

Rapid Lesson Sharing

Event Type: Snagging Operation

Date: Sept. 7, 2016

Location: Gap Fire, Klamath National Forest

NARRATIVE

On September 7 at 1630 hours on the Gap Fire, a B Sawyer (FAL2) was impacted across his line gear backpack by a Shasta red fir pole. While the sawyer was uninjured, it is beneficial to explore the chain of events surrounding this incident.

As the tree was felled, it became hung-up. When it was subsequently pushed, it rebounded back toward the stump—ultimately making contact with the retreating sawyer's line gear pack on his back.

Chain of Events

A Type 3 U.S. Forest Service wildland engine was assigned to mop-up operations on the Gap Fire when the FFT1(t) pointed out three hazard trees to the sawyer that were located below the road nearly 200 feet off the line.

These hazard trees were deemed as possible threats to that day's mop-up operations. Tree #1 was a 24-inch DBH that had some fire damage, but overall was still quite sound and posed no threat.

The second tree was a Shasta red fir that was at least 30 feet tall. Because of the extensive external rot, much of the bark and sapwood had burned off, making the DBH about 8 inches. The actual size of the tree above DBH was closer to 11 inches in diameter. This snag was mostly very dry sapwood. For its size, this snag was quite light.

Sawyer Believes Weight of Snag will Push Through the Obstructing Limb

Approximately $\frac{1}{4}$ of the way up the snag, the sawyer noticed it had been fire weakened and felt it needed to be cut. Another nearby snag had a limb that was blocking the sawyer's preferred lay. After examining the situation, the sawyer believed that the snag being felled would have enough weight to push through this limb.

Even though this area had recently burned, it was cool enough to initiate mop-up. It was flat, clean, and clear of debris. Escape routes existed that offered refuge behind other green trees.

After a quick size-up was conducted, the sawyer applied an appropriately proportioned undercut and then executed the back cut. As the snag fell, it caught the limb of prior concern. This limb immediately arrested the snag's downward progress.



While felling this 8-inch DBH, 30-foot tall Shasta red fir snag it hung up on an obstructing limb from a nearby tree. Now what?



When the sawyer heard the snag “pop” after giving it a push, he ran out the same escape route he had first used after attempting to fell the tree.

The sawyer retreated along his escape route to a “safe area.” He immediately noticed that the snag didn’t completely go and was suspended at an approximate 30-degree angle. The sawyer placed the saw behind a nearby tree approximately 30 feet directly to the rear of the hung-up snag, then returned to the snag and “gave it a push.”

Snag’s Top Hits the Sawyer’s Line Gear Pack on His Back

When the sawyer heard the snag “pop” he ran out the same escape route he had just used. The snag snapped in its fire-weakened area and came back at a 180-degree angle to the desired direction of fall.

The top $\frac{3}{4}$ of the snag came backwards toward the retreating sawyer.

About 4-5 feet from the very top, where the snag measured approximately 2.5-inches in diameter, it landed across the right side of the sawyer’s line gear backpack. Although wearing his pack may have extended the sawyer’s escape time, in this case, the sawyer felt that it greatly softened the snag’s blow.

The snag’s impact knocked the sawyer down onto his knees. He immediately got to his feet, dropped his pack and walked to a safer area. After collecting himself, he called the nearby EMTs on his engine to evaluate his condition. At the time, he was a little puzzled as to why two nearby observing crew members didn’t initiate the medical call themselves. Perhaps they were in shock and disbelief as to what they had just witnessed?

Although wearing this pack may have extended the sawyer’s escape time, in this case, the sawyer felt that it greatly softened the snag’s blow.

Shortly afterwards, the Engine Captain contacted the Strike Team Leader who notified the Division Supervisor. A nearby Line Safety heard the radio traffic and was on scene within minutes. Two other Medics arrived and conducted a patient assessment. Based on the patient’s high spirits/good condition, they opted to not transport him.

The next day, the sawyer did experience some muscle soreness that lessened with the day’s activities.

When Line Medics Perform a Patient Assessment a 9-Line Must Be Done

Later that evening, the Division Supervisor advised the Team Safety of this incident, providing an explanation as to why the Communications Unit had not been alerted and why a “9-Line” wasn’t done.

