USER'S GUIDE

Wheel Balancer

WB1820

1. Signs

1.1 Signs in Documents

1.1.1 Warning Notice - Structure and Meaning

Warning notice is used to remind the users or persons around of the hazards. In addition, it also describes the consequences and precautions against these hazards. The notice is composed of the following:

Safety Warning - Safety Warning Signs on Equipment

Ignorance of the safety warning signs may lead to hazardous consequences

- Precautions and notice to avoid hazards.

Occurrence probability of hazards and severity of ignorance of the notice:

Safety Warning	Probability of Occurrence	Severity, Ignorance May Lead to
Hazards	Hazards leading to death	Death or severely injury
Warning	Possible hazards	Death or severely injury
Caution	Possible hazardous condition	Minor injury

1.1.2 Signs Marked in Documents

Symbol	Name	Content
□	Attention	Warning about possible property damage
i	Information	Instructions and other useful information
1. 2.	Multistep operation	Operation instruction composed of multiple steps
➢	One-step operation	Operation instruction composed of a single step
⇨	Interim results	Interim results showed in the operation instruction
→	Final results	Final results showed in the end of operation instruction

1.2 Signs on Product Surface

□ Pay attention to all warning signs on the product surface.

Danger——Be careful with electricity

Contact with conductive parts (i.e., general switch, circuit board) may lead to electric shock and injury

- Only professional electricians are allowed to operate.
- Cut off power supply before disassembling.

Rotating direction of tire

Wheels must be rotated as the direction shown in the figure.

1.3 Warning

Please wear goggles!

Please read the Instruction Book before using the machine.

Equipment is rotating, watch your hand.

2. User Reference

2.1 Important Notice

Please make sure to read the Instruction Book carefully before using the wheel balancer. In case of any doubt, please consult the manufacturer and avoid improper operation. Keep this Book properly for further reference.

2.2 Safety Notice

2.2.1 Only persons officially authorized and trained can operate this balancer.

2.2.2 Operator is not allowed to wear a tie and dress loosely with hair disheveled. When the wheel is rotating, he/she shall stand on the machine sides. Non-operators are not allowed to get close to the machine.

2.2.3 It is not allowed to refit the machine and remove safety devices machine without authorization.

2.2.4 During transportation, installation and using, it is not allowed to move the rotating shaft, or it may lead to permanent damages.

2.2.5 Stabilized voltage supply is recommended for the areas with unstable power supply.

2.2.6 It is not allowed to use this machine beyond its application scope.

2.2.7 Reliable grounding shall be guaranteed. Please cut off the power supply in maintenance.

2.2.8 Pleas make sure the wheels are tightly locked on the chuck before balancing operation.

2.2.9 Electrical installation shall be carried out by professional electricians.

3. Product Description

3.1 Use Requirements

This dynamic wheel balancer is used in automobiles (with the rim diameter of 12-24 inches and rim width of 1.5-20 inches).

It can only be used to balance the wheels and be used within the functional scope as specified in the Instruction Book.

ℹManufacturer will not be liable for damages caused by failure to follow the requirements.

3.2 Preconditions

H-820B must be fixed on the flat concrete floor or foundation made of similar materials using the expansion bolts.

ℹUneven foundation may lead to inaccurate balance measurement.

3.3 Product Accessories

Name	Order No.
Small cone	05020010040
Cone 2	05020010041
Cone 3	05020010042
Cone 4	05020010043
Inverted cup	020601001
Inverted cup rubber ring	020101001
Quick nut	020601081
Internal hexagonal wrench 12	022102001
Small inverted cup	020601002
Internal hexagonal wrench 6	022102002
Balance weight	022102005
Spring	020701019
Lead piece 100g (for weight correction)	022102006
Caliper	020601004
Lead block shovel	020601105

4. Initial Test

4.1 Unpacking

1. Remove packaging strings.
2. Remove packaging case with care.
3. Take out accessories and packaging materials inside.

ℹ Check if the equipment and accessories are in good condition and if there are damaged parts. In case of any problem, do not start the equipment and contact the customer service department immediately.

ℹ The packaging materials shall be transferred to corresponding department for disposal.

4.2 Installation

1. Loosen the bolts for fixing the machine on the supporting plate.

2. As shown in the figure, install the suspender of same length and sufficient bearing capacity (at least 150kg).

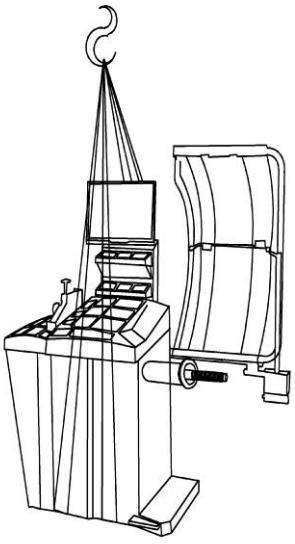


Fig. 2: Wheel Balancer Hoisting

Warning - Damaged or Wrong Suspender!

Falling and damaging risk of H-820B

- Check the sling materials
- Tighten the suspender
- Lift H-820B carefully

3. It is not allowed to lift the main shaft of H-820B in any case. After lifting it up, install and place it in the pre-selected area and pay attention the minimum spatial distance as specified.

ℹ For safe use and operating convenience, it is recommended to install the H-820B wheel balancer in the position that is 500mm from the wall.

4. H-820B must be fastened on the ground using expansion bolts, failing to do so may lead to measurement error.

Fig. 1 Effect Picture of the Machine

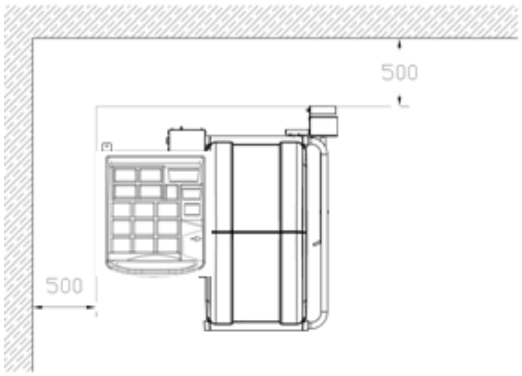


Fig. 3: Installation Area of Balancer

4.3 Installation of Pack

- Fix the pack on the machine with four bolts and install the upper cover.

