Katool KT-B760 Wheel Balancer Operation Manual

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WHEEL BLANCER

Thank you for purchasing our professional grade automotive equipment!

Quick Features:

- Emergency STOP button.

- With OPT function, optimize tire rim fit.

- With unit conversion function.

- Multiple balancing methods for more accurate balancing.

- Balancing accuracy up to ±1g, short balancing time.

- With self-correction and automatic fault diagnosis function.

- Balance decomposition function. (hidden weight behind wheel spokes)

- With automatic ruler ranging and measuring function

Technical Data:

The maximum wheel weight	65kg (143 LBS.)
Rated power supply	110V、220V
Balance accuracy	±1g
Width of rim	1.5″ －20″
Diameter of rim	8″ －30″

Control Panel Display:
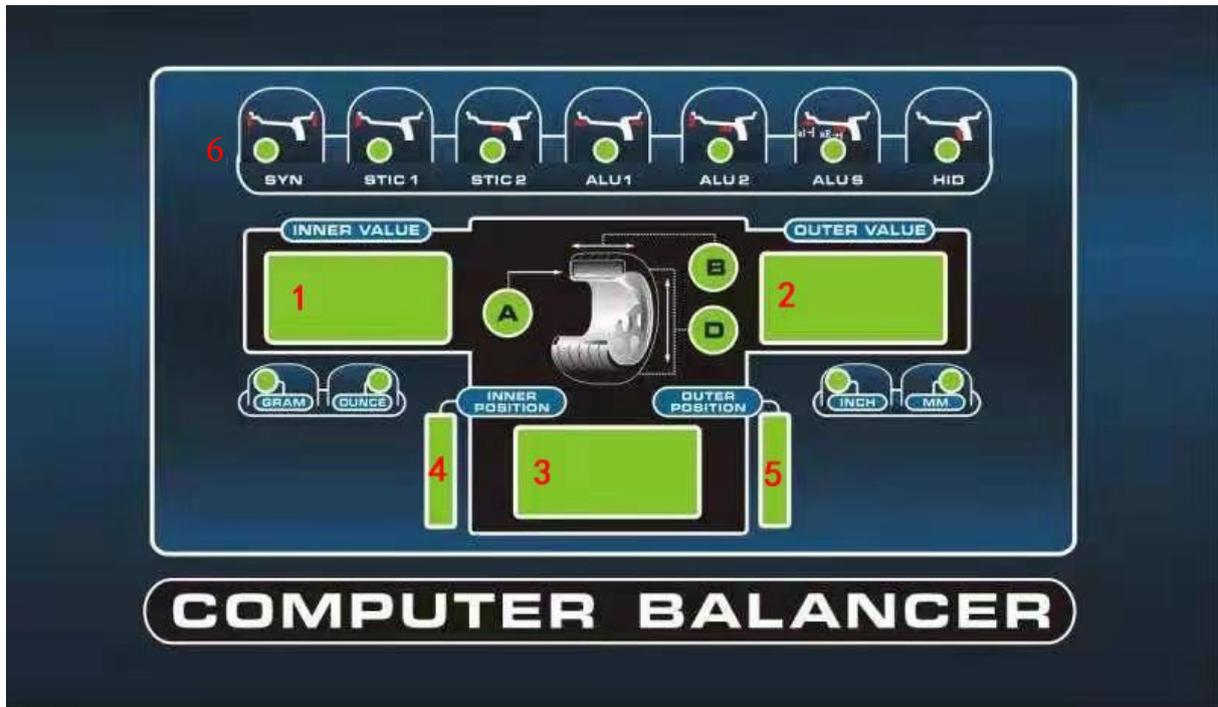
Display panel meaning:

-Window 1. shows tire inboard unbalance value or reference distance A size.

-Window 2. shows tire outside unbalance value or diameter D size.   -Window 3. shows tire width B dimensions and suggestive characters.

-Window 4. displays inner side unbalance position indication (inner side with key indication).

-Window 5. displays indication of unbalanced position on the outside (with key indicator on the outside)

-Panel area 6: The first five lights on the top row are in balance mode (as shown in the icon), and the last one is hidden indicator for unbalanced block segmentation.

