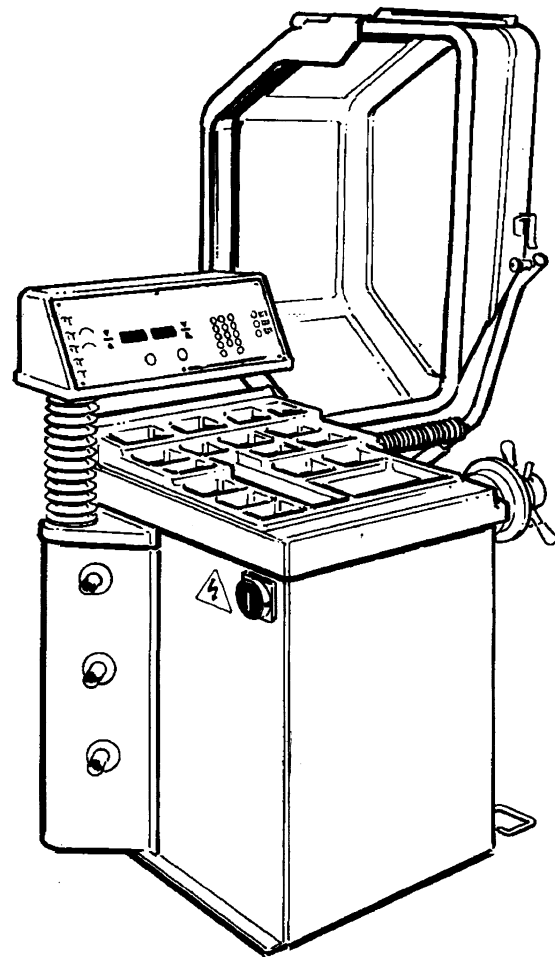


Microtec 830



Microtec 840

INSTRUCTIONS MANUAL

Wheel Balancers English

**Microtec 830 and
Microtec 840**

EDV 761 652 911

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Beissbarth GmbH Automobil-Servicegeräte
Hanauer-Straße 101 80993 Munich, Tel. 089/14901-0 Fax 089/14901-211
Internet: **WWW.BEISSBARTH.COM** e-Mail: **SERVICE@BEISSBARTH.COM**

WARNINGS

The present instructions booklet is an integral part of the product. Carefully study the warnings and instructions contained in it. This information is important for **safe use and maintenance**. Conserve this booklet carefully for further consultation.

**Microtec 830 – Microtec 840
ARE MACHINES DESIGNED AND CONSTRUCTED
FOR BALANCING THE WHEELS OF
CARS, VANS,
AND MOTORCYCLES.**

**THE MACHINES HAVE BEEN DESIGNED TO OPERATE WITHIN THE
LIMITS DESCRIBED IN THIS BOOKLET AND IN ACCORDANCE WITH
THE MAKER'S INSTRUCTIONS.**

The machines must be used only for the purposes for which they were expressly designed. Any other use is considered wrong and therefore unacceptable. **The maker cannot be held responsible for eventual damage caused by improper, erroneous, or unacceptable use.**

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Microtec 830

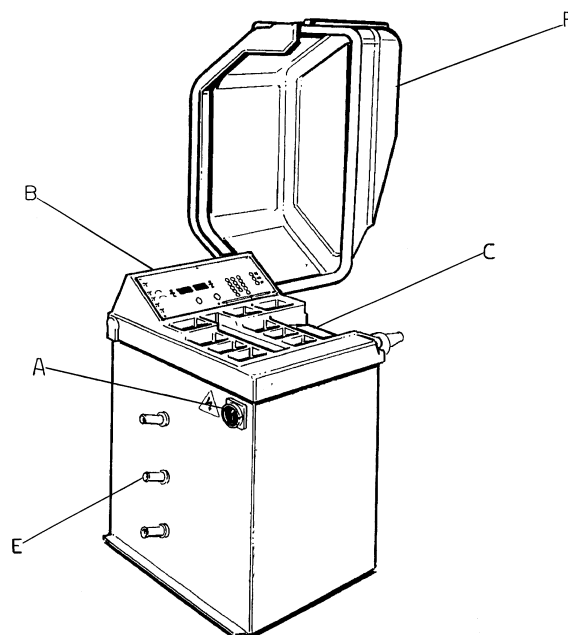


fig.1

Microtec 840

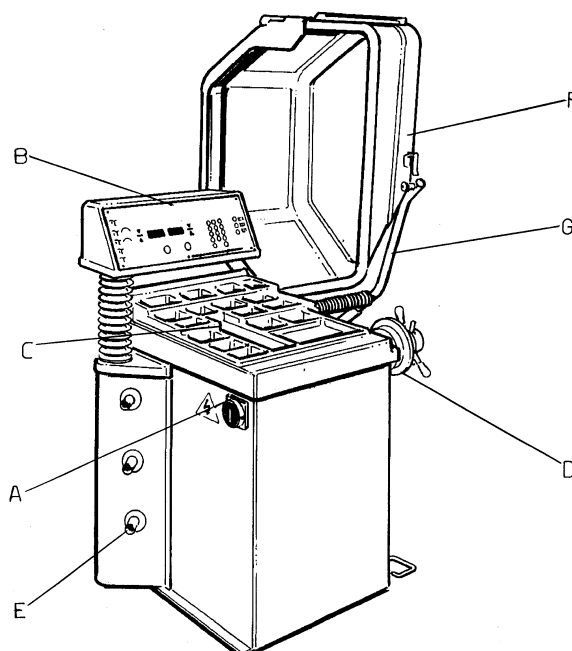


fig.2

KEY

A: Main switch
B: Electronic panel
C: Weights board
D: Flange

E: Flange and accessories holder
F: Wheel protection guard
G: Automatic gauge (Microtec 840 version)




TECHNICAL CHARACTERISTICS

The **Microtec 830** and **Microtec 840** are high performance machines:

- The use of microprocessors ensures high precision wheel balancing (see pg. 14).
- A system of auto fault-finding and auto setting makes maintenance extremely simple (see pg. 15).
- Operation is with a single automatic cycle which measures the imbalance of the two planes simultaneously, memorizing the weight and the positioning. It has 5 aluminum programs with the option of separating the weights, a static balancing and optimization programs.
- The wheel guard allows the fitting of wheels with an external diameter of up to 900 mm. When the wheel guard is open an electrical switch prevents the machine from starting.
- The Microtec 840 has a gauge for the automatic setting of wheel measurements.

TECHNICAL DATA		
	Microtec 830	Microtec 840
<u>DIMENSIONS</u>		
Max. height.....	1800mm.	1800mm.
Depth.....	1250mm.	1250mm.
Width.....	850mm.	900mm.
<u>WEIGHT</u>		
Net weight (with guard)	143 kg	172 kg
Gross weight	166 kg	202 kg
<u>ELECTRIC MOTOR</u>		
Power	0.37 kW	0.37 kW
Phases	1 ~	1 ~
Power supply..... (the machines are also available in 110V - 50/60Hz version)	230 - 50/60Hz	230 - 50/60Hz
Protection	IP 22	IP 22
Balancer speed	190 g/min a 50Hz 230 g/min a 60Hz	190 g/min a 50Hz 230 g/min a 60Hz
Unbalance reading resolution	1/5g (0,05/0,25 ounce)	1/5g (0,05/0,25 ounce)
Noise level.....	75 db	75 db

RANGE OF APPLICATIONS		
	Microtec 830	Microtec 840
Microtec 830 and Microtec 840 are designed for balancing vehicle wheels of up to 70 kg and motorcycle wheels up to 20 kg. The operating capacities are as follows:		
Rim width	<u>min/max</u> 1" - 20"	<u>min/max</u> 1" - 20"
Rim diameter.....	10" - 24"	10" - 24"
Max. wheel diameter	900mm	900mm
Max. wheel weight.....	70 kg	70 kg

	IDENTIFICATION PLATE DATA
<p>N.B. The minimum and maximum measurements above refer either to a dynamic imbalance on the two compensation planes, or to a static imbalance. The imbalance is shown on a three-figure digital read out in grams. If an ounces read-out is required instead of grams, the transformation is made by the micro-processor (see fig. 16 on pg. 11). The angular position is indicated by LED's.</p>	 <p>BEISSBARTH - München Hanauer Straße 101 80993 München Tel.: (089) 14901-0 Made in Germany</p> <hr/> <p>Model: _____</p> <hr/> <p>Power: _____ kW</p> <hr/> <p>Speed: _____ rpm</p> <hr/> <p>Serial No: N° 9001981020746</p>  

ACCESSORIES SUPPLIED

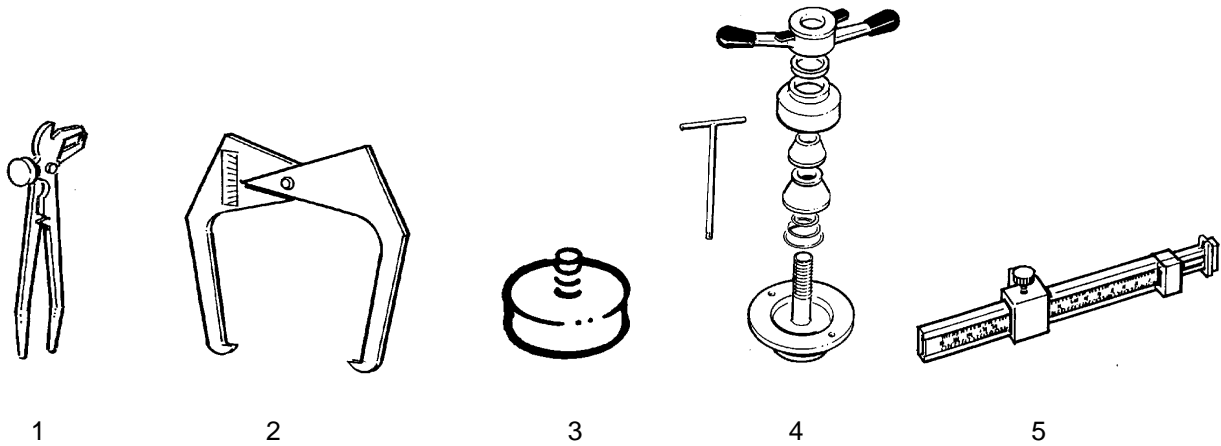


fig.3

Key

1: Counter-weight pliers 2: Width measuring caliper gauge 3: Sample weight for setting 4: Universal adapter
5: Special aluminum rim gauge

