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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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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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 and moved ISO 6814 to Bibliography

— figures moved to a new informative Annex A

— editorial changes.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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 will 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 terminological databases for use in standardization at the following addresses:

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

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

3.1 General

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
right hand
operator's right-hand side when facing in the normal direction of travel and with the machine in its primary functional mode

3.1.3
left hand
operator's left-hand side when facing in the normal direction of travel and with the machine in its primary functional mode

3.1.4
front
front of the operator when facing in the normal direction of travel and with the machine in its primary functional mode

3.1.5
rear
rear of the operator when facing in the normal direction of travel and with the machine in its primary functional mode

3.1.6
GRP
ground reference plane
hard, flat, horizontal surface on which the machine is placed for measurements

3.2 Terms for 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 the largest tyre or hydro-inflation combination and the manufacturer's maximum specified load

3.3 Terms for 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* (3.1.4) and *rear* (3.1.5) of the machine, felling head excluded

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 *GRP* (3.1.6) and the felling head positioned on the *GRP* (3.1.6) at maximum reach

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

3.3.4
overall height
h_1
vertical distance between the *GRP* (3.1.6) and a horizontal plane passing through the highest point of the machine with the levelling table, if equipped, parallel to the *GRP* (3.1.6) and the felling head positioned as described in 3.3.2

3.3.5
ground clearance
h_2
vertical distance from the *GRP* (3.1.6) 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

3.3.6
ground clearance at articulation joint
h_3
vertical distance from the *GRP* (3.1.6) to the lowest point at the articulation joint

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

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

3.3.9
loaded tire radius
r_1
vertical distance from the *GRP* (3.1.6) to the horizontal centre of the axle with the machine at *normal operating mass* (3.2.1)

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

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

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 *GRP* (3.1.6)

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

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 (a_2 = forward tilt; a_3 = rearward tilt)

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 (a_4 = tilt to the left; a_5 = tilt to the right)

3.4 Terms for felling head dimensions

3.4.1
minimum stump height
hh_1
horizontal distance from the centreline of the articulation joint to a vertical plane touching the farthest point forward, blade excluded

3.4.2
machine cutting depth
hh_2
maximum vertical distance below the *GRP* (3.1.6) to a horizontal plane through the bottom of the cutting edge when the vertical tree centreline of the felling head is perpendicular to the *GRP* (3.1.6)

3.4.3
maximum cutting height
hh_3
maximum vertical distance above the *GRP* (3.1.6) through the bottom of the cutting edge when the vertical tree centreline of the felling head is perpendicular to the *GRP* (3.1.6)

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 *GRP* (3.1.6) at maximum reach, measured in degrees (aa_1 = forward tilt; aa_2 = rearward tilt)

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 (aa_3 = tilt to the left; aa_4 = tilt to the right)

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 *GRP* (3.1.6):

— ll_1 with the felling head on the *GRP* (3.1.6) and at its minimum distance from the machine;

— ll_2 with the felling head on the *GRP* (3.1.6) and at its maximum distance from the machine;

— ll_3 with the felling head at its maximum distance above the *GRP* (3.1.6);

— ll_4 with the felling head at its maximum distance below the *GRP* (3.1.6)

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

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

4 Required information

In addition to the identification of relevant dimensions and features as defined in Clause 3 (see also examples in Annex A), the following information shall be supplied where appropriate:

— tyre size;

— ply rating;

— inflation pressure;

— possible hydro-inflation;

— unequal front/rear or left/right for asymmetrical dimensions, e.g. *tread* (3.3.8), *angle of articulation* (3.3.10), *boom rotation* (3.4.7).

Annex A
(informative)

Examples of dimensions and features

Figures A.1 and A.2 give examples of dimensions and features defined in Clause 3. The figures are for illustrative purposes only and are not intended to depict specific machines.

All dimensions are with the axles parallel, unless otherwise specified.