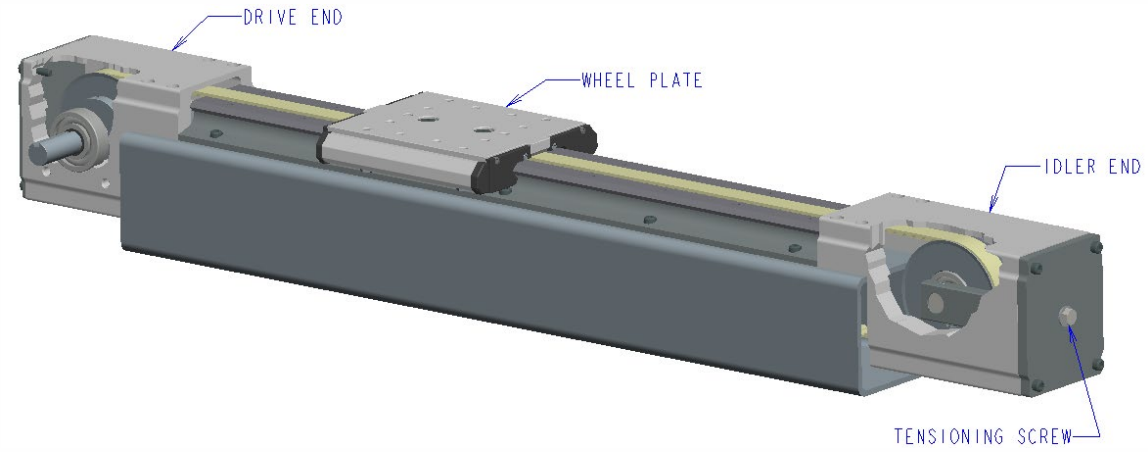
BISHOP WISECARVER

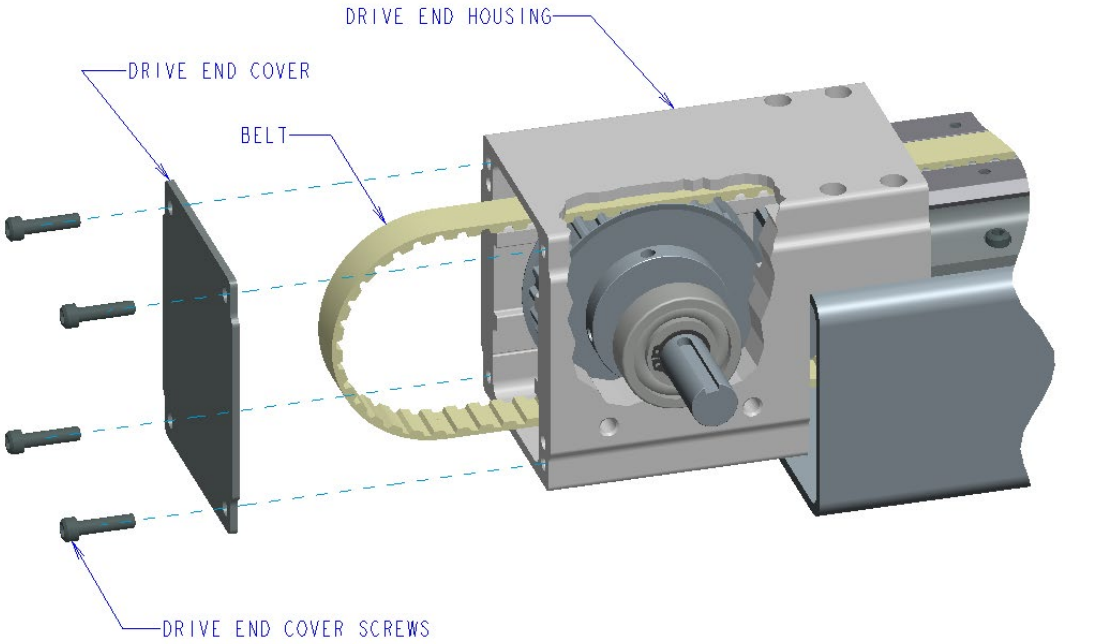
LoPro® V6 Belt System
Replacing Belt and Adjusting Tension