ACCESSORIES ON REQUEST

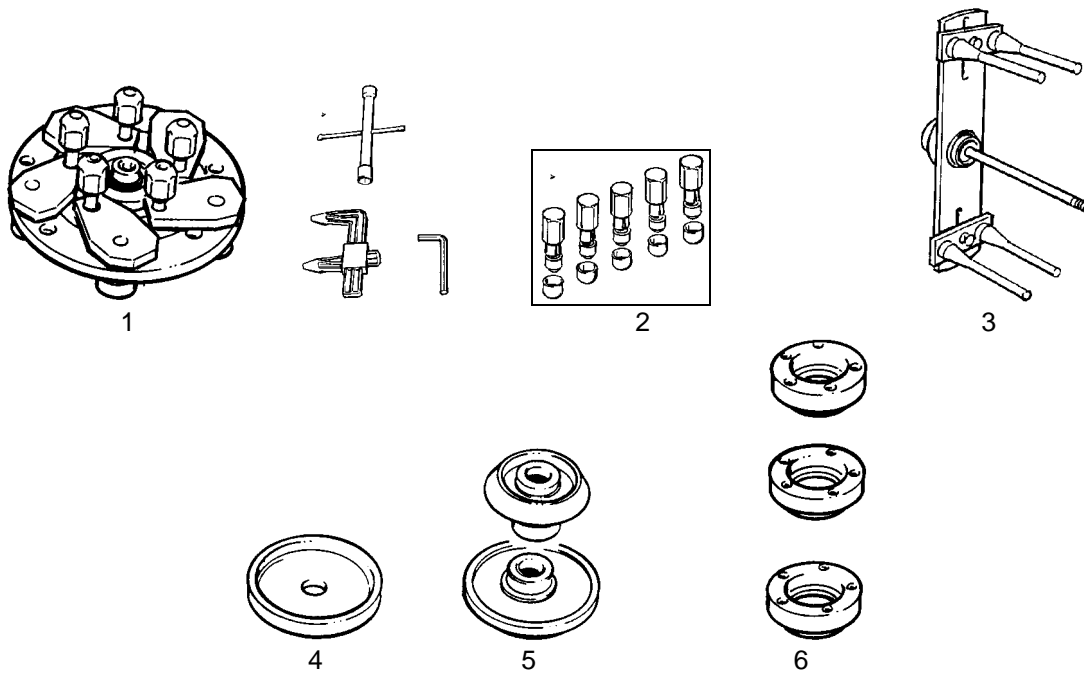


fig.4

Key

1: Standard bolt 3/4/5 hole flange 2: Quick bolts 3: Motorcycle wheel flange 4: Spacer 5: No. III and IV Cone
6: Centering ring for Renault/Citroen/Peugeot

UNPACKING

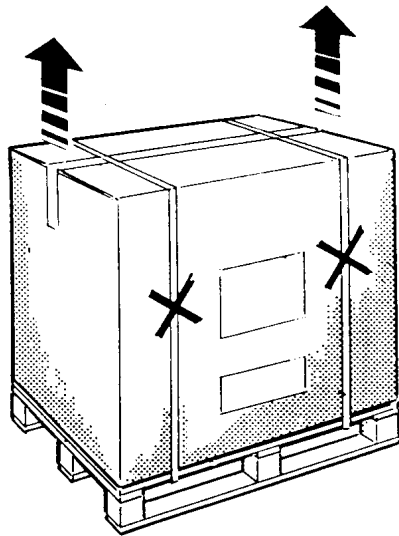


fig.5

Microtec 830: 180 kg
Microtec 840: 202 kg

- After removing the packing (the straps, seals, cardboard and the pallet as in fig. 5). Check the machine for missing or damaged parts. **If in doubt, do not use the machine** and refer to professionally qualified personnel and/or to the seller.
- The packing materials (plastic bags, pluriball, polythene, nails, staples, timber, etc.) must not be left within reach of children since they are potentially dangerous. Deposit the above mentioned materials at the relevant collection points if they are pollutants or are non biodegradable.
- The box containing the **accessories provided** is contained in the packing of the machine.

LOCATION

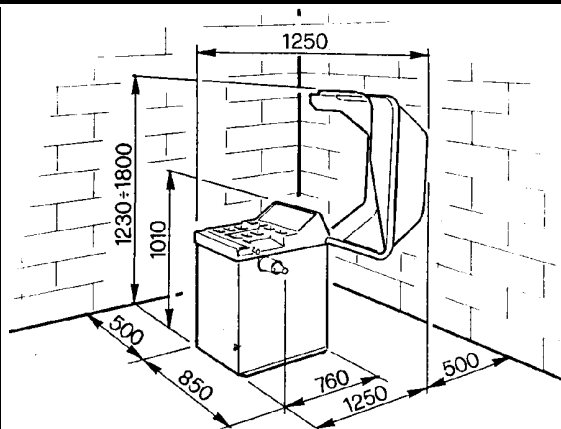


fig.6a

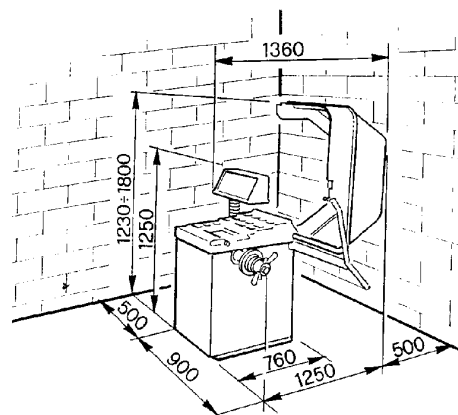


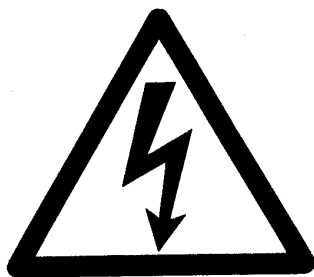
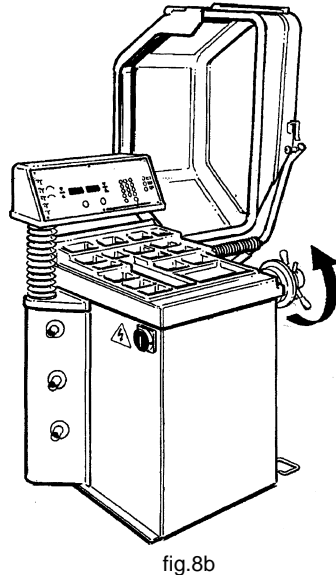
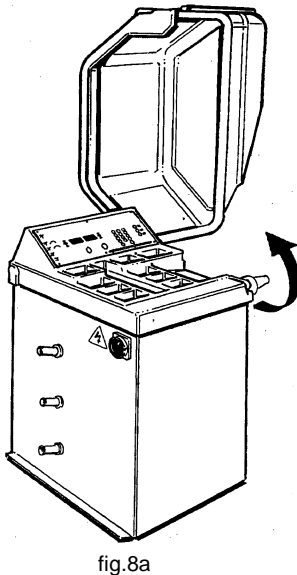
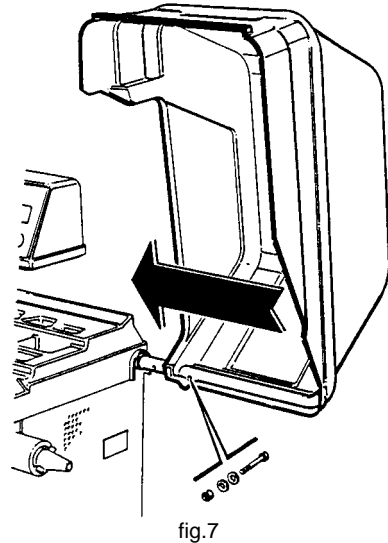
fig.6b

(see figs. 6a-6b)

- The wheel balancer must be positioned on a solid floor of concrete or similar material. A hollow floor could cause errors in the imbalance measurements.
- **OVERALL DIMENSIONS:**
Microtec 830: 1800mm x 1250mm x 1250mm
Microtec 840: 1800mm x 1360mm x 1250mm
- **SAFE DISTANCE:**
For the safe and ergonomic use of the machine it is advisable to locate it a minimum of 500 mm from the surrounding walls.
- **FIXING INSTRUCTIONS:**
The base of the machine has 3 holes for fixing it to the floor. Good fixing is essential for precise and consistent readings.

INSTALLATION

electrical connection and operation checks



MOUNTING THE WHEEL GUARD

See **fig. 7** and proceed as follows:

1. Insert wheel guard hole onto the pin.
2. Insert the bolt into the hole and tighten the nut.

ELECTRICAL CONNECTION (Fig.8a-8b)

ALL WORK ON THE ELECTRICAL SYSTEM, INCLUDING MINOR OPERATIONS, MUST BE CARRIED OUT BY PROFESSIONALLY QUALIFIED PERSONNEL!

- Check that the mains supply voltage is the same as that shown on the identification plate.
- Connect the supply cable to a plug that conforms with European norms or to the norms of the country in which the machine is used.
- The plug must have an earth/ground terminal.
- Check that the earth/ground connection is effective.
- The machine must be connected to the mains through a multi-pole isolating switch which conforms with European norms and with contact openings of at least 3 mm.
- When the electrical connection is complete and with the machine switched on, the mounted wheel should rotate in a clockwise direction, as seen from the right hand side of the machine. **The correct direction of rotation is indicated by an arrow on the body of the machine.**
- If the rotation is in the wrong direction, the machine will function only as long as the **START** button is pushed. In this case exchange the two conductor wires in the connection cable plug.
- If the machine behaves abnormally, immediately switch off the **main switch** and refer to the **fault finding** section in the instructions manual (pg.10).

THE MAKER DECLINES ALL RESPONSIBILITY FOR THE FAILURE TO OBSERVE THE ABOVE INSTRUCTIONS.

Always pay careful attention to the **WARNING SIGNS** shown on adhesives applied to the machine.

Fig. 8c live voltage label - code no. 100789.

If the warning sign disappears or shows signs of deterioration, *you are requested to order a replacement from BEISSBARTH's "Spare Parts" service, making use of the relevant code number.*

FLANGE INSTALLATION

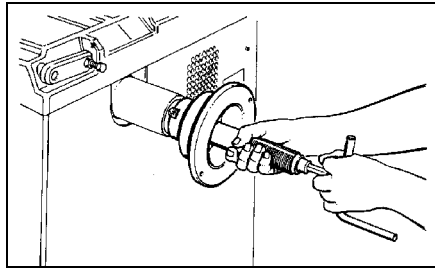


fig.9

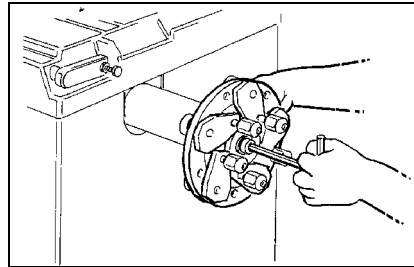


fig.10

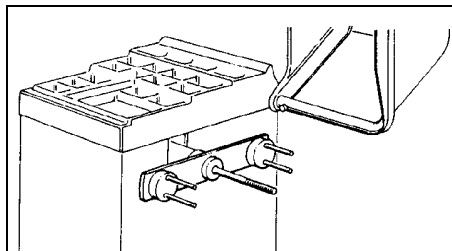


fig.11

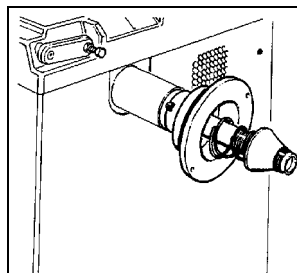


fig.12

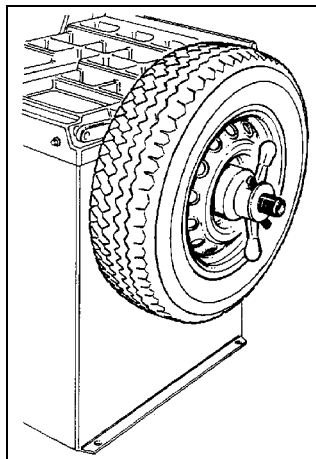


fig.13

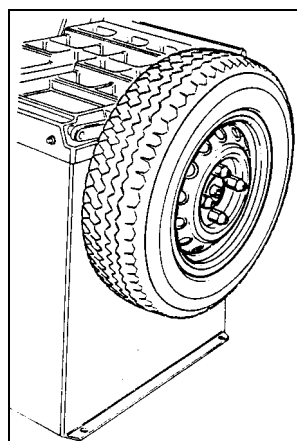


fig.14

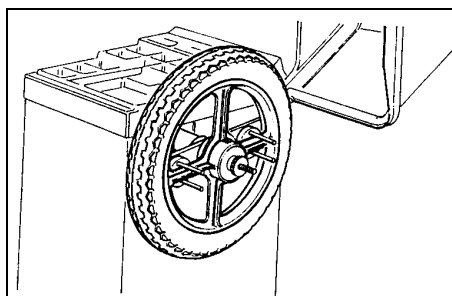


fig.15

FLANGE MOUNTING

Before mounting the flange on the machine it is advisable to clean the machine axle cone and the flange hole.

