

Installation and Maintenance

Direction of rotation

Before starting installation work, the direction of rotation of all worm gear screw jacks, bevel gear boxes and the drive motor must be checked with regard to the feed direction of each individual worm gear screw jack.

Alignment errors

All components must be carefully aligned during installation. Alignment errors and stresses increase power consumption and lead to overheating and premature wear. Before a drive unit is attached, each worm gear screw jack should be turned through its entire length by hand without load. Variations in the amount of force required and/or axial marks on the outside diameter of the screw indicate alignment errors between the worm gear screw jack and its additional guides. In this case, the relevant mounting bolts must be loosened and the worm gear screw jack turned through by hand again. If the amount of force required is now constant throughout, the appropriate components must be aligned. If not, the alignment error must be localized by loosening additional mounting bolts.

Test run

The direction of rotation of the complete system and correct operation of the limit switches must be checked again before attaching the drive motor. In the case of version N (translating screw jack), check that the screw is lubricated with grease from the interior of the gear box and relubricate if necessary. In the case of version R (rotating screw jack), the jack screw should be coated with suitable grease to provide lubrication for lifting operation. The first test runs can then be carried out without load. A maximum operating time of 30 % can not be exceeded at trial runs under weight for worm gear screw jacks with trapezoidal screws.

Operation

The loads, speeds and operating conditions specified for the worm gear screw jacks and transmission components must not be exceeded even briefly. Failure to observe this condition will invalidate all claims under guarantee.

Safety

All mounting bolts must be retightened after a short period of operation. Under extreme operating conditions, the wear on the screw nut (worm gear) must be checked at shorter intervals, depending on the power-on time, by inspecting the play in the thread. The screw nut (worm gear) must be replaced if the axial backlash with a single-start thread is more than one-quarter of the thread pitch.

Lubrication

The worm gear screw jacks are lubricated by the manufacturer and are ready for operation on delivery. The versions N/V must be lubricated via their grease nipples with one of the greases specified below at intervals of 30 – 50 operating hours. The screw should be cleaned and greased at the same time. We recommend that the gear box be cleaned to remove old grease and refilled with fresh grease after approx. 700 operating hours or 18 months. The worm gear screw jacks can be dismantled relatively easily:

- Remove the two threaded pins securing the bearing cover.
- Loosen the screw and remove the screw protection if necessary.
- Remove the bearing cover with the aid of a face spanner.

Please proceed as follows to refit the bearing cover. Mount the bearing cover with face spanner and check the operation performance of the worm wheel gear set. Too big force influences the easy movement for smaller screw jack sizes. When necessary the securing holes at the bearing cover have to be drilled again.

Standard grease

Type: Lithogrease G 421

Manufacturer: Zeller + Gmelin, Aalen, Germany

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