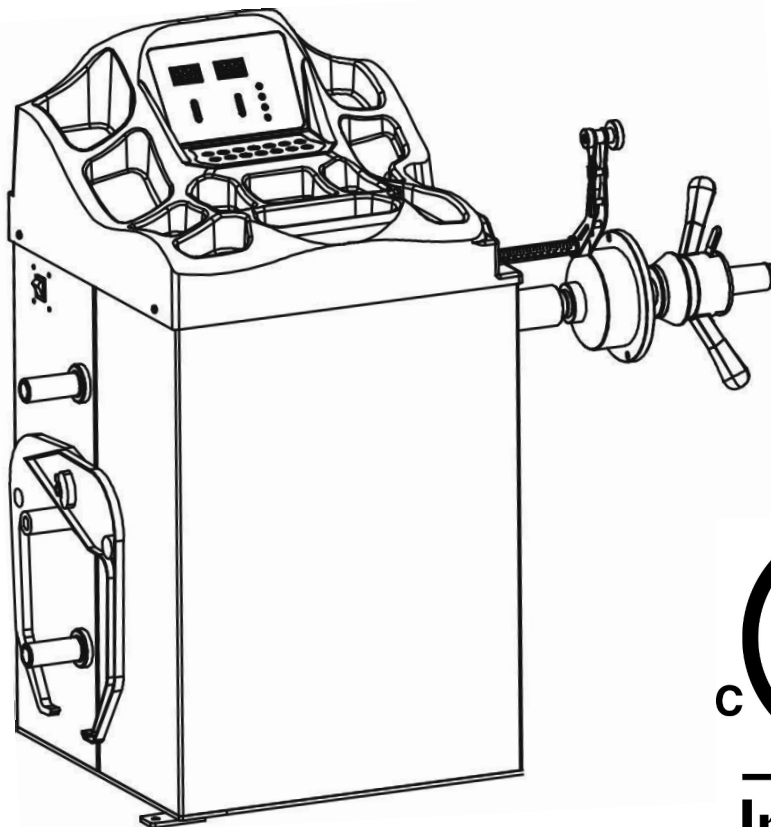# TMG™ INDUSTRIAL

Heavy Duty Wheel Balancer

Model:TMG-WB24

⚠ **WARNING**

- Please read the product manual completely before assembly
- Check against the parts list to make sure all parts are received
- Wear proper safety goggles or other protective gears while in assembly

Missing parts or questions on assembly?
Please call: 1-877-761-2819 or email: cs@tmgindustrial.com
Do not return the product to dealer, they are not equipped to handle your requests

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.

Contents

1. General

1.1. Technical data：

- Max wheel weight：65kg
- Power supply: AC115V/60Hz 8Amp
- Balancing accuracy：±1g
- 6 balancing modes: DYN, ALU1, ALU2, ALU3,ALUS, ST
- Balancing speed：220RPM
- Cycle time：8s
- Rim diameter：10″～24″(256mm～610mm)
- Rim width: 1.5"~16"
- Sound pressure level during work cycle：<70db

1.2. Features：

- Balance car wheel or motorcycle wheel according to different mode setting.
- Motorcycle adaptor is default under motorcycle mode.
- 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
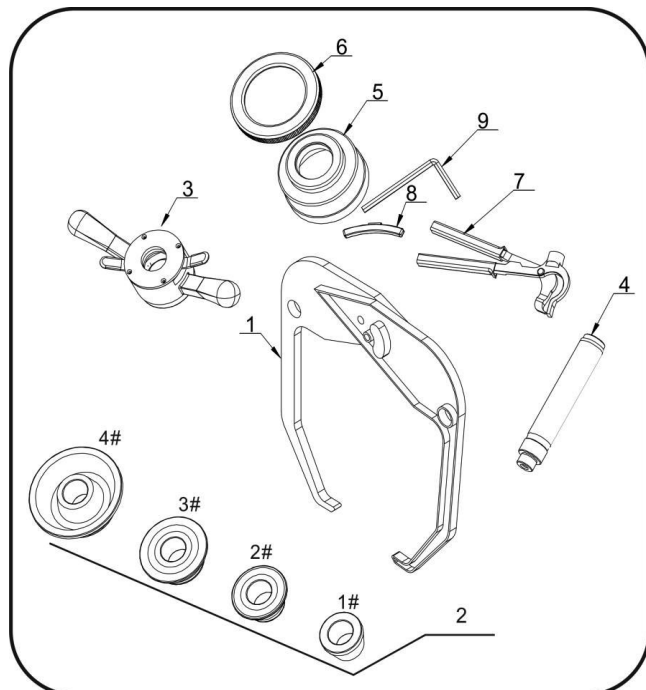
1.3. Working environment：

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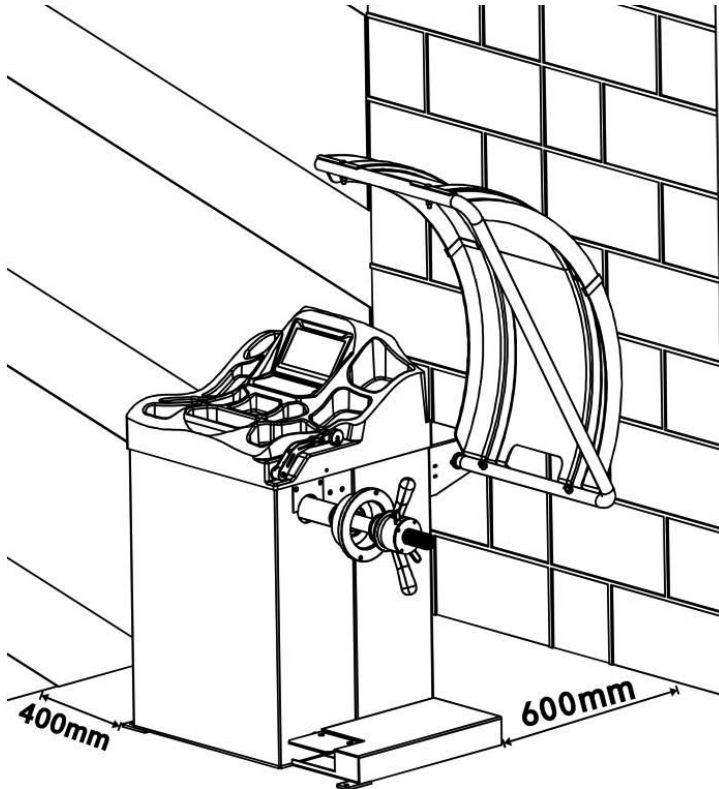
2.3. Fix balancer to floor with screws on the bottom.