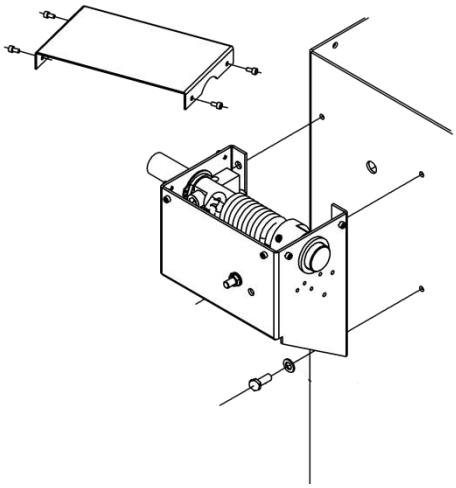


Fig. 4: Installation of Pack

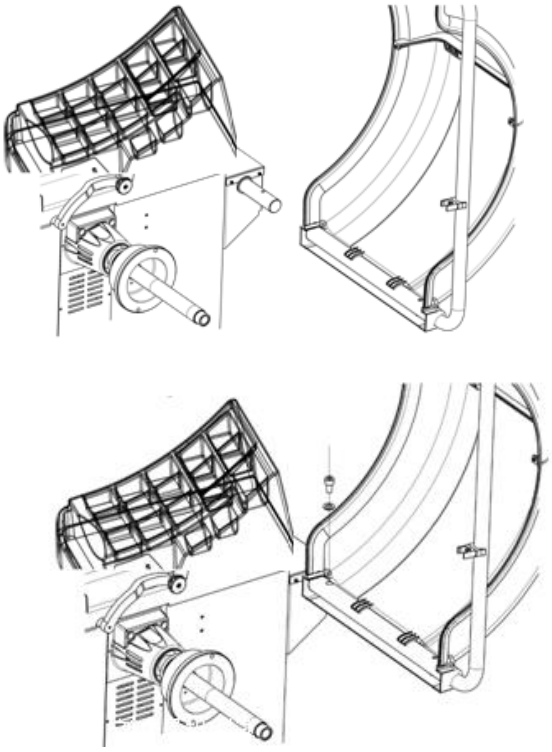


Fig. 6: Installation of Wheel Guard

4.4 Installation of Wheel Guard

1. Connect two haft wheel guards and apply the support.

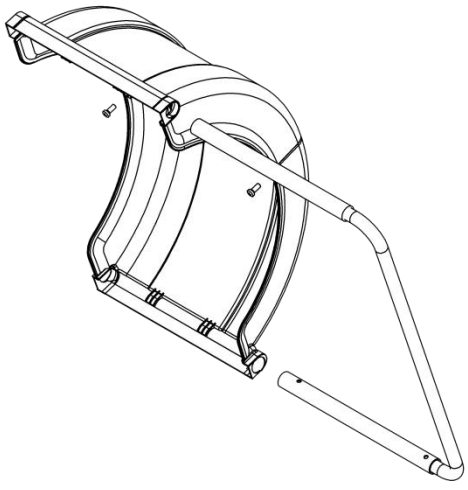


Fig. 5: Connection of Wheel Guard

2. Install the guard on the pack shaft and fix it with screws.

4.5 Electrical Connection

 H-820B can only be connected to the power source with specified rated voltage marked on the nameplate.

1. Check if the supply voltage is consistent with the rated voltage as specified on the nameplate.
2. Refer to the local standards to make sure the power interface of H-820B5 and user's power interface comply with the standards.
3. Connect the data cable and power cable of display.
4. Connect the aviation plug of wheel guard switch.
5. Connect the aviation plug of external measuring scale (as shown in Fig. 7).

Fig. 7: Connection of Aviation Plug of External Measuring Scale

5. Screw Rod Installation and

Dismantling

5.1 Screw Rod Installation

1. Tread down the pedal.

⇨ Lock main shaft

2. Insert the screw rod to main shaft

3. Apply M14 screws

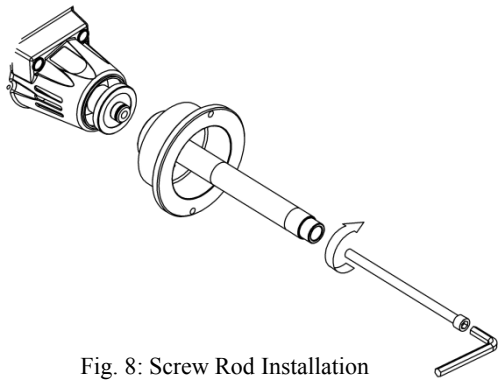


Fig. 8: Screw Rod Installation

4. Rotate the internal hexagonal wrench in clockwise direction to tighten the screw rod and flange until they are not loose.

→ Connection of screw rod is completed.

ℹ There are two "0" marks on the main shaft and screw rod respectively, align them before assembly.

5.2 Screw Road Dismantling

1. Tread down the pedal.

⇨ Lock main shaft

2. Rotate the internal hexagonal wrench in screw rod in anticlockwise direction until the screw rod is separated from the main shaft.

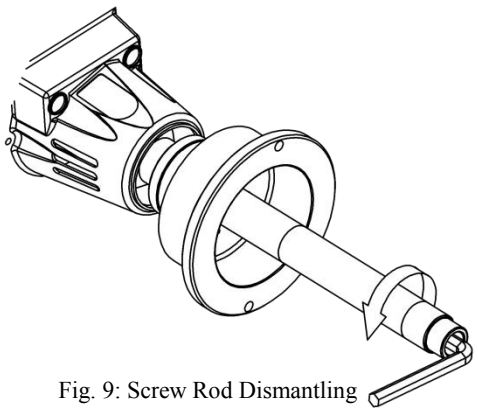


Fig. 9: Screw Rod Dismantling

6. Wheel Fixing and Dismantling

Warning——Wheel Sliding

It may cause injuries of fingers and other body parts in fixing and dismantling.

- Wear protective gloves
- Wear goggles
- Do not put your finger between the wheel and shaft
- Installation of heave wheels shall be completed by two persons

6.1 Wheel Fixing

6.1.1 Positive Alignment

1. Place the wheel (rim installation face inward) on the screw rod.
2. Place a suitable cone (smaller end inward).
3. Press down the quick clamping device and push the quick nut to the screw rod.
4. Loosen the clamping device and clockwise screw the quick nut.

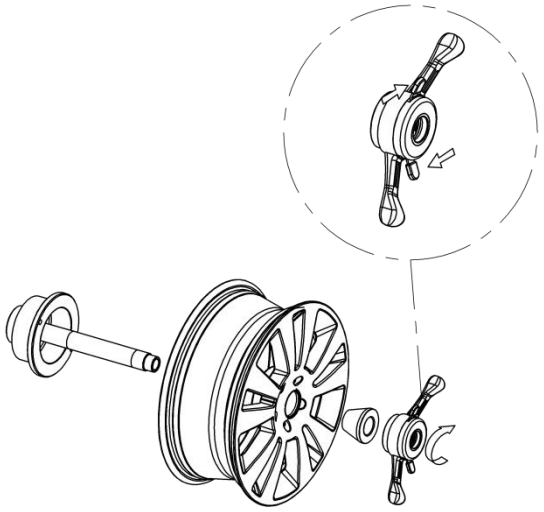


Fig. 10: Installation of Wheel Using Positive Alignment

ℹ It is a commonly used mode, easy and fast, and is suitable for ordinary wheel rim and thin aluminum alloy ring as well as for the condition with small rim deformation.

6.1.2 Negative Alignment

1. Place spring on the screw rod.
2. Place a suitable cone (smaller end outward).
3. Place the wheel (rim installation face inward) on the screw rod.

4. Install the reverse bowl on the quick nut.

5. Press down the quick clamping device and push the lock nut to the screw rod.

6. Loosen the clamping device and clockwise screw the quick nut.

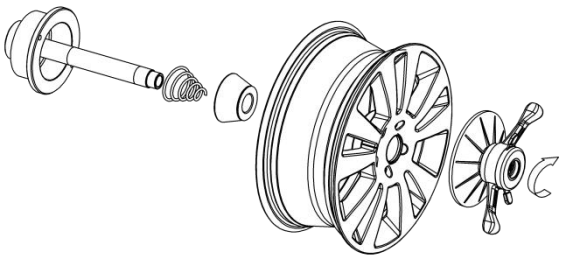


Fig 11: Installation of Wheel

ℹWhen the deformation of center hole of the tire is serious, positive alignment is adopted to make sure that the alignment of the inner hole of wheel rim and main shaft is accurate. This mode is suitable for wheel rim, especially for the thick aluminum alloy wheel rim, with high accuracy.

