



Setting instrument



Multimar 844 S

Operating instructions

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Dear customer,

Thank you for choosing a product by Mahr GmbH. We kindly request that you follow the instructions below to ensure the long-term precision of your instrument.

We operate a policy of continuous improvement and are constantly developing our products. Therefore, it is possible that there may be slight differences between the text and illustrations in this document and the instrument in your possession, especially with regard to type designations. We reserve the right to make changes to the design and scope of supply, the right to undertake further technical developments, and all rights relating to translation of this documentation.

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The following symbols are used in these operating instructions:



General information



Caution



Caution, hazard

Failure to follow instructions marked with this symbol may lead to inaccurate results and cause damage to equipment.

1. Introduction

Intended use

The 844 S setting instrument is used to adjust the length measurements in production, quality control and in the workshop.

Intended use is subject to compliance with all published information relating to this product. Any other use is not in accordance with the intended use. The manufacturer accepts no liability for damages resulting from improper use. All statutory and other regulations and guidelines applicable to the area of use must be observed.

The operating, maintenance and repair information detailed in these operating instructions must be followed.

To get the most out of this measuring instrument, you should read the operating instructions prior to commissioning the instrument.

2. Delivery of the 844 S setting instrument includes:

- Light alloy bar with gage block holder
- Operating instructions

3. Important information prior to commissioning the setting instrument

- To guarantee your setting instrument for extended use, use a dry cloth to remove any dirt from the instrument following use. Then use oil to preserve the metal clamping elements.
- Use a soft, dry cloth to clean dirty instrument following use. Wipe the instrument with a damp cloth if it is extremely dirty. Avoid volatile organic solvents such as thinners as these liquids may damage the device.
- Warranty claims are void if the device is dismantled.

We wish you all the best with your new setting instrument. Please do not hesitate to contact our technical consultants should you have any questions.

Confirmation of traceability

We declare, with sole responsibility, that this product conforms to the standards and technical data as specified in our sales documents (operating instructions, leaflet, catalog).

We certify that the testing equipment used to check this product, and guaranteed by our quality assurance system, is traceable to national standards.

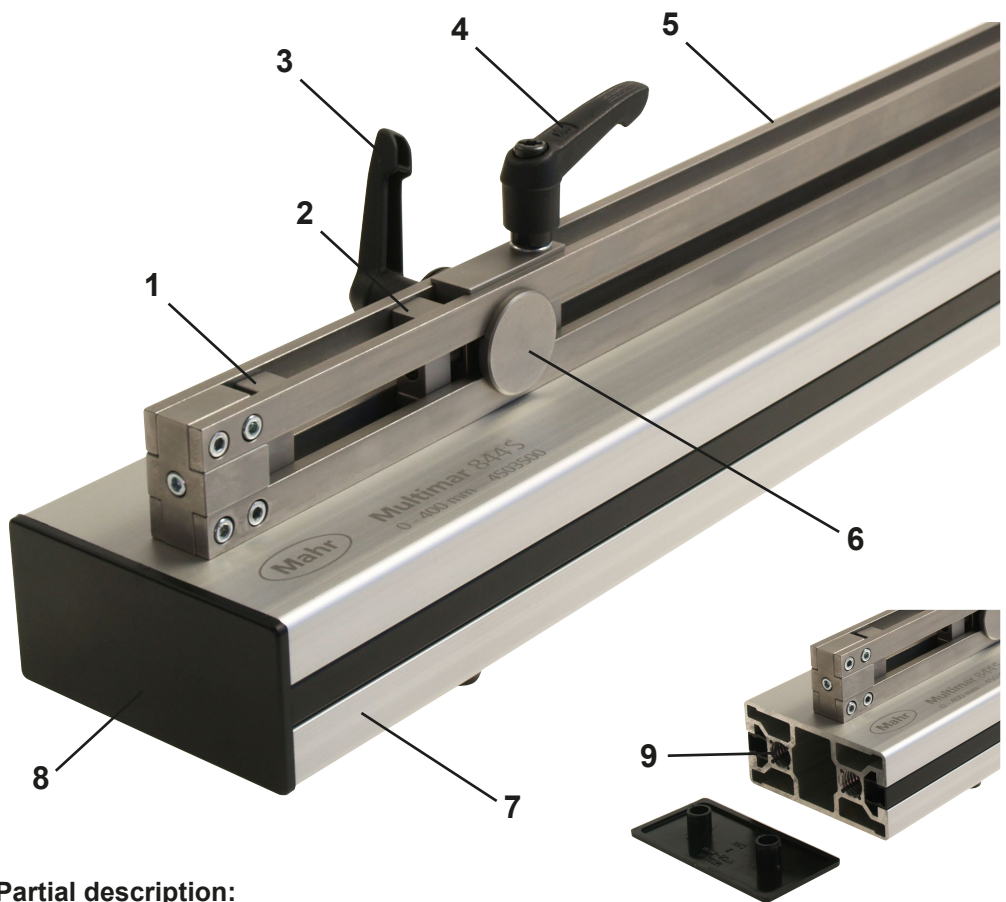
Thank you for placing your trust in us by purchasing this product.

