

**Directions for the Proper Use
of the**

MADAS

TRIPLEX 20 BTG AND 20 BTZG

**Full-automatic
Calculating Machines**



Manufacturers :

H. W. EGLI LTD.

ZÜRICH 38

Seestrasse 356 / Switzerland

Agencies all over the world

Description

- a: Windows of the multiplier register. See also G.
- b: Buttons for setting figures directly in the multiplier register (a).
- d: Movable decimal markers.
- e: 10-column self-correcting flexible keyboard.
- é: Check register III of the figures set on the keyboard.
- f: Windows of the revolution register II, divided into two equal halves; the one on the right-hand side possessing complete capacity carry-over, the other on the left-hand side not having it (see also Sp). The model 20 BTZG possesses only the one revolution register lying in the right-hand half of the carriage. See also II: Clearing key.
- g: Windows of the product register I. In this register the carry-over capacity goes two windows beyond the one opposite the extreme left-hand key-column of the keyboard. In 20 BTZG machines the tens-transmission goes right through. See also I: Clearing key.
- h: Windows of the accumulating (upper) product register IV; this register possesses complete capacity carry-over. See also clearing lever R.
- i: Reversible keyboard decimal bars.
- k: Buttons for setting figures directly in the register IV (h).
- m: Buttons for setting figures directly in the register I (g).
- B: Multiplication-bar with double function:
 1. By depressing this bar whilst the multiplier register (a) is void, an amount in the keyboard (e) is transferred into the multiplier register, notwithstanding the following multiplication be positive or negative. The carriage returns to its extreme left-hand position.
 2. By depressing the multiplication-bar B whilst there is a number in the multiplier register (a), the amount on the keyboard (multiplicand) is multiplied positively by the multiplier. Thereby the multiplier-register clears itself (if knob H is not engaged) and the multiplier appears (provided the lever NE is not pushed downwards) in the windows of the revolution register II (f). See also H and E on page 2 and « Automatic Clearing » on the last page.

- C:** Knob for controlling the automatic clearing. C is at the left-hand sidewall of the machine and therefore NOT visible on the annexed illustration. To engage the automatic clearing, press C inwards; to disengage, pull C outwards. The depressing of the lever E (see below) eliminates the automatic clearing. See also « Automatic Clearing » on the last page.
- D:** Transfer-key. By its depressing an amount being in the product register I (g) is transferred, as far as it lies opposite the multiplier register (a), into this register. Thereupon, the product register I (g) and the keyboard (e/é) clear themselves and the carriage moves into its left-hand end-position.
- Div:** Starting key for division. See also P on page 3 and " Automatic Division " on page 12-13.
- E:** Bar for negative multiplication. If there are numbers set in the multiplier register (a) and on the keyboard (e), the product of their multiplication, started by depressing the bar E, is simultaneously subtracted from zero or from an amount being in the product register I (g).
If the bar E be depressed, no automatic clearing takes place, even the knob C being pressed inwards.
The lever NE being pushed downwards, the multipliers do not appear in the windows of the revolution register II (f).
- F:** Marks serving as fixed signs to determine the decimals; the second is on the right-hand side of the latch Q.
- G:** Key for clearing the multiplier register (a); to depress also in case the automatic clearing be disengaged by the position the knob H is occupying.
- H:** Knob for constant multiplier. To engage by pressing backwards; to disengage by pressing downwards or by operating the clearing key G.
- J:** Key for carriage-movement to the right.
- K:** Knob on the main-shaft; can be replaced by the annexed hand-crank in case the electric current fails. See also on the last page " Interruption of the electric current ".
- L:** Key for carriage-movement to the left.
- NE:** Non-entry lever. When pushed downwards, the revolution register II (f) is disengaged in addition, subtraction and multiplication, but is automatically re-engaged as soon as an automatic division is started by depressing the Div-key.

