# Computer Wheel Balancer

# Operation Instructions

*with Maintenance Instructions*

READ these instructions before placing unit in service
KEEP these and other materials delivered with the
unit in a binder near the machine for ease of reference
by supervisors and operators.

# Table of Contents
# Before You Begin

# IMPORTANT SAFETY INSTRUCTIONS

1. Read all instructions
2. Do not operate equipment with a damaged cord or if the equipment has been dropped or damaged – until it has been examined by a qualified serviceman.
3. Do not let cord hang over edge of table, bench, or counter, or come in contact with hot manifolds or moving fan blades.
4. If an extension cord is necessary, a cord with a current rating equal to or more than that of the equipment should be used. Cords rated for less current than the equipment may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.
5. Always unplug equipment from electrical outlet when not in use. Never use the cord to pull the plug from the outlet. Grasp plug and pull to disconnect.
6. To reduce the risk of fire, do not operate equipment in the vicinity of open containers or flammable liquids (gasoline).
7. Adequate ventilation should be provided when working on internal combustion engines.
8. Keep hair, loose clothing, fingers, and all body parts away from moving parts.
9. To reduce the risk of electrical shock, do not use on wet surfaces or expose to rain.
10. Use only as described in this manual. Use only manufacturer's recommended attachments.
11. ALWAYS WEAR SAFETY GLASSES. Everyday glasses only have impact resistant lenses, they are NOT safety glasses.
12. Do not disable the hood safety interlock system, or in any way shortcut safety controls and operations.
13. Be sure wheels are mounted properly, the hub nut engages the arbor not less than 4 turns, and the hub nut is firmly tightened before spinning the wheel.
14. Maintain all electrical cords in good repair. Do not operate damaged equipment until it has been examined by a qualified service technician.
15. Be sure the balancer is properly connected to the power supply and electrically grounded.
16. Read and understand this manual before operating. Abuse and misuse will shorten functional life.
17. Keep guards and safety features in place and in working order.
18. Wear proper clothing. Safety toe, non-slip footwear and protective hair covering to contain hair are recommended. Do not wear jewelry, loose clothing, neckties, or gloves when operating the balancer.
19. Keep work area clean and well lighted. Cluttered and/or dark areas invite accidents.
20. Disconnect balancer before servicing.
21. Repair or replace any part that is damaged or worn and that may cause unsafe balancer operation. Do not operate damaged equipment until it has been examined by a qualified service technician.
22. Never overload or stand on the balancer.
23. Do not allow untrained persons to operate machinery.

# SAVE THESE INSTRUCTIONS

## Definitions of Hazard Levels

Identify the hazard levels used in this manual with the following definitions and signal words:

**DANGER**

Watch for this symbol:


It Means: Immediate hazards which will result in severe personal injury or death.

**WARNING**

Watch for this symbol:


It Means: Hazards or unsafe practices which could result in severe personal injury or death.

**CAUTION**

Watch for this symbol:


It Means: Hazards or unsafe practices which could result in minor personal injury or product or property damage.

Watch for this symbol. It means BE ALERT! Your safety, or the safety of others, is involved.

## Owner's Responsibility

To maintain machine and user safety, the responsibility of the owner is to read and follow these instructions:

• Follow all installation instructions and make sure installation conforms to all applicable Local, State, and National Codes, Rules, and Regulations.

• Carefully check the unit for correct initial function.

• Read and follow the safety instructions. Keep them readily available for machine operators.

• Make certain all operators are properly trained, know how to safely and correctly operate the unit, and are properly supervised.

• Allow unit operation only with all parts in place and operating safely.

• Carefully inspect the unit on a regular basis and perform all maintenance as required.

• Service and maintain the unit only with authorized or approved replacement parts.

• Keep all instructions permanently with the unit and all decals/labels/notices on the unit clean and visible.