4. Practical use

Used to adjust inner and outer comparative measuring instruments such as Multimar 844 T and Marameter 844 N to a nominal size. Gage blocks are used to set a highly precise dimensional reference.

5. Technical data 844 S

| Type | Application range | Dimensions light alloy base bar | Order no. |
|--------------|-------------------|---------------------------------|----------------|
| 844 S | 0 – 400 mm | 520 x 80 x 40 mm | 4503500 |
| 844 S | 0 – 1150 mm | 1270 x 80 x 40 mm | 4503501 |
| 844 S | 0 – 2180 mm | 2300 x 80 x 80 mm | 4503502 |



Partial description:

- 1 Fixed gage block clamping element
- 2 Mobile gage block clamping element
- 3 Clamping lever
- 4 Tension lever for eccentric clamp
- 5 Gage block holder
- 6 Movable gage block clamping unit
- 7 Light alloy bar with adjustable feet
- 8 Removable cover plate
- 9 Threaded bores (light alloy profile) to attach the base plate for vertical use

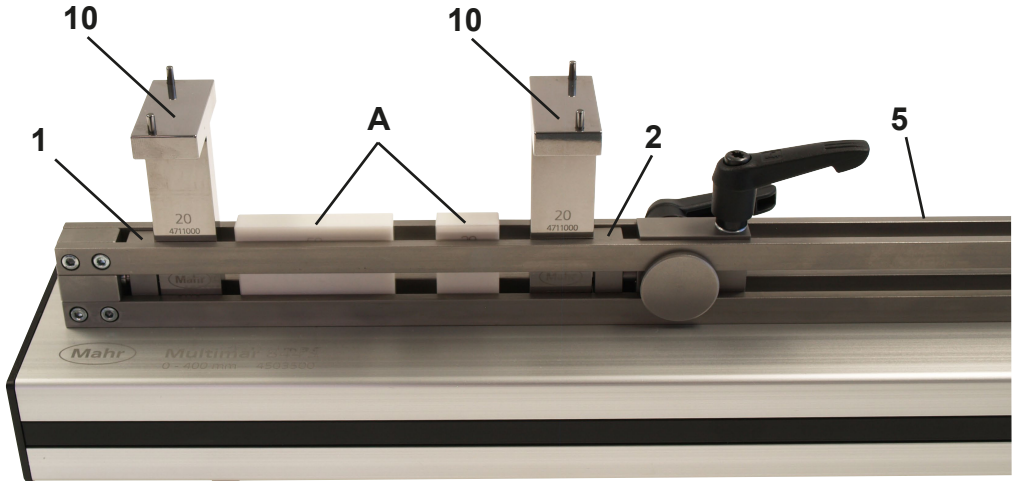
6. Accessories

| Suitable for | Type | Figure |
|---|---------|--|
| Multimar 844 T Multimar 25 EWR  | 844 Sp |  |
| | 844 Sph |  |
| MaraMeter 844 N  | 844 Neb |  |
| | 844 Neb | |
| | 844 Neb | |
| | 844 em |  |
| Multimar 844 T MaraMeter 844 N | 844 Sf |  |