2.4. Install adaptor

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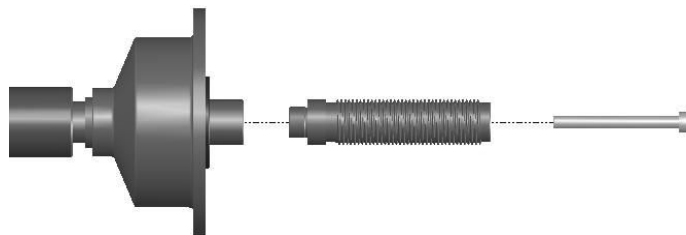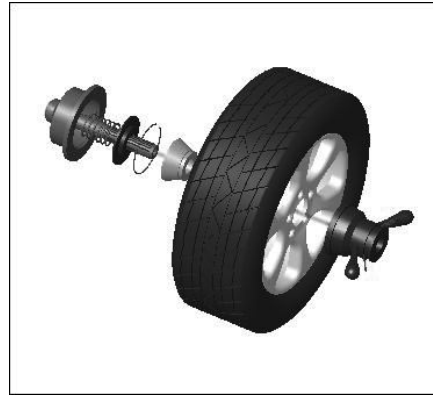

2.5. Install wheel

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

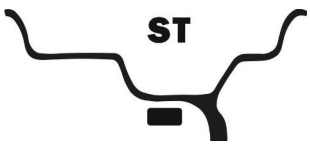| No.	Item	Standard/Optional
A	Switch	S
B	Head with tools tray	S
C	Gauge head	S
D	Main shaft	S
E	Pedal brake	O
F	Safe guard	O
G	Display plate	S
H	Keyboard	S
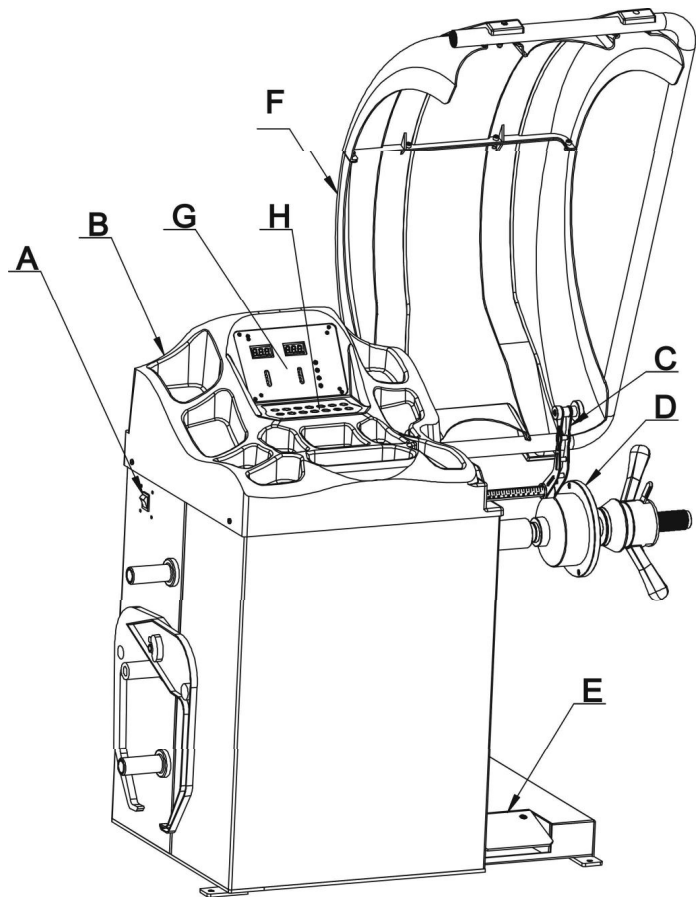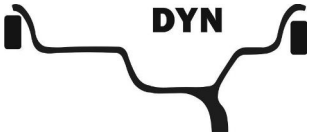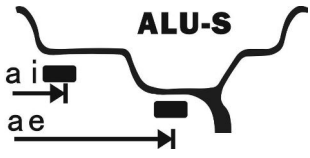
Display plate (G)
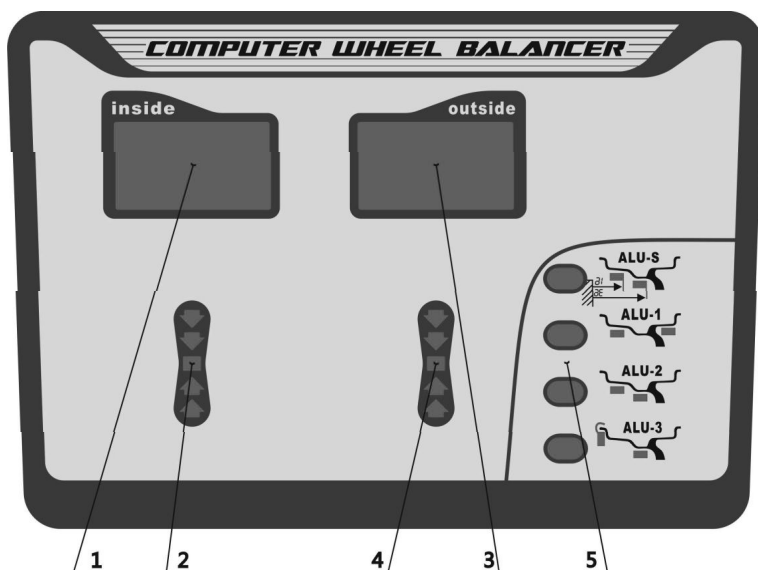

1.inside unbalance value digital display   2.inside unbalance position display

3.outside unbalance value digital display   4.outside unbalance position display

5.displays showing type of correction chosen.

Six 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-S a i a e	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
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	Add adhesive weights on the rim shoulder both sides
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	Clip on weight on inside rim edge, add adhesive weight on outside rim shoulder
ST	Static mode	1. Turn on machine 2. Input a,b,d value 3. Start spin, after spin stop 3. Press F button	Add adhesive weight

Key board (H)
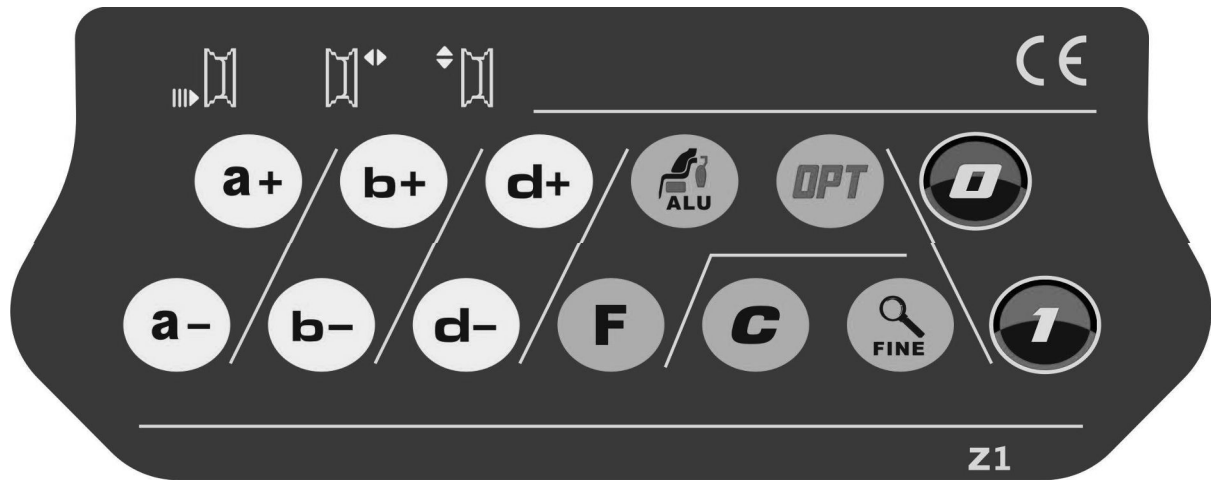
| Icon	Function	Icon	Function
a+ **a−**	Set distance	**OPT**	Optimization of unbalance
b+ **b−**	Set rim width	**ALU**	Selection of "ALU" modes
d+ **d−**	Set rim diameter	**F**	Static mode, for motorcycle wheels
C	Recalculation	**FINE**	Unbalance display pitch and threshold
1	Start	**0**	Stop/Cancel

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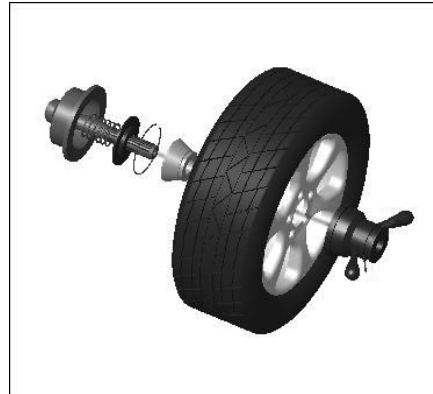
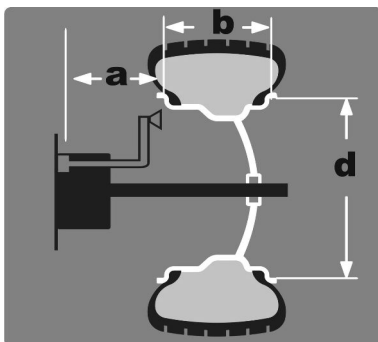Main shaft-wheel—
suitable cone(small head towards inside)—quick handle nut

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.

