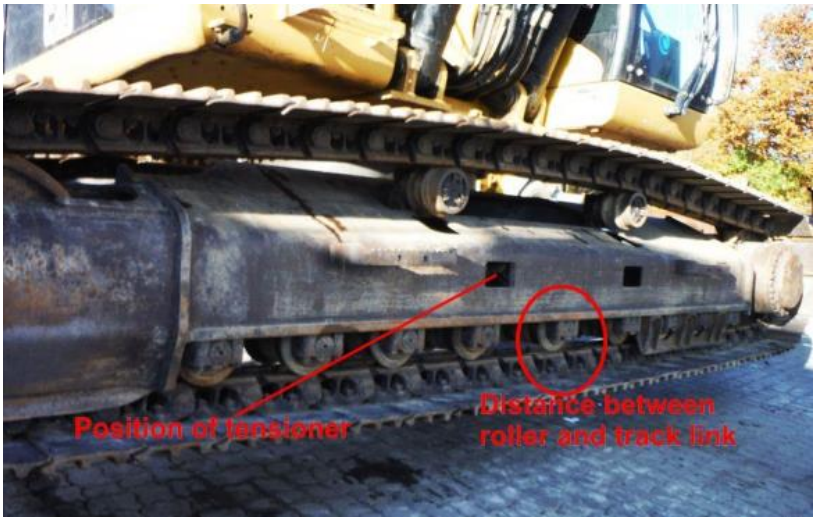
Crawler excavators – Adjusting chain tension

Adjusting chain slack on excavator chains

Problem

When inspecting used machines, we often find that the chains on crawler excavators are too tight. It seems to us that there is a lack of knowledge about how to adjust chain tension and what amount of slack is required. Chains that are too tight lead to increased wear on bushings, sprockets, and rollers. The service life of the rollers' bearings and final drives is also affected. Sometimes the rollers, chain plates, and chain links are still in very good condition and have a remaining service life of over 60%, but the bushings and sprockets are almost at their wear limit. Therefore, we recommend keeping an eye on the chain slack.

If the chain tension is too low, the bushings may jump off the sprocket during drive. It is also possible that the chain may jump over the center edge of the guide wheel. Each machine and brand has a specific value or tolerance. The slack should be adjusted accordingly. For most crawler excavators with an operating weight of 15 to 30 tons, the value is approximately 10 to 18 cm.



Consult your manuals or contact your local dealer for advice.

How is the adjustment made?

Lift the machine with the arm until the chain on the raised side hangs freely above the ground. Let the chain run at least one full revolution. Now it is time to measure the distance between the chain surface and the surface of the lower roller in the center of the undercarriage. If the chain slack is not within tolerance, it must be adjusted. This is usually done with a grease gun. If the chain slack is too low (chains are too tight), it must also be adjusted. Most crawler excavators have a release pin that can be used to remove grease.

Safety note

Ensure that the machine cannot be moved while anyone is working near the chains. Read the machine's operating and maintenance manual for information on how to perform this adjustment. Serious injury can occur because the forces on the chain tensioners are high. Please follow the three-point rule when getting in and out of a machine. Three limbs should always be in contact with steps or handholds.