6.2 Wheel Dismantling

1. Screw the quick nut in the anticlockwise direction.

2. Loosen and remove the lock nut and hold the wheel with hand at the same time.

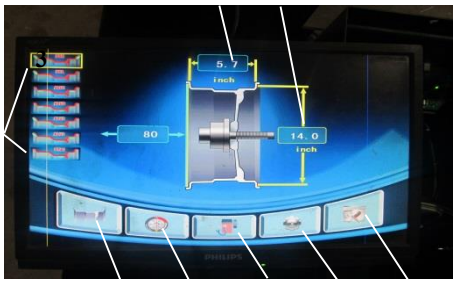
3. Remove the wheel.

7. Program Structure

7.1 Operation Area/Display Area

Fig 12: Boot Screen of Liquid Crystal Display

1 3 2



9

8 7 6 5 4

Fig. 13: Size Input Screen of Liquid Crystal Display

Position	Descriptions
1	The area displaying the distance from the machine to the wheel
2	The area displaying the wheel width
3	The area displaying the wheel diameter
4	Options for calibration
5	Options for balancer setting
6	Balancer self-inspection items
7	Options for unbalance optimization
8	Balance mode options
9	Balance mode display area

ℹAfter turning on H-820B, the equipment code will be displayed on the screen, and "8.0 5.7 14.0" will be displayed after clicking [OK].

→ indicating start-up is successful.

7.2 Operational Keys

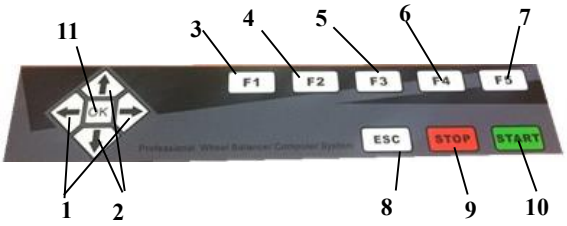


Fig. 14: Operational Keys

Position	Name	Descriptions
1	← →	Under manual input mode, press [←] and [→] to select item or modify the settings.
2	↑ ↓	Under automatic input mode, press [↓] and [↑] to select item or modify the settings.
3	F1	Balance mode selection key
4	F2	Key for unbalance optimization
5	F3	Key for selection of balancer self-inspection items
6	F4	Key for selection of options for balancer setting
7	F5	Key for balancer calibration
8	ESC	Return key
9	STOP	Brake key
10	START	Start key
11	OK	Enter key

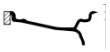
□ Press the keys with finger only!

7.3 Balance Program

ℹ Static balance is recommended for the wheel with the width below 3.5 inches. It is used to eliminate static unbalance by clamping a lead block on one side of the wheel or pasting a lead block in the middle, and the unbalance is only related to the wheel diameter and has nothing to do with other parameters.

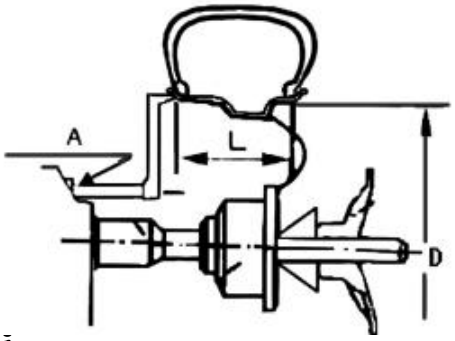
ℹ Press [F1] to select static balance mode, press [F1] for other choices and press [↑] and [↓] to select balance mode.

→ Through the balance mode display area on screen, status of each balance mode can be displayed.

Symbol	Interpretation
	DYN: dynamic balance, adopted for clamping balance block on both sides of rim and for balancing of steel and aluminum alloy wheels.
	STA: static balance, adopted for suspending balance block at the inner side of motorcycle wheel in static status.
	STA1: static balance, adopted for correction of motorcycle wheels or when balance block cannot be added on both sides.
	ALU1: adopted for balance of alloy rim, a method to paste balancing weight on the inner and outer sides.
	ALU2: Clamping or pasting of lead block on the inner side.
	ALU3: Clamping lead block on inner side and pasting lead block on the outer side.
	ALUS: Pasting lead block in any position inside the rim

ℹ According to practice, inner side of the wheel refers to the side close to the machine case, and vice versa.

7.4 Wheel Data Input of Standard Program



ℹ Data input flow is determined by the balancing program selected.

To realize balance of wheel, make sure to input the following parameters:

- A rim distance: distance between the wheel and

balancer body

- L rim diameter: rated diameter of wheel
- D rim width: width of rim in standard program

7.5.1 Automatic Measurement of Wheel Rim Spacing and Wheel Rim Diameter

1. Pull the ruler to make the ruler head jack to the inner side edge of the wheel and keep still. After hearing the prompt tone, confirm the measuring results and pull the ruler to zero point, and the results will be displayed on the window.

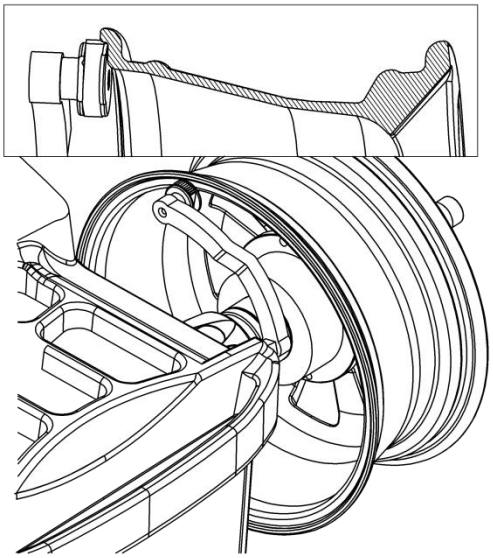


Fig. 15: Placement of Automatic Measuring Scale

ℹConfirm to accept this position through the prompt tone

⇨ Distance between from rim to the case body "A" is displayed on the left.

⇨ Wheel diameter "D" is displayed on the right.

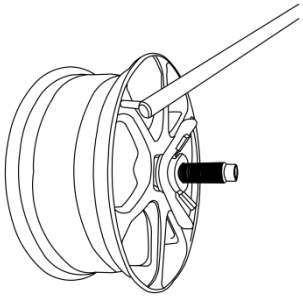


Fig. 15-1: Placement of External Automatic Measuring Scale

⇨ Rim width "B" is displayed in the middle.

ℹWheel width is measured with an external measuring scale.

Notes: Geometric parameters of wheel can be manually input.

□ Through the [↑, ↓] key and by operating the □ and - at lower part of the screen, the measured results can be changed.

□ Through the [←, →] key, the object to be changed can be changed.

2. Input the rim data manually

Pull the measuring scale on the rim, read the value on; modify the data using A, B and D keys and "↑↓" key and input the size of the rim structure.

