Warning

- This instruction is an integral part of the product. Please read it carefully to prevent the danger of wrong operation.!
- Keep this instruction properly for further overhaul.
- This machine is only used for unbalanced trimming of automobile tyres. Do not use it for other purposes.
- The manufacturer is not responsible for any damage caused by improper use or transfer to other use.

Matters needing attention

- This machine must be operated and used by specially trained and qualified personnel. Without the permission of the manufacturer or without the requirements of the specifications, any modification of the machine parts and the scope of use may cause direct or indirect damage to the machine.
- The balance machine should be fixed on a smooth ground. It is not allowed to put the machine on the board! Otherwise, it will easily lead to the decrease of accuracy.
- The distance between the back of the balancer and the wall should be less than 0.6M to ensure good ventilation and heat dissipation. Please note that sufficient space should be left on the left and right sides of the balancer so as to make the operation unrestricted.
- It is forbidden to put the balancer in extremely high temperature, extremely low temperature or extremely humid environment. Avoid placing it in the heating equipment, faucet, air humidifier or stove. The balancing machine avoids touching large amounts of dust, ammonia, alcohol, diluent or spray adhesive.
- When operating, please use appropriate equipment and tools, wear appropriate labor protection supplies, such as work clothes, goggles, safety shoes.
- When the machine is working, the non-operator should not approach it. When the balance machine is working, do not touch the moving parts with hands or other parts of the body.

Catalog

Summary

The poor dynamic balance of the wheels will cause the running wheels to jump and the steering wheel to vibrate, which will affect the driver's driving. It will lead to the increase of the joint clearance of the steering system, damage the shock absorber and steering components, and increase the probability of traffic accidents. These problems can be avoided when the wheels are balanced dynamically.

This type of wheel balancing machine adopts a high-speed information acquisition, processing and calculation hardware system consisting of a new large-scale integrated circuit. The machine is equipped with ST motorcycle special mode, DYN dynamic balance, ALU1 aluminum alloy, ALU2 aluminum alloy, ALU3 aluminum alloy ALUS free sticking mode (six modes). The hub shape is balanced.

1.Technical Indicators

Maximum Wheel Weight: 65kg
Motor power: 250W
Power supply voltage: ~220v50hz
Balance accuracy: 1g
Balanced speed: about 200 r/min
One standard mode, four aluminium alloy balancing mode and one motorcycle balancing mode
Balance period: 8s
Diameter of rim: 10~24(256mm~610mm)
Back space: < 240mm []
Working noise: less than 70 dB
Net weight: 90kg with protective cover 95kg

2.Performance

- Various balancing operation modes can realize unbalanced block clamping, pasting, etc.
- Automatic Fault Diagnosis and Protection Function
- Various rims suitable for steel and aluminium alloy structures

3.Work environment

- Ambient temperature: - 5-50 C
- Elevation: <4000m
- Relative humidity: <85%

Installation of equipment

1.Dismantling and Packing Inspection

Check whether the fittings are missing or damaged according to the packing list. If in doubt, please contact the supplier in time. The detailed list is as follows.:

Serial number	Name	Number	Serial number	Name	Number
1	Width Caliper	1	3	Quick change nut	1
2	1Cone block	1	4	Screw rod	1
	2Cone block	1	5	Balance hammer	1
	3Cone block	1	6	100g lead block	1
	4Cone block	1			

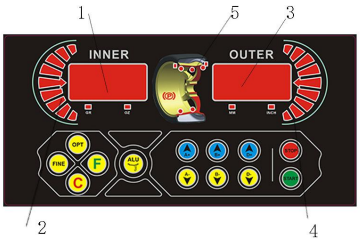
2.Mechanical Installation

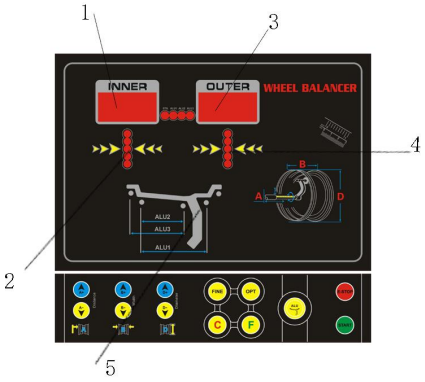
This equipment must be installed on solid cement or similar ground. If the ground is not solid, it will bring measurement errors. There should be space around the equipment for easy operation.