-The two lights below window 1. represent the gram and ounce switching instructions, and the two lights below window 2. indicate the tire size unit "mm/INCH" (mm/INCH) switching instructions.

Keyboard:

(A) A = Distance of machine to wheel. Manually enter the reference distance size with button A, press the arrow to go up, increase the input size, press the arrow to go down, reduce the input size.

(B) B = Width of wheel (Measured with rim caliper) B Manual input size B, press the arrow to go up, the input size increases, press the arrow to go down, the input size decreases.

(D) D = Diameter of wheel. Manually enter size D, press the arrow to go up, the input size increases, press the arrow to go down, the input size decreases.

(C) C correction key/reset key.

(ALU) Aluminum wheel measurement and dynamic balance measurement selection key.

(OPT) Balancing machine optimization function operation key, used for tire rim optimization combination.

(F) Static and static balance function switch key.

(FINE) Button displays < 5g(0.3oz) actual unbalance value 10, mm/inch for size unit mm/inch switch display

(Start) button, engages the motor to spin the wheel and begin balance sequence.

(STOP) emergency STOP and electromagnetic lock button

Function conversion key combination:

[STOP]+[A ↑]+[A ↓] Grand-ounce conversion key

[STOP]+[C] Start under cover

[STOP]+[FINE] Calibration distance measuring ruler A

[STOP]+[OPT] Calibration Diameter Measurement Ruler D

[F]+[C] Machine System Balance Calibration and Set Machine Parameter Values

[F]+[START] The machine ages automatically

[D]+[OPT] unbalanced decomposition

*After function conversion, function options will still be saved.

Note: Use hand buttons only, do not use clamps or any other sharp objects.

Wheel balancer operation:

*After the power is turned on and the device code is displayed, the display window displays "8.0 5.7 14.0", which proves that the machine is normal.

1. Preparation before the test: check and remove the dust, soil and tread of the tire whether there are metal, stone and other foreign bodies; Check whether the tire pressure is in line with the specified value; Check whether the positioning surface and mounting hole of the rim are deformed, check whether there are foreign bodies in the tire; Remove the original balance block.

2. There are three types of wheel installation, including positive positioning, reverse positioning and additional flanges for large and medium tires. A positioning method can be selected arbitrarily according to the actual situation.

Installation of Wheels:

1. <u>Forward Positioning</u>

−**Forward positioning is a common positioning method, the operation is simple and fast, mainly suitable for ordinary steel wheels and thin aluminum alloy wheels.**

<u>Order of installation:</u>
-Spindle
-Wheel (rim mounting face inwards)
-Fit cone (small head inwards)- Wheels
-Quick nut

2. <u>Reverse Positioning</u>
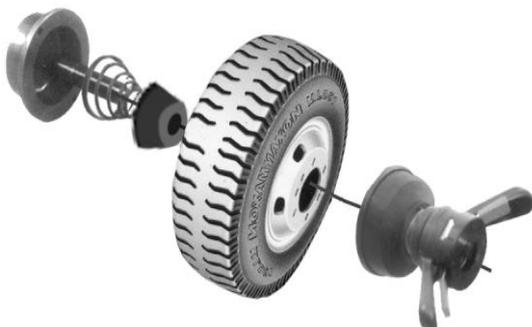
−**When the wheel outside deformation is large, the reverse positioning is used to ensure the accurate positioning of the inner hole and spindle of the steel rim. It is suitable for steel wheels, especially for measuring thick aluminum alloy wheels.**

<u>Order of installation:</u>
-Spindle
-Spring
-Fit cone (big head inward)
-Wheel
-Quick nut

3.   Special flange positioning
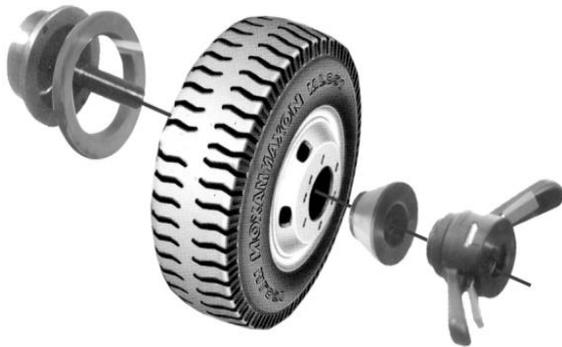
This positioning method is suitable for the wheel center hole Φ148 below the tire installation. Also suitable for heavy duty truck applications.

