BALATRON B350.G3
USER'S MANUAL

FIG. 1 B350.G3.T

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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 raccomendations described in this manual.

.FASP 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, evidence d 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

TABLE OF CONTENTS

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 neighboorhood.*

1.1 Definitions

1. Control Panel
2. Measuring guage
3. Weights compartments
4. Nameplate label
5. Power switch
6. Flange holder
7. Safety chain
8. Pneumatic lifter joystick control
9. Pneumatic lift
10. Sliding wheel support

1.2 Lifter - Intended Use

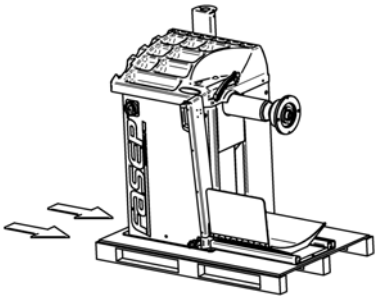
The lifter of this wheel balancer is designed to move wheel of vehicles complete with tire, with size and weight within the work range specified (see Appendix 'Technical Data').
This unit is meant for a professional use. Operator shall be properly trained before use, and in any case must carefully read the "User's manual". This unit is designed for indoors use.

- It is expressly forbidden to use the lift to move, raise and lower anything other than a wheel for vehicles.
- After positioning the wheel on the sliding wheel support of the lift, the wheel must be anchored with safety chain before performing any handling
- Any other use than those specified shall be deemed prohibited, not provided by the manufacturer and therefore potentially dangerous.

2 INSTALLATION

2.1 Moving the unit

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



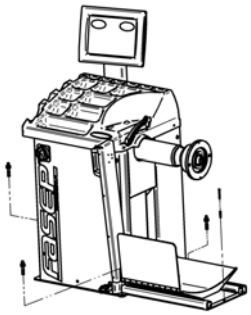
2.2 Assembling the unit

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 secured to the floor. Using four holes in the base and anchor bolts provided.



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).*

2.5 Air compressed

2.5.1 Connect the inlet air to a network of compressed air pressure of 8 -10 bar.

2.5.2 Check that the air supply tube passage has a useful diameter of 6 mm.

⚠ **CAUTION** *LIFTER: Regarding first use of the lift, as the pneumatic circuit probably empty, do not open the valve control fully. Open the air passage slowly so as to avoid sudden movements of the platform.*

Do not enter into the circuit hydraulic oil, brake fluid or other liquids, the circuit is designed exclusively for the use of compressed air pressure of 8 Bar max

