Lift Table NA Belt - Maintenance and Service

This section will describe service procedures for major mechanical elements of a Lift Table with Power Roll Bed installed.

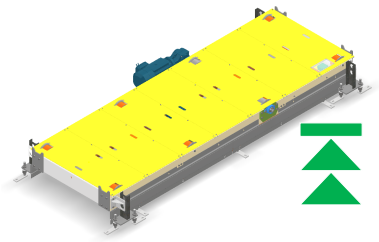
⚠ WARNING ⚠

- 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.

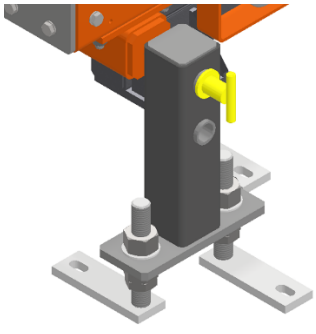
Placing the Lift into the Maintenance Position

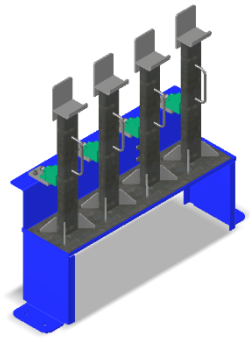
1 Remove any payload from the eccentric lift.

2 Move the lift to the full up position.



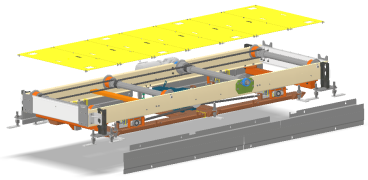
3 Place safety pins or maintenance stands in all designated locations to lock lift position.





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

5 Remove any necessary safety covers.

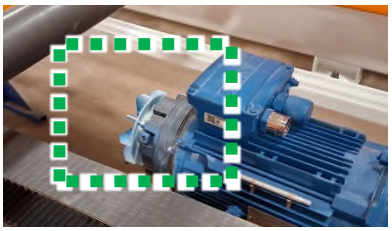


How to Replace the Lifting Belts

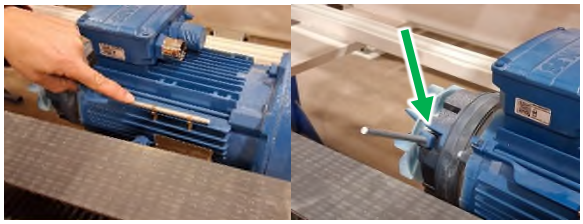
1 Place the lift into the maintenance position per the above section ***Placing the Lift into the Maintenance Position.***

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

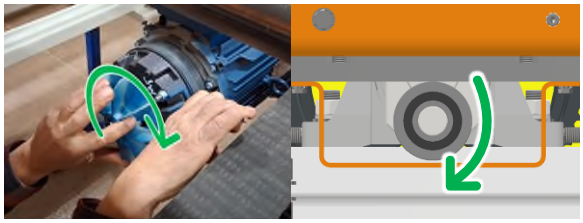
2 Remove the fan cover from the lift motor.



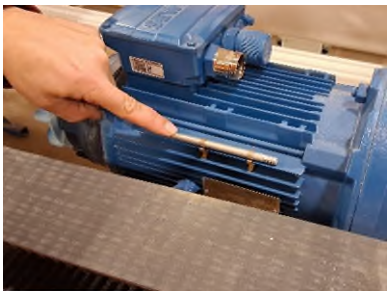
3 Remove the brake pin from the side of the motor and use it to temporarily disengage the brake.



4 Slowly rotate the motor fan to lower the lift frame onto the safety pins or maintenance stands and relieve pressure from the cam rollers.

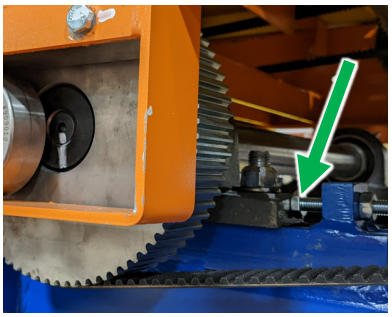


5 Re-engage the motor brake and return the pin to its storage location.

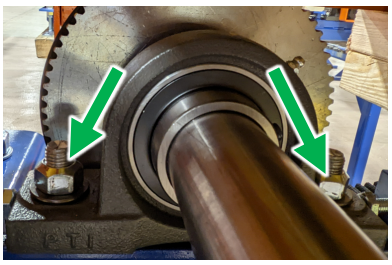


Loosen the inner jack screws for all the pillow block bearings.

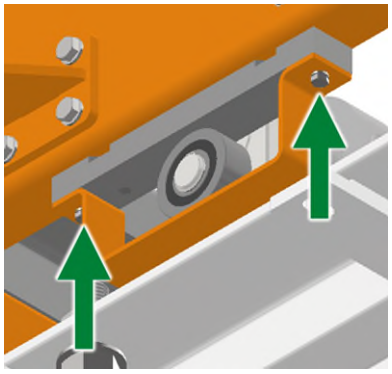
6 ***Note:*** *DO NOT make any adjustments to the outer jack screws at this time. They will be used as a reference when returning the pillow block bearings to their original positions.*



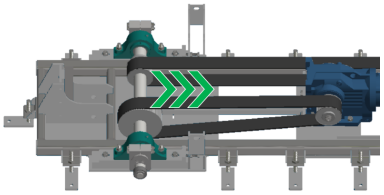
7 Loosen the pillow block bearing M16 bolts for all the pillow block bearings.



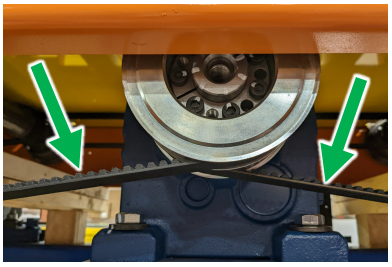
8 Loosen and remove the bolts that hold the cam roller frame to the lift table. Set the rail aside for now.
Repeat for the opposite side.



9 Pull the lifting cam assemblies slightly to the center of the lift to reduce tension on the lifting belts.

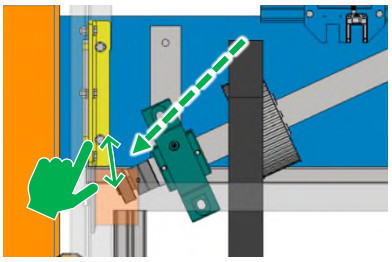


10 Remove the lifting belts from the drive pulley.



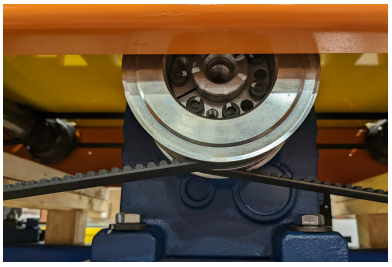
11 Carefully reposition the entire cam shaft assembly until there is enough space to slip the belt through.

Proceed and remove the belt.

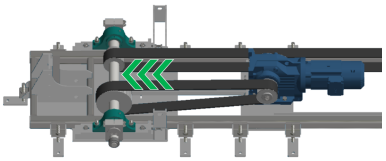


12 Inspect the lift pulley, cam rollers, and the drive pulley for wear and damage. Replace as necessary.

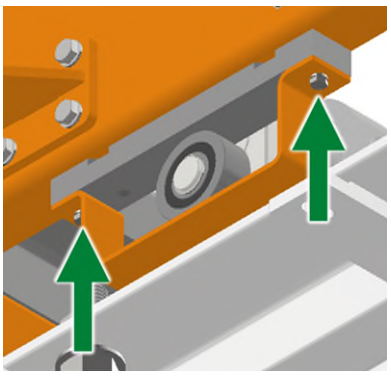
13 Place the new lifting belts around lift and drive pulleys.



