

Instructions for Assembling and Disassembling Sleeves under Self-aligning Bearings with Tapered Bore



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INITIAL ARRANGEMENTS

01

Keep the workplace dry and dust-free.



02

Select the adequate tools.



03

It is important that, before unpacking the parts, you compare the designation of the package with your needs.



04

The shaft may show contact corrosion or abrasion and it must be carefully cleaned.

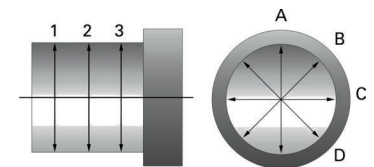


05

Next, check the dimensional precision and the shape of the shaft that will be in contact with the Sleeve. The shaft dimension must be within the tolerance of maximum h10 and cilindricity IT5/2 or—at low rotations—IT7/2.

ATTENTION

The shaft diameter must be checked using a micrometer in four positions in two or three planes.



▶ **Assembling Procedures**

06

Unpack and clean the Sleeve.



07

Put a thin film of oil on the internal and external surfaces of the Sleeve and also on the shaft.

Note: This procedure helps disassembling the parts. Depending on the type of the equipment demand, the assembling procedure can be done with dry parts, without using oil.



08

Put the Sleeve on the shaft. If necessary, enlarge it, inserting a screwdriver in the slot.



09

Remove the package from the bearing.

Note: New bearings must be taken out of the package only at the moment of assembling.



10

Remove the protective oil from the bore and also from the external diameter and put it on the Sleeve.



11

Oil the thread and the chamfered face of the Nut that will be in contact with the bearing.



12

Put the Nut in the Sleeve and screw it, first manually, (without the Washer) until it is well settled.



13

Before finishing the tightening, check the tightening angle of the Nut with the help of the BGL assembling instruction.


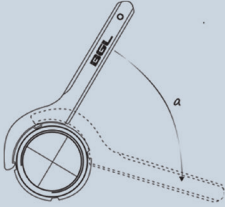
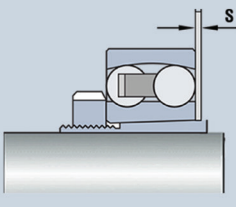
The bearing 2212K was used in this example of assembling.

First calculate the diameter of the bearing bore:
12 x 5 = Diameter of 60 mm

14

Tighten it according to the angle in the tabela:
60 mm = 95 degrees

Table for tightening angle and axial displacement to assembly adapter sleeves used on self-aligning ball bearing

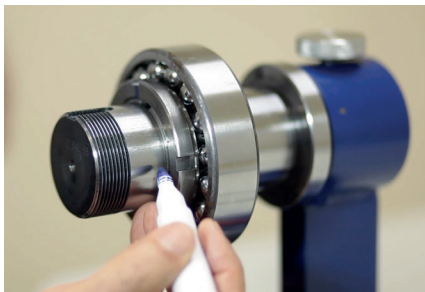
| Bearing bore diameter | Tightening angle of the nut | Axial displacement* |
|-----------------------|--------------------------------|---------------------|
| d | $\alpha_{(i)}$ | S |
| mm | ° | mm |
| 20 | 80 | 0.22 |
| 25 e 30 | 55 | 0.22 |
| 35 e 40 | 70 | 0.30 |
| 45 e 50 | 80 | 0.35 |
| 55 a 65 | 95 Thread pitch 1.5mm (BGL) | 0.40 |
| 70 | 75 | 0.40 |
| 75 e 80 | 85 | 0.45 |
| 85 a 100 | 110 | 0.60 |
| 110 e 120 | 125 | 0.70 |

(i) The tightening angles may vary with the bearing series, with the thread pitch of the adapter sleeve and also according to the bearing manufacturer.

Source: Traditional manufacturers of bearings.

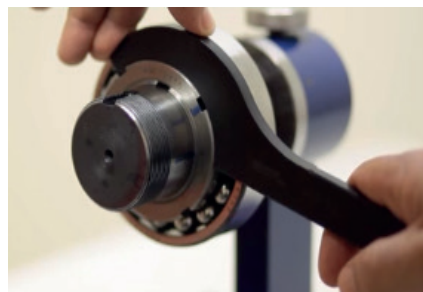
15

Mark in the Nut and in the shaft the tightening angle.



16

With a HN Hook Spanner, tighten the Nut following the angle appropriate to the bearing bore (do not use a hammer or a tisel).



17

Next, reposition the Hook Spanner at 180 degrees at its original position and tighten it a few more degrees (this will place correctly the bearing if it is not perpendicular to the shaft).



18

After this procedure, make sure the bearing is set.

Note: It shows some resistance when misaligned.



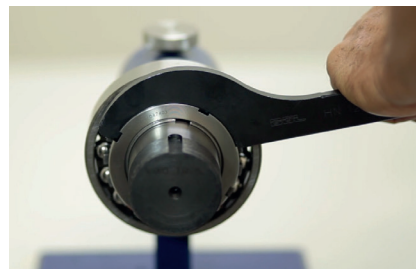
19

Remove the Nut and insert the MB Lockwasher.



20

Tighten the Locknut firmly using the HN Hook Spanner.



21

Align the nearest notch of the Nut with the external jut of the Washer and, with the help of a pricker, bend it.



22

To finish, make sure the bearing can be turned easily with your hands.

Note: It shows some resistance when misaligned.



To disassemble, see **Video 11** at www.bgl.com.br/en/treinamento.htm

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Reference Technical Standards:
ABNT NBR 16535-1: SLEEVES FOR BEARINGS
ABNT NBR 16535-2: LOCKNUTS AND LOCKWASHERS

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