Bad flange adjustment would influence balancing precision.

The illustrations show the flange fixing systems:

- Fig. 9 shows the **cone flange** fixing system.
- Fig. 10 shows the **universal flange** fixing system
- Fig. 11 shows the **motorcycle flange** fixing system.

WHEEL ATTACHMENT

CAR WHEEL ATTACHMENT

- Figs. 12 and 13 show the attachment system for car wheels using the cone flange.
- Fig. 14 shows the attachment system for car wheels using the universal 3/4/5 hole flange.

MOTORCYCLE WHEEL ATTACHMENT

- Fig. 15 shows the attachment system for motorcycle wheels using the motorcycle flange.

MALFUNCTIONS: CAUSES AND POSSIBLE REMEDIES

display	malfunctions	causes	possible remedies
The display does not light up	The panel has no power.	<ol style="list-style-type: none"> Lack of external supply or lack of one phase. Fuses F1 - F2 blown in the electrical system. Fuses F3 - F4 blown on the board. 	<ol style="list-style-type: none"> Check that all the phases and neutral are connected to the balancing machine. Replace fuses F1 and/or F2. (The re-blowing of the fuses suggests that there is a fault in the electrical system). Replace fuses F3 and/or F4. (The re-blowing of the fuses suggests that there is a fault in the electrical system).
E 00	Function non-existent error.	<ol style="list-style-type: none"> Wrong function code entered. 	<ol style="list-style-type: none"> Establish the correct function code in the present Instructions Manual and enter it.
E 01	The message "E 01" appears when switched on.	<ol style="list-style-type: none"> The electronic panel has lost the settings pre-set during manufacture. 	<ol style="list-style-type: none"> Repeat all the stages for setting the balancing machine.
E 02	The message "E 02" appears when switched on.	<ol style="list-style-type: none"> The electronic panel working memory is faulty. 	<ol style="list-style-type: none"> Replace the electronic panel.
E 03	The motor turns in the wrong direction.	<ol style="list-style-type: none"> At the time of start-up (when START was pressed or the cover lowered) the wheel was turning in the reverse direction. 	<ol style="list-style-type: none"> Ensure that the wheel is stationary and not turning in the reverse direction when starting up.
E 04	The machine takes a long time to measure the imbalance and after about 30 seconds an "E 04" message is displayed.	<ol style="list-style-type: none"> The motor is unable to achieve the speed required for accurate balancing. Fault in the electrical system. Fault on the electronic board. 	<ol style="list-style-type: none"> Check the supply voltage (it might be low). Replace the electrical components. Replace the electronic board.
E 05	After the second setting run "E 05" appears on the display.	<ol style="list-style-type: none"> The sample weight was not screwed on. 	<ol style="list-style-type: none"> Re-start the setting cycle from the beginning, or at the end of the first run screw on the sample weight before starting the second.
E 06	The message "E 06" appears when START is pressed.	<ol style="list-style-type: none"> The guard cover has not been lowered. The guard cover micro-switch is broken. 	<ol style="list-style-type: none"> Lower the mounted wheel guard cover. Replace the micro-switch.
E 07	"E 07" is displayed after a calibration cycle.	<ol style="list-style-type: none"> The phase difference between the 2 pick-ups is too large. 	<ol style="list-style-type: none"> a) Check that the calibration weight is correctly fitted. b) Check the stability of the machine. Instability can cause excessive vibration. c) If the problem persists after having correctly fixed the machine to the floor check the connection of the pick-ups and the electronic board (and replace if necessary).
E 08	"E 08" is displayed after the second calibration cycle.	<ol style="list-style-type: none"> The left pick-up is not correctly connected, is defective, or has a broken wire. 	<ol style="list-style-type: none"> Check the connection of the left pick-up (and replace if necessary).
E 09	"E 09" is displayed after the second calibration cycle.	<ol style="list-style-type: none"> The right pick-up is not correctly connected, is defective, or has a broken wire. 	<ol style="list-style-type: none"> Check the connection of the right pick-up (and replace if necessary).
E 10	"E 10" is displayed after a cycle.	<ol style="list-style-type: none"> Something is stopping the wheel from turning or it is turning too slowly. The motor is faulty. Fault in the optoelectronic position sensors. 	<ol style="list-style-type: none"> The lift trolley is not fully lowered. Check the electrical elements. Check (and if necessary replace) the optoelectronics.
E 11	"E 11" is displayed after a cycle.	<ol style="list-style-type: none"> Something is stopping the wheel from turning or it is turning too slowly. The motor is faulty. Fault in the optoelectronic position sensors. 	<ol style="list-style-type: none"> The lift trolley is not fully lowered. Check the electrical elements. Check (and if necessary replace) the optoelectronics.
E 14	"E14" appears on the display.	<ol style="list-style-type: none"> +5V supply incorrect. 	<ol style="list-style-type: none"> Replace the electrical board
E 17	At the end of the first run "E 17" appears on the display.	<ol style="list-style-type: none"> Weight outside the range of adjustment (the weight necessary to balance the wheel is greater than 250 grams). 	<ol style="list-style-type: none"> a) check that the wheel is correctly fitted to the flange. b) locate (in any case) the external position, fit a 100 gram weight and run the balancer.

E 18	At the end of the first run "E18" appears on the display.	1. Wheel data not entered.	1. Enter the wheel data on the keyboard.
E 19	"E 19" is displayed after the second calibration cycle.	1. The signal reading at the right pick-up is lower than that at the left pick-up.	1. The connections to the two pick-ups might be inverted. Check (and exchange if necessary).
Err 20	During measuring cycle Err 20 appears on display: the wheel speed has gone below the minimum for measurability.	1 Brake pedal operated during the measurement 2 Motor rotation speed irregular.	1 Avoid pressing the brake pedal when the motor is operating. 1 beware of knocking the machine during the measuring cycle. check mains voltage (probably low)
Err 21	During measuring cycle Err 21 appears on display: possible electrical fault.	1. The electronic card has found a condition of danger connected to a too-high wheel speed during an inactive machine phase (the shaft rotates at high speed without the operator having pressed the START command); <i>the electric power is deactivated.</i>	1. Switch off the machine, lower the guard and switch the machine back on without moving the wheel; if the error persists, check (and replace if necessary) the electric or electronic part (control panel or encoder card).
Err 22	During the launch Err 22 appears on display	1. Some fault in the optoelectronic signals.	1. A) check the optoelectronic card is protected from daylight and cover if necessary; b) if the defect persists check and if necessary replace the optoelectronic card. c) check and if necessary replace the control panel electronic card.

Other possible malfunctions are largely technical in nature and must be checked and resolved by PROFESSIONALLY QUALIFIED TECHNICIANS.

INSTRUCTIONS FOR USE

ELECTRONIC BOARD

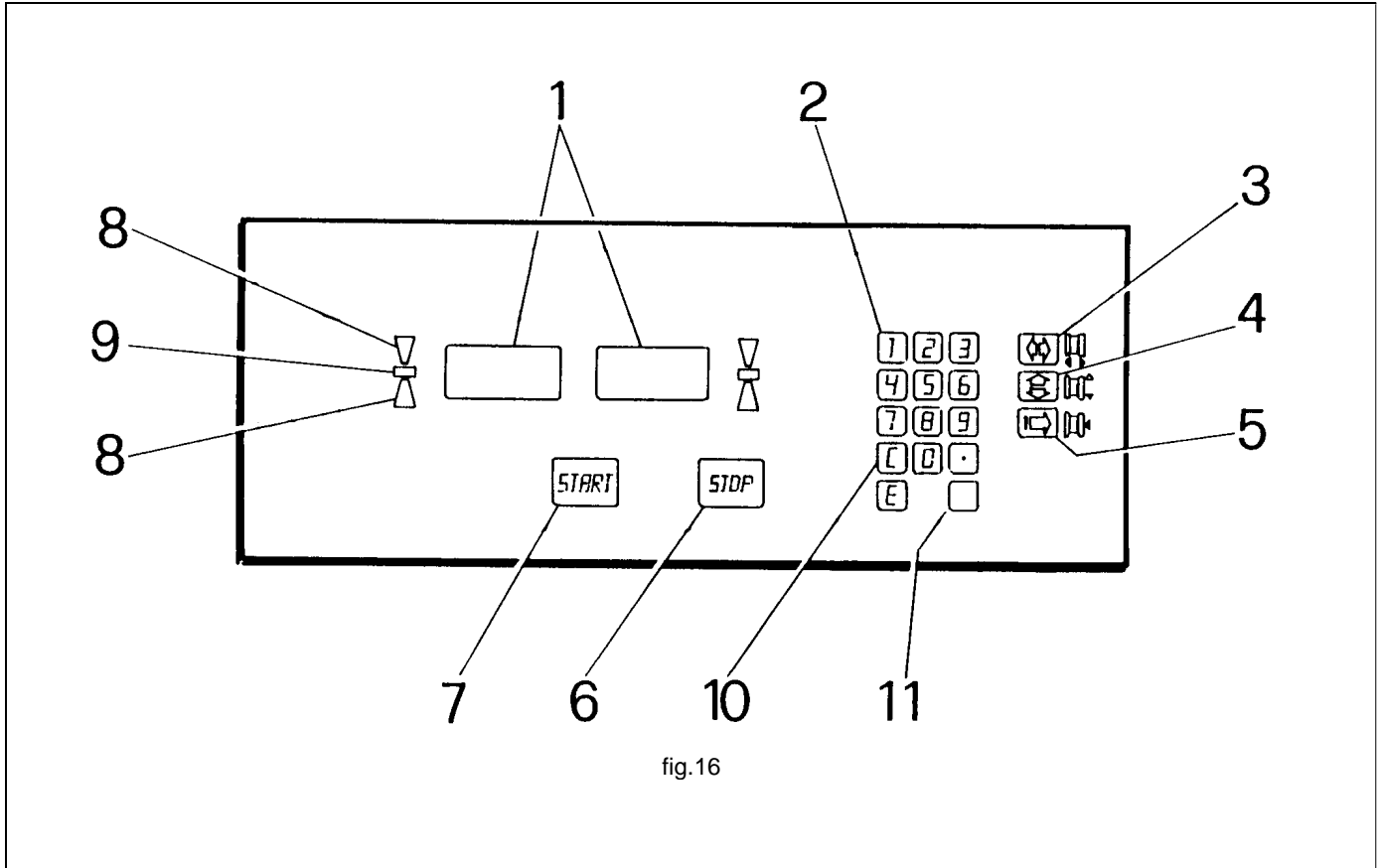


fig.16

Key

- | | |
|---|---|
| 1. Data displays | 7. Static program selector key |
| 2. Programming keyboard | 6. STOP key |
| 3. Rim width adjustment key | 7. START key |
| 4. Rim diameter adjustment key | 8. LED imbalance direction indicators |
| 5. Rim compensation distance adjustment key | 9. Point of imbalance (LED) |
| Aluminum program selector key | 10. C Key - for coded functions |
| | 11. Balancing program selector key (MODE) |

WHEEL BALANCING

Switch on the machine with the main switch (see fig. 1 and fig. 2 on pg. 4).