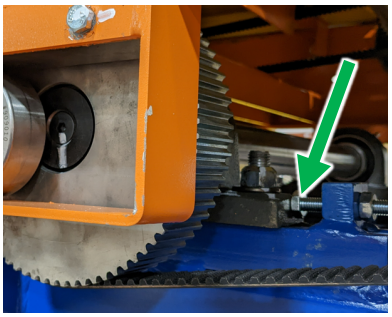
14 Reposition the cam shafts back to their original locations.



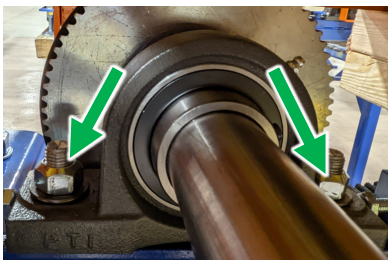
15 Install the cam roller frames reusing any shims that were in place.



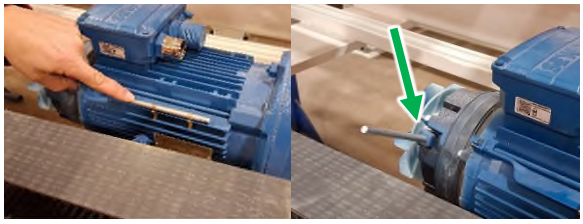
16 Tighten the inner jack screws evenly keeping the lift pulleys parallel with the drive pulley until the lift belts are properly tensioned. If necessary, adjust the outer jack screws.



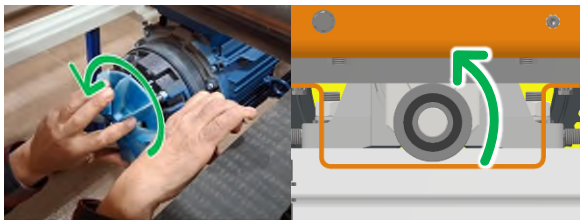
17 Tighten all the M20 bolts for the pillow block bearings.



18 Remove the brake pin from the side of the motor and use it to temporarily disengage the brake.

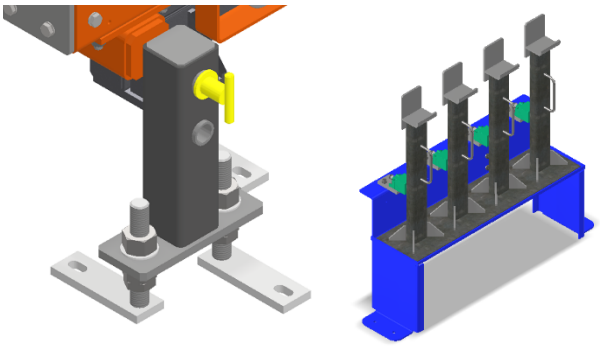


19 Slowly rotate the motor fan to raise the lift frame back to its highest position, relieving pressure from the safety pins or maintenance stands.



20 Re-engage the brake, return the pin to its storage location, and replace the motor's fan cover.

21 Remove the safety pins or maintenance stands and return them to their designated storage area.



22 Restore power to the system. Cycle the lift table to observe that the lifting belts are tracking straight and that the table is even all around. Correct if necessary.

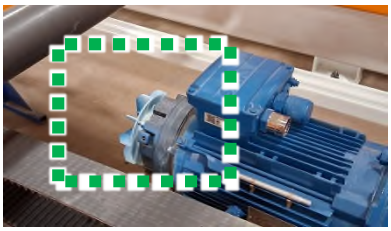
23 Lock Out the system again to return safety covers then operate as normal.

How to Replace a Drive Pulley

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

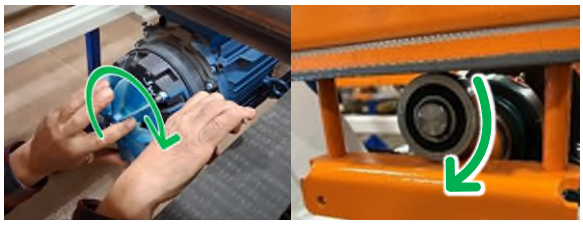
Lock out power to the lift using your plant's safety procedures.

2 Remove the fan cover from the lift motor.

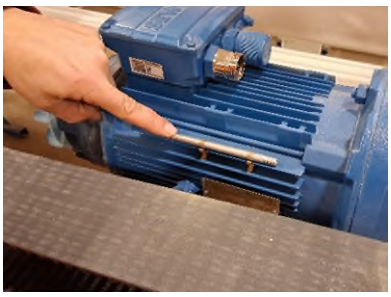


3 Remove the brake pin from the side of the motor and use it to temporarily disengage the brake.

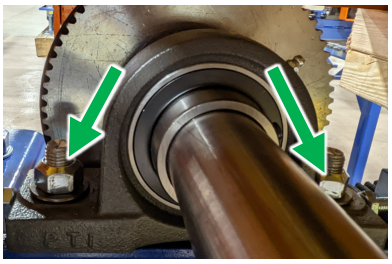
4 Slowly rotate the motor fan to lower the lift frame onto the safety pins or maintenance stands and relieve pressure from the cam rollers.



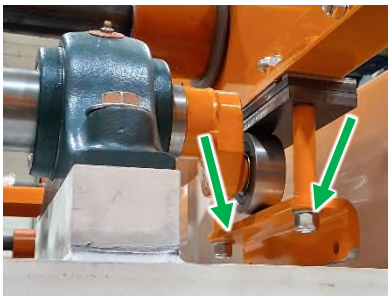
5 Re-engage the motor brake and return the pin to its storage location.



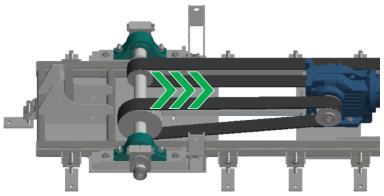
6 Loosen the M16 bolts for the pillow block bearings on the target cam shaft.



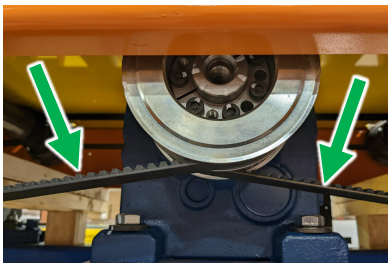
7 Loosen and remove the bolts that hold the cam roller frame to the lift table. Set the rail aside for now.
Repeat for the opposite side.



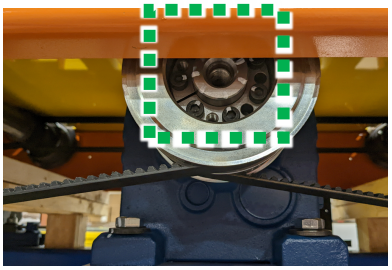
8 Slightly move the partner cam shaft inward toward the gearmotor to relieve tension from the drive belt.



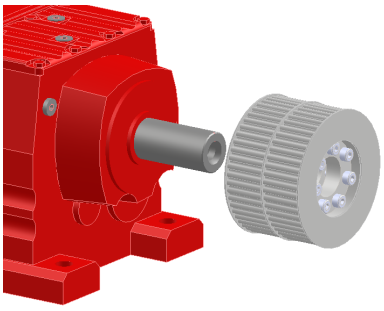
9 Remove the lifting belts from the lifting drive pulley.



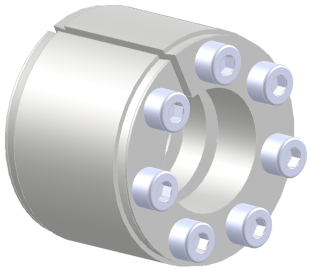
10 Loosen the screws in the clamping set that is inside the drive pulley.



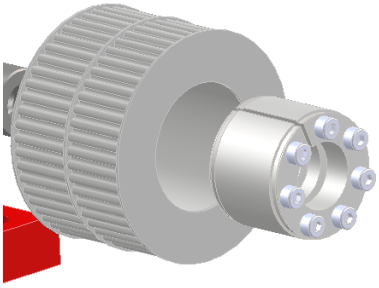
11 Pull the original drive pulley off the motor drive shaft.