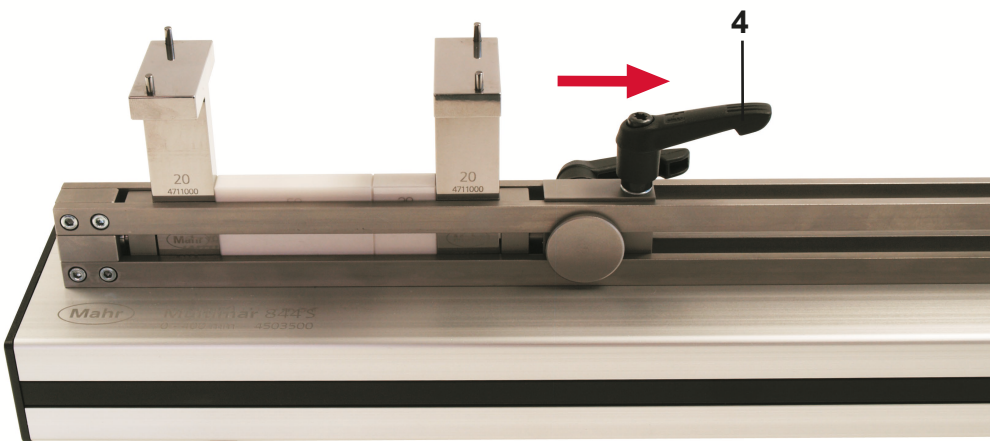
| | Description | Dimensions | Use for: | Quantity unit | Order no. |
|--|--|---|--|---------------|----------------|
| | T-parallel jaw to position and precisely set the Multimar for outer and inner dimensions | Width 20.000 mm \pm 1 μ m Height 75 mm Contact area 32 mm | Measuring arm pairs 844 Tma, 844 Tmi, 844 Tms, 844 Te with 844 Tw | Pair | 4503510 |
| | Spacers to raise the T-parallel jaw when using long measuring arms 844 Te, 844 Tms | Height 30 mm Contact area 32 mm | Long measuring arm pairs 844 Te Required quantity: 844 Te L 70 mm = 1 pair 844 Te, 844 Tms L 100 mm = 2 pairs | Pair | 4503511 |
| | Setting bridge to support the 844 N centering bridge | L x W 70 x 12 mm | 844 N Measuring range 18 - 250 mm | Unit | 4474080 |
| | Setting bridge to support the 844 N centering bridge | L x W 165 x 17 mm | 844 N Measuring range 18 - 400 mm | Unit | 4474081 |
| | Setting bridge to support the 844 N centering bridge | L x W 320 x 20 mm | 844 N Measuring range 18 - 800 mm | Unit | 4474082 |
| | Flat measuring jaw to support the fixed measuring pin of the 844 T | L x W x H 60 x 9 x 9.5 mm | 844 N Measuring range 18 - 800 mm | Unit | 4470095 |
| | Heavy steel base plate, to adjust the vertical position of the 844 S setting instrument | L x W x H 200 x 200 x 25 mm Weight 7.5 kg | 844 S, 4503500 0 - 400 mm 844 S, 4503501 0 - 1150 mm | Unit | 4503512 |

7. Setup of the 844 S setting instrument using the example of a Multimar 844 T:

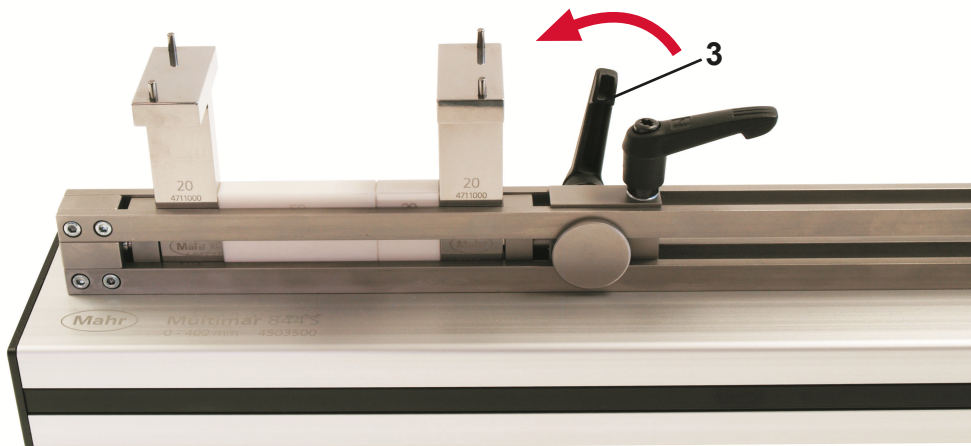
7.1 Insert the parallel jaws **10** and gage block combination **A** into the gage block holder **5** between the two clamping elements **1** and **2**



