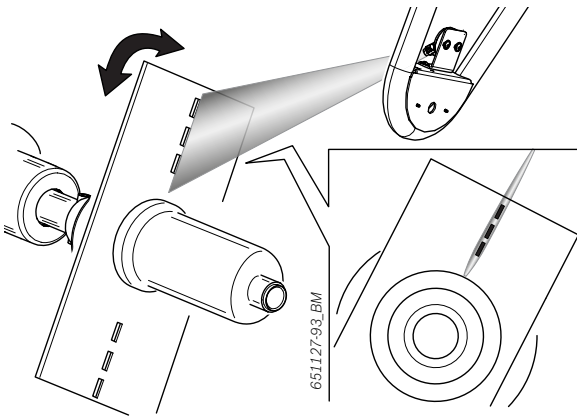



Fig. 112: Laser beam being emitted

-  Lock the spacer plate on the calibration plate again.

11. Push the pedal up.
- ⇒ The tie rod will move to the left.
 - ⇒ The spacer plate will be pressed against the calibration plate.
 - ⇒ The calibration plate is now fixed in place.

- !** Once the beam intersects with all the holes, the calibration will be complete. If it does not, adjust the position of the accessories in the places pictured and make sure the position of the laser beam is correct.

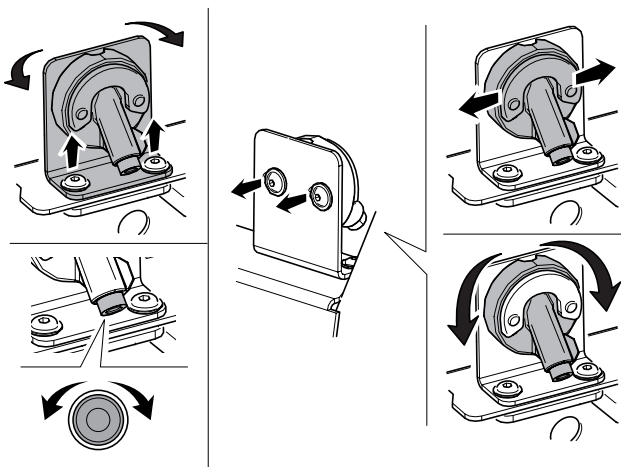


Fig. 113: Adjusting an external laser

- Calibration complete.

12. Remove the spacer plate and the calibration plate.
13. Install the cover of the sonar probe.

13. Decommissioning

13.1 Temporary shutdown

In the event of lengthy periods of non-use:

- Unplug the electrical connection.

13.2 Change of location

- If the MT ZERO 6 LCD is passed on, all the documentation included in the scope of delivery must be handed over together with the unit.
- The MT ZERO 6 LCD is only ever to be transported in the original or equivalent packaging.
- Unplug the electrical connection.
- Heed the notes on initial commissioning.
- Secure the MT ZERO 6 LCD on the pallet using the screws.

13.3 Disposal and scrapping

13.3.1 Substances hazardous to water

! Oils and greases as well as refuse containing oil and grease (e.g. filters) represent a hazard to water.

1. Substances hazardous to water must not be allowed to enter the sewage system.
2. Substances hazardous to water must be disposed of in accordance with the applicable regulations.

13.3.2 MT ZERO 6 LCD and accessories

1. Disconnect the MT ZERO 6 LCD from the mains and detach the power cord.
2. Dismantle the MT ZERO 6 LCD and sort out and dispose of the different materials in accordance with the applicable regulations.



MT ZERO 6 LCD, accessories and packaging should be sorted for environmental-friendly recycling.

- Do not dispose MT ZERO 6 LCD into household waste.

Only for EC countries:



The MT ZERO 6 LCD is subject to the European directive 2012/19/EC (WEEE).

Dispose of used electrical and electronic devices, including cables, accessories and batteries, separately from household waste.

- Make use of the local return and collection systems for disposal.
- Proper disposal of MT ZERO 6 LCD prevents environmental pollution and possible health hazards.

