Wheel Balancer Manual

OK-08.3101

Distributor:

Auto Partner SA

Ul. Ekonomiczna 20

43-150 Bieruń

www.rooks.pl

Warning

- This manual is a necessary part of the product. Please read carefully.
- Keep the manual for later use when maintaining the machine.
- This machine can only be used for the designated purposes. Never use it for any other purpose.
- The manufacturer is not responsible for the damage incurred by improper use or use other than the intended purpose.

Precaution

- The equipment can only be operated by qualified personnel with special training. Modification to any components or parts, or use the machine for other purpose without either obtaining the agreement from the producer, or observing the requirement of the instructions may lead to direct or indirect damage to the equipment.

★ The equipment should be installed on the stable ground, not wooden pallet, otherwise not accurate.

- Keep the back panel 0.6M away from the wall for good ventilation. Enough room should be left on both sides for convenient operation.
- Do not put the equipment a place with high temperature or moisture, or near the heating system, water tap, air-humidifier or chimney.
- Avoid lots of dust, ammonia, alcohol, thinner or spraying binder.
- People who are no operating the machines should be kept away when it is used.
- Use appropriate equipment and tools, protective and safety equipment, including eyeglasses, earplugs and working boots.
- Pay special attention to the marks on the machine.
- Do not touch or approach the moving parts by hand during operating.
- Do not remove the safety device or keep it from working properly.

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1. General

1.1. Technical data：

- Max wheel weight：65kg
- Power：0.2kw;0.37kw
- Power supply: 220v;230v;240v;110v;50hz;60hz
- Balancing accuracy：±1g
- 8 balancing modes: DYN, ALU1, ALU2, ALU 3，ALUS, ST
- Balancing speed：180r/min
- Cycle time：8s
- Rim diameter：10〃～24〃(256mm～610mm)
- Sound pressure level during work cycle：<70db

1.2. Features：

- Distance and diameter value input automatically
- Statistic and dynamic balancing, ALU-programs for alloy rims or special shaped
- Self diagnoses, easy to find the problem
- Apply to steel and aluminum alloy rim

1.3. Working environment：

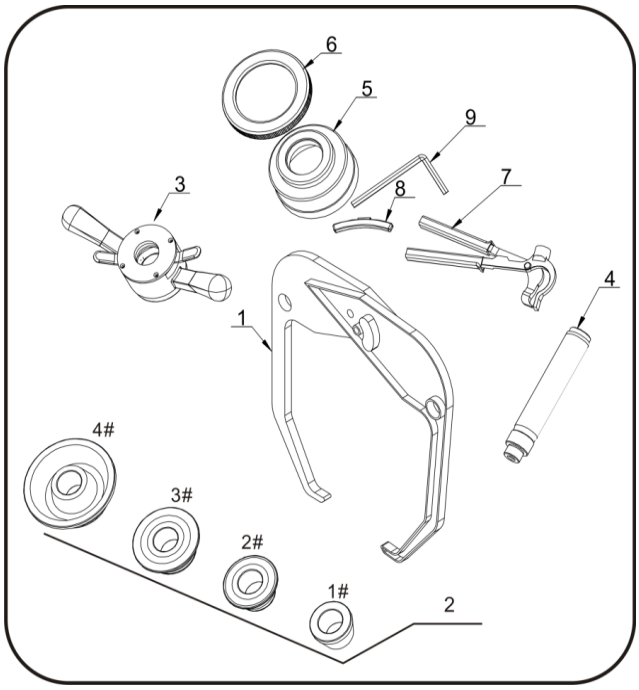
- Temperature：5～50℃
- Height：≤4000m

2． Machine assembly

2.1. Unpack

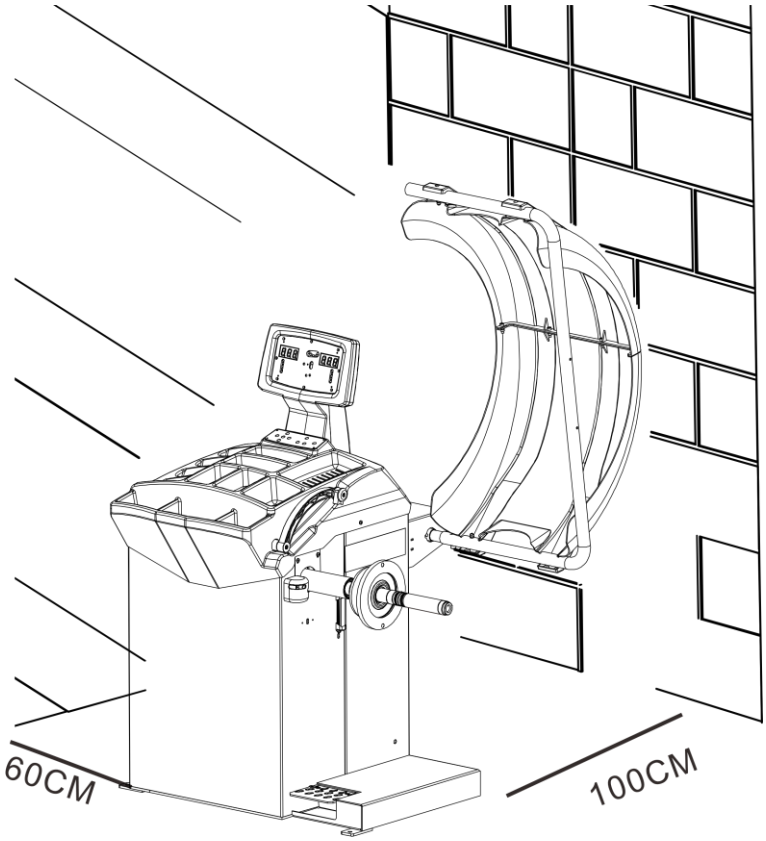
Unpack the carton, check if missing any spare parts.