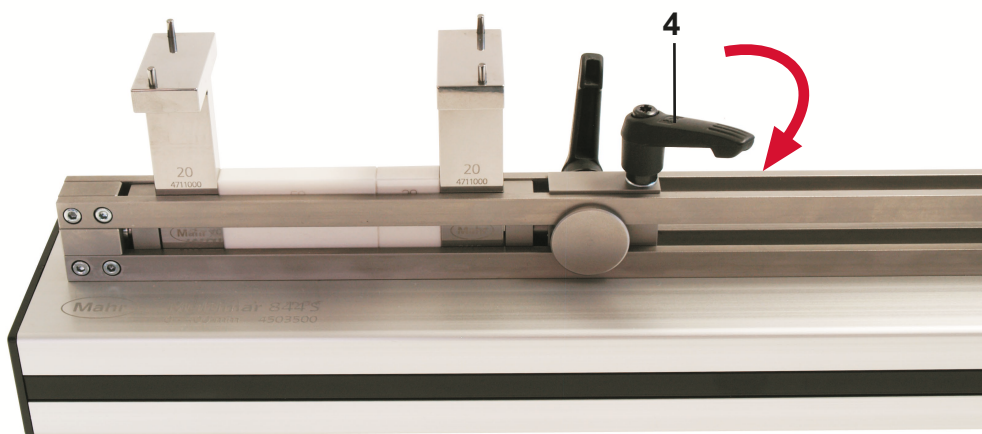
7.2 Put the tension lever for the eccentric clamp **4** in the middle position to pull back the mobile gage block clamping element



7.3 Apply the clamping unit and clamps using the clamping lever on the side 3



7.4 Brace the parallel jaw/gage block combination securely by tightening the eccentric clamp using the tension lever 4



8. Setting dimensional references

8.1 Setup for a Multimar 844 T

Required accessories:

- 844 Sp parallel jaw **10** in T-shape
- Gage block combination **A** (in accordance with the reference dimension)
- 844 Sph Spacers **11** (for long jaws starting at 70 mm)
- 844 Sf Base plate **12** for vertical use (if necessary)



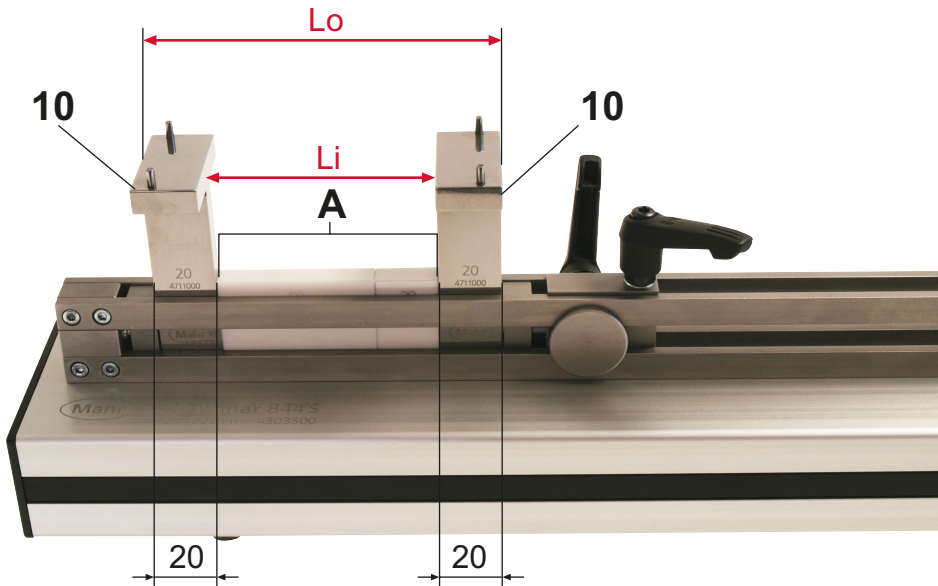
Handle the 844 Sf base plate carefully due to its heavy weight (7.5 kg)! We recommend using the included table clamps to attach the base plate to the measuring station.

