

Instruction Manual

KM and AN Type Lock Nut with Mounting Screws

Use with H, SNW & SNP-Series Adapters

Installation

Warning: The KM and AN Lock Nut with Mounting Screws is an installation tool intended to assist bearing mounting on a tapered adapter sleeve. After the bearing has been tightened, the Lock Nut with screws must be replaced with the standard nut supplied with the adapter. The standard nut is secured via the lockwasher or locking clip, depending on size. The Lock Nut with mounting screws is not intended to remain installed as the mounting screws could loosen during bearing operation and lodge between the rolling elements.

Tools Required: Feeler Gauges, Allen Wrench, Torque Wrench.

Note: Follow the standard installation instructions provided with the bearing and or split block assembly to position the seals, bearing and adapter loosely on the shaft and as close as possible to the final desired installed position. Using feeler gauges, and the steps suggested in the standard instructions, measure and verify the un-mounted internal clearance according to the charts provided in the split block installation manual. Also note the recommended mounted internal clearance for this bearing. The bearing must be tightened until this final internal clearance level is reached. Record the final mounted clearance as well and keep with installation records.

1. Loosen the oval point mounting screws in the Lock Nut (Fig. 1) so they do not protrude past the back side of the nut. Lightly oil the oval point screw threads. The lockwasher should not be used during the bearing tightening procedure as force from mounting screws may bend the washer. Snug the Lock Nut on the adapter threads so it contacts the bearing inner ring directly. The mounting screws will push on the inner ring (Fig. 2) when tightened.

2. Tighten the Lock Nut with the mounting screws, by hand or with a spanner (Fig. 3) until the nut face is snug against the bearing inner ring. This will help determine the starting point to begin tightening the bearing using the mounting screws. For larger units, 6" or 150mm shaft diameter and larger, it becomes increasingly more difficult to tighten the nut properly with just a spanner wrench and hammer. The Lock Nut with the mounting screws will simplify this effort. Force from the screws will gently push the bearing onto the tapered adapter, effectively creating an interference fit to the shaft. The bearing will move axially 0.025" (for a 3" bore) to approx. 0.060" (for a 10" bore). If the bearing was not quite snug to begin with, it may move axially a little more. Anticipate this axial movement when determining the bearing centers.

3. With an Allen wrench, hand tighten each screw until it is snug against the face of the bearing. Starting with the top screw, tighten each screw with a torque wrench to a low and consistent torque level. Tighten each screw to this snug torque. Continue with the next adjacent screw and maintain this sequence for the rest of the procedure. It may take several times around to get screws to a near equal level. Measure the internal clearance according to the recommend procedures in the PTI Split Block Bearing Manual after each new torque level. Increase the screw torque and repeat the procedure until the final recommended clearance is reached. Measure and record the clearance measurements frequently. This will verify the tightening progress. If a measurement yields a sudden change in clearance, rotate the bearing a quarter turn and measure again. Frequent measurements will eliminate any erratic measurements. The clearance measurement is important to insure the bearing is not too loose or too tight on the shaft. If a bearing becomes over tightened, the inner ring may break. If too much clearance has been removed, the bearing may have to be pressed off and the installation procedure started over. Mounting screws exert a significant axial force on the bearing. This pushes the inner ring onto the taper, expanding the inner ring slightly, reducing the internal clearance of the bearing. Once the recommended internal clearance is reached, loosen all of the mounting screws a few turns. The nut will be loose on the adapter and can be removed.

4. Securing the Standard Lock Nut

After installing the bearing to the recommended internal clearance, loosen and remove the Lock Nut with mounting screws, and install the Lock Washer between the Standard Lock Nut and bearing. (Adapters for 8-inch shaft size and above do not use washers, but rather locking clips or plates). The outer tabs on the washer should fit against the mating beveled edge of the Lock Nut. Fit the ID washer tab into the corresponding slot on the adapter and re-tighten the Lock Nut. Find the Lock Washer OD tab that aligns nearest to a slot on the OD of the Lock Nut, and bend this corresponding lock washer tab into the slot as shown (Fig 4). If a slot on the nut does not line up with a washer tab, and the nut cannot be tightened further without heavy force, back the Lock Nut off slightly until the nearest tab and slot align. Bend this tab into the OD slot of the nut to secure the Lock Nut. Check the internal radial clearance to ensure nothing has changed. **Note: If a Locking Clip is used instead of a Lock Washer (Size 44 and larger), locate the nearest locking slot so the clip fits into the notch in the adapter sleeve. This will secure the Locking Clip.** Refer back to the Split Block Installation Manual to finish installing the seals, fixing rings, housing and lubrication required.



