



CLIMBERS' CORNER

Slick Tricks

By Mark Adams

Arborists use slick lines, also commonly called throwlines, for a variety of tasks. Slick lines can be used for installing climbing lines, lowering lines, taglines, and transfer lines; removing hangers; aiding in tying back shrubs, branches and trees; and reaching climbers or bucket operators who have dropped a rope. Throwlines can be set from the ground, from a tree, or from an aerial lift. Some people are reluctant to use throwlines, however, because there is some frustration in learning how to use them and because people believe they can be productive faster without them.

The intent of this article is to encourage greater use of the throwline by illustrating some techniques that have not been widely circulated. Some of these tricks I learned from others, and some I devised myself. Arborists who are new to throwline use will, I hope, find additional ways to work through some common problems that make learning to use the throwline so frustrating. Those who are already slick-line savvy may find a new idea or two that can be added to their existing repertoire.

A number of sources describe methods and uses of a throwline. Jepson, in *The Tree Climber's Companion*, provides information

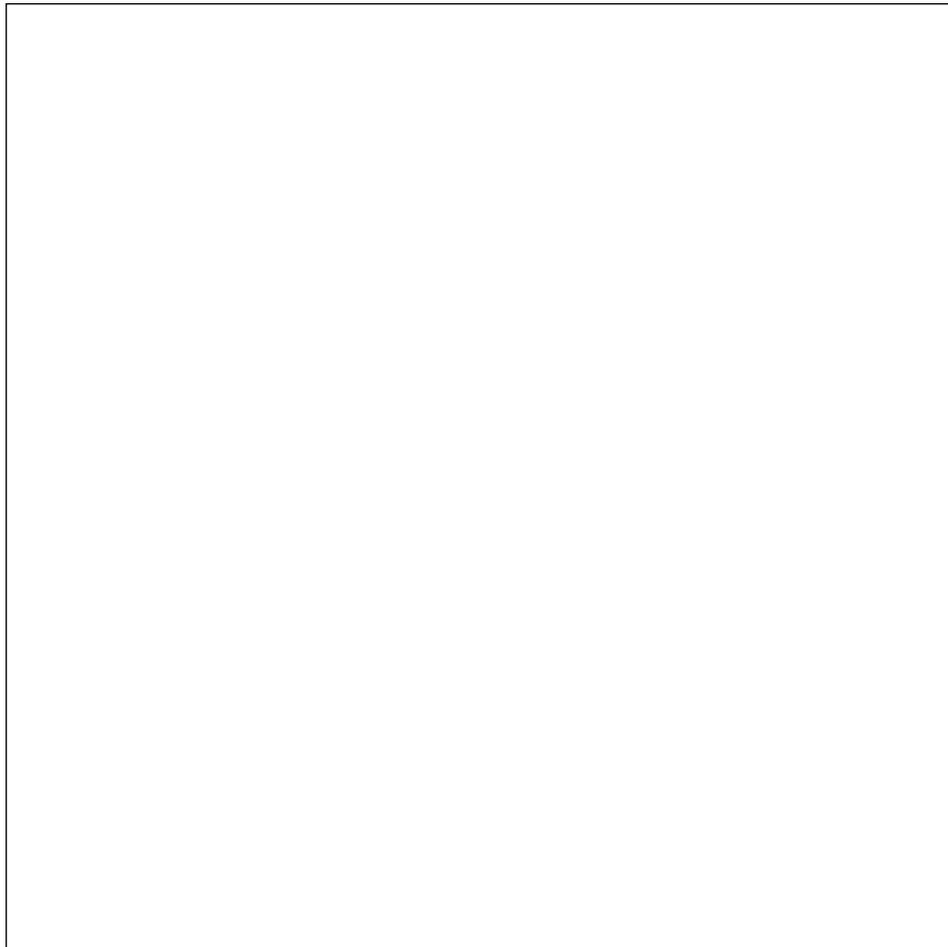
on weights, lines, use of the Big Shot, and installation of false crotches and friction savers. Blair's *Arborist Equipment* also covers types of weights and lines, and is sprinkled with some amusing anecdotal history. Bera-neck (*Fundamentals of General Tree Work*) has some dated—but also some very interesting—tricks. This past fall, the discussion pages on the ISA Web site (www.isa-arbor.com) contained a couple of threads that discussed throwing, types of string, and methods of storage. Also, instructional videos that include some discussion of throwline use are available from both ISA and NAA.

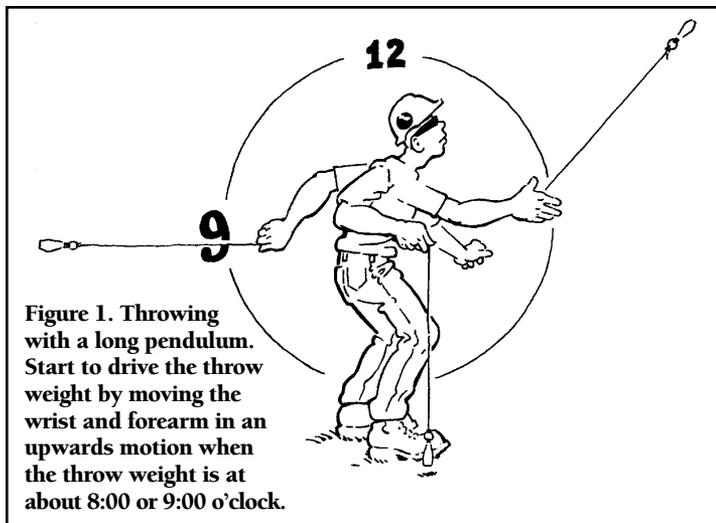
Getting Ready

Always wear a helmet and eye protection when using a throwline. For the setup of the throwline, I prefer to have a throw weight at each end of the line. Various knots can be used to secure the string to the throw weight: Two half hitches, clove hitch, buntline hitch, anchor hitch, and bowline are all used as attachment knots in this application. Because of the small diameter of the string, however, and the amount of force that is sometimes used to pull on the string, these knots can become difficult to untie, particularly if the string is frayed. Many of these knots can be “slipped” (passing a bight through the final tuck), which can solve this problem. Another arrangement is to girth hitch the throw weight. It is easy to take the weight on and off even after being loaded and, although this knot does not slip once it is set, it can be backed up with a half hitch if desired.

