

# Lift Table NA Chain Maintenance & Service

This section will describe service procedures for major mechanical elements of a Power Roll Bed NA.

## **⚠ WARNING ⚠**

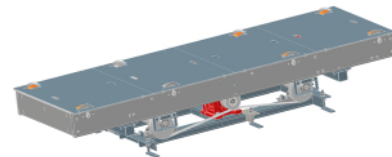
- Only qualified and trained personnel should perform the disassembly and assembly of electrical and mechanical components.
- Before attempting any maintenance on this equipment all involved personnel should follow plant internal regulations along with any state, federal, or province regulations. Do not begin any repair procedure until the proper shutdown procedures and the appropriate power lockout procedures have been applied.

## Placing the Lift into the Maintenance Position

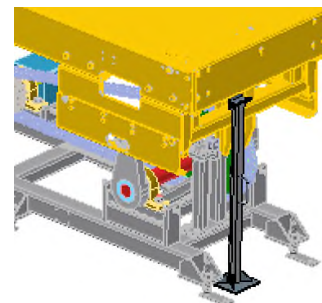
- 1 Remove any payload from the eccentric lift.



- 2 Move the lift to the full up position.



- 3 Place the maintenance blocks on the ends of the lift.



- 4 Slowly lower the lift unto the maintenance blocks until the cam rollers are just clear of the rail.



- 5 Cut and lock out power to the lift using your plant's safety procedures.

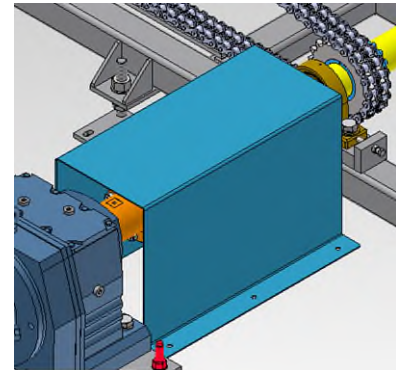


## How to Replace Drive Motor

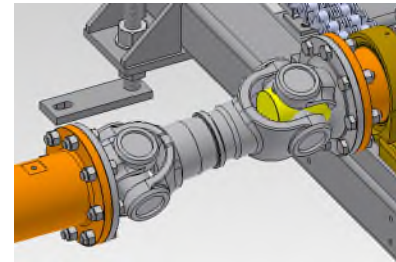
- 1 Place the lift into the maintenance position.



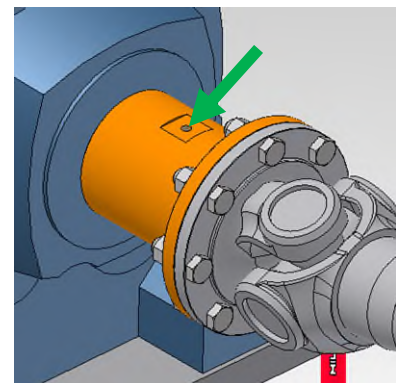
- 2 Undo the hexagonal head screws holding the guard over the cardan shaft.



- 3 Support the cardan shaft.

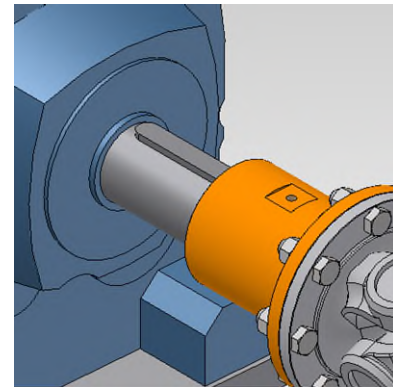


- 4 Undo the setscrew on the companion flange.

