BRITISH STANDARD

BS EN 704:1999

Agricultural machinery — Pick-up balers — Safety

The European Standard EN 704:1999 has the status of a British Standard

ICS 65.060.50

National foreword

This British Standard is the English language version of EN 704:1999.

The UK participation in its preparation was entrusted to Technical Committee AGE/23, Equipment for harvesting and conservation, which has the responsibility to:

— aid enquirers to understand the text;

— present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;

— monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Summary of pages

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 144, Tractors and machinery for agriculture and forestry, the Secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 1999, and conflicting national standards shall be withdrawn at the latest by September 1999.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative annex ZA, which is an integral part of this standard.

Annex A is normative and contains the "List of hazards".

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Contents

0 Introduction

The extent to which hazards are covered is indicated in the scope of this standard. These hazards are specific to pick-up balers.

The hazards that are common to all the agricultural machines (self-propelled, mounted, semi-mounted and trailed) will be dealt with in a standard currently in preparation (prEN 1553).

1 Scope

This standard specifies safety requirements and their verification for design and construction of self-propelled and trailed pick-up balers independent of the shape or size of the bales formed.

It describes methods for the elimination or reduction of risks which need specific requirements for pick-up balers. It does not deal with hazards which are common to all agricultural machines, particularly common hazards related to mobility, including those specific to self-propelled machines. These aspects will be dealt with in another standard produced by CEN/TC 144 (see introduction).

In addition, it specifies the type of information on safe working practices to be provided by the manufacturer.

The list of significant hazards dealt with in this standard is given in annex A. Annex A also indicates the hazards which have not been dealt with.

Environmental aspects have not been considered in this standard.

This standard applies primarily to machines which are manufactured after the date of issue of the standard.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

EN 292-1:1991, *Safety of machinery — Basic concepts, general principles for design — Part 1: Basic terminology, methodology.*

EN 292-2:1991, *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles and specifications*
(including amendment A1:1995).

EN 294:1992, *Safety of machinery — Safety distances to prevent danger zones being reached by the upper limbs.*

prEN 1553:1998, *Agricultural machinery — Agricultural self-propelled, mounted, semi-mounted and trailed machines — Common safety requirements.*

3 Safety requirements and/or measures

3.1 General

The machinery shall comply as appropriate with EN 292 for hazards which are not dealt with and especially with EN 292-2:1991/A1:1995, annex A, when EN 292 does not give precise requirements.

Unless otherwise specified in this standard, the machine shall comply with the requirements of prEN 1553:1998 and with EN 294:1992, Tables 1, 3, 4 and 6.

3.2 Requirements for all types of balers

3.2.1 *Protection against hazards related to moving power transmission parts*

To ensure protection against hazards related to accessible moving power transmission parts, the machine shall be fitted with fixed guards (according to EN 292-1:1991, **3.22.1**).

When frequent access is foreseen, the machine shall be fitted with guards needing a tool for their opening. These guards shall remain attached to the machine when opened (for example by means of hinges) and automatically lock in the closed position without the use of a tool.

If this type of guards is not used, the machine shall be fitted with:

— interlocking movable guards (according to EN 292-1:1991, **3.22.4**); or

— movable guards fitted with a device which prevents their opening so long as the parts are moving.

3.2.2 *Drawbar*

When the drawbar has separate positions, for transport and for working, it shall be provided with a mechanical or hydraulic locking device that requires an intentional action to change from transport to working position and from working to transport position (e.g. pin, latch or hydraulic cylinder). When a hydraulic device is used, the drawbar shall remain locked in positon if the hydraulic circuit fails.

3.2.3 *Pick-up device*

The protection of exposed persons against unintentional contact with any of the accessible moving parts at the front and at the sides of the pick-up device shall be ensured by a combination of barriers and fixed parts of the machine. The projection on a horizontal plane of these protective devices shall be continuous (see Figures 1 and 2).