Throwing

A common method of throwing the weight is the underhand throw (also called single hand or pendulum). It is accomplished by making a slipknot in the string at about waist height, holding the string at the knot, and swinging the weight back and forth.





you), attach a stick to the line with a clove hitch or simply by taking a number of wraps around the stick. This becomes a handle you can pull on until the weight shoots out of the tree or the string breaks and snaps back at you. You must wear a helmet and eye protection when you do this.

For higher shots with this throw, you can stand on a bucket or other item to increase the length of the string and gain more momentum on the swing. A variation of this throw is simply to tie the knot higher (above waist height) and use a different arm movement to swing and drive the throw weight. Because the knot is above waist height, the arm and wrist have to move up and down to swing the line. When ready to throw, start to drive the weight when the back swing is close to horizontal (about 8:00 or 9:00 o'clock) and move the arm and wrist in more of an upwards motion than used in the previously described method (Figure 1). This variation allows higher throws without the need to stand on anything, but it requires different arm and wrist movements in the swing, drive, and release of the throw weight. It can take several months of regular throwing to learn this if you are used to the other method.

Manipulating the Line

Occasionally, the throw weight gets stuck in the tree. This situation most often occurs when attempting to pull the line out of the tree after an errant throw. To reduce the chance of this happening, remove the throw weight before you pull the string out of the tree. This will not only reduce the number of times that the throw weight gets stuck, it also will eliminate the possibility of the throw weight flying uncontrollably out of the tree and breaking a window, denting a client's car, or clunking you in the head. If the weight does get stuck and you want to pull on the string without slicing your hand open (and if there are no targets behind

When using the throwline to place a line, you generally will want to isolate a particular crotch or at least a particular area of the tree. A number of methods can be used to isolate the desired crotch. As you work and gain more experience with the throwline, you will begin to recognize which trick(s) to use depending on the height and growth habit of the tree and the system you are trying to install. In the following examples, I use a number of abbreviations to facilitate the discussion: tw = throw weight; tw1 = the throw weight that was thrown; tw2 = the throw weight on the other end of the line.

Sometimes your throw will be near, but not over the target branch. For example, in Figure 2 you want the line to isolate branch A, but your throw lands on branch B—which is unsafe for climbing. One way to isolate branch A is to “walk” or “step” the throw weight.

Walking or Stepping the Throw Weight

1. Pull tw1 into the tree, causing it to swing either by bouncing it on the way up or by starting the swing with your hand before you pull the weight up into the tree (Figure 2a).
2. As tw1 approaches branch B, continue the swing, then snap the string so that tw1 goes over branch B, flies backwards, and catches on branch A (Figure 2b).

This technique also can work to move the throw weight up to a higher branch or even to a branch or crotch that is across the canopy. The only caveat is that you must let the throw weight run. If you stop it abruptly, the weight may catch branch A (or some other

branch) and wrap around it several times—making it impossible to retrieve from the ground.

At other times, you may have the string over a suitable branch with one leg of the

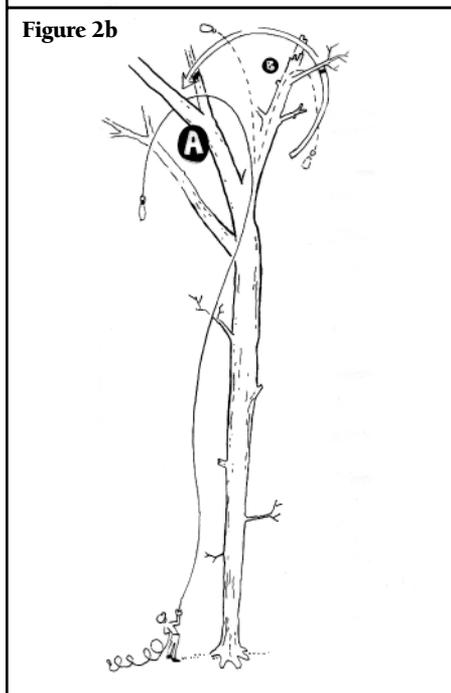
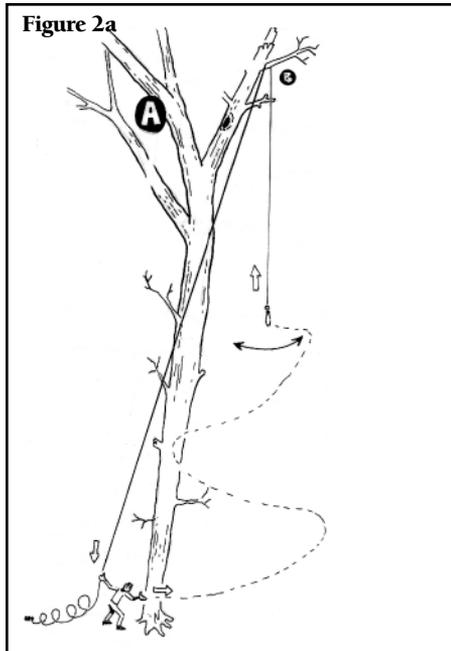


Figure 2. Walking the throw weight. Snap the string so that the throw weight flips around the branch and toward the desired crotch. With practice, and in an open canopy, the throw weight can be directed to a branch that is above, below, or across from where it initially lands.

