

Doc. No.:  
N-DD-IM-  
LA119/LA120/  
LA121

## **Installation & Removal Instructions of Locking Assembly** (N7040, N7041 & N7042 Model)



Rev : -00

Rev Date : -

Prepared by : JPS

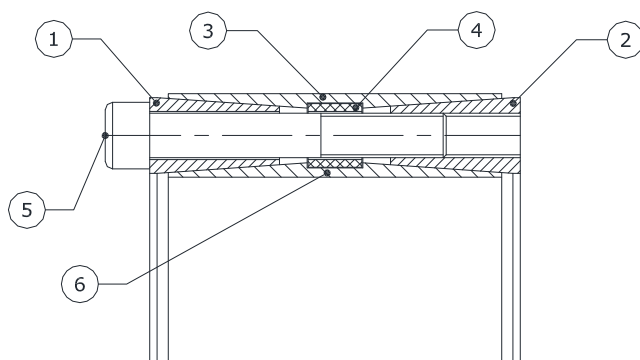
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### **1.) About N7040 - N7041 - N7042 & Function:**

- N7040, N7041 & N7042 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. Condition surface and proper tightening of screw(s) is great importance. By applying torque to clamping screw, radial clamping force generated due to taper surface. The radial clamping force press outer ring into the hub bore and inner ring onto the shaft and create a friction connection at respective contact surfaces.

### **2.) Nomenclature:**



**N7040 - N7041 - N7042**

| No. | Nomenclature   |
|-----|----------------|
| 1   | Front Nut      |
| 2   | Rear Nut       |
| 3   | Outer Ring     |
| 4   | Middle Spacer  |
| 5   | Clamping Screw |
| 6   | Inner Ring     |

### **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 : Don't use oil containing molybdenum sulphide or high-pressure additives or grease of any kind.**

### **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 in diametrically opposed sequence
- 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 mention in Fig. 1)
- At a time tighten screws by 1/4 revolution with help of torque Wrench for several passes( *Set torque wrench for 1<sup>st</sup> pass : 1/2 Ta ; 2<sup>nd</sup> pass: Full Ta or 5% more.*) Where Ta= Tightening Torque
- The tightening process is completed only when no one screw turn at specified tightening torque value.

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**(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 <sub>1</sub> , P <sub>2</sub> , P <sub>3</sub> , P <sub>4</sub> ,...n | 1,2,3,4, ...  | By 1/4 Revolution    |
| 2/3 Ta               | P <sub>1</sub> , P <sub>2</sub> , P <sub>3</sub> , P <sub>4</sub> ,...n | 1,2,3,4, ...  | By 1/4 Revolution    |
| Ta or 5% more        | P <sub>1</sub> , P <sub>2</sub> , P <sub>3</sub> , P <sub>4</sub> ,...n | 1,2,3,4, ...  | By 1/4 Revolution    |

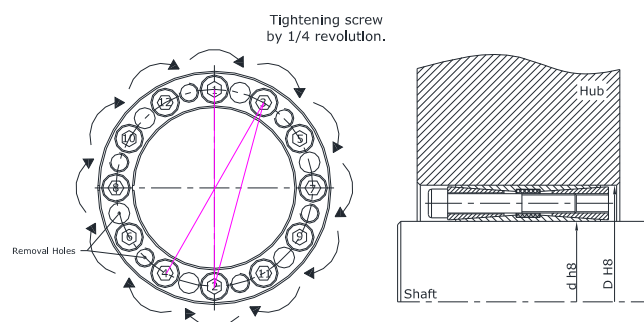


Fig. 1

### Tightening Torque:

| N7040      |        | N7041      |        | N7042      |        |
|------------|--------|------------|--------|------------|--------|
| Screw Size | Ta(Nm) | Screw Size | Ta(Nm) | Screw Size | Ta(Nm) |
| M8         | 41     | -          | -      | -          | -      |
| M10        | 83     | M10        | 49     | M10        | 83     |
| M12        | 145    | M12        | 89     | M12        | 145    |
| M14        | 230    | M14        | 110    | M14        | 230    |
| M16        | 355    | M16        | 210    | M16        | 355    |
| M20        | 690    | -          | -      | -          | -      |
| M22        | 930    | -          | -      | -          | -      |

