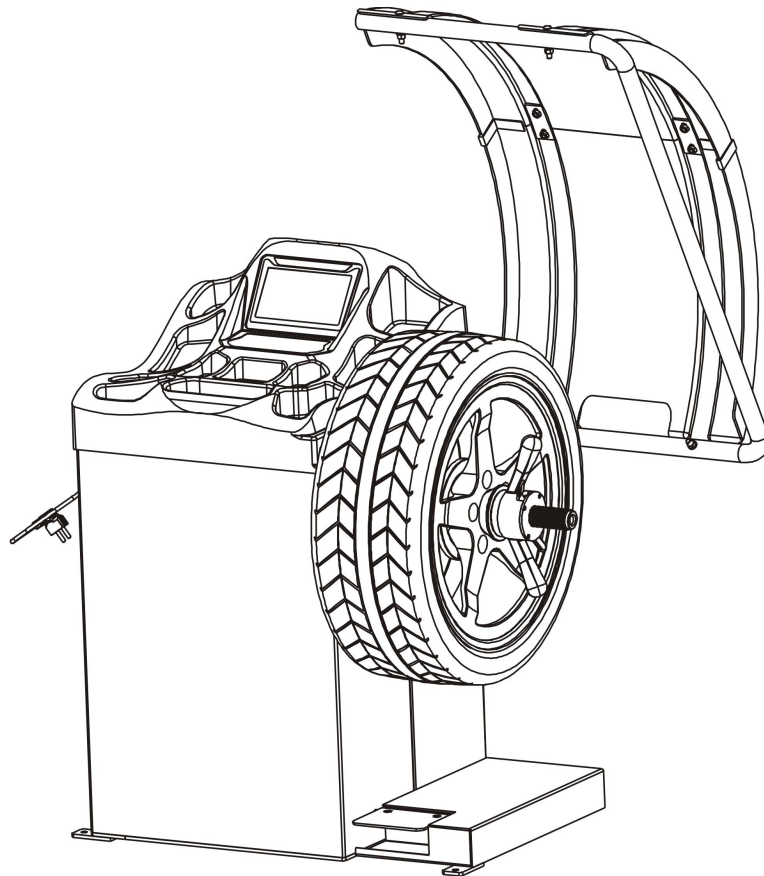

Wheel Balancer Manual

--L





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: $\pm 1g$
- ★ 8 balancing modes: DYN, ALU1, ALU2,ALU3, ALU4,ALU5,ALUS, ST
- Balancing speed: 200r/min
- Cycle time: 8s
- Rim diameter: 10 " ~ 24 " (256mm~610mm)
- Sound pressure level during work cycle: <70db

1.2. Features:

- Optional function No.1, Laser can help find the unbalanced position or to add the weight with the help of gauge head
- Optional function No.2, Automatic brake
- 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:

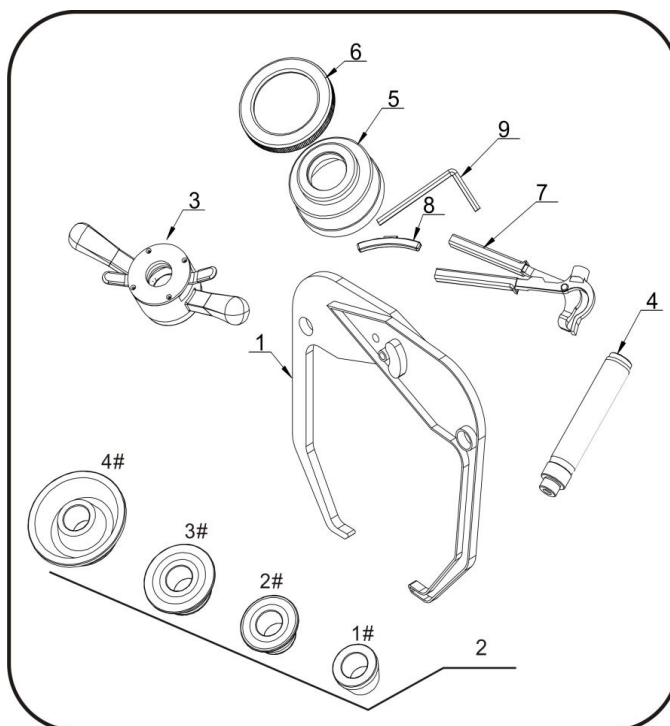
- Temperature: 5~50°C
- Height: $\leq 4000m$

2. Machine assembly

2.1. Unpack

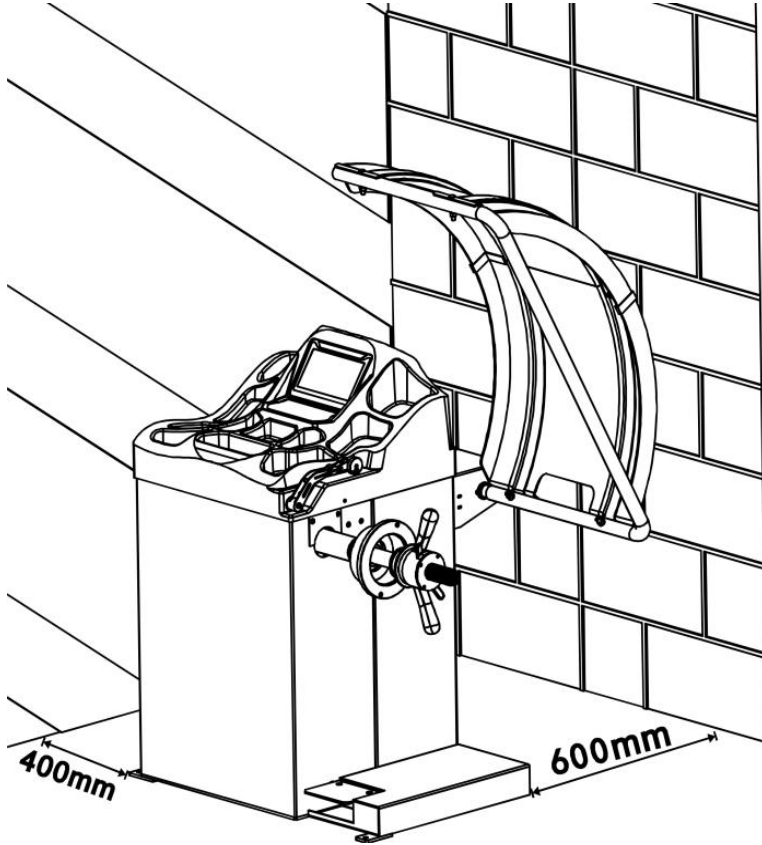
Unpack the carton, check if missing any spare parts.

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

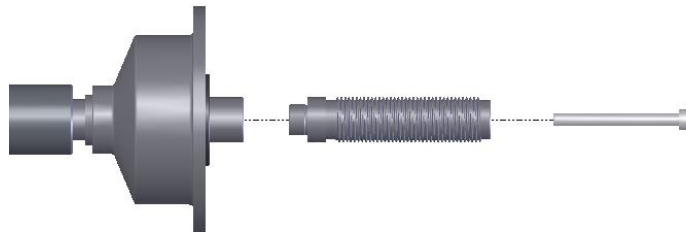
- The equipment should be installed on the stable ground, not wooden pallet, otherwise not accurate.
- Keep the back panel 0.6M away from the wall for good ventilation. Enough room should be left on both sides for convenient operation.



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)

