Belt Tensioner Group
Procedure To Measure And Adjust Belt Tension

⚠ WARNING

Spring force can cause personal injury or death. See your Caterpillar dealer for disassembly instructions.

Measure The Cylinder Extension

1. Check and make sure that idlers and bogie suspension springs are correctly inflated.

2. Clean the undercarriage. Move the machine forward and allow it to stop without using the brake pedal.

3. Stop the engine. Move the transmission control lever to NEUTRAL and engage the parking brake.

4. Measure the length of the tensioner cylinder from the centerline of one pin hole to the centerline of the other pin hole to get Dimension (A). Dimension (A) should be 1243 ± 11 mm (48.94 ± .43 in). Check dimension (A) on both cylinders.

5. If dimension (A) is not correct, record them for later use and perform the Procedure to Adjust Belt Tension.

NOTE: When dimension (A) (tension cylinder pin to pin dimension) is 1243 mm (48.94 in), dimension (B) (cylinder rod extension) should be 130 mm (5.12 in). Dimension (B) may be used to measure and adjust belt tension, but the use of dimension (A) will give a more accurate adjustment.
Adjust Belt Tension

NOTE: This procedure uses the machine hydraulics to relieve the belt tensioning. An auxiliary pump, such as the Caterpillar service press, can be used. If an auxiliary pump is used, the procedure of extending both cylinders at the same time should still be followed.

1. Remove two lock assemblies (1).

2. Slowly loosen the head end of the hose that runs from the head end to the rod end of each cylinder. After any pressure has been released, remove the head end of the hose from both cylinders. Place the head end of the hoses in a suitable container to catch any oil.

3. Remove the elbow and seal from both cylinders.

4. Install the FT2228 Hose Assembly. Connect the adapters to the tensioner cylinders. Connect the 2.4 m (8 ft) hose between the adapters at the tensioner cylinders and connect the 8.8 m (29 ft) hose to the No. 1 RAISE implement quick disconnect coupler at the rear of the machine.

   NOTICE

   DO NOT exceed a maximum pressure of 11 000 kPa (1600 psi) when pressurizing the belt tensioner cylinders or machine damage can result. When pressurizing the belt tensioner cylinders, extend the cylinders only far enough to install lock assemblies (1).

5. Start the engine. Using the implement control lever that corresponds to the implement line coupler connected in Step 4, slowly pressurize and extend both tensioner cylinders. Extend the cylinders only far enough to install lock assemblies (1).

6. Position a lock assembly over each cylinder rod and secure with the bolts provided.

7. Use the implement control lever to slowly vent the hydraulic pressure from the belt tensioner cylinders.

8. Position a floor jack under the tensioner cylinder and remove bolt (2) and retainer pin (3). Lower the rod end of the tensioner cylinder.

9. Remove six bolts (not shown), bracket (5), and shims (4) from the front axle.
10. Remove or add shims (4) to bring dimension (A) within tolerance. Dimension (A) is the measured distance from pin centerline to pin centerline and is 1243 ± 11 mm (48.94 ± .43 in). Each shim is 3 mm (.120 in) thick. Add shims to reduce dimension (A) (lower belt tension) or remove shims to increase dimension (A) (higher belt tension).

11. Install shims (4), bracket (5), and bolts.

12. Raise the tensioner cylinder and install retainer pin (3) and bolt (2).

13. Repeat Steps 8 through 12 for the tensioner cylinder on the other side of the machine.

14. Start the engine and use the implement control lever to slowly pressurize and extend both tensioner cylinders. Extend the cylinders only far enough to remove lock assemblies (1).

15. Remove the lock assemblies and slowly relieve cylinder pressure with the implement control lever.

16. Disconnect the FT2228 Hose Assembly from the machine hydraulics. Press the ball check valve in the quick disconnect against the bottom of an oil container until oil flow stops. Then disconnect the hoses from the head end of the tension cylinders. The oil should be allowed to drain until the level is at the bottom of the head end port.

17. Install the elbow and seal in the head end of both cylinders. Replace the seals if they are worn or damaged. Connect the tensioner cylinder hose assemblies to the elbows.

18. Drive the machine back and forth at least three times and allow it to stop without applying the brake pedal.

19. Stop the engine. Move the transmission control lever to NEUTRAL and engage the parking brake.

20. Recheck dimension (A) [1243 ± 11 mm (48.94 ± .43 in)]. Readjust if the dimension is not in tolerance.

21. Install the lock assemblies in their storage location. Torque for mounting bolt is 35 ± 5 N·m (26 ± 4 lb ft)