- The displays (**fig. 16**) (1) read "0".
- Set the wheel measurements (see section "Programming for wheel balancing" on the next page).
- Close the wheel protector guard and push the **START** button (**fig. 16**) (7) to start the measuring cycle.
- After starting the read-outs disappear with the exception of a central segment of the display.
- The degree and location of the imbalance are measured simultaneously and are displayed separately.
- When the measurements are complete the wheel slows automatically until it stops.
- The wheel guard must not be opened before stopping. In an emergency the **STOP** button (**fig. 16**) (6) shuts down the machine.
- The LED arrows (**fig. 16**) (8) indicate the direction in which the wheel has to be rotated to reach the position for balancing (separate arrows for each side of the wheel).
- The wheel has to be rotated by hand until the **LED** (**fig. 16**) (9) lights up.
- Next, the balancing weight required is fixed on the respective sides of the wheel in a top perpendicular position (at 12 o'clock) to the main axle.
- After fixing the counter-weights in the normal positions, start the machine to check that the wheel is balanced correctly.

WHEEL BALANCING CHECKS

Two check procedures are required to ensure that the balancing procedure is carried out with precision.

CHECKING THE CORRECT FUNCTIONING OF THE BALANCING PROCEDURE.

- The two sides of a wheel are balanced according to the instructions.
- Then an imbalance is artificially created by adding a 50g weight on one of the two sides. The machine should now indicate exactly this imbalance giving both the weight and the position.
- There might also be a reading for the other side to a max. of 5g.
- To check the imbalance indicator LED the wheel is rotated until the imbalance position is reached and indicated by the machine. In this position the test weight should be positioned vertically under the axle (at 6 o'clock).
- If there is a clearly visible angular deviation then the indicator LED's have to be corrected.
- If there is an unacceptable deviation for the readings on the side of the wheel with the test weight, or if the imbalance indicated for the other side is excessive, then the machine has to be re-calibrated.

CENTERING PRECISION (balancing quality)

For this test the same wheel balanced in the previous test procedure can be used.

- Remove the test weight. Then release the wheel from the adapting device, rotate it about 35° and then re-lock it.
- In a test cycle the reading should not exceed a max. imbalance of 10g on each side (15g in the case of particularly heavy wheels). This error is due to the rim centering tolerance.
- Precise centering is essential both for this test and for normal balancing procedures.
- If a large imbalance emerges from this test it is necessary to check for excessive wear, for play, or for dirt in the parts used to center the wheel.

PROGRAMMING FOR WHEEL BALANCING

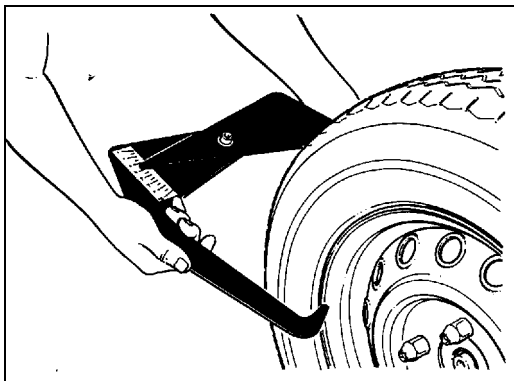


fig.17

K = reading point

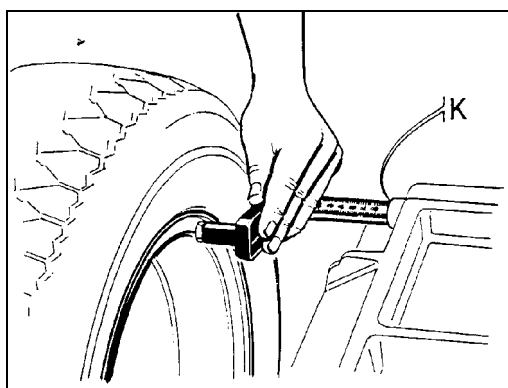


fig.18

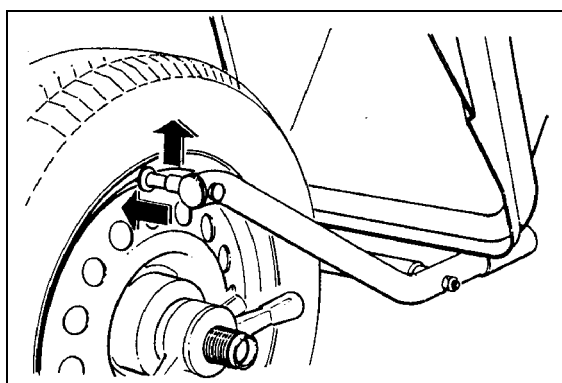


fig.19

PROGRAMMING WITH MANUAL GAUGE

Set the figures of the width, diameter, and rim compensation distance of the wheel which is to be balanced, on the control panel.

The width is measured using the caliper gauge supplied with the machine (**fig. 17**).

The diameter of the rim is read on the tire, and the rim compensation distance is measured with the gauge cursor on the machine (**fig. 18**). The compensation distance figure to be set is read on the scale.

If only the static imbalance is to be determined, as with motorcycle wheels, only the rim diameter has to be set on the programmer (2), (**see fig. 15**). The other two readings can be set at any figure.

PROGRAMMING WITH AUTOMATIC GAUGE

Programming is effected by positioning the **internal gauge (fig. 18)** and the **external gauge (fig. 19)** against the rim and waiting for the confirmation "beep".

The figures to program (distance, width and diameter) are automatically inserted into the board.

It is a single operation - extremely fast and completely error free.

CHOOSING BALANCING PROGRAM

The use of different types of balancing weights for compensating different types of rim (steel or light alloy) produces variations in the nominal wheel setting figures entered for the wheel to be balanced and the effective correction plane measurements. The wheel balancer has different balancing programs to accommodate these differences.

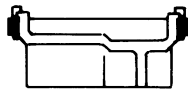
The operator must set the required operating mode on the basis of the type of wheel to be balanced, the balancing weights to be used, and the selected correction planes.

Press the MODE key to access the different balancing programs available in sequence:

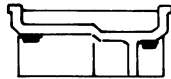
- Standard dynamic balancing with sprung clip weights (NOR).
- 5 Alu programs for dynamic balancing with adhesive weight (ALU 1, ..., ALU 5).
- 2 special Alu programs for balancing PAX Michelin tires with adhesive weights and measurements in mm (PA.S. 1, PA.S. 2).
- Static balancing program with sprung or adhesive weights (STA).

When the machine is switched on it sets automatically to the standard dynamic program.

dinamica standard



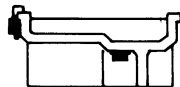
alu 1



alu 2



alu 3



alu 4



alu 5



pax 1



pax 2



statica



BASIC MACHINE CALIBRATION

Proceed as follows:

First stage of calibration: correcting shaft imbalance.

- 1 – Fit the cone adapter solidly to the shaft.
- 2 - Press **C 7 2 E**
- 3 – The display reads **C A L 1**
- 4 – Run a cycle with the adapter.
- 5 - When the adapter stops turning the display reads **O O**
- 6 - Press **C 5 2 6 E** to memorize the data.

Second stage of calibration: wheel-balancer self-calibration.

- 1 – Fit a medium-sized wheel (diameter 13" or 14") in good condition on the cone adapter and tighten well.
 - 2 – Set the wheel data as follows:
 - a) Press **3** (fig.16) and set the wheel width in inches (e.g.: 6.0 or 5.5 etc.) then press **E**
 - b) Press **4** (fig. 16) and set the wheel diameter in inches (e.g.: 13" or 14") then press **E**
 - c) Press **5** (fig. 16) and set the distance of the wheel from the machine body in mm. (e.g.: 80mm, 65mm etc.): this distance is shown on the graduated gauge rod (fig.18) then press **E**
 - 3 - Press **C 1 9 E**
 - 4 - The display reads **C A L 4**
 - 5 - Run a cycle balancing with the wheel.
 - 6 - When the wheel stops turning the display reads **C A L 5**
 - 7 - Press **1 O O E** (fig.16) (it is possible to use a weight other than 100g: if the weight is 80g, press **8 0 E**).
- NOTE:** *If the weight display is set to ounces, the calibration weight figures also have to be set in ounces. For example set **3.5 E** for a weight of 3.5oz.*
- 8 - The display reads **C A L 6**
 - 9 – Fit the 100g weight on the inside of the wheel
 - 10 – Run a balancing cycle
 - 11 – When the wheel stops turning the display reads **C A L 7**
 - 12 – Remove the 100g weight from the inside of the wheel and fit it on the outside of the wheel in an opposite position (the symmetrically opposite position).
 - 13 - Run a balancing cycle.
 - 14 – When the wheel finishes turning the display reads **C A L 8**.
 - 15 – *Without removing the calibration weight from the outside of the wheel*, turn the wheel manually until the calibrating weight is positioned at the perpendicular 6 o'clock position (at the bottom under the main shaft).
 - 16 – Keeping the wheel in this position press the **E** key
 - 17 - Press **C 5 2 6 E** to memorize the data.

At this point the calibration procedure is complete (and does not need to be repeated).

