

B-2-8 Even Load Distribution in Ball Nut

Generally, the distribution of loaded balls in a ball nut is three-dimensionally asymmetric, thus resulting in uneven load distribution to the balls and ball nut. NSK has taken the measures for even load distribution to the balls by an optimal arrangement of the position of ball recirculation circuits. Additionally, a heavier load results in a measurable axial deformation of the screw

shaft and the ball nut, thus further increasing the unevenness of load distribution. We have lessened the unevenness of load distribution to the balls by arranging the load acting point of the ball nut and the screw shaft opposite to each other. The relation between loading points and load distribution is shown in Fig. A, while Table B shows the result of load distribution analysis.

Fig. 8.1 The result of equalization of load distribution

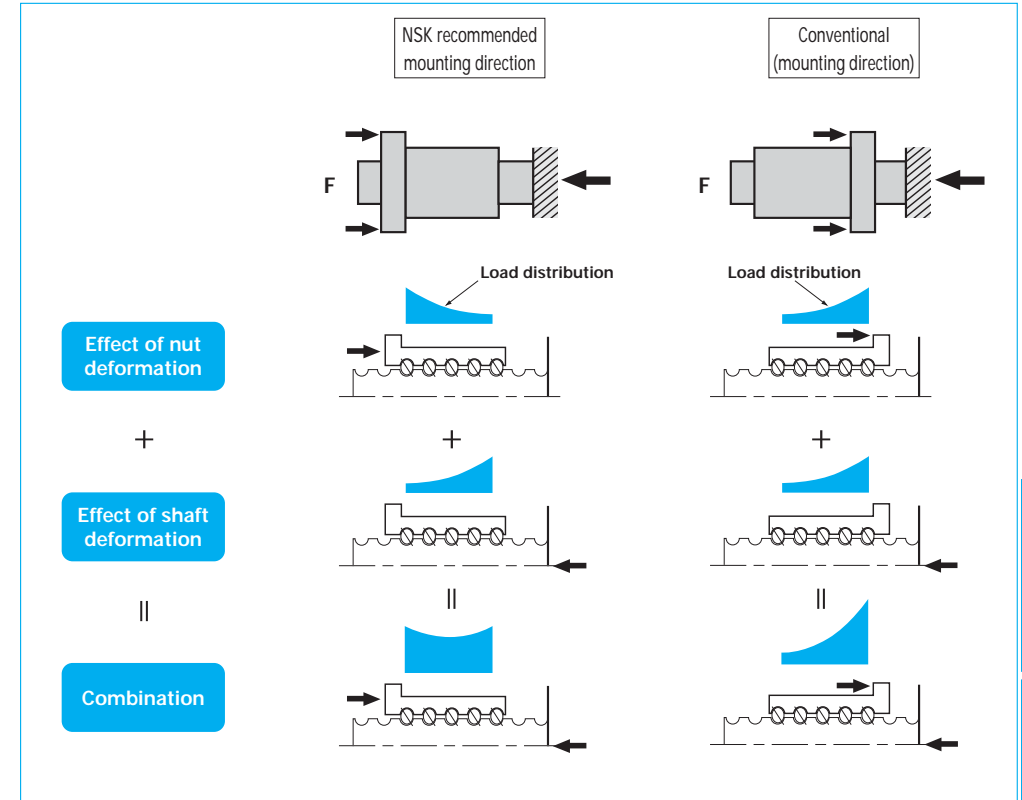
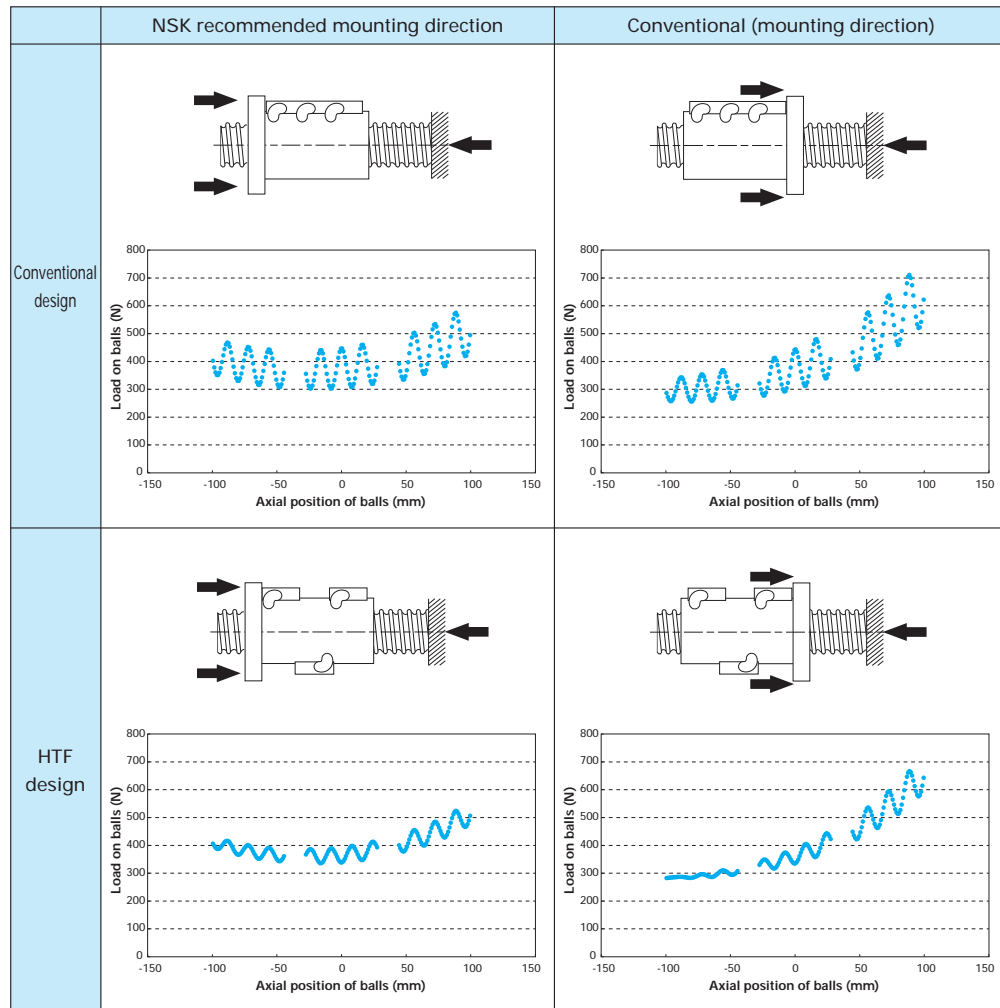


Fig. 8.1 The relationship between acting point of load and load distribution