

4-Post Vertical Drop Lifter Maintenance & Service

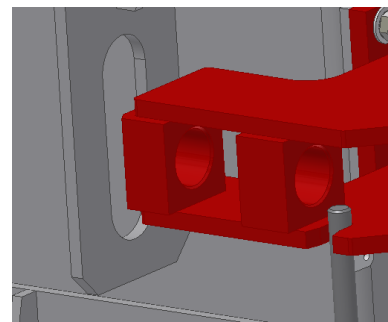
This section will describe service procedures for major mechanical elements of your system.

⚠ 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.

Securing the Vertical Drop Lifter

- 1 Lower either the elevator platform or counterweight so that its locking slot aligns with the lock pin bracket.



- 2 Shutdown and lockout the VDL according to plant lockout procedures.



- 3 Wear and secure the appropriate anti-fall PPE as required per your plant safety policies.

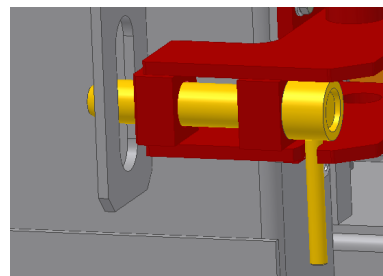


Using heavy duty chain falls and/or straps, secure the counterweight directly to the VDL's frame for extra support.
Note: DO NOT wrap the chains/straps over the Drive Assembly.



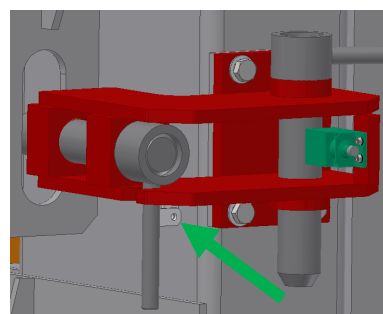
4

Move the appropriate safety pin from its stowed position on the lock pin bracket and completely insert it into the locking position on the bracket so that the end of the safety pin protrudes through the locking slot.



5

If the safety pin being used and the lock pin bracket are equipped with lock flags, insert your safety lock through the lock flags to ensure that safety pin is not prematurely removed.



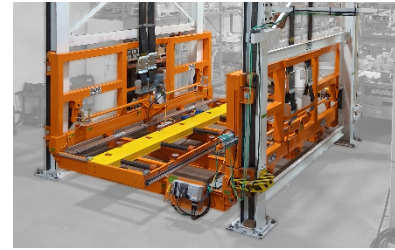
6

Engage the star wheel locking pins located on the drive assembly.



Replacing the Lifting Belts

- 1 Remove any load on the elevator platform.



- 2 Lower the elevator platform to its full Down position.
Jog the elevator platform down until it is sitting on the bumpers.



Mechanically secure the VDL per the above section:

Securing the Vertical Drop Lifter

- 3 Shutdown and lockout the VDL according to your plant's lockout procedures.



- 4 Wear and secure the appropriate anti-fall PPE as required per your plant safety policies.

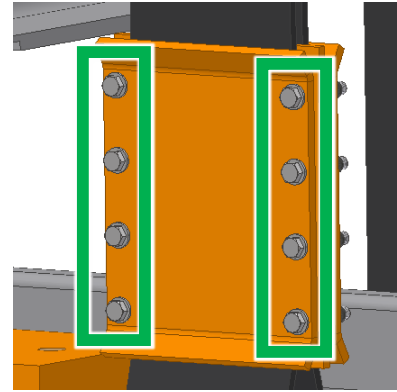


- 5 Using heavy duty chain falls and/or straps, secure the counterweight directly to the VDL's frame for extra support.
Note: DO NOT wrap the chains/straps over the Drive Assembly.

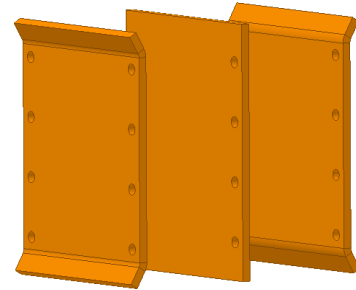


COUNTERWEIGHT BELTS REMOVAL

- 6 Loosen and remove the bolts that hold the counterweight belt clamping plates together while a colleague is holding the plates.



- 7 Discard the torque nuts but keep the bolts and washers.
Stow the clamping plates in a safe location.



- 8 Pull the belt off the drum and toss it over to the side opposite the counterweight.



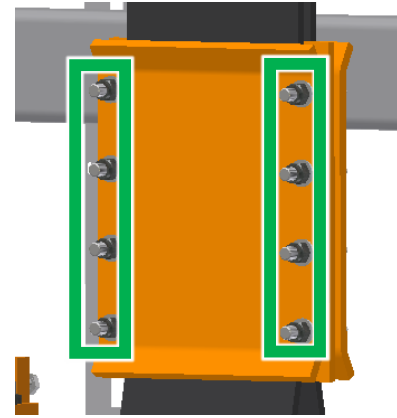
- 9 Repeat steps 6-8 for the remaining belts.



ELEVATOR PLATFORM BELTS REMOVAL

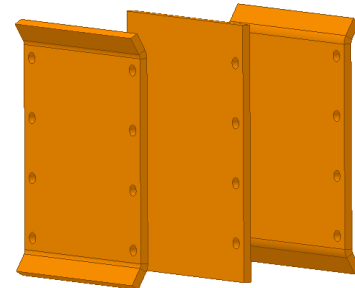
10

On the elevator platform, loosen and remove the bolts, washers, and torque nuts that hold the belt clamping plates together while a colleague is holding the plates.

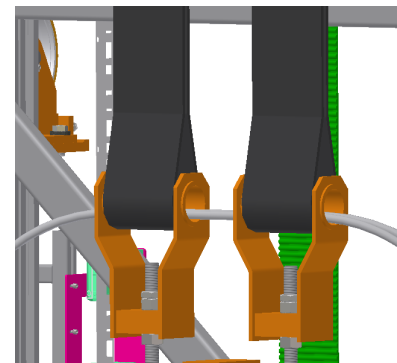

11

Discard the torque nuts but keep the bolts and washers.

Stow the clamping plates in a safe location.


12

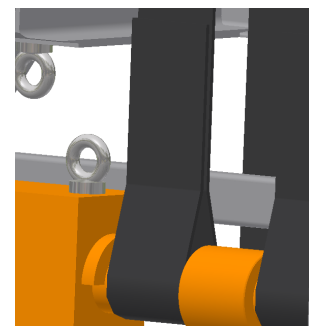
Pull the old belts off their turnbuckles and discard responsibly.



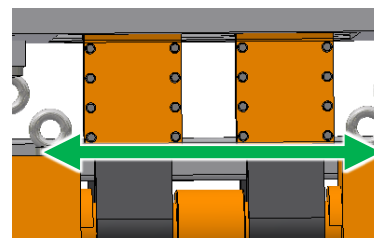
COUNTERWEIGHT BELTS INSTALLATION

13

Wrap one end of a belt around the top of the counterweight.



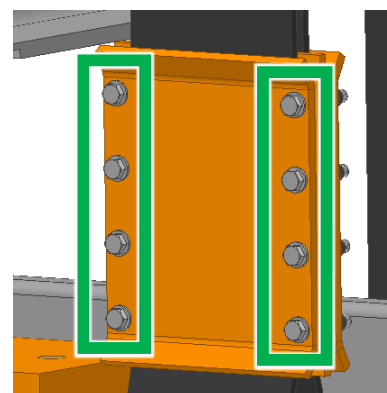
- 14** Place the clamping plates ensuring the bottom of the clamp plates is even with the top of the counterweight.



Insert the M16 Grade 8.8 bolts, washers, and new torque nuts to hold the clamping plates together.

- 15** Alternately tighten them in steps up to **210Nm** (115 ft-lbs) with the torque wrench.

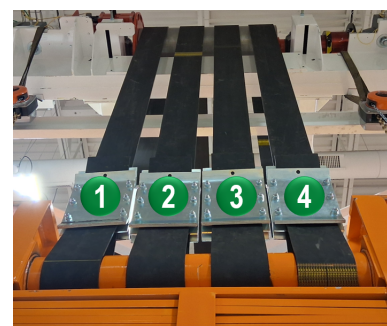
Paint witness marks on the bolts to the clamping plates when completed.



Wrap the new belt onto the top of the lifting drum.

- 16** For belts 1 & 4: Lower the other belt end down to the elevator platform.

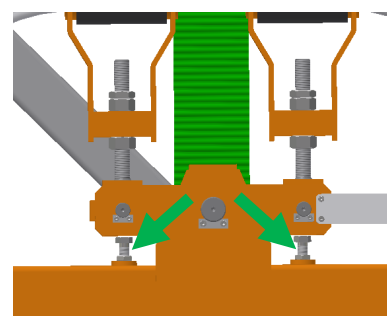
For belts 2 & 3: The belts must reach across the VDL frame and wrap around the Idle Drum before being lowered down to the elevator platform.



- 17** Repeat steps **13-16** for the remaining belts.

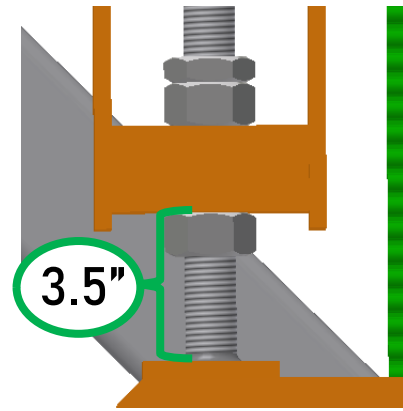


- 18** Raise the support bolts underneath the slack belt actuator lever using the 30mm wrench until they hold it level.



19

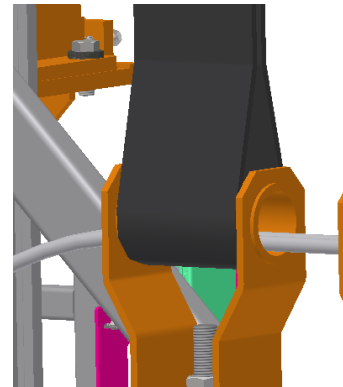
Reposition the turnbuckles' height above the lever to a setup value of 3.5 inches using the 46mm wrench as necessary on the locking and adjusting nuts.