No.	Item	Qty
1	Width gauge	1
2	Conic No.1	1
	Conic No.2	1
	Conic No.3	1
	Conic No.4	1
3	Quick release nut	1
4	Thread hub	1
5	Bowl for quick nut	1
6	Pad for bowl	1
7	Balancing hammer	1
8	100g weight	1
9	Allen wrench	1



2.2. Install

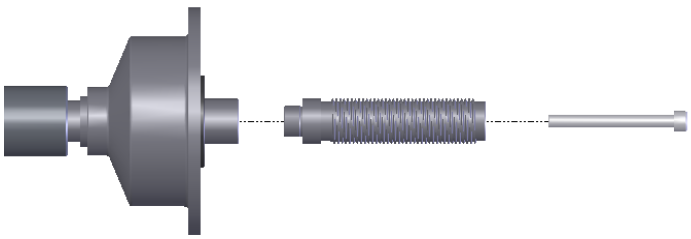
- The equipment should be installed on the stable ground, not wooden pallet, otherwise not accurate.
- Keep the back panel 0.6M away from the wall for good ventilation. Enough room should be left on both sides for convenient operation.



2.3. Fix balancer to floor with screws on the bottom.

2.4. Install adaptor

The wheel balancer is supplied complete with cone type adaptor for fastening wheel with central bore. (see below picture)

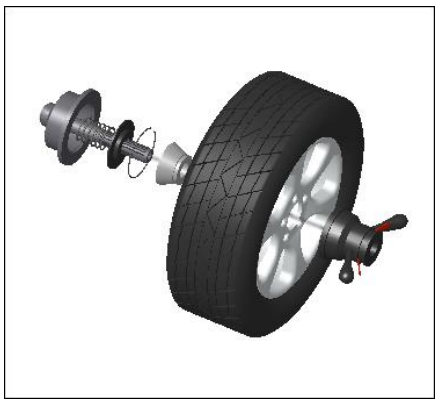


2.5. Install wheel

Clean wheel, take off counterweights, check pressure of wheel.

Choose the way of installation according to the type of wheel.

Main shaft-wheel—suitable cone(small head towards inside)—quick handle nut

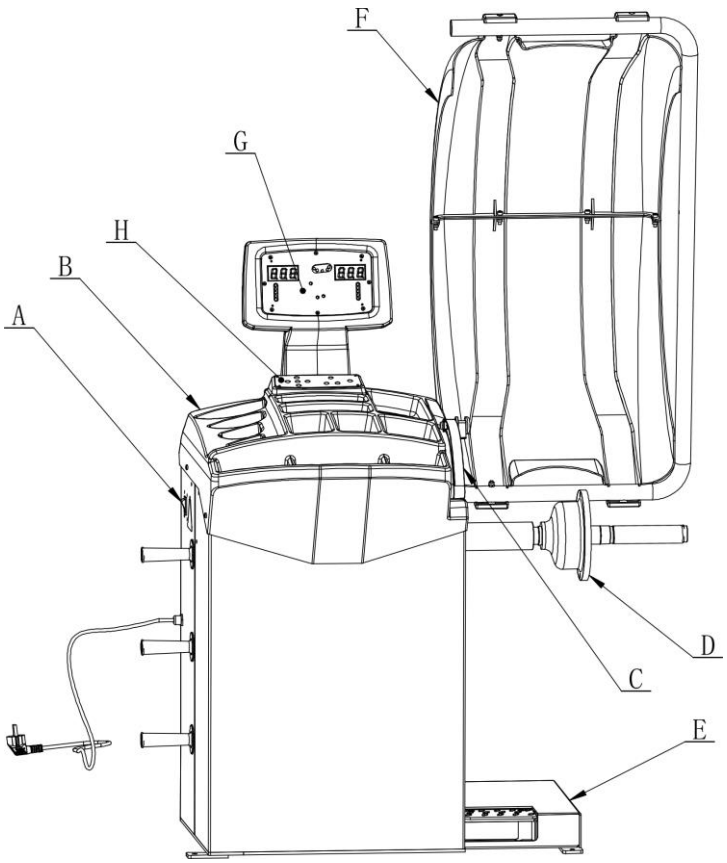


Main shaft-suitable cone(big head towards inside)—wheel—quick handle nut

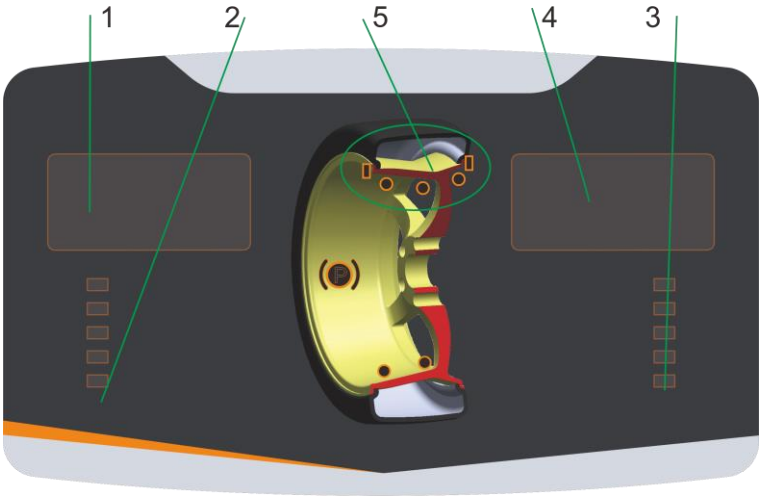
Attention：May add a wheel, and hold the wheel to help install the thread hub. When installing or taking off wheel, do not let wheel move on the shaft, to avoid scratching shaft.

