

Mounting


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Bearing type

Selected bearing

SKF 23184 CKJ/W33

Mounting on adapter sleeve

Hydraulic mounting

Hydraulic nut

SI units (metric)


Imperial units (inch/lb)

Carefully read the complete instructions prior to starting work, the instructions may contain alternative tools and measuring methods.

Illustrations are not always proportional and are not always showing the exact design.

The instructions are valid for SKF bearings only.

Where tool recommendations are made, please check the actual dimensions against the bearing and any other components which may interfere with the use of the tool.

 The mounting and dismounting of rolling bearings involve the handling of sometimes heavy weights, the use of tools and other devices, and in some cases the use of high pressure oil. In order to avoid accidents, injuries or damage to property please follow carefully the prescribed methods.

Precautions

Mount the bearing in a clean environment. Housings, shafts and other components of the bearing arrangement should be checked to see that they are clean.

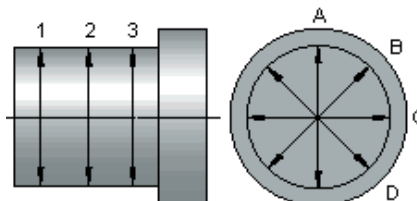
The bearings should be left in their original packages until immediately before mounting so that they do not become dirty.



The dimensional and form accuracy of all components which will be in contact with the bearing should be checked.



The diameter of cylindrical shaft seats is usually checked using a micrometer at four positions in three planes. The measurement form available [here](#) or similar should be used in the measuring process and for future follow-up.



The diameter of cylindrical housing seats is usually checked using an internal

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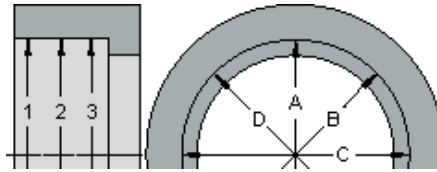
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gauge at four positions in three planes. The measurement form available [here](#) or similar should be used in the measuring process and for future follow-up.



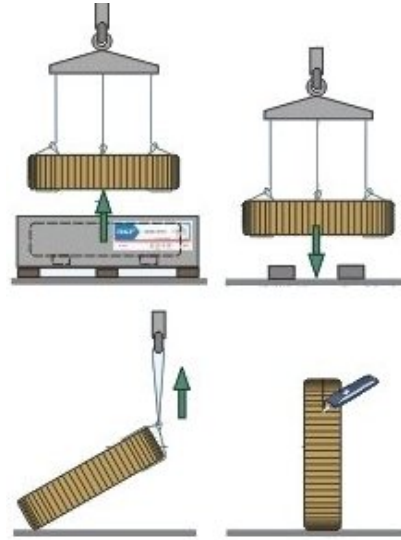
Lift the bearing from the box in horizontal position.

 Make sure that the lifting equipment is secure so that the bearing will not be dropped.


Place the bearing on supports so that there is a clearance to the floor.

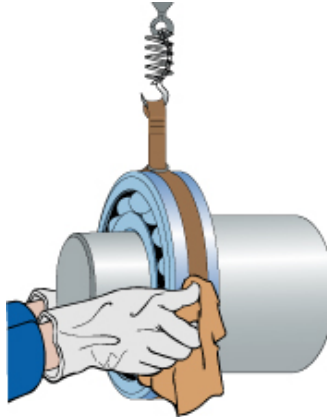
Tilt the bearing to vertical position.

Unwrap the protective paper.



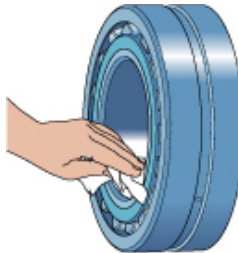
Use lifting equipment to facilitate the handling of the bearing. Spring suspension can simplify bearing positioning.

 Make sure that the lifting equipment is secure so that the bearing will not be dropped. Have no personell standing under the bearing.



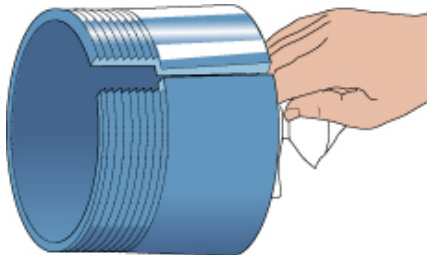
Mounting procedure

Wipe the preservative from the bore and outside diameter of the bearing.



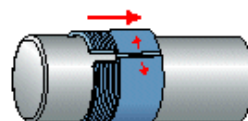
If the bearing is to be grease lubricated and used at very high or very low temperatures, or if the grease is not compatible with the preservative, it is necessary to wash and carefully dry the bearing.

