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Terminology for Forest Operations and Equipment



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1 Purpose and Scope

1.1 This Standard specifies terminology for operations and equipment commonly used to establish, tend, and harvest forest stands.

1.2 The intent of this Standard is to establish uniform terminology to describe forest operations and equipment in technical papers, specifications, standards, and general use.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies unless noted. For undated references, the latest approved edition of the referenced document (including any amendments) applies.

2.1 ISO 6814, Machinery for forestry — Mobile and self-propelled machinery — Term, definitions and classification

2.2 ISO 13860, Forwarders — Terms, definitions and commercial specifications

2.3 ISO 13861, Wheeled skidders — Terms, definitions and commercial specifications

2.4 ISO 13862, Feller bunchers — Terms, definitions and commercial specifications

2.5 ISO 17591, Knuckle boom loaders — Terms, definitions and commercial specifications

2.6 ISO 11169, Wheeled machines — Vocabulary, performance test methods and criteria for brake systems

2.7 ISO 11850, General Safety Requirements (references many ISO Earthmoving, ISO tractor standards and other ISO Standards)

2.8 ISO 8082-1, Lab test and performance requirements for roll over protective structures (ROPS)

2.9 ISO 8082-2, ROPS for machines having a rotating platform with a cab and boom

2.10 ISO 8083, Falling object Protective Structures (FOPS)

2.11 ISO 8084, Operator protective structures

2.12 ISO 11512, Tracked machines — Performance criteria for brake systems

2.13 ISO 11837, Chain Shot guarding systems

- 2.14** ISO 11839, Glazing and panel materials used in Operator enclosures for protection against thrown sawteeth
- 2.15** ISO 19472, Winches — Dimensions, performance and safety
- 2.16** SAE J1014, Classification and Nomenclature Towing Winch for Skidders and Crawler Tractors
- 2.17** SAE J1109, Component Nomenclature — Articulated Log Skidder, Rubber-Tired
- 2.18** SAE J1111, Component Nomenclature — Skidder-Grapple
- 2.19** SAE J1212, Fire Prevention on Forestry Equipment
- 2.20** SAE J1254, Component Nomenclature — Feller Buncher
- 2.21** SAE J1272, Felling Head Terminology and Nomenclature
- 2.22** SAE J1353, Nomenclature — Clam Bunk Skidder
- 2.23** SAE J1354, Nomenclature — Forwarder
- 2.24** SAE J1824, Specification Definitions — Clam Bunk Skidder
- 2.25** SAE J2267, Minimum Performance Criteria for Operator Front Protective Structure (OFPS) for Certain Equipment
- 2.26** SAE J2417, Lift Capacity Calculation Method Knuckle-Boom Log Loaders and Certain Forestry Equipment
- 2.27** Stokes, B. J., C. Ashmore, C. L. Rawlins, and D. L. Sirois. 1989. Glossary of Terms Used in Timber Harvesting and Forest Engineering. Gen. Tech. Rep. SO-73. New Orleans, LA: U. S. Department of Agriculture, Forest Service, Southern Forest Experiment Station.

3 Terminology for Forest Operations

3.1 Stand Establishment

Operations conducted to establish a forest stand (also forestation; afforestation if trees have long been absent from the area; and reforestation if trees have recently been present on the area).

3.1.1 Slash Disposal

Treating wood residues left on a site to prepare for reforesting the site or to reduce the fire and insect hazard.

- 3.1.1.1 clearing:** Removing unwanted logging residues, trees, and other vegetative material.
- 3.1.1.2 grubbing:** Removing stumps by severing the root system and lifting from the ground.
- 3.1.1.3 uprooting:** Removing trees and part of the root systems from the ground.
- 3.1.1.4 piling:** Bulldozing, raking, or stacking slash into a pile or windrow.
- 3.1.1.5 burning:** Reducing individual piles or windrows of slash by burning.
- 3.1.1.6 chopping:** Reducing slash and competing vegetation by the low-speed cutting action of a high-mass implement traveling at ground speed.



3.1.1.7 masticating: Reducing slash and competing vegetation by the high-speed cutting action of a powered, rotating cutterhead.

