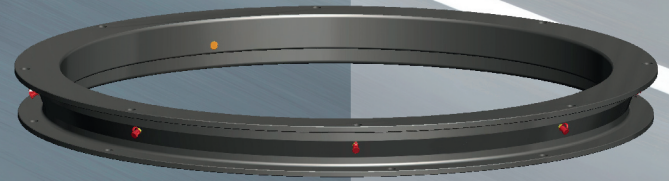


JOST



KLK DR

EN Installation and operating instruction

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1 Explanation of symbols



WARNING!

Means that death, serious physical injury or significant material damage can occur if the relevant safety instructions are not followed.



ATTENTION!

Means that slight physical injury or material damage can occur if the relevant safety instructions are not followed.



ADVICE!

Contains additional important information.

2 Safety information



ADVICE!

Technical modifications reserved. The latest information can be found at www.jost-world.com

2.1 Safety information for maintenance

- ▶ Only use the specified lubricating grease for servicing work.
- ▶ The servicing work should only be completed by trained personnel.

2.2 Safety information for installation

- ▶ Do not change the installation area defined by the trailer's manufacturer.
- ▶ The assembly work may only be completed by authorised specialists.
- ▶ Instructions from the trailer's manufacturer must be observed, e.g. the type of fastening and support construction.
- ▶ The installation guidelines provided by the trailer's manufacturer must be complied with.

National regulations and laws, in Germany the Road Traffic Licensing Regulation (StVZO), must be obeyed.

3 Proper usage

3.1 Design

Ball bearing turntables are add-on parts for truck trailers and agricultural vehicles that connect the bogie in a rotatable manner with the trailer frame. They must always be operated in accordance with the associated vehicle's operating instructions.

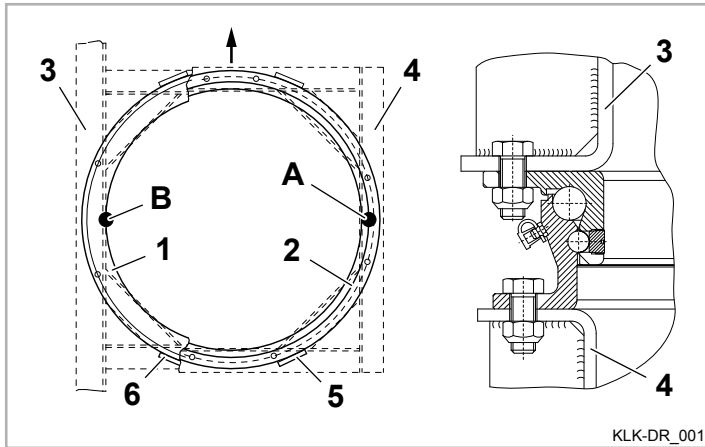
The permissible load data for JOST ball bearing turntables can be found in the relevant product data sheet.

Ball bearing turntables are only suitable for swivel movements.

Please get in touch with us if your operating conditions are different.

4 Assembly

4.1 Standard mounting



- 1 Upper ring
- 2 Lower ring
- 3 Chassis
- 4 A-frame
- 5 Thrust plates bottom
- 6 Thrust plates top

- A Position of the type plate
- B Position of the ball bearing filling hole

The ball bearing turntable must be fitted on a flat (max. offset 1 mm) support construction that provides torsional, longitudinal and lateral rigidity.

To ensure there is an adequate transfer of force, at least 50 % of the flange surfaces must be supported with weight-bearing structures.

The bearing zones must be distributed evenly in and lateral to the direction of travel and be designed so that the ball bearing turntable is supported in the area of its vertical profile bars, i.e. the ball raceways.

Larger planarity deviations can be compensated with shim panels.

With un-drilled turntables, the following must be noted when drilling the fastening holes:

- ▶ That no drill chips or cutting fluid gets into the raceway,
- ▶ That no holes are drilled in the vicinity (+/- 15 mm) of the ball insertion hole or in the vicinity of the welds,
- ▶ That the type plate is placed at 90° to the right of the vehicle and the ball insertion hole is placed at 90° to the left of the vehicle to remove the smaller cross-sections from the area under maximum stress,
- ▶ The lubricating nipples are easily accessible;
- ▶ Free motion of the swivel movement is ensured.

4 Assembly

4.2 Notes on fastening

Screws of strength class 8.8 must be used for fastening (see Section 4.6). The screw connections must be secured using state of the art methods to prevent them coming loose.



WARNING!