3 USE THE CONTROL PANEL

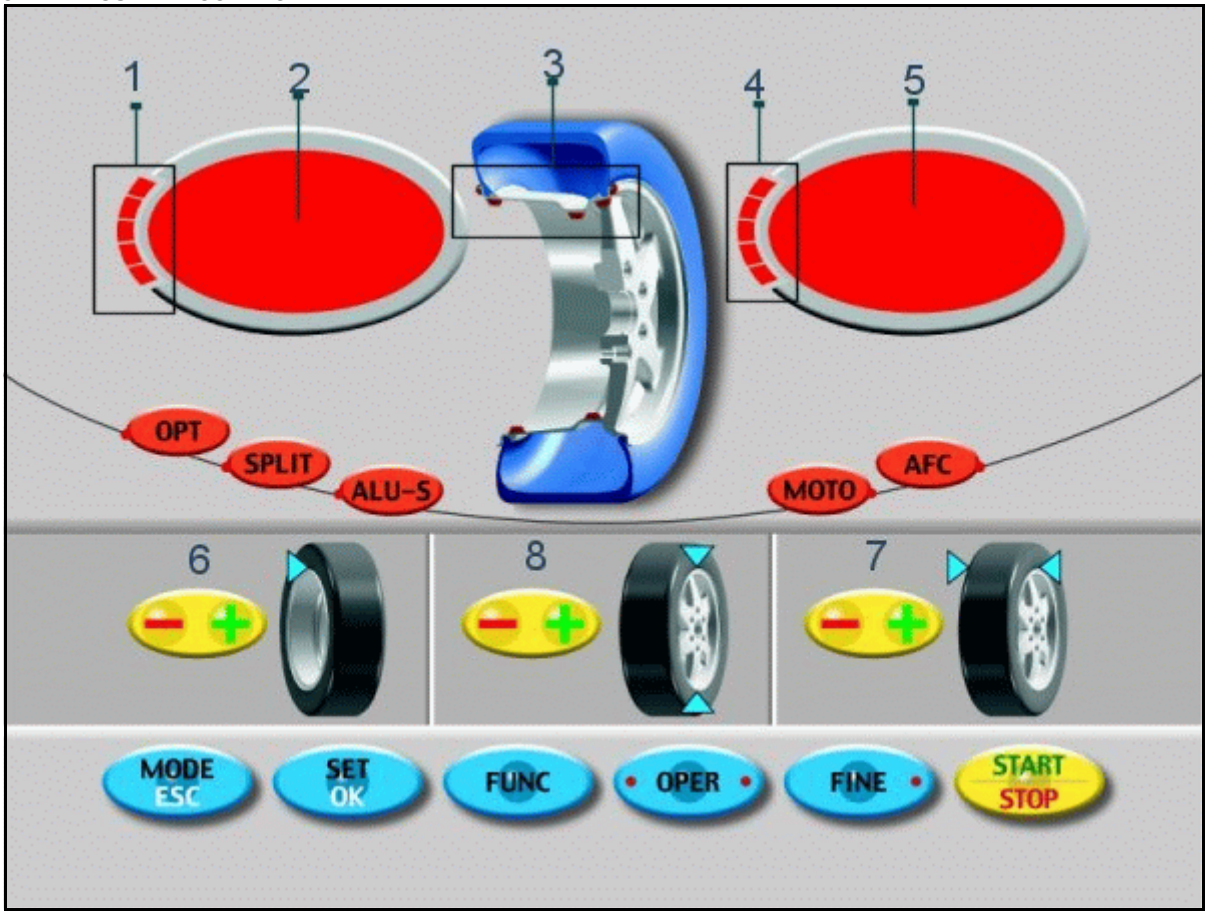


FIG. 6: Panel Balatron 350

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.

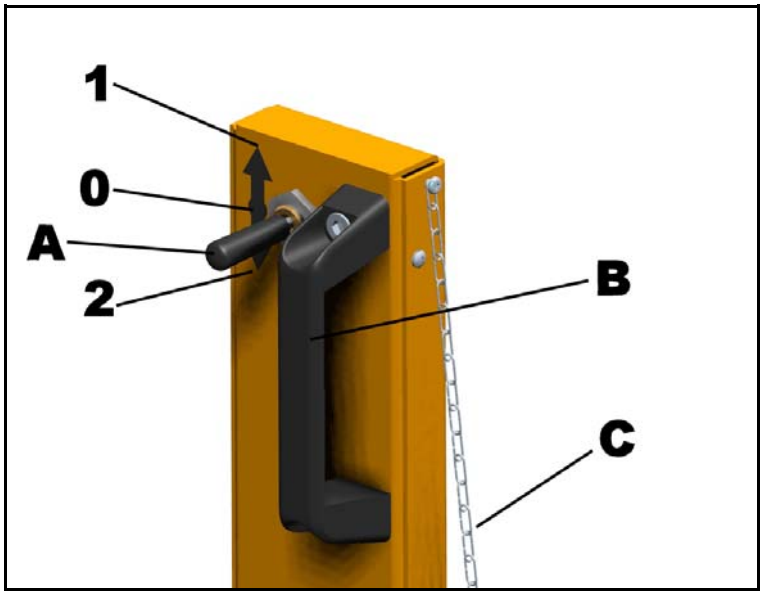
3.2 Meaning of Led Indicators

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

3.3 Use of the lifter

3.3.1 Commands

Lifting \ lowering is controlled by the lever (A) of the valve, located on the lift arm, represented in the figure that has three possible positions:



1 - Lifting of the wheel
0 - Stop (neutral position)
2 - Lowering of the wheel

Note: The lever is held, if issued by the position (1) or (2) automatically returns to the neutral position (0)

Near to the control lever (A) has a handle (B) that allows the operator to move the lift safely.
When the wheel is loaded into the "sliding wheel support", before making any move, the operator must be ensure the wheel in the arm of the lift by the hook at the bottom of the chain of security (C) in order to avoid tipping from home.

3.3.2 How to use the lift

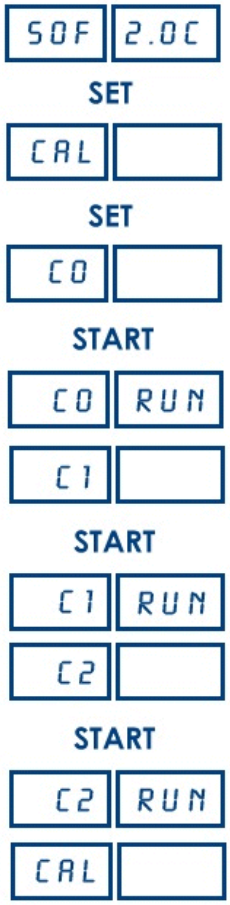
3.3.2.1 Place the wheel on the sliding wheel support manually.
3.3.2.2 Ensure the wheel firmly to the arm of the lift down by the safety chain
3.3.2.3 Move the control lever into position 1 and to hold it until the axis of rotation of the wheel is at the height of the axis of rotation of the wheel balancer
3.3.2.4 Release the lever that automatically returnsin to position 0.
3.3.2.5 Hand operated lift arm by sliding on the rails so as to position the wheel near the balancer shaft.
3.3.2.6 If necessary, operate the lever further to correct the position of the wheel in relation to the shaft. Lever (A) in position **1** for lifting, lever (A) in position **2** for lowering
3.3.2.7 Lock the wheel on the shaft of the balancer.
3.3.2.8 Remove the safety chain from the wheel
3.3.2.9 Lower the sliding wheel support lift and carry it into the machine at rest, making sure that the wheel is free to rotate and that no part of the lift to interfere with the rotational movement.
3.3.2.10 At the end of the cycle of balancing press the sliding wheel support of the lift to the wheel by operating the valve in position **1**.
3.3.2.11 Replace the safety chain ensuring the wheel on the arm of the lift.
3.3.2.12 Unlock the wheel from the shaft of the balancer.
3.3.2.13 Remove the lift with the wheel on the sliding wheel support from the balancer.
3.3.2.14 Operate the control lever in position **2**. The wheel is lowered and can be downloaded manually from the sliding wheel support by rolling off the ramp
3.3.2.15 The lifter is ready for a new cycle.