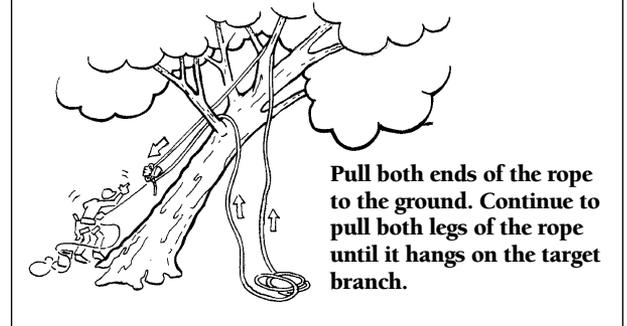
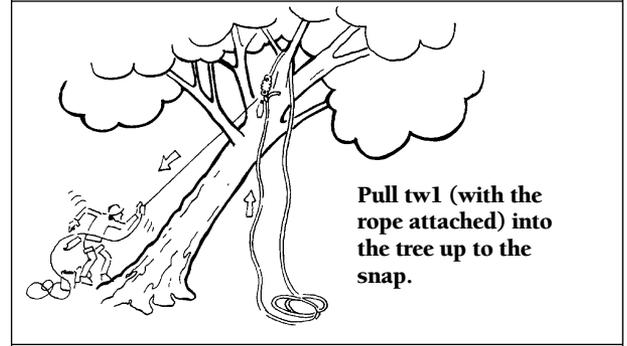
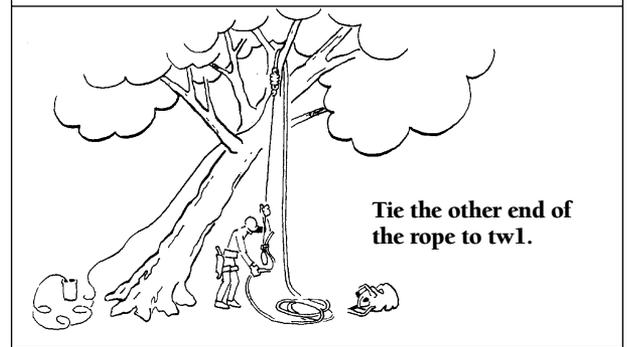
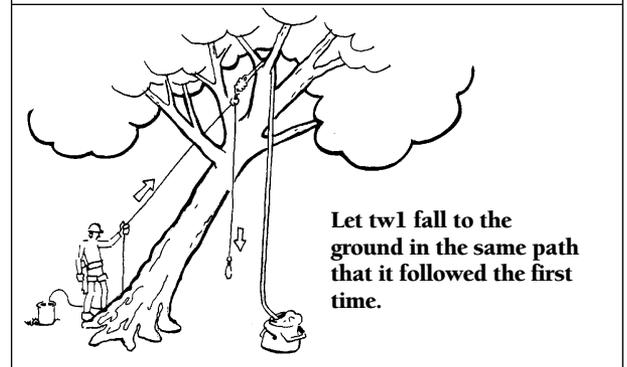
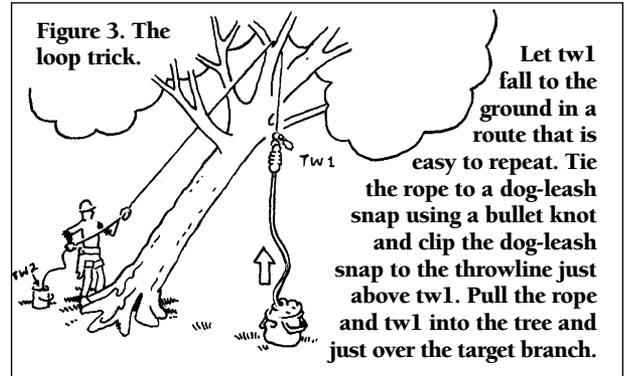
string following the desired route to the ground, but you are unable to get the second leg of the string in the same position (Figure 3). In this situation, use the *loop trick* to get both legs in proper alignment.

The Loop Trick

1. Let tw1 fall to the ground in a route that is easy to repeat. It does not matter if there are numerous branches between it and tw2.
2. Tie the rope to a dog-leash snap using a bullet knot or monkey's fist.
3. Clip the snap to the throw-line just above tw1.
4. Pull the rope and tw1 into the tree and just over the target branch.
5. Let tw1 fall to the ground in the same path that it followed the first time (that is, it should parallel the rope).
6. Tie the other end of the rope to tw1.
7. Pull tw1 (with the rope attached) into the tree up to the snap.
8. Pull both ends of rope to the ground.
9. Continue to pull both legs of the rope until it hangs on the target branch.

On higher throws, the weight of the rope has a tendency to pull the throw-line out of the tree. This problem can be countered by tying a larger bullet knot, by clipping a carabiner into the ring of tw1, or both.

There will be times that, once the rope is over the desired branch, it is resting some distance out on the branch rather than seated directly in a crotch. If the



only thing that prevents the rope from sliding down toward the base of the branch is a couple of small dead twigs, tie the ends of the rope together using two double-over-hand knots and pull this knotted rope into the tree to break the twigs. For slightly bigger twigs or small stubs, use a *jump stick*.

Jump Stick

Tie a sturdy stick in the rope using a clove hitch or an in-line girth hitch and pull this stick up to break the twig or stub (tie the ends of the rope together so that one end is not inadvertently pulled off the ground). Experiment with tying the stick in the middle, at one end, or at both ends to achieve different reactions in the way it jumps. For stubs that are too big to break, or if you are pruning the tree and do not want to break a live branch, combine two of these tricks (*walking* and *jump stick*) to create a *jump bag*.

