

To ensure your Trantorque OE unit performs as specified, be sure to follow these instructions.

**Warning: DO NOT USE ANY LUBRICANTS DURING THIS INSTALLATION. DO NOT USE AN IMPACT WRENCH DURING THIS INSTALLATION.**

- The shaft diameter must be within  $\pm 0.003$ " (0.08mm) of the Trantorque bore, "d" and the mounted component bore must be within  $\pm 0.003$ " (0.08mm) of the Trantorque outside diameter, "D" (Figure 1). See Fenner Drives website or catalog for "d" and "D" values.
- Additionally, both the shaft and mounted component bore must:
  - have a surface finish of 32-125 Ra. If the surface finish is outside of these specified values, consult Fenner Drives.
  - be completely free of paint, grease, oil and debris of any kind. Return the surfaces to bare metal and clean using a non-petroleum based solvent (isopropyl alcohol).

**Caution: DO NOT LUBRICATE THE TRANTORQUE OE, SHAFT OR BORE OF MOUNTED COMPONENT. THE USE OF LUBRICANTS COULD RESULT IN PREMATURE FAILURE AND WILL VOID ALL WARRANTIES.**

- Insert the Trantorque OE unit into the mounted component (Figure 2a). To achieve peak performance it is best practice to completely cover the hub gripping area defined by the scribe line (Figure 2b).

Recommended position for:

- Short Hubs (where the length of the mounted component is equal to the hub gripping area or less)**  
It is important that the mounted component be positioned in the hub gripping area.  
NOTE: The scribe line can be used to ensure the mounted component is positioned perpendicular to the axis.
- Long Hubs (where the length of the mounted component exceeds the hub gripping area)**  
It is recommended that the mounted component:
  - First, covers the hub gripping area;
  - Second, extends beyond the scribe line;
  - Third, any remaining length extends beyond the tail of the Trantorque OE.

- Insert the mounted component/Trantorque OE assembly onto the shaft. Position it to the desired location making sure the shaft fully engages the Trantorque OE's shaft gripping area (Figure 3a) defined by the stepped bore.

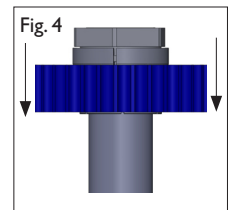
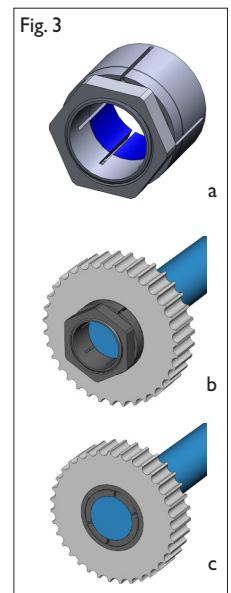
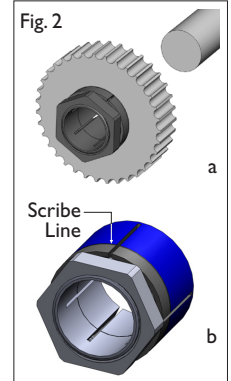
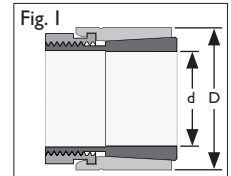
**Caution: DO NOT USE IMPACT OF ANY KIND, INCLUDING A HAMMER, TO MOVE THE ASSEMBLY ALONG THE SHAFT.**

**Warning: THE SHAFT MUST FULLY ENGAGE THE SHAFT GRIPPING AREA OF THE TRANTORQUE OE (Figure 3).**

- Using a torque wrench tighten the nut to the specified installation torque,  $M_a$  (Table 1).

Note: At full installation torque, the assembly will travel approximately 0.035" (0.9mm) axially along the shaft as shown in Figure 4. If axial position is critical to your application, it may be necessary to loosen the nut and reposition the assembly.

**Warning: OVER-TIGHTENING THE NUT COULD RESULT IN DAMAGE TO THE TRANTORQUE OE UNIT AND/OR THE MOUNTED COMPONENT.**



| Shaft Diameter (in) | Install Torque $M_a$ (lb ft) | Shaft Diameter (mm) | Install Torque $M_a$ (Nm) |
|---------------------|------------------------------|---------------------|---------------------------|
| 11/16 to 3/4        | 82                           | 17 to 19            | 110                       |
| 13/16 to 7/8        | 111                          | 20 to 22            | 150                       |
| 15/16 to 1          | 137                          | 24 to 25            | 185                       |
| 1-1/16 to 1-1/8     | 155                          | 28 to 30            | 240                       |
| 1-3/16 to 1-1/4     | 177                          | 32 to 35            | 265                       |
| 1-5/16 to 1-1/2     | 196                          | —                   | —                         |

Table 1

*A Trantorque Keyless Bushing offers flexible and easy installation while providing exceptional holding power. To ensure a Trantorque unit performs as specified, it must be installed properly.*