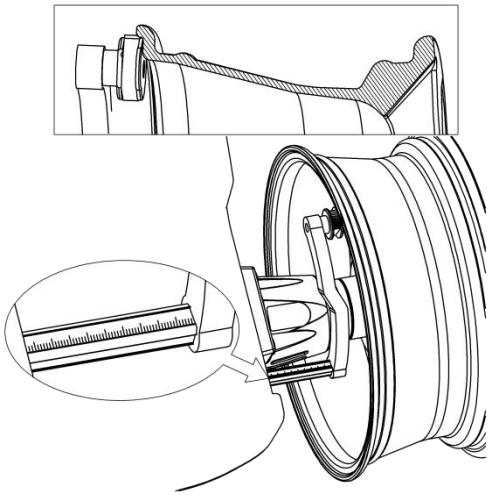


Fig. 16: Read Values on Measuring Scale

ℹRim diameter is usually marked on the tyre, if not,

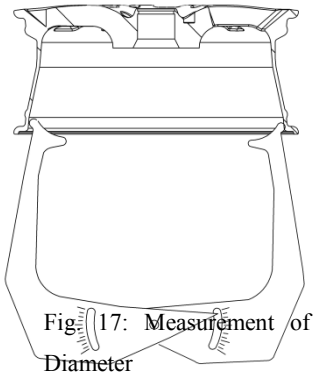


Fig. 17: Measurement of Rim Diameter

ℹWidth of rim can be measured with a caliper.

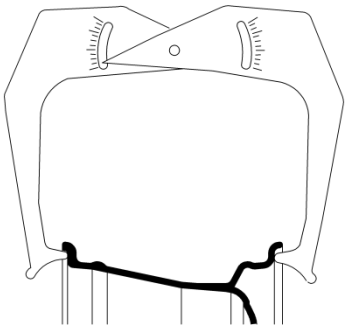


Fig. 18: Measurement of Wheel Width

All wheel data has been measured.

7.6 Wheel Data Input under ALUS State

ℹ Data input flow is determined by the balance program selected.

To realize balance of wheel, make sure to input the following parameters:

- Rim distance: distance between balancer body and the inside balancing point
- Rim diameter: rated diameter of wheel
- Rim width: distance between the inside balancing point and the outside balancing point

 Balancing position is determined by the program selected.

7.6.1 Automatic Measurement under ALUS Balancing Mode

1. Pull the measuring scale to the position for pasting the block and wait for prompt tone.

2. Hold the measuring scale and continue to pull it to the second position for pasting the lead block, wait for the prompt tone and reset the tape.

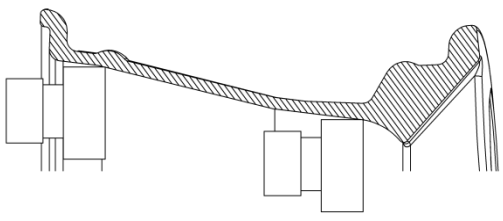


Fig. 19: Automatic Entering into ALUS Balancing Mode

ℹThe program will enter into ALUS balancing mode automatically after above operation is finished.

ℹALUS balancing mode can also be selected through [F1] key or [↑↓] key.

8. Wheel Balancing

Warning - wheel unbalance

Changes in the technical performance during vehicle driving can bring danger of life injury

- H-820B must be fixed horizontally on the ground
- Use the specified parts
- The rim must cling to the spindle flange to remove dirt
- Check and measure after installing the balancer

8.1 Measurement of Degree of Unbalance

ℹOnly when all the settings match wheels to be tested can the dynamic balance of the wheels be measured

ℹThe measurement can be stopped at any time

- Press the "STOP" button
- Open the wheel protection cover

1. Close the wheel protection cover

⇨ Conduct the dynamic balance measurement automatically

⇨ At the end of the measurement, the weight required to achieve balance will be displayed on the display screen: the left part of the screen shows the amount of unbalance close to the inner side of the tyre, while the right part of the screen shows the amount of unbalance close to the outer side of the tyre.

2. Open the wheel protection cover and end the measurement

ℹBefore measuring the amount of unbalance, clear the

dust and earth of tire and check if the pressure of tire conforms to the specified value; check if there is deformation on the positioning surface and installation hole of rim, and remove the original balancer.

8.2 Application of Balancing Lead Block

ℹ After the balancing lead block is fixed, the unbalance must be remeasured to check if balance has been achieved.

8.2.1 Clamp Type Balance Lead Block and Paste Type Balance Lead Block of Standard Program

Fix the balance lead block on the inner side of the machine

1. Rotate the tyre manually

⇨ When the balancing lead block is placed at the correct position, a green arrow will appear near the green phase position indicator point at inner side and the phase position lockup function is enabled.

2. If a clamp type balance lead block is used, the clamp type balance lead block with the corresponding value on the inner side shall be clamped on the top at the inner side of the wheel (12:00 o'clock position), and for a paste type balance lead block, it shall be pasted with an automatic measuring scale. As shown in Fig. 20.

Fix the balance lead block on the outer side of the machine

1. Rotate the tyre manually

⇨ When the balance lead block is placed at the correct position, the outer phase lamp will light up, and a prompt sound will be emitted while the spindle will be locked by the automaton.

2. If a clamp type balance lead block is used, the clamp type balance lead block with the corresponding value on the outer side shall be clamped on the top at the inner side of the wheel (12:00 o'clock position), and for a paste type balance lead block, it shall be pasted with an automatic measuring scale.

Clamp type balance lead block

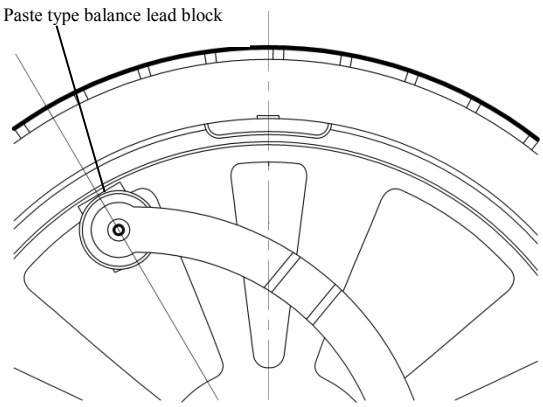


Fig. 20: Placement of Balance Lead Block

8.2.2 ALUS Balance Mode

ℹ The position of the paste type balance block is determined by the geometric position of automatic measuring scale

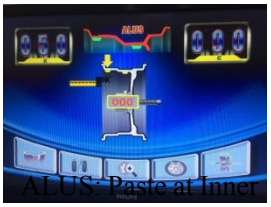
ℹ The left side of the display screen displays the weight of the paste type balance lead block required by the inner measuring scale; the right side displays the weight of the paste type balance lead block required by the outer measuring scale

1. Rotate the tyre manually

⇨ When the balancing lead block is placed at the correct position, a green arrow will appear near the phase position indicator point at inner side and the phase position lockup function is enabled.

2. The lighting lamp of main shaft lights up.

3. Install a corresponding paste type balance lead block on the head of the measuring scale, pull the scale, and when the middle window on the screen displays "000" and a prompt sound is emitted, swing the scale head, and then the position in contact with the scale head is the unbalance phase point.



ALUS: Paste at Inner Side

ALUS: Paste at Outer Side

The pasting methods of the paste type balance lead blocks on both sides of the tyre are the same completely.

When the electronic brake brakes the balance shaft, the brake lamp lights up simultaneously.