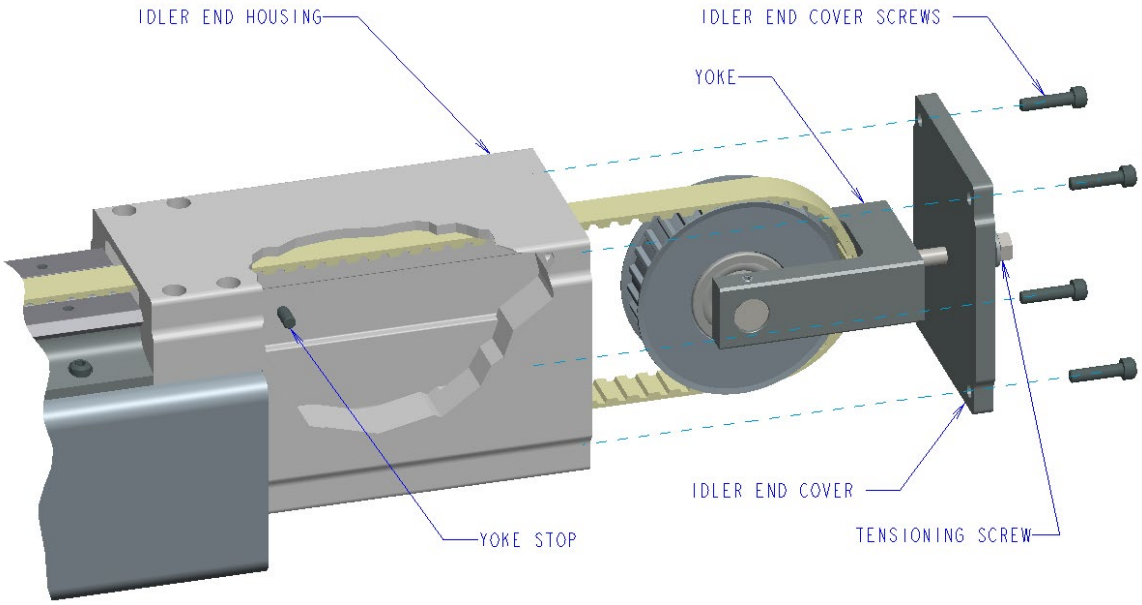


Instructions for Replacing Belt:

1. Move wheel plate toward driven end of system, near the drive end assembly.
2. Loosen (counterclockwise) adjustment screw on idler end assembly. The belt should become slack.
3. Remove drive and idler end cover's screws and covers.
4. Remove both wheel plate belt clamp mounting screws from center of wheel plate assembly. Slide wheel plate assembly on tracks so that the clamp is free of the wheel plate. Lift the belt free from the belt clamp. Push the belt from the drive end side of the track plate assembly toward the drive end assembly making a loop protruding from the drive end. Pull the belt free of the drive end pulley using the loop.
5. Slide yoke assembly out of idler end housing.
6. Push the belt toward the idler end assembly making a loop. Pull the belt through idler end and through bottom of yoke assembly.
7. Remove belt from the support for the LoPro system.
8. Check length of new belt against length of removed belt. Cut as needed.
9. Lay belt under LoPro system and through support component, teeth facing up.
10. Thread belt through idler end housing and then through yoke assembly, over the idler pulley.
11. Push belt through idler end housing onto track plate.
12. Thread belt between lower drive end housing and pulley. Then make a loop and thread belt over the drive end pulley. Make sure the teeth on the pulley align with the teeth on the belt.
13. Slide yoke assembly and belt into idler end housing, until idler end cover is against the idler end housing, pull the belt through idler end housing toward wheel plate assembly.