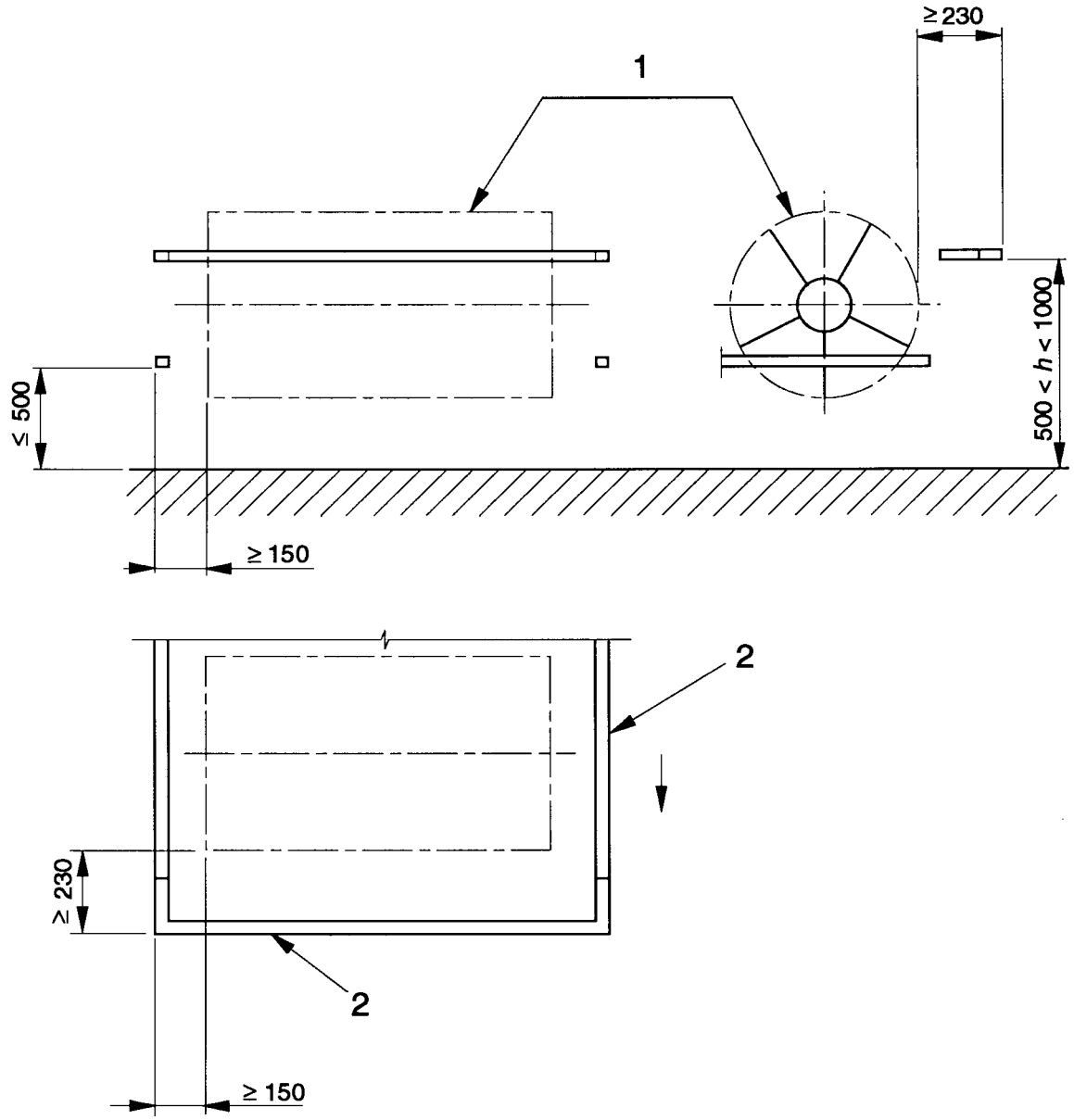
When the pick-up device is in the working position, these barriers shall be:

— a minimum of 230 mm in front of the most forward point of the tine path and at a height h of between 500 mm and 1 000 mm above the ground (see Figure 1);

— a minimum of 150 mm from the sides of the tine path at a maximum height above the ground of 500 mm (see Figure 1). If the tine path is totally covered by a part of the machine when viewed from the side (see Figure 2), this barrier is not required.

