

**microtec 740/745
741/746**

CE

wheel-balancing computer



BEISSBARTH
GROUPE  **FACOM**

Documentation data

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741/ 746 Stationary Balancing Machines

Edition dated: 29.03.1994 AEI:00	EW_MT.DOC	Instructor:
Customer:	No. Sold by:	
Street:	Order issued by:	
Postcode/Town:		

Tel.:

(please check as applicable)	
Machine:	

Serial number:

1. Check on completeness of balancing machine and freedom from damage

No defects/complaints

Missing parts: _____

Damage in transit: _____

2. Check function of machine

Clean machine shaft, examine clamping flange

Mechanical and electrical functions checked

3. Instruction on handling and operating the balancing machine

Mechanical construction of balancing machine explained

Safety instructions

Operation with Action Center

Various clamping methods and flanges indicated

Various imbalance compensation methods explained

Concealed balance weights

. System adjustments

4. Instruction on special functions of balancing machine

Operator familiarised with match program

Flange calibration explained

Visual inspection procedure

60-gram calibration explained

5. Instruction on operating errors

Special attention drawn to possible wheel clamping errors

Reference to fault code table in operating instructions

6. Notes: _____

Customer's signature: _____

Time in flat rate units _____

Name in block letters: _____

Date: _____

PREFACE

The wheels and suspension are crucial to the satisfactory road behaviour of an automobile.

Unequal distribution of material in wheel rims and tyres, possible residual imbalance in the wheel hub, brake drum or brake disc and today's sensitive suspension systems therefore require ultra-modern computer technology in the tyre service workshop.

Thanks to their high level of measuring accuracy, wheel-balancing computers from Beissbarth help to define wheel imbalance exactly and eliminate it. Depending on the machine model, matching the tyre to the rim is also possible.

High-quality electronic assemblies ensure exact measuring data and excellent service results.

Beissbarth wheel-balancing computers are therefore among those factors that decisively influence your company's competitiveness, together with customer satisfaction and further progress in the vehicle repair shop.



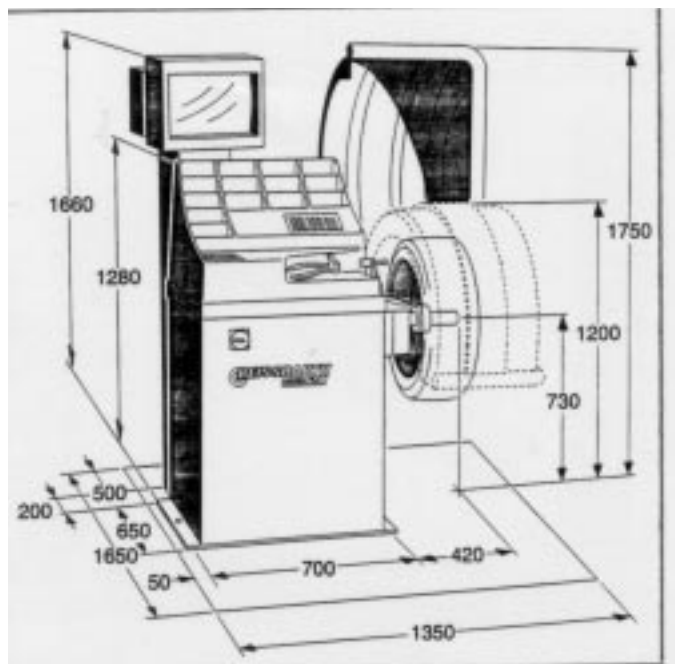
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Wheel weight:	up to 65 kg
Rim diameter:	cars from 10" to 20" Light trucks up to 17.5" Motorcycles up to 22"
Rim width:	up to 13" (330 mm) Motorcycles from 2"
Max. outside diameter of wheel:	900 mm
Motor:	0.37 kW 3X220-240V/ 380-420V
Balancing speed:	285 rpm at 50 Hz
Balancing speed:	342 rpm at 60 Hz
Measuring duration:	3 sec
Noise emission value:	LpA=70 dB (A)
Machine dimensions:	(width x height x depth) 110x1285x700mm (without safety hood)
Required work space with safety hood:	(width x depth) 1350x1650 mm Weight 110 kg
Paint:	blue RAL 5015, black-grey RAL 7021

The manufacturer reserves the right to modify designs as necessary



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-  The wheel-balancing machine must not be used for purposes other than those for which it was designed.
-  Only trained expert personnel is authorised to operate the machine.
-  In Germany, motor-driven wheel-balancing machines may not be operated without safety hoods.
-  Safety installations may not be removed or deactivated.
-  Repair work may only be carried out by trained service personnel. Damage resulting from unauthorised modifications to the machine is excluded from the Beissbarth warranty.
-  All electrical installation work is to be carried out by qualified electricians only.
-  The wheel-balancing machine may not be operated in potentially explosive atmospheres (indoors).

Setting up the wheel balancer

The machine must be secured with dowels to a solid, level concrete floor.

Assembly of safety hood

Attach safety-hood tube to the machine's axle shaft.

Insert both M 8x50 retaining screws (1), screw on and tighten nut and washer (2 and 3).

Place plastic safety hood (4) on to tube elbow (5) and fix to tube with the aid of the black cable clips provided (6). Cut-off ends of cable clips.

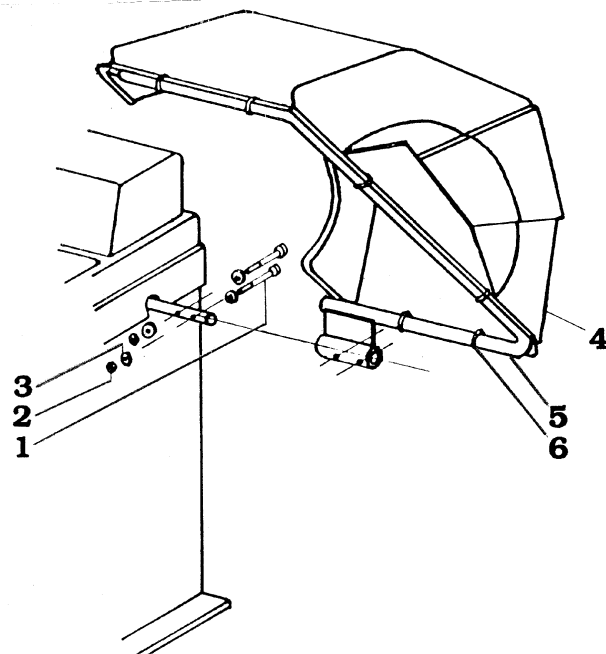
It is of utmost importance to observe the circuit diagram, since incorrect connection may cause damage to the electronics.

The wheel-balancing machine is suitable for connection to a three-phase 220-240V or 380-420V (50/60Hz) mains supply. The machine is factory-preset for 380-420 Volt.

Make sure that the wheel to be balanced rotates clockwise.

(If direction of rotation is wrong, interchange 2 phases at system's power supply line.)

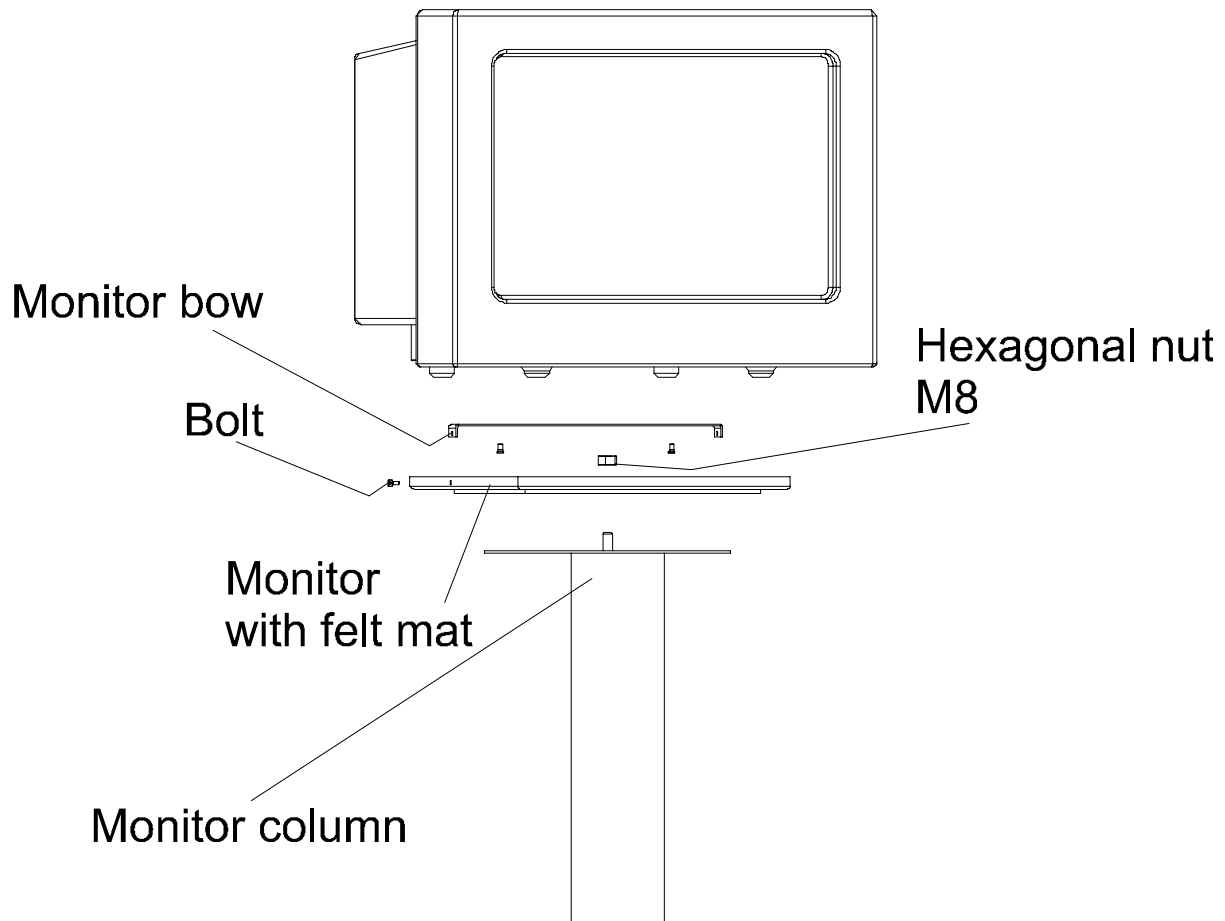
Calibration of the balancing flange must be carried out prior to initial operation.