**Warning:** Use no lubricants in this installation.

1. Shaft and component bore must be within  $\pm 0.003"$  ( $\pm 0.08\text{mm}$ ) or  $\pm 0.0015"$  ( $\pm 0.04\text{mm}$ ) mini series of stated bore diameter and must have a surface finish of 32-125 Ra (roughness average). If the surface finish is outside these specified values, consult Fenner Drives.
2. Both shaft and component bore must be completely free of paint, grease, oil, and dirt. If necessary, clean the surfaces with a non-petroleum based solvent, such as isopropyl alcohol.
3. Insert the Trantorque unit into the component to be mounted, making sure the mating hub is flush against the shoulder at the hex flats.
4. Position the assembly at the desired location on the shaft and hand-tighten the nut (clockwise) until the assembly becomes snug on the shaft.

**Warning:** Do not hammer or use any type of impact to force the Trantorque assembly along the shaft.

**Warning:** The shaft must fully engage the shaft gripping area (Figure 1) of the Trantorque unit. Figure 2 illustrates minimum shaft engagement.

5. Using a torque wrench, tighten the nut to the proper installation torque. See table for torque value. (Note: Fenner Drives has available crowfoot wrenches for square drives in sizes from  $\frac{1}{2}"$  to  $3\frac{1}{2}"$ .) The hex flats on the outer ring are provided for counter-torque, eliminating the need to hold the component or shaft while applying installation torque.

Note: At full installation torque, the assembly will have moved approximately  $0.075"$  ( $\pm 1.9\text{mm}$ ) or  $0.045"$  ( $\pm 1.1\text{mm}$ ) mini series axially along the shaft away from the nut. If axial position is critical it may be necessary to loosen the nut and reposition the assembly. (Does not apply to Trantorque NT [Non-Traversing] units which have no axial movement.)

**Warning:** Over-tightening the nut could damage the Trantorque unit and/or the mounted component.

| Installation Torque on Nut         |       |            |      |
|------------------------------------|-------|------------|------|
| Inch                               |       | Metric     |      |
| Shaft Size                         | in lb | Shaft Size | Nm   |
| <b>MINI SERIES</b>                 |       |            |      |
| $\frac{3}{16}" - \frac{1}{4}"$     | 125   | 3 – 6mm    | 14.1 |
| $\frac{5}{16}" - \frac{3}{8}"$     | 150   | 7 – 9mm    | 17.0 |
| $\frac{7}{16}" - \frac{1}{2}"$     | 175   | 10 – 12mm  | 19.8 |
| $\frac{9}{16}" - \frac{5}{8}"$     | 200   | 14 – 16mm  | 22.6 |
| $\frac{3}{4}"$                     | 700   | 17mm       | 80.0 |
| Inch                               |       | Metric     |      |
| Shaft Size                         | ft lb | Shaft Size | Nm   |
| $\frac{5}{8}" - \frac{3}{4}"$      | 100   | 15 – 19mm  | 136  |
| $\frac{13}{16}" - 1"$              | 125   | 20 – 25mm  | 170  |
| $1 \frac{1}{16}" - 1 \frac{1}{4}"$ | 167   | 28 – 32mm  | 225  |
| $1 \frac{5}{16}" - 1 \frac{1}{2}"$ | 192   | 34 – 38mm  | 260  |
| $1 \frac{9}{16}" - 1 \frac{3}{4}"$ | 234   | 40 – 42mm  | 316  |
| $1 \frac{13}{16}" - 2"$            | 409   | 45 – 50mm  | 554  |
| $2 \frac{1}{16}" - 2 \frac{1}{4}"$ | 442   | 55mm       | 600  |
| $2 \frac{5}{16}" - 2 \frac{1}{2}"$ | 467   | 60mm       | 635  |
| $2 \frac{9}{16}" - 2 \frac{3}{4}"$ | 500   | 65 – 70mm  | 680  |
| $2 \frac{13}{16}" - 3"$            | 550   | 75mm       | 750  |

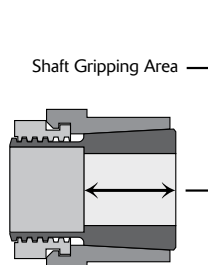


Figure 1

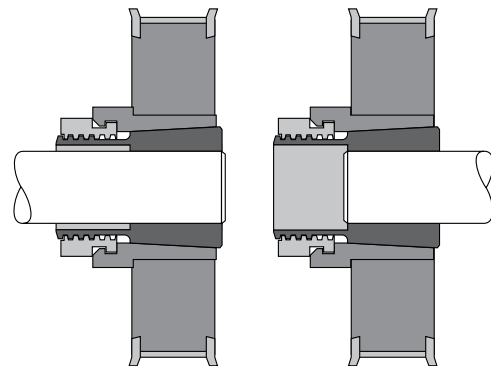


Figure 2