8.2.3 Setting of Balance Lead Block (HID Program)

In the working state of ALUS, the unbalance decomposition can be used to set a balance lead block to hide it behind the rim spoke, thus to balance the wheel.

If the unbalance decomposition is used to set a balance lead block, then after the measurement under ALU2 or AULS mode is completed, press the [F4] key. When the 12h lamp displaying the unbalance and phase position at the outer side of the interface flickers, it means the HID function is running.

H-820B: HID function is enabled

1. Press [F4] key

⇨ The display window B displays 12h information

2. Rotate the wheel until a green arrow appears near the red point of phase position at outer side, click [OK] to confirm.

Confirmation of 12-Point Phase Position of Unbalance at Outer Side

3. The screen outer side displays "P1:", and then rotate the tyre to adjust the spoke on the left side of the phase point of unbalance to the position of 12 o'clock on the right above of the main shaft. Press the [OK] key for confirmation.
4. The screen outer side displays "P2:", and then rotate the tyre to adjust the spoke on the right side of the phase point of unbalance to the position of 12 o'clock on the right above of the main shaft. Press the [OK] key for confirmation.
5. At this time, the outer side has been decomposed into two unbalance points and the phase position indication point at outer side has been divided into two.

The unbalance at outer side is divided into two.

6. Rotate the wheel with hands. When the outer side finds P1: phase point, a green arrow will appear. Install the corresponding paste type balance lead block on the head of the measuring scale, pull the scale, and when the middle window on the interface displays "000" and a prompt sound is emitted, swing the scale head to paste the lead block.

Lead block pasting methods of P1: and P2: are the same.

7. Continue to manually turn the wheel in order to fix P2: balance lead block behind the spokes.

⇨ Repeat Article 5 and 6

8. Conduct the last measurement and check the balance results.

8.2.4 Static Balance Mode

One-point balance to the tyre is called static balance!

Static balance mode of H-820B has two modes: STA and STA1.

1、Press [F1] to select the mode or press [F2] to switch to STA mode under another mode.

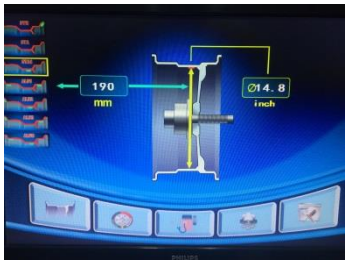
2、The size input under STA mode is same with DYN mode and the lead block fixing method is same with that of DYN.

STA: Unbalance Display Screen

□ Under STA static balance mode, wheel rum is used to clamp lead block with inner side.

3、Press [F1] to enter STA1 static balance mode.

4、After entering STA1 static balance mode, input size according to prompt on the screen.



STA1: size input screen

5、Under STA1 mode, use an internal measuring scale to past the lead block. When the middle window in screen displays “000”, lift the internal measuring scale and past the lead block on the inner wall of wheel rim.

STA1: lead block pasting screen

STA and STA1 modes are applicable to balance of motorcycle wheels.

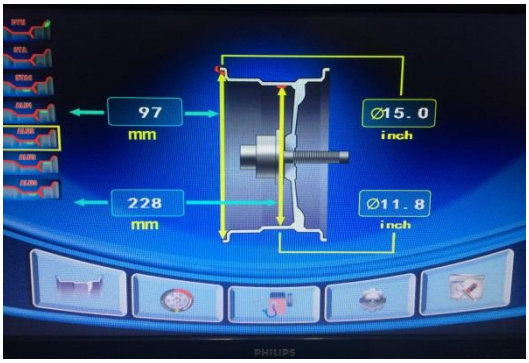
8.2.5 ALU1, ALU3 Balance Mode

ALU1 and ALU3 mode are same with DYN. Press [↑↓] to select ALU1 and ALU3 mode.

8.2.6 ALU12 Balance Mode

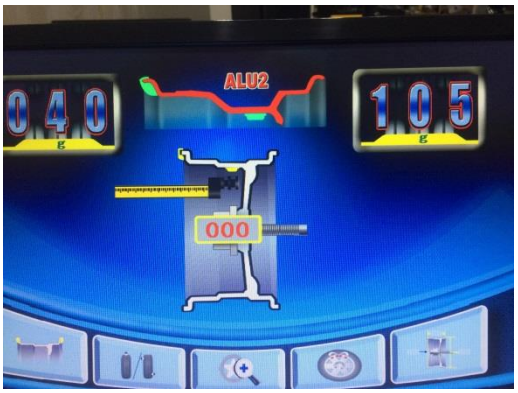
1. ALU2 mode can be selected by pressing [↑↓] directly or pressing [F1] for switch under other modes.

2. Size input under ALU2 is same with ALUS. What should be noted is that the first measuring position of internal measuring scale is the lead block clamping position at inner side of the wheel rim. After conducting two measurements with internal measuring scale, enter ALUS mode and then press [F1] to switch mode.



ALU2: size input screen

3、The lead block clamping at inner side under ALU2 mode is same with DYN mode. Lead block pasting at outer side is same with ALUS mode.



ALU2: screen of lead block pasting at outer side

ALU2 balance mode is suitable for wheel rim with lead block clamped at inner side and lead block pasted at outer side.

8.3 Fixing of Clamp Type Balance Lead Block

To locate the clamp type balance lead block, a balance weight shall be used.

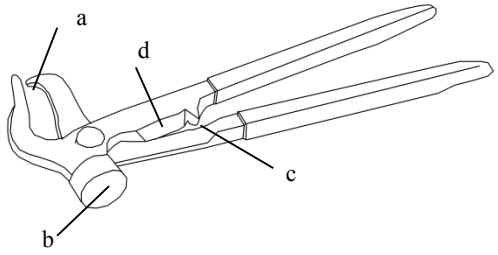
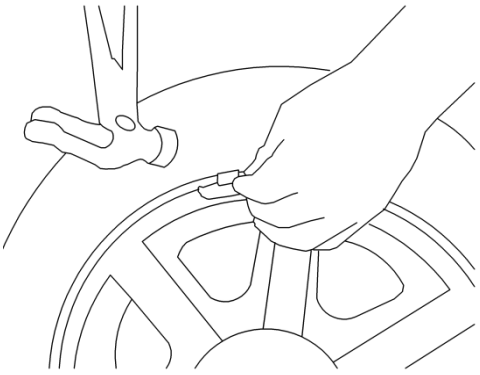


Fig. 21: Balance Weight

a. Jaw of balance weight
b. Head
c. Rolling groove of the hook
d. Metal shear for metal removal

1. Find the right place for the balance weight and place a clamp type balance lead block on the rim edge.
2. Fix the balance lead block onto the rim with a balance weight.



To remove the clamp type balance lead block, use the tip of the jaw of balance weight.

When the balance is over and the tyre is removed, be careful not to hit the spindle.

Balance weight should be used with caution to prevent hand injury.

8.4 Fixing of Paste Type Balance Lead Block

1. Put a paste type balance lead block with the required weight for balance on the head of the automatic measuring scale.
2. When the measuring scale is pulled until the middle window on screen displays "000", it is accompanied by a single prompt sound.
3. Turn the scale so that the probe is close to the wheel so that the balance lead block is attached to the wheel.