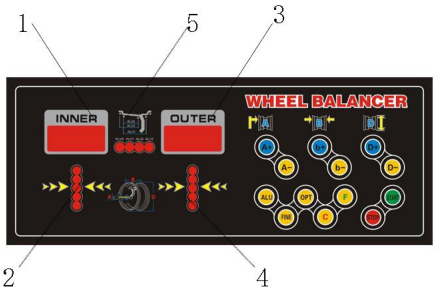
3. The position of the installation hole of the instrument base should be fixed by the foot screw.

4. Installation of transmission shaft studs

Machine Introduction







1、Display mask (G)

1. nside Wheel Display Window
2. Inside unbalanced block position indicator bar
3. Outside display window of wheel
4. Outside unbalanced block position indicator bar
5. Balance mode indicator icon, the equipment can choose the following balance modes

Graphical	Equilibrium model	Operational mode	Interpretation
DYN	Standard Balance Model	1. 1. Boot up 2. Input a, b, D values 3. Start, stop	Clamping unbalanced blocks at the correcting planes of the two edges of the steel ring
ALU-1	ALU1 Equilibrium Model	1. Boot up 2. Input a, b, D values 3. Press ALU key to turn mode light on 4. Start, stop	The unbalanced blocks are pasted on the two correction planes inside and outside the spoke of the steel ring.
ALU-2	ALU2 Equilibrium Model	1. Boot up 2. Input a, b, D values 3. Press ALU key to turn mode light on 4. Start, stop	The unbalanced blocks are clamped on the edge of the plane in the steel ring, and the unbalanced blocks are pasted on the outside correction plane.
ALU-3	ALU3 Equilibrium Model	1. 1. Boot up 2. Input a, b, D values 3. Press ALU key to turn mode light on 4. Start, stop	Insert unbalanced blocks on two correction planes of inner and outer spokes of steel rings
ALU-S	ALUS Equilibrium Model	1. Boot up 2. Press ALU key to turn mode light on 3. Input 1 AI 2 AE 3 D value Start, stop	Stick unbalanced blocks on the two correction planes of the inner and outer spokes of the specified steel ring
ST	Static Balance Mode (Motorcycle))	1. Boot up 2. Input a, b, D values 3. Activate the mode by pressing the ALU key 4. Start, stop	In the middle of the wheel rim, correct the plane to paste the unbalanced block.

2、Key function (H)

Graphical	Key Function Description	Graphical	Key Function Description
a+ a−	Machine ruler to rim distance	OPT	Optimizing function
b+ b−	Input rim width	ALU	Choice of Balanced Model
d+ d−	Input rim diameter	F	Combination/segmentation
C	Recalculate the equilibrium result	FINE	Display actual unbalanced values
START	Start-up	STOP	Stop or cancel

Balance operation

1. Standard mode operation

1) Install wheels

★Before the wheel balancing operation, the original additional lead block on the wheel should be removed, the tire pressure should be checked whether it meets the required value, the steel ring positioning surface and the installation hole should be checked whether there is deformation, and the appropriate installation mode of the tire should be selected according to the shape of the wheel rim.

Spindle-Wheel (Ring Installation Face Face Face Inward) - Placing Suitable Cone (Small Head Inward) - Fast Fixture

Note: When installing and unloading the wheels, do not slide the wheels on the lead screw of the spindle to avoid scratches.