4.1.2. Turn on machine

4.1.3. Input a b d value

■ Move gauge to touch edge of rim (**Fig.1**), read the value of distance, press **a+** and **a−** to change，set "a" value.

■ Use width gauge to read the value of width (**Fig. 2**), press **b+** and **b−** to change, set "b" value.

■ Read the value of diameter (marked on the wheel), press **d+** and **d−** set "d" value.

Fig.1

Fig.2

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 🔍FINE may check the real unbalance value under threshold.

4.1.6. 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.3**, clip the counterweight.
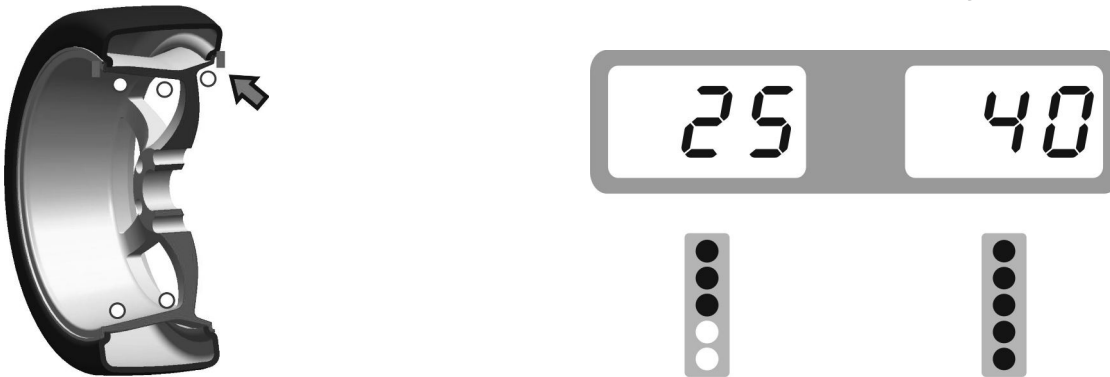

Fig. 3

4.1.7．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.4**, clip the counterweight.
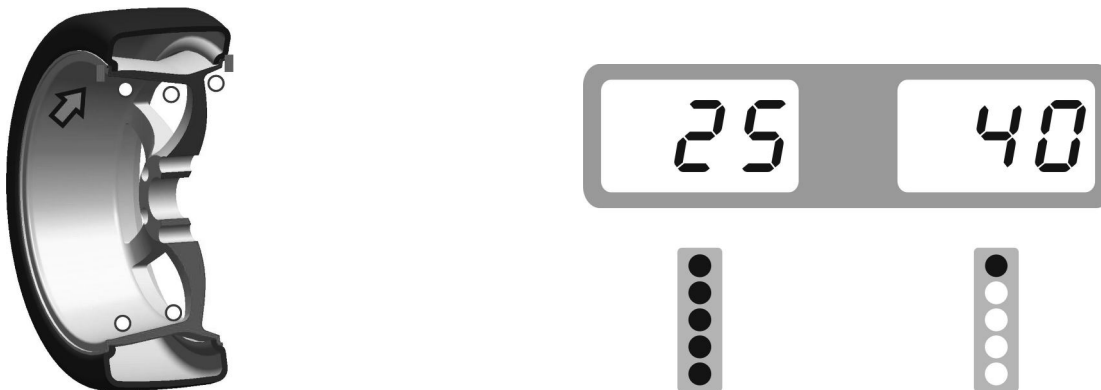

Fig. 4

4.1.8．After finishing clipping the counterweights, put down the guard and press ① , to perform balancing spin again, if comes out 00 00，means balancing succeed. (**Fig.5**)

Fig. 5

4.2．ALU-2 mode (ALU-1, ALU3 same operation, only the position to add weights different)

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

4.2.2. Press [ALU] until ALU2 indicator lit up

4.2.3. Put down the guard and press [1] 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 [FINE] 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 [1] , 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/ALU3 can not be used, you should choose ALUS mode.

4.3.1. Turn on machine, press [ALU] until the indicator of ALUS lit up.

4.3.2. Set aI, aE, d Value

- Set aI value: Pull gauge out, first to touch position of FI **(Fig 9)**to measure aI value, press **a+** and **a−** to input aI value.

- Set aE value :Then touch position of FE **(Fig 9)** to measure aE value, press **b+** and **b−** to input aE value.

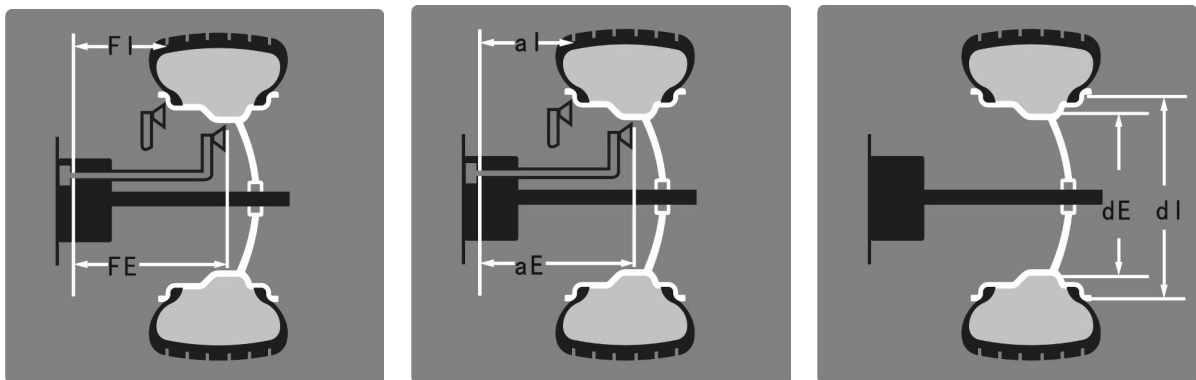- Set d value: Then press **d+** and **d−** to input d value.

Fig. 9

4.3.3. Put down the guard and press [1] to perform a measuring spin.

4.3.4. 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 [FINE] may check the real unbalance value under threshold.