Jump Bag

With the throwline still in the tree, tie both ends of the string to one throw weight. Pull the weight into the tree, swing it as it approaches the branch, and then snap the string so that the weight flies over the stub or twig. If you

miss the first time, simply work the throw weight back and forth using both ends of the string. Try adding a carabiner or a second throw weight for greater response.

Throwlines can eliminate a great amount of climbing and can be a big time saver, but they can sometimes be extremely frustrating. This problem should not discourage the newcomer from persevering and trying again (and again and again). It will take time to get a sense of when to try which technique. Practice and exposure to a wide variety of techniques will make you more proficient and allow you to find a variety of tricks to suit your own particular style of climbing.

A future issue of *Arborist News* will feature other slick tricks. If you have ideas that you would like to share, please write to me or to the editor. Tell us about a particular way that you used a throwline to access or remove a tree in a tight situation. It is hoped that these tricks will serve as a springboard for creativity.

References

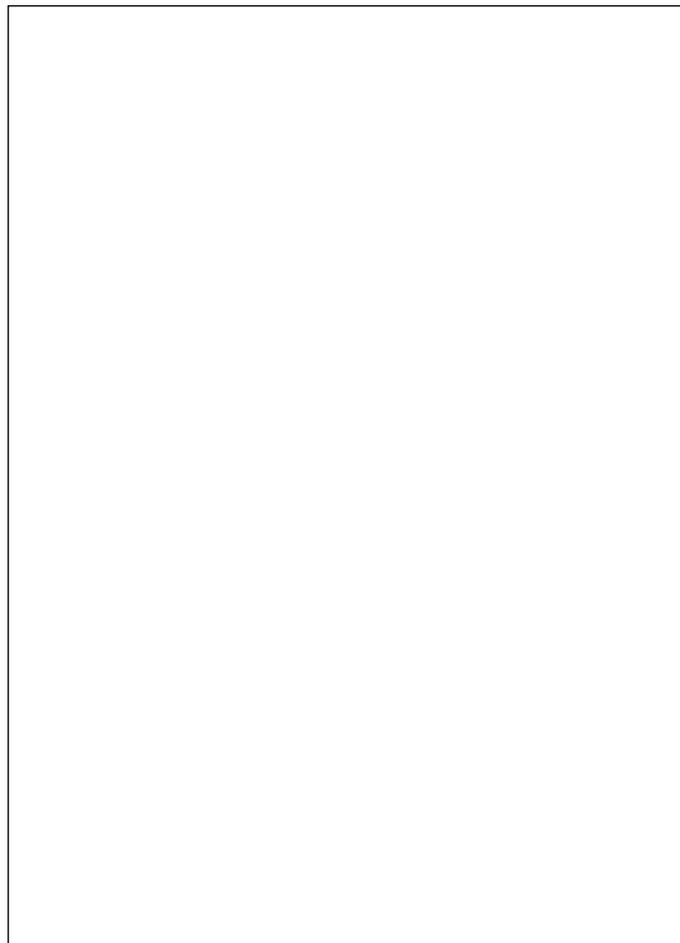
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The author wishes to thank Sean Gere for his suggestions and comments on this article.





CLIMBERS' CORNER

More Slick Tricks

By Mark Adams

In the April Climbers' Corner, I discussed various aspects of using a throwline. I suggested some possibilities for throwing and setting up the throwline and presented several methods of maneuvering the throwline in the tree to isolate a particular crotch. This article continues the discussion of manipulating the line and concludes with an example of how a throwline can be used to help set lines in a specific situation. The intent is to encourage greater use of throwlines, stimulate discussion, and inspire others to share their favorite ways of using this valuable tool.

This article uses the following abbreviations: tl = throwline, tw = throw weight, tw1 = the weight that was thrown, and tw2 = the weight at the other end of the line.

Stick Trick

I'll begin by revisiting the stick trick, an old and fairly well-known way of isolating a rope in a particular crotch. It is similar to the loop trick, which was introduced in the previous Climbers' Corner, but it is used in different situations. The loop trick is used when the string is in the desired crotch, with one leg of the string in the route where you want the rope to go, but you cannot bounce the weight to get the second leg parallel to the first.

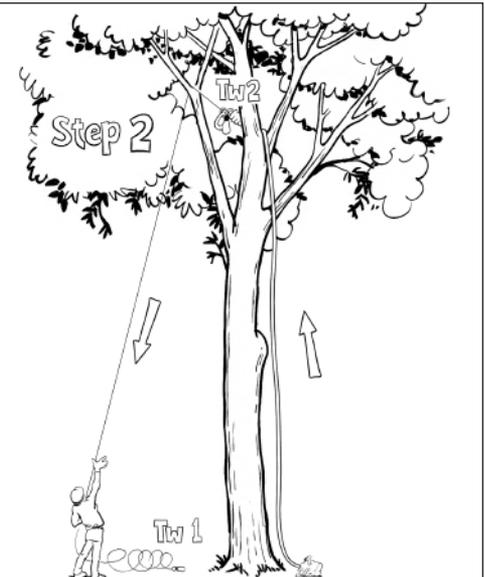
In contrast, the stick trick is used when the throw goes over the target branch, plus other branches above or beside the point

where you want the line to be. For example, in Figure 1, you want the line to isolate branch 1. If you try to pull tw1 up and over branch 2, then the throw weight will most likely flip over and fall below branch 1 as well. For the stick trick:

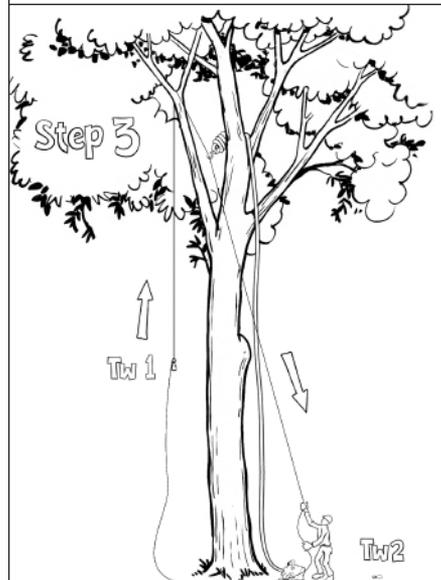
1. Tie the end of the rope to a dog-leash snap. Use a knot that is fairly large and heavy, such as a bullet knot,



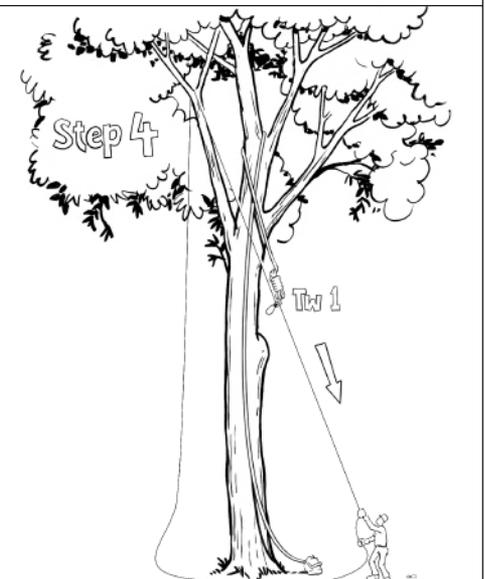
1. Tie the end of the rope to a dog-leash snap. Use a knot that is fairly large and heavy, such as a bullet knot, monkey's fist, throwing knot, or tightened hangman's noose.



2. Clip the snap to the throwline just above tw2. The snap should be able to slide freely along the string right up to the ring of tw2. You may want to clip a steel carabiner to the ring of tw2 to help the rope stay on the branch and to help manipulate the descent of tw2.



3. Pull the rope into the tree until it is just over branch 1, then let tw2 fall back to the ground. Remove the string from tw2 and tie it to tw1 to create a continuous loop of throwline.



4. Pull tw1 into the tree so that it goes over branch 2 and catches on the snap, then pull the snap and rope to the ground.

Figure 1. The stick trick.

monkey's fist, throwing knot, or tightened hangman's noose.

2. Clip the snap to the throwline just above tw2. The snap should be able to slide freely along the string right up to the ring of tw2.
3. Pull the rope into the tree until it is just over branch 1, then let tw2 fall back to the ground.
4. Pull tw1 into the tree so that it goes over branch 2 and catches on the snap, then pull the snap and rope to the ground.

In Figure 1, step 2, a steel carabiner has been clipped to the ring of tw2 to help the rope stay on the branch and to help manipulate the descent of tw2. In step 3, the string has been removed from tw2 and tied to tw1 to create a continuous loop of throwline. This setup can be helpful if there is a chance that tw1 will get hung up in step 4 when it is pulled over branch 1 and back to the snap.

If branch 1 is somewhat high, the weight of the rope may pull the whole setup back down. Experience will help with judging when this situation may occur, but depending on the type of tree and configuration of the crotch, I find it begins to happen with shots in the range of 40 to 50 feet high. To counter this problem, you can add bights, turns, or both to create a bigger, heavier knot to catch in the crotch. Or, rather than using a rope in step 1, use another throwline and throw weight. The steps for this alternate stick trick are shown in Figure 2:

1. Using a steel, locking carabiner, clip the throw weight from the second throwline to tw2 (on the first throwline).
2. Pull tw2 (with the carabiner and second throwline attached) up and over branch 1.
3. Let the tw2–steel carabiner–second throwline unit fall to the ground, manipulating it as needed.
4. Unclip the carabiner from the two throw weights, tie the rope to the second throwline, and pull it into and through the crotch.

The carabiner is necessary because of the added friction of the second throwline. This alternate stick trick can be very helpful for high shots when the rope would pull the throwline out of the tree. But if you think that the rope will stay in the tree in Figure 2, steps 2 and 3, use only one throwline. The rope has to be pulled into the tree for both

methods, and there is no point taking out a second throwline when one will work well.

Two for One

Now look back at Figure 2, steps 3 and 4, and note the separate throwlines over the two branches. You have just isolated two crotches with one toss of the throwline. Granted, in this example, one of these lines was not

suitable for working or climbing, but often-times the line goes through or over more than one strong crotch. When this happens, consider whether they can both be used. Even if the second crotch is not ideal for working the whole tree, you might want to set a lowering line, speedline, or second climbing line for part of the tree and eliminate some additional throwing or climbing necessary to set that line.