- N1:** Reversing lever for the revolution register II (f); will only produce the desired effect, if the Plus-key or the Minus-key be depressed.
When this lever is on "+", the revolution register works in the additive, whereas, when it is on "-", the said register works in the subtractive direction, if the Plus-key be depressed and N2 above. If the Minus-key be depressed, it works in opposite direction.
- N2:** Reversing lever for revolution register II (f); serves, in case it is on "-", to calculate the complementary value of either the multiplier or the quotient. When N2 is on "-", there is, more-over, eliminated the effect of the lever N1.
- P:** Lever for instantly stopping the process of division; serves also to stop the machine, when the Div-key has been depressed while there is no divisor set on the keyboard. See also STOP.
- Q:** Latch to hold the carriage down (of no importance to the operator, but important to the mechanic).
- R:** Clearing lever for the accumulating (upper) product register IV (h). To clear this, push R to the right.
- Rep:** Repeat-key. To engage by pressing it downwards and, then, backwards; to release by pressing it downwards. By operating the dividend set-up key Z or the multiplication-bar B the engaged Rep-key is automatically released.
- Sp:** Knob to disengage the clearing in the right-hand half of the revolution register II (Split). If the knob is turned in a way that its marking line be placed horizontally, both halves of the revolution-register II (f) are cleared. If, however, the said knob is turned in a way that its marking line be placed vertically, the clearing in the right-hand half of the revolution register II (f) is disengaged. — This knob Sp does not exist on model 20 BTZG.
- STOP:** Division-stop-key; this being depressed, the particular quotient figure then being calculated is completed before the machine stops. See also P.
- T:** Carriage-return-lever; its being pushed down disengages the automatic carriage-return at the end of the automatic multiplication.
- U:** Control-lever for the two product registers I (g) and IV (h). When these two registers are engaged (see also Y) and the

lever U is on position " = ", the two counters work in the same direction, i. e. either both in the additive or both in the subtractive sense; when this lever is, however, on " ~ ", the said counters work in opposite direction, i. e. the one in additive and the other in subtractive sense.

Y: Engaging lever for the accumulating (upper) product register IV (h). When this lever is on " I " (down), only the register I (g) is operating; but when it is on " I + IV " (up), both registers I (g) and IV (h) are in gear.

Z: Dividend set-up key; upon its depression:

a) the product register I (g) and the revolution register II (f) are cleared and the carriage is shifted to the extreme right (see also Sp);

b) the dividend is transferred from the keyboard to the product register I (g) without a figure " 1 " appearing in the revolution register II;

c) the Rep-key is released and the keyboard clears itself, being then ready for the setting of the divisor.

+: Plus-key.

—: Minus-key.

I: Clearing key for product register I (g).

II: Clearing key for revolution register II (f).

III: Clearing key for keyboard (e) and check register III (é).

Two or all three clearing keys (I-III) can be depressed simultaneously.

Direction for operating the machine

N. B. Should an operator depress the Div-key without having inserted before a divisor on the keyboard, the machine starts and continues working until the lever P is pushed backwards.

ADDITION

A. The sum to be read in the product register I (g) only.

1. Turn the knob Sp in a way that its marking line be placed horizontally. Clear the registers IV (h), I (g), II (f) and the

keyboard (e/é) by means of the clearing lever R and the clearing keys I, II and III. Shift the carriage by means of the key L to its extreme left-hand position.

2. Place the engaging lever Y on "I". Release the Rep-key. Place the lever N1 on "+" and the levers NE and N2 upwards.
3. Set the different items to be added successively on the keyboard (e) and give each time a short pressure to the Plus-key.
4. Read the sum in the product register I (g) and the number of the added items in the revolution register II (f).

B. The sum to be read in both product registers I (g) and IV (h).

1. Turn the knob Sp in a way that its marking line be placed horizontally. Clear the registers IV (h), I (g), II (f) and the keyboard (e/é) by means of the clearing lever R and the clearing keys I, II and III. Shift the carriage by means of the key L to its extreme left-hand position.
2. Place the engaging lever Y on "I + IV". Release the Rep-key. Place the lever N1 on "+", the levers NE and N2 upwards and the control lever U on "=".
3. Set the different items to be added successively on the keyboard (e) and give each time a short pressure to the Plus-key.
4. Read the sum in the product register I (g) and IV (h) or the number of the added items in the revolution register II (f).

N. B. If, then, only the register I (g) be cleared and adding continued, the sum of any further addition would be visible in the register I (g) and the register IV (h) would show the total of all partial sums.

SUBTRACTION

A. The difference to be read in the product register I (g) only.

1. Turn the knob Sp in a way that its marking line be placed horizontally. Clear the registers IV (h), I (g), II (f) and the keyboard (e/é) by means of the clearing lever R and the

clearing keys I, II and III. Shift the carriage by means of the key L to its extreme left-hand position.

2. Place the engaging lever Y on "I". Release the Rep-key. Place the lever N1 on "—" and the levers NE and N2 upwards.
3. Set the minuend in the register I (g) by way of addition. Depress the clearing key II.
4. Set the subtrahend exactly below the minuend on the keyboard (e) and give a short pressure to the Minus-key.
5. Read the difference in the product register I (g) and the number of the subtracted items in the revolution register II (f).