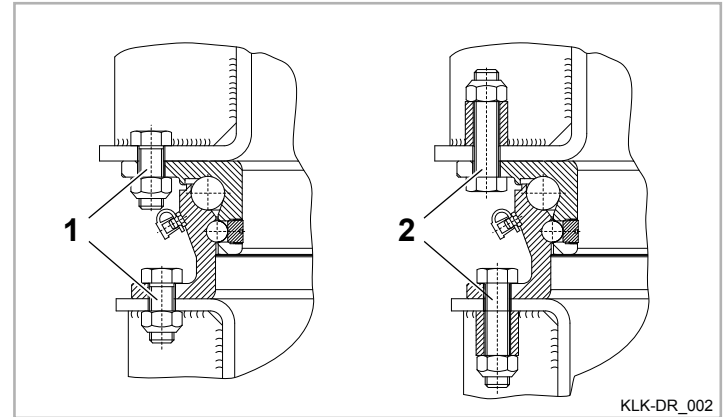
Do not secure the ball-bearing turntable by welding.



ADVICE!

In general, the layer thickness of the paint build-up must be no more than 170 µm per component in the screws' grip area so that a perfect friction lock is guaranteed without settling.

4.3 Special fastening



KLK-DR_002



ADVICE!

In more arduous operating conditions, we recommend installing screws with a spacer sleeve or increasing the number of screws in order to maintain the correct pre-tensioning force. With different screw connections, as shown in position (1) and (2), free movement of the turntable must be absolutely guaranteed, especially in the area of the lubricating nipples and type plate.

4 Assembly

Special fastening with JOST splined bolts (fastening without thrust plates)

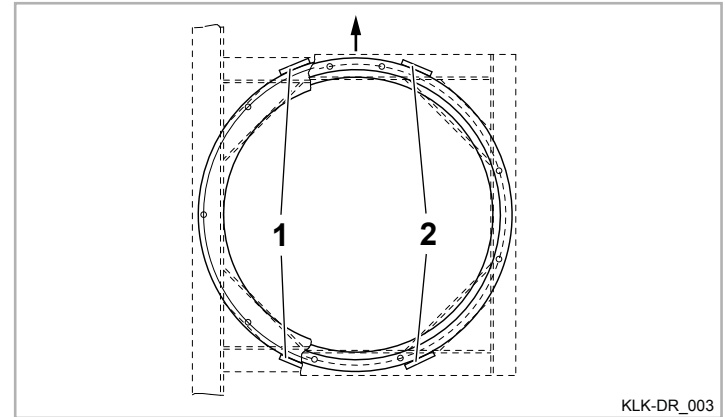
When used on single-axle bogie steering systems at axle loads of up to 10 t, the standard hole patterns can be used as per the JOST product data sheet in combination with splined bolts for attachment to the vehicle without the use of thrust plates.

If the axle load of the bogie is greater than 10 t, we recommend using at least 12 securing points per ring, distributed as evenly as possible, with splined bolts.

In order to ensure that the fitting of the turntable or slewing ring is under as little strain as possible, a positional accuracy for the hole pattern of 0.6 mm and a drilling diameter of $18 \pm 0,1$ mm should be observed.

More detailed information can be found in our installation instructions for JOST splined bolts.

4.4 Thrust plates



To relieve the thrust force on screws subject to horizontal forces, the fitted ball bearing turntable must be attached to the flanges with four pre-welded thrust plates and there must be no play between the components. Use the welding methods set out by the trailer's manufacturer for this purpose.

In cases of special fastenings with JOST splined bolts there are no thrust plates required, if the requirements specified in section 4.3 are met.

4 Assembly

4.5 Coating

The JOST DR series has a permanent cathode dip coating. The CDC offers the ideal surface sealing method and therefore excellent protection against corrosion.

Thanks to the evenly thin coating, it may be painted over at any time.

4.6 Fastening material and tightening torques

Series	Screws of quality class 8.8	Torque ¹⁾
DR	Min. 8 hexagon screws per ring section	
	DIN EN ISO 8765/8676 (DIN 960/961) M16 x 1.5	225 Nm
	Alternatively DIN EN 24014 (DIN 931) M16	210 Nm

¹⁾ Setting value, tighten the screw connection with torque wrench DIN EN ISO 6789, class A or B.

Series	Nuts of quality class 8
DR	DIN EN ISO 7042 (DIN 980)



ADVICE!

The values shown above are guide values for a coefficient of friction $\mu_{\text{tot.}} = 0.14$. Further information is available in VDI 2230. Tighten screws with a suitable tool diagonally. In cases of fastening with a low number of screws or small screw size, at least the same overall stability must be achieved.

