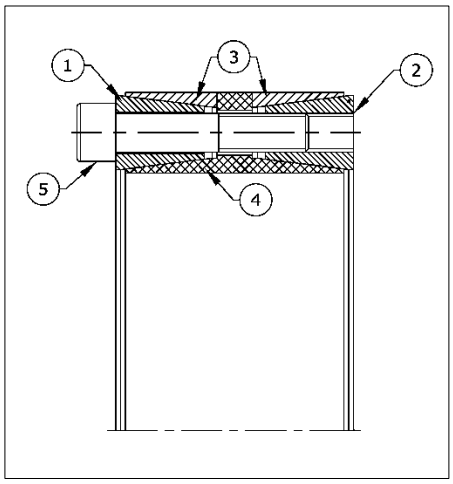
1.) About N7015.0 & N7015.1 & Function:

- N7015.0 & N7015.1 Locking Assemblies are internal clamping device to provide backlash free mounting of hub on shaft.Torque is transmitted by contact pressure & friction between contact surface.surface condition and proper tightening of screw(s) is great importance.By appling torque to clamping screw,radial clamping force generated due to taper surface.

2.) Nomenclature:



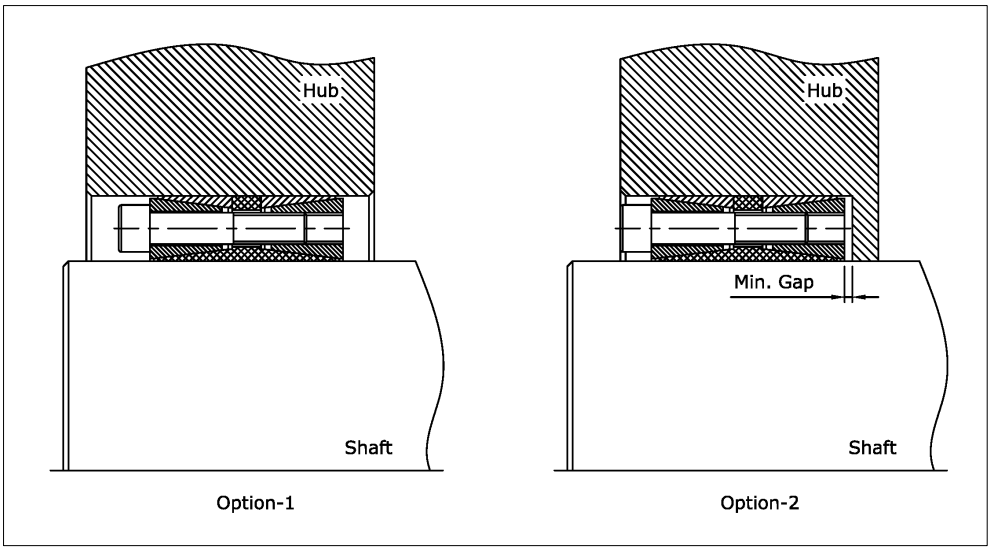
No.	Nomenclature
1	Front Nut
2	Rear Nut
3	Outer Ring
4	Inner Ring
5	Clamping Screw(s)

3.) Technical Requirement for safe operation:

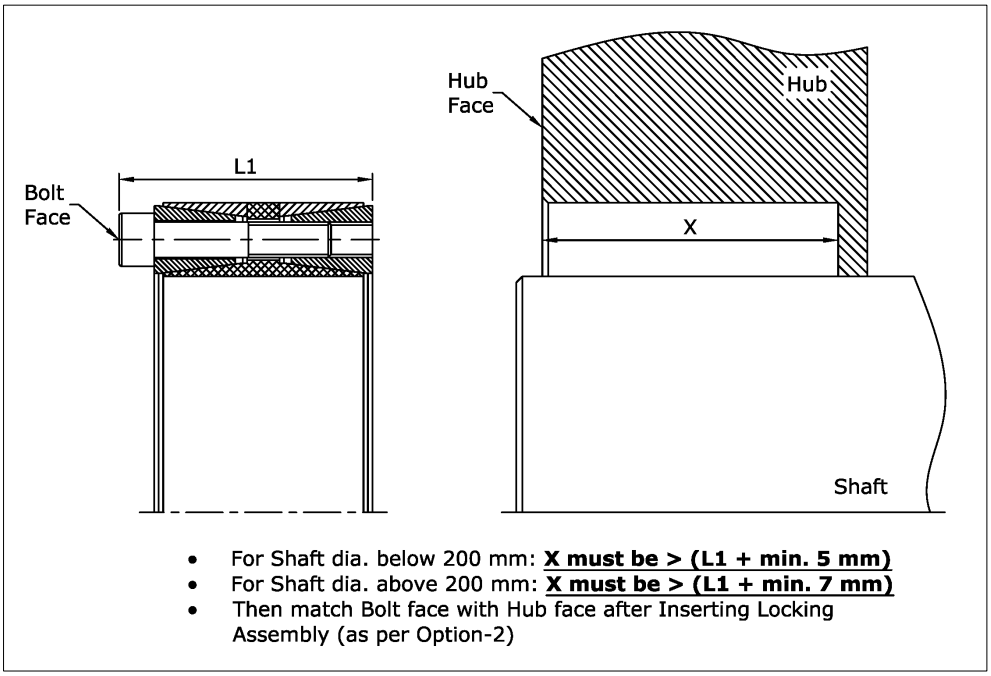
- A good surface finish by machine tool is sufficient. Maximum allowable surface finish: Ra max 3.2µm. Maximum permissible tolerances for hub H8 & Shaft h8.
- **Note :**
    1) **Don't use oil containing molybdenum sulphide or high-pressure additives or grease of any kind.**
    2) **During installation be ensure that Shaft and hub should be kept concentric and eliminate an effect of self weight of Hub & Shaft upon the locking assembly by balancing them.**
    3) **For Tightening of screws, Torque wrench must be used. Do not use Allen key otherwise required Technical parameters will not be achieved.**

4.) Installation:

- Before Installation be ensure that hub bore and shaft are properly clean (No dust particles).
- Apply light coat oil onto hub, shaft at where Locking assembly is to be located.
- First of all,loosen the clamping screw(s) by hand.
- Slide the locking assembly onto the shaft & into hub and after confirming the correct position of locking assembly in respect of hub then hand tighten all screws.



- If Stepped Hub (option-2) is used then we must have to provide Gap between Locking Assembly end face & Hub inner face (as shown in above fig.) for easy removal process.



- For maintaining Gap between Locking Assembly Rear nut & Inner face of Hub:
  1. Measure Inner bore depth of Hub (X), which must be greater of minimum 5 mm then Locking Assembly length with bolt (L1) as shown in above figure.

2. If so, then match Locking Assembly bolt face with Hub face (before tightening procedure) which will generate Gap at Locking assembly back side.

- Once the axial position of locking assembly is fixed then tighten all screws one by one in diametrically opposed sequence by using torque wrench. (As shown in Fig. 1)
- At a time tighten screws by 1/4 revolution with help of torque Wrench for several passes*(Set torque wrench for 1st pass : 1/3 Ta ; 2nd pass: 2/3 Ta ;3rd pass : Full Ta or 5% more)*. Where Ta= Tightening torque

