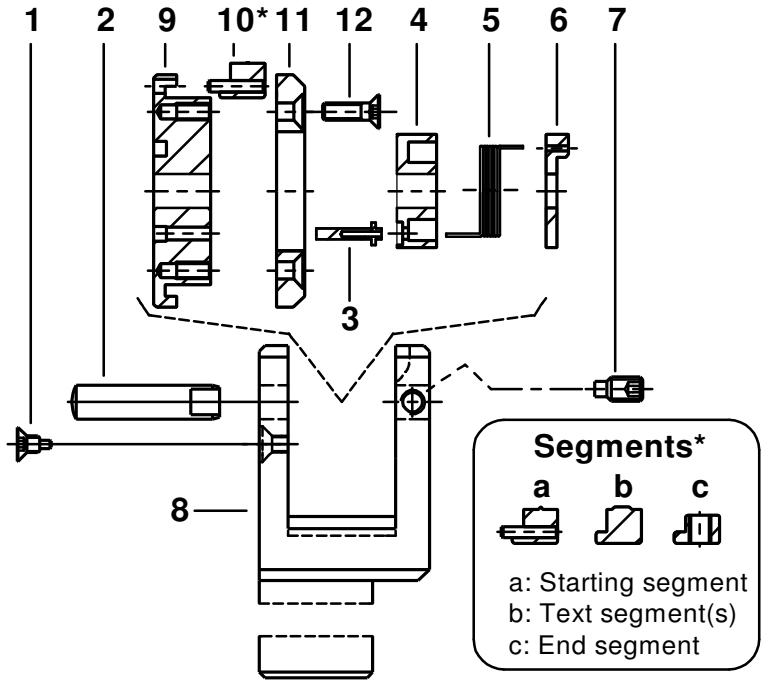
Operating Instructions
MRS1-Ø45 (Segments)
Marking Tools No.431-16/20/25L+R450606

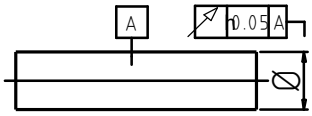


Parts:

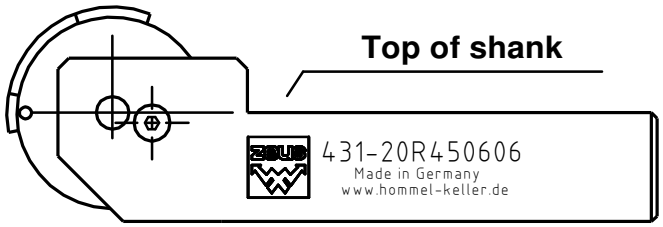
Pos.	Name
1	**Stop screw**
2	**Pin Ø 6x30**
3	**Catch pin**
4	**Spring box**
5	**Torsion spring**
6	**Fixing disc**
7	**Thread pin M4x10**
8	**Tool holder**
9	**Segment carrier**
10	**Segments***
11	**Tension ring**
12	**Counter sunk screw M3x10**

Preparation of the work piece:

Concentricity ±0.05mm



Centre height:



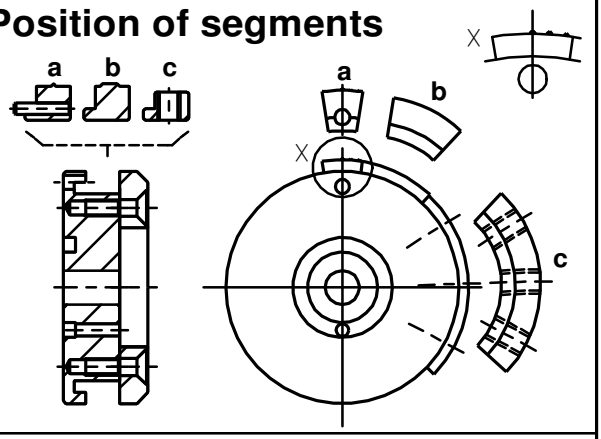
Recommended values for feed and speed rate:

1. In-feed method with turning work piece:
   Vc = 5 [m/min]
   F = Rapid power traverse [mm/rev]
2. In-feed method with stationary work piece:
   1 - Stop spindle
   2 - Engraving of the marking roll during feed 0.1-0.15 mm/rev
   3 - Slow rotation of the spindle
   4 - Return of marking roll

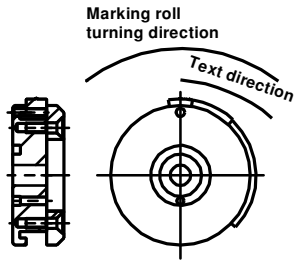
Imprint depth:

The standard imprint depth is 0.075 mm relative to the radius / 0.15 mm relative to diameter