3．Controls and components

No.	Item	Standard/Optional
A	Switch	**S**
B	Head with tool tray	**S**
C	Gauge head	**S**
D	Main shaft	**S**
E	Pedal breaker	**S**
F	Safe guard	**S**
G	Display board	**S**
H	Keyboard	**S**

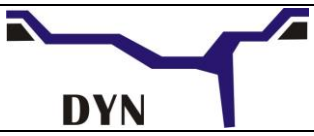


Display plate (G)

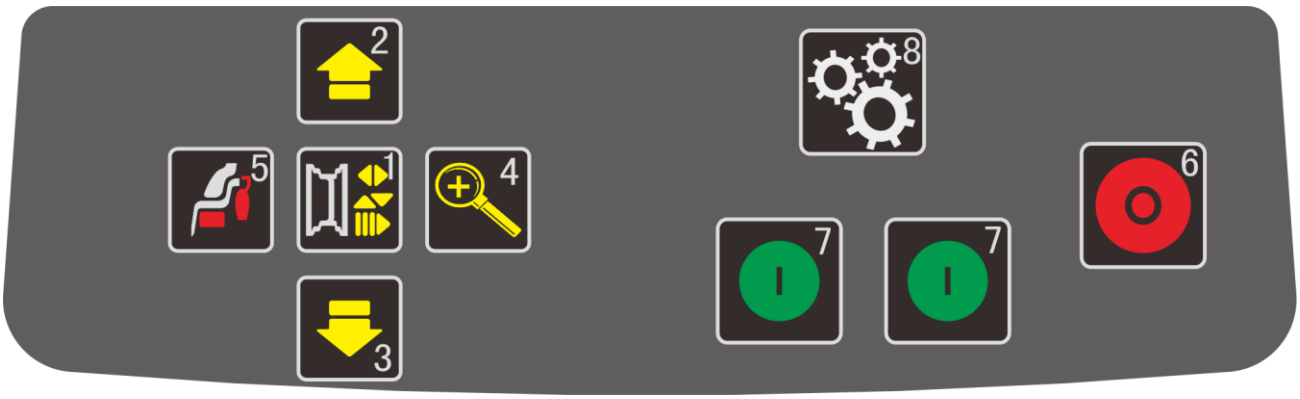


1. inside amount of unbalance
2. Digital readout, inside position of unbalance
3. Digital readout, outside position of unbalance
4. outside amount of unbalance
5. “ALU” correction mode selected, can choose following different modes:

Eight balancing modes

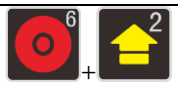
Icon	Balancing mode	Operation	Add weights
	Standard/Default	1. Turn on machine 2. Input a,b,d value 3. Start spin, after spin stop	Clip on weights on both sides of rim edge
	ALU1	1. Turn on machine 2. Input a,b,d value 3. Press ALU button, indicator lit up 4. Start spin, after spin stop	Add adhesive weights on the rim shoulder both sides
	ALU2	1. Turn on machine 2. Input a,b,d value 3. Press ALU button, indicator lit up 4. Start spin, after spin stop	Clip on weight on inside rim edge, add adhesive weight on outside rim shoulder
	ALU3	1. Turn on machine 2. Input a,b,d value 3. Press ALU button, indicator lit up 4. Start spin, after spin stop	Add adhesive weights on the rim shoulder both sides
	ALUS	1. Turn on machine 2. Input aI,aE,d value 3. Start spin, after spin stop	Add adhesive weights on the two positions gauge head touch
	Static mode	1.Turn on machine 2.Input a,b,d value 3.Press ALU button, indicator lit up 4.Start spin, after spin stop	Add adhesive weight

Key board (H)



Icon	Function	Icon	Function
	Input rim data		Selection of “ALU” modes
	Data add key		Stop/Cancel
	Data reduction key		Start
	Unbalance display pitch and threshold		Setting

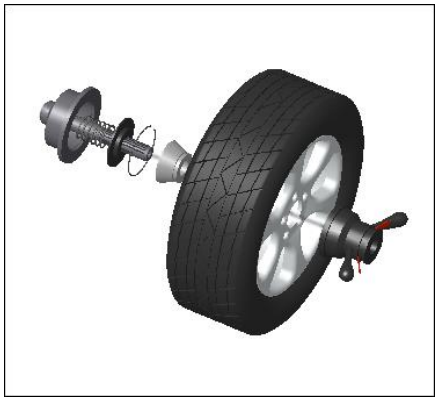
Key combination function

Icon	Function	Icon	Function
	Inch/mm conversion		OPT function

4. Indication and use of wheel balancer

4.1. DYN (Standard/Default) mode

4.1.1. Clean wheel, take off counterweights, check pressure of wheel.Choose the way of installation according to the type of wheel.



Main shaft-wheel— Main shaft-suitable cone(big head towards inside)

suitable cone(small head towards inside)—quick handle nut —wheel—quick handle nut

Attention：May add a wheel, and hold the wheel to help install the thread hub. When installing or taking off wheel, do not let wheel move on the shaft, to avoid scratching shaft.