4.3.5. 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.10**, add the counterweight.
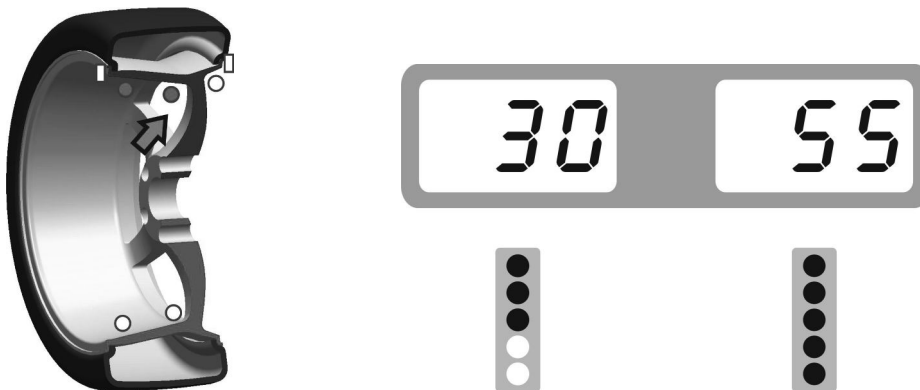

Fig. 10

4.3.6. 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.11**, add the counterweight.
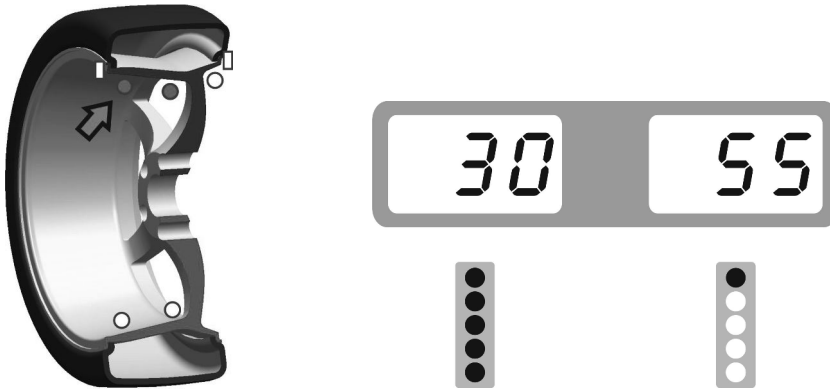
Fig. 11

4.3.7．After finishing mounting the counterweights, put down the guard and press ⓵ （when without guard），to perform balancing spin again, if comes out　00　00，means balancing succeed. (**Fig.12**)

Fig. 12

5.Self-calibration of wheel balancer

Turn on balancer, install a medium size wheel (13″-16″)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.

It is necessary to install the normal car tire ruler head accessories and operate with car tires.

Step 1	Press **F** and hold, then press **C**	comes	CAL. CAL.
Step 2	Put down safe guard and press ⓵ to start spin, after spin stop	comes	Add 100
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 ⓵ to start spin, after spin stop	comes	100 Add
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 ⓵ to start spin, after spin stop	comes	CAL. End
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	Err. -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	Err. -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	Err. -3-	1. No enough pressure in wheel 2. Wheel distortion	1.Add proper pressure in wheel 2.Check wheel
4	Err. -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	Err. -5-	1. Micro switch problem 2. Computer board problem	1.Check or change Micro switch 2.Check or change computer board
6	Err. -6-	1. Power board problem 2. Computer board problem	1.Check or change power board 2.Check or change computer board
7	Err. -7-	1. Program lost 2. Computer board problem	1.Self calibration 2.Check or change computer board
8	Err. -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	OFF OFF	1. Micro switch problem 2. Computer board problem	1.Check or change micro switch 2.Check or change computer board
10	8.8.8. 8.8.8.	1. Computer board problem 2. Power board problem	1.Check or change computer board 2.Check or change Power board
11	--- ---	1. The machine is locked	1. Contact vendor unlock
12	Err. -10	1. Data protection	1. Contact vendor unlock 2. Update data

7. Self- diagnoses

Press **F** and hold, then press **FINE** goest to self diagnoses, press **ALU** to next , press **C** or **O** to escape

Order	Display	Function	Function normal
1	`8.8.8. 8.8.8.`	Display	All lit up
2	`POS. 63`	Position pick up board	Turn the shaft ,POS changes in 0-127
3	`66 65`	Pressure sensor	Use hand to press main shaft, 4X-4X 6X-6X changes

8. Setting machine

8.1. Machine setting

Press **O** and hold, then press **C** goes to set machine, press **b+** and **b−** to change，press **a+** to next

Order	Display	function	choice
1	`F In. 5`	Unbalance display threshold	5/10/15
2	`SP. On`	Sound	On/off
3	`LH. 4`	Light	1-8
4	`Inh. On`	Inch/mm	inch on/inch off
5	`Er2. OFF`	Tire weight(small tires)	On/off
6	`ASt. On`	Safe guard on	Put down safe guard to start spin Put down safe guard then press **1** to start spin

7	$Unt.\ Gr$	Unit of weight	Gram/ Ounce
8	$tYP.\ CAr$	Tire type operation	CAr：car Boot display　　[CAr] Sco：Motorcycle Boot display [Sco]

9. For motorcycle wheel

★9.1 Use the motorcycle adapter for wheel balancer we provide★

Step 1	Step 2	Step 3
(Fig.1)	(Fig.2)	(Fig.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）

★9.2 Press ⬛**D** and hold, then press ⬤**C** goes to set machine, press **b+** and **b−** to change，press **a+** to next
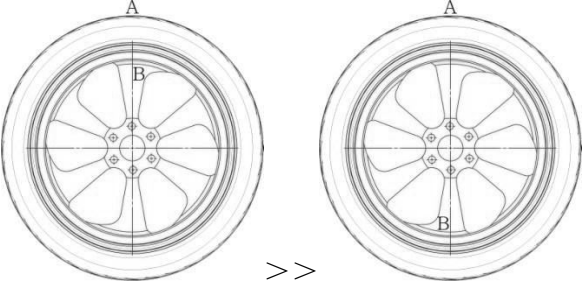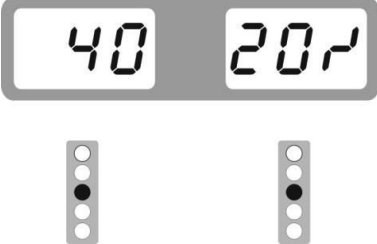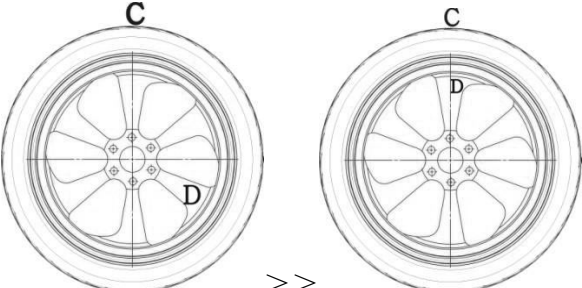
order	Display	Function	Display wheel type after turn on balancer
1	$tYP.\ CAr$	Car wheel	CAr
2	$tYP.\ Sco$	Motorcycle wheel	Sco

★ "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.

