

CARBIDE ROLLER BURNISHING TOOLS SERIE D30-45/D30-45M MID121002-ING

This Roller Burnishing Tool can be used for burnishing external diameters, flat surfaces and internal diameters with a minimum diam. of 50 mm. and more. To install the tool on the machine it's important to follow the instructions shown on the following pages.

ASSEMBLY

The Roller Burnishing Tool is supplied complete with a straight shank with a diameter of 50.00 mm or 2". on which flats are placed with a distance of 47.5 mm. one from the other. The shank must be inserted in the tool holder to allow the tool to reach out for the necessary length.

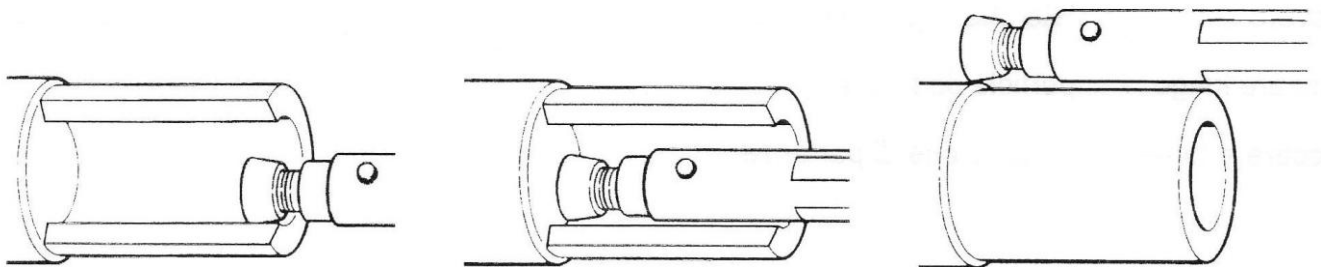
SPRING LOADING

The Carbide Tool type D30-45-0 is equipped with no. 2 series of springs loaded in a bi-directional way. A set of springs are located in the Shank and allows a flexion of the assembly of the roll holder's head when the carbide roll is pushed against the I.D. or O.D. to work. The head assembly pivots on the pivot pin placed between the head assembly and the series of springs in the shank. A second set of springs are located behind the carbide Roll. These springs allow the flexion of the Roll when the tool directly advances against a flat surface.

PREPARATION OF THE WORKPIECE

Surfaces to be roll burnished are first prepared by turning reaching a roughness of 2-2.5 micron.

TOOL SETTING FOR BURNISHING I.D. AND O.D.



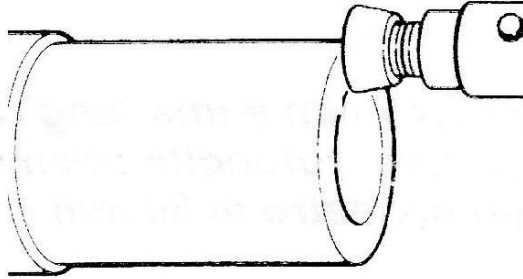
Before the Roller burnishing tool starts to work the spring compression must be adjusted and the appropriate feed rate set. These adjustments are determined with the following method. First determine the right adjustment of the spring compression. The carbide Roll should touch the surface to be burnished and load the spring of 0.6 mm. Carry out this procedure while the workpiece is in rotation. When you reach the full compression of 0.6 mm., advance with the tool along the surface with a feed of 0.075 mm. per turn. Check the workpiece to see if the finish is acceptable. If the finish is not acceptable increase the spring load of 0.38 mm. then check the finish again. Continue to increase the spring load of 0.38 mm. until the requested finish is obtained. **For burnishing light alloys like aluminium, cooper etc. start with a spring load adjustment of 0.2 mm.**

ATTENTION! Don't exceed the maximum spring load allowed which is about 3.80 mm. Light ripples or spiral marks on the workpiece are an indication of too much pressure. In this case reduce the spring load.

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TOOL SETTING FOR BURNISHING FLAT FACE SURFACES



To establish the spring load when burnishing a flat face surface, advance the tool until it touches the workpiece's surface. After contact continue to feed at a rate of about 0.5 mm.. This will cause a light increase of the spring's load.

