

Explanation of **run-down procedure** for paired tapered roller bearing (TRB)

Performing the run-down procedure is essential for a correct preload setting of paired Tapered Roller Bearings. This procedure applies for all paired Tapered Roller Bearings arrangements. These can be paired single TRBs in a conventional truck wheel end, as well as a unitized bearing concept (THU 1, THU 2, TMU).

What is the run-down procedure?

The run-down procedure describes the process of the rollers moving from an undefined start position to the final position at the guiding flange. This run-down procedure must be executed while applying the final torque to the axle nut.

The clamping of the bearing arrangement with the roller being still in their undefined start position, can also cause indentations on the raceway.

These indentations will be over rolled during the operation of the bearing and can be the starting point for a spall on the bearing raceway and thus a wheel bearing damage.

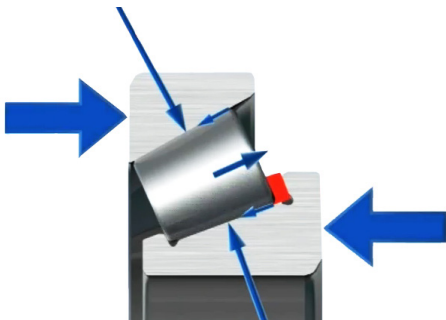


Figure 1: roller start position

What is the risk if the run-down procedure is not executed?

There are two major risks if the run-down procedure is not executed. If the rollers are clamped in their undefined, start position, the wheel end arrangement will eventually have additional clearance (red area in → fig. 1 shows additional clearance). This additional clearance can cause a major wheel damage. Rollers are skewing, the cage can be over-rolled and also due to the too high clearance in the wheel end, single rollers can be over loaded and cause an early bearing failure or even wheel loss.

How do I apply the run-down procedure?

If not further explained in the maintenance instruction of the OE, turn the wheel hub 5 to 20 revolutions during tightening the axle nut to the specified torque. These 5 to 20 revolutions allow the rollers to be seated properly at the guiding flange (→ fig. 2).

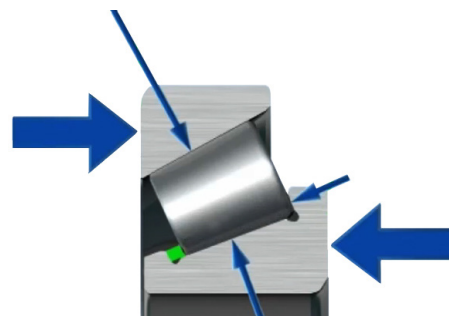


Figure 2: roller final position at the guiding flange