4.1.2. Turn on machine

4.1.3. Input a b d value

Turn on machine, choose right way to install wheel according to the type of wheel. Set “a” “b” “d” values:

- Set “a” value：move the gauge to measuring position as illustrated as Fig.1, hold the gauge still in position for approx. 4 seconds, successful memorization is given, then return the gauge to position 0.(The value measured in automatic mode appear on the display). Or press  and  and  to change.
- Set “b” value：set nominal diameter “b” marked on the wheel or use the width gauge to measure the value of ”b” as Fig.2a, then press  and  and  to change. Set “d” value：this value measured in automatic mode same time as “a” value setting, or press  and  and  to change.

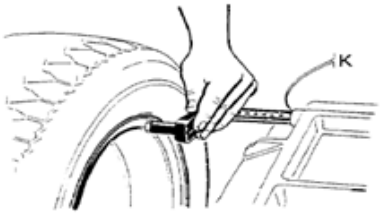


Fig.1

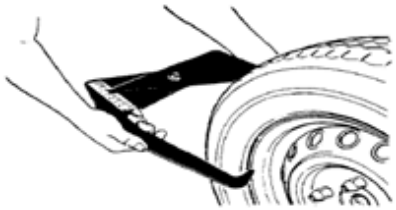


Fig.2

4.1.4. Put down the guard and press  to perform a measuring spin.

4.1.5. In a few seconds the wheel is brought to operating speed and begin measuring unbalance, the unbalance values remain on instruments 1 and 3 when the wheel stopped. Press  may check the real unbalance value under threshold.

4.1.6. Anticlockwise moving wheel slowly, until the right LED lit up full, clip weight on 12 o’clock position (Fig.3)

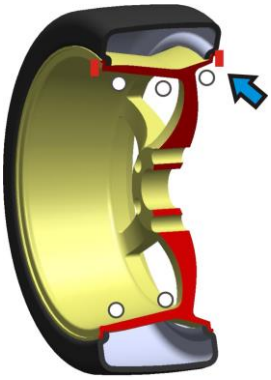
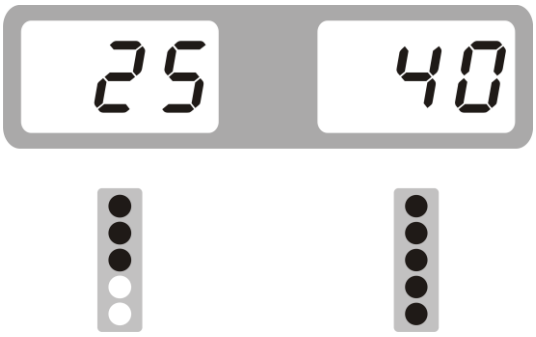


Fig. 3



4.1.7. Anticlockwise moving wheel slowly, until the left LED lit up full, clip weight on 12 o'clock position (Fig.4)

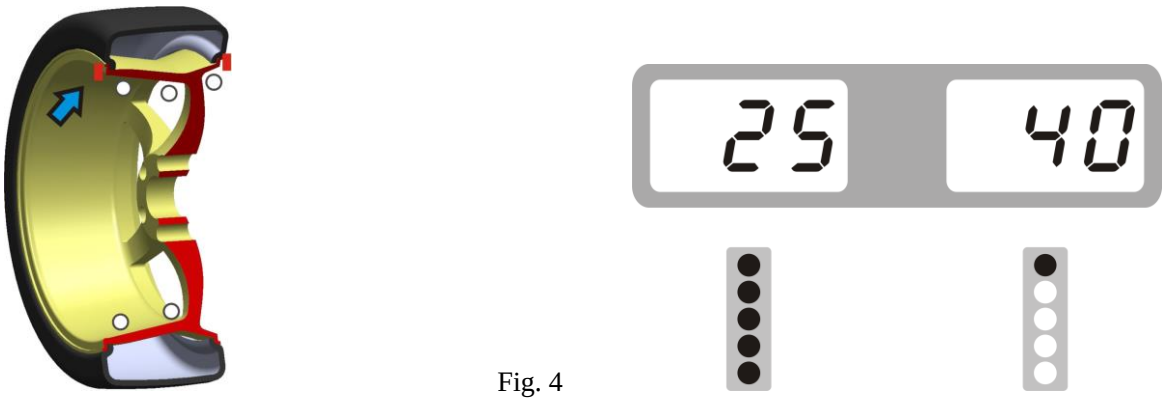


Fig. 4

4.1.8. After finishing clipping the counterweights, put down the guard and press 

, to perform balancing spin again, if comes out 00 00, means balancing succeed. (Fig.5)

Fig. 5

4.2. ALU-1 mode (ALU-1, ALU2, ALU 3, ALU 4, ALU5, same operation, only the position to add weights different)

4.2.1. Set "a" "d" "b" values

4.2.2. Press 

until ALU1 indicator lit up

4.2.3. Put down the guard and press 

to perform a measuring spin.

4.2.4. In a few seconds the wheel is brought to operating speed and begin measuring unbalance, the unbalance values remain on instruments 1 and 3 when the wheel stopped. Press 

may check the real unbalance value under threshold.

4.2.5. Anticlockwise moving wheel slowly, the displays with right LED's lit up full indicate the correct angular position where to mount the counterweights, 12 o'clock position outside, as Fig.6, add the counterweight.