2) Turn on the power switch

3) Input a B D value

Distance (a) Data: Pull the measuring ruler to the position shown in Figure 1, read the "distance" data, and pass manually. a+ a- Input value

Width (b) data: read directly from the rim or use matching calipers to measure the "width" data as shown in Figure 2 and press the key b+ b- Enter the correct value

- Diameter (d) data: The number after the letter "R" marked on the tire (185 60 R14) is the diameter, which passes through the button. d+ d- Input value

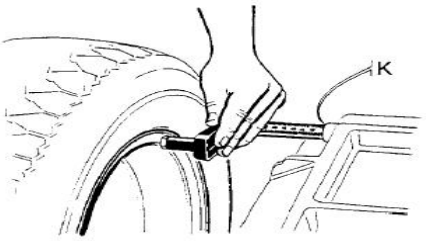


fig. 20b

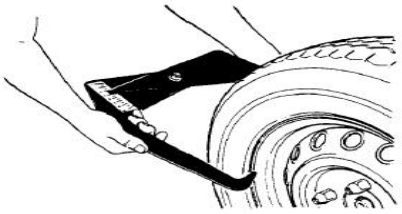


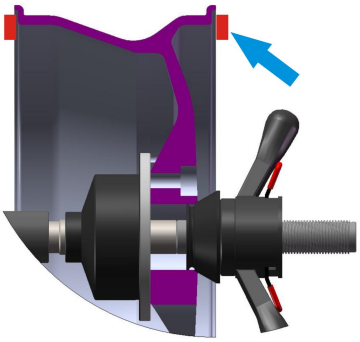
fig. 20a

图 1　　图 2

4) Put down the protective shield or press START Key Rotating Tire

5) When the wheel stops, the digital tube shows the unbalanced mass. Press FINE Keys to see the actual unbalanced mass

6) Turn the tire slowly with your hand counterclockwise until the external unbalance indicator lights on. At this time, the position of the highest point (12 o'clock) on the outer rim is the correcting position of the unbalance. A balance block of the corresponding mass is added to this position, as shown in Figure 3.



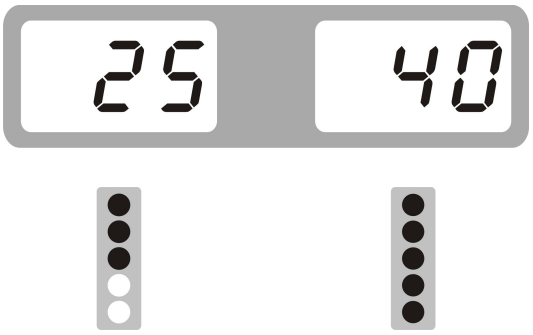
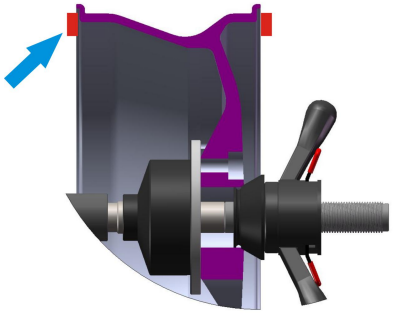


Figure 3.

7) Turn the tire slowly with your hand counterclockwise until the inside unbalance indicator lights up. At this time, the position of the highest point (12 o'clock) on the inside of the rim is the correcting position of the unbalance. A balance block of the corresponding mass is added to the position, as shown in Figure 4.



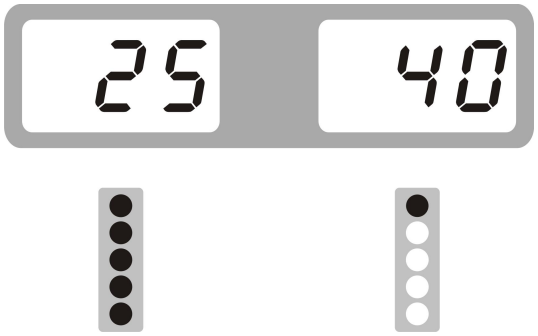


Figure 4.

8) After the balance block is placed, press START Keys, wheels rotating, if the operation is correct, will show the status of Figure 5, indicating that the dynamic balance is successful.