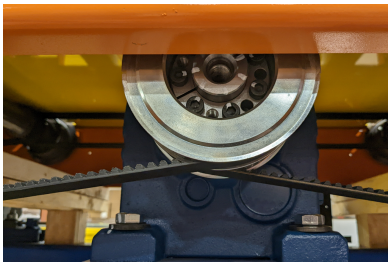
12 Remove the clamping set and inspect for damage. Replace if necessary.



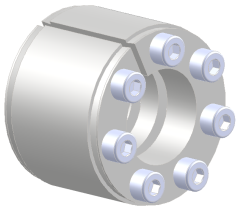
13 Insert the clamping set into the new drive pulley



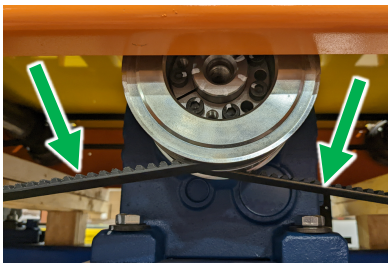
14 Align the drive pulley so that the lifting belts will run in the center.



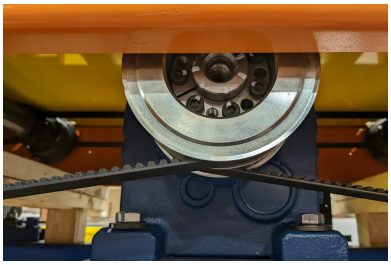
15 Tighten the screws of the clamping set in an alternating pattern to 41 Nm.



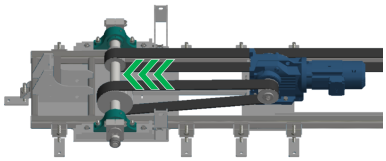
16 Mount the belts onto the drive pulley.



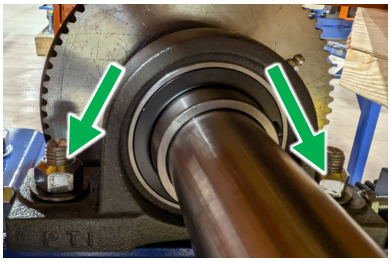
17 Align the drive pulley so that the lifting belts will run in the center.



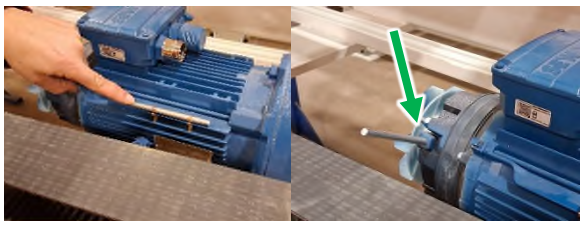
18 Reposition the partner cam shaft back to its original location



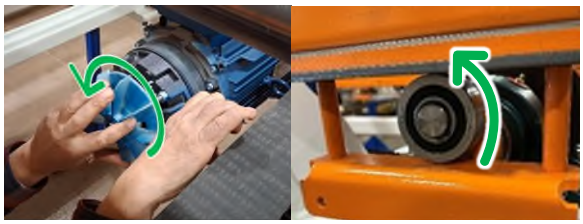
19 Tighten all the M16 bolts for the pillow block bearings.



20 Remove the brake pin from the side of the motor and use it to temporarily disengage the brake.

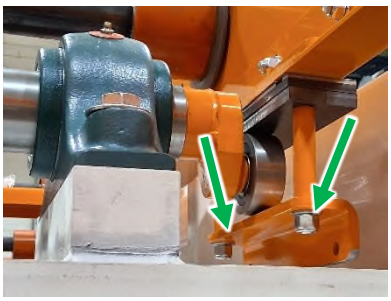


21 Slowly rotate the motor fan to raise the lift frame back to its highest position, relieving pressure from the safety pins or maintenance stands.

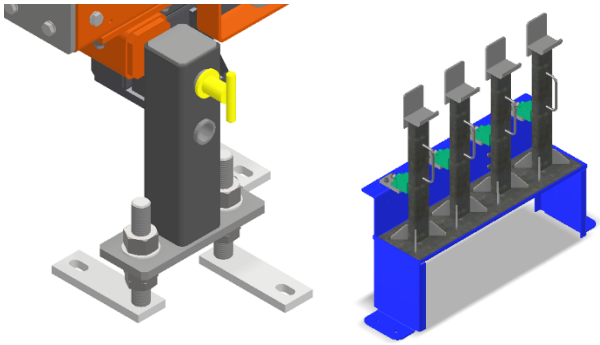


22 Re-engage the brake, return the pin to its storage location, and replace the motor's fan cover.

23 Re-install the bottom nuts and bottom plate of the lifting cam assembly on both sides of the cam shaft.



24 Remove the safety pins or maintenance stands and return them to their designated storage area.



25 Restore power to the system. Cycle the lift table to observe that the lifting belts are tracking straight and that the table is even all around. Correct if necessary.

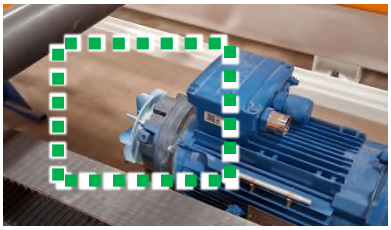
26 Lock Out the system again to return any safety covers then operate as normal.

How to Replace a Cam Roller

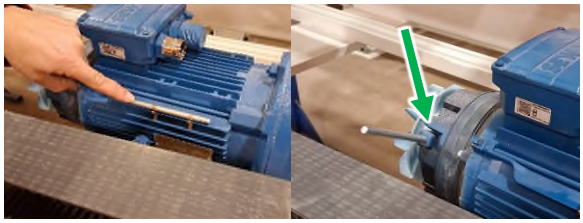
1 Place the lift into the maintenance position per the above section ***Placing the Lift into the Maintenance Position.***

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

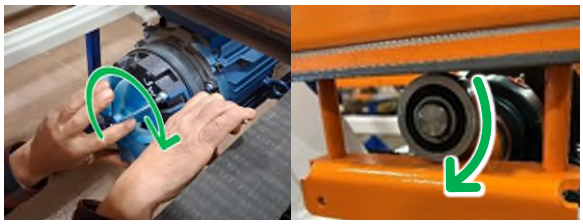
2 Remove the fan cover from the lift motor.



3 Remove the brake pin from the side of the motor and use it to temporarily disengage the brake.

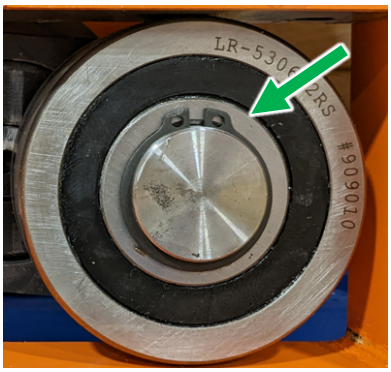


4 Slowly rotate the motor fan to lower the lift frame onto the safety pins or maintenance stands and relieve pressure from the cam roller.

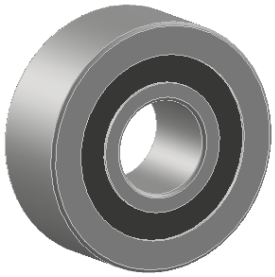


5 Re-engage the motor brake and return the pin to its storage location.

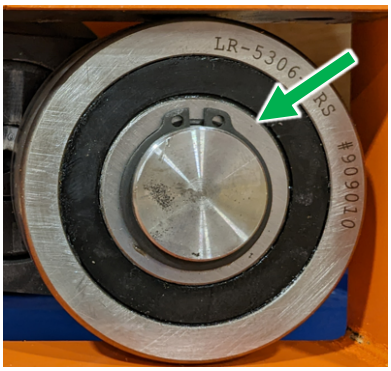
6 Remove the retainer ring from the original cam roller.