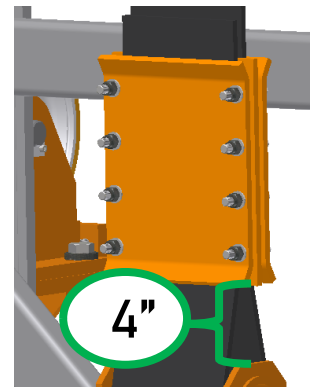
ELEVATOR PLATFORM BELTS INSTALLATION

20

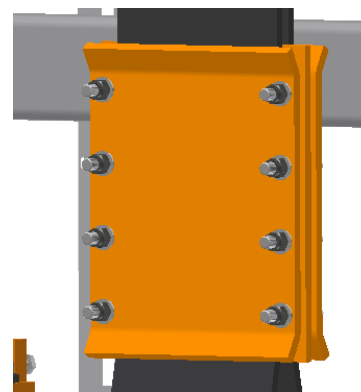
Wrap one end of a belt around the turnbuckle.


21

Place the clamping plates with the bottom of the clamp plates four (4) inches above the top of the turnbuckle.



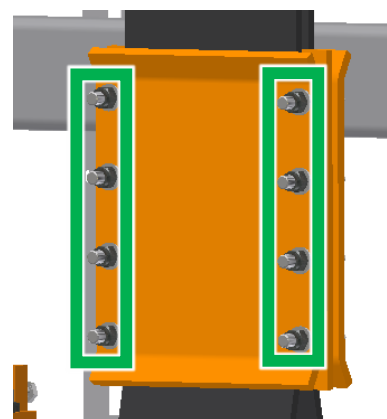
- 22** Insert and hand tighten the M16 Grade 8.8 bolts, washers, and new torque nuts to hold the clamping plates together.



Make the lifting belt as taut as possible as it hangs from the lifting drum and around the turnbuckle.

- 23** Tighten the clamping plates nuts and bolts in steps up to **210Nm** (155 ft-lbs) with a torque wrench.

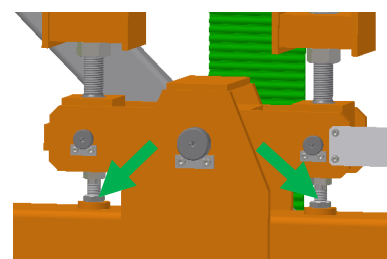
Paint witness marks on the bolts to the clamping plates when completed.



- 24** Repeat steps **20-23** for the remaining belts.



- 25** Lower the support bolts into the lift carriage frame.



⚠ WARNING ⚠

Not lowering these support bolts will prevent the slack/broken belt sensor from working properly.

FINAL STEPS

26

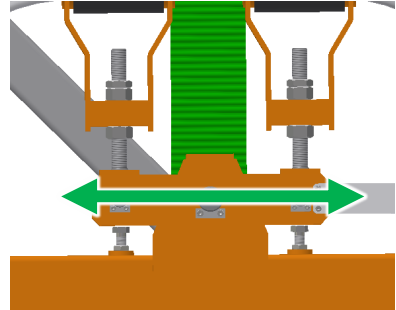
Remove the straps that are holding the counterweight to the top of the VDL frame.

Note: There should be load tension on the lifting belts now.



27

Check that the slack/broken belt levers are level. If not, adjust a turnbuckle as necessary to level the lever.



28

Remove all equipment and debris from the area.
Remove all safety pins and return them to their designated storage locations. secure the VDL per the procedure in Safety.



29

Restore power to the VDL. Cycle the VDL to observe that the lifting belts are tracking straight and that the elevator is even all around. Correct if necessary.



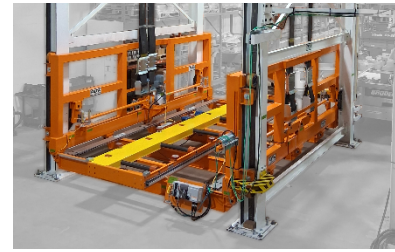
30

Return system to operation.



Replacing a Guide Roller – Elevator Platform

- 1 Lower the elevator platform to the Full Down position.



Mechanically secure the VDL per the above section:
Securing the Vertical Drop Lifter

- 2 Shutdown and lockout the VDL according to your plant's lockout procedures.



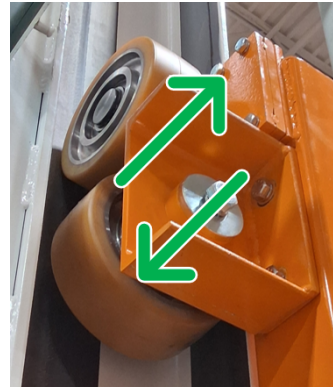
- 3 Locate the guide roller to be serviced on the elevator.



- 4 Loosen and remove the 6 bolts securing the guide roller assembly to the elevator frame.



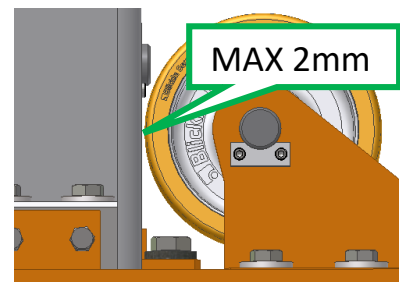
- 5 Remove the original guide roller assembly and replace with the new one.



- 6 Tighten the 6 bolts securing the guide roller assembly to the elevator frame.



- 7 Verify that there is a gap between the roller and frame with a maximum of 2mm.



- 8 Power up and restore the VDL to service.



Replacing a Guide Roller - Counterweight

- 1 Raise the elevator to the Full Up position (counterweight in the Full Down position).



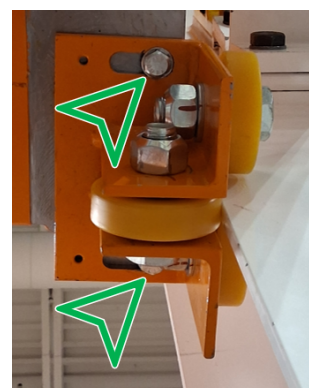
- 2 Mechanically secure the VDL per the above section:
Securing the Vertical Drop Lifter
Shutdown and lockout the VDL according to your plant's lockout procedures.



- 3 Locate the guide wheel to be serviced on the counterweight.



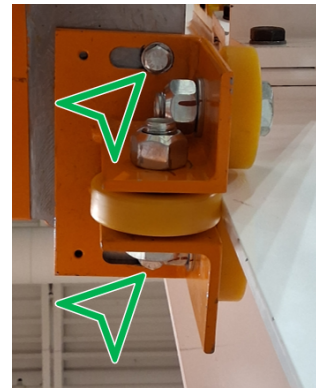
- 4 Loosen and remove the 2 bolts securing the guide wheel assembly to the counterweight frame.



- 5 Remove the original guide roller assembly and replace with the new one.



- 6 Tighten the 2 bolts securing the guide wheel assembly to the carriage frame.



- 7 Power up and restore the VDL to service.



How to Replace a Locking Mechanism Gearmotor

Mechanically secure the VDL per the above section:

Securing the Vertical Drop Lifter

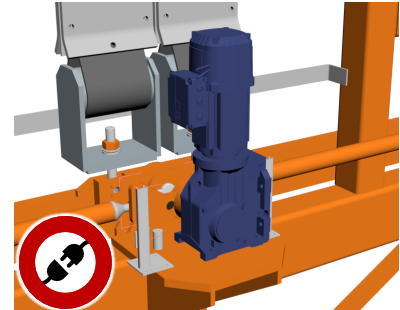
1

Shutdown and lockout the VDL according to your plant's lockout procedures.



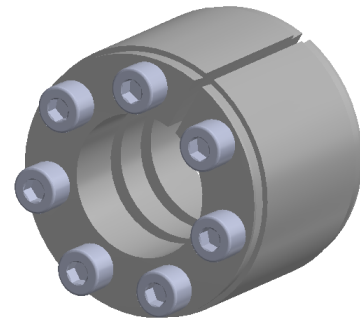
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Disconnect all cables from the gearmotor.



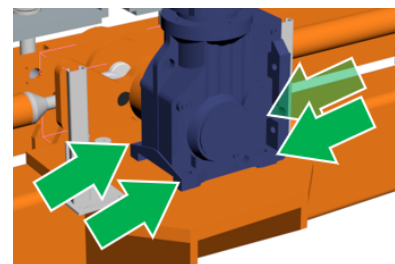
3

Loosen the bolts around the clamping set on the drive shaft and remove it.

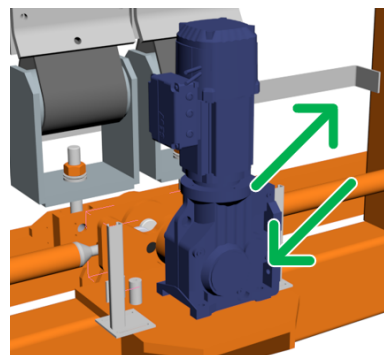


4

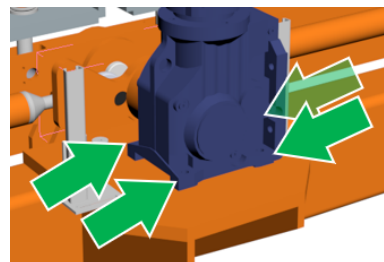
Remove the 4 bolts securing the motor to the elevator frame.



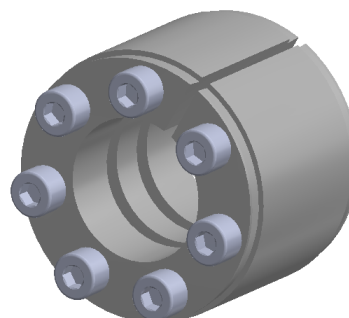
- 5 Replace the old gearmotor with the new unit.



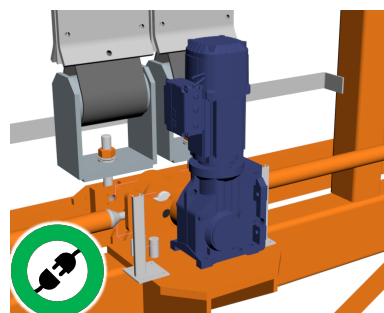
- 6 Fasten down the new gearmotor to the elevator frame with the 4 bolts.



- 7 Replace the clamping set onto the drive shaft.
Tighten the screws evenly **crosswise** and in several stages using a torque wrench to **17Nm**.



- 8 Reconnect all cables to the gearmotor.



- 9 Cycle the VDL and observe for proper function. Correct if necessary.

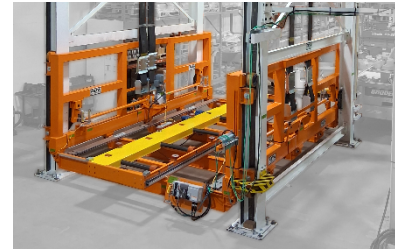


- 10 Return VDL to service.



How to Switch Lift Gearmotor from Primary to Standby

- 1 Lower the elevator platform to the Full Down position.



Mechanically secure the VDL per the above section:

Securing the Vertical Drop Lifter

- 2 Shutdown and lockout the VDL according to your plant's lockout procedures.



