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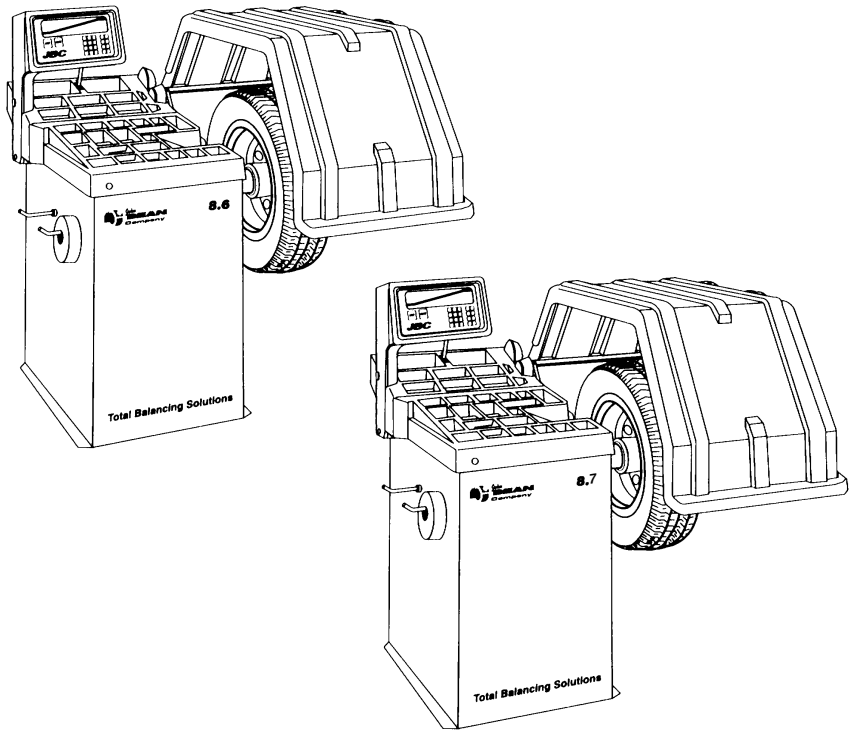

Model 8.6 and Model 8.7
High Performance Wheel Balancer
Operation Instructions

FORM #5608

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Model 8.6 and Model 8.7 High Performance Wheel Balancer Operation Instructions

Print History

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SAFETY INFORMATION

For your safety, read this manual thoroughly before operating the 8.6/8.7 Wheel Balancer

The Models 8.6 and 8.7 Wheel Balancers are intended for use by properly trained automotive technicians. The safety messages presented in this section and throughout the manual are reminders to the operator to exercise extreme care when servicing tires with these products.

There are many variations in procedures, techniques, tools, and parts for balancing tires, as well as the skill of the individual doing the work. Because of the vast number of wheel and tire applications and potential uses of the product, the manufacturer cannot possibly anticipate or provide advice or safety messages to cover every situation. It is the automotive technician's responsibility to be knowledgeable of the wheels and tires being serviced. It is essential to use proper service methods in an appropriate and acceptable manner that does not endanger your safety, the safety of others in the work area or the equipment or vehicle being serviced.

It is assumed that, prior to using the Models 8.6 and 8.7 Wheel Balancers, the operator has a thorough understanding of the wheels and tires being serviced. In addition, it is assumed he has a thorough knowledge of the operation and safety features of the rack, lift, or floor jack being utilized, and has the proper hand and power tools necessary to service the vehicle in a safe manner.

Before using the Models 8.6 and 8.7 Wheel Balancers, always refer to and follow the safety messages and service procedures provided by the manufacturers of the equipment being used and the vehicle being serviced.

 **IMPORTANT !! SAVE THESE INSTRUCTIONS -- DO NOT DISCARD !!**

IMPORTANT SAFETY INSTRUCTIONS

When using this equipment, basic safety precautions should always be followed, including the following:

1. **Read all instructions.**

2. **Do not operate equipment with a damaged power cord or if the equipment has been damaged - until it has been examined by a qualified authorized service technician.**

3. **If an extension cord is used, a cord with a current rating equal to or more than that of the machine should be used. Cords rated for less current than the equipment may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.**

4. **Always unplug equipment from electrical outlet when not in use. Never use the cord to pull the plug from the outlet. Grasp plug and pull to disconnect.**

5. **To reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids (gasoline).**

6. **Keep hair, loose fitting clothing, fingers and all parts of the body away from moving parts.**

7. **Adequate ventilation should be provided when working on operating internal combustion engines.**

8. **To reduce the risk of electric shock, do not use on wet surfaces or expose to rain.**

9. **Do not hammer on or hit any part of the control panel with weight pliers.**

10. **Do not disable the hood safety interlock system or bypass the intended operation.**

11. **Do not allow unauthorized personnel to operate the equipment.**

12. **Use only as described in this manual. Use only manufacturer's recommended attachments.**

13. **Always securely tighten the wing nut before spinning the shaft.**

14. **ALWAYS WEAR SAFETY GLASSES. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.**

15. **Balancer is for indoor use only.**

SAVE THESE INSTRUCTIONS

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CONTENTS

Quick Start

Wear eye protection. Assure that the wheel is tightened correctly. Do not attempt to stop the wheel manually. Wait for the balancer to brake the wheel to a complete stop before coming in contact with the wheel.

Rim Diameter and Distance Data Input (both Models 8.6 and 8.7)

⇨ Slide out the distance/diameter gauge and hold it for 2 seconds, or until you hear a beep. The rim distance and diameter is entered automatically. See *Figure 1.*

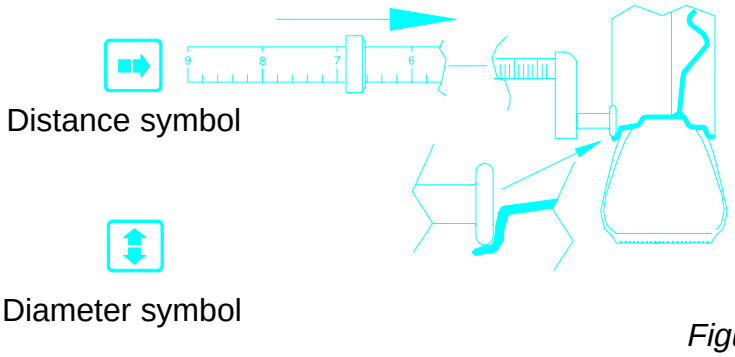


Figure 1

Rim Width Data Entry - (Model 8.7 only)

⇨ Pull down the rim width measuring arm against the rim side and hold for 2 seconds. The rim width is entered automatically. See *Figure 2a.*

Figure 2a

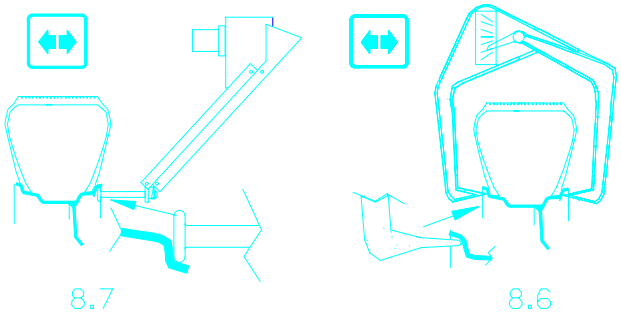


Figure 2b

Model 8.6:

⇨ Measure rim width with the supplied width calipers, *Figure 2b,* press rim width key once and enter value. Example: For 6.5" press the numeral 6, decimal point and numeral 5.

⇨ Close wheel guard, press the “START” button (not necessary if auto hood spin is activated), wheel assembly will spin. The computer will measure the imbalance and then brings the wheel automatically to a stop.