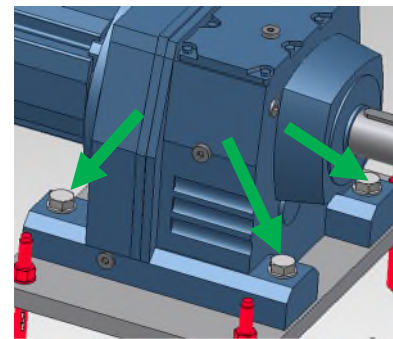


- 5 Pull the cardan shafts away from the gearmotor to free the companion flange from the gearmotor shaft.

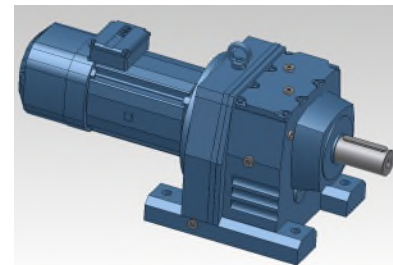
*Note: Retain the shaft key for reuse if in good condition.*



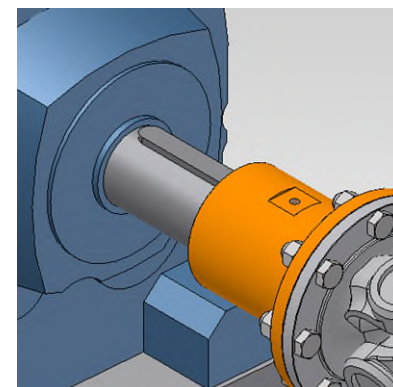
- 6 Loosen and remove the M24 bolts (4) securing the gearmotor to the base plate.



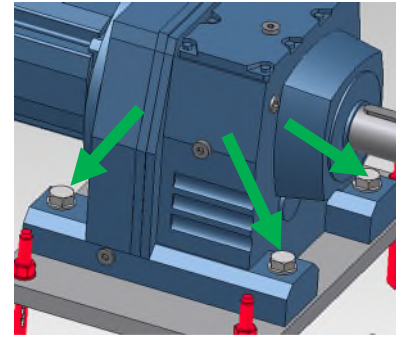
- 7 Remove the original gearmotor and replace with the new one.



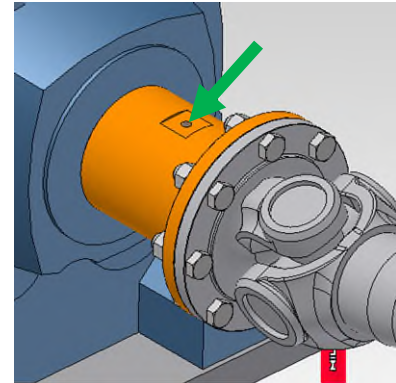
- 8 Set the companion flange on the gearmotor shaft with the key.



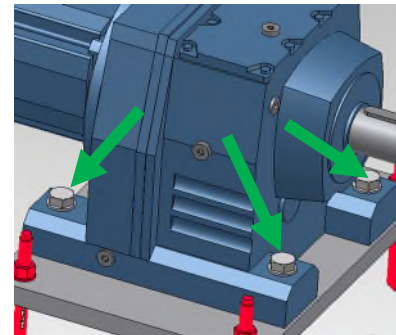
- 9** Hand-tighten the M24 bolts (4) at the gearmotor base.



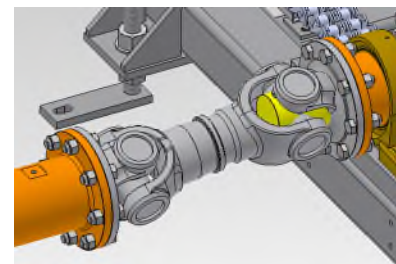
- 10** Tighten the set screw for the companion flange.



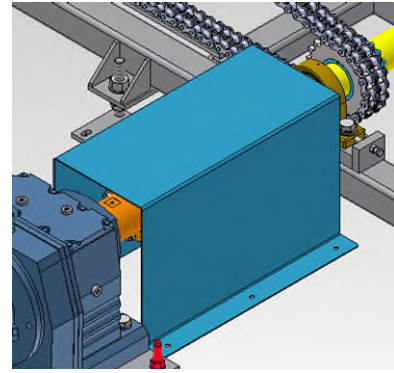
- 11** Torque the M24 bolts (4) securing the gearmotor to the base plate.



