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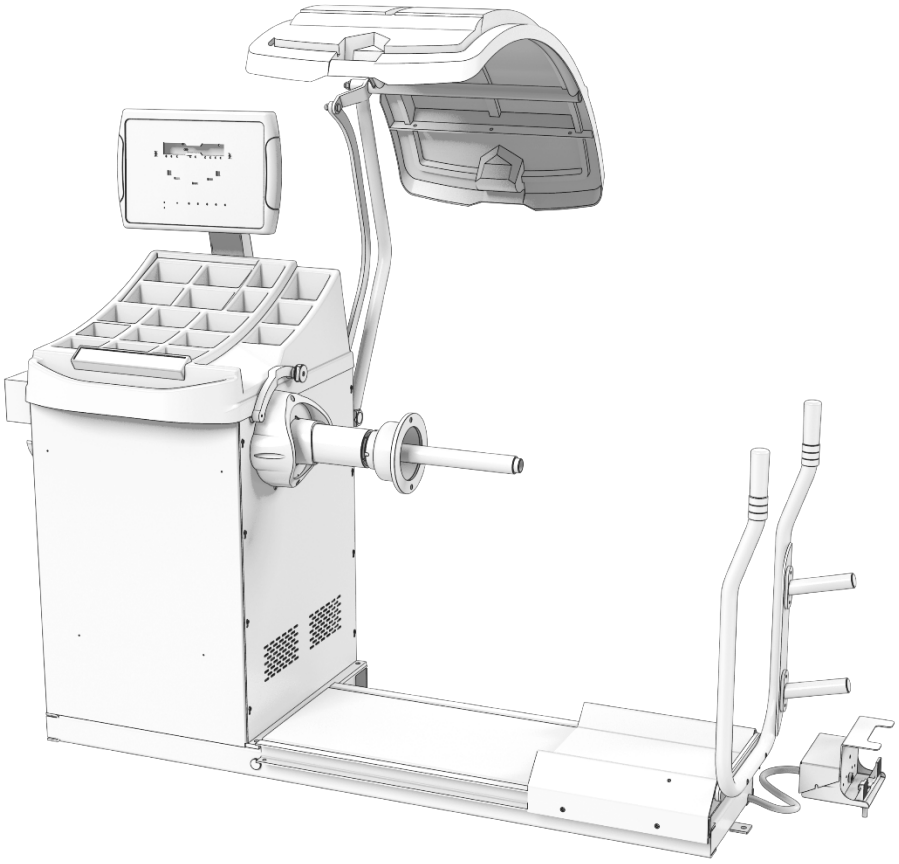
Truck Wheel Balancer

Installation and Operation Manual

Manual 5900415 — Revision A — February 2025

Model:

- RB30T



Designed and engineered by BendPak Inc. in Southern California, USA. Made in China.

⚠ DANGER

Read the *entire* contents of this manual ***before*** using this product. Failure to follow the instructions and safety precautions in this manual can result in serious injury or death. Make sure all other operators also read this manual. Keep the manual near the product for future reference.
By proceeding with setup and operation, you agree that you fully understand the contents of this manual and assume full responsibility for product use.

Manual. RB30T Truck Wheel Balancer, *Installation and Operation Manual*, P/N 5900415, Revision A, Released February 2025.

Limitations. Every effort has been made to have complete and accurate instructions in this manual. However, product updates, revisions, and/or changes may have occurred since this manual was published. BendPak Ranger reserves the right to change any information in this manual without incurring any obligation for equipment previously or subsequently sold. BendPak Ranger is not responsible for typographical errors in this manual. Feel free to contact us at any time to receive the latest information about any product: **rangerproducts.com**.

Ranger

SCAN FOR DIGITAL PDF

Warranty. The BendPak Ranger warranty is more than a commitment to you: it is also a commitment to the value of your new product. For full warranty details, contact your nearest BendPak Ranger dealer or visit **bendpak.com/support/warranty**.

Safety. Your new product was designed and manufactured with safety in mind. Your safety also depends on proper training and thoughtful operation. Do not set up, operate, maintain, or repair the unit without reading and understanding this manual and the labels on it; ***do not use this product unless you can do so safely!***

Owner Responsibility. In order to maintain your product properly and to ensure operator safety, it is the responsibility of the product owner ***to read and follow these instructions***:

- Follow all setup, operation, and maintenance instructions.
- Make sure product setup conforms to all applicable local, state, and federal codes, rules, and regulations, such as state and federal OSHA regulations and electrical codes.
- Read and follow all safety instructions. Keep them readily available for operators.
- Make sure all operators are properly trained, know how to safely operate the unit, and are properly supervised.
- Do not operate the product until you are certain that all parts are in place and operating correctly.
- Carefully inspect the product on a regular basis and perform all maintenance as required.
- Service and maintain the unit only with approved replacement parts.
- Keep the manual with the product and make sure all labels are clean and visible.
- **Only use this product if it can be used safely!**

Unit Information. Enter the Model Number, Serial Number, and the Date of Manufacture from the label on your unit. This information is required for part or warranty issues.

Model: _____

Serial: _____

Date of Manufacture: _____

Table of Contents

Introduction

This manual describes the **Ranger RB30T Truck Wheel Balancer**, a heavyweight wheel balancer designed for use by high-volume commercial tire dealers and truck fleets.

⚠ **WARNING** Always use a ***licensed electrician*** for electrical work. Wiring the unit incorrectly could result in severe injury or product damage.

More information about the full line of Ranger Products is available at **rangerproducts.com**.

This manual is mandatory reading for all users of the RB30T, including anyone who sets it up, operates, maintains, or repairs it.

⚠ **DANGER** Be very careful when setting up, operating, maintaining, or repairing this equipment; failure to do so could result in property damage, product damage, injury, or (in very rare cases) death. Make sure only authorized personnel operate this equipment. All repairs must be performed by an authorized technician. Do not make modifications to the unit; this voids the warranty and increases the chances of injury or property damage. Make sure to read and follow the instructions on the labels on the unit.

Keep this manual on or near the equipment so that anyone who uses or services it can read it.

Technical support and service for your Truck Wheel Balancer is available from your distributor or by calling **Ranger Products at (805) 933-9970**. You may also call regarding parts replacement (please have the serial number and model number of your unit available).

Shipping Information

Your equipment was carefully checked before shipping. Nevertheless, you should thoroughly inspect the shipment ***before*** you sign to acknowledge that you received it.

When you sign the bill of lading, it tells the carrier that the items on the invoice were received in good condition. *Do not sign the bill of lading until **after** you have inspected the shipment.* If any of the

items listed on the bill of lading are missing or damaged, do not accept the shipment until the carrier makes a notation on the bill of lading that lists the missing or damaged goods.

If you discover missing or damaged goods ***after*** you receive the shipment and have signed the bill of lading, notify the carrier at once and request that the carrier make an inspection. If the carrier will not make an inspection, prepare a signed statement to the effect that you have notified the carrier (on a specific date) and that the carrier has failed to comply with your request.

It is difficult to collect for loss or damage after you have given the carrier a signed bill of lading. If this happens to you, file a claim with the carrier promptly. Support your claim with copies of the bill of lading, freight bill, invoice, and photographs, if available. Our willingness to assist in helping you process your claim does not make us responsible for collection of claims or replacement of lost or damaged materials.

Safety Considerations

Read this manual carefully before using your new product. Do not set up or operate the product until you are familiar with all operating instructions and warnings. Do not allow anyone else to operate the product until they are also familiar with all operating instructions and warnings. Keep this manual on or near the product for future reference.

⚠ **WARNING** **California Proposition 65**. This product can expose you to chemicals including styrene and vinyl chloride which are on the list of over 900 chemicals identified by the State of California to cause cancer, birth defects or reproductive harm. Always use this product in accordance with BendPak's instructions. For more information, visit **www.p65warnings.ca.gov**.

Safety Information

Please note the following:

⚠ **WARNING** Do ***not*** look directly into the laser. Doing so may damage your eyes.

- The product is a Truck Wheel Balancer. ***Use it only for its intended purpose.***
- The product should only be operated by authorized personnel. Keep children and untrained personnel away from the product.
- When using the product, wear appropriate work clothes. Do not wear neck ties, loose clothing, or jewelry. Keep hair and clothing away from the unit.
- Always wear ANSI-approved safety goggles, steel toed boots and leather gloves.
- When the product is in use, keep people other than the Operator away from it.
- Do not use the product while tired, or under the influence of drugs, alcohol, or medication.
- Do not use the product in the presence of cigarette smoke, dust, or flammable liquids or gases. Use the product indoors in a well-ventilated area.
- Do not make any modifications to the product; this voids the warranty and increases the chances of injury or property damage.
- Make sure all operators read and understand the *Installation and Operation Manual*. Keep the manual near the device at all times.
- Make a visual inspection of the product before using it. Do not use the product if you find any missing or damaged parts. Instead, take the unit out of service, then contact an authorized repair facility, your distributor, or **Ranger Products at (805) 933-9970**.
- BendPak Ranger recommends making a ***thorough*** inspection of the product once a month. Replace any damaged or severely worn parts, decals, or warning labels.

Symbols

Following are the symbols used in this manual:

⚠ **DANGER** Calls attention to a hazard that **will** result in death or injury.

⚠ **WARNING** Calls attention to a hazard or unsafe practice that **could** result in death or injury.

⚠ **CAUTION** Calls attention to a hazard or unsafe practice that could result in personal injury, product damage, or property damage.

NOTICE Calls attention to a situation that, if not avoided, could result in product or property damage.

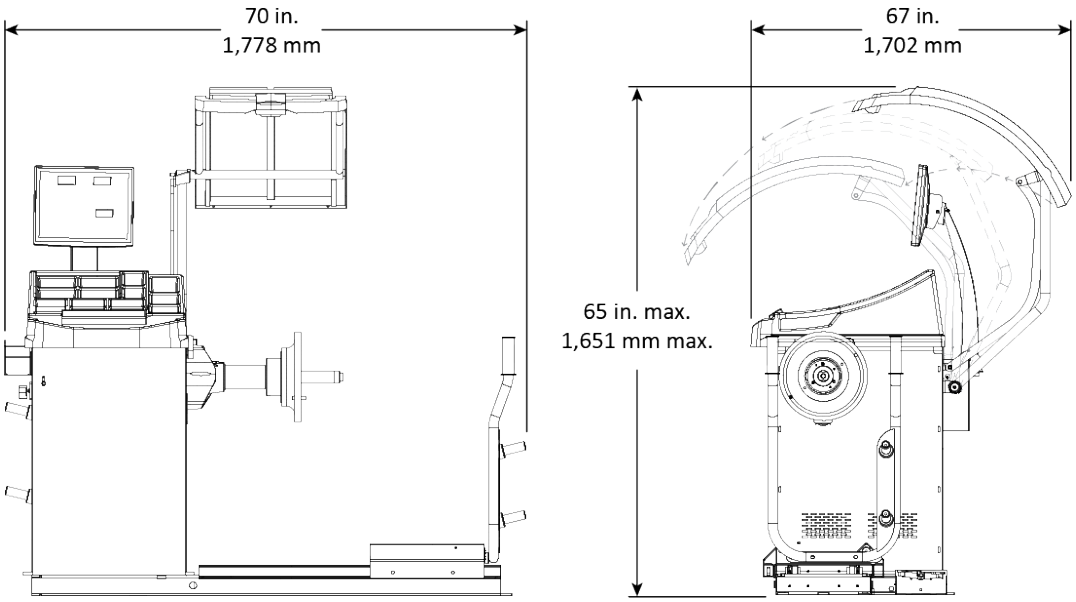
Calls attention to information that can help you use your product better.

Liability Information

BendPak Ranger assumes **no** liability for damages resulting from:

- Use of the equipment for purposes other than those described in this manual.
- Modifications to the equipment without prior, written permission from BendPak Ranger.
- Modifying, disabling, overriding, or removing safety features.
- Damage to the equipment from external influences.
- Incorrect operation of the equipment.

Specifications

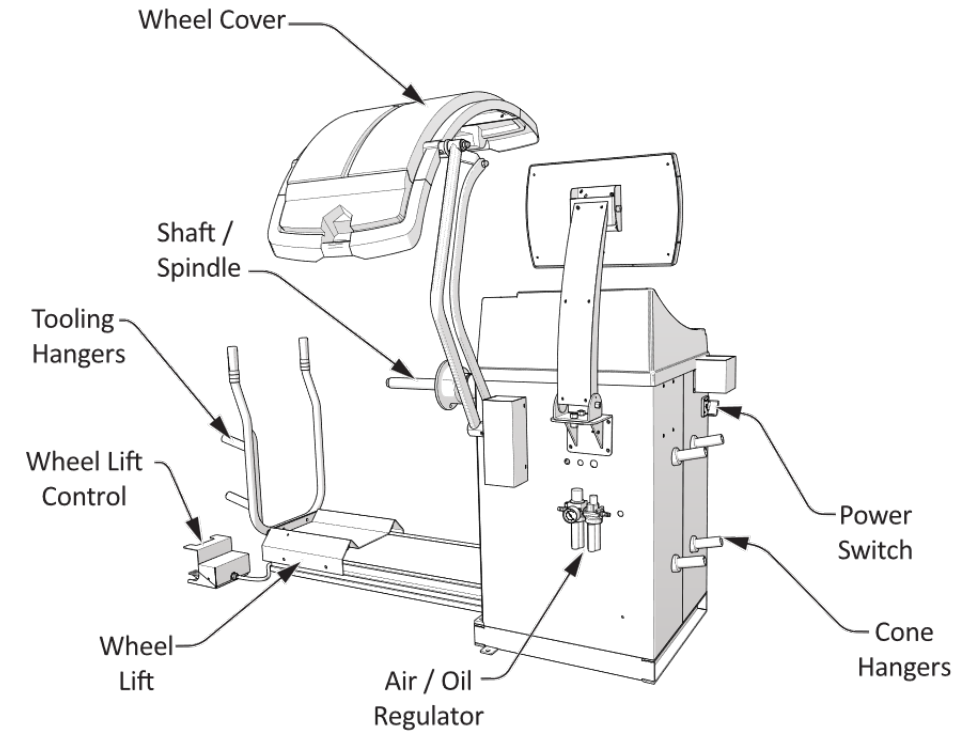


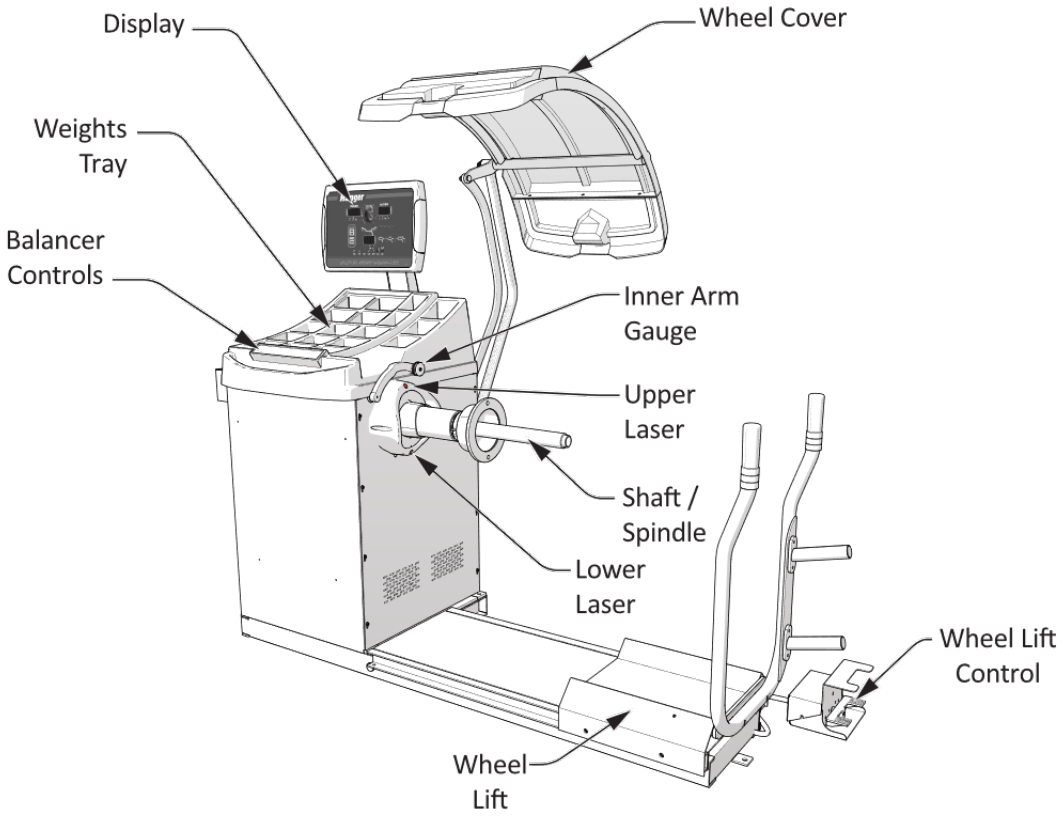
Specifications subject to change without notice.

Model	RB30T
Power supply voltage	208-240 VAC, 1.5A, 50/60 Hz, 1 Ph. 1.1kW
Input Air Pressure Required	87 – 116 psi (0.6 – 0.8 MPa)
Operating Temperature	+32° to +122° F (0° to +50° C)
Storage Temperature	+14° to +140° F (-10° to +60°C)
Humidity	≤85% Non-Condensing
Noise Level	<70 dB
Drive system	Ribbed nylon fiber-reinforced drive belt
Cycle time	Car Mode ≈7 Seconds, Truck Mode ≈20 seconds on average depending on wheel
Balancing modes	1 dynamic / 1 static / 3 alloy
Wheel spin braking	Electronic pulse / pneumatic brake
Shaft size	40 mm
Maximum Tire Diameter	49.25 in. (1250mm)
Maximum Tire Weight	330 lbs. (150 kg)
Wheel Diameter Min./Max.	13 – 24 in. (330 - 610 mm)
Wheel Width Min./Max.	4 to 20 in. (102 mm - 508 mm)
Balancing Increments	0.035 oz (1 gram)
Balancing Speed	Car Mode 260 rpm, Truck Mode 135 rpm
Accuracy Standard (car, light truck)	±.035 oz. (1 g)
Accuracy Truck (truck, bus, OTR)	±.4 oz. (12.5 g)
Resolution (round off mode)	±.09 oz. (2.5 g)
Shipping weight	990 lbs. (449 kg)

Components

The figure below details the major components of the RB30T Truck Wheel Balancer.





Frequently Asked Questions

Question: What does a Truck Wheel Balancer do?

Answer: They correct the imbalance of a wheel. If you drive a vehicle with imbalanced wheels, the vehicle could experience noise, vibrations, wobbling, reduced traction, reduced or uneven tire tread wear and some components could wear out sooner rather than later.

Q: Is wheel balancing the same as wheel alignment?

A: No. When you *balance* a wheel, you fix a weight distribution problem that can cause wheel wobble, uneven tire wear, and vehicle vibration. This is done by putting weights on the wheel in appropriate locations. Alignment fixes issues of wheel orientation relative to one another.

Q: Where can I put my Truck Wheel Balancer?

A: On a flat concrete floor (rated to at least 500 PSI compressive strength) with adequate room around it, that is also near where wheels are worked on. Truck Wheel Balancers are best installed in less traveled areas. Most garages install wheel balancers and tire changers near each other.

Q: Why are there two types of weights?

A: Clip-on weights are more noticeable, but they can often be installed in more effective areas for better balancing results. Adhesive weights are lower profile and come in two colors, so you can try to color match with the rim. Some vehicle owners, particularly those with expensive wheels, prefer adhesive weights because there is no chance of marks on their wheel rims remaining when the weights are removed.

Q: What balancing modes does the Truck Wheel Balancer have?

A: The Truck Wheel Balancer has five balancing bodes: Dynamic, Static, ALU1, ALU2, and ALUS. Dynamic mode is used with steel wheels, static mode is for older, narrower wheels or motorcycle wheels, and the ALU modes are for aluminum alloy (non-steel) wheels.

Q: How accurate are the weight values the Truck Wheel Balancer displays?

A: By default, the Truck Wheel Balancer rounds off to .25 ounces (~7 grams); this is because most weights sold in the U.S. come in .25 ounce increments. (Countries that use the metric system measure weight in grams; their weights come in 5 gram increments.) If you do not want rounded-off weight values, press, and hold the **<5g** button on the operator control panel to see higher precision values.

Q: What do I do if I have a problem with the Truck Wheel Balancer that I cannot solve?

A: Contact BendPak Ranger; we are here to help. Using a web browser, visit the BendPak Support website, click on + New support ticket, and then fill in and submit a Support Ticket (make sure to click the Submit button at the bottom).

Q: Why isn't there a plug on the end of the power cord?

A: The Truck Wheel Balancer motor comes from the factory set for 220 VAC power. Because 220 VAC plugs vary from location to location, no plug comes with the Balancer. Have your Electrician install an appropriate plug or have the power cord attached directly to the facility's power system.

Q: What is the range of wheel sizes the Truck Wheel Balancer can accept?

A: The Truck Wheel Balancer accepts wheels with diameters from 13 in. to 24 in. (330 - 610 mm), with rim widths from 4 in. to 20 in. (102 mm - 508 mm).

Setup

This section describes how to set up your RB30T Truck Wheel Balancer.

Unpacking

Use caution when unpacking the Truck Wheel Balancer from its shipping container. You do not want to damage the unit or misplace any of the components that come with it.

Unpack the components in the area where you are going to set up the unit.

Once you have the Truck Wheel Balancer shipping container in the correct area, having assured there will be adequate clearance in all directions, and that there is proper supply of power and compressed air available in that location, carefully loosen shipping bolts; use care to avoid tipping or pinching risks as this is done.

Use caution when unpacking the Truck Wheel Balancer from its shipping container and setting it up. The Balancer is heavy, and the weight is ***not*** evenly distributed; dropping or knocking over the unit may cause equipment damage or personal injury.

Lifting of the Truck Wheel Balancer should be done only from the base or body of the unit, *never* from any shafts, spindles or other parts or assemblies protruding from the machine; take all due care when moving the Truck Wheel Balancer from the shipping palette to final installation location to avoid any accidental stresses or mechanical loading to subsidiary parts.

Steps to properly unpack the Balancer:

1. Make sure you are wearing OSHA-approved (publication 3151) Personal Protective Equipment: leather gloves, steel-toed work boots, ANSI-approved eye protection, back belts, and hearing protection.
2. Remove the carton by flipping down the metal tabs ***at the bottom*** and pulling it off the pallet, over the top of the Balancer.

   Use care when removing the carton; it is awkward and may change shape when moved.
3. Remove the plastic wrap, cardboard pieces, and other shipping components.
4. Remove the shipping bolts holding the Balancer to the pallet.
5. Remove the Accessory Box from the pallet.
6. Move the Balancer off the Pallet, then move it to the desired location.

Important: Do not lift the Balancer by the shaft housing; **it is not strong enough** to bear the weight of the Balancer.