As soon as the right spring load has been reached, advance the Tool on the surface with a feed of 0.075 mm. per turn. Check if the finish is acceptable . If not increase the spring load of an additional 0.38 mm. .

Check the surface again . Continue to increase the spring load of 0.38 mm. until reaching the requested finish.

ATTENTION! Don't exceed the maximum spring load allowed which is about 1.90 mm.. Light ripples or spiral marks on the workpiece are an indication of too much pressure. In this case reduce the spring load.

FEED RATE

Once the right spring load has been established and the requested finish has been obtained, the feed rate can be increased if desired. It's recommended to increase the feed of 0.05 mm. Always check the surface finish after each feed adjustment to see if it's acceptable.

SPEED

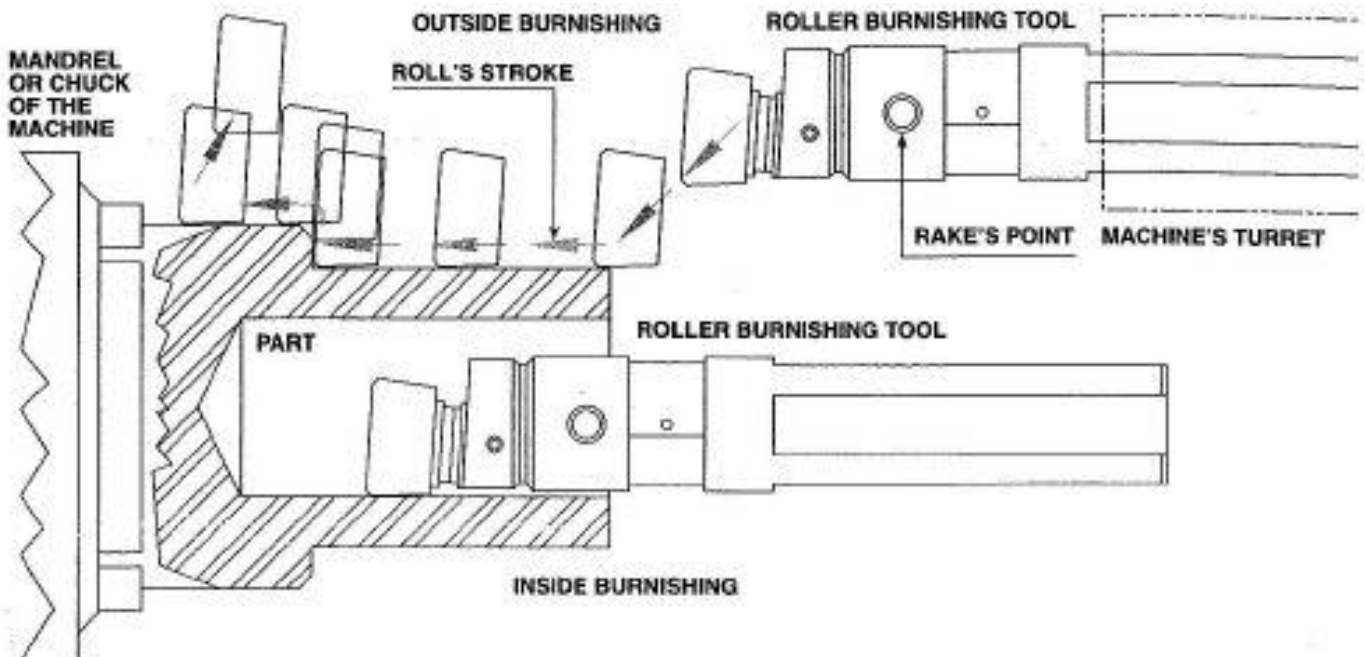
The Tool can be used at a max. speed rate of 300 m/min. but it's recommended to start at a speed rate of 150 m/min..

TOOL SETTING

Once the right spring load and the correct feed have been established, the operator can start to work with the tool. Bring the tool in contact with the surface to be burnished while the workpiece is rotating.