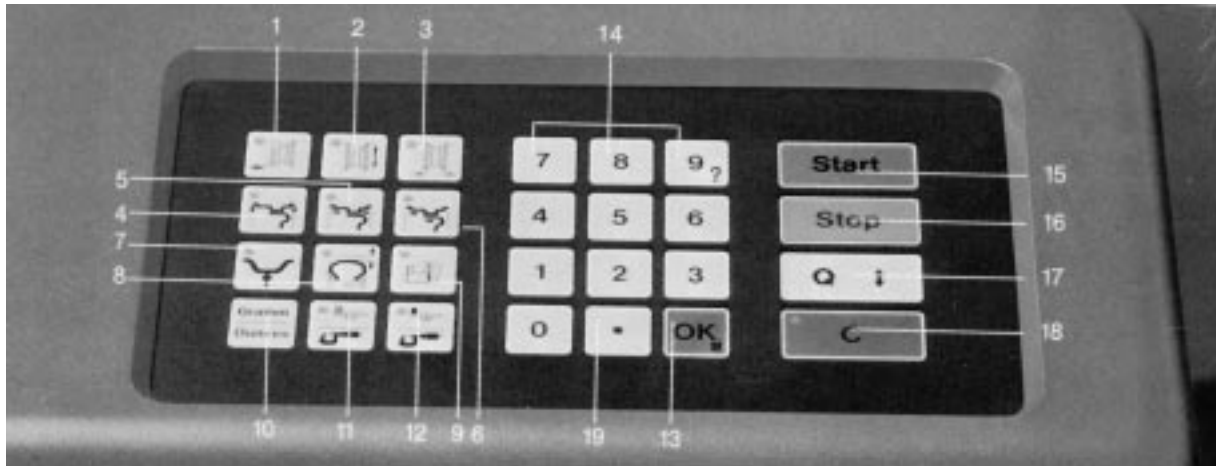
Carefully lift the monitor out of the box, check for any signs of damage incurred in transit and carefully position it on the monitor column.

Secure the monitor to the column, using the screw and washer enclosed with the lead.

Plug the monitor lead into the socket on the column.



Keyboard layout



- 1 = Rim distance key**
- 2 = Rim diameter key**
- 3 = Rim width key**
- 4 = Drive-on weight key**
- 5 = Adhesive weight key (for both sides of rim flange)**
- 6 = Adhesive weight key (for one side)**
- 7 = Multifunction key**
- 8 = Matching key**
- 9 = Printer key***
- 10 = Selector key (grams/ounces)**
- 11 = Calibrating key (flange calibration, zeroing)**
- 12 = Calibrating key (with 60-gram adjustment weight)**
- 13 = OK key (dual-function key: M for menu call-up)**
- 14 = Numerical keys (key 9 with dual function: also for call-up of operator guidance)**
- 15 = Start key**
- 16 = Stop key**
- 17 = Suppress key**
- 18 = Erase key**
- 19 = Decimal point and save key**
- * = Accessory**

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Checking wheel and tyre

- Clean rims and tyres.
- Remove old balance weights.
- Check wheel runout (using accessory meter **P 22**).



Clamping the flange

- (For mt 741/ 746 only)**
- Push the complete flange (of the type suitable for the wheel) on to the conical shaft and tighten the retaining screw firmly with the Allen key provided.
- (The picture shows a middle-centring flange.)



Clamping wheel onto flange

- Important:**
- Dirty or damaged clamping devices or wheels, incorrect clamping devices (see table of flanges), excessive or uneven tightening torques when tightening the wheel studs at the flange or fitting to the vehicle can cause balancing errors of 30 grams or more to occur.
- Refer to the flange table for the most satisfactory means of attaching a particular wheel.

		BEISSBARTH				
		1	2	3	4	5
Flange type	Wheel diameter					
...

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Hub centring flange

To clamp the wheels on to the balancing machine, use the hub-centring flange for all open-centred wheels: these account for 80 % of all wheels.

To minimise clamping errors, the tyre valve should face downward when clamping the wheel on to the flange and fitting to the vehicle.

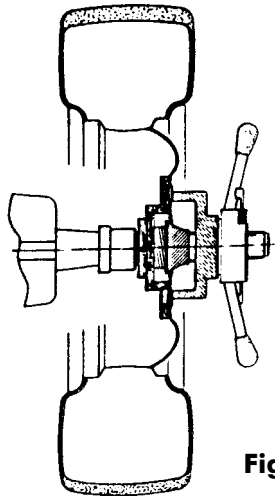


Fig. 1

1. Centring of the wheel with centring cones from the rim back, and wheel mounting with clamping cap and quick-clamping ring nut from the rim front:

Push coil spring over flange shaft.

Choose appropriate centring cone (cone must enter the hub centre of the rim) and push cone against coil spring.

Hold the car wheel carefully against the centring cone and at the same time press clamping cap over flange shaft against rim.

Tighten wheel by hand at quick-clamping ring nut (see Figure 1).

Do not use tools such as a hammer.

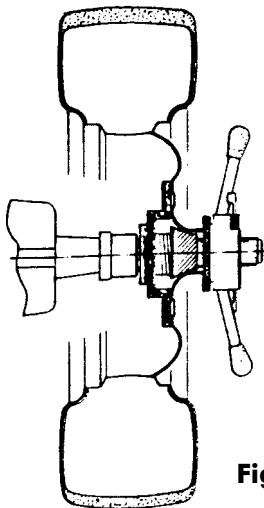


Fig. 2

2. Centring of wheel with centring cones from the rim back, and mounting with pressure ring and quick-clamping ring nut from the rim front:

Centring of the wheel is carried out as described in Item 1.

To fasten, use a pressure ring instead of a clamping cap.

This is a suitable method to centre light-alloy wheels with a very high rim dome where the clamping cap does not reach the mounting surface or if the rim (because of reinforcing ribs) is of irregular shape (see Figure 2).

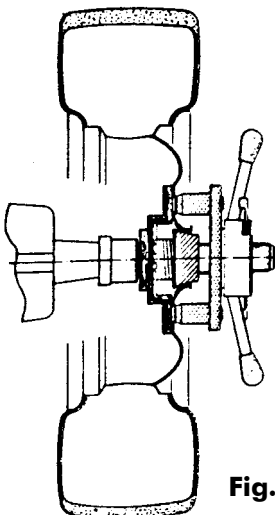


Fig. 3

3. Centring of wheel with centring cones from the rim back, and mounting with centring discs and quick-fastening ring nut from the rim front:

Centring from the rim back is as described in Item 1.

To fasten, use a centring disc for the specific car type instead of a clamping cap.

The centring disc's fixed bolts engage in the relevant rim locating holes and press the wheel on to the flange mounting surface via the quick-clamping ring nut (see Figure 3).

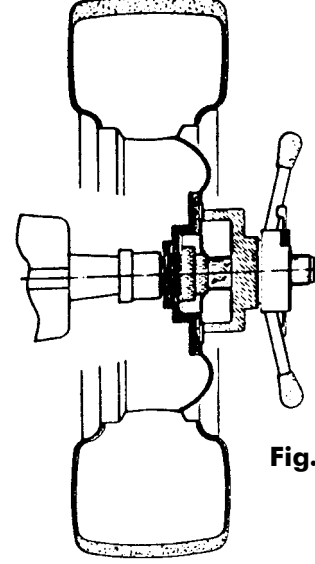
4. Centring of the wheel with centring rings for the specific car type from the rim back, and mounting with clamping cap and quick-clamping ring nut from the rim front:

Select appropriate centring ring (the centring ring must fit exactly into the machined centre bore of the rim) and push it over the flange shaft.

Push the centre bore of the rim carefully over centring ring and simultaneously press clamping cap over flange shaft against rim.

Tighten wheel by hand at quick-clamping ring nut (see Figure 4).

Do not use tools such as a hammer.