**Failure to follow danger, warning and caution instructions may lead to serious personal injury to operator or bystander, or damage to property. Do not operate this machine until you read and understand all the dangers, warnings and cautions in this manual. For additional copies of either, or further information, contact local retailer.**

## Before You Begin

### Receiving

The shipment should be thoroughly inspected as soon as it is received. The signed bill of lading is acknowledgement, by the carrier, of receipt in good condition of the shipment covered by our invoice.

If any of the goods called for on this bill of lading are shorted or damaged, do not accept them until the carrier makes a notation of the shorted or damaged goods on the freight bill. Do this for your own protection.

NOTIFY THE CARRIER AT ONCE if any hidden loss or damage is discovered after receipt and request him to make an inspection.

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### Specifications

| | |
|---|---|
| • Cycle time | 8 seconds (avg.) |
| • Tire/Wheel Weight | 65 kgs max. |
| • Wheel Diameter | 25.4 inches max. |
| Rim Diameter | 12 to 24 inches |
| • Rim Width | 1.5 to 12 inches |
| Power supply | 100V 50/60HZ |
| Working noise | ＜70dB |

• Shipping Weight 165 kgs

### Electrical Requirements

The balancer requires a 100 VAC, 50/60Hz, single phase power supply and properly grounded three-pin safety outlet.

### Features

- Balances Most Automotive Wheels
- Vertical Wheel Mounting
- Back Cone and Front Cone Mounting
- Easy-to-Read LEDs and Displays
- Automatic Calibration
- Removable Shaft Stud(Adapter)
- Dynamic, Static, and Alloy Operating Modes

### Standard Accessories

- 4 Back Cones
- 100g Weight
- Back Cone Spring
- Quick Nut
- Rim Width Calipers
- Wheel Weight Hammer
- Balance Bowel

## Assembly and Setup

### Floor and Space Requirements

Floor must be solid and flat concrete. The balancer need to be bolted to the floor in normal service. The balancer may be bolted to the floor with anchor bolts through the three support feet, but will require an alternate electrical connection method. Sufficient space must be provided above and around the balancer for mounting and demounting wheels.

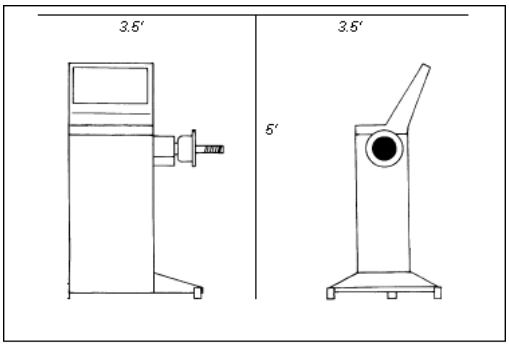



*Figure 1 - Space Requirements*

### Unpacking the Unit

1. Remove the shipping carton from the pallet.
2. Remove all loose parts and accessories packed around the unit.

### Remove Balancer from Pallet

3. Remove the shipping bolts that hold the balancer to the pallet.

**CAUTION Do not use the control pod, control pod arm, faceplate, hood or stub shaft to lift the balancer.**

**CAUTION Use help to remove the balancer from the pallet.**

**The unit is heavy and the weight is not evenly distributed. Dropping the unit may cause personal injury or equipment damage.**

4. Lift the balancer off the pallet and place it in its operating location.
5. Install and tighten the threaded stud (adapter)into the end of the motor shaft.

### Connecting to Power

Consult a licensed electrical contractor for proper connection that meets local electrical codes. Power outlets must be located in a floor raceway or overhead drop if pedestrians or equipment traffic pose a threat of damage to the power cord.

The balancer requires a nomina 100 VAC, 50/60 Hz, single-phase power supply with a three-pin safety outlet.

Electrical outlets must have a solid connection of less than 1 ohm between the ground pin and building ground.

