

## ETB23 INSTALLATION INSTRUCTIONS

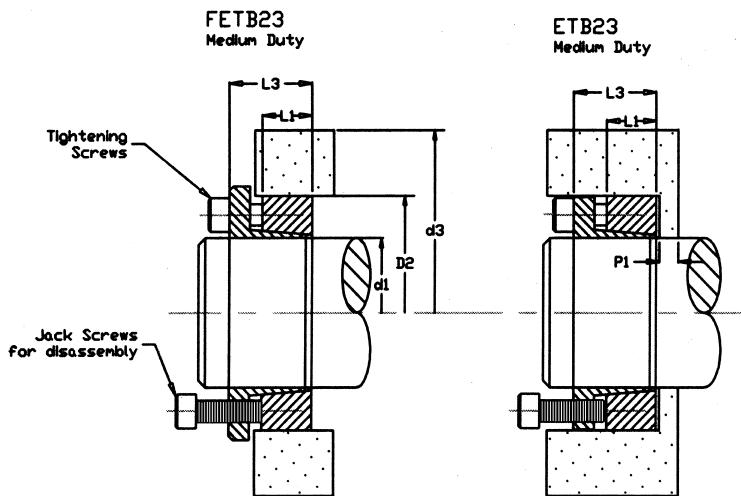
Remove any burs or raised metal on the shaft and all mating parts. Clean and lightly oil the shaft, hub bore contact area, and the contact areas of the ETB bushing.

**Warning: never use Molybdenum Disulfide, Molykote, Grease or Antiseize on the shaft or parts of the ETB bushing-reduces required friction and can cause a failure!**

1. Loosen all locking screws a minimum of two revolutions. For large installations, transfer several screws to the jack-screw position, snug screws to collar to ensure that the wedges do not prematurely engage during positioning.
2. Slide the ETB bushing onto the shaft, into the bore of the hub and into position.
3. By hand, begin to snug four (4) screws in a star pattern (6, 12, 3 & 9 o'clock for even number), see Fig. 30. To maintain concentricity do not over-tighten. (Gradually disengage jack-screws if used). Snug remaining screws to the collar, do not tighten
4. Verify that the hub is correctly positioned!
5. Set torque wrench at 50% of final torque. Start at 12 o'clock position, begin to evenly tighten, in a clockwise sequence, each screw a maximum of 1/4 revolution. Several passes will be required to achieve the specified screw torque. Note: as the next screw is tightened the previous screw tightened will relax.
6. Continue to make complete passes around the ETB bushing until the torque wrench turns less than 1/8 revolution. Increase the "Final Torque" rating by 5% to compensate for the neighboring screw relaxing.
7. Set torque wrench at the Final Torque specification, randomly check several screws torque. If any screw moves more than 1/16 of a revolution, repeat step 6.

### Removal:

1. With a star pattern, loosen screws 1/4 turn for five complete passes or until all screws are loose.
2. Transfer screws to the jack-screw position and tighten as in step 5 & 6 above. Do not tighten the jack-screws more than 1/4 turn per pass!
3. If the unit is corroded, a light tapping on the heads of the jack-screws can help the unit release.



Grade 12.9 Socket Head Cap Screw, Din 912 specifications

| screw size      | M6  | M8  | M10 | M12 | M14 | M16 | M18 | M20 | M22 | M24  | M27  | M30  |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| "s" mm bit size | 5   | 6   | 8   | 10  | 12  | 14  | 14  | 17  | 17  | 19   | 19   | 22   |
| Drive           | 1/4 | 3/8 |     |     |     | 1/2 |     |     |     |      | 3/4  |      |
| Torque Nm       | 18  | 42  | 87  | 149 | 240 | 365 | 499 | 709 | 960 | 1219 | 1809 | 2449 |
| Torque ft-lbs   | 13  | 31  | 64  | 110 | 177 | 269 | 368 | 523 | 708 | 899  | 1334 | 1806 |

| INSTALLATION AND REMOVAL<br>Torqueing sequence |                         |
|--|-------------------------|
| Even Number of Fasteners                       | Odd Number of Fasteners |
|  |                         |