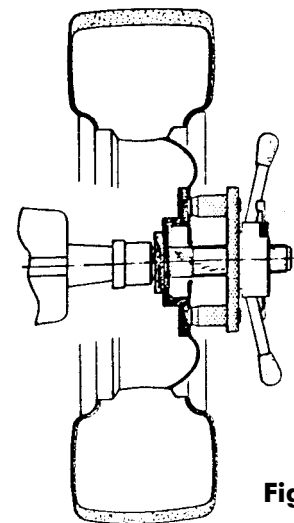
5. Centring and mounting of wheel with centring discs and quick-clamping ring nut from the rim front:

Centring and mounting of car wheels without machined centre bore can be carried out with centring discs for specific car types.

Hold the wheel against the mounting surface of the flange and push the appropriate centring disc - with centring bolt leading - over the flange shaft into the locating holes of the rim.

Tighten wheel by hand at the quick-clamping ring nut (see Figure 5).

Do not use tools such as a hammer.



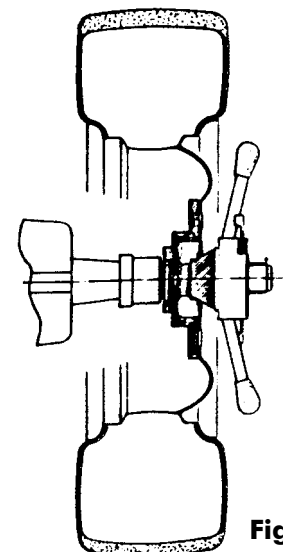
6. Centring and mounting of wheel with centring cones and quick-clamping ring nut from rim front:

A version only rarely used. Suitable for wheels with thin walls in the machined centre bore area.

Position wheel against mounting surface of flange and push appropriate centring cone over the flange shaft into the centre bore of rim (cone must enter hole).

Tighten wheel by hand at quick-clamping ring nut (see Figure 6).

Do not use tools such as a hammer.



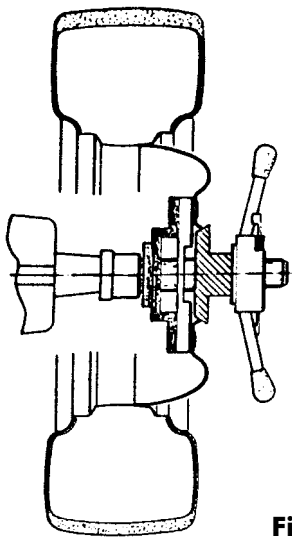


Fig. 7

- 7.** Centring and mounting of light-truck wheel with centring cones and quick-clamping ring nut from rim front and wheel spacers from reverse side of rim:

Since offsets of light-truck wheel rims are very large, the wheel spacer is inserted between the flange mounting surface and the reverse side of the rim.

Centring and mounting are carried out as described under Item 6 (see Figure 7).

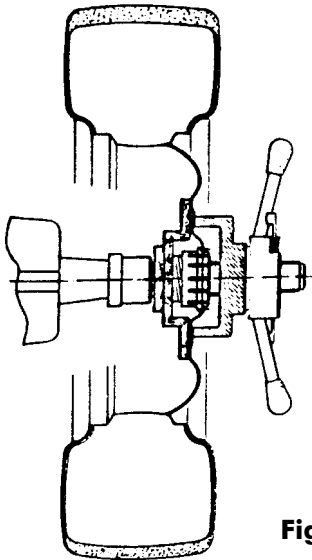


Fig. 8

- 8.** Centring with self-adjusting centring spreader sleeves from the rim back and fastening with clamping cap or pressure ring and quick-clamping ring nut from rim front:

Optimum centring for all rims with machined centre bore. Push coil spring over flange shaft.

Push basic sleeve into appropriate spreader sleeve (specific type for car) and press it onto the flange shaft. The bulge on the spreader sleeve must be at the front.

Push the centre bore of the wheel rim carefully over the spreader sleeve and simultaneously press clamping cap or pressure ring over flange shaft against rim.

Tighten wheel by hand at quick-clamping ring nut.

Do not use tools such as a hammer.

During tightening, the spreader sleeves will always adjust without play, with the result that tolerances between the clamping centre shaft and the cylindrically machined rim centre bore will be absolutely zeroed during centring (see Figure 8).

UNI (universal) flanges are used to clamp wheels on to the wheel balancer in the case of all closed-centre wheels with 3, 4 and 5-hole patterns as well as all wheels with unmachined centre bores.

To avoid clamping errors as far as possible, the tyre valve must be in face-downward position when clamping the wheel on to the flange and fitting to the car.

Make sure that the mounting nut directly located next to the valve is always tightened first; then tighten all other nuts in a crosswise pattern.

When the balancing procedure has been completed, fit the wheel to the car according to the same procedure.

- 9.** Centring and mounting of the wheel with locating pins and double-ended conical nuts or quick-clamping cones:

Select required hole pitch circle pattern for the hole centre plate of the flange and insert correct number of locating pins.

Secure locating pins from back with knurled nuts.

Carefully push wheel with mounting bores over the locating pins and against the mounting surface of the flange.

Tighten double-ended conical nuts on the locating pins with box wrench 22 mm across flats or use quick-clamping cones (see Figure 9).

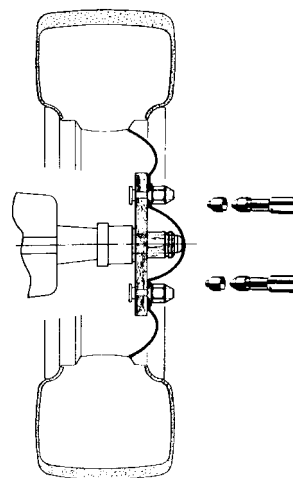


Fig. 9

- 10.** Centring and mounting of the wheel with sliding bolts and double-ended conical nuts or quick-clamping cones:

Insert required sliding bolts into the flange guides and adjust to the desired hole circle pattern.

The sliding bolts are set via ball-grids to the selected hole circle.

The wheel is mounted on to the flange as described under Item 9 (see Figure 10).

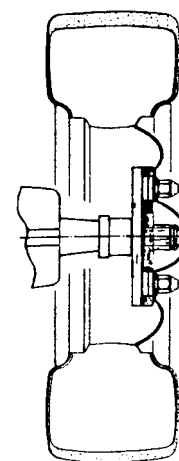


Fig. 10

- 11.** Centring and mounting of wheel with steplessly adjustable swivel pins and double-ended conical nuts or quick-clamping cones:

Unscrew swivel bolts with T-shaped Allen key and insert centre plate for 3-hole mounting or the combination centre plate for 4- and 5-hole-pattern mounting as necessary into the flange recess.

Loosely fasten the required swivel bolts according to the embossed numbers.

For exact adjustment of the flange on the relevant hole-circle pattern, measure the fastening bores of the flange with the hole pattern gauge and transfer to the swivel bolts.

Tighten swivel bolts with Allen key.

Attach the wheel to the flange as described in Item 9 (see Figure 10).

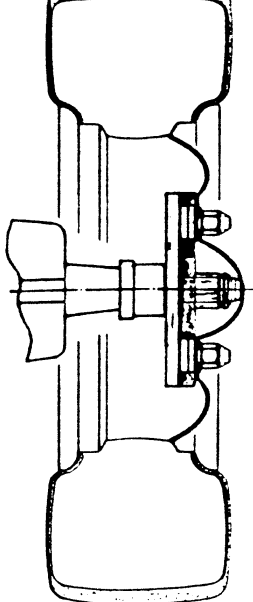


Fig. 10

adjustable bolts and double-ended conical nuts or quick-clamping cones:

Open the flange as far as possible by twisting the rear cam plate against the front guide pulley and insert the required threaded bolts into the numbered guides.

Synchronous adjustment of hole circles takes place when the cams are twisted. The circles can be read off at a dial mounted to the end face.

Mount the wheel on to the flange as described under Item 9 (see Figure 10).

Motorcycle Pro Bike flange

For all motorcycle wheels from 2" rim width with a centre bores from 14mm to 25mm (with special accessories also for centre bores from 10- and 12 mm).

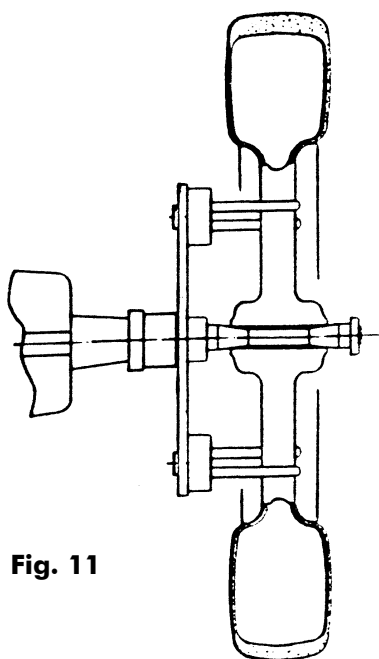


Fig. 11

12. Centring of wheel with centring sleeves or centring cones and mounting with knurled nut.

The two sprung driving-plate pin tighten and push the wheels running surface from outside.