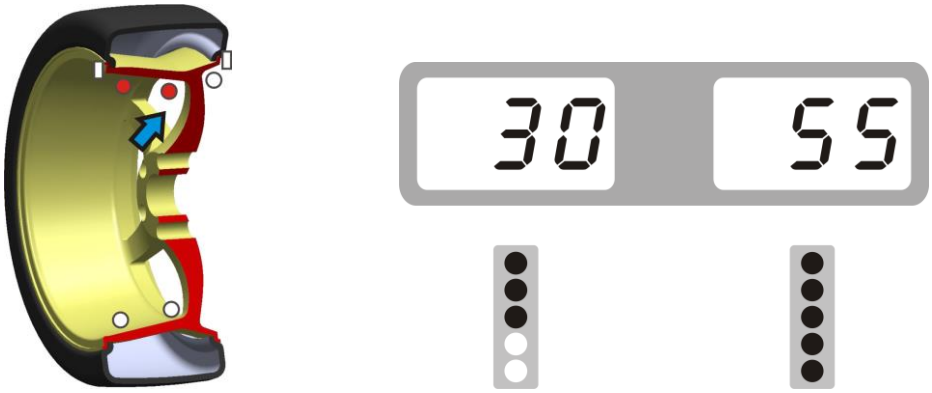


Fig. 6

4.2.6. Anticlockwise moving wheel slowly, the displays with left LED's lit up full indicate the correct angular position where to mount the counterweights, 12 o'clock position inside, as Fig.7, add the counterweight.

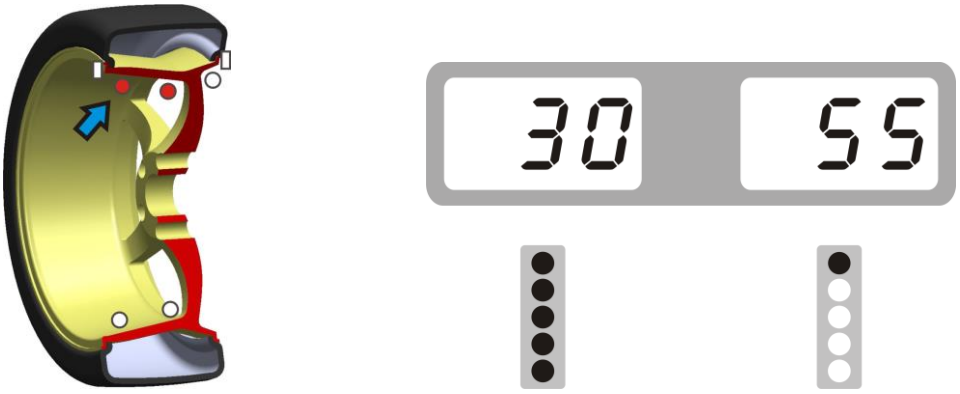


Fig. 7

4.2.7. After finishing mounting the counterweights, put down the guard and press  , to perform balancing spin again, if comes out 00 00，means balancing succeed. (Fig.8)

Fig. 8

4.3. ALU－S mode

This mode is used for special rim, if ALU1/ALU2 can not be used, you should choose ALUS mode.

Input aI, aE, d value

- Set “aI”: pull gauge out let the gauge head touch the position of FI for 4 seconds, may press  and  and  to change
- Set “aE”: pull gauge out let the gauge head touch the position of FE for 4 seconds ， may press  and  and  to change
- Set “dI”: read from rim, may press  and  and  to change
- Set “dE”: read from rim, may press  and  and  to change

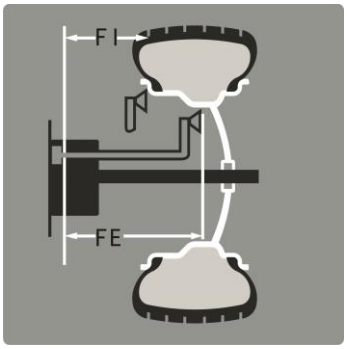


Fig. 9

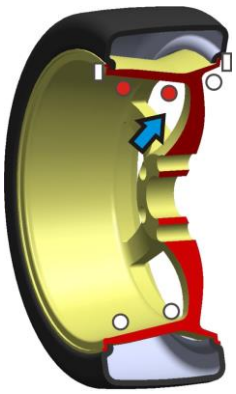
Put down the guard and press  to perform a measuring spin.

4.3.2. Use a ruler to add weight (Set LAS=OFF as 5.2 instruction)

Fig. 10

Anticlockwise moving wheel slowly, until the right LED lit up full (Fig.11)

Fig. 11



Take off proper counterweight to be hold by the gauge head as Fig. 13

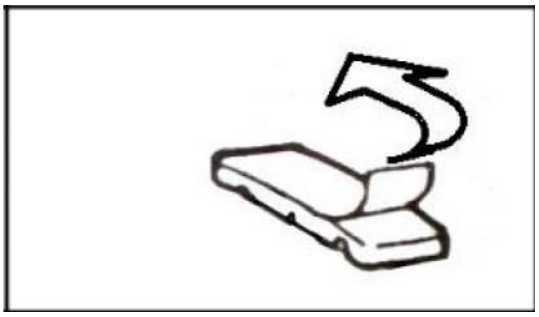


Fig. 12

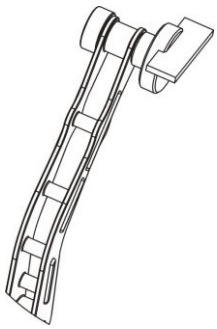


Fig. 13

Pull out gauge until there is a square comes in the middle window (Fig. 14)

