INTERNATIONAL STANDARD

ISO 17591

First edition
2002-11-01

Machinery for forestry — Knuckleboom log loaders — Identification terminology, classification and component nomenclature

Matériel forestier — Chargeuses de grumes à bras articulé — Terminologie d'identification, classification et nomenclature des éléments

Reference number
ISO 17591:2002(E)

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.ch
Web www.iso.ch

Printed in Switzerland

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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 17591 was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 15, *Machinery for forestry*.

Machinery for forestry — Knuckleboom log loaders — Identification terminology, classification and component nomenclature

1 Scope

This International Standard defines identifying terms, specifies a means of classification and gives a nomenclature of components for the knuckleboom log loaders used in forestry. Its aim is to establish a uniform method of describing the various configurations of this type of mobile forest machine.

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, this publication 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, *Machinery for forestry — Mobile and self-propelled machinery — Terms, definitions and classification*

3 Terms and definitions

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

NOTE The figures in this International Standard are intended to illustrate basic concepts rather than any existing machines or all possible boom configurations.

3.1 General terms

Machines or components defined by their mounting configuration and boom geometry.

3.1.1

knuckleboom log loader

class of log loader characterized by a swing-to-load machine with articulated booms, grapple and supporting structure designed to grab, lift, swing and place trees or parts of trees

NOTE It is classified as such in accordance with ISO 6814.

3.1.2

boom set

system of pivoting members between the main boom pivot and the grapple pivot

3.1.3

upper structure

assembly of components of the loader above the swing bearing

3.1.4
heel
solid structure used in conjunction with the grapple to provide a second point of contact with the piece being handled

3.2 Classification according to mounting configuration

Knuckleboom log loaders classified by their type of mounting or carrier (see Figure 1).

3.2.1
trailer mount
configuration in which the loader is permanently attached to a towable, non-powered frame

3.2.2
truck mount
configuration in which the loader is permanently attached to a powered chassis capable of on-road transport

NOTE The chassis includes a separate operator station for transport.

3.2.3
articulated carrier mount
configuration in which the loader is permanently attached to a powered chassis which utilizes articulated steering

NOTE The same operator station is used for both transport and loading functions.

3.2.4
crawler mount
configuration in which the loader is permanently attached to a crawler undercarriage

3.2.5
rubber-tyred carrier mount
configuration in which the loader is permanently attached to a powered chassis which utilizes automotive-type steering and rubber tires

NOTE The same operator station is used for both transport and loading functions.

3.3 Classification according to boom configuration

Knuckleboom log loaders classified by the arrangement and type of boom components (see Figure 2).

3.3.1
live heel boom
configuration in which the grapple and the heel are attached to a pivoting boom member, allowing the attitude of the grappled piece to be manipulated independently of its vertical or horizontal position

3.3.2
offset boom
fixed heel boom
configuration in which the grapple pivot end of the boom is offset to properly align the grapple and a fixed heel

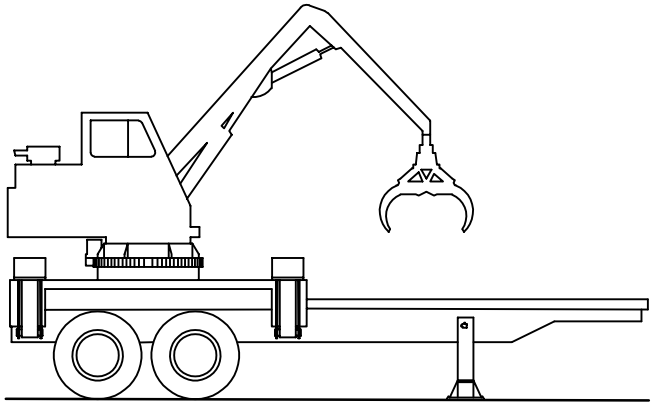
3.3.3
straight boom
configuration in which the final boom member does not include an offset

3.3.4
three-piece boom
configuration in which the boom set consists of three pivoting members, not including a pivoting live heel