10. OPT function

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

Install wheel, input a b d value

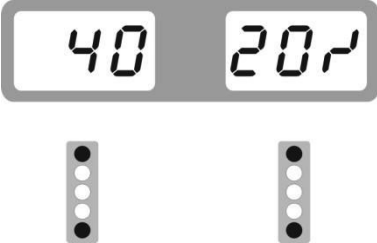|			
1	Press **OPT**	comes >	**OPt**
2	Put down safe guard and press ①	comes >	**C ⁻ ⁻ ⁻ ⁻ 180**
3	With the help of tire changer, change the rim and rubber 180 degree	reference >	>>
4	Then put down safe guard and press ①	comes >	**40 20r**
5	Rotate wheel until four indicators lit up (two on both sides, 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 ①	comes >	If unbalance is less than before, OPT succeed

11. Exploded Drawings and Parts List

A: Exploded Drawings - Chassis Assembly
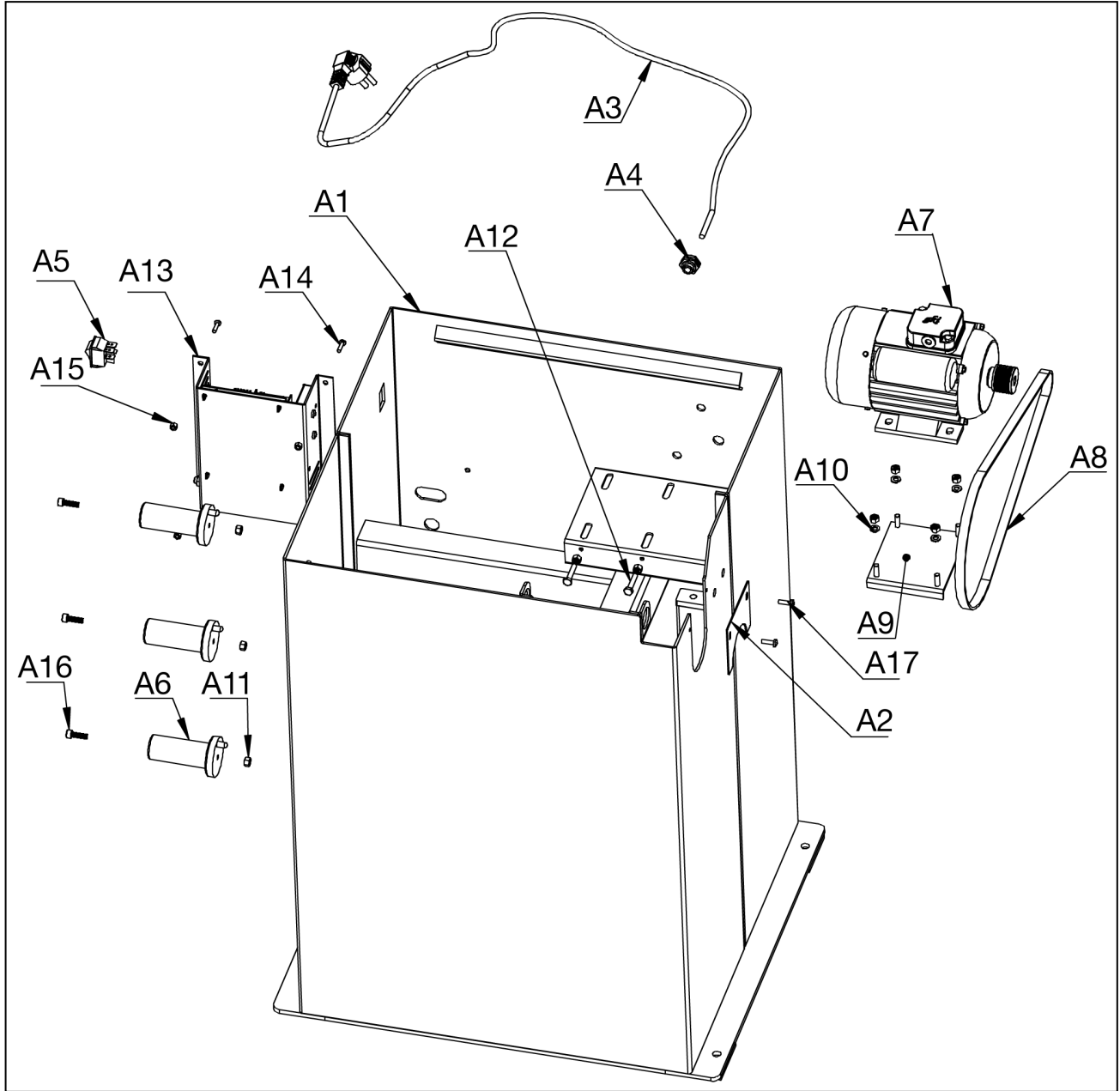
A: Parts List - Chassis Assembly

No.	DESCRIPTION	Q'TY	No.	DESCRIPTION	Q'TY
A1	Body	1	A10	Flat washer Φ6	4
A2	Small side plate	1	A11	Hex nut GB41 /M6	7
A3	Plug	1	A12	Bolt GB70/M6X30	2
A4	Cable glands	1	A13	Power box	1
A5	Power Switch	1	A14	Bolt GB818 M5X16	4
A6	Holder	3	A15	Hex nut GB41 /M5	4
A7	Motor MY6324	1	A16	Bolt GB70/M6X25	3
A8	Belt 380J5	1	A17	Bolt GB818 M5X10	2
A9	Fixed seat	1			

B: Exploded Drawings - Balance Shaft System
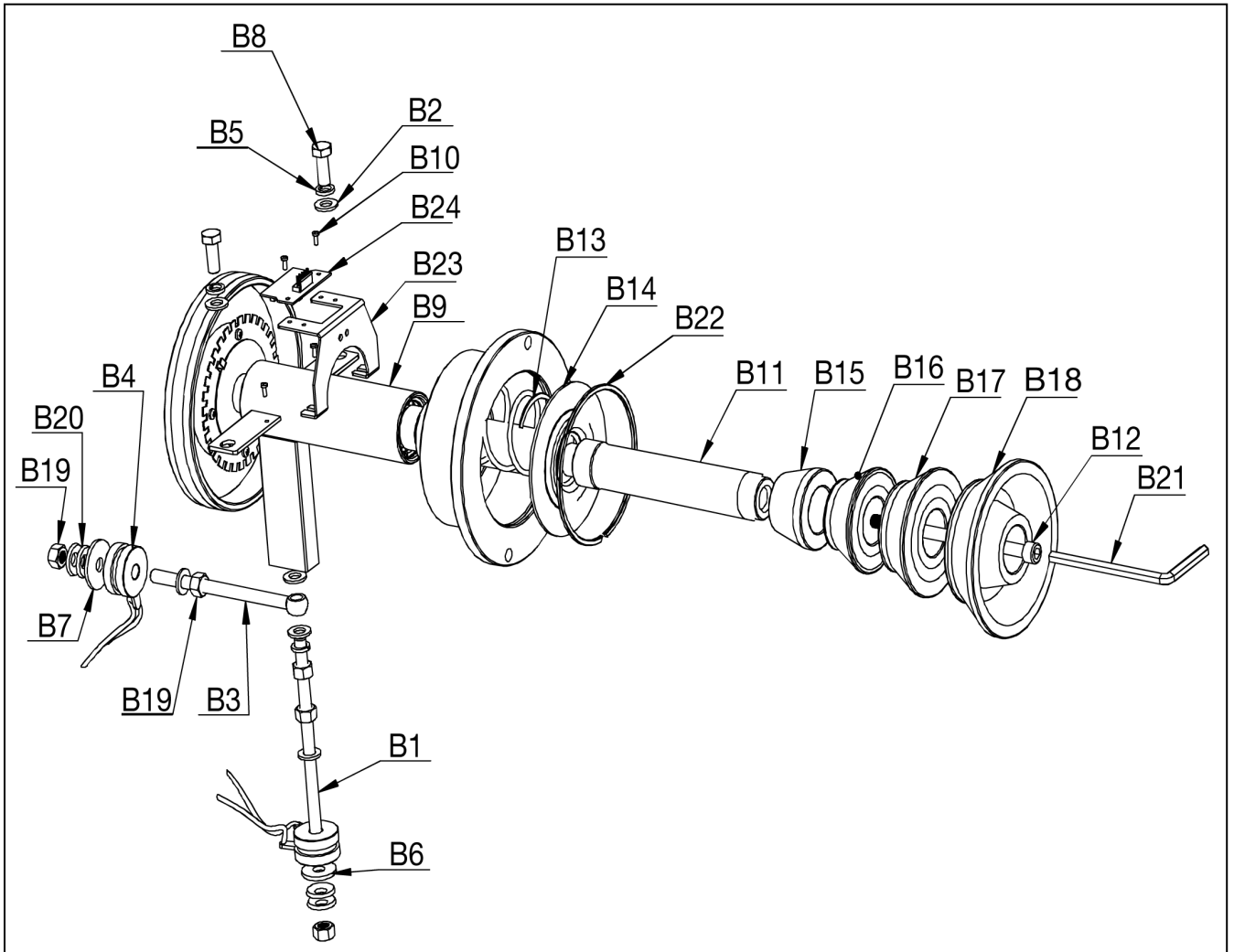
B: Parts List - Balance Shaft System

