



## Undercarriage care prevents costly breakdowns

It is easy to forget that one can only diagnose many equipment issues through a hands-on visual machine inspection in a digital era. This is particularly true with excavator and dozer undercarriages, which endure an unusual amount of stress. In this edition of Experts' Corner, veteran Product Support Sales Representative Guy Girard shares his insights on reading the signs of pending breakdown and steps to maximize uptime.

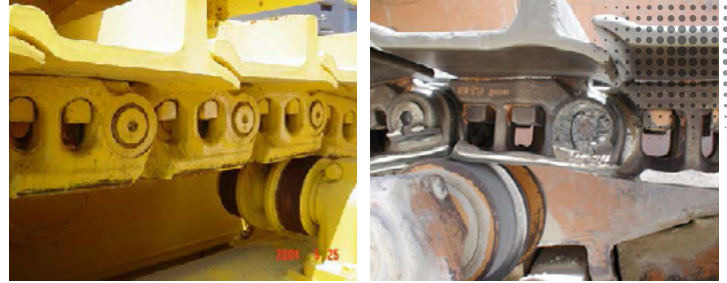


**Did You Know?** We help you manage and maintain undercarriage. We minimize replacement costs with our unique Track Management System and regular undercarriage inspections.

If you order an undercarriage part via an online website or without guidance from our specialists, you will get what you asked for, but you may not be getting what you need.

This warning comes from SMS Equipment's Guy Girard, who with his teams of PSSR's in Chicoutimi, Quebec, see hundreds of undercarriage incidents every year. The challenge is that moving parts are interconnected, and when one fails, it often damages others. Consequently, a brand-new bushing or sprocket might be doomed to a short lifespan if the root cause of the original failure isn't properly assessed, and even worse, could contribute to more severe problems down the road.

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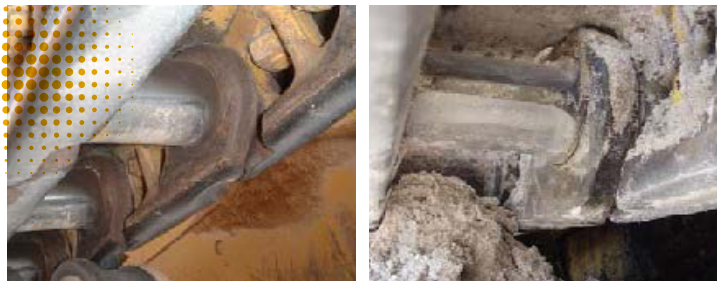


You can measure link height easily by using a steel ruler and convex tape. Based on the measurement, you can determine the wear life percentage. Pro Tip: If the link height wear is less than 60% of the bushing O.D. wear, TPB (Turn Pin and Bushing) is recommended.

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"What often happens is somebody goes to replace a chain that's worn, so they ask for a price on the chain and the bolts. However, if they talk to one of our PSSRs or another specialist, we will ask a lot more questions to make sure you get what you need to keep your equipment running", says Guy.

The questions depend on the application, usage, terrain, and type and age of equipment. "If you put a brand-new chain on rollers that are worn at an angle," says Guy, "it's going to make the chain wear unevenly, and you're going to have to repeat the change in 2000 hours instead of 3500 hours. To avoid this, you need to take apart your track tensioner and check for damage because if you put in brand new parts and you cannot adjust the chain, it's not going to run well, and it's going to wear out faster."



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Watch Dave Rowse - Manager, Product Support Sales, as he demonstrates the "Look, Listen & Feel", undercarriage awareness principles. Followed daily, these can help to increase the life of your undercarriage and reduce costly downtime.



One of the most dangerous scenarios occurs when metal chips get into the hydraulic system. "When somebody asks me for a price for a cylinder, I ask, 'what about the bits of metal that just came out from the cylinder and went through your hydraulic system?' Those bits of metal can get into pumps, control valves, and undercarriage components like the final drive. So if you don't get that looked at, you could have a much bigger problem."

Since every job site is different, there are no magic formulas for predicting maintenance issues. "There are many factors that impact the lifespan of various parts," says Guy. "A big one is the kind of terrain they're working on." Some examples to consider:

- Rock, it's going to last for a long time, but you need to consider impact challenges
- Dirt, it's going to last for a long time as well
- Sand, it's going to wear faster since it is more abrasive
- Sand with water content will act as an abrasive lubricant and wear even faster

Experience is vital, Guy says, in making accurate determinations. "It takes about five years to become what we call good at this," he says, "and from five to ten years, we say you have become an expert, and mastery comes after 10 years."

That said, there are signs that anybody can watch for. Guy recommends that all operators do daily checks

and obey some basic rules. Here are Guy's top-line recommendations:

- Conduct a 15-minute daily visual inspection of undercarriage components, including idler, final drive, bushings, rollers, and sprockets and look for flat spots, chips of metal, or signs of uneven wear.
- Ensure that track and chain tension is correct. One method is to measure the distance between a specified amount of links. Also, check for 'frozen' links or loose pins.
- When a component breaks, consider the impact that this failure might have on other parts. When in doubt, take the time to discuss your issue with an experienced PSSR.
- Make sure the undercarriage matches the terrain. For example, rock calls for a narrower shoe, while sand requires a wider shoe to maintain flotation. Avoid using full-length rock guards when not working on rock, as they get clogged.
- Clean packing from around carrier/top rollers to reduce the change of seizing rollers and flat spots.
- Avoid harmful driving practices, such as high-speed reverse, turning in one direction only, or travelling excess kilometres between work areas. "An excavator is not a taxi," says Guy.



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- Be aware of typical duty cycles of equipment and keep track of hours. "For me, a dozer goes from 2000 to 3500 hours, and an excavator between 2500 and 4000 hours," says Guy.

Regular care by operators will reduce incidents, but there are no guarantees. Guy checks in remotely with each contract customer approximately every three months and follows up with an on-site visual inspection if there are possible issues. Ultimately, there's no substitute for the years of experience that an expert like Guy brings to our customers' equipment.

"There are so many things that can change the end result," he says.



Undercarriage is one of the most expensive components on your tracked machines. Documenting and knowing the life expectancy is essential to determining costs and planning for replacements on your machine. 15 minutes of your time can save you time and money in the future and reduce downtime and increase profitability on your tracked machines.



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**Talk to your local Product Support Representative about undercarriage care and other preventative maintenance tips.**