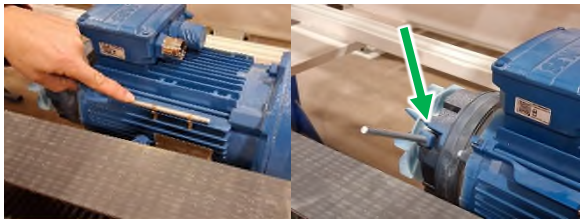
7 Remove old cam roller and replace with the new.



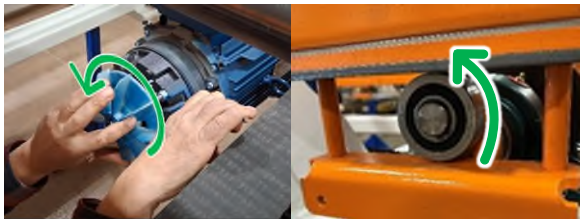
8 Install new retainer ring.



9 Remove the brake pin from the side of the motor and use it to temporarily disengage the brake.

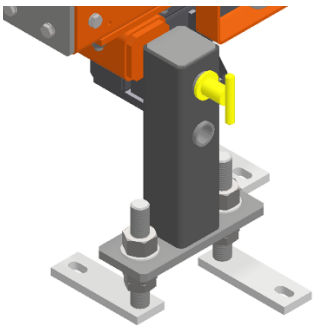


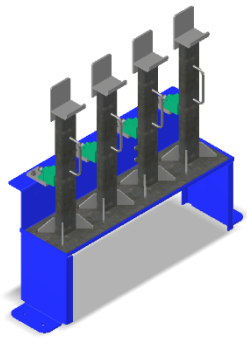
10 Slowly rotate the motor fan to raise the lift frame back to its highest position, relieving pressure from the safety pins or maintenance stands.



11 Re-engage the brake, return the pin to its storage location, and replace the motor's fan cover.

12 Remove the safety pins or maintenance stands and return them to their designated storage area.





13 Restore power to the system. Cycle the lift table to observe that the lifting belts are tracking straight and that the table is even all around. Correct if necessary.

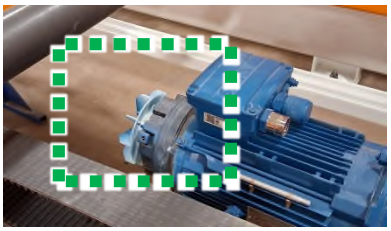
14 Lock Out the system again to return any safety covers then operate as normal.

How to Replace the Lift Gearmotor

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

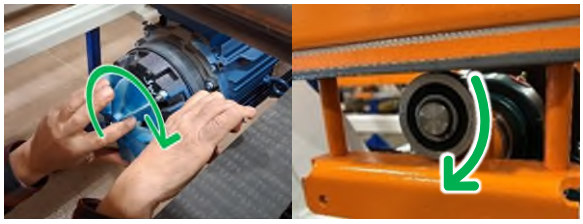
Lock out power to the lift using your plant's safety procedures.

2 Remove the fan cover from the lift motor.

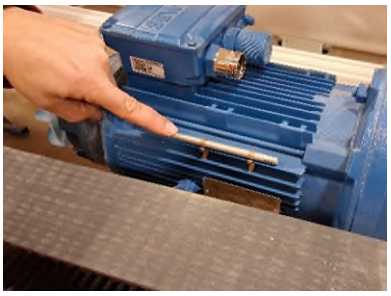


3 Remove the brake pin from the side of the motor and use it to temporarily disengage the brake.

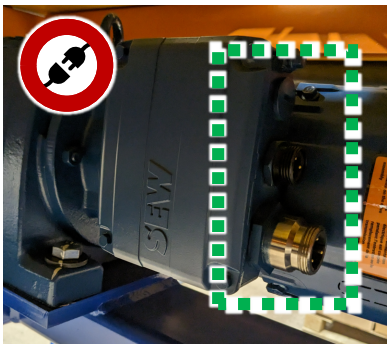
4 Slowly rotate the motor fan to lower the lift frame onto the safety pins or maintenance stands and relieve pressure from the cam rollers.



5 Re-engage the motor brake and return the pin to its storage location.

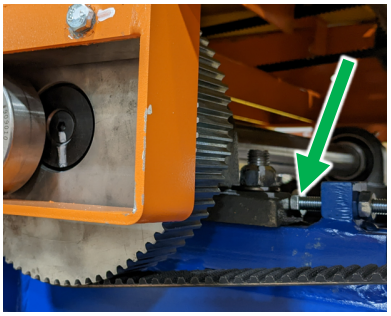


6 Disconnect the cables from the lift motor.

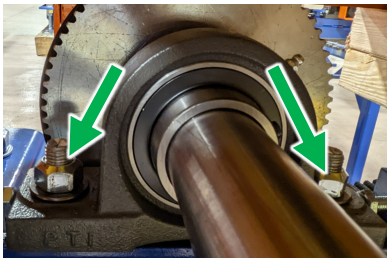


Loosen the inner jack screws for all the pillow block bearings.

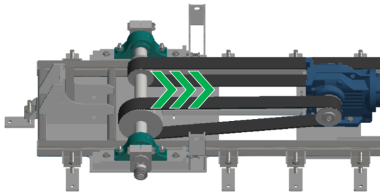
7 ***Note:*** *DO NOT make any adjustments to the outer jack screws at this time. They will be used as a reference when returning the pillow block bearings to their original positions.*



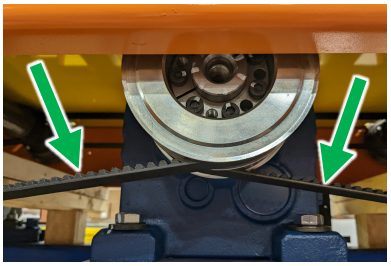
8 Loosen the pillow block bearing M16 bolts for all the pillow block bearings.



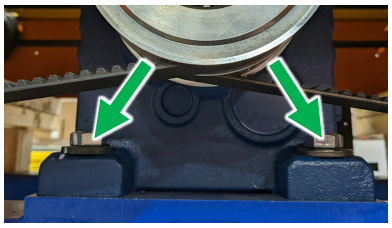
9 Pull the lifting cam assemblies slightly to the center of the lift to reduce tension on the lifting belts.



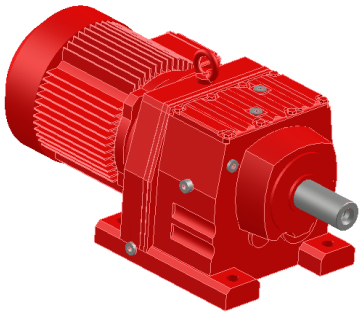
10 Remove the lifting belts off the drive pulley.



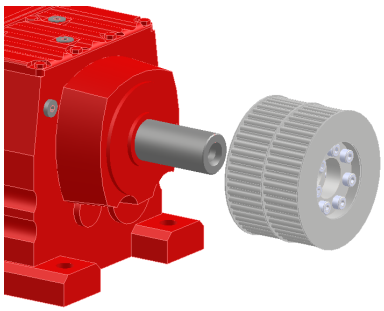
11 Loosen and remove the M16 bolts (4) that hold the lift motor to the lift table base.



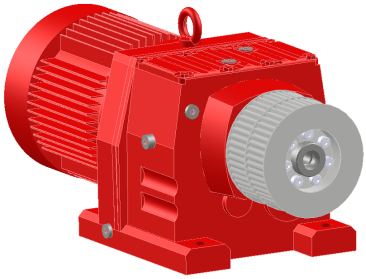
12 Remove the motor from the lift table using a jib crane.