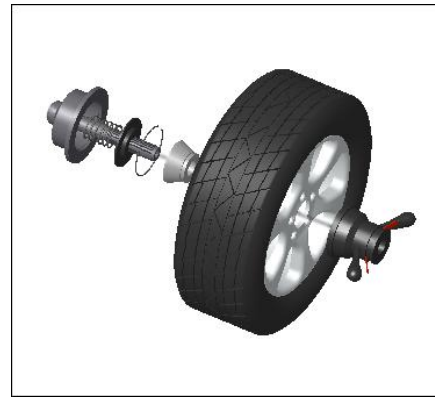


2.5. Install wheel

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

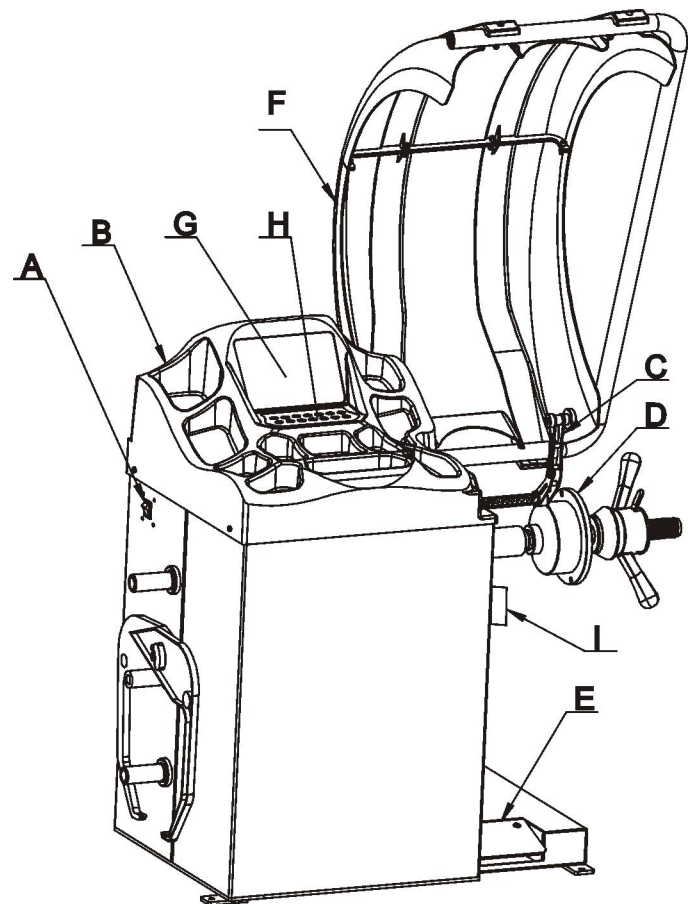


Main shaft-suitable cone(big head towards inside)
—wheel—quick handle nut

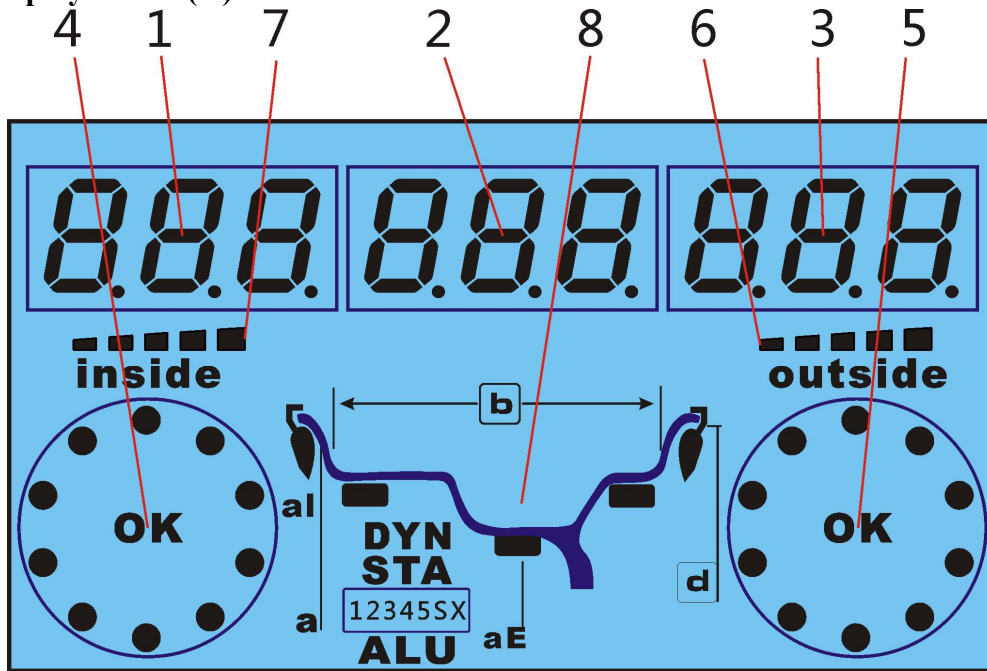
Note: May add a wheel, and hold the wheel to help install the thread hub. When installing or taking off wheel, do not let wheel move on the shaft, to avoid scratching shaft.

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	O
F	Safe guard	S
G	Display Screen	S
H	Key board	S
I	laser	O



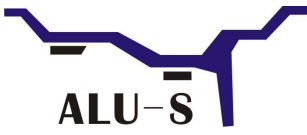
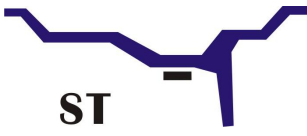
Display screen (G)



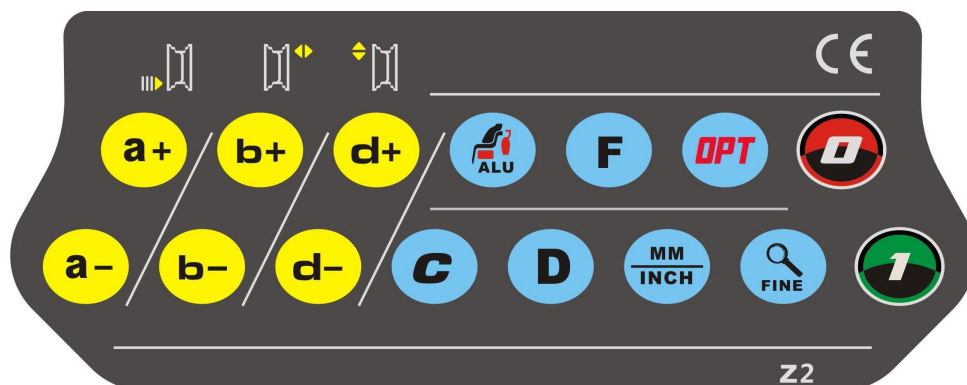
1. Digital readout of “a”, distance dimension, inside amount of unbalance
2. Digital readout of “b”, width dimension
3. Digital readout of “d”, diameter dimension, outside amount of unbalance
4. Digital readout, inside position of unbalance
5. Digital readout, outside position of unbalance
6. Indicator bar for ruler when pull out ruler for outside position
7. Indicator bar for ruler when pull out ruler for inside position
8. “ALU” correction mode selected, can choose following different modes: (finishing input “a” “d” ” b”, press ALU to choose following modes)

Eight balancing modes

Icon	Balancing mode	Operation	Add weights
 DYN	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
 ALU-1	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
 ALU-2	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
 ALU-3	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

 ALU-4	ALU4	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
 ALU-5	ALU5	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 on inside rim shoulder, clip on weight on outside rim edge
 ALU-S	ALUS	1. Turn on machine 2. Press ALU button, indicator lit up 3. Input aI,aE,d value 4. Start spin, after spin stop	Add adhesive weights on the two positions gauge head touch
 ST	Static mode, for motorcycle wheels	1. Turn on machine 2. Input a,b,d value 3. Start spin, after spin stop 4. Press F button	Add adhesive weight

Key board (H)



Icon	Function	Icon	Function
 	Set distance		Optimization of unbalance
 	Set rim width		Selection of “ALU” modes
 	Set rim diameter		Static mode, for motorcycle wheels
	Recalculation		Unbalance display pitch and threshold
	Stop/Cancel		Push button,self-diagnostics, self-calibration
	Start		Inch/mm change

*Electronic brakes *

Icon	Function
	Automatic brake switch / can be used to load and unload tires

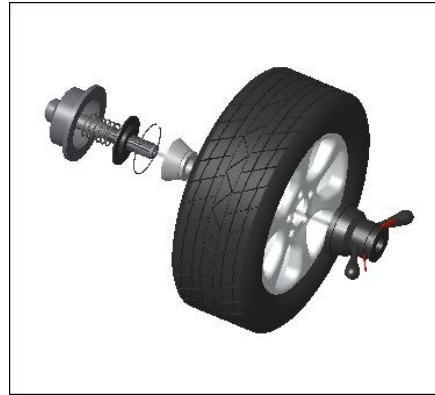
4. Indication and use of wheel balancer

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

Note: 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

- 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 **a+** and **a-** to set manually.

- 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 **b+** and **b-**. If the balancer is with optional width gauge, let the gauge head touch the rim as Fig.2b, until there is a sound, means successful memorization is give, then release the gauge.

- set “d” value: this value measured in automatic mode same time as “a” value setting, or press **d+** and **d-** to set manually.