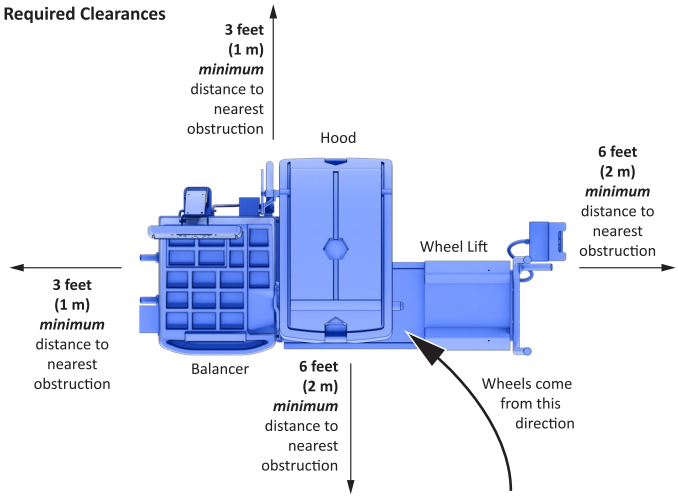
⚠ **CAUTION** Ranger recommends having at least two people move the Balancer; it is heavy. If it is dropped or falls, it could cause injuries and/or the Balancer could be damaged.

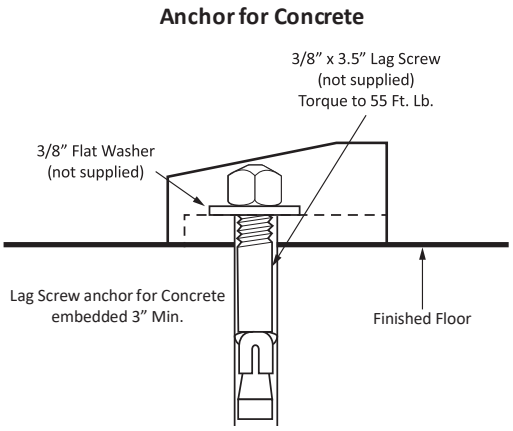
Location

Keep in mind when deciding on a location:

- RB30T Truck Wheel Balancer should be located on a level concrete floor rated to at least 500 PSI compressive strength, and should be affixed to that floor with expansion bolts passing through the holes in the balancer's base. See diagram below.
- RB30T Truck Wheel Balancer should be set up in an area with adequate clearance on all sides, adequate overhead clearance for full travel of the hood, and adequate working room for mounting and removing wheels. See diagram below.
- RB30T Truck Wheel Balancer must have an adequate source of uncontaminated, clean compressed air per the specification: 87– 116 PSI (0.06 – 0.08 MPa).
- RB30T Truck Wheel Balancer should be located close to the tire changing station, with a clear and unimpeded path of travel between the two stations to facilitate proper use.

⚠ DANGER When a wheel is spinning on the Balancer, *keep people away from it*. Do not set up the Balancer in a well-travelled area. Everyone except the operator should be *at least* 30 ft. (9m) away from the Balancer when it is in use.





⚠ WARNING All electrical work ***must be accomplished by a licensed electrician***.

Power Source

The RB30 Truck Wheel Balancer is wired internally for 220 VAC, 60 Hz, 1 phase; it must be connected to a 15 amp breaker.

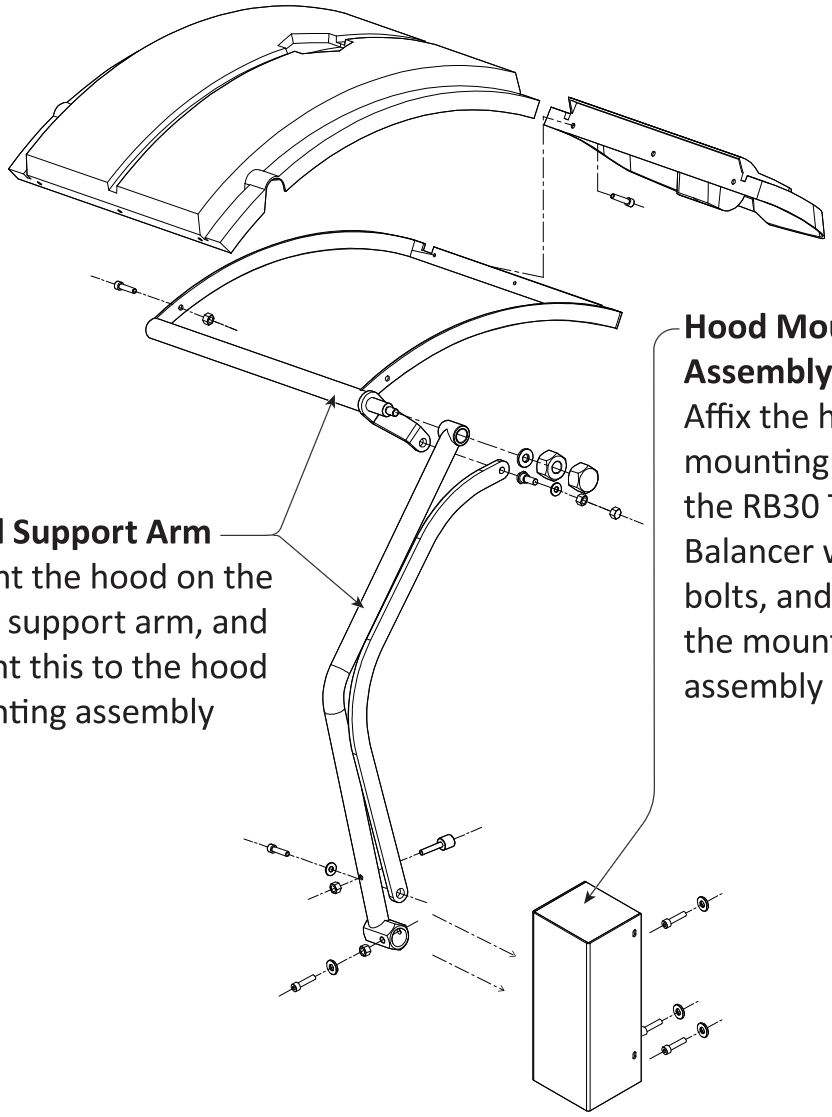
Installing Components

- Review ***all*** installation and setup steps prior to beginning this process.
- Make sure you have all necessary tools on hand.

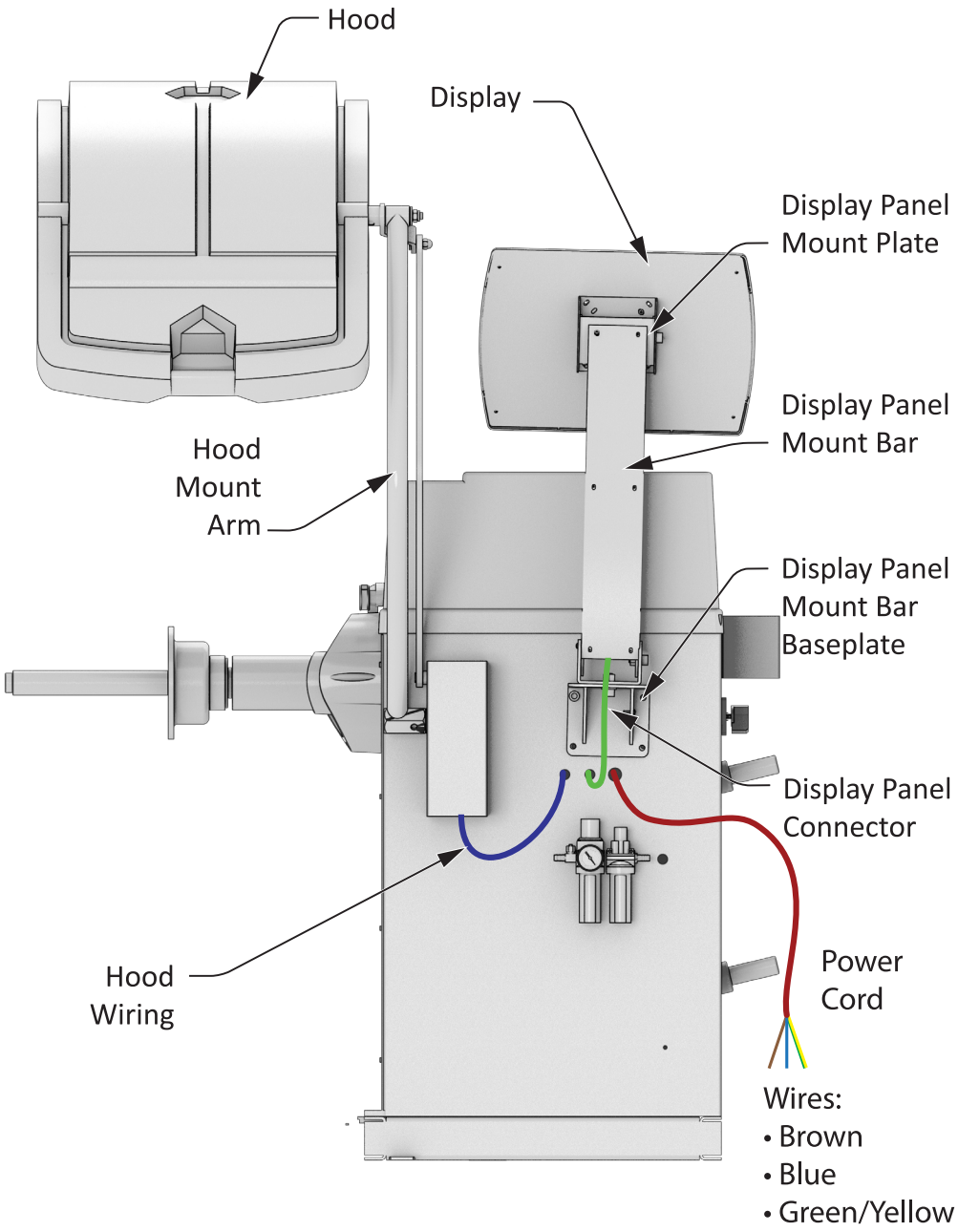
Installing the Hood

- Affix the hood mounting assembly to the RB30 Truck Wheel Balancer with three bolts, and then install the mounting assembly cover.
- Mount the hood on the hood support arm, and mount this to the hood mounting assembly.

Hood Mounting Assembly



This illustration shows the components on the back of the Balancer.



Some components omitted for clarity; not to scale.

*Not necessarily to scale. Not all components shown. The three Connectors are **not** the same. Each cable fitting connects to one of three Connectors. Do not force a cable fitting into a Connector; you could damage the Connector and/or the cable fitting.*

*The **Display Panel Mount Bar** has a **Base Plate** at the bottom (where it connects to the back of the Balancer) and a **Mount Plate** at the top (where it connects to the Display).*

Installing the Display Panel

The Display Panel shows information about what is happening during the balancing of a Wheel.

To install the Display Panel:

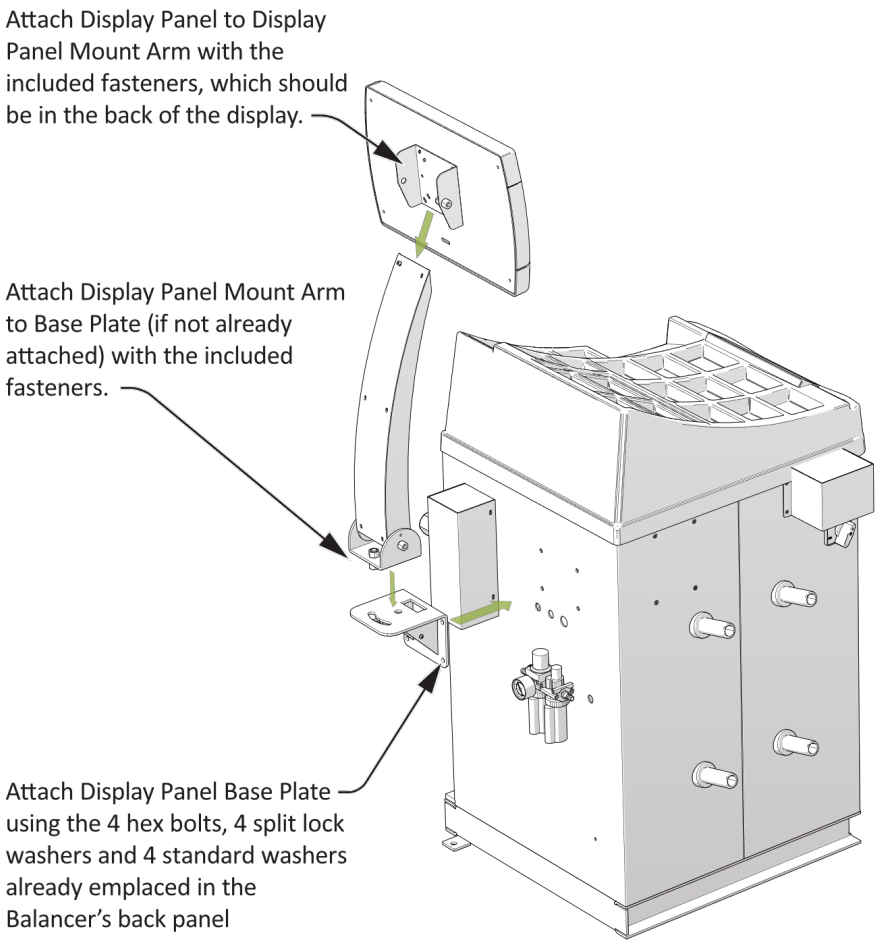
1. Locate the Display Panel and the Display Panel Mount Bar.
   - The Display Panel Base Plate (located on the bottom of the Display Panel Mount Bar, see drawing on previous page) connects to the back of the Balancer using four hex bolts, four split lock washers, and four standard washers; these come connected to the back of the Balancer.
   - The Display Panel connects to the Display Panel Mount Plate (located on the top of the Display Panel Mount Bar) using four hex bolts that come connected to the back of the Display Panel.
2. Remove the four 6 mm hex bolts, four split lock washers, and four standard washers on the back of the Balancer.
3. Put the Display Panel Base Plate into position, then install the four hex bolts, four split lock washers, and four standard washers to secure it; tighten securely, but do not overtighten.
4. Remove the four 3 mm hex bolts from the center back of the Display Panel.
5. Put the Display Panel into place against the Display Panel Mount Plate, then install the four hex bolts to secure it; tighten securely, but do not overtighten.
6. Run the cable from the back of the Display Panel down to the Connectors, then connect it to the appropriate Connector.

   Each of the three Connectors on the back of the Balancer are different, so make sure to connect the Display Panel cable to the appropriate Connector.

   The Display Panel Cable Connector has five holes in it.

- Connect Truck Wheel Balancer to electrical power.

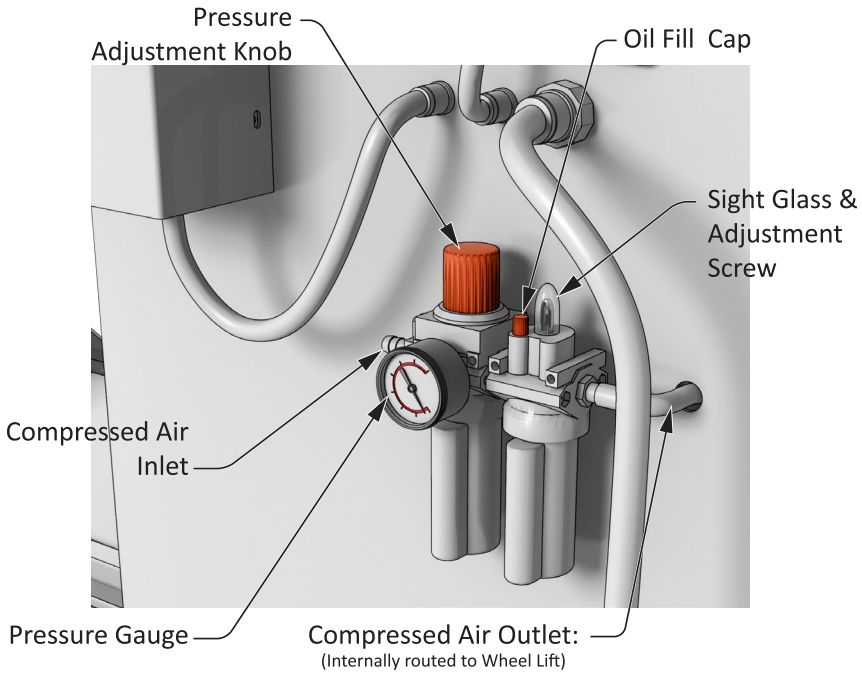
⚠ WARNING All electrical work must be accomplished by a licensed electrician.



Some components hidden for clarity; do not scale

Connecting Truck Wheel Balancer to compressed air source

Be sure there is a gas shut-off and pressure regulator valve in front of this equipment. If needed, connect compressed airline to the Wheel Lift assembly; this should arrive pre-connected.



Some components omitted for clarity; not to scale.

The Air / Oil Filter & Regulator safely filters, regulates pressure, and adds needed oil to your compressed air, which is used to power the Wheel Lift in your Truck Wheel Balancer.

There are three parts to this assembly:

– Compressed Air Inlet and Outlet: Connect customer-supplied incoming compressed air to the Air In connector. You need to supply and install an appropriate 1/4″NPT fitting for the Air In connector. Teflon tape or liquid sealant is recommended. Outgoing air is connected at the factory to the hydraulic hose routing inside the Truck Wheel Balancer, which powers the Wheel Lift.

– Regulator / Filter. Removes contaminants from incoming air. Includes a gauge that shows the pressure of regulated air; to adjust air pressure to fall within the operating range of 87 – 116 psi (0.6 – 0.8 MPa) lift the PSI Adjustment Knob to unlock and turn clockwise to increase pressure and turn counterclockwise to decrease pressure. Push Knob back down to lock in new pressure setting.

– Oiler / Lubricator. Adds lubricant oil, for cylinder lubrication into the incoming air. Pressurized air, saturated with oil, provides both motive power and lubrication to the cylinders driving the Wheel Lift.

See Regulator / Filter Reservoir Maintenance for routine maintenance of the Pneumatic Air / Oil Regulator and Reservoir.

Usage Precautions

Keep the following in mind as you prepare to use your Truck Wheel Balancer:

- Make a visual inspection of the unit before each use. Do not operate your Truck Wheel Balancer if you find any issues. Instead, take the unit out of service, then contact your dealer, visit **www.bendpak.com/support/**, or call **(805) 933-9970**.
- Clean the unit according to the instructions in **Maintenance**.
- Read the entire *Installation and Operation Manual* before using the unit.

Operation

This section describes how to use your Balancer.

⚠ DANGER Standing adjacent to a Balancer is a serious endeavor with potentially life-threatening risks. Only trained, authorized, supervised personnel should be within 30 ft. (9m) of the Balancer while it is in use. ***Do not assume you are going to be safe using the Balancer this time just because nothing happened last time***.

WARNING The RB30T Truck Wheel Balancer has exposed rapidly rotating parts: entanglement and crush hazard risks are to be assumed when operating this equipment or being nearby during operation of this equipment.

Usage Precautions

Keep the following in mind while using the Balancer:

- Make sure all operators receive specific training in Wheel balancing ***before*** they are allowed to use the Balancer, that their training is verified through a testing program, and that all training is documented. All others, including children and untrained personnel, **must** be kept at least 30 ft (9m) away from the Balancer while it is in use.
- Make sure ***new*** operators are trained and supervised in the use of the Balancer.
- Do not use the Balancer while tired or under the influence of drugs, alcohol, or medication.
- Make a visual inspection of the Balancer ***before each use***. Do not operate the Balancer if you find any issues. Instead, take the unit out of service, then contact your dealer, visit **www.bendpak.com/support/**, email **support@bendpak.com**, or call **(805) 933-9970**, then follow the prompts.
- Keep the work area around the Balancer clean and well lit. Dirty, cluttered, and dark work areas increase the chances of an accident happening.
- Do not remove the trays on the top of the Balancer unless instructed to do so by BendPak Ranger Support. There are no user serviceable parts underneath.
- You ***must*** wear OSHA-approved (Publication 3151) Personal Protective Equipment at all times when installing, using, maintaining, or repairing the Balancer. Leather gloves, steel-toed work boots, ANSI-approved eye protection, back belts, and hearing protection ***are mandatory***.

⚠ WARNING Always wear ANSI-approved eye protection. Although rare, an accident could cause significant injuries to your eyes.

- Do not use the unit in a wet environment or expose it to rain or excess moisture.
- If an extension cord is necessary, a cord with a current rating equal to or more than that of the Balancer **must** be used. Extension cords rated for less current than the equipment may overheat. Care should be taken to arrange the extension cord so that it will ***not*** be tripped over or pulled.
- Do not use the Balancer in the vicinity of open containers of flammable liquids.
- Clean the Balancer according to the instructions in **Maintenance**.
- ***Study the entire*** *Installation and Operation Manual* before using the Balancer.

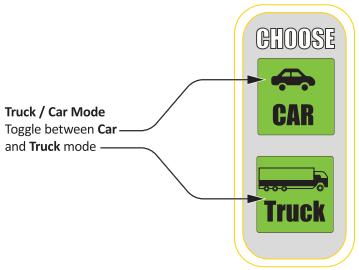
Initial Start-Up

After turning on the RB30T Truck Wheel Balancer's power, a device code will be displayed on all three displays on the display panel at the same time, showing: 142 (inner) 8.2 (outer) 22.5 (lower) indicating a successful start.

Display Panel

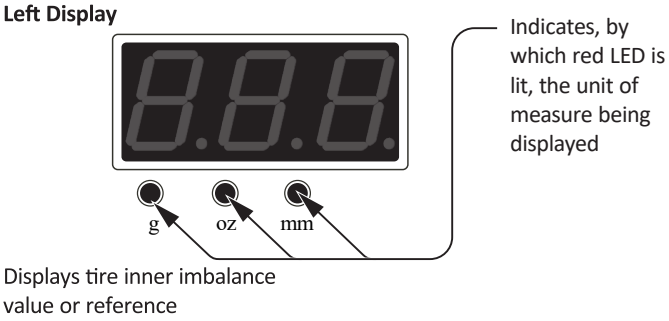
- Mode Selector Switch: Car or Truck. This sets wheel lift and trolley settings as well as measuring parameters.

Mode Selector Switch

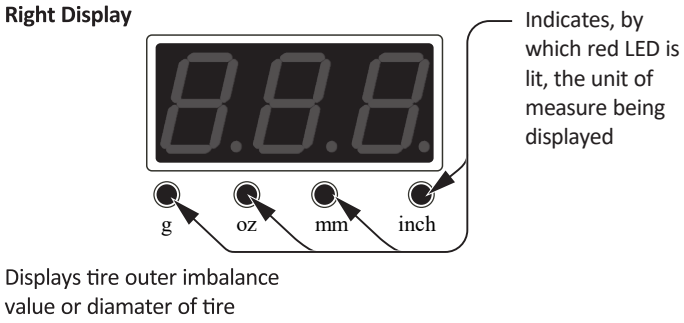


⚠ DANGER Heavier wheels should be installed by two people; significant risk of injury if caution and correct lifting and emplacing protocols are not followed. Crush and pinch injuries to hands are likely, as they may become trapped between wheel and balancing shaft / axle if due care is not applied, as well as risk of back and foot injuries from incorrect lifting methods.

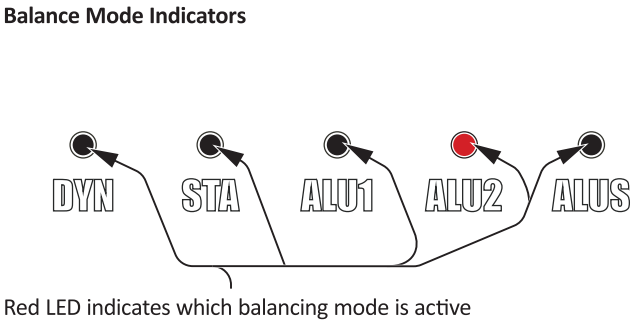
- **Left Display / Inner Window**. During balancing, this display shows the weight to be added to the inner side of the wheel.



