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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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Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 13862 was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 15, *Machinery for forestry*.

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

1 Scope

This International Standard 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 as defined in ISO 6814.

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

2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 6814:2000, *Machinery for forestry — Mobile and self-propelled machinery — Terms, definitions and classification*.

3 Terms and definitions

See Figures 1 and 2. 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.

3.1 General

3.1.1

right (left) hand

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

3.1.2

front/rear

front or rear of the operator, respectively, when facing in the normal direction of travel and with the machine in its primary functional mode

3.1.3

ground reference plane

GRP

hard, flat, horizontal surface on which the machine is placed for measurements

3.2 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 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

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, if equipped, parallel to the GRP and the felling head positioned on the GRP at maximum reach

3.3.3

wheelbase or 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 and a horizontal plane passing through the highest point of the machine with the levelling table, if equipped, parallel to the GRP and the felling head positioned as described in 3.3.2

3.3.5

ground clearance

h_2

vertical distance from the GRP to the lowest point of the machine centre portion, i.e. 25 % of the tread to either side of the longitudinal centreline

3.3.6

ground clearance at articulation joint

h_3

vertical distance from the GRP 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 to the horizontal centre of the axle with the machine at normal operating mass

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

3.3.13**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 Upper structure tilt**3.3.14.1****longitudinal tilt** a_2, a_3

maximum angle that the levelling mechanism is capable of levelling the upper structure in the forward and rearward directions, measured in degrees (a_2 = forward tilt; a_3 = rearward tilt)

3.3.14.2**side tilt** a_4, a_5

maximum angle that the levelling mechanism 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 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

**3.4.2
machine cutting depth**

hh₂

maximum vertical distance below the GRP 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

**3.4.3
maximum cutting height**

hh₃

maximum vertical distance above the GRP through the bottom of the cutting edge when the vertical tree centreline of the felling head is perpendicular to the GRP

3.4.4 Felling head tilt

**3.4.4.1
longitudinal tilt**

aa₁, aa₂

maximum angle that the felling head vertical centreline tilts forward or rearward about the felling head pivot, with the felling head positioned on the GRP at maximum reach, measured in degrees (*aa₁* = forward tilt; *aa₂* = rearward tilt)

**3.4.4.2
side tilt**

aa₃, aa₄

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 (*aa₃* = tilt to the left; *aa₄* = tilt to the right)

**3.4.5
cutting distance**

ll₁, ll₂, ll₃, ll₄

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 when the vertical tree centreline is perpendicular to the GRP:

- *ll₁* with the felling head on the GRP and at its minimum distance from the machine;
- *ll₂* with the felling head on the GRP and at its maximum distance from the machine;
- *ll₃* with the felling head at its maximum distance above the GRP;
- *ll₄* with the felling head at its maximum distance below the GRP

**3.4.6
boom rotation**

aa₅

maximum boom rotation 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**

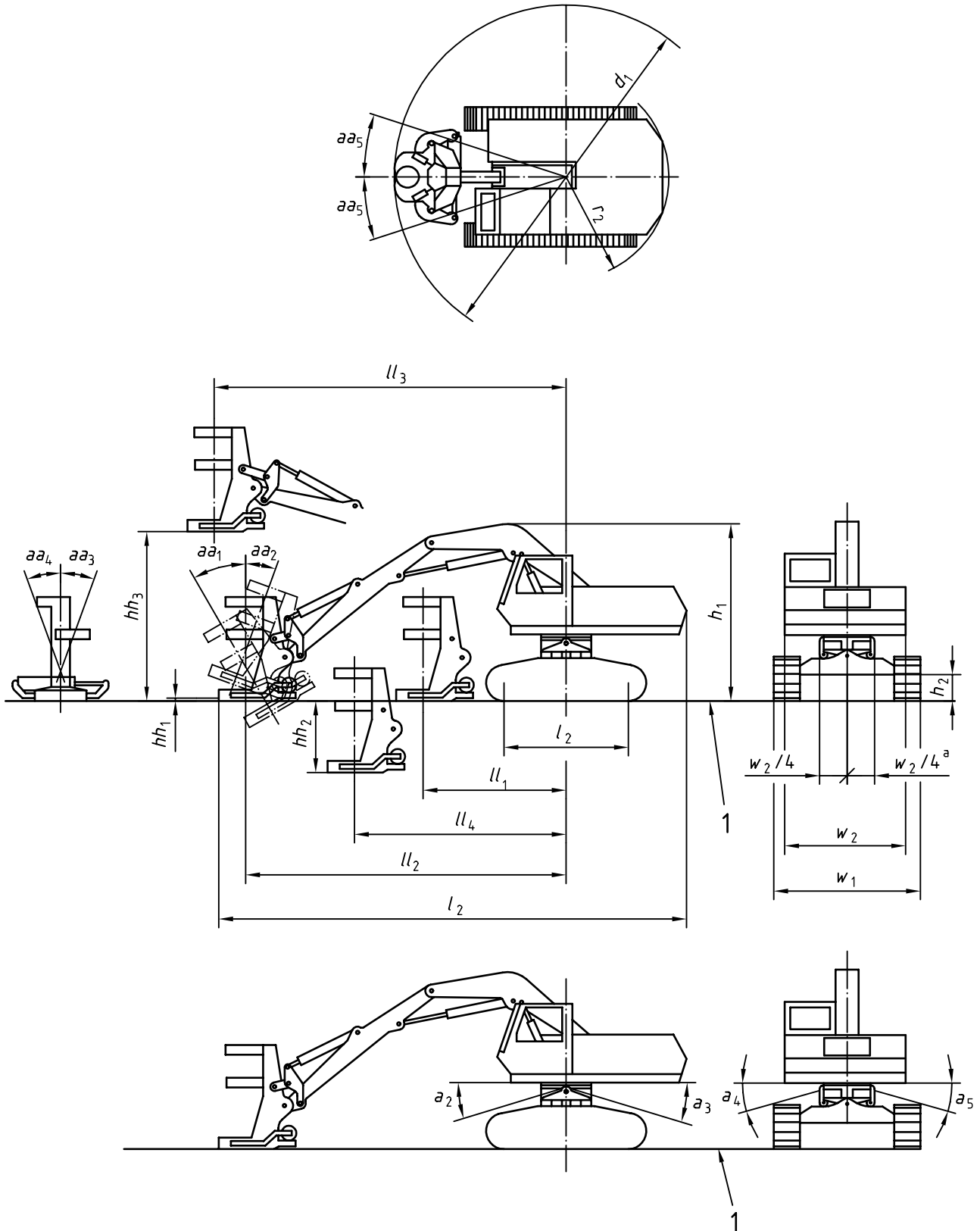
pinned connection between the felling head and the carrier or boom structure

