

BALATRON B140.G2.TC USER'S MANUAL



B140.G2.T

For any information, please contact:

e-mail:

FASEP 2000 srl
Via Faentina 96
50032 Ronta (Fi) Italy
Tel. #39 055 840 3126
Fax #39 055 840 3354

**www.fasep.it
info@fasep.it**

WARNING

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.Prior of the installation of the unit described in this manual, user should read this manual carefully to be instructed properly on installation, use and maintenance of the unit.

.Failing to read this manual and operate accordingly may cause damage to the user or the unit.

.FASEP 2000 srl shall not be responsible for inconvenience, breakdown, accidents due to uncomplete knowledge of this manual or uncomplete application of recommendations described in this manual.

.FASEP 2000 srl shall not be responsible for inconvenience, breakdown, accidents due to unauthorized modifications of the unit, use of non-original or unauthorized accessories (see Accessories listing in this manual for a list of original accessories available for this model).

.FASEP 2000 srl shall not be responsible for any inconvenience, breakdown, accidents caused directly or indirectly by not qualified service. Service to any parts by not qualified persons will void warranty and will void any right of the owner of the unit.

SYMBOLS AND CONVENTIONS

To speed the retrieval of main information and make easy to understand the instructions, this manual uses the following typing conventions:

<NAME OF THE PUSH BUTTON> Used to indicate name of push-buttons on the control panel.

DISPLAY Used to indicate text or number visible on the displays on the control panel.



ADVICES

Contain useful advices or solutions, evidenced with respect to the rest of the text.



NOTE

Notes contain important information, evidenced to the rest of the text.



WARNING

Warning messages appears corresponding to procedures that, if not properly observed, may lead to loose of data or cause damage to the unit.



CAUTION

Caution messages appears corresponding to procedures that, if not properly observed, may cause injuries to the user.

ORIGINAL INSTRUCTIONS

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1 PRESENTATION

1.0 Intended Use

This unit is designed to measure and correct static and dynamic unbalance of vehicle wheel, the dimension and weight of which are within the working range of the machine (see %Technical Data-appendix for reference).

This unit is meant for a professional use. Operator shall be properly trained before use. Training Course is not included in the price of the unit and must be purchased separately.