AUTOMATIC GAUGE SETTING

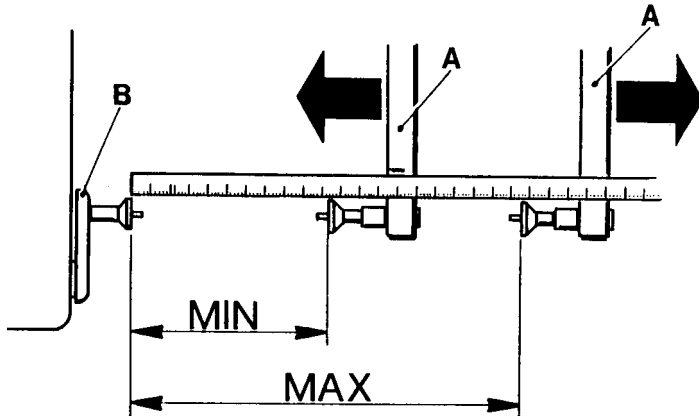


fig.21

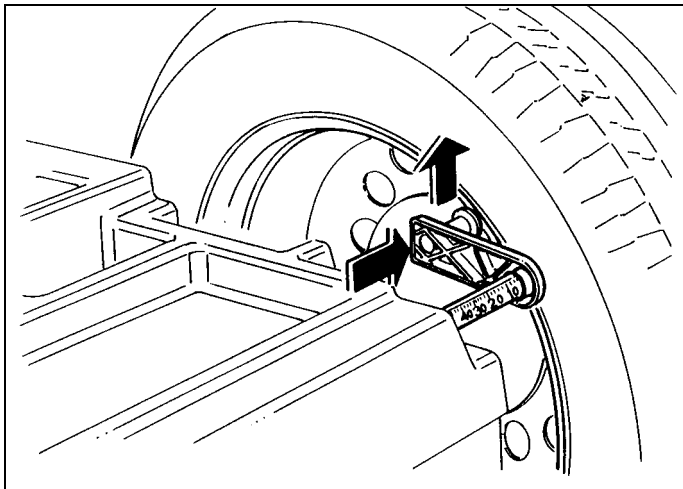


fig.22

Pressing "**C 3 2 E**" gives access to the automatic calibration gauge.

"D 1" appears on the left-hand display.

Move the millimeter slider B to the return position. On the keyboard set the number read on the millimeter rule.

N.B. each notch = 1mm.

The figure to set in D1 is 2 (the fixed figure given by the maker).

The measurement will appear on the right-hand display. Check that the cursor B is in the return position, and press "**E**".

On the left-hand display "**D 2**" appears.

Move the millimeter slider B to the maximum open position and enter the reading on the keyboard, then holding it in position, press "**E**". Then move it back to the return position.

The left display will now show "**L 1**".

Move cursor A to the maximum open position and measure the distance (with the ruler) between the millimeter cursor and the external cursor (**see fig. 21**). keeping the stamped marks aligned. Insert the figure in mm on the keyboard and the measurement will appear on the right-hand display. Maintaining this position, press "**E**".

Now "**L 2**" will appear on the left-hand display.

Move the exterior cursor A to the minimum open position, and keeping it aligned, measure the distance between the two stamped marks. Insert the measurement on the keyboard and the measurement will appear on the right-hand display. Keeping it in position, press "**E**".

Now on the left-hand display "**ALT**" (height) appears.

Mount a wheel on the machine (if possible 13" - 14"). Move the millimeter cursor with the stamped mark onto the rim (**see fig. 21**). and insert the height in inches of the wheel mounted on the keyboard. Holding it in this position, press "**E**".

To store the settings press "**STOP C 5 2 6 E**", and wait for the "Beep" signal.

PROGRAMMING AND FIXING ADHESIVE WEIGHTS WITH SPECIAL GAUGE

For aluminum and light alloy rims

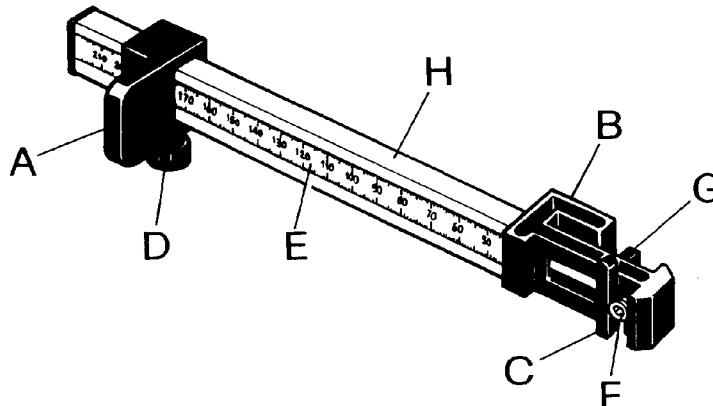


Fig.22a : GAUGE

- | | | |
|-------------------------------|----------------------------|------------------------------------|
| A: GAUGE BASE SLIDER | D: SCREW KNOB | G: INTERNAL JAWS FOR WEIGHT FIXING |
| B: WEIGHT POSITION GAUGE HEAD | E: SCALED MILLIMETER PLATE | H: HANDLE WITH PLATE SEAT |
| C: EXTERNAL JAWS | F: EXTRUDER | |

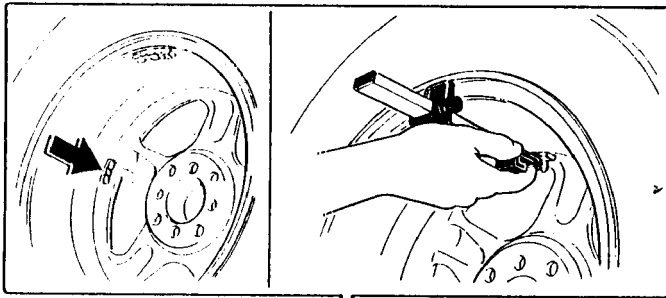


fig.22b

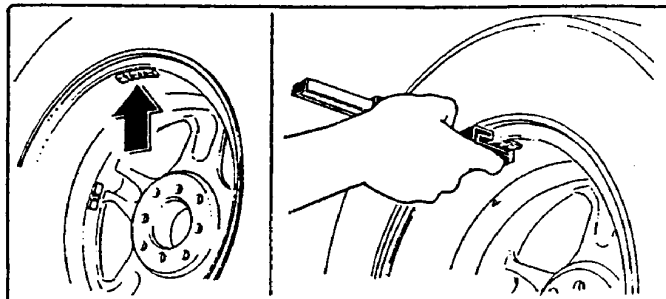


fig.22c

PROGRAMMING AND FIXING ADHESIVE WEIGHTS ON ALUMINUM AND LIGHT ALLOY RIMS.

A **SPECIAL GAUGE** is available on request for programming (ALU) and for fixing adhesive weights on aluminum and light alloy rims. This gauge, functioning only in the system ALU 2 and 3, allows the determination with the maximum precision (and according to the form of the rim) the exact position for the positioning of adhesive weights.

Refer to figures 22a, 22b, 22c, and proceed as follows:

- Set the machine on the **ALU 2** program by pressing the **MODE** key
- Position the gauge with the base (A) on the inside rim flange.
- Slide the base A on the millimeter cursor (E) to position the outside jaws (C) to the best position required for the fixing of the weight.
- Fix the base (A) with the screw knob (D).
- Read the measurement in mm. and enter it on the keyboard as rim width.
- Run a balancing cycle. The weight values will be displayed (internal and external).
- Move the wheel into position and put the weight (given on the display as **external**) on the outside jaws (C).
- Move the base (A) to the edge of the rim (12 o'clock) and fix the weight with the extruder (F) (see fig. 22b).
- Move the wheel into position and put the weight (given on the display as **internal**) on the inside jaws (G).
- Move the gauge head (B) to the edge of the rim and fix the weight with the extruder (F) (see fig. 22c).

N.B. For the **ALU 3** program the outside procedure remains the same; for the internal, fix the spring weight on the edge of the rim.

WEIGHT SEPARATION PROGRAM

For aluminum and light alloy rims (ALU 2 and ALU 3 wheel balancing programs)

- 1) To start the weight separation procedure enter the command **C 4 0 E** on the keyboard.
The left display reads **n.** and the number of spokes currently set, while the right display reads **0**.
- 2) Use the number keypad to enter the number of wheel spokes (from 3 to 9) and press the **E** key.
Now the machine *automatically* enters the **ALU 2** program (it is possible to change to **ALU 3** by pressing the **MODE** key).
- 3) Set the measures of the wheel: distance of the rim, rim diameter, value of the width of the rim must be measured with the special gauge for aluminium and light alloy rims, following the instruction at pag.17: phases 2,3,4 e 5 of the procedure "programming and fixing the sticking weights with special gauge".
- 4) Execute a balancing launch; at the end of the cycle the machine displays the two balancing weights (inside and outside) *not yet separated*.
- 5) In the case that the *outside* weight is visible and must be divided between the two adjacent spokes, move the wheel so that one of the spokes is at the 12 o'clock position (fig. 20). *Holding the wheel in this position* press the full stop "." key.

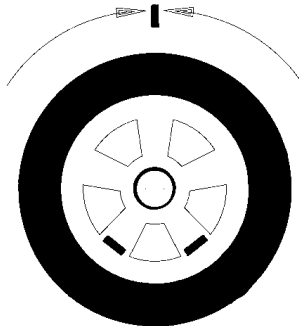


fig. 20

The right display gives the figure for one of the weights with a decimal point to the right. This indicates that weight separation has been started.

- 6) Two separate outside balancing weights are required. The machine always displays the one nearest to the balancing position and the wheel has to be moved in order to display them both.
Now press and release **STOP** and the machine displays the selected **ALU** program for a few seconds and the number of spokes set in the following way: **ALU 2n.** with the number of spokes set.
- 7) For what concerns the fixing of the sticking weights follow the instructions at pag.17: phases 7,8,9 e 10 of the procedure "programming and fixing the sticking weights with special gauge".

The weight separation function is *deactivated* by:

- a) Changing **ALU** program (excluding **ALU 3**),
- b) Returning to normal balancing,
- c) Setting the number of spokes to "**0**" in **C 40**.

PROGRAMMING MOTORBIKE WHEEL BALANCING

STATIC

- Enter the figures for wheel width and diameter on the control panel.
- The figures for the wheel width is measured with the gauge provided.
- The wheel diameter is read directly from the tire.
- To activate the static balancing program press the **MODE** key until the letters **StA** appear on the left display.
- After running a cycle fit a weight of the amount measured at the mid point of the wheel width.

DYNAMIC

- To carry out dynamic balancing of motorbike wheels follow the instructions for the normal balancing program (to return to the dynamic balancing program press the **MODE** key until the letters **nor** appear on the left display).

IMBALANCE OPTIMIZATION

To start the imbalance reduction process press the **MODE** key repeatedly until the left display reads "oPt". Press the **E** key to enter optimization: the display "oPt 1" appears.

Stage 1: Press the **START** key for the first test run with the wheel to be optimized: at the end of the run the display reads "oPt 2".

Stage 2: Turn the wheel by hand and move the valve to a 12 o'clock position. With the wheel in this position, press the **E** key to memorize the reference position of the wheel for the first test run. Now the display reads "oPt 3". Mark a reference point on the tire at the valve position.

Stage 3: Remove the rim from the flange and rotate the tire on the rim 180 degrees (the mark made previously can be used - move it to the position exactly opposite the valve). Remount the rim on the flange and reposition the valve at 12 o'clock. Keeping the wheel in this position, press the **E** key to memorize the new position of the rim on the flange: the display now reads "oPt 4".

Stage 4: Press the **START** key to run another cycle. At the end of the cycle the display reads "oPt 5".

Important: to get the best possible results from the imbalance reduction procedure, it is necessary to carry out the above operations with the utmost precision.

When the **STOP** key is pressed at the end of the second run, the following information is given:

- left display: figures for the *present static imbalance* of the wheel;
- right display: figures for the *minimum residual imbalance* that it is possible to obtain with the recommended imbalance reduction.

