

## INSTALLATION AND REMOVAL INSTRUCTIONS FOR MAV SHRINK DISC SERIES 3008/3009/3108/3208/3209

MAV 3008/3009/3108/3208/3209 Shrink Discs are supplied ready for installation. Before removing large units from their original packaging, metal spacers between inner and outer rings – used to separate locking rings during shipping – should be removed as follows:

Position Shrink Disc with locking screws facing up. Remove a number of locking screws equal to the number of threaded holes in the face of the Shrink Disc inner ring. Set the washers aside (DO NOT DISCARD) and insert these locking screws into the threaded holes, then hand-tighten each screw until it bottoms out. Now back out each screw two (2) complete turns. These screws can now be used to lift the inner ring slightly in order to remove the metal spacers. Once the metal spacers are removed, lower the inner ring back into position. Replace the locking screws used for lifting, together with washers, into their original positions.

### INSTALLATION

**Important:** Never tighten locking screws prior to shaft installation, as inner ring of Shrink Disc and/or hub can be permanently contracted even at relatively low tightening torques.

1. Clean hub OD and Shrink Disc bore. Lightly lubricate hub OD before assembling Shrink Disc on hub.
2. Carefully solvent clean and dry shaft and hub bore of any lubricant prior to mounting hub onto shaft. This step is critical, as any lubricant on the shaft/hub bore interface will greatly reduce the torque transmitting capacity of the Shrink Disc connection.
3. Insert shaft into hub, then position Shrink Disc onto hub. After confirming correct position of hub and Shrink Disc, hand-tighten three (3) or four (4) evenly spaced locking screws and make sure that inner and outer rings of Shrink Disc are properly aligned. Hand-tighten remaining locking screws.
4. Use torque wrench and set it approximately 5% higher than specified locking screw tightening torque  $M_A$ . Tighten locking screws in either a clockwise or counterclockwise sequence, using approx.  $\frac{1}{4}$  (i.e., 90°) turns (even if initially some locking screws require a very low tightening torque to achieve  $\frac{1}{4}$  turns) for several passes until  $\frac{1}{4}$  turns can no longer be achieved.
5. Continue to apply overtorque for 1 or 2 more passes. This is required to compensate for a system-related relaxation of locking screws since tightening of a given screw will always relax adjacent screws. Without overtorquing, an infinite number of passes would be needed to reach specified tightening torque.
6. Reset torque wrench to specified torque ( $M_A$ ) and check all locking screws. No screw should turn at this point, otherwise repeat Step 5 for 1 or 2 more passes. It is not necessary to re-check tightening torque after equipment has been in operation.

### REMOVAL

Prior to initiating the following removal procedure, check to ensure that no torque or thrust loads are acting on the Shrink Disc, shaft or any mounted components.

*IMPORTANT! The final user must ensure that ends of locking screws used for removal are ground flat and slightly chamfered to prevent damage to screws and collar threads during push-off. Screws with ground flat and chamfered end are not supplied by MAV. The final user has to take charge of machining of end of screws.*

Loosen all locking screws in several stages by using approx.  $\frac{1}{2}$  turns, following either a clockwise or counterclockwise sequence, until Shrink Disc can be moved on hub. If the Shrink Disc does not release after loosening the locking screws, transfer an appropriate number of locking screws into the threaded holes in the face of the Shrink Disc inner ring. Progressively tighten these screws, following either a clockwise or counterclockwise sequence, until Shrink Disc can be moved on hub. The Shrink Disc, hub and shaft will return to their original fit clearances.

### WARNING

DO NOT completely remove locking screws before locking rings are disengaged. As sudden separation of locking rings could involve high separation forces that may result in permanent injury or death. Be certain that locking rings are disengaged before completely removing locking screws.

### REINSTALLATION OF SHRINK DISCS

In relatively clean operating conditions, Shrink Discs may be reused without prior cleaning. In all other cases, Shrink Discs require thorough cleaning a re-lubrication as follows:

- Dow Corning® *Molykote BR 2 Plus* (or equivalent) on locking screw threads and under screw heads;
- Dow Corning® *Molykote G-Rapid Plus* (or equivalent) on inner and outer ring tapers.

Please note for Shrink Disc sizes from inner diameter 12mm up to 68mm the tapered surfaces have to be lightly lubricated with machine oil only.