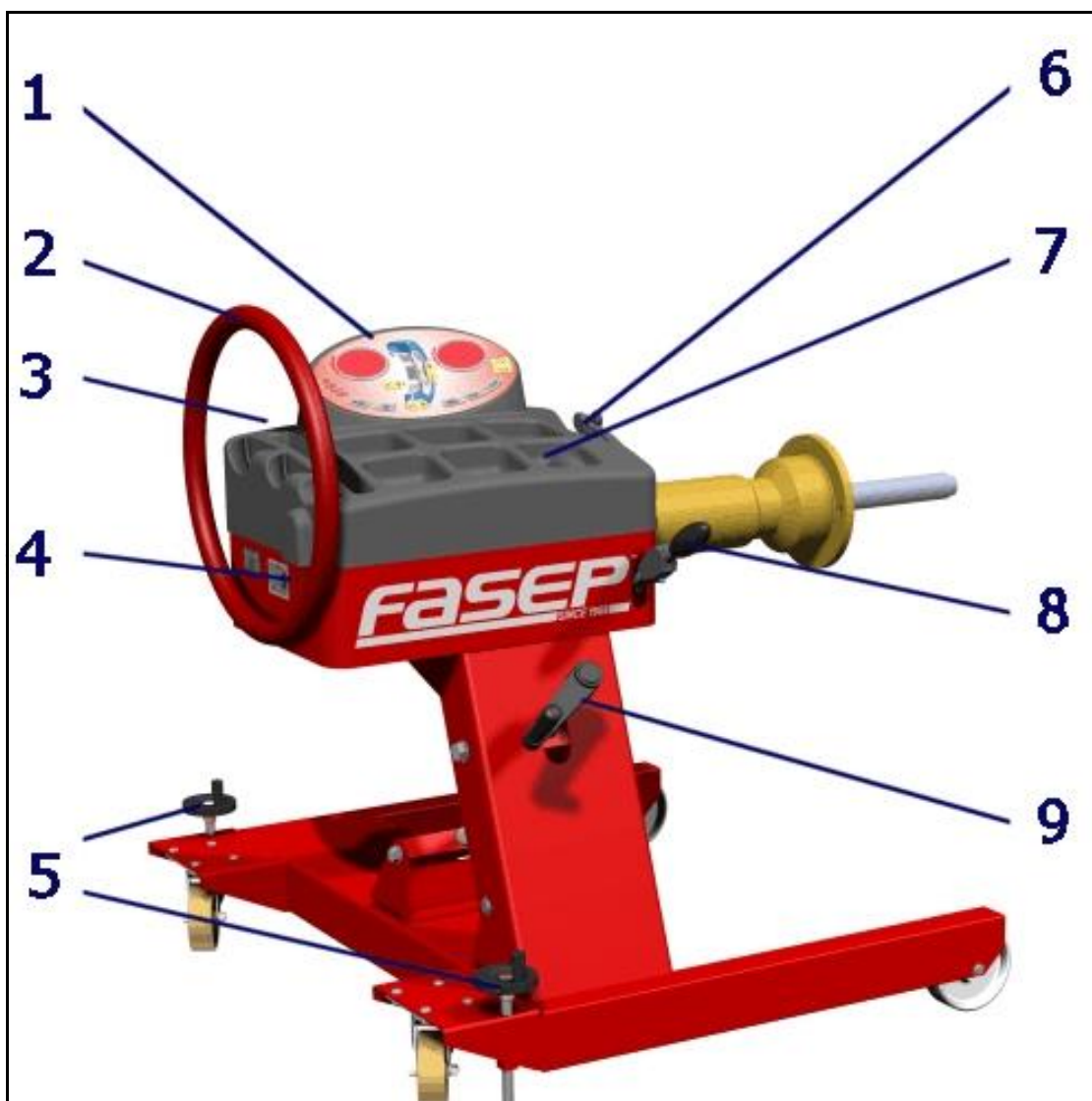
This unit is designed for indoor use only (see %Environmental Data-appendix for reference).



CAUTION:

This unit is designed to spin vehicle wheels only, within the range of dimensions and weight approved (see %Technical Data-appendix for reference). Special adaptors suit this purpose. Do not attempt to use the machine to spin anything else. Unproper locking may cause the part being spinned to be ejected, causing damage to the unit itself, the operator or anything in the in the neighborhood.

1.1 Definitions



1. Control Panel
2. Moving Handle
3. Battery charger plug
4. Power switch

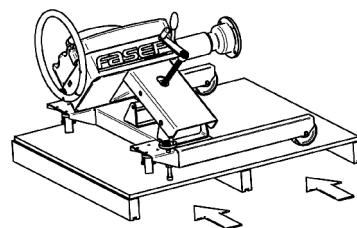
5. Handle to level and lock
6. Distance gauge
7. Weight compartments
8. Brake handle
9. Lift handle

2 INSTALLATION

2.1 Moving the unit



WARNING When the unit has to be moved: never lift balancer by motor shaft.



2.2 Assembling the unit

For ease of transportation, the wheel balancer might be disassembled into units. If necessary, assembling instruction are provided within each package.

2.3 Installation

The wheel balancer must be installed on a firm and level ground.

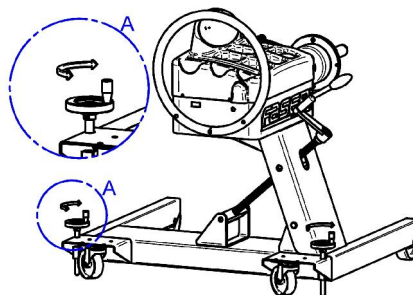


NOTE: the machine must be levelled and locked, using the levelling handles in the base.

2.4 Electrical Hookup



CAUTION: Failure to follow these instructions can results in damage to unit or create an electrical hazard and will void warranty.



2.4.1 Electrical hookup is to be provided by a qualified electrician.

2.4.2 A fusible wall-mounted switchbox is required at the installation site. This switch should provide on-off control and overload protection for your wheel balancer only. The switchbox should be fused with time-delay fuse(s) in accordance with the power rating specified on your wheel balancer.

