

Lift Table NA Chain – Maintenance & Service

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

⚠ WARNING ⚠

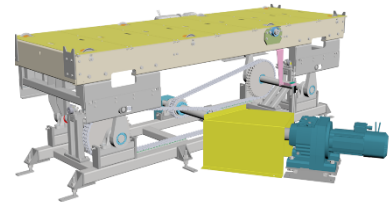
- Only qualified and trained personnel should perform the disassembly and assembly of electrical and mechanical components.
- Before attempting any maintenance on this equipment all involved personnel should follow plant internal regulations along with any state, federal, or province regulations. Do 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

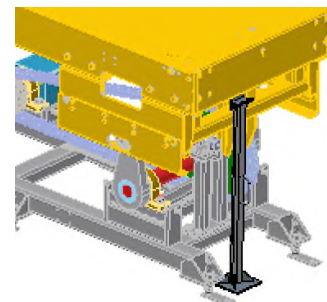
- 1 Remove any payload from the eccentric lift.



- 2 Move the lift to the full up position.



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



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

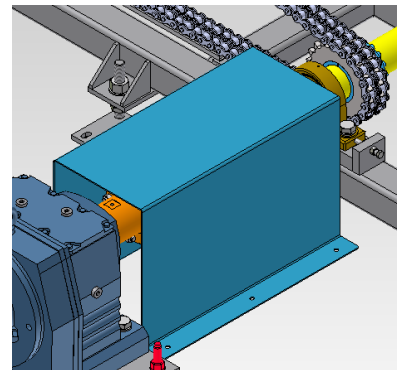


How to Replace Drive Motor

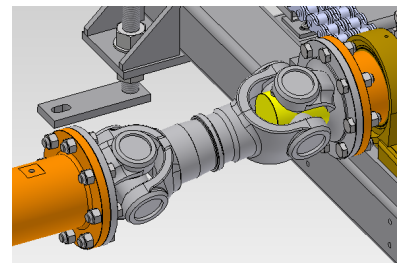
- 1 Place the lift into the maintenance position per the above section *Placing the Lift into the Maintenance Position.*
Lock out power to the lift using your plant's safety procedures.



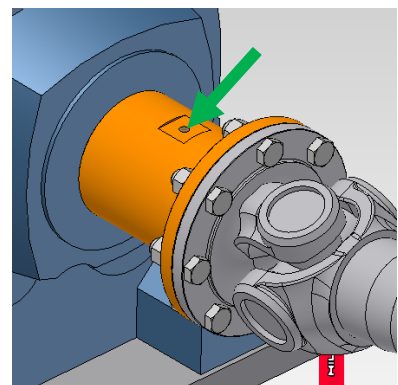
- 2 Undo the hexagonal head screws holding the guard over the cardan shaft.



- 3 Support the cardan shaft.

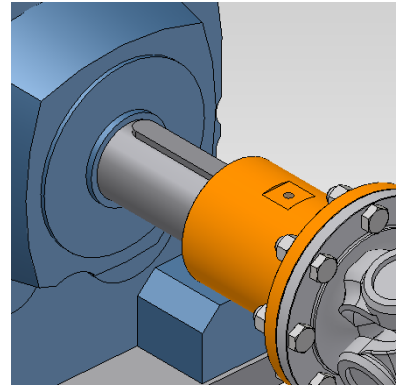


- 4 Undo the setscrew on the companion flange.

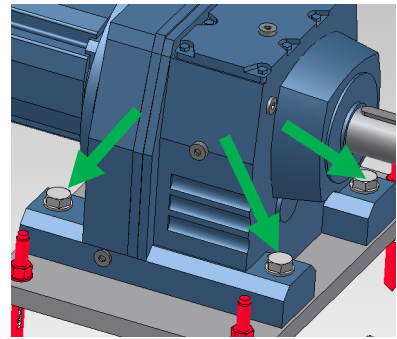


- 5 Pull the cardan shafts away from the gearmotor to free the companion flange from the gearmotor shaft.

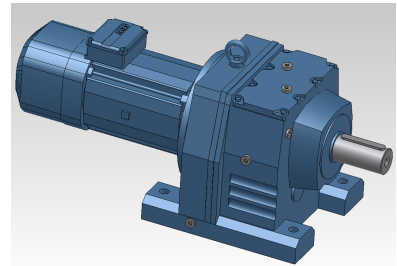
Note: Retain the shaft key for reuse if in good condition.



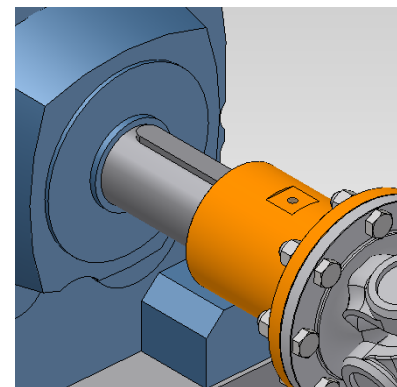
- 6 Loosen and remove the M24 bolts (4) securing the gearmotor to the base plate.



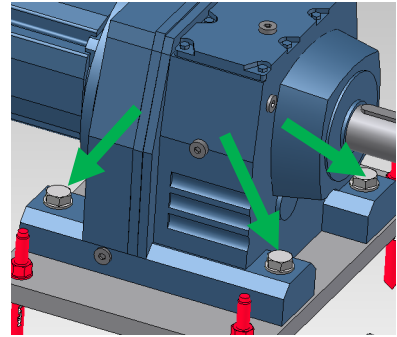
- 7 Remove the original gearmotor and replace with the new one.



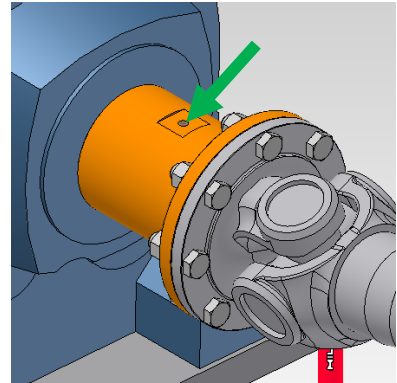
- 8 Set the companion flange on the gearmotor shaft with the key.



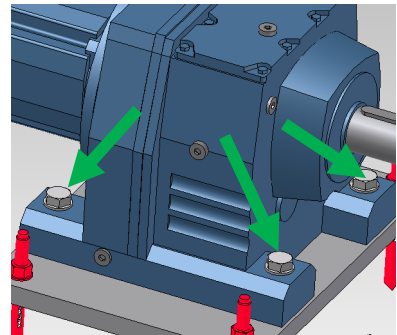
- 9** Hand-tighten the M24 bolts (4) at the gearmotor base.