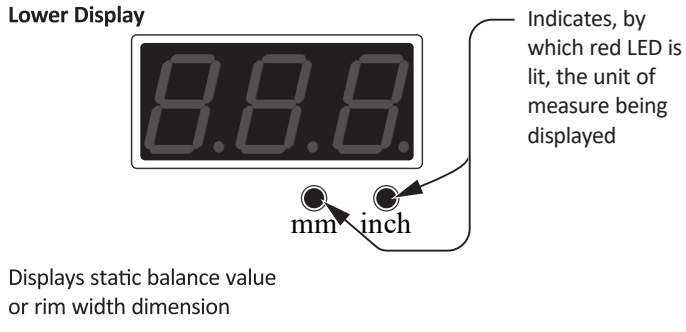
- **Right Display / Outer Window**. During balancing, this display shows the weight to be added to the outer side of the wheel.



- **Balancing Mode indicators**. DYN, STA, ALU1, ALU2, and ALUS. When a Balancing Mode is selected, the appropriate indicator LED lights up.

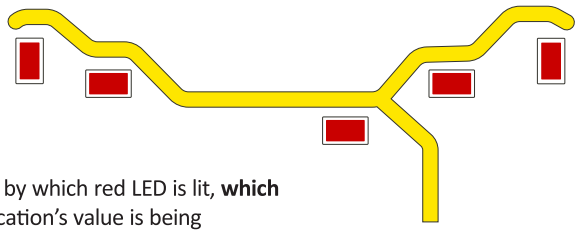


- Above the balancing mode indicators, there is the lower display.



- Needed weight location indicator. Use this in conjunction with the three value displays and the distance indicator arrows to determine *which* weight locations require specific values of weights to balance the rim being balanced.

Needed weight location Indicator

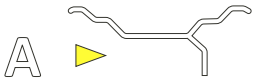


Indicates, by which red LED is lit, **which** weight location's value is being dsiplayed in the Lower Display

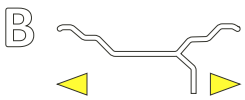
- Distance indicator arrows. Use these in conjunction with the three value displays and the needed weight location indicator to determine which weight locations require specific values of weights to balance the rim being balanced.

Distance Indicators

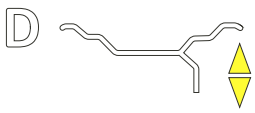
Distance / A Dimension Indicator
Indicates, if arrow is lit, **Left** display will show distance / size **A**



Width / B Dimension Indicator
Indicates, if arrow is lit, **Right** display will show width / size **B**



Diameter / D Dimension Indicator
Indicates, if arrow is lit, **Lower** display will show lateral distance / size **D**



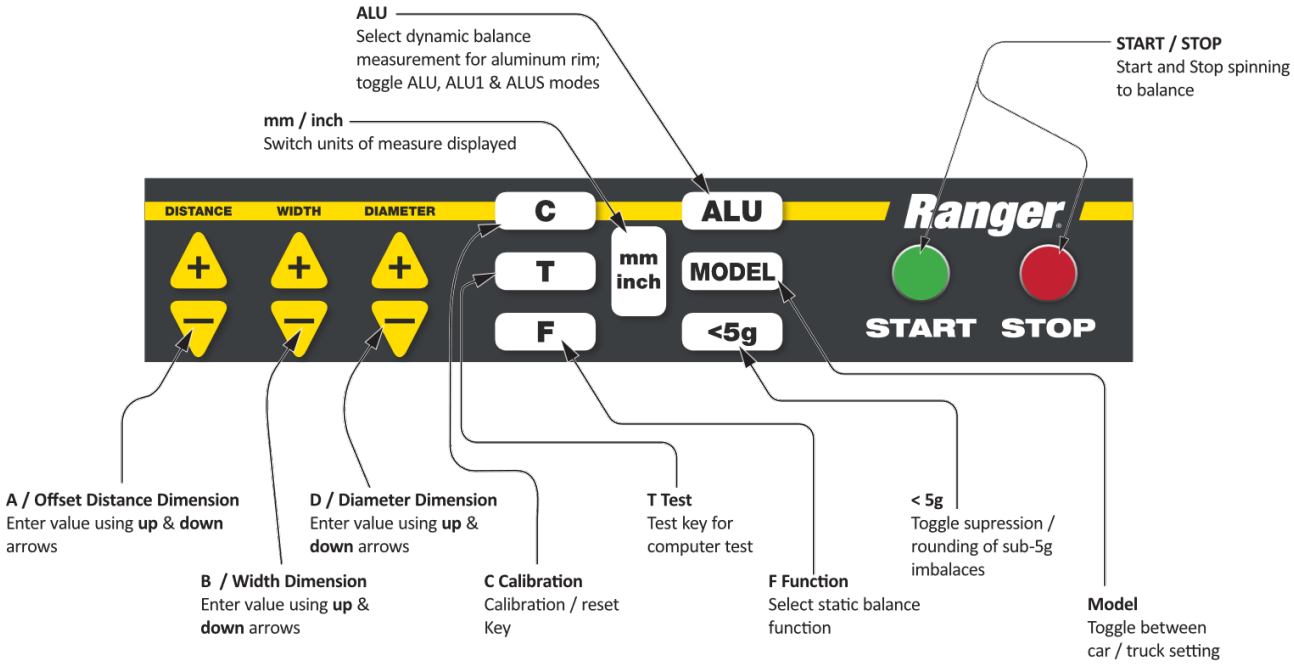
- Wheel imbalance location indicator for dynamic balancing operation.

Indicators Around Wheel

When weight correction needs to be added to a wheel, raise the cover, and turn the wheel slowly by hand, while watching the red LED indicators on the appropriate side of the wheel.

When all of the indicators are lit, the wheel will lock automatically, and the laser will indicate the exact spot to place the weight

Operator Control Panel



- **Start button**. Starts the wheel spinning, if the hood is down. By default, lowering the hood starts the wheel spinning. To disable this, press Stop and then press the R button. Press Stop and R again to re-enable.
- **Stop button**. Stops the wheel from spinning.

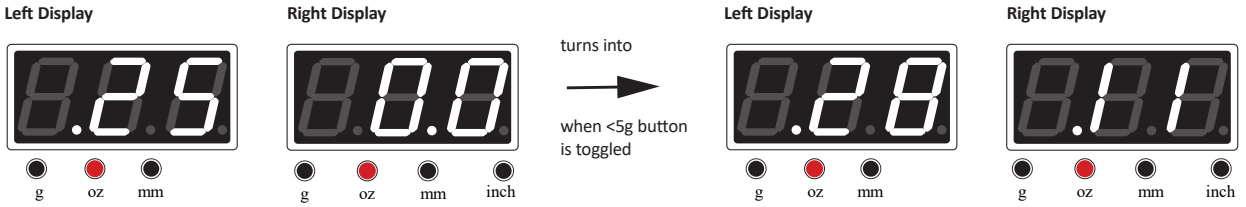
⚠ **WARNING** In an emergency, the fastest way to stop the wheel and the shaft is to press the Stop button and press down on the Brake Pedal.

- **Model button.** Toggles Balancer between car and truck modes.
- **Distance, Width, and Diameter inputs – each input is specific to its variable.**
  - *A = Distance*. Distance from the side of the Balancer to the inner edge of the wheel.
  - *B = Width*. Width of the wheel from the inner edge to the outer edge.
  - *D = Diameter*. Diameter of the wheel at the rim.

  See **About Measurements** for more information.
- **Plus and Minus buttons**. Press to increase the value (Plus button) or lower the value (Minus button). One set for each column: Distance, Width, and Diameter.
- **F button**. Press to switch to Static Balancing Function.
- **T button**. Used with C button to enter Calibration.
- **C button.** Used with T button to enter Calibration.
- **ALU button**. Press to switch to Dynamic Balancing Function, and toggle between ALU1, ALU1 & ALUS modes.
- **<5g button**. By default, the Balancer shows values for **weight needed** rounded to .25 ounce / 7 grams. If you want to see Weight values at a more granular level, press and *hold* **<5g**.

Weight values are shown ***not*** rounded off while you press and hold **<5g**.

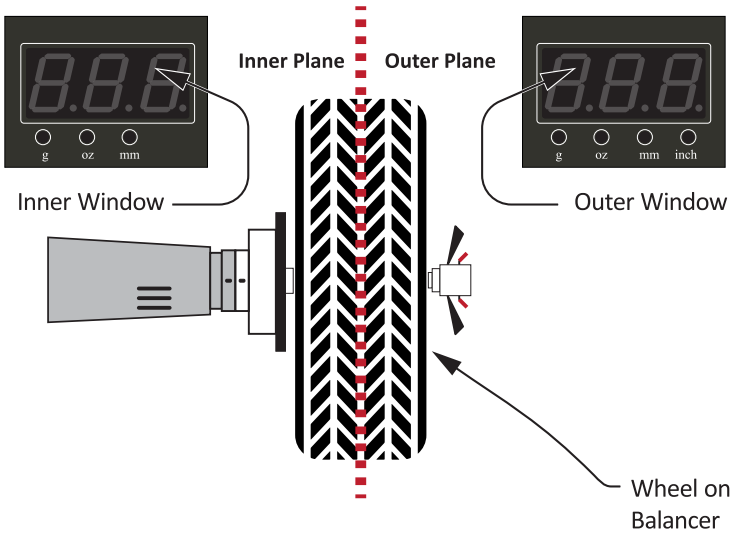
For example:



About Planes

If you were to split a wheel down the center (as shown below), it would be divided into two ***planes***, an Inner Plane and an Outer Plane.

Balancing a wheel on ***both*** planes at the same time is the most effective method. Of the five Balancing Modes (DYN, STA, ALU1, ALU2, and ALUS) supported by the Truck Wheel Balancer, four of them balance on both planes at the same time.



The fifth mode, Static (STA), is generally included for older automobile wheel designs (of various widths) or motorcycle wheels. Some examples are wheels that are not wide enough [4 in. (101.6 mm) or less] to be balanced on both planes at the same time. This function recommends weight placement to the inner plane. Other STA candidates are intended for wheels wider than 4 in. (101.6 mm) that are Vintage Custom (i.e., Cragar, American, etc.) rims to omit outer rim weight placement for appearance. Note that a Static balance is generally not as thorough as other balance modes.

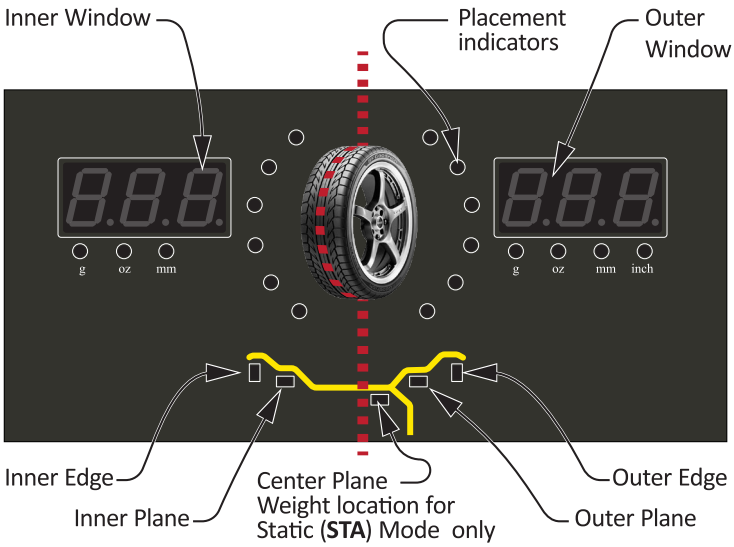
Because balancing a wheel on both planes is critical to using the Truck Wheel Balancer, the Display Panel shows a two-plane view of the wheel being balanced.

The Inner Plane is on the left (based on the main placement method for wheels on the Balancer, where the visible rim on the outside) and the Outer Plane is on the right.

The INNER Window displays the correction weight to place on either the Inner Edge, or the Inner Plane weight locations.

The OUTER Window shows how much weight to place on either the Outer Edge or the Outer Plane weight locations.

The Placement Indicators, six per plane, all light up when the best weight location is reached.

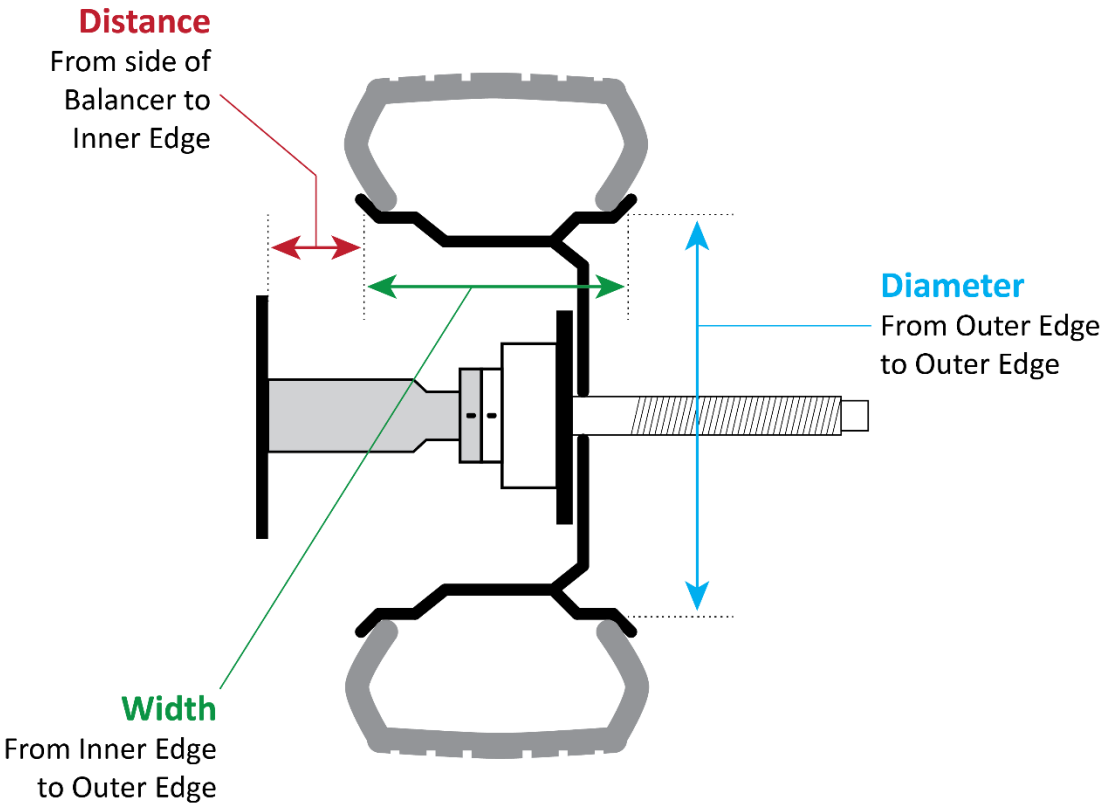


About Measurements

In order to balance a wheel, the Balancer ***must*** have three points of information about the wheel. You must gather these measurements and enter them manually for every wheel you balance.

The three measurements are:

- **Distance**. The distance from the side of the Balancer to the inner edge of the wheel. Automatically measured by the Inner Arm when placed on the rim.
- **Width**. The distance from the inner edge of the wheel to the outer edge. Determined manually by measuring with the caliper. To measure and input the value, measure with the calipers, then enter that value using the **+** and **—** buttons under **Width** on the Operator Control Panel.
- **Diameter**. The distance from outer edge to outer edge. Should be printed on the sidewall of the tire. Can also be determined manually by measuring with the caliper. To measure and input the value, read the value from the tire sidewall or measure with the caliper, then enter that value using the **+** and **—** buttons under **Diameter** on the Operator Control Panel.



Note: If you start balancing a wheel without entering one or more measurements, the Balancer will use default values for any measurement you did not enter. So, the Balancer will spin and weight to be added ***will appear***, but without correct measurements it is virtually certain that the balance will ***not*** be accurate.

Mounting a wheel

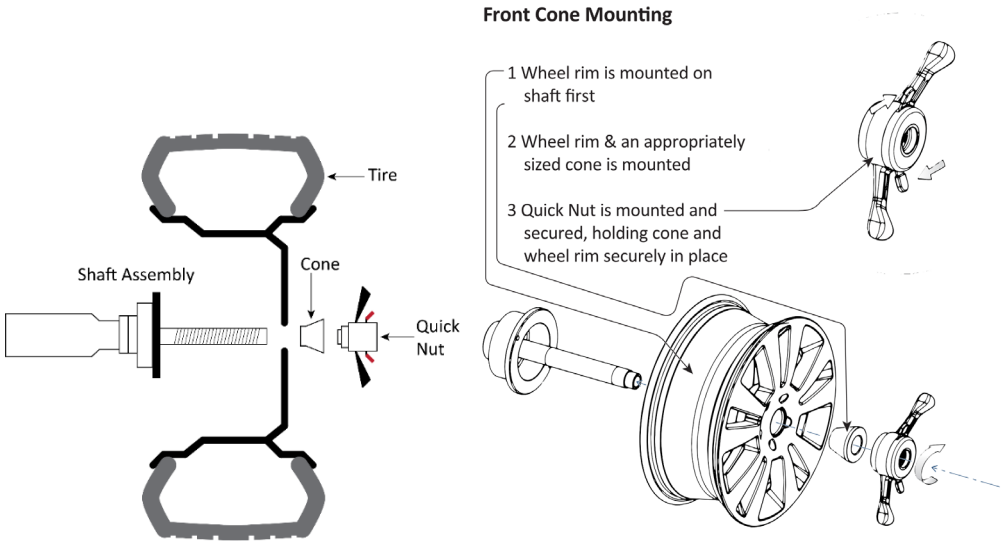
When you want to balance a wheel, the first step is to mount it on the shaft.

Important: All wheels should be mounted so that the inside (the side of the wheel that goes closest to the vehicle) goes on the shaft first.

There are three ways to mount a wheel onto the shaft:

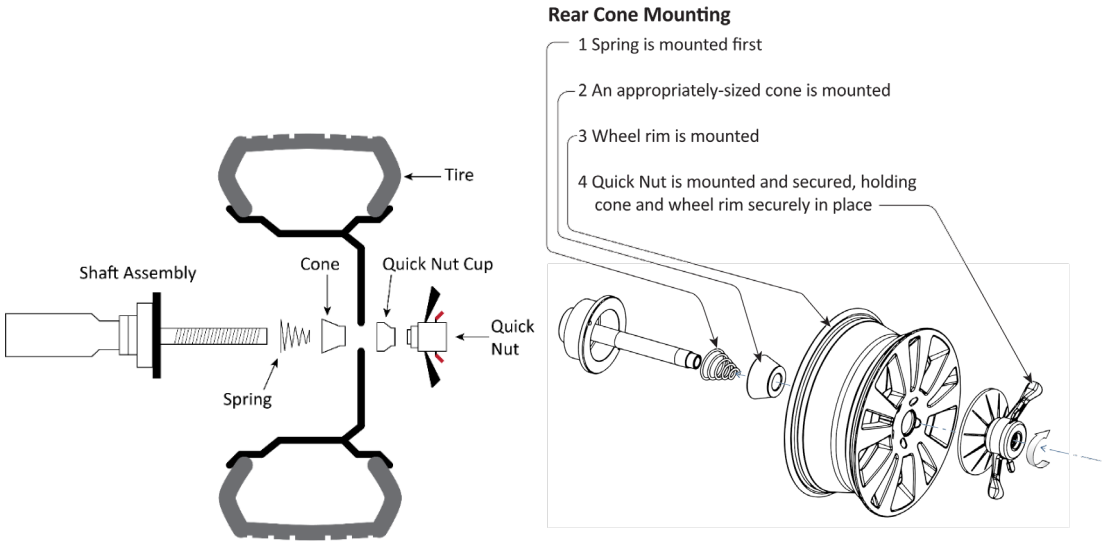
- **Front-Cone / Positive Position Mounting**. The preferred method, as it generally produces the most accurate balancing results.

  An appropriately sized mounting cone goes on after the wheel, then the quick nut.



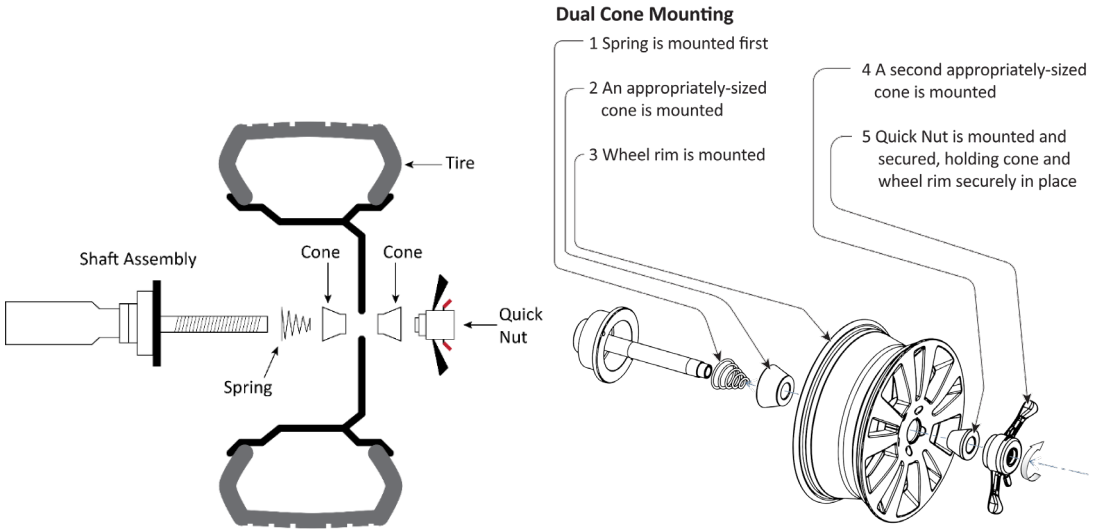
- **Rear-Cone / Reverse Position Mounting**. Use this method if the wheel you are balancing *cannot* be mounted with front-cone mounting.

  The spring installs first, then an appropriately sized cone, the wheel, the quick nut cap, and finally the quick nut.

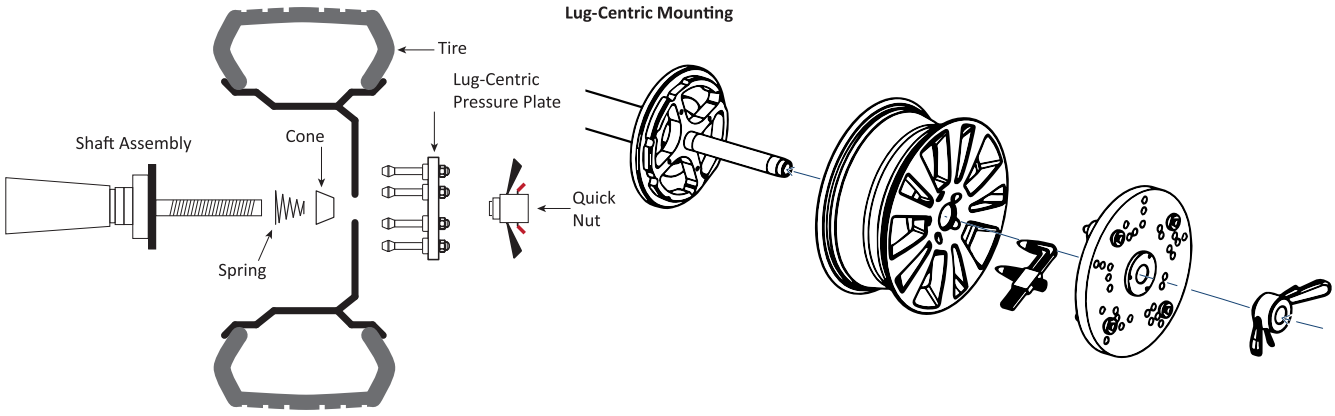


- **Dual-Cone Mounting**. Generally used only for some aftermarket or OEM performance wheels that have a center hole that is deep enough to allow the use of two cones on the shaft.