⇨ The display will show the imbalance and location for both sides. By turning the wheel, locate the correct weight position (only the center locator bar is illuminated) now apply the indicated weight to the “12:00” (Top dead center) position.

⇨ Repeat same procedure for the other side.

For more detailed information, refer to the following pages.

I. GENERAL

The JBC Models 8.6/8.7 wheel balancers are designed for static and dynamic balancing of car and light truck wheels up to a tire/wheel assembly weight of **150 lbs**. The controls and displays are arranged together on an easy to read and accessible front panel. Using the JBC 8.6/8.7, rim distance and diameter are measured automatically via distance gauge arm.
Using the JBC 8.7, rim distance, diameter *and* rim width are measured automatically via distance gauge arm (on left) and rim width arm (on right).

Various balancing modes (Alu 1 to Alu 5) can be selected on the machine depending on the kind of wheel to be balanced (steel or alloy wheel) and the desired attachment method of the balance weight to the wheel.

The microprocessor based electronic balancer is designed so that all measurements are taken in one spin. On completion of a measurement spin the cycle ends automatically and the wheel is slowed to a stop using the braking force of the drive motor. Amounts and location of imbalance are read out separately for each correction plane on an LED display.
The amount of imbalance is displayed digitally and is operator selectable to read out in ounces or grams (with a “C” code).

All 8 Series Balancers are equipped with EWL (Electronic Weight Location). This feature uses the balancers drive motor to automatically stop the measurement run with the right plane weight position at 12:00. Once the right balance weight is applied simply push the tire and the balancer will again brake the wheel with the left plane weight position at 12:00.

If after a measuring spin it is discovered that the wheel dimensions inputted were incorrect, the correct balance readings may be obtained by correcting the dimensions via the key pad.
Another measuring spin is not necessary. Enter new value, press stop key, press decimal key and the computer will recalculate the balance readings.

Errors in operation or electronic errors (if any), will be indicated by error codes (each beginning with an “E”).

To ensure accurate measurement, re-calibration of the machine can be accomplished by the operator.

A wheel guard with an electrical interlock is mandatory in the US. This guard is standard equipment on the JBC 8.6 / 8.7

The drive of the machine can only be started with the guard closed. Raising the guard interrupts the circuit to the drive motor and prevents starting.

II. INSTALLATION OF THE MACHINE

In choosing a location for the balancer, OSHA regulations and recommendations concerning the work environment should be considered.

The minimum operation space requirements (footprint) are given in Figure 1.

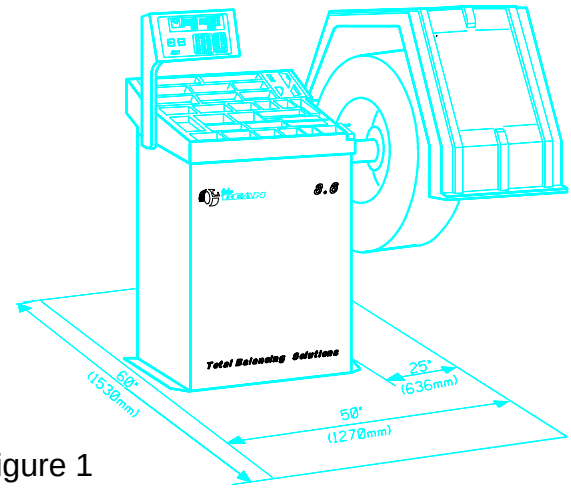


Figure 1

The machine can be installed on any firm and level ground. It is recommended that the balancer is securely anchored to the floor. For this purpose holes are provided in the base of the machine. Mount the machine to the floor using 1/2" anchor bolts.

Figure 2 shows the center to center distance of the mounting holes. Make sure that the machine is in a stable position, i.e. that it is supported only by the collars around the three holes. If not, ensure a three point contact with the ground by inserting appropriate spacers between floor and machine base.

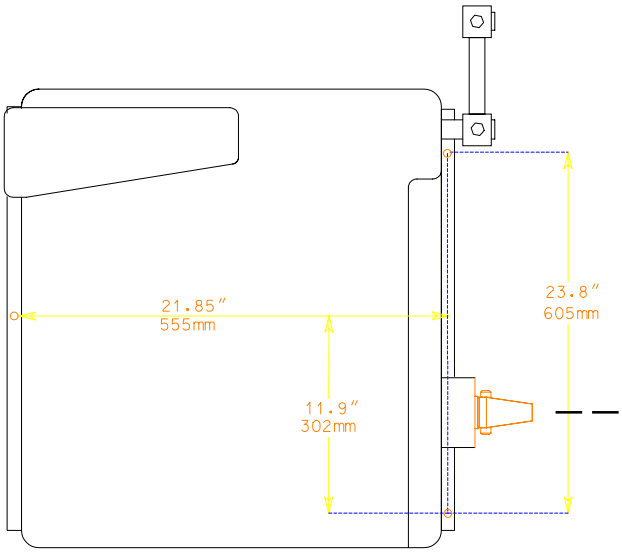


Figure 2

WHEEL GUARD INSTALLATION

For ease of transport, the wheel guard has been detached from the machine and must be mounted to the balancer during the installation of the machine.

Place the wheel guard extension arm onto the cabinet pivot shaft as shown in Figure 3. The necessary hardware is pre-attached to the pivot shaft.

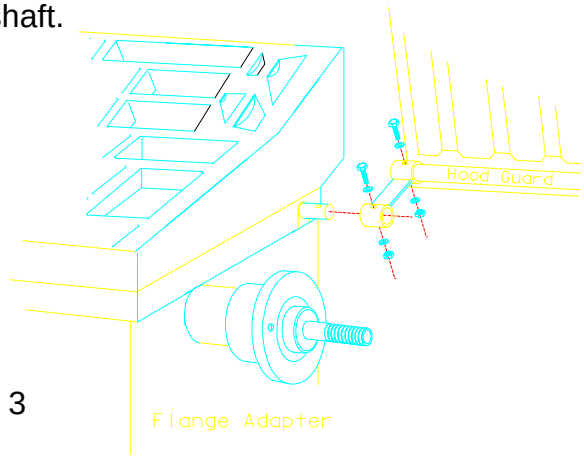


Figure 3

Install Wheel Mounting Adapter:

Locate the shaft adapter and position onto the drive shaft stub which exits the balancer frame to the right. Using the included Allen T-wrench tighten the hex screw until snug. **NOTE:** Mating surfaces **MUST** be clean and free of factory applied grease. See Figure 4.

Hood Guard Leveling

An adjustment screw is provided for leveling the hood in the down or run position. The

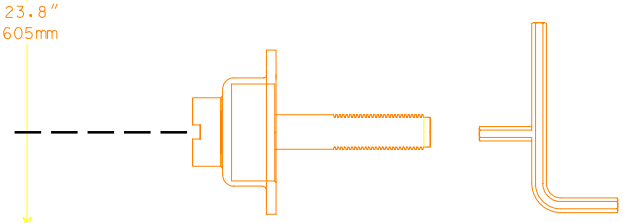


Figure 4

adjustment screw is located on the rear of the machine just above the calibration weight. See Figure 5. To adjust the level, lower the hood guard to the run or down position. The hood guard should be close to level at the top. If not the level can be adjusted by loosening the jam nut and adjusting the setscrew until the desired position is attained. Tighten the jam nut.