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 umbalance constantly wrong.
d) more than 2 spins required to balance wheels repeatedly.

4.1 How to calibrate the Wheel Balancer B350-T



Switch on the wheel balancer.
Press **<SET>** when **SOF X.XX** (software version) is displayed.

Spin the empty shaft (see the picture 9).

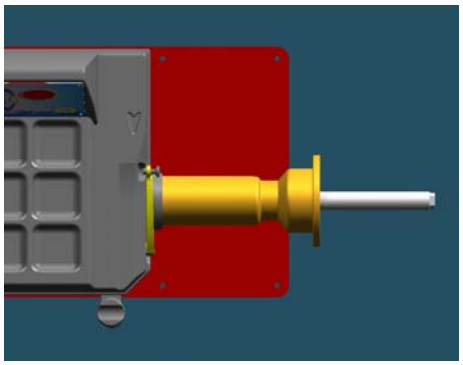


FIG. 9

Place the truck flange (see the picture 10).

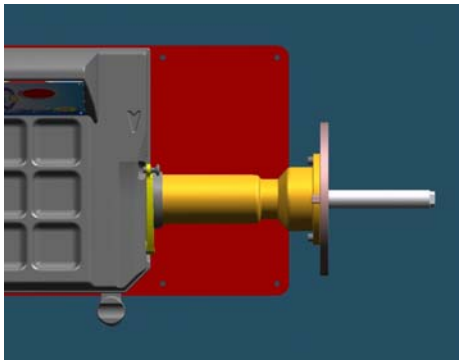


FIG. 10

Put the calibration weight as shown in the picture 11.

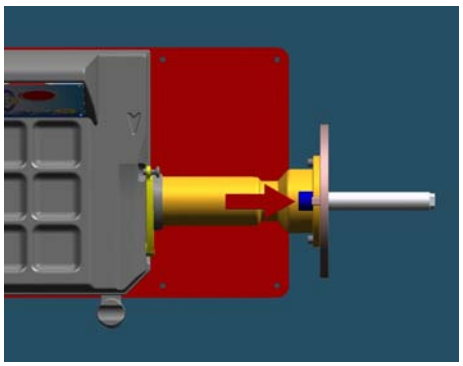
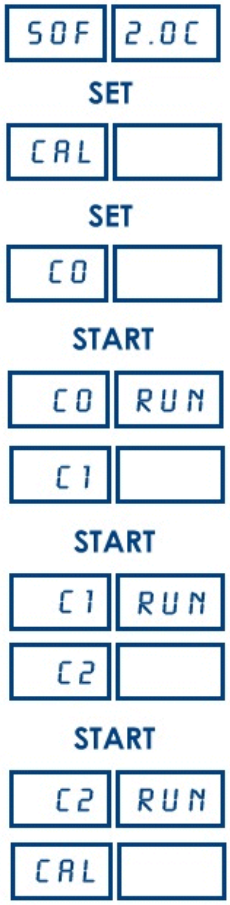


FIG. 11

End of calibration.

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

4.2 How to calibrate the Wheel Balancer B350-TC



Switch on the wheel balancer.
Press **<SET>** when **SOF X.XX** (software version) is displayed.

Spin the empty shaft (see the picture 13).

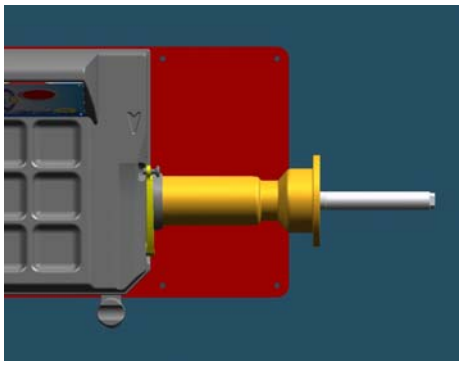


FIG. 13

Place a wheel on the flange (see the picture 14).

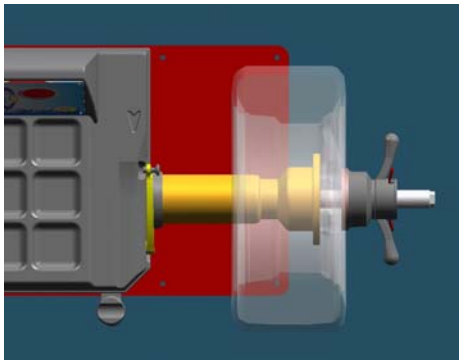


FIG. 14

Put the calibration weight as shown in the picture 15.

End of calibration.