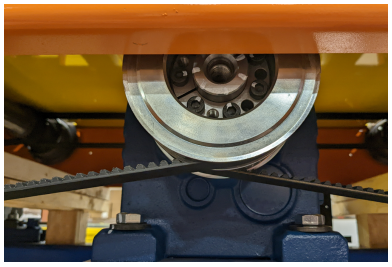
13 Inspect the drive pulley for wear and damage. If none is found, remove the pulley from the old motor and reinstall on the new motor. Otherwise install a new drive pulley onto the new motor.



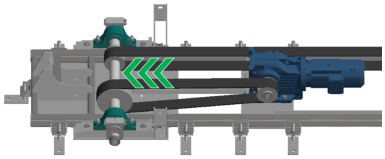
14 Install the new motor into the lift table using the jib crane.



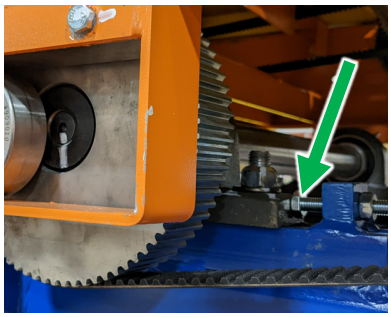
15 Align the drive pulley so that the lifting belts will run in the center.



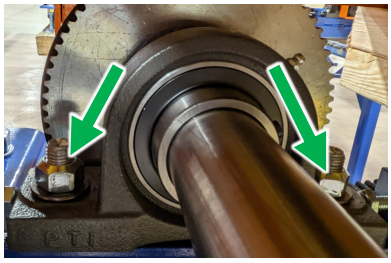
16 Reposition the lifting cam shafts back to their original locations.



17 Tighten the inner jack screws evenly keeping the lift pulleys parallel with the drive pulley until the lift belts are properly tensioned. If necessary, adjust the outer jack screws.

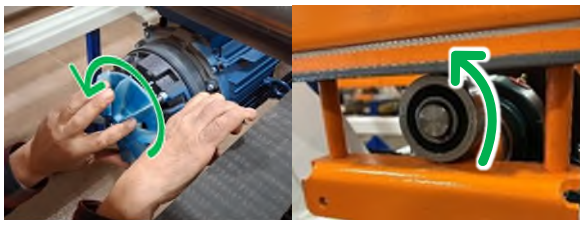


18 Tighten all the M20 bolts for the pillow block bearings.



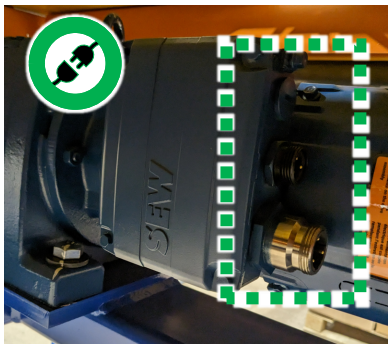
19 Remove the brake pin from the side of the motor and use it to temporarily disengage the brake.

20 Slowly rotate the motor fan to raise the lift frame back to its highest position, relieving pressure from the safety pins or maintenance stands.

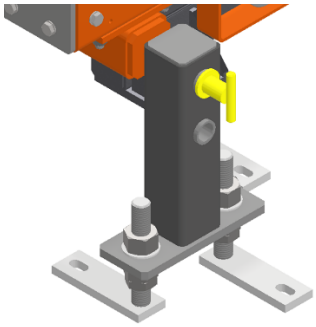


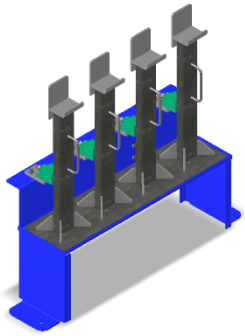
21 Re-engage the brake, return the pin to its storage location, and replace the motor's fan cover.

22 Reconnect the cables to the lift motor.



23 Remove the safety pins or maintenance stands and return them to their designated storage area.





24 Restore power to the system. Cycle the Lift Table to observe that the lifting belts are tracking straight and that the table is even all around. Correct if necessary.

25 Lock Out the system again to return safety covers then operate as normal.

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 ⚠

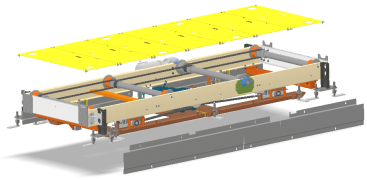
- Only qualified and trained personnel should perform the disassembly and assembly of electrical and mechanical components.
- Before attempting any maintenance on this equipment all involved personnel should follow plant internal regulations along with any state, federal, or province regulations. Do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

How to Replace a Gearmotor

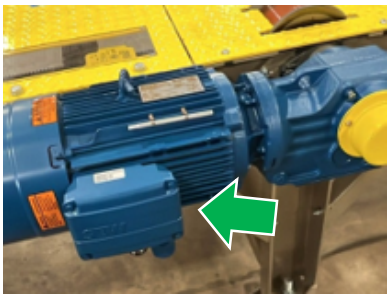
1 Place the lift into the maintenance position per the above section ***Placing the Lift into the Maintenance Position.***

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

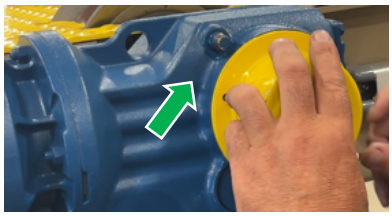
2 Remove covers where necessary.



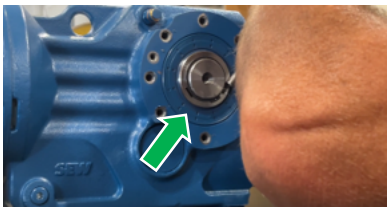
3 Remove all required electrical connections.



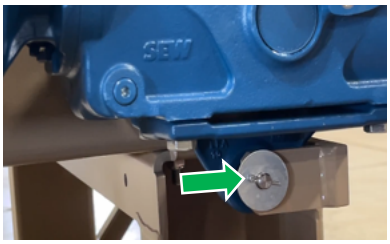
4 Remove all screws to remove the gearmotor cover.



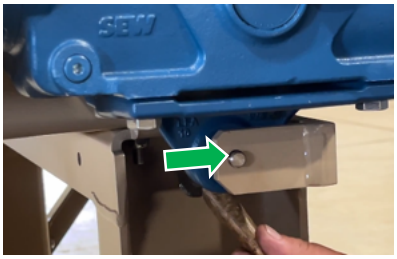
5 Remove the retaining ring from the drive shaft.



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

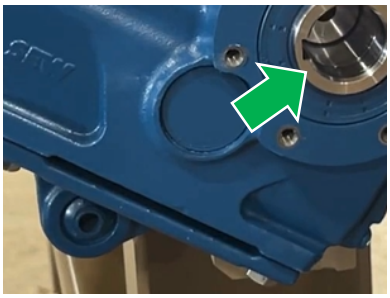


7 Remove the retaining pin from the frame and the gearmotor base.

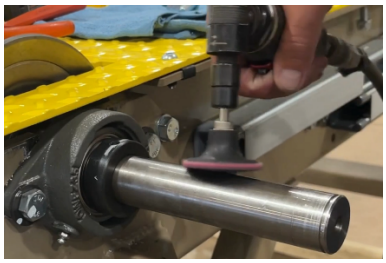


8 Using an overhead crane, carefully hoist the gearmotor off the unit.

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.

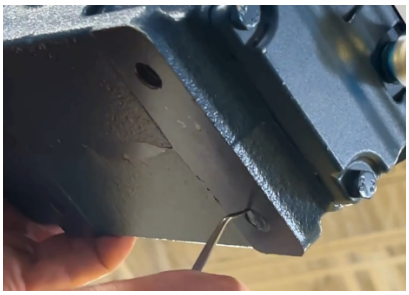
15 Remove the protective shipping caps and the contents of the hollow bore in the SEW gearmotor.

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.