- A) Move the tool along the workpiece after having correctly adjusted the spring load
- B) Continue to advance along the surface
- C) Lift off the tool and return to the starting position

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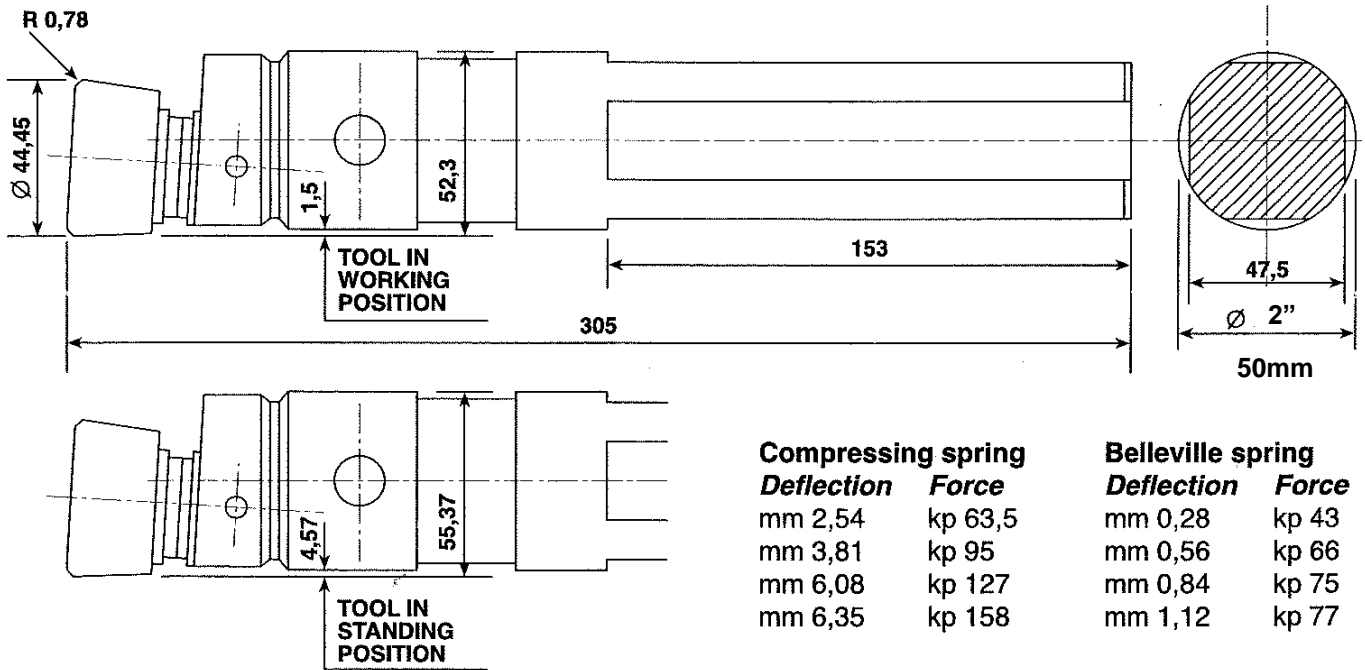
**NOTE**

- 1) Never start the advancement if the Roll isn't in contact with the surface to burnish
- 2) Don't rest on the workpiece with the Tool but continue to roll burnish until completion. Advance immediately when the right spring load has been obtained.
- 3) The Tool is not suitable for roll burnishing interrupted surfaces.
- 4) Lubricate with a water soluble lubricant or coolant to improve the tool's life and to obtain the best results.
- 5) Periodically lubricate the roll bearing part. 18 by introducing grease through the lubricator part. 19 supplied with the Tool. Remove the nut part. 11, insert the lubricator part. 19 introduce the grease, remove the lubricator and put back the nut part. 11.