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

### 5.) Removal:

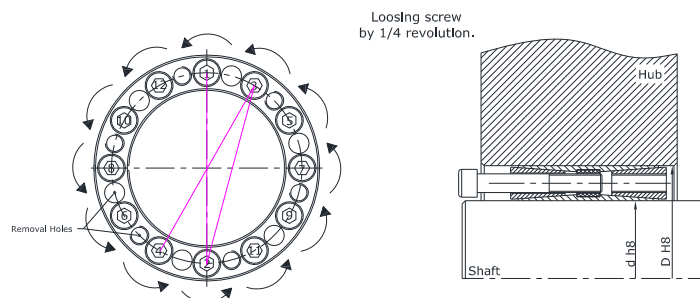


Fig. 2

|                                                |                                                                                                    |                   |                  |                                                                                    |
|------------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------|------------------|------------------------------------------------------------------------------------|
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- 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.
- For easy jacking process, grind and apply grease on faces of threads and on threads also to reduce friction loss.
- N7040, N7041 & N7042 are not self releasing. So Remove and transfer some screws into removal hole (Type – A) which have been provided on front nut (As mention in Fig. 3). For first pass 1/4 revolution tightening of screws into removal holes (Type – A) which lead to jacking of front nut. Continue this procedure for several passes for removal of front nut completely.
- Remove and transfer some screws into removal hole (Type – B) which have been provided on rear nut (As mention in Fig. 3). For first pass 1/4 revolution tightening of screws into removal holes (Type – B) which lead to jacking of rear nut. Continue this procedure for several passes for removal of rear nut completely.

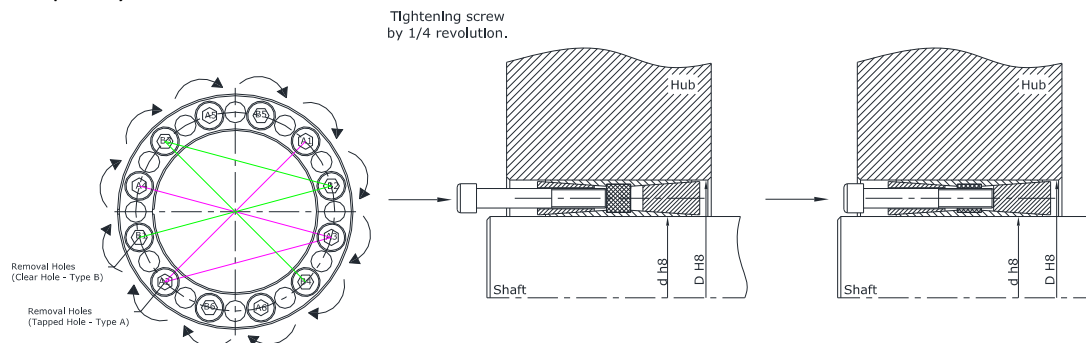


Fig. 3

## 6.) Reuse:

- For reuse of locking assembly, to re-lubricate inner ring, outer ring, front nut, rear nut, middle spacer 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.) Maintenance:

- Locking assembly N7040, N7041 & N7042 are maintenance free. We therefore recommend to check Tightening torque of the clamping screws every time maintenance is performed on the machine.  
(All Figures shown in instructions are for easy understanding of installation and removal processes.)

## 8.) Storage Preservation and Instruction:

- Don't store in corrosive environment.
- Once the Locking assembly has been used then clean the all parts of it with clean cloth.
- Lubricate all parts with rust preventive oil S-VCI 415 or equivalent and 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.