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Machinery for forestry — Feller-bunchers — Terms, definitions and commercial specifications

Matériel forestier — Abatteuses-groupeuses — Termes, définitions et spécifications commerciales

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Foreword

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This document was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 15, *Machinery for forestry*.

This second edition cancels and replaces the first edition (ISO 13862:2000), which has been technically revised.

The main changes compared to the previous edition are as follows:

— added a new terminological entry for feller-buncher;

— moved ISO 6814 to the Bibliography;

— deleted the terms "right hand", "left hand", "front" and "rear";

— revised Clause 4 to explicitly state the required information;

— updated Figure A.1;

— moved figures to a new informative Annex A;

— applied editorial changes.

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Machinery for forestry — Feller-bunchers — Terms, definitions and commercial specifications

1 Scope

This document specifies terminology and required information as a general framework for identifying and describing the main dimensions and features of feller-bunchers.

It is applicable to tracked and wheeled feller-bunchers.

NOTE The terminology and requirements given in this document do not necessarily all apply to a specific machine. Machines can be characterized by the dimensions and features which are relevant to them.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1 General terms

3.1.1
feller-buncher
self-propelled machine designed to fell standing trees and arrange them in bunches

[SOURCE: ISO 6814:2009, 2.3.2.2]

3.1.2
ground reference plane
GRP
hard, flat, horizontal surface on which the machine is placed for measurements

3.2 Terms related to masses

3.2.1
normal operating mass
total mass of the machine as specified, fully serviced, with full fluid levels and a 75 kg operator

3.2.2
maximum operating mass
total mass of the machine as specified, fully serviced, with full fluid levels and a 75 kg operator, including all machine options with either the heaviest undercarriage and track combination or the largest tyre/hydro-inflation combination and the manufacturer's maximum specified load

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3.2.3
axle load
load on each axle at *normal operating mass* (3.2.1) or *maximum operating mass* (3.2.2)

3.3 Terms related to main machine dimensions

3.3.1
total frame length
l_1
horizontal distance between the vertical planes perpendicular to the longitudinal axis passing through the farthest points on the front and rear of the machine, felling head excluded

Note 1 to entry: See Figure A.1 and Figure A.2.

3.3.2
overall length
l_2
horizontal distance from a vertical plane touching the rearmost point of the machine to a vertical plane touching the forwardmost point of the felling head with the *levelling mechanism* (3.5.1), if equipped, parallel to the *ground reference plane* (3.1.2) and the felling head positioned on the ground reference plane at maximum reach

Note 1 to entry: See Figure A.1 and Figure A.2.

3.3.3
wheelbase
length of track on ground
l_3
horizontal distance from the centre of the front axle or front idler axis to the centre of the rear axle or rearmost sprocket or idler axis

Note 1 to entry: See Figure A.1 and Figure A.2.

3.3.4
overall height
h_1
vertical distance between the *ground reference plane* (3.1.2) and a horizontal plane passing through the highest point of the machine with the levelling table, if equipped, parallel to the ground reference plane and the felling head positioned as described in 3.3.2

Note 1 to entry: See Figure A.1 and Figure A.2.

3.3.5
ground clearance
h_2
vertical distance from the *ground reference plane* (3.1.2) to the lowest point of the machine centre portion, i.e. 25 % of the *tread* (3.3.8) to either side of the longitudinal centreline

Note 1 to entry: See Figure A.1 and Figure A.2.

3.3.6
ground clearance at articulation joint
h_3
vertical distance from the *ground reference plane* (3.1.2) to the lowest point at the articulation joint

Note 1 to entry: See Figure A.1.

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3.3.7
overall width
w_1
horizontal distance between two vertical planes parallel to the longitudinal axis of the machine and passing through the farthest points on the two sides of this axis with the felling head positioned as described in 3.3.2

Note 1 to entry: See Figure A.1 and Figure A.2.

3.3.8
tread
w_2
horizontal distance between two parallel vertical planes passing through the centreline of the tires on an axle or the mid-width of the sprocket teeth on a tracked machine

Note 1 to entry: See Figure A.1 and Figure A.2.

3.3.9
loaded tire radius
r_1
vertical distance from the *ground reference plane* (3.1.2) to the horizontal centre of the axle with the machine at *normal operating mass* (3.2.1)

Note 1 to entry: See Figure A.1.

3.3.10
angle of articulation
a_1
maximum angle of frame steering movement from the straight-ahead position between longitudinal centrelines of the front and rear frames, measured in degrees

Note 1 to entry: See Figure A.1.