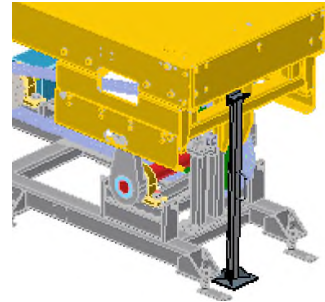
- 12** Remove the support for the cardan shaft.



- 13** Return the guard over the cardan shaft and tighten the bolts.



- 14** Restore power to the system and lift the table off the maintenance blocks. Return the maintenance blocks to their designated storage area.



- 15** Cycle the lift table and observe that the lifting chains are tracking straight and that the table is even all around. Correct if necessary.

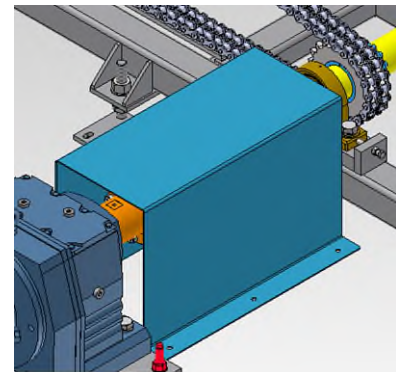


## How to Replace the Cardan Shaft

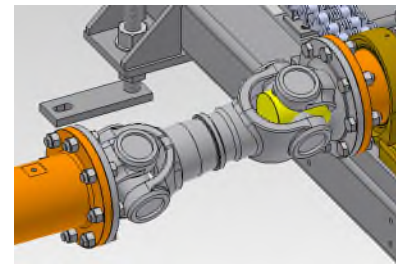
- 1 Place the lift into the maintenance position.



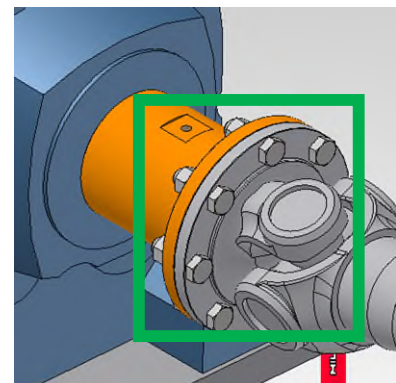
- 2 Undo the hexagonal head screws holding the guard over the cardan shaft.



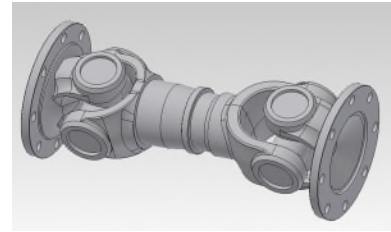
- 3 Support the cardan shaft.



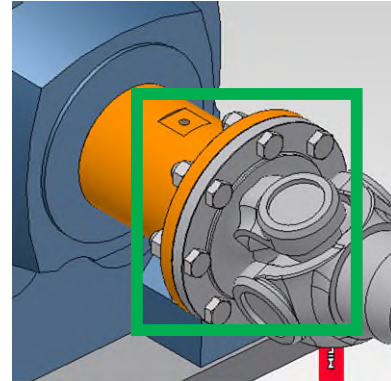
- 4 Undo the setscrew and locknuts on both companion flanges.



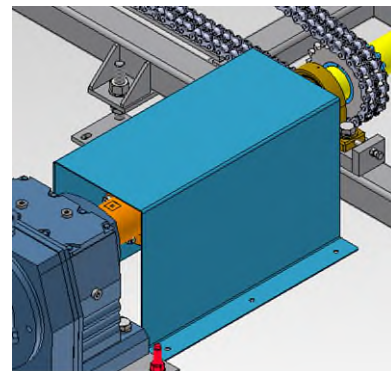
- 5 Replace the cardan shaft.