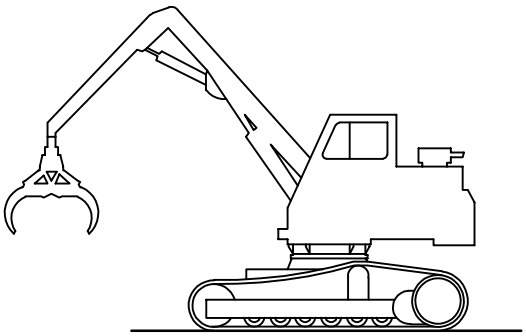
3.3.5
telescoping boom
configuration in which the grapple pivot is attached to a telescoping member

4 Component nomenclature

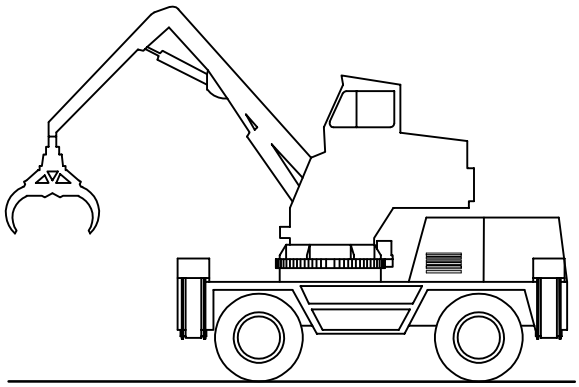
Figure 2 shows and gives the names of primary components unique to this type of forestry machinery.



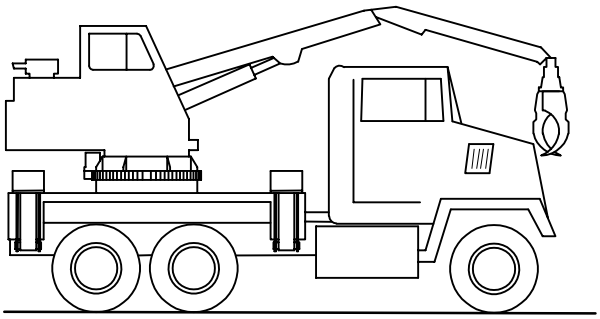
a) Trailer mount (3.2.1)



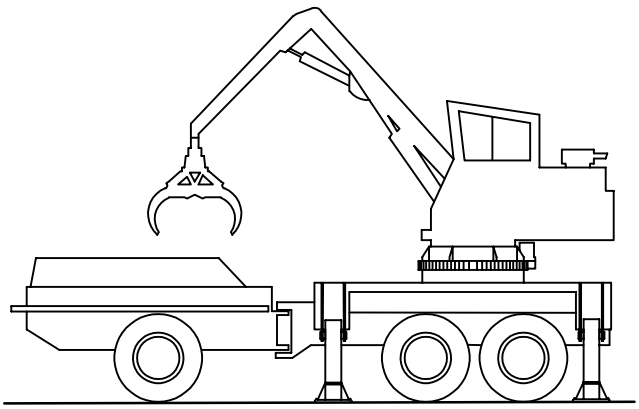
b) Crawler mount (3.2.4)



c) Rubber-tyred carrier mount (3.2.5)

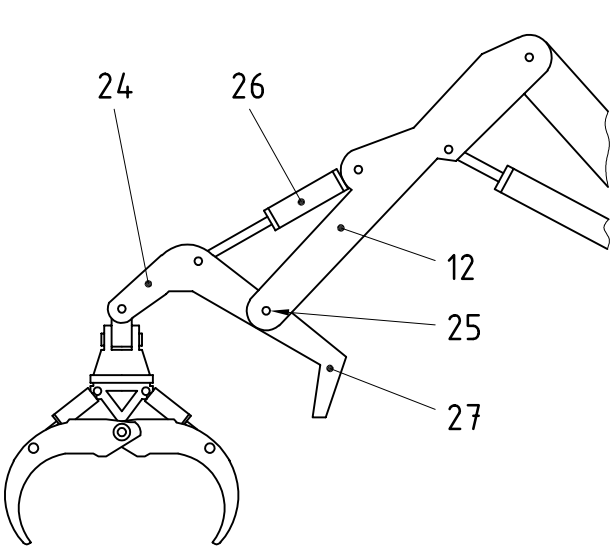


d) Truck mount (3.2.2)