NOTE 1 The strength of the barriers will be dealt with in prEN 1553.

Dimensions in millimetres



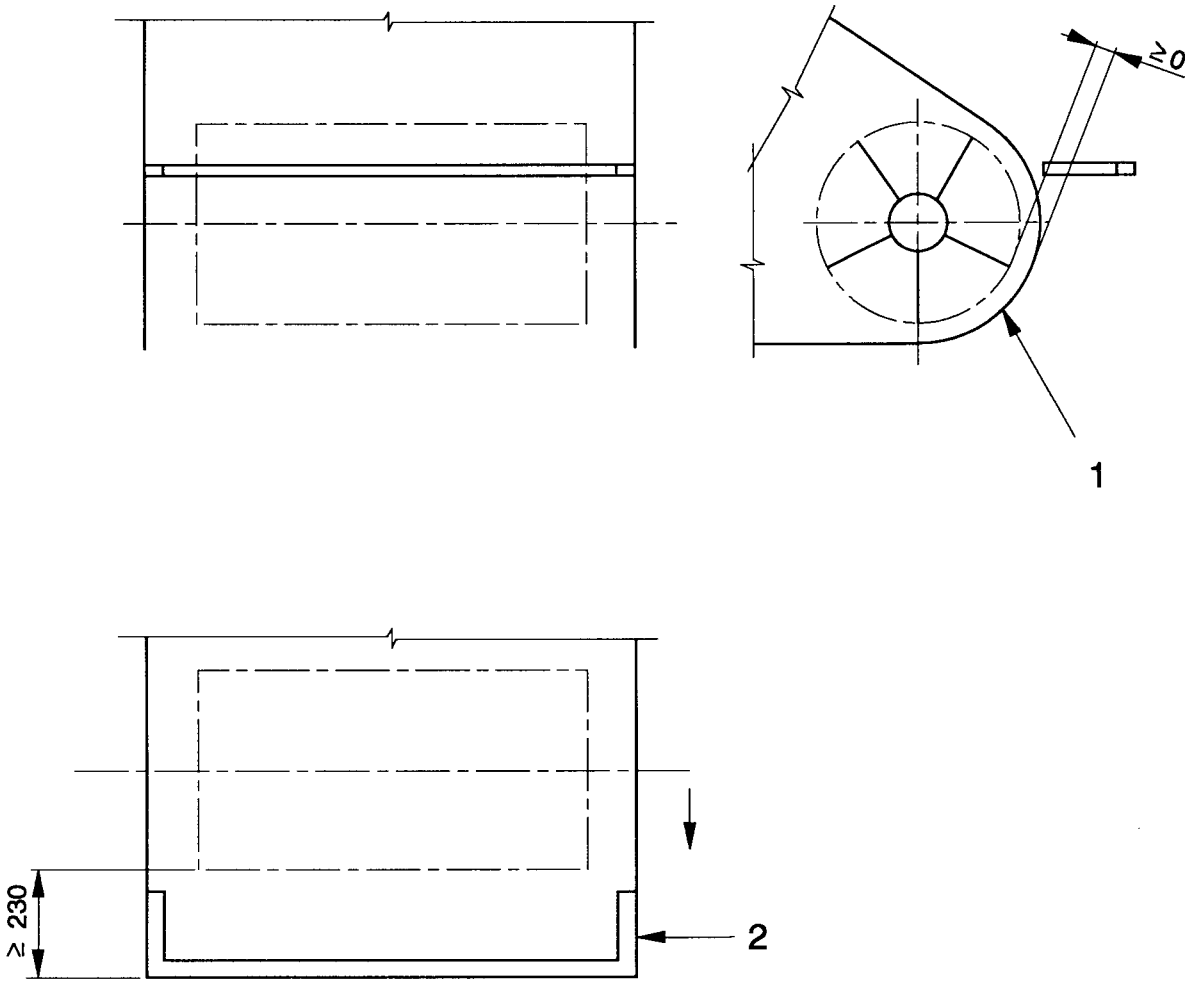
1 — Tine path of the tool

2 — Barrier

NOTE 2 This figure illustrates an example of protective devices complying with **3.2.3**.

