

STUDENT HANDOUT - FT2

Belay Escape Field Trip

Preparation: For Belay Escape, study and practice the method shown in this document and/or *Freedom of the Hills* p. 184 “Escaping the Belay”, variation shown in figures 10- 22 and 10-23 (i.e.,you are only required to connect the prusik to the anchor in a static way, not with a munter-mule.)

Equipment: Be sure to bring the materials listed below. Mark your equipment so that you will be able to identify it when it gets mixed in with other gear.

- Helmet
- Harness
- Belay device
- Belay Glove
- Pearabiner (for belaying)
- Locking and non locking carabiners
- Texas Prusiks
- Single and double runners
- Backpack (for Prusik practice)

ACTIVITIES:

There will be four main activities:

Belay. You will practice executing a belay escape with the Mule knot (see pages 3-4 of this handout). This will correspond to *Freedom of the Hills, 8th Ed.* Figures 10-22a and 10-23 (i.e., the Prusik is connected to the anchor with a Münter -Mule). This should be done using a Münter Hitch as well as a belay device. You will do belays with both brake hands for each belay device (four total) and with each device for a belay escape (two total).

Rappelling.

On all rappels use the proper rappel signals, “On Rappel” and “Off Rappel”.

- Setup the rappel correctly using the extended rappel with autoblock and make one simulated rappel with a rappel device
- Setup the rappel correctly and make one simulated rappel with carabiner brake.

Prusik. You will practice prusiking. This will be an excellent chance to ensure that your prusiks are constructed to the correct size for your height.

Knots. You will demonstrate the essential knots. This will be a test. You must be proficient in knots to participate in later field trips and must pass the knots test by FT #4.

SPECIAL INSTRUCTIONS:

- Make sure instructors have signed and initialed your grade card where needed before leaving a station.

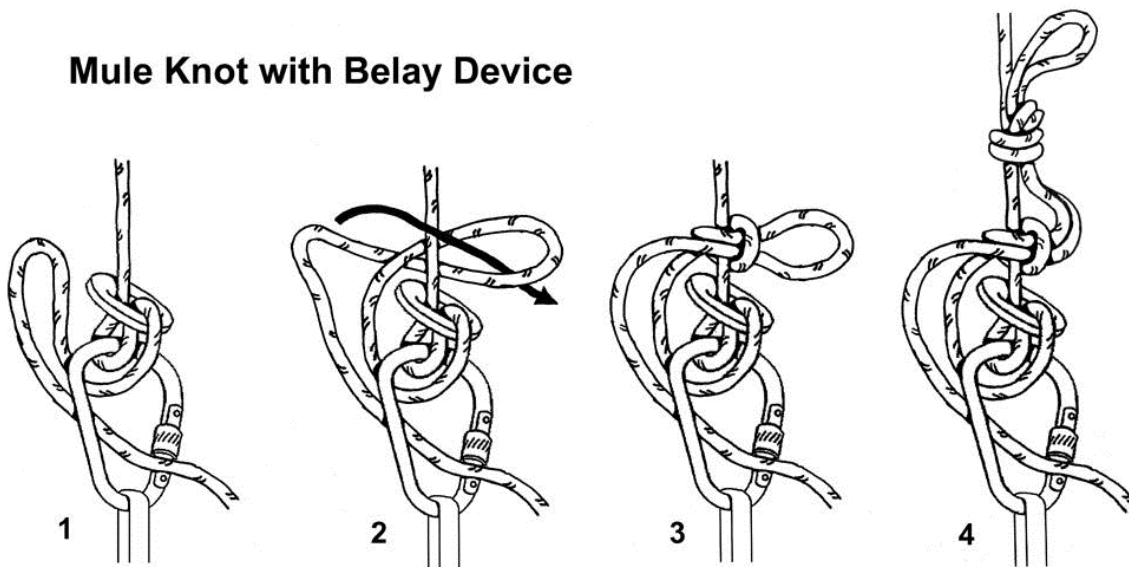
Harness Use

Be sure that you understand your harness manufacturer's instructions on how to 1) attach your belay device to the harness and 2) tie the rope into your harness. Always wear and use your climbing harness according to the manufacturer's instructions. It doesn't matter what anybody else tells you; if your manufacturer says to do it a particular way, then that's the correct way to do it. If your harness has a belay loop then you use it for belaying and rappelling. You clip your harness carabiner into the belay loop and then setup your belay device or Münter hitch and carabiner brake system. Tie the rope into your harness in accordance with your manufacturer's instructions. Attaching your belay device or tying in contrary to the harness manufacturer's instructions is unsafe and will be graded as such. If you have any questions about how to use your harness, contact your mentor or one of the field trip leaders.

Mule Knot

The Mule Knot can be used to temporarily tie off a belay to a fallen climber so that both hands can be used to set up an anchor and free oneself from the climbing rope.

