

Precautions On Support Units Installation

Assembly of Support Units

Installing Support Units incorrectly causes degradation of accuracies and service life expectancy. Considerable care must be taken during installation.

① Pre-Installing Preparation

Find a sufficient work area that is as dust-free and moisture-free as possible. Make sure there is little variation in temperature. Choose a clean location and prepare necessary tools on a workbench.

② Inspection of Shafts and Support Units

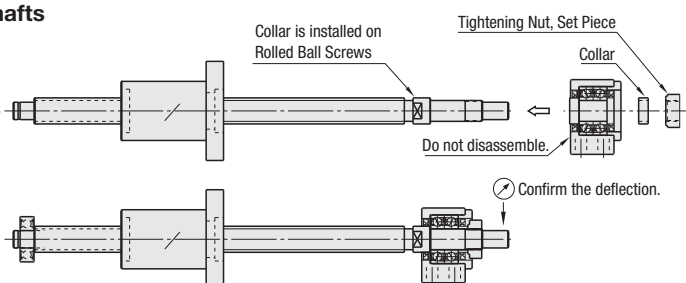
Confirm that there is no dust, foreign substances or burrs on the shaft and on bearing I.D. If burrs are discovered, remove it with a oilstone etc. and brush or wipe off chips thoroughly.

③ Installing Support Units to Ball Screw Shafts

- Prepare a Ball Screw and a Support Unit.
- Insert fixed side shaft end into the Support Unit.
- Cautions on Insertion
Insert the shaft straight so as not to interfere with the Support Unit.
Also, watch for curled back oil seal lip.
Apply some grease for smooth insertion.
- Temporarily tighten the bearing nut.
- Install the radial bearing on ball screw support side.
- Secure the bearing with a retaining ring.
- Maintain tip run-out to be as small as possible.

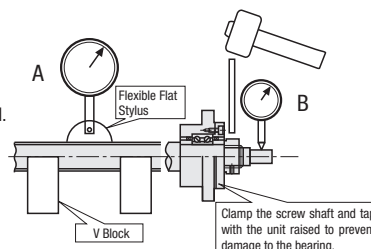
M	Nut Tightening Torque (N·cm)	M	Nut Tightening Torque (N·cm)
4	160	12	1370
5	200	15	2350
6	245	20	4700
8	490	25	8430
10	930		

☞ Value is for reference only.



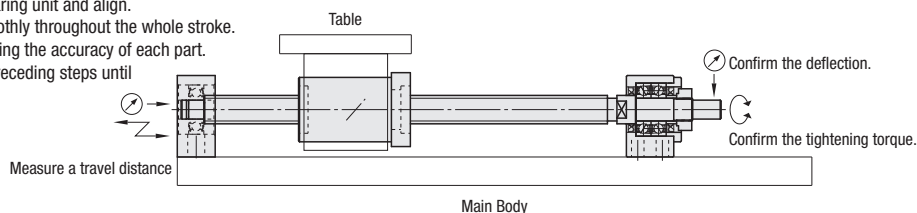
④ Precautions on Installation of Bearing Nut

- ① Lightly tighten the bearing nut.
Tighten to 1/3 of the recommended torque (see table).
- ② Place the screw shaft on a set of V-blocks, place a dial indicator at A or B as shown, and rotate the shaft while seeking for a position where the largest indicator deflection is observed.
- ③ Using a hammer or other appropriate tools as shown, lightly tap the bearing nut at the aforementioned angular position until the indicator reading becomes minimum.
- ④ Divide the recommended torque on the table into two to three steps while repeating the step ③ up to full recommended tightening torque.



⑤ Installation of Support Side Bearing Unit and Accuracy Check

- Move the carriage toward the support side bearing unit and align.
- Reciprocate the carriage so that it travels smoothly throughout the whole stroke.
- Fully tighten the mounting screws while checking the accuracy of each part.
- If the outcome is not satisfactory, repeat the preceding steps until smooth motion is obtained.



Precautions on Support Unit Installation

When inserting ball screws into fixed side support units, some cases will be slip-fit and others may be light press-fit cases.

If the fit appears to be a light-press, do not force the bearing onto the screw shaft in a tilted manner, and do not strike the bearing inner ring as well as support unit housing. If there is any interference between the screw shaft and the bearing inner ring, gently press the bearing using a spacer corresponding with the inner ring using either a press or a jack. It is necessary to minimize shock to the bearing as much as possible. Furthermore, do not bend the screw shaft. If there is any interference between the screw shaft and the bearing inner ring, do not insert the ball screw forcibly. Remove the screw at once and correct the swell on the shaft, then try reassembling.