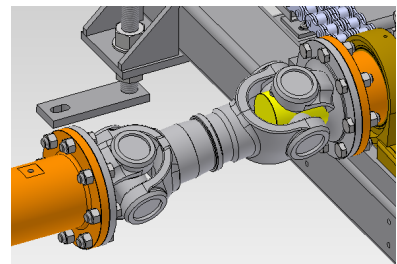
- 10** Tighten the set screw for the companion flange.



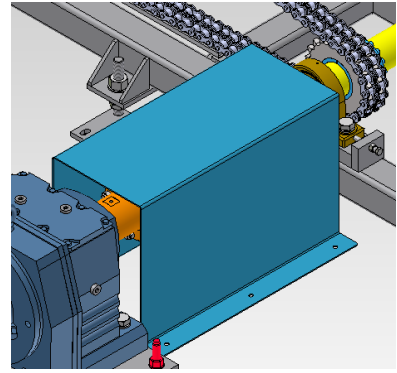
- 11** Torque the M24 bolts (4) securing the gearmotor to the base plate.



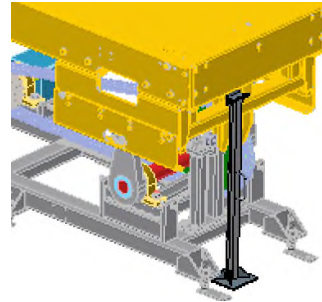
- 12** Remove the support for the cardan shaft.



- 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.

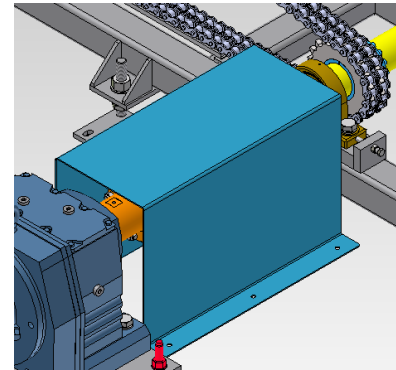


How to Replace the Cardan Shaft

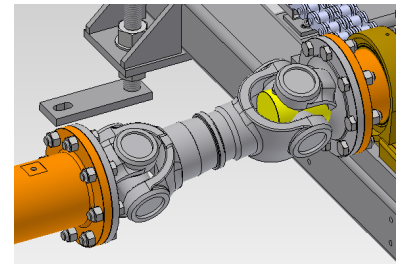
- 1 Place the lift into the maintenance position per the above section *Placing the Lift into the Maintenance Position*.
Lock out power to the lift using your plant's safety procedures.



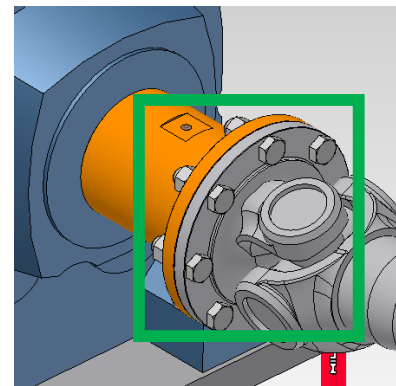
- 2 Undo the hexagonal head screws holding the guard over the cardan shaft.



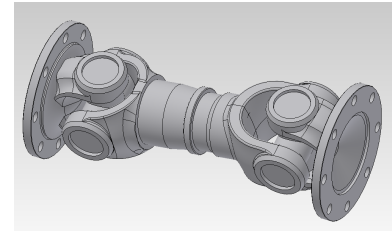
- 3 Support the cardan shaft.



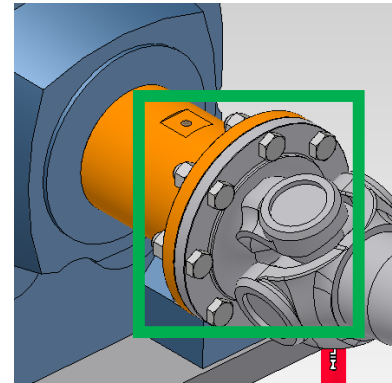
- 4 Undo the setscrew and locknuts on both companion flanges.



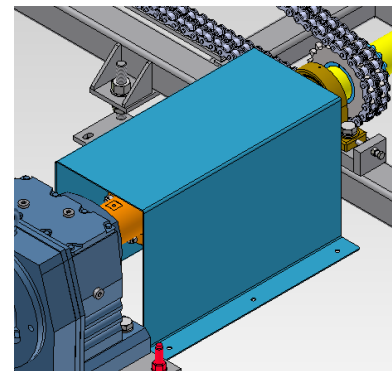
5 Replace the cardan shaft.



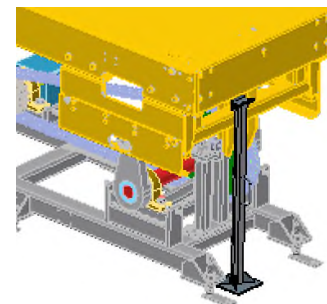
6 Return and tighten the setscrew and locknuts on both companion flanges.



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.



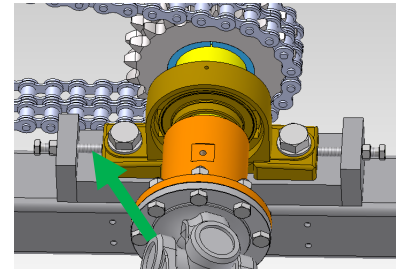
How to Replace the Drive Sprocket

- 1 Place the lift into the maintenance position per the above section **Placing the Lift into the Maintenance Position.**

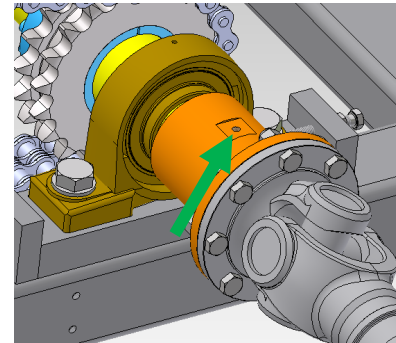
Lock out power to the lift using your plant's safety procedures.



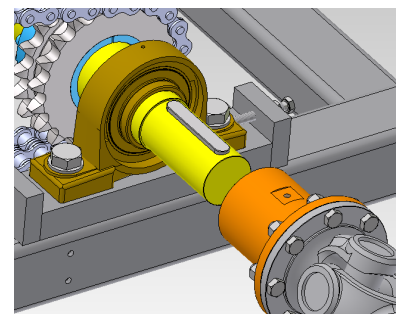
- 3 **Note:** DO NOT make any adjustments to the outer jack screw at this time. They will be used as a reference when returning the pillow block bearings to their original positions.