B. The difference to be read in the accumulating register IV (h) and the subtrahend (or the sum of subtrahends) in the product register I (g).

1. Turn the knob Sp in a way that its marking line be placed horizontally. Clear the registers IV (h), I (g), II (f) and the keyboard (e/é) by means of the clearing lever R and the clearing keys I, II and III. Shift the carriage by means of the key L to its extreme left-hand position.
2. Place the engaging lever Y on "I + IV". Release the Rep-key. Place the lever N1 on position "+", the levers NE and N2 upwards and the control lever U on "~".
3. Set the minuend on the keyboard and depress the Minus-key (!) to insert this amount in the product register IV (h). Depress the clearing keys I and II.
4. Set the subtrahend exactly below the minuend on the keyboard (e) and give a short pressure to the Plus-key (!).
5. Read the difference in the accumulating register IV (h). In the windows of the product register I (g) there appears at the same time the subtrahend or the sum of subtrahends.

ADDITION / SUBTRACTION

A number shall be added to an amount in the product register I (g) and simultaneously deducted from an amount in the accumulating product register IV (h).

1. Turn the knob Sp in a way that its marking line be placed horizontally. Clear the registers IV (h), I (g), II (f) and

- the keyboard (e/é) by means of the clearing lever R and the clearing keys I, II and III. Shift the carriage by means of the key L to its extreme left-hand position.
2. Place the engaging lever Y on " I + IV ". Release the Rep-key. Place the control lever U on " = " and the lever NE downwards.
 3. Set the amount to be lessened by way of addition in the product register IV (h). Press down the clearing key I.
 4. Place the engaging lever Y on " I ".
 5. Set the amount to be increased by way of addition in the product register I (g).
 6. Place the engaging lever Y again on " I + IV " and the control lever U on " ~ ".
 7. Set the amount which is to be both added and subtracted on the keyboard (e) and give a short pressure to the Plus-key.
 8. Read the sum in the product register I (g) and the difference in the accumulating product register IV (h).

SUBTRACTION / ADDITION

A number shall be subtracted from an amount in the product register I (g) and simultaneously added to an amount in the accumulating product register IV (h).

1. Turn the knob Sp in a way that its marking line be placed horizontally. Clear the registers IV (h), I (g), II (f) and the keyboard (e/é) by means of the clearing lever R and the clearing keys I, II and III. Shift the carriage by means of the key L to its extreme left-hand position.
2. Place the engaging lever Y on " I + IV ". Release the Rep-key. Place the control lever U on " = " and the lever NE downwards.
3. Set the amount to be increased by way of addition in the accumulating register IV (h) and depress once more the clearing key I.
4. Place the engaging lever Y on " I ".
5. Set the amount to be lessened by way of addition in the product register I (g).
6. Place the engaging lever Y once more on " I + IV " and the control lever U on " ~ ".

7. Set the amount which is to be both subtracted and added on the keyboard (e) and give a short pressure to the Minus-key.
8. Read the difference in the product register I (g) and the sum in the accumulating product register IV (h).

AUTOMATIC MULTIPLICATION

A. The product to appear in the product register I (g) only.

1. Place the engaging lever Y on "I". Turn the knob Sp in a way that its marking line be placed horizontally. Clear the register IV (h) by means of the clearing lever R. Press C inwards.
2. Depress the clearing keys III and G. Place the levers NE, N2 and T upwards.
3. Set the multiplier at the right on the keyboard.
4. Depress the multiplication-bar B, where by the carriage is moved completely to the left, the multiplier transferred to the multiplier register (a) and the keyboard automatically cleared.
5. Set the multiplicand at the right on the keyboard (e). If, after the multiplication being completed, the multiplicand is to remain on the keyboard, i. e. shall not be cleared automatically, engage the Rep-key.
6. Give again a short pressure on the bar B, whereby the registers I (g) and II (f) are cleared and the multiplication is started and performed.
7. Read the product in the product register I (g).

N. B. In multiplication with simultaneous subtraction of the product the operation of the machine is the same as in automatic multiplication with the exception that under point 6 the bar E must be depressed (instead of the bar B).

If the multiplier bar E be depressed when there is no amount in the product register I (g), this register shows the complementary value of the product.

If the product of the multiplication shall be used either as dividend for a subsequent division or as a factor for a subsequent multiplication (cubing), the factors are to be set on the keyboard beginning with the **second**

column at the left-hand and the lever T is to be pressed down.