  The spring goes on first, then an appropriately sized cone, the wheel, a second appropriately sized cone, and finally the Quick Nut.



- **Lug-Centric Pressure Plate**. Generally used for some OEM performance wheels that have a **center** opening that requires mounting based on pressure from the lugs.



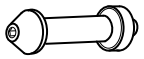
Important: ***Do not*** hammer or hit the Quick Nut to tighten it. You will damage the Quick Nut, which is ***not*** covered under the Warranty.

To mount a wheel using the Lug-Centric Pressure Plate:

The Lug-Centric Pressure Plate mounts the wheel to the Balancer through the wheel's mounting lug openings.

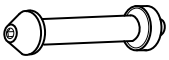
1. Always wear ANSI-approved eye protection: safety glasses, face shield, or goggles when operating the Balancer.
2. The Lug-Centric Plate is delivered with three sets of Lug Pins (5 each) to address wheels that use tapered and radius (Ball) tapered lug bolts.

a. 92mm Lug Pin for tapered lug bolts (use with wide wheels)



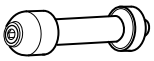
92mm Tapered Lug Pin

b. 114mm Lug Pin for tapered lug bolts (use with narrow wheels)



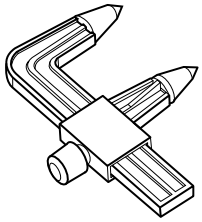
114mm Tapered Lug Pin

c. 101mm for radius or ball tapered lug bolts



101mm Radius Lug Pin

3. Determine which lug pin will allow the Quick Nut sufficient thread to tighten down and apply pressure to the wheel to be balanced.
4. Mount the appropriate lug pins onto the pressure plates' movable arms and hand tighten, then secure with the 5mm hex key provided.
5. Use the plastic caliper provided to measure the distance between the two adjacent wheel lug openings. Tighten the lock nut on the caliper to lock the distance.



6. Use the plastic caliper to adjust the lug-to-lug distance on the Lug Centric Pressure Plate by pushing the caliper points into the lug pins and adjusting the spacing as required.
7. Carefully turn the Lug Centric Pressure Plate over to allow access to the cap nuts on the back of the pressure plate. Exercise caution to prevent moving the lug-to-lug distance while rotating the plate.
8. Using a 17mm open end wrench tighten the cap nuts on the back of the pressure plate.
9. Place the spring on the balancer shaft.
10. Select the mounting collet that best fits the center hole of the wheel and place it on the balancer shaft.
11. Lift the wheel and put it onto the shaft, then slide it back towards the shaft flange. Move the wheel until its center opening rests on the collet. You may need to lift the wheel slightly when positioning a collet in the center hole of the wheel.
12. Slide the Lug Centric Pressure Plate until it meets the wheel then align the lug pins with the lug openings in the wheel.
13. While holding the wheel and Lug Centric Pressure Plate in place, slide the Quick Nut over the shaft while holding the quick-release levers next to the wings.

    Holding the Quick-Release Levers next to the wings lets you quickly slide the Quick Nut into position near the wheel.

14. Release the Quick-Release Levers.
15. Turn the wings to fully tighten the Quick Nut, and thus the wheel, in place.

    You may want to spin the wheel slightly as you tighten the Quick Nut; this can help ensure a strong, secure fit.

Important: ***Do not*** hammer or hit the Quick Nut to tighten it. You will damage the Quick Nut, which is ***not*** covered under the Warranty.

To mount a wheel:

1. Make sure you are dressed appropriately: leather gloves, steel-toed work boots, back belts, hearing protection, and ANSI-approved eye protection: safety glasses, face shield, or goggles.
2. Determine which mounting method you want to use.
3. Move the wheel you are going to mount next to the shaft; if this is a large wheel, determine whether you should have two people lifting for safety.
4. Select the mounting cone that best fits the center hole of the wheel.
5. If Rear-Cone or Dual-Cone Mounting, put the spring and the desired cone onto the shaft.
6. Lift the wheel (with assistance if needed for safety) and put it onto the shaft, then slide it back towards the shaft flange.

   You may need to lift the wheel slightly when positioning a cone in the center hole of the wheel.
7. While holding the wheel and other hardware in place, slide the Quick Nut over the shaft while holding the red Quick-Release Levers next to the black, larger wings.

   Holding the red Quick-Release Levers next to the wings lets you quickly slide the Quick Nut into position near the wheel.
8. Release the Quick-Release Levers.
9. Turn the wings to fully tighten the Quick Nut, and thus the wheel, in place.

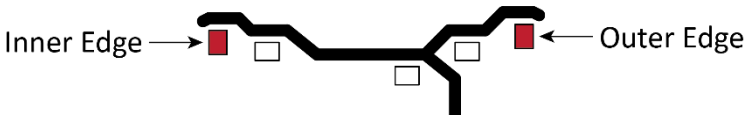
   You may want to spin the wheel slightly as you tighten the Quick Nut; this can help you get a strong, secure fit.

Important: ***Do not*** hammer or hit the Quick Nut to tighten it. You will damage the Quick Nut, which is ***not*** covered under the Warranty.

Dynamic Balancing

Dynamic Balancing evaluates and balances a wheel with weights clipped to both the Inner and Outer Edges.

The Clip-On Weight may be installed on the Inner Edge, the Outer Edge, or both.

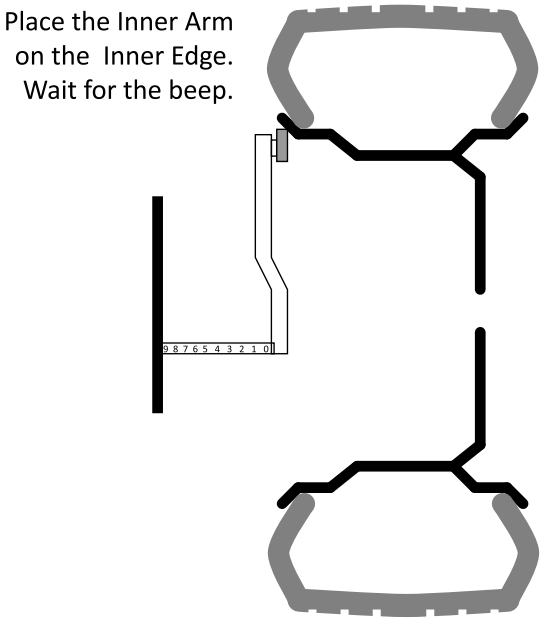


To Balance a wheel using Dynamic Mode:

1. Make sure you are wearing ANSI-approved eye protection: safety glasses or face shield.
2. Visually inspect the Balancer to verify everything is in place. ***The Cover should be up***.
3. Make sure the wheel you want to balance is both clean (remove mud, dirt, grease) and free of any weights that may have been installed previously, then mount it on the Balancer.

   Refer to **Mounting a wheel** for mounting instructions, if needed.
4. Turn the Balancer Off and then back On, to reset it.

   On power up, the software version will appear in the Inner and Outer Windows, all the position indicators will flash, followed by default wheel dimensions.
5. Pull out the Inner Arm and place it against the Inner Edge of the wheel (where the inner weight will be clipped) and hold it there without moving; ***wait for the Balancer to beep***. See figures below.



6. When the Balancer beeps, return the Inner Arm to its rest position.

   The Inner Window shows the Distance from the edge of the Balancer to the wheel's Inner Edge.

   The Inner Window always shows distance in millimeters (mm).
7. Manually enter the Wheel's width.

   If you wish to turn ***off*** the automatic spin feature, press and hold **STOP**, then press **C**. You will then be required to press **START** to spin the wheel.

To turn the Automatic Spin feature back on, repeat the same process.

8. When the Balancer beeps, the wheel will spin to a stop. Return the cover to its rest position.

9. When the wheel stops, observe the values in the Inner and Outer Windows on the Display Panel; these amounts indicate the amount of weight to be applied to each plane to correct the imbalance.

   The measurement units (grams or ounces) is indicated under the Inner and Outer Windows.

   To switch between grams and ounces, press and hold **Stop**, then press **Distance +**.

   The weight value that appears in the Inner Window is to be added to the Inner Edge of the wheel.

   The weight value that appears in the Outer Window is to be added to the Outer Edge of the wheel.

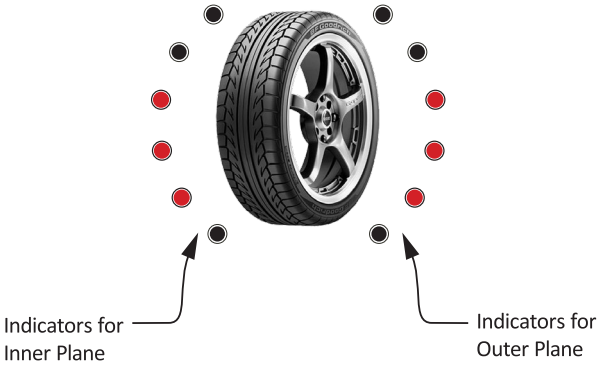
   If either value is over 1 oz / 30 grams, **OPT** appears in the Width Window, meaning that the Optimize Function is available. Refer to **Using the Optimize Function** for more information.

10. Lift the wheel Cover.

11. Turn the wheel slowly to find the best location to put the weight on the Inner Edge (if the Inner Window shows **00**, do not add any weight to the Inner Edge).

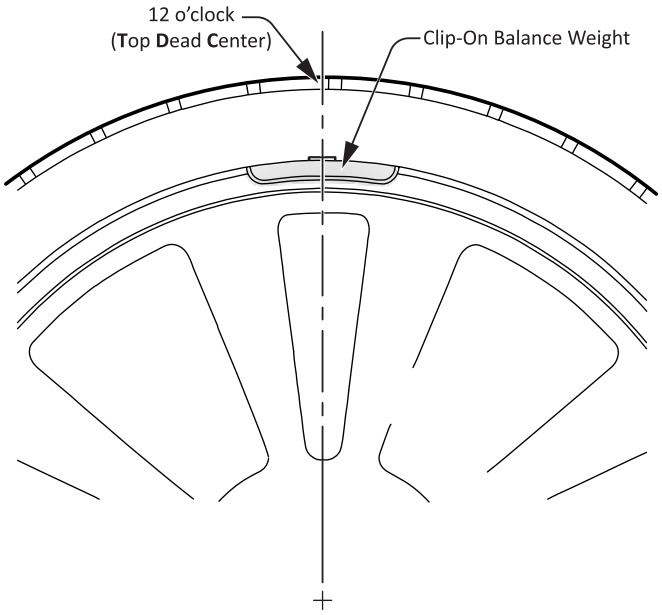
    The Inner Plane indicators illuminate or go out as you move the wheel to find the best location to place the weight. See figure below.

Indicators Around Wheel



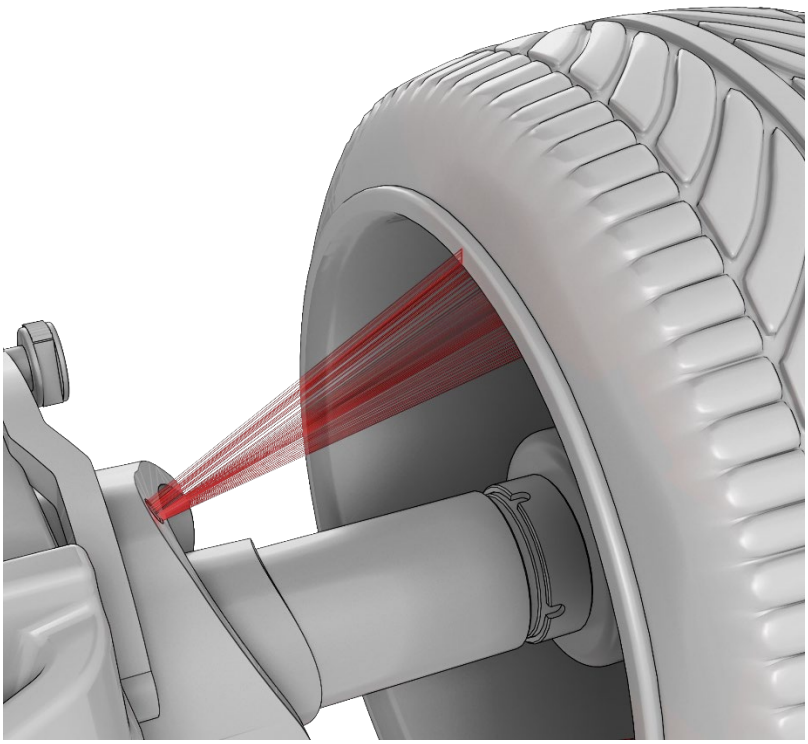
12. When the wheel is in the right location, the Balancer automatically locks the wheel in position and a laser generated line appears at the spot on the wheel where the Balancer has determined additional weight is required.

13. Add the correct amount of clip-on weight centered on the laser line location. Refer to the figure on the next page.



14. Press **Stop** to release the wheel from the automatic lock.
15. Turn the wheel slowly again to find the best location for weight on the Outer Edge (again, assuming it needs weight; if the Outer Window shows **00**, do not add weight to the Outer Edge).
16. Add the correct amount of Clip-On Weight at the 12 o'clock position on the outer rim when the wheel locks and the laser beam appears.
17. Lower the wheel Cover to spin the wheel again.

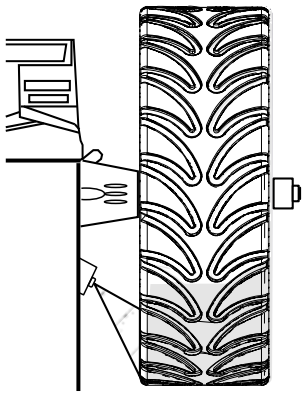
    The wheel is balanced when both the Inner and Outer Windows show **00**.



Lower Laser Instructions

⚠ **WARNING** Do ***not*** look directly into the laser. Doing so may damage your eyes.

Lower Laser Instructions. The Lower Laser Function will identify the 6 o'clock position directly below the shaft. This function is to be used in the ALU modes only.

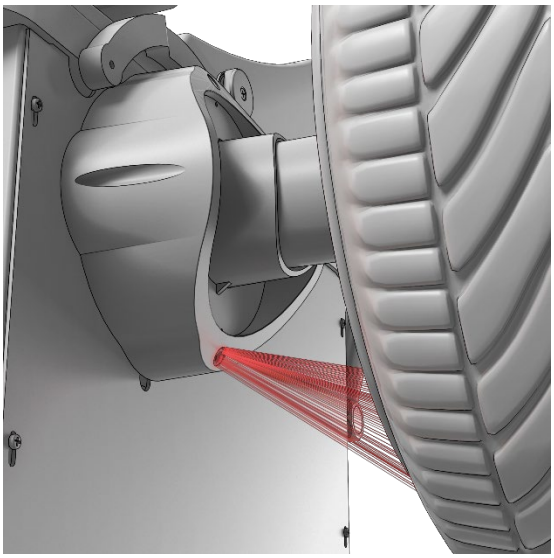


- The Lower Laser function is disabled when shipped from the factory. Follow the process below to enable the Lower Laser function.
- When the Lower Laser Function is activated, and an ALU Mode is selected *and* an imbalance is detected, rotate the wheel slowly until all the position lights illuminate, and the Lower Laser will activate to indicate the 6 o'clock position under the Balancer shaft for the weight placement.

NOTE: When the Lower Laser is enabled, ***all*** balancing modes using stick-on correction weights are attached at the 6 o'clock position only. Clip-on weights are still attached at the typical 12 o'clock Top Dead Center position.

NOTE: When the Lower Laser is enabled the internal measuring gauge cannot be used to apply weights.

To Enable and Disable the Lower Laser:



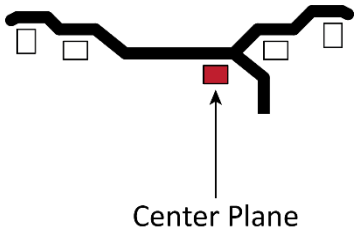
1. Press **C** and **T** simultaneously to enter the Parameter Program.
2. In sequence, press and hold the **Distance +** key then the **−** key and finally the **ALU** key to access the Balancer settings.
3. Press the **Distance +** key five times to access the Lower Laser Function. The Leftmost display will read **LAS** and the right display will read **OFF**.
4. Press the **Width +** key to enable the Lower Laser. The rightmost window will now display **ON**. The Lower Laser is now enabled.
5. To disable the Lower Laser Function, repeat the steps above but change the Lower Laser status in step 4 to Off.

Static Balancing

Static Balancing is typically for older Wheels, vintage custom wheels, and similar. Typically, where the customer does not want weights either visible and/or applied to a chrome or polished surface. Also used when rims measure under 4 in. (10.16 cm) wide and with most motorcycle Wheels.

Note: The Optimize Function is ***not*** available for Static Mode.

If the wheel is out of balance, weight is installed on the Center Plane when using Static Mode.



To Balance a wheel using Static Mode:

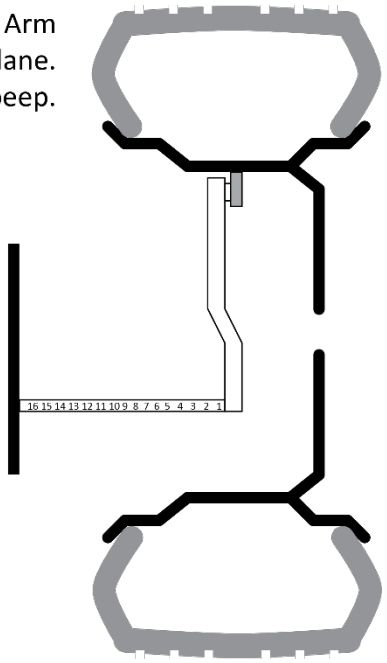
1. Make sure you are wearing ANSI-approved eye protection: safety glasses, face shield, or goggles.
2. Visually inspect the Balancer to verify everything is in place. The wheel Cover should be ***up***.
3. Mount the wheel to balance.

   Refer to **Mounting a wheel** for mounting instructions, if needed.

4. Turn the Balancer Off and then back On, to reset it.
5. In Dynamic Mode measure the distance to the Center Plane. Pull out the Inner Arm and place it on the Center Plane and hold it there; ***wait for the Balancer to beep***. Refer to the figure on the right.
6. When the Balancer beeps, return the Inner Arm to its rest position.
7. On the Control Panel, press the **F** (Function) button until the **STA** (Static) indicator and the Center Plane indicator is lit.
8. Lower the wheel Cover; the wheel spins briefly.
9. Raise the wheel Cover when the wheel stops.

   The Inner Window shows **St,** and the Center Plane indicator is lit. The display shows the weight required to correct the Center Plane.

Place the Inner Arm on the Center Plane. Wait for the beep.



10. Turn the wheel slowly to find the best location to put the weight.
11. When the wheel is in the right location, it automatically locks, and a laser beam appears at the 6 o'clock position. Add the weight, centered on the laser location on the center plane.
12. Lower the Cover to spin the wheel again. The display shows 00 When the wheel is balanced.

Aluminum Alloy Balancing

The following procedure describes the three Aluminum Alloy (ALU) Modes available.

Important: ALU Modes are for balancing Wheels made of aluminum alloy. The weights can be placed in various locations on these Wheels. D*etermine where the weights are to be applied, and then select the appropriate ALU Mode*.

Adhesive Weights are generally used when you are using ALU Modes.

The wheel Data input depends on the ALU Balancing Mode selected.

See **Lower Laser Instructions** to enable the Lower Laser function to indicate the 6 o'clock correction weight location.

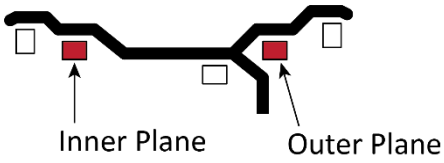
To balance a wheel using an ALU Mode:

1. Make sure you are wearing ANSI-approved eye protection: leather gloves, safety glasses, face shield, or goggles.
2. Visually inspect the Balancer to verify all components are in place. The wheel Cover should be ***up***.
3. Mount the wheel you want to balance.

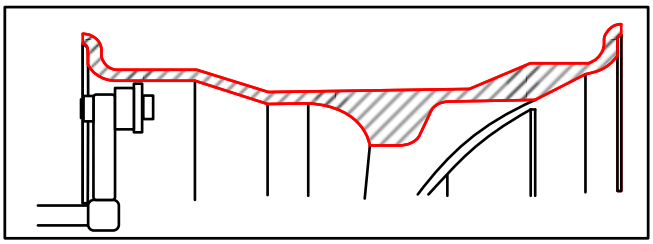
   Refer to **Mounting a wheel** for mounting instructions, if required.
4. Turn the Balancer Off and then back On, to reset.
5. Begin in the Dynamic Mode (**DYN**). The operator will select **ALU1** or **2** within the procedure. The **ALUS** mode is automatically selected.
6. The instructions for all three of the **ALU** Modes are different:

ALU1

ALU1 Mode is used on Aluminum Alloy Wheels when the adhesive weight correction is to be placed on the Inner and Outer Planes.



a. Pull out the Inner Arm, place it on the Inner Plane, and hold it there. See figure to the right.



b. Listen for the beep.

   After the beep, return the Inner Arm to its rest position.

c. **Press** the **ALU** button to select the **ALU1** Mode.

d. Close the Cover. The width data will be entered automatically. The wheel will rotate and stop. *This data may also be entered manually*.

e. Listen for the beep.

f. After the beep and the wheel stops, return the Cover to its open position.

g. The Balancer displays the correction weights for the inner and outer planes shown on the display panel.

h. Spin the wheel by hand slowly until all the indicators are illuminated on either the Outer or Inner Planes. The balancer will automatically lock the wheel position and a laser generated line will indicate the weight location on the wheel.

NOTE: In **ALU1** mode, both Inner and Outer Plane Adhesive Weight locations are at 6 o'clock when the Lower Laser is active.

i. Place the correction Weight on the wheel at the 6 o'clock position indicated by the laser and on the wheel Plane indicated by the **ALU1** mode.

j. Press **STOP** to unlock the wheel.

k. Spin the wheel slowly by hand again until the outside plane indicators are all lit, and the balancer locks the wheel.

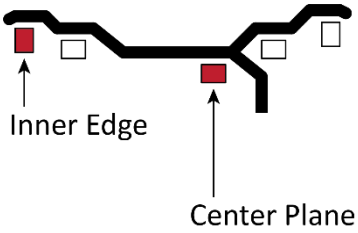
l. Place the weight at the 6 o'clock position indicated by the laser and the plane indicated by the **ALU1** mode.

m. Lower the wheel Cover to spin the wheel again.

The wheel is balanced when both the Inner and Outer Windows show **00**.