Figure 1 — Guarding of the pick-up device

Dimensions in millimetres



1 — Imperforate guard
(fixed part of the machine)

2 — Barrier

NOTE 3 This figure illustrates an example of protective devices complying with **3.2.3**.

Figure 2 — Guarding of the pick-up device — Lateral protection ensured by an imperforate guard

3.2.4 ***Feeding elements***

Crushing and shearing points located at a distance of less than 550 mm from the outer limit of the machine or from the extreme edges of the feeding channel shall be guarded according to **3.2.1**.

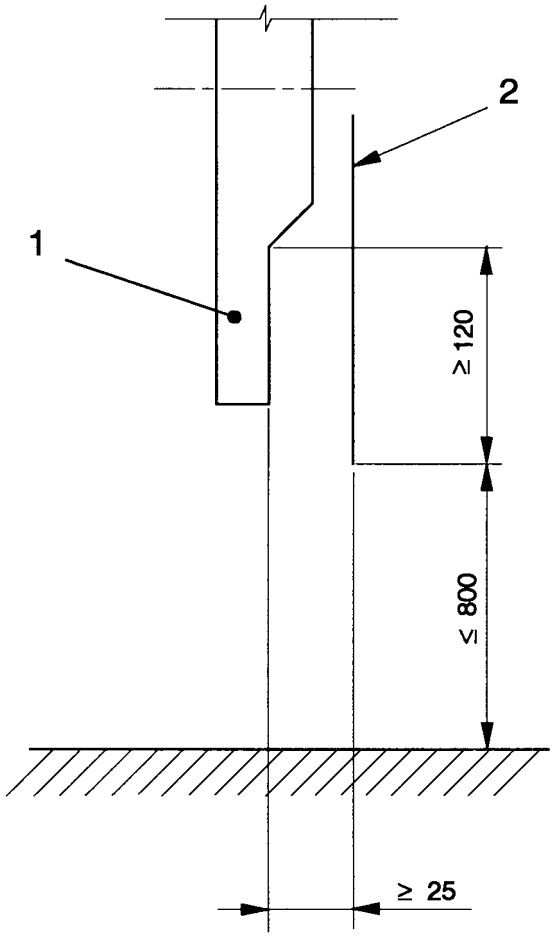
3.3 Requirements for rectangular balers

3.3.1 ***Flywheel***

Accessible parts of the flywheel shall be guarded according to **3.2.1**.

If the flywheel guard is open underneath, a distance of at least 25 mm shall be provided between the flywheel and the guard; this 25 mm shall extend from the lower edge of the guard for a distance of at least 120 mm; the lower edge of the guard shall be located at a maximum distance of 800 mm from the ground (see Figure 3).

Dimensions in millimetres



1 — Flywheel

2 — Guard

Figure 3 — Guarding of flywheel

For balers capable of forming bales with a cross section of 0,2 m^2 or greater:

— it shall be possible to immobilize the flywheel to avoid unintentional movement after it has stopped (for example by means of a brake or a mechanical restraining device); and

— when the flywheel is positioned in such a way that it is located above the crop flow when picking, the lower part of the flywheel may be exposed, providing the flywheel has a smooth surface and the upper part is guarded for at least 2/3 of the flywheel diameter measured vertically from the top.

3.3.2 ***Driving mechanism for the plunger***

The connecting rod and crank mechanism shall be guarded according to **3.2.1**. The side guard shall cover the extreme path of the crank when viewed from the side. If the guard of the rod and crank mechanism is open underneath, a distance of at least 25 mm shall be provided between the rod and the crank mechanism and the guard; this 25 mm clearance shall extend from the edge of the guard for a distance of at least 120 mm (see Figure 4).

If fixed parts of the baler are located directly below the crank path at a distance d less than 300 mm from it, then the side guard shall extend below these fixed parts (see Figure 4).