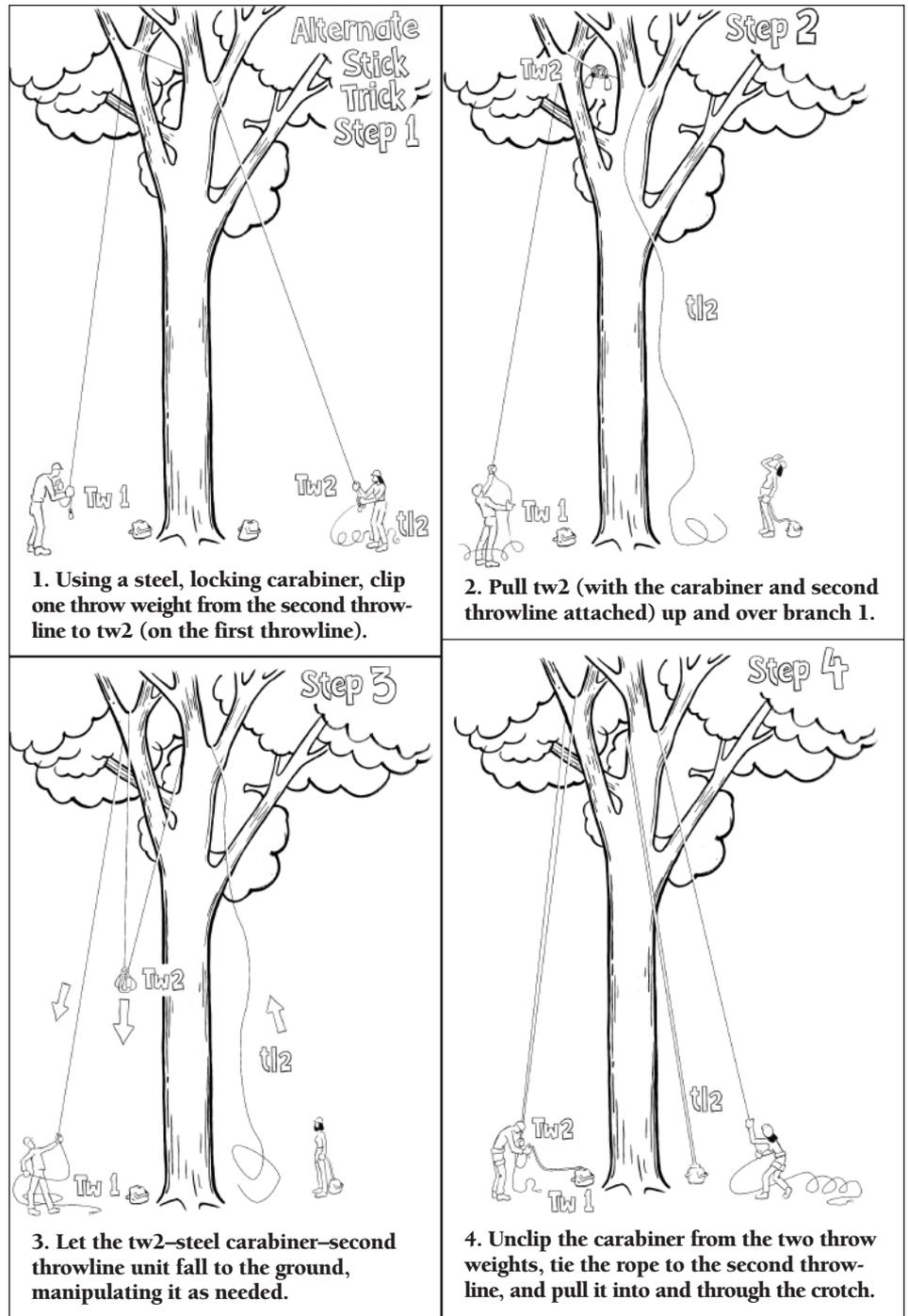


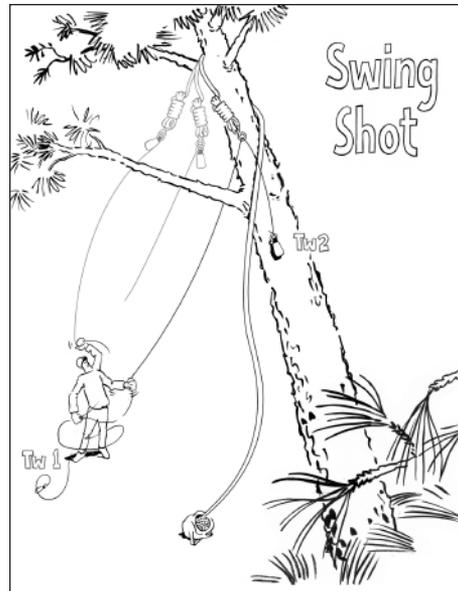
Figure 2. Alternate stick trick.

Swing Shot

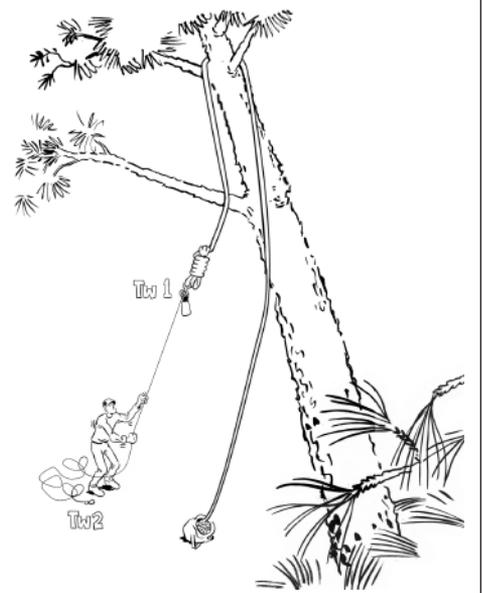
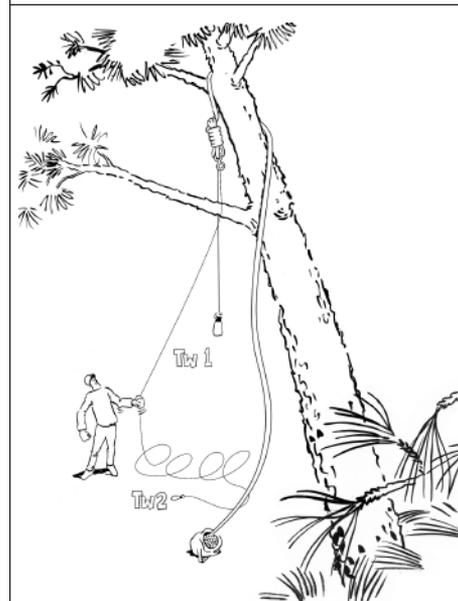
Another way to isolate two crotches with one throw or simply to move the throw weight in the tree is the swing shot. An example of moving the throw weight is shown in Figure 3. The throw has landed on the target branch. One leg of the string is in the desired location, but there is a branch that prevents the climber from bouncing and swinging the weight to get the second leg parallel to the first. To manipulate the second leg with the swing shot:

1. Tie a dog-leash snap to the climbing line using a bullet knot, monkey's fist, throwing knot, or tightened hangman's noose.
2. Clip the snap to the throwline just above the throw weight already in the desired position (tw1 in this example).
3. Pull tw1 (with the climbing line attached) into the tree, over the crotch, and down until it hangs slightly higher than the branch that prevents the string from getting parallel to the first. Note that if you let go of the string, tw1 will fall to the ground.
4. While you continue to hold the rope, use the throwline to swing tw1.
5. As tw1 swings toward the target branch, let go of the throwline so that the trajectory of tw1 carries it over the branch.
6. Manipulate tw1 as needed and let it fall to the ground.
7. Pull tw2 into the tree so that it catches the dog-leash snap, and pull the rope to the ground.

This procedure can help get the throw weight around the trunk and is useful when working through watersprouts and vines and going over branches that are so close to the target branch that you cannot get enough swing with the throw weight alone. You can also use the swing shot to manipulate first one and then the other end of the rope to get the rope completely around the main stem or trunk. Experiment with moving the bullet knot or dog-leash snap up and down to achieve different angles of swing when you release the throw weight. If the original throw is through a good crotch and you want to use the swing shot to isolate a second crotch for another rope, proceed with steps 1 and 2 as described above. In steps 3 to 5, swing the weight over the second crotch that you want to use. At step 6, the rope is on one of



1.–6. Tie a dog-leash snap to the climbing line using a bullet knot, monkey's fist, throwing knot, or tightened hangman's noose. Clip the snap to the throwline just above the throw weight already in the desired position (tw1 in this example). Pull tw1 (with the climbing line attached) into the tree, over the crotch, and down until it hangs slightly higher than the branch that prevents the string from getting parallel to the first. Use the throwline to swing tw1. As tw1 swings toward the target branch, let go of the throwline so that the trajectory of tw1 carries it over the branch. Manipulate tw1 as needed and let it fall to the ground.



7. Pull tw2 into the tree so that it catches the dog-leash snap, and pull the rope to the ground.

Figure 3. Swing shot.

the desired branches, and the string is through the second target crotch. Tie the second rope to tw1 and pull it into the tree and over the second crotch. The second rope will catch on the dog-leash snap, and you can pull both ropes to the ground—one on the first crotch and one on the second.

Retrieving a Throw Weight: The St. Bernard

As I've mentioned, there will be times when the throw weight gets stuck. Here are two

similar, although slightly different, ways to retrieve a stuck throw weight. They will not work in all circumstances, but they can save a bit of aggravation in some situations. Take a look at Figure 4:

1. Using a second throwline (the first one is stuck in the tree), throw into a crotch somewhere above the stuck throw weight.
2. Remove tw2 from the second throwline, tie on a carabiner, and clip the carabiner around the first throwline.

3. Hold the stuck throwline steady, and using the second throwline, pull the carabiner into the tree until it is close to the stuck throw weight. Bounce or pull the carabiner so that it lifts or unwinds the stuck throw weight.

For the variation of the St. Bernard:

1. Place the second throwline.
2. Tie a loop or large slipknot in the second throwline and tie the ends of the second throwline together.
3. Pull the loop into the tree and use it to snag or lift the stuck throw weight.

This trick also can be used to loosen and lift hangers. Sean Gere told me that he once tied the loop as a slipknot and used the St. Bernard to retrieve a friction saver that had inadvertently been left in a tree.

Another Useful Trick

I've described just some of the various ways a throwline can be used to facilitate working with trees. Other tricks can be improvised as the situation requires. Such tricks might be used only once or twice a season, or you might devise something that you find can be applied in many other circumstances. The following trick fits into the first category. It has been used only a handful of times in the last six or eight months. Nonetheless, it is very helpful, and some of the concepts could be applied to create more tricks for other situations.

On one job last fall, two of a number of trees that were to be removed were dead. These were loblolly pine (*Pinus taeda*) trunks, 40 to 50 feet tall. They were too dead to climb and were located in a woodland garden, so there was no room to drop them whole. There was a live pine close enough and big enough that we wanted to individually "hang" the dead pines (that is, tie a rope near the top of the dead pine; thread the rope through a high, strong crotch of the live pine; cut the dead pine at its base; and then cut off short chunks until the pine was small enough to be laid onto the ground). But there were no branches left on the dead pines on which to place a throwline (and then a rope) from the ground. We proceeded as follows (Figure 5):

1. We placed a throwline in a high, strong crotch of the live pine.
2. To one end of the throwline, we tied a rope and the other end of the same throwline.



1.-2. Using a second throwline (the first one is stuck in the tree), throw into a crotch somewhere above the stuck throw weight. Remove tw2 from the second throwline, tie on a carabiner, and clip the carabiner around the first throwline.

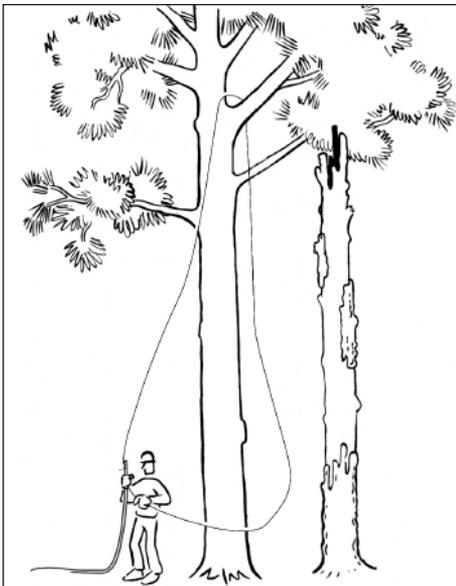


3. Hold the stuck throwline steady, and using the second throwline, pull the carabiner into the tree until it is close to the stuck throw weight. Bounce or pull the carabiner so that it lifts or unwinds the stuck throw weight.