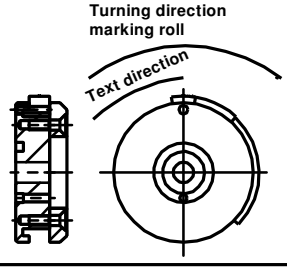
Position of segments



Direction-Right-hand roll



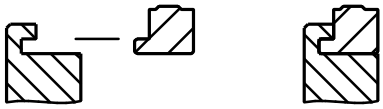
Direction - Left-hand roll



Assembly of segments into segment carrier

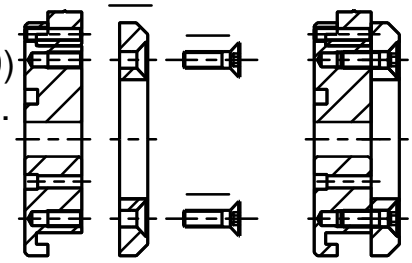
1. Assemble always the starting segment (a) first. Push starting segment with the pin ahead into the nut and bore of the segment carrier (9).

2. Place text segment(s) (b) according to their order into the nut of the segment carrier. Fill in the first text segment on the same side as the driving points of the starting segment.

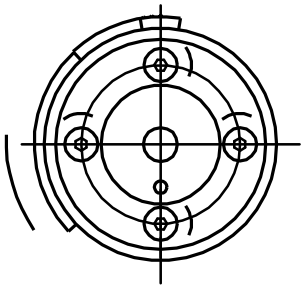


3. Fill in the end segment (c) (usually with three driving points) next to the last text segment.

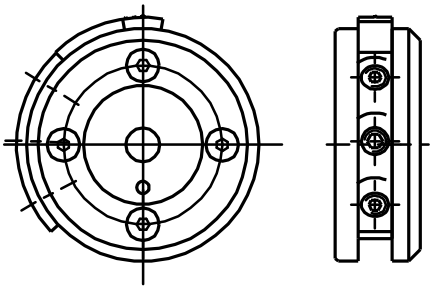
4. Put the tension ring (11) onto the segment carrier (9) and tighten the four counter sunk screws (12) lightly.



5. Then push end segment and text segment(s) forecfully against the starting segment - the individual segments should fit tightly against each other. Tighten the four counter sunk screws (12) hardly (Apply hexagon socket carefully- wear of counter sunk screws).



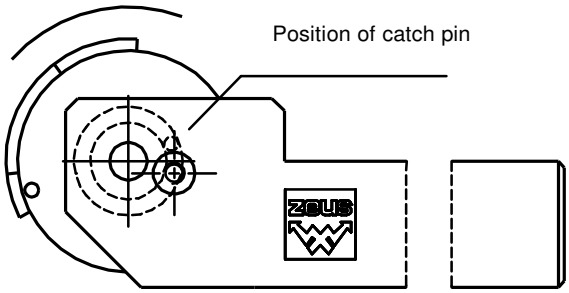
6. In order to prevent further moving of the segments, tighten the threading pins (M4) of the end segment.



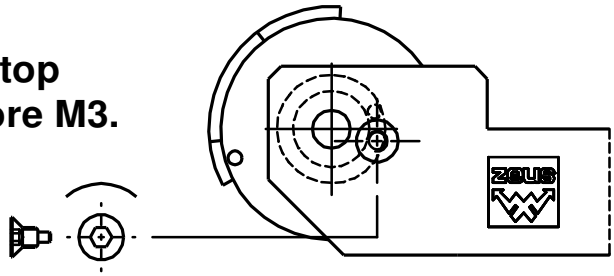
Exchanging the segments:

To exchange the segments follow the instructions up to point 6 in reverse direction. The illustration given explains the assembly/disassembly of a right-hand tool version. For a left-hand tool, please follow the steps accordingly - paying attention to the running direction.
The individual text segments can be exchanged directly in the mounted segment holder.

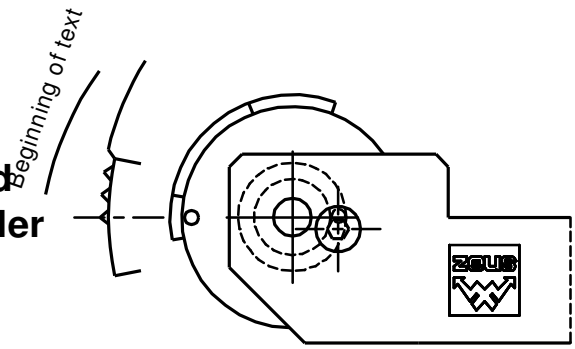
7. **Turn segment roll to the left, until the catch pin (3) is positioned above the 90°- counter sunk screw of the holder. Pay attention to appropriate spring tension.**



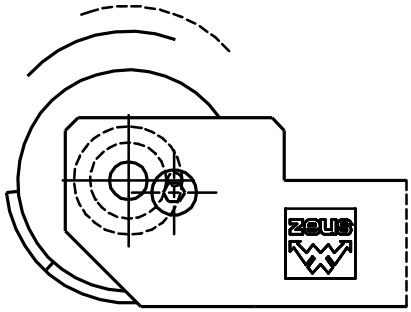
8. **Hold roll in this position and turn stop screw (1) to the right into thread bore M3. Tighten.**



9. **Check position of the roll:**
   The first catching dot of the starting segment (a) has to be aligned with the centre height of the tool holder (top of shank, pin centre).