3.3.3 ***Transmission parts of feeding elements***

On balers capable of forming bales with a cross section smaller than 0,2 m^2, the transmission parts of the feeding elements, located in the upper part of the machine shall be guarded according to **3.2.1**.

When the crushing or shearing points are located at less than 850 mm from the outer limit of the machine, a guard shall be fitted in such a way that its upper edge is located at a vertical distance of at least 130 mm above the extreme path of the crank.

Between the guard and the movable parts of the machine, there shall be a safety distance of at least 50 mm.

3.3.4 ***Tying mechanism***

On the top and on the left and right hand sides, the knotter shall be guarded.

At the front and rear:

— when the knotter is not accessible from the ground (according to EN 294:1992, Table 1), no protecton is required;

— when the knotter is accessible from the ground (according to EN 294:1992, Table 1), the front part shall be guarded according to EN 294:1992, Table 4 and the rear part shall be guarded against unintentional contact in accordance with Figure 5.

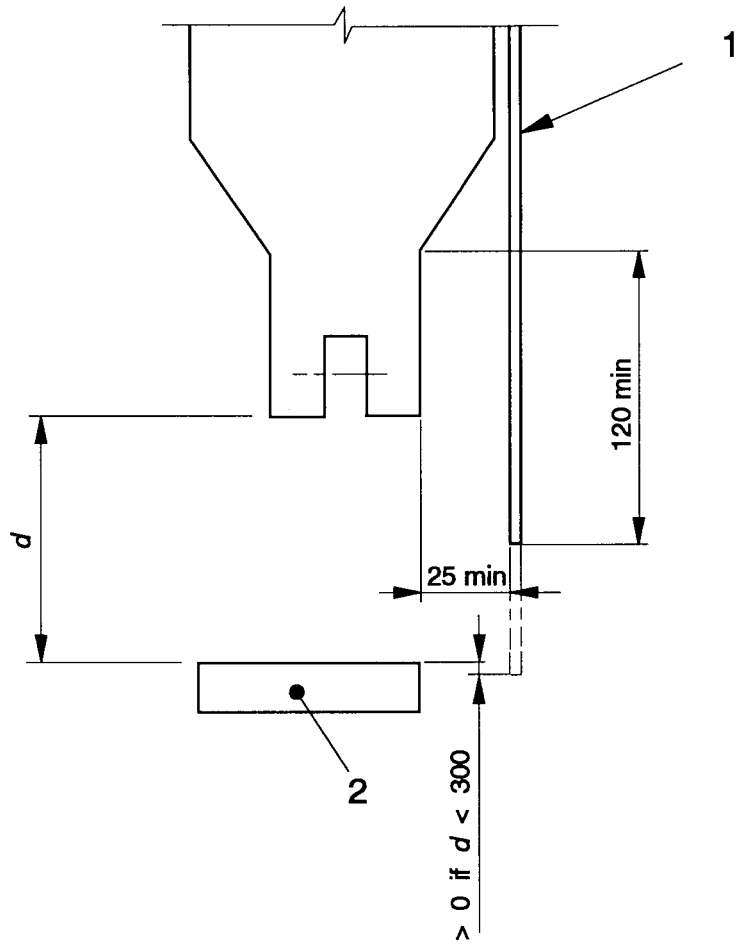
The guarding shall be achieved by means of:

— guards needing a tool for their opening that remain attached to the machine when opened (for example by means of hinges) and automatically lock in the closed position without the use of a tool; or

— interlocking movable guards (according to **3.22.4** of EN 292-1:1991); or

— movable guards fitted with a device which prevents their opening so long as the parts are moving.