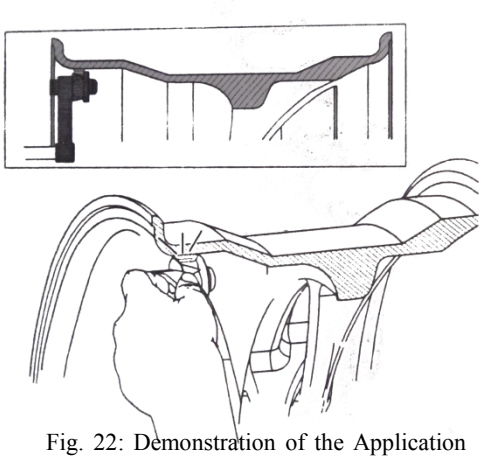


Fig. 22: Demonstration of the Application of Paste Type Balance Block for the Tyre Inside

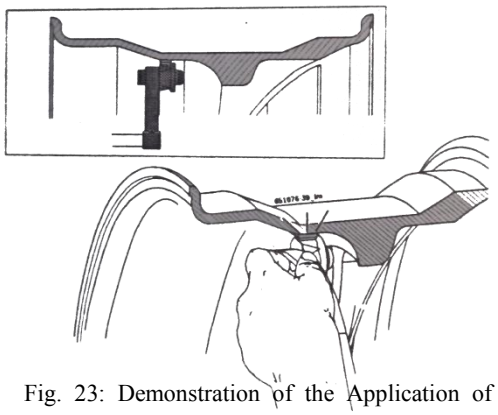


Fig. 23: Demonstration of the Application of Paste Type Balance Block for the Tyre Outside

Remove the original paste type lead block from the tyre. Make sure to use the lead block shovel supplied, and do not use other sharp objects to avoid damage to the rim.

8.5 Instructions of Upper and Lower Laser

8.5.1 Instructions of Upper Laser Function of Wheel Balancer

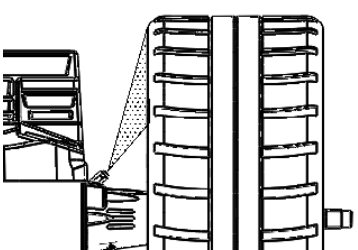
8.5.1.1 Functions:

The laser guiding function designed for the upper end of the machine's main shaft cover, could be intuitive to indicate the hook-type balance block placement, and identify the number and internal & external position according to the display of screen, which applies to the DYN mode.

8.5.1.2 Methods of Application:

1. The wheel balancer could start automatically under the fixed mode of hook-type lead block, and stop under the fixed mode of sticky lead block, without having to set it.

2. After the unbalance amount of the tyre detected emerges on the wheel balancer, it's necessary to rotate the tyre till all the phase lamps inside or outside the display panel are on, then the upper laser will point to the 12 o'clock position of main shaft.



8.6 Instructions of Lower Laser Function of Wheel Balancer

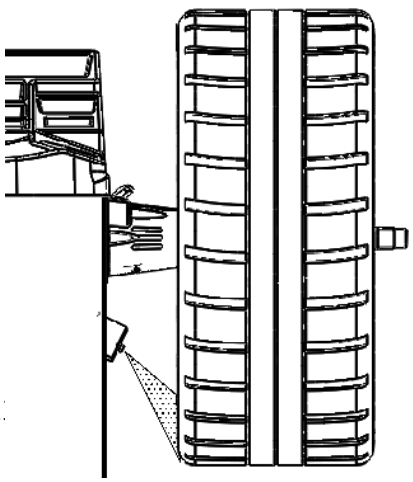
8.6.1.1 Functions:

The laser guiding device designed right below the machine's main shaft cover, could be intuitive to identify the 6 o'clock position right below the main shaft.

8.6.1.2 Methods of Application:

1. The laser guiding function should be closed when the wheel balancer is delivered for the factory, which shall be started according to the steps, if needed.

2. After the lower laser function is enforced, the wheel balancer switches to the sticky lead block fixed mode, and the tyre detected shall be rotated till all the phase lamps inside or outside the display panel are on when its unbalance amount emerges on the wheel balancer, then the lower laser will point to the 6 o'clock position below the main shaft.



8.6.1.

Laser:

Step one: Press C and then the T key to enter the calibration program interface, when the phase light is not flashing, release the key.

Step two: Press the ↓ key of the A-size input key, then the ↑ key, and last the ALU key respectively to enter the internal setting interface of the program.

Step three: Press the ↑ key of the A-size input key to enter the fifth column of the program, when the sign of "LAS" emerges on the right window of the display panel and the "OFF" on its left window, press the ↑ key of the B-size input key to adjust the window on the right to display "on", then press the ↑ key of the A-size input key to close the internal setting interface of the program, so as to successfully set the lower laser guiding function.

8.6.1.4 Precautions for Use:

1. When the lower laser guiding function is turned on, the lead block cannot be pasted with an internal automatic measuring scale.
2. After the lower laser guiding function is enforced, the program will automatically switch to the dimension input interface when all the sticky lead blocks re-pull the measure gauge to stick lead blocks under the fixed mode, thus facilitating the dimension input of tires detected under the fixed mode of sticky lead block.
3. After the lower laser guiding function is enforced, all the phase points of the wheel balancer's sticky lead blocks under the fixed mode will point to the 6 o'clock position of the main shaft.

9. Tyre and Rim Optimization (OPT)

Unbalance minimization (OPT) is the matching optimization of tyres and rims. Generally, the OPT function is recommended when the static unbalance of tyre is greater than 30g.

OPT mode is only applicable to STA or STA1 unbalance

1. Under STA or STA1 mode, if unbalance not greater than 30g is measured, press ESC to return back to the size input interface.
2. Press [F2] to enter OPT mode.
3. Operate according to the prompts on the interface to finish the tyre and rim optimization and matching.

 OPT mode is suitable for tyres with serious deformation of rim.

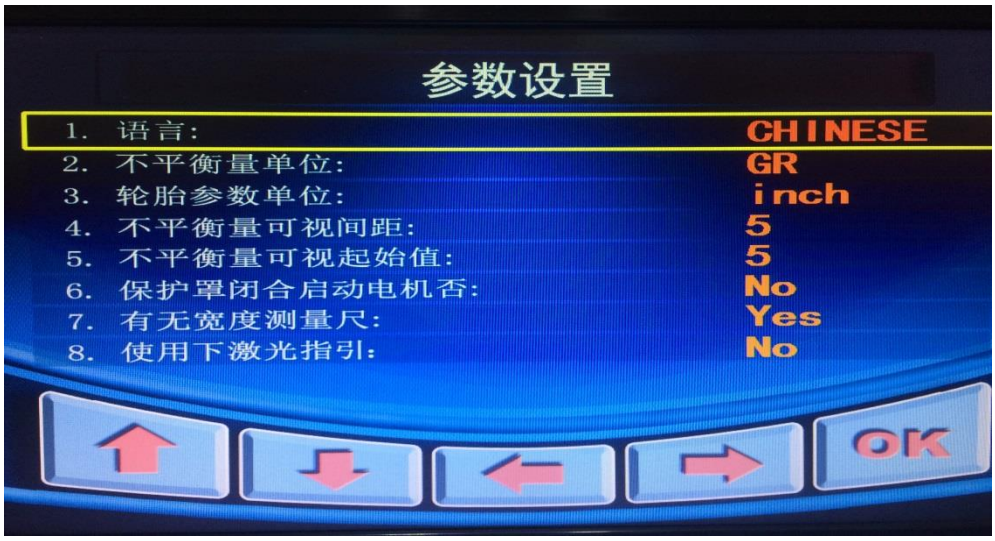
If the program is lost due to operation error or other reasons, the following adjustments can be made to restore the computer.

