

Technical information for adjustment nuts

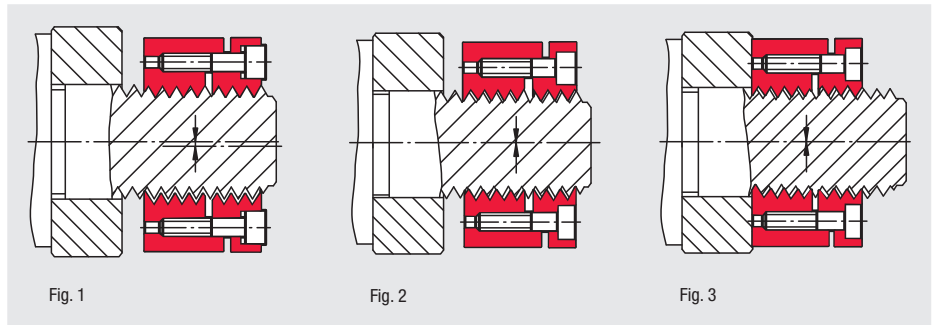
Assembly:

- Carefully clean the adjustment nut and connection points and lightly oil with a film of standard machine oil without anti-friction additives.
- Screw the adjustment nut onto the spindle thread but not quite up to the contact face (Fig. 1).
- Tighten the screws uniformly and crosswise while turning the adjustment nut back and forth until it turns with almost no backlash on the thread (Fig. 2).
- Now tighten the adjustment nut with a higher than specified torque (ca. +30%) against the contact face, then loosen again and finally tighten with specified torque (Fig. 3). This prevents the need to re-adjust later.
- Now secure the adjustment nut by uniformly tightening the screws. Highest demands of spindle concentricity can be positively influenced by testing and individually tightening the screws. Possible stresses caused by small lateral run-out errors can be corrected.

Disassembly:

Slightly loosen all the screws crosswise. Now fully loosen all the screws. This prevents the last screw being subjected to the full stress of the membrane and being blocked.

If an adjustment nut has been secured on a spindle thread, after dismantling it can only be used again on the same spindle. The adaption procedure between spindle and adjustment nut can lead to problems when attempting to fit the nut to another.



Setting an axial pre-tension load:

The axial pre-tension of a screw connection is often function critical and therefore must be set accurately. Measuring this value directly during assembly is mostly not possible making an indirect setting necessary. The tightening load for the adjustment screw pre-tension torque must be calculated.

This can be determined by the following formula:

$$M_v = \frac{(F_v + V) \cdot (U + \mu A \cdot rA)}{1000} \text{ [Nm]}$$

M_v = Pre-tension torque of the adjustment nut (Nm)
 F_v = Required axial pre-tension force of the screw connection (N)
 V = Adjustment nut specific supplement (N), compensates the face load alleviation by the securing process
 U = Constant (mm), includes the calculation factor for the respective thread (see table)
 μA = Coefficient of friction for the locating face of the adjustment nut. Approximate value $\mu A = 0.1$ (steel/steel)
 rA = Operative frictional radius for the locating face of the adjustment nut (mm)

The securing procedure subjects the spindle thread to stress and produces an intensive flank pressure (= high axial rigidity). This effect simultaneously relieves the contact face of the adjustment nut, which can be easily counterbalanced by correspondingly higher pre-tension torque during assembly. This higher pre-tension torque is calculated by allowance V to the required pre-tension force F_v .

Order No.	Calculation factor U (mm)	Adjustment nut specific supplement V (N)
07598-024101015	0,703	2,457
07598-026121515	0,881	2,438
07598-032141516	0,997	2,995
07598-034161518	1,112	3,962
07598-036181518	1,228	3,931
07598-040201518	1,344	3,900
07598-040221518	1,459	3,869
07598-042241518	1,575	3,838
07598-045261520	1,690	3,806
07598-046281520	1,805	3,775
07598-048301520	1,921	3,744
07598-050321522	2,037	3,713
07598-053351522	2,210	3,666