By pushing lever NE downwards the revolutions register II (f) does not show any multiplier.

If in the revolution register II (f), instead of the normal multiplier, its complementary value shall appear, place, under point 1, the lever N2 on "—".

B. The product to appear in the product register I (g) as well as in the accumulating product register IV (h).

1. Place the lever Y on "I + IV". Turn the knob Sp in a way that its marking line be in horizontal position. Place the control lever U on "=". Clear the register IV (h) by means of the clearing lever R. Press knob C inwards.
2. Depress the clearing keys III and G. Place the levers NE, N2 and T upwards.
3. Set the multiplier at the right on the keyboard (e).
4. Depress the multiplication bar B, whereby the carriage is moved completely to the left, the multiplier transferred to the multiplier register (a) and the keyboard (e/é) automatically cleared.
5. Set the multiplicand at the right on the keyboard (e). If, after the multiplication being completed, the multiplicand is to remain on the keyboard, i. e. shall not be cleared automatically, engage the Rep-key.
6. Give again a short pressure to the bar B, whereby the registers I (g) and II (f) are cleared and the automatic multiplication is started and performed.
7. The product can be read in the product register I (g) as well as in the accumulating product register IV (h).

N. B. The products of multiplications can be accumulated in the register IV (h).

If the controll lever U is put on " ~ " and knob C disengaged, a product calculated in accordance with above directions is added in the register I (g) and simultaneously subtracted in the accumulating register IV (h).

If the control lever U is put on " = " but, under point 6, the short multiplication bar E is depressed, a product calculated in accordance with the above directions is simultaneously subtracted in both registers I (g) and IV (h).

If, on the other hand, the control lever U is put on " ~ " and, under point 6, the short multiplication bar E is depressed, a product calculated in accordance with the above directions is subtracted in the register I (g) and simultaneously added in the accumulating register IV (h).

By pushing lever NE downwards the revolution register II (f) does not show any multiplier.

C. Automatic multiplication by a constant multiplier with the individual products as well as their accumulated total being visible.

1. Place the engaging lever Y on " I + IV ". Turn the knob Sp in a way that its marking line be in horizontal position. Place the control lever U on " = ". Clear the register IV (h) by means of the clearing lever R. Press C inwards.
2. Depress the clearing keys III and G. Place the levers NE, N2 and T upwards and push the lever H backwards.
3. Set the constant multiplier at the right on the keyboard (e).
4. Depress the multiplication bar B, whereby the carriage is moved completely to the left, the multiplier transferred to the multiplier register (a) and the keyboard (e) automatically cleared.
5. Set the first multiplicand on the keyboard (e).
6. Give again a short pressure on the multiplication bar B, whereby the registers I (g) and II (f) are cleared and the automatic multiplication is started.
7. Read the first product in the product register I (g).
8. Set the second multiplicand on the keyboard (e) in a way that its decimal point be at the same place as that of the first multiplicand.
9. Give again a short pressure to the multiplication bar B, whereby the registers I (g) and II (f) are cleared and the automatic multiplication is started.

10. Read the second product in the product register I (g) and the total of the two first products in the accumulating product register IV (h).
11. Proceed, with regard to the third multiplicand, in the same way as described under 8-10 etc.

AUTOMATIC CUBING ($a \times b \times c$)

with the individual products as well as their accumulated totals being visible.

1. Place the engaging lever Y on "I". Turn the knob Sp in a way that its marking line be in horizontal position. Place the control lever U on "=". Clear the accumulating product register IV (h) by means of the clearing lever R. Press C inwards.
2. Depress the clearing keys III and G. Place the levers NE, N2 and T upwards.
3. Set the factor "a" at the extreme right on the keyboard (e).
4. Depress the multiplication bar B, whereby the carriage is moved completely to the left, the multiplier transferred to the multiplier register (a) and the keyboard automatically cleared.
5. Set the factor "b" at the extreme right on the keyboard (e).
6. Give again a short pressure to the multiplication bar B, whereby the registers I (g) and II (f) are cleared and the automatic multiplication is started and performed.
7. If necessary, read the product " $a \times b$ " in the product register I (g).
8. Depress the transfer-key D to transfer the product " $a \times b$ " from the product register I (g) into the multiplier register (a), whereby the former is automatically cleared.
9. Place the engaging lever Y on "I + IV".
10. Set the third factor corresponding to the value "c" at the extreme right on the keyboard (e).
11. Give a short pressure to the multiplication bar B.
12. Read the result of the first cubing in the product register I (g).
13. Place the engaging lever Y on "I".