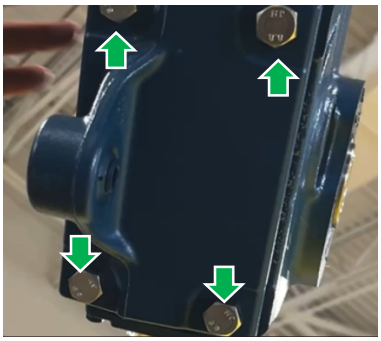
18 Take out the screw plugs located around the perimeter of the hollow bore.

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

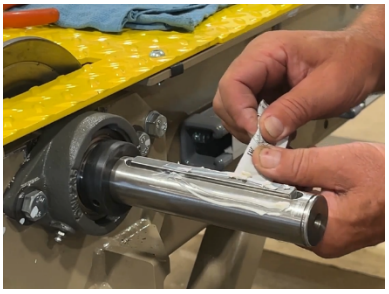


20 Apply Loctite to the bolts intended for securing the gearmotor base to the bottom of the gearmotor.

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

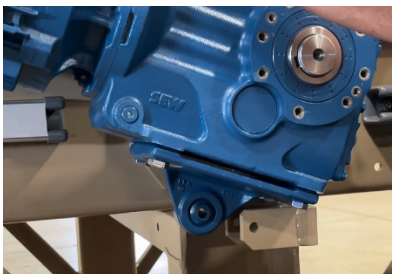


22 Apply the SEW-supplied NOCO-Paste for corrosion protection and lubrication on the drive shaft.



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.



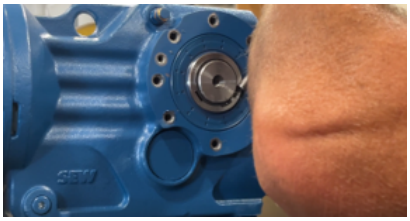
25 Reinsert the retaining pin on the frame and the gearmotor base.

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.

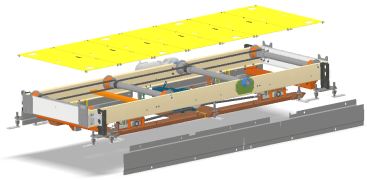
29 Reinsert the retaining ring on the drive shaft.



30 Place the gearmotor safety cover back on the gearmotor.

31 Re-attach all required electrical connections.

32 Place safety covers back on and tighten bolts.



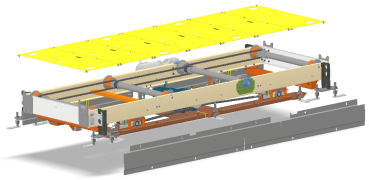
33 Restore power to the system and test for proper operation.

How to Replace a Driven Belt

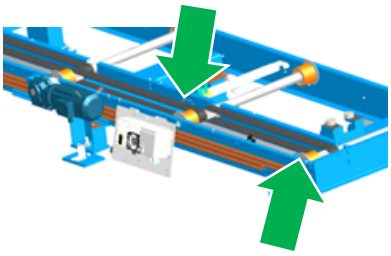
1. Place the lift into the maintenance position per the above section ***Placing the Lift into the Maintenance Position.***

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

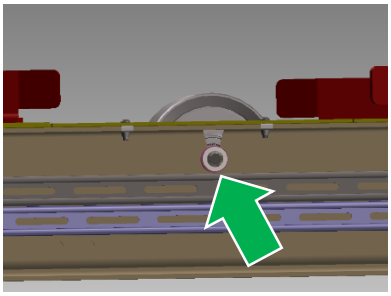
2. Remove safety covers.



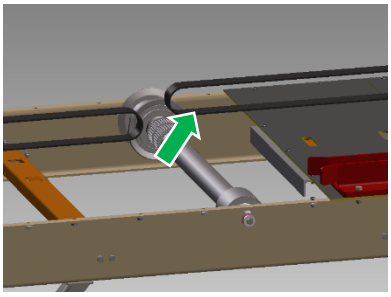
3. Both belt sharing rollers of the damaged belt will need to be loosened from the frame to free up any tension and to replace the belt.



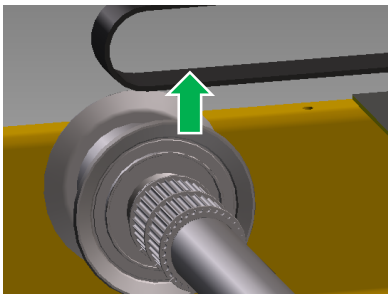
4. Remove the hex head bolts holding the shafts on both sides of the rollers.



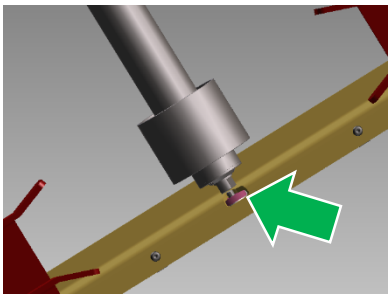
5. Lift roller shaft upward and remove one end of the belt. Perform the same to belt sharing roller shaft.



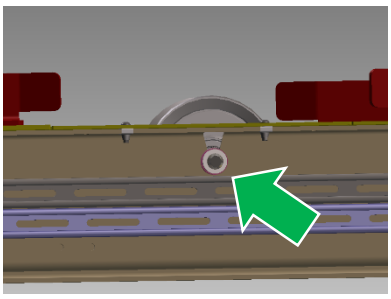
6 Remove damaged belt and replace it with a new belt. Thread each roller through the toothed belt(s) so that they are on the appropriate pulleys and rollers.



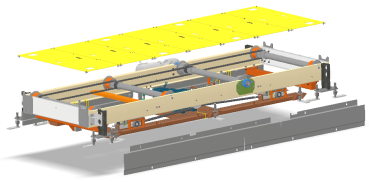
7 Insert rollers into both sides of the frame, turning the roller so that flats on the rod end fit into the slots.



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



9 Place safety covers back on and tighten screws.



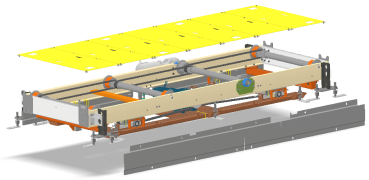
10 Restore power to the system and test for proper operation.

How to Replace a Driven Roller

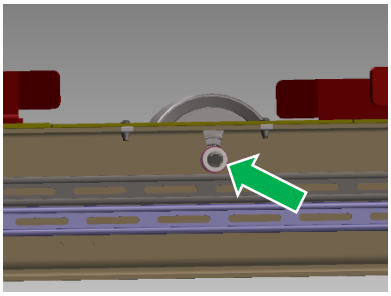
1. Place the lift into the maintenance position per the above section ***Placing the Lift into the Maintenance Position.***

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

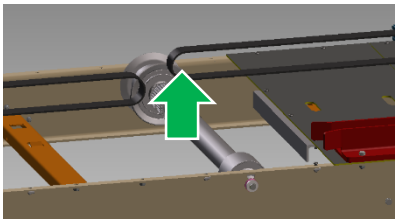
2. Remove safety covers.



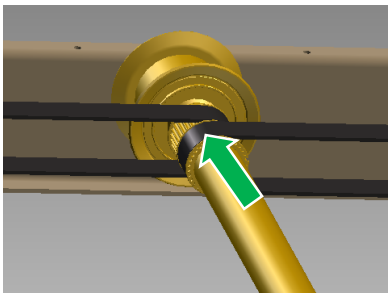
3. Remove the hex head bolts holding the shafts on both sides of the roller. To replace an interior roller, the belt sharing rollers may also need to be loosened from the frame to free up tension from the belts.



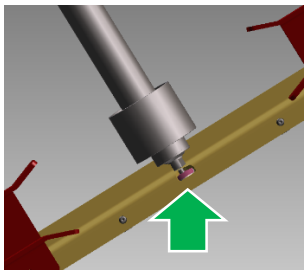
4. Lift roller shaft upward and remove belt(s) off roller shaft.