Figure 5

Vertical (or the upright hood position) can likewise be adjusted to suit the operator. Vertical adjustment can only be made from inside the machine cabinet, for this reason it is suggested that only authorized personnel make this adjustment upon installation. Remove power from the machine. Loosen the weight tray hardware enough to lift the front about four inches. Be cautious not to pull any cables or wires. Refer to Figure 6, note the adjustment studs located on the left end of the hood guard pivot shaft. Vertical adjustment is accomplished by loosening the jam nut on the rear most stud then adjusting until the desired position is attained. Tighten the jam nut.

Rim Width Gauge (Model 8.7 only)

For the JBC 8.7, an electronic rim width gauge arm must also be mounted onto the wheel guard. Follow the installation instructions below. See Figure 7.

1. Remove wheel guard from box.
2. Mount and securely tighten the wheel guard on the machine.
3. Back off M8 socket head bolt in the bushing of the wheel guard. Remove rim width arm from inside the wheel guard and install in the same bushing from the outside, ensuring the locating hole in the pin of the rim width arm lines up with the M8 socket head bolt. Secure arm by tightening the M8 socket head bolt.
4. Rotate arm in a counter clock wise direction (when viewing machine from wheel guard) until tip of arm is down past wheel guard lip.
5. Install the measuring finger into the end of the rim width arm with supplied bolt and washer.
6. Plug the phone connector into the jack on the back of the machine, carefully making sure the connector is all the way into the jack. Secure the harness to the guard frame.
7. Machine is now ready for use.

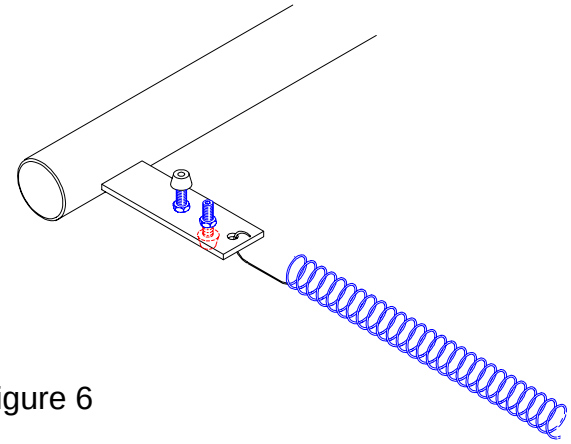


Figure 6

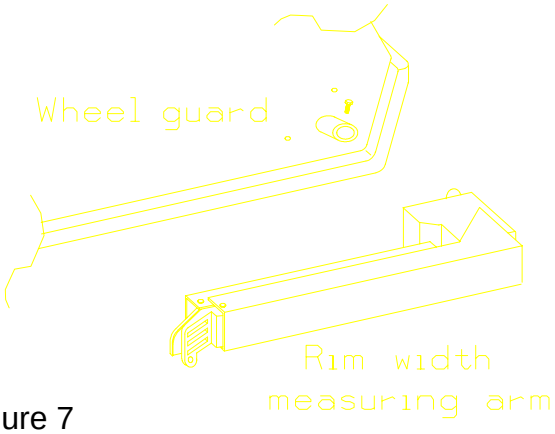


Figure 7

III. ELECTRICAL CONNECTION

CAUTION!! ELECTRICAL SERVICE MUST BE PERFORMED BY QUALIFIED PERSONNEL.

The electrical equipment and the drive motor of the machine operate on 208/230 VAC, single phase, 60 Hz power.

Balancers that operate on 50 Hz, and other voltages are available.

A circuit protected with a 15 A. fuse or circuit breaker is recommended.

The power cord extends from the rear of the machine and is provided with the most common North American connector.

If a machine is to be hard wired to a breaker panel/electrical box, make sure all local electrical codes are followed. Have a licensed electrician make necessary connections if required.

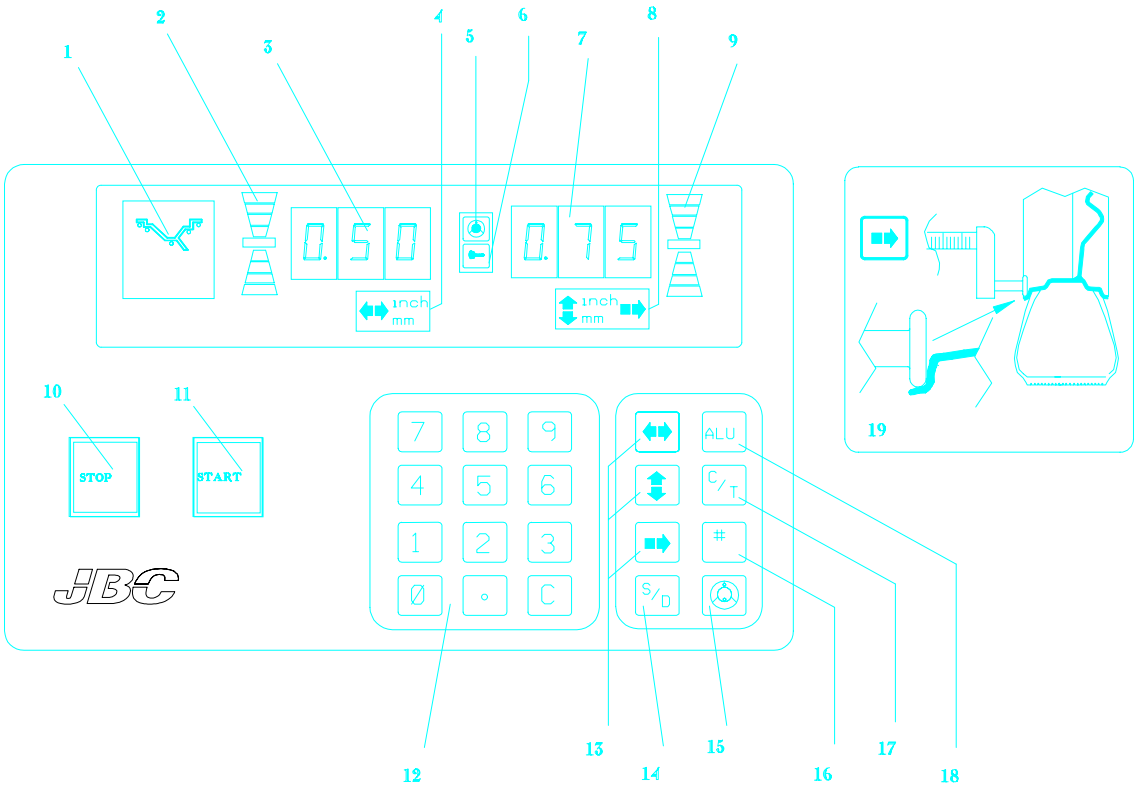
Note: The electrical wiring diagram is shown on page 26 .

User Calibration

Prior to initial operation, whenever the machine has been relocated, or, whenever the balancers accuracy is in question the balancer should be recalibrated.

The attached calibration weight is threaded in the rear panel of the machine housing. See Figure 5, page 11 & Figure 8 page 20.

Follow the instructions detailed on page 20 to complete user calibration.



IV DESCRIPTION OF CONTROLS AND DISPLAYS

1. Display of weight location mode selected by using the ALU key. (#18)

2. Indicator for direction of orientation and correction position for left correction plane. JBC 8.6 / 8.7 features “EWL” (Electronic Weight Location).

3. Display indicator for left correction plane weight amount. This display may also show any of the following: rim width, amount of imbalance of left correction plane, “C” code inputs, error messages, amount of static imbalance.

4. Indicator for selected unit of measure (inch/mm) and illuminated symbol for rim width.

5. Indicator for PRO - MATCH recommendation.

6. Display for adapter compensation. This symbol lights up when adapter compensation has been carried out.

7. Display field for right correction plane. This display may show any of the following: rim diameter, amount of imbalance of right correction plane.