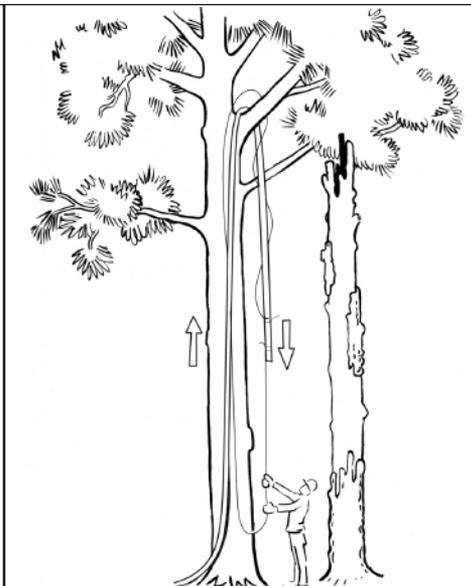
Figure 4. The St. Bernard.

3. We pulled the rope and throwline into the tree and back to the ground, then untied the throwline from the rope. The live pine now had one rope and one throwline in the same high, strong crotch.

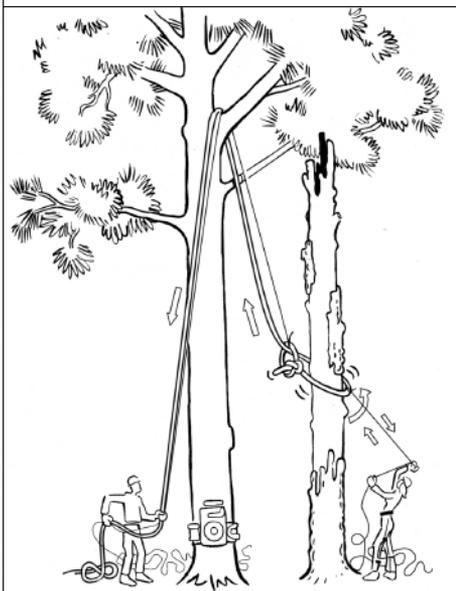
4. We took the end of the rope that was to be tied to the dead pine and tied a running bowline around the base of the dead pine.
5. We used the matching end of the throwline (that is, the one that was on the same side of the crotch as the dead pine) and secured it to the bowline part of the running bowline; thus, when we pulled the running end of this throwline, it would widen the loop of the running bowline.
6. Then we secured a second throwline to the loop of the running bowline at the back side of the dead pine.
7. We pulled the running end of the rope and the first throwline to, respectively, raise the running bowline and keep it open so that it would not tighten too low on the trunk of the dead pine. The second throwline, at the back of the dead pine, was used to pull the back of the rope away from the trunk so that the rope would "hop" up the tree and not get stuck on bits of bark and swollen collar areas.



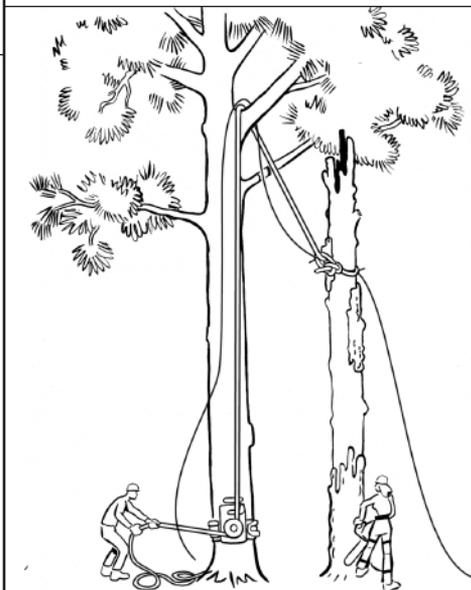
1.-2. Place a throwline in a high, strong crotch of the live tree. To one end of the throwline, tie a rope and the other end of the same throwline.



3. Pull the rope and throwline into the tree and back to the ground.



4.-7. Take the end of the rope that is to be tied to the dead pine and tie a running bowline around the base of the dead pine. Secure the throwline to the bowline part of the running bowline. Secure a second throwline to the loop of the running bowline at the back side of the dead pine. Pull the running end of the rope and the first throwline to, respectively, raise the running bowline and keep it open so that it does not tighten too low on the trunk of the dead pine. The second throwline, at the back of the dead pine, is used to pull the back of the rope away from the trunk so that the rope "hops" up the tree.



8. When the rope reaches the proper height, allow the running bowline to tighten on the trunk, secure the running end of the rope to a lowering device, and cut the tree. Both throwlines should be left loose and allowed to come down as the tree is lowered.

8. When the rope reached the proper height, we allowed the running bowline to tighten on the trunk of the dead pine, secured the running end of the rope to a lowering device, and cut the dead pine. Both throwlines were left loose and came down as the pine was lowered.

As with any tool, the more you use a throwline, the more uses you will find for it. If you have some other slick tricks or have comments or suggestions regarding types of line, types of weights, methods of storage, or other throwing techniques, please share them. Log onto the ISA Web site discussion group (www.isa-arbor.com), send them to the editor of *Arborist News*, or e-mail them to me. New tricks, questions, or suggestions for future topics are always welcome. **AN**

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Figure 5. Running a bowline.