- 3 Disconnect all cables/wires from both motors.

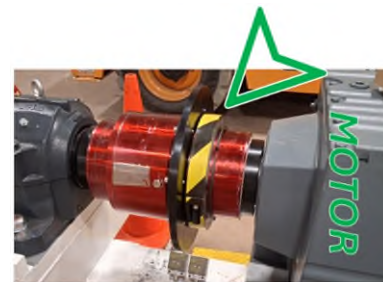


Identify which drive is currently **Primary** and which is the **Standby**:

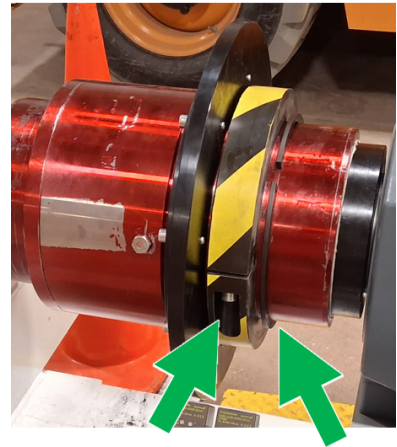
Primary: The collar is on the **bearing-side** of the coupler.

Standby: The collar is on the **motor-side** of the coupler.

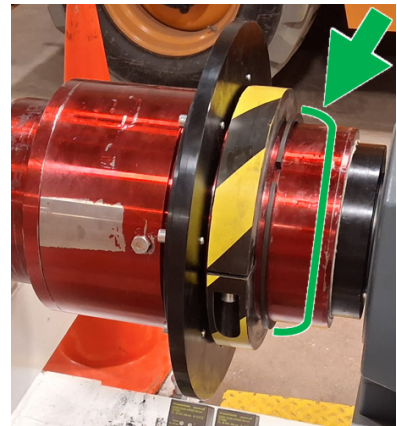
- 4



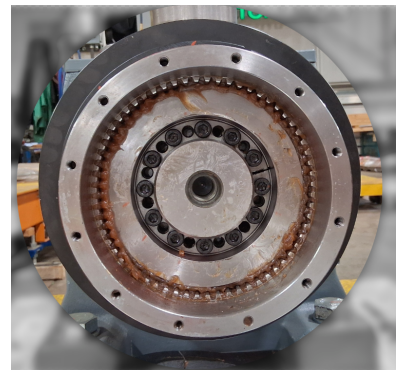
- 5 Remove the black-and-yellow collars from **both** drives by removing the bolts holding them together.



- On the **Primary Drive**: Slide the coupler **away** from the motor to disengage the drive.
- 6 Replace the collar so it sits between the coupler and the retaining ring on the shaft.
This motor is now disengaged.



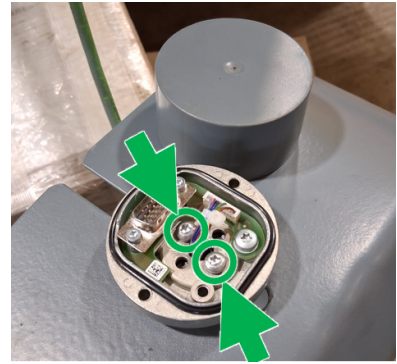
- On the **Standby Drive**: Slide the coupler **toward** the motor as far as it can, until the internal spline teeth collide with their partner spline.
- 7 **Note:** If the splines align perfectly and no adjustment is needed, you can skip to step 19.



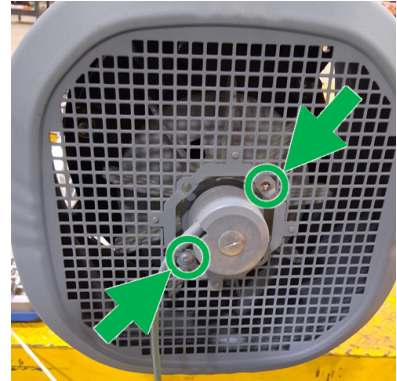
- 8 **Aligning the splines:**
 On the **Standby Drive**: Remove the first fan cover from the motor.



- 9 Remove the plastic cap from the fan circuit board and loosen the 2 star bolts to free it from the fan cover.



- 10 Remove the two star screws from the fan motor to detach it from the second fan cover.



- 11 Remove the second fan cover.



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



13

Slowly rotate the motor fan to rotate the spline while another person applies pressure to the coupler until the spline teeth align. Once in position the coupler should be touching the retaining ring on the shaft.

**14**

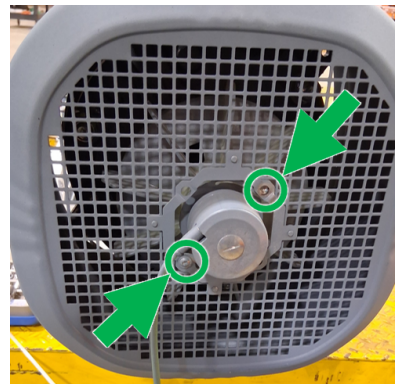
Reengage the motor brake and place the brake pin back into its designated location.

**15**

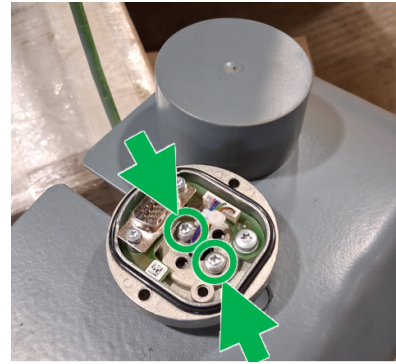
Replace the second fan cover

**16**

Reinstall the two star screws onto the fan motor to attach it to the second fan cover.



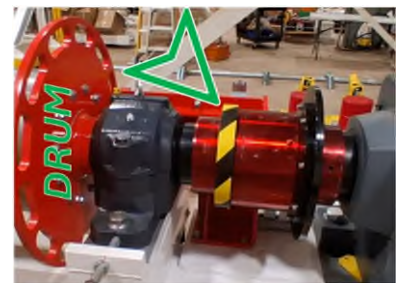
- 17** Slide the fan circuit board back into position on the first fan cover and tighten down the 2 star bolts to secure it.
Replace the plastic cap on the circuit board.



- 18** Reinstall the first fan cover.



- 19** Reinstall the collar on the **bearing-side** of the shaft so that it holds the coupler in its new position.
This motor is now engaged and the “Primary” motor.



- 20** Reconnect all cables/wires to both motors.



- 21** Restore power to the system and remove all safety pins.
Return the safety pins to their designated storage areas.



- 22** Cycle the VDL and observe for proper function. Correct if necessary.

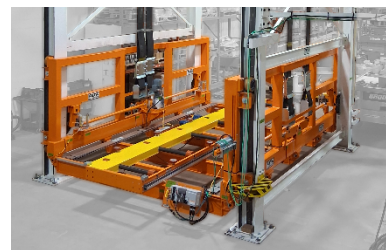


- 23** Return VDL to service.



How to Replace a Lift Gearmotor

- 1 Lower the elevator platform to the Full Down position.



Mechanically secure the VDL per the above section:

Securing the Vertical Drop Lifter

- 2 Shutdown and lockout the VDL according to your plant's lockout procedures.



- 3 **Note:** The following steps assume that you are replacing the **Standby** motor. If you need to replace the **Primary** motor, you must first perform the steps detailed in the above section "How to Switch Lift Gearmotor from Primary to Standby."



- 4 Disconnect all cables/wires from the Standby motor.

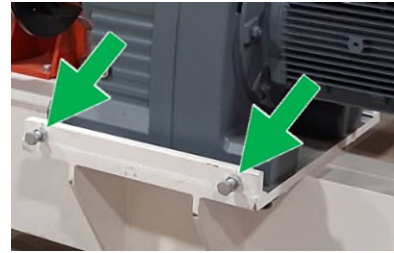


- 5 Remove the bolts on the inner coupler ring to separate the shaft coupler.

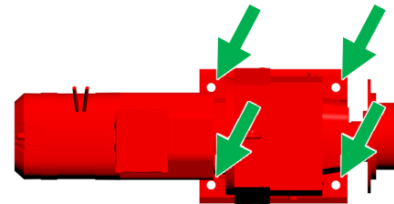


Loosen the inner jack screws on the gearmotor.

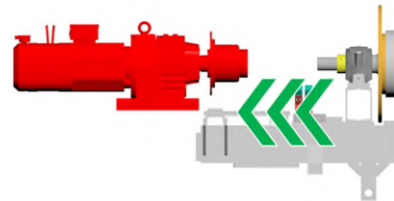
- 6** **Note:** *DO NOT* make any adjustments to the outer jack screws at this time. They will be used as a reference when returning the new gearmotor to its original position.



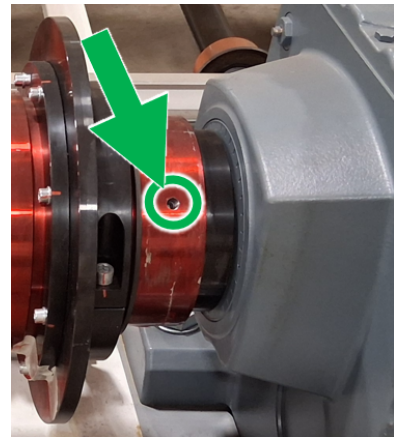
- 7** Remove the 4 bolts securing the gearmotor to the frame.



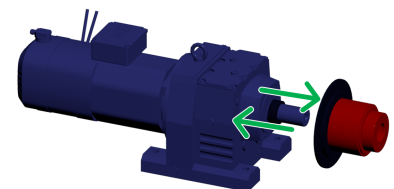
- 8** Carefully pull the gearmotor and coupler away from the shaft as one piece.



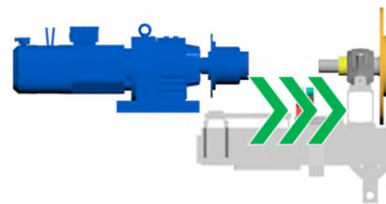
- 9** Loosen the set screw on the coupler.



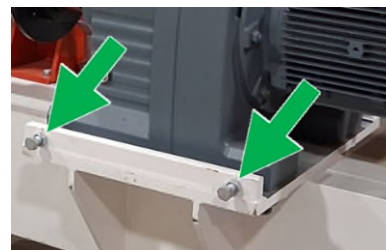
- 10** Remove the coupler and spacers and place them onto the new gearmotor unit. Tighten down the coupler's set screw on the new motor shaft once in position.



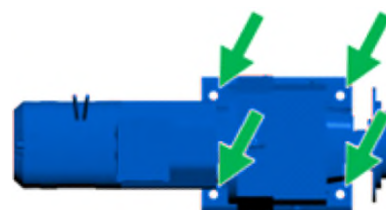
- 11** Carefully move the new gearmotor + coupler back into position on the drive unit.