8. Indicator for selected unit of measure (inch/mm) and illuminated symbol for rim diameter and distance.

9. Imbalance location indicator for right correction plane. JBC balancer 8.6 / 8.7 features “EWL” (Electronic Weight Location).

10. STOP key (SEVERAL FUNCTIONS) Pressing the stop key stops a measuring run already initiated and brakes the wheel. With the machine at standstill, pressing the stop key deletes error messages on the display and resets the computer. If pushed and held the display shows the suppressed residual imbalance (imbalance remaining when balancer is set for round-off) read out in high resolution. (1-gr increments or 0.05 ounces.)

11. START key - Measure Run is started by pressing the start key.
By reprogramming the mode of operation it is possible to start the measuring run by simply closing the wheel guard. (See special C-codes on page 24-25).

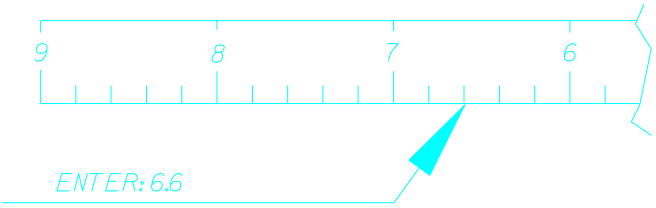
12. Key pad - 0 ..... 9 digit keys for entry of wheel data or special function codes. (with C key).

13. Function keys for manual input of wheel data.
Function key is pressed before entry of respective rim dimensions via key pad.
If depressed twice in succession, the unit of measure (inch or mm) is changed over (to mm or inch respectively).

Function key for rim width.
Press, then enter rim width.

Function key for rim diameter.
Press, then enter rim diameter.

Function key for rim distance.
Press, then enter rim distance.



Note: The distance is entered as per distance scale, in centimeters and not in millimeters.

Note: The JBC balancer 8.6 / 8.7 provides for automatic input of wheel data via guage arms. However on a JBC 8.6, the rim width data must be entered manually.

14. S/D key - For toggling between static or dynamic balance modes. S/D

15. OP key to start PRO - MATCH and to store valve position during PRO -MATCH.

16. Operator select key - This key will toggle between the two latest wheel dimensions entered in the machine. This allows two operators to alternately balance different sets of wheels without erasing each others dimensions.

Note: Maximum of two sets of wheel dimensions can be temporarily stored at a time, with the oldest dimension being discarded when a new dimension is entered.

Example: Operator #1 enters dimensions “A” and presses Start to measure wheel. Then operator #2 enters dimensions “B” and presses Start to measure his wheel. When operator #1 returns with another wheel, he simply presses the # key, to recall his dimensions, then Start to measure wheel.

17. Available for future software expansion capability. C/T

18. ALU key - Standard mode is always selected when the machine is switched on. By pressing the Alu key briefly in succession you proceed from one mode to the next, i.e. from Alu 1 to Alu 5 and back to standard mode.

LEDs on the weight location wheel graphic will light up when the associated mode of operation (Alu 1 to Alu 5) is selected and will remain lit for as long as the mode is selected.

5. START UP OF MACHINE

When the machine is switched on, the microprocessor performs a number of self-tests. Upon successful completion of these tests, the software program version is briefly seen on the right display field, a three-tone signal is given and then the display shows a standard rim setting of 6x14" indicating the machine is ready for operation.

The model 8.6/8.7 balancers are factory-adjusted to the following modes of operation when switched on:

- Imbalance indicated in .25oz increments
- Standard dynamic balancing mode (both weights applied to outside rim flange)
- Automatic braking of the wheel when the guard is opened during a measuring run

Page 24 illustrates additional “C” codes.

6. TIRE/WHEEL INSPECTION

Observe Before Balancing Wheel

- Check for proper air pressure. If not cor rect, inflate to correct pressure.
- Check for any foreign material inside tire. If present, remove before balancing tire.

WATER IS FOREIGN MATERIAL!

- Be sure tire and wheel are free of exces sive dirt, rust and large stones. Use wire brush on back side of wheel if necessary.
- Remove old weights — old weights may be improper value or in wrong location.
- Be sure that the right size tire has been mounted on the wheel.

7. WHEEL MOUNTING

Nearly all standard wheels and many alloy wheels have accurately machined center holes and can be mounted with center cones. Accurate balancing depends on accurate mounting of the wheel and correct seating of the cone in the pilot hole to insure that the wheel is centered on the shaft. To ensure maximum balancing accuracy only mount clean and mechanically sound adapter components. Figure 5 illustrates the mounting of standard automobile wheels.

1. Select proper cone and slide onto balancer shaft against spring plate.

2. Mount wheel on shaft in the same manner as you would on the car.

3. Mount clamping hood (or pressure ring) on speed nut and place against outside of wheel.

4. Tighten speed nut securely.

5. Rotate the tire/wheel assembly and check for excessive runout. Excessive runout will affect balancing results.

Before mounting the wheel make sure that contact surfaces of the basic adapter and rim are free from dirt and grease. Make sure the wheel is exactly centered and sufficiently tightened.

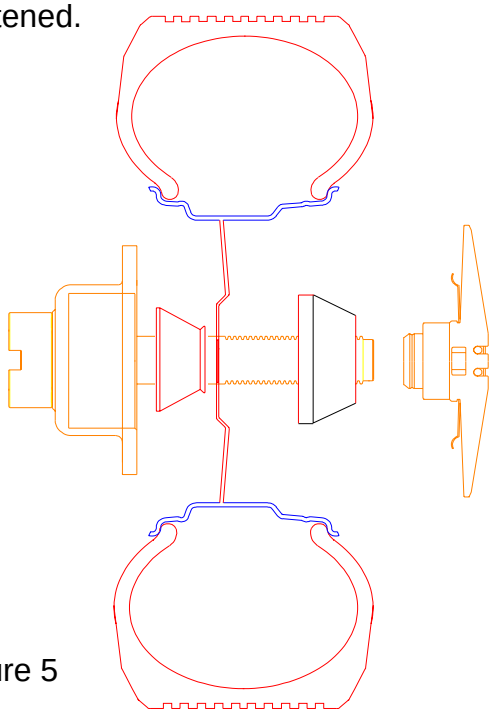


Figure 5

8. ENTERING WHEEL DIMENSIONS

For determination of imbalance the dimensions of the wheel to be balanced (width, diameter, rim to machine offset) must be entered. These dimensions (sometimes referred to as wheel parameters) are the nominal size of the rim and the distance between the left rim flange and the machine.

With the input of these dimensions, six different balancing modes are possible. The six positions are illustrated on page 18. The rim size is usually found on the rim and is indicated in inches or millimeters. The rim diameter is also indicated on the tire sidewall as the last number in the tire size.

Semiautomatic Distance and Diameter Entry (Models 8.6 and 8.7)

The Model 8.6 features semiautomatic distance and diameter entry. Move the distance gauge arm to touch the inner edge of the wheel. The distance and diameter parameters are automatically entered after a 2 second delay.

Manual Distance and Diameter Entry (Models 8.6 and 8.7)

Move the distance gauge arm to touch the inner edge of the wheel. Observe the reading on the scale of the distance gauge. Press wheel distance button . Enter wheel distance reading by pressing appropriate buttons on numeric keypad.

To enter the diameter manually, press wheel diameter button . Enter wheel diameter (see tire side wall for specification) by pressing the appropriate buttons on the numeric keypad

Automatic Rim Width Entry (Model 8.7 only)

The Model 8.7 features a semiautomatic rim width arm located on the outer right side of the wheel guard. Measuring Rim width is simply a matter of rotating the width arm downward and to the left. Touch the outer rim flange where the weight is to be placed. The width is entered after a 2 second delay. See Figure 6 below.