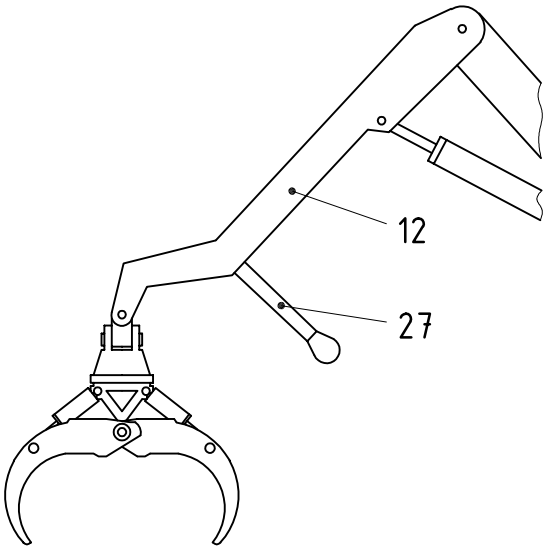


e) Articulated carrier mount (3.2.3)

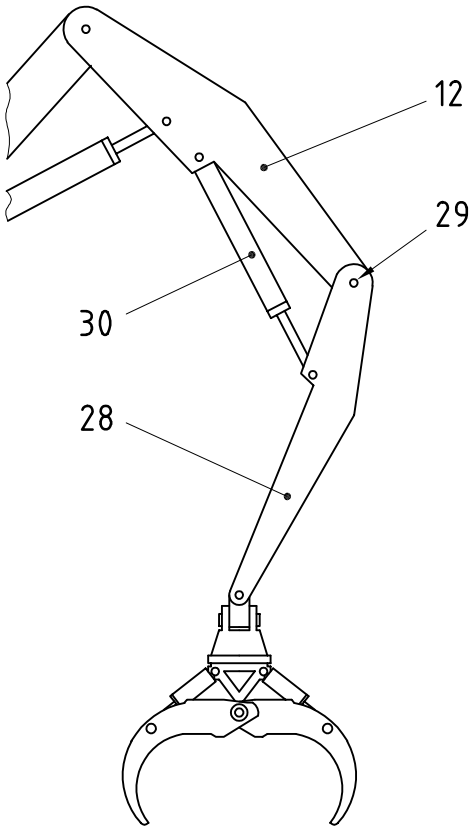
Figure 1 — Knuckleboom loader configuration



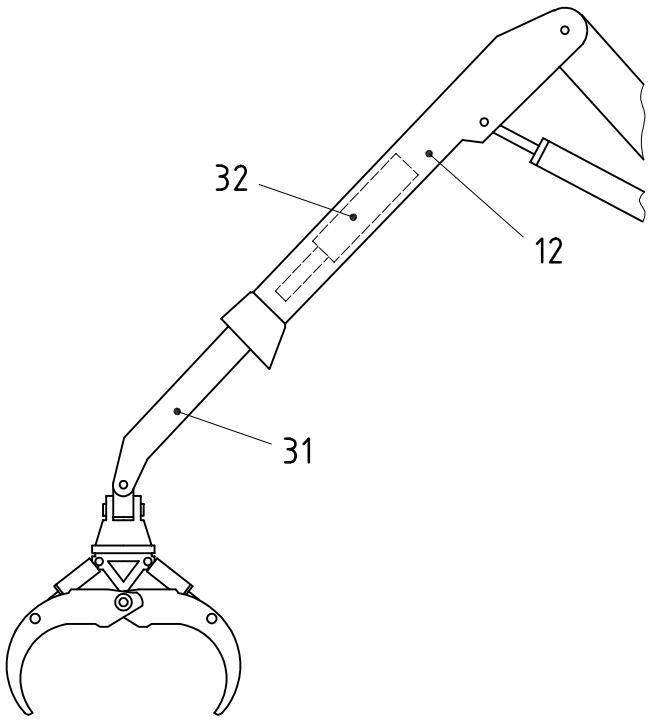
a) Live heel boom (3.3.1)



b) Offset or fixed heel boom (3.3.2)