After some discussion, it was decided that any time Line Medics are utilized to do a patient assessment, a 9-Line needs to be done and the information—regardless of the insignificance—needs to be relayed to the

Communications Unit. Doing this serves as an informal “safety stand down” to others on the line and keeps information flows transparent and fluid.

LESSONS

1. Make a Physical/Mental Connection with Your Planned Escape Route

After discussing this experience with the sawyer and his Captain, they felt it that it was a very ordinary day with an “Ops Normal” kind of feeling. The sawyer couldn’t really recall why he didn’t retreat to a nearby safety zone that was located very near to the preferred 45 degree angle. After some discussion, he felt that it was possible that he was “returning to his chainsaw.”

It is important to acknowledge the deep connection a sawyer makes with the saw. In this incident, after cutting the snag, the sawyer placed the saw behind some solid green trees approximately 30 feet away and to the rear of the snag’s intended lay. Although it wasn’t a textbook 45 degree angle to the side of the direction that the tree was felled, this area was consciously deemed safe for the chainsaw.

Always have a PLANNED escape route. Make a physical connection to it by walking it out. Put some muscle memory into your efforts.

One could therefore be easily drawn back to that area—as a subconscious association with safety was made on behalf of the equipment.

During the frustration of having to return to the tree to push it over, one could easily miscalculate relative distances and needed escape timeframes. When possible, it is preferable to have both a primary and a secondary escape route at 45 degree angles—to the rear of the direction of the fall—that terminate behind a solid object that offers some degree of cover.

Always have a PLANNED escape route. Make a physical connection to it by walking it out. Put some muscle memory into your efforts.

2. How the Spirit of “Finishing the Job” Can Push Sawyers Out of Their Comfort Zone

Another point to consider: Can a “B” tree of very moderate complexity become an advanced or high complexity “C” tree?

In this case, it is believed that even though the tree became hung-up, because of the flat, open terrain, this tree, by most accounts, was still a “B” tree.

For those unique situations where the risk to the cutter is greater “to see the tree to the ground” than the perceived risk to nearby personnel, we need to encourage sawyers to establish a “No-Work Zone” and look to other means to neutralize the hazard.

However, we need to remember that it is very possible for felling situations to start out as a very simple operation that can go slightly awry and, thus, radically elevate the complexity. This calls for an entirely new evaluation, the result of which may be outside the skill or comfort level of the faller.

Please discuss such potential scenarios with your crews. We need to be aware of the culture of “completeness” that exists on the fire line—whereby the spirit of “finishing the job” often times pushes sawyers out of their comfort zone to get a hung tree to the ground—to “erase” the “mistake.”

Tempering the Overwhelming Urge to Put the Hung Tree onto the Ground

Our ranks must be able to temper the overwhelming urge to rush in to put that hung tree down onto the ground. The tree’s change in position/condition may have radically elevated the complexity far beyond our experience/qualifications.

For example: An average free-standing “B” caliber tree begins as a standard felling operation. But in the process of felling, this tree becomes hung/suspended with compound binds, at high-angle, with undetected limb lock. It is now clearly an advanced C “bucking” operation that has a plethora of unknowns.

**An important point to remember is that every tree will eventually come down.
It doesn’t always have to be by our hand, on our terms.**

In such a situation, we need to help promote a sense of responsibility combined with a sensibility that doesn’t put an unbearable cultural onus on frustrated sawyers to rush into a situation that they don’t fully comprehend. For those unique situations where the risk to the cutter is greater “to see the tree to the ground” than the perceived risk to nearby personnel, we need to encourage sawyers to establish a “No-Work Zone” and look to other means to neutralize the hazard.

Sometimes that’s as simple as waiting it out until the next shift and letting the evening breezes bring the tree down. It may also include: calling a professional faller, utilizing nearby equipment, light rigging with block and tackle, knocking it loose with a larger “driver tree,” or perhaps even ordering a certified blaster for the most urgent of needs.

An important point to remember is that every tree will eventually come down. It doesn’t always have to be by our hand, on our terms.

Scout, identify the potential hazards and truly assess the risk. If there is no target of value—meaning we have established a hard closure to the area with a clearly marked “No-Work Zone”—where is the need to expose sawyers to unusually elevated hazards?

**This RLS was submitted by:
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