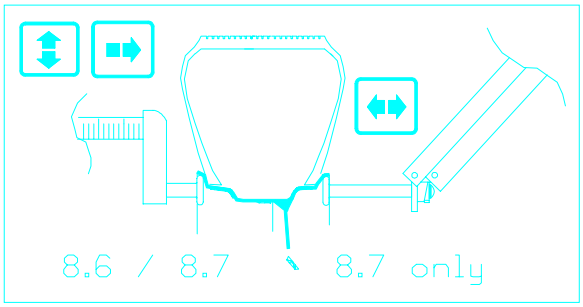


Figure 6 - parameter input

Manual Rim Width Entry

If the rim width is not given, it can be measured using the rim width calipers supplied with the balancer. Measure wheel by placing caliper fingers where corrective weight will be applied. See Figure 7. Press wheel width button . Enter the measured width directly using the numeric keypad.

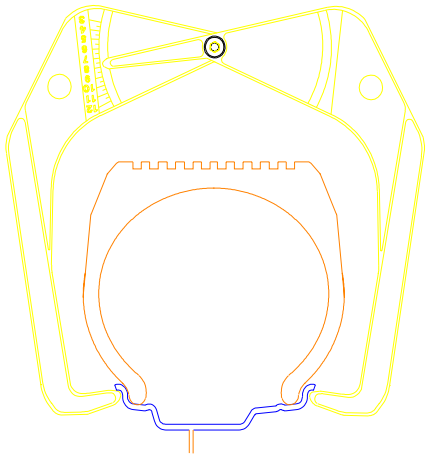
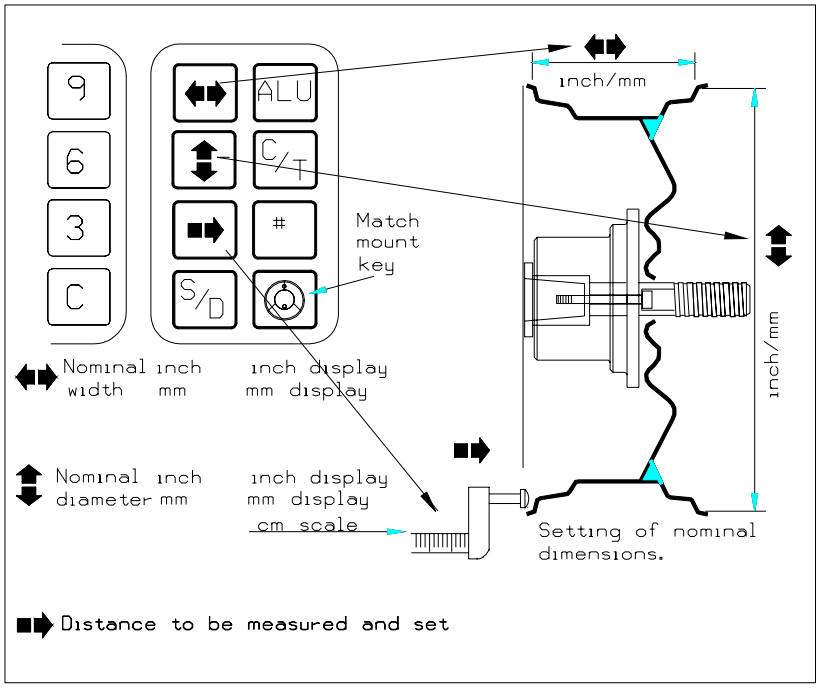


Figure 7 - Measuring rim width manually

8. SETTING WHEEL DIMENSIONS



STANDARD MODE Fig. 1
Conventional balancing of steel and alloy wheels where balance weights are attached to the rim flanges.

ALU 1 MODE Fig. 2
Balancing of wheels where adhesive balance weights are attached to the bead seats.

ALU 2 MODE Fig. 3
Balancing of wheels using adhesive weights attached to inside bead seat and wheel center line.

ALU 3-ALU 5 MODES Fig. 4-5
Balancing using a combination of hammer on and adhesive weights.

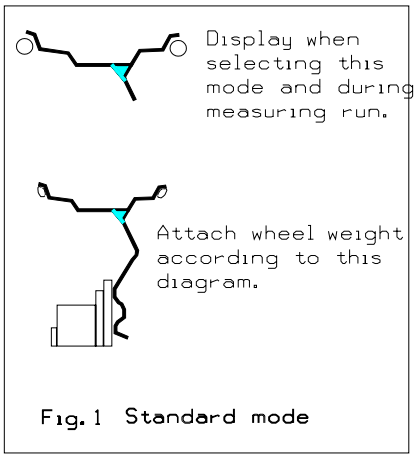


Fig. 1 Standard mode

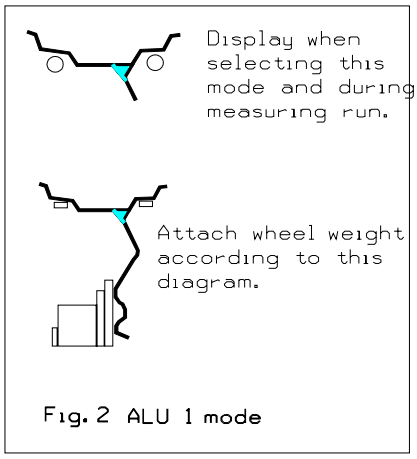


Fig. 2 ALU 1 mode

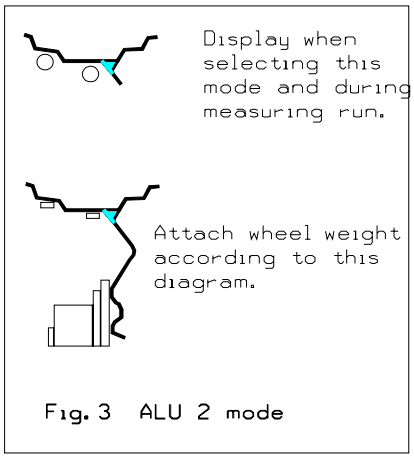


Fig. 3 ALU 2 mode

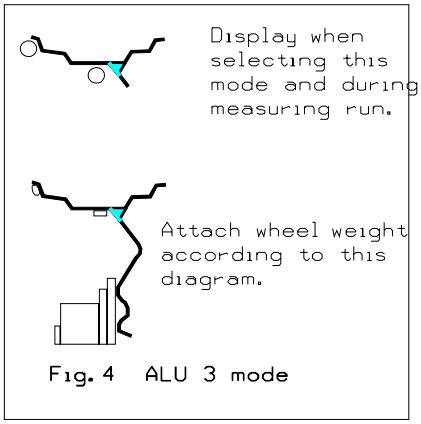


Fig. 4 ALU 3 mode

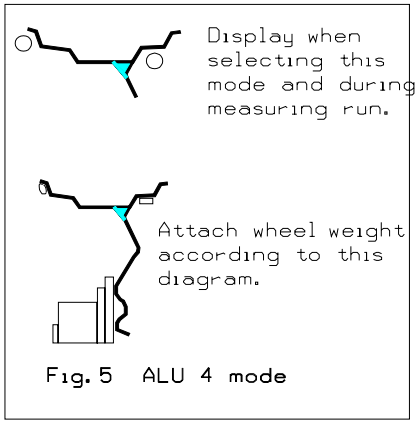


Fig. 5 ALU 4 mode

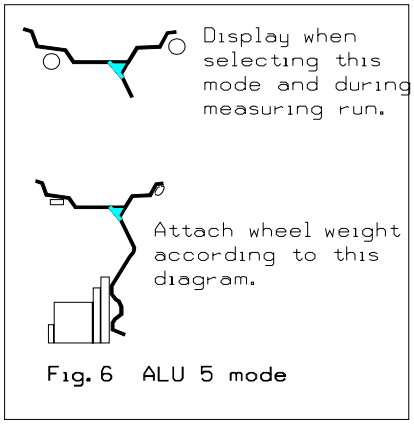


Fig. 6 ALU 5 mode

9. BALANCING MODES

Various designs of wheels as well as wheel weights require we sometime use weight placement positions other than the standard dynamic mode. The Model 8.6/8.7 features several balance modes allowing weight placement to suit the unique requirements of the wheel being serviced. When selecting these “Alu” modes, certain dimensional values are automatically recalculated. For instance, if you were to select an Alu mode 3, the inside placement diameter would be automatically reduced a small amount to compensate for a drop center.