图 5

2. ALU-2 mode operation (doing rim sticking) (ALU-1, ALU-3 mode operation is the same, but the sticking position is different)

1) Please measure rim a, b, D and 3 data as mentioned above.

2) According to the shape of rim 

Key Selection ALU2 Balanced Mode Lighting

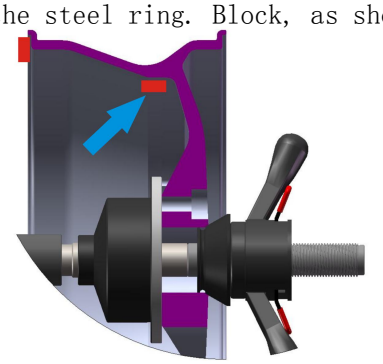
3) Please put down the protective shield or press 

Key Rotating Tire

4) When the wheel stops, the digital tube shows the unbalanced mass. Press 

Keys to see the actual unbalanced mass

5) Turn the tire slowly with your hand counterclockwise until the external unbalance indicator is fully on. At this time, the position of the outer rim at 12 o'clock (9H is off) or 9 o'clock (9H is on) is the correction point of the unbalance. The selection of the correction plane of the balance block is shown in the figure. The balance of the corresponding weight is pasted on the correction plane of the outer spoke of the steel ring. Block, as shown in Figure 6



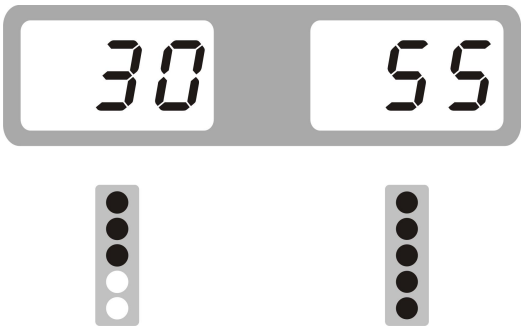
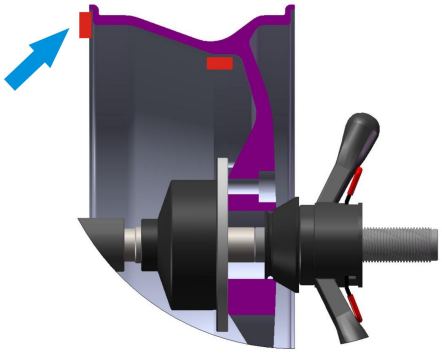


Figure6

6) Turn the tire slowly with your hand counterclockwise until the inside unbalance indicator is fully on. At this time, the position of the inside of the rim at 12 o'clock (9H is off) or at 9 o'clock (9H is on) is the correction point of the unbalance. The selection of the correction plane of the balance block is shown in the figure. The balance block of the corresponding weight is pasted on the correction plane of the inside of the spoke of the steel ring. As shown in Figure 7



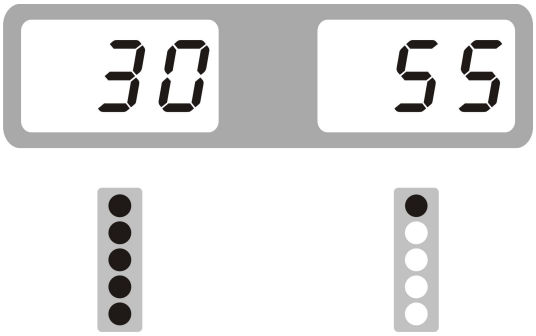


Figure 7

7) After the balance block is placed or pressed 

Key, wheel rotation, if the operation is correct, will show the status of Figure 8, indicating that the balance is successful.

Figure8

3. ALUS Equilibrium Model

★This function is suitable for very special rims. Normal ALU-1, ALU-2 and mode can not guarantee enough balance accuracy. The balance mode is chosen.

a)Change the aI value, press the a key to change.

b)Change the aE value, press the B key to change.

