BC **Forest Safety** Council

Unsafe is Unacceptable

B.C. Faller Training Standard

Reference Guide for Preferred Height of Back-cuts above Under-cuts in relation to diameter size

The following measurements are based on the relationship of falling cuts detailed within the B.C. Faller Training Standard and varying over-sized diameter trees.

The visual appearance of falling cut construction for small, large and over-sized diameter trees must remain consistent. The varying heights of the anti-kickback step in this guide reflect this.

The weight loads and mechanical leverage that occur as the tree closes on the under-cut multiplies as the tree diameter increases.

The anti-kickback step must follow the guide to ensure the safe falling of the tree.

The preferred dimensions for the construction of under-cuts and back-cuts are detailed within the B.C. Faller Training Standard and remain consistent regardless of tree diameter, with exceptions as noted in the B.C. Faller Training Standard for specific situations and species.

75% of the anti-kickback step across the face of the back-cut must be within the preferred height tolerances to attain workmanship perfection.

Note:

The restriction of a 2" anti-kickback step on the Pie under-cut in the B.C. Faller Training Standard is designed for frozen trees and deciduous trees that can break the holding wood prior to the tree closing on the under-cut.

The use of a Pie under-cut in trees 72" and larger, notably western red cedar, can be employed using the same anti-kickback height measurements as found in the Humbolt and Swanson column from that diameter onwards, as long as the wood is not frozen.

When making use of a Pie under-cut in frozen wood, reference the Conventional Under-cut anti-kickback height column.

The action of the falling tree using a Swanson and Pie is similar in context, as the butt of the tree will slide off the face striking the ground before the top lands.

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Humbolt and Swanson Undercuts:

- Up to 36” (3’-0”) Diameter = ¾ - 1” height difference
- 48” (4’-0”) to 60” (5’-0”) Diameter = 1 ½” height difference

Humbolt, Swanson and Pie Under-cuts:

- 72” (6’-0”) to 84” (7’-0”) Diameter = 2” height difference
- 96” (8’-0”) to 108” (9’-0”) Diameter = 3” height difference
- 120” (10’-0”) to 144” (12’-0”) Diameter = 4” height difference
- 156” (13’-0”) Diameter and above = 6” height difference

Conventional and Pie (frozen) Under-cuts:

- Up to 14” (1’-2”) Diameter = ¾ to 1” height difference
- 16” (1’-4”) to 36” (3’-0”) Diameter = 2” height difference
- 48” (4’-0”) to 60” (5’-0”) Diameter = 3” height difference
- 72” (6’-0”) to 84” (7’-0”) Diameter = 4” height difference
- 96” (8’-0”) to 108” (9’-0”) Diameter = 6” height difference
- 120” (10’-0”) to 144” (12’-0”) Diameter = 8” height difference
- 156” (13’-0”) Diameter and above = 12” height difference