4 Required information

In addition to the identification of relevant dimensions and features as defined in clause 3, 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 (3.4.6).

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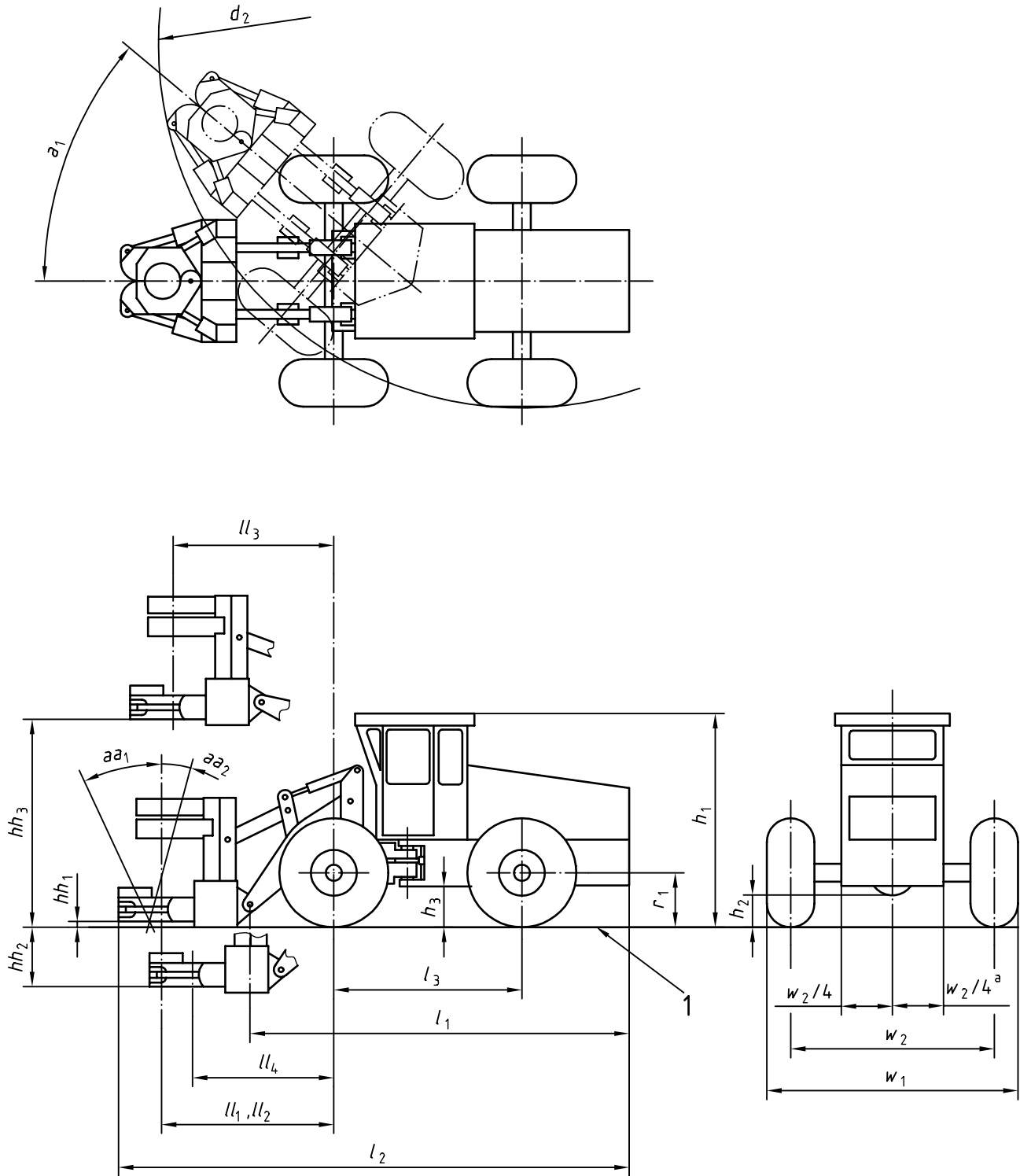


Key

1 GRP

a Used for definition h_2 only.

Figure 1 — Feller-buncher, swing to bunch, track type



Key

1 GRP

a Used for definition h_2 only.

Figure 2 — Feller-buncher, travel to bunch, wheel type

