

Ballrace Installation & Replacement
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The support structure for the lower and upper rings must be smooth, level and torsionally rigid otherwise deformation can be expected during operation. Unevenness of the contact surfaces must not exceed 1mm.

The contact surface, divided into at least 4 equally sized areas evenly distributed around the circumference must support at least 50% of the turntable flanges.

There should be no additional paint on the mounting faces; Paint with a thickness of less than 170micron is acceptable

Bolting

Model	Hole size	No. of bolts	Size	Grade	Torque
DK80/16	16mm	10	M14x1.5	10.9	335Nm
DK90/14/16/20	18mm	8	M16x1.5	10.9	335Nm
DK90/30	18mm	12	M16x1.5	10.9	335Nm
HE/SO		8	M16x1.5	8.8	225Nm
KDL900 $\varnothing \leq 750$ mm		8	M16x1.5	8.8	225Nm
KDL900 $\varnothing > 750$ mm		12	M16x1.5	8.8	225Nm
L/N $\varnothing \leq 650$ mm		6	M12x1.5	8.8	89Nm
L/N $\varnothing > 650$ mm		8	M12x1.5	8.8	89Nm

Bolts with a grade of 10.9 are recommended, with a hardened washer and self-locking nuts. No drilling chips or coolant is allowed to penetrate the ball races

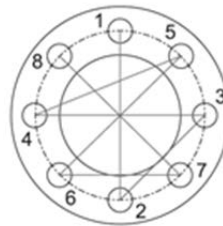
The bolts must be tightened in a crosswise pattern

Bolts should be tightened in at least 3 steps

1st step Tighten to 50%

2nd step Tighten to 75%

3rd step Tighten to 100%



The top and bottom flanges must be secured against movement, after bolting, using at least four weld-on shear blocks. This ensures the radial forces are not absorbed exclusively by the mounting bolts. Drill holes to ensure one grease nipple is positioned each side for ease of greasing.

Ballraces are shipped with transit grease only and have to be fully greased before being put into service.

Grease Type - use a Lithium complex grease, consistency EP002 – 3 (BPW ECO-Li plus recommended). 600 grams of grease is required for the initial grease fill. After filling with grease a continuous bead of grease must be seen around the circumference of the gaps. Whilst greasing the ballrace must be turned 30 degrees left and right.

Replacement

When the ballrace has been removed check the surface of the dolly and chassis for cracking Ensure the surface is smooth and level. Ensure unevenness of contact surfaces does not exceed 1mm. Unevenness values greater than this must be corrected. The surfaces must be primed not painted.

Bolt holes should be marked out accurately. Do not use the old ballrace as a template. Drill holes as above.

Ensure the shear blocks are touching the four points on the ballrace flange. If they don't then they should be replaced.

The bolt torque must be checked every 25000Km or at least every 3 months, except in extreme applications when they should be checked more frequently.