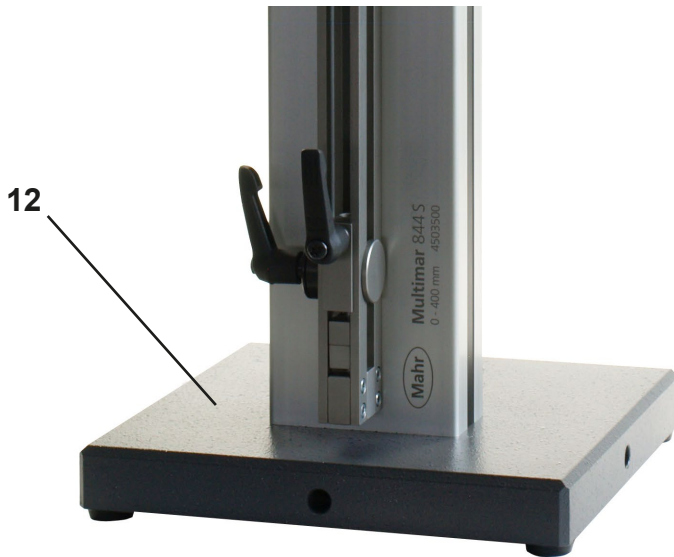
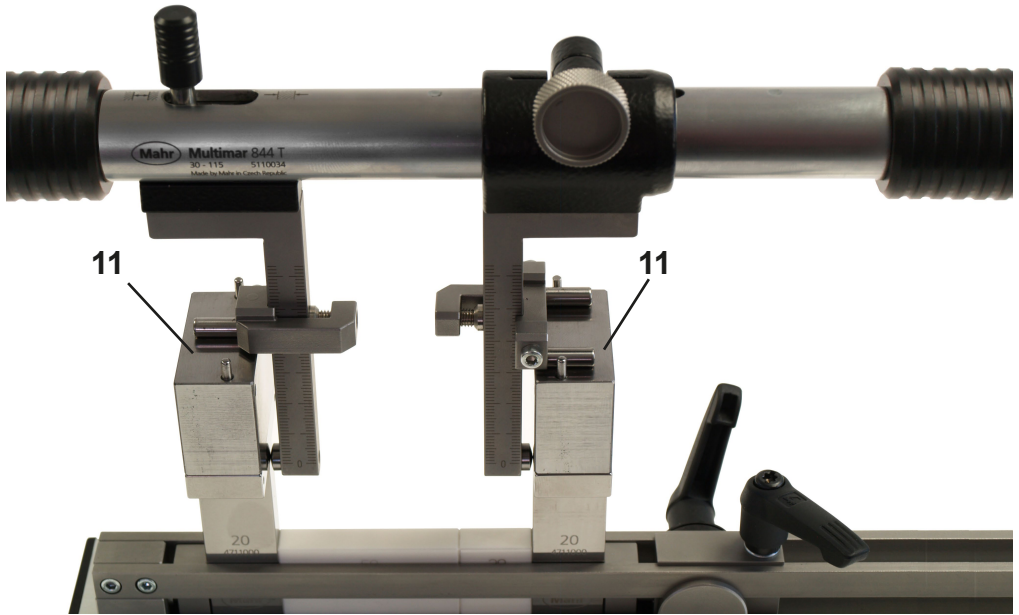
Setting up a dimensional reference Lo for outer measurement:

Dimensional reference $Lo = \text{gage block combination (Li)} + 844 \text{ Sp (2 x 20 mm)}$

Setting up a dimensional reference Li for inner measurement:

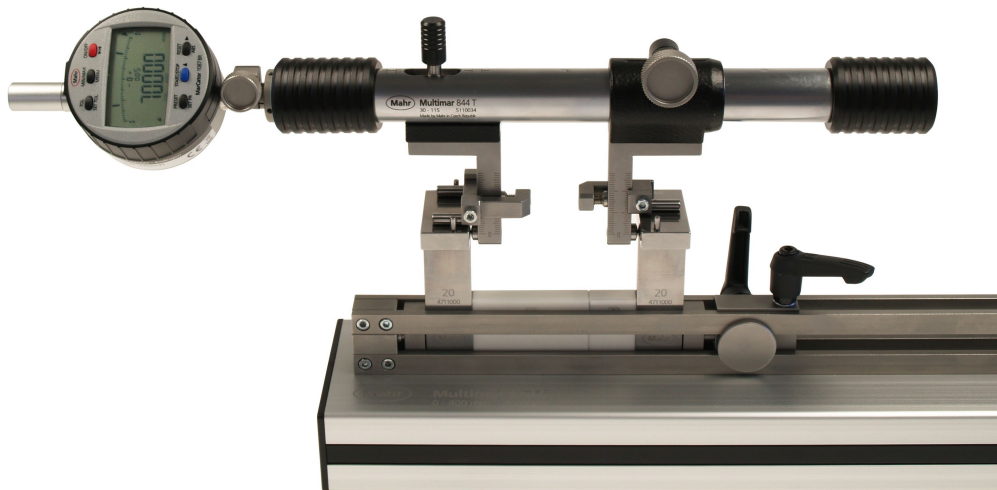
Dimensional reference $Li = \text{gage block combination between T-parallel jaws}$