- 12** Tighten the inner jack screws evenly keeping the gearmotor parallel with the drive assembly



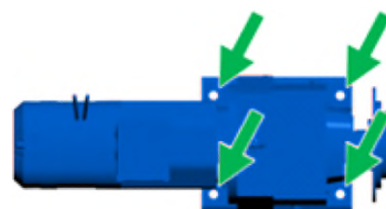
- 13** Hand-tighten bolts at the gearmotor base.



- 14** Tighten the bolts on the inner coupler ring to reconnect the shaft coupler.



- 15** Tighten the bolts securing the gearmotor to the base plate.



- 16** Reconnect all removed cables/wires to the Standby motor.



- 17** Restore power to the system and remove all safety pins.
Return the safety pins to their designated storage areas.



- 18** Cycle the VDL and observe for proper function. Correct if necessary.



- 19** Return VDL to service.

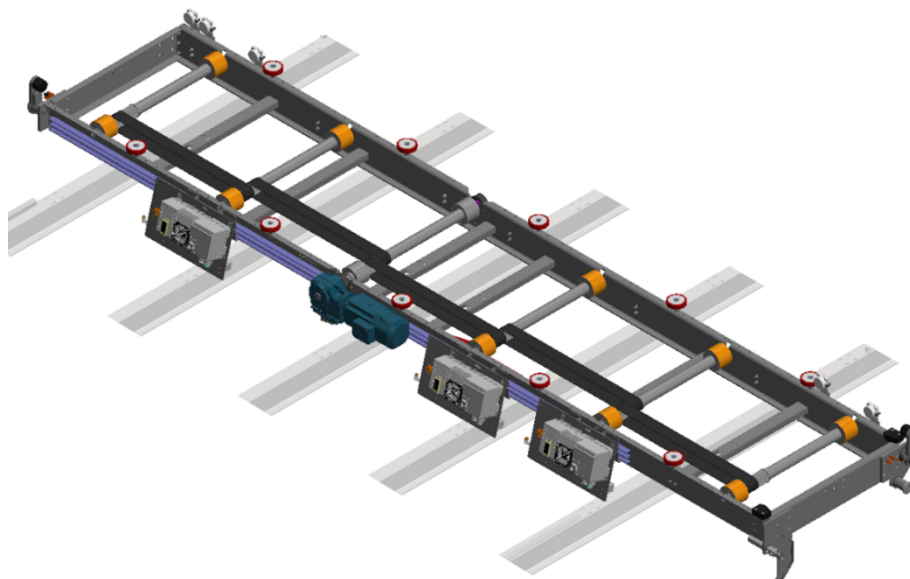


Mounted Power Roll Bed Options

Depending on the requirements of the 4-Post Vertical Drop Lifter there may be a different Power Roll Bed mounted to the elevator platform.

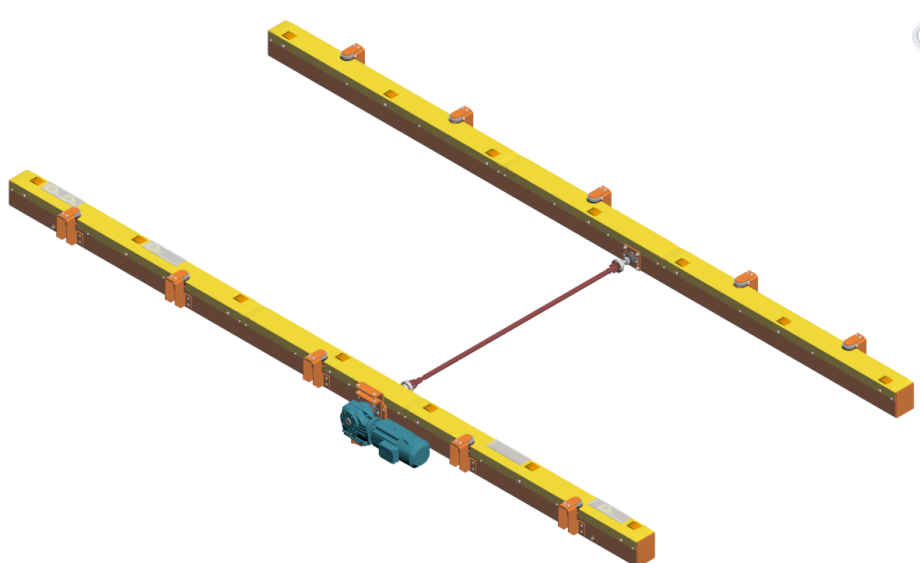
Please use the visual aids on this page to distinguish which Power Roll Bed is installed and use the applicable Maintenance & Service section below.

1. Power Roll Bed Normal Application



Render shown with safety covers removed

2. Skillet Power Roll Bed



Power Roll Bed Normal Application 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.

How to Replace a Gearmotor

Mechanically secure the VDL per the above section:

Securing the Vertical Drop Lifter

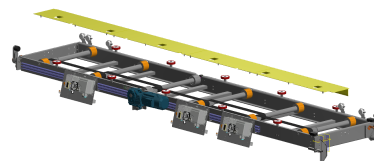
1

Shutdown and lockout the VDL according to your plant's lockout procedures.



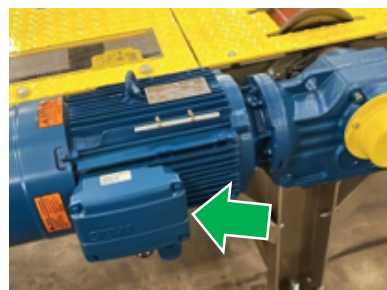
2

Remove covers where necessary.

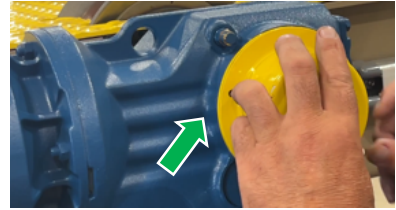


3

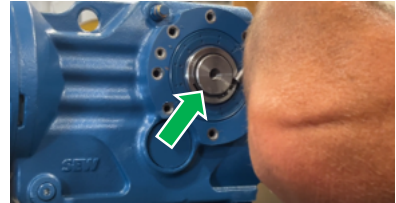
Remove all required electrical connections.



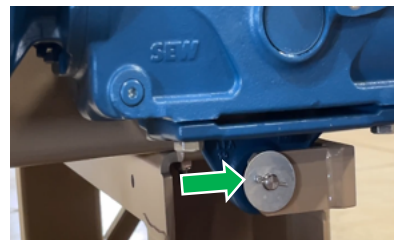
- 4 Remove all screws to remove the gearmotor cover.



- 5 Remove the retaining ring from the drive shaft.



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



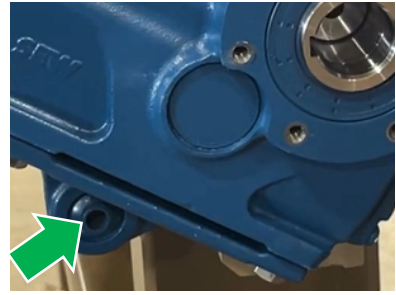
- 7 Remove the retaining pin from the frame and the gearmotor base.



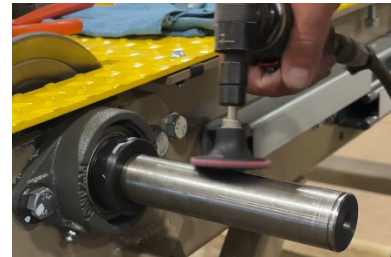
- 8 Using an overhead crane, carefully hoist the gearmotor off the unit.



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



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



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



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



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



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



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



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



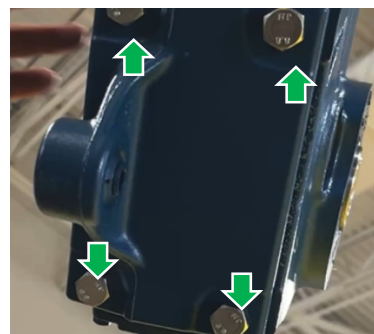
- 17** Remove the screw plugs from the bottom of the gearmotor as well.



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



- 19** Affix the gearmotor base to the underside of the gearmotor.



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



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



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



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



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



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



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



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



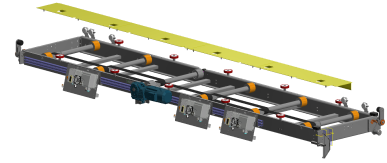
- 28** Place the gearmotor safety cover back on the gearmotor.



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



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



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



How to Replace a Driven Belt

Mechanically secure the VDL per the above section:

Securing the Vertical Drop Lifter

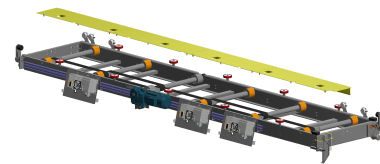
1

Shutdown and lockout the VDL according to your plant's lockout procedures.



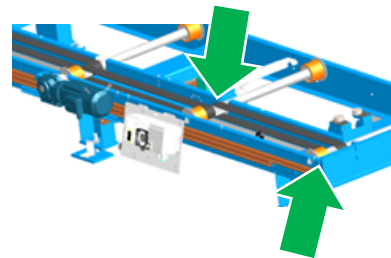
2

Remove covers.



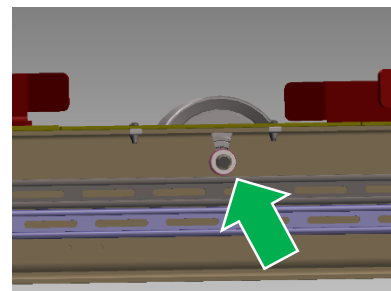
3

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.



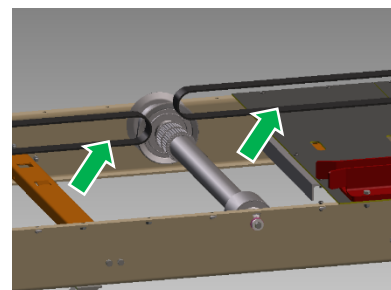
4

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

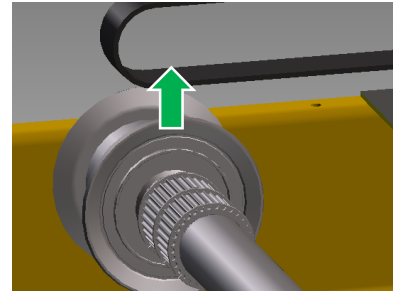


5

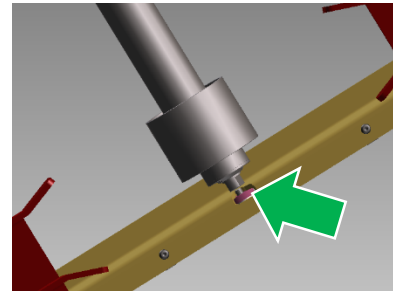
Lift roller shaft upward and remove one end of the belt. Perform the same to belt sharing roller shaft.