ALU2

ALU2 Mode is used on Aluminum Alloy Wheels when the weight correction is to be Clipped to the Inner Edge and a self-adhesive weight applied to the Center Plane.



a. Pull out the Inner Arm, place it on the Inner Edge, and hold it there. See figure below.

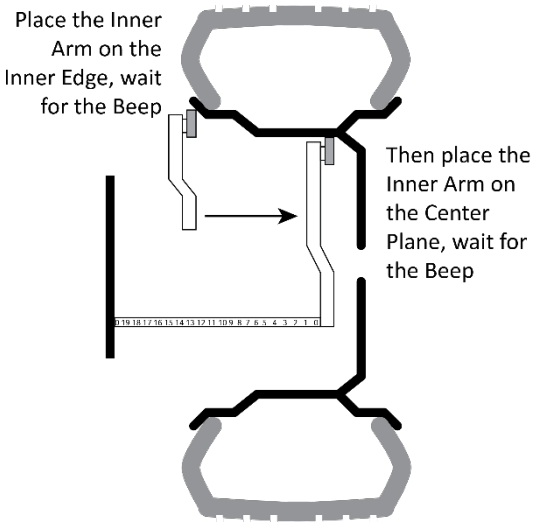
b. Listen for the beep.

c. After the beep, return the Inner Arm to its rest position.

d. Press the **ALU** button until **ALU2** is selected and indicated on the Display Panel.

e. Close the wheel Cover to spin the wheel. The Balancer automatically stops the wheel with correction weight values for the Inner Edge and Center Plane shown on the display panel.

f. In **ALU2** mode, the Inner Edge Clip-On Weight location will be at the 12 o'clock position indicated by the top laser, and the Center Plane Adhesive Weight location will be at the 6 o'clock position indicated by the bottom laser.



g. Spin the wheel by hand slowly until all the indicators are lit on either the Outer Plane or Inner Edge. The balancer will automatically lock the wheel position and a laser generated line will indicate the weight location on the wheel.

h. Place the correction Weight on the wheel at the 6 o'clock position for the Center Plane and 12 o'clock position for the Inner Edge as indicated by the laser.

i. Press STOP to unlock the wheel.

j. Spin the wheel slowly by hand again until the opposite plane indicators are all lit, and the balancer locks the tire.

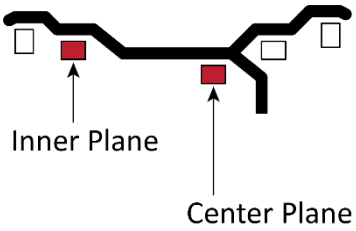
k. Place the weight at the positions indicated by the laser.

l. Lower the wheel Cover to spin the wheel again.

The wheel is balanced when both the Inner and Outer Windows show **00**.

ALUS with Lower Laser

ALUS Mode is used on Aluminum Alloy Wheels where the weights need to be applied on the Inner Plane and the Center Plane.

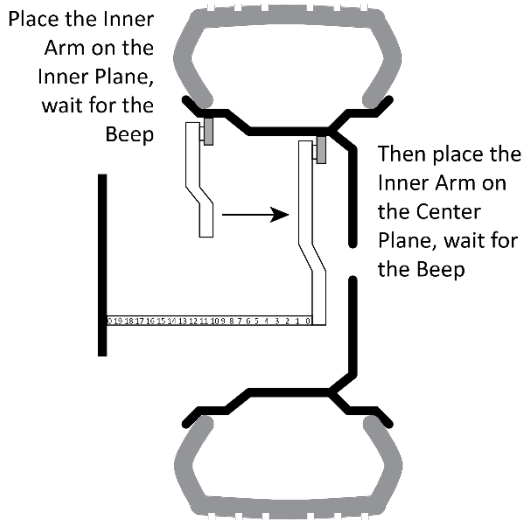


a. Pull out the Inner Arm, place it on the Inner Plane, and hold it there. See figure below.

b. Listen for the beep.

c. After the beep, move the Inner Arm to the Center Plane behind the wheel spokes and hold it there.

Do not return the Inner Arm to its rest position between the two locations.



d. Listen for the beep. After the beep, return the Inner Arm to its rest position.

e. Make sure that **ALUS** is selected (this should occur automatically).

f. If **ALUS** mode is ***not*** automatically selected, restart the procedure.

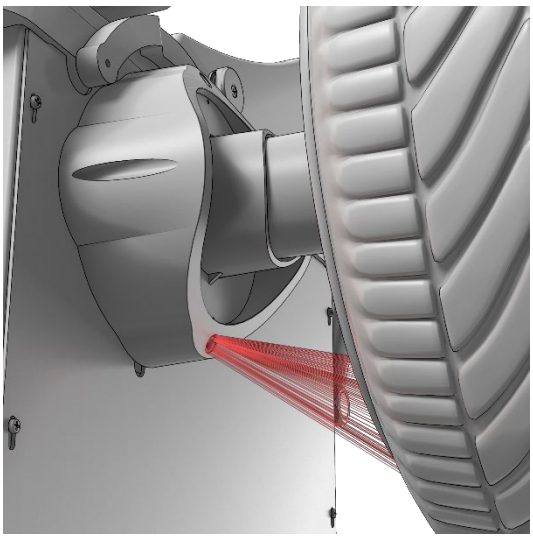
g. Close the wheel Cover to spin the wheel. The Balancer automatically stops the wheel with correction weight indications for the inner and center planes shown on the display panel.

h. Spin the wheel by hand slowly until all the indicators are lit on either the Inner or Center Planes. The balancer will automatically lock the wheel position and a laser generated line will indicate the weight location on the wheel at the 6 o'clock position.

i. Press STOP to unlock the wheel.

j. Spin the wheel slowly by hand again until the center plane indicators are all lit, and the balancer locks the wheel.

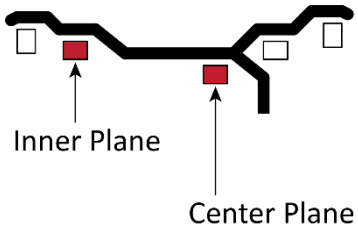
k. Place the weight at the 6 o'clock position indicated by the laser.

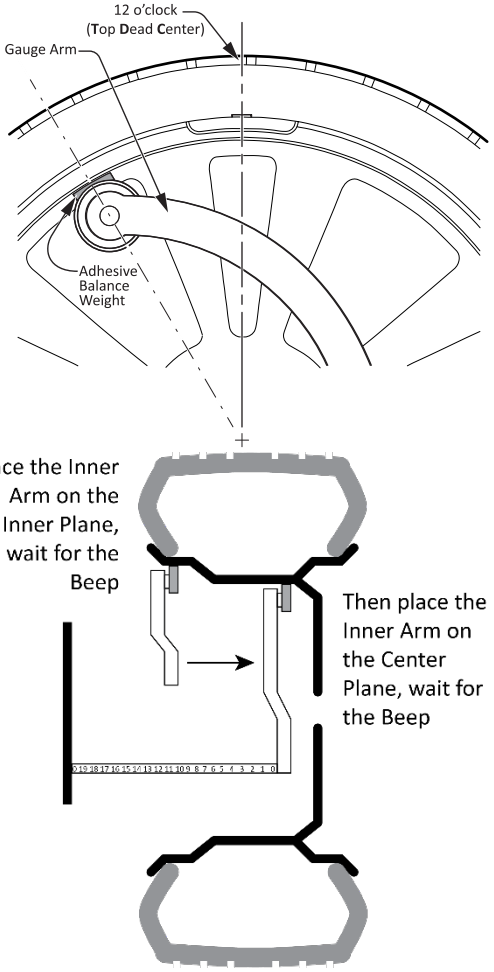


Lower the wheel Cover to spin the wheel again. The wheel is balanced when both the Inner and Outer Windows display **00**.

ALUS without the Laser

ALUS Mode without the Laser uses the Inner Measurement Arm to apply the correction weights on the Inner and Center Plane.





a. Verify the Lower Laser is in the **Off** condition.

b. Pull out the Inner Arm, place it on the Inner Plane, and hold it there. See figure below.

c. Listen for the beep.

d. After the beep, move the Inner Arm to the Center Plane behind the wheel spokes and hold it there.

Do not return the Inner Arm to its rest position between the two locations.

e. Listen for the beep. After the beep, return the Inner Arm to its rest position.

f. Make sure that **ALUS** is selected (this should occur automatically).

g. If **ALUS** mode is ***not*** automatically selected, restart the procedure.

h. Close the wheel Cover to spin the wheel. The Balancer automatically stops the wheel with correction weight indications for the inner and center planes shown on the display panel.

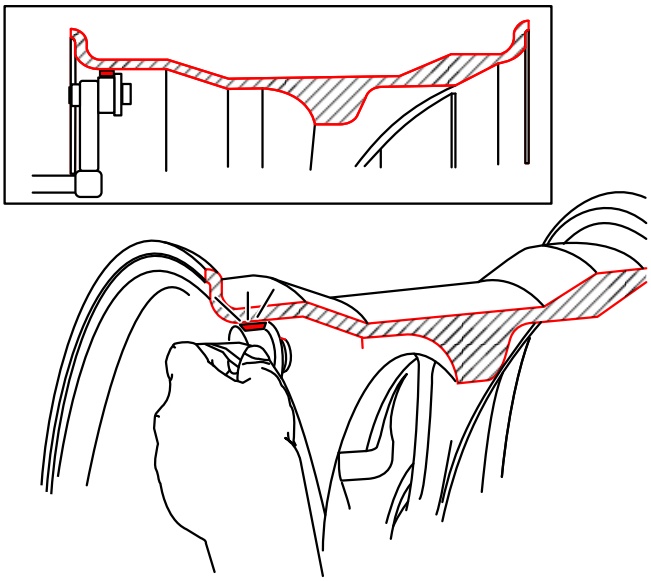
i. Open the wheel Cover and slowly rotate the wheel by hand until all the indicators are lit on either the Inner or Center Planes.

j. Place the correction weight on the Inner Arm Gauge Head.

k. Pull the Inner Arm out until the Gauge Head touches the Inner Plane. When the Center Window displays ☐ **– –** and a beep sounds apply the weight.

l. Return the gauge to its original position.

m. Rotate the wheel until all the inner indicators are lit.

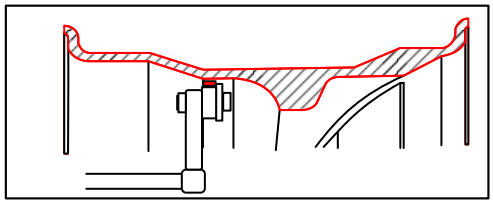


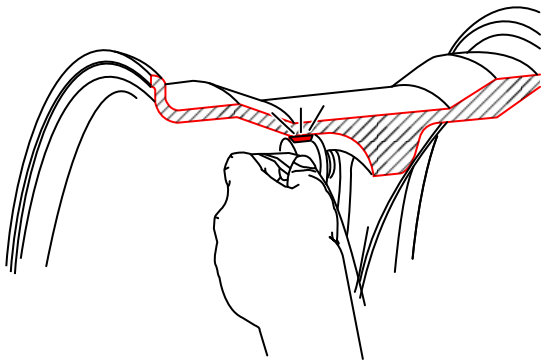
n. Place the correction weight on the Inner Arm Gauge Head and pull the inner Arm out until the Center Window displays – – □.

o. Lift up the Lift Arm Gauge Head and apply the Weight.

p. Return the Inner Arm Gauge to its rest position.

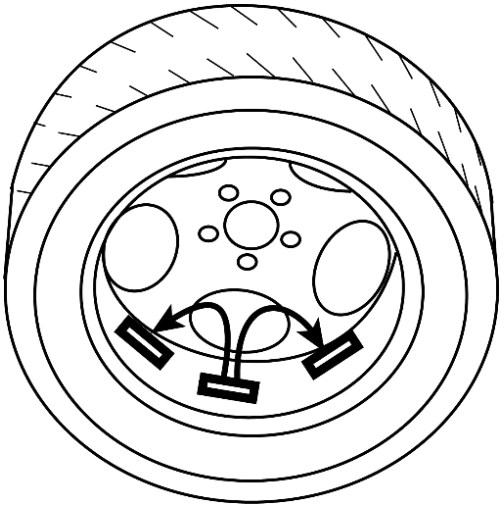
q. Measure the wheel's Balance to verify the correction. Repeat the procedure until both windows display 0 and 0.



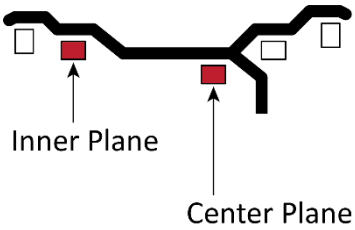


Hidden Weight Balancing

In **ALUS** Mode The Hidden Weight (**HID**) mode allows the operator to hide correction weights behind wheel spokes by dividing the correction weight between two adjacent wheel spokes. See the figure below.



Begin Hidden Weight Balancing in the **ALUS** Mode.

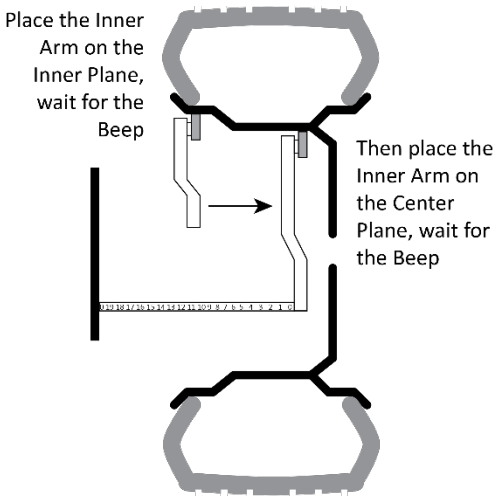


To balance a wheel using Hidden Weight Mode:

1. Make sure you are wearing ANSI-approved eye protection: safety glasses, face shield, or goggles.
2. Visually inspect the Balancer to verify everything is in place. The wheel Cover should be ***up***.
3. Mount the wheel to be balanced.

   Refer to **Mounting a wheel** for mounting instructions, if needed.
4. Turn the Balancer Off and then back On, to reset it.
5. The Balancer display panel should indicate Dynamic Balance (**DYN**) mode.
6. Pull out the Inner Arm, place it on the Inner Plane, and hold it there.
7. Listen for the beep.
8. After the beep, move the Inner Arm to the Center Plane just behind the wheel Spokes and hold it there.

   Do ***not*** return the Inner Arm to its rest location between the two locations. See figure to the right.



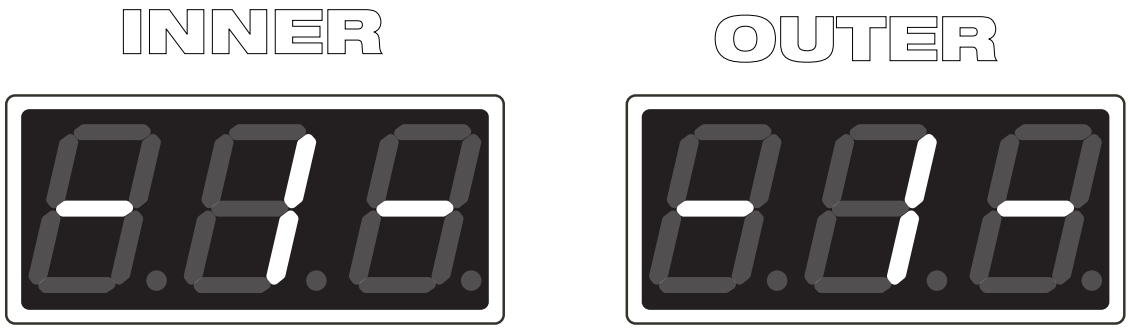
9. Listen for the beep.
10. After the beep, return the Inner Arm to the rest position.
11. Make sure that the **ALUS** mode indicator is lit on the Display Panel (the Balancer should enter this mode automatically when the Inner Arm is returned to its rest position).

    If **ALUS** mode is ***not*** automatically selected, restart the procedure.

    In **ALUS** mode, both Adhesive Weight locations are at 6 o'clock.
12. Lower the wheel Cover; the wheel will spin briefly.
13. Raise the wheel Cover when the wheel stops.

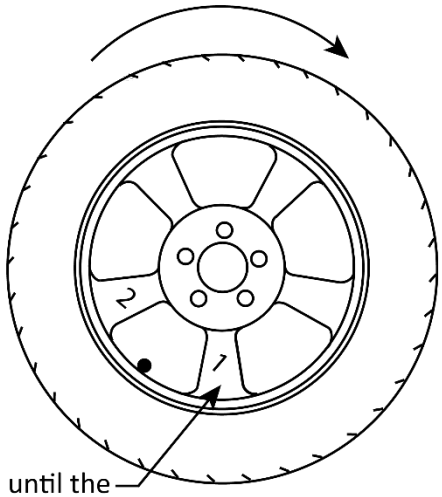
    The Inner and Outer Windows show the weight correction that is required for the Inner and Center Planes in the **ALUS** Mode.
14. Turn the wheel slowly to find the best location to apply the Inner Plane weight. All the indicators on the Inner Plane display will light.

    When the wheel is in the right location, it automatically locks, and a laser indicates the spot the Balancer wants you to add the weight.
15. Press **OPT** + **T** simultaneously. The **HID** indicator should light on the Display.
16. Press **ALU** on the control panel. The Inner and Outer Display Windows should now display **-1-**. See the figure below.



17. Press **Stop** to unlock the wheel.

18. Rotate the wheel to bring the next closest Wheel Spoke to the **right** of the ideal weight location to the 6 o'clock position. Then Press **ALU**. See the figure below. This indicates to the Balancer where the first hidden weight is to be placed.
19. The Inner and Outer Display Windows should now display **-2-**.
20. Rotate the wheel to bring the next closest Wheel Spoke to the **left** of the ideal weight location to the 6 o'clock position. Press **ALU**. See the figure below. This indicates to the Balancer where the second hidden weight is to be placed.

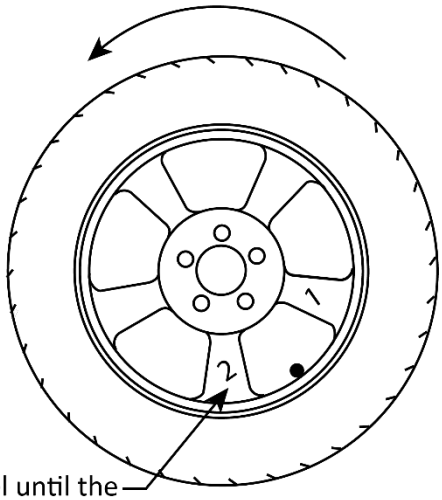


Rotate Wheel until the closest Spoke to the right is at 6 o'clock. Press **ALU**

21. The center Width Display Window should now display **SPD**.
22. Rotate the wheel back toward position 1, until all the indicators light for position **-1-** (to the **right** of the ideal position) and the wheel locks. Apply the correction weight shown in the Outer Display Window for position **-1-** behind and as close to the wheel Spoke as possible. The balancer will split the weight and display the correct weight split for each position.
23. Press **Stop** to unlock the wheel.
24. Rotate the wheel toward position **-2-** (to the **left** of the ideal position) and when all the Outer Plane indicators light and the wheel locks, apply the correction weight shown in the Outer Display window position **-2-** on the Center Plane behind and as close to the wheel Spoke as possible.
25. Lower the wheel Cover to spin the wheel again.

    The wheel is balanced when both the Inner and Outer Windows show **00**.

    Repeat the process until the wheel is balanced to **00**.



Rotate Wheel until the closest Spoke to the left is at 6 o'clock. Press **ALU**

Using the Optimize Function

The Optimize Function helps reduce the imbalance of a problem Wheel that is more than 3 ounces / 30 grams out of balance. You are not ***required*** to use the Optimize Function.

Important: The Optimize Function *does not* bring a problem Wheel to full balance; instead, it *lessens* the imbalance of a wheel that is significantly out of balance. Depending on the

state of the wheel, even if you correctly Optimize a wheel, it may still be more than 1 ounce / 30 grams out of balance when you are done with the Optimize function. In general terms, it can often improve the balance on those problem wheels that come into shops periodically.

When you see **OPT** in the Width Window during a balance, it means the wheel you are balancing is going to be more than 1 ounce (30 grams) out of balance on one or both planes. Often the cure can include checking and or cleaning the rim's bead area for full seating, breaking the bead and re-soaping the tire's bead, and/or breaking the bead and rotating the tire 180 degrees from the valve stem, and then re-inflating the tire. In addition, ensure that the rim is not bent, and the tire is not severely cupped or too old and possibly separating (older used tires), or the tire is not seated completely on the bead due to heavy rust on the rim. Note: If attempts to correct excessive imbalance do not correct the problem – the Wheel Balancer may be showing that the wheel or used tire has an existing problem, beyond balancing.

To Optimize a wheel:

1. When you see **OPT** in the Width Window during a balance, raise the wheel Cover, then rotate the wheel until the indicators next to the Inner Window are all lit.
2. Press the **OPT** button on the Control Panel.

   180 appears on the Lower Window and the **OPT** icon on the Display Panel lights.

   The Balancer is now in Optimize Mode.

   Important: If you use the Balancer to balance a different wheel or turn the Balancer on and off, the Balancer will be taken out of Optimize Mode.
3. Mark the collet, the rim at the collet, the rim at the Tire, and the tire itself.

   Tip Use a mark that can be removed when you are done with the process, but will not come off during the process. Using masking tape generally works, whereas using a pen or pencil usually does not. A pen or pencil mark on tape works the best.
4. Remove the wheel from the Balancer, then use a Tire Changer to take the tire off the wheel, rotate the tire 180°, then put the tire back on the wheel.

   Make sure not to cover or remove the Marks on the wheel and tire.
5. Put the wheel back on the Balancer, making sure to align the marks on the collet, the rim at the collet, and the rim at the tire.

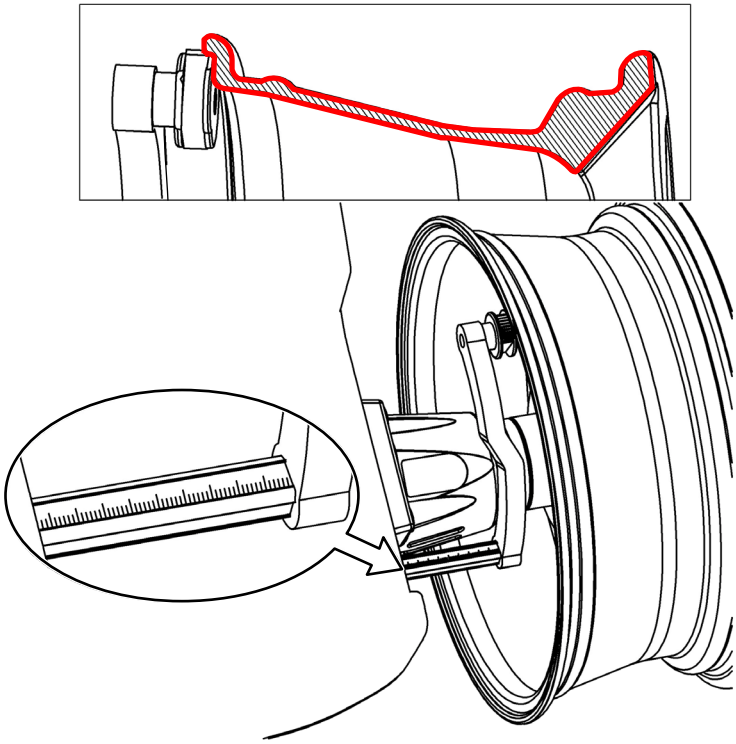
   The mark on the tire itself will be 180° from the other marks.
6. Lower the wheel Cover or press the **Start** button.
7. When the wheel stops, turn the wheel until the Inner Placement Indicators are all lit and the wheel locks in position.
8. Put a Mark at Top Dead Center on the wheel rim.
9. Press **Stop** to release the wheel, then turn the wheel until the Outer Placement Indicators are all lit and the wheel locks in position.
10. Put a mark at Top Dead Center on the part of the tire next to the wheel rim.
11. Remove the wheel from the Balancer, then use a Tire Changer to take the tire off the wheel, rotate the tire so the two Marks you just put on are aligned, and then put the tire back on the wheel.