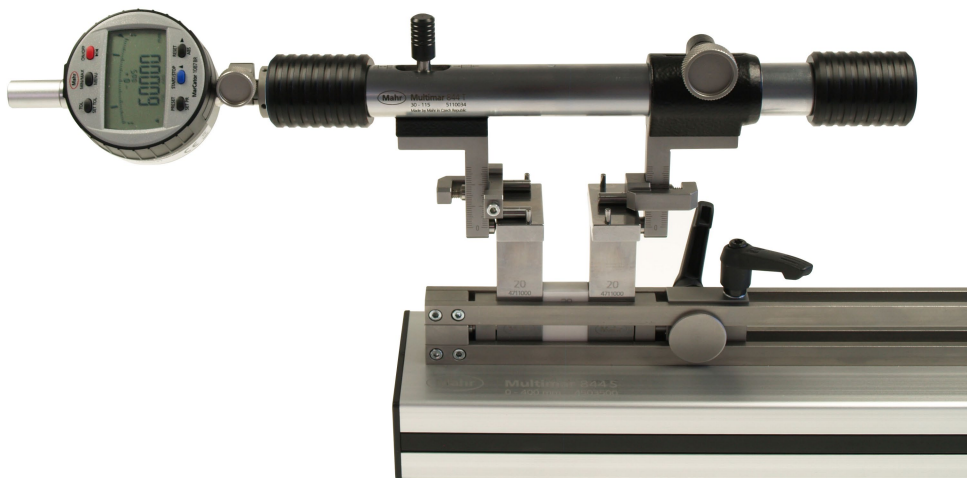


8.2 Adjusting a Multimar 844 T

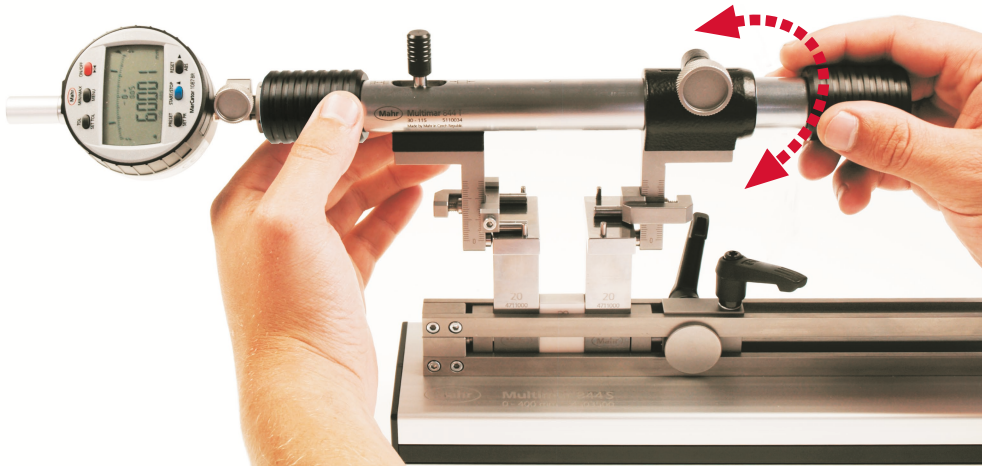
8.2.1 Positioning the Multimar 844 T for inner measurement