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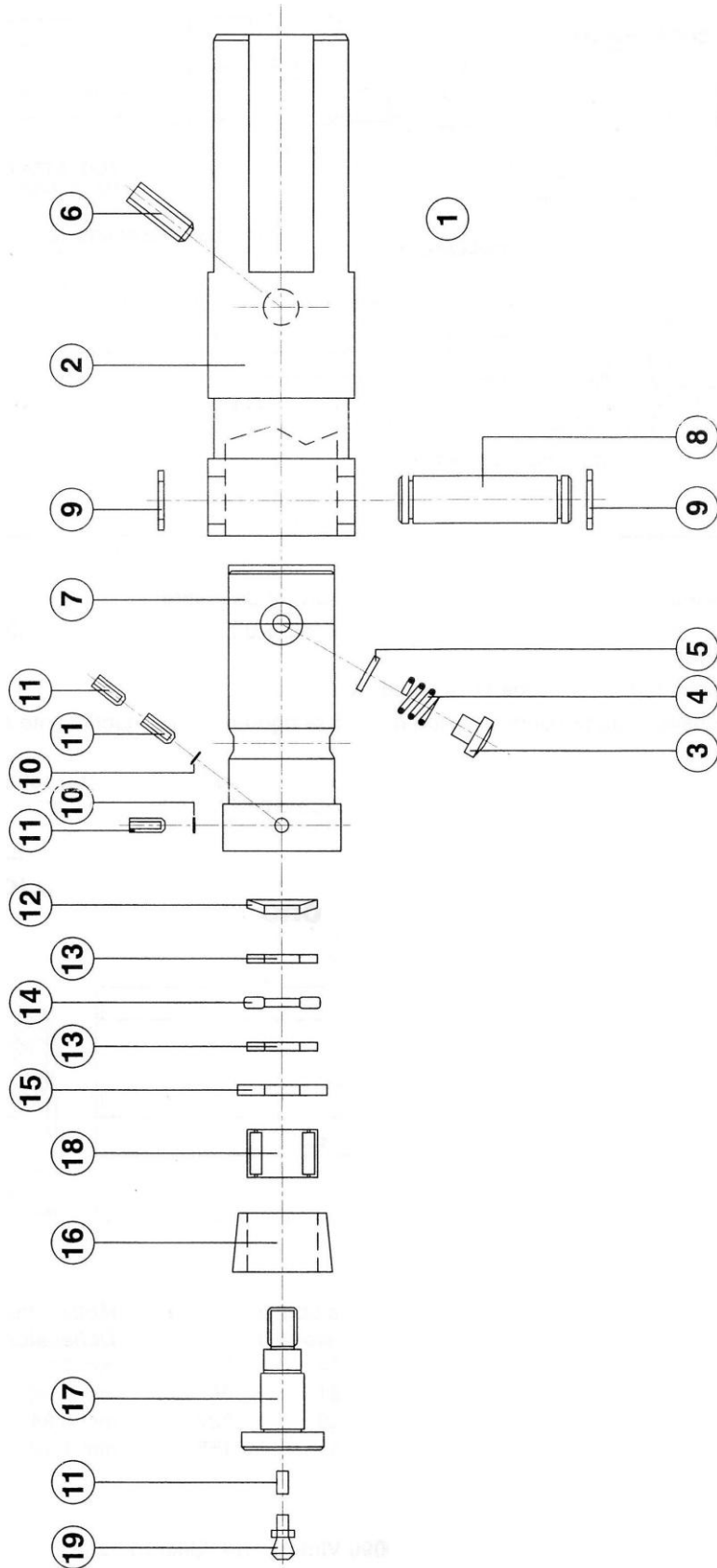
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GREASE THE TOOL WITH THE SUPPLIED LUBRICATION FITTING AND WHEN FINISHED PUT THE NUT BACK



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Spare Parts List

Part. N°	Part Name	Code	N° pcs
1	Assembly		
2	Shank 2"	D3045-2	1
2	Shank 50mm	D3045-2M	1
3	Slug	D3045-3	1
4	Spring	D3045-4	1
5	Slug	D3045-5	1
6	Soc. Set screw	ISO4029-M8X10	1
7	Roller shaft	D3045-7	1
8	Pivot pin	D3045-8	1
9	Retaining rings	JA12	2
10	Brass Slug	D45X3	2
11	Screw	ISO4026-M6X8	3
12	Belle ville spring	CB-31.5/16.3X0.8	1
13	Thrust race	TRB-1018	2
14	Thrust Bearing	NTA-1018	1
15	Distantial	D3090-X1	1
16	Roll 0,78	D044-0	1
16	Roll 1,57	D044-1	1
16	Roll 2,36	D044-2	1
17	Axle	D3090-X2	1
18	Roll's Bearing	HJ101812	1
19	Lubrificator	R17/A-M6X1	1