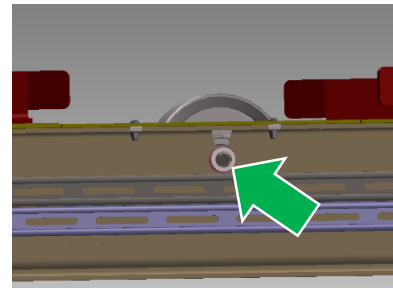
- 6** Remove damaged belt and replace it with a new belt. Thread each roller through the toothed belt(s) so that they are on the appropriate pulleys and rollers.



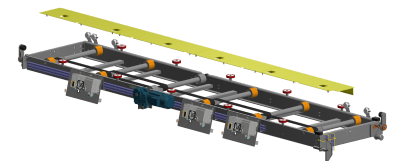
- 7** Insert rollers into both sides of the frame, turning the roller so that flats on the rod end fit into the slots.



- 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

Mechanically secure the VDL per the above section:

Securing the Vertical Drop Lifter

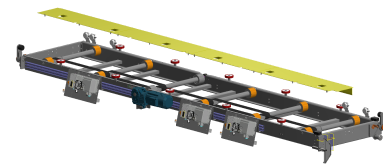
1

Shutdown and lockout the VDL according to your plant's lockout procedures.



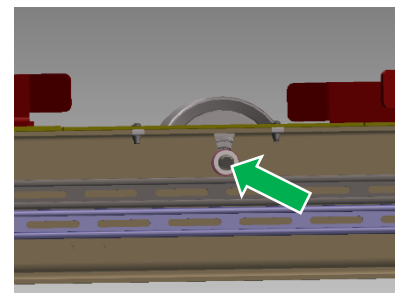
2

Remove covers.



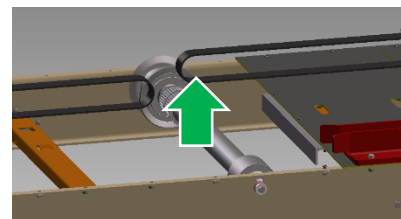
3

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.



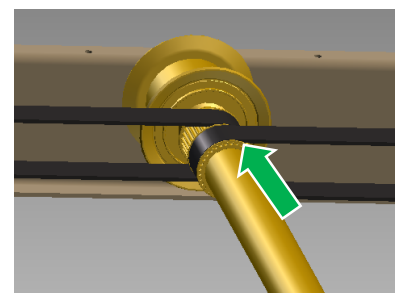
4

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

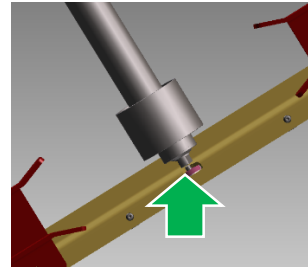


5

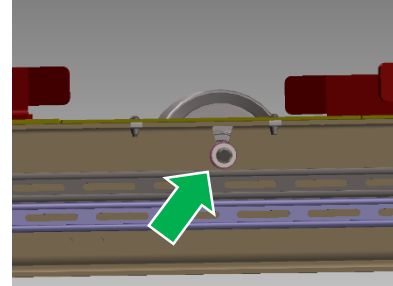
Insert new roller through the toothed belt(s) and place on the pulley.



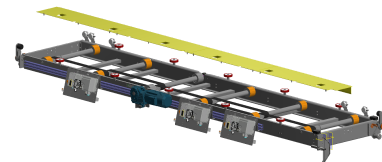
- 6 Turn the roller so that the flats on the rod end fit into the slots on both sides of the frame.



- 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

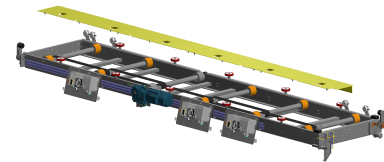
Mechanically secure the VDL per the above section:

Securing the Vertical Drop Lifter

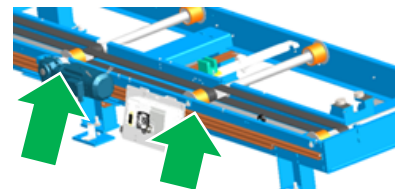
- 1 Shutdown and lockout the VDL according to your plant's lockout procedures.



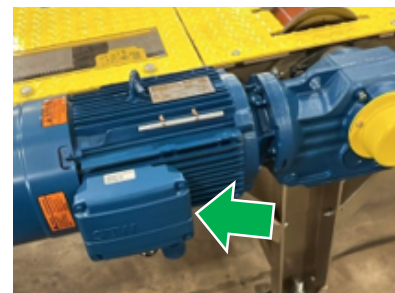
- 2 Remove safety covers.



- 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.



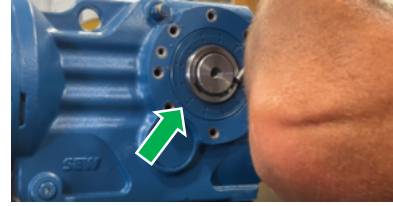
- 4 Remove all required electrical connections from the gearmotor.



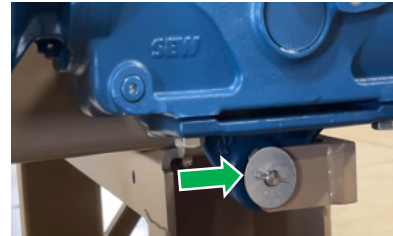
- 5 Remove all screws to remove the gearmotor cover.



- 6 Remove the retaining ring from the drive shaft.



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



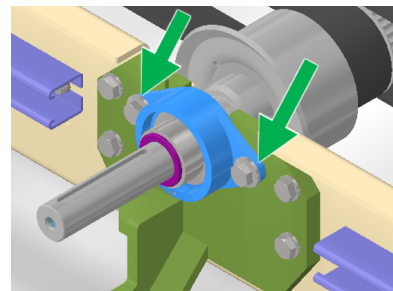
- 8 Remove the retaining pin from the frame and the gearmotor base.



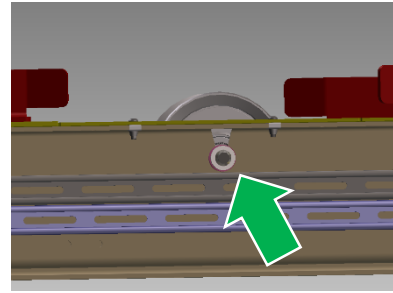
- 9 Using an overhead crane, carefully hoist the gearmotor off the unit.



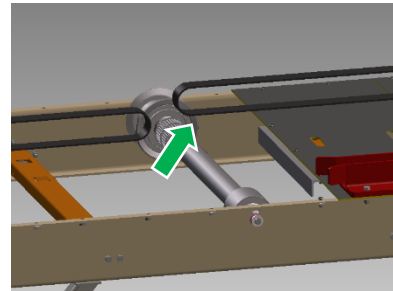
- 10 Remove the bolts securing the bearings to the frame on both ends of the drive roller.



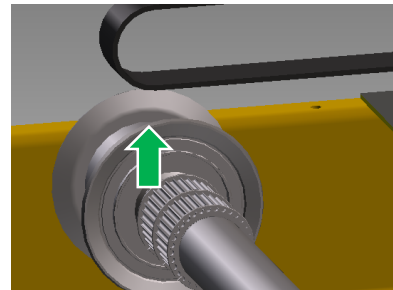
- 11** Remove the hex head bolts holding the shafts on both sides of the driven roller.



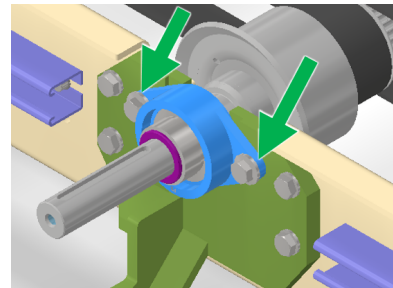
- 12** Lift roller shaft upward and remove one end of the belt. Perform the same to belt sharing roller shaft.



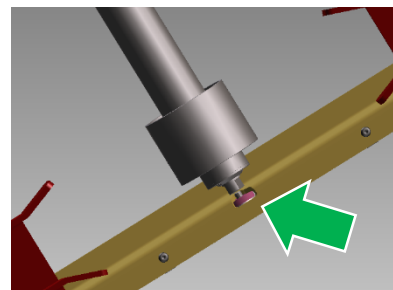
- 13** Remove damaged belt and replace it with a new belt. Thread each roller through the toothed belt(s) so that they are on the appropriate pulleys and rollers.



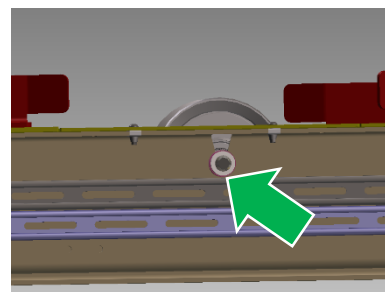
- 14** Place the drive roller back into position and tighten the bolts securing the bearings to the frame on both ends of the roller.



- 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.



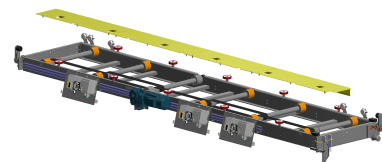
- 24** Place the gearmotor safety cover back on the gearmotor.



- 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

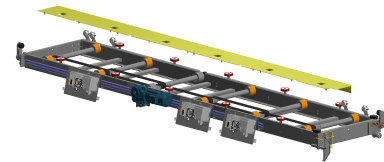
Mechanically secure the VDL per the above section:

Securing the Vertical Drop Lifter

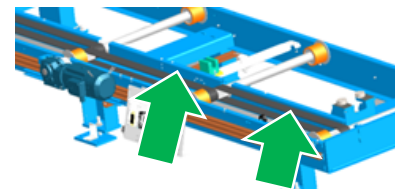
- 1 Shutdown and lockout the VDL according to your plant's lockout procedures.



- 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.



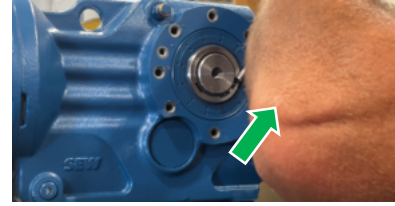
- 4 Remove all required electrical connections from the gearmotor.



- 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.