If none of the programmed balancing modes can be used (e.g. with special wheels or other rotors), the actual correction dimensions can be measured manually on the assembly and those values input into the computer.

Most Balance jobs can be satisfactorily completed using the Dynamic two plane mode.

Measuring static imbalance

Wheel rim diameter is the only dimension to be entered. The S/D key should be pressed to toggle to static mode. (Press again to return to dynamic mode.)

When measuring imbalance using the static mode the width and distance settings have no effect. Enter only the rim diameter, by measuring the diameter where the wheel weight will be attached. (Figure 7)

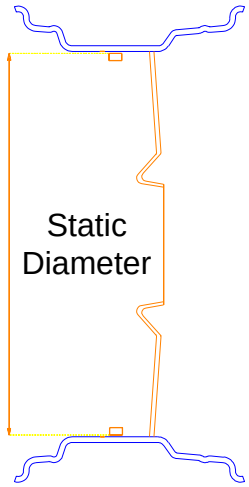


Figure 7

NOTE: The static imbalance is read in the left display field only. Its location is indicated simultaneously by both direction indicators.

10. BALANCING

Start the measuring run by pressing the start button or lowering the hood guard (if auto-spin is activated). If the machine does not start and an error message is displayed, see page 21 “Error Messages”.

After the measurement run, the machine will stop automatically and the wheel is braked to a stop. The amount of imbalance and the location of imbalance are viewed on the display.

Select the proper type and value of weight, one that will mate properly with the rim design. The machine brakes to a stop with the outer weight position at 12 o’clock. Find location by rotating until only the center LED indicator is lit. Place the outer indicated value weight at the 12 o’clock position. Repeat the placement procedure for the inner weight by further rotating the assembly until only the center LED indicator is lit. The balancer will again brake the wheel near the correct position. Place the indicated value weight at the 12 o’clock position.

Perform a check measuring run.

If wheel is balanced correctly, the amount readings of both correction planes will be zero.

Recalculation with different Parameters

If it appears after a measuring run that incorrect wheel data or the wrong balancing mode has been set, enter the correct data or mode, then press the stop button, then the decimal key and the correct readings will be displayed automatically. It is not necessary for the operator to perform another measuring run. The microprocessor will automatically recalculate according to the new data entered.

11. RECALIBRATION

If imbalance readings seem incorrect, recalibration of the machine by the user may be necessary.

For recalibration, use the calibration weight supplied. Refer to Figure 8.

RECALIBRATION

- Remove the wingnut, and cones, from the threaded balancer shaft
- Enter C14C via the key pad. “Cal 1” is displayed
- Press “START”, the machine will spin the shaft for several seconds. On completion of the run the machine stops automatically and Cal 2 is displayed. Figure 9
- Locate and remove the calibration weight located on the back of the machine. Figure 8
- Screw the calibration weight into the threaded hole on the outside surface of the balancer backing plate. See Figure 10.
- Press “START” (with the calibration weight installed).
- On completion of the second run the machine will sound three beeps.
- Remove the calibration weight and return it to it’s storage location on the back left of the machine. Figure 8

Recalibration is complete.

NOTE: For error messages displayed during recalibration, see page 21

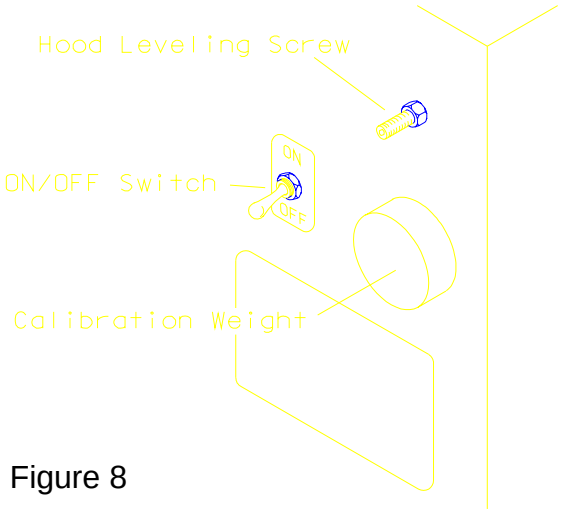


Figure 8

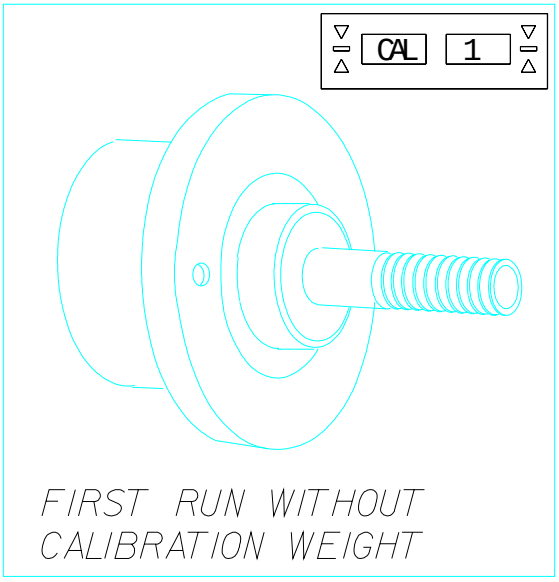


Figure 9

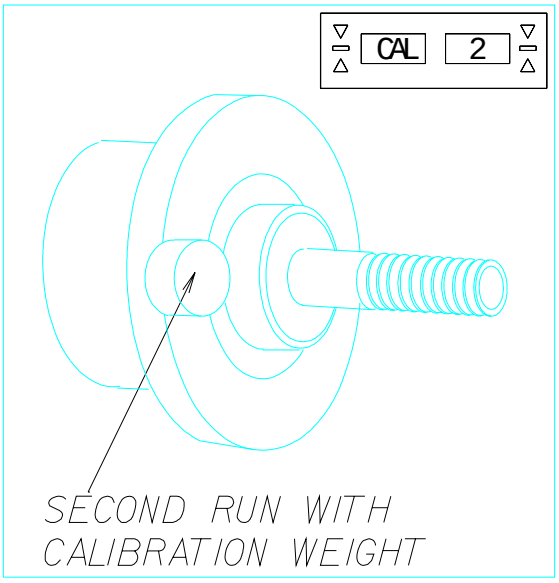


Figure 10

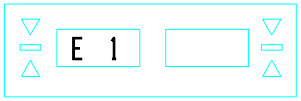
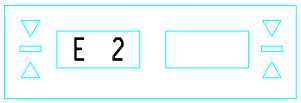
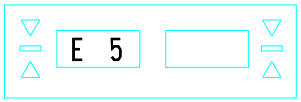
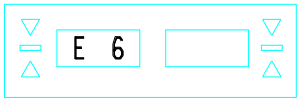
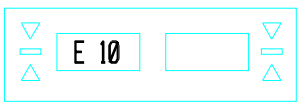
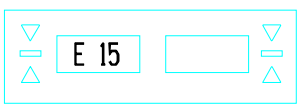
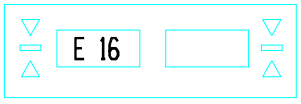
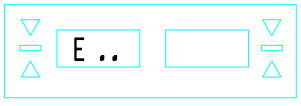
12. MAINTENANCE OF THE MACHINE

The JBC 8.6 / 8.7 wheel balancer requires almost no maintenance. The bearings are greased for life and sealed. The drive belt is provided with a tensioning device and does not require regular maintenance.