C) Change the dI value by pressing the D key.

D) Change dE by pressing (ALU) and D at the same time.

Note: The default value dE = 0.8dI, when dI changes, dE returns to the default value.

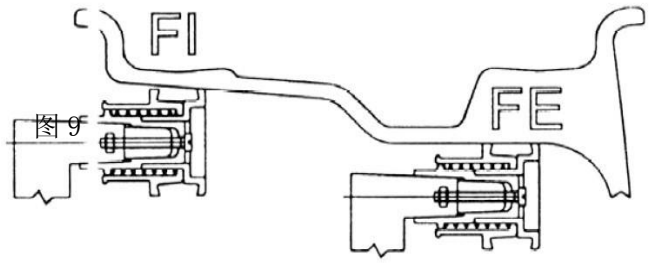


图 9

Figure9

2) Put down the protective shield or press START Key, spindle rotation

Calibration of Balancer

5.Quality calibration

★Note: When the equipment is initially installed, used or suspected of inaccurate measurement, self-calibration procedures should be run to ensure the accuracy of balancing machine measurement.

(Note that the self-calibrated 100g balance must be correct, otherwise it is incorrect, which directly affects the accuracy!)

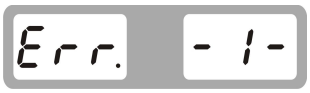
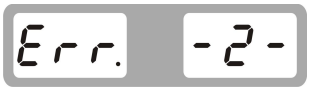
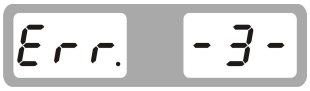
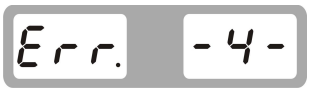
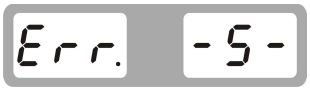
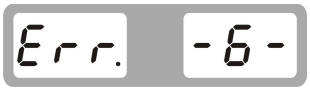
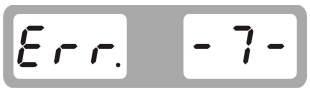
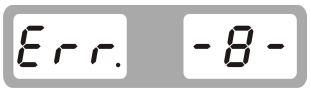
5.1 Turn on and turn on the power switch of the machine

5.2 Install a medium size (13 -18) tire with lead blocks inside and outside, and input rim data.

1	Hold down F Keyboard not put, press at the same time C key	displa y>	CAL. CAL.
2	Put down the protective shield and press START Key, spindle rotation, stop	displa y>	Add 100
3	Open the shield, turn the outer rim to the lamp, and add 100 grams of lead at 12 o'clock. Put down the shield and press START Key, spindle rotation, stop	displa y>	100 Add
4	Open the shield, turn the inner rim to the lamp, and add 100 grams of lead at 12 o'clock. Put down the shield and press START Key, spindle rotation, stop	displa y>	CAL. End
Success in self-study!			

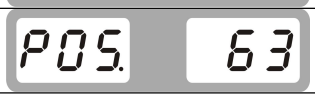
Fault description

★When the machine shows the following faults, the machine should perform self-fault diagnosis and replace the damaged parts in time. Ensure safe use!

Serial number	show contents	Causes of failure	Resolvent
1		1. No rotation 2. Rotation	1. Check or replace the power board 2. Check or replace position sensors and computer boards 3. Adjustment of photoelectric plate support
2		1. No tyre lock 2. Position Sensor	1. Tighten the tyres 2. Check or replace position sensors
3		1. Wheels have no air pressure. 2. Tyre deformation is larger than the range.	1. Tighten the wheel and inflate it 2. Check tires
4		1. Fault of position sensor 2. Computer board failure	1. Check or replace position sensors 2. Check or replace the computer board
5		1. Stroke Switch Failure 2. Computer board failure	1. Check or replace the trip switch 2. Check or replace the computer board
6		1. Power board failure 2. Computer board failure	1. Check or change the power board 2. Check or replace the computer board
7		1. 1. Loss of customer data 2. Computer board failure	1. Re-education 2. Check or replace the computer board
8		1. Self-study does not add 100 grams 2. Computer board failure 3. Power board failure	1. Re-correct self-correction 2. Check or replace the computer board 3. Check or change the power board
9		1. Stroke Switch Failure 2. Computer board failure	1. Check or replace the trip switch 2. Check or replace the computer board
10		1. Computer board crash 2. Power board failure	1. Check or replace the computer board 2. Check or replace the power board