12. Put the wheel back on the Balancer and restart the Balancing process that was interrupted by using the Optimize Function.

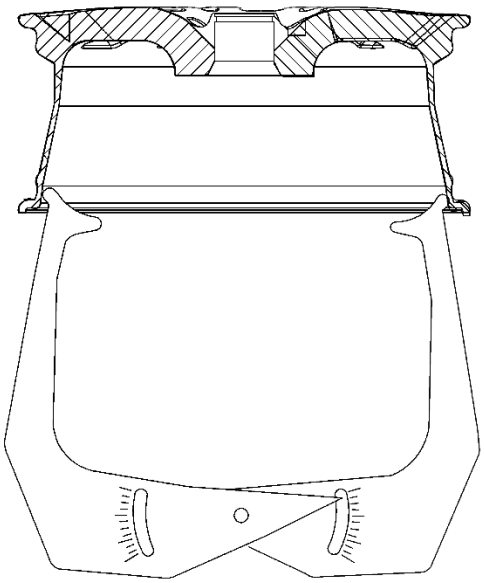
Manual Wheel Data Input

The Truck Wheel Balancer determines measurement data automatically when you use the Inner Arm and the Sonar, but you can enter measurement data manually if necessary:

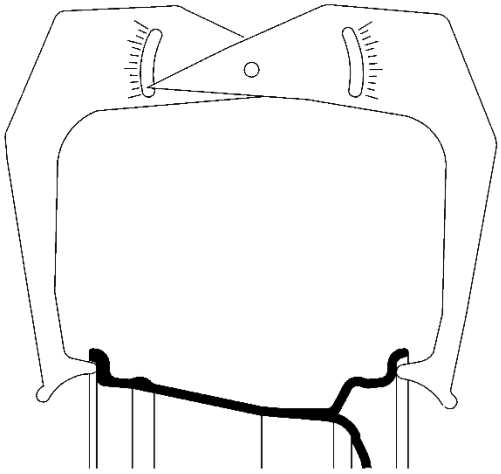
- **Distance**. Pull out the Inner Arm to the Inner Edge of the wheel, note the value on the Distance Ruler, and enter that value using the **Distance +** and **—** buttons on the Control Panel.



- **Diameter**. Read the value from the tire sidewall or measure with the Calipers, then enter that value using the **Diameter +** and **—** buttons on the Control Panel.



- **Width**. Measure with the Calipers, then enter that value using the Width **+** and **—** buttons on the Control Panel.



Switching Between Ounces and Grams

The display on the Inner and Outer Windows for how much weight is needed to balance a wheel can show values in Ounces or Grams. The default is Ounces.

To switch from the current setting to the other setting:

1. Run a balancing session.

   You can use default values; having a wheel on the Balancer is not required.

2. When the wheel stops moving, press the **Stop** button and hold it down, then also press the **+** *and* **–** buttons under **Distance**.

   You will hear a beep; the display has changed from the current setting to the other setting.

3. To tell which setting is active, look at the values in the Inner and Outer Windows:
   - If the values have decimal points, Ounces are active.
   - If the values ***do not*** have decimal points, Grams are active.

Note: The Ounces/Grams setting, whichever setting is active, is saved if you restart the Balancer.

Switching Between Inches and Millimeters for Distance

You cannot do this.

Distance is ***always*** measured in Centimeters because the Ruler on the Inner Arm uses Centimeters. This means you can always use the values you see on the ruler and never have to make a conversion.

Switching Between Inches and Millimeters for Width

When you are entering measurements for a wheel, you can have the values for Wheel Width display in either Inches or Millimeters. The default is Inches.

To switch from Inches and Millimeters for Wheel Width measurements:

1. Turn the Balancer Off and then back On again using the On/Off Switch.

   This sets the wheel Width display setting back to the default, Inches.

2. Specify a Distance value.
3. Press the **+** or **–** button under **Width**.

   -L- appears on the Inner Window and a value appears in the Outer Window.

   The value in the Outer Window does not matter if you are just changing the display setting.

4. Press and hold the **Stop** button, then press the **+** and **–** buttons under **Width**.

   You will hear a beep; the display changes from Inches to Millimeters.

5. To tell which setting is active, look at the values in the Inner and Outer Windows:
   - If the values have decimal points, Inches are active.
   - If the values ***do not*** have decimal points, Millimeters are active.

Note: The Inches/Millimeters setting for Wheel Width is ***not*** saved if you restart the Balancer. Instead, it resets to the default, Inches.

Switching Inches and Millimeters for Diameter

When you are entering measurements for a wheel, you can have the values for Wheel Diameter display in either Inches or Millimeters. The default is Inches.

To switch from Inches and Millimeters for Wheel Width measurements:

1. Turn the Balancer Off and then back On again using the On/Off Switch.

   This sets the wheel Diameter display setting back to the default, Inches.

2. Specify a Distance value and then a Width value.
3. Press the **+** or **–** button under **Diameter**.

   -d- appears on the Inner Window and a value appears in the Outer Window.

   The value in the Outer Window does not matter if you are just changing the setting.

4. Press and hold the **Stop** button, then press the **+** and **–** buttons under **Diameter**.

   You will hear a beep; the display changes from Inches to Millimeters.

5. To tell which setting is active, look at the values in the Inner and Outer Windows:
   - If the values have decimal points, Inches are active.
   - If the values ***do not*** have decimal points, Millimeters are active.

Note: The Inches/Millimeters setting for Wheel Diameter is ***not*** saved if you restart the Balancer. It resets to the default, Inches.

Important: You must know what measurement system is active when you are entering measurements. If you do not, you could enter a value in Inches when the Balancer is set to Millimeters, or vice versa.

Maintenance

Make sure your Truck Wheel Balancer is maintained on a regular basis.

Regular Maintenance

⚠ **WARNING:** Unplug the unit from its power source ***before performing any maintenance!***

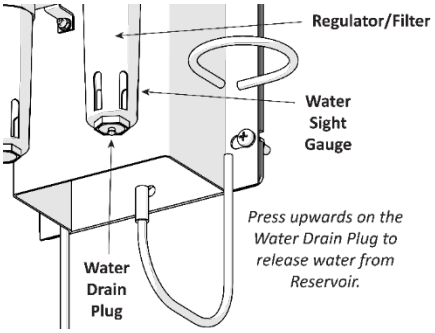
To maintain your Truck Wheel Balancer:

- **Daily**: Make sure the unit is clean and dry before using it.
- **Weekly**: Make sure the Shaft Assembly is correctly oriented with the Shaft Housing and is securely tightened. Check Air / Oil Regulator / Lubricator sight glass; assure correct fluid levels.
- **Monthly**: Make sure *all* Anchor Bolts are tightened and secure.
- **Monthly**: Check all components, making sure they are in good operating condition. If you find a component that is not working correctly, take the unit out of service and refer to **Troubleshooting** for more information.
- **Monthly**: Visually inspect all wiring and electrical components.
- **Every three months**: Check the bolts on the components attached to the rear of the unit to make sure they are tight and secure.
- **Yearly**: Have an Electrician come out and check the electronic components.
- **Yearly**: Take the unit out of service, disconnect the Power Cord from the power source, and then thoroughly check and clean all components.
- **As required**: Cleaning. Before cleaning remove from power. Do ***not*** use harsh cleaners or detergents when cleaning plastic components. A damp cloth and a weak solution of water and dish soap are all that is required.

⚠ **WARNING:** Do not operate your Truck Wheel Balancer if you find issues; instead, take the unit out of service, then contact your dealer, visit **www.bendpak.com/support/**, or call **(805) 933-9970**.

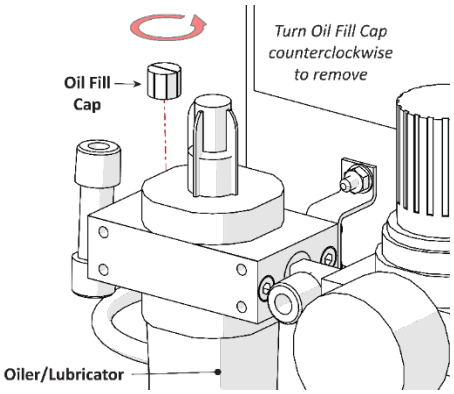
Regulator / Filter Reservoir Maintenance

To drain excess water from the Regulator/Filter Reservoir:



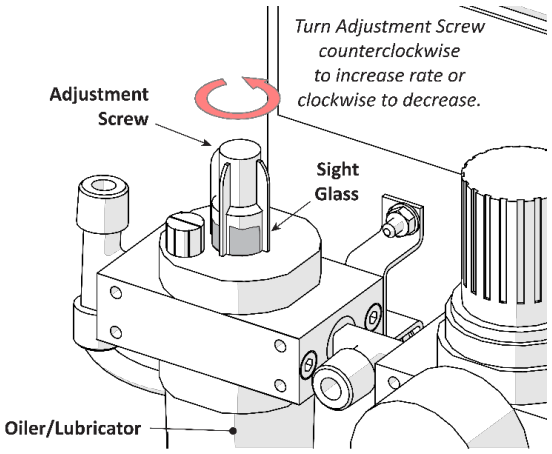
6. Check the Water Sight Gauge to see how much water is currently in the Reservoir.
   ⚠ **CAUTION** If the Reservoir is one quarter (≈25%) or more filled with water, drain it.
7. Disconnect the air source at the Air **In** connector.
8. Press upwards on the Water Drain Plug at the bottom of the Reservoir to drain.
9. Release the Water Drain Plug and re-connect the air source.

To add pneumatic oil to the Oiler/Lubricator:



1. Check the Oil Sight Gauge to see how much pneumatic oil is currently in the reservoir.
   ⚠ **CAUTION** If the reservoir is less than one half (≈50%) filled with pneumatic oil, you need to add oil to it.
2. Release air pressure first. Disconnect the air source at the Air **In** connector.
3. Turn the oil reservoir Oil Fill Cap counterclockwise with a slot screwdriver and pull it off.
4. Add SAE 20W Lubricant Oil to the reservoir.
5. Oiler/Lubricator capacity is 3.3 fl. oz. / 100ml.
6. Put the oil reservoir back in place, turning it clockwise until tight, then re-connect the air source.

To check the oil feed rate on the Oiler/Lubricator:



1. Use a device that uses the WSA-100's lubricated air.
2. Watch the Sight Glass to see how much pneumatic oil comes out. Should produce 1 or 2 drops per minute.

   The rate may vary slightly based on the tool manufacturer's recommendations.
3. If there are not 1 or 2 drops, turn the Adjustment Screw counterclockwise (using a small slot-head screwdriver) to increase the rate or clockwise to decrease the rate. Use the device again to ensure 1 or 2 drops are produced.

Troubleshooting

Issue	Potential Cause	Action to Take
No display at startup	1. Damaged or failed fuse 2. Switch damage	1. Replace fuse 2. Replace Switch
After normal beginning to startup, shaft / spindle doesn't rotate, humming sound, and displays Err1	Motor capacitor failure	Replace 20 mF/400V capacitor
Displays Err1	Power issues	Check power board, computer logic board and photoelectric board
Displays Err2	1. Wheel not correctly clamped 2. Spindle / shaft / screw loose 3. Tire installation is incorrect 4. Motor mis-tensioned 5. No wheel mounted on shaft	1. Check wheel & re-clamp 2. Re-install wire rod 3. Reinstall tires 4. Adjust belt tension 5. Secure wheel and run Balancer
Displays Err3	Tire imbalance beyond scope of balancer	Rotate tire 180° to test; re-calibrate Balancer, if required
Displays Err4	Location sensor error	Adjust position sensor (or replace sensor)
Displays Err5	Wheel Cover is not deployed / lowered	Deploy / lower wheel cover
Displays Err7	Memory data loss	Re-input wheel values; re-calibrate Balancer
Only displays 00-00 non-numeric display	1. Sensor lead broken or bad contact 2. Memory storage loss	1. Reconnect or replace sensor lead 2. Re-input wheel values; re-calibrate Balancer

The registered variation range of each rotation is more than 20g	1. Tire has foreign matter, or the rim mounting surface is deformed 2. Sensor dampness or locking nut is unlocked 3. External power supply voltage too low 4. Low air pressure in tire 5. Balancer not correctly anchored	1. Change tire 2. Re-adjust sensor 3. Use voltage regulator 4. Fill tire to correct pressure 5. Affix Balancer to the level concrete floor with appropriate expansion anchor bolts per installation instructions.
Balancer doesn't brake wheel rotation for longer than 10 seconds	1. Poor grounding of electrical supply 2. Electrical interference	1. Inspect external power lines. 2. Restart Balancer.
Equilibrium values inaccurate; difficult to reach 00	1. Sensor broken 2. Computer malfunction	1. Change sensor. 2. Re-Calibrate Balancer.
Wheel doesn't slow or brake after showing balance values	1. Damaged brake system 2. Outside interference	1. Replace power board. 2. Restart Balancer.
Imbalances between inner and outer greater than 100g	1. Irregular tire formation 2. Wire rod installation error	1. Replace tire. 2. Reinstall wire rod.
Calibration error: Err8	1. Failure to add 200g calibration block 2. Broken pressure sensor lead 3. Computer board failure 4. Power board failure	1. Add the 200g lead block. 2. Check pressure sensor lead and reconnect. 3. Swap out computer board. 4. Replace power board.

If you continue to have problems with your Spray-Wash Cabinet, visit **www.bendpak.com/support/** or call **Ranger Products at (805) 933-9970**, then follow the prompts.

Restoring System Default Parameter Values

Use the following procedure to reset the factory parameter defaults on the Balancer. A label on the inside of the balancer includes the Balancer default parameters.

1. Press and hold the **C** and **T** keys simultaneously. The display will indicate **CAL CAL CAL** and the indicator lights will flash. Release the keys once the indicators stop flashing.
2. In sequence, press the distance key **+**, **–**, and then **ALU**. The display will indicate **dF 124**.
3. Set the parameter values. The Outer Display Window indicates the Machine Default value. The Inner Display Window indicates the actual machine value.

Function	**Key**
Change parameter value	Width Key **+ –**
Move to next parameter	Distance Key **+**

Parameter	**Inner Display**	**Outer Display**	**Definition**
Grams remaining	rE	05	Set to suppress display of remaining grams
External gauge switch	Aut	on or oFF	Set external gauge on or off
Internal gauge compensation	Da-1	000	Adjust the internal gauge compensation value.
External gauge compensation	Db-1	000	Adjust the external gauge compensation value
Beeper switch	Bee	0ff	Beeper switch status
Lower Laser Guide function	LAS	ON	Lower Laser guidance function is on.

System Self-Test

1. Clean the Balancer Shaft and Flange. Mount an undamaged, clean, steel Wheel 20 in. to 22 in. on the Balancer Shaft.
2. Press the **T** key. The indicator lights flash one by one from left to right. After the indicator lights are tested the display will show **POS 0**.
3. Slowly rotate the Wheel by hand. The indicators will flash and the right hand display will change from 0 to 127.

   NOTE: The values listed below are for reference only. The actual machine value will vary on each machine and wheel. The purpose is to verify that the values change as the wheel rotates.

4. Press the ALU key to display the horizontal reference pressure. **Inn 445**
5. Press the ALU key to display the vertical reference pressure. **OUT 530**
6. Press the ALU key to display the distance potentiometer reference value. **dis 40**
7. Press the ALU key to display the diameter potentiometer reference value. **dia 235**
8. Press the ALU key to display the width potentiometer reference value. **Iar 0**

System Self Calibration

The Dual-Plane Self-Calibration Procedure ensures the Balancer is producing accurate readings by aligning the software with the existing spindle positions and hardware on the Balancer. Replacement of the computer board or the pressure sensor requires running this procedure.

Before performing the Self-Calibration Procedure, verify the Balancer is anchored to the floor and that the shaft and centering cones or collets are clean and undamaged. Dirt or damage can cause inaccurate readings.

Important: Pay close attention to this procedure. If not done correctly, the Balancer will not produce accurate readings, leading to Wheels not being balanced correctly.

Important: A clean, steel, undamaged Wheel 20 in. to 22 in. is required for this procedure. Do **not** use a Trailer Wheel to perform this calibration. Trailer Wheels are too narrow.

1. Mount a steel wheel on the Balancer Spindle.
2. Press and hold the **C** key and **T** keys at the same time. The display panel should display CAL CAL CAL and the indicator lights will all flash. Release the keys after all the indicators stay in the on condition.
3. Press the **START** key to start the measurement. The display should read **200** and **ADD**.
4. Add a clip-on 200g weight to the inner rim of the wheel.
5. Press the **START** key to begin the measurement. The display should read **ADD** and **200**.
6. Add a clip on 200g weight to the outer rim of the wheel.
7. Press the **START** key to begin the measurement. The display should now read **END** and **CAL**.
8. Press **START** key to begin the measurement and verify the results.

System Self Calibration Results:

Display Reads	**00** and **200** ±4g allowed discrepancy.
Weight Position	The Inner and Outer indicators are all lit, the 200g weight is directly below the shaft and a discrepancy of ±4° is allowed.

Calibrating the Inner Arm

Perform this procedure ***without*** a Wheel mounted.

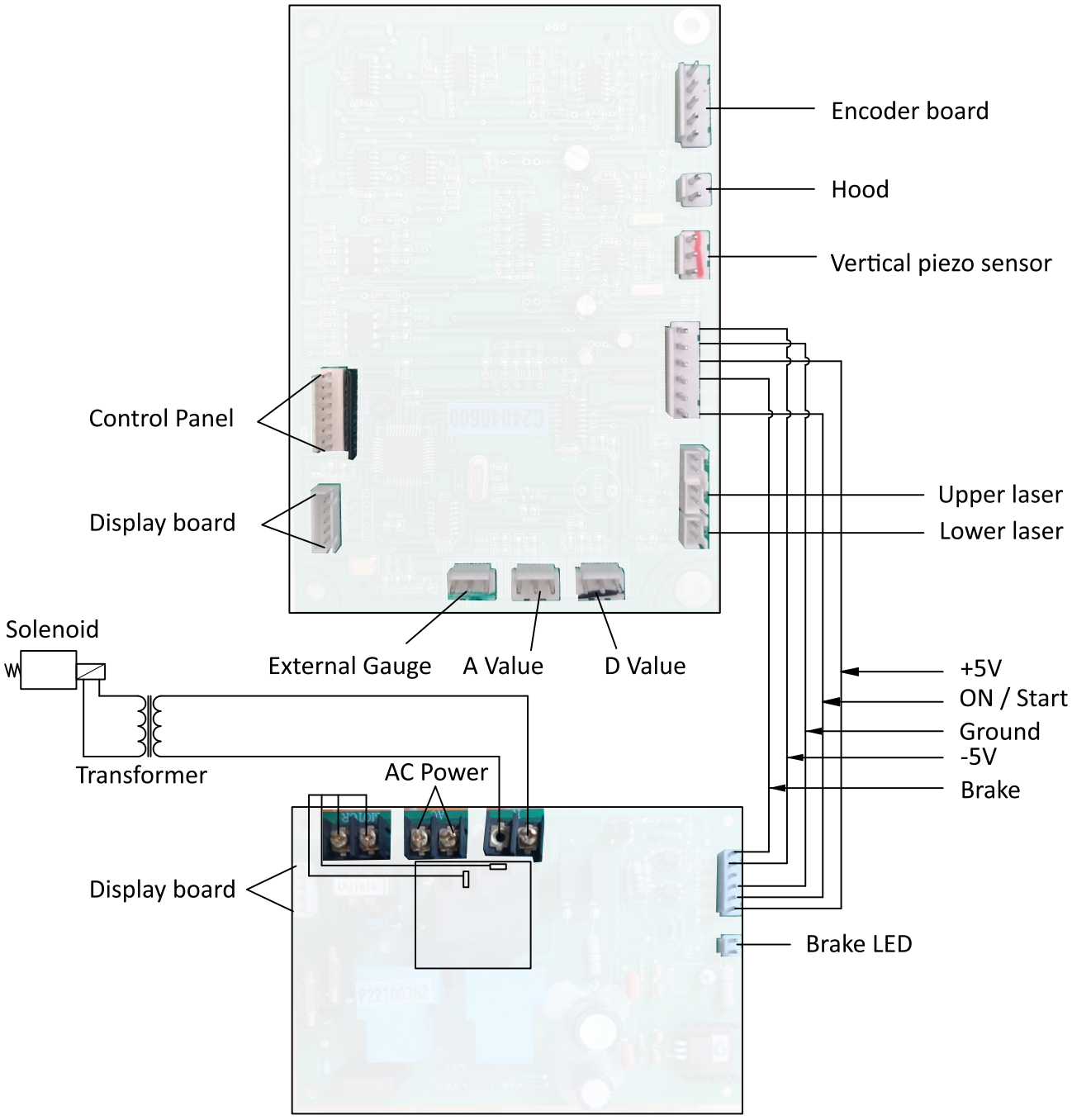
1. The Shaft Flange and Inner Ruler should be clean.
2. Verify the Inner Arm is in the home “0” position.
3. Press **STOP** and **<5g** key together to enter Calibration Mode.
4. **CAL** and **100** should appear on the display.
5. Pull out the Inner Ruler to 100mm and hold it there while pushing **ALU**.
6. **CAL** and **100** should appear on the display.
7. Pull the ruler out to 300 mm and hold it there. Rest the head against the shaft flange, then press **ALU**.
8. **CAL 22.5** should appear on the display.
9. Mount a 22.5 in. (300 mm) wheel, pull out the inner arm to rest on rim edge, press **ALU** twice to confirm.

Inner Arm Calibration Results:

Display Reads	**000 000 000** Indicates calibration successful.
Display Reads	**CAL** and **100** Indicates recalibration is required.

