

# Rapid Lesson Sharing



**Event Type:** Felling Operation Tree Strike

**Date:** May 2, 2022

**Location:** Calf Canyon/Hermits Peak Fire  
Las Vegas, New Mexico

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## The Story and Lessons from This Hung-Up Tree Felling Incident

*After taking several steps away from the cutting area up the escape route,*

*Sawyer A looked back and saw that the tree was falling toward him*

*in the same direction of the escape route.*

*Sawyer A was able to brace and attempted to jump to the side,*

*but the snag struck Sawyer A in the left upper back.*

### Narrative

On the morning of Monday May 2, 2022, the Lolo Interagency Hotshot Crew was operating on the Calf Canyon/Hermits Peak Fire near Las Vegas, New Mexico. The crew had arrived on the fire the prior Friday and had been assigned to night shift, primarily conducting firing operations near structures that the fire was threatening.

At approximately 0630, the crew's mission was to conduct a firing operation above a critical water treatment facility to create a buffer for the approaching fire, which had made a substantial push overnight. One squad was assigned to conduct the firing operation, supported by an engine, while the other squad worked nearby preparing a road for firing operations.

As the firing operation was beginning, the engine crew pointed out a burning snag approximately 25 feet above the road. This snag was located in a finger that had burned down to the containment line behind the start of the firing operation.

#### **Sawyer A Assigned to Take Down Burning Snag**

Sawyer A from Lolo IHC (a FAL2) did a size-up on the tree, an approximately 35-foot dead ponderosa pine that was 10-12 inches in diameter at breast height (DBH). Sawyer A asked the engine to spray the tree down to cool it off before beginning cutting operations. Once the tree was cooled down, Sawyer A—per Lolo IHC saw standard operating procedures (SOPs)—removed his pack for the felling operation and made sure the cutting area was clear of personnel and trucks. Sawyer A's pack remained off throughout the duration of the incident.

The intended felling plan was to lay the snag sidehill. But the snag fell into and got hung-up in the bole of a live ponderosa pine, slightly downhill of the intended lay. The snag did release from its stump and now rested on the ground.

With the snag hung-up in the live ponderosa pine, Sawyer A used a notch and hinge to better control the direction the snag would fall. After two approximately three-foot sections were taken out of the tree,

Sawyer A intended to take one more section out, which would remove the section of the snag that still had heat in it.

#### **After Snag Hangs-Up – Next Steps Discussed**

At this point, the Crew Boss Trainee approached Sawyer A and they discussed next steps. Sawyer A suggested his intended plan and the Crew Boss Trainee suggested flagging the tree off at that point and having the engine spray out the heat in the tree.

The Crew Boss Trainee then asked Sawyer A if he felt comfortable taking one more section out of the tree as he intended. He also offered to have a more experienced sawyer make the cut. Sawyer A felt comfortable in the cut plan and accepted the assignment.

Sawyer A continued using a notch and hinge technique to cut the remaining three-foot section. Each cut prior had resulted in the snag remaining hung-up in the tree. Each section had good hinge wood remaining after the cut.

Sawyer A put in an undercut. During the backcut, as the undercut started to close, Sawyer A shut his saw off while exiting his escape route uphill, away from the direction that Sawyer A predicted the tree would fall. However, when the section released from the snag, the portion of the snag that had remained hung-up hit the ground and pivoted.

After taking several steps away from the cutting area up the escape route, Sawyer A looked back and saw that the tree was falling toward him in the same direction of the escape route. Sawyer A was able to brace and attempted to jump to the side, but the snag struck Sawyer A in the left upper back.

Sawyer A was knocked to the ground and had the wind knocked out of him. But he did not lose consciousness and was able to stand back up under his own power and was assisted down to the road for further evaluation.

#### **Decision Made to Transport the Injured Sawyer Via Ambulance to Hospital**

Sawyer A, an EMT, did a quick assessment of himself and determined the only injured area was the left upper back. At this time, Lolo IHC's Lead EMT arrived and conducted an assessment as well. Transport was prioritized.