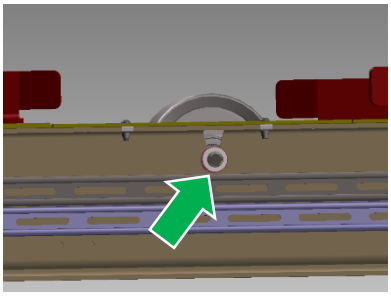
5. Insert new roller through the toothed belt(s) and place on the pulley.



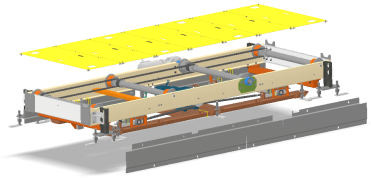
6 Turn the roller so that the flats on the rod end fit into the slots on both sides of the frame.



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



8 Place safety covers back on and tighten screws.



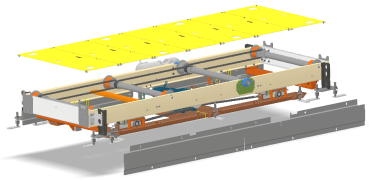
9 Restore power to the system and test for proper operation.

How to Replace a Drive Belt

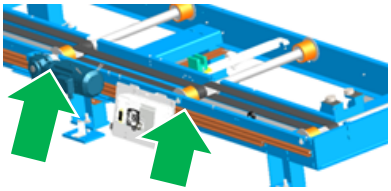
1. Place the lift into the maintenance position per the above section ***Placing the Lift into the Maintenance Position.***

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

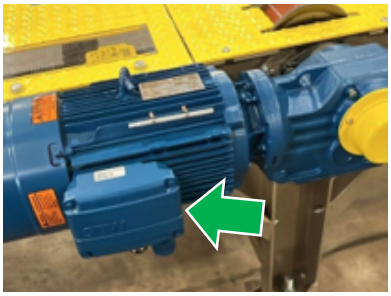
2. Remove safety covers.



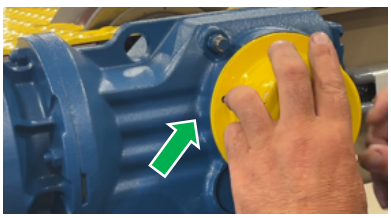
3. Both belt sharing rollers of the damaged belt will need to be loosened from the frame to free up any tension and to replace the belt.



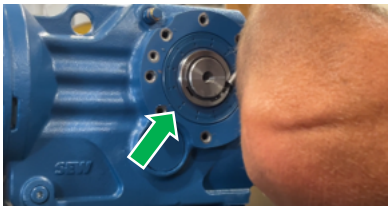
4. Remove all required electrical connections from the gearmotor.



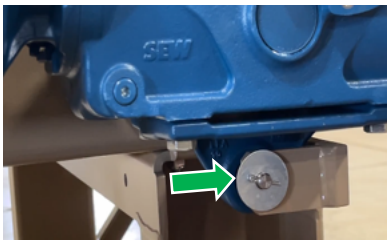
5. Remove all screws to remove the gearmotor cover.



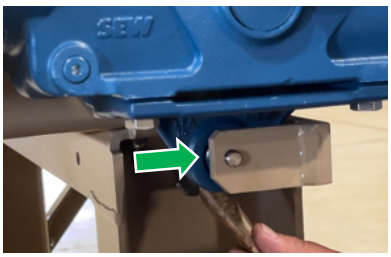
6 Remove the retaining ring from the drive shaft.



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

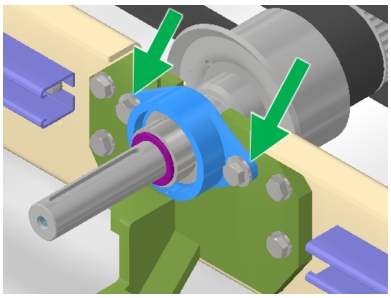


8 Remove the retaining pin from the frame and the gearmotor base.

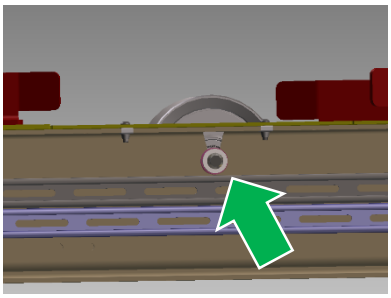


9 Using an overhead crane, carefully hoist the gearmotor off the unit.

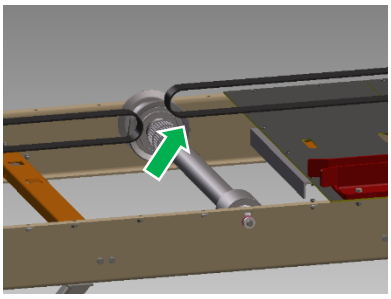
10 Remove the bolts securing the bearings to the frame on both ends of the drive roller.



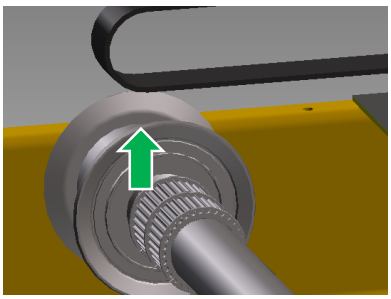
11 Remove the hex head bolts holding the shafts on both sides of the driven roller.



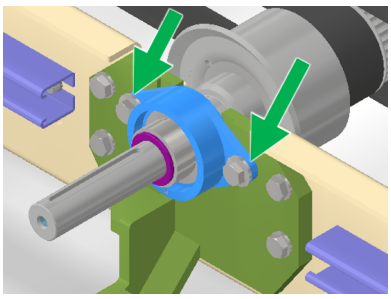
12 Lift roller shaft upward and remove one end of the belt. Perform the same to belt sharing roller shaft.



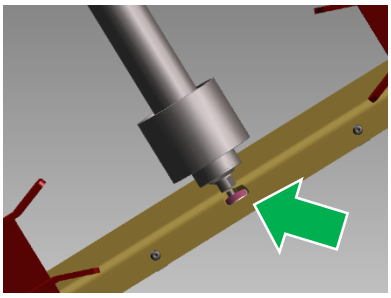
13 Remove damaged belt and replace it with a new belt. Thread each roller through the toothed belt(s) so that they are on the appropriate pulleys and rollers.



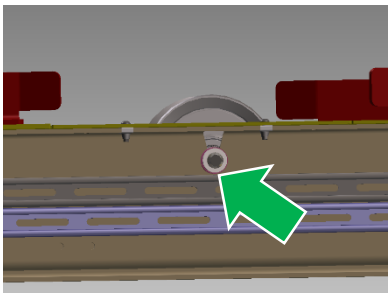
14 Place the drive roller back into position and tighten the bolts securing the bearings to the frame on both ends of the roller.



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

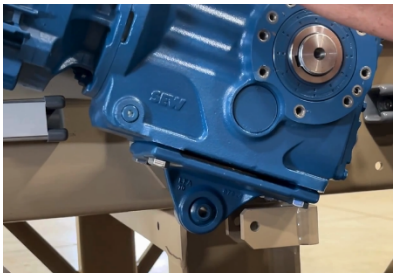


16 Retighten bolts on both sides of the driven roller on the Power Roll Bed.



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.



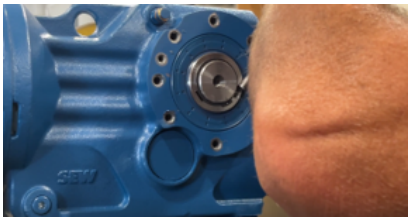
19 Reinsert the retaining pin on the frame and the gearmotor base.

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.

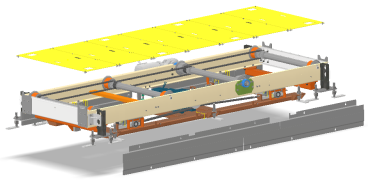
23 Reinsert the retaining ring on the drive shaft.