Dimensions in millimetres

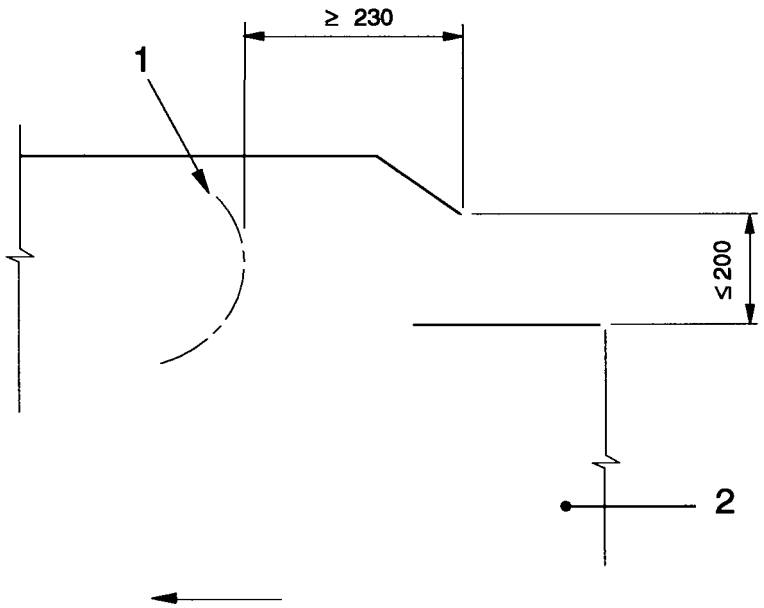


1 — Guard

2 — Fixed part of the baler

Figure 4 — Guarding of the driving mechanism for the plunger

Dimensions in millimetres



1 — Rear outer contour of the tying mechanism

2 — Bale chamber

Figure 5 — Guarding of the rear part of the knotter when it is accessible from the ground

It shall be possible to open the guard easily to adjust and clean the knotter.

It shall be possible by means of one manual control to disengage power to the knotter and the needle and prevent an inadvertent start up of these elements.

The manual control positions shall be clearly marked.

If the distance between the wall of the channel and the point of the needle in the lower extreme position is greater than 20 mm, the point of the needle shall be guarded on both sides. The crushing and shearing points accessible on the sides in the needle movement zone shall be guarded as a minimum along the entire course of the needle movement.

If the guard is open underneath, a distance of at the least 25 mm shall be provided between the guard and the moving parts of the machine.

This 25 mm clearance shall extend from the edge of the guard for a distance of at least 120 mm.

NOTE Further requirements will be added in a future revision of the standard giving more precision to:

— the location of the manual control;

— the location of spools of tying material (e.g. string, netting);

— the illumination of the tying mechanism;

— the protection by design of the crushing and shearing points on the tying mechanism.

3.3.5 *Bale thrower*

The bale entry points shall be guarded according to **3.2.1** against crushing or shearing hazards.

NOTE The bale path may remain open on the sides.

When the thrower is a throwing fork, the fork or pallet stroke to evacuate the bales from the baler shall be guarded according to **3.2.1** on both sides.

3.3.6 *Retaining device*

On balers capable of forming bales with a cross section of 0,2 m^2 or greater, it is necessary to avoid accidental discharge. This shall be achieved by a device provided on the machine either to secure the last bale in position or to eject it.

3.4 Requirements for round balers

3.4.1 *Protection against hazards related to clearing blockages*

The pick-up and feeding elements which can be stopped by a blockage shall be fitted with:

— a reversing device controlled from the driver station by means of a hold-to-run control; or

— a reversing device manually operated and easily accessible from the ground or a working platform. If it is mechanically possible to operate this reversing device whilst the machine is under power, an audible ratchet overload clutch shall be fitted;

NOTE 1 The sound emitted by the clutch when it is overloaded is intended to warn the operator that he shall disconnect the power source before any intervention (see **5.1**n).

and/or,

— a device preventing these feeding devices from being restarted after blockages without an intentional action by the operator (for example a shear bolt, a restart torque limiter).

NOTE 2 Futher requirements will be added in a future revision giving more precision to the:

— operation and location of the reversing device control;

— additional safety measures for removing the blockages.

3.4.2 *Bale ejection door (rear tailgate)*

At the back of the machine, any contact with the bale driving system shall be prevented by means of fixed guards complying with **3.2.1**. Those guards may be part of the machine frame or part of the bale ejection door.

4 Verification of safety requirements and/or measures

Dimensions, where given, shall be verified by measurements. Controls shall be verified by a function test and positional measurements; guards by functional test.