10. **Check correct functioning:**
    Turn the marking roll by hand to the left, until the end points of the marking (Endsegments) are positioned beneath the centre height of the tool holder, or touch the stop disc again.
    After releasing the roll, it should spring back in its starting position.



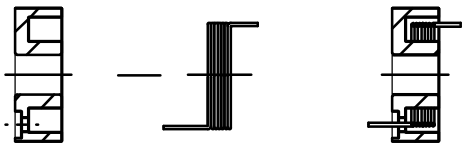
Disassembly of segemnt holder unit:

To exchange the segment roll follow the instructions up to point 8 in reverse direction. The illustration given explains the assembly/disassembly of a right-hand tool version. For a left-hand tool, please follow the steps accordingly - paying attention to the running direction.

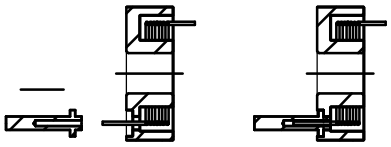
Mounting of the complete segment holder unit

Part 3,4,5,6,9 and 11 are mounted as one unit into the segment holder:

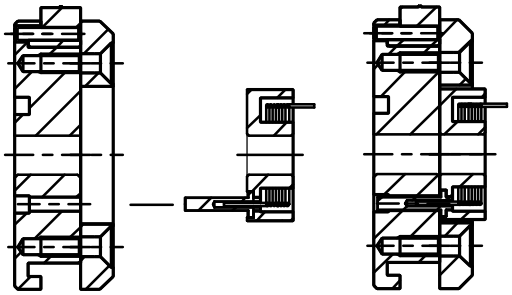
1. Place torsion spring (5) with its long end first into the spring box (4).



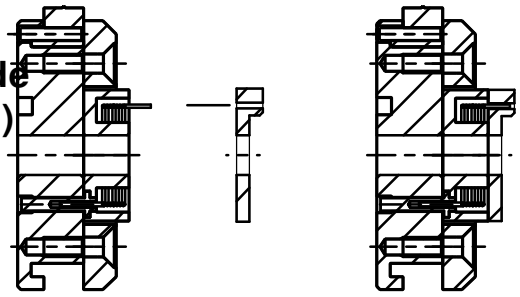
2. Put catch pin (3) onto the long spring arm and push it into the notch of the in spring box (4).



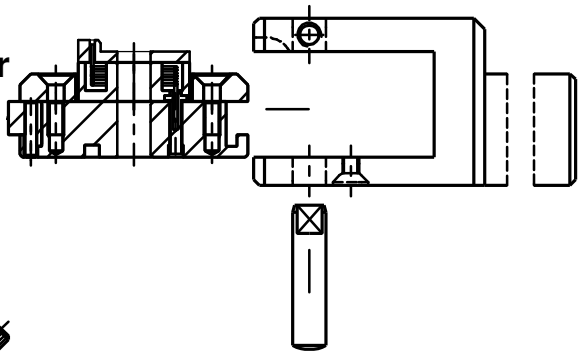
3. Mount segment holder unit (9+10) with its smooth side (without nut) and bore Ø2 onto the catch pin (3).



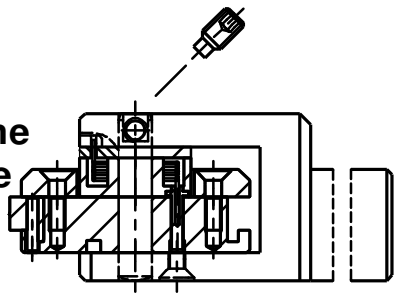
4. Mount fixing disc (6) with the smooth side ahead onto the spring arm (in bore Ø 0.9) and press it against spring box.



5. Push the unit into the nut of the holder (pay attention to nose of the fixing screw) and centre with pin (2).



6. Secure pin with threaded pin (7). Pay attention to the position of the pin's plane face.



Trouble Shooting

Problem:	Cause:	Solution:
Marking is irregulary sharp	Work piece does not run smoothly	Turn work piece diameter
Marking is more/less pronounced on one side	Tool holder is not aligned vertically to the work piece	Check tool clamping
Marking roll does not turn easily, stops at any position	Tool dirty, chips jammed, etc.	Disassemble tool, clean, assemble, and chekc correct function
Spring return mechanism of the marking roll is out of function	Spring unhooked or defect	Disassemble tool, check correct functioning of spring
Marking roll can not be turned more than 360°, no stopping	Catch pin (3) defect Stop screw (1) defect	Disassemble tool, check catch pin and screw