Particular attention must be paid to the cone adapter and the clamping tooling. Balance quality depends on their condition. Therefore they must be kept clean, and if not in use, they should be lightly lubricated (oiled). Do not grease the threaded wheel adapter sleeve or ring nut during normal use.

13. ERROR MESSAGES

During operation of the machine, errors and defects might occur which are recognized by the electronic unit and displayed in the form of error messages.

Error messages	Cause/Remedy
	Unrealistic distance, diameter or rim width for the balancing mode selected. E 1 with appropriate symbol lights up. Determine and set correct dimensions.
	Wheel guard not closed. Error message disappears after closing the guard or after pressing the stop button.
	By mistake, calibration weight had been inserted during first adjustment run. Remove the calibration weight, press the stop button (E5 will disappear and Cal 1 reappears). Start over.
	Calibration weight was not inserted for the second adjustment run. Insert calibration weight, press the stop button (E6 will disappear and Cal 2 reappears). Start second adjustment run.
	Main shaft does not reach measuring speed. Check belt tension & voltage to machine or call for service.
	The correction factors used for calibration are incorrect. Is correct adapter used for calibration? Are wheel weights jammed between shaft suspension and cabinet? Assure solid machine support (3 point) or call for service.
	See above.
	Other error messages signal defects of the machine which can be remedied only by service.

14. PRO MATCH TIRE MATCHING SYSTEM.

PRO MATCH was developed as a system to reduce lateral and radial run-out and force variations. The balancer operator follows a step by step procedure and the computer determines the best position for the tire on the rim. Following the **PRO MATCH** procedure will reduce the size of the balance weights needed as well.

PRO MATCH is recommended if:
The indicator for **PRO MATCH** (page 14 item 5) lights up after a measuring run.
The wheel requires large balance weights.
Radial or lateral run-out is excessive as the wheel is rotating on the wheel balancer.
The vehicle is known to be sensitive to run-out or force variations.
A customer complaint is received after the wheels have been properly and accurately balanced.

PRO MATCH will not bring improvements in the ride if:
There is no run-out in the rim.
There is no imbalance in the tire.
The rim is severely bent.

To insure successful **PRO MATCH** results:

Lubricate tire and rim beads. Inflate tire properly to insure beads are seated.
Set the rim dimensions to the exact wheel size.
Take care each time the wheel is mounted onto the wheel adapter that it centers properly.
Keep the wheel adapter components clean.
Whenever practical, start **PRO MATCH** using the rim only.

Instructions for using **PRO MATCH**.
(Please read before following the Operation Sequence and Codes.)

PRO MATCH can be used in two ways:
1. Starting with tire already assembled on the rim. (Press decimal point so display shows “OP3”)
2. With the rim only.

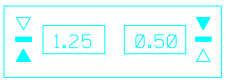
Using the **PRO MATCH** procedure works most accurately when it is started using the rim only. This way the rim imbalance is taken into consideration during the **PRO MATCH** calculations.

BASIC OPERATION

If starting with a rim only:
The first run measures the rim imbalance.
The tire is mounted on the rim.

If starting with the tire mounted:
The second run measures the tire imbalance
The tire bead is broken and the tire is turned on the rim 180 degrees.
The third run measures the tire imbalance.
The balancer computer indicates the matching recommendation for the operator:
The tire bead is broken and the tire is positioned on the rim according to the recommendation.
The fourth run acknowledges compliance with the recommendation and imbalance correction weights needed.
The wheel is balanced and removed from the machine.

PRO MATCH OPERATING SEQUENCE AND CODES

DISPLAY CODES	ACTION	REMARKS
	PRESS OP KEY	CHECK FOR CORRECT RIM SETTINGS
	To initiate program for tire/rim assembly press decimal point on keypad. OP3 displ.	TIRE RIM ASSEMBLY
	If starting with rim only follow procedure from OP1.	RIM ONLY
	Place valve @ TDC and depress OP key. Press START.	
	Mount tire on rim. Mount on balancer. Place valve @ TDC and press OP key.	Carefully check that tire is evenly seated around rim bead.
	Press START.	
 	Using position display index wheel to TDC and place chalk mark to right side on tire.	OP. 5 H1 = further matching not needed but can be continued or press STOP and balance the wheel.
	Break tire bead and rotate to line up chalk mark with valve.	Carefully check to make sure tire is evenly seated around rim bead.
	Mount wheel on balancer. Place valve @ TDC and press OP. key. Press START.	Make sure wheel is precisely centered on the balancer shaft.
	Press STOP. Balance wheel.	Optimum matching done.
	Using left position display index wheel to TDC and place a double chalk mark on left side of tire. Break bead and reverse tire on rim, line up double chalk marks with valve stem.	If the tire cannot be reversed on rim, press decimal point key. Computer gives next best recommendation. When remounting tire carefully check that tire is evenly seated around the rim bead.
	Using right position display index wheel to TDC and place a double chalk mark on right side of tire. Break tire bead and line up chalk mark with valve stem. DO NOT REVERSE TIRE	When remounting tire carefully check that the tire is evenly seated around the rim bead.
	Mount wheel on balancer,set valve @ TDC and press OP. key. Press START	Make sure the wheel is precisely centered on balancer shaft.
	Balance the wheel.	PRO MATCH completed.
	An error during the procedure has been detected by the computer. If the program was not followed exactly or if a wheel centering error caused illogical inputs to the computer, E9 will display.	

Common causes for E9:

1. The wheel was not precisely centered on the wheel adapter during each measuring run.
2. The tire beads did not center properly on the rim.
3. The valve position was not correctly indexed when the OP. key was pressed.
4. The wheel was not positioned correctly according to the computer recommendation.
5. The wheel slipped against the adapter changing position during starting or stopping.
6. The wrong rim dimensions were set.

E8: Valve position has not been set.

15. SETTING "C" FUNCTION CODES:

Function codes are verified, selected, and changed as follows:
Enter a code by pressing **C - the code number - then C again**. The right display will show the value or state of that code. After verifying, or changing the code press the stop button.

Unless stored in the computer memory (located on the Interface circuit board) a function code that has been changed returns to the original state when the power is turned off.

To store code settings in the computer memory permanently:
Enter C 10 C. Then press button keys 1 & 3 simultaneously.
The Processor circuit board issues three tones signaling the code setting has been stored in the memory and will now permanently replace factory settings.

CIC: Readout resolution (round-off) - Press the . (decimal) button to change.
1 = 0.05 Ounce / 1 Gram
0 = 0.25 Ounce / 5 Gram Factory set to "0" increments reading of 0.25oz or 5gr.

C2C: Readout suppression of small imbalances as selected using C9 or C8.
Press the (.) decimal button to turn on or off.
1 = On Factory set to "1"
0 = Off

If the readout is set to read in ounces the suppression value used is from C9.
If the readout is set to read in grams the suppression value used is from C8.