2.4.3 Electrical connection of the machine should be by plug connectors.

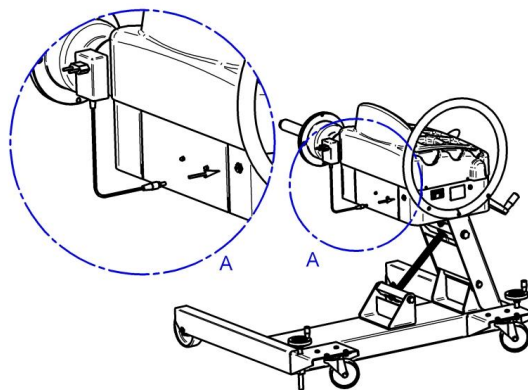
2.4.4 The balancer must be effectively connected to ground. The electric cord is regularly provided with a ground terminal.

2.4.5 Make sure that Power Rate Specifications for your wheel balancer (refer to nameplate on the wheel balancer) comply with those provided by the external power source.



CAUTION After electrical hookup has been performed unit is ready to operate. Always observe pertinent safety precautions when operating the unit (see Appendix tables for an overview of relevant Safety requirement).

The unit is operated with 12V battery,
Wall mount battery charger is provided.



3 USE THE CONTROL PANEL

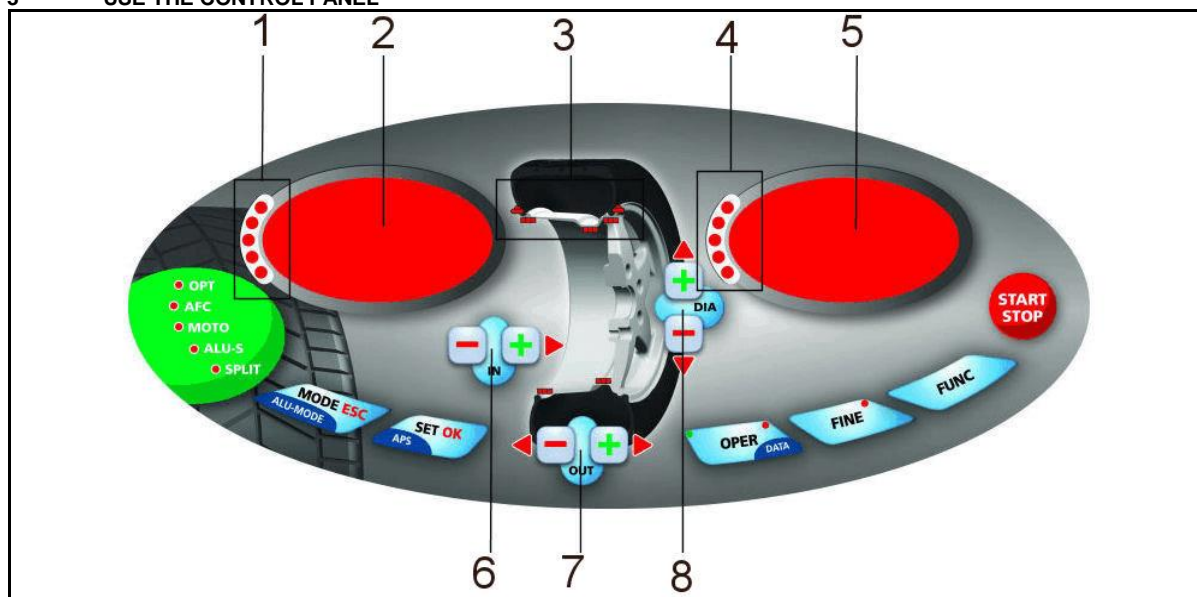


FIG. 6: Control Panel B140.G2.T

3.1 Meaning of keys at the keyboard

These instructions apply to Normal Operating Mode. Other function maybe activated by these keys in other operating modes (see Special Functions).

<MODE>: To select balancing type: Dynamic-Static-Alu.
 <SET>: Confirm selection.
 <OPER>: To select Operator 1 or Operator 2.
 <FINE>: To select reading scale.
 <FUNC>: To select specific functions
 <START-STOP>: Starts-stops wheel spinning.
 6 <DISTANCE -/+>: Set internal side measure.
 7 <WIDTH -/+>: Set width measure.
 8 <DIAMETER -/+>: Set diameter measure.