8.2.2 Positioning the Multimar 844 T for outer measurement



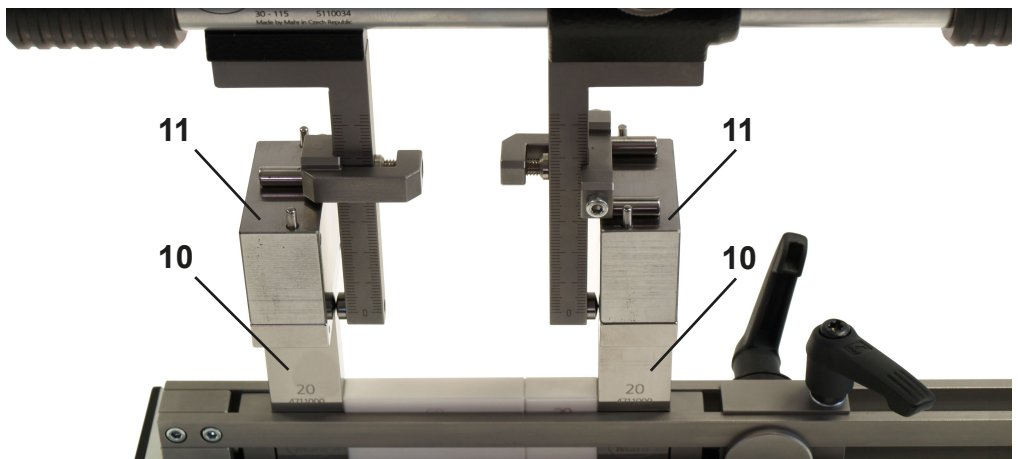
8.2.3 Setting the display unit by determining the reversing point (MIN or MAX) by swiveling the Multimar 844 T



8.3 Setting the Multimar 844 T with long measuring arms

When using long measuring arms, 844 Sph spacers 11 are used on the 844 Sp parallel jaws 10 to increase the measuring depth.

- 1 pair of 844 Sph 11 is required for 70 mm measuring arms.
- 2 pairs of 844 Sph 11 are used for measuring arms of 100 mm in length. Two spacers stacked on top of one another are used for each side.



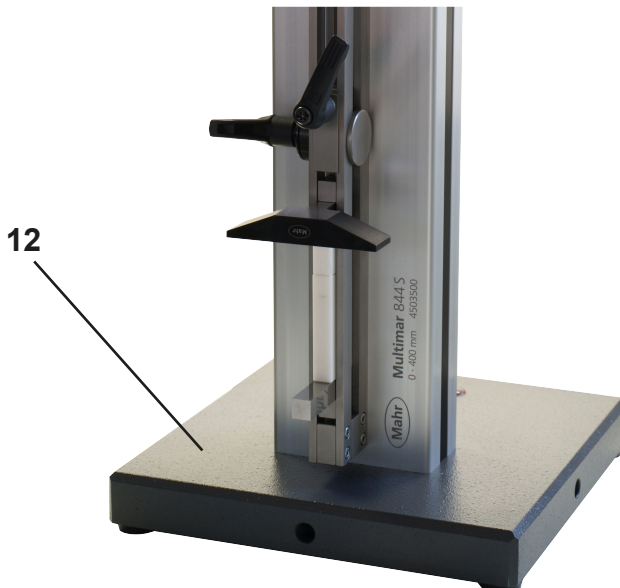
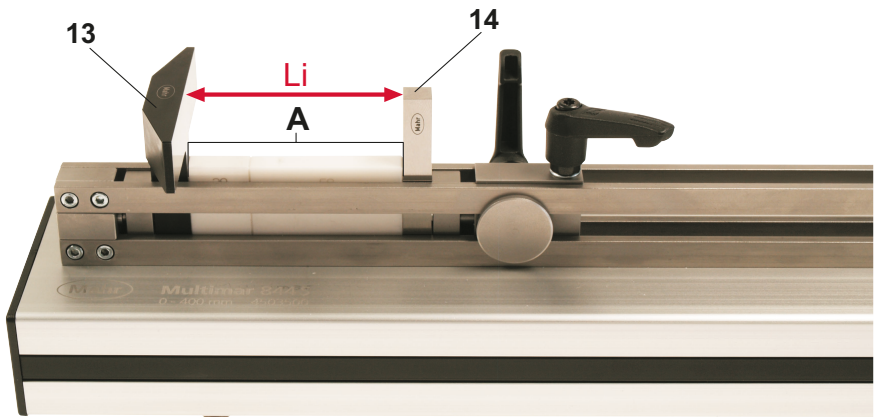
8.4 Setup for a MaraMeter 844 N

Required accessories:

1. 844 Neb setting bridge **13**
2. Gage block combination **A** (in accordance with the reference dimension)
3. 844 em flat jaw **14**
4. 844 Sf base plate **12** for vertical use (if necessary)