5 Information for use

5.1 Instruction handbook

Comprehensive instructions and information on maintenance and safe use of the machine, a safe system of work, extra precautions and special equipment, shall be provided in the instruction handbook. It shall comply with EN 292-2:1991, **5.5**.

In particular the following points shall be emphasized:

a) the obligation to close the guards before restarting the machine;

b) the crushing, shearing and entanglement points related to the drawbar and to the feeding elements;

c) the fact that any intervention on the machine shall be avoided so long as the flywheel is moving and that the restraining device shall be used;

d) the run down time of the flywheel;

e) the risks of hydraulic lines rupturing;

f) the allowable pressure of the hydraulic system;

g) the procedure to be followed for the setting of the twine and when twine breaks, the threading and the starting of the knotter;

h) the need to use adequate twine in order to avoid blockages in the tying device;

i) for round balers the hazards related to the access to the baling compartment, the movement of the rear door, the ejection of bales and the need to ensure that nobody stands nearby;

j) the need to use a power take-off (PTO) drive shaft equipped with a guard in good condition, if applicable;

k) the importance of regular maintenance of the baler to ensure the safety of the operator (excessive friction, forage accumulation, lack of lubrication ...); lack of maintenance could lead to fire from overheating;

l) the conditions of use to prevent blockages occuring;

m) the hazard related to clearing blockages from the machine (in particular when the pick-up mechanism continues to run although there is a blockage) and the procedures to be followed;

n) the need to disconnect the power source before manually clearing any blockages;

o) the need to replace the shear bolts if any, after breaking, by new ones with the same characteristics;

p) for round balers where tying can be started manually, the hazard related to manual tying when the bale is rotating;

q) the procedures to be followed for changing the knives (for example stop the machine and immobilize the flywheel);

r) for balers capable of forming bales with a cross section of 0,2 m^2 or greater, ensure that the last bale is secured or removed before the baler is taken on public roads;

s) the procedure to be followed when changing the position of the drawbar;

t) the need to take into account the direction of the slope when discharging round bales.

5.2 Marking

The marking shall comply with EN 292-2:1991, **5.4**.

All balers shall be marked legibly and indelibly with at least the following information:

— name and address of the manufacturer;

— year of construction;

— designation of series or type;

— serial number, if any;

— nominal rotation frequency and direction of rotation of the power input connection (marked by an arrow).

In addition, warning notices or symbols shall be affixed, drawing attention to hazards caused by:

— the opening of movable guards; in particular a warning, visible when the guards are open, shall indicate that this guard shall be closed before starting the machine;

— the crushing and shearing points when changing the drawbar position;

— the run down time of the flywheel;

— the crushing and shearing points between the feed auger and the feeding fingers;

— on round balers, the rear tailgate ejection door;

— the risk of contact with moving parts of the tying mechanism to be fixed on the guard.

Balers capable of forming rectangular bales with a cross section of 0,2 m^2 or greater shall be provided with a warning drawing attention to the means of immobilization of the flywheel.

Annex A (normative)
List of hazards

Table A.1 gives the list of hazards based on EN 292-1:1991 and EN 292-2:1991 and annex A of BS EN 292-2:1991/A1:1995.

Table A.2 gives the list of hazards due to the mobility of the machine.

The meaning of the different statements given in the last column (solutions given by this standard) of these tables are:

— “not relevant”: the hazard is not significant for the machine;

— “dealt with”: the hazard is significant. The measures given in the indicated clauses provide guidance for dealing with the hazard in accordance with the principles of safety integration of EN 292; that means:

— elimination or reduction of the risk by design, as far as possible;

— protection measures;

— information for the residual risks;

— “partly dealt with”: the hazard is significant for several parts of the machine. The measures given in the indicated clauses deal with this hazard for some of these parts. In the other parts where the hazard is significant, other measures, not included in this standard, will have to be applied in order to deal with this hazard;

— “not dealt with”: the hazard is significant for the machine but has not been taken into account during the preparation of this standard.