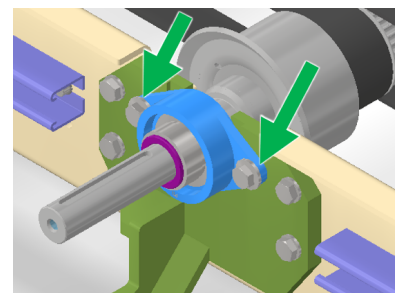
- 8 Remove the retaining pin from the frame and the gearmotor base.



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

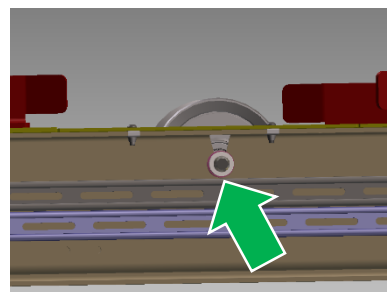


- 10 Remove the bolts securing the bearings to the frame on both ends of the drive roller.

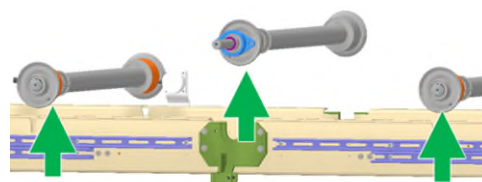


11

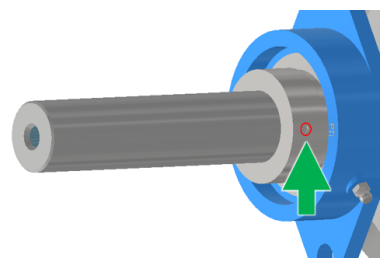
Remove the hex head bolts holding the shafts on both sides of the driven rollers.


12

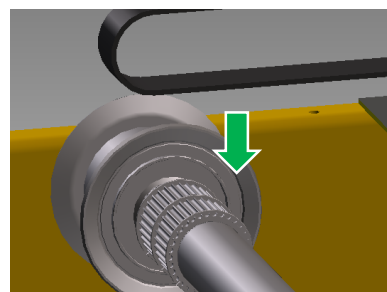
Lift the rollers out of the frame until you are able to remove the belts from the drive roller.


13

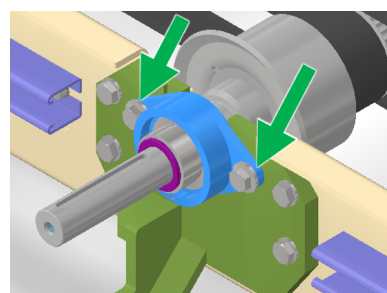
Loosen the set screws on both bearings on the drive roller to remove them. Place the bearings onto the new drive roller to be inserted.


14

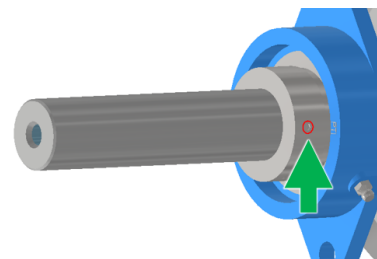
Place belts back on the removed rollers. Thread each roller through the toothed belt(s) so that they are on the appropriate pulleys and rollers.


15

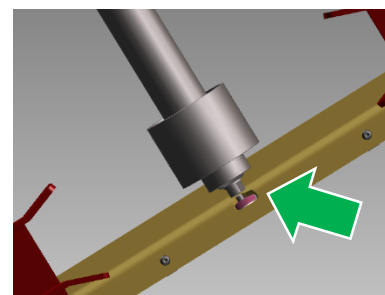
Place the drive roller back into position and tighten the bolts securing the bearings to the frame on both ends of the roller.



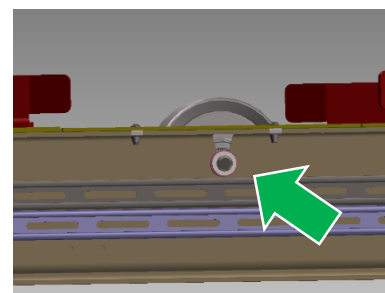
- 16** Retighten the set screws on both bearings on the drive roller.



- 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.



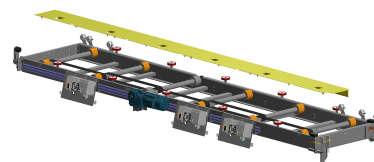
- 26** Place the gearmotor safety cover back on the gearmotor.



- 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.



Skillet Power Roll Bed Maintenance & Service

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

⚠ 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 the Cardan Shaft

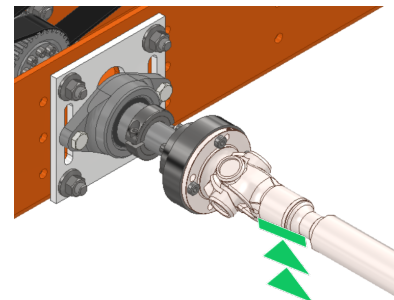
Mechanically secure the VDL per the above section:

Securing the Vertical Drop Lifter

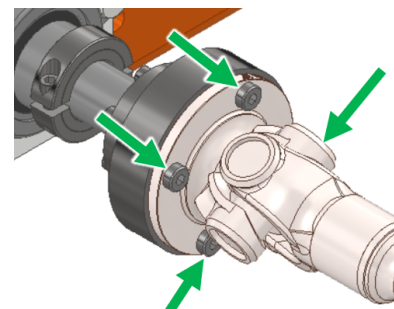
- 1 Shutdown and lockout the VDL according to your plant's lockout procedures.



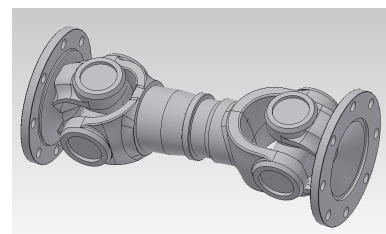
- 2 Support the cardan shaft.



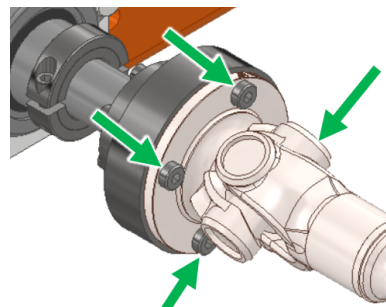
- 3 Remove the bolts on the companion flanges on both ends of the cardan shaft



- 4 Replace the cardan shaft.



- 5 Apply Locktight before returning and tightening the M8 bolts on both companion flanges.



- 6 Run the Power Roll Bed and observe for proper function. Correct if necessary.



- 7 Remove all tools and equipment from the area and return the conveyor to service.



How to Replace the Drive Motor

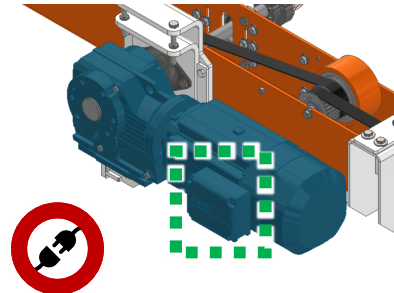
Mechanically secure the VDL per the above section:

Securing the Vertical Drop Lifter

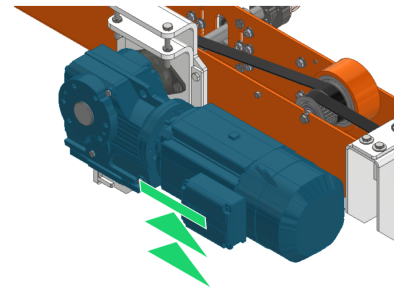
- 1 Shutdown and lockout the VDL according to your plant's lockout procedures.



- 2 Disconnect the cables from the drive motor.



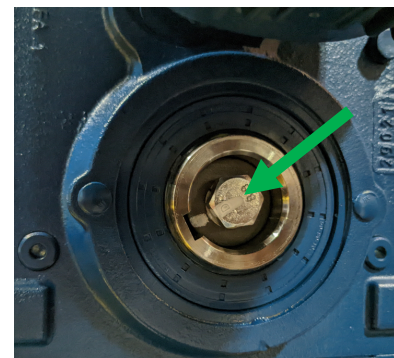
- 3 Support the gearmotor's weight.



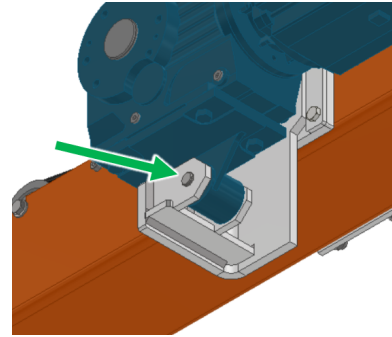
- 4 Remove the gearmotor's shaft cover.



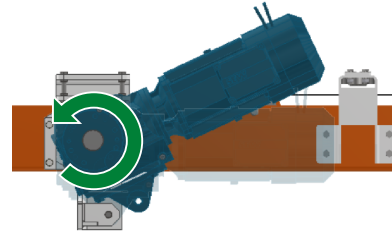
- 5 Loosen and remove the screw that connects the gearmotor to the drive shaft.



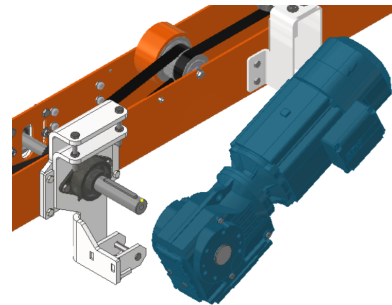
- 6 Remove the pin on the underside of the motor mount.



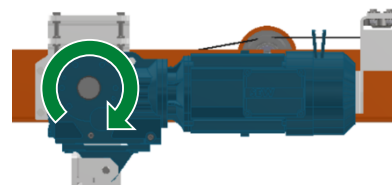
- 7 Rotate the gearmotor around the drive shaft until it is clear of the mounting plate.



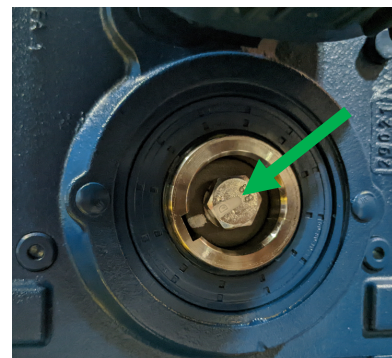
- 8 Remove and replace the old gearmotor with new unit.
Note: Retain the shaft key for reuse if in good condition.



- 9 Rotate the gearmotor around the driveshaft until it is back into position



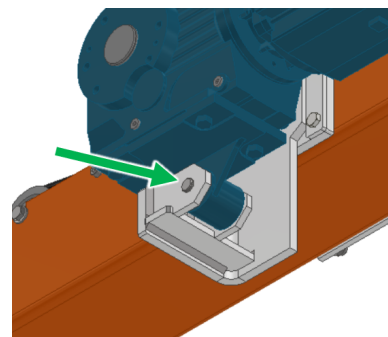
- 10 Insert and tighten the screw that connects the gearmotor to the drive shaft.