Wipe the preservative from the surfaces of the sleeve.

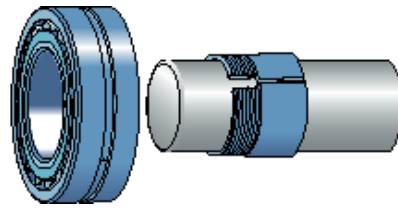


Lightly oil the bore of the bearing with a thin mineral oil.

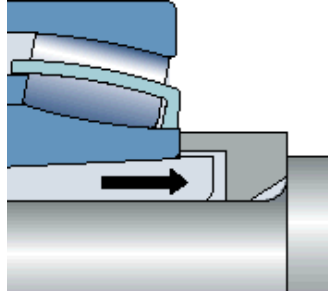
Open the adapter sleeve by inserting a screwdriver or other suitable tool in the slit and slide the sleeve along the shaft to the correct position.




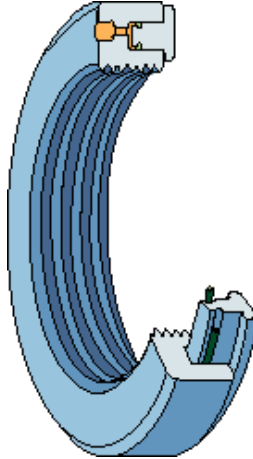
Place the bearing on the sleeve.





Using an adapter sleeve when the bearing is mounted against an abutment requires a spacer sleeve. The spacer sleeve must be designed in such a way that the adapter sleeve can move under the spacer to allow the bearing to contact the spacer sleeve. The dismounting distance required is greater than the drive-up distance.

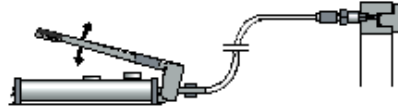


 To drive up the bearing use the [hydraulic nut SKF HMV 84 E](#).



 The oil viscosity should be about $300 \text{ mm}^2/\text{s}$ (1 400 SUS) at ambient temperature. A suitable oil at $20 \text{ }^\circ\text{C}$ ($68 \text{ }^\circ\text{F}$) is [SKF LHM 300](#).

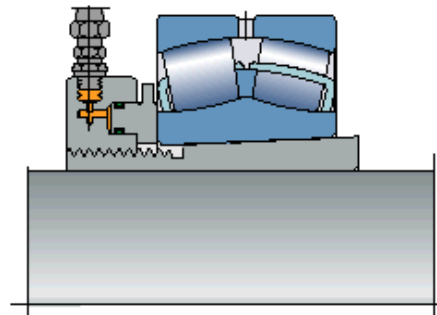
 Use the oil pump [SKF TMJL 100](#). Pump with designation [TMJL 100 SRB](#) is delivered with the digital pressure gauge [SKF TMJG 100 D](#).



Screw on the hydraulic nut with the piston facing the bearing.

Tighten the nut by hand just enough to achieve proper contact between bearing, sleeve and shaft - do not tighten the nut any further.

Pump oil to the hydraulic nut until the bearing is driven up to the correct position. To determine the correct position see below.

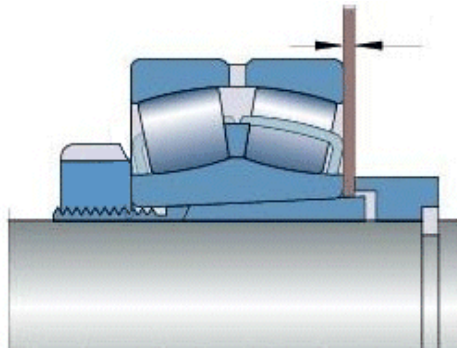


Measuring the axial drive-up using shims

If mounting against an abutment and there is sufficient space between the bearing and the spacer sleeve, two shims can be used and to be positioned 180° to each other. These should each have a thickness equal to the required axial drive-up **3.1 mm**.

The drive-up value is valid for solid steel shafts only.

Insert the adapter sleeve under the spacer sleeve, press the shims against the spacer sleeve and push the bearing on to the adapter sleeve until it makes contact with the shims.



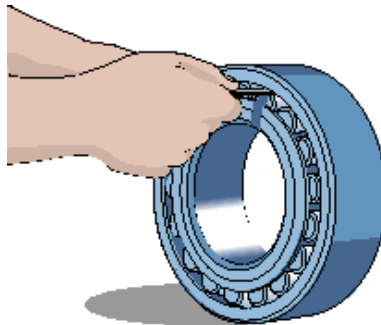
Push the bearing further up with the hydraulic nut but not more than it is still possible to remove the shims. Remove the shims and drive the bearing up until it contacts the spacer sleeve.