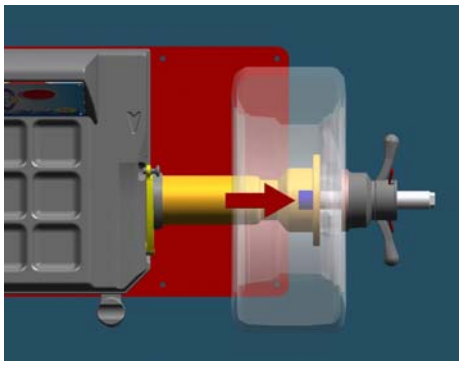
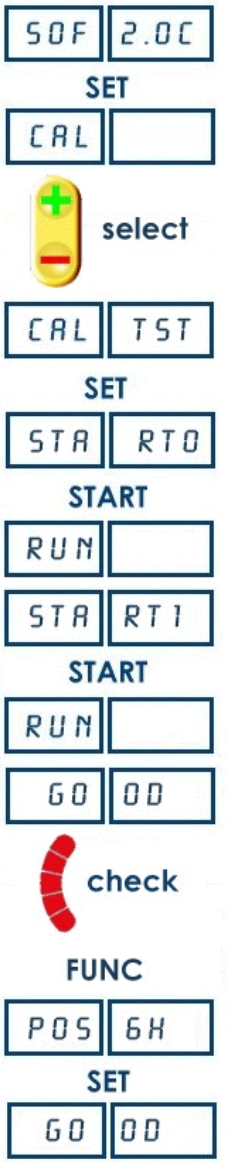


FIG. 15

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

4.3 How to control the calibration of Wheel Balancer B350-T



Press <+/-> to select CAL TEST.

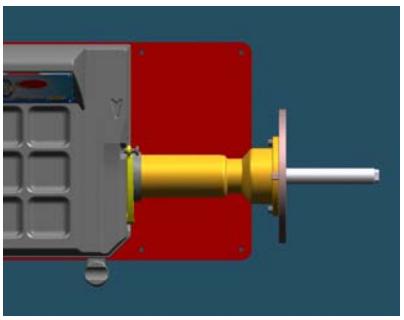


FIG. 17

Place the truck flange (see picture 17).

Put the calibration weight as shown in the picture 18.

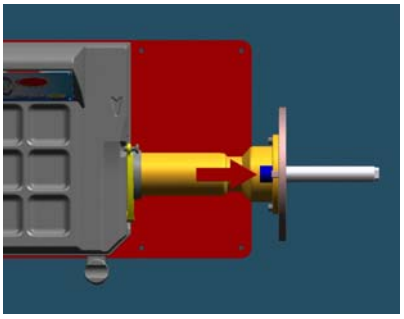


FIG. 18

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 flange 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.

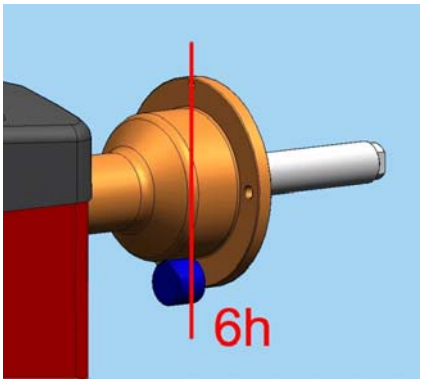
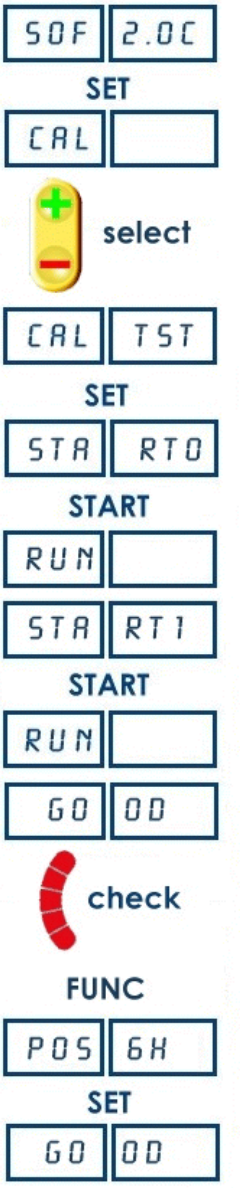


FIG. 19

4.4 How to control the calibration of Wheel Balancer B350-TC



Press <+/-> to select CAL TEST.

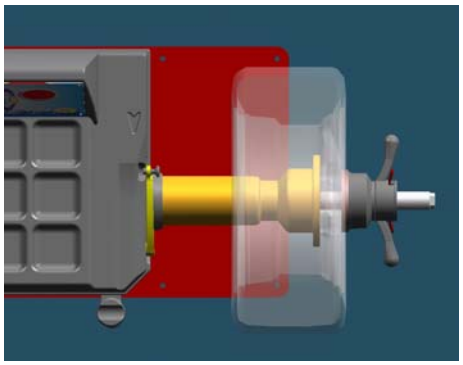


FIG. 21

Place a wheel on the flange (see the picture 21).

Put the calibration weight as shown in the picture 22.