14-22. As described under ciphers 3-11 above.

Attention: when setting the factors, mind that the decimal point of the preceding multiplication be strictly kept on!

23. Read the result of the second cubing in the product register I (g) and the sum of both cubings in the accumulating register IV (h).
24. Place the engaging lever Y on "I". Proceed, with regard to the third cubing, in the same way as described under ciphers 3-11.

N. B. If only the calculation of the cubings be required and not also their sums, disconnect, from the beginning, the accumulating register IV (h) by leaving the engaging lever Y on "I".

AUTOMATIC DIVISION

An amount in the additional register IV (h) cannot be divided in the automatical way, but by way of consecutive subtractions.

1. Place the engaging lever Y on "I". Turn the knob Sp in a way that its marking line be placed horizontally. Clear the additional register IV (h) by means of the clearing lever R. Place lever N2 upwards.
2. Press knob C inwards and depress clearing key III.
3. Set the dividend at the extreme left on the keyboard (e).
4. Apply to the dividend-transfer-key Z; thereby the Rep-key is released, the registers I (g) and II (f) are cleared, the carriage is moved to its right-hand end-position, the dividend is transferred to the register I (g) and the keyboard automatically cleared. Move the decimal marker (d) of the dividend to its right place.
5. Set the divisor on the keyboard in a way that its extreme left figure be underneath the extreme left figure of the dividend. Mark the decimal point of the divisor by means of the reversible decimal bar (i).

6. Depress the Div-key. The division is now performed up to the last figure, whereupon the machine stops. This operation can, however, be interrupted before, for which there are two possibilities at disposal:
 - a) on pushing the lever P backwards, the machine stops instantly;
 - b) on depressing the STOP-key, the division will only be stopped when the figure of the quotient just being calculated is completed.
7. To determine the two decimal points in the revolution register II (f), move the carriage by means of the key J to the position in which the decimal marker of the dividend is opposite the one of the divisor. In this position of the carriage the marks F show the positions in the two halves of the revolution register II (f), into which the decimal marker (d) of the quotient must be moved.
8. Read the quotient in one of the two halves of the revolution register II (f).

N. B. If, instead of the quotient, its complementary value is wanted, there must, under point 1, the reversing lever N2 be placed on "—". As for the rest, everything remains the same as described in points 1-7. Attention: Read the complementary value only in the right-hand half of the revolution register II (f) with white ciphers, because in the left-hand half (yellow ciphers) there is no complete capacity carry-over.

If, after the transfer of the dividend into the register I (g), the engaging lever Y is placed on "I + IV" and the control lever U on " ~ " and there is no remainder in the register I (g) after the automatic division being finished, the dividend will have successively appeared in the additional register IV (h). If, however, there is a remainder in the register I (g), add it to the amount which appeared in the register IV (h) in order that, at the conclusion, the dividend be there.

If, after the division being completed, the divisor is to remain on the keyboard, i. e. shall not be cleared automatically, engage, under point 5, the Rep-key.

Division by constant divisor after which the individual quotients as well as their totals and the rounded off totals of the dividends can be seen.

1. Turn the knob Sp in a way, that its marking line be placed horizontally. Place the engaging lever Y on "I" and the control lever U on "~". Clear the registers IV (h), I (g), II (f) and the keyboard (e/é) by means of the clearing lever R and the clearing keys I, II and III. Place lever N2 upwards.
2. Pull the control-knob C outwards and turn the knob Sp in a way that its marking line be placed **vertically**.
3. Set the first dividend on the keyboard (e) **leaving, if possible, the three key-columns on the extreme left unused**.
4. Give a pressure to the dividend-transfer-key Z. Move the decimal marker (d) of the dividend to its right place.
5. Place the engaging lever Y on "I + IV" and engage the Rep-key.
6. Set the constant divisor completely at the left on the keyboard (e). Mark the decimal point of the divisor by means of the reversible keyboard-decimal-bar (i).
7. Depress the Div-key. The division is now performed automatically up to the last figure, whereupon the machine stops. This operation can, however, be interrupted before, for which there are two possibilities at disposal:
 - a) on pushing the lever P backwards, the machine stops instantly;
 - b) on depressing the STOP-key, the division will only be stopped when the figure of the quotient just being calculated is completed.
8. To determine the two decimal points in the revolution register II (f), move the carriage by means of the key J to the position in which the decimal marker of the dividend is opposite the one of the divisor. In this position of the carriage the marks F show the positions in the two halves of the revolution register II (f), into which the decimal marker (d) of the quotient must be moved.
9. Read the quotient in one of the two halves of the revolution register II (f) and the dividend (rounded off) in the accumulating register IV (h).

