CATALOGUE

1. Introduction

An imbalanced wheel will make the wheel jump and steering wheel wobble while driving. It can baffle the driver to drive, aggrandize the cleft of combine area of steering system, damage the vibration damper and steering parts, and increase the probability of the traffic accidents. A balanced wheel will avoid all these problems.

This equipment adopts the new LSI (Large Scale Integrated circuit) to constitute the hardware system that acquires processes and calculates information at a high speed.

Read the manual carefully before operating the equipment to ensure normal and safe operation. Dismantling or replacing the parts of equipment should be avoided. When it needs repairing, please contact with technique service department. Before balancing, ensure the wheel fixed on the flange tightly. Operator should wear close-fitting smock to prevent from hanging up. Non-operator does not start the equipment.

No use while beyond the stated function range of manual.

2. Specification and Features
2.1 Specification
- □ Max wheel weight: 65kg
- □ Motor power: 200W
- □ Power supply: 220V/50Hz
- □ Rotating speed: 200r/min
- □ Cycle time: 8s
- □ Rim diameter: 10″~24″(256mm～610mm)
- □ Rim width: 1.5″~20″(40mm～510mm)
- □ Noise: ＜70dB
- □ Net weight:75kg
- □ Dimensions: 915mm×760mm×1180mm

2.2 Features
- □ Adopt 6 LED display, it has flexible indicator operating function.
- □ Various balancing modes can carry out counterweights to stick, clamp and etc.
- □ Intelligent self-calibrating.
- □ Self fault diagnosis and protection function.
- □ Applicable for various rims of steel structure and duralumin structure.

2.3 Working Environment
- □ Temperature: 5~50℃
- □ Altitude: ≤4000m
- □ Humidity: ≤85%

3. Precautions for operators
1. before starting to use the balancing machine, please read the operation instruction manual carefully.
2. Keep this manual properly for future reference.
3. avoid removing and changing machine parts, otherwise it will affect the normal operation or risk. When repairs are needed, contact the dealer Contact technical Maintenance Service Department.
4. When cleaning the machine, compressed air with too high pressure can not be used.
5. Clean the plastic board and keyboard board with alcohol (avoid impurities in alcohol).
6. Make sure the tire is securely locked and connected to the flange before you begin tire balancing.
7. the operator wear tight work clothes, in case of hanging, non-operator can not start the machine.

8. avoid placing debris around the balancing machine, so as not to affect the normal operation.
9. beyond the function range specified in the manual of balancing machine, balancing machine will not be used.

4. The Constitution of Dynamic Balancer

Two major components of the dynamic balancer are: mechanic part and electric system

4.1   Mechanic part

The part consists of support, swing support and rotary main axis; they are together fixed on the frame.

4.2   Electric system

1. The microcomputer system consists of LED display, keyboard, and LSI circuit such as new MCU CPU.
2. Testing speed and positioning system consists of gear and opto-electronic coupler.
3. Two-phase asynchronous motor supplies and controlling circuit.
4. Horizontal and vertical pressure sensor.
5. Hood protection: machine can not start if protection hood is not put down.
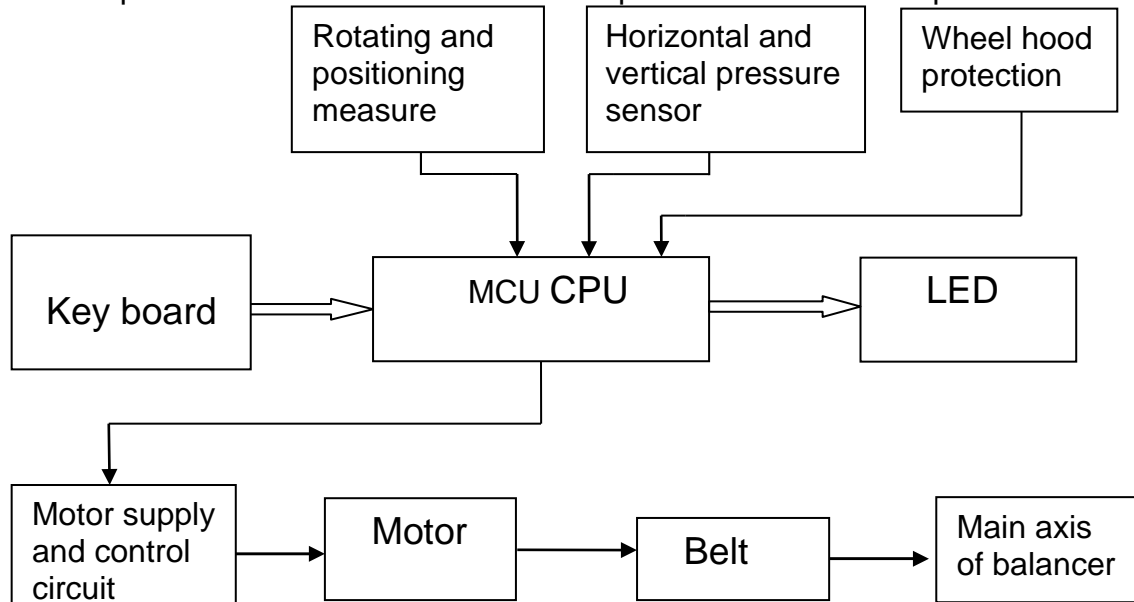
Figure 4-1 electric system

5. Installation of Dynamic Balancer

5.1   Opening and Checking

Open the package and check whether there are damaged parts. If there are any questions, please do not use the equipment and contact the supplier. Standard accessories with equipment are shown as follows:

Screw stud of drive axis   1
Balancing pliers   1
Allen wrench   1
Measure caliper   1
Quick release nut   1
Adapter (cone)   4
Counter weight (100g)   1
Protection hood (optional)   1

5.2   Installing machine

5.2.1 The balancer must be installed on the solid cement or similar ground. Unsolidified

ground can bring measuring errors.

    5.2.2 There should be 500mm around the balancer in order to operate conveniently.

    5.2.3 Nail anchor bolts on the base's mounting hole of balancer to fix the balancer.

5.3   Installing hood (optional)

    Install the wheel hood on the equipment by insert the pipe of protection hood into the hood shaft behind the cabinet, then fasten them with M10×65 screws in spare parts box

5.4   Installing screw stud of drive axis

    Install screw stud of drive axis on the main axis with M10 × 150 socket bolt, then screw the bolt. (Refer to figure 5-1)

Figure 5-1

Notice: a wheel can be installed on the main axis before screwing bolt, then hold the wheel by hands in order to prevent the main axis from revolving together with the bolt.

6.   LED display and function keys

6.1   LED display and key board function introduction.
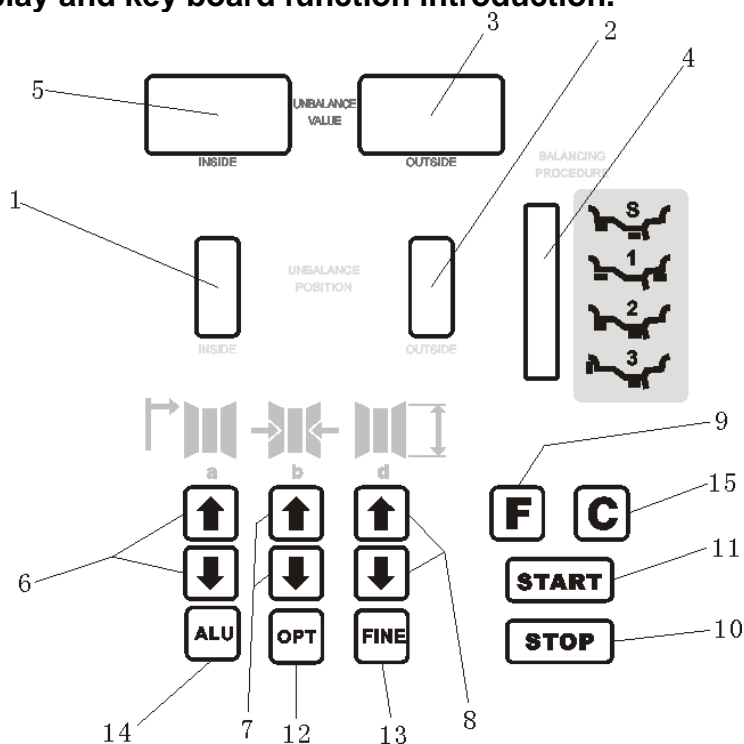
Figure 6-1

1-Digital readout, position of imbalance, inside
2-Digital readout, position of imbalance, outside
3-Digital readout, amount of imbalance, outside
4-Indicator, "ALU" correction mode selected
5-Digital readout, amount of imbalance, inside
6-Push buttons, manual DISTANCE (a) setting
7-Push buttons, manual WIDTH (b) setting
8-Push buttons, manual DIAMETER (d) setting
9-Push button for "STATIC" or "DYNAMIC" shift and function combination
10-Push button, emergency stop setting
11- Push button, machine start

12- Push button, optimization of imbalance
13- Push button, real imbalance amount display
14- Push button , selection of "ALU" mode of correction
15- Push button for recalculation of imbalance amount
Notice: Only use the fingers to press buttons. Never use the counterweight pincers or other pointed objects to press buttons.

6.2　　Combination function keys introduction
[F] + [C]:　Push buttons for self-calibration
[F] + [FINE]:　Push buttons for self-checking
[F] + [STOP]:　Push buttons for protection hood function setting
[F] + [a-] + [a+]:　Push buttons for shift of gram and ounce
[STOP] + [C]:　Push buttons for machine setting

7.　Installing and Demounting the Wheel
7.1　　Checking the wheel
The wheel must be clean, without sand or dust on it, and remove all the previous counterweights of the wheel. Check the tyre pressure whether up to the rated value. Check whether positioning plane of rim and mounting holes deformed.
7.2　　Installing the wheel
7.2.1 Select the optimal cone for the center hole if there is center hole on the rim.
7.2.2 Two ways of installing the wheel: A. positive positioning; B. negative positioning.
7.2.2.1　Positive positioning (refer to figure 7-1):
Positive positioning is commonly used. It operates easily, and it is applicable for steel and thin duralumin rims with small inner hole. Installing process: main shaft →install suitable cone (small end towards outside) →　install wheel →　(installing plane of rim towards inside) → install quick release nut
7.2.2.2　Negative positioning (refer to figure 7-2):
If rim inner hole is big and biggest cone is adopted, negative position is suitable so that rim can match shaft flange tightly. Installing process: main shaft → install wheel → install suitable cone 　（ big end towards outside ）→ quick release nut
7.2.3 Install wheel and cone on main shaft. Ensure the cone can clamp the wheel before screwing handle. Wheel can rotate after screwing tightly.
7.3　　Demounting the Wheel
7.3.1 Demount the quick clamp
7.3.2 Raise the wheel and then take it down from main axis.
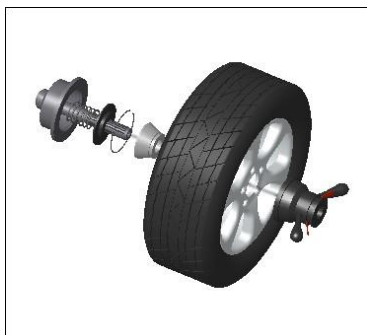
Figure 7-1	Figure 7-2

Notice: do not slide wheel on main shaft to prevent main shaft from scuffing while installation and demounting the Wheel

8.　The input methods of rim data and the wheel balance operation

8.1 The power-on state of the machine

After the machine is powered on, it starts initialization automatically. The initialization will be completed after two seconds. Then the machine enters normal dynamic (clamp counterweights on the correction plane of the both edged sides of rim) mode automatically (Figure 8-1), ready for input data of rim.

Figure 8-1

8.2 Data of wheel input method and wheel balance operation for normally dynamic balance mode

8.2.1 After the machine is powered on, it enters the normal balance mode

8.2.2 Input data of rim
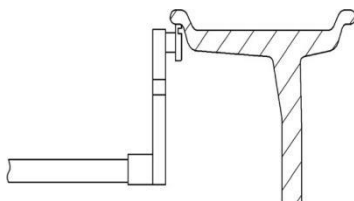
Figure 8-2

Move the measure scale, pull the ruler head to the edge of the rim inside (Figure 8-2), and get the readout of value "a" indicated by ruler, then put ruler back. Press [a-] or [a+] to input value "a".

8.2.3 Input data of rim width

Get the width value indicated on rim or measured by ruler, then press [b+] or [b-] key to input value "b".

8.2.4 Input data of rim diameter.

Get the diameter value indicated on rim or measured by ruler, then press [d+] or [d-] key to input value "d".

8.2.5 Normal dynamic balance mode operation process

Input data of rim, lay down protection hood, press START key to make wheel rotate. After stop, both sides LED displays show imbalance weight between both sides.

Slowly rotate wheel. When inside position indicator lights (figure 6-1(1)) are all on, clip corresponding counterweight, showing by left side LED displays, on 12 o'clock position on inside of rim (figure 8-3). Again slowly rotate wheel. When outside position indicator lights (figure 6-1(2)) are all on, clip corresponding counterweight, showing by right side LED displays, on 12 o'clock position on the outside of rim (figure 8-4). Then lay down protection hood and press START key to make wheel rotate. After stop, both side LED displays show "0". Balance process is completed.

Figure 8-3   **Figure 8-4**

8.3   The data input method of ALU-1 mode and balance operation process

Follow 8.2 to input data of rim. Press ALU key to make ALU-1 indicating light on so as to balance wheel at ALU-1 mode
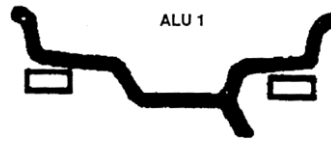
Figure 8-5

Input data of rim, lay down protection hood and press START key to make wheel rotate.

After stop, both side LED displays show wheel both sides imbalance weight

8.2.6 Slowly rotate wheel, when inside counterweight position indicator light (figure 6-1(1)) all on, clip correspond counterweight on 12 o'clock position on inside of rim(ect figure 8-5 left)

8.2.7 Slowly rotate wheel, when outside counterweight position indicator light(figure 6-1(2)) all on, clip correspond counterweight on 12 o'clock position on outside of rim (ect figure 8-5 right)

8.2.8 Lay down protection hood, press START key, rotate wheel, after stop both side LEDs display Zero. Balance is completed

8.4   The data input method of ALU-2 balance mode and wheel balance operation process

Follow 8.2 to input data of rim, press ALU key to make ALU-2 indicating light on. Then wheel can be balanced in ALU-2 mode.

Figure 8-6

Input data of rim, lay down protection hood, press START key, rotate wheel. After stop, both sides LED displays show imbalance weight between both sides. Slowly rotate wheel. When inside position indicator lights (figure 6-1(1)) are all on, clip corresponding counterweight, showing by left side LED displays, on 12 o'clock position on inside of rim (figure 8-6 left). Again slowly rotate wheel. When outside position indicator lights (figure 6-1(2)) are all on, clip corresponding counterweight, showing by right side LED displays, on 12 o'clock position on the outside of rim (figure 8-6 right). Then lay down protection hood and press START key to make wheel rotate. After stop, both side LED displays show "0". Balance process is completed.
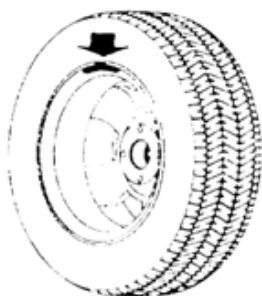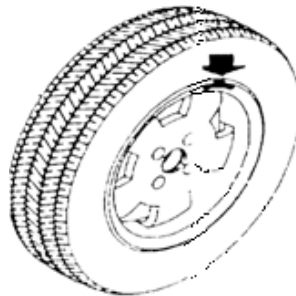
8.5   The data input method of ALU-3 balance mode and wheel balance operation process

Follow 8.2 to input wheel data, press ALU key to make ALU-3 indicating light on, then wheel can be balanced in ALU-3 mode.

Figure 8-7

Slowly rotate wheel. When inside position indicator lights (figure 6-1(1)) are all on, clip corresponding counterweight, showing by left side LED displays, on 12 o'clock position on inside of rim (figure 8-7 left). Again slowly rotate wheel. When outside position indicator lights (figure 6-1(2)) are all on, clip corresponding counterweight, showing by right side LED displays, on 12 o'clock position on the outside of rim (figure 8-7 right). Then lay down protection hood and press START key to make wheel rotate. After stop, both side LED

displays show "0". Balance process is completed.

8.6 The data input method of ALU-S balance mode and wheel balance operation process

These three kinds of ALU mode above are not suitable for all shape tyre. And some tyres can't be balanced well. So ALU-S mode may be adopted in this situation. The data input method is as follow:

Press ALU key, make the ALU-S LED light on (figure 8-8 or 8-9), move the measure ruler, pull the ruler head to inside of the rim (aI), measure distance (aI) inside of the rim, press [a-] or [a+] to input value "aI".

Move the measure ruler, pull the ruler head to outside of the rim (aE), measure distance (aE) outside of the rim, and press [b-] or [b+] to input value "aE".

Use caliper to measure diameter (dI) of inside (aI) of the rim, press [d-] or [d+] to input value "dI"
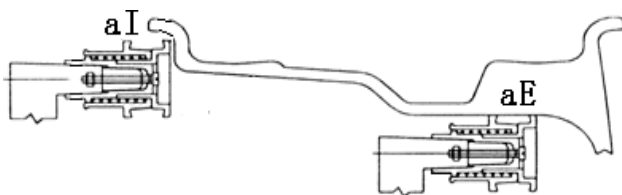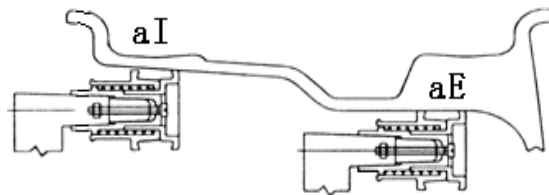
Figure 8-8   **Figure 8-9**

Use caliper to measure diameter (dE) of outside (aE) of the rim, hold pressing [FINE] key and press [d-] or [d+] to input "dE" value.
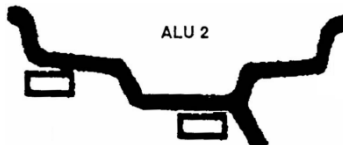
Input data of rim, lay down protection hood, press START key to make wheel rotate. After stop, both sides LED displays show imbalance weight between both sides. Slowly rotate wheel. When inside position indicator lights (figure 6-1(1)) are all on, clip corresponding counterweight, showing by left side LED displays, on 12 o'clock position on inside of rim (figure 8-8). Aga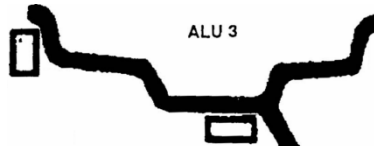in slowly rotate wheel. When outside position indicator lights (figure 6-1(2)) are all on, clip corresponding counterweight, showing by right side LED displays, on 12 o'clock position on the outside of rim (figure 8-9). Then lay down protection hood and press START key to make wheel rotate. After stop, both side LED displays show "0". Balance process is completed

8.7 Static balance (ST) operation process

ST mode is only suitable for rim, on which counterweight can be clipped on the middle position, such as motorcycle rim.

In the normal mode, measure diameter "d" of the position with counterweight (figure 8-10), then press [d+] or [d-] to input value "d". (value "a" and value "b" can be random value). Press [F] to enter ST mode.
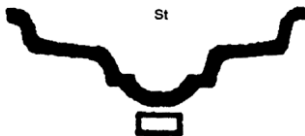
Figure 8-10

Input rim data, lay down protection hood, press START key to make wheel rotate. After stop, left side display shows ST, right side display shows imbalance amount (figure 8-11). Slowly rotate wheel. When inside position indicating lights (figure 6-1(1)) and outside position indicating lights (figure 6-1(2)) are all on, stick corresponding counterweight, showing LED displays, on 12 o'clock position on the rim (figure 8-10). Lay down protection hood, press START key to rotate the wheel. After stop, LED displays show "0". Balance process is completed.

8.8 Recalculation function

Before wheel balance testing, sometimes input of current data of rim is forgotten. You can input data of rim after wheel balance testing. No need to press START key. Only press recalculation key (C), system will follow new data of rim to calculate imbalance amount. Press C key against the interface currently showing imbalance value, currently rim data of input can be checked.

9. The Self-calibrating of Dynamic Balancer

The self-calibrating of dynamic balancer has been finished before ex-factory. But the system parameter may vary because of long-distance transportation or long-term use, which may cause error. Therefore, users can make self-calibrating after a period of time.

Process is as follows:

9.1 Power on machine. After the initialization (figure 8-1)，install a middle size and comparatively balanced wheel on which counterweight can be clipped. Then follow step 8.2 input data of rim

9.2 Press F key and C key, (figure 9-1), lay down protection hood, press START key for next step, press STOP key or C key to exit;

Figure 8-1

9.3 After main shaft stop (figure 9-2), open up protection hood, clip a piece of 100 gram counterweight on anywhere of outside of rim, lay down protection hood, press START key for next step, press STOP key or C key to exit;

Figure 9-2

9.4 After main shaft stop (figure 9-3), Self-calibration is completed. Demount wheel, then balancer is ready to work.

Figure 9-3

> **NB：In the process of self-calibration, data of rim for input must be correct. 100 gram counterweight must be accurate. Otherwise self-calibration result will be wrong. And wrong self-calibration will make balancer measure precision decline.**

10. Imbalance optimization

Imbalance optimization can be carried out When wheel imbalance amount is over 30 gram. And optimization can reduce usage quantity of counterweight.

Imbalance optimize have two operation methods:

10.1 Already display balance value

If balance testing has been completed and imbalance optimization needs to be carried out, press OPT key (figure 10-1);

Figure 10-1

Use chalk to mark a same point on the flange plane, rim and tyre. Use tyre changer to demount tyre, turn tyre by 180°, and mount tyre to rim；Reinstall wheel on the balancer

and make sure mark points on flange and rim must be aligned. Press START key (figure 10-2);

Figure 10-2

As per Figure 10-2, left display shows percent of optimization. If static value is 40 gram Before optimization, optimized by 85%,static value remains only 6 gram(15%×40gram=6gram) after optimization;

Slowly rotate wheel manually, when both ends side position indicating lights flash (figure 10-3)，use chalk to mark on top side of the tyre;
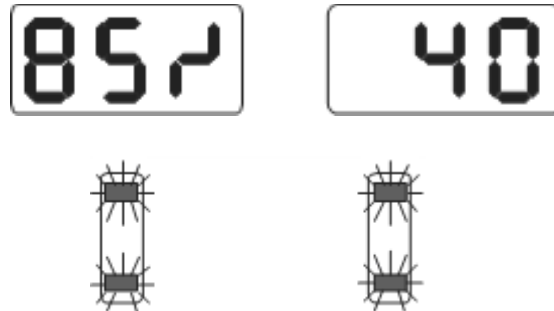
Figure 10-3

Again slowly rotate wheel by hand. when both middle position indicating lights flash (figure 10-4)，use chalk to mark on top side of the rim;
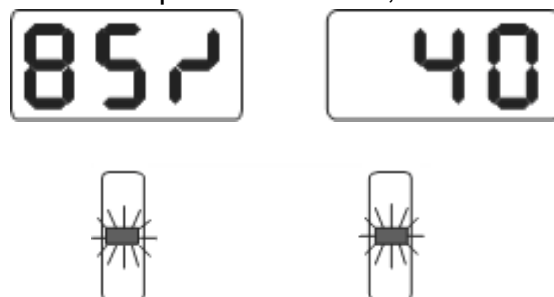
Figure 10-4

Demount the wheel from balancer, use tyre changer fit tyre on the rim and align marks on the tyre and rim. Optimization is completed.

10.2　Imbalance optimization before balance testing after machine power on

Turn on the power, install wheel, press OPT key. Left side displays OPT. Press START key and display as per figure 10-1. Then follow 10.1 to operate. Press STOP key to pause operation.

11. Safety Protection and Trouble Shooting

11.1　Safety protection

11.1.1 Under the circumstance of operation, if the machine does not operate normally, Press STOP key, the rotating wheel will stop immediately.

11.1.2 If protection hood is not laid down, press START key, the wheel will not rotate, displays Err-5-

11.1.3 Under the circumstance of operation, if protection hood is opened up, the rotating wheel will stop immediately, display OFF.

11.2　Trouble shooting

11.2.1 Press START key, main shaft not rotate, LED display shows Err-1-. Please check motor, power supply board, computer board and cable connections;

11.2.2 Press START key, main shaft rotate, LED display shows Err-1-. Please check position sensor, computer board and cable connections;

11.2.3 If main shaft still rotates for a long time without braking after balance test finish,

please check brake resistance, power supply board, computer board and cable connections;

11.2.4 Power on machine and no display, please check whether power switch indicating light is flashing. If not, it is the power supply problem. Otherwise please check the power supply board, computer board and the cable connections;

11.2.5 Usually precision problem is not caused by the balancer machine. It is probably because of wrong wheel installation, or inaccurate counterweight, or inaccurate counterweight of 100 gram for balance self-calibration. Please reserve the original equipped 100 gram counterweight properly, which is for self-calibration only.

11.2.6 Instability and poor repeatability of data are not usually caused by the balancer machine. It is probably because of wrong wheel installation, or not firm or level-off ground. Please fix the machine by anchor bolts. Sometimes no connected earth wire may cause this phenomenon.

11.2.7 If add weights many times, the tire still can not be balanced, it is possible the operator did find the correct unbalanced position and weights were not added on the correct position. Follow the instructions to do the self-calibration once. If still can not solve the problem, check it as following ways: 1)put down the protective cover, start the machine to test the tire; 2)turn the tire slowly by hand, to find the lateral unbalanced position; 3)add a 100g weight on the lateral position of rim(12 o' clock position); start the machine to test the tire, turn the tire by hand slowly, to find the lateral unbalanced position; check if the position of 100g weight is on the position of 6 o' clock(the bottom position); If no, it means the parameters of the machine has changed, please contact the dealer or manufacturer to solve it.

Hint: right method to check precision:

Input right data of wheel(a. b. d value),consult instruction do a self-calibration, press START process balance operation, note down data of first time, clip 100 gram counterweight on the outside edge of wheel(when outside indicator light all on is top zenith position),press START key again process balance operation, this data of outside display addition data of first time, should amount 100±2,manually slowly turn the wheel, when light of outside all on, check 100 gram counterweight whether at 6 o'clock position, if not amount 100 gram or 100 gram counterweight not at 6 o'clock position, indicate balancer precision have problem, if amount is 100 gram, follow same method check inside, check inside whether amount is 100 gram and at 6 o'clock.

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12. Maintenance
12.1 The daily maintenance by non – professionals
Before the maintenance, please switch off the power-supply.

12.2.1 Adjust the tension of the belt.

        12.2.1.1 Dismantle the top cover hood.

        12.2.1.2 Unscrew motor screw, move the motor till the belt's tension is proper, and emphatically press the belt downwards about 4mm.

        12.2.1.3 Screw motor screw and install the top cover hood.

12.2.2 Check whether the wires of electricity part connects are reliable.

12.2.3 Check whether the screw stud of the main shaft is loose.

        12.2.3.1 Locking nut can not fix wheel tighten on main shaft

        12.2.3.2 Use hexagonal wrench to tighten the screw stud of the main shaft.

12.2 The maintenance by professionals
The professionals should be from the machine suppliers.

12.2.1 If the imbalance amount of tested wheel has obvious error (amount is too big)

and can be improved after self-calibrating, it proves the parameter in the machine has changed and needs professionals to correct it.

12.2.2 The replacing and adjusting for pressure sensor should be operated by professionals as per the following methods:

1. Unscrew the No.1, 2,3,4,5 nuts.
2. Dismantle the sensor and screw stud.
3. Replace No.6, 7 the sensor components.
4. Install the sensor and the screw stud as per Figure 18-1. (Pay attention to the sensor's direction).
5. Screw No.1 nut emphatically.
6. Screw the No.2 nut to make the main shaft and the flank of cabinet vertical, and then emphatically screw the No.3 nut.
7. Screw the No.4 nut (not so emphatically), then screw No.5 nut.

12.2.3 The replacing of circuit board and its components should be operated by professionals.

2 (Nut)
6 (Sensor)
1 (Nut)
Horizontal shaft
3 (Nut)
7 (Sensor)
4 (Nut)
5 (Nut)
Vertical shaft
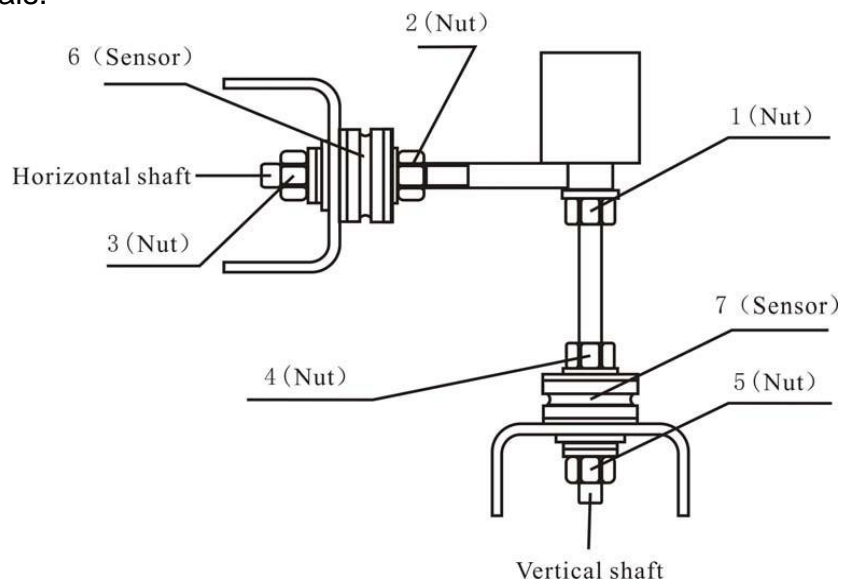
Figure 12-1

13. Trouble-error code table

When balancer displays hint of error, please refer to below table to shoot troubles:

| Code	meanings	cause	remedy
Err 1	Main shaft not rotate or have no rotate signal	1.motor fault 2.position sensor fault 3.power supply board fault 4.computer board fault 5.connection-peg untouched	1.change motor 2.change position sensor 3.change power supply board 4.change computer board 5.check cable connections
Err 2	The rotation speed low	1. position sensor fault 2. wheel not installed tightly or wheel too light 3. motor fault 4. driving belt too loose or too tight 5. computer board fault	1. change position sensor 2. re-install wheel tightly 3. change motor 4.adjust driving belt elasticity 5. change computer board
Err 3	Miscalculation	imbalance amount beyond calculation range	Repeat self-calibration or change computer board
Err 4	Main shaft rotation backwards	1. position sensor fault 2. computer board fault	1. change position sensor 2. change computer board
Err 5	Protection hood not lay down	1.before pressing START key , protection hood not lay down 2. jiggle switch fault 3. computer board fault	1.follow right method operation 2.change jiggle switch 3. change computer board
Err 6	Sensor signal transact circuit not work	1. power supply board fault 2. computer board fault	1.change power supply board 2. change computer board
Err 7	Lose data of interior	1. self-calibration failure 2. computer board fault	1. Repeat the self-calibration 2. change computer board
Err 8	Self-calibration memory failure	1. not clip 100 gram on the rim when self-calibration 2. power supply board fault 3. computer board fault 4. press sensor fault 5. connection-peg untouched	1.follow right method to repeat self-calibration 2.change power supply board 3. change computer board 4.change press sensor 5.check cable connection

14. Power supply layout diagram
220 V Connection
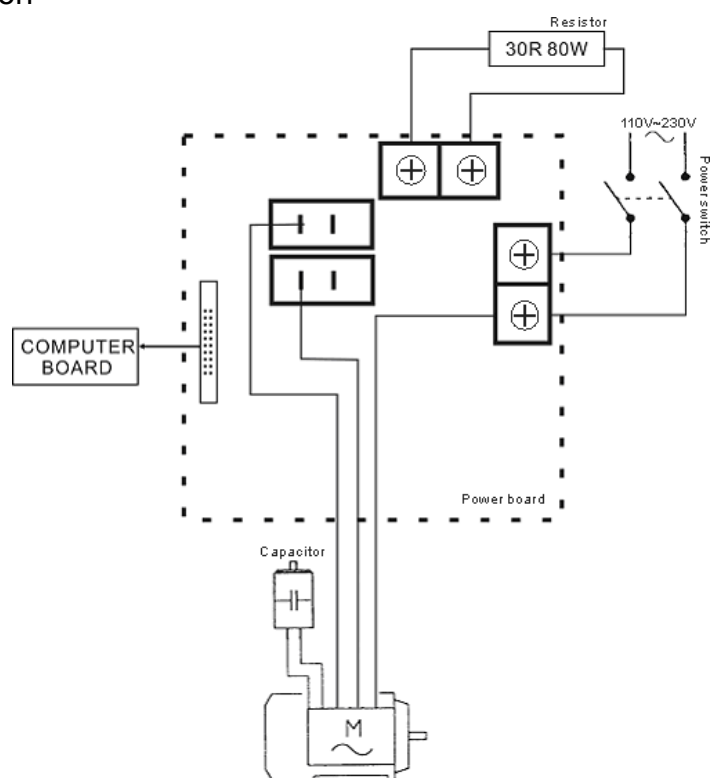
380 V Connection
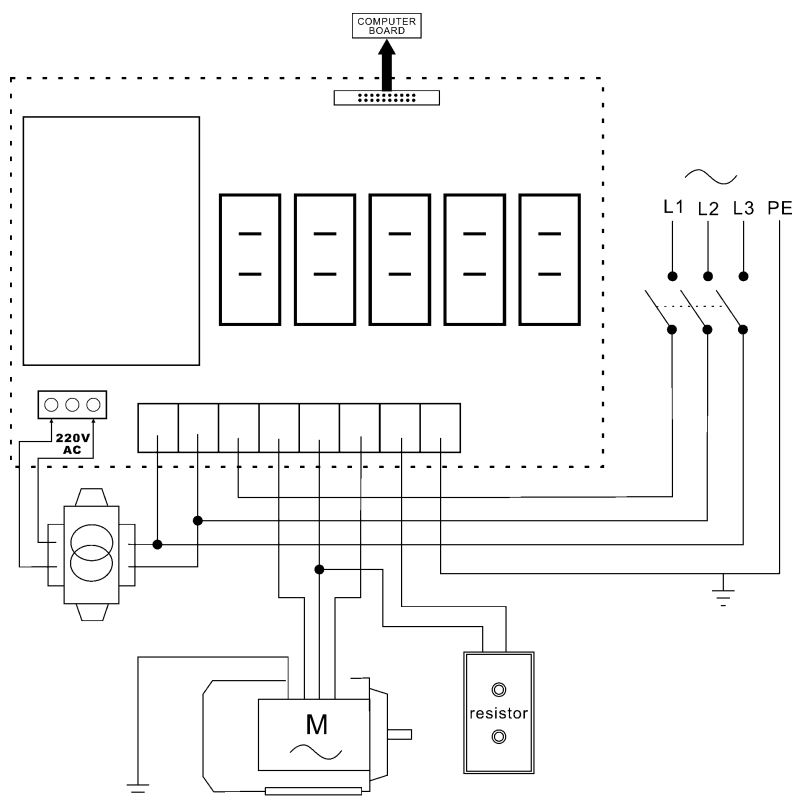
15. Exploded drawings
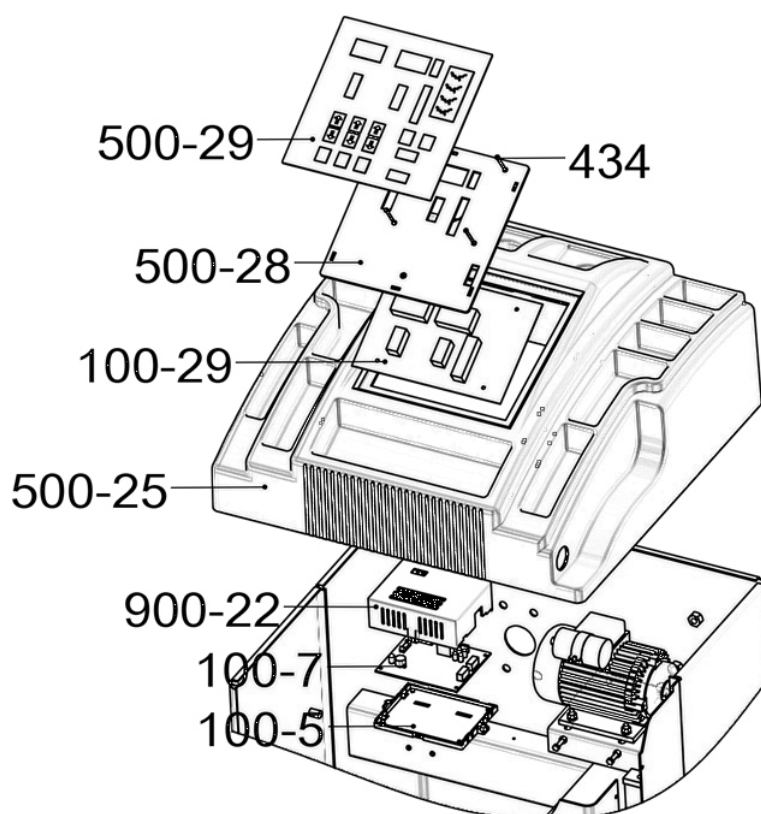
No	Description	U8 Code	NC Code
100-29	Computer board U800	PZ-000-010800-0	JZ02008012154
500-25	Head with tools-tray 2017	P-500-190002-0	JZ07002020972
500-29	Key board U800	S-115-008000-0	JZ10001026250
500-28	Key board support U500	P-500-100000-0	JZ07002020933
100-7	Power board 230V	PZ-000-020828-0	JZ02008012184
100-5	Power board support U100	P-100-120000-0	JZ07002020944
900-22	Power supply board upper cover U100	P-100-120100-0	JZ07002020945
434	Screw M3*16	B-017-030161-0	FJ04006004306
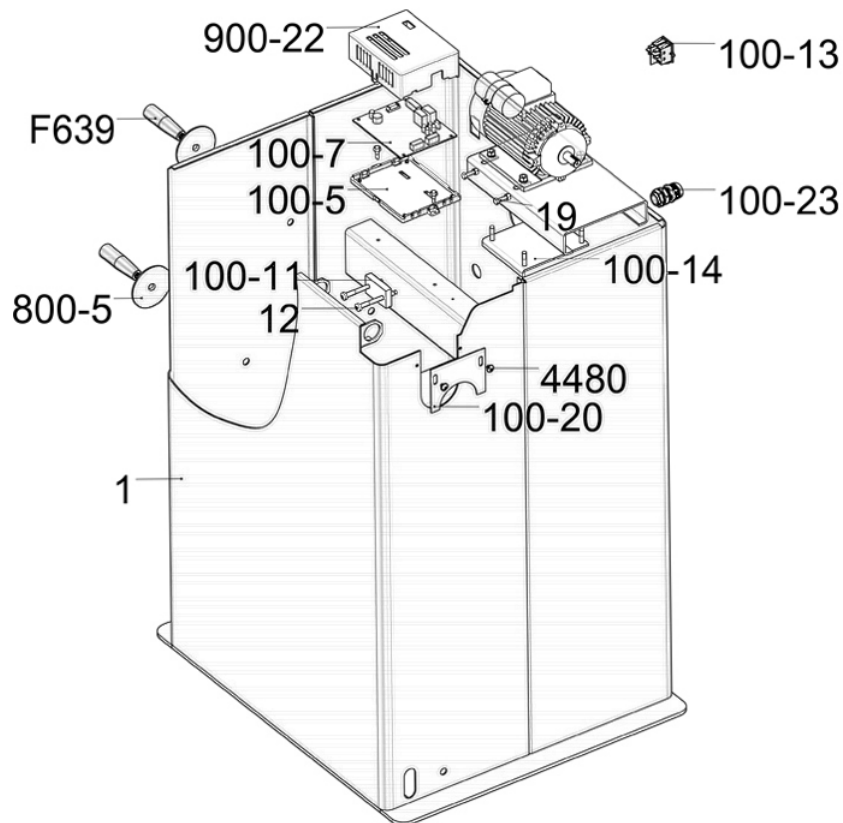
No	Description	U8 Code	NC Code
1	Machine body 500	PX-500-010000-0	JZ08002021398
100-14	Motor adjust board 220V	PX-100-010920-0	JZ03002021444
18	Nut M5	GZBLS-B-004-050000-0,B-004-05000	FJ04008004512
19	Outer hex bolt M5*35	B-014-050351-1	FJ04009004849
102	outer hex self-tapping and self-auger screw ST4.8*16	B-013-050161-1	FJ04006004050
100-20	Plate U100	PX-100-110000-0	JZ08002021424
100-7	Power board 230V	PZ-000-020828-0	JZ02008012184
100-5	Power board support U100	P-100-120000-0	JZ07002020944
100-23	Power cable socket	S-025-000135-0	DD02001001295
900-22	Power supply board upper cover U100	P-100-120100-0	JZ07002020945
100-11	resistance 10Ω-80W	D-010-100100-1	DD04010002061
4480	screw M5*6	B-024-050061-1	FJ04006004408
12	screw M5*25	B-024-050251-0,B-024-050251-0	FJ04006004341
100-13	switch	S-060-000210-0	DD03009001576
F639	Tools hang P5-03	P-000-009000-0	JZ07002020947
800-5	Tools hang washer P5-03	P-000-009002-0	JZ07002020948
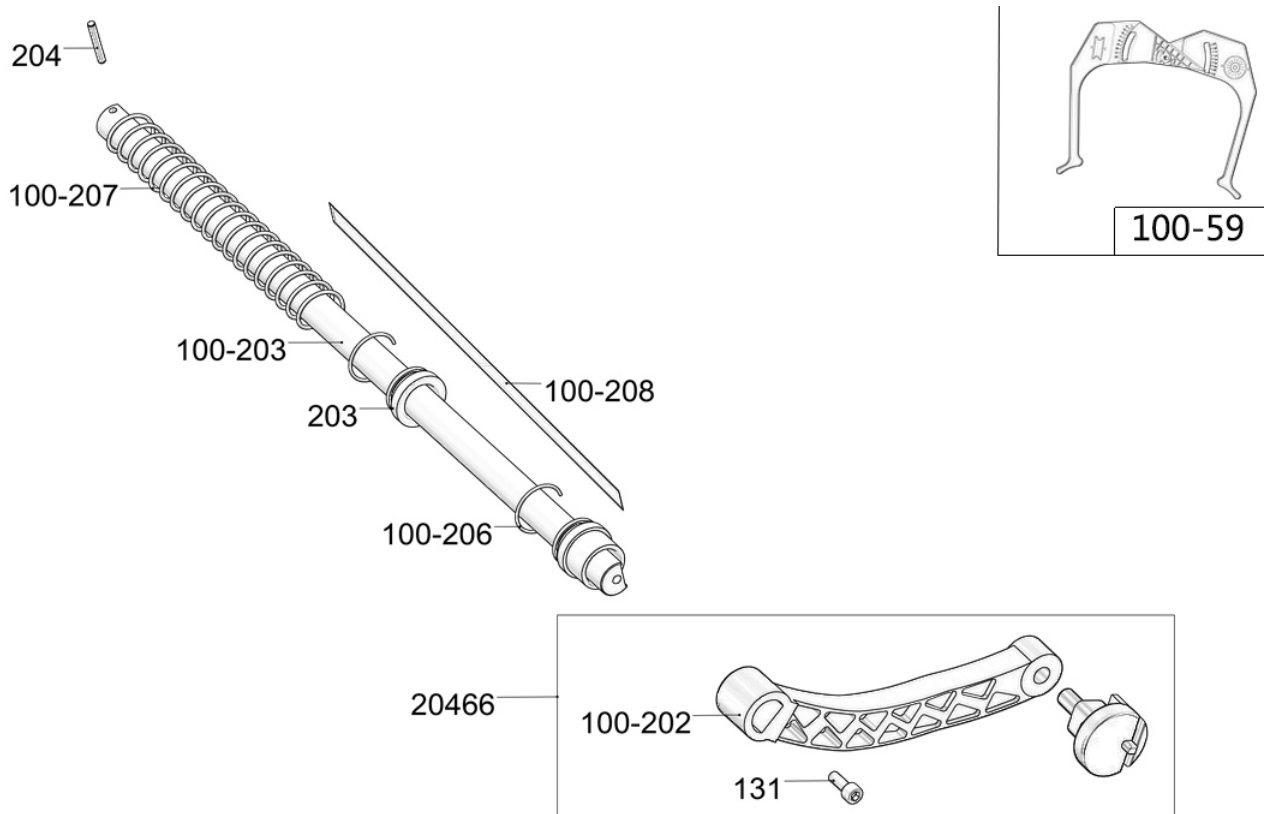
No	Description	U8 Code	NC Code
20466	Handle Bar U-100	PW-109-080000-0	JZ06002020466
100-59	Caliper U100	P-000-001008-0	JZ07002020959
100-208	Graduated Strip T-8	Y-004-000070-0	JZ09002023554
100-202	Handle bar 728	P-728-160100-0	JZ07002020965
131	hex socket head cap screw M6*16	GZBLS-B-011-060161-0,B-010-06016	FJ04009004676
100-203	Measuring Scale L495	P-500-090000-0	JZ09002023424
203	Measuring scale fixing sleeve Φ31*27.8	P-100-170000-0	JZ07002020964
100-206	Measuring Scale fixing snap spring 24*2	P-100-520000-0	JZ09002023428
100-207	Measuring Scale Spring U100	P-100-210000-0	JZ09002023426
204	Pin Φ4*30	B-061-004030-0	FJ06002004999
	Sticking handle 828	P-828-160800-0	JZ07002020985
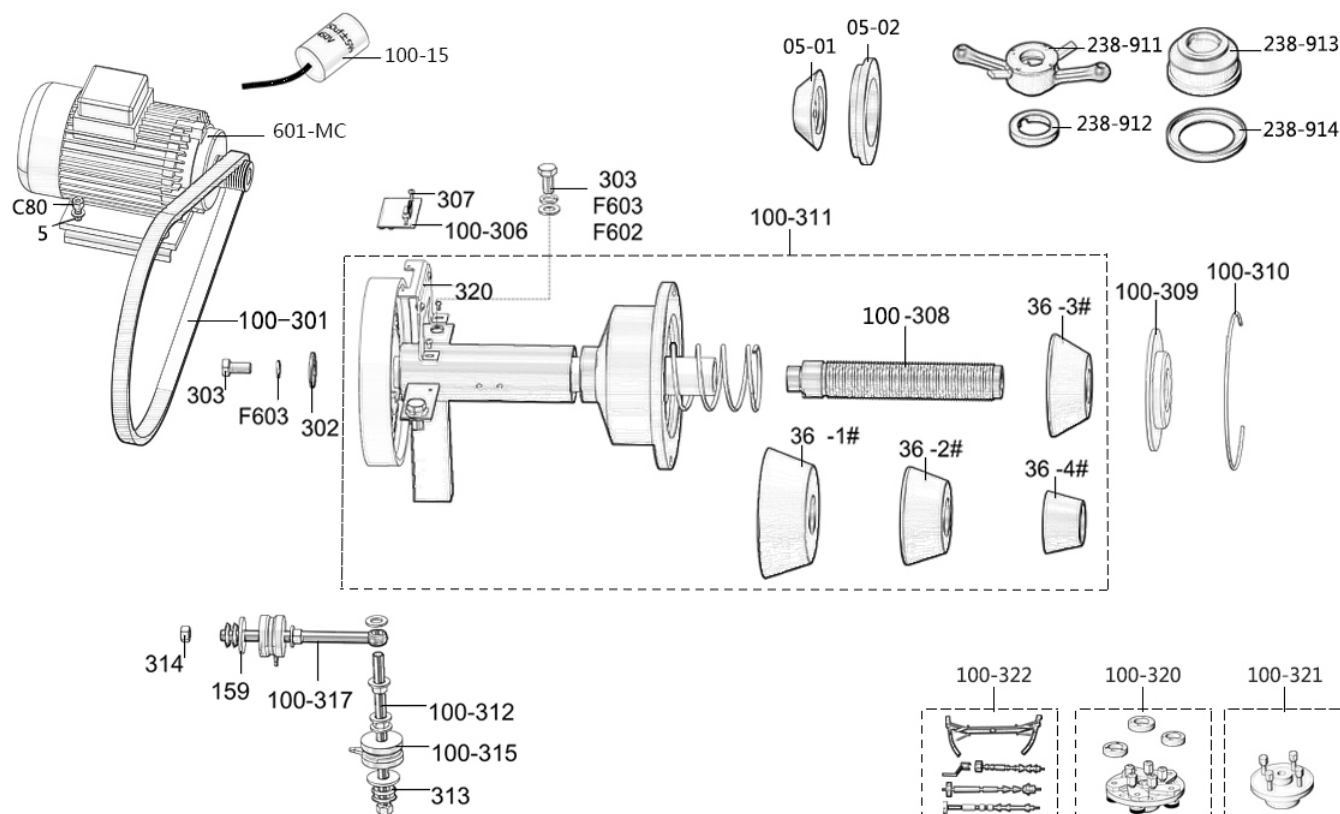
No	Description	U8 Code	NC Code
100-308	Threaded shaft Tr36（L178）	P-100-400000-3	JZ03002015928
100-306	Position Pick-up Board U100	PZ-000-040100-0	JZ02008012201
36-1#	1 CONE Tr36,big	S-100-036000-1	JZ03001015878
36-2#	2 CONE Tr36,medium	S-100-036000-2	JZ03001015879
36-3#	3 CONE Tr36,med-small	S-100-036000-3	JZ03001015880
36-4#	4 CONE Tr36,small	S-100-036000-4	JZ03001015881
100-301	Balancer Belt 380J5	S-042-000380-0	FJ02003003528
100-310	Big Spring U100	P-100-340000-0	JZ09002023333
100-15	capacitance 15uF/450V	S-063-001500-0	DD04009001880
100-321	Complete 4-hole adaptor for passenger cars Φ36/Φ40	PW-136-010000-1	JZ06002020491
100-311	Complete shaftt(longer/64/U-8/Tr36) 325/Φ36/180 Z*64	S-100-000064-8	JZ06002020500
100-320	Complete universal wheel flange(with ceter ring) Φ36/Φ40	PW-118-000036-1	JZ06002020477
100-312	Double-end sensing screw rod U100	P-100-080000-0	JZ09002023331
05-01	Large centring cone Tr36	P-100-470000-0	JZ03002023396
5	Flat washer 6*14*1.2	B-040-061412-1	FJ04002003892
F602	Flat washer 10*20*2	B-040-112020-1,B-040-102020-1	FJ04002003800
F603	Flat washer 10	B-050-100000-0	FJ04002003773

302	Flat washer 10*30*3	B-040-103030-1,B-040-103030-1	FJ04002003804
159	Flat washer 10*40*3	B-040-104030-1	FJ04002003806
320	Support of Position Pick-up Board 100	P-800-220000-1	JZ09002023341
601-MC	Motor	Determined by voltage	Determined by voltage
C80	Nut M6	GZBLS-B-004-060000-0,B-004-06000	FJ04008004513
314	Nut M10	B-004-100001-2	FJ04008004487
303	Outer hex bolt M10*25	B-014-100251-1	FJ04009004742
238-913	Plastic lid U100	P-100-490000-0	JZ07002020974
100-309	Plastic Lid Tr36 Φ36	P-100-420000-0	JZ07002020939
238-912	Pressure ring U570	PZ-570-500000-0	JZ07002012030
238-911	Quick release nut Tr36	PW-105-010000-0	JZ06002020442
05-02	Ring for Large centring cone Tr40	P-100-480000-0	JZ03002023395
238-914	Rubber Buffer U100	P-000-001002-0	JZ09002023408
307	screw M3*6	B-024-030061-0	FJ04006004367
100-315	Sensor Assembly	S-131-000010-0	DD04007001858
100-317	Single-end sensing screw rod U100	P-100-070000-0	JZ09002023329
313	Washer 10*23*3	B-048-102330-1	FJ04002003766
100-322	Complete motorcycle adaptor（3 shafts Tr36/Tr40） Φ36/Φ40	PW-130-010020-3	JZ06002020483
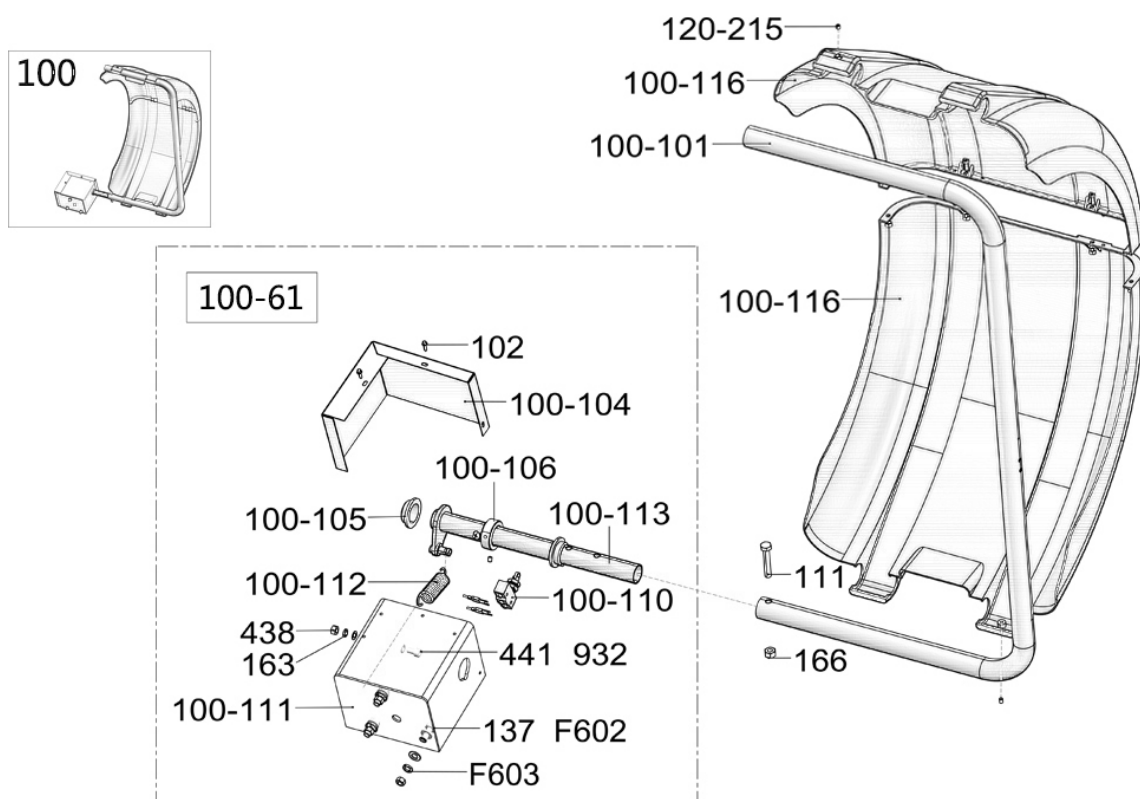
No	Description	U8 Code	NC Code
100-116	Protection Hood Assembly U100	P-100-200100-0	JZ07002020936
100-104	Cover for protection hood box U100	PX-100-030000-0	JZ08002021368
F603	Flat washer 10	B-050-100000-0	FJ04002003773
163	Flat washer 8	B-050-080000-0	FJ04002003792
F602	Flat washer 10*20*2	B-040-112020-1,B-040-102020-1	FJ04002003800
932	Flat washer 8*18*2	B-040-081820-1	FJ04002003906
441	Hex socket head cap screw M8*20	B-010-080201-0	FJ04009004706
131	Hex socket head cap screw M6*16	GZBLS-B-011-060161-0,B-010-06016	FJ04009004676
	Hex wrench 5	S-105-000050-0,G-035-050050-0	HG02001028227
100	Complete set of protection hood 100	PW-108-010000-0	JZ06002020459
100-110	Micro switch CM-1308	S-060-000410-0	DD03009001605
	Micro switch wire U500/520	PZ-000-180520-1	JZ02008026590
166	Nut M10	GZBLS-B-001-100000-0,B-001-10000	FJ04008004444
438	Nut M8	B-004-080001-0	FJ04008004515
432	Nut M6	GZBLS-B-001-060000-0,B-001-06000	FJ04008004458
111	Outer hex bolt M10*45	B-014-100451-0	FJ04009004777
137	Outer hex bolt M10*25	B-014-100251-0	FJ04009004770
102	Outer hex self-tapping and self-auger screw ST4.8*16	B-013-050161-1	FJ04006004050
100-61	Protect axle box assembly 500	PW-108-050000-2	JZ06002038191
100-111	Protection Hood Box U100	PX-100-020000-0	JZ08002021366
	Protection Hood wire	PZ-000-180100-1	JZ02008026562
100-101	Protection Hood Rotating Shaft	PX-100-200200-0	JZ09002023655
100-113	Protection hood shaft Φ31.5*360	PX-800-040000-0	JZ08002021365
	Protection Hood shaft block U100	P-100-200300-0	JZ09002023297
100-106	Protection hood shaft sleeve PA6	PX-800-050000-0	JZ07002020994
100-112	Protection hood spring Φ25*86	P-800-330000-0	JZ09002023294
120-215	Screw M6*8	B-007-060081-0	FJ04006004063
4231	Screw ST3.5*16	B-019-350161-0	FJ04006004231
100-105	Sheath U800	P-800-180000-0	JZ07002020937
	Wrench U100	PX-100-200400-0	JZ03002016059

S Version Exploded drawings and spare parts list (Optional pedal brake system)
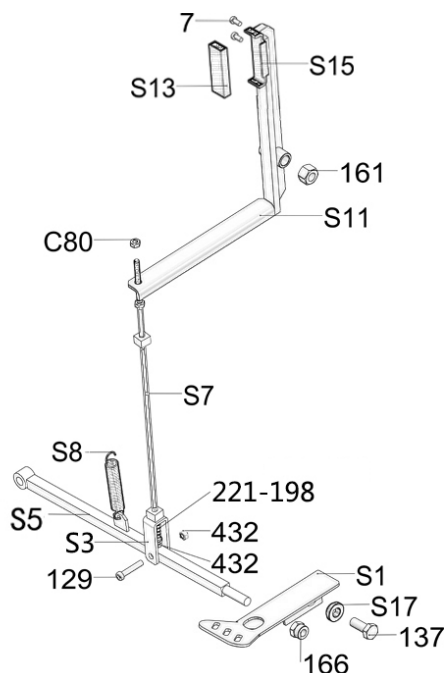
No	Description	U8 Code	NC Code
S11	Brake lever U100	PX-100-020200-0	JZ03002015963
S15	brake pad mounting seat	PX-100-020700-0	JZ03002015917
S13	brake pad		JZ02008044808
S1	foot pedal	PX-100-020500-0	JZ03002021371
S7	Connecting rod U100	PX-100-020400-0	JZ03002015977
S3	hook	PX-100-020404-0	JZ03002015980
S5	Foot rod Assembly	PX-102-050000-B	JZ03002015961
221-198	Hex locking board spring Φ1.5*9*54	C-221-400000-0	JZ09001022969
129	hex socket head cap screw M6*35	GZBLS-B-011-060351-0	FJ04009004686
166	Nut M10	B-001-10000	FJ04008004444
161	Nut M12	B-001-12000	FJ04008004445
C80	Nut M6	GZBLS-B-004-060000-0,B-004-06000	FJ04008004513
166	Nut M12*1.75*T6	B-004-120071-1	FJ04008004495
432	Nut M6	B-001-06000	FJ04008004458
	Outer hex bolt M12*60	B-014-120601-1	FJ04009038046
137	Outer hex bolt M10*25	B-014-100251-0	FJ04009004770
S17	rotary sleeve	PX-100-020600-0	JZ03002016039
420	screw ST2.9*12	B-019-290121-0	FJ04006004228
7	screw M5*10	B-024-050101-1	FJ04006004254
S8	Spring U100	P-100-020800-0	JZ09002023304