No.	DESCRIPTION	Q'TY	No.	DESCRIPTION	Q'TY
B1	Screw M10X160	1	B13	Tower spring	1
B2	Flat washerGB95/Φ10	6	B14	Plastic lid	1
B3	Horizontal screw M10X160	1	B15	Conic NO.1	1
B4	Pressure sensor	2	B16	Conic NO.2	1
B5	Spring washer GB93/Φ10	3	B17	Conic NO.3	1
B6	Spring washer GB93Φ30x10x3	1	B18	Conic NO.4	1
B7	Spring washer GB93Φ38x10x3	1	B19	Hex nut GB41 M10	5
B8	Screw GB5783 M10X25	2	B20	Copper backing	4
B9	Complete axle	1	B21	Allen wrench	1
B10	Bolt GB818/M4X10	4	B22	Retaining ring	1
B11	Thread hub	1	B23	Support	1
B12	Bolt GB70/M10X160	1	B24	Position pick-up board	1

C: Exploded Drawings - Electric Power Board
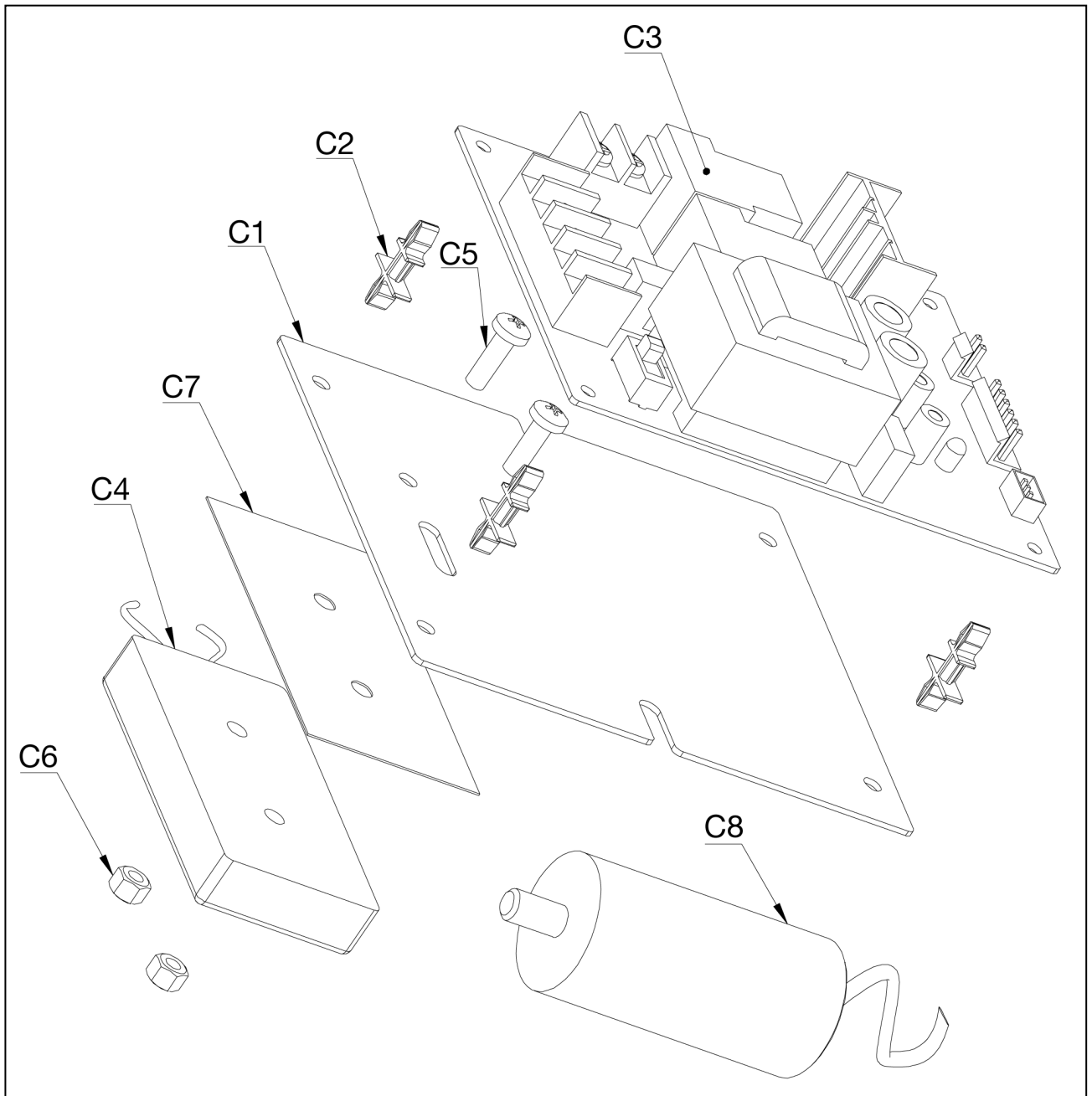
C: Parts List - Electric Power Board

No.	DESCRIPTION	Q'TY	No.	DESCRIPTION	Q'TY
C1	Power supply fixing plate	1	C5	Bolt GB818 M5X16	2
C2	Support	4	C6	Hex nut GB41 M5	2
C3	Electric power board	1	C7	Conducting strip	1
C4	Resistor	1	C8	Capacitor	1

D: Exploded Drawings - Measurement
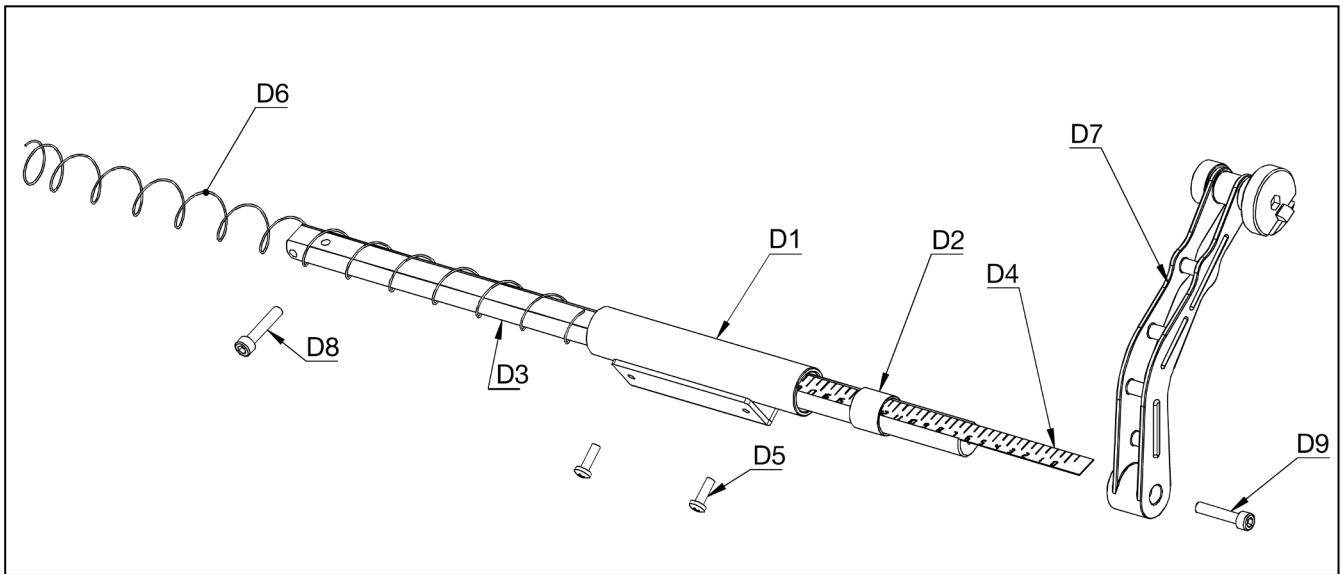
D: Parts List - Measurement