Put a accuracy in fitting centring sleeve in the wheel hub and mount them on the outer wheels running surface. Make sure that the wheel rests on the centring sleeve shoulder, and not against the driving plate. If necessary, fit intermediate spacing sleeve. Insert second centring sleeve over centre shaft into wheel hub and secure wheel with large knurled nut.

For special wheel hubs, use the two centring cones instead of the centring sleeves.



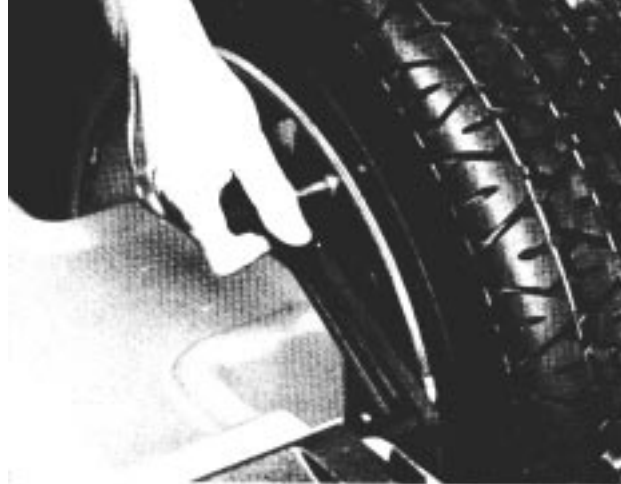
Turn on master switch.

The diagram of a wheel rim appears on the screen.

Procedure for MT 740/ 741

Push the rim distance gauge away from the zero position and up against the inner rim flange, then wait for the acoustic signal.

The microprocessor has now stored the value, which is displayed on the screen.



Note:

Each time a key is pressed, an acoustic signal is given.

If the rim distance is exceptionally large, it can be measured with a rod and the distance entered via the numerical keypad (14) after the rim distance key (1) has been pressed.



The distance gauge should be set to zero and the distance between the rim flange and the front edge of the gauge screw measured.

Rim diameter key (2) and rim width key (3). Each time one of these keys is pressed, the required rim data can be entered via the numerical keypad (14).



All entered values are displayed on the screen and their plausibility automatically checked by the computer.

Plausibility ranges:

- Wheel distance 0-499 mm
- Rim width 1-25 inches
- Rim diameter 8-25 inches



1. Push the rim distance gauge away from the zero position and up against the inner rim flange, then wait for the acoustic signal.

The microprocessor has now stored the rim distance and measured the rim diameter; both values are displayed on the screen.

2. Push the rim width gauge away from the zero position and up against the outer rim flange, then wait for two acoustic signals.

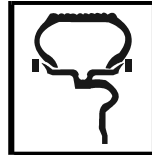
The microprocessor has now stored the rim width value, which is displayed on the screen.

3. If the rim diameters are known, these can also be entered via the rim diameter key (2) and rim width key (3) at the numerical keypad (14).



SELECTING THE BALANCING METHOD

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1. Key for drive-on weights (4) for steel rims.



2. Key for adhesive weights (6) with concealed weight for alloy rims.



3. Key for adhesive weights (6) with concealed weight for alloy rims



Multifunction key for weight positioning (7, motorcycle key).

4. Press once: for weights positioned centrally (purely by static methods)

5. Press twice: drive-on weight on outside of rim flange and adhesive weight on inside

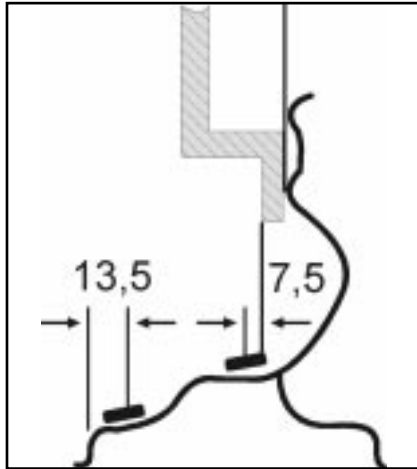
6. Press three times: adhesive weight on outside of rim flange and drive-on weight on inside

7. Press four times: concealed adhesive weight on outside of rim flange and drive-on weight on inside

8. Press five times: for CTS rims (Cinti tyre system).

Note:

Balancing position



If this balancing position is not possible, residual imbalance is to be expected and rebalancing will probably be necessary.

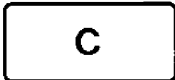
The microprocessor automatically calculates the precise distance between the rim flange and the actual point at which the weights should be attached.

The choice of weight positions is likewise displayed on the screen by means of symbols.

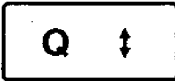


Grams/ounces selector key (10).

Press this key for 2 seconds to change between weight displays in grams and ounces.



Delete key (18). When this key is pressed, the entered data are deleted and the basic symbol appears on the screen.



Inhibit key (17). If this key is held depressed for about 5 seconds, the gram inhibit function is deactivated and the machine is set ready for precision wheel-balancing.

To set the gram inhibit threshold to 5 g shutdown, press this key briefly; press the key again to set the threshold to 10 g deactivation.

At the same time, at any gram inhibit selected, the rounding-off program with display stages rounded up or down to 5 grams or 0.25 ounces is activated.

The bar symbols on the monitor indicate the selected inhibit stages.



**Precision
balancing
without inhibit**

**5g inhibit
+ rounding-off**

**10g inhibit
+ rounding off**

Note:

In Germany, a wheel safety hood with electric interlock is required by law.

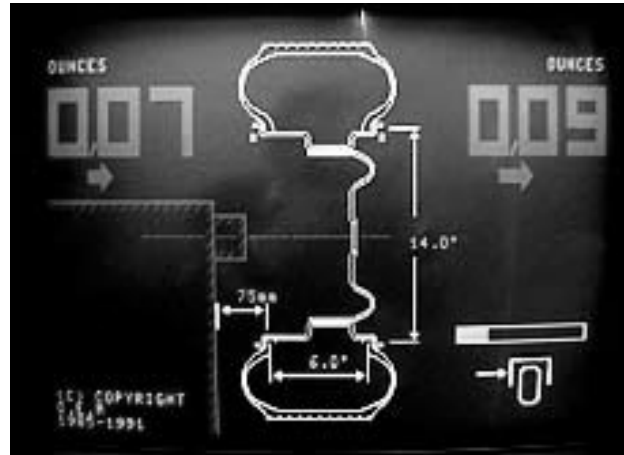
The machine drive may only be switched on with the safety hood closed.

Close safety hood.

The machine starts automatically.

The wheel-balancing process takes approx. 3 seconds. After this period the machine automatically brakes and stops.

The imbalance values and the direction are indicated on the screen.

**Imbalance value:**

Indicated by two large red digital figures for the inner and outer wheel planes.

Direction:

Indicated by large red direction arrows which become shorter as the balancing point is neared.

When the balancing point is reached, the red direction arrows go out and the colour of the imbalance value displays changes from red to green.

Make sure that the balance weight for both planes is always attached in the 12-o'clock-position.

A test run can be performed to check the wheel-balancing result.

The digital displays indicate "000" in white if wheel balancing is correct.

Stop key (16)

The wheel-balancing process can be interrupted at any time with this key.

Start key (15)

Wheel balancing can be re-started with this key.



Stop

Start

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Position brake

Note:

Switch on the position brake to facilitate identification of balancing positions.

When turning the wheel to the balancing position it will be automatically braked shortly before reaching the exact balancing-position point.

The wheel need then only be turned by a minimum amount until the colour of the gram displays changes from red to green.



Switching the position brake on and off

Hold the stop key (16) depressed, and simultaneously press the reset key (18) briefly.

The position brake is switched on if "1" is displayed on the screen, and switched off if it shows "0".

Balancing several wheels of the same type

In this case, rim data need only be selected once.

The data are stored by the machine until they are erased or until new data are entered.

Input data correction

If a measuring run was carried out with the wrong wheel-rim data, wheel-rim data correction is possible without repeating the measuring procedure.

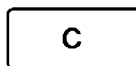
Correction is carried out as follows:

Press the wheel-rim data key, enter the correct value and then press the OK key (13). The balancing values are recalculated without a further measuring procedure being necessary, and displayed on the screen.

If a measuring run was carried out with the wrong allocation number from the wheel-rim data menu, correction is likewise possible without repeating the measuring procedure.

Enter the correct allocation number and, if necessary, the rim distance. The recalculated balancing values are then displayed.

Machine self-test

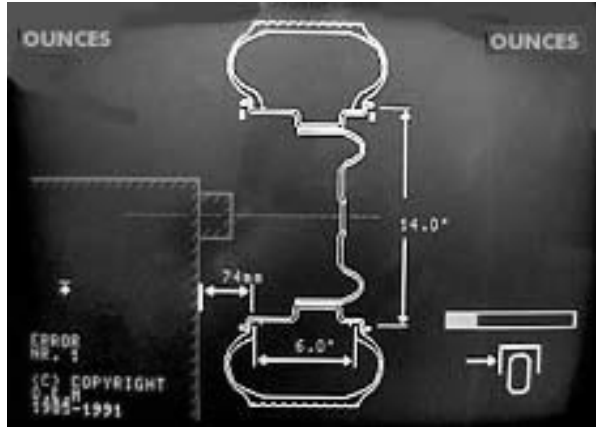


When the machine is switched on or the reset key (18) pressed, a red LED in this key lights up for approx. 2 seconds to indicate that the microprocessor is carrying out a self-test of the electronics.