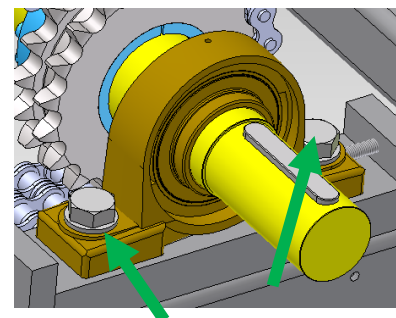
- 4 Undo the setscrew on the companion flange.



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



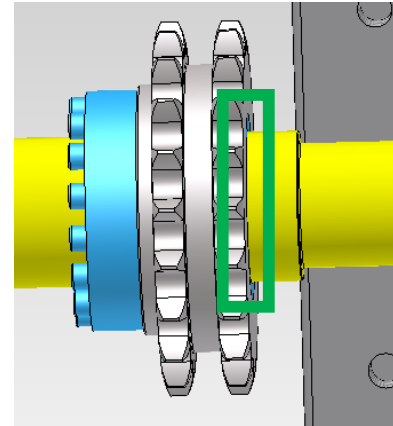
- 6 Loosen the M24 mounting bolts (2) for pillow block bearing and push it towards the motor and free the chain.



7

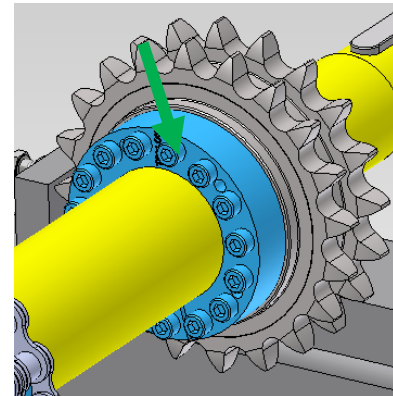
Detach the chain from the drive sprocket. Mark a point of reference on the shaft at the flat end of the drive sprocket

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



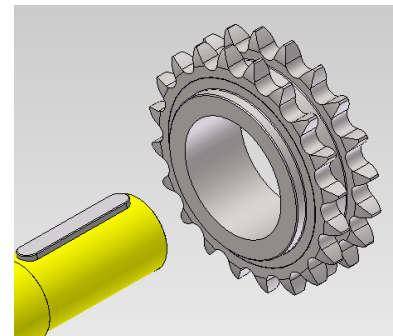
8

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



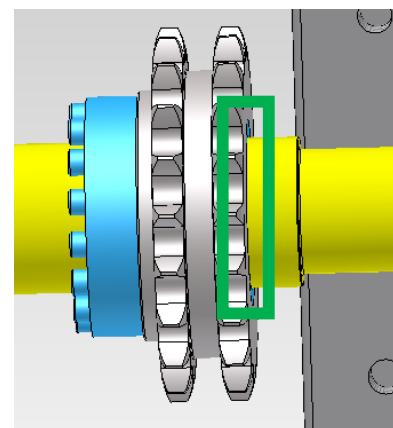
9

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

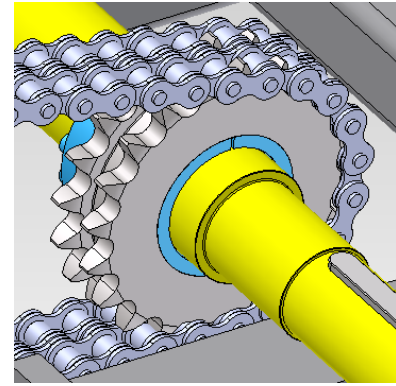


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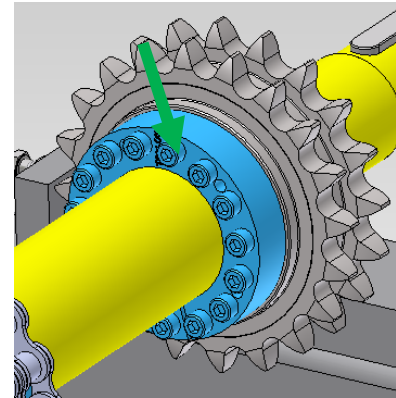
Return the new drive sprocket and locking clamp assembly to its original position according to the witness mark made earlier.



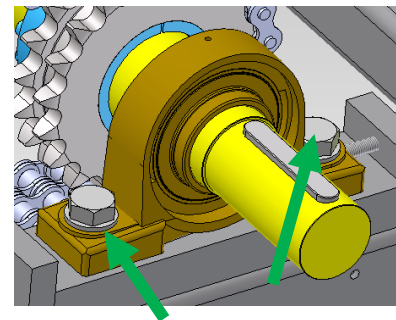
- 11** Return the chain to the drive sprocket.



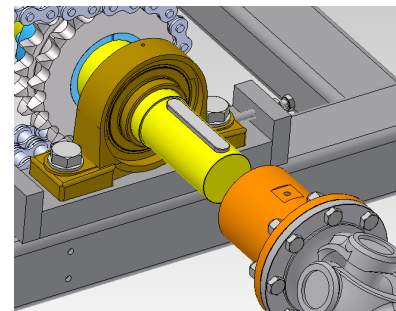
- 12** Tighten the locking clamp by following the procedure from the manufacturer TOLLOK part number TLK-110-90x112.



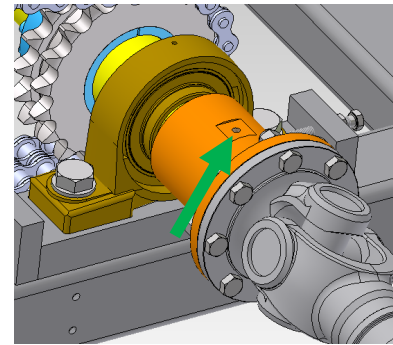
- 13** Return the pillow block bearing and tighten the M24 mounting bolts (2). Tighten the adjustment screw.
Note: Use the untouched adjustment screw location as a reference for exact positioning.



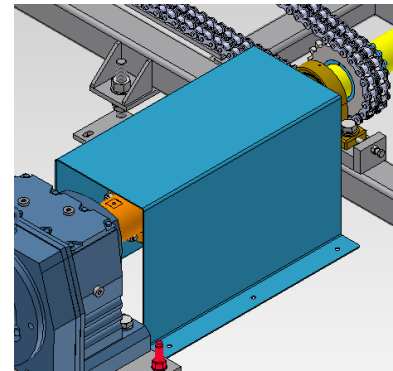
- 14** Return the companion flange and place it back on the shaft.



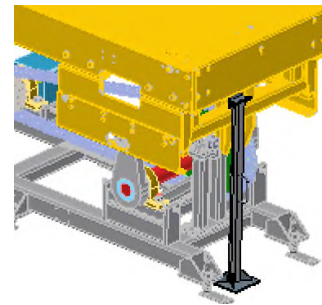
- 15 Tighten the setscrew on the companion flange.



- 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.