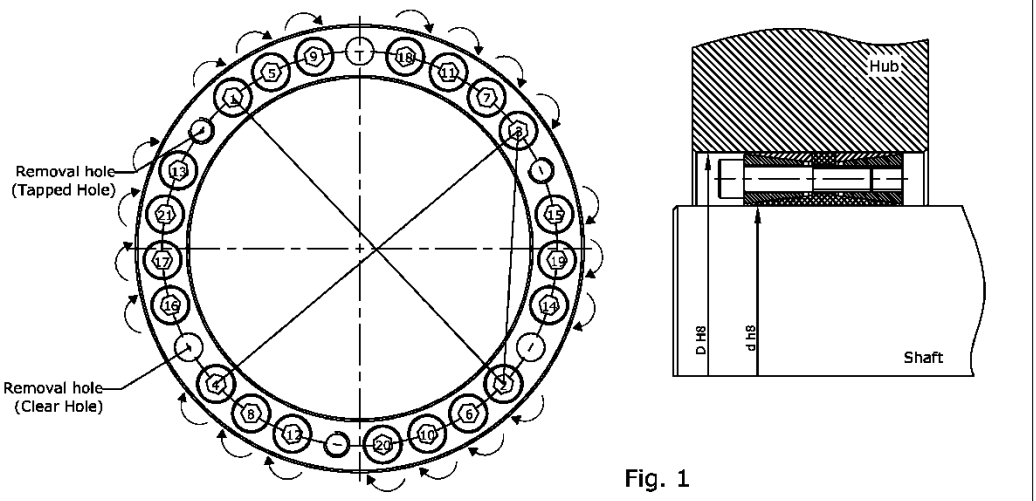


Fig. 1

- The tightening process is completed only when no one screw turn at specified tightening torque value. *(**IMPORTANT:** Improper installation generates uneven tension in tightening screws and ultimately Which transfers uneven pressure distribution at shaft and hub connection, Lead to Malfunctioning of locking assembly.)*

Torque wrench torque	No. of Pass	Bolt Sequence	Tightening of screws
1/3 Ta	P_1, P_2, P_3, P_4,…n	1,2 ,3 ,4, …	By 1/4 Revolution
2/3 Ta	P_1, P_2, P_3, P_4,…n	1,2 ,3 ,4, …	By 1/4 Revolution
Ta or 5% more	P_1, P_2, P_3, P_4,…n	1,2 ,3 ,4, …	By 1/4 Revolution

Tightening Torque:

N7015.0				N7015.1	
General Load Application		Bending Load Application		General Load & Bending Load Application	
Screw size	Ta(Nm)	Screw size	Ta(Nm)	Screw size	Ta(Nm)
-	-	-	-	M10	83
M12	145	M12	115	M12	145
M14	230	M14	185	M14	230
M16	355	M16	285	M16	355
M18	485	M18	390	M18	485
M20	690	M20	550	M20	690
M22	930	M22	745	-	-
M24	1200	M24	960	-	-

- **Above mention value of tightening torque is maximum. Please refer drawing for actual value of tightening torque as per your application.**

5.) Removal:

- Loosen the clamping screws uniformly one by one with the help of torque wrench in diametrically opposed sequence in multiple steps by 1/4 revolution (As shown in Fig. 2) for each step to Prevent misalignment of the clamping surfaces and breaking of screws. Don't loose single screw at a time, otherwise it may lead to tilt inner ring and outer ring and damage of locking assembly occurs.