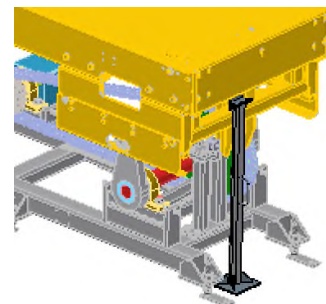
- 6 Return and tighten the setscrew and locknuts on both companion flanges.



- 7 Return the guard over the cardan shaft and tighten the bolts.



- 8 Restore power to the system and lift the table off the maintenance blocks. Return the maintenance blocks to their designated storage area.



- 9 Cycle the lift table and observe that the lifting chains are tracking straight and that the table is even all around. Correct if necessary.





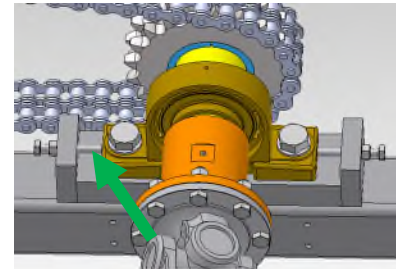
## How to Replace the Drive Sprocket

- 1 Place the lift into the maintenance position.

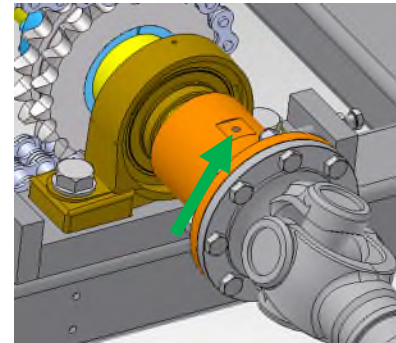


Loosen the inner jack screw for the pillow block bearing.

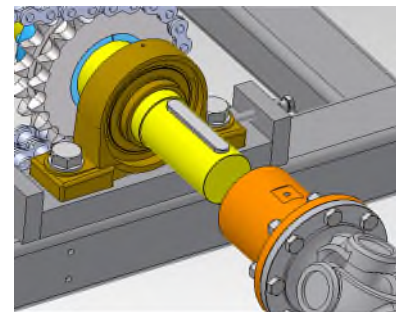
- 3 **Note:** DO NOT make any adjustments to the outer jack screw at this time. They will be used as a reference when returning the pillow block bearings to their original positions.



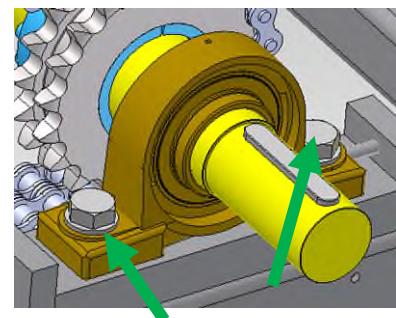
- 4 Undo the setscrew on the companion flange.



- 5 Pull the companion flange away and free it from the shaft.



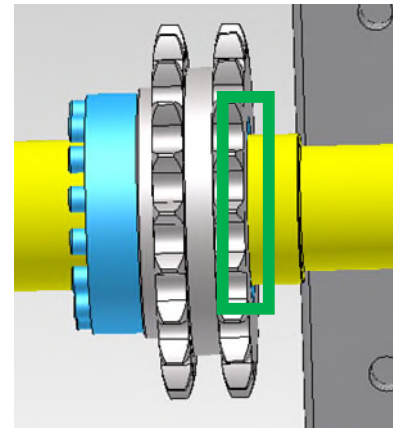
- 6 Loosen the M24 mounting bolts (2) for pillow block bearing and push it towards the motor and free the chain.