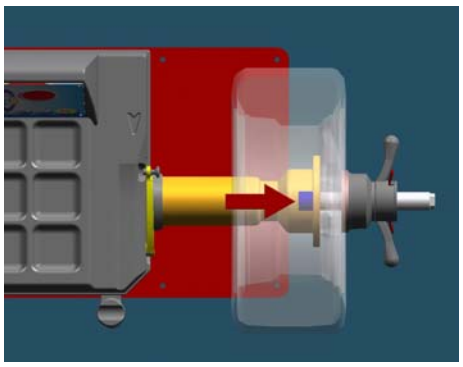


FIG. 22

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.

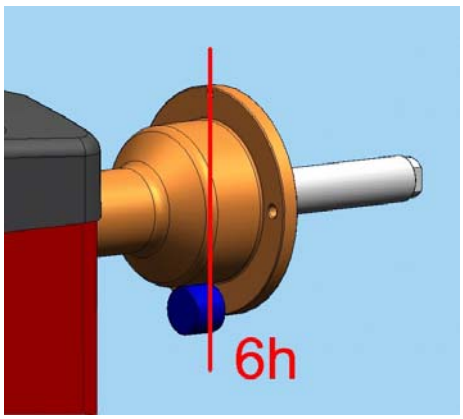


FIG. 23

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

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 adappter 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*.

5.2 How to compensate umbalance of flanges using AFC function

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

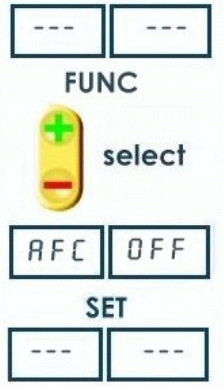
5.2.1 Lock the required flange on the shaft without the wheel.

HOW TO TURN ON AFC FUNCTION

The ZERO led blinks.

The ZERO led is on.

HOW TO TURN OFF AFC FUNCTION



Remove the flange.

The ZERO led switch off.

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>*** *buttom. The machine memorizes the operating procedure too.*

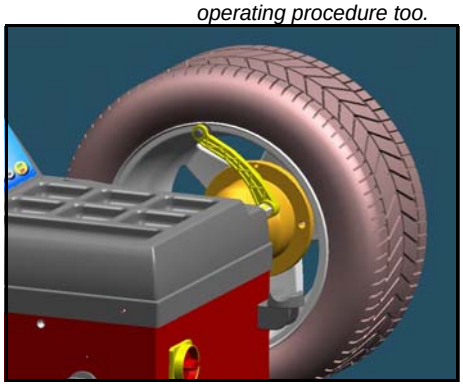


FIG. 26: Posizione Asta per la misura della Distanza

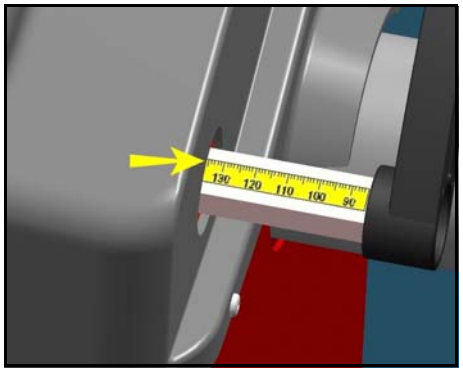


FIG. 27: Lettura della Distanza

5.3.1 **(only B350-TC)** Press **<SET>**, press <diam+/-> to set CARS (**MOD CAR**) or TRUCK (**MOD TRU**). Press **<SET>** to memorize.

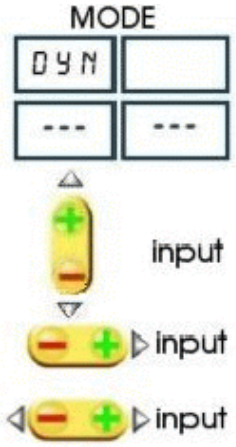


FIG. 28: Insert wheel measures

Press **MODE** to select the operating.

Select the diameter.

Select the distance.

Select the width.

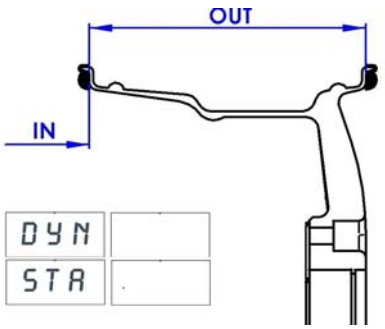


FIG. 29: DYNAMIC -STATIC

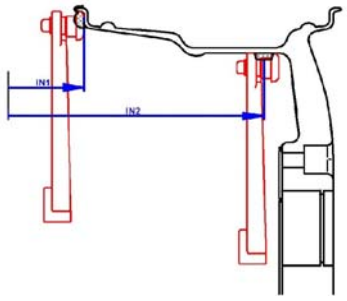


FIG. 30: ALU S-1

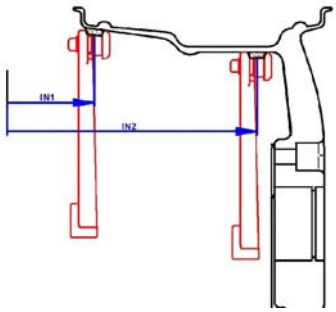


FIG. 31: ALU S-2

5.4 Detecting and correction of the umbalance

5.4.1 After setting wheel dimensions, press **<START>** to spin the wheel and start the measurement run.

5.4.2 At the end of the spin the wheel will brake automatically and 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.