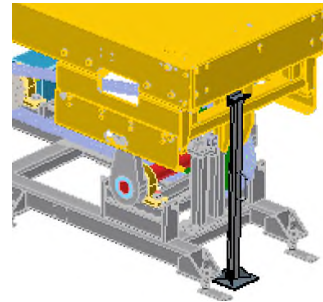


Adjustment of Misaligned Cam Shaft

- 1 Place the lift into the maintenance position per the above section *Placing the Lift into the Maintenance Position*.
Lock out power to the lift using your plant's safety procedures.



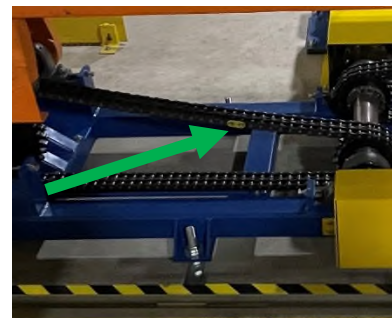
- 2 Block/secure end that is raised to prevent unit from falling.



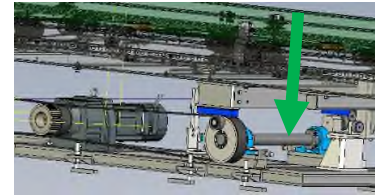
- 3 Remove safety covers to access interior of lift.



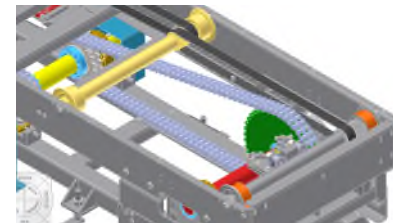
- 4 Disconnect the chain at the master link of the lowered end and leave it accessible.



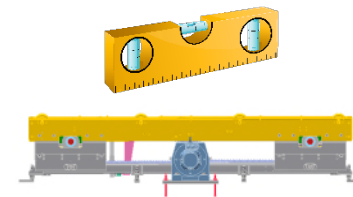
- 5 Clear area and remove safety blocks on raised end. Move the load and arms to the down position by releasing the motor brake or by spinning the motor fan to retime the arms.
- Once lowered, the front to rear arms should be within $\frac{1}{2}$ a tooth pitch of each other which is acceptable.



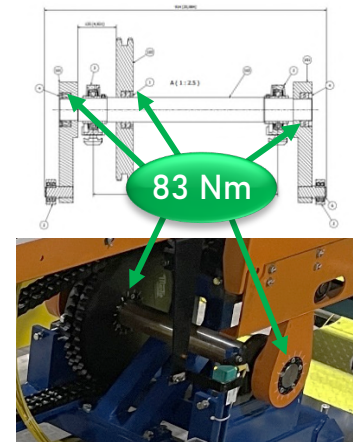
- 6 Place chain back on sprockets and reconnect master link.



- 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.

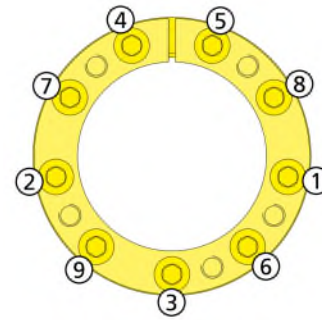


In the event the torque is not correct on the lifting shaft, tighten the sprocket bushings onto the shaft.

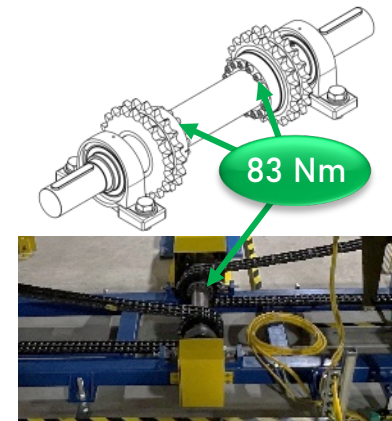
Clean and slightly oil all contact surfaces, including screw threads, screw heads, shaft and hub. **Do not use oils containing Molybolenum Disulphide.**

- 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.

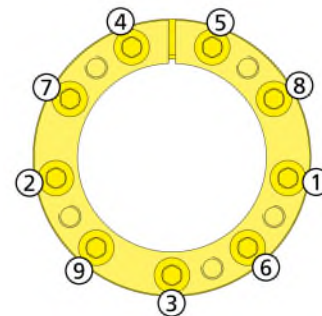


In the event the torque is not correct on the drive shaft, tighten the sprocket bushings onto the shaft.

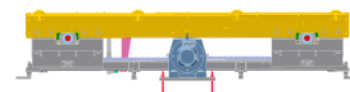
Clean and slightly oil all contact surfaces, including screw threads, screw heads, shaft and hub. **Do not use oils containing Molybolenum Disulphide.**

- 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.



Power Roll Bed - Maintenance & Service (Mounted on Lift Table)

This section describes the service procedures for major mechanical elements of a Power Roll Bed Normal Application and apply to the PRB installed on the Lift Table.

⚠ 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.

How to Replace a Gearmotor

Place the lift into the maintenance position per the above section
Placing the Lift into the Maintenance Position.

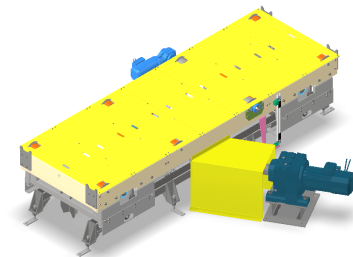
1

Lock out power to the lift and the PRB using your plant's safety procedures.



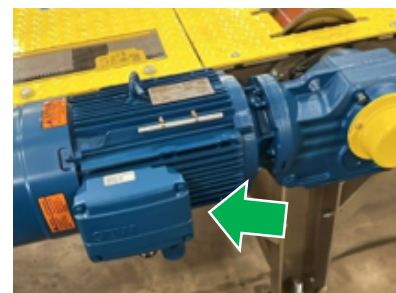
2

Remove covers where necessary.

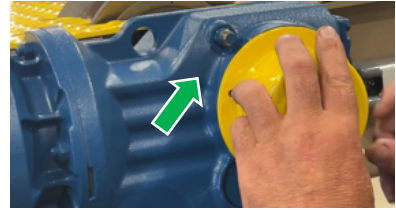


3

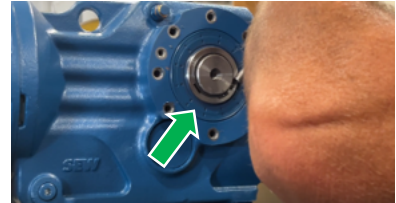
Remove all required electrical connections.



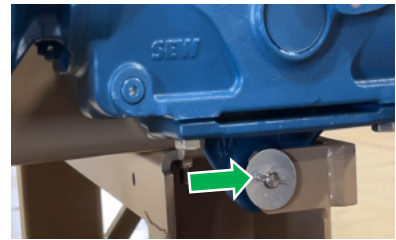
- 4 Remove all screws to remove the garmotor cover.