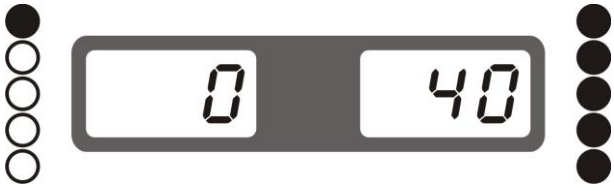
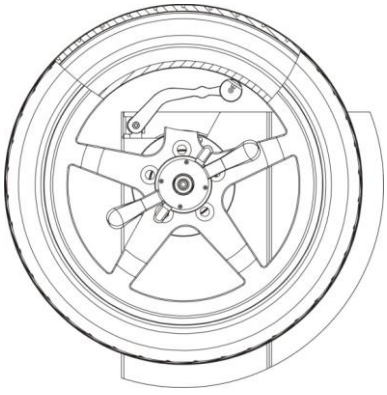


Fig. 14

Release the counterweight and let it stick on rim (Fig. 15)



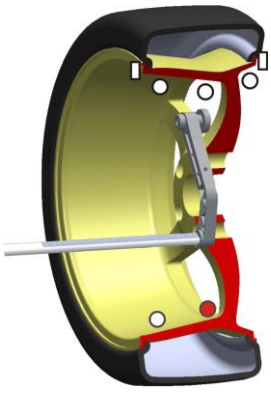
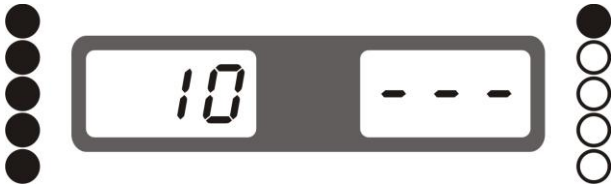


Fig. 15

Anticlockwise moving wheel slowly, until the left LED lit up full (Fig.16)



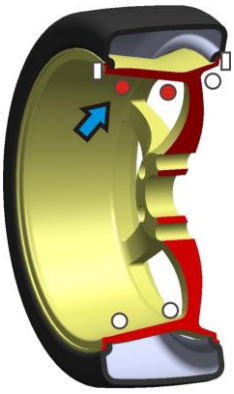


Fig.16

Take off proper counterweight to be hold by the gauge head as Fig. 13

Pull out gauge until there is a square comes in the middle window (Fig. 17)

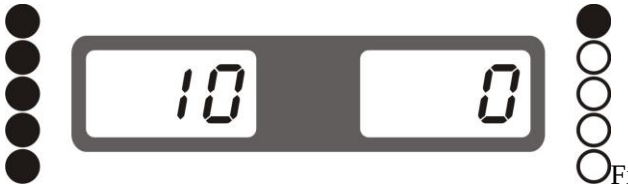


Fig. 17

Release the counterweight and let it stick on rim (Fig. 18)

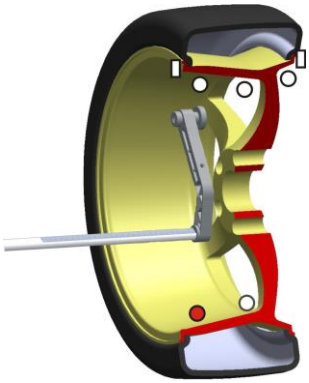


Fig. 18

Then turn down safe guard and press  to start spin, comes (Fig. 19)means the wheel is balanced.

Fig. 19

4.4. ALUS split function

Note: Only ALU-S mode can use this function. And Operator must be experienced.

1	In ALU-S mode, press	comes＞	
2	By key and to input the numbers of spokes, then press	comes＞	
3	Keep the next spoke(either direction is ok) on the position of 12 o'clock, press	comes＞	
4	Anticlockwise rotate wheel by hand slowly, until the outside SP1 LED lit up full, add the adhesive weight （to stick the weights on position of 9 o'clock or else depends LAS=On or Off））	comes＞	
5	Anticlockwise rotate wheel by hand slowly, until the outside SP2 LED lit up full, add the adhesive weight （to stick the weights on position of 9 o'clock or else depends LAS =On or Off））	comes＞	
6	Put down safe guard and press , after spin stop	comes＞	
SP succeed			

5. Machine Setting and Self-calibration

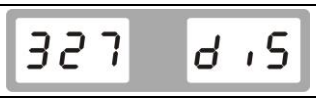
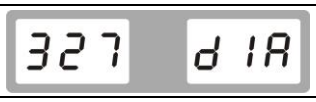
Press goes to set machine, press and to change， Confirmation of entry, press Cancel

Step	Reasons	Solution
5. 1		Self diagnosis
5. 2		Machine setting
5. 3		Rim distance gauge calibration

5. 4		Calibration of diameter gauge
5. 5		Calibration of width gauge
5. 6		Calibration of laser
5. 7		Self-calibration

5.1. Self- diagnoses

press keys to enter. select and Select		press keys to enter

press and for the next item, press Cancel			
Order	Display	Function	Function normal
1		Display	All lit up
2		Position pick up board	POS changes in 0-127
3		Distance potentiometer	Left window data is 327-340, when pull gauge out, the data changes
4		Diameter potentiometer	left window data is 327-340, turn ruler to another direction, data changes
5		Width potentiometer	left window data is 327-340, turn ruler to another direction, data changes
6		Pressure sensor	Use hand to press main shaft, 4X-4X 6X-6X changes

