YONGGU
REVOLUTIONIZING RUBBER TRACKS SINCE 1978

Rubber Track and Undercarriage Wear and Care Guide

Approximately 20% of a track machine's purchase price is for undercarriage. More importantly, nearly 50% of maintenance costs will be attributed to the undercarriage.

This is why all Yonggu components are integrally designed. All components are carefully matched in tolerance, strength, hardness, and wear limits for overall optimum wear life. Although wear cannot be eliminated, we can prolong the wear life of components – minimizing maintenance costs. Keep undercarriage systems running strong with certified Yonggu parts.
Yonggu **Certified Support Advisors** can help manage undercarriage system costs.

This strategy guide explains how to get the most out of undercarriages and tracks. This is not a repair manual. This will give a good look at what causes wear and provide information on how to better manage the machine for maximum production. By understanding what causes wear and by consistently checking wear patterns on key components, you will have the information you need to make the best maintenance decisions possible.

An undercarriage works as a system. When a machine is in motion, there will be normal, unavoidable wear. With good undercarriage maintenance and operating techniques, the rate of wear can be reduced.

Undercarriage maintenance:
Maintenance practices that can reduce wear are:
Track tension or track sag
Track width
Correct tension on smaller rubber track machines is about ¾" to 1".
Correct tension on larger rubber track machines can be as much as 2".

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Track tension and track sag affect wear.
The most important, controllable factor in undercarriage wear is correct track adjustment. Correct track sag for all smaller mini excavator rubber track units is 1" (+ or - ¼"). Tight tracks can increase wear up to 50%. On larger rubber tracked crawlers in the range of 80 horsepower with ½" track sag results in 5,600 pounds of track chain tension when measured at the track adjuster. The same machine with the suggested track sag results in 800 pounds of track chain tension when measured at the track adjuster. A tight track magnifies the load and puts more wear on the link and sprocket tooth contact. Increased wear also occurs at the track-link to idler contact point and track-link to roller contact points. More load means more wear on the entire undercarriage system.

Also, a tight track requires more horsepower and more fuel to do the job. Follow these steps to adjust track tension:
Move the machine forward, slowly.
Let the machine roll to a stop.
A track link must be centered over the carrier roller.
Put a straight edge over the track from the carrier roller to the idler wheel.
Measure the sag at the lowest point.

Track width makes a difference.
Select the narrowest tracks possible for your machine. The O.E.M.'s provided track for your machine has been chosen because it optimizes that particular machines performance. Make sure the track gives the floatation needed. Wide tracks used on hard surfaces will put an increased load on the track link system and can affect link retention in the rubber track. A wider than necessary track also increases stress and loads on the idlers, rollers, and sprockets. The wider the track and the harder the under-track surface, the faster the track treads, links, rollers, idlers and sprockets will wear.

OPERATION TIPS
How the machine is operated can affect undercarriage component wear. Using intelligent operating procedures can extend the life of the track and the undercarriage.

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Limit Non-Productive high-speed travel.
High-speed operation accelerates wear on all undercarriage and track components. Track wear is directly proportional to speed. The distance a track machine travels determines wear. Plan jobsite work carefully to make travel productive.

Limit reverse operation.
Reverse operation accelerates wear on the reverse-drive side of the track links and sprocket teeth. The only time track links rotate against sprocket teeth under load is in reverse operation. During reverse operation, approximately 75% of track links are under contact, load, and motion, from the bottom of the front idler to the first link engaged by the sprocket tooth. Make reverse travel productive. Forward travel puts about 25% of the track links under contact, load, and motion.

Reduce slippage and spinning.
Track slippage and spinning accelerates tread wear. Heavy contact between the track links and sprocket teeth, track links and rollers, and idler tread surfaces accelerates wear.

Plan your turns:
Constantly turning to one side will reduce the life of a track. Plan your job to even out turns if possible.

Clean undercarriages frequently.
Prevent packing of soil and debris in undercarriage components by cleaning out the track as frequently as possible.

Operate with the terrain.
Plan your jobs and the movement of your machines to fit the terrain. This will reduce undercarriage wear.

Working uphill shifts the weight of the machine to the rear. This adds more load to the rear rollers and increases sprocket teeth and track link forward drive side wear. There will be a light load on the undercarriage when reversing down the hill.

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Working downhill shifts weight to the front of the machine. The additional load will be placed on the front roller, idler tread surface, and track links. When you reverse up the hill, the link rotates against the reverse-drive side of the sprocket tooth. Also, there is a heavy load and motion between the link and the sprocket teeth, which accelerate wear. A heavy load is placed on all links from the bottom of the front idler to the first link contacted by the sprocket teeth. Extra load is also placed between the sprocket teeth and the track links and the idler tread surface. The life of the links, sprockets, rollers, and idlers is reduced.

Working on a slope or side hill shifts weight to the downhill side of the machine and causes additional wear on the roller flanges, sides of the track links, and tread. Balance wear between each side of the undercarriage by changing the work direction on the slope.

Working on a crown puts all of the load and weight on the inner ends of the track links. The load is transferred to the inside track links, inside roller, and idler tread surfaces, and sprocket contact areas. Continual work on a crown will accelerate wear on the inside track contact surfaces. Compare that wear to the wear on the outside track components.

Working in a depression puts all of the load and machine weight on the outer ends of the track links. The load is transferred to the outside-track links, outside roller and idler tread surfaces, and sprocket contact areas. Continual depression work will accelerate wear on the outside contact surfaces. Compare that wear to the wear on the inside track components.

Alignment checks:

Track frame and front idler misalignment will accelerate wear on all components. Check for alignment by observing the wear patterns on the bottom rollers, carrier rollers, and front idlers. Perform a visual inspection by standing at the front and rear of the machine. Review machine manuals for specific adjustment procedures.