10. Clear the register I (g) and the left-hand half of the revolution register II (f) by depressing the clearing keys I and II.
11. Set the second dividend by means of the setting buttons (m) in the register I (g), **strictly keeping to the decimal point of the preceding dividend!**
12. Move the carriage by means of the key J to the position in which the extreme left figure of the dividend is above the extreme left figure of the divisor.
13. Depress the Div-key.
14. Read the quotient of the second division in the left-hand half of the revolution register II (f), the total of the two quotients in its right-hand half and the total of the two first dividends (rounded off) in the accumulating product register IV (h).
15. As described under cipher 10.
16. Proceed, with regard to the third dividend, in the same way as described under ciphers 11-14 etc.

AMOUNT OF AN INVOICE WITH DEDUCTION OF THE DISCOUNT

Problem: What is the net amount of an invoice for 174,25 metres at Fr. 3.65 after deduction of 2% discount?

1. Press the control knob C inwards. Place the engaging lever Y on "I + IV" and the levers NE and N2 upwards. Depress the clearing keys III and G (registers I (g) and II (f) are cleared automatically). Place the carriage-return-lever T upwards.
2. Push the clearing lever R to the right. Turn knob Sp in a way that its marking line be in horizontal position. Place the control lever U on "=". Turn all decimal bars (i) in a way that their green surface be above. Move the carriage by means of the key L to its extreme left-hand position.
3. Set the metre price of 3.65 at the extreme right on the keyboard (e); turn the second decimal bar (i) in a way that its yellow surface be above:
First setting on the keyboard 0 0 0 0 0 0 3,6 5
4. Depress the multiplication-bar B, transferring thus the multiplier 3.65 to the multiplier register (a).
5. Set the number of metres 174,25 at the extreme right on the keyboard (e); the decimal point of 174,25 will come to lie there

where, already from the previous setting on the keyboard, there is a yellow decimal bar (i):

Second setting on the keyboard 00000174,25

6. Depress the multiplication-bar B, whereby the automatic multiplication is started; this being completed, the carriage goes automatically back to its left-hand end position. Mark the decimal point of the price for the metre, 3.65, in the right-hand half of the revolution register II (white ciphers) and move, by depressing the key J, the carriage two places to the right, so that the decimal point in question is opposite the mark F on the right. In the registers I (g) and IV (h) move a decimal marker (d) into the elongation of the yellow decimal bar (i):

Accumulating register IV (h) 0000000000000636,0125
 Product register I (g) . . . 0000000000000636,0125
 Revolution register II (f) . . 000000036500000003,65
 Decimal mark F
 On the keyboard (e) 0000000,00

7. Depress the transfer-key D, transferring thus the gross amount 636,01 to the multiplier register (a).
 8. Place the control lever U on “ ~ ”; set the rate of discount 2% = 0,02 on the keyboard (e), observing the yellow decimal bar (i):

Third setting on the keyboard 0000000,02

9. Depress the multiplication-bar B.

10. Read the results:

Net amount in the register
 IV (h) 0000000000000623,2923
 Discount in the product
 register I (g) 000000000000012,7202
 Gross amount in the revolution register II (f) 000006360100000636,01

AUTOMATIC CLEARING

Besides the possibilities mentioned on page 4 of zeroising the respective registers by means of the clearing keys I and II, the full-automatic MADAS models 20 BTG and 20 BTZG have also an **automatic** clearing which operates as follows:

If amounts being, in consequence of a preceding arithmetical operation, in the product register I (g) and in the revolution register II (f) shall be **automatically** cleared at the beginning of an automatic multiplication, respectively on the occasion of the dividend-transfer-key Z being operated, press the controlling knob C inwards. To disengage this automatic clearing, pull the controlling knob C outwards. (See also Sp).

INTERRUPTION OF THE ELECTRIC CURRENT

Should it happen that the electric current fails and the machine has to be operated by means of the added auxiliary hand crank, take care to turn the crank (which must be mounted with the handle directed downwards) exclusively in clockwise direction. To be able to turn the crank, depress at the same time the Plus- or the Minus-key, one of the movement-keys J or L, one of the clearing keys I, II or G, one of the transfer-keys Z or D, the multiplication-bar B or E or the starting-key Div.

MADAS 20 BTG