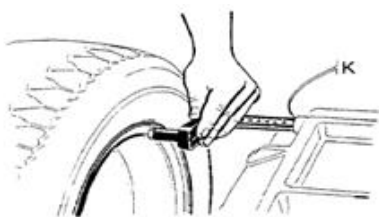


Fig.1

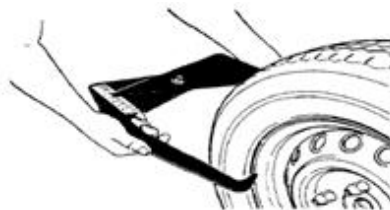


Fig.2a

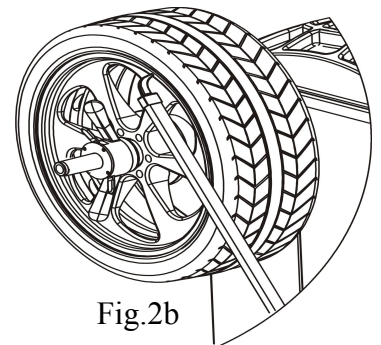


Fig.2b

4.1.4. Put down the guard and press **1** 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 rotate wheel slowly, until the right LED lit up full, clip weight on 12 o'clock position (Fig.3)

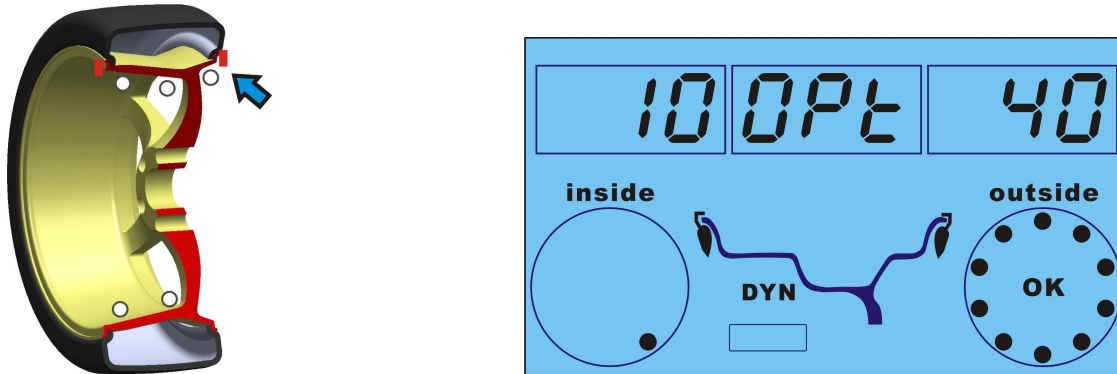


Fig. 3

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

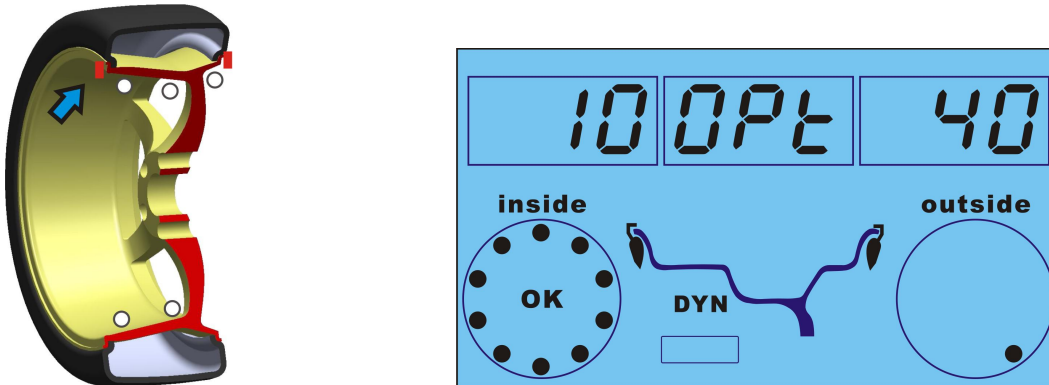


Fig. 4

4.1.8. After finishing clipping the counterweights, put down the guard and press , to perform balancing spin again, if comes out 0 0, means balancing succeed. (Fig.5)



Fig.5

4.2. ALU-1 mode (ALU2, ALU3, ALU4, ALU5 can refer to ALU-1 and mixed with DYN mode)

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 rotate 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.

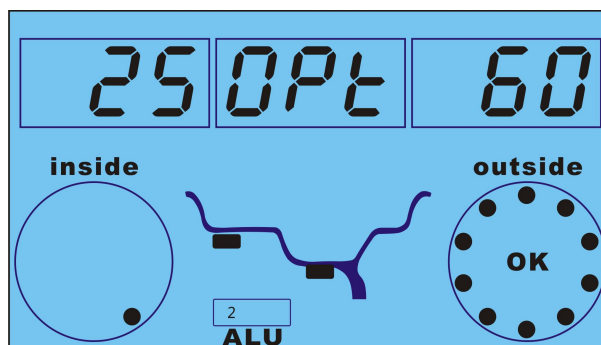
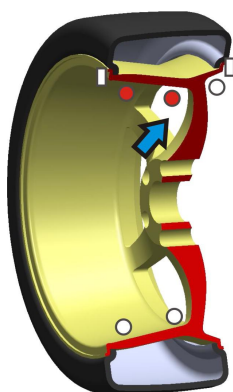


Fig. 6

4.2.6. Anticlockwise rotate 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.

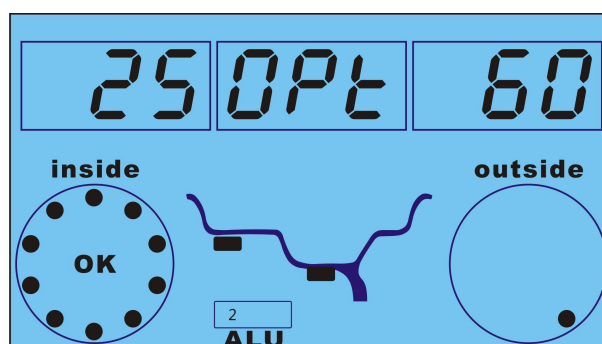
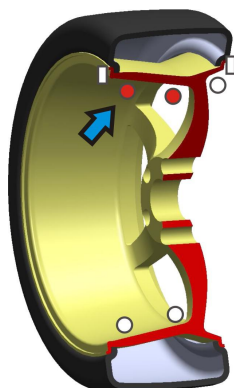


Fig. 7

4.2.7. After finishing mounting the counterweights, put down the guard and press , to perform balancing spin again, if comes out 0 0, means balancing succeed. (Fig.8)



Fig. 8

4.3. ALU—S mode

Note: This mode is used for special rim, if all other balancing modes 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   to change
- Set “aE”: pull gauge out let the gauge head touch the position of FE for 4 seconds , may press   to change
- Set “d”: read from rim, press   to input

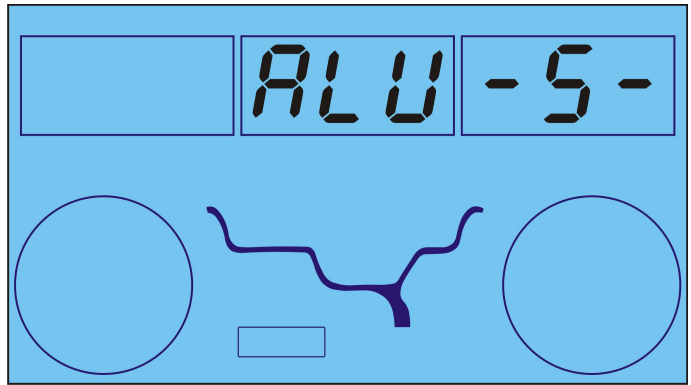
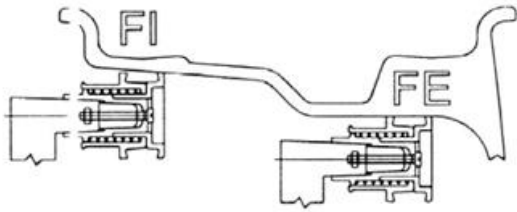


Fig. 9

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

4.3.1. 9o'clock position to add weight

Set SLC as OFF according to 10.1

Laser indication operation (setting option SLC for OFF as 10.1) selection

Anticlockwise moving wheel slowly, until the right LED lit up full, add weight on 9o'clock position (Fig.10)

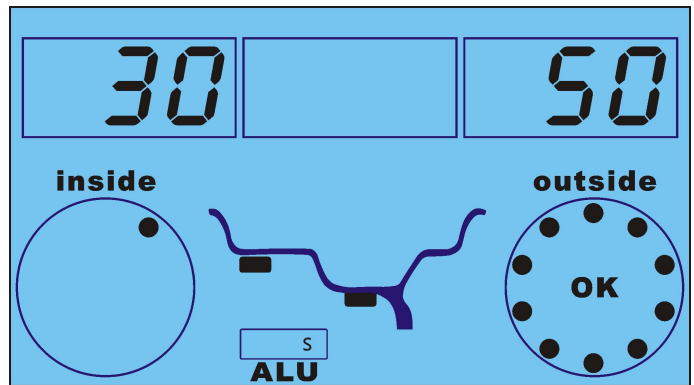
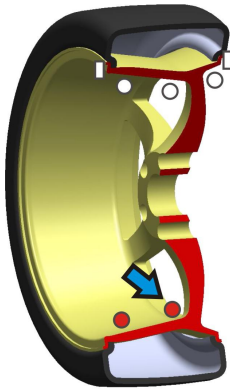


Fig. 10

Anticlockwise moving wheel slowly, until the left LED lit up full, add weight on 9 o'clock position (Fig.11)