Proper setting of machine parameters can ensure the balance accuracy of H-820B.

The settings of each set of H-820B are pasted under the nameplate.

1. On the size input screen, press [F4] to enter the setting interface of H-820B.
2. Press [↑] and [↓] to select sequence, press [←] or [→] to modify the options and the response in display screen should be changed.

→ Setting categories are displayed on the left screen and values or contents of setting items are displayed on the right screen.



The value displayed in the right window is the standard memory value, i.e., the default value. The actual machine's memory value differs from the standard memory value.

When the memory is lost or the computer board is replaced, the standard settings shall be set again according to the label attached to the machine before delivery.

□ If the operation above is invalid, please contact the customer service department.

11. Faults

Other operational failures that may be present, first technical problems, must be checked by qualified engineers, and in any case, contact the customer service department of an authorized TAMP equipment dealer.

It is important to take prompt actions. When contacting the customer service department over the phone, it is necessary to specify the content of the nameplate and the type of failure.

Fault	Causes	Remedy
No display after startup	1. Fuse damaged 2. Switches are broken	1. Replace the fuse 2. Replace the switch
Display normally after the startup, while display the sign Err1 with	Failure of motor capacitor	Replace with a 20μF/400V capacitor

boominess when shutdown		
Display the sign Err1	Do not stop when the "START" key is pressed	Check the power supply board, computer board, PV module
Display the sign Err2	1. The tyre is not clamped 2. The spindle and screw rod installed are loose 3. The wheel is mounted wrongly and not locked tightly 4. The motor belt is too loose or too tight	1. Operate after the tyre is clamped 2. Reinstall the screw rod according to 5.1 3. Reinstall the tyre according to 6.1 4. Adjust the belt (see)
Display the sign Err3	The unbalance of tyre is too large	Replace the tyre to test and recalibrate if necessary
Display the sign Err4	The position sensor is wrong	Reposition the position sensor or replace it
Display the sign Err5	The wheel protection cover is not put down	Put down the wheel protection cover
Display the sign Err7	Memory data loss	Enter the memory value and recalibrate
Only display 00-00 with no numerical value	1. Sensor leads are broken or in poor contact 2. Memory value loss	1. Reconnect the sensor leads 2. Enter the memory value and recalibrate
The numerical value varies over 5g in every rotation	1. Tyres have foreign bodies or the rim center mounting surface is deformed 2. The sensor is damp, or the lock nut is not clamped 3. The external power supply voltage is low 4. Insufficient tyre pressure 5. The machine is not well fixed	1. Replace the tyre 2. Readjust the sensor 3. Use stable voltage 4. Ensure sufficient tyre pressure 5. Use expansion bolts to hold the machine on the flat cement floor
Non-stop time longer than 10 seconds	1. Bad grounding of external power supply 2. Interference	1. Check external power lines 2. Restart after shutdown
The balance value is not accurate, and it is difficult to level up to 00	1. The sensor is broken 2. The program is chaotic	1. Replace the sensor 2. Recalibrate
No brakes after a value is displayed	1. The brake system is damaged 2. External disturbance	1. Replace the power board 2. Restart the machine
The error exceeds 10g in the secondary disassembly	1. The inner bore of tyre is irregular 2. The screw rod installation is wrong	1. Replace the tyre to test 2. Reinstall the screw rod according to 5.1
Display the sign Err8 when self-calibration	1. Lack of the 100g lead block used for self-calibration 2. The pressure sensor leads are broken 3. Computer board fault 4. Power board fault	1. Add the 100g lead block 2. Check and connect the connecting line 3. Replace the computer board 4. Replace the power board
The error exceeds a few hundred grams	1. Memory parameters are wrong 2. The error of tyre is too large	1. Input again according to the label attached inside the machine

2. Replace the tyre to test

12. Repair

12.1 Cleaning and Maintenance

- Disconnect the power supply of H-820B before cleaning and maintenance
- Do not use detergent containing diluent. When cleaning plastic components, use alcohol or similar detergent

To ensure normal operation and efficiency of H-820B, the following operations must be performed

Maintenance	Weekly

Clean moving mechanical parts, use detergent to rinse the cover of lead block and plastic pieces of wheel guard, remove the dust on internal electrical elements and components in the machine and note that water is not allowed during air drying.

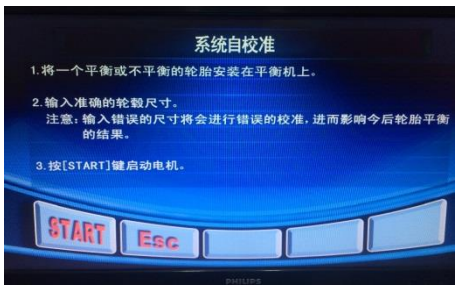
12.2 Calibration

- On the size input screen, press [F5] to enter the calibration selection interface.
- In the use of H-820B, it can be calibrated when its balance accuracy or measuring precision of measuring scale has deviation.
- The machine shall not be calibrated when it has no faults.
- Only trained personnel are allowed to operate the machine.

12.2.1 System Self-calibration

- **Attention: Before conducting system self-calibration, select DYN mode on size input screen to accurately input the three basic sizes of the wheel to be calibrated.**

1. Press [F1] to enter system self-calibration procedure.

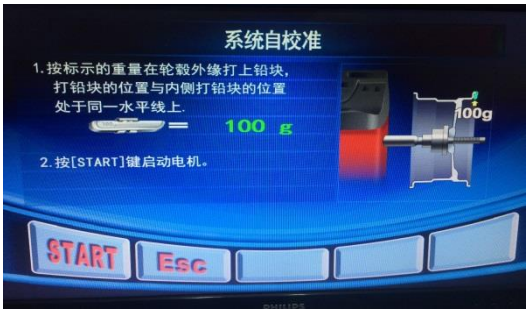


System calibration: step I

2. Press “START” to start measuring. When the screen displays “100”“ADD”, the 100g lead block taken with the machine should be applied at the 12 o'clock position at inner side of the wheel and then operate according to prompts on the screen.

System calibration: step II

3. Press “START” to start measuring. When the display panel displays “ADD”“100”, move the 100g lead block at inner side to outer side of the wheel and then operate according to the prompts on the screen.



System calibration: step III

4. Press the "START" key to start measuring, and then the display panel will display "OK".

7. Press [START] to start measuring and check the result.

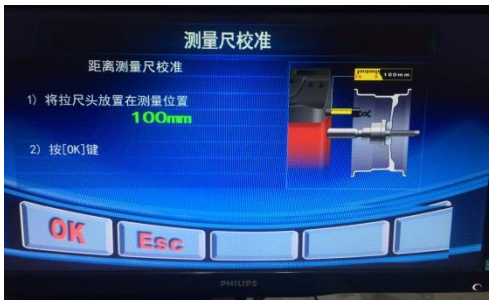
Item	Result
Values displayed	Display “00”“100” and allow an error of ±4g
Phase	All inside or outside indicator lights are on, and the allowable deviation of the 100g lead block right below the shaft is ±4°

→ System self-calibration ends

ℹ When the computer board or pressure sensor is replaced, the system self-calibration must be redone.