Fig. 1

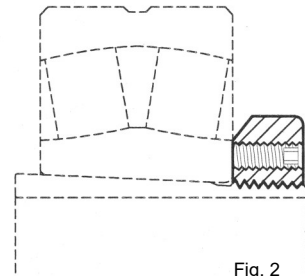


Fig. 2

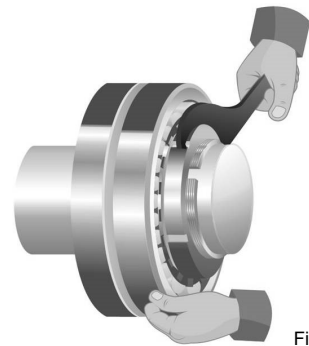


Fig. 3

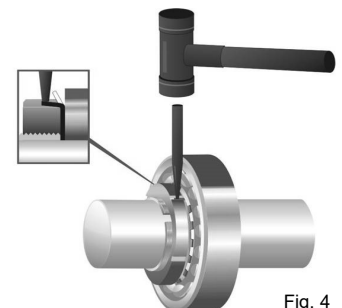


Fig. 4

Max Torque Rating for Mounting Screws

Inch Lock Nut Part No.	Metric Lock Nut Part No.	Set Screw Size	Socket Size Across Flats	Max Torque ft-lbs*
AN22-MS	KM22-MS	5/16-24 UNF	5/32	38
AN24-MS	KM24-MS	5/16-24 UNF	5/32	38
AN26-MS	KM26-MS	3/8-16 UNF	3/16	70
AN28-MS	KM28-MS	3/8-16 UNF	3/16	70
AN30-MS	KM30-MS	3/8-16 UNF	1/4	70
AN32-MS	KM32-MS	1/2-20 UNF	1/4	172
AN34-MS	KM34-MS	1/2-20 UNF	1/4	172
AN36-MS	KM36-MS	1/2-20 UNF	1/4	172
AN38-MS	KM38-MS	5/8-18 UNF	5/16	317
AN40-MS	KM40-MS	1/2-20 UNF	1/4	172
AN44-MS	KM44-MS	3/4-16 UNF	3/8	562

* Max Torque Rating is approx. 75% of yield torque.

Other PTI Stock Products

Metric & Inch Mounted Ball Bearings
 Standard, Stainless Steel & Thermoplastic Housings
 Set Screw, Eccentric Collar, Adapter Mount & Concentric Collar
 Locking Types
 SAF, SAFS, SDAF Pillow Blocks
 SNG, SNHF & SN Standard Metric Plummer Blocks
 SD & S3000K Heavy Duty Metric Plummer Blocks
 722 Series Metric Flange Blocks
 Metric & Inch Adapters, Standard & Hydraulic
 Hydraulic Mounting Nuts
 Standard Inch & Metric Locknuts & Washers
 Metric Withdrawal Sleeves
 Spherical Roller and Double Row Ball Bearings for Split Blocks
 Metric Rod Ends
 Winkel Linear Combined Bearings and Profiles - Linear Motion
 Metric Spur Gears & Gear Racks
 Metric (DIN) and ANSI Roller Chain
 ANSI & Metric Stainless and Maintenance Free (No Lube) Chain
 Attachment & Conveyor Chain
 Agricultural & Lumber Chain

TL Taper Bushings - Inch & British Standard Metric
 Metric (DIN) Sprockets - Pilot Bore, Taper Bushed, Stainless, Hardened
 Weld on Hubs for Sprockets & Gears
 Metric Sheaves - SP Metric, Taper Bushed, and Variable Pitch
 AK & BK Sheaves
 Metric Timing Pulleys
 HTD, Synchronous, Super Torque, T/AT Series – Pilot Bore & TL Bushed
 HRC Shaft Couplings, Pilot and TL Bushed Hubs
 European Metric Product Sourcing

ISO-9001 Certified

Manual LN-MS 0918

P.T. International

1817 Westinghouse Blvd.
 P.O. Box 411244 (28241)
 Charlotte, NC 28273
 Ph: 704-588-1091
 Fax: 704-588-5738
www.ptintl.com
 E-mail: ptinfo@ptintl.com

Warning: Because of the possible danger to person(s) or property from accidents which may result from the improper use of products, it is important that correct procedures be followed. Products must be in accordance with the engineering information specified in the catalog. Proper installation, maintenance and operation procedures must be observed. All instructions in the instruction manuals must be followed. Inspections should be made as necessary to assure safe operation under prevailing conditions. Proper guards and other suitable safety devices or procedures as may be desirable or as may be specified in safety codes should be provided, and are neither provided by P.T. International, nor are the responsibility of P.T. International. This unit and associated equipment in the system must be installed, adjusted and maintained by qualified personnel who are familiar with the construction and operation of all equipment in the system and the potential hazards involved. When risk to persons or property may be invoked, a holding device must be an integral part of the driven equipment beyond the speed reducer output shaft.