Order of installation:
-Spindle
-Adapter ring
-Wheel
-Large cone
-Quick nut

Note: the choice of cone should be adapted to the center hole of the rim, and pay attention to its direction, otherwise it will cause inaccurate measurement.

Measurment Inputs:

Input steps:

1. First enter the size (A)

    - The distance measuring ruler of the machine itself is used to measure the distance between the body of the balancing machine and the rim of the inner edge (A) value

Note: use automatic pull ruler to enter A value. In '0 bit position, pull the ruler and touch the inner lip of the wheel and hold for a few seconds. At this time on the left side of the digital tube display the value of reference for the pull rod input size (A) value, on the right side of the value of digital tube display is the wheel diameter size (D)value of reference. If the size value flashes, the ruler does not return to zero position.

2.   Then enter the size (B)

    Measure rim width (B) with wheel width caliper. Increase the value by pressing [↑]; Decrease value by pressing [↓] Until the measured "B" value is displayed.

3.   Then enter the size (D)

Find the nominal diameter (D) marked on the tire. Increase increase the value
by pressing [+]; Decrease the value by pressing [↓]
Until the set "D" value is displayed

Note: If the radar width measuring device is available, the machine will automatically measure the width B value of the tire at the same time as the protective cover is lowered, without the need to manually input the size "B".

ALU-S balance mode dimension input method:

Do not clamp lead on the outside of the aluminum rim balance (S balance).
1) Manual input of rim data
Press key to select "S" balance mode (corresponding indicator light is on), please refer to (figure)
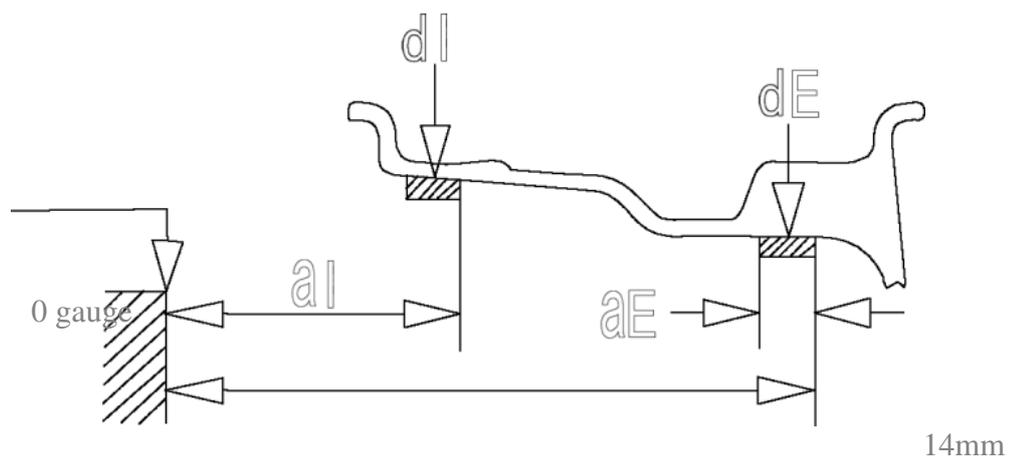
A) To change AL value, press A ↑ , A ↓ to change.

B) Change AE value by pressing B ↑ , B ↓ .

C) To change the DL value, press D ↑ , D ↓ to change.

D) To change the DE value, press < FINE > and hold it all the time, and press D ↑, D ↓ to change.

Note: The default value DE = 0.8dL. When the dL is changed, DE returns to the default value. When the system calculates the center of gravity of the balance block and the distance of the balancing machine, it will automatically consider the balance block according to 14mm.