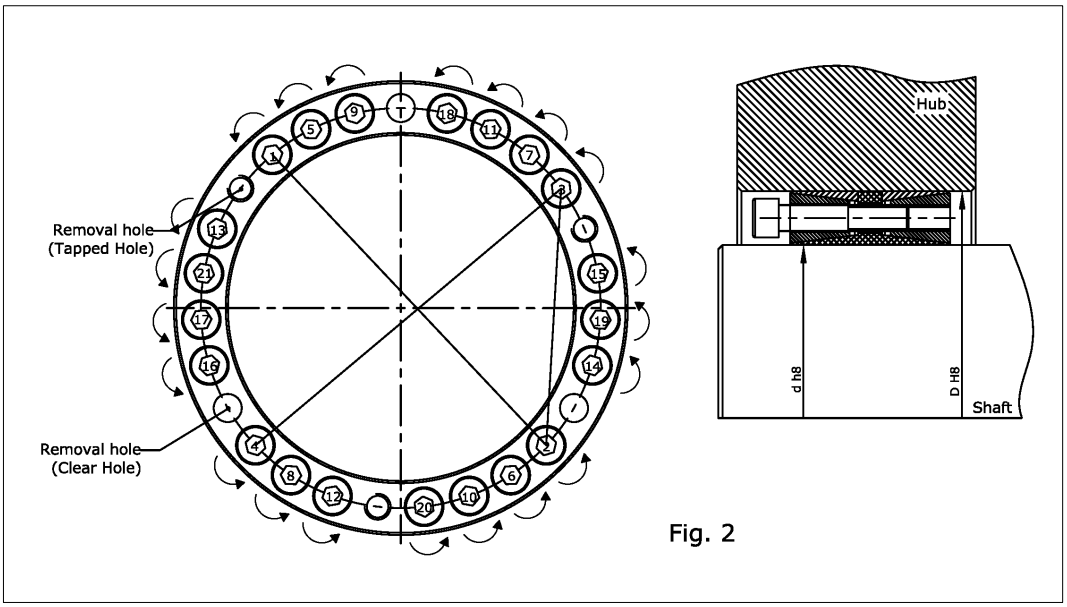


Fig. 2

- For easy jacking process,grind and apply grease on faces of threads and on threads also to reduce friction loss.