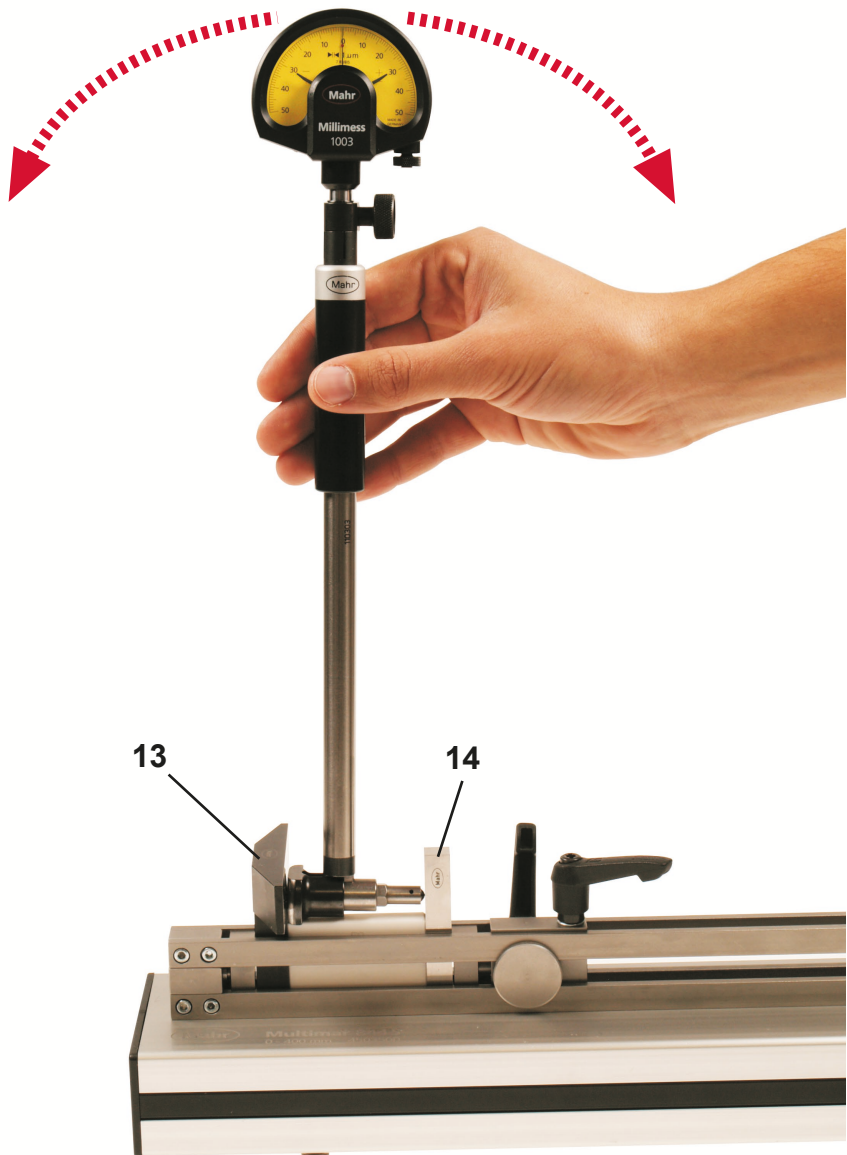
Setting a dimensional reference L_i for inner measurement:

Dimensional reference L_i = gage block combination between 844 Neb **13** and 844 em **14**




8.5 Setting a MaraMeter 844 N

The display unit (dial comparator or dial gage) is set by determining the reversing point (MIN value) by swiveling the MaraMeter 844 N between the measuring surfaces of 844 Neb 13 and 844 em 14.



8.6 Setting in proper position provides maximum measuring accuracy

 The **Multimar 844 S** setting instrument can be equipped with the optional **844 Sf** base plate. This allows the **Multimar 844 S** to be used in a vertical position as well. To achieve maximum measuring accuracy, a comparative measuring instrument should be set in the same position and measurement in or on the work piece should occur.

Example: A precise hole in a turned part should be measured in the lathe with a 844 N bore gage. To do this, the 844 N bore gage must be inserted horizontally. It is in exactly this horizontal position that the 844 N bore gage is to be previously calibrated.

Please note:

- ! When setting the **Multimar 844 S** setting instrument in the vertical position, it is recommended that the fixed measuring contact be placed on the lower parallel jaw. This way, the dead weight of the measuring instrument is supported by the lower parallel jaw and not by the movable, spring-mounted, probe.