3.2 Meaning of Led Indicators

1-4: indicate location of weight required.
 2-5: indicate amount of weight required.
 3: indicate the application point of weights.

4 CALIBRATION



NOTE: *the following symptoms indicate need for calibration:*

- a) *check calibration program fails.*
- b) *constant low or high weight readings.*
- c) *indicated point of unbalance constantly wrong.*
- d) *more than 2 spins required to balance wheels repeatedly.*

4.1 How to calibrate the Wheel Balancer B140.G2.T, B140.G2.TC

Place a wheel on the flange as show on fig. 8.



Switch on the wheel balancer.
Press **<SET>** when **SOF X.XX** (software version) is displayed. It will appear **CAL** on the left display.

Press **<SET>** to start the calibration program.

Hand spin the wheel



NOTE: **ACC EL**: impress greater speed.

RED UCE: reduce the speed.

GO OD: the speed is corrected.

Apply a 160g weight on the internal side of the wheel (Fig. 9).

Hand spin the wheel

End of calibration.

Press **<MODE/ESC>** to return to normal balancing mode.

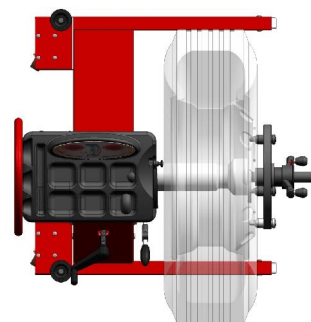


FIG. 8

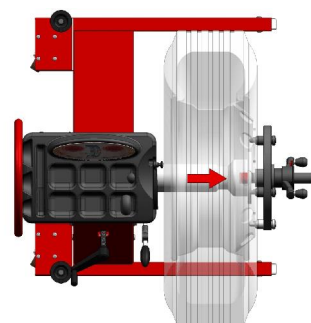
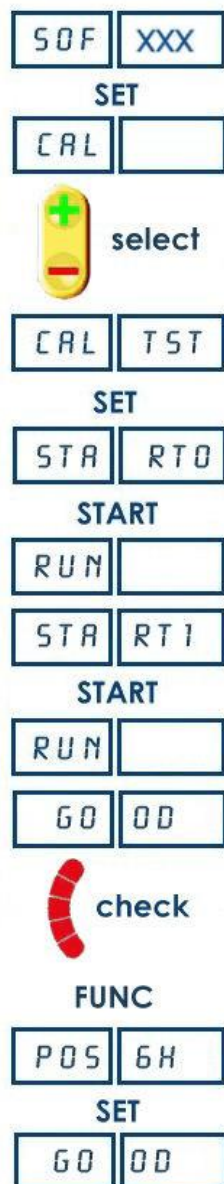


FIG. 9

4.2 How to control the calibration of Wheel Balancer



Press <+/-> to select CAL TEST.

Place a wheel on the flange (see the picture 11).

Hand spin the wheel

Put the calibration weight as shown in the picture 12.

Hand spin the wheel

Press <FINE> to see actual values. 160-0 (± 3) is correct result

When all LED (left side) are lit, calibration weight must be at exactly 6 o'clock.
If no, press <FUNC> to calibrate position

Turn the wheel until the calibration weight is located at 6 o'clock.

Press <SET> to calibrate the position.

Press <MODE/ESC> to return to normal balancing mode

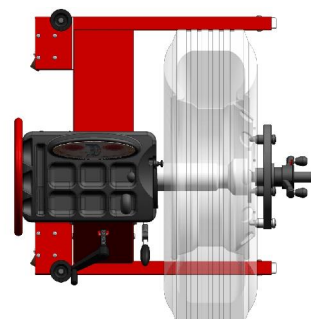


FIG. 11

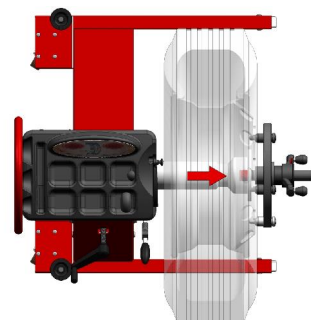


FIG. 12

5 MEASUREMENT AND CORRECTION OF UMBALANCE

5.1 Placing the wheel on the wheel balancer

5.1.1 Select the cone or flange suitable for the wheel to be balanced.



NOTE: *the operation of centering and tightening of the wheel on the flanges is of basic importance for correct balancing. Good results depend on proper performance of these procedures. Clean accurately all cones, shaft and adapter surface before placing the wheel on the wheel balancer.*