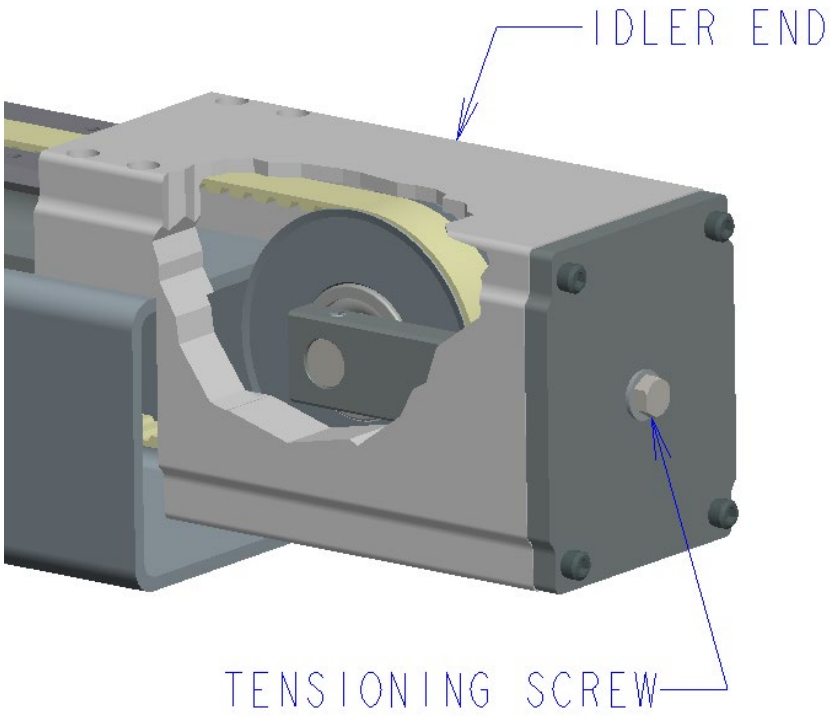
14. Replace the idler end cover screws. Tighten cover screws.
15. Place the belt onto the belt clamp, align with belt clamp teeth with the teeth on the belt.
16. Replace drive end cover. Replace and tighten drive end cover screws.
17. Slide wheel plate over belt and belt clamp. Install belt clamp mounting screws.



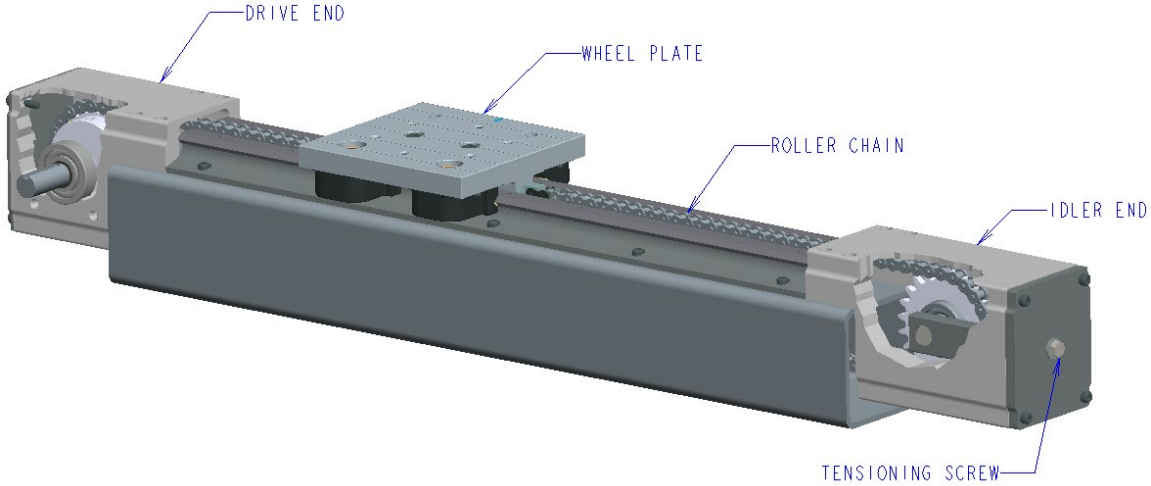


Instructions for Tensioning Belt:

1. LoPro system length, load, speed and acceleration profiles all affect the drive tension required for consistent, trouble-free operation. In general, over-tensioning the system should be avoided to prevent premature wear of drive system components.
2. Ideal belt tension in linear drive belt systems is achieved when the tensile force is equal to the transmitted force. The transmitted force is the force in the belt when it accelerates or decelerates the load. The force is equal to the load mass X acceleration + friction.
3. The belt tension can be difficult to estimate while adjusting your LoPro system. The belt should feel firm when pressed upon with a finger, but never be “guitar string” tight when tapped with a finger. The belt tension is correctly set when the slack side of the belt remains taut under maximum operating load. Belt flap or sagging is indicative of insufficient tension.
4. Turn adjustment screw clockwise on idler end assembly to pull yoke toward idler end cover. This will remove the slack in the belt.



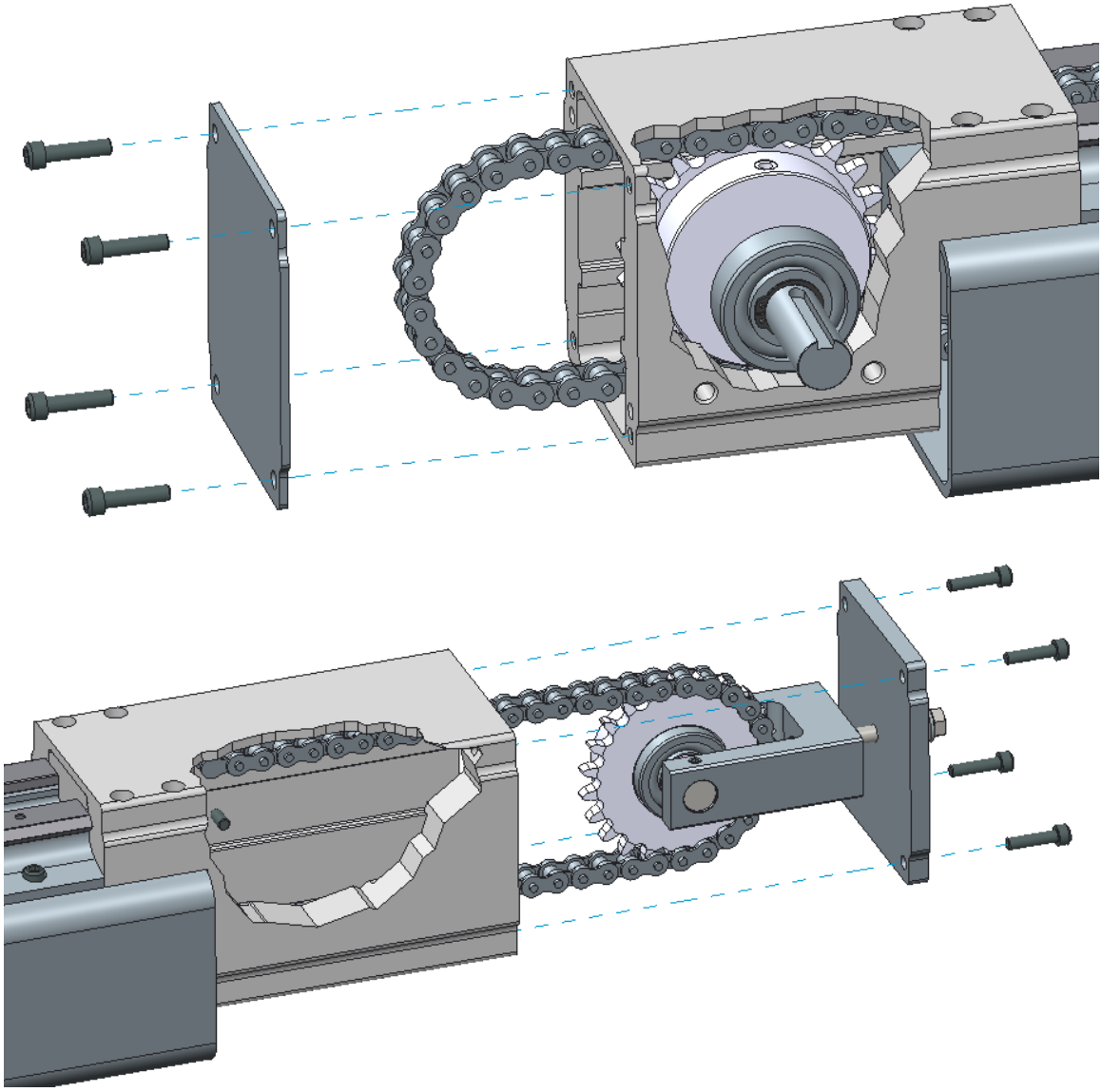
LoPro® V6 Chain System
Replacing Chain and Adjusting Tension



