

LOCKING UNITS MAV 3012, 3022, 3023

Installation and Removal Instructions



MAV 3012/3022/3023 locking units are supplied with MoS₂ lubricated tapers and without lubrication on locking screws. Locking screws to be lubricated by the user with MoS₂ before tightening.

MAV 3012/3022/3023 locking units are designed for shaft tolerance of quality h9 and surface roughness Ra < 3.2 µm.

INSTALLATION

1. Carefully solvent clean and dry shaft as well as contact surface between hub and locking unit. Any lubricant on contact surfaces between shaft, hub and locking unit will reduce the torque capacity of the connection.
2. Lubricate all screws on thread and under head with the following MoS₂ based product: Dow Corning® Molykote BR 2 Plus (or equivalent, for a friction coefficient of 0.10)
3. Assemble hub and locking unit together by hand tightening the locking screws and position both parts onto the shaft.
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. ¼ (i.e., 90°) turns (even if initially some locking screws require a very low tightening torque to achieve ¼ turns) for several passes until ¼ 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 (MA) 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 locking unit, 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. ½ turns, following either a clockwise or counterclockwise sequence, until locking rings are disengaged. If the locking unit does not release after loosening the locking screws:

- For series 3012, force the locking rings to disengage by lightly hammering on the outer ring of the locking unit.
- For series 3022 – 3023, tighten some screws in the push-off threads (may be not the same size of locking screws).

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 LOCKING UNIT

Clean the rings and restore taper lubrication with Dow Corning® Molykote G-Rapid plus (or equivalent, for a friction coefficient of 0.04). Clean and restore lubrication on locking screws as described by installation instructions, step 2.