CAUTION: *Always make sure flanges are correctly locked on the motor shaft and wheel is correctly locked on the flange being used.*



- 5.1.2 Lower the balancer through lift handle
- 5.1.3 Lock the shaft through brake handle
- 5.1.4 Mount the flange
- 5.1.5 Near the wheel balancer to the wheel
- 5.1.6 Mount the wheel and the mating flange on the shaft
- 5.1.7 Lock the wheel on the shaft through locking handle
- 5.1.8 Lift the balancer through lift handle



NOTE: *Before measuring the unbalance restore balance in the fully raised.*

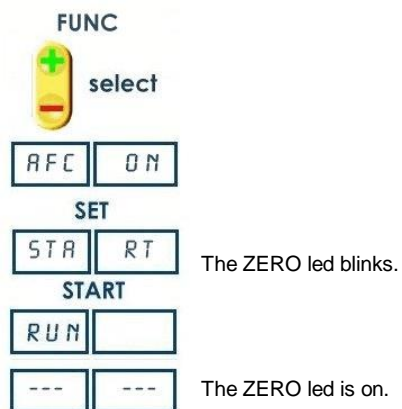
5.2 How to compensate unbalance of flanges using AFC function



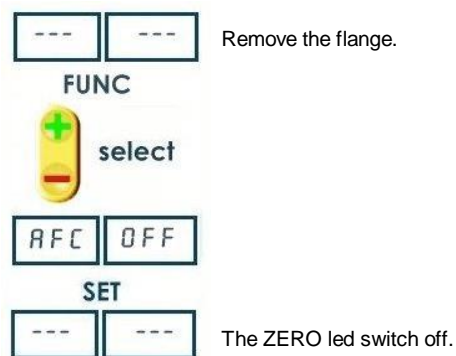
NOTE: *This operation allows to put compensate unbalance of flange and other accessories.*

5.2.1 Lock the required flange on the shaft without the wheel.

HOW TO TURN ON AFC FUNCTION



HOW TO TURN OFF AFC FUNCTION



5.3 Input of Rim Dimensions (trucks)



NOTE: *DOUBLE OPERATOR option: this wheel balancer can be used from 2 operators in the same time. Everyone can memorize the dimensions of the wheel to balance with <OPER> button. The machine memorizes the operating procedure too.*



FIG. 17: Rod position for distance measurement

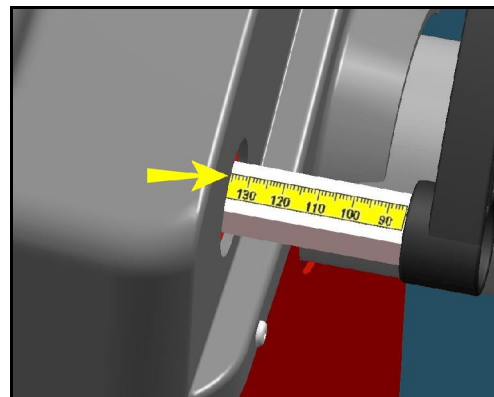


FIG. 18: Reading distance gauge

5.3.1

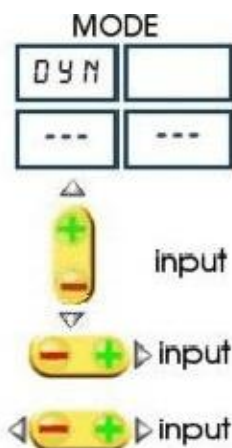


FIG. 19: Insert wheel measures

Press **MODE** to select the operating.

Select the diameter.

Select the distance.

Select the width.

