TREE INSPECTION: A CONTINUOUS PROCESS

By Steve Connally, CTSP

Tree inspection as we know it is generally defined as a pre-climb hazard assessment. There are forms to document our findings, illustrations defining what to look for and research showing how to measure the hazard assessment. The informational resources are plentiful.

As competent climbers and arborists, we diligently follow through the processes to ensure our safety and to anticipate potential hazards. Our lives depend on it. However, is the inspection a single step on our hazard analysis? As climbers, we intuitively continue the hazard assessment and the risk/benefit analysis throughout the job task. When I was in the Navy, I had a captain of the USS America CV66 who ended every daily announcement with, "Keep your head on a swivel, America." I believe this sentiment rings true in arboriculture. Even though we don't call this subconscious behavior anything specific, it's still happening.

Incidents like the near miss I'm about to describe can easily happen. Sometimes the pressures of the job site, the need for an up-and-coming climber to prove himself or herself or working outside one's comfort zone can be intensely distracting. What we must continue to do is keep our heads on a swivel and conduct the hazard assessment until the day is complete.

Photo 1: Day 1 involved limbing out the white oak with the grapple saw until we had manageable pieces to pick. Day 2, shown here, involved picking the trunk in manageable pieces and cleaning up. All photos courtesy of the author.

I was contracting a two-day project for a client using my grapple-saw crane. They brought me in to assist with a truly massive white oak, *Quercus alba*. Day 1 involved limbing out the tree with the grapple saw until we had manageable pieces to pick, like traditional crane picks. We spent eight hours reducing the canopy to trunk wood and called it a day. Day 2 involved a plan to pick the trunk in manageable pieces and clean up.

Five log picks left us with a mass of tree where all the leads came together on the trunk. My capacity was 9,300 pounds, though I calculate all my picks to be 70% or less of chart. The climber and I communicated the plan to balance-pick this mass of material using a chain bridle with shortening links. I performed a 360-degree walk-around with the best of intentions of ensuring we were low enough on the trunk wood to ensure all legs of the piece came off together and with enough butt weight to keep it upright. We discussed where the cut would start and finish. We planned for climber positioning once the cut was complete and a possible escape route for the climber.

Unfortunately, the bar length of the saw was inadequately matched to the diameter

of the piece. There was not a possibility of using a longer bar, as one was not on site. The climber placed the bridle, and the load was pretensioned to 6,800 pounds. The plan was reviewed again, and the cut was started. Pretension was adjusted throughout the cut, watching how the kerf reacted as progress was made.

In Photo 3, the yellow highlights indicate the lifting bridle. The green highlights show the location of the cut. From my vantage point on the ground, it appeared to be low enough into trunk wood to prevent any separation of the leads coming together on the base of the cut. (Photos 3, 4 & 5)

Naturally, based on the diameter of the wood and the lack of the appropriate-length bar, the climber struggled to complete his task. His positioning at the end of the cut left him in a questionable location. However, we adjusted our plan accordingly for moving the material away from him when the cut was complete.

When the climber's cut severed the last bit of holding wood, the piece separated into two parts. The way we had bridled the piece for balance caused the larger piece to rock inward and the smaller of the two pieces to flip. I immediately boomed up as quickly as I could to keep the material away from the climber. I stopped and assessed the situation.

Photo 2: The job involved removing this massive white oak, Quercus alba.

My primary objective was to ensure the climber had not been struck. Miraculously, he had not. I immediately boomed the pieces to the ground and asked the climber to come out of the tree and take a

Phorto 3: The yellow highlights are the lifting bridle. The green highlights show the location of the cut.

Photo 4 & 5: From my vantage point on the ground, the location of the cut appeared to be low enough into trunk wood to prevent any separation of the leads coming together on the base of the cut.

Photos 6 & 7: An assessment of the rigging and the material on the ground revealed a significant amount of included bark not visible from the base of the tree.

break. Once the climber was safely on the ground, all operations on the job site were stopped and a debriefing ensued.

An assessment of the rigging and the material on the ground revealed a significant amount of included bark not visible from the base of the tree. The sling angle of the rigging, although less than 120 degrees, contributed enough force inward to cause the pieces to separate, resulting in the near-catastrophic event. (Photos 6 & & 7???) The final pick weight was 7,100 pounds. The lead circled in red was the section that separated from the main trunk wood. (Photo 3)

A thorough evaluation and assessment, after the fact, showed how we could have more successfully managed this material. In retrospect, I would have called for each of the smaller leads to be picked individually. My initial concern was that taking those leads off would result in an unbalanced piece without enough butt weight. This proved to be the lesser of all evils.

A second plan would have been to place load binders above the cut. Unfortunately, there were none on site. Believe me when I tell you I ordered some immediately after this incident and now carry them on my rig.

The last piece of the puzzle was the hazard assessment from the climber. I can't say beyond a shadow of a doubt that I would have identified the amount of included bark from the top view. I can only say I hope I would have. After a few weeks, I worked with the climber again. He did mention seeing how the union looked from the top, but wasn't sure, so nothing was said.

This brings me to the point: Hazard assessment is ongoing. If you see something, say something. It's very easy to get so focused on the task at hand that you lose the ability to keep your head on a swivel. We hope to intuitively do this on every job, with every task. Sometimes factors beyond our control result in the inability to see the details that can have the greatest impact on the outcome. Sometimes the more experience you have as a climber and the more tools of experience in your toolbox, the quicker you pick up on the red flags. I'm extremely thankful that the outcome was nothing more than lessons learned. As always, tree work is an ongoing learning process. Each and every situation lends itself to a learning point.

It's super easy to "armchair" others' operations. As you "armchair" this operation, ask yourself a few questions:

- How would I have done this differently?
- Was the initial plan solid had the pieces not separated?
- If I was the climber on the hook, would I have noticed the potential for failure?
- Will I approach a similar situation differently going forward?

Best wishes for a safe 2020.

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Do we want to include anything about this "Arb Skills" feature, or if there will be a video?