

# Discussion Leaders Guide

## Storm Damage and Salvage Safety

This video will deal with loss control issues during storm restoration and salvage operations. Loss control focuses on one driving issue, reducing RISK. Risk is the key building block for any incident. **Eliminate the risk, and you've eliminated the incident and possible injury.**

It is very important to plan the salvage operation thoroughly. As you know, a good plan will increase safety and efficiency throughout the clean-up process. Efficiency leads to reduced risk and increased productivity.

### **DISCUSSION POINTS**

**When you arrive at the site what are the steps you should take?**

1. Study the direction of the “wind throw” or blow-down, then:
2. Study the terrain for slope and wet areas. These hazards can increase risk and reduce efficiency if not dealt with in a pre harvest plan.
3. Study access to the highway. Make sure you have clear visibility to safely enter and leave the highway. If possible, locate the deck away from the direction of the wind thrown timber for skidding the butts with ease. Proper deck placement makes skidding operations more efficient. Straight, direct access reduces the amount of movement a skidder must make. Environmentally, this can reduce soil compaction and avoid rutting.

**What are special safety considerations where blow-down or other storm damage is present?**

1. Never put ground personnel at risk when the mechanical option is available. Fully enclosed equipment and rotational felling heads not only greatly reduce risk levels but also adds to the efficiency of the operation. Pull-through and stroke delimiters, as well as other mechanical processing equipment increase safety and productivity. Take great care to observe safe work zones and always protect workers on the ground.
2. Skidders are useful tools to clean up storm damage removing high risk trees without using a chainsaw.
3. No one is allowed within 300 feet of a felling machine. Obviously this mandatory rule is designed to reduce the risk of injuries from flying debris and falling timber. Remember the 300 foot rule is the industry standard for mechanical felling. Always use mechanical methods where ever possible during any storm clean-up.
4. If you arrive at a site shortly after storm damage occurs, there may still be some “settling” going on. Also, lodged trees, broken tops, difficult ground conditions (walking through the jackstrawed limbs and debris is particularly hazardous, and even more so if you are carrying a chain saw) pose specific threats in a storm-damaged area.

## **What personal protective equipment is required for timber cutter and saw hands?**

Timber cutters and saw hands should always wear head protection in the form of hardhats and safety glasses. A complete hardhat package includes protection for the eyes and ears. In some instances, gloves are useful. Cut resistant leg wear, such as chaps or chainsaw pants, is mandatory while operating a chainsaw. Cut resistant footwear reduces the risk of a crippling laceration to the feet. A personal first aid kit must be carried while in the field. And you should always wear high visibility clothing. If you can be seen you are less likely to be injured.

## **What are the three required safety features on a chain saw?**

1. First, make sure you are familiar with the operation of the **Chain Brake**. You should treat the chain brake the same way as you would the safety on a firearm. If it does not work, the saw must be placed out of service. The saw must be properly started with the chain brake engaged. For maximum safety, you should set the brake if you are walking further than two steps or if you don't have both hands on the saw. Always carry a saw with the brake set.
2. Another key safety feature is the **Throttle Interlock**. The throttle interlock system prevents the throttle from being depressed without having a good safe grip on the rear handle of the saw. The throttle won't engage until the interlock is released. The interlock is a very important safety feature; it must never be over-ridden. The saw shall be placed out of service if the interlock is in disrepair.
3. The third safety item is the **Chain Catch Peg**. The catch peg is located underneath the saw, on the clutch side. This peg protects you from being injured in case the chain fails or derails from the guide bar. Replace the catch peg when needed.

Before entering the hazard areas, always use the five-part plan. **Name the five parts.**

1. The first part of the plan is to **check for overhead hazards**. Is there anything above me that could hurt me? Do not place yourself in danger.
2. The second step in the plan is to **check for spring poles**. Be sure to look under the stem for "hidden" spring poles.
3. The third part of the plan is to **determine front load or back load**. Will the stem move forward, or spring back when a cut is made?
4. The fourth and most important step in the plan is to **determine the side-load of the stem**. The side-load identifies the "good side" or the "bad side" of a tree or limb. Keep your body on the good side or "compressed" side of the tree. Compressed wood can be found

on the inside of the bow or arch. The wood on the outside is being stretched and is the “tensioned” side of the tree. Remember – tension wood is the bad side. When tensioned wood is cut, the reaction is fast and most times very violent. You won’t be hurt if you stay away from the tensioned side.