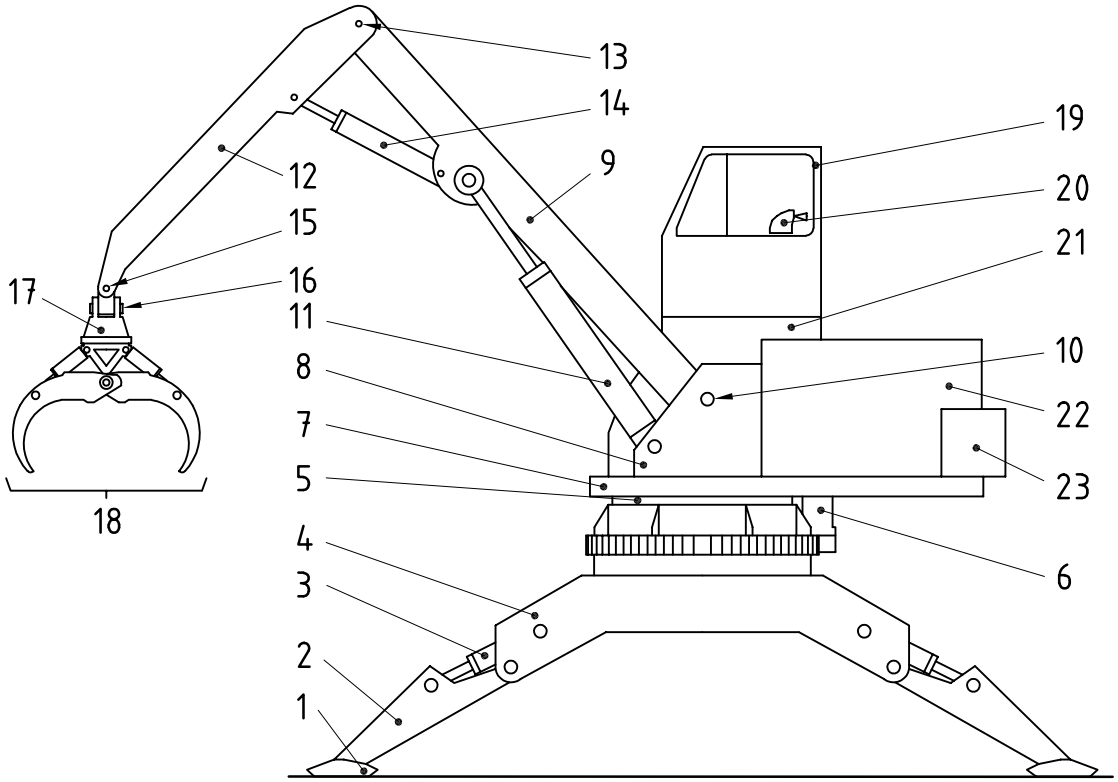


c) Three-piece boom (3.3.4)



d) Telescoping boom (3.3.5)

Figure 2 — Boom types and nomenclature



e) Straight boom (3.3.3)

Figure 2 — Boom types and nomenclature (*continued*)

Key

1	Stabilizer pad
2	Stabilizer
3	Stabilizer cylinder
4	Lower frame
5	Slew bearing
6	Slewing actuator
7	Upper frame
8	Head
9	Main boom
10	Main boom pivot
11	Main boom cylinder
12	Secondary (or stick) boom
13	Secondary (or stick) boom pivot
14	Secondary (or stick) boom cylinder
15	Grapple pivot pin
16	Grapple universal joint
17	Grapple rotator
18	Grapple
19	Cab
20	Operator station
21	Cab riser
22	Power plant
23	Counterweight
24	Heel boom
25	Heel boom pivot
26	Heel boom cylinder
27	Heel
28	Third (or jib) boom
29	Third (or jib) boom pivot
30	Third (or jib) boom cylinder
31	Telescoping boom
32	Telescoping boom cylinder

Figure 2 — Boom types and nomenclature (*continued*)

ICS 65.060.80

Price based on 7 pages