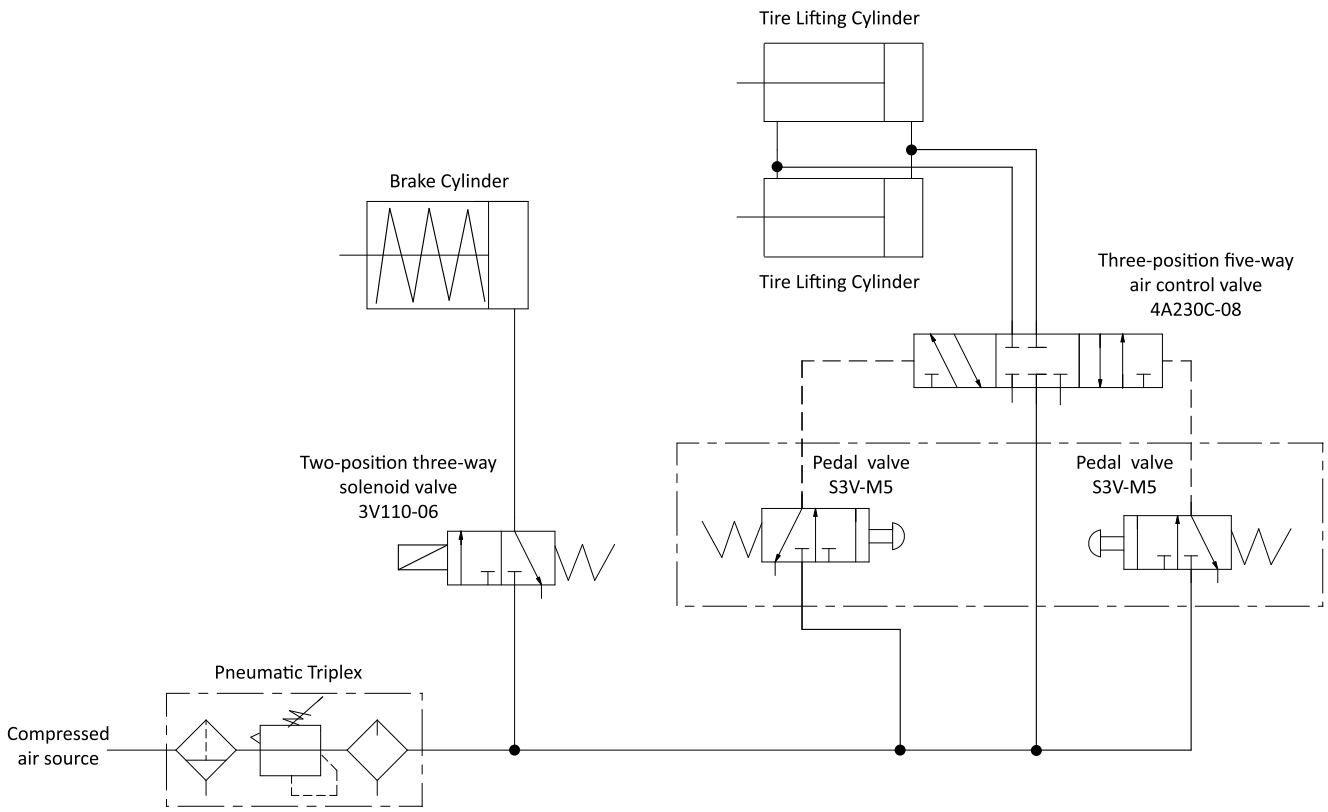
Wiring & Pneumatic Diagrams

Wiring Diagram

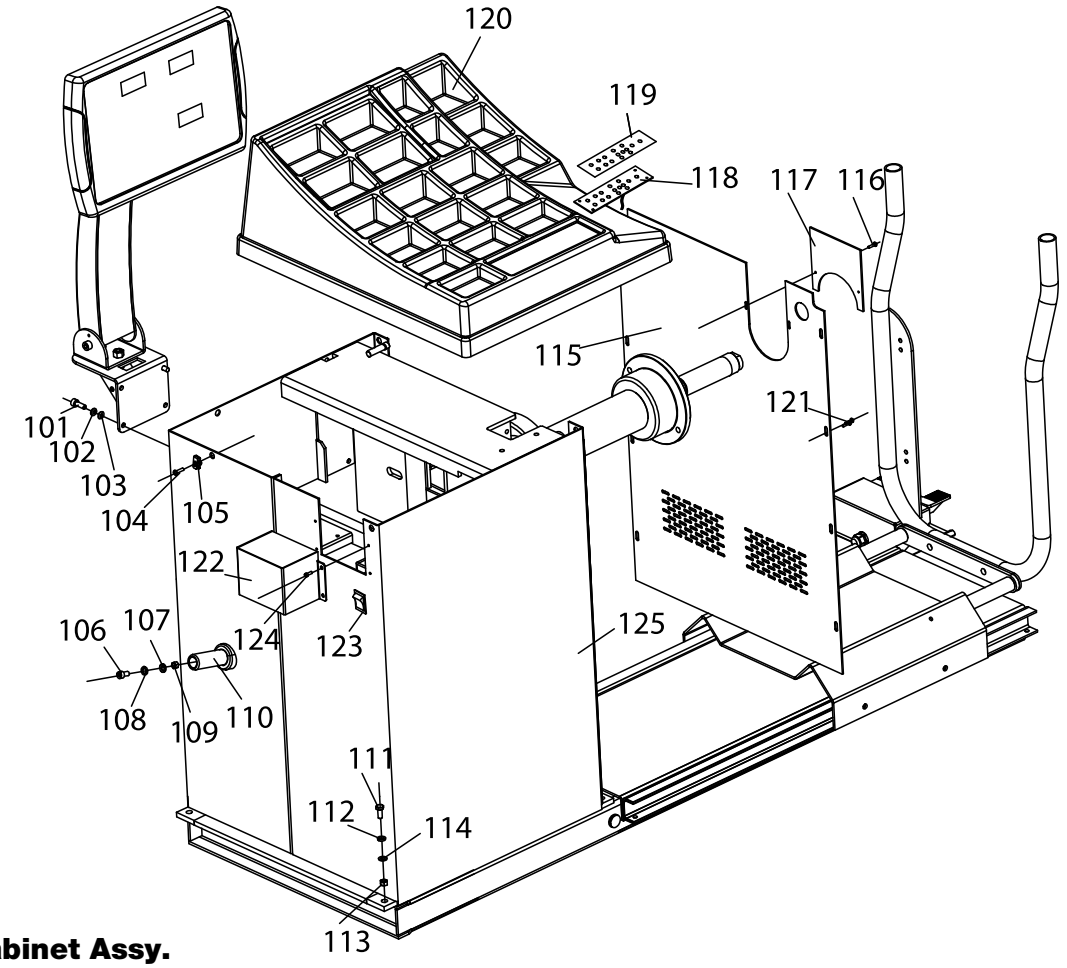


Pneumatic Cable Routing Diagram

Pneumatic Hose Routing Diagram for RB30T Truck Wheel Balancer

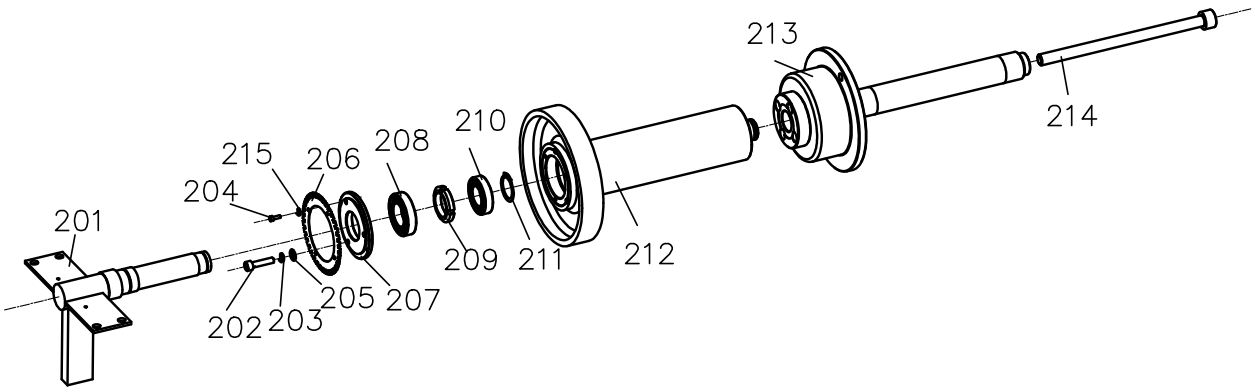


Parts



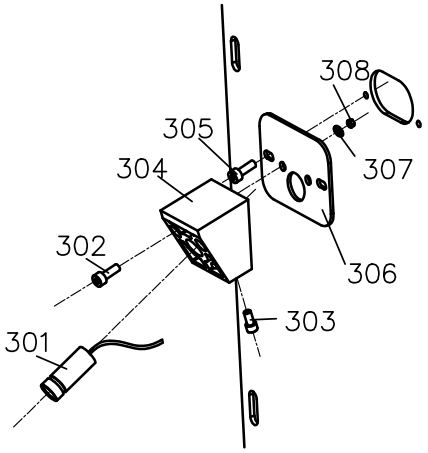
Cabinet Assy.

#	Part Number	Description
101	5327870	SHCS M8X20
102	5545340	Washer; Ø8 Spring
103	5545340	Washer; 8mm; Flat
104		Cross recessed large flat head screw M6X20
105		B-type spring nut M6
106	5400959	SHCS M6X30
107		Washer; Ø6 Spring
108	5400913	Washer; 6mm; Flat
109		Nut M6
110		Tool handle:RB30T
111	5327729	HHB M10X30
112	5400913	Washer; Ø10 Spring
113		Nut M10
114	5328287	Washer:10mm:Flat
115		Welding components for baffle assembly
116		Cross recessed large flat head screw(black) M4X8
117		Small baffle:RB30T
118	5328422	Key plate:RB30T
119		Key facial mask:RB30T
120		Weight Tray; RB30T
121		Cross recessed large flat head screw(black) M5X12
122		Small box assembly of welds
123	5525251	Boat switch
124	5328284	SHCS M4X8
125		Chassis Body; RB30T



Shaft Assy.

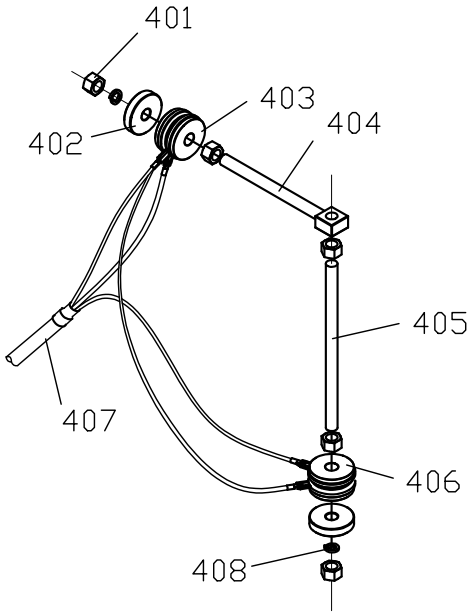
#	Part Number	Description
201		Deformable beam
202	5400957	SHCS M6X20
203		Washer: Ø6 Spring
204		SHCS M4X12
205	5400913	Washer, 6mm, Flat
206		Photoelectric tooth
207		Bearing end cover
208		Bearing; 6007
209		Nut M35X1.5
210		Bearing; 6006
211		Snap Ring 30mm
212		Bushing components
213		Thread Shaft/Spindle
214		SHCS M16X330
215		Washer: Ø4 Spring



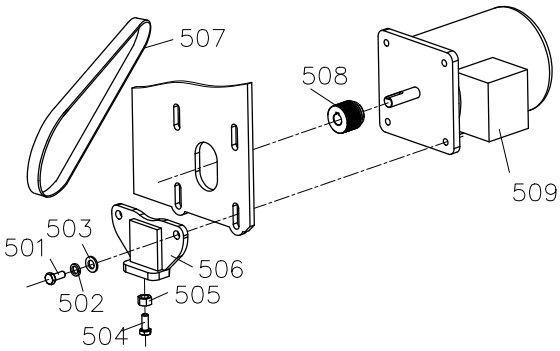
Laser Assy.

#	Part Number	Description
301	5328483	Laser
302		SHCS M4x20
303		SHCS M4x4
304		Laser Support; M4 x M5 Threaded
305		Cross recessed large flat head screw M4X8
306		Laser Support Plate
307		Washer; 4mm
308		Nut M4

Sensor Assy.



#	Part Number	Description
401		Nut M12
402		Pizo Sensor Pad
403		Large flat sensor (horizontal)
404		New Pizo Horizontal Shaft; RB30T
405		Fully threaded rod
406		Large flat sensor (vertical)
407		Sensor line
408		Washer: Ø12 Spring

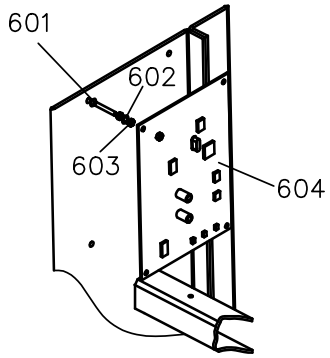


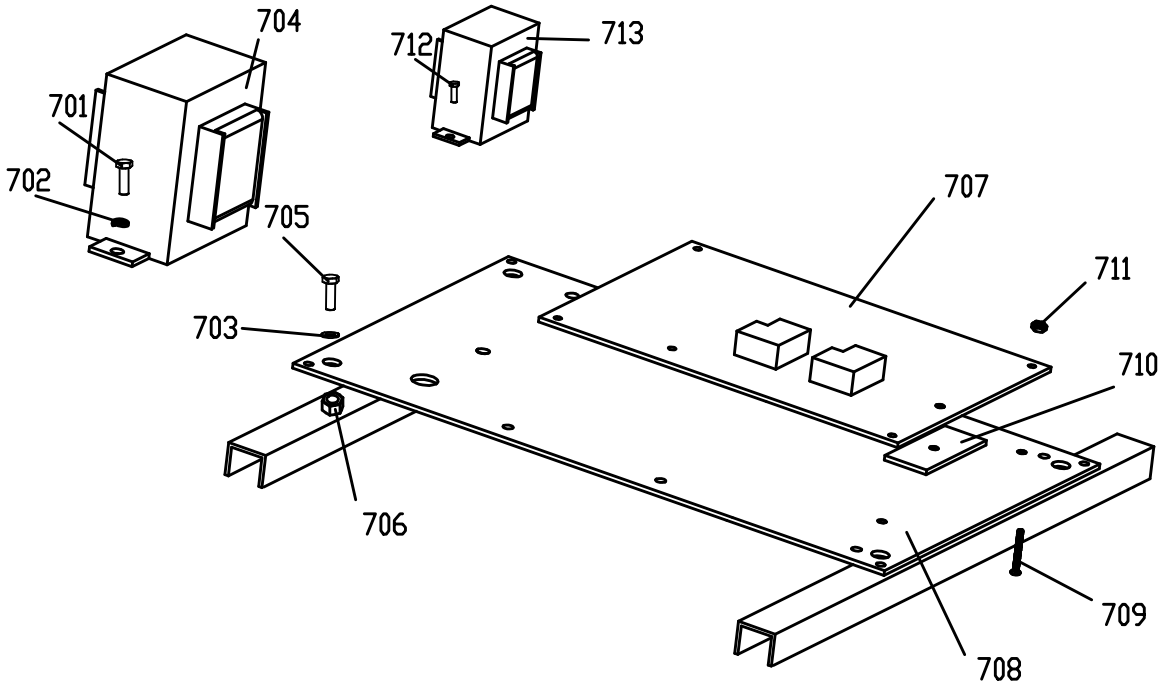
Motor Assy.

#	Part Number	Description
501		HHB M10X40
502		Washer Ø10 Spring
503		Washer:10mm: Flat
504		HHB M10X75
505		Nut M10
506		Adjustment plate assembly welding
507		Motor Belt
508		Motor Pully; RB30T
509		R90 Large Motor

Computer Board

#	Part Number	Description
601		Cross recessed Flat head screw M3X25
602		Washer; Ø3 Spring
603		Nut M3
604		Computer Board(R90): RB30T



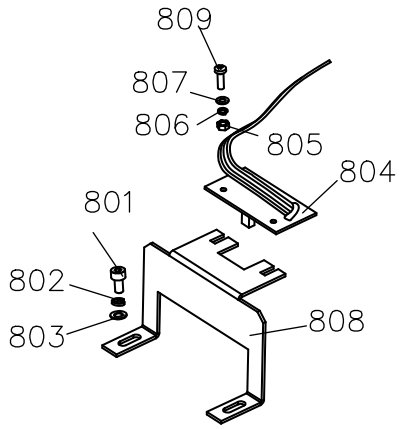


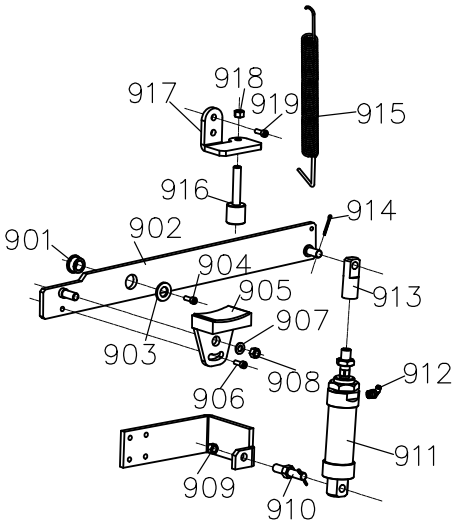
Power Board

#	Part Number	Description
701		HHB M5X20
702		Washer; ϕ5 Spring
703	5400913	Washer:6mm: Flat
704		Transformer
705		HHB M6X16
706		Nut M8
707		Power Board(380V); RB30T
708		power board support
709		Cross recessed flat head screw M3X25
710		Radiator
711		Nut M3
712		Cross recessed pan head screw M4X8
713		Transformer

Encoder Board

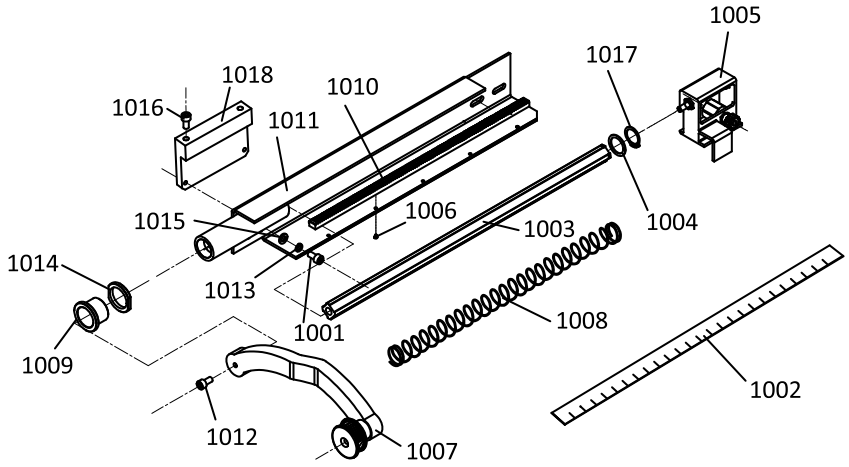
#	Part Number	Description
701	5328284	SHCS M4X8
702		Washer; 4mm; spring
703		Washer; 4mm; Flat
704		Encoder Board
705		Nut M3
706		Washer; 3mm; spring
707		Washer; 3mm; Flat
708		Encoder Bracket; RB30T
709		Cross recessed pan head screw M3X10





Brake Assy.

#	Part Number	Description
901		Lever sleeve
902		Brake lever assembly melding
903		Washer;10mm; Flat
904	5400942	SHCS M10X25
905		Brake block assembly
906	5327730	SHCS M6X12
907	5545340	Washer;8mm; Flat
908		Nut M8
909		Nut M8
910		Lower shaft of cylinder
911		Brake Air Cylinder
912		Fitting; M4 x 1/8″ CTF
913		Cylinder receiver
914		Cotter pin; 2x20
915		Hand cranked large flat tension spring
916		Cushion
917		Limit stop
918		Nut M8
919	5327730	SHCS M6X16

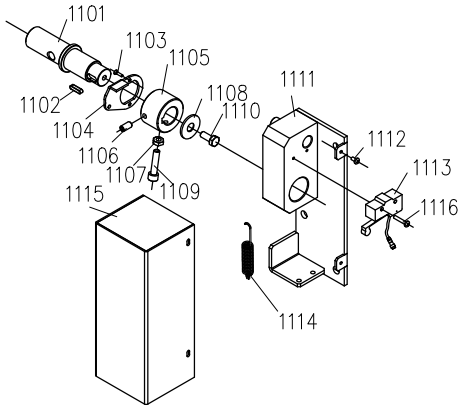


Distance Arm Assy.

#	Part Number	Description
1001	5327730	SHCS M6X16
1002		Sretching rod
1003		Guide rod assemly
1004		Washer
1005		Slide assembly
1006		Cross recessed self-tapping screws ST2.9X6.5
1007		Pulling ruler head bending rod assembly
1008		R90 Large flat ruler spring
1009		Nut sleeve(short)
1010		Rack
1011		Assembly welding of ruler seat
1012	5327730	SHCS M6X16
1013		Washer; 6mm split lock
1014		Nut
1015	5400913	Washer;6mm; Flat
1016	5327870	SHCS M8X20
1017		Snap Ring 20mm
1018		Inner measuring base

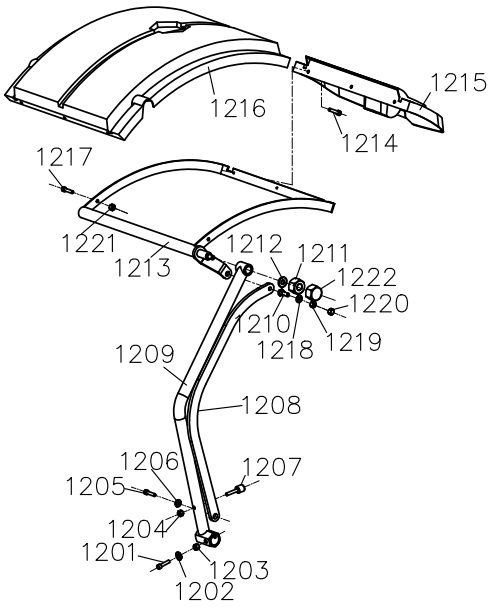
Hood Mounting Assy.

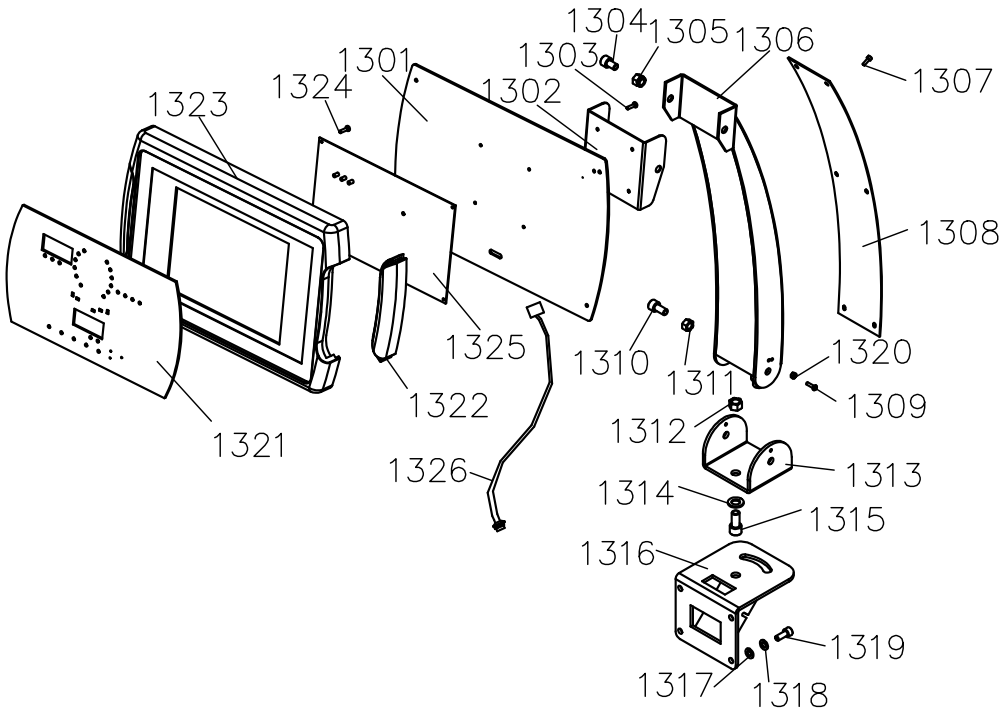
#	Part Number	Description
1101		Backpack axle
1102		Plain flat key 8X7X18
1103		Cross recessed flat head screw M5X10
1104		Switch board
1105		Backpack shaft sleeve
1106		SHCS M8X8
1107		Nut M8
1108		Extra-large washer 8mm
1109	5327883	SHCS M8X45
1110		HHB M8×30 (All thread)
1111		Backpack seat
1112		Cross recessed pan head screw M4X8
1113	5327932	Hood Switch; RB30T
1114		Backpack spring
1115		Backpack cover
1116		Cross recessed pan head screw M4X30



Hood/Hood Support Assy.