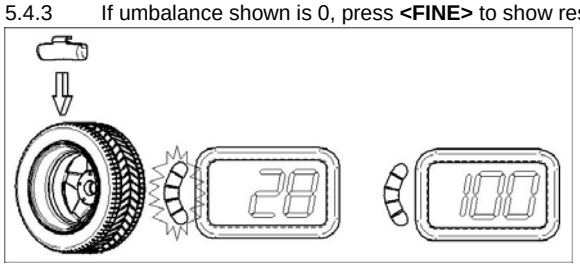


FIG. 32: inside weight indication

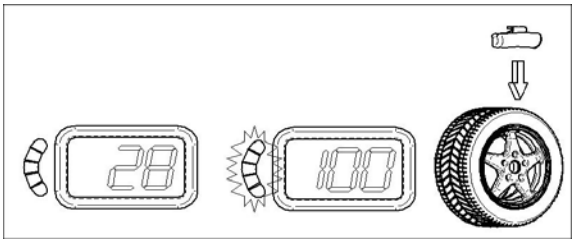


FIG. 33: outside weight indication

NOTE: *OPT light blinking after the measurement indicates that static umbalance is exceeding more than 20grs. 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.

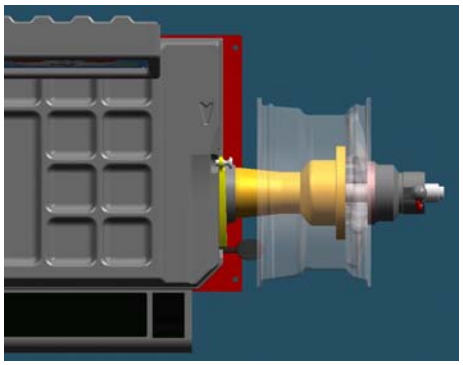


FIG. 35: first spin, rim only

Left display (20 in example) indicates present static umbalance. Right display (55% in example) indicates possible reduction of weight in %.

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).

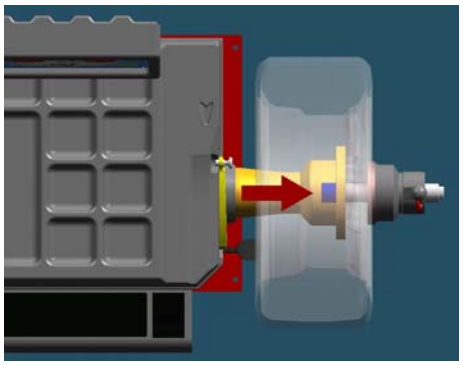


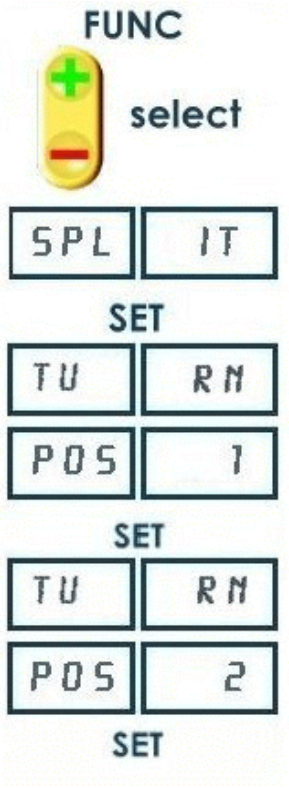
FIG. 36: Second spin, complete wheel

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 umbalance of the wheel and press **<FUNC>** to enter split function.



Turn the wheel until POS 1 is displayed.

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

Turn the wheel until POS 2 is displayed.

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 SOF 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 SOF 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 SOF 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
da **11** a **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 SOF X.XX will disappear. Select **USa SET** and press **<SET>** to enter in the user setup menu.
The possible functions are:

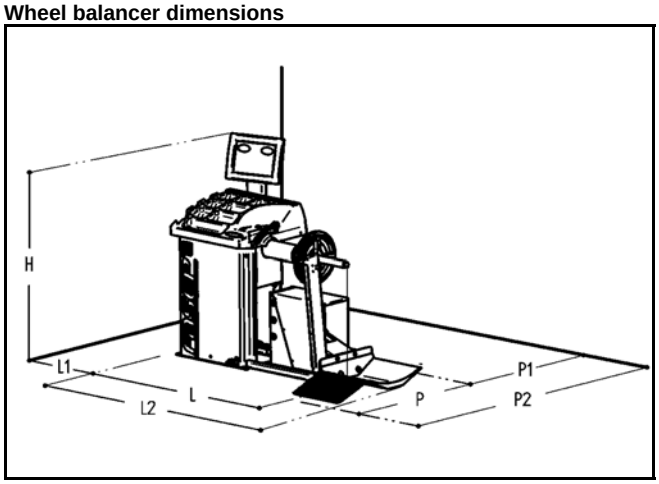
ScA LE	Set 1 or 5 grams step (0.05/0.25 onces)
Cut oFF	Set minimum weight to be displayed
Uni Out	Unit of measure for the width (0=inch, 1=millimeters)
Uni Umb	Unit of measure for the weight (0= grams, 1=once)
Fin AL	Display of final (0 = normal, 1 = blink, 2= Go OD).
biP	Acustic signal (ON or OFF)
EME 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