Mule Knot with Belay Device

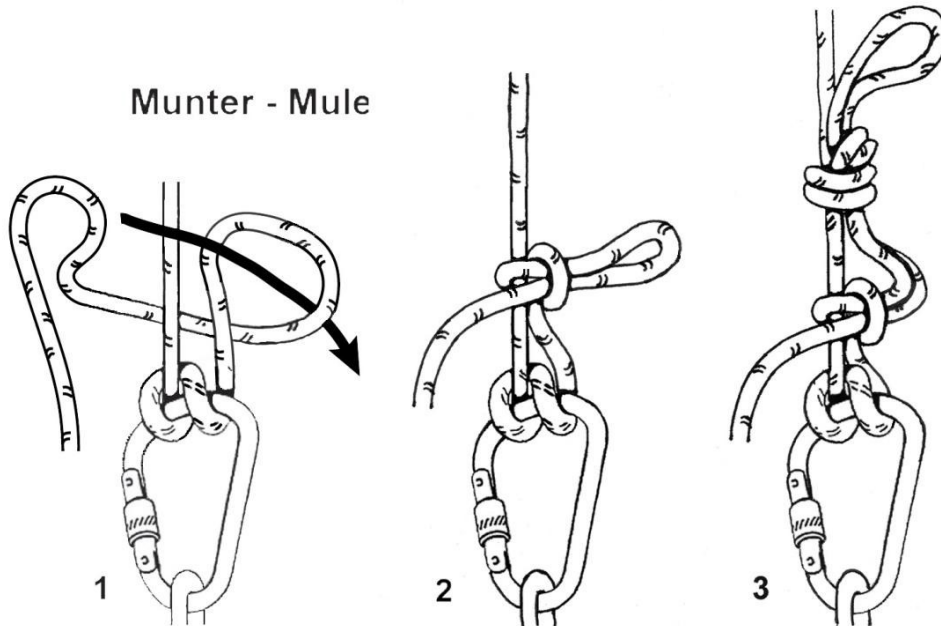


Mule Knot with Belay Device

To form a Mule knot in conjunction with a belay device (numbers refer to the diagrams):

1. Lock the belay device with your brake hand (right hand is the brake hand in the diagram).
2. Make a loop behind the brake hand and pass it through the locking carabiner on your harness from right to left (1).
3. Pull the loop behind the rope to the fallen climber and twist it as shown in (2). Note that the twist and direction thereof is critical.
4. Make a second loop in the slack on the left and pass it over the climb rope and through the first loop (2).

5. Remove any slack and pull the knot tight (3). This is the mule knot, which is a slip knot around the climb rope.
6. Pull additional slack through the mule knot as needed and back up the mule knot with an overhand knot around the climb rope (4).
7. When releasing the knot under tension, carefully release the mule knot keeping your brake hand on the rope between the knot and the belay device. Watch your fingers!



Mule-Münter Combination

To form a Mule knot when belaying with the Münter hitch (see diagrams above):

1. Lock the Münter by holding the brake hand forward.
2. Make a loop in the rope on the same side as the brake hand as shown in diagram (1).
3. With the other hand, pull some slack rope behind the rope to the climber and make another loop as shown in diagram (1). Pull the second loop over the climb rope and through the first loop, as shown in diagram (1).
4. Tighten the knot as shown in diagram (2).
5. Pull additional slack through the mule knot as needed and back up the mule knot with an overhand knot around the climb rope (3).
6. When releasing the mule knot, be sure to replace your brake hand, and watch your fingers.

Belay Escape

1. **Step 1** - Tie off belay device (or Münter Hitch belay) with Mule knot backed up with an overhand knot. The load is now on the belayer's harness and the belayer's hands are both free.
2. **Step 2** - Attach a hero loop to the rope with a prusik hitch. Connect the free end of the rope from the belayer tie-in at the anchor to a carabiner on the prusik with a figure 8 knot. The carabiner attached to the hero loop is ideally a locking carabiner, but may be a non-locking carabiner.

3. **Step 3**- Untie the Device-Mule and slowly transfer the load to the hero loop using the belay device.
4. **Step 4** - Connect the rope to the anchor with a Figure 8 on a bight as a backup, and then remove the belay device.

General Notes for Both Methods.

- It is permissible to switch brake hands to facilitate tying the Mule knot, but the rope must remain in the braking position, and at least one hand must be acting as the brake hand at all times.
- Tie the Mule knot as close to your pear-shaped carabiner as is practical, but no further than 6" from it. It's not necessary to slide the knot toward you until it's touching the pear-shaped carabiner; friction should hold it in place if it's adequately tightened.
- After the Mule knot has been tied, tightened and checked, it's okay to slowly release the grip with the brake hand to confirm that the knot is holding, and then use both hands to tie the backup overhand knot.

1. •Stage One – get hands free
2. •Stage Two – prepare load transfer
3. •Stage Three – transfer the load
4. •Stage Four – escape the belay