#	Part Number	Description
1201		SHCS M10X50
1202		Washer;10mm; Flat
1203		Hexagonal locking nuts with nonmetallic inserts M10
1204		Nut M8
1205		SHCS M8X12
1206	5545340	Washer; 8mm; Flat
1207		Cushion
1208		Drawbar
1209		Support rod assembly welding parts
1210		Connecting screw
1211		Hexagonal locking nuts with nonmetallic inserts M12
1212		Washer;10mm; Flat
1213		Support assembly welding
1214	5327730	SHCS M6X16
1215		Lower Hood Bracket; RB30T
1216		Upper Hood Bracket; RB30T
1217	5400957	SHCS M6X20
1218		Washer; 10mm; Flat
1219		Nut M10
1220		Nut protective cap(black) M10
1221		Nut M6
1222		Nut protective cap(black) M12



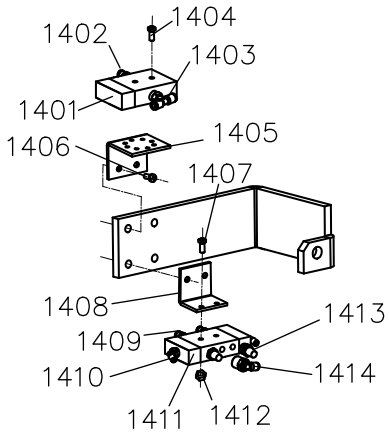


Display Assy.

#	Part Number	Description
1301		Slide Plate; RB30T
1302		Display connection board
1303		Cross recessed pan head screw M4X16
1304		SHCS M8X20
1305		Nonmetallic insert nuts M10
1306		Welding components for bracket assembly
1307		SHCS M4X12
1308		Rear cover
1309		SHCS M4X20
1310		SHCS M10X20
1311		Hexagonal locking nuts with nonmetallic inserts M10
1312		Hexagonal locking nuts with nonmetallic inserts M12
1313		Transposition
1314		Washer; 12mm; Flat
1315		SHCS M12X30
1316		Connect Plate Weldment; RB30T
1317	5545340	Washer; 8mm; Flat
1318		Washer; Ø8 Spring
1319	5327870	SHCS M8X20
1320		Nut M4
1321		Panel
1322		Display mask adhesive block
1323		Display Mask
1324		Cross recessed half round head self-tapping screws ST2.9X9.5
1325		Display panel
1326		Display board wiring

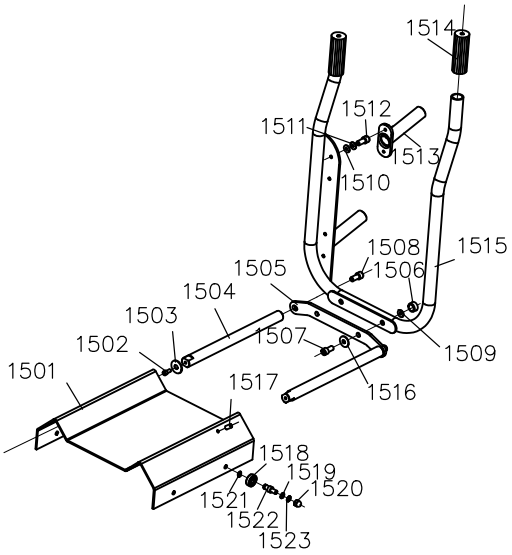
Foot Pedal Valves

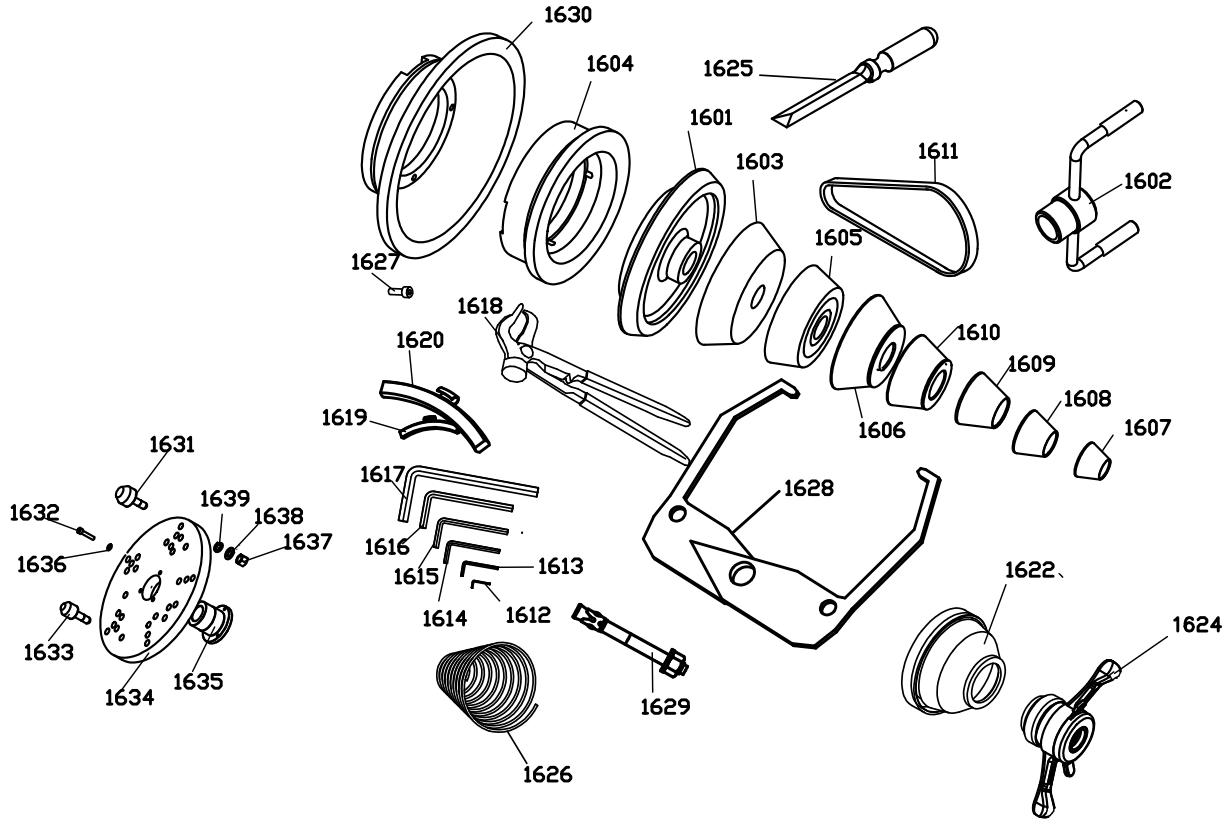
#	Part Number	Description
1401		Slide Plate; RB30T
1402		Display connection board
1403		Cross recessed pan head screw M4X16
1404		SHCS M8X20
1405		Nonmetallic insert nuts M10
1406	5327730	Welding components for bracket assembly
1407		SHCS M4X12
1408		Rear cover
1409		SHCS M4X20
1410	5530012	SHCS M10X20
1411		Hexagonal locking nuts with nonmetallic inserts M10
1412		Hexagonal locking nuts with nonmetallic inserts M12
1413		Transposition
1414		Washer; 12mm; Flat



Wheel Shuttle

#	Part Number	Description
1501		Lifter Plate Weldment; RB30T
1502	5400966	SHCS M8X20
1503		Extra-large washer :8mm
1504		Push-pull axis
1505		Push-pull shaft connecting plte
1506		Nut protective cap
1507		SHCS M10X55
1508	5530061	SHCS M12X25
1509		Nut M12
1510		Nut M6
1511	5400913	Washer; 6mm; Flat
1512	5403327	SHCS M6X25
1513		Tool handle
1514		Up/Down Air Valve Cover; RB30T
1515		Handle assembly welding
1516	5328287	Washer; 10mm; Flat
1517		SHCS M8X10
1518		Bearing; 6301
1519	5328287	Washer; 10mm; Flat
1520		Cap Nut M10
1521		Snap Ring 20mm
1522		Brake Pivot Pin; RB30T
1523		Washer; Ø10 Spring



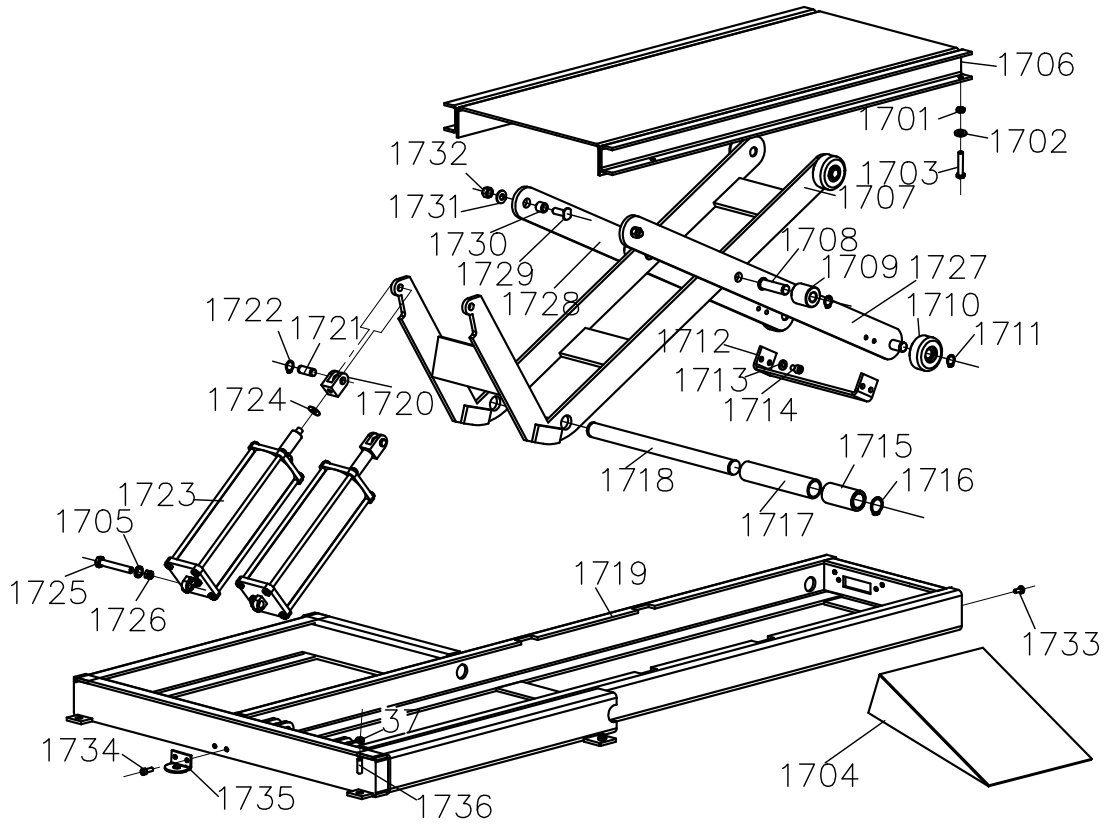


Accessories

#	Part Number	Description
1601		Truck Spacer Cone (40mm); RB30T
1602		Wheel Lock Kit Weldment; RB30T
1603		165-215mm CONE; RB30T(40mm)
1604		Spacer Ring #2; RB30T
1605		140-171mm CONE; RB30T(40mm)
1606		98-150mm CONE; RB30T(40mm)
1607		CONE; RB30T(40mm)
1608		Jaw Chuck Cone#2; RB30T
1609		Jaw Chuck Cone#3; RB30T
1610		Jaw Chuck Cone#4; RB30T
1611		Motor Belt
1612		Allen Wrench; 3mm
1613		Allen Wrench; 5mm
1614		Allen Wrench; 6mm
1615		Allen Wrench; 8mm
1616		Allen Wrench; 10mm
1617		Allen Wrench; 16mm
1618	5346425	Weight Pliers
1619		100G Calibration Weight
1620		200G Calibration Weight
1621		Quick nut 40mm
1622		Reverse bowl rubber ring
1623		Reverse bowl
1624		Small Reverse bowl
1625	5328286	Black lead block shovel

Accessories Cont.

#	Part Number	Description
1626		Taper spring
1627		SHCS M10X20
1628	5346002	Calipers
1629		Machine expansion bolts
1630		Spacer Ring #1 ; RB30T
1631		Position shaft
1632		SHCS M8X40
1633		Position shaft2
1633		Position plate3
1634		Plate core
1635		Washer; Ø8 flat
1636	5545340	Nut M16
1637		Washer; Ø16 flat
1638		Washer; Ø16 Spring
1639		Truck Spacer Cone (40mm); RB30T

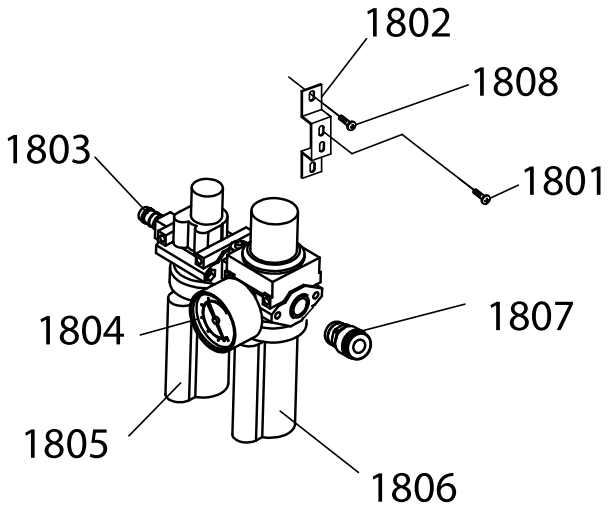


Wheel Lift Assy.

#	Part Number	Description
1701		Nut M12
1702	5545340	Washer; 8mm Flat
1703		HHB M8×25 (All thread)
1704		Bridge assembly welding
1705	5328287	Washer; 10mm Flat
1706		Lifter Upper Plate; RB30T
1707		Lifter Bracket; RB30T
1708		Lifter Brackets Cross Connecting Shaft; RB30T
1709		Tire Lift Bushing; RB30T
1710		Big wheel
1711		Snap Ring16mm
1712		Lifter Sub-bracket Connecting Bracket; RB30T
1713		Washer; Ø6 Spring
1714	5400966	SHCS M8X16
1715		Lifter Bottom Bracket Location Bushing; RB30T
1716		Snap Ring 25mm
1717		Lifter Shaft Sleeve; RB30T
1718		Lifter Shaft; RB30T
1719		Slide Plate Weldment; RB30T
1720		Lifter Cylinder Connecting Head; RB30T
1721		Lifter Cylinder Connecting Head Shaft; RB30T
1722		Snap Ring 10mm
1723		1200 Car lifting cylinder
1724		Lifter Cylinder Adjusting Pad1; RB30T
1725		SHCS M10X50

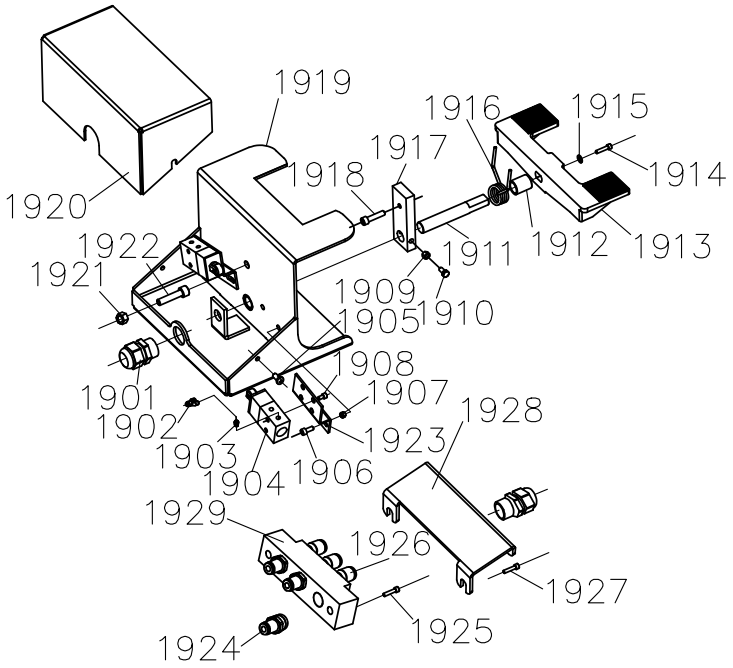
Wheel Lift Assy. Cont.

#	Part Number	Description
1726		Nut M10
1727		Lifter Sub-bracket (Left); RB30T
1728		Lifter Sub-bracket (Right); RB30T
1729		Lifter Bracket Connecting Bolt; RB30T
1730		Lifter Bracket Bushing; RB30T
1731	5328287	Washer; 10mm Flat
1732		Nut M10
1733	5400966	SHCS M6X16
1734		SHCS M6X16
1735		Foot angle iron
1736		SHCS M10X40
1737		Nut M10



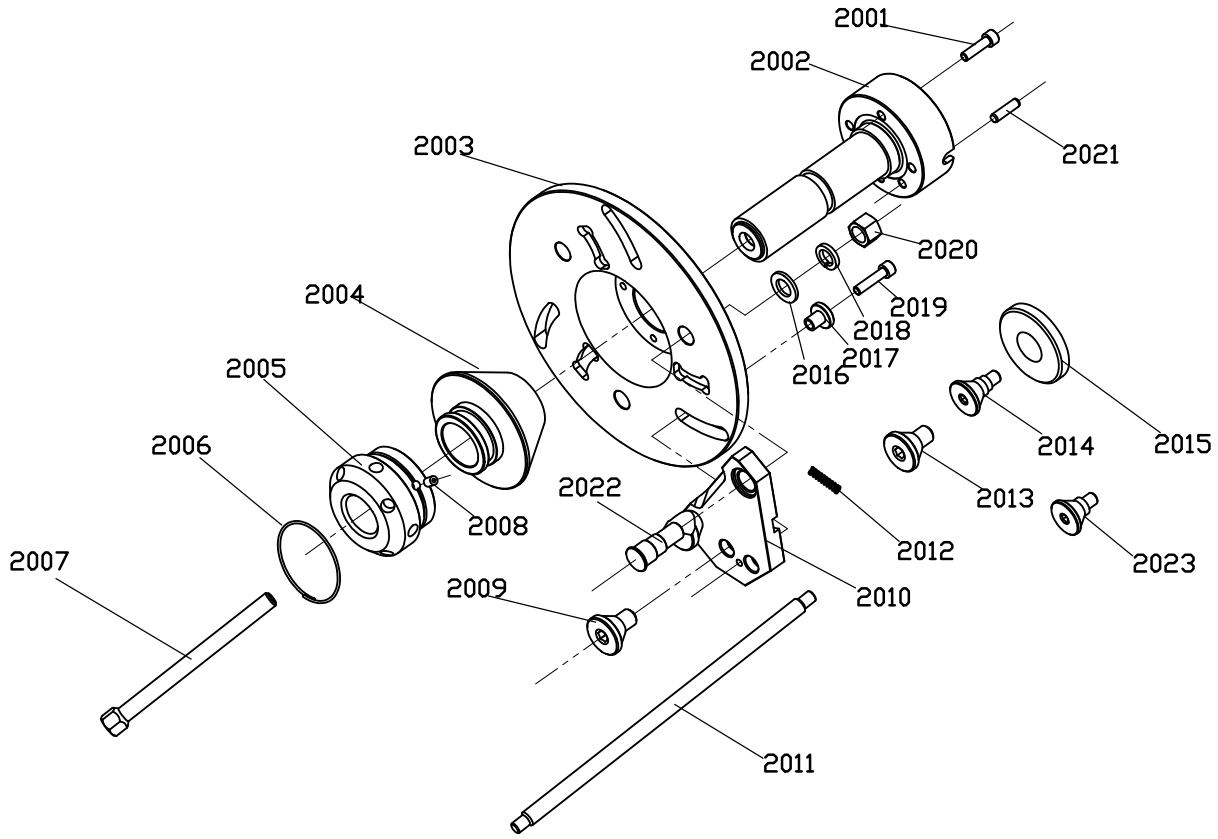
Air / Oil Regulator Assy.

#	Part Number	Description
1801	5328284	SHCS M4X8
1802		Oil mist filter bracket
1803	5327898	Quick connector
1804		Pressure Gauge
1805		Air filter cup
1806		Oil cup
1807		Quick Union; ϕ4-G1/4″Straight
1808	5328284	SHCS M4X8



Foot Pedal Valve Assy.

#	Part Number	Description
1901		Waterproof coil
1902		Fitting;Ø4 - Ø 4- Ø 4
1903		Quick Union; Ø4-G1/8″ Straight
1904		Two position three-way mechanical valve
1905		Cross recessed large flat head screw M5X12
1906		SHCS M5X10
1907		Nut M5
1908		SHCS M5X16
1909		Nut M6
1910		HHB M6X16
1911		Small shaft
1912		Set 2
1913		Pedal
1914		SHCS M5X10
1915		Washer;5mm; Flat
1916		Torsional spring
1917		Swing link
1918	5400959	SHCS M6X30
1919		Foot pedal box
1920		Foot pedal box cover
1921		Nut M8
1922	5327971	SHCS M8X25
1923		Valve plate
1924		Quick Union; Ø 4-G1/8″ Straight
1926		Cross recessed pan head screw M6X12
1927	5327730	Quick Union; Ø 4-G1/8″ Straight
1928		SHCS M6X12



Three Jaw Chuck

#	Part Number	Description
2001		SHCS M8X30
2002		Jaw Chuck Shaft; RB30T
2003		Jaw Chuck Plate; RB30T
2004	5327959	Jaw Chuck Cone; RB30T
2005		Jaw Chuck Rotary Screw Nut; RB30T
2006		Jaw Chuck Steel Ring; RB30T
2007	5327960	Jaw Chuck Locking Bolt; RB30T
2008		Jaw Chuck Shaft Pin Plug; RB30T
2009	5327961	Three Jaw Chuck Fixed Pin; RB30T
2010		Three Jaw Chuck; RB30T
2011	5327963	Jaw Chuck Extension Bar; RB30T
2012	5327964	Three Jaw Chuck Spring; RB30T
2013	5327965	Three Jaw Chuck Active Pin 2; RB30T
2014	5327966	Three Jaw Chuck Long Pin 3; RB30T
2015	5327967	Three Jaw Chuck Spacer; RB30T
2016		Washer; 16mm Flat
2017		Three Jaw Chuck Slide Bushing; RB30T
2018		Washer; 16mm split lock
2019		SHCS M8X35
2020		Nut M16
2021		Jaw Chuck Shaft Pin; RB30T
2022		Three Jaw Chuck Rotary Shaft; RB30T

Maintenance Log

Maintenance Log

Maintenance Log

Ranger®

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