- 5 Remove the retaining ring from the drive shaft.



- 6 Remove the cotter pin and washer from the frame mount.



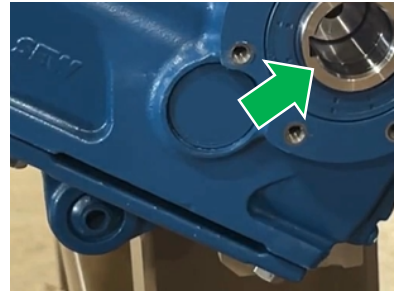
- 7 Remove the retaining pin from the frame and the gearmotor base.



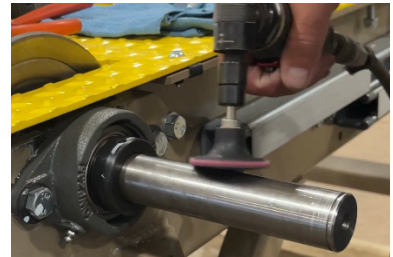
- 8 Using an overhead crane, carefully hoist the gearmotor off the unit.



- 9 Remove the gearmotor base from the old gearmotor to install on the new gearmotor.



- 12 Using a fine-grit sand disk, gently clean the external drive shaft to remove any material buildup.



- 13 Install a new key by carefully inserting and gently tapping it into the slot on the drive shaft.



- 14 Gently sand the edges of the new key to eliminate any burrs for easier insertion into the gearmotor.



- 15 Remove the protective shipping caps and the contents of the hollow bore in the SEW gearmotor.



- 16** Set aside the SEW provided NOCO-Paste corrosion protection and lubricant.



- 17** Remove the retaining ring from the hollow bore and set it aside.



- 18** Take out the screw plugs located around the perimeter of the hollow bore.



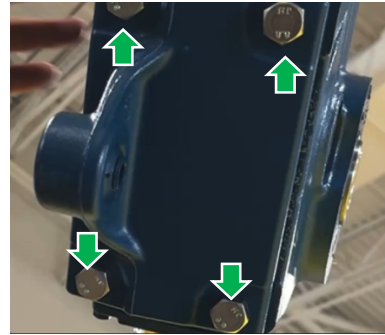
- 19** Remove the screw plugs from the bottom of the gearmotor as well.



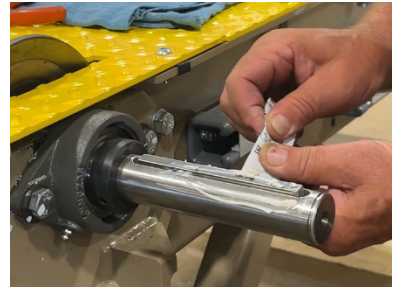
- 20** Apply Loctite to the bolts intended for securing the gearmotor base to the bottom of the gearmotor.



21 Affix the gearmotor base to the underside of the gearmotor.



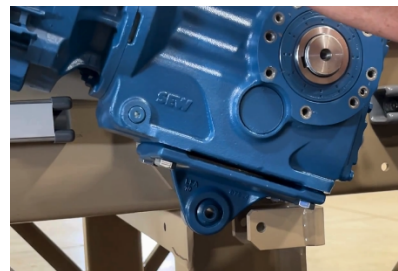
22 Apply the SEW-supplied NOCO-Paste for corrosion protection and lubrication on the drive shaft.



23 Using an overhead crane, place the new gearmotor on the drive shaft. Remove any excess NOCO-Paste.



24 Align the mounting holes on the new gearmotor base with the holes on the conveyor frame.



25 Reinsert the retaining pin on the frame and the gearmotor base.



- 26** Due to restricted space, utilize a C-clamp to aid in maneuvering the pin through the holes.



- 27** Gently tap the pin the rest of the way through.



- 28** Reinsert the washer and cotter pin on the frame mount.



- 29** Reinsert the retaining ring on the drive shaft.



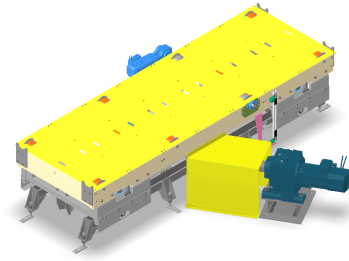
- 30** Place the gearmotor safety cover back on the gearmotor.



- 31** Re-attach all required electrical connections.



- 32** Place cover(s) back on Power Roll Bed and tighten bolts.



- 33** Restore power to the system and test for proper operation.



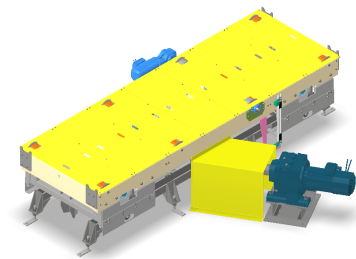
How to Replace a Driven Belt

Place the lift into the maintenance position per the above section **Placing the Lift into the Maintenance Position.**

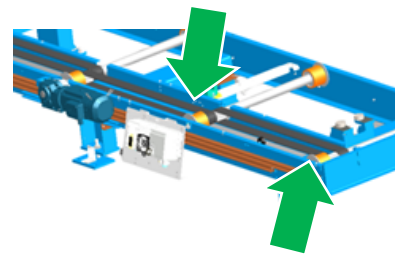
- 1 Lock out power to the lift and the PRB using your plant's safety procedures.



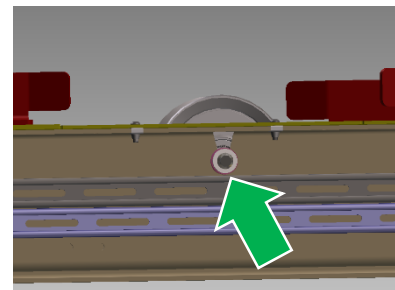
- 2 Remove covers.



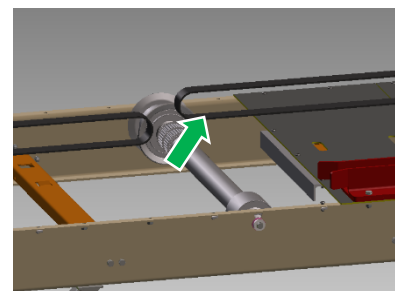
- 3 Both belt sharing rollers of the damaged belt will need to be loosened from the frame to free up any tension and to replace the belt.



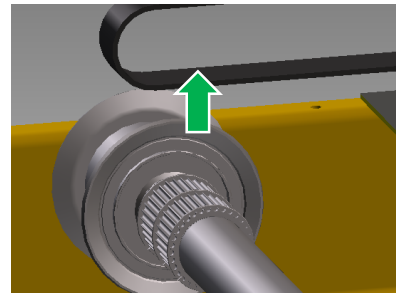
- 4 Remove the hex head bolts holding the shafts on both sides of the rollers.



