# Lubrication

The spline nut is pre-lubricated prior to shipment for immediate use, and the maintenance period varies according to the operating conditions. Thomson suggests that under normal operating conditions to lubricate your ball spline after 62 miles (100 km) or six months of operation. Apply lubricant within the nut body or on the groove of the spline shaft.

# Ball Spline Precautions

### General Maintenance

(1) Disassembling ball splines without the supervision of a certified engineer may cause malfunction of the ball spline.

(2) Gravity causes the spline nut to slide when aligning the ball spline. Please handle with care.

(3) Do not hammer or allow the ball spline to free fall as this may damage the ball spline and hinder its performance.

(4) Prevent debris or scraps from intervening the ball spline as it may decrease its performance or lead to malfunction.

(5) Prevent the ball spline from operating under extreme conditions. Contact Thomson customer service when you intend on using your ball spline under extreme conditions.

### Lubrication

(1) Remove anti-dust oil before sealing the ball spline with grease.

(2) Prevent mixing of different kinds of grease as it will cause unexpected chemical deformities.

(3) Please contact a certified engineer for consulting the use of grease when the ball spline is designed to operate under frequent vibration, vacuum, or extremely high- or low-temperature conditions.

(4) Please consult a certified engineer for the use of non-certified grease.

(5) When using motor oil to serve the purpose of lubrication, be aware that it may cause a decline in performance due to improper installation. Please consult a certified engineer.

### Storage

Avoid extreme temperatures and humidity when storing ball splines. Please use certified seals and store in a horizontal position.

# Mounting

### Tolerance on Support Unit

Ball spline nuts and their support units are bored to minimize clearance. If high accuracy is not required, a clearance fit can be used.

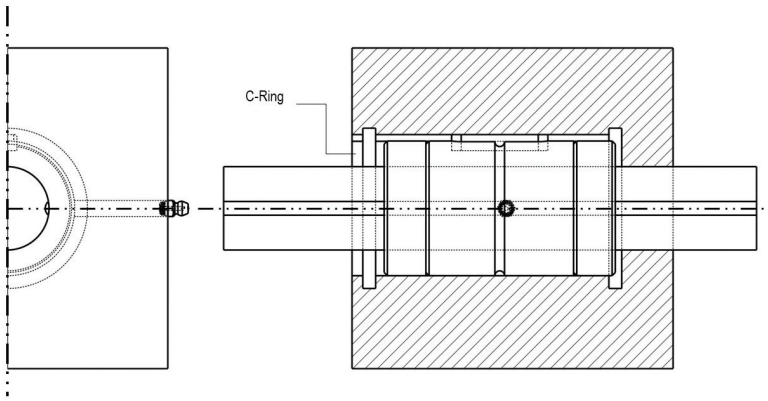
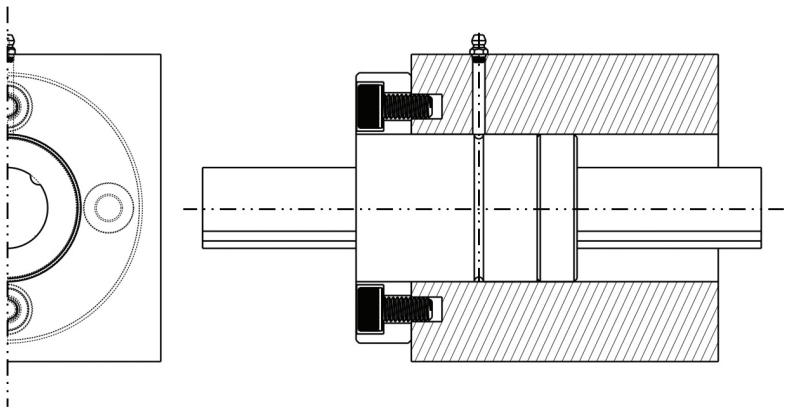
**Support Unit Tolerance**

| Condition | Tolerance within Support Unit |
|---|---|
| General Operating Condition | H7 |
| Operation Under Minimal Axial Clearance | J6 |

### Ball Spline Installation

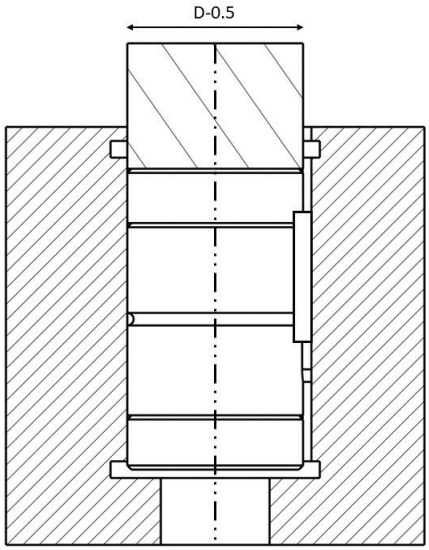
The installation of a ball spline is shown as in Table. Though the strength of mounting is not strictly required, the user must be certain that the spline shaft is firmly fixed on the support unit.

**Ball Spline Assembly Example**

| | |
|---|---|
| Cylindrical Nut |  |
| Flanged Nut |  |

## Spline Nut Installation

When installing a spline nut into the spline shaft, use a jig shown in the figure below to insert the spline with care.




| Jig Specifications | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Nominal Diameter | 6 | 8 | 10 | 13 | 16 | 20 | 25 | 30 | 40 | 50 |
| di | 5.0 | 7.0 | 8.5 | 11.5 | 14.5 | 18.5 | 23 | 28 | 37.5 | 46.5 |