Instructions for Replacing Chain:

1. Move wheel plate toward driven end of system, near the drive end assembly.
2. Loosen (counterclockwise) adjustment screw on idler end assembly. The chain should become slack.
3. Remove drive and idler end cover's screws and covers.
4. Remove both wheel plate chain coupler mounting screws from center of wheel plate assembly. Slide wheel plate assembly on tracks so that the coupler is free of the wheel plate. Removed the master link clips from the chain coupler. Remove the master link from the chain ends. Push the chain from the drive end side of the track plate assembly toward the drive end assembly making a loop protruding from the drive end. Pull the chain free of the drive end sprocket using the loop.
5. Slide yoke assembly out of idler end housing.
6. Push the chain toward the idler end assembly making a loop. Pull the chain through idler end and through bottom of yoke assembly.
7. Remove chain from the support for the LoPro system.
8. Check length of new chain to removed chain length. Removed links as needed.
9. Lay chain under LoPro system and through support component, rollers horizontal.
10. Thread chain through idler end housing and then through yoke assembly, over the idler sprocket.
11. Push chain through idler end housing onto track plate.

12. Thread chain between lower drive end housing and sprocket. Then make a loop and thread chain over the drive end sprocket. Make sure the teeth on the sprocket align with the rollers on the chain.
13. Slide yoke assembly and chain into idler end housing, until idler end cover is against the idler end housing, pull the chain through idler end housing toward wheel plate assembly.
14. Replace the idler end cover screws. Tighten cover screws.
15. Install the master links onto the chain ends and coupler.
16. Replace drive end cover. Replace and tighten drive end cover screws.
17. Slide wheel plate over chain and chain coupler. Install chain coupler mounting screws.



Instructions for Tensioning Chain:

1. LoPro system length, load, speed and acceleration profiles all affect the drive tension required for consistent, trouble-free operation. In general, over-tensioning the system should be avoided to prevent premature wear of drive system components and stretching the chain.
2. Horizontally mounted chain driven LoPro systems will have significant variations in chain tensioning requirements, namely due to the varying lengths of the system. For shorter travel lengths, the chain can be adjusted to remove slack to prevent contact with the track plate. For longer travel systems the tension to support the chain weight would be excessive, a wear strip would be required. Chain driven LoPros in sizes 3 and 4 are provided with a UHMW polyethylene strip, which is fixed to the track plate for a reduced friction chain support.
3. Turn adjustment screw clockwise on idler end assembly to pull yoke toward idler end cover. This will remove the slack in the chain.