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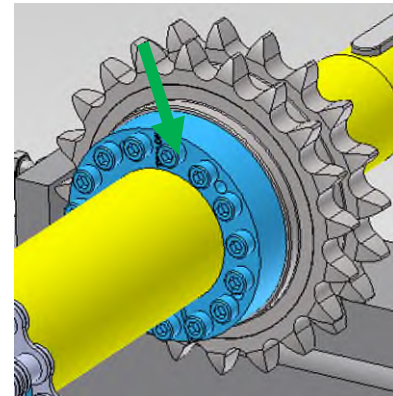
Detach the chain from the drive sprocket. Mark a point of reference on the shaft at the flat end of the drive sprocket

**Note:** This witness mark will be used later when returning the drive sprocket to its original position.



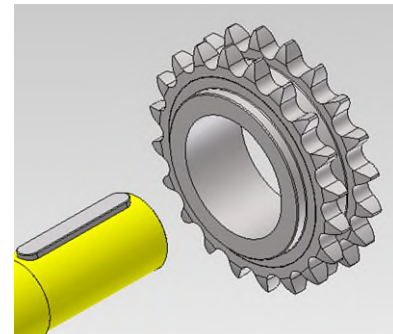
8

Remove the locking clamp by following the procedure from the manufacturer TOLLOK part number TLK-110-90x112.



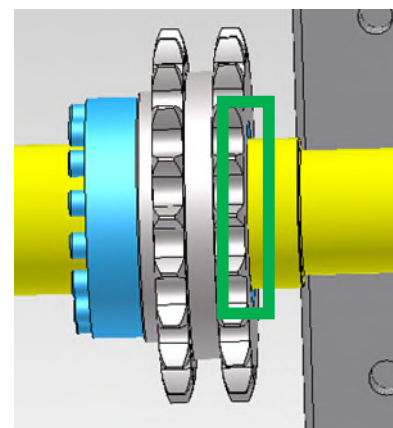
9

Once the locking clamp is loosened, remove the original drive sprocket and replace with a new one.

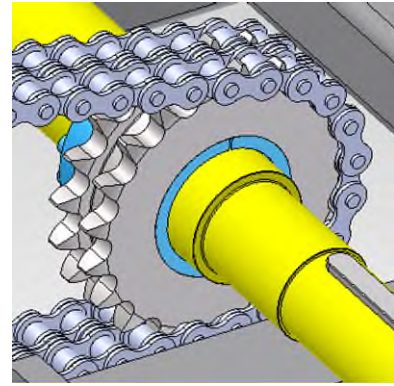


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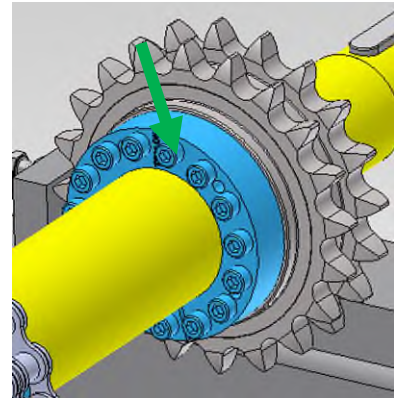
Return the new drive sprocket and locking clamp assembly to its original position according to the witness mark made earlier.



- 11** Return the chain to the drive sprocket.

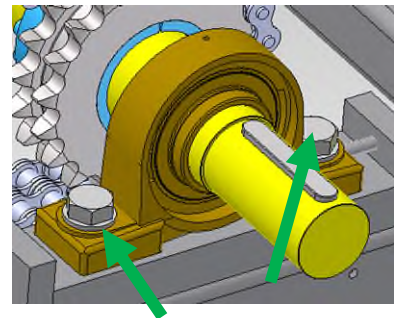


- 12** Tighten the locking clamp by following the procedure from the manufacturer TOLLOK part number TLK-110-90x112.

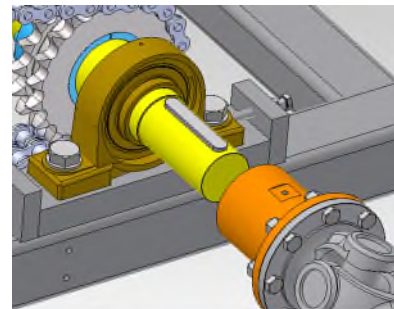


- 13** Return the pillow block bearing and tighten the M24 mounting bolts (2). Tighten the adjustment screw.

