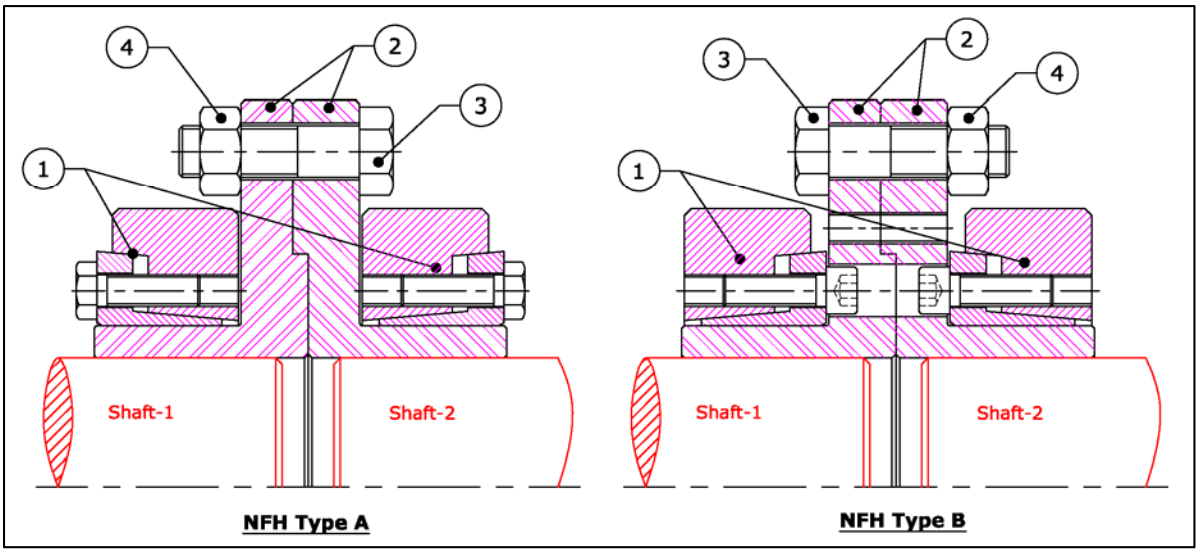
1.) About NFH, NFHA Coupling & Function:

- NFH Coupling is NSD searies shrink disc with Flanges pair in Mounting type A & B. NFH mount on two differential shaft for transmit the torque one shaft to another shaft by NFH shrink disc coupling
- NFHA coupling is NSD searies shrink disc with Flange Half Coupling. NFHA mount on the shaft and Flange moun on another attachment mounting in housing for transmit the torque shaft to attachment assembly by NFHA shrink disc coupling.

2.) Nomenclature:



No.	Nomenclature
1	Shrink Disc NSD Series
2	Flanges Pair
3	Hex Head Screw
4	Hex Nut

Note: 1) NFH Model in Type A and B Fully Pair Coupling
2) NFHA Model in Type A and B Half Pair Coupling as External Spigot & Internal Spigot Location

3.) Technical Requirement or Safe Operation:

d_w	ISO
Ød_w < 160	H7/h6
Ød_w ≥ 160	H7/g6

Where Ød_w = Solid shaft diameter,

ØC: h6 Tolerance for Half Coupling (ØC = Step OD of Flanges)

4.) Installation:

- Before Installation be ensure that Flange Inner Dia and shaft are properly clean (ro remove dust particles & free of grease and dry).
- By hand slightly loose clamping screw of shrink disc and push the half Flange Coupling with Shrink Disc onto the Solid Shaft (As shown in Fig.1).
- Once the axial position of shrink disc is fixed then tighten all screw by hand untill screw head face touch to side face of Shrink disc. Start tighten all screws one by one in diametrically circular sequence by using torque wrench (As shown in Fig. 1).