For a number of hazards which are indicated as “not dealt with” or “partly dealt with”, requirements are given in prEN 1553. These hazards are identified by an asterisk (*) in the last column of Tables A.1 and A.2.

Table A.1 — List of hazards

Hazards		Relevant clauses (informative)		Solutions given by this standard
		EN 292-1	EN 292-2	
1	**Mechanical hazards,** caused for example by: — shape; — relative location; — mass and stability (potential energy of elements); — mass and velocity (kinetic energy of elements); — inadequacy of the mechanical strength; — accumulation of potential energy by: — elastic elements (springs); or — liquids or gases under pressure; or — vacuum; of the machine parts or workpieces:	**4.2**	—	—
1.1	crushing hazard	**4.2.1**, **4.2.2**	**3.2**	Partly dealt with in **3.1**, **3.2**, **3.3**, **3.4**, **5.1**, **5.2** *
1.2	shearing hazard	**4.2.1**, **4.2.2**	**3.2**, **4.1.1**	Partly dealt with in **3.1**, **3.2**, **3.3.1**, **3.3.2**, **3.3.3**, **3.3.4**, **3.3.5**, **3.4**, **5.1**, **5.2** *
1.3	cutting or severing hazard	**4.2.1**, **4.2.2**	**3.2**	Partly dealt with in **3.1**, **3.2**, **3.3.1**, **3.3.2**, **3.3.3**, **3.3.4**, **3.3.5**, **3.4**, **5.1**, **5.2** *
1.4	entanglement hazard	**4.2.1**, **4.2.2**	—	Partly dealt with in **3.1**, **3.2.1**, **3.2.3**, **3.3.1**, **3.3.2**, **3.3.3**, **3.3.4**, **3.4**, **5.1**, **5.2** *
1.5	drawing-in or trapping hazard	**4.2.1**	**3.11**, **4.1.1**, **6.1.2**	Partly dealt with in **3.1**, **3.2.1**, **3.2.3**, **3.2.4**, **3.3.1**, **3.3.2**, **3.3.3**, **3.3.4**, **3.4**, **5.1**, **5.2** *
1.6	impact hazard	**4.2.1**	—	Partly dealt with in **3.1**, **3.2**, **3.3**, **3.4**, **5.1**, **5.2** *
1.7	stabbing or puncture hazard	**4.2.1**	—	Dealt with in **3.1**, **3.3.4**, **5.1**, **5.2**
1.8	friction or abrasion hazard	**4.2.1**	**3.3**b	Partly dealt with in **3.1**, **3.3.1**, **5.1**, **5.2** *
1.9	high pressure fluid injection hazard	**4.2.1**	—	Partly dealt with in **5.1** *
1.10	ejection of parts (of machinery and processed material/workpieces)	**4.2.2**	**3.8**	Dealt with in **3.3.6**, **3.4.2**
1.11	loss of stability (of machinery and machine parts)	**4.2.2**	**6.2.5**, **3.3**	Not dealt with (only relevant for self-propelled machines) *
1.12	slip, trip and fall hazards in relationship with machinery (because of their mechanical nature)	**4.2.3**	**6.2.4**	Not dealt with *

Table A.1 — List of hazards *(continued)*

Hazards		Relevant clauses (informative)		Solutions given by this standard
		EN 292-1	EN 292-2	
2	**Electrical hazards**, caused for example by:	**4.3**	**3.9**	—
2.1	electrical contact (direct or indirect)	**4.3**	—	Not dealt with (only relevant for self-propelled machines) *
2.2	electrostatic phenomena	**4.3**	—	Not relevant
2.3	thermal radiation or other phenomena such as ejection of molten particles, and chemical effects from short-circuits, overloads, etc.	**4.3**	—	Not relevant
2.4	external influences on electrical equipment	**4.3**	**3.4**	Not dealt with (only relevant for self-propelled machines) *
3	**Thermal hazards** resulting in:	**4.4**	**3.6.3**	—
3.1	burns and scalds, by a possible contact of persons, by flames or explosions and also by the radiation of heat sources	**4.4**	—	Not dealt with (only relevant for self-propelled machines)
3.2	health-damaging effects by