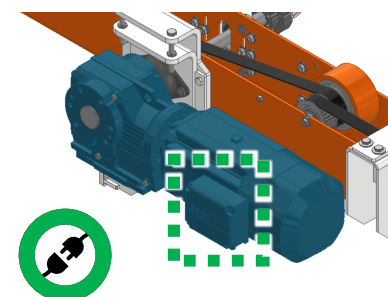
- 11** Replace the gearmotor's shaft cover.



- 12** Replace the mount pin.



- 13** Reconnect the cables to the drive motor



- 14** Run the Power Roll Bed and observe for proper function. Correct if necessary.



- 15** Remove all tools and equipment from the area and return the conveyor to service.



How to Replace a Drive Belt - Motor Side

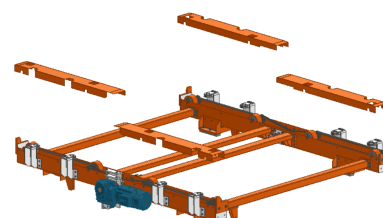
Mechanically secure the VDL per the above section:

Securing the Vertical Drop Lifter

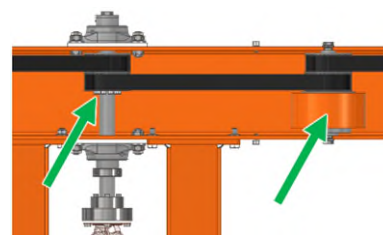
- 1 Shutdown and lockout the VDL according to your plant's lockout procedures.



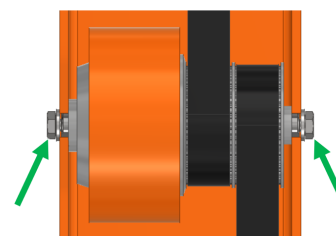
- 2 Remove safety covers.



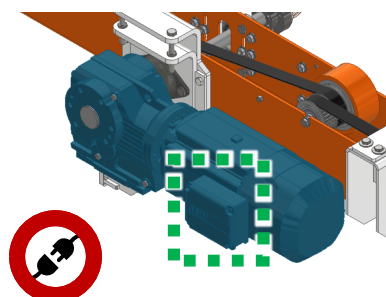
- 3 Both the drive shaft and the roller of the damaged belt will need to be loosened from the frame to release the belt.



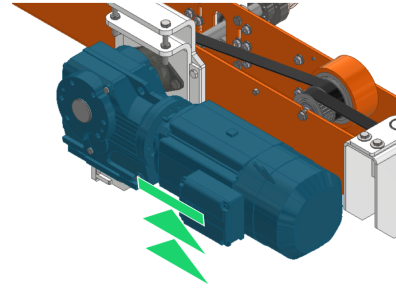
- 4 Loosen the bolts holding the belt-sharing roller shaft on both ends of the roller.



- 5 Disconnect the cables from the drive motor.



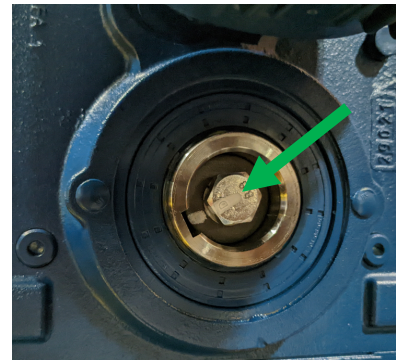
- 6 Support the gearmotor's weight.



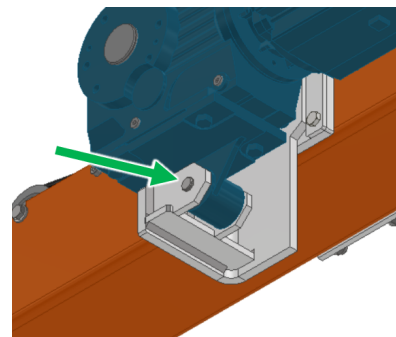
- 7 Remove the gearmotor's shaft cover.



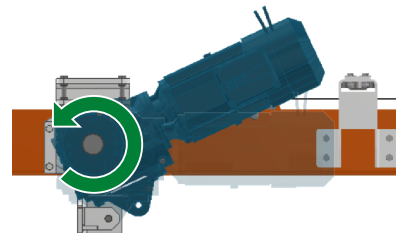
- 8 Loosen and remove the screw that connects the gearmotor to the drive shaft.



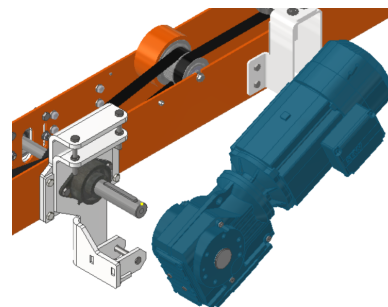
- 9 Remove the pin on the underside of the motor mount.



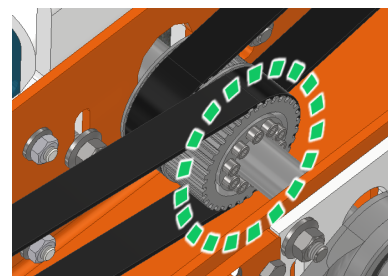
- 10 Rotate the gearmotor around the drive shaft until it is clear of the mounting plate.



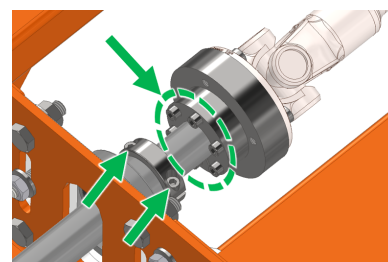
- 11** Remove the gearmotor from drive shaft.



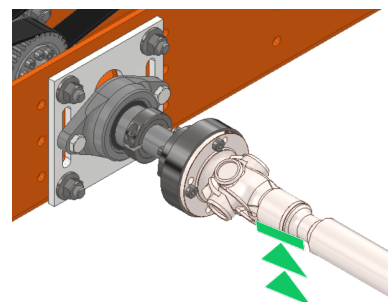
- 12** Loosen the coupling on the drive sprocket using a crossing pattern.



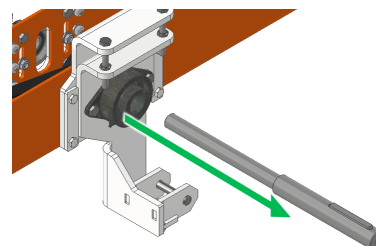
- 13** Loosen the hex bolts on the coupling and the shaft collar using a crossing pattern.



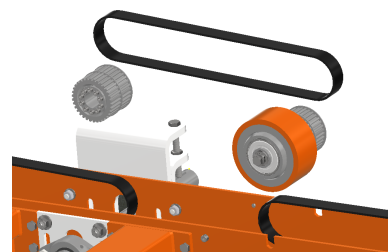
- 14** Support the cardan shaft.



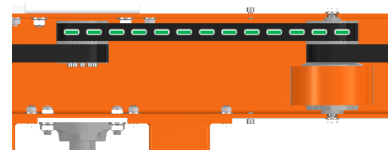
- 15** Slide the drive shaft out of the bearings from the outside edge.
Note: Retain the shaft key for reuse if in good condition.



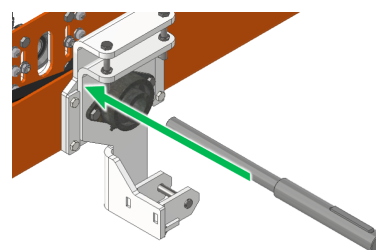
- 16** Remove the roller and drive sprocket from the frame and remove the belt.



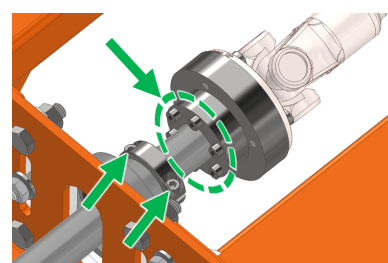
- 17** Replace the damaged belt with the new unit. Thread the roller and drive sprocket through the toothed belt so that it is on the appropriate track.



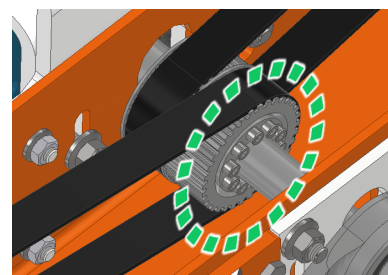
- 18** Re-position the drive sprocket, clamp, and coupler/cardan shaft, then re-install the drive shaft.



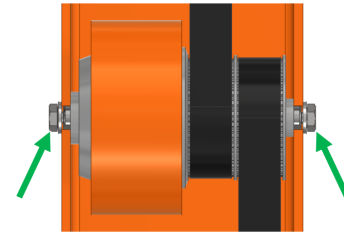
- 19** Tighten the bolts on the coupling and clamp.
 Coupling should be torqued in stops in crossing pattern to **17 Nm**.



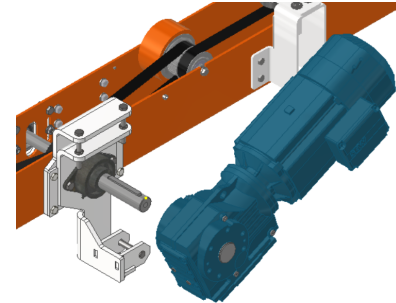
- 20** Tighten the coupling on the drive sprocket.
 Coupling should be torqued in stops in crossing pattern to **17 Nm**.



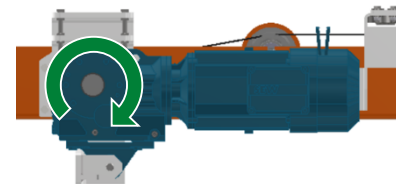
- 21** Tighten the bolts holding the roller shafts on both ends of the roller.



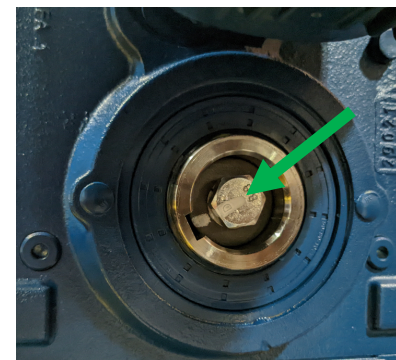
- 22** Place the gearmotor back onto drive shaft.



