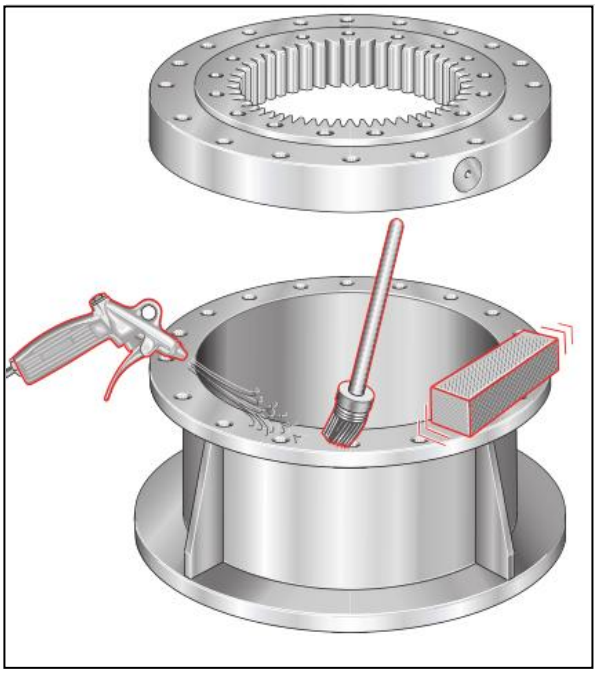
WCB Slewing bearing installation

Fitting



Slewing rings must be handled with care before and during assembly. Their function and operating life are also dependent on the care taken in fitting.

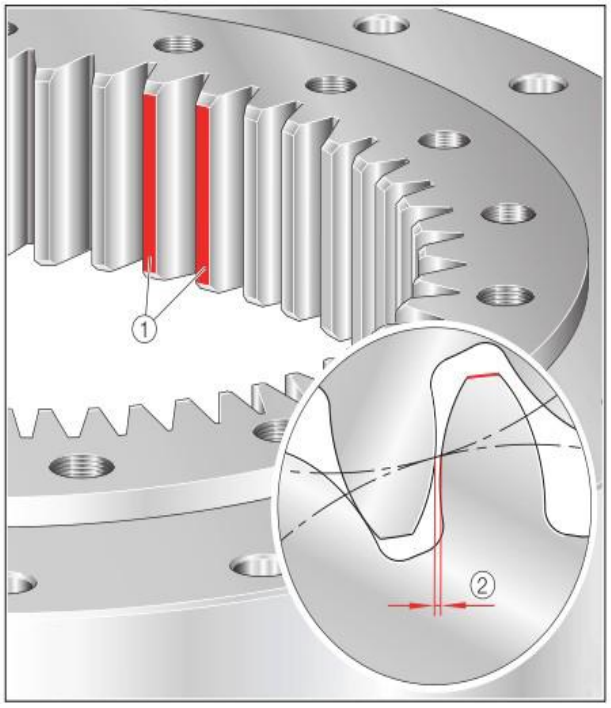
Design of the assembly area Machines, equipment, etc. that produce swarf or generate dust must not be used in the immediate vicinity of the assembly area.

The bearings must be protected against dust,contamination, swarf, moisture, adhesives, etc.

Contamination will impair the function and operating life of the bearings. Bearings should be fitted in a workshop if possible.
If this is not possible, the fitting position and bearing should be protected against contaminant from the environment.

It must be ensured that work surfaces are bright, clean and free from fibres (e.g. plastic) and that lighting conditions are good.

Cleaning of slewing rings



Cleaning of slewing rings
Any anti-corrosion coatings must be removed from the support and contact surfaces of the bearing rings before the slewing ring is fitted. Suitable cleaning agents include:

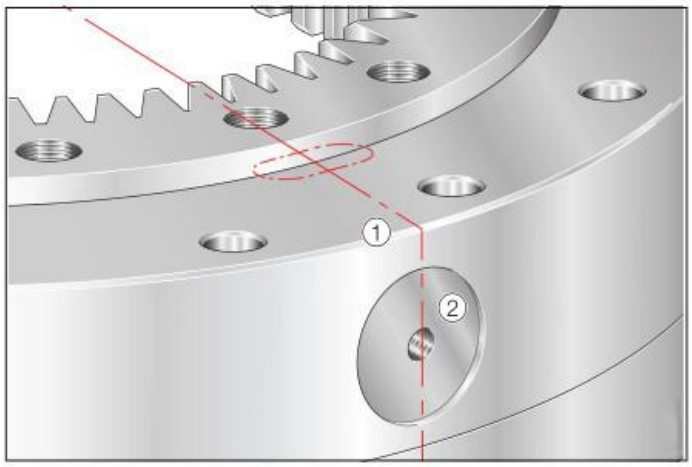
■ petroleum, diesel oil, commercially available grease solvents(e.g. acetone, isopropanol).
The appropriate legal regulations relating to the use of cleaning agents (manufacturer's instructions and regulations covering health and safety at work,environmental protection, etc.) must be observed. Cleaning agents must be disposed of correctly after use.
Cleaning:
Cleaning agents must not be allowed to penetrate the raceway system of the slewing ring. In slewing rings with gear teeth, the narrowest point of the tooth is marked in green at the tooth tip ? This marking must not be removed since the tooth flank backlash ? is set at this point.
■ apply cleaning agents using a brush or a suitable, lint-free cloth.
■ remove any foreign matter and dry the surfaces.