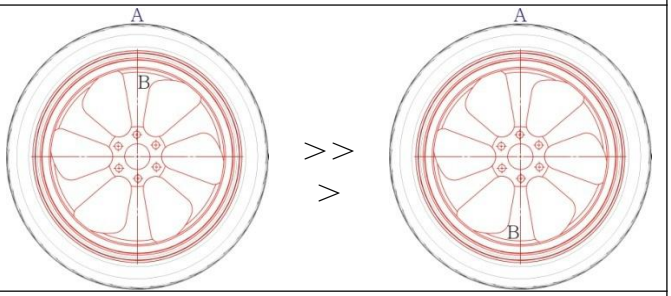
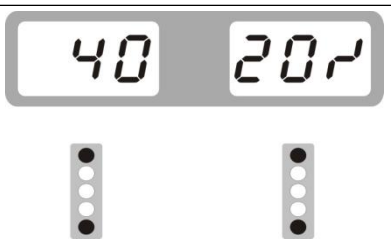
Fault self-diagnosis

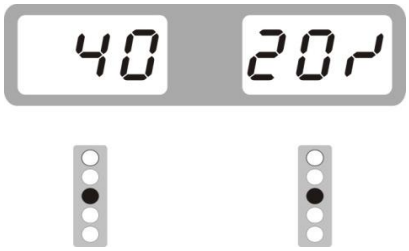
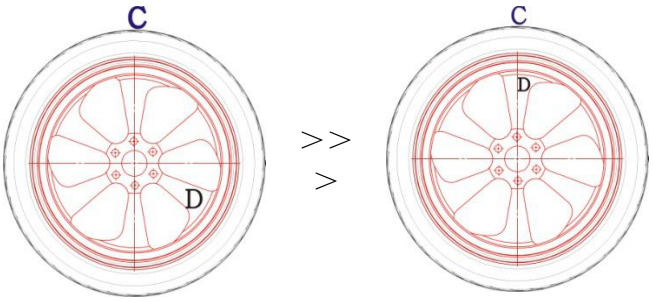
★In normal standby state  Press again at the same time  Key Entry,  The key is to test the next item,  The key is exit

Detection sequence	Graphical	Function Name	Normal Definition of Function
1		Display Detection	Display all lights up
2		position sensor	Numeric Variation of Rotating Spindle 0-127
3		Distance gauge sensor	The window value is in the range of 327-335. Pulling the rod outward will change the value.
4		Diameter ruler sensor	The window value is in the range of 327-335. When the rod is rotated in another direction, the value will change.
5		Width ruler sensor	The window value is in the range of 327-335. When the rod is rotated in another direction, the value will change
6		Pressure transducer	Value Variation of 4X-4X to 6X-6X Force on Spindle by Hand

OPT optimization program

This function can be performed when the unbalanced mass is large or the wheel ring is deformed.
Select the appropriate installation method according to the rim shape, and input the rim data.
Select the appropriate installation method according to the rim shape, and input the rim data.

1	Press down OPT	display >	
2	Put down the protective shield and press START	display >	
3	Mark the rim and rim, remove and assemble 180 degrees.	operation >	
4	When finished, put down the protective shield and press START	display >	
5	Searching for C position of rim and marking well	display >	

6	Search for D position of wheel ring and mark it well	display >	
7	Remove and install the ring D and rim C markings in one position	operation>	
8	When finished, put down the protective shield and press START	display >	Unbalanced mass is less successful than ever