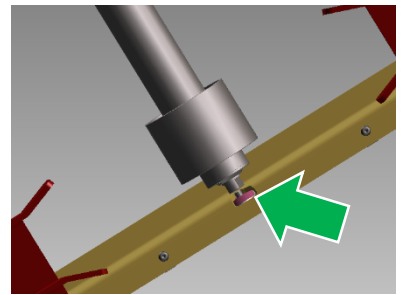
- 5 Lift roller shaft upward and remove one end of the belt. Perform the same to belt sharing roller shaft.



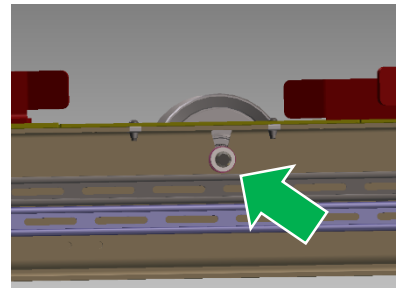
- 6 Remove damaged belt and replace it with a new belt. Thread each roller through the toothed belt(s) so that they are on the appropriate pulleys and rollers.



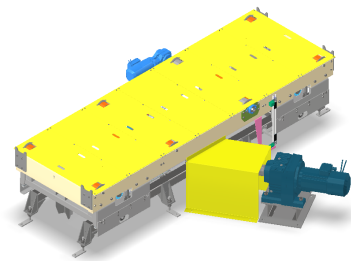
- 7 Insert rollers into both sides of the frame, turning the roller so that flats on the rod end fit into the slots.



- 8 Retighten bolts on both sides of rollers on the Power Roll Bed.



- 9 Place cover back on Power Roll Bed and tighten screws.



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

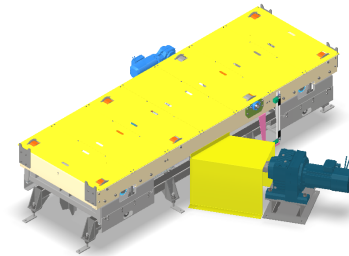


How to Replace a Driven Roller

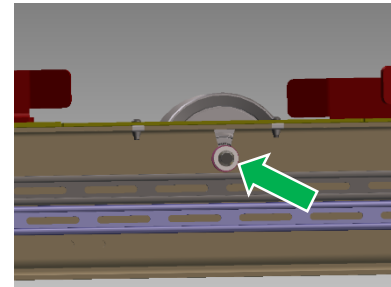
- Place the lift into the maintenance position per the above section **Placing the Lift into the Maintenance Position.**
- 1 Lock out power to the lift and the PRB using your plant's safety procedures.



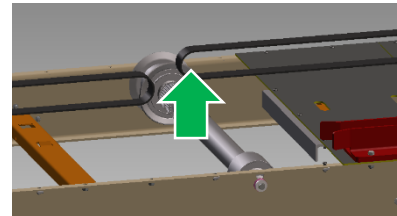
- 2 Remove covers.



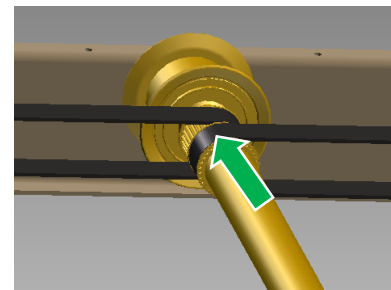
- 3 Remove the hex head bolts holding the shafts on both sides of the roller. To replace an interior roller, the belt sharing rollers may also need to be loosened from the frame to free up tension from the belts.



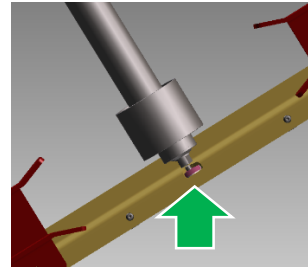
- 4 Lift roller shaft upward and remove belt(s) off roller shaft.



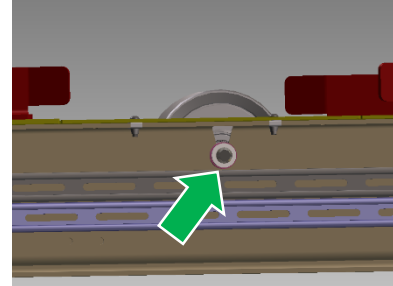
- 5 Insert new roller through the toothed belt(s) and place on the pulley.



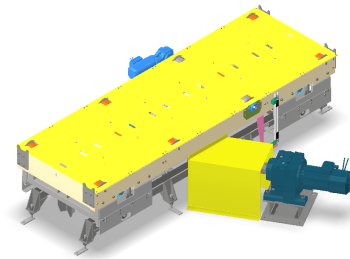
- 6 Turn the roller so that the flats on the rod end fit into the slots on both sides of the frame.



- 7 Retighten bolts on both sides of the Power Roll Bed.



- 8 Place cover back on Power Roll Bed and tighten screws.



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



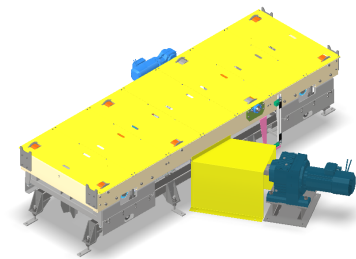
How to Replace a Drive Belt

Place the lift into the maintenance position per the above section *Placing the Lift into the Maintenance Position.*

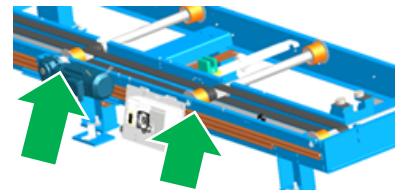
- 1 Lock out power to the lift and the PRB using your plant's safety procedures.



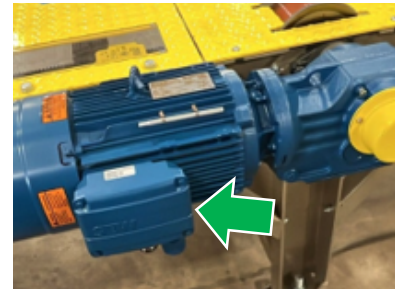
- 2 Remove safety covers.



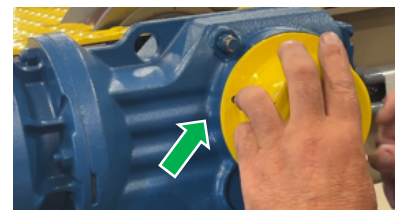
- 3 Both belt sharing rollers of the damaged belt will need to be loosened from the frame to free up any tension and to replace the belt.