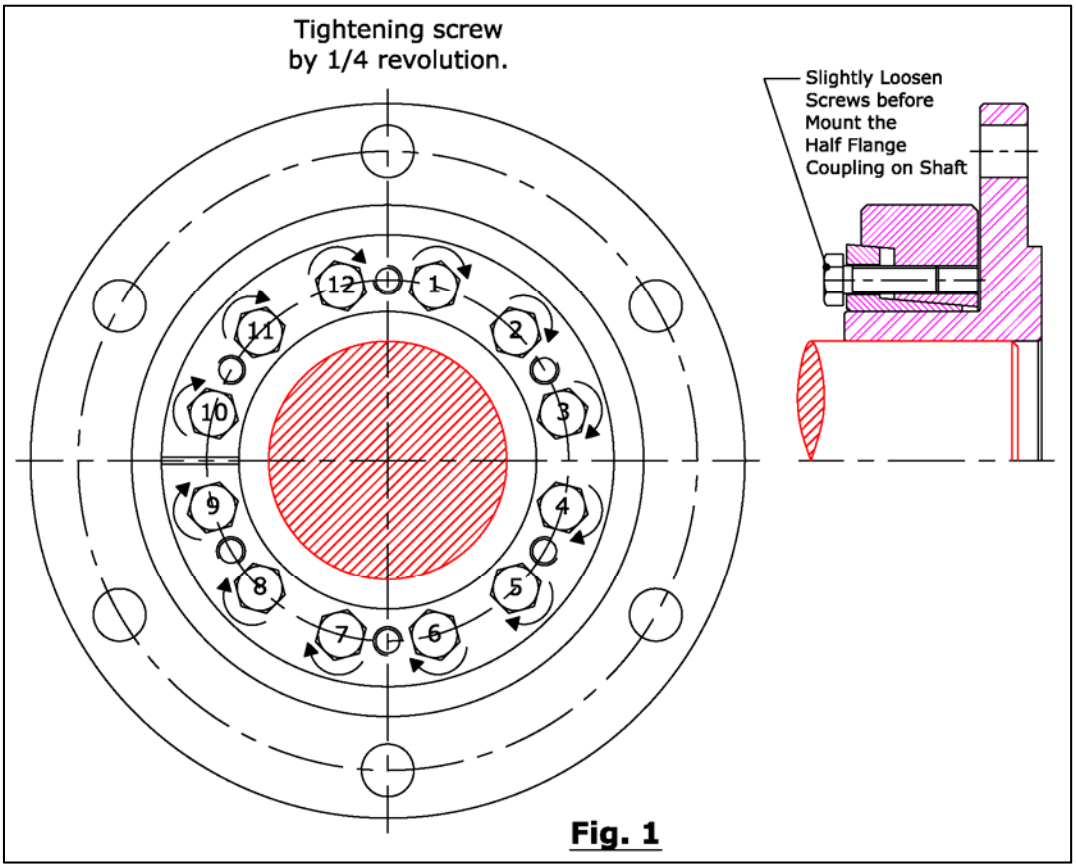


Fig. 1

- 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).*
  Where Ta = Recommended Tightening torque, please refer Ta as per NMTG drawing or NMTG Shrink Disc Catalogue (as per Model & Size).

- By applieng tightning torque to clamping screw, Rear nut pulled together over inner ring. With the help of clamping force generated by clamping screw, friction connection between contact surface of hollow shaft and solid shaft generated.
- The tightening process is completed only when no one screw turn at specified tightening torque value.
- Be sure that, during installation position of inner ring with respect to hollow shaft remain unchanged.
- Same as follow above steps for NFH Model B Type (Tighting of Screw through Flange Hole to Clamping Screw-Reference Fig. of Nomenclature Devision).

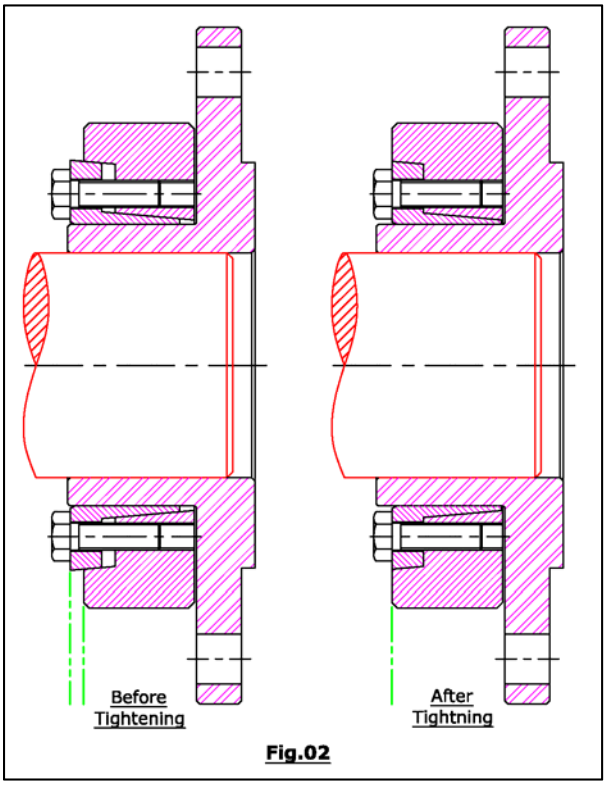


Fig.02

For Apply Tightening Torque by Torque Wrench:

Torque wrench torque	Pass	1 st attempt	Tightening of screws
1/3 Ta	1 , 2 , 3 , 4 ,... n	1,2 ,3 ,4, ...	By 1/4 Revolution
2/3 Ta	1 , 2 , 3 , 4 ,... n	1,2 ,3 ,4, ...	By 1/4 Revolution
Ta or 5% more	1 , 2 , 3 , 4 ,... n	1,2 ,3 ,4, ...	By 1/4 Revolution

- **Above mention value of tightening torque is maximum. Please refer drawing for actual value of tightening torque as per your application.**
- **Replace missing or damaged clamping screw with screw of quality as per mentioned below**
  - **In NFH – A type : Hex Head Screws, DIN EN ISO 4014/4017 – 10.9 Grade Only**
  - **In NFH – B type : Allencap Screw, DIN EN ISO 4762 – 12.9 Grade Only.**
- Same as Above All step follow for Second half Flange coupling.
- Properly clean the Faces of both Flanges, free of Grease and dry.
- both Half Flange Coupling together, Clamp the Clamping Screws with Hex Nut to Joint the Both Flanges Coupling.
- Apply tightening tighning torque of Flange Clamping screw as per below.

Size of Flange Clamping Screw	Tightning Troque
M16	210 Nm
M20	420 Nm
M24	720 Nm
M30	1450 Nm

Note: The assembly of Coupling cannot compensate any misalignment of shafts.
The Max. Tightening torque of Flange screw may not be exceed.

- **Replace missing or damaged clamping screw with screw of quality as per mentioned below**
  - **Hex Head Screw for Flange Screws, DIN EN ISO 4014/4017 – 10.9 Grade.**
  - **Hexagonal Nut, DIN EN ISO 4032.**

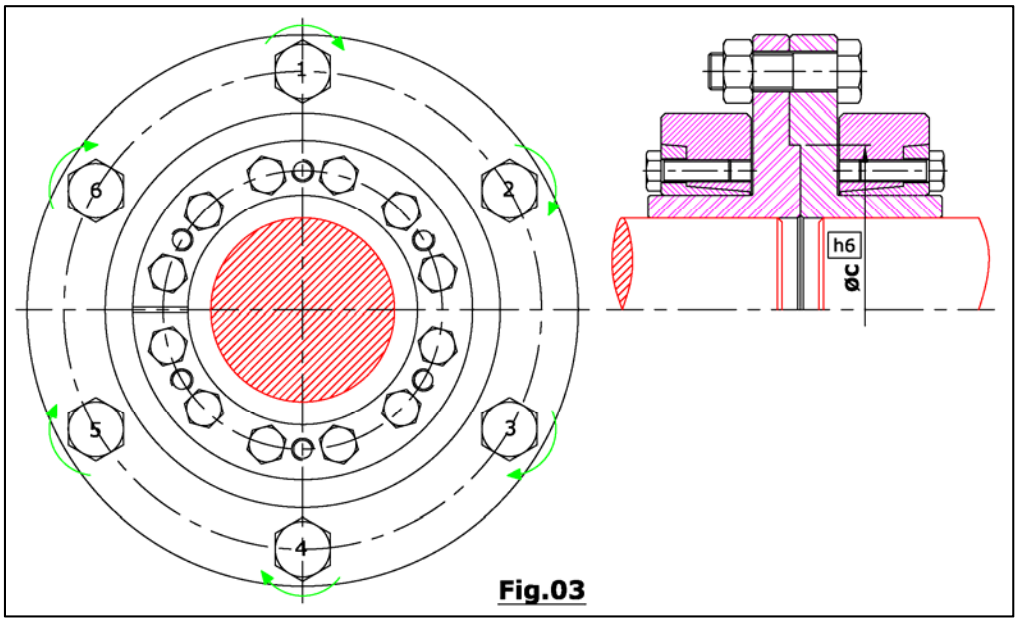


Fig.03

5.) Removal:

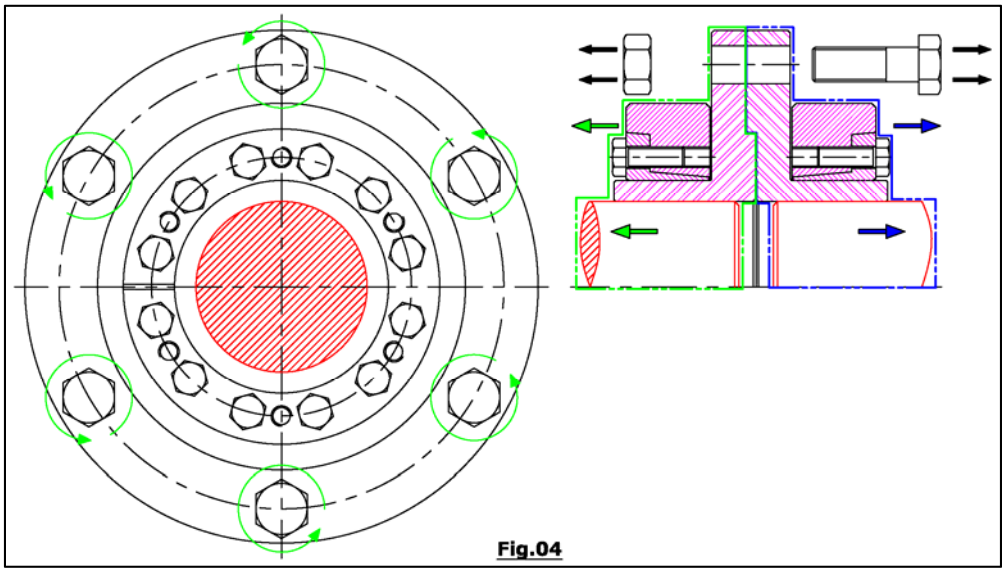


Fig.04

- Completely loosen the clamping screws & nuts of both flanges. Separate assembly from each other as shown in fig.04.

For NFH-A type Steps:

- In similar manner loosen all screw one by one in diametrically circular sequence in anti clockwise direction by 1/4 revolution with help of torque wrench because of completely loosen of single screw at a time tilt Inner ring & outer ring may lead to damage of shrink disc(Fig. 5.A).

- After lose screws, remove the clamping screws which one nearest the removal holes and insert those screws in removal holes.

- Apply tightning torque by wrench on removal screws diametrically in Clockwise direction, the outer ring of shrink will be released or lose from assembly. The released outer ring of shrink disc is supported by the remaining clamping screws.

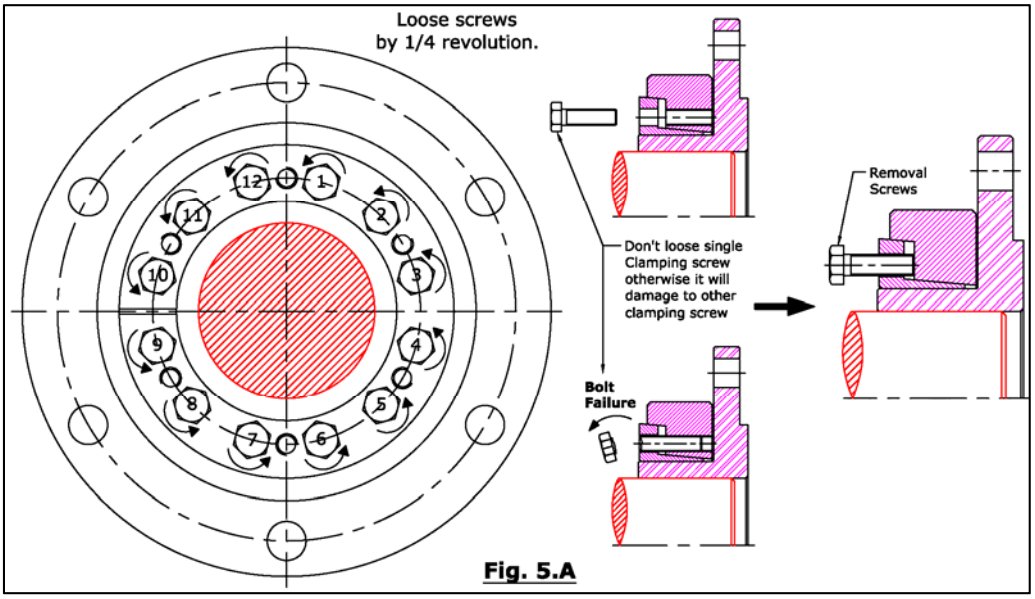


Fig. 5.A

For NFH-B type Steps:

- In similar manner loosen all screw one by one in diametrically circular sequence in anti clockwise direction by 1/4 revolution with help of torque wrench because of completely loosen of single screw at a time tilt inner ring & outer ring may lead to damage of shrink disc.
- After lose screws, remove the clamping screws which one nearest the removal holes of Flange and insert those screws in removal holes as shown in Fig. 5.B.
- Apply tightning torque by wrench on removal screws diametrically in Clockwise direction, the outer ring of shrink will be released or lose from assembly. The released outer ring of shrink disc is supported by the remaining clamping screws.

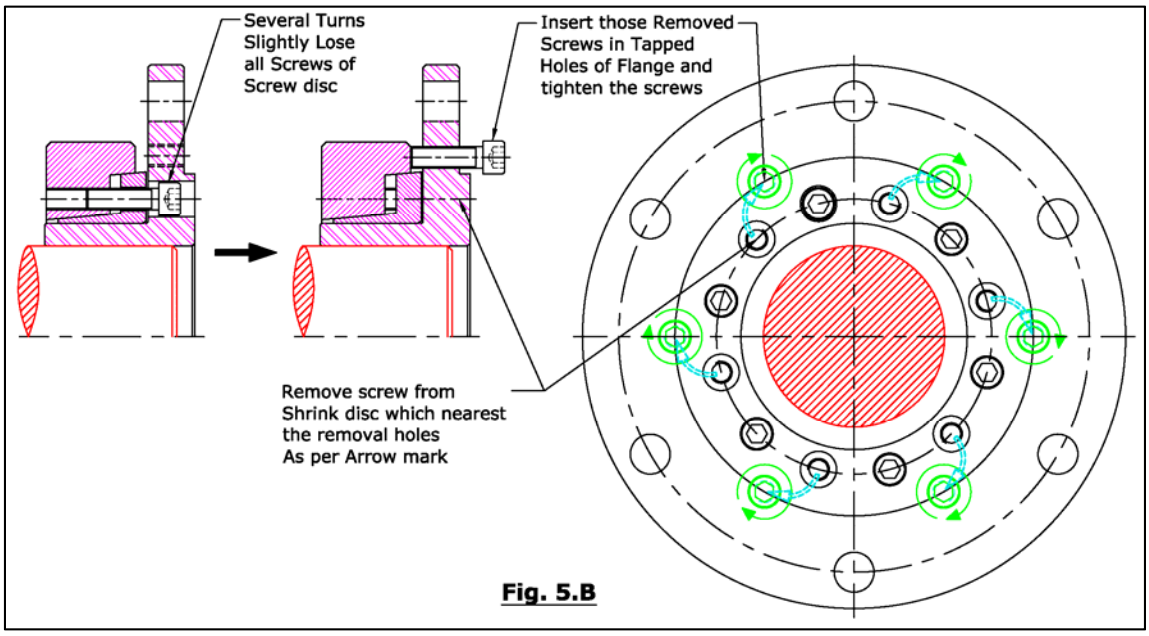


Fig. 5.B

- And after follow above step for NFH – type A & B, the outer ring is lose and loossen the remaining clamping screws uniformly.
- Remove the shrink disc assembly from flange and after remove the flange from shaft. (where necessary, remove any rust formed on the shaft in front of Flange).

6.) Reuse:

- Completely dismentle the shrink disc and clean, re-lubricate inner ring, outer ring, flanges and clamping screws. If any damage found in parts of shrink disc then replacement of whole shrink disc required. Before reuse of shrink disc's screws or flange'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:

- Shrink Disc NSD & Flange Assembly are maintenance free. We therefore recommend to check tightening torque of the clamping screws each 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:

- NMTG Product is supplied with an oil film as Rust & Corrosion Protection as per below instruction for Short term storage.
- 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.