5. 2 Machine setting

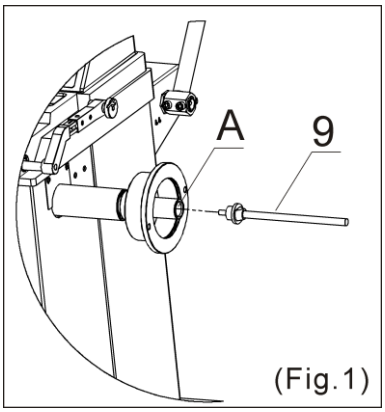
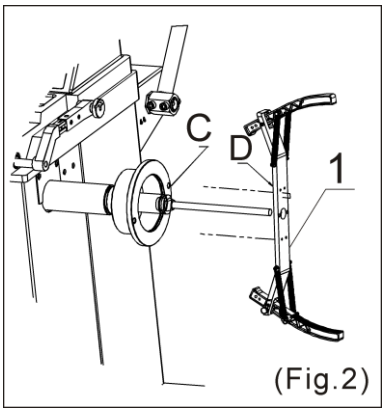
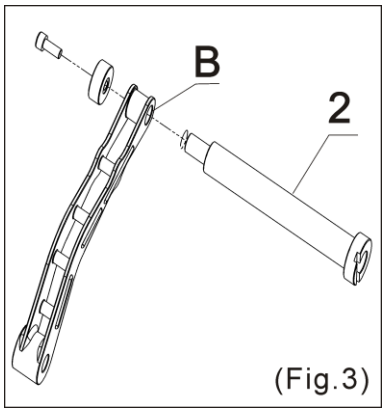
press keys to enter. select and Select		press keys to enter

Order	Display	function	choice
1		Unbalance display threshold	5/10/15
2		Sound	On/off

3		Light	1-8
4		width	On/off
5		Laser switch	OFF: use gauge to stick weights ON: laser position
6		Tire weight	On/off
7		Safe guard on	Put down safe guard to start spin
8		Unit of weight	Gram
9		Wheel type operation	CAr：Car mode display [CAr] Sco：Motorcycle mode display [Sco]
 and  for modification,  for the next item,  Save exit			

5.2.2For motorcycle wheel

★ Use the motorcycle adapter for wheel balancer we provide★

Step 1	Step 2	Step 3
		
1. Take off standard thread for car 2. Replace with part No.9 in position A （Fig. 1）	1. Install part No.1 through No.9 2. Lock and fix in position C and D （Fig. 2）	1. Take off the standard gauge head for car 2. Replace with part No.2 in position B （Fig. 3）

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

★“Display wheel type after turn on balancer” means after turn on machine, it comes signal to tell you it is a car mode or motorcycle mode. ★

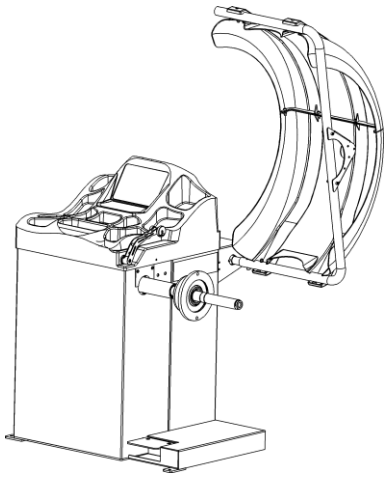
5. 3 **Rim distance gauge calibration**

press  keys to enter. select  and  Select		press  keys to enter

1			pull gauge to position “0” and hold, press 
2			pull gauge to position “15” and hold, press 
3		operation＞	Calibration finished

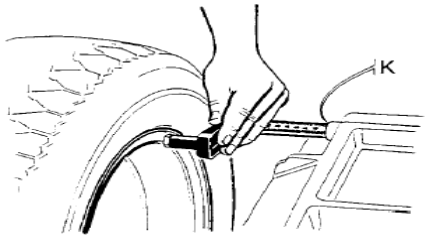
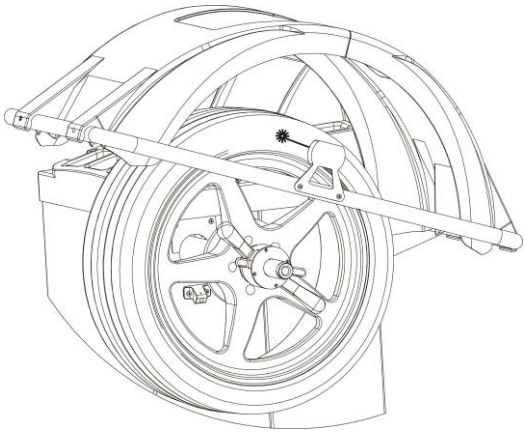
5. 4. 1 Radar **Calibration of width gauge (**No tyres need to be installed**)**

press  keys to enter. select  and  Select		press  keys to enter

1	 Keep the protective cover in position	comes＞	
2	Auto complete	comes＞	
Width gauge calibration finished			

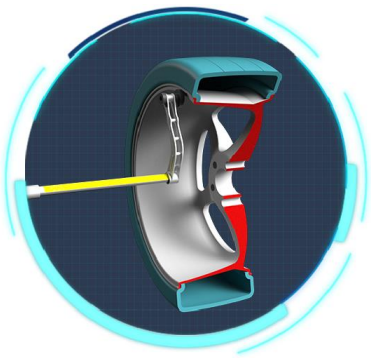
5.4. 2 width compensation

Tire installation required note (known tire width)

1	A value must be entered	explain＞	 fig. 20b
2	We're aiming the radar at the tires	explain＞	
3		explain＞	Press  +  and  at the same time to modify the known tire width
Put down the key to save automatically			

5.5. Calibration of diameter gauge(Install a tire)

press  keys to enter. select  and  Select		press  keys to enter

1		operation＞	Enter diameters by  and  .
2		operation＞	move gauge to touch the edge of rim and keep still, press  keys to confirm.
3		operation＞	Calibration finished

5. 7. Self-calibration

5.7.1 Self-calibration of wheel balancer

5.7.2 Turn on balancer, install a medium size wheel (14″-18″)which can use clip-on weight, set “a b d” value, then

Do the self-calibration whenever you think the balancer is not accurate. The 100g weight must be accurate.