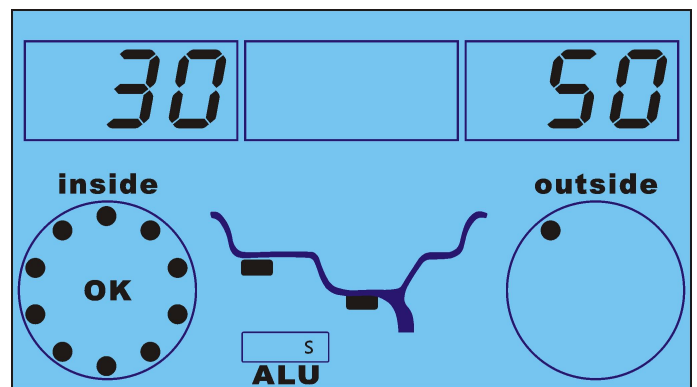
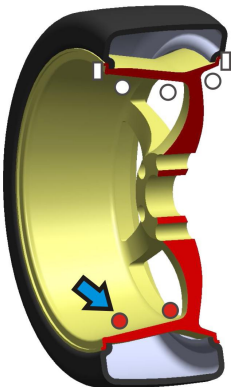


Fig. 11

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.12)



Fig. 12

4.3.2. Use a ruler to add weight

Set SLC as ON according to 10.1, as Fig.13

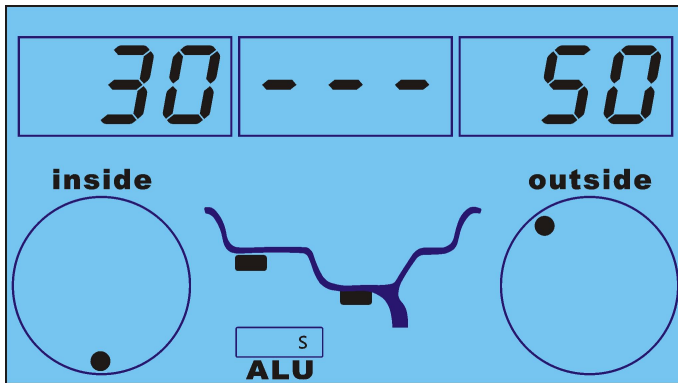


Fig. 13

Anticlockwise moving wheel slowly, until the right LED lit up full (Fig.14)

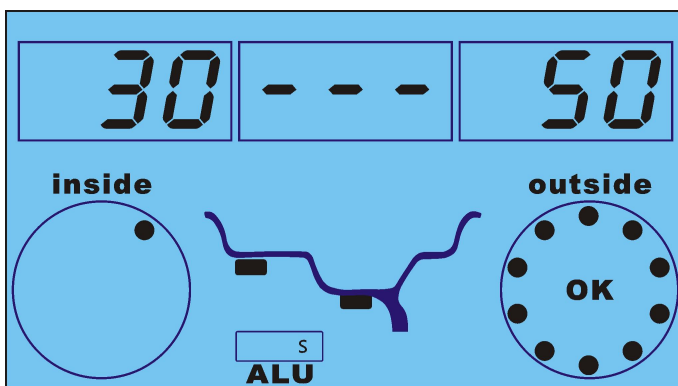
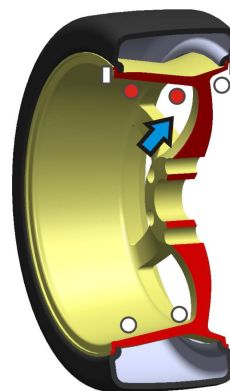


Fig. 14



Take off proper counterweight to be hold by the gauge head as Fig. 16

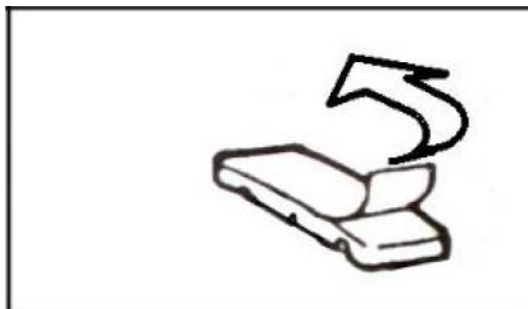


Fig. 15

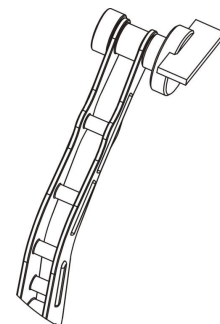


Fig. 16

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

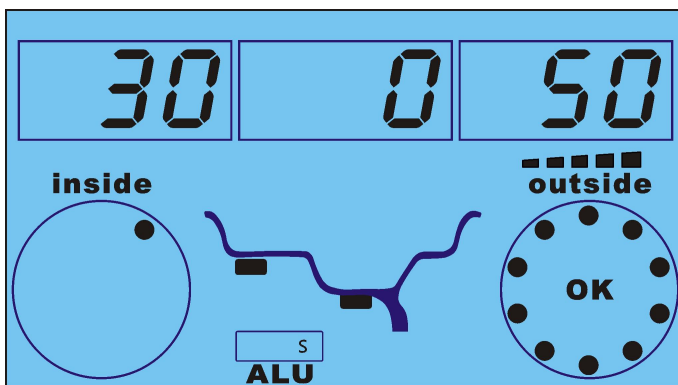


Fig. 17

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

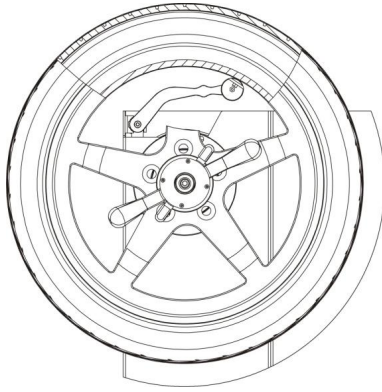


Fig. 18

Anticlockwise moving wheel slowly, until the left LED lit up full (Fig.19)

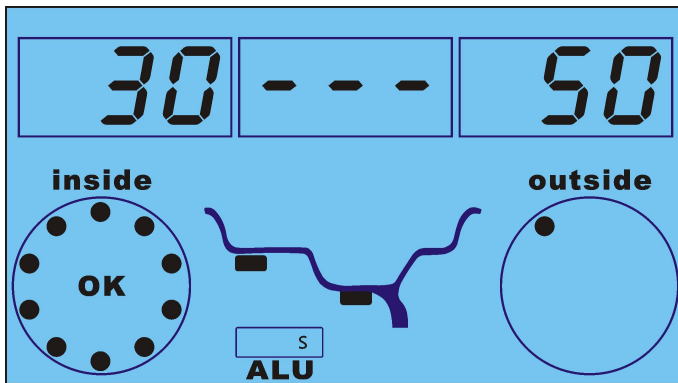
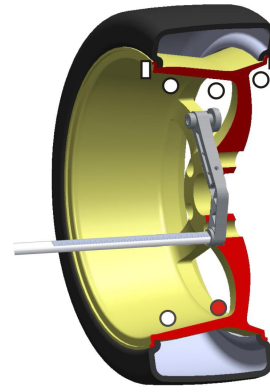


Fig.19

Take off proper counterweight to be hold by the gauge head as Fig. 16

Pull out gauge until there is a square comes in the middle window (Fig. 20)

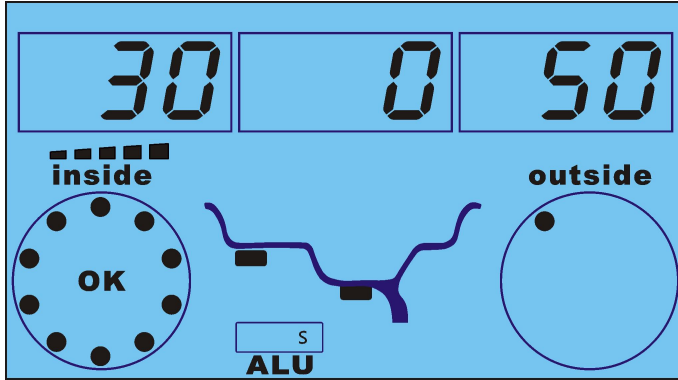
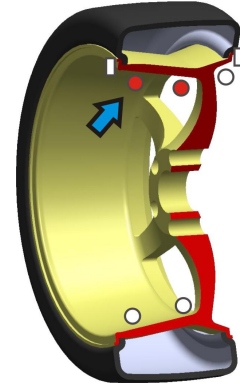


Fig. 20

Release the counterweight and let it stick on rim (Fig. 21)

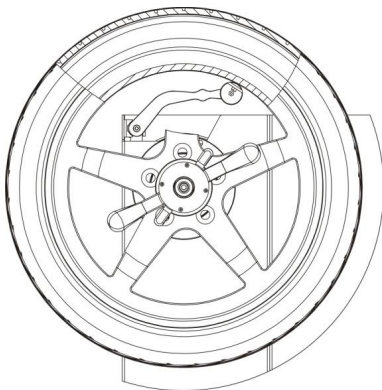
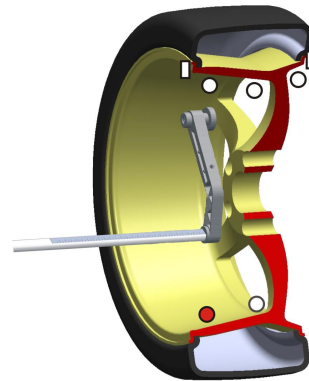


Fig. 21



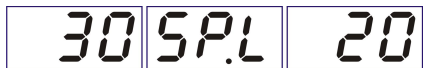
Then turn down safe guard and press  to start spin, comes Fig. 22 means the wheel is balanced.