C3C: Readout in ounces or grams - Press the (.) decimal button to change.
1 = Ounces
0 = Grams

C4C: Electronic compensation of the residual imbalance. This procedure may be used in case the adapter has a minor imbalance. Enter C4C, press start, and allow the balancer to cycle. Once the balancer stops, press the stop to exit. Machine is now ready for use. Compensation cannot be permanently stored in the computer memory.
It resets to 0 whenever power is turned off.
1 = On
0 = Off

C8C: Selection and entry in grams of the suppression of small imbalance display. Factory set to 3.5 grams.
All imbalance of the selected weight or less will display 0 grams. To enter a new value enter C 8 C, key in the new value, press the C button.

C9C: Selection and entry in ounces of the readout suppression of small imbalances. Factory set to 0.25 ounce.
All imbalance of the selected weight or less will display 0.00 ounces. To enter a new value enter C 9 C, key in the new value, press the C button.

C10C: Stores selected codes, data and adjustments into the computer memory located on the Interface circuit board. Enter C 10 C then press buttons 1 & 3 at the simultaneously. Listen for a 3 tone audible acknowledgment.

C11C: Position brake on/off
Brake pulse for finding weight location. Press the (.) decimal button to change from 0 to 1 or 1 to 0.
0 = no brake pulse, 1 = brake pulse (factory setting).

C12C: Total balancing cycles. Entry of this code display the total number of measuring runs the balancer has run. The maximum count is 999,999.

C13C: Starting a measuring run by closing the wheel guard. Press the (.) decimal button to change from 0 to 1 or 1 to 0.
0 = off (factory setting), 1 = on

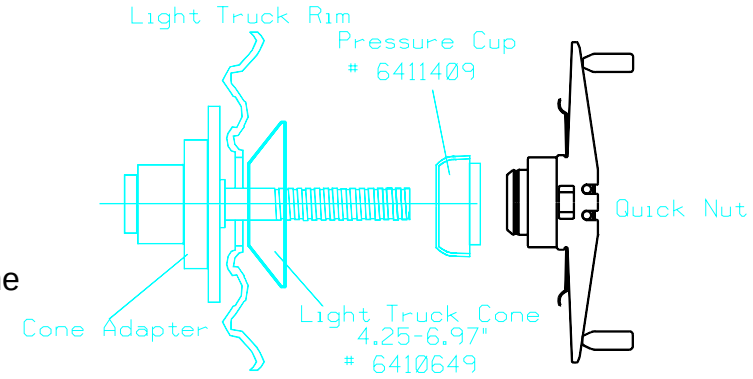
C14C: See Recalibration page 20.

C17C: With this code the measuring revolution can be choosen from 10 to 5 revolutions.
Factory set to 10. The change over is made by pressing the (.) decimal key until the desired value is displayed, and then exited by pressing the stop button.
Changing the measuring cycle to 5 revolution, JBCdoes not guarantee a consistent readout.

17. Mounting Instruction of "Light Truck Wheels"

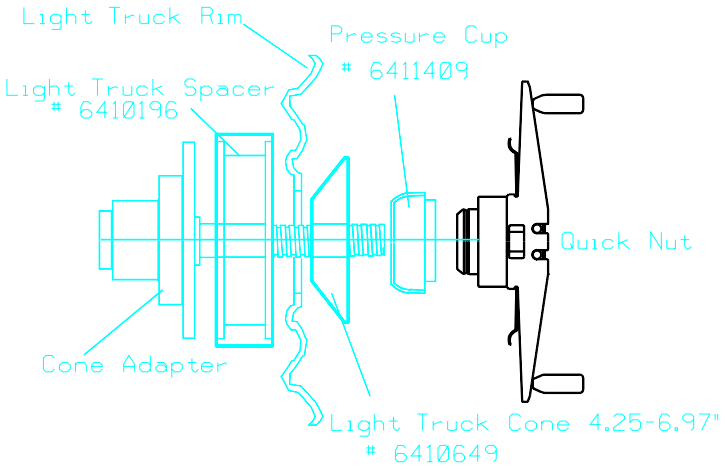
<u>Do NOT exceed wheel assembly weight of appropriate machine.</u>

For center hole larger than 4.25", use optional "light truck cone" #6410649 from front and reverse the pressure cup of the quick nut as shown below.



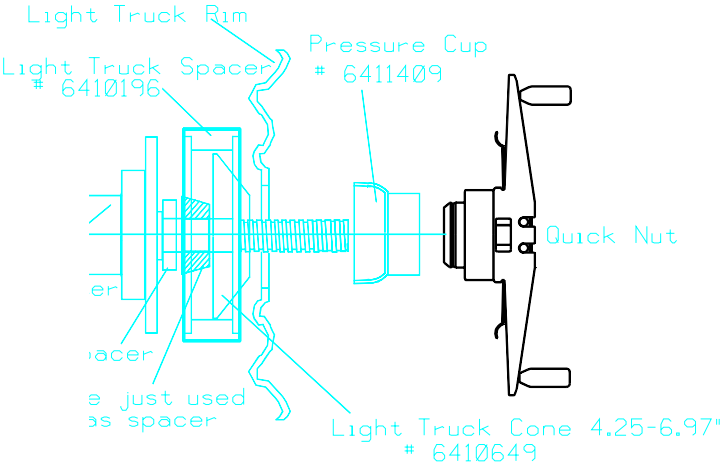
For "Light Truck Duals" with extra large hole.

Snap optional "light truck spacer" #6410196, over cone adapter flange, use optional "light truck cone" #6410649 from the front and reverse the pressure cup of the quick nut as shown below.



Alternative centering for "Light Truck Wheels"

Snap optional "light truck spacer" #6410196, over cone adapter flange, use optional a spacer and/or cone to assure for proper distance when using "light truck cone" #6410649 as shown below, use pressure cup of the quick nut from front.



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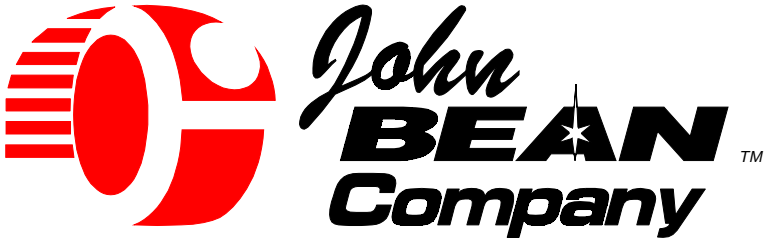

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REF.	PART #	DESCRIPTION
1	6411234	BACKING PLATE
2	1645047	WASHER
3	1611341	SPRING - COMPRESSION
4	1098001	SPRING CASING
5	1655092	SNAP RING
6	1524043	HEX SOCKET HEAD SCREW
7	1654060	LOCK WASHER
8	6414698	THREADED SHAFT
9	1524149	HSH CAP SCREW
10	1659901	CIRCLIP
11	6416637	ADAPTER SLEEVE COMPLETE WITH CLAMPING BOLT
12	6407345	SPACER RING
13	6411235	CENTERING CONE 41 - 74 mm
14	6411236	CENTERING CONE 71 - 96 mm
15	6411237	CENTERING CONE 93 - 116 mm

REF.	PART #	DESCRIPTION
16	6411409	CLAMPING HOOD
18	6411408	QUICK-NUT ASSEMBLY
19	1656052	SNAP RING
20	1645154	SPACER RING
21	1323600	FIBER SLIDING DISC
22	6409018	QUICK-NUT BODY
22	1538950	SCREW
23	6409019/020	CLAMPING JAWS - SET
24	1611128	COMPRESSION SPRING - JAWS
25	1645148	DISC, SPRING SET
26	1658060	CIRCLIP
27	1701409	SPRING CENTERING RING
28	1701365	ALLOY WHEEL PROTECTIVE RING
29	5524414	SPECIAL HEX WRENCH, 14MM
30		HANDLE
31	6413155	CALIBRATION WEIGHT