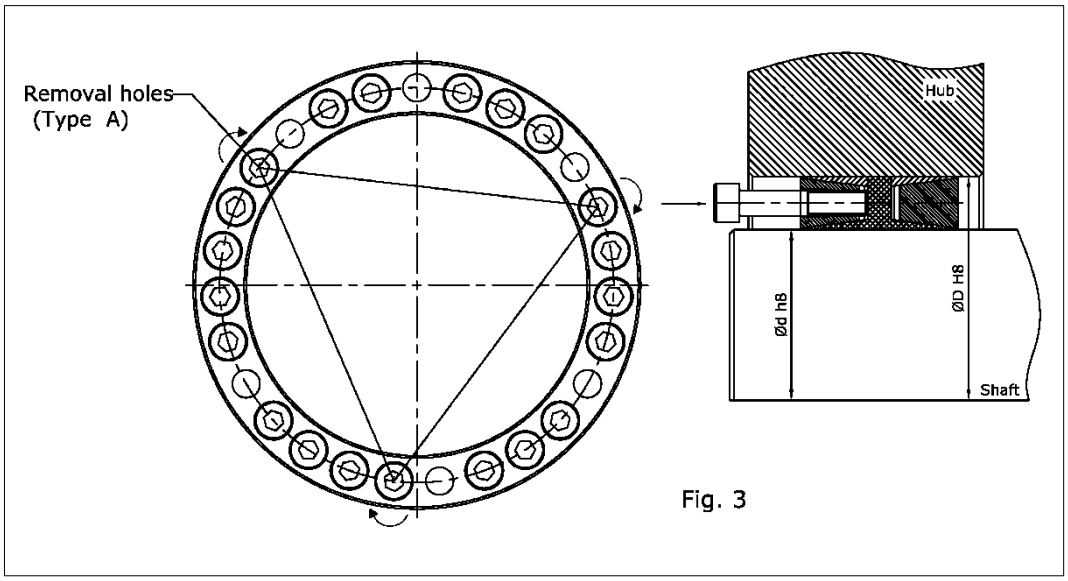


Fig. 3

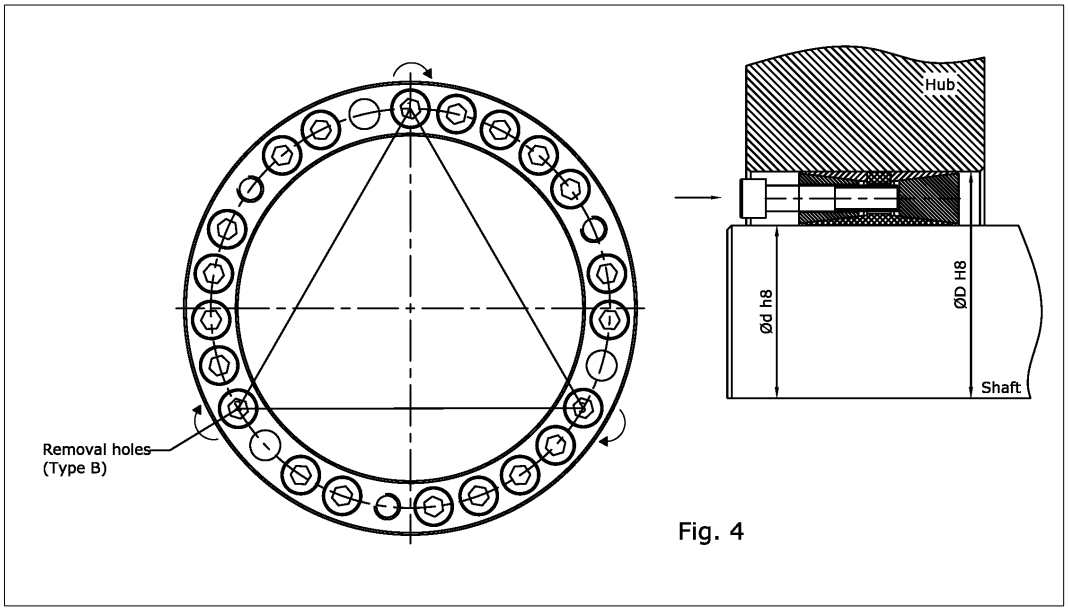


Fig. 4

- N7015.0 & N7015.1 are not Self releasing. So for Removal, first loosen all Clamping screws & Remove nos. of Clamping screws same as nos. of Removal holes available (Remove Clamping screws which are adjacent to Removal holes)

- Now, transfer screws into removal holes (Type A) which have been provided on Front nut & also transfer screws into Removal holes (Type B), which has been provided on Inner ring. Now, simultaneously tighten both type screws (by 1/4 Revolution) for several passes which leads to Jacking of both type screws & then Pull out Assembly.

- ***Important:*** ***During Removal, Tightening Torque of screw value must not be excees to Ta as mentioned in above Tables***.
- ***Excessive Tightening Torque (Ta) will damage threads***.

6.) Reuse:

- For reuse of locking assembly, to re-lubricate inner ring, outer ring, front nut, rear nut and clamping screws. If any damage found in parts of locking assembly,then replacement of whole assembly required. Before reuse of locking assembly's screws please check screws length because of during operating condition if they have been elongated so they cannot be used further so replace with same size and grade.

7.) Preservation & Storage Instruction:

- NMTG Product is supplied with an oil film as Rust & Corrosion Protection.
- This protection is renewed at regular intervals which depends on Environmental condition at Storage site. (Temperature, Atmosphere, etc.)

➢ **Maximum Storage period is 6 Months for Short-term Storage**.

Please follow Instruction for Preservation & Storage of NMTG Products:

- Once NMTG Product is used then clean all its parts with clean cloth.
- Lubricate all parts with rust preventive oil S-VCI 415 or equivalent & assemble as it was & packed in plastic bag.
- After wrapping in plastic bag, Material is packed by S-VCI 131 or equivalent rust preventive paper & store.
- Keep it in dry place and free from dust.
- Do not expose to open or corrosive environment.
- Keep away from direct Sunlight.
- Avoid Mechanical Shock & Vibration.
- Storage Temperature: -10 to +60°C.
- Relative Humidity: Maximum 95%, non-condensing.

For Long term Storage (1 Year):

Please follow Instruction for Preservation & Storage of NMTG Products:

- Once NMTG Product is used then clean all its parts with clean cloth.
- Lubricate all parts with rust preventive oil S-VCI 415 or equivalent & assemble as it was & packed in special Vacuum bag.
- After wrapping in Vacuum bag, Material is packed & store.
- Keep it in dry place and free from dust.
- Do not expose to open or corrosive environment.
- Keep away from direct Sunlight.
- Avoid Mechanical Shock & Vibration.
- Storage Temperature: -10 to +60°C.
- Relative Humidity: Maximum 95%, non-condensing.