3.3.11
minimum swing circle
d_1
smallest diameter that the outermost point on the machine or felling head will describe when the turntable and/or booms and felling head are swung to their limits with the felling head in its normal swing position and as close to the machine as possible without making contact with a non-rotating structural member

Note 1 to entry: See Figure A.2.

3.3.12
tail swing radius
r_2
maximum described radius from the centre line of rotation to the outermost point of the upper structure with the levelling table, if equipped, parallel to the *ground reference plane* (3.1.2)

Note 1 to entry: See Figure A.2.

3.3.13
clearance circle
d_2
diameter of the smallest circle that the outermost point on the machine will describe when turning, brakes unapplied, felling head at ground level

Note 1 to entry: See Figure A.1.

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3.3.14
longitudinal tilt
a_2, a_3
<upper structure> maximum angle that the *levelling mechanism* (3.5.1) is capable of levelling the upper structure in the forward and rearward directions, measured in degrees

Note 1 to entry: a_2 = forward tilt; a_3 = rearward tilt.

Note 2 to entry: See Figure A.2.

3.3.15
side tilt
a_4, a_5
<upper structure> maximum angle that the *levelling mechanism* (3.5.1) is capable of levelling the upper structure to the left and to the right in a plane perpendicular to the longitudinal centreline of the machine, measured in degrees

Note 1 to entry: a_4 = tilt to the left; a_5 = tilt to the right.

Note 2 to entry: See Figure A.2.

3.4 Terms for felling head dimensions

3.4.1
minimum stump height
hh_1
vertical distance from bottom of the felling head to the bottom of the tree cutting edge

Note 1 to entry: See Figure A.1 and Figure A.2.

3.4.2
machine cutting depth
hh_2
maximum vertical distance below the *ground reference plane* (3.1.2) to a horizontal plane through the bottom of the cutting edge when the vertical tree centreline of the felling head is perpendicular to the ground reference plane

Note 1 to entry: See Figure A.1 and Figure A.2.

3.4.3
maximum cutting height
hh_3
maximum vertical distance above the *ground reference plane* (3.1.2) through the bottom of the cutting edge when the vertical tree centreline of the felling head is perpendicular to the ground reference plane

Note 1 to entry: See Figure A.1 and Figure A.2.

3.4.4
longitudinal tilt
aa_1, aa_2
<felling head> maximum angle that the *felling head vertical tree centreline* (3.5.3) tilts forward or rearward about the *felling head pivot* (3.5.4), with the felling head positioned on the *ground reference plane* (3.1.2) at maximum reach, measured in degrees

Note 1 to entry: aa_1 = forward tilt; aa_2 = rearward tilt.

Note 2 to entry: See Figure A.1 and Figure A.2.

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3.4.5
side tilt
aa_3, aa_4
<felling head> maximum angle that the felling head rotates to the left and to the right in a plane perpendicular to the longitudinal centreline of the machine with the booms and felling head positioned on or parallel to the longitudinal centreline, measured in degrees

Note 1 to entry: aa_3 = tilt to the left; aa_4 = tilt to the right.

Note 2 to entry: See Figure A.2.

3.4.6
cutting distance
ll_1, ll_2, ll_3, ll_4
horizontal distance from the boom mast axis of rotation, or the turn table axis of rotation, or the front axle to the *felling head vertical tree centreline* (3.5.3) when the vertical tree centreline is perpendicular to the *ground reference plane* (3.1.2):

— ll_1 with the felling head on the ground reference plane and at its minimum distance from the machine;

— ll_2 with the felling head on the ground reference plane and at its maximum distance from the machine;

— ll_3 with the felling head at its maximum distance above the ground reference plane;

— ll_4 with the felling head at its maximum distance below the ground reference plane.

Note 1 to entry: See Figure A.1 and Figure A.2.

3.4.7
boom rotation
aa_5
maximum rotation of boom from the longitudinal centreline of the machine, measured in degrees

Note 1 to entry: See Figure A.2.

3.5 Other definitions

3.5.1
levelling mechanism
mechanism or linkage between the undercarriage and the upper structure whose function is to maintain the upper structure in a horizontal plane irrespective of the angle of the undercarriage within the machine operating limits

3.5.2
maximum tree diameter
largest tree diameter that the machine is designed to fell in a single cut

3.5.3
felling head vertical tree centreline
vertical centreline of the largest diameter tree the felling head is designed to cut

3.5.4
felling head pivot
pinned connection between the felling head and the carrier or boom structure

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