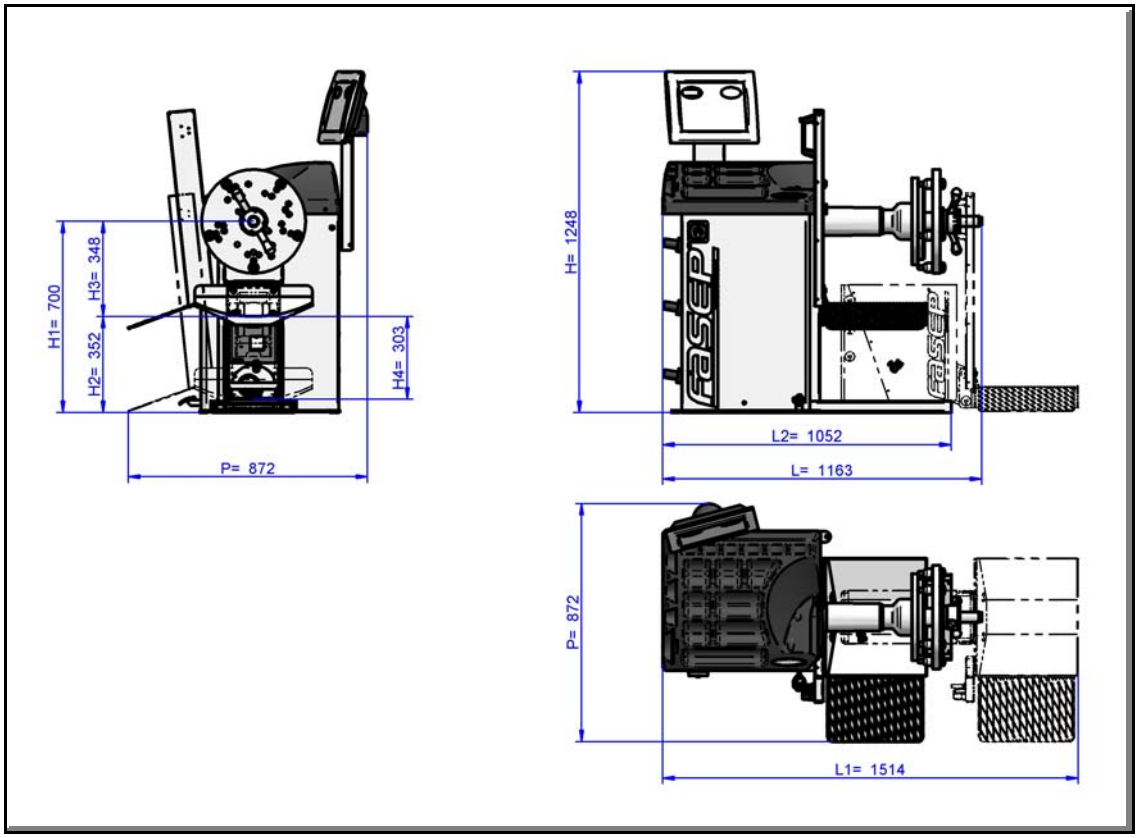
Power source	3Ph, 50-60Hz, 220-380V	
Balancing speed	82-98 rpm	
Measuring time	10-25 s.	
Measure precision	20grs (B350.G3.T)	
Wheel dimensions	**Rim Diameter**	da 8" (200mm) a 26" (650mm)
	Wheel Diameter	max 34" (870mm)
	Wheel Weight	Max 200 Kg (440Lbs)

Wheel balancer dimensions



	B350.G3.T
L (mm)	1170
L1 (mm)	200
L2 (mm)	1530
P (mm)	770
P1 (mm)	300
P2 (mm)	1070
H (mm)	1250
Peso (kg)	170

FIG. 38: Wheel balancer dimensions



Technical Data of the lifters

Maximum wheel weight	140 Kg
Maximum pressure in the system	8 bar
Minimum wheel diameter	700 mm
Maximum wheel diameter	1260 mm

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 then 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 umbalance.

[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.

Lifter Service

1 By its nature, the lift must not be subjected to special attention for maintenance. However, to work better keep clean the slide rails.
2 Periodically verify that the filter incoming mail to the condensate pneumatic circuit is not full of water, or empty.

- Before performing operations on the mechanisms of the lift with the sliding wheel support in the up position, place between the floor and the sliding wheel support itself a piece of wood that ensures stability in this position.