These figures are useful for deciding whether it worthwhile going on with the imbalance reduction procedure (for the same reason, after the first run it is possible, by pressing the **STOP** key, to read the static imbalance of the wheel on the left display in order to check whether it is really worthwhile continuing with the reduction operations).

Stage 5: To continue the imbalance reduction process, rotate the wheel by hand until the positioning LED's on the display move to the center, and mark the tire at the top (in the position where a weight is normally fixed). To reduce the imbalance, remove the rim from the flange and rotate the tire on the rim until the new mark coincides with the valve.

Refit the rim to the flange and position the valve at 12 o'clock. Holding the wheel still in this position, press the **E** key to memorize the new position of the rim on the flange: the display now reads "oPt 6".

Stage 6: Press the **START** key for a test run. At the end of the test run the wheel imbalance is automatically compared with the figures of minimum residual imbalance. If the difference between these two figures is less than the maximum permitted tolerance, the display shows "oPt yES". Pressing the **STOP** key it is also possible to display the new static imbalance figures in order to check the effectiveness of the operation just carried out.

Stage 7: If the first reduction is not satisfactory, the display shows "oPt 7". In this case it is possible to continue the reduction process by repeating the operations starting from *stage 5*.

When it is no longer possible to further reduce the imbalance the process ends:

- if the operation has been completed successfully and the display shows **oPt yES**;
- if it has not been successful the display shows **oPt Err**, indicating that it is necessary to repeat the entire procedure from the beginning.

At the end of the optimization process, press the **E** key to return to measurement of wheel imbalance. The display reads "0 0".

Pressing the **MODE** key at any time interrupts the imbalance reduction process and the system returns to measuring wheel imbalance.

SPECIAL PROGRAMMING

1G OR 5G INTERVAL DISPLAY

The weight display can be in intervals of fives or in ones. If the display is already in fives, press "C 2 1 E" to change to ones. If the display is already in ones, press "C 2 1 E" to change to fives.

To memorize the interval setting, press "STOP C 5 2 6 E".

ENABLING AND DISABLING GAUGE SETTINGS

If the machine has already been calibrated, there is the possibility to enable or disable the automatic gauge function. If the automatic gauge is active, it is de-activated by pressing "C 2 3 5 E", and reactivated in the same way. To store the selection press "STOP C 5 2 6 E".

SILENT FUNCTION

To de-activate the "Beep" that sounds when keys are pressed and at other times, press "C 1 6 E". It is re-activated in the same way.

To store the selection press "STOP C 5 2 6 E".

HOW TO ENTER MEASUREMENTS IN mm

No special operations are required for this. Simply enter the readings in mm as they appear on the wheel.

SWITCH ON BY LOWERING THE GUARD

To start the machine simply by lowering the guard, press buttons "C 1 5 E". To change back to operation only via the control panel, repeat the operation.

To store the selection press "STOP C 5 2 6 E".

WEIGHT DISPLAY IN GRAMS OR OUNCES

To change the display from grams to ounces, press "C 2 0 E". To change the display from ounces to grams, press "C 1 8 E". To store the selection press "STOP C 5 2 6 E".

ZEROING SMALL WEIGHTS IN GRAMS

To zero small weights in grams (2 - 3 g) press "C 7 E". The present zeroing figure setting is displayed to the left of the display. To change the figure, simply enter the new one (max. 1 figure after the decimal point), and press button "E" to confirm the figure. To store the setting press "STOP C 5 2 6 E".

PROGRAMMING FOR BALANCING MOTORCYCLE WHEELS

STATIC

- Set the width and diameter figures on the front panel (even if the wheel balancer has automatic gauges - in static mode, balancing measurements must be set manually).
- The rim width measurement is made using the gauge supplied with the machine.
- The rim diameter measurement is taken from the tire.
- The static balancing program is activated by pressing the **MODE** key repeatedly until the left display reads "StA".
- After running the measuring cycle, fit a weight as indicated on the central part of the rim width.

DYNAMIC

- For the dynamic balancing of motorcycle wheels follow the programming instructions for normal wheel balancing. (To return to the dynamic balancing program press the **MODE** key repeatedly until the left display ready **nor**).

CHECKS TO BE CARRIED OUT BY SKILLED PERSONNEL

TEMPORARY BALANCING OF A WHEEL

When balancing a wheel without weights for the purpose of testing the balancing machine, press "C 7 5 E" and then start up normally.

In this way the balancing machine registers the imbalance figures and cancels them. This function cannot be memorized and is canceled as soon as the machine is switched off, or by pressing "C 5 3 O E".

+5 V VOLTAGE DISPLAY

To display this voltage press the buttons "C 2 E". The left display reads "t2" and the voltage is shown on the right, and should be between 4.6 and 4.9.

+2.5 V VOLTAGE DISPLAY

To display this voltage press the buttons "C 1 E". The left display reads "t1" and the voltage is shown on the right, and should be between 2.3 and 2.5.

PICK-UP VOLTAGE DISPLAY

To display the voltage taken in the last measurement, press "C6 E" and on the left display the internal pick-up reading appears and on the right the outer pick-up. The correct functioning of the pick-ups can be checked as follows: the voltage of the inner pick-up should always be smaller than the external pick-up reading. The ratio between the external and internal pick-up readings should never exceed 3.5 and should never be less than 1.5.

PICK-UP PHASE DISPLAY

To display the phase of the last measurement, press "C 1 7 E" and the internal pick-up reading appears on the left-hand display, and on the right the external reading. The correct functioning of the pick-up can be checked as follows: start up with only the flange with the sample weight fitted. The difference between the two angles should be 180° ($0 - 180^\circ \pm 1^\circ$)

N.B. CHECKS ONLY FOR MACHINES WITH AUTOMATIC GAUGE

HEIGHT POTENTIOMETER VOLTAGE DISPLAY

To display the height potentiometer voltage, press "C 1 1 E" and on the left display "ALT" appears while on the right the voltage corresponding to the position of the gauge (for example 2.4).

WIDTH POTENTIOMETER VOLTAGE DISPLAY

To display width potentiometer voltage, press "C 1 2 E" and on the left display "LAR" appears while on the right the voltage corresponding to the position of the gauge is shown (for example 3.2).

COMPENSATION DISTANCE POTENTIOMETER VOLTAGE DISPLAY

To display compensation distance potentiometer voltage, press "C 1 3 E" and on the left display "DIS" appears while on the right the voltage corresponding to the position of the gauge is shown (for example 1.8).

CONCERNING THE ACCURACY OF THE POTENTIOMETERS

With the codes C11 - C12 - C13 the various potentiometer readings are displayed. To assess the accuracy of these the following rules should be kept in mind:

1. Changing the mechanical position of the potentiometer should change the corresponding voltage. More precisely, this should increase when the compensation distance and height measurements increase, but for width, the voltage increases when width decreases.
- 2) The voltage readings obtained with C11 - C12 - C13 should never be 0.0 or 5.0 (with an accuracy of ± 0.1). This would mean that there was a short circuit caused by a broken or detached wire.

MEMORIZING DATA

It must be remembered that any setting operation or function modification must be memorized before starting a new work cycle. This is done by pressing "STOP C 5 2 6 E".

NOTE: When weight is set to ounces, the figures are displayed with two decimal points and the resolution can be set at 0.05oz or at 0.25oz (see also code C 2 1 E). Starting from version 1.08 of the software, the figure for the zeroing of small weight readings (see code C 2 1 E) are also set directly to ounces and the calibration weight figures (see "BASIC MACHINE CALIBRATION") must be entered in ounces.

CHECKING MOTOR ROTATION SPEED

To check motor rotation in revolutions per minute, press "C 5 E" and then "START". The r.p.m. for the first minute will be displayed on the right. The minimum acceptable figure is 185 r.p.m and the maximum 195 r.p.m.

ROUTINE MAINTENANCE

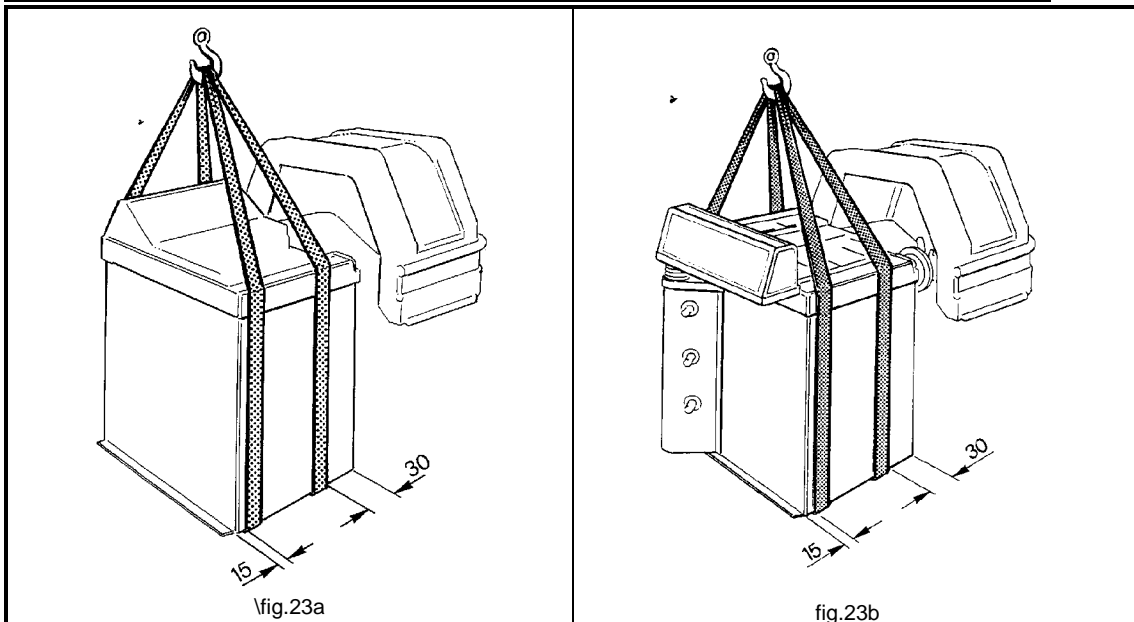
machine cleaning and maintenance by the user

To guarantee the efficiency and correct functioning of the machine it is essential to clean it and to conduct periodic **routine maintenance**. The operations of routine maintenance must be carried out by the user according to the maker's instructions given below:

Before proceeding to any cleaning or maintenance operations **remove the plug from the electrical socket**.

MECHANICAL PARTS: The cone adapter device and the fixing devices must be kept clean, and lightly lubricated with non corrosive oil even when not in use. The accuracy of balancing depends to a large extent upon their condition.

TRANSPORT AND MOVEMENT



Whenever it is necessary to move or transport the machine take all the necessary precautions! For the methods of harnessing and lifting the machine, refer to the instructions in figs. 23a (**Microtec 830**) and 23b (**Microtec 840**).