Hardness gap on slewing rings

For the fitting of slewing rings, not only the marking on the tooth tip but also the so-called hardness gap is important.

The hardness gap is the point between the start and end of the raceway hardening.

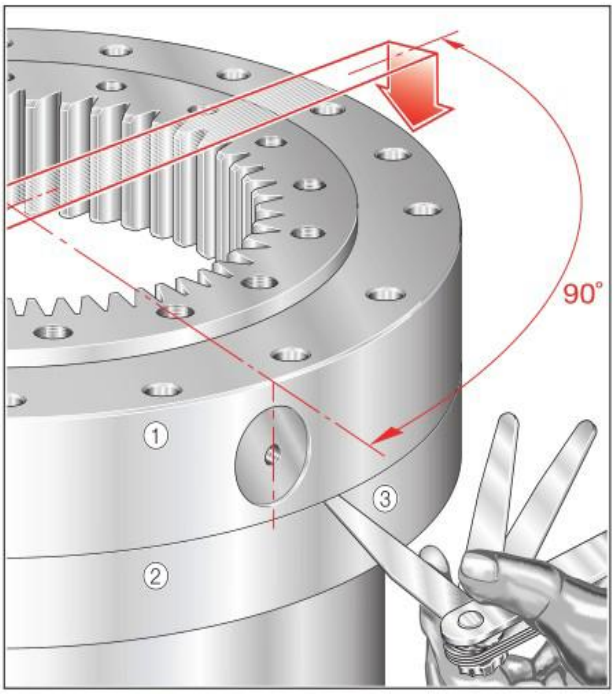
This point is indicated by
■ the indented INA logo ?
■ the closing plug ?.



Fitting of slewing rings

Lightly oil or grease the bearing seating and locating surfaces for the bearing rings on the adjacent construction.Lightly oil the thread of the fixing screws in order
to prevent varying friction factors (do not oil or grease screws that will be secured by means of adhesive).
Positioning of slewing rings

■ Place the slewing ring ? on the screw mounting surface of the adjacent construction ?.
■ Position the hardness gap (see Hardness gap on slewing rings, page 41) such that the bearing ring subjected to point load is offset at 90° to the zone under maximum load.
■ Check ? that the bearing ring to be fitted is in contact with the adjacent construction over its whole width.



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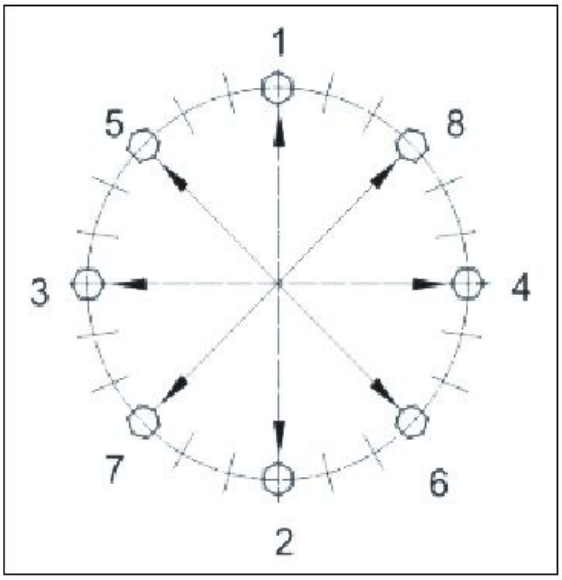
Location of slewing rings



Bearing rings should be located consecutively and without external load:

■ in the case of bearings without gear teeth, first fit the bearing ring subjected to point load

■ in the case of bearings with gear teeth, first fit the ring without gear teeth location:

■ insert the fixing screws

– with washers if necessary

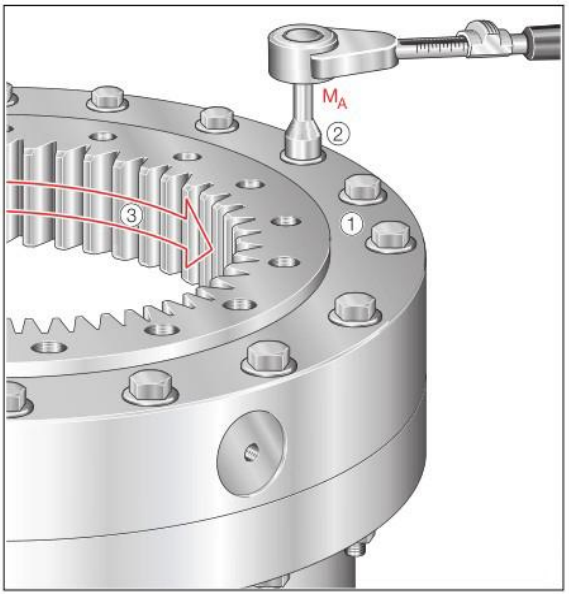
–in the bearing ring to be fitted and tighten in steps to the specified tightening torque

–during this process, rotate the unlocated bearing ring several times by a distance corresponding to several screw pitches

–tighten the screws in a crosswise sequence in order to prevent unacceptable fluctuations in the screw tensioning forces

■ screw mount the unlocated bearing ring in the same way as the adjacent construction.

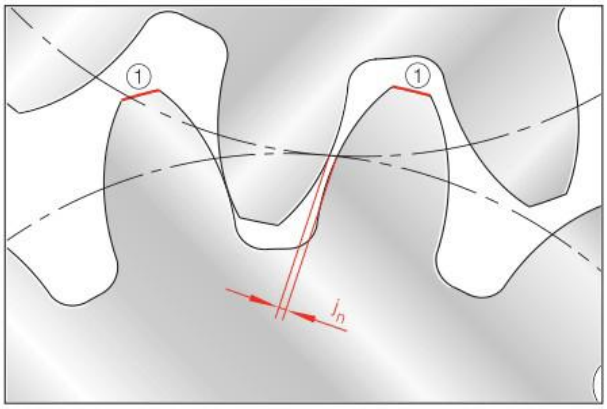
■ check the function of the bearing



Checking and adjustment of tooth flank backlash

In the case of slewing rings with gear teeth, the flank backlash of the gear teeth must be checked and if necessary adjusted after the bearing rings have been screw mounted to the
adjacent construction.

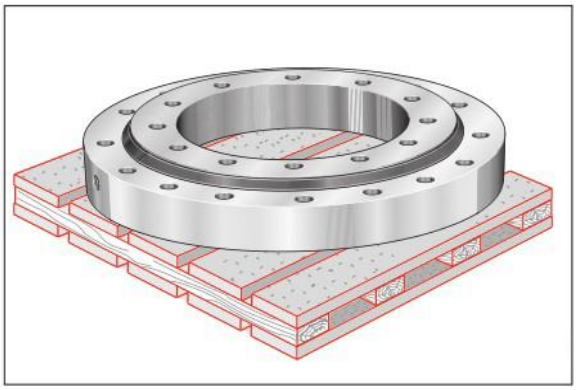
Checking
■ determine the flank backlash at the point marked in green on the tooth tip
– e.g. using a feeler gauge
■ adjust the backlash to the nominal value of 0,03 to 0,04
– this is the standard flank backlash



Storage and storage life of slewing rings

Storage and storage life of slewing rings Bearings should only be stored lying down,
never standing up
The storage life of the bearings is limited by the storage life of the grease. Experience shows that the greases with a mineral oil base used can be stored for up to 3 years if the following preconditions are met:

■ closed storage room
■ dry, clean rooms with temperatures between 0 ºC and+40 ºC
■ relative atmospheric humidity not more than 65%
■ no influence by chemical agents such as– vapours, gases, fluids. After long storage periods, the frictional torque may temporarily be higher than that of freshly greased bearings. The lubricity of the grease may also have deteriorated.



Delivered condition of slewing rings

Perspiration from handling leads to corrosion. Hands must be kept clean and dry; protective gloves should be worn if necessary.
Bearings should not be removed from their original packaging until immediately before assembly. If the original packaging is damaged, check the condition of the bearing.
Large bearings should only be transported lying down if possible.
Heavy bearings must only be transported using a hoist attached to the eye bolts or by means of textile slings.
Bearings must not be wrapped in a chain.
Bearings should never be supported at one point only for lifting.

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