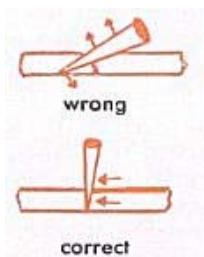
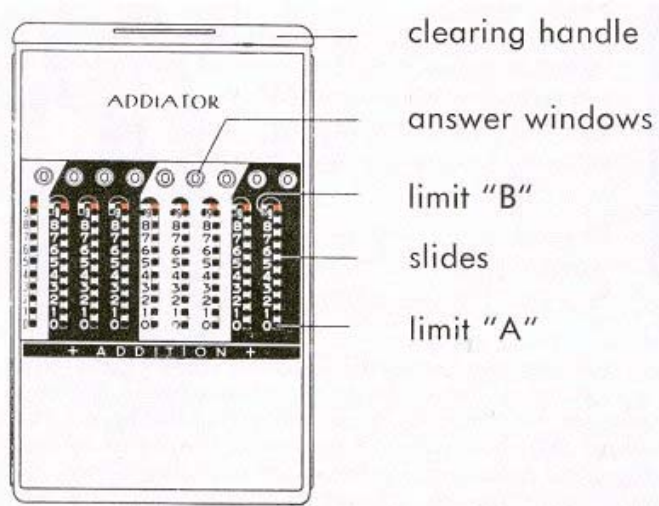


# How to use ADDIATOR



The machine is operated with a stylo which moves the slides up or down. Keep the stylo perpendicularly to the face of the machine. When going round the bend "keep to the right" — this will help to bring the figures of the answer, smack in the center of the result windows.

## CLEARING THE MACHINE

To clear the machine, in other words to set all answer windows at zero, just PULL out the clearing handle as far as it will go, then push it in again. Should a green arrow remain in one of the windows, eliminate it by inserting the stylo in the lowest hole of this particular slide and pulling it down.

**One face of the machine is reserved for Addition, the reverse for Subtraction.** Note the clear disposition of figures, note how well the two machines are synchronized: answer windows I and II show the same total at all times.



### BASIC RULE

If the hole, next to the number, you are about to insert, is in the WHITE portion of the slide, PULL the stylo DOWN to limit "A".

But, if the hole is in the RED portion of the slide, PUSH the slide UP and ROUND the bend to limit "B".

In short:

WHITE HOLE — DOWN TO LIMIT "A" RED HOLE — UP and AROUND to LIMIT "B".

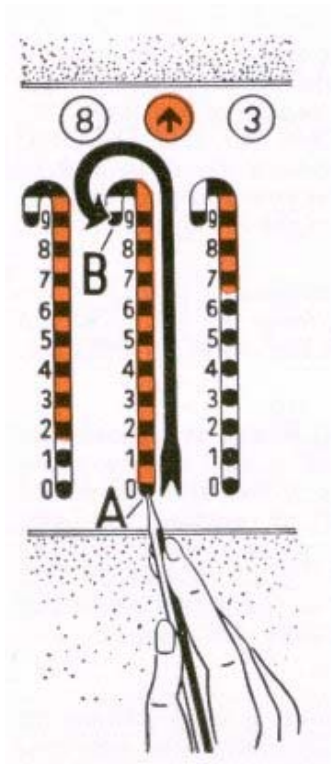
Exercise 1. To master the basic rule, add the same figure (6 for instance) a number of times. Start at column No. 3 and pull down the first six. To add another six, note that the hole is red. Therefore push the slide UP and go round the bend to limit "B". Now the total becomes 12. Next six is pulled down, but the next two are pushed up. Total is 30. Flip the machine over to the other side and note, that the same total is shown in answer windows II. Subtract the figure 6 five times applying THE SAME RULE. Now the balance is zero again.

Exercise 2. Check the following operations:

Here, please note, that columns 1 & 2 are reserved for cents, columns 3, 4 & 5 for dollars (units, tens, hundreds) etc. Since it is best to insert the numbers the same way we write them, we shall start with "1" of 136.50 in the 5<sup>th</sup> column. After pulling down 1, 3, 6 and 5 we come to a zero. In column "1", the hole next to zero is WHITE, therefore it should be pulled down to limit "A", but it is there already! We can leave the column "1" as is, and note that a zero is not inserted.

$$\begin{array}{r}
 136.50 \\
 + 798.26 \\
 + 742.80 \\
 \hline
 1,677.56 \\
 - 512.98 \\
 \hline
 1,164.58
 \end{array}$$

Add now the other amounts, observing the basic rule. Your total becomes 1,677.56. To subtract 512.98 we turn the machine to the subtraction side and insert this amount following the basic rule. The correct total of 1,164.58 appears in the answer windows I and II.



## RED ARROW SIGNAL

In some cases, as in the example below, the hole next to a zero will become RED after inserting the second number. The RED ARROW will appear in the answer window reminding you of this fact.

Example: After inserting these amounts a REDARROW (  $\uparrow$  ) will appear in the answer window No. 3.

76.86  
13.45

-----  
90.31

This signal tells you that the hole opposite zero of column 3 is now RED. Clear the arrow as shown on the picture i. e. applying the basic rule.

While learning how to operate the machine, it is easier to clear every RED arrow as soon as it appears. However, it is not necessary to do so: the machine continues to operate correctly even when the

RED arrow signal is not cleared. When you will gain some experience in operating the machine, you should abstain from clearing the red arrow signals, except in the final answer.

Example:  $98 + 5 + 18 = 121$

Adding 5 to 98 we get the red arrow signal. Add 18 WITHOUT clearing the arrow. Note that the arrow signal disappears automatically and the correct result is shown. In rare cases, however, the presence of the red arrow signal will prevent you from reaching the limit "B" in the column just to the right of the signal.

You might have noticed already, that by moving the stylo to limit "B" we are actually adding 1 to the column at the left. This last part of the stroke is blocked by the presence of the red arrow signal: we are unable to "carry over" the 1 into the next column.

When you should do that with the stylo, it will clear the arrow automatically.

Example: After adding 8 to 2096 an arrow signal appears.

20.96	Without eliminating it, add the 7 and note that
0.08	you are prevented from reaching the limit "B",
0.07	that is, from ADDING ONE TO THE SECOND
21.11	COLUMN. Therefore introduce the stylo in 1 of

the second column which is red and push it up & around to limit "B". The right answer 21.11 will appear.

This explanation can be formulated as follows:

When you were prevented from reaching the limit "B" on account of the red arrow signal, CLEAR THE ARROW FROM 1.

#### **AUTOMATIC SAFEGUARD:**

When the slide is moved in the wrong direction (pulling the red hole down, for instance) the respective limit can never be reached, except by breaking the slides. When the movement in the wrong direction is checked, short of reaching the limit, the arrow signal appears in the answer window indicating the right direction to follow. LEAVE THE STYLO'S POINT IN THE ORIGINAL HOLE and move the slide in the direction of the arrow to the opposite limit. Correct answer will appear.

#### **CHECKING YOUR ANSWERS**

In order to check the total, after adding a long column of figures, one could flip the machine to the subtraction side and insert the figures once more. If, before subtracting the last amount, you see it shown, in answer windows II, you are sure that your result is correct.



Do you deal, occasionally, with degrees (hours), minutes and seconds? If you do, then the **ASTRO-ADDIATOR** will save you time and energy.

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