STORAGE AND SCRAPPING

PERIODS OF INACTIVITY	PERMANENT STORAGE	SCRAPPING
<p>Whenever it is decided to temporarily store the machine, and during periods in which the machine is not in use, <i>remove the plug from the electrical supply.</i></p>	<p>If it is decided that this machine is no longer to be used, it is advisable to make it inoperative by <i>removing the electrical cable after having disconnected the plug from the supply.</i></p>	<p>Since the tire changing machine is considered as special refuse, it should be dismantled into homogeneous parts and disposed of according to the laws in force.</p>

TECHNICAL ASSISTANCE AND SPARE PARTS

n FOR ANY MACHINE MALFUNCTIONS CONSULT THE SECTION: "MALFUNCTIONS: CAUSES AND POSSIBLE REMEDIES" (PG. 10). ANY OTHER MALFUNCTIONS MUST BE CHECKED BY PROFESSIONALLY QUALIFIED PERSONNEL.

n IN ALL CASES CONTACT THE ASSISTANCE SERVICE OF A BEISSBARTH EQUIPMENT AUTHORIZED RETAILER. FOR PROMPT ASSISTANCE IT IS IMPORTANT, AT THE TIME OF THE CALL, TO SPECIFY THE MACHINE MODEL, THE PRODUCTION NO. (FOUND ON THE IDENTIFICATION PLATE), AND THE TYPE OF MALFUNCTION.

WARNING !
**ANY WORK ON THE ELECTRICAL, HYDRAULIC,
OR PNEUMATIC SYSTEMS MUST BE CARRIED OUT ONLY BY
PROFESSIONALLY QUALIFIED
PERSONNEL.**

n THE EXPLODED DRAWINGS ON THE FOLLOWING PAGES SHOW THE COMPONENT PARTS OF THE BASIC MACHINE, SPECIAL VERSIONS, AND ACCESSORY PARTS.

WARNING
**SPARE PARTS MUST BE ORDERED
EXCLUSIVELY
FROM BEISSBARTH EQUIPMENT AUTHORIZED RETAILERS.**

**THE MAKER DENIES TO ALL RESPONSIBILITY
FOR DAMAGE RESULTING FROM THE MALFUNCTIONING
OF NON-ORIGINAL SUBSTITUTED PARTS.**

Ersatzteilliste
Spare-Part-List
Liste des pièces
Lista de repuestos

PKW-Auswuchtmaschine microtec 830 / 840

Hinweis:

Alle Ersatzteilnummern müssen **9stellig** sein!

d.h.: vor die angegebenen 6- und 5stelligen Teilenummern muß noch **761** oder **761 0** gestellt werden!

z.B.: angegebene Teilenummer **300 568** = Bestellnummer **761 300 568**

oder: angegebene Teilenummer **20 513** = Bestellnummer **761 020 513**

Note:

All Beissbarth Spare part numbers are **9 digit numbers!**

In the following lists the spare part numbers are either 5 or 6 digit, therefore both the 5 and 6 digit numbers must be preceded with either **761** or **761 0** in order to create a 9 digit number:

Eg. Listed part number (6 digit) **300 568** Must be ordered to Beissbarth as follows **761 300 568**

Listed part number (5 digit) **20 513** Must be ordered to Beissbarth as follows **761 020 513**

Attention:

Tous les numéros de commande Beissbarth des pièces détachées doivent être composés de **9 (neuf) chiffres.**

c.à.d.: il faut placer avant les numéros avec 5 (cinq) ou 6 (six) chiffres indiqués dans cette liste les chiffres **761** ou **761 0**.

Exemples: Numéro indiqué: **300 568** = Numéro de commande Beissbarth: **761 300 568**

Numéro indiqué: **20 513** = Numéro de commande Beissbarth: **761 020 513**

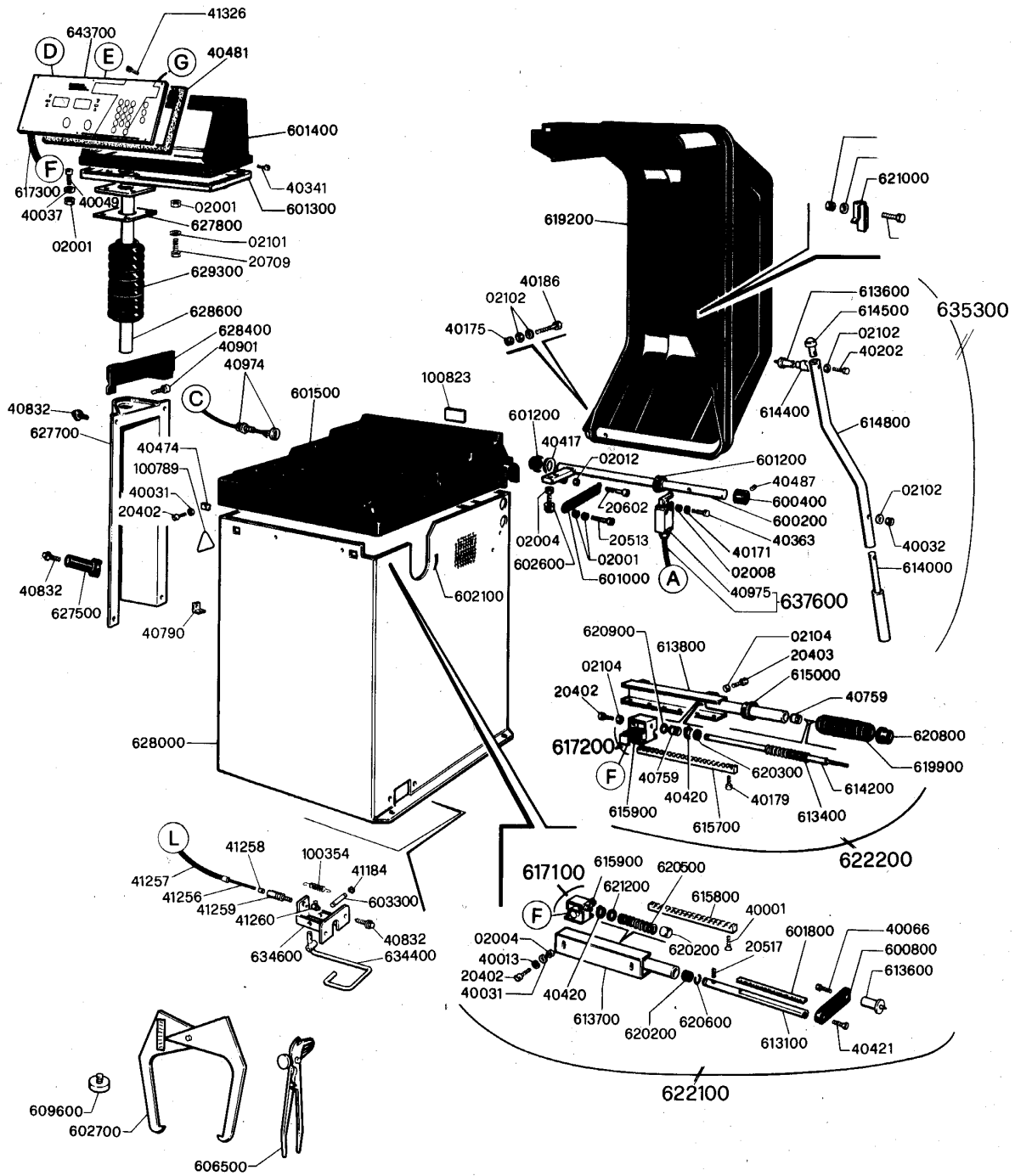
Nota:

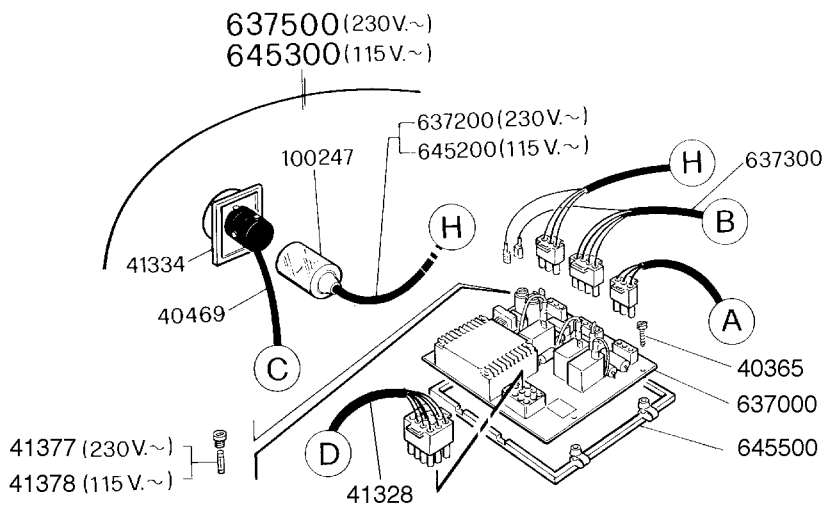
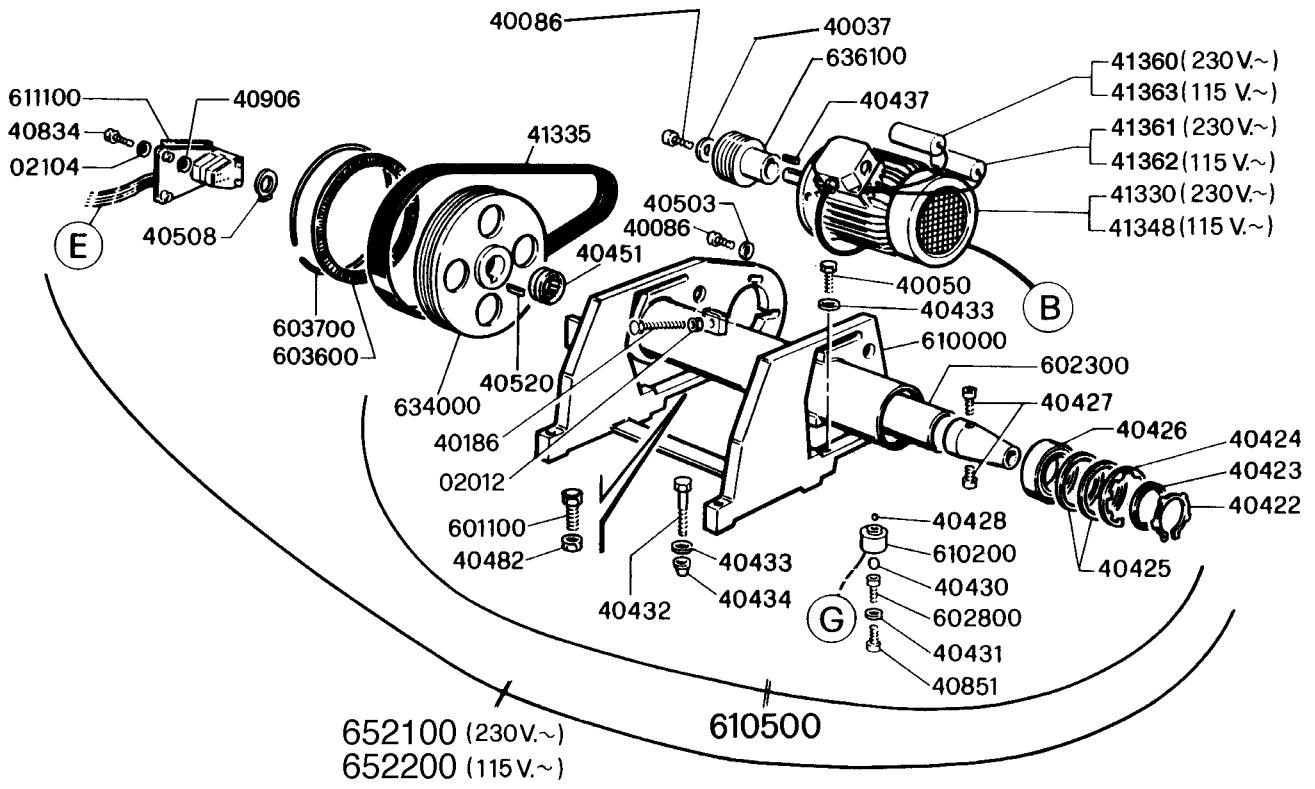
Todos los códigos de repuestos son de **9 digitos!**