3.1.1.8 stump lowering: Reducing the height of stumps.

3.1.2 Site Preparation

Operations conducted to prepare the seedbed or planting area and control competing vegetation.

3.1.2.1 scarifying: Preparing a site for regeneration by scarring the ground surface to penetrate the covering material, and expose and mix the upper soil horizons.

3.1.2.1.1 screefing: Paring off low vegetation and the duff layer to expose the soil surface.

3.1.2.1.2 scalping: Removing the A and B soil horizons, typically performed in spots.

3.1.2.1.3 ripping: Penetrating the soil to loosen and mix the soil layers, remove stumps and boulders, and improve infiltration (also subsoiling).

3.1.2.1.4 plowing: Cutting out a continuous strip of the soil, turning over the soil removed, and depositing it on one or both sides of the furrow (also furrowing).

3.1.2.1.5 disking: A form of plowing in which furrow slices are cut and mixed.

3.1.2.1.6 trenching: A form of plowing that results in a deep slit.

3.1.2.1.7 mounding: Creating heaps of soil for planting to improve aeration and drainage, and reduce herbaceous competition.

3.1.2.1.8 bedding: A mechanical site preparation treatment that creates a raised area (bed) to plant seedlings in areas with poor drainage.

3.1.2.2 root plowing: Severing all roots at a desired depth to control competing vegetation.

3.1.2.3 chaining: Dragging heavy chain across a site to kill unwanted vegetation and scarify the ground.

3.1.2.4 prescribed burning: Controlled application of fire to forest fuels to reduce slash, prepare the seedbed, reduce competition, and reduce fuel buildup (also controlled burning).

3.1.3 Regeneration

Renewal of forest trees by natural or artificial means (also reforestation).

3.1.3.1 planting: Putting small trees or seedlings into the ground at their growing positions.

3.1.3.2 direct seeding: Scattering or sowing seed over a regeneration site by hand or by machine.

3.2 Stand Tending

Cultural operations conducted in developing stands.

3.2.1 Intermediate Cutting

Removing trees in a developing stand to improve growth and composition.

3.2.1.1 thinning: Removing trees with the primary objective of reducing stand density and stimulating growth.

3.2.1.2 release cutting: Freeing stands not past the sapling stage from the competition of undesirable vegetation.

3.2.1.2.1 cleaning: Removing overtopping undesirable vegetation that is competing with desirable trees of the same age.

3.2.1.2.2 liberation cutting: Removing overtopping undesirable vegetation that is competing with desirable trees of a younger age.

3.2.1.2.3 weeding: Removing all vegetation competing with desirable trees during the seedling stage of development.

3.2.1.3 improvement cutting: Removing trees from stands past the sapling stage with the primary objective of regulating species composition and improving stand quality.

3.2.1.3.1 salvage cutting or salvage harvesting or salvaging: Removing trees that have been killed or damaged by injurious agents other than competition between trees.

3.2.1.3.2 sanitation cutting: Removing trees to reduce or prevent the spread of injury from damaging agents.

3.2.2 Pruning

Removing lower branches from a developing tree to increase future yields of clear wood or minimize insect and disease problems (also brashing).

3.2.3 Spraying

Applying herbicide or insecticide to trees or stands to control competing vegetation or insect populations.

3.2.4 Fertilizing

Applying essential elements to forest soils or trees to stimulate tree growth.

3.2.5 Mulching

Applying a layer of material to the surface of the soil, primarily to protect the soil surface from rainfall and runoff, conserve moisture and reduce herbaceous competition.

3.2.6 Fire Suppression

Activities connected with preventing and extinguishing fires.

3.3 Stand Harvesting

Removing trees from the forest for subsequent use (also logging).

3.3.1 Regeneration Cutting

Removing all or part of a stand with the intent of promoting reproduction (also silvicultural system).

3.3.1.1 clearcutting: An even-age system consisting of removing the entire stand in one cutting with reproduction obtained either naturally or artificially (also clearfelling).

3.3.1.2 seed-tree cutting: An even-age system consisting of removing the mature timber in one cutting except for a small number of seed trees left singly or in small groups.