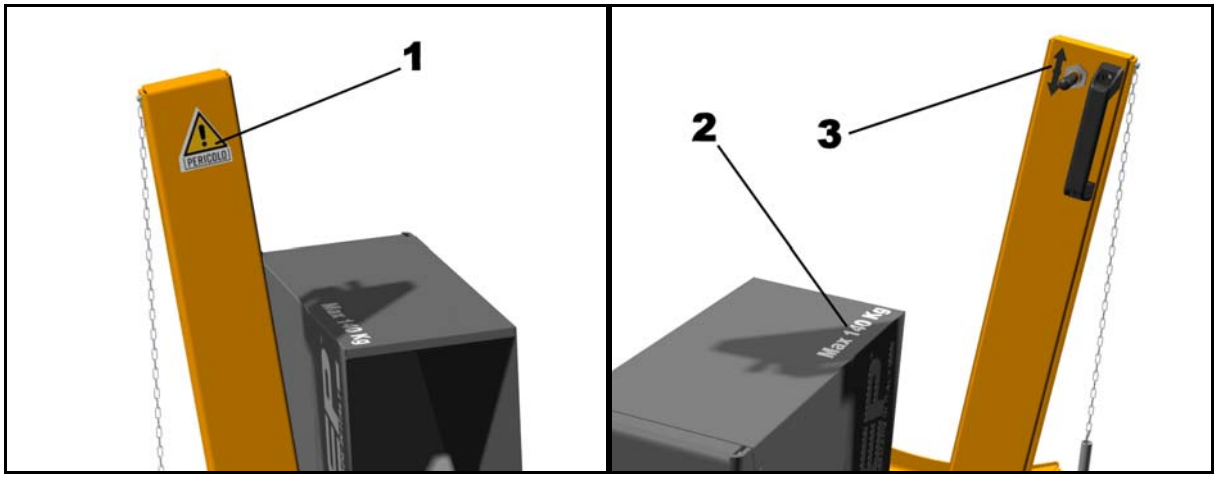
- Not operate on the pneumatic circuit before it was emptied by the internal pressure.

Lifter Safety features

1 The pneumatic system which is home to a machine and which provides the energy for the lifting of the wheel is equipped with a filter-pressure regulator which prevents any moisture present in the plant upstream from penetrating inside the circuit of the lift . The regulator prevents the circuit is powered with higher pressures of 8 bar in that it allows a maximum transfer of this pressure.
2 The valve actuation is a component of security since its release (position 0) stops the movement of the lift.
3 The articulation of the pantograph system is protected against the danger of crushing a metal housing attached with screws that are not easily removable.
4 The legs are protected from being crushed by the position of the two tracks on the floor that avoid, with their bulk, the shoe to penetrate beneath the sliding wheel support and then to hold off the legs from the danger zone.
5 The ramp is attached to the sliding wheel support and then rises and falls with it, the connection between the ramp and the sliding wheel support is constructed with a hinge and this allows the ramp to be free to rise and fall so that the pressures involved are such that even if an artist less trapped between the ramp and the floor during the descent, it does not entail any serious consequence. In any case it is recommended the use of safety shoes.
6 The lever that controls the functions of the machine is protected against inadvertent or accidental operation by the handle located next to the lever.
7 In case of lack of supply of compressed air from the installation General on the machine will not create dangerous situations as they stop all movements.
8 Were affixed to some pictographs that call attention to some aspects of hazardous debris that involve the use of the lift.
9 The SOUND PRESSURE level at operator's ear resulting from raising and its organs in general is not significant (<70 dB (A)).
10 There are no vibrations on the operator.

- Using the lift is allowed only to properly trained operators.
- It is forbidden to use the lift in bad conditions or precarious balance.
- It is not allowed to use the lift to operators without Safety shoes.
- Before using the lift ensure the stability of the machine by checking the integrity and effectiveness of anchoring the base to the floor.
- It is forbidden to modify both safety devices mechanical and pneumatic, in particular the pressure reducer of the pneumatic circuit.

Safety pictograms



1 Label cod. 9M2517 **“PERICOLO”** showing care and caution in using the lift, in particular, there are residual risks in respect of CRUSHING OF THE HANDS, and the CRUSHING FOOT.
2 Label cod. 2M3615 **“MAX. 140Kg”** showing that the wheel to be moved must have a maximum weight of 140kg.
3 Label cod. 2M3603 **“Working Arrow”** showing positions of the pilot valve.

In case of poor readability or damaged plates applied to the machine, you must rearrange your dealer or the manufacturer's data plate missing, using the codes provided, and reposition it in the same place the existing one.

C: Errors and Malfunctions recognized by the Computer
Errors may apply to some model only.

ERR 1: Shaft does not rotate
ERR 2: Rotation Direction is wrong
ERR 3: Rotation speed is not ready
ERR 4: Rotation speed is wrong (too low or too high)
ERR 5: Position Sensor or Position Disk failure
ERR 6: Safety cover is open
ERR 7: Measuring cycle was interrupted
ERR 8: Calibration weight was not inserted.
ERR 9: Activaction code not correct
ERR 10: Overflow in calculations
ERR 11: Serial number is wrong
ERR 12: Serial number not inserted
ERR 13: Printer not connected
ERR 14: Uncorrect password
ERR 15: E²prom error
ERR 16: Calibration memory error
ERR 17: Rod in uncorrect position
ERR 18: Excessive weight detected
ERR 19: Reserved
ERR 20: Reserved
ERR 21: Error in inputting data
ERR 22: Brake error
ERR 23: Reserved
ERR 24: The shaft is opened or the air pressure is not sufficient.

Scheme Pneumatic System Lifter