4 Assembly

Standard mounting

Fastening set KLE0000500 (16 screws M16 x 1.5 x 55 - 8.8, 16 nuts M16 x 1.5 - 10 and 8 thrust plates)

Special fastening with JOST splined bolts

Min. 8 JOST splined bolts M16 x 55-10.9 per ring section and matching JOST nuts M16-10.9, tightening torque 300 Nm.

Fastening set KLE0000300 (16 splined bolts and nuts)

Fastening set KLE0000400 (24 splined bolts and nuts)

5 Commissioning

5.1 Standard ball bearing turntables

Standard ball bearing turntables are supplied with light basic lubrication.



ATTENTION!

Before commissioning, the turntable must be given a thorough re-lubrication over all lubricating nipples with a high-quality rolling bearing grease (lithium soap, NGLI consistency class 2), with a closed bead of grease sealing the bearing clearances against the penetration of dirt and spray water.

We recommend the use of JOST high performance lubricant (Art. No. SKE 005 670 000).



ADVICE!

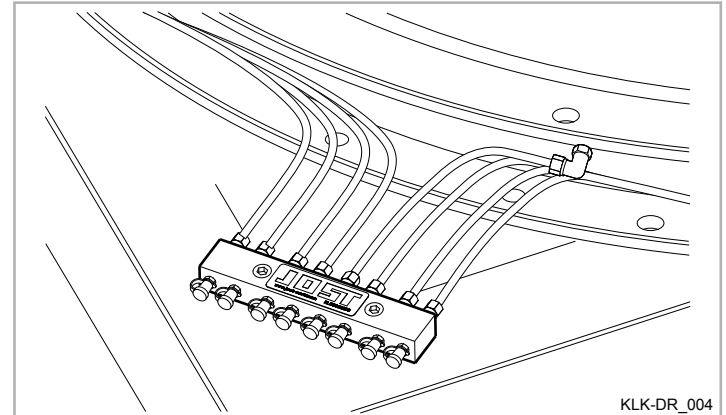
Where a central lubricating system is used, a high-quality rolling bearing grease (lithium soap, NLGI consistency class min. 1) should be used.

At least 6 lubricating nipples should be connected.

5.2 JOST central lubricant dispenser (8x)

To make re-lubrication easier, we recommend the JOST central lubricant dispenser.

This can be obtained as retrofit kit KLE0000200 or pre-installed.



6 Maintenance

The ball bearing turntable must be lubricated at least every 8,000 to 10,000 km, or once a month, with a high-quality rolling bearing grease (lithium soap, NLGI consistency class 2).

This is done by swivelling the bogie backwards and forwards until as closed a bead of grease as possible comes out from the entire length of the bearing clearances or sealing lips.

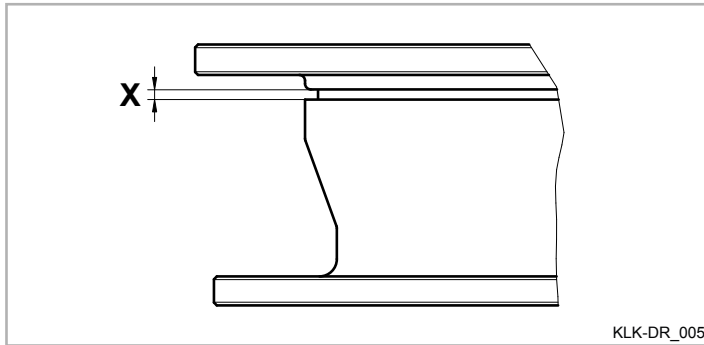
We recommend the use of JOST high performance lubricant (Art. No. SKE 005 670 000).

- ▶ If the ball bearing turntable is used in forced steering systems, the servicing instructions of the vehicle manufacturer must be observed.
- ▶ The screw connections must be checked as part of the vehicle inspections, but no later than 50,000 km, to ensure they are tightened to the prescribed tightening torque.
- ▶ Check for wear (see Section 7).
- ▶ Ball bearing turntables and their fastening elements, must be checked for excessive corrosion, damage or cracks.

7 To check for wear

Ball bearing turntables are wearing parts. Regular and effective lubrication are crucial to their service life.

The wear limit is reached with the minimum clearance. This is when the horizontal clearance **X** has reached the value shown in the table below.



Series	Maximum axial play	Minimum air gap X
DR	3.5 mm	0.0 mm

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JOST, Germany, Tel. +49 6102 295-0, jost-sales@jost-world.com, www.jost-world.com

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