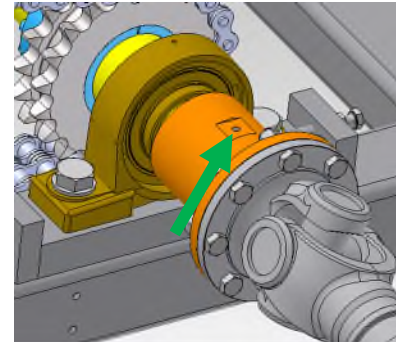
*Note: Use the untouched adjustment screw location as a reference for exact positioning.*



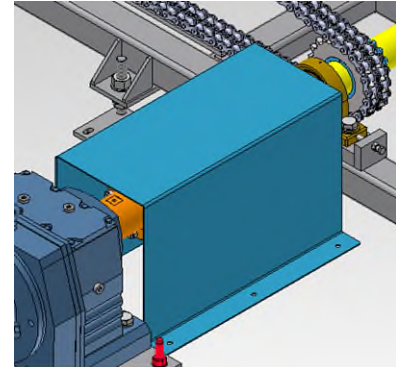
- 14** Return the companion flange and place it back on the shaft.



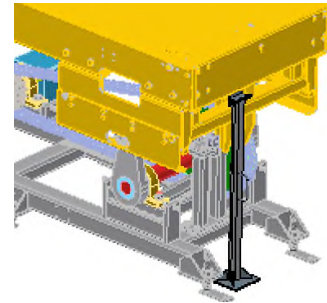
- 15 Tighten the setscrew on the companion flange.



- 16 Return the guard over the cardan shaft and tighten the bolts.



- 17 Restore power to the system and lift the table off the maintenance blocks. Return the maintenance blocks to their designated storage area.



- 18 Cycle the lift table and observe that the lifting chains are tracking straight and that the table is even all around. Correct if necessary.

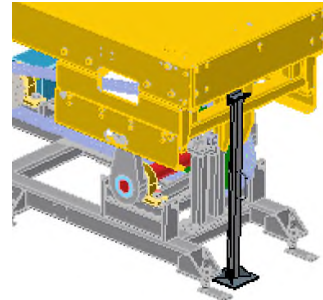


## Adjustment of Misaligned Cam Shaft

- 1 Remove and lock out power to the Eccentric Lift Table using your plant's procedures.



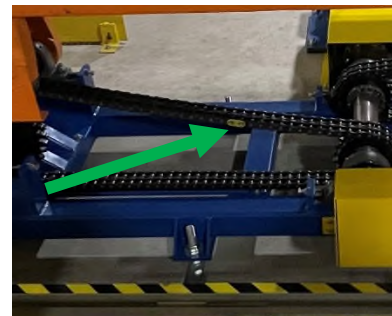
- 2 Block/secure end that is raised to prevent unit from falling.



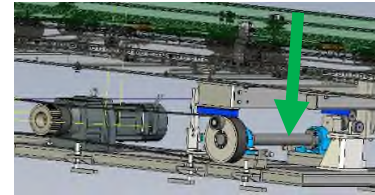
- 3 Remove covers to access interior of lift.



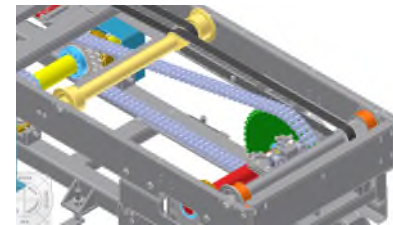
- 4 Disconnect the chain at the master link of the lowered end and leave it accessible.