**WARNING Operation with a defective ground circuit will create a shock hazard for the operator, damage the unit electronics, and will void the warranty.**

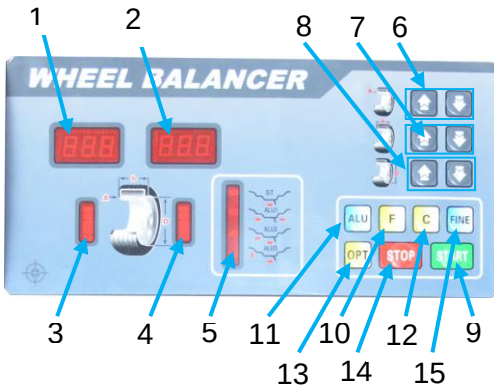
Power and ground requirements must be verified by the installer or an inspector before connecting the balancer. Failure to observe this precaution may void the warranty.

If the balancer is bolted to the floor, a licensed electrical contractor must be consulted. Most electrical codes require “hard” wiring when the balancer is bolted down.

### Initial Testing

1. Plug the unit into an appropriate power outlet. If the circuit breaker for the outlet is off, turn it on.
2. Turn the balancer on. The power switch is on the side of the unit.

**Control panel and display**




1.Inner unbalance value and parameter of the tire display

2.Outside unbalance value and tire parameter display

3.Inner unbalance position lamp.

4.Outside unbalance position lamp.

5.Balancing modes display lamp

6.A value input key

7.B value input key

8.D value input key

9.Start key

10.Dynamic/Static Balancing mode selection key

11.Balancing mode selection key

12.Self-calibration key

13.OPT key

14.Emergency stop key

15.Residual unbalance value display key.

**Function key combination**

**Remain set after the power is turned off.**

To change from grams to ounces, press Button F, A+ and A- Button at the same time once.

(F)＋(STOP), Lower down the cover, the machine starts automatically.

**Loose set after the power is turned off.**

(F)＋(b＋), MM / INCH SELECTION “b” SETTING / WHEEL WIDTH

(F)＋(d－), MM / INCH SELECTION “d” SETTING / WHEEL DIAMETER

**Balancing mode selection key**

Press (F) key to change from Dynamic balancing to Static Balancing

Press ALU to select different balancing mode(ALU1,ALU2,ALU3)

## Operating the Balancer

Switch on the main switch on the left side of the machine，the display will display“A-8.0”

**Wheel Mounting**

Preparation before test：Check and clean the dust and mud and if there are foreign bodies, such as metal and stone, clipped on the surface of the tire. And also check the air pressure of the tire is according with the specified value. Check if there are deformation on the rim positioning surface and installation hole.

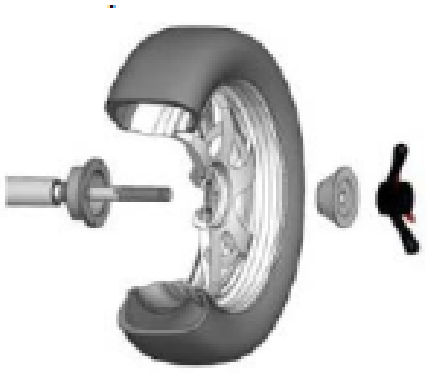
Check if there are any foreign bodies in the tire.

Take off the original weight.

The installation methods of the wheel ： Positive positioning, negative positioning & flange disk when handling the middle and big sizes of tires. You can select the methods according to the different conditions.

**SMALL CAR WHEEL POSITIVE POSITION**

Positive positioning is the normal method. It is featured with simple and quick operation. It is mainly suitable to the common steel rim and aluminum alloy rim with small deformation.



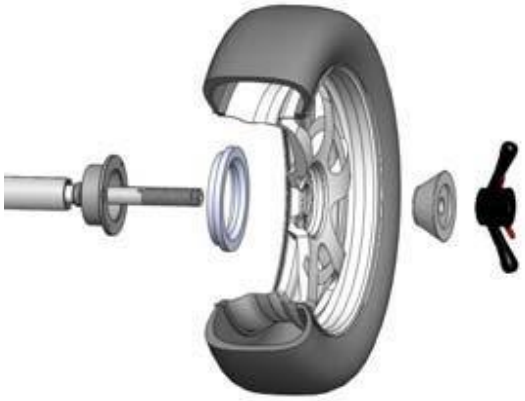
Main shaft ⟶ wheel（direction of the rim installation surface is inside）⟶ cone ⟶ quick nut