The red LED goes out when the electronics self-check is completed and the machine is ready for operation.

If a fault is identified, the red LED remains on and an acoustic signal is given.

A fault-code display appears on the screen to inform the operator that servicing is required.



- Error 1:** Drive/light barrier defective (service)
- Error 2:** Wheel speed unstable (service)
- Error 3:** Incorrect direction of rotation
- Error 4:** Residual imbalance too large
(for zero alignment only)
(service, if necessary)
- Error 5:** Sensor/ adjustment weight out of tolerance
(for alignment with weight only)
(service, if necessary)
- Error 6:** Amplification channel out of tolerance or A/ D converter defective (service)
- Error 7:** NV-RAM faulty
(keyboard circuit board)
(service)
- Error 8:** Align distance spot mechanically
(service)
- Error 9:** RAM defective
(CPU circuit board)
(service)
- Error 10:** Incomplete input data
- Error 11:** Printer table full
- Error 12:** Safety hood not closed
- Error 13:** Potentiometer not in alignment position or faulty
(for potentiometer alignment only)
(service, if necessary)
- Error 14:** Wheel-rim data input unacceptable for alignment
(for alignment with weights only)

Important:

Whenever repair work is carried out or parts are exchanged ensure that only spare parts or standardised parts from the appropriate BEISSBARTH spare part list are used.

Machine calibration with drive-on weight carried out on a regular commercially available wheel (rim width 4" to 7", rim diameter 12" to 16").

Calibration of the machine is only required if display faults (direction or size) occur.

1. Enter wheel-rim data.

2. Zero-balance the wheel.

Residual imbalance must be below 10 g, otherwise fault-code display Error 4 is displayed during calibration.



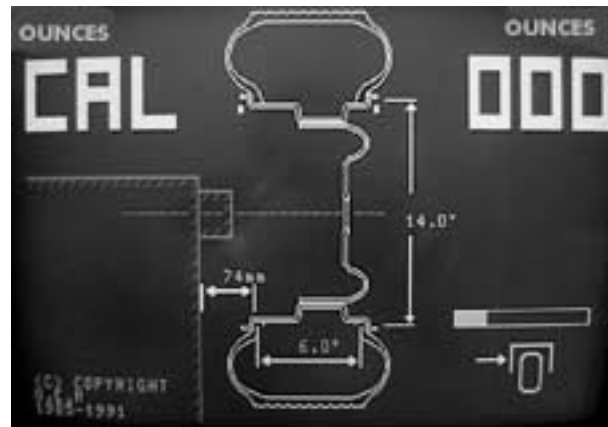
3. Zero-calibrate the wheel (without adjustment weight):

Press the calibrating key (11) for approx. 3 seconds until CAL 000 is displayed on the screen.

Close safety hood and start machine with start button (15).

The LED in the key (11) and the CAL 000 symbol on the screen go out when the run has been completed (approx. 15 seconds).

Open safety hood.



4. 60 g calibration with wheel.

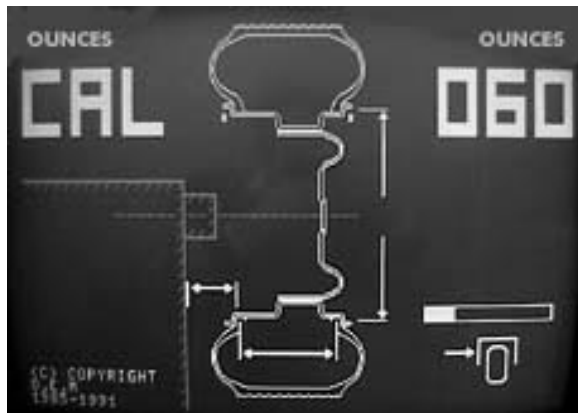
Check wheel data, (distance, rim width, rim diameter).

Drive 60 g calibration weight into the rim's outer level and turn to precisely the 6-o'clock position.



Press calibrating key (12) for approx. 3 seconds until CAL symbol is displayed on the screen.





Enter 060; CAL 060 appears on the screen (if the wrong number is entered, the calibrating routine is interrupted and the basic symbol displayed again).

Close safety hood and press start key (15).

The LED in the key (12) and the CAL 060 symbol on the screen go out after the run has been completed (approx. 25 seconds).

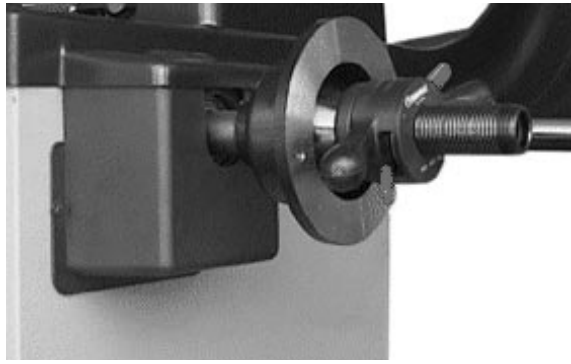
This completes machine calibration.

Important:

After machine calibration, calibration of the wheel-balancing flange is also required.

Calibration of the wheel-balancing flange is required in the following cases: commissioning, exchange of wheel-balancing flange or after machine calibration.

Mount complete wheel-balancing flange on the machine shaft.



Press calibrating key (11) for approx. 5 seconds until CAL 000 is displayed on the screen.



Close safety hood and wait until the CAL symbol on the screen goes out after the run has been completed (approx. 15 seconds).

Any possible residual imbalance from the wheel-balance flange is now stored and compensated.

Rim data menu

The wheel-balancing computer have a facility for entering and storing 64 different rim data.

Each rim size is assigned a serial number.

Procedure:

Press OK key (13).



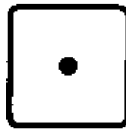
The first page of the menu appears on the screen, with the allocation numbers 1-32.

When the OK key is pressed again, the second page of the menu appears, with allocation numbers 33 to 64.

Enter the next vacant allocation number via the numerical keypad (14). This number is displayed on the screen along with the rim diagram.

Program the rim data as described for entry of rim data and confirm with the OK key (13).

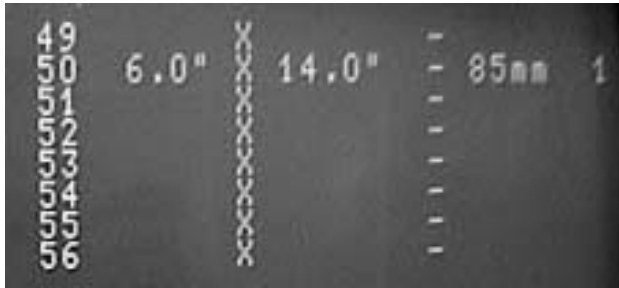




Press the decimal-point/ save key (19).

The input rim data are now stored in the menu under the allocation number previously selected.

Example:



Allocation number 50

Rim width 6.0"

Rim diameter 14.0"

Rim distance 85 mm

Balancing method 1

Deleting menu items

Enter the allocation number to be deleted via the numerical keypad (14).

The rim diagram together with the rim data and allocation number appear on the screen.

Hold the decimal-point/save key (19) depressed for approx. 5 seconds, until the rim data are deleted.

The rim data for the previously entered allocation numbers in the menu are now deleted and the menu space is available for new data.

Calling up stored rim data



Press OK key (13).

The rim data menu appears on the screen.

Select the desired rim data and enter the allocation number via the numerical keypad (14).

This number is displayed on the screen in the rim diagram with the corresponding rim data.

The machine is now ready for wheel-balancing.

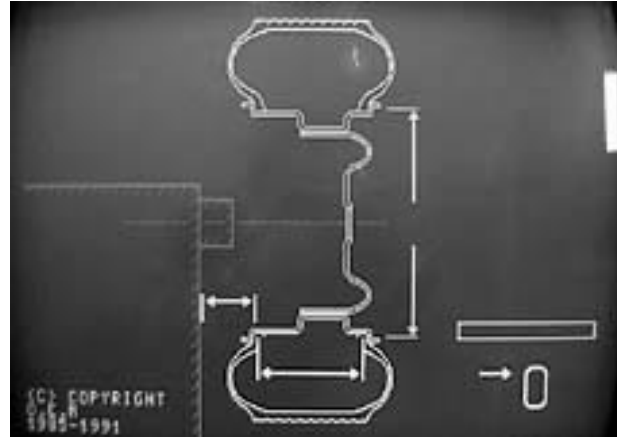
Note:

From a static wheel component exceeding 30 grams, matching is highly recommended to compensate for vertical runout and irregularity.

Activating matching stand-by:

Hold the matching key (8) depressed, and briefly press the reset key C (18).

Activation is confirmed by the appearance of a blue "1" on the screen.