- 23** Rotate the gearmotor around the driveshaft until it is back into position



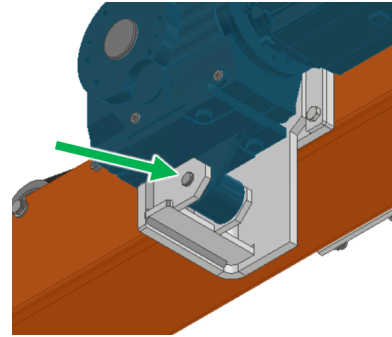
- 24** Insert and tighten the screw that connects the gearmotor to the drive shaft.



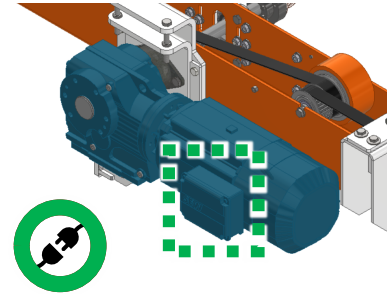
- 25** Replace the gearmotor's shaft cover.



- 26** Replace the mount pin.



- 27** Reconnect the cables to the drive motor



- 28** Run the Power Roll Bed and observe that the belts are tracking straight and that the table is even all around. Correct if necessary.



- 29** Lock Out the system again to return safety covers then operate as normal.



How to Replace a Drive Belt - Non-Motor Side

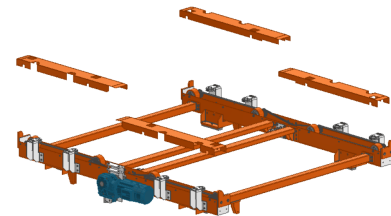
Mechanically secure the VDL per the above section:

Securing the Vertical Drop Lifter

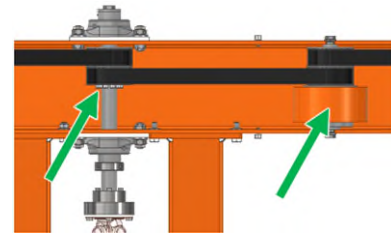
- 1 Shutdown and lockout the VDL according to your plant's lockout procedures.



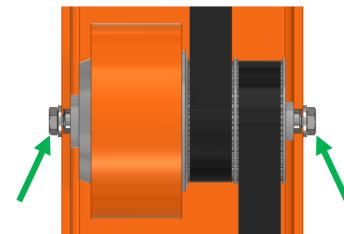
- 2 Remove safety covers.



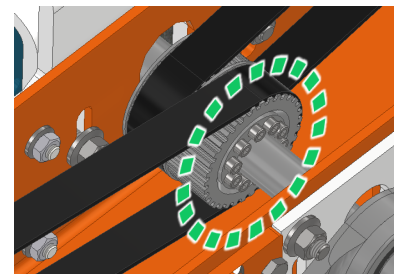
- 3 Both the drive shaft and the roller of the damaged belt will need to be loosened from the frame to release the belt.



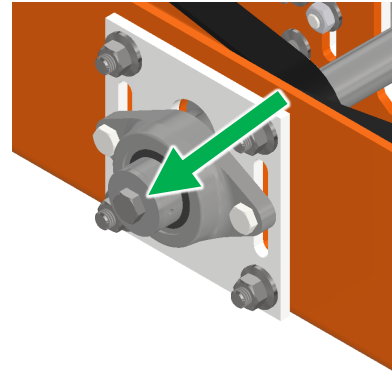
- 4 Loosen the bolts holding the belt-sharing roller shaft on both ends of the roller.



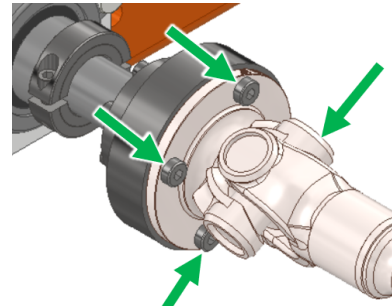
- 5 Loosen the coupling on the drive sprocket using a crossing pattern.



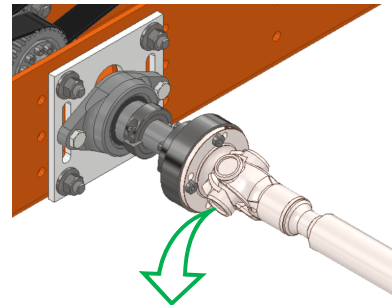
- 6 Remove bolt and washer from outside end of the shaft



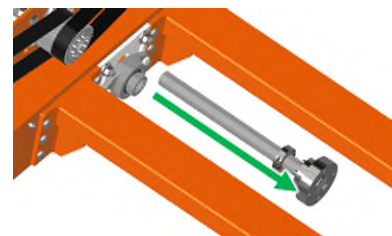
- 7 Remove the bolts on the companion flange on target end of the cardan shaft.



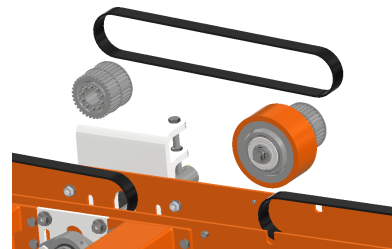
- 8 Swing the loose cardan shaft out of the way of the drive shaft.



- 9 Slide the drive shaft assembly out of the bearings from the inside edge.

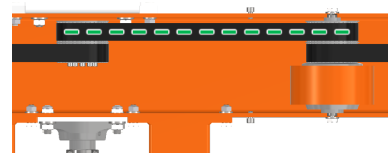


- 10 Remove the roller and drive sprocket from the frame and remove the belt.



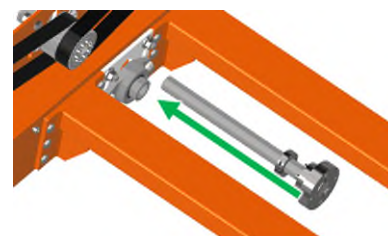
11

Replace the damaged belt with the new unit. Thread the roller and drive sprocket through the toothed belt so that it is on the appropriate track.



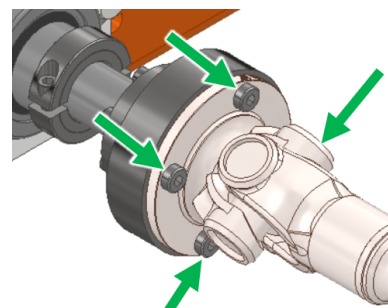
12

Re-position the drive sprocket then re-install the drive shaft.



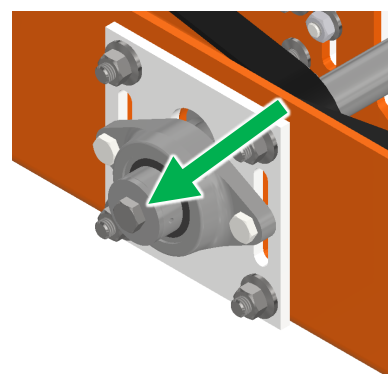
13

Apply Locktight before returning and tightening the M8 bolts on both companion flanges.



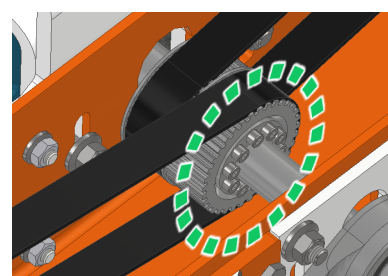
14

Re-install the bolt and washer on the outside end of the shaft.

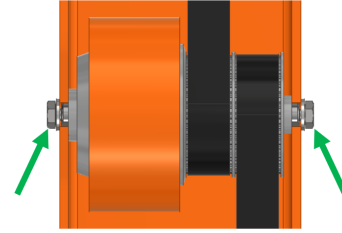


15

Tighten the coupling on the drive sprocket.
Coupling should be torqued in steps in crossing pattern to **17 Nm**.



- 16** Tighten the bolts holding the roller shafts on both ends of the roller.



- 17** Run the Power Roll Bed and observe that the belts are tracking straight and that the table is even all around. Correct if necessary.



- 18** Lock Out the system again to return safety covers then operate as normal.



How to Replace a Driven Belt

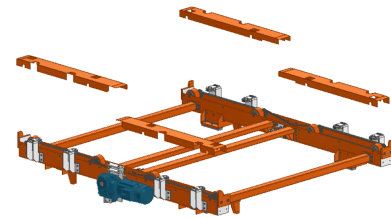
Mechanically secure the VDL per the above section:

Securing the Vertical Drop Lifter

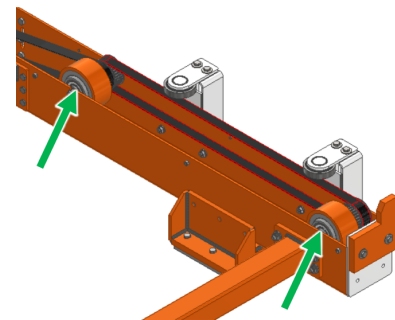
- 1 Shutdown and lockout the VDL according to your plant's lockout procedures.



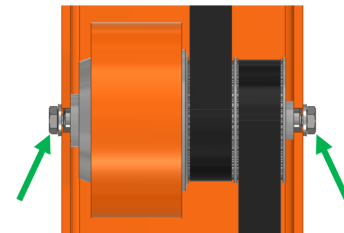
- 2 Remove safety covers.



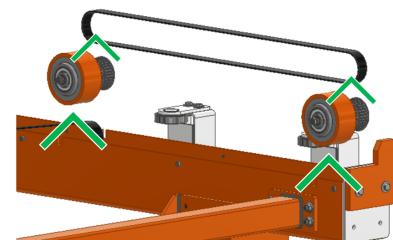
- 3 Both belt sharing rollers of the damaged belt will need to be loosened from the frame to release the belt.



- 4 Loosen the bolts holding the roller shafts on both ends of the target rollers.

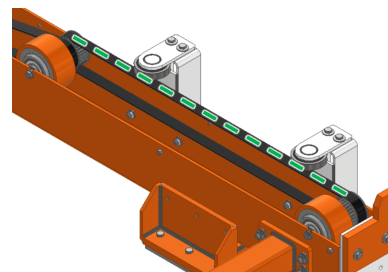


- 5 Remove the roller from the frame and remove the belt.
Repeat this with the belt-sharing roller.

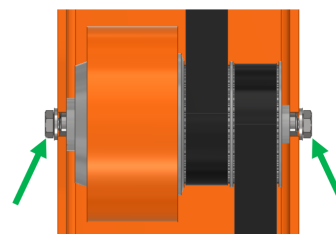


Replace damaged belt with the new unit.

- 6 Thread each roller through the toothed belt so that they are on the appropriate pulleys and rollers.



- 7 Tighten the bolts holding the roller shafts on both ends of the rollers.



- 8 Run the Power Roll Bed and observe that the belts are tracking straight and that the table is even all around. Correct if necessary.



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