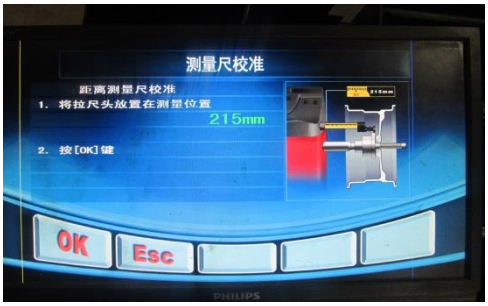
12.2.2 Self-calibration with Automatic Internal Measuring Scale

1. Ensure the internal measuring scale is at initial position, press [F2] to enter the internal measuring scale calibration interface and then operate according to the prompts.



Calibration of internal measuring scale: step I

3. Pull the measuring scale to 100mm, press the [OK] key to confirm, and the display panel displays “CAL”“215”, and then operate according to the prompts.



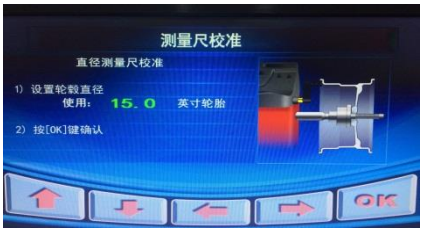
Calibration of internal measuring scale: step II

ℹ Pull the measuring scale to 215mm, swing the head of the scale so that the upper end of the scale head touches the inner side of wheel, and then press [OK] to confirm.

Pull the measuring scale to 21.5cm

The scale head should be pressed on exterior eaves of the matcher

4. With regard to the calibration of diameter measuring scale, use 15in tyre for the setting of rim diameter and then operate according to the prompts on screen, and then click [OK] to confirm.



Calibration of internal measuring scale: step III

Pull the scale head at the third step of the internal measuring scale

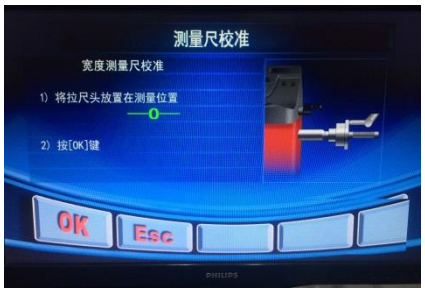
4. View the result

Calibration of internal measuring scale: step IV

12.2.3 Self-calibration with Automatic External Measuring Scale

1. Ensure the external measuring scale is at initial position, press [F3] to enter the external measuring

scale calibration interface and then operate according to the prompts.

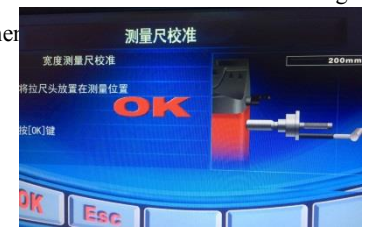


Calibration of external measuring scale: step I

2. Put the head of the external measuring scale on surface of the matcher, and then click [OK] to confirm.

Calibration of external measuring scale: step II

3. Put the external measuring scale calibrator between the matcher and external measuring scale head and ther



Calibration of external measuring scale: step III

ℹ View the result. It means calibration success if OK appears.

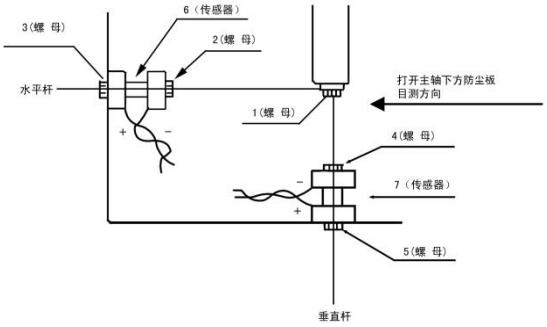
12.3 Self-inspection

1. On the size input screen, press [F3] to enter the self-inspection interface.
2. Test the data of pressure sensor.
3. Test the data of internal and external measuring scale potentiometer.
4. Test the backpack stroke switch.

ℹ The self-inspection program tests the position sensor and pressure sensor, potentiometer and stroke switch.

12.4 Pressure Sensor Structure and Adjustment

1. Loosen nut 2, 3, 4 and 5.
2. Then loosen the nut 1 and unscrew the vertical rod.
3. Take out the sensor and check it or replace the pressure sensor.
4. Place the long line of sensor on the vertical bar, the short line on the horizontal bar, with the positive poles of the two sensors facing down.
5. After combining the horizontal rod and the vertical rod, screw the vertical rod into the square deformed beam with a depth of 1 to 1.5 cm.
6. Visually check whether the main shaft is vertical to the cabinet, if not, adjust the 2 or 3 nuts.
7. Tighten the 4 nut a half turn with a wrench after tightening it by hand, then tighten the 5 nut firmly.
8. Tighten the 2 nut a half turn with a wrench after tightening it by hand, then tighten the 3 nut firmly.
9. After the installation, use a steel wire to connect the sensor connector for discharging.



ℹ Be sure to stop the machine before repairing the pressure sensor. Do not disassemble the sensor when the machine is turned on, otherwise, the computer board will be burnt out. While the fatigue test is required after maintenance.

ℹ Mount a 15″ or more tyre on the machine, connect the computer board pins 1 and 8 to enable the machine run automatically, after continuously running of 15 minutes or so, turn off the power for about 30 minutes,

then re-turn it on, and repeat the fatigue test more than 5 times.

12.5 Belt Tension Adjustment

1. Remove the cover.
2. Loosen the motor screws, move the motor till the belt tensioning is properly, and press the belt with force to lower it about 4mm.
3. Tighten the motor screws and put the cover on.

12.6 Fuse Replacement

Mount the two fuses on the power board and ensure they could be removed from the fuse holder. Once damaged, replace with the same size.

Function	Technical Specifications
Rim width	1.5"-12"
Rim diameter	12"-24"
Max. wheel diameter	800mm
Max. wheel weight	65kg

13. Shutdown

13.1 Temporary Shutdown

When not in use for a long time

- Disconnect the circuit connection

13.2 Place Change

- Upon the transfer of H-820B, the documents attached at the time of supply shall be transmitted to the other party in full.
- The H-820B is transported only in the form of original packing or same packing.
- Disconnect the electrical connection
- Note the instructions for the first startup and debugging
- H-820B is bolted to the supporting plate again.

13.3 Waste Removal and Scrap Disposal

13.3.1 Water Pollutants

 Lubricants, grease and lipid-containing waste (such as filters) are substances that pollute water.

1. It is prohibited to pour pollutants into drainage pipes.
2. Waste materials that pollute water must be disposed of in accordance with existing regulations.

13.3.2 H-820B Disassembly and Accessories

1. Disconnect the H-820B power supply and unplug the power supply cable.
2. Disassemble the H-820B and classify according to the materials and deal with in accordance with the relevant provisions in force.

14. Technical Parameters

14.1 H-820B

Function	Technical Specifications
Motor speed	910rpm 50HZ
Measurement resolution	±1g
Noise level	<70db
Power	0.25Kw
Voltage	Refer to voltage specified on the nameplate
Level of protection	IP22

14.2 Scope of Application