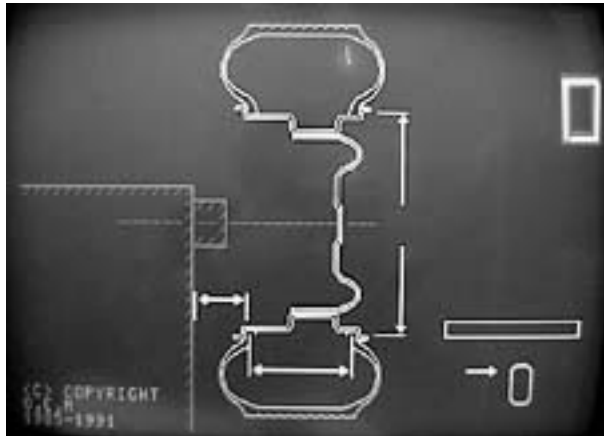


In this mode, during normal wheel-balancing operation the screen automatically indicates by the flashing tyre symbol that a matching procedure should be carried out.

Press the above keys again to cancel matching stand-by.

Deactivation is confirmed by the appearance of a blue "0" on the screen.

To call up the first step of the matching process directly, press matching key (8).

**Matching procedure**

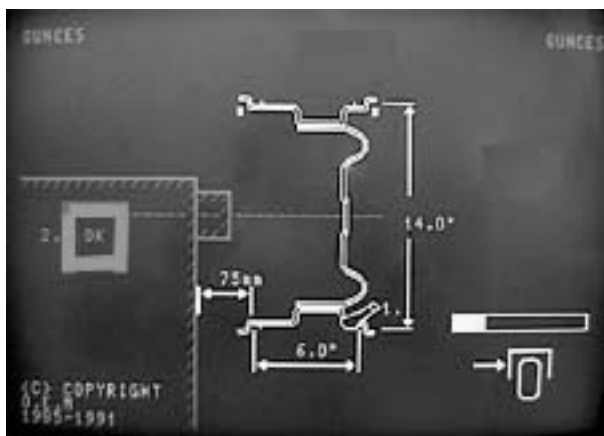
- Press matching key (9).

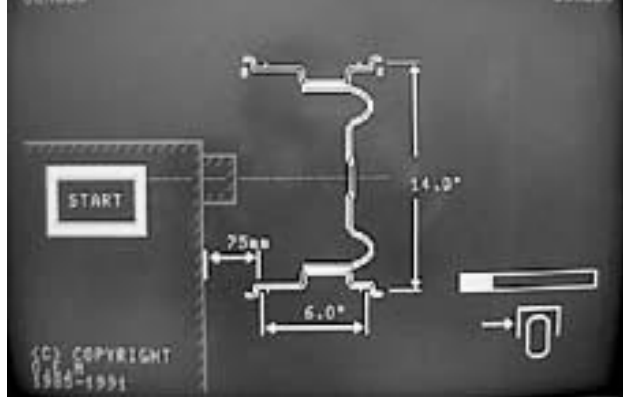
The diagram of a rim appears on the screen, with a flashing valve and the allocation number "1".

In addition, the next step of the process is signalled by a flashing "OK" and the allocation number "2".

- Clamp the empty rim on to the basic flange.

1. Screw in rim with the tyre valve positioned vertically beneath wheel-balancing shaft (6 o'clock position).





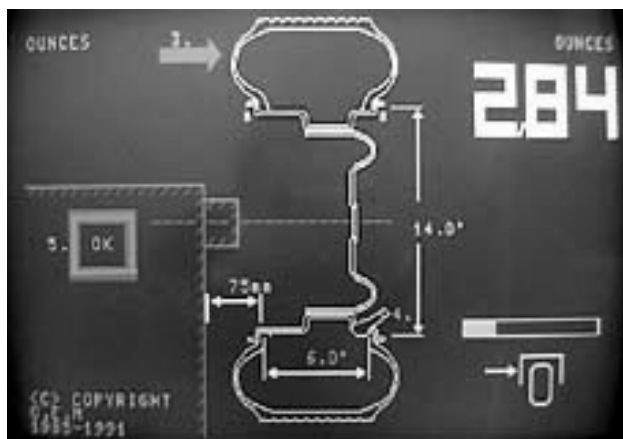
The next step "START" appears on the screen.

- Close safety hood and start the machine at start key (15).

After the rim has been braked, the static imbalance value for the rim appears in yellow figures in the top right-hand section of the screen.

The following steps are also prompted:

a flashing red arrow with the allocation number 3 for fitting the tyre to the rim, the flashing valve with the allocation number 4 for turning the wheel vertically beneath the wheel-balancing shaft, and the flashing "OK" with the allocation number 5 for pressing the OK key.

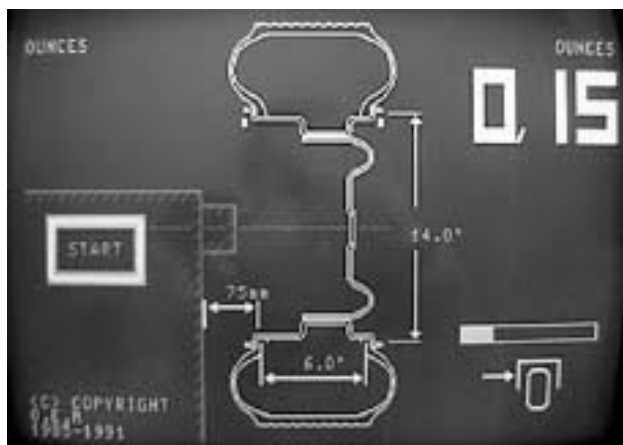


3. Mount tyre on rim and re-attach to wheel-balancing flange.

4. Screw in the wheel with the valve vertically beneath the wheel-balancing shaft (six o'clock position).

5. Press OK key (13).

The next step "START" appears on the screen and flashes.



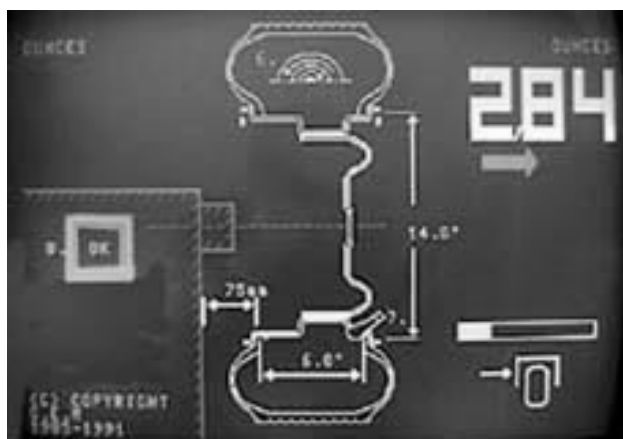
- Close the safety hood and start the machine.

After the rim has been braked, the static imbalance value of the rim appears in yellow figures in the top right-hand section of the screen.

The red arrow to signal turning of the wheel appears below it.

The following steps are also indicated:

a flashing symbol with the allocation number 6 for turning the tyre on the rim, a flashing valve with the allocation number 7 for turning the wheel with the valve vertically beneath the wheel-balancing shaft, and the flashing "OK" with the allocation number 8 for pressing the OK key.



6. Turn the wheel as indicated by the red arrow until a green bar appears.

- Mark the tyre perpendicularly above the wheel-balancing shaft (twelve o'clock position).
- Unseat the bead on the fitting device and turn the tyre on the rim so that the mark is flush with the valve.

7. Inflate the tyre to the prescribed pressure, secure to the balancing flange again and screw in the wheel, with the valve vertically beneath the wheel-balancing shaft (6 o'clock position).

8. Press OK key (13).

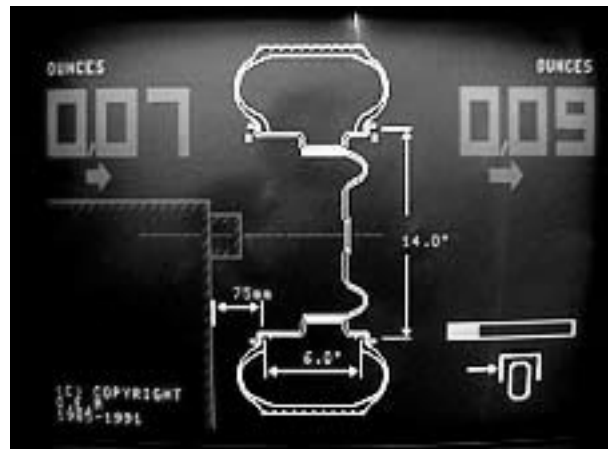
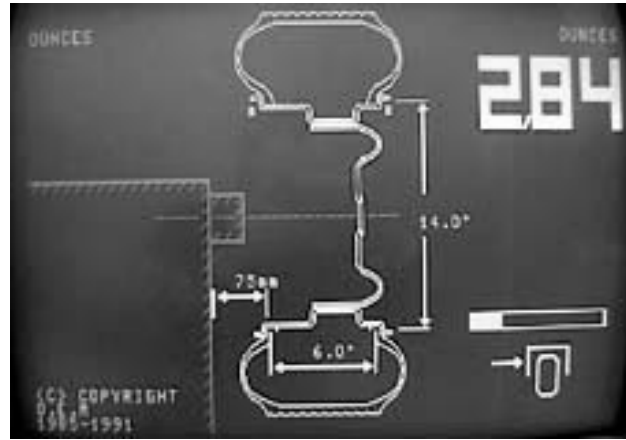
The next step "START" appears on the screen and flashes.

- Start machine.

After braking the wheel, the reduced matching static wheel component appears in yellow figures in the top right-hand section of the screen.