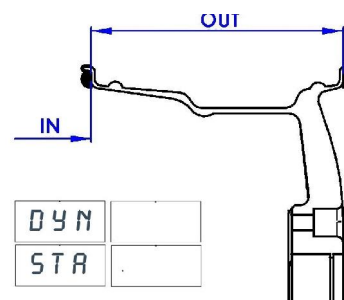


FIG. 20: DYNAMIC -STATIC

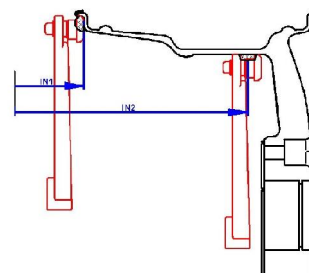


FIG. 21: ALU S-1

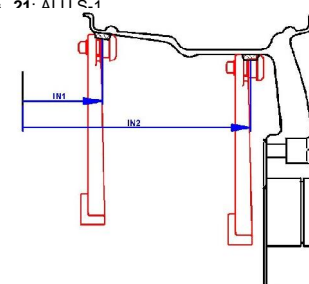


FIG. 22: ALU S-2

5.4 Detecting and correction of the umbalance

5.4.1 After setting wheel dimensions, spin the wheel till **GOOD** appears on the display.



NOTE: **GOOD** = correct speed
ACCEL = accelerate (speed is too low)
DECEL = decelerate (speed is too high).

5.4.2 At the end of the spin, stop the wheel. The display will show the weight position and weight requirement to correct the wheel's umbalance.

5.4.3 If umbalance shown is 0, press **<FINE>** to show residual umbalance.

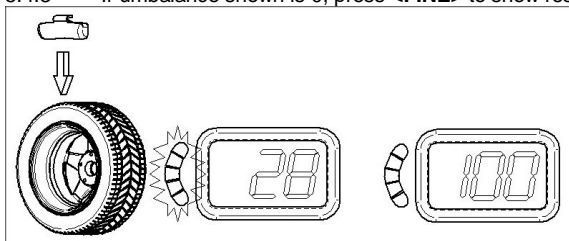


FIG. 23: inside weight indication

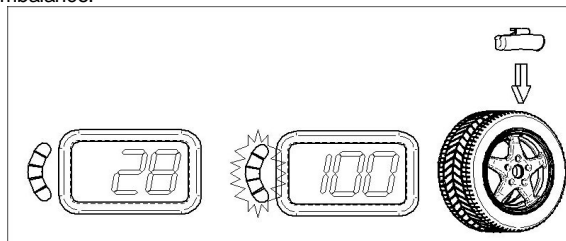


FIG. 24: outside weight indication



NOTE: *OPT light blinking after the measurement indicates that static umbalance is exceeding more than 200grs. Optimization procedure is suggested.*

6 HOW TO OPTIMIZE UMBALANCE OF THE WHEEL

- 6.1 Measure the umbalance of the rim only. Once the measurement of rim umbalance is calculated, press **<FUNC>** to enter optimization function.



Mount the tyre on the rim. After mounting the tyre, the wheel must be put on the shaft in the same position as before.

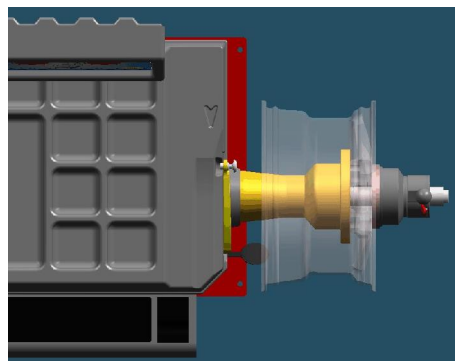


FIG. 26: first spin, rim only

Hand spin the wheel

Left display (24 in example) indicates present static umbalance. Right display (55% in example) indicates possible reduction of weight in %.

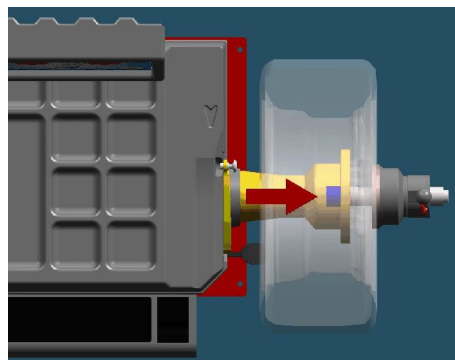


FIG. 27: Second spin, complete wheel

Turn the wheel until SIGN 1 is displayed.

