

Please go to this link to find the latest version <https://www.nord-lock.com/services/manuals/expander/stepped-pin/>

# INSTALLATION INSTRUCTIONS

## Stepped Pin

v4-2

ENGLISH (ENGLISH)

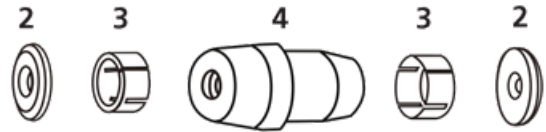


Following these instructions will ensure that the Expander System is installed correctly and the pivot life is prolonged.

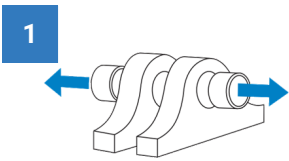
**Congratulations!** You have purchased a custom engineered solution to the pivot wear problem on your machine. Contact your dealer or Expander before proceeding if you have any questions.

The picture shows a female axel but the principle is the same for other designs.

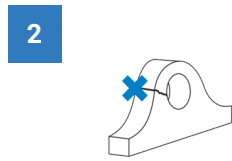
**1** Bolt. **2** Washer. **3** Sleeve. **4** Axle (Pin).



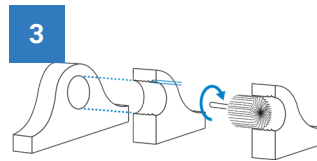
### PREPARATION



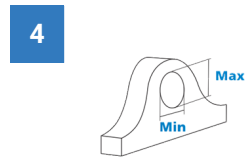
Remove any bushings to eliminate future wear between the bushing and the mounting lug.



Repair any structural damage i.e. cracks or bent lug ears before installation.



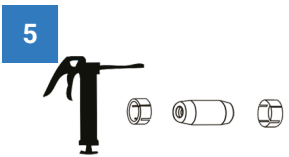
Smooth out irregularities in the bore surfaces.



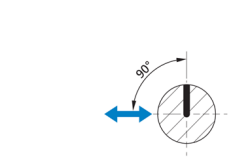
The difference between min and max diameter in the worn lugs must be within .06" (1.5 mm) for the sleeves to fit correctly.

**ATTENTION!** If the worn lugs diameter at any point is 2 mm (.080") or more over original lug diameter contact your dealer or Expander System. You will need oversized sleeves.

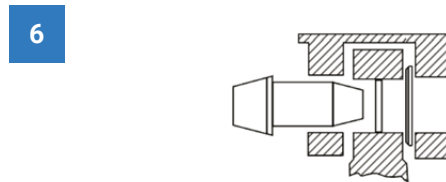
### INSTALLATION



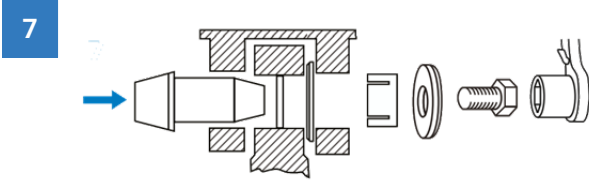
Grease the sleeves and axle with grease available, preferably graphite grease. Do not grease the threads!



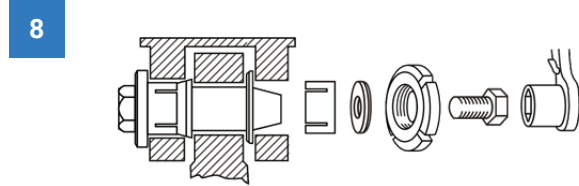
**NOTE!** If applicable: position greasing outlet 90 degrees to force direction to minimize stress concentration at outlet.



The spacer is always positioned on the opposite side of the stepped part of the axle. If the pivot already has a spacer, leave it in its position. If the Expander System includes a spacer, place it between the inner sphere of the bearing and the lug ear, with the bevel facing the bearing.



Insert the axle. Install the sleeve, washer and fastener on the side with small axle diameter. Press on the axle end with large diameter until the axial play is eliminated. Tighten the fastener with torque as specified.



Install sleeve, washer and fastener on the side with the large axel diameter. Tighten the fastener with torque as specified. Remove fastener, securing spanner nut and remove fastener, securing spanner nut and threaded washer. Install sleeve. Reinstall securing spanner nut, threaded washer and fastener. Keep the securing spanner nut loose and tighten the fastener with torque as specified. Tighten the securing spanner nut.

## TORQUE RECOMMENDATIONS

9		Hex Bolts									Torques M12-M24 ± 10%, M30... +30/-0%									
		M12	M14	M16	M20	M24	M30	M36	M42											
	Nm	70	115	175	350	500	600	700	900											
	lb-ft	52	85	129	258	369	443	516	664											

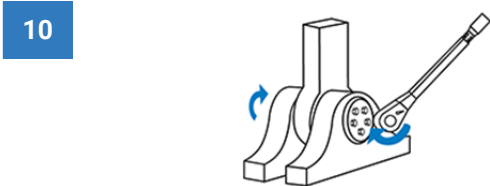
Hex Nuts: Standard Height		Torques M12-M24 ± 10%, M30... +30/-0%																		
		M12	M14	M16	M20	M24	M30	M36	M42											
	Nm	65	115	175	250	350	500	600	700											
	lb-ft	48	85	129	184	258	369	443	516											

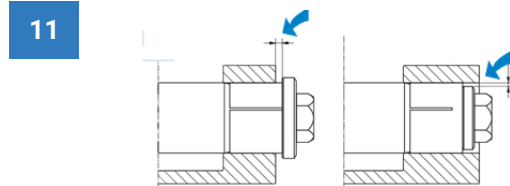
Hex Nuts: Low Height		All Torques ± 10%																		
		M12		M16	M20	M24	M30													
	Nm	60		125	200	275	350													
	lb-ft	44		92	148	203	258													

Spanner Nuts		All Torques ± 10%																		
		M17	M25	M35	M45	M55	M65	M75	M85											
	Nm	50	120	250	500	600	700	800	900											
	lb-ft	37	89	184	369	443	516	590	664											

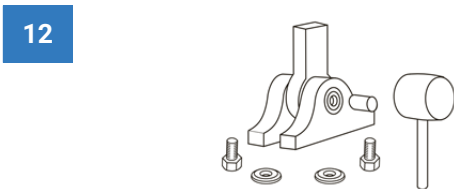


After initial torque move machine through full range of motion several times and recheck torque. Check the torque after 10 hours, 40 hours and at regular service intervals to ensure proper seating of the sleeves.

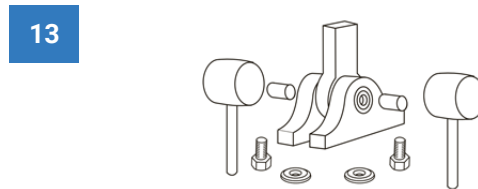


Ensure that there is a minimum distance of 0,5 mm (.02") between the washer and the lug. **ATTENTION!** If the washer is in contact with the lug contact your dealer or Expander System.

## DISMOUNTING



Unscrew the fasteners on both sides and remove the washers. Tap the axel end with small diameter until the tension on the sleeves is released. Use a piece of pipe between the axle and the mallet/hammer not to damage the threads.



Tap the axle alternatively on left and right side until the tension on the sleeves is released (use a piece of pipe between the axle and the mallet/hammer not to damage the threads). Remove the sleeves and axle. Do not damage the threads.