Measuring residual clearance using feeler gauges

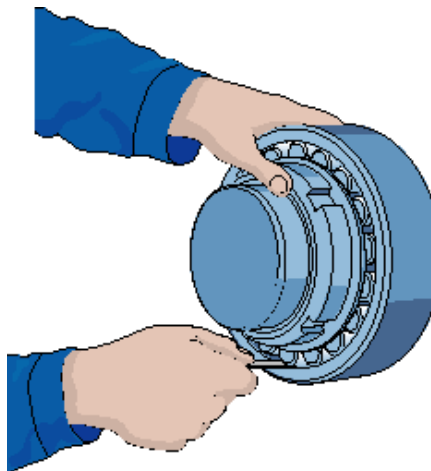
The initial clearance before mounting must be measured and the clearance must also be measured as the bearing is driven up on to its seat until the prescribed clearance reduction has been achieved.

The reduction in radial internal clearance should be minimum **0.2 mm** and maximum **0.26 mm**.

The clearance should always be measured between the outer ring and an unloaded roller, either the uppermost



... or the lowest one when the bearing is on the shaft.



Before measuring, the bearing should be rotated a few times to ensure that the rollers have assumed their correct position.

During the measurement, the roller at the measuring point should be lightly pressed against the guide ring between the two roller rows and the feeler gauge blade be inserted to the middle of the roller. The measured internal clearance must be the same for both rows of rollers.

The residual radial clearance should be minimum:

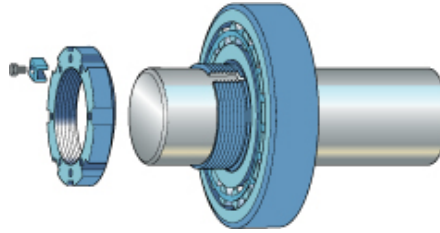
0.13 mm for Normal clearance bearing.

0.2 mm for C3 clearance bearing.

0.31 mm for C4 clearance bearing.

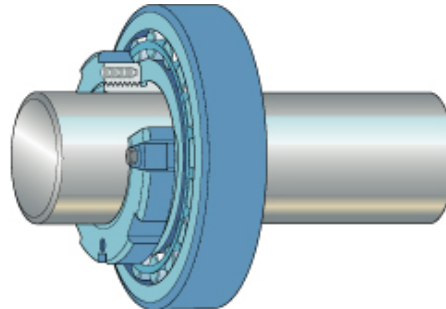
Release the pressure from the hydraulic nut and unscrew the nut. The bearing will not come loose.

Attach the locking device.

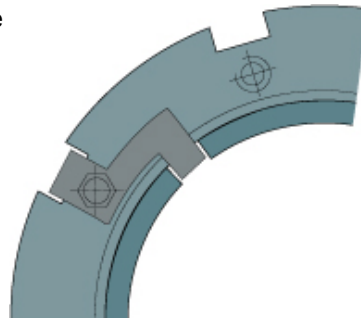


Tighten the lock nut firmly but make sure that the bearing is not driven any further up the sleeve.

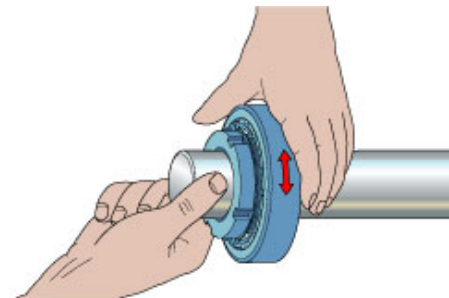
Lock the nut by attaching the locking clip.



If the locking clip does not align with the slit in the adapter sleeve, a new locking clip has to be made, for instance according to the figure. Do not loosen the nut from the determined position.




Check that the shaft or outer ring can be rotated without any disturbances.



If the bearing is to be oil lubricated take care that the right quantity of the right oil is used.

If the bearing is to be grease lubricated, now is the time to put in the grease.

Normally the bearing should be filled completely with grease unless it is to operate at high speeds. The free space in the housing should only be partly filled (between 30 and 50 %).

 The grease meter SKF [LAGM 1000E](#) is a helpful tool for keeping track of the supplied quantity.

For selection of suitable grease considering the actual operating conditions see SKF [Quick grease selection guide](#) .

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