Automatic rim data:

Pull the pull rod, the pull rod to measure the tires in the first place, stop for a few seconds, the digital tube display 5.7, aI your measurements first position and continue to pull the pull rod, to measure the second position, the digital tube display, ALU S second position after aE measurement, loosen the pull rod position 0, the value on the left side of the digital tube display is the aI, The intermediate digital tube display is AE value.

（2）
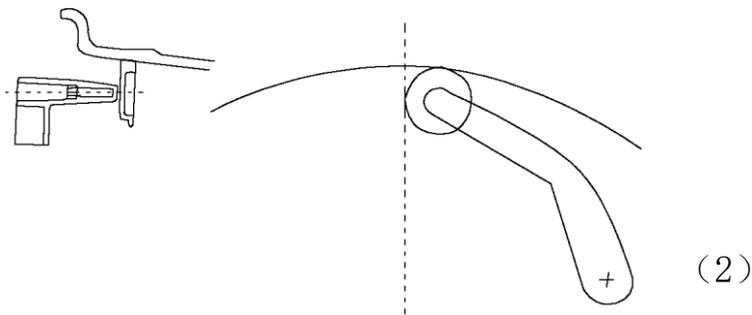
Balance mode selection:

Press F to select static balance and ALU to select other modes.

Select the following different balancing modes according to the position and mode of adding the balancing block. Press F and ALU continuously in the display window of balancing mode (such as the control panel diagram) to display the following different balancing modes. Every time the boot automatically into the dynamic balance, no need to make a choice.
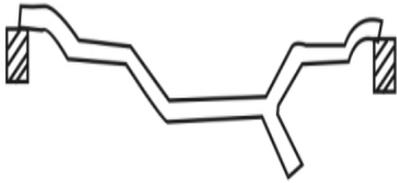
Dynamic Balancing - A balancing block (clip on weight) is placed on both sides of the rim. Used for both steel and aluminum alloy rims.

Static Balancing- Static balance correction is performed on one side of the tire. This consists of only one side or single weight placed on the rim. (one clip on or adhesive weight)
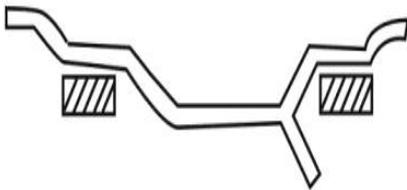
ALU1- Balanced aluminum alloy rim, adhesive balancing block method is adopted on both sides.
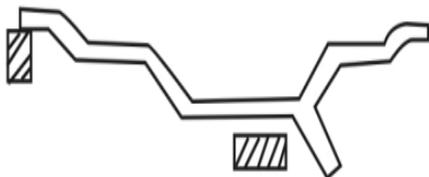
ALU2- The inner side is clamped with the balance block (clip on weight), and the outer side is adhered to the balance block (the position of the outer balance block is shown in the figure).

Special shape rim balancing operation (ALU-S balancing mode):

*Press < ALU > key to select "S" balance mode (corresponding indicator light is on), enter rim data by "S" balance mode, and start the machine for unbalance calculation. After the machine balance is completed and the unbalance is displayed:

A. Rotate the tire slowly, and fix the tire when the left position indicating diode is all bright and there is a buzzing sound (it will be automatically locked when there is electromagnetic device), clamp the lead block with the same inner imbalance value on the ruler fixture, pull the ruler until there is buzzing sound and it shows [***][O--][***], it means that it has reached the horizontal position attached to the inner lead block. At this time the ruler will be close to the hub, so that the lead firmly stuck on the hub.

B. Rotate the tire slowly, and fix the tire when the position indicator diode on the right side is all bright and there is beep (it will automatically lock when there is electromagnetic device). Clamp the lead block with the same unbalanced value on the outside side on the ruler clamp, pull the ruler until there is beep and display [***][--O][***], it means that it has reached the horizontal position attached to the outside lead block. At this time the ruler will be close to the hub, so that the lead firmly stuck on the hub.

C. the above operation is in the absence of the laser pointer lead operation, if there is under the condition of the laser pointer, where there are lead balance mode, after the complete balance not calculate, slowly turn the tires to the unbalanced position, tire lock, a laser designator light up automatically, then match the size of the lead weights on the laser indicating location.