Step 1	Press  and hold, then press 	comes	
Step 2	Put down safe guard or press  start spin, after spin stop	comes	

Step 3	Open the safe guard and clip a 100 gram weight on the outside 12 o'clock position, put down safe guard and press to start spin, after spin stop	comes	
Step 4	Open the safe guard and clip a 100 gram weight on the inside 12 o'clock position, put down safe guard and press to start spin, after spin stop	comes	
self-calibration finished			

6. Errors

Various abnormal conditions can arise during machined operation by the microprocessor, if comes the errors, must stop operation, find the reason and the solution according, if the error persists, consult the supplier.

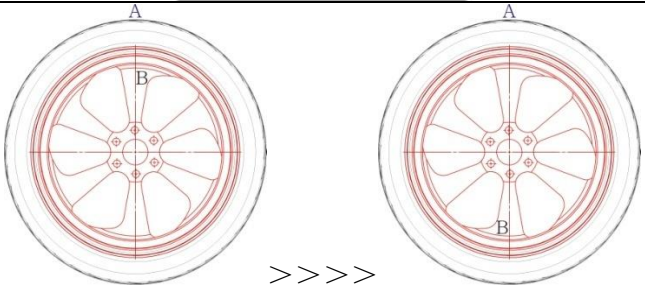
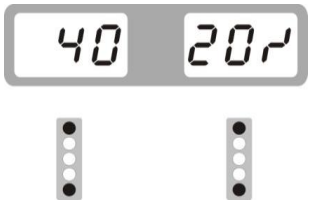
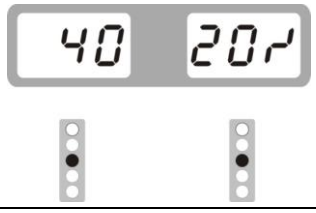
No.	Errors	Reasons	Solution
1		1. No spin 2. Shaft spin	1. If no spin, check or change power board 2. If spin, check or change position pick up board and computer board 3. Adjust position pick up board support
2		1. No wheel or wheel not locked tightly 2. Position pick up board problem	1.Lock tightly 2.Check or change position pick up board
3		1. No enough pressure in wheel 2. Wheel distortion	1. Add proper pressure in wheel 2. Check wheel
4		1. Position pick up board problem 2. Computer board problem	1.Check or change position pick up board 2.Check or change computer board
5		1. Micro switch problem 2. Computer board problem	1.Check or change Micro switch 2.Check or change computer board
6		1. Power board problem 2. Computer board problem	1.Check or change power board 2.Check or change computer board
7		1. Program lost 2. Computer board problem	1.Self calibration 2. Check or change computer board
8		1. No add 100g weight during self calibration 2. Computer board problem 3. Power board problem	1. Add 100g weight 2.Check or change computer board 3.Check or change power board
9		1. Micro switch problem 2. Computer board problem	1.Check or change micro switch 2.Check or change computer board

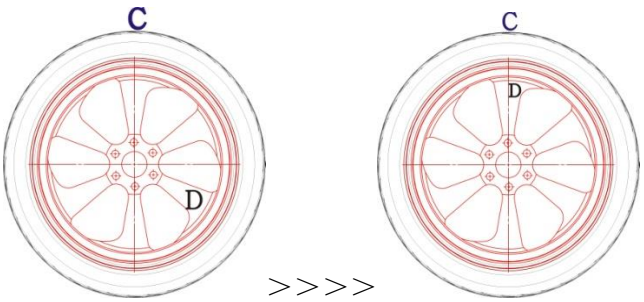
10		1. Computer board problem 2. Power board problem	1.Check or change computer board 2.Check or change Power board
11		1. Problem of gauge 2.Problem of distance potentiometer	1. Do self-calibration of gauge 2. Change distance potentiometer and do self-calibration of distance gauge
12		1. The machine is locked	1. Contact vendor unlock
13		1. Data protection	1. Contact vendor unlock 2. Update data

7. OPT function

Note: When unbalance value is too much, choose OPT, and operator must be experienced.

Install wheel, input a b d value

1	Press 	comes>	
2	Put down safe guard and press 	comes>	
3	With the help of tire changer, change the rim and rubber 180 degree	reference>	
4	Then put down safe guard and press 	comes>	
5	Rotate wheel until four indicators lit up (two on both sides, the dark spot in the right side picture), mark the position C with chalk on rubber	reference>	
6	Rotate wheel until two indicators lit up (one on both sides, the dark spot in the right side picture), mark the position D with chalk on rim	reference>	

7	With the help of tire changer, change the rim and rubber to make C and D match	reference＞	 >>>>
8	Put down safe guard and press 	comes＞	If unbalance is less than before, OPT succeed

8.Spare parts list and exploded drawings