Accessories list

Specification options   1: 36 ☐   2: 40 ☐

CODE	ITEM	QTY	PHOTO	
1:JZ03001015878	1# CONE	1		1: φ 36
2:JZ03002016062				2: φ 40
1:JZ03001015879	2# CONE	1		1: φ 36
2:JZ03002016063				2: φ 40
1:JZ03001015880	3# CONE	1		1: φ 36
2:JZ03002016064				2: φ 40
1:JZ03001015881	4# CONE	1		1: φ 36
2:JZ03002016061				2: φ 40
1: JZ06002020442	COMPLETEQUICK RELEASE NUT	1		1: φ 36
2: JZ06002020443				2: φ 40
1: JZ03002015928	THREADED SHAFT	1		1:Tr36
2: JZ03002015931				2:Tr40
JZ03002016059	WRENCH	1		
HG02001028224	HEX WRENCH	1		
HG02001028227	HEX WRENCH	1		
JZ09002023492	STANDARD WEIGHTS	1		
JZ07002020959	CALIPER	1		
JZ09002023563	PLIER	1		
JZ07002020974	PLASTIC LID	1		
JZ09002023408	RUBBER BUFFER	1		

For one item with two codes, please select as per Specification Options, or select by measuring real object.

Attach figure System circuit diagram

Piezoceramic sensor

Photoswitch circuit

+5V

Interface of
Photoswitch

Amplifier   Amplifier

A/D Converter

MCU

LED display

STOP

START Power Supply Board -5V GND +5V

-5V   GND   +5V

+5V/2A

+5V

JD2

+5V

JD1

AC

AC

Power Supply/Motor Driving Board

~220V/180W
CAP-12.5UF/450V

MOTOR

JD1

JD2

30/80W

600V/15A

600V/15A

K1

FUSE/10A

~220V