When the deformation of the outside of the wheel, adopt this method to positioning to grantee the accurate positioning of the steel rim inner hole and main shaft. It is suitable to the steel rim, especially the thick ALU

Main shaft ⟶ lower spring ⟶ suitable cone wheel ⟶ bowl ⟶ quick nut

**FLANGE DISK POSITIONING（OPTIONAL）**

Suitable to the big tire assemble

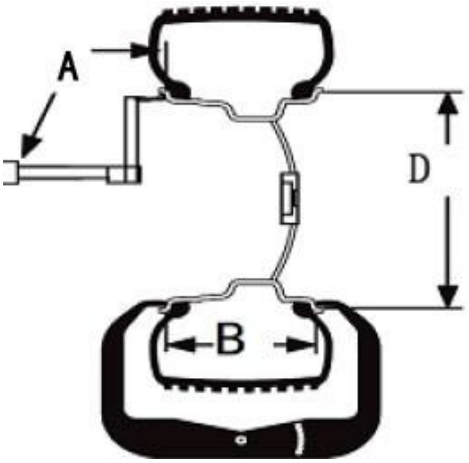


Main shaft ⟶ flange disk（fixed on the main shaft） wheel ⟶ cone ⟶ quick nut

**NOTE:** The choice on the cone should be adapted to the rim center hole and pay attention to its direction.

Or it will cause the inaccurate measurement.

**Entering Wheel Measurements**




**Input A value**

Pull the scale to the inner position to add the weight and press the key A+ or A- to input the A value into the display.

At this moment, the display will display “A”：“XX”，And the default system is inch.

**Input Br (RIM Breadth) Value**

Use the Br measurement caliper to measure the Br of the rim, press the key B+ or B- to input the Br value into the display. At this moment, the display will display “B”：“XX”

**Input the DiA(Diameter)Tire Diameter Value**

After confirming the rim diameter, press the key D+ or D- to input the rim diameter into the display. At this moment, the display will
display “D”：“XX”

**BALANCE MODE SELECT**

This wheel balancer 'S Default model is clamp weigh for rim it not be show on the Control panel .please learned of the matte.

**After input three value and ratate the wheel** you can Select the balance mode according to the weight adding position and the balance mode. **Press the key” F “to select the “ST “balance mode derict,Press the key” ALU” to select the ALU balance mode.** When you switch on the machine, the machine will automatic enter into the dynamic balance mode and no need to select .

**DYNAMIC—**clip the weight on both sides of rim

（dynamic balance test once start）

For balancing standard steel or alloy wheels


Static–This function is used if stick-on weights are to be mounted to the center plane ( hidden ) and not to either inner or outer edges of the wheel.

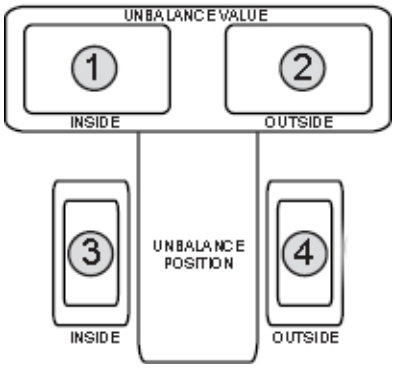

**ALU1** - to balance the light aluminum alloy rim . This function is used if stick-on weights are to be mounted to both inner and outer planes of the wheel.

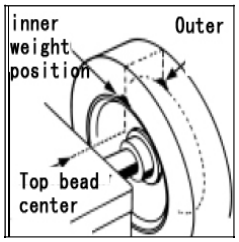

**ALU2** - for ALU rim, hidden weight inside.

This function is used if stick-on weights are to be mounted to the inner and center planes of the wheel.