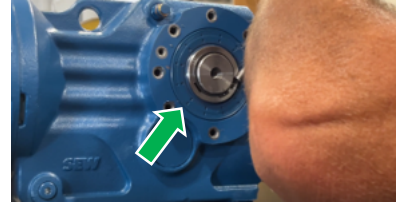
- 4 Remove all required electrical connections from the gearmotor.



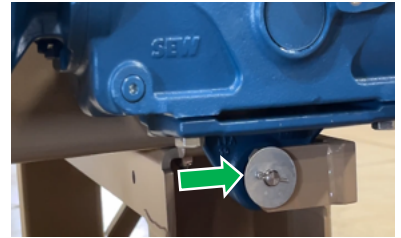
- 5 Remove all screws to remove the gearmotor cover.



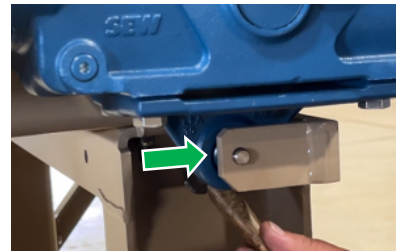
- 6 Remove the retaining ring from the drive shaft.



- 7 Remove the cotter pin and washer from the frame mount.



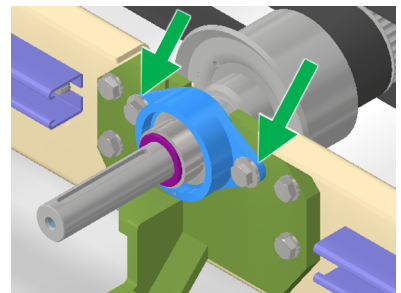
- 8 Remove the retaining pin from the frame and the gearmotor base.



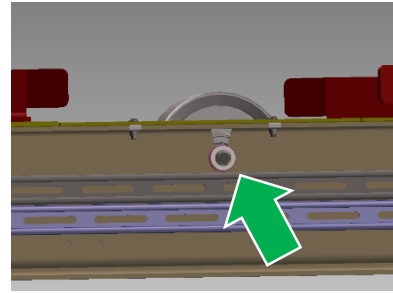
- 9 Using an overhead crane, carefully hoist the gearmotor off the unit.



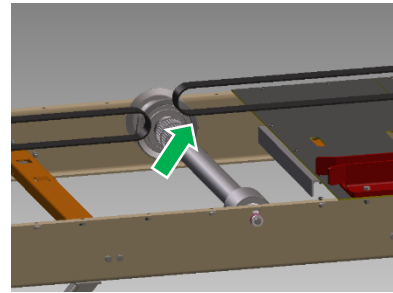
- 10 Remove the bolts securing the bearings to the frame on both ends of the drive roller.



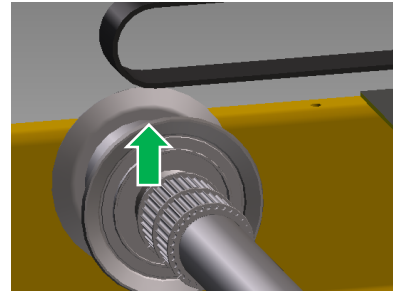
- 11** Remove the hex head bolts holding the shafts on both sides of the driven roller.



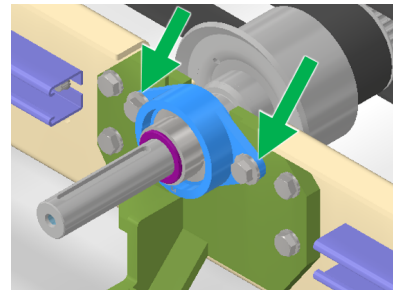
- 12** Lift roller shaft upward and remove one end of the belt. Perform the same to belt sharing roller shaft.



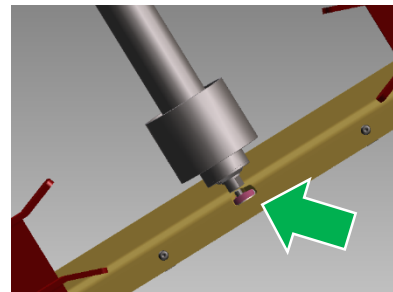
- 13** Remove damaged belt and replace it with a new belt. Thread each roller through the toothed belt(s) so that they are on the appropriate pulleys and rollers.



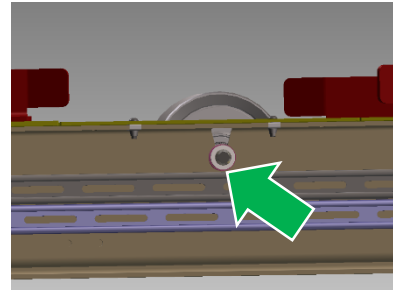
- 14** Place the drive roller back into position and tighten the bolts securing the bearings to the frame on both ends of the roller.



- 15** Place the partner driven roller back into the frame, turning the roller so that flats on the rod end fit into the slots.



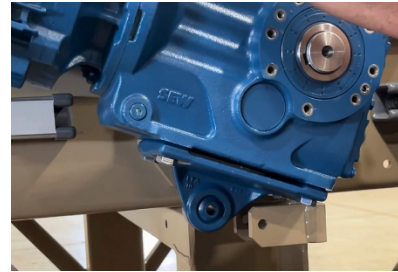
- 16** Retighten bolts on both sides of the driven roller on the Power Roll Bed.



- 17** Using an overhead crane, place the gearmotor back on the drive shaft.



- 18** Align the mounting holes on the gearmotor base with the holes on the conveyor frame.



- 19** Reinsert the retaining pin on the frame and the gearmotor base.



- 20** Due to restricted space, utilize a C-clamp to aid in maneuvering the pin through the holes.



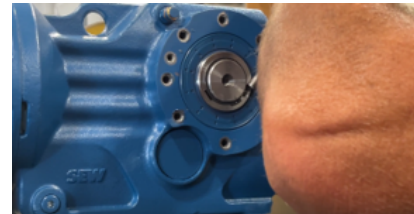
21 Gently tap the pin the rest of the way through.



22 Reinsert the washer and cotter pin on the frame mount.



23 Reinsert the retaining ring on the drive shaft.



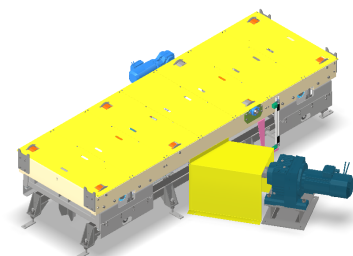
24 Place the gearmotor safety cover back on the gearmotor.