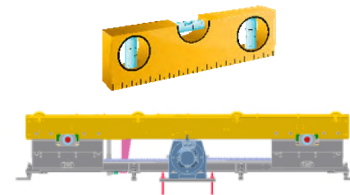
- 5 Clear area and remove safety blocks on raised end. Move the load and arms to the down position by releasing the motor brake or by spinning the motor fan to retime the arms.
- Once lowered, the front to rear arms should be within  $\frac{1}{2}$  a tooth pitch of each other which is acceptable.



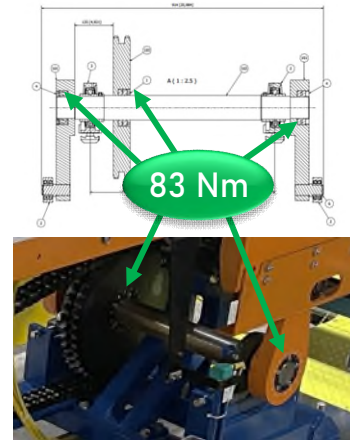
- 6 Place chain back on sprockets and reconnect master link.



- 7 Check Eccentric Lift Table to ensure it is square, straight and level.

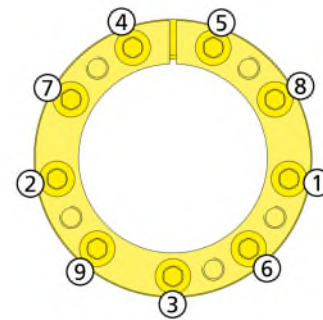


- 8 Check lifting sprocket shafts to ensure they are not loose and are at 83 Nm.



In the event the torque is not correct on the lifting shaft, tighten the sprocket bushings onto the shaft.

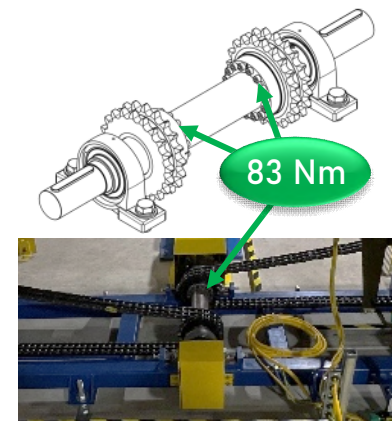
Clean and slightly oil all contact surfaces, including screw threads, screw heads, shaft and hub. **Do not use oils containing Molybdenum Disulphide.**



- 9 Tighten the screws lightly and align the hub. Tighten the screws in diametrically opposite sequence in several stages up to the catalogue tightening torque  $T_s$ .

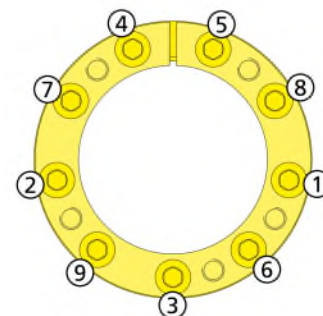
Re-check the tightening torque by applying it to all the screws. The silver-plated screws are to be fitted in the holes of the front thrust ring with the pull-out threads.

- 10 Check both locking clamps on the drive sprockets for the shaft to ensure they are at 83 Nm.



In the event the torque is not correct on the drive shaft, tighten the sprocket bushings onto the shaft.

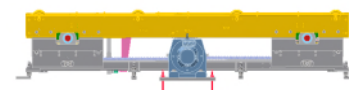
Clean and slightly oil all contact surfaces, including screw threads, screw heads, shaft and hub. **Do not use oils containing Molybdenum Disulphide.**



- 11 Tighten the screws lightly and align the hub. Tighten the screws in diametrically opposite sequence in several stages up to the catalogue tightening torque  $T_s$ .

Re-check the tightening torque by applying it to all the screws.

- 12 Restore power to the system and test for proper lifting operation.



- 13 Once it is confirmed to be functioning correctly, lock out system again to secure covers on unit.



- 14 Restore power to the system and return to operation per plant procedures.