**ALU3** - clip the weight inside and the position to add weight outside is same to ALU2.

**Balance the Wheel**




1. Plug in the unit and turn on the Power Switch

2. Mount the Wheel following

3. Enter the rim data

4. Pull the Hood over the wheel and press Start on the Control Board. The wheel will begin to spin.

5. When the cycle is finished, the wheel will stop spinning and the Control Board will display the amount of weight needed to attach to the wheel on the Inner and Outer UNBALANCE VALUE displays .

6. Hand rotate the wheel, watching the Inside UNBALANCE POSITION display. Stop rotating the wheel when all the display leds flash. Attach the weight to the top center of the rim inner edge .

7. Continue rotating the wheel, until all the outside UNBALANCE POSITION display leds flash. Attach the weight to the top center of the rim Outer edge

,8. Lower the Hood and press Start on the Control Board. The wheel will begin to spin.

9. When the cycle is finished, the wheel will stop spinning. If the UNBALANCE VALUE in the Inner and Outer displays are both [00], then the wheel is balanced. If there are other values, then repeat the steps to re-balance the wheel until a [00] reading is achieved.

**⚠ CAUTION**

1. When power starts, push the wheel by hands to assist starting which will extend motor's life.
2. Make sure the wheel value is correct.
3. Make sure the rim structure is suitable for the balancing mode
4. Make sure the quick nut is well tightened
5. As the balance is over, unload the tyre, pay attention to handling with care , don't strike the main shaft.
6. Weights must be attached securely to wheel surfaces cleaned according to weight manufacturer's recommendation. Failure to do so may cause weight to come loose during a spin, resulting in personal injury.

## Optimize Balancing Function (OPT)

This function is recommended only when the weight displayed to balance the wheel is over 30 grams (1. 06 oz). Use the following procedure to adjust the tire and wheel so that less weight is needed to complete the process.

To begin, the tire should be mounted with the Hood down after completing a cycle.

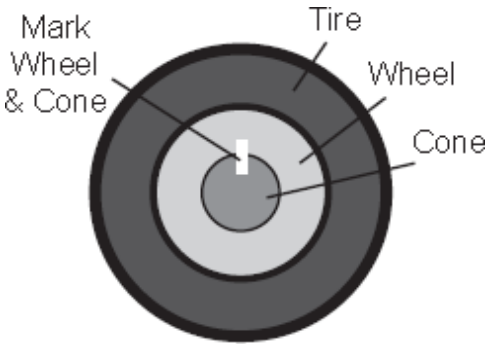
1. Press the **[OPT]** key.

**[OPT][ ]** will be displayed.

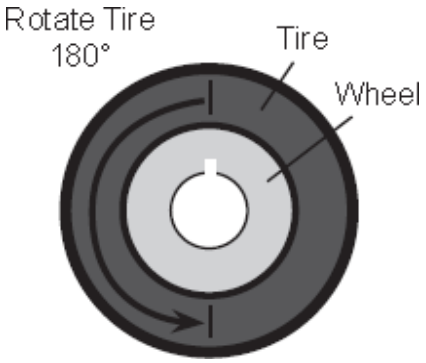
**2.** Press **[START]** to activate a spin cycle.

When finished the display will read:**[ I ] [180]**

180 displayed means the tire and the rim need to be rotated by 180 degrees away from each other and remounted.




3. Before unmounting the wheel from the balancer, mark the rim and the cone with chalk (sold separately) so that the same mounting position can be re-mounted for the next operation.




4. Remove the wheel from the Balancer and use a tire changer (sold separately) to remove the tire from the rim, rotate it 180°, and remount it on the rim. Fully inflate the tire and mount the Wheel

5. on the Balancer in the same location as the previous cycle. Press [START] to activate a spin cycle.