14. Technical data

14.1 MT ZERO 6 LCD

Function	Specifications
Shaft rotational speed	220 U/min 50 Hz
Corrective measure	1 g (0.05 oz)
Supply	230 V 1~ (50/60 Hz)
Power input	0.7 kW
MT ZERO 6 LCD AWxP compressed-air supply	8 – 10 bar
Degree of protection	IP 22

14.2 Temperatures

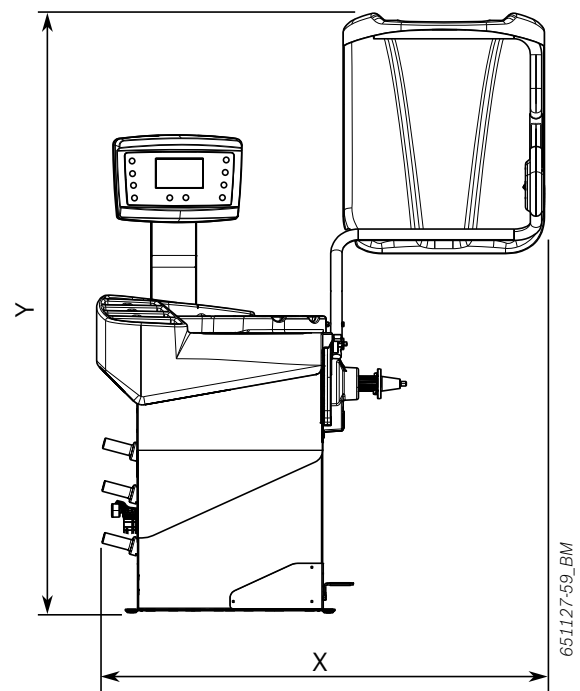
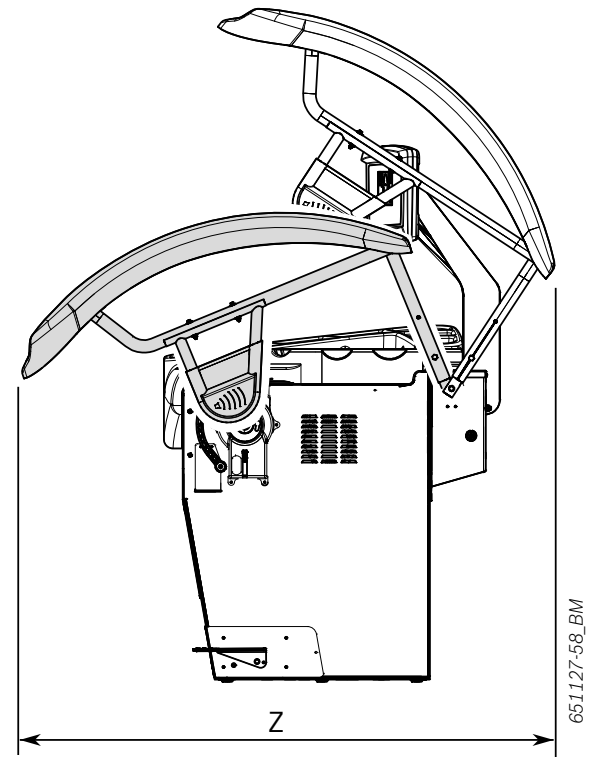
Function	Specifications
Working temperature	+5° C \ +40° C
Storage Temperature	-20° C \ + 60° C
Temperature gradient	20° C
Relative operating humidity (25°C, 24 hours)	10% \ 90% (40° C)
Relative humidity gradient	10%
Installation height	-200 mt. \ 3.000 mt.
Transportation height	-200 mt. \ 12.000 mt.

14.3 Working range

Function	min / max
Rim width, adjustable by keys	1" - 20"
Rim width, measuring range of electronic rim-distance gauge / rim width gauge	1" - 15"
Rim diameter, adjustable by keys	8" - 40"
Rim diameter, measuring range of electronic rim-distance gauge	10" - 30"
Maximum wheel weight	80 kg
Maximum wheel diameter	1150 mm
Maximum wheel width	490 mm
Average measuring time	6 sec

14.4 Dimensions and weights

Function	Specifications
X x Y x Z max	1400 x 1840 x 1300 mm
Net weight	160 kg



Ihr Händler vor Ort:
Local distributor:

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