5. The last step of the plan is the **stem’s butt position**. Is it elevated or flat on the ground? The position of the butt will determine the type of cut and body position you must use.

### **What are the four types of specialized cutting techniques that are useful in tension wood situations?**

1. The first technique is a **Top Lock**. The top lock is used when pressure is observed. Always make the top cut first. If tension is present, the saw will start to be pinched or bound as it cuts down. Once this binding load is identified, make the second cut under the stem, off-set to the butt end of the tree or limb. The offset creates a shelf or shoulder, which forms the "lock". Do not make the second cut towards the tree top or the saw will be pinched.
2. The next technique is the **Limb Lock**. The inside cut is made first. Again, when pressure is noticed (compressed wood), make the second on the outside (tensioned wood). The cuts should be off-set; which creates a shelf or a shoulder to keep the stored energy contained. Placement of your body is important. If possible make this cut from the “good side” of the stem. If the cutter is forced to make this lock on the “bad side”, be sure to keep your legs back and away from the “swing path” of the limb just in case the lock fails.
3. The third technique is the **Tongue and Groove Lock**. It is used when there is a chance of the stem or top rolling such as on steep terrain. Always keep your body on the "up-hill" side. The cutter may choose which side to set the tongue as in the case of cutting grade logs. Use the attack portion of the saw to bore cut then make a top and bottom cut offset from the groove cut.
4. The last technique is for **Spring Poles**. IF AT ALL POSSIBLE, LEAVE THEM ALONE. If you must cut a spring pole, identify the sweet spot. A cut there will neutralize the reaction forces. Your body needs to be at a 45 degree angle on the good side of the spring pole away from the reaction. Imagine a vertical line from the side of the pole, and a straight horizontal line at the top. The two lines intersect and form a 90 degree angle. Halfway between the lines is the 45 degree angle known as the “sweet spot” of the spring pole. At this point, you can cut it on the back side or the underside. If the cut is made on the back side of the pole, you are cutting tensioned wood that is released quickly. If you “shave” under the bow, compressed fiber is released at a slower rate and could be considered safer than cutting on the back side. If you make the cut on the back of the pole; you are cutting tensioned wood, which releases quickly. After releasing pressure, trim the stem at ground level. Please remember, do not manually cut spring poles if mechanical equipment is available.

Another type of damage you may encounter is uprooted trees with the root system still attached. These pose a special problem. Their weight places pressure on the stem and once they are released will likely flop back into the hole. While entering the work area, the timber-cutter must be taking in information and forming his plan. Be certain to check for overhead hazards.

### **What are some considerations when you have uprooted trees and root ball clumps?**

1. On small root clumps you can see behind them and avoid having any nearby workers being struck. It's good to know where everyone is at all times. Glance up and search frequently. Where the root system is high enough to block vision and allow someone to approach without notice, you should have an observer around to "police the area" and to aid the cutter by making sure the crew is all clear before the operator releases the stem from the root system.
2. After getting positioned on the good side of the stem, the saw is properly started and the cut is applied. The timber-cutter is able to check with the spotter before releasing the tensioned stem.
3. There may be situations where pressures and tensions require mechanized equipment. Stabilize the stem and use hand signals and eye contact during the equipment positioning. Remember the man on the ground has maximum exposure. Make the cut and as mentioned earlier. Be prepared to use a plastic wedge if you feel the saw bar pinch in the making. Move off to a safe distance and signal the skidder operator to lift and pull. The stem can now be limbed and bucked in a safe position that you determine.
4. Another problem you may encounter is a side loaded stem. Great care must be used with this hazard as this extreme amount of tensioned wood can be fatal. Position your body on the compressed side of the blow-down, away from the swing path of the stem.

Hopefully today you've learned some new safety guidelines that will make your work safer. Just remember that clean-up of storm damaged timber is a slow and tedious affair and much more hazardous than conventional harvesting. Take your time, plan your work and practice safe techniques.

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