24 Place the gearmotor safety cover back on the gearmotor.

25 Re-attach all required electrical connections.

26 Place safety covers back on and tighten screws.



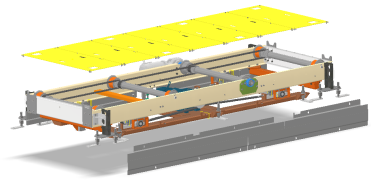
27 Restore power to the system and test for proper operation.

How to Replace a Drive Roller

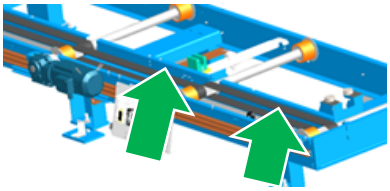
1. Place the lift into the maintenance position per the above section ***Placing the Lift into the Maintenance Position.***

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

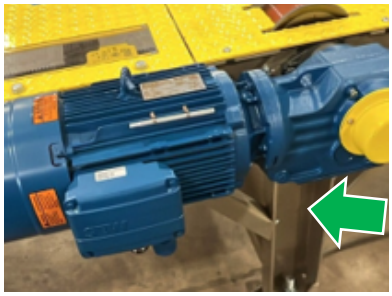
2. Remove safety covers.



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.

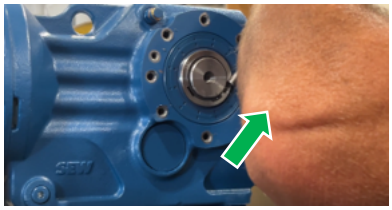


4. Remove all required electrical connections from the gearmotor.

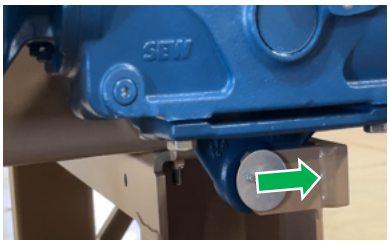


5. Remove all screws to remove the gearmotor cover.

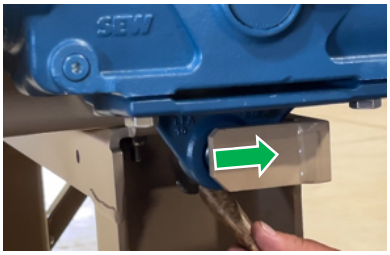
6 Remove the retaining ring from the drive shaft.



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

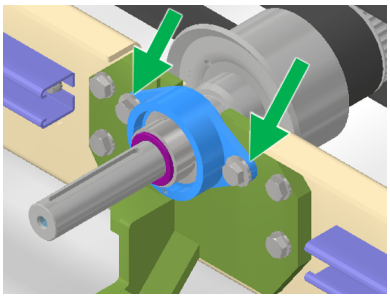


8 Remove the retaining pin from the frame and the gearmotor base.

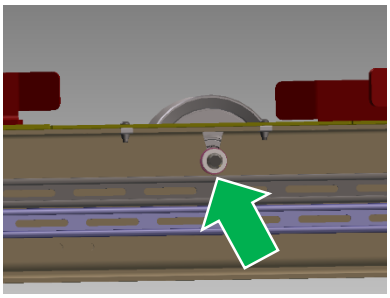


9 Using an overhead crane, carefully hoist the gearmotor off the unit.

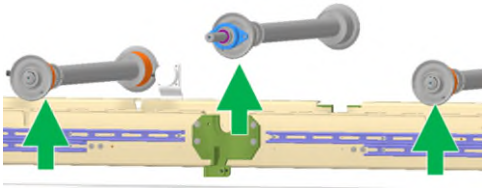
10 Remove the bolts securing the bearings to the frame on both ends of the drive roller.



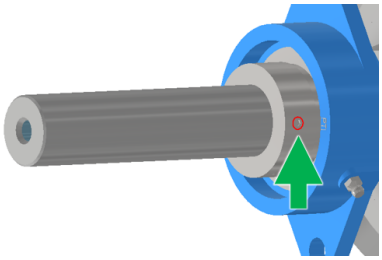
11 Remove the hex head bolts holding the shafts on both sides of the driven rollers.



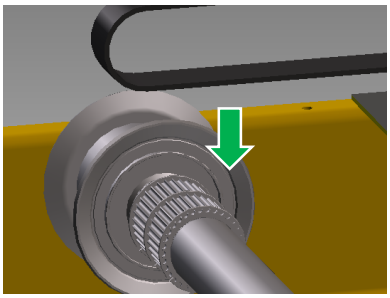
12 Lift the rollers out of the frame until you are able to remove the belts from the drive roller.



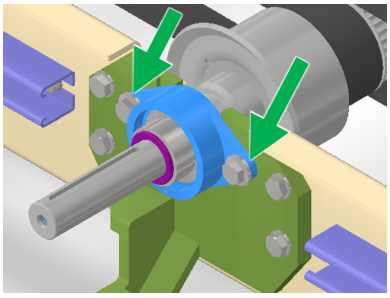
13 Loosen the set screws on both bearings on the drive roller to remove them. Place the bearings onto the new drive roller to be inserted.



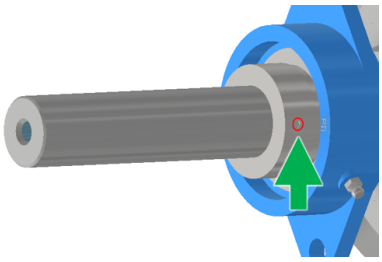
14 Place belts back on the removed rollers. Thread each roller through the toothed belt(s) so that they are on the appropriate pulleys and rollers.



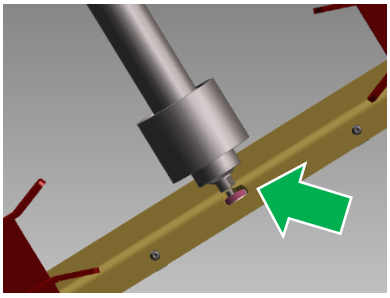
15 Place the drive roller back into position and tighten the bolts securing the bearings to the frame on both ends of the roller.



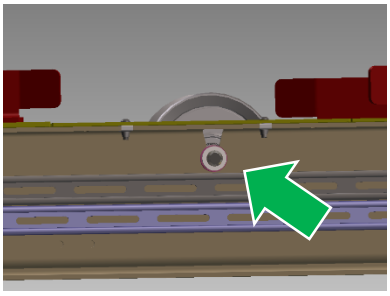
16 Retighten the set screws on both bearings on the drive roller.



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

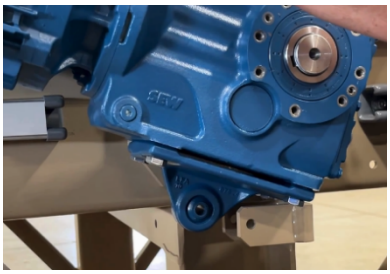


18 Retighten bolts on both sides of the driven roller on the Power Roll Bed.



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.



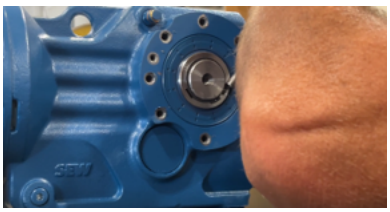
21 Reinsert the retaining pin on the frame and the gearmotor base.

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.

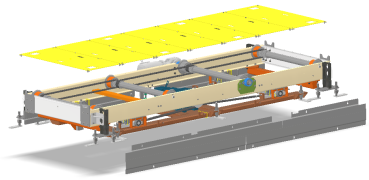
25 Reinsert the retaining ring on the drive shaft.



26 Place the gearmotor safety cover back on the gearmotor.

27 Re-attach all required electrical connections.

28 Place safety covers back on and tighten screws.



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