Fig. 22

5. ALUS split function

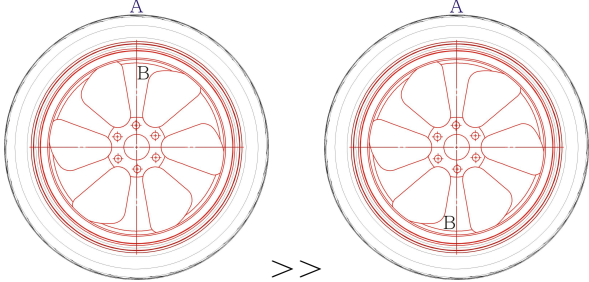
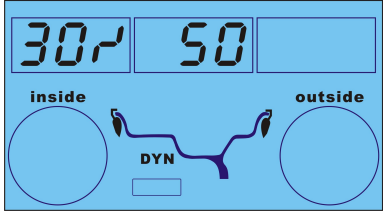
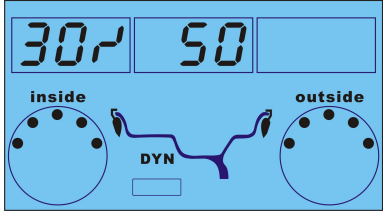
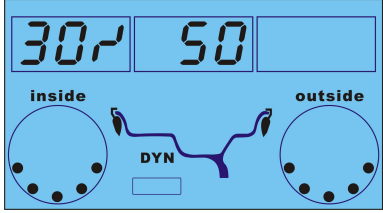
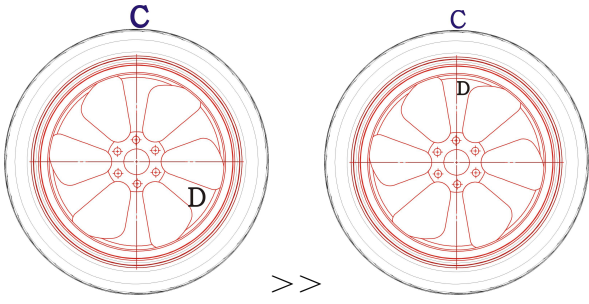
Note: Only ALU-S mode can use this function. And Operator must be experienced.

1	In the case of the ALU-S mode, press  + 	comes>	
2	Through the  and  input wheel number, then press 	comes>	
3	Keep the next spock(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 12 o'clock or else depends SLC=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 12 o'clock or else depends SLC=On or Off))	comes>	
6	Put down safe guard and press  , after spin stop	comes>	
SP succeed			

6. 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 the top half of position indicator lit up on both sides, mark the position C with chalk on rubber	reference >	
6	Rotate wheel until the bottom half of position indicator lit up on both sides, 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

7. Self-calibration

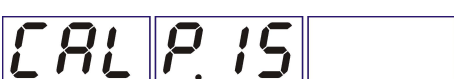
7.1 Self-calibration of wheel balancer

Turn on balancer, install a medium size wheel (13"-15") which can use clip-on weight, set "a b d" value, then

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

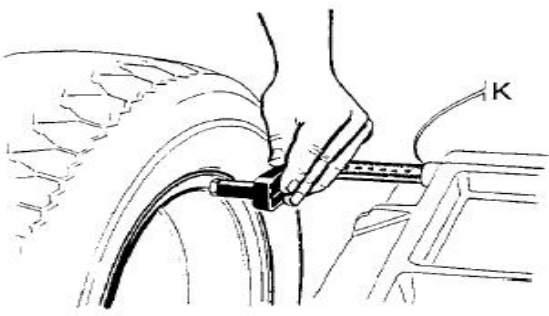
Step 1	Press  and hold, then press 	comes	
Step 2	Put down safe guard and press  to start spin, after spin stop	comes	
Step 3	Open the safe guard and clip a 100 gram weight on the outside 12 o'clock position, put down safe guard and press  to start spin, after spin stop	comes	
Step 4	Open the safe guard 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			

7.2. Rim distance gauge calibration

Press  + 	comes >	
Pull gauge to position "0" and hold, press 	comes >	
Pull gauge to position "15" and hold, press 	comes >	
Rim distance gauge calibration finished		

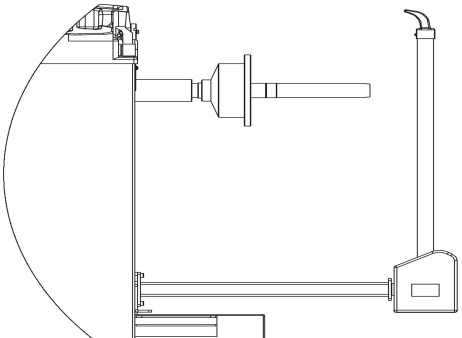
7.3. Rim diameter gauge calibration

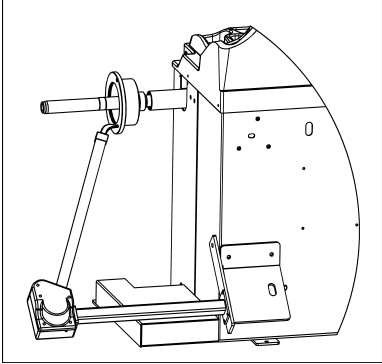
Set “d” by press **d+** **d-**, (for example if it is 16 inch, make it 16)

Press  + 	comes >	CAL 16.0
Move gauge to touch the edge of rim and keep still  fig. 20b	then >	Press 
Press  again	comes >	End CAL
Rim diameter gauge calibration		

7.4.Width gauge calibration (if provided)

Notes: No need to install wheel

1	Press  + 	comes >	CAL. P.F0
2		explain >	Keep width ruler as position
3	Press 	comes >	CAL. P.F1

4		explain>	Keep width ruler as position
5	Press  to confirm	comes>	End CAL
Width gauge calibration finished			

7.5 Calibration of laser (if provided)

 + 	comes>	CAL. 000
Automatic confirmation	comes>	CAL. 111
	>	Press  and  to move the posion of the laser intersection as left picture, press  to confirm
End CAL		
Calibration of laser finished		

8. 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. Password locked	1. unlock

10.3. Safe guard setting

Press  and hold, then press  to set safe guard

Display	Function	Explain
	Safe guard on	Put down safe guard to start spin
	Safe guard off	Put down safe guard then press  to start spin