The imbalance displays in grams for the outer and inner level will appear.

- Attach the balance weights.



Note:

Matching can be interrupted at any time by pressing the matching key (8).

To record the initial and final matched values for the static wheel component on the tape printer, press the printer key before starting the matching procedure.

Before carrying out any maintenance or servicing work, disconnect the mains plug from the power supply. If the power supply is permanently attached to the machine, turn off the main switch and secure it in the off position with a padlock so that it cannot be accidentally switched on again.

If malfunctions occur and the machine operator cannot eliminate them, or if fault indications are displayed, please consult Beissbarth's service organisation.

The quality of wheel balancing depends decisively on the condition of the mounting cone at the main shaft, and the corresponding clamping devices. These parts must therefore be looked after with particular care. Keep them clean, dry and free from grease when in use.

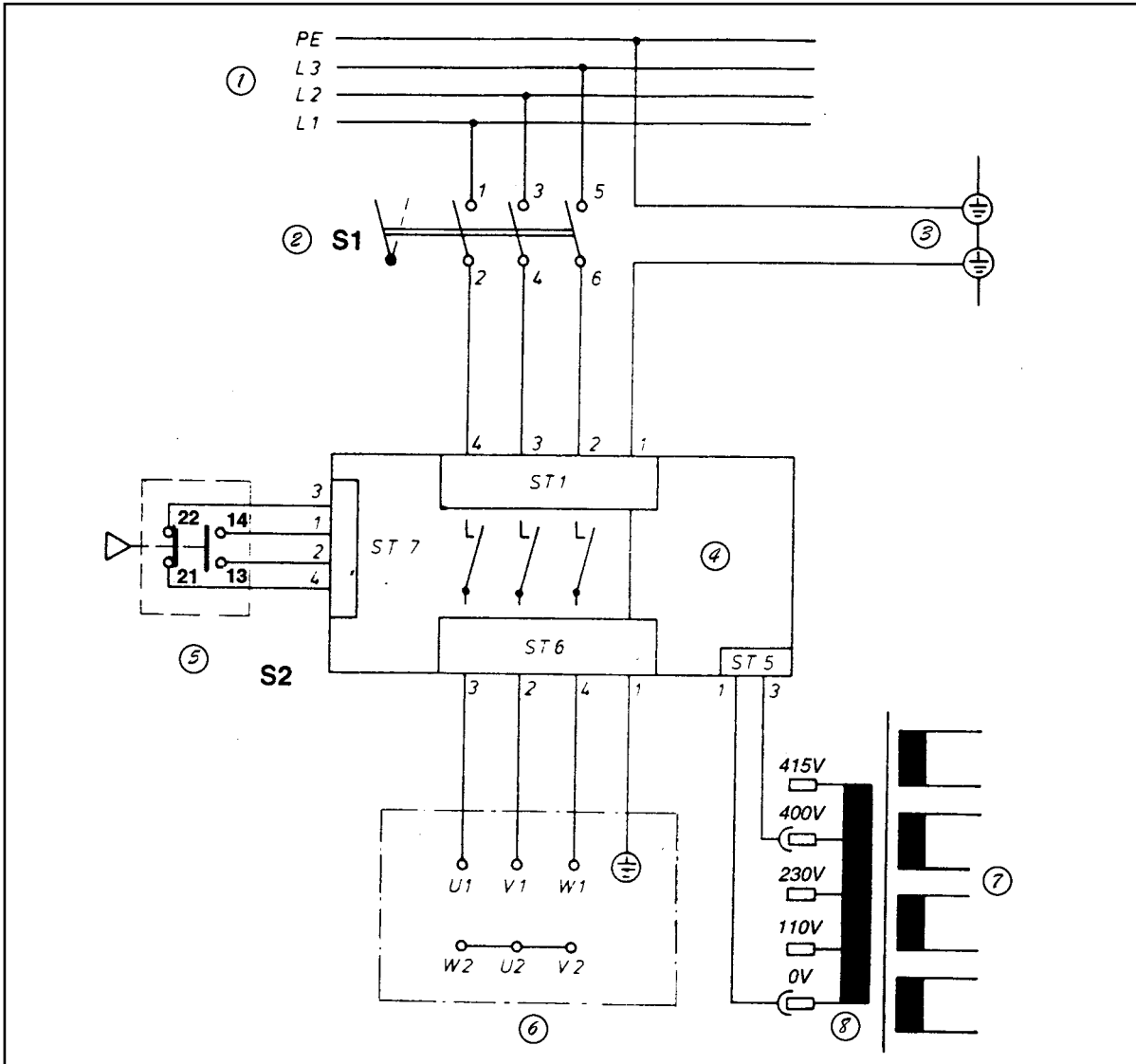
If the wheel balancing computer is to remain out of use for a lengthy period, it should be covered over and stored in a dry place. The mounting cone and the clamping devices must be protected against corrosion by coating them with an acid-free oil. However, this oil film must be removed again before the machine is next used.



(+49) 89-14901-233

BEISSBARTH MT 740/ 745, 741/ 746

	Circuit diagram for MT 740/ 745 MT 741/ 746 3ph 220-240 V/ 380-420 V/ 50-60 Hz Three-phase current version	EDV-Nr. 941 742 001
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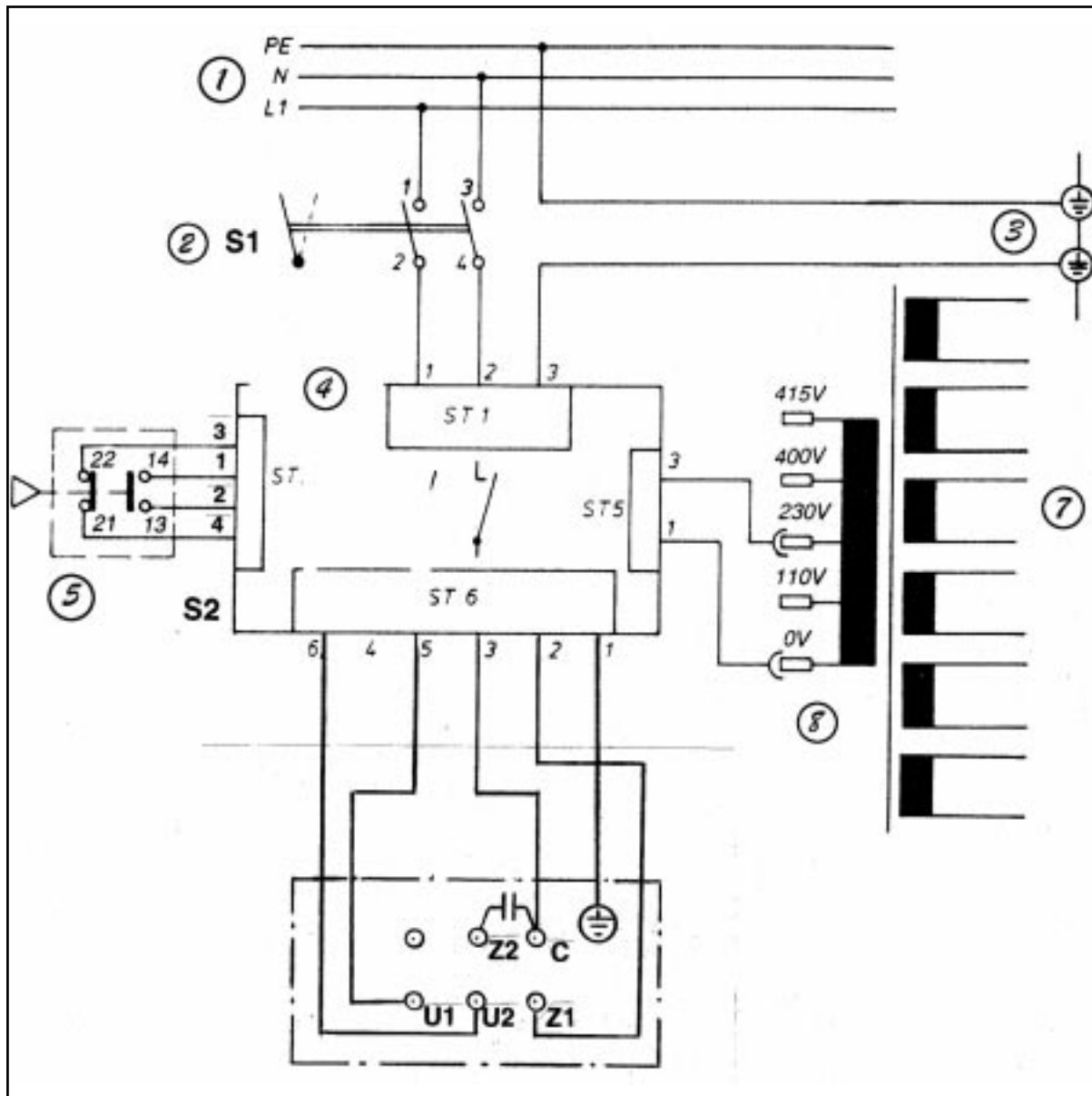


1. 3-phase mains supply
2. Master switch
3. Ground (earth) bar
4. Motor control board
5. Switch for safety hood (closed)
6. Motor terminal board
7. Power supply unit and electronics
8. Transformer

- a. Machine is factory-preset to 3-phase, 400 V.
- b. In start function the shaft rotates clockwise.
- c. At the power stage the power circuit to the mains transformer is to be plugged in according to the supply voltage.
- d. For 3-phase 230 V supply, switch to motor to Δ (delta), for 3-phase 400 V or 415 V to star.
- e. If direction of rotation is incorrect, exchange 2 phases at main supply.