Unbalanced decomposition:

Decomposition is used on the outer side of the static balance or ALU-S balancing mode and can be used to covertly attach the balancing block to the rim behind the spokes. Press < START > to complete the ALU-S balance calculation of the tire. When the imbalance value is displayed:

Number of input wheel frames

Enter any size, press < D > + < OPT > key
Press < ↑ > or < ↓ > to set the number of wheels (3-12).
Press < D > + < OPT > to confirm.

Unbalance of decomposition

Make any bar at 12 o 'clock and press < ALU > to decompose.
The center display displays "SPL".

Rotate the tire slowly until an imbalance value appears on the right display. At this time, if there is a laser device, the corresponding weight of lead block is attached behind the spokes in the laser indicated position, otherwise, the corresponding weight of lead block is attached behind the spokes by pulling the ruler.

Rotate the tire slowly again until the second unbalance value appears on the middle display screen. At this time, stick the lead block with the corresponding weight in the way above, and the tire is balanced.

Note: At this point, press < FINE > to see that the balance precision is 1g. To return to the normal unbalance value display, press < START > or < C >.

Balancing a tire/wheel:
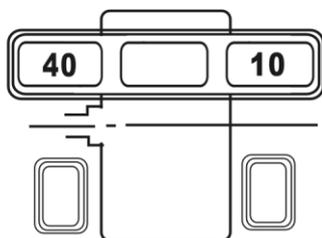
Ⅰ Press Start button to START. After automatic braking, the display is as shown in the figure below:

40 Is the inside error of the tire

10   Is the error value of tire outside
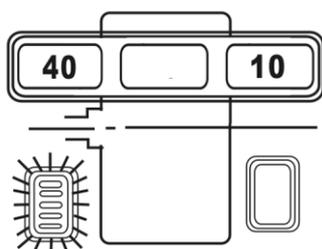
II Slowly turn the tire, when the inside lights are all on, put a 40g lead block on the inside side of the rim just above the vertical spindle, as shown in the figure:
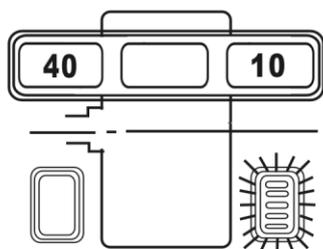
III Slowly turn the tire so that the outer indicator lights are all on. Put a 10g lead block just above the outer rim, as shown in the figure:
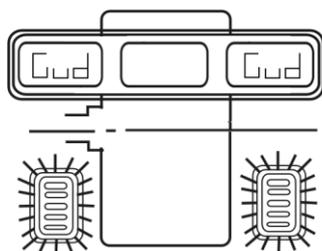
Ⅳ Press Start button to START. After braking, the display window shows 00. After balancing, remove the tire. If it does not reach 00, follow the steps above

Reoperate until it reaches 00.

Press FINE to observe residual errors。

Unbalance optimization:

It is recommended to run this program when the unbalance value shows more than 30 g, which can reduce the unbalance of the tire and add the balance block when reducing the balance.

Normal balancing operation has been performed and the wheel has rotated once.

If the unbalance value is more than 30G, the display screen "OPT" (displays in the center when doing dynamic balancing)

Between the display screen, static balance display on the left screen) press <

[82] [35] A mark is made at the top of the tire (12 o 'clock position) when the small light in the middle of the unbalance indicator lights on both sides of the tire is turned on at the same time.

[82] [35] When the tire is rotated again until the small lights on both sides of the unbalance indicator light are on at the same time, make a mark at the top of the rim (12 o 'clock). Remove the wheel and use a tire splitter to overlap the tire with the rim mark.

Wheel not yet rotating (or static unbalance value less than 30g)

Press the < OPT > key, and the left screen displays "OPT".

Press < Start >, the wheel rotates for the first time. After the rotation is completed, it will display [] [180]. The following can be operated by pressing

4.6.1 Balancing machine maintenance and repair

5.1 Automatic correction A value of drawing rule:

(1) When the ruler is back in position, press [STOP]+[FINE] to display CAL 100 on the digital tube. At this time, pull the ruler back to the position of 10CM.