25 Re-attach all required electrical connections.



26 Place cover back on Power Roll Bed and tighten screws.



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



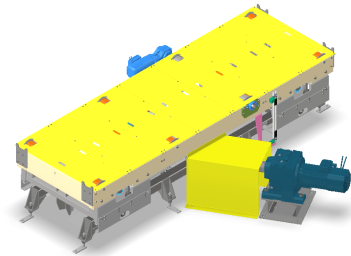
How to Replace a Drive Roller

Place the lift into the maintenance position per the above section *Placing the Lift into the Maintenance Position.*

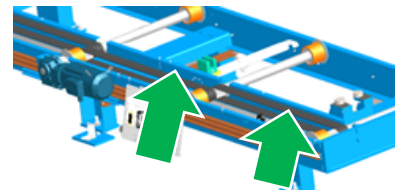
- 1 Lock out power to the lift and the PRB using your plant's safety procedures.



- 2 Remove safety covers.



- 3 Both belt sharing rollers of the damaged roller will need to be loosened from the frame to free up any tension and to replace the belt.



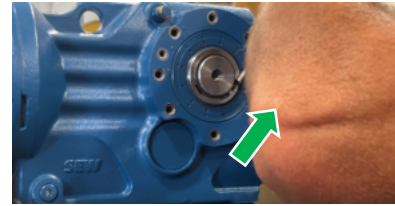
- 4 Remove all required electrical connections from the gearmotor.



- 5 Remove all screws to remove the gearmotor cover.



- 6 Remove the retaining ring from the drive shaft.



- 7 Remove the cotter pin and washer from the frame mount.



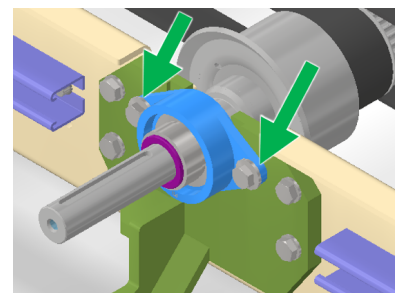
- 8 Remove the retaining pin from the frame and the gearmotor base.



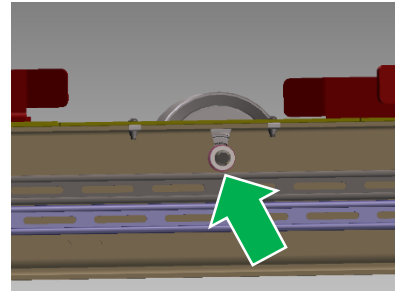
- 9 Using an overhead crane, carefully hoist the gearmotor off the unit.



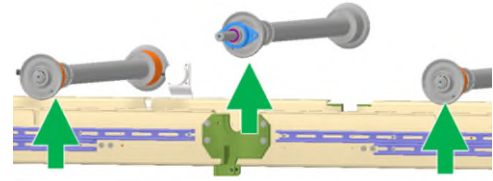
- 10 Remove the bolts securing the bearings to the frame on both ends of the drive roller.



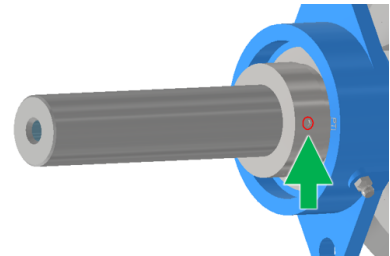
- 11** Remove the hex head bolts holding the shafts on both sides of the driven rollers.



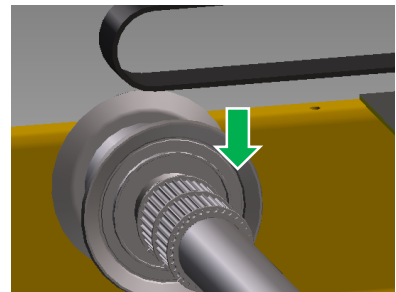
- 12** Lift the rollers out of the frame until you are able to remove the belts from the drive roller.



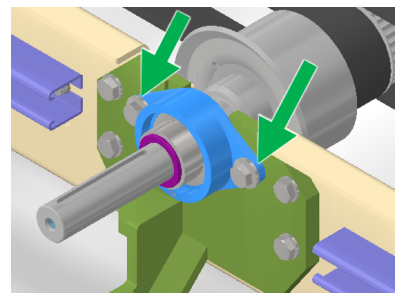
- 13** Loosen the set screws on both bearings on the drive roller to remove them. Place the bearings onto the new drive roller to be inserted.



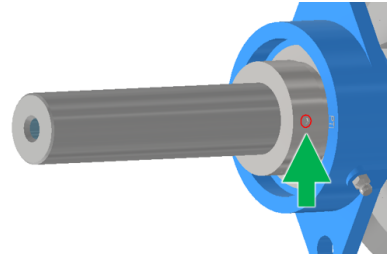
- 14** Place belts back on the removed rollers. Thread each roller through the toothed belt(s) so that they are on the appropriate pulleys and rollers.



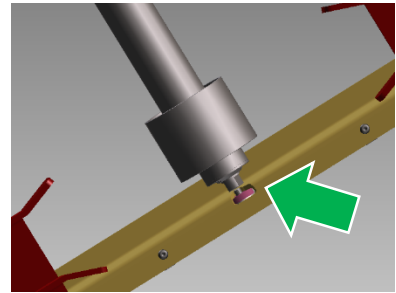
- 15** Place the drive roller back into position and tighten the bolts securing the bearings to the frame on both ends of the roller.



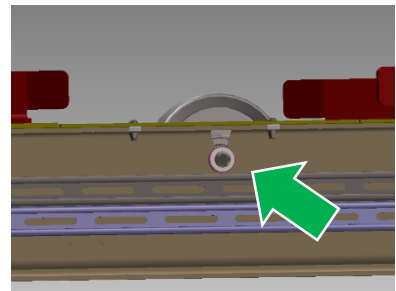
- 16 Retighten the set screws on both bearings on the drive roller.



- 17 Place the partner driven roller back into the frame, turning the roller so that flats on the rod end fit into the slots.



- 18 Retighten bolts on both sides of the driven roller on the Power Roll Bed.



- 19 Using an overhead crane, place the gearmotor back on the drive shaft.



- 20 Align the mounting holes on the gearmotor base with the holes on the conveyor frame.



- 21** Reinsert the retaining pin on the frame and the gearmotor base.



- 22** Due to restricted space, utilize a C-clamp to aid in maneuvering the pin through the holes.



- 23** Gently tap the pin the rest of the way through.



- 24** Reinsert the washer and cotter pin on the frame mount.



- 25** Reinsert the retaining ring on the drive shaft.



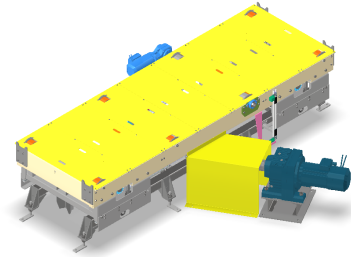
- 26** Place the gearmotor safety cover back on the gearmotor.



- 27 Re-attach all required electrical connections.



- 28 Place cover back on Power Roll Bed and tighten screws.



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