6. When finished the display will read:

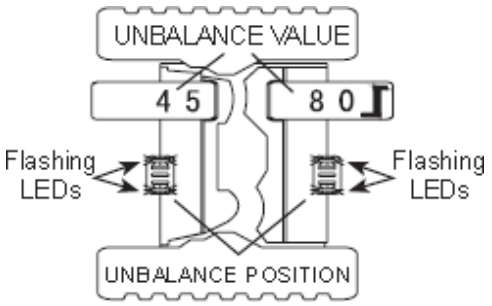
[ 45][80⌐┘]

The left reading shows the amount of weight originally needed to balance the wheel: 45 grams. The right reading shows the amount to reduce the weight after rotating and remounting the wheel:

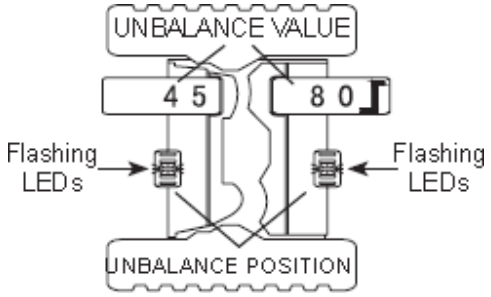
(⌐┘ = %) less 80%.

45 less 80% = 9 grams

This means that only 9 grams of weight are needed to balance the wheel.



7. Rotate the wheel counterclockwise, slowly by hand, until the Control Board display flashes as shown above. Make a mark at the top of the tire (12 0'clock position), and label "P-tire".




8. Rotate the wheel counterclockwise, slowly by hand again, until the Control Board display flashes as shown above. Make a mark at the top of the Rim (12 O'clock position), and label "P-rim".

9. Remove the wheel from the Balancer and use the tire changer to re-mount the rim with the rim and tire markings aligned.

10. Place a 10 gram weight on the marking and press [START] to activate the spin cycle.

11. Check to see if the wheel is balanced. Repeat as needed.

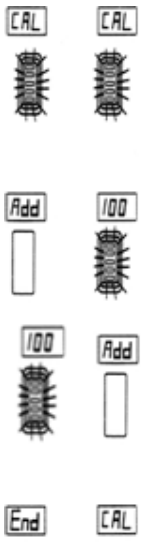
12. When finished using the Wheel Balancer, Turn the Power Switch OFF, and unplug the machine.

**Maintenance And Servicing**

**Self-calibration**

Self calibration has been finished in the factory. If you use for a period of time or change part inside or the result of the balance is not correct,
you can self correct it again.( Choose one medium-size tyre to install on main shaft , 13 or14 inches are perfect). Input correct data of this tyre A, L , D.

Attention: Fail to input the correct size will lead to the machine works wrong.




◎Press F key, hold on and press C key in half a second , "CAL"-"CAL" displayed, leds are all flashing. Only after leds all go out can you move your finger away.

◎Press START key, after the tire stops, "ADD"-"100" displayed, please clip 100g weight onto the outside of the rim on the position of 12 o'clock

◎Press START key, after the tire stops, "100" -"ADD" displayed, please clip 100g weight onto the inside of the rim on the position of 12 o'clock

◎Press START key, after the tire stops, "END-CAL" displayed, that means the self correction is over.

Lamps are all on when 100g counterbalance is rightly under main shaft.

◎ Don't move away the weight from the tire. Press START key, after the tire stops, if it shows "100"-"00", that means the self-calibration is successful.

◎ Well–balanced tire will show “100”-“00” (±4g ) after self calibration. 100g counterbalance is rightly under
main shaft when outside lamps are all on
( 4° error is allowed), this proves phase angle is correct.
Two key elements to judge if self calibration is accurate or not
1. Accurate data indication
2. Show that phase is right (namely outside lamps are all lightning and 100g counterbalance is rightly under shaft).

Problems that occur after self calibration:

**Malfunctioning:**

“Err. -8-“ showed

Cause:

A . Problems with computer board.

B . The circuit of sensor is broken.

**Malfunctioning:**

Data indicated has a big deviation

Cause:

A. The edge outside wheel is irregular and under bad condition

B. Parameter data lose or error

## Accessories


weight hammer


100g weight


quick nut


caliper


No.1 Cone


No.2 Cone


No.3 Cone


No.4 Cone


Spring


Bowl