It was determined that Sawyer A was alert and oriented and was only suffering pain in his upper left back area and was able to ambulate. Throughout the patient assessment, the Lolo IHC Superintendent was in communication with Ops to relay the patient's information. The transport decision was made to request an ambulance. Sawyer A and the Lead EMT walked to Lolo IHC Superintendent's truck and drove to a main road below the water treatment facility to rendezvous with an ambulance for transport to a local hospital.

At the hospital it was determined that Sawyer A had five broken ribs, a pulmonary contusion, and a 15 percent pneumothorax (collapsed lung). He was transferred to a second hospital for observation, due to the fire's proximity and potential threat to the local community. Sawyer A was released two days later and is expected to make a full recovery.

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## **Successes**

### **❖ Qualified and Trained Medical Personnel**

Having qualified and highly trained medical personnel as members of the Lolo Interagency Hotshot Crew facilitated a rapid assessment of Sawyer A and the determination of need for transport. Lolo IHC spent several days during their critical training period reviewing and practicing medical scenarios, response, MIRs, and basic First Aid with both crew EMTs as well as non-EMT crewmembers.

❖ **Looking Back Once Exiting the Cutting Area**

Sawyer A credits looking back once exiting the cut area as a major factor in preventing this tree strike injury incident being worse than it was. Had he not looked back it was likely that the tree could have struck him much more directly.

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## Lessons

*Trees that are hung-up are often more complex in nature. It is important to acknowledge this—even if the situation initially appears to be within a sawyer's comfort levels.*

❖ **Escape Routes**

Make sure an escape route is going to get you safely away from the cutting area and is uninterrupted. While the escape route in this scenario was clear of debris, was a better option available? Especially when cutting hung-up trees, it is important to reassess the tree's anticipated reaction once the release cut is made.

❖ **Environmental Stressors**

This felling operation occurred toward the end of shift as a firing operation was being conducted to buffer a critical piece of infrastructure. Overnight, the fire had made a large, dynamic push toward the city of Las Vegas. The crew had to move locations several times due to the fire's proximity. It's important that in these scenarios to remain calm and focused on whatever task or operation is at hand directly in front of us, despite the environmental stressors around us.

❖ **Complacency**

Having watched the snag fall into the same place after two cuts it would be easy to believe the snag would do the same thing upon the final cut. However, each cut is a new operation and the way the tree reacts cannot be predicted with certainty based on prior actions.

❖ **Complexity of "Hung-Up" Trees**

Trees that are hung-up are often more complex in nature. It is important to acknowledge this—even if the situation initially appears to be within a sawyer's comfort levels. With no anchor to the ground, hung-up trees can be unpredictable when cut. Traditional sawyer training such as S-212 does not do justice in cutting techniques when involving hung-up trees.

❖ **Opportunities for Additional Risk Mitigations**

After this incident, because of the various incidents Lolo IHC has experienced with hung-up trees, the crew created new SOPs for these hazardous and not uncommon situations. A FAL1 (C-Faller) will now be present to discuss: the cutting sequence, Go or No/Go decision to engage in the tree, escape routes—and will remain on site until the tree is on the ground.

Contingency plans for Incident Within an Incident (IWI) communication may be required. Communication is not always as straight forward as we plan for when informing overhead about medical incidents. When the patient assessment was completed (Alert and Oriented x4, walking, talking, etc.), the decision was made to utilize cell phones to go direct with night operations. This decision was made due to a morning radio briefing taking place simultaneously with the medical. Fortunately, in this case the Crew Superintendent had a good relationship with Night Ops and had contact info because the crew was unable to reach their Division Supervisor on the radio.

The Crew Superintendent recognizes this is not the traditional communication protocol for medical incidents but felt it was required and appropriate given the circumstances.

This fall, the crew will be pursuing training for rigging hung-up trees with Forest and Regional chainsaw coordinators. It is recognized that this introduces additional risk, however there are instances where additional training and equipment can effectively mitigate the hazards associated with hung-up trees.

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**This RLS was submitted by:**

**Sawyer A and the Lolo Hotshot Crew with support from  
Regional Risk Management Officers**

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