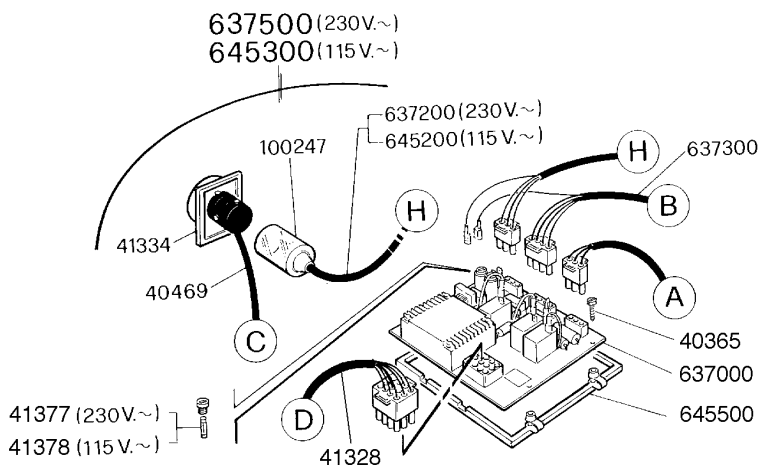
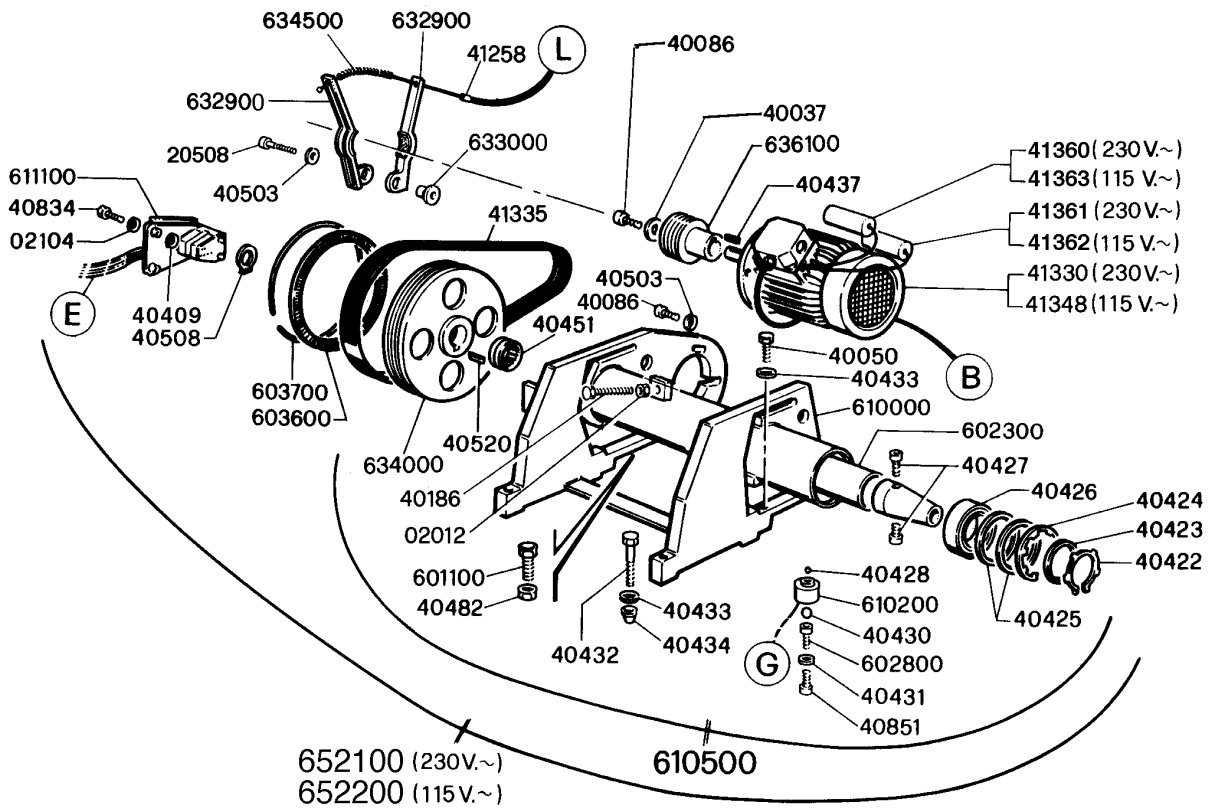
Para el pedido correcto de repuestos por favor añadir delante de los códigos indicados de 5 ó 6 digitos los números **761** ó **761 0**.

p.ej. código indicado **300 568** = código final Beissbarth **761 300 568**

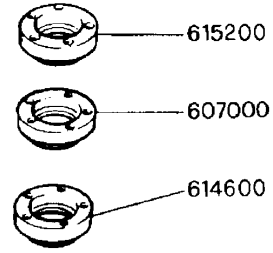
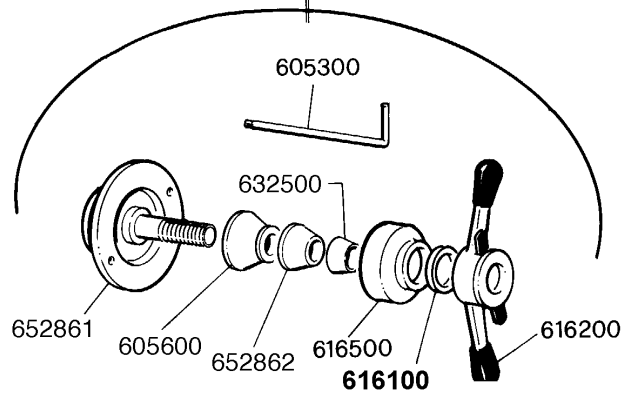
o código indicado **20 513** = código final Beissbarth **761 020 513**



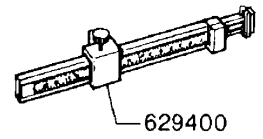
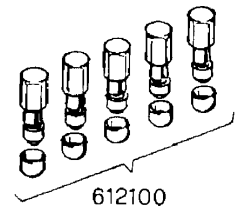
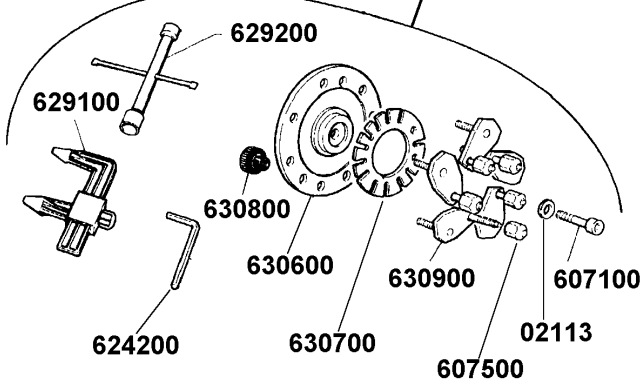




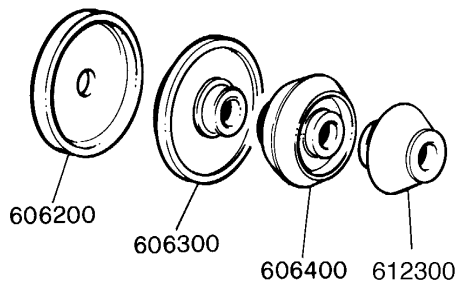
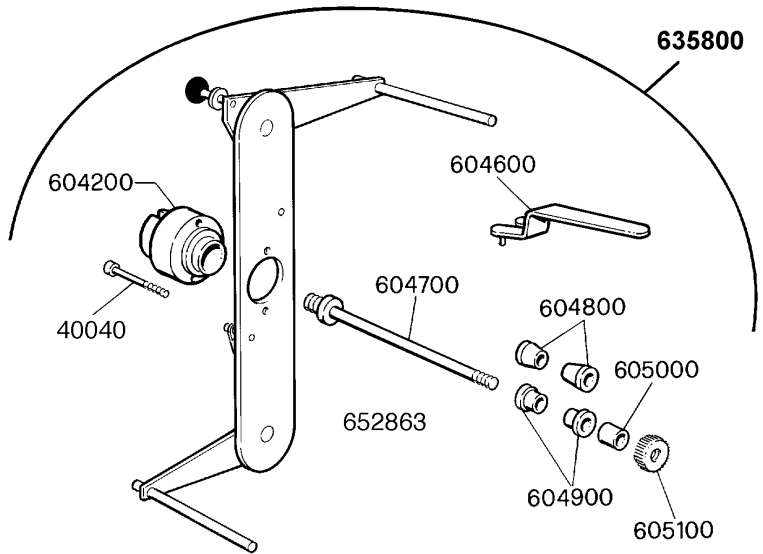
602400



627600



635800



Dichiarazione CE di Conformità
Declaration of Conformity
EG-Konformitäts-Erklärung
Déclaration de Conformité
Declaración de Conformidad CE



La Ditta / The Company / Hiermit bescheinigt das Unternehmen / La Maison / La Compañía



dichiara con la presente la conformità del Prodotto / herewith declares conformity of the Products / die Konformitäts des Produkts / déclare par la présente la conformité du Produit / Declare la conformidad del Producto:

Designazione / Designation / Bezeichnung / Désignation / Designación

**Equilibratrici - Wheel Balancers
- Auswuchtmaschinen - Equilibreuses - Balanceadoras**

Tipo- N° di serie / Type -Serial number / Typ-Fabriknummer, usw / Type-Numero de série / Tipo-Numero de fabricación

microtec 830 - microtec 840

alle norme sottostanti / with applicable regulations below / mit folgenden einschlägigen Bestimmungen / selon les normes ci-dessous / con directivas subaplicables:

Direttive CEE / EC Directive /EG-Richtlinie / Directive CEE / Directivas CE

73/23/CEE - 89/336/CEE - 92/31/CEE - 98/37/CE

Norme Armonizzate Applicate / Applied harmonized standards /
Angewendete harmonisierte Normen / Normes harmonisées appliquées / Normas aplicadas en conformidad

EN 292.1 - EN 292.2 - EN 60204-1 - EN 50081-1 - EN 50082-1

Ente notificato, Tipo di prova / Notified body- Type test / Gemeldete Stelle, EG-Baumusterprüfung / Organisme, Type d'essai / Nombre de la Corporacion, Numero de Certificación

Data / Date / Datum / Date / Fecha :

09.12.1998

Firma / Signature / Unterschrift / Signature / Firma