Mark the rim (12 o'clock).

Turn the wheel until SIGN 2 is displayed.

Mark the tyre (12 o'clock).


Put the two marks together to optimize umbalance.

- 6.2 After pressing **<SET>**, the program return to the measurement of umbalance mode, where an indication of the residual umbalance values will be given.

7 HOW TO USE SPLIT WEIGHT FUNCTION

7.1 Measure the unbalance of the wheel and press **<FUNC>** to enter split function.

FUNC

 **select**

SPL	IT
-----	----

SET

TU	RN
----	----

POS	1
-----	---

Turn the wheel until POS 1 is displayed.

SET

TU	RN
----	----

POS	2
-----	---

Turn the wheel until POS 2 is displayed.

SET

Mark the tyre when the first spoke selected is at 12 o'clock.

Mark the tyre when the second spoke selected is at 12 o'clock.

7.2 The weight in grams for external side is displayed only when the wheel is in a correct position (12 o'clock).

8 SPECIAL FUNCTIONS MENU

8.1 Enter in the special functions menu

Switch on the wheel balancer and press **<SET>** before **SOE X.XX** will disappear.
The possible functions are:

CAL Calibration of wheel balancer
CAL tst Control of the calibration of electronic sensors
CAL rod Calibration of electronic input sensors
SEn Sor Diagnostic of sensors
StA tis Statistic about the use of machine
USr Set User setup
tEc Set Technical Setup
Ser nuM Serial number
Act Cod Inserting Activation Codes

8.2 Diagnostic sensors menu

Switch on the wheel balancer and press **<SET>** before **SOE X.XX** will disappear. Select **SEn Sor** and press **<SET>** to enter in the diagnostic sensors menu.
The possible functions are:

rPM Balancing speed
dIS Value of distance sensor
dIA Value of diameter sensor
tO Encoder is in the zero position
Pos Angle of position sensor (from 0 to 255)
PS1 Voltage of PS1
PS2 Voltage of PS2
Cou Safety cover is open or closed

8.3 Statistic menu

Switch on the wheel balancer and press **<SET>** before **SOE X.XX** will disappear. Select **StA tis** and press **<SET>** to enter in the statistic menu.
The possible functions are:

tot Total number of spin
SUC Percent of runs with a good result
from 11 to 17 Percent of wheels with the indicated diameter
CAL Number of calibrations

8.4 User Setup

Switch on the wheel balancer and press **<SET>** before **SOE X.XX** will disappear. Select **USa SET** and press **<SET>** to enter in the user setup menu.
The possible functions are:

ScA LE Set 1 or 5 grams step (0.05/0.25 ounces)
Cut OFF Set minimum weight to be displayed
Uni Out Unit of measure for the width (0=inch, 1=millimeters)
Uni Umb Unit of measure for the weight (0= grams, 1=once)
Fin AL Display of final (0 = normal, 1 = blink, 2= Go OD).
biP Acoustic signal (ON or OFF)
EME StP Motor brakes In case of emergency stop (On or OFF) (OFF: motor power is cut)
Cou Er On = the motor start only if the safety cover is closed;
OFF = safety cover is not installed;
Aut = closing of safety cover the motor starts automatically.
rod Enable/Disable automatic input system
rES Et Load Factory Setup

APPENDIX

A: Technical Data

Power source	3Ph, 50-60Hz, 220-380V
Balancing speed	82-98 rpm
Measuring time	10-25 s.
Measure precision	20grs (B140.G2.T)
Wheel dimensions	Rim Diameter da 8" (200mm) a 26" (650mm) Wheel Diameter max 34" (870mm) Wheel Weight Max 200 Kg (440Lbs)