② After pressing ALU key, display CAL-0 -

③ When pulling the ruler to the flange position of the balance shaft, press the ALU key.

(4) If the digital tube shows Cal End, the correction is passed.

5.3 D value of drawing rule automatic correction:

② Press the [STOP]+[OPT] key combination at the ruler position (0 position)

(2) Press [D+], [D-] keys to adjust the diameter of the tire, such as 15 inches, press [ALU] key to confirm, the window shows [POS][15.0]

③ Install the 15 "tire, pull out the ruler and put the ruler against the inner rim, keep it still and press it at the same time

[ALU] key to confirm, digital tube display CAL END, indicating that the correction has passed.

5.4 Self-correction

Self-correction can be re-corrected when the manufacturer has finished, used for many years, replaced parts or suspected that the balance error is too large. Select a medium tire (13 ", 14 "rims) on the spindle and enter the correct value for this tire.

Note: select a better tire for self-correction and enter the size correctly, otherwise the subsequent measurement value will be inaccurate.

Wheel Balancer Calibration

1. Mount wheel/tire to machine and enter A value and D value with pull ruler.

2. Enter the B value.

3. Hold down the F button then C button, and display should read "CAL CAL" on both readout screens.

4. Press the start button. After the tire spins, the outside shows 100 or 3.50, find the outside point, and place 100g (3.5 oz) lead weight directly above 12 o' clock position.

5. Press the start button. After the tire spins, the inside side will show 100 or 3.50, take off the 100g (3.5 oz) lead weight on the outside.

6. Find the inside point and place 100g (3.5 oz) of lead directly above 12 o' clock on inside, and press the start button.

7. The display should read "CAL END" on both sides.

8. Calibration is now complete.

> ***** A = Distance of machine to wheel. (pull ruler)
> B = Width of wheel (measured with rim width caliper)
> D = Diameter of wheel
>
> ***** Calibration best achieved with 14",15" or 16" steel or aluminum wheel and tire in good condition (unbent, no shifted belts, or bulges)

Abnormal operation and elimination of self – calibration

The fault	Cause	method
E-rr-8-	1. 100g self - calibrating lead is not added 2. The lead wire of pressure sensor is broken 3. Computer board failure	1. Plus 100 grams of lead 2. Check the connection wire and connect it properly 3. Replace the computer board
E-rr-6-	1. The pressure sensor is not installed correctly 2. The calibration sequence is wrong first lateral then medial	1. Check whether the piezoelectric sensor is reversed 2. Calibrate according to correct operation

If you cannot solve the problem through the above methods, please contact our service

Note: When the computer board, phase sensor or pressure sensor is replaced, it must be self-calibrated again. When the computer board is replaced, its parameters should be set according to the parameter values marked in the machine or the parameters of the original board. After modification, it must be self-calibrated again.

Troubleshooting:

The fault	Cause	method
No display on boot	1. Check the external circuit 2. Check whether the switch is damaged	1. Check with a multimeter 2. replace
After boot, the display is normal, but it does not start and has a buzzing sound. ERR1 is displayed	1. Motor capacitance failure 2.380V power supply phase loss	1. Replace a capacitor of 20uF /400V 2. Check the power supply
Err-1-	1. Press Start to stop the car 2. Press Start without brakes	Check the computer board, power board and photoelectric board
Err2	1. Did not install the wheel 2. Only one steel ring, not on the tire 3. The spindle matcher is not installed tightly 4. The wheel was installed incorrectly and did not lock properly 5. The belt is too loose or tight	1. Try it on a wheel 2. On the tire 3. Retighten the retaining bolts 4. Choose the right cone and install it correctly 5. To readjust

Error Codes:

Err3	The wheel unbalance is too b	Replace the tire test, or re-calibrate
Err4	1 If inverted, the phase line is wrong 2. Forward rotation is a problem with the position sensor	1. Three-phase electrical equipment, phase adjustment can be 2. To reposition or replace
Err5	Wheel guard is not down	Put Wheel guard down
Err7	Memory data loss	The self-calibration
Shows only 00-00 innumerable value displays	1. Sensor leads broken or poor contact 2. Memory value missing	1. reconnect 2. Correct the memory value according to the instruction
The range of each rotation value is over 5g	1. Foreign body in tire or deformation of center mounting surface of rim 2. The sensor is damp or the lock nut is not clamped 3. Low external power supply or insufficient tire pressure, the matcher is not locked	1. Change the wheel 2. Dry and readjust the sensor 3. Put in the anchor screw
Each rotation value range of dozens of grams	1. There is a foreign body in the wheel or the wheel unbalance is too large 2. Sensor is bad 3. The external power supply is low	1. Change the wheel and try 2. Check the sensor and wiring 3. Check and repair or install the voltage regulator
More than 10 seconds of non-stop time	1. Bad grounding of external power supply 2. interference	1. Check the external power line or switch it on in another place 2. Turn off the machine and restart the machine
1 do the balance is not accurate left and right interference, it is difficult to flat to 00	1. Damp or damage to the sensor 2. Program chaos	1. Readjust, dry and self-calibrate or replace 2. The self-calibration
Do not brake after displaying the value	1. Brake system damage 2. Outside interference	1. Replace the power board 2. Restart the machine and try
The error of secondary disassembly exceeds 10g	1. The inner hole of the wheel is irregular 2. Matcher not installed properly	1Change the wheel and try 2. Re-examine the mounting surface and try it

Error codes cont.:

Err8	5.1	
Display an error of a few hundred grams	1. Memory value three parameters messed up 2. The tire error is too big	1. Correct to standard value according to instruction 2. Change a tire and try it

Self-check procedure (detect position sensor and indicator light):

Press < D > key, all indicator lights and digital tubes on the system panel are on (if there is an electromagnet, the electromagnet will close; if there is a laser indicating device, the laser will be lit) to check whether the display (electromagnet and laser indicating) is normal.

5.7.1 Press < ALU >, and the display screen displays [POS] [XX]. At this time, it can detect whether the position sensor is normal, and slowly rotate the tire (XX) value by hand.

Note: In this state, when turning to [POS] [18], press key, and the display screen displays [CAL] [-o -], indicating that the balance shaft base and zero clearance can be carried out at this time. Under the condition that the balance shaft is not loaded with tires, press the key to START the balancing machine for balance calculation, until the display [CAL] [END] indicates that zero clearance is completed. However, this kind of zero clearance because of the interference of the belt and the box can not guarantee the absolute zero clearance shaft, but it can be guaranteed within 4 grams.

5.7.2 Press < ALU > button to display [P0.] [XX]. At this time, the quality of

horizontal piezoelectric can be checked. The normal value is between 300~400. At this time, pressing the balance shaft can see that the number has a large jump change is normal, otherwise the horizontal piezoelectric line or the circuit board part has a fault.

5.7.3 Press < ALU > key and display [P1.] [XX]. At this time, the quality of vertical piezoelectric can be checked. The normal value is between 300~400. At this time, pressing the balance shaft can see that the number has a large jump change is normal, otherwise the vertical piezoelectric line or the circuit board part has a fault.

5.7.4 Press < ALU > key to display [dIS] [xx] at this time pull the ruler can check the quality of the distance ruler. For repeatedly pulled to a certain position, its display value is basically the same.

5.7.5 Press < ALU > again to display [DIA] [XX]. Rotate the drawing ruler at this time to check the quality of the diameter ruler. The value should not be between 750 and 900 when the ruler is leaning against the rotation axis. For repeated rotation to a certain position, the value displayed is basically the same.

5.7.6 If there is radar width measurement, press < ALU > to display [LAR] [360]. "360" indicates the distance between radar transmitting head and the flange face of balance shaft. Can press B button [↓], B button [↑], adjust. For the specific adjustment, the protective cover can be lowered at this time to start the radar width measurement (pay attention to the correct distance value), until the measurement is accurate.

Press < ALU > to exit

Note: press < C > at any time to exit the self-check operation.

Customer notes:

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