

Saw Cuts One Line on Dual-line Tether System

Incident

In October 2017, an operator had a close call when he cut through one of the lines of his tethered machine.

The operator of a dual line tether system was using a bunching head to fall large hemlock trees on 80% slope. He had 15 years of experience running equipment, and six years of experience working on the rigging. He had been operating this system for five months.

The base machine had its bucket dug in and tracks parallel to the hill slope on a large landing (Figure 1). Chains connected to the tether machine were shackled to spliced eyes on the lines from the base machine. The lines were in lead with both machines and separated by stumps.

The operator would walk the machine down slope and cut his way back up hill. When cutting back up slope, he would sever the trees from the stump, lift them over the tether lines, and bunch them on the opposite side of the lines.

The operator had just finished cutting a tree when the base machine slid slightly forward. This caused the tether machine to slide slightly downhill. The shift was not enough to activate the movement sensor. If the movement sensor in the base machine had been activated the tether machine would have been able to move for half a wrap on the drum and while drum brakes were being applied.

The operator's reaction was to get the boom grounded immediately. He dropped the tree he had just cut in the standing timber, then began to swing the head around to ground it. In the process, he cut one chain.

After grounding the machine and ensuring it was stable, the operator assessed the situation. He determined the best option was to unhook the lines and walk the tether machine to the lower road. He walked the machine ahead to get slack and unhooked the shackles.

He called the owner and informed them of the situation. The operator replaced the chain he had cut, inspected all components, dug the bucket in better, and began cutting again.

In this situation, all safety mechanisms worked properly and as designed. Years of training and experience led the operator to react by grounding the boom when the tether machine slid, in turn cutting the chain. Because the lines were separated by stumps, only one chain was cut.

When the line was cut, the tether machine was positioned with the boom facing uphill. Without having the second tether line as a secondary stopping device, the tether machine would have slid down slope.

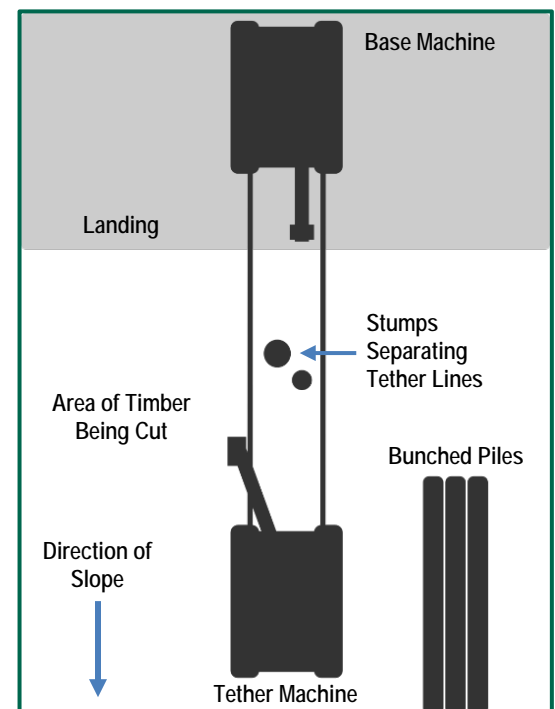


Figure 1. Diagram of dual-line tether system

Recommendations

- Ensure the base machine is properly secured.
- Employ a secondary stopping device when using a buncher head.
- Consider using a grapple head or a retractable hot saw on extremely steep slopes.
- Keep lines spaced out by stumps or terrain when using a buncher head.
- Only allow experienced operators to use tethered machines.
- Avoid operating over lines.



Photo 1. Bunching head used in incident



Photo 2. Chains hooked to tether machine

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