MT740/745, 741/746/En/Rev. 002/12/97 * 901.742.002

BEISSBARTH MT 740/ 745, 741/ 746



1. 1-phase mains supply
2. Master switch
3. Ground (earth) bar
4. Motor control board
5. Switch for safety hood (closed)
6. Power supply unit and electronics
7. transformer

- a) Machine is factory-preset to single phase 230 V.
- b) In start function the shaft rotates clockwise.
- c) At the power stage, the power circuit to the mains transformer is to be plugged in according to the supply voltage.
- d) The motor's direction of rotation can be changed by interchanging connections 2 and 3 at the plug 6 (ST6) on the motor control board. (Make sure first that the motor condenser is discharged).

EC-Declaration of Conformity



EG-Konformitätserklärung / EC-Declaration de Conformité
 CE-Dichiarazione di conformita (CE-Declaration de conformidad
 CE-Declaração de conformidade / EG-Conformiteitsverklaring
 EC-försäkran om överensstämmelse

Hiermit erklären wir, daß die nachfolgend bezeichnete Maschine/Ausrüstung aufgrund Ihrer Konzipierung und Bauart sowie in der von uns in Verkehr gebrachten Ausführung den einschlägigen grundlegenden Sicherheits- und Gesundheitsanforderungen der betreffenden EG-Richtlinie(n) entspricht. Bei einer nicht mit uns abgestimmten Änderung der Maschine/Ausrüstung verliert diese Erklärung ihre Gültigkeit.

We hereby declare, that the following described machine/equipment as a result of its conception and construction in all our distributed versions, meets the relevant fundamental health and safety requirements of the respective EC guidelines. This declaration will lose validity if changes to the machine/equipment are made without our consent.

Nous déclarons par la présente que les machines et équipements décrits ci-après, sont conçus et construits pour l'ensemble de la production, au regard des règles fondamentales du cahier des charges européen. Cette déclaration perd sa validité si des changements sont opérés sur ces machines ou équipement sans notre consentement.

Con la presente dichiariamo che la seguente macchina/attrezzatura e il risultato della sua concezione e costruzione in tutte le sue versioni distribuite. E conforme ai fondamentali criteri di sicurezza e salute delle rispettive normative CEE. Questa dichiarazione perderà validità se la macchina/attrezzatura subirà modifiche senza il nostro consenso.

Por la presente, declaramos que la máquina/equipo descrito a continuación, como resultado de su concepción y construcción, en todas las versiones que distribuimos, cumple con las normas de salud y seguridad descritas en la guía de la CE. Esta declaración perderá validez si se realizan cambios en el equipo/máquina sin nuestro consentimiento.

Pelo presente declaramos que o equipamento/máquina abaixo descrito foi concebido e construído em todas as versões disponíveis, de acordo com as normas de segurança exigidas da CE. Esta declaração perderá toda a validade se o equipamento/máquina forem alterados.

Hiermede verklaren wij dat de navolgende machine/apparatuur beantwoordt aan de EG-richtlijnen inzake eisen voor veiligheid en gezondheid zowel op grond van constructie en samenstelling als op grond van de door ons in het gelodigheidsindien zonder overleg met ons wijzigingen in de machine/apparatuur worden aangebracht.

Vi härmed intygar att följande maskin/utrustning överensstämmer med var ritning och konstruktion i alla våra distribuerade typer, möter alla de krav på hälso- och säkerhetskrav i enlighet med EC-Riktlinjer. Denna deklaration gäller ej om maskinen/utrustningen ändras utan vår vetskap.

Bezeichnung der Maschine/Ausrüstung: Machine/Equipment description: Description de la machine/équipement: Descrizione macchina/attrezzatura: Descripción máquina/equipo: Descrição máquina/equipamento: Aanduiding van de machine/apparatuur:
 Maskin/utrustning Beskrivning:

Radauswichtmaschine / Wheel balancer / Equilibreuse de roues / Equilibratrice / Equilibradora
 Equilibradora de rodas / Balanceermachine / Hjulbalancering

**Typ: microtec 740/ 745 (mt 740/ 745)
741/ 746 (mt 741/ 746)**

Hersteller-Nr.: Production No.: No. de série: Produzione No.: Producción No.: Número série: Fabrikaatnr.: Tillverkningsnummer:

Fab.Nr.:

- **EG Maschinenrichtlinie (89/392/EWG) i.d.F.91/368/EWG,93/44EWG,93/68/EWG73/23/EWG**
- **EG Richtlinie Elektromagnetische-Verträglichkeit (89/336/EWG) i.d.F. 93/68/EWG**
- **EG-Niederspannungsrichtlinie (73/23/EWG) i.d.F. 93/68/EWG**
- **EG-Richtlinie CE Kennzeichnung 93/68/EWG**

In conformance with the requirements of the following EC Guidelines:

- EC-Machine Standard (89/392/EWG)i.d.F.91/368/EWG,93/44EWG,93/68/EWG73/23/EWG
- EC Guidelines for Electro-Magnetic Compatibility (89/336/EWG) - 93/68/EWG
- EC Low Voltage Guidelines (73/23/EWG) - 93/68/EWG
- EC Guidelines for CE Certification 93/68/EWG

En concordance avec les exigences des directives CE:

- **EC-Standard machine (89/392/EWG)i.d.F.91/368/EWG,93/44EWG,93/68/EWG73/23/EWG**
- **Directive CE pour la compatibilit, electro-magnetique (89/336/EWG) - 93/68/EWG**
- **Directive CE pour la basse tension (73/23/EWG) - 93/68/EWG**
- **Directives pour la certification CE 93/68/EWG**

In conformita con le seguenti normative CE:

- CE-Macchina Standard (89/392/EWG)i.d.F.91/368/EWG,93/44EWG,93/68/EWG73/23/EWG
- Normativa ce per compatibilita elettromagnetica (89/336/EWG) - 93/68/EWG
- Normativa per bassa tensione (73/23/EWG) - 93/68/EWG
- Normativa ce per certificazione 93/68/EWG

Conforme con los requerimientos de las siguientes Guias de la CE:

- **CE-Maquina estandar (89/392/EWG)i.d.F.91/368/EWG,93/44EWG,93/68/EWG73/23/EWG**
- **Guia EC para compatibilidad electro magn,tica (89/336/EWG) - 93/68/EWG**
- **Guia EC para bajo volaje (73/23/EWG) - 93/68/EWG**
- **Guia EC para certificaciñ de la CE 93/68/EWG**

Em conformidade com os seguintes Regulamentos CE:

- CE-Maquina estandar (89/392/EWG)i.d.F.91/368/EWG,93/44EWG,93/68/EWG73/23/EWG
- Regulamento CE para compatibilidade electro-magn,tica(89/336/EWG - 93/68/EWG
- Regulamento CE para a baixa voltagem (73/23/EWG) - 93/68/EWG
- Regulamento CE para o certificado CE 93/68/EWG

Conform de Bepaligen van de EG-Richtlijnen:

- **EG-Machinerichtlijn (89/392/EWG)i.d.F.91/368/EWG,93/44EWG,93/68/EWG73/23/EWG**
- **EG Richtlijn elektromagnetische storings gevoeligheid (89/336/EWG) - 93/68/EWG**
- **EG Laagspannings-Richtlijn (73/23/EWG) - 93/68/EWG**
- **EG Richtlijn CE-Markering CE 93/68/EWG**

I enlighet med EC följande väglednings föreskrifter:

- EC Maskindirektivet (89/392/EWG)i.d.F.91/368/EWG,93/44EWG,93/68/EWG73/23/EWG
- EC vägledning för electro-magnetisk förenlighet med (89/336/EWG) - 93/68/EWG
- EC lag volts vägledning (73/23/EWG) - 93/68/EWG
- EC vägledning för CE certifikat CE 93/68/EWG

Angewandte harmonisierte Normen, insbesondere: Applied harmonious norms, in particular: Application de l'harmonie d'une norme: Norme particolari applicate: Normas aplicadas, en particular: Normas de harmonia particulares aplicadas: Toegepaste geharmoniseerde normen, in het bijzonder: Tillverkad i följande harmoniserande normer:

**EN 60204-1; EN 292-1; EN 292-2, EN 294
EN 50081 Teil 1; EN 50082 Teil 1; EN 55022 Kl.B**

Datum: Date: Data: Fecha: 09.08.1997

Hersteller-Unterschrift: Signature of the manufacturer: Signature du constructeur: Firma del costruttore: Firma del fabricante: Assinatura do fabricante: Handtekening van de fabrikant: Tillverkares signatur:



[Handwritten signature]

ppa. D.Eberhartinger

Angaben zum Unterzeichner: Particulars of the undersigned: Fonction du signataire: Particolarità della controfirma: Detalles del firmante: Cargo do responsável: Details van de ondertekenaar: Namnförtydligande

Prokurist