Wheel balancer dimensions

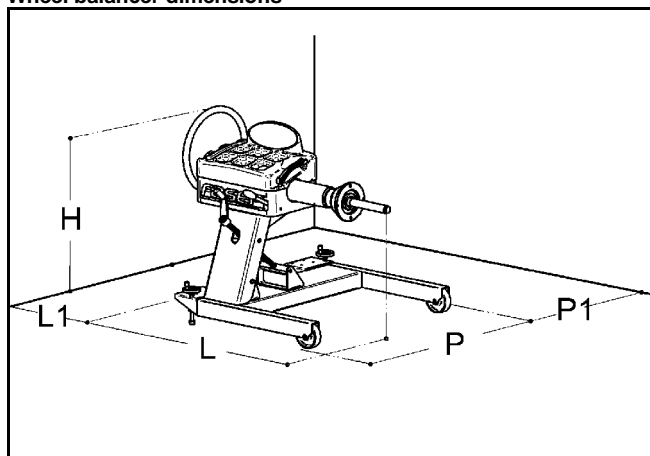


Fig. 29: Wheel balancer dimensions

	B140.G2.T
L (mm)	1110
L1 (mm)	500
P (mm)	1000
P1 (mm)	200
H (mm)	1000
Peso (kg)	130

B: Environmental Data, Safety Features and Requirements

Environmental Data

[Operating conditions]

This unit is designed for indoor use only.

Temperature: 0 to 45°C

Relative Humidity: 5 to 80% a 40°

[Storage conditions]

Package is designed for indoor storage only.

Temperature: -25° to 70°C

Relative humidity: 5 at 95% to 40°C

Safety Features

1. The weights compartments may be removed for servicing. It is secured to the machine body through screws so that only voluntarily it may be removed. Removal of the weights compartments is therefore restricted to Authorized Service Engineers.
2. The Control Panel may be removed for servicing. It is secured to the machine body through screws so that only voluntarily it may be removed. Removal of this protection is therefore restricted to Authorized Service Engineers.



CAUTION: The safety cover is anyway required when using the motorcycle adapter.



WARNING FASEP 2000 srl shall not be responsible for any inconvenience, breakdown, accidents caused directly or indirectly by unauthorized service. Service to any parts by unauthorized engineers will void warranty and will any right of the owner of the unit.



NOTE: As this unit runs at speed below 100rpm, a safety cover is not required. However a safety cover is recommended when balancing wheels with diameter bigger than 20".

General Safety Requirement

[before using/servicing this unit]

1. Read this instruction sheet and the whole user's manual before operating or servicing the wheel balancer.
2. Make sure electrical power source conforms to requirements shown on nameplate.
3. Make sure the unit has a stable position and it's bolted to the ground.

[when using the unit]

4. Protect power leading to the unit from damage.
5. When work area is being washed, make sure unit is adequately protected.
6. Remove all stones and mud lodged in tire treads before balancing the wheel.
7. Do not touch spinning wheel.
8. Make sure counterweights are securely attached before checking residual unbalance.

[when servicing the unit]

9. Make sure power sources are disconnected before service on the unit is performed.
10. Service to PCB, electrical and mechanical parts should be done only by an Authorized FASEP 2000 Service Center.

C: Errors and Malfunctions recognized by the Computer

Errors may apply to some model only.

ERR 1: Shaft does not rotate	ERR 13: Printer not connected
ERR 2: Rotation Direction is wrong	ERR 14: Incorrect password
ERR 3: Rotation speed is not ready	ERR 15: E ² prom error
ERR 4: Rotation speed is wrong (too low or too high)	ERR 16: Calibration memory error
ERR 5: Position Sensor or Position Disk failure	ERR 17: Rod in incorrect position
ERR 6: Safety cover is open	ERR 18: Excessive weight detected
ERR 7: Measuring cycle was interrupted	ERR 19: Reserved
ERR 8: Calibration weight was not inserted.	ERR 20: Reserved
ERR 9: Activation code not correct	ERR 21: Error in inputting data
ERR 10: Overflow in calculations	ERR 22: Brake error
ERR 11: Serial number is wrong	ERR 23: Reserved
ERR 12: Serial number not inserted	ERR 24: The shaft is opened or the air pressure is not sufficient.

For a complete and updated list of error codes on the machine together with resolution procedure, please visit <http://support.fasep.it/kb>