No.	DESCRIPTION	Q'TY	No.	DESCRIPTION	Q'TY
D1	Shaft	1	D6	Tensionspring	1
D2	Plasti csleeve	1	D7	Ruler head	1
D3	Alumi num ruler	1	D8	Bolt GB70 M6*25	1
D4	Footage number	1	D9	Bolt GB70 M6*20	1
D5	Bolt GB818 M5*16	2			

E: Exploded Drawings - Computer Control System
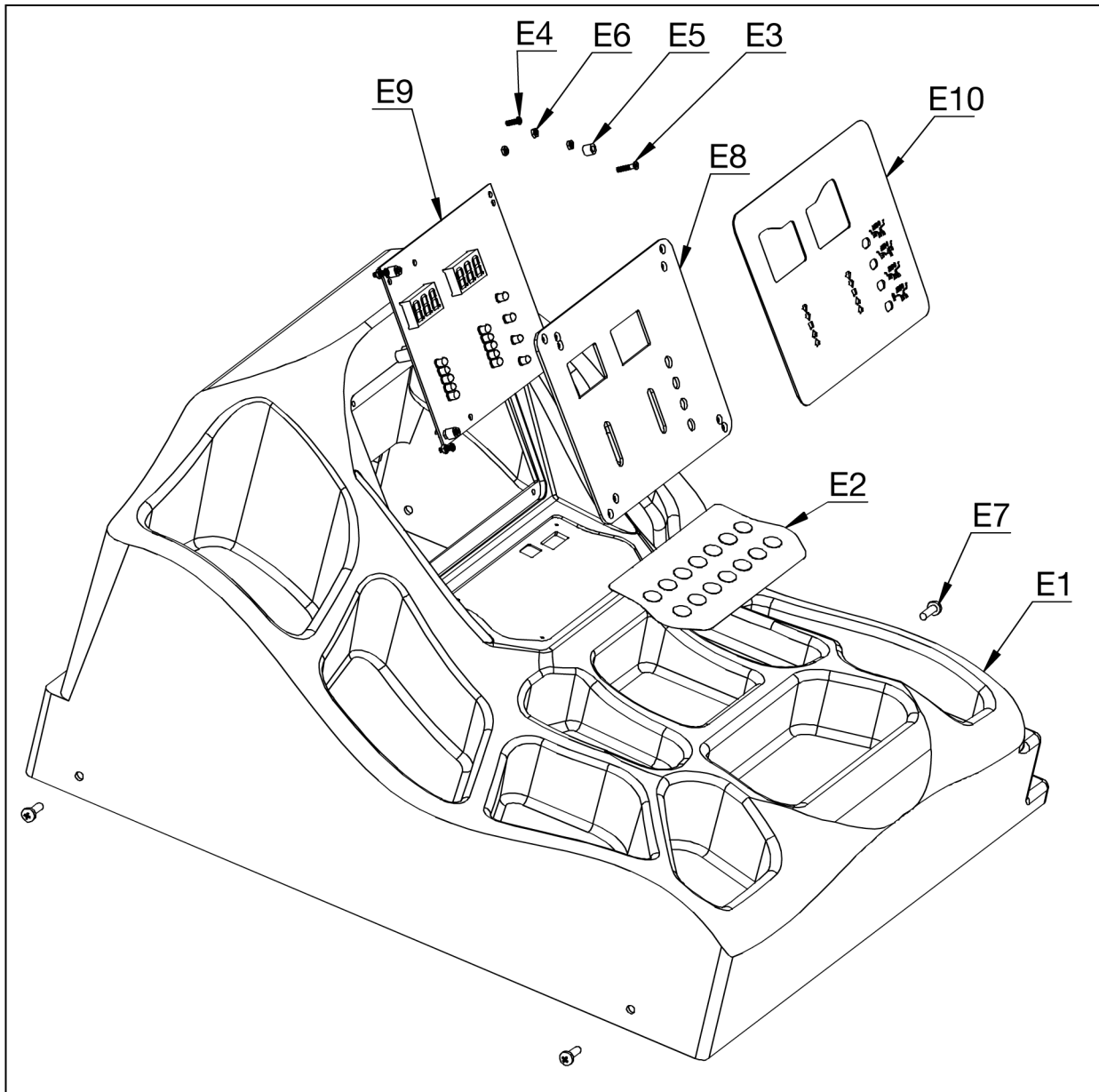
E: Parts List - Computer Control System

No.	DESCRIPTION	Q'TY	No.	DESCRIPTION	Q'TY
E1	Head with Tools Tray	1	E6	Hex nut GB41 M3	12
E2	Key board	1	E7	Bolt GB818/ M5X16	4
E3	Bolt GB819/M3X16	4	E8	Fix Plate	1
E4	Bolt GB819/M3X10	4	E9	Computer bard	1
E5	Spacer support	4	E10	Display mask	1