10.4. Unit of weight setting

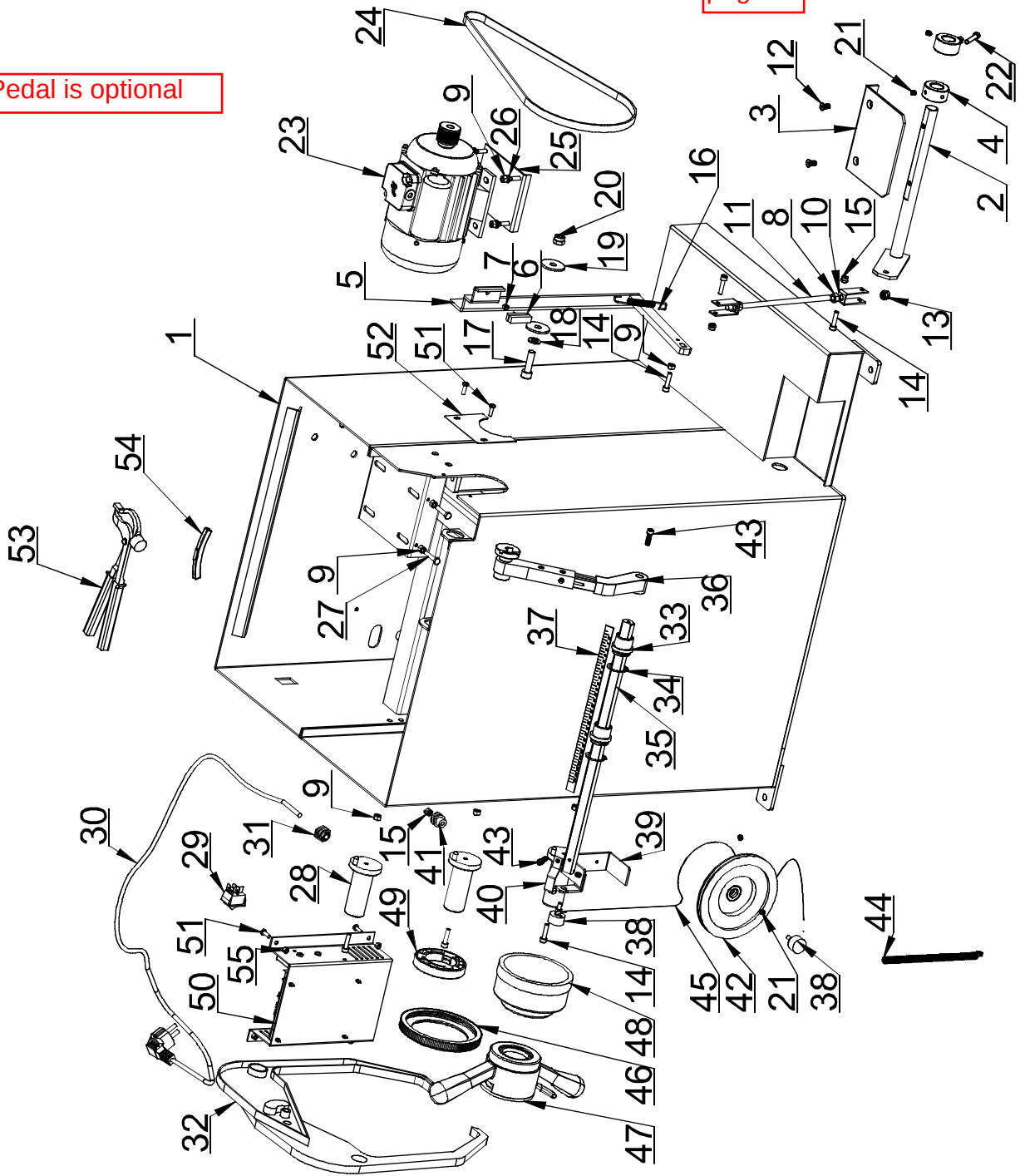
Press  +  to set unit of weight

Display	Function	Explain
	Unit of weight	Gram
	Unit of weight	Ounce

11. Spare parts list and Exploded drawings

Pedal is optional

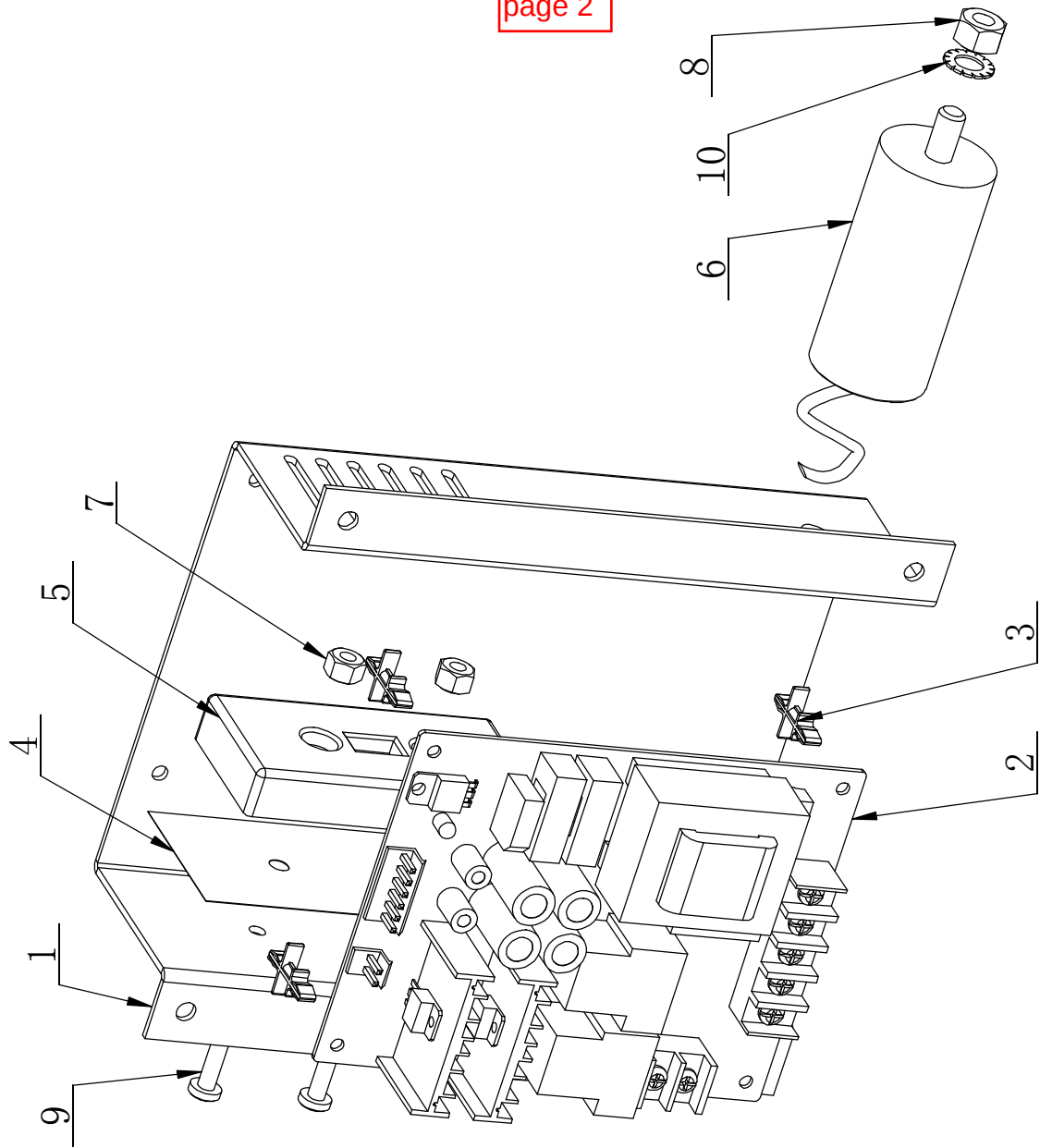
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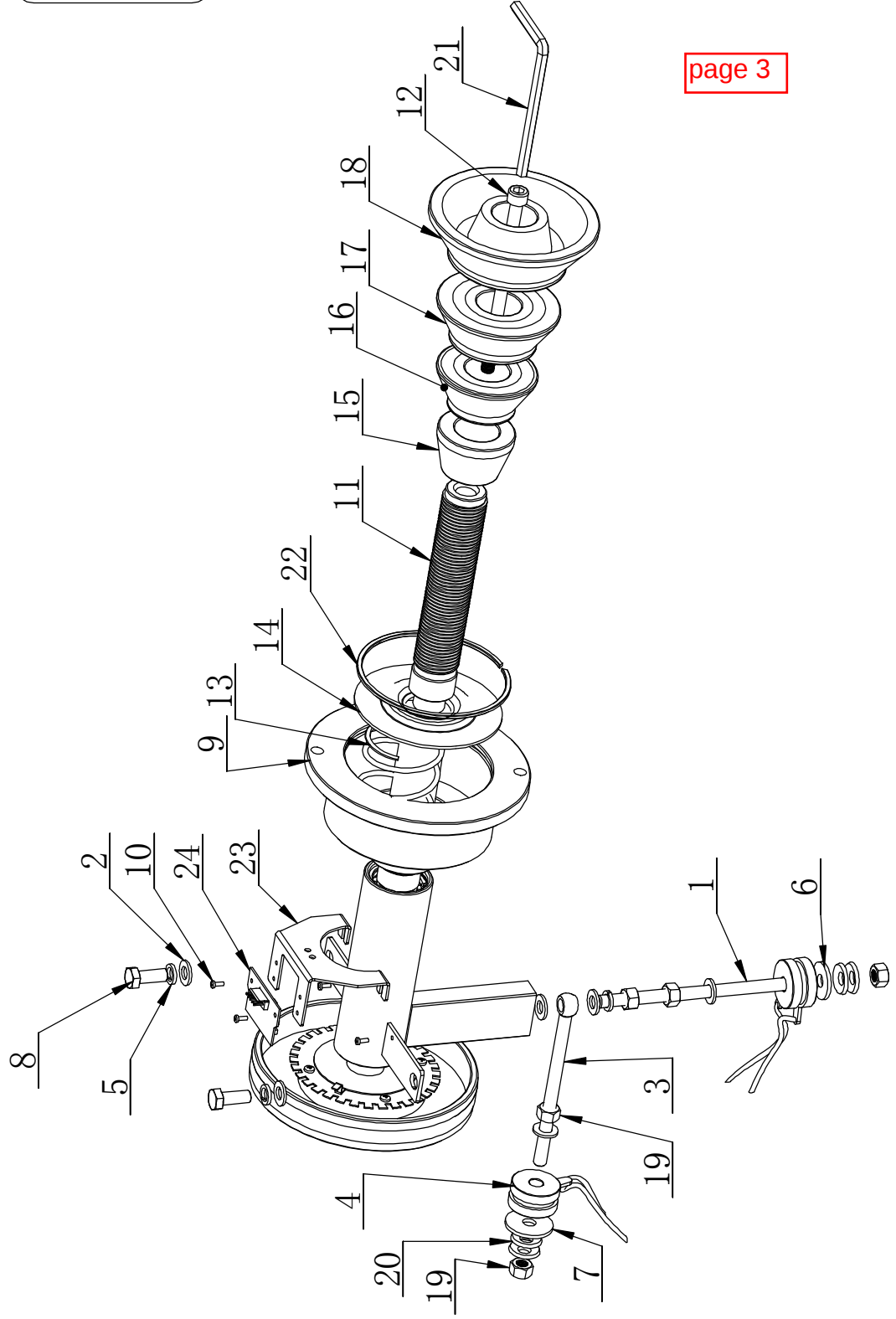
1

ITEM NO	DESCRIPTION	QTY
1	Body	1
2	Foot lever	1
3	Brake pedal	1
4	Brake ring	2
5	Brake lever	1
6	Brake pads	1
7	Hex nut GB41 /M4	1
8	Hex nut GB41 /M8	2
9	Hex nut GB41 /M6	11
10	Connecting	2
11	Connecting rod	1
12	Bolt GB-T2673 /M6X14	2
13	Hex nut GB889/M8	2
14	Bolt GB70 /M6X25	6
15	Hex nut GB889/M6	3
16	Tension spring	1
17	Bolt GB70/M10X35	1
18	Flat washer GB95/φ10	1
19	Flat washer GB95/φ38x10x3	2
20	Hex nut GB889/M10	1
21	Bolt GB80/M6X10	7
22	Bolt GB70/M6X35	1
23	Motor MY6324	1
24	Belt 380J5	1
25	Fixed seat	1
26	Flat washer GB95/φ6	4
27	Bolt GB5783/M6X30	2
28	Holder	3
29	Power Switch	1
30	Plug	1
31	Cable glands	1
32	Caliper	1
33	Plastic sleeve	2
34	Retaining ring GB894 /φ28	2
35	Aluminum ruler	1
36	Ruler head	1
37	Footage number	1
38	Potentiometer RV24/20K	2
39	Return support	1
40	Support	1
41	Wire circle	1
42	Guide pulley	1
43	Bolt GB70/M6X20	2
44	Tension spring	1
45	Steel wire rope	1
46	Rubber blanket	1
47	Handle nut part 1	1
48	Plastic bowl for location	1
49	Retainer ring	1
50	Power box	1
51	Bolt GB818 /M5X16	6
52	Small side plate	1
53	Hammer	1
54	Counterweight 100g	1
55	Hex nutGB41 /M5	4

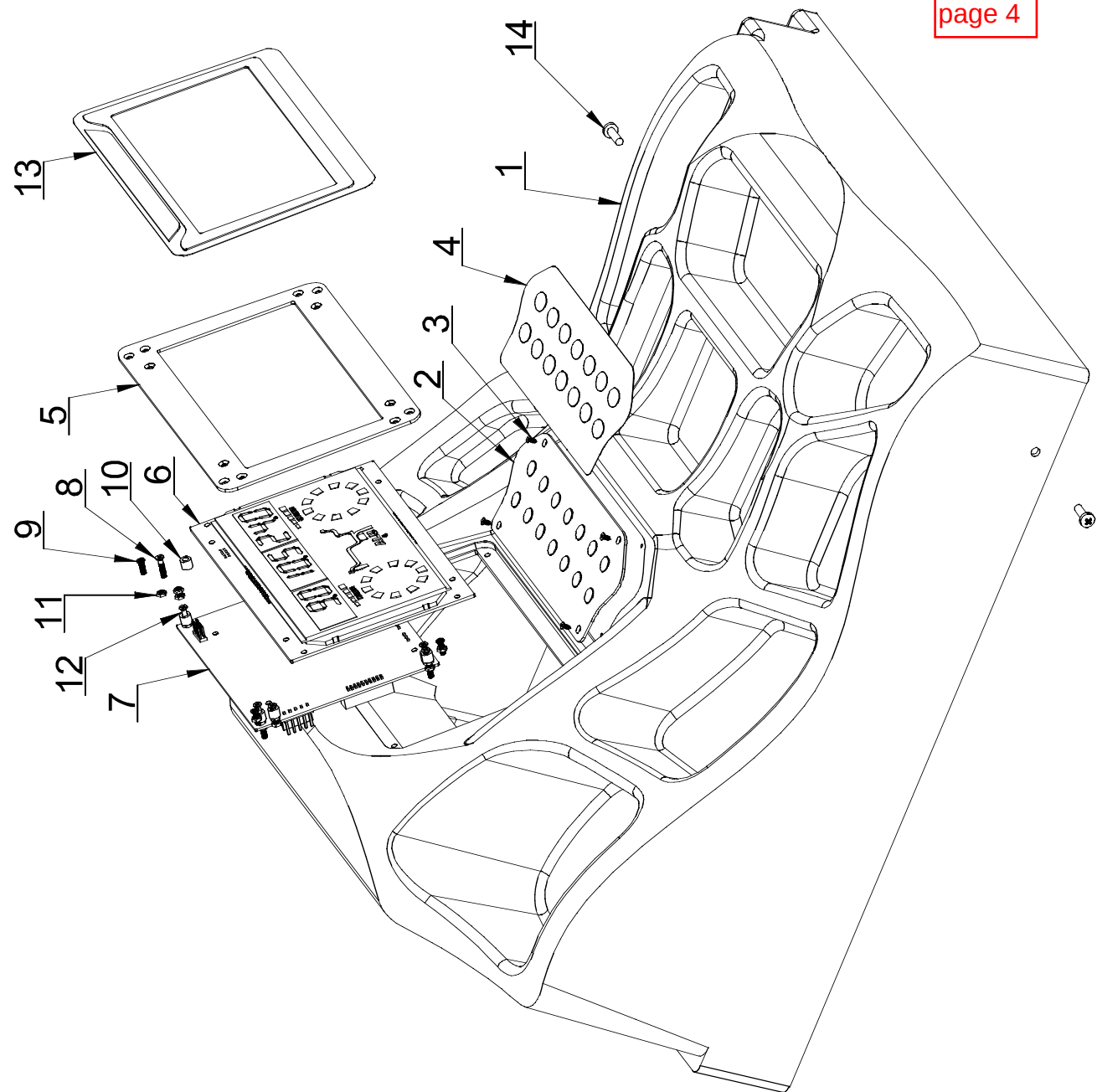


ITEM NO	DESCRIPTION	Qt
1	Power box	1
2	Electric power board	1
3	Support	4
4	Conducting strip	1
5	Resistor	1
6	Capacitor	1
7	Hex nut GB41 M6	2
8	Hex nut GB41 M8	1
9	Bolt GB818 M5X16	2
10	Washer GB862/Φ8	1

Complete axle-EN-03

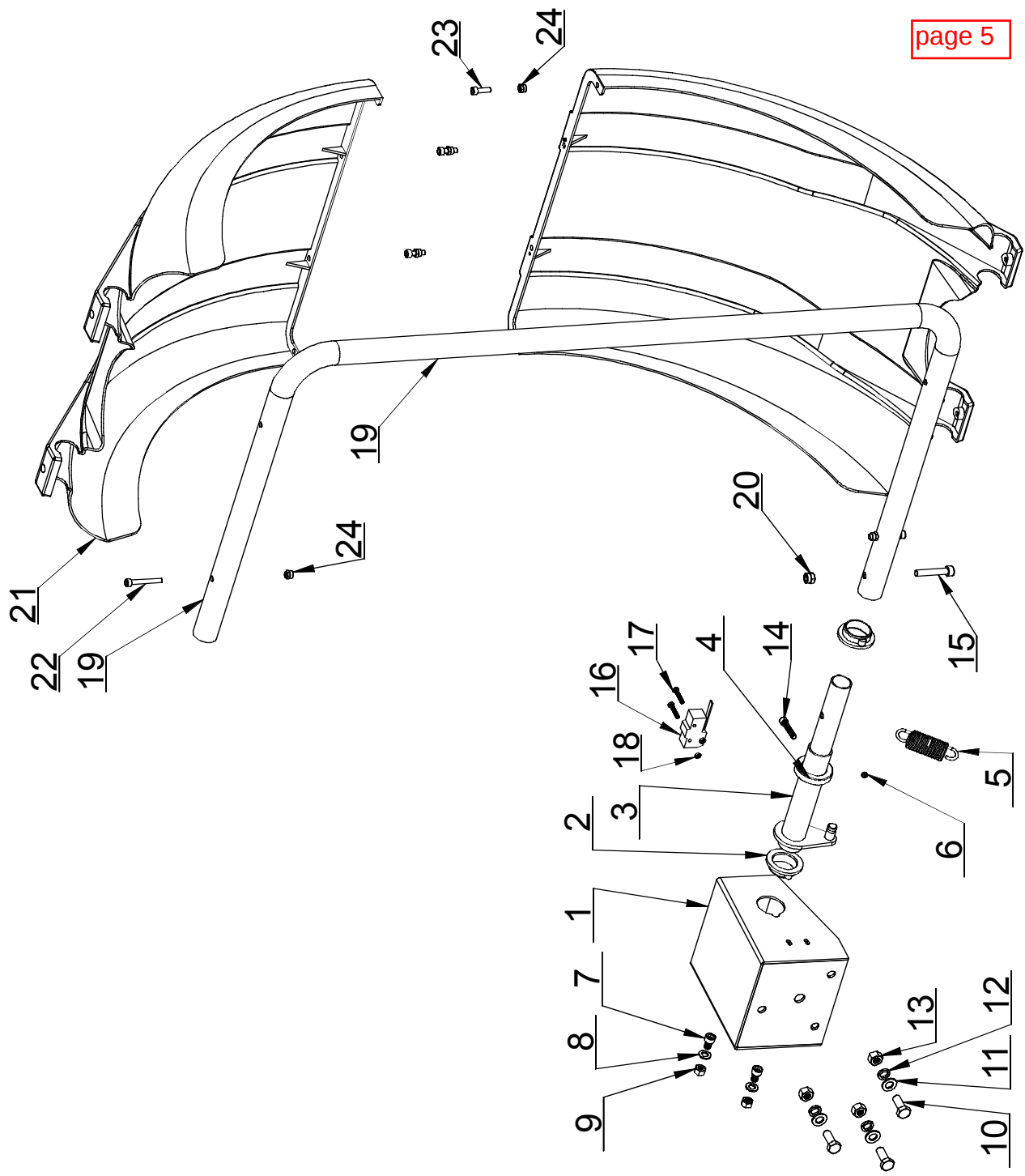


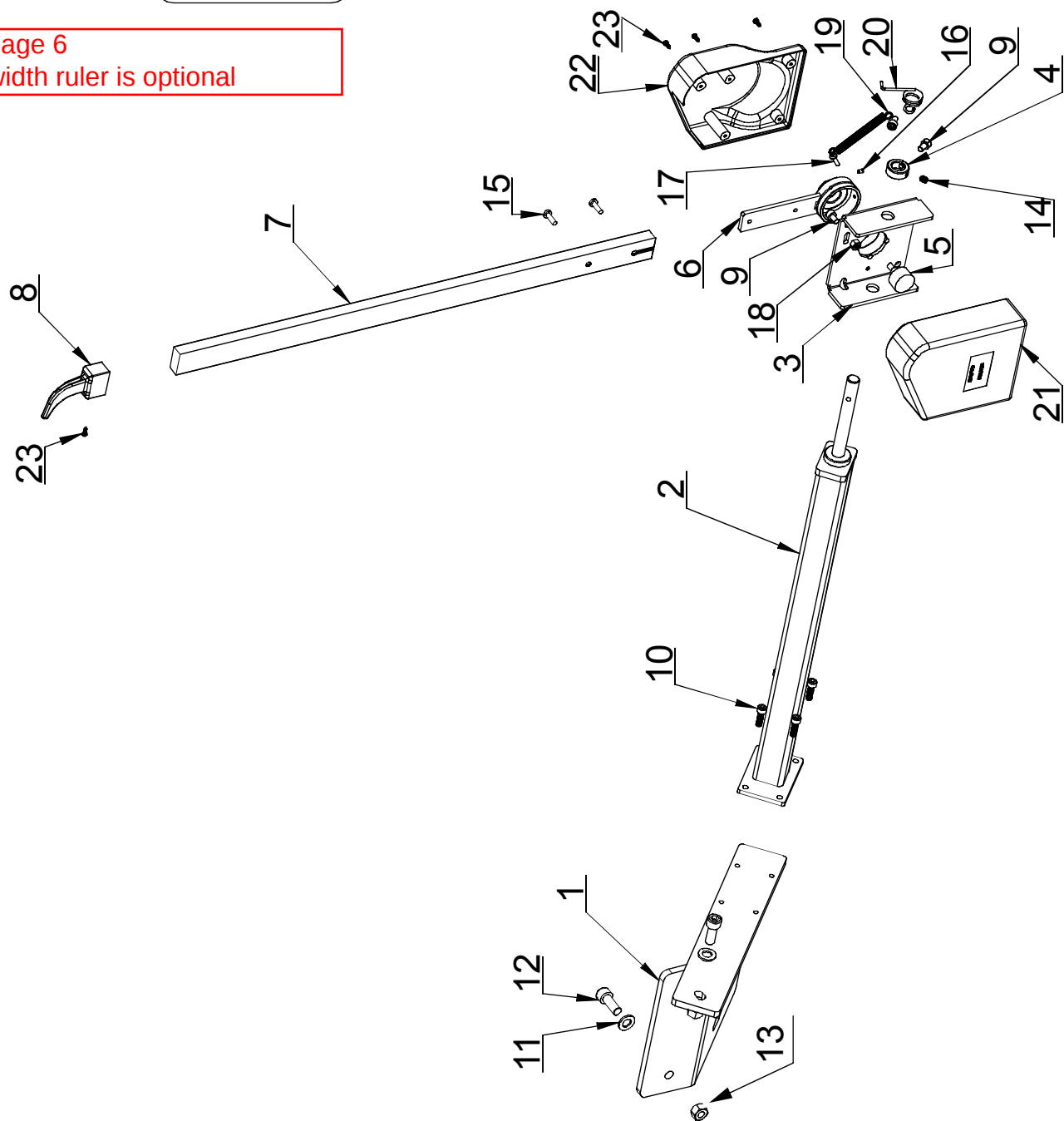
ITEM NO	DESCRIPTION	Qt
1	Screw M10X160	1
2	Flat washerGB95/Φ10	6
3	Horizontal screw M10X160	1
4	Pressure sensor	2
5	Spring washer GB93/Φ10	3
6	Spring washer GB93/Φ30x10x3	1
7	Spring washer GB93/Φ38x10x3	1
8	Screw GB5783 M10X25	2
9	Complete axle	1
10	Bolt GB818/M4X10	4
11	Thread hub	1
12	Bolt GB70/M10X160	1
13	Tower spring	1
14	Plastic lid	1
15	Conic No.1	1
16	Conic No.2	1
17	Conic No.3	1
18	Conic No.4	1
19	Hex nut GB41 M10	5
20	Copper backing	4
21	Allen wrench	1
22	Retaining ring	1
23	Support	1
24	Position pick-up board	1



ITEM NO	DESCRIPTION	Q'TY
1	Head with Tools Tray	1
2	Keyboard	1
3	Bolt GB.T 846- ST2.2X9	4
4	Key	1
5	Fix plate	1
6	LCD Computer board	1
7	Computer board	1
8	Bolt Gb819 M3X15	4
9	Bolt Gb819 M3X10	4
10	Spacer support	8
11	Hex nut Gb41 M3	20
12	Bolt Gb819 M3X25	4
13	Display Mask	1
14	Bolt Gb818 M5X16	4

ITEM NO	DESCRIPTION	Q'TY
1	Protection box	1
2	Plastic ferrule	2
3	Shaft	1
4	Ferrule	1
5	Tension spring	1
6	Bolt GB80/M6X5	1
7	Bolt GB70/M8X12	2
8	washer GB95/φ8	2
9	Hex nut GB41 M8	2
10	Screw GB5783 M10X25	3
11	washer GB95/φ10	3
12	Spring washer GB93/φ10	3
13	Hex nut GB41 M10	3
14	Bolt GB5783 M6X30	1
15	Bolt GB70 M8X45	1
16	Micro switch	1
17	Bolt GB818 M4X25	2
18	Hex nut GB41 M4	2
19	Bend pipe	1
20	Hex nut M8	1
21	Plastic cover (0716)	2
22	Bolt GB70 M6X45	2
23	Bolt GB70 M6X20	4
24	Hex nut M6	6





ITEM NO	DESCRIPTION	Q'TY
1	Fix plate	1
2	Support arm	1
3	Turning holder	1
4	Stop collar	1
5	Potentiometer	1
6	Turning arm	1
7	Ruler rod	1
8	Measuring head	1
9	Bolt GB70 M6X15	3
10	Bolt GB70 M6X20	4
11	Flat washer GB95 Φ10	3
12	Bolt GB70 M10X25	3
13	Hex nut GB41 M10	3
14	Bolt GB80 M6X8	1
15	Bolt GB818 M5X16	2
16	Bolt GB80 M4X6	5
17	Bolt GB818 M4X16	2
18	Hexagon nut GB41 M6	1
19	Turning tension spring	1
20	Turning torsional spring	1
21	A16A lower cover	1
22	A16B upper cover	1
23	Bolt GB845 ST2.9X10	6

ITEM NO	DESCRIPTION	PART NO.	Q' TY
1	Package box	7000114	1
2	Conic 4	2033701	1
3	Conic 3	2033601	1
4	Conic 2	2033501	1
5	Conic 1	2033401	1
6	Locking nut	2042901	1
7	Thread rod	2042201	1
8	Plastic bowl	3005018	1
9	Rubber buffer	3005019	1
10	Hammer	4003601	1
11	Counterweight	6000210	1
12	Spanner	6000169	1
13	Caliper	3005056	1