F: Exploded Drawings - Accessories
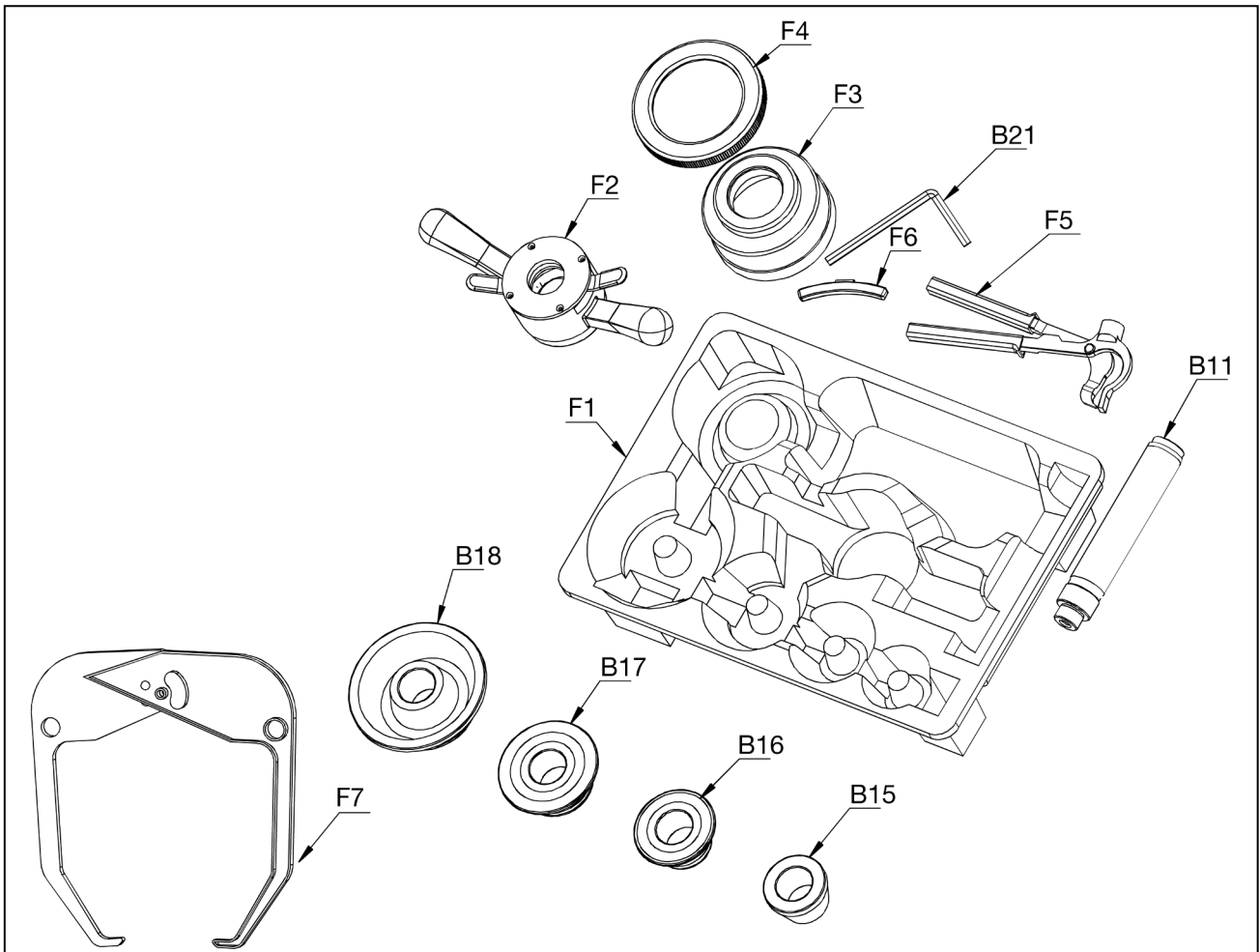
F: Parts List - Accessories

No.	DESCRIPTION	Q'TY	No.	DESCRIPTION	Q'TY
F1	Package box	1	F5	Hammer	1
F2	Locking nuts	1	F6	Counterweight	1
F3	Plastic bowl	1	F7	Caliper	1
F4	Rubber buffer	1			

G: Exploded Drawings - Protective Cover System (OPTIONAL)
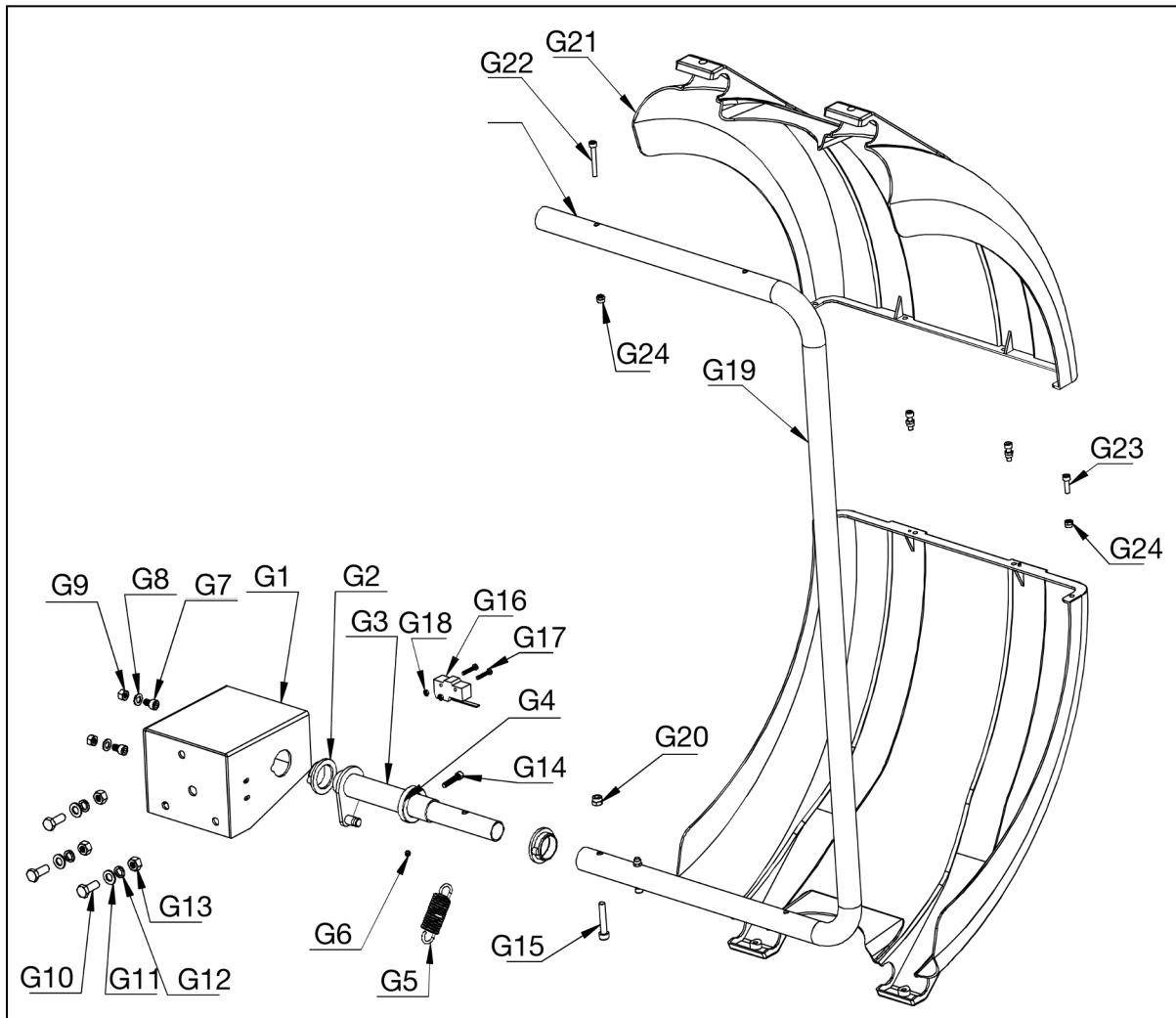
G: Parts List - Protective Cover System (OPTIONAL)

No.	DESCRIPTION	Q'TY	No.	DESCRIPTION	Q'TY
G1	Protection box	1	G13	Hex nut GB41M10	3
G2	Plastic ferrule	2	G14	Bolt GB5783M6X35	1
G3	Shaft	1	G15	Bolt GB70 M8X45	1
G4	Ferrule	1	G16	Micro switch	1
G5	Tension spring	1	G17	Bolt GB818M4X30	2
G6	Bolt GB80/M6X10	1	G18	Hex nut GB41M4	2
G7	Bolt GB70/M8X20	2	G19	Bend pipe	1
G8	washer GB95/Φ8	2	G20	Hex nut M8	1
G9	Hex nut GB41M8	2	G21	Plastic cover(0716)	2
G10	Screw GB5783M10X25	3	G22	Bolt GB70 M6X45	2
G11	washer GB95/Φ10	3	G23	Bolt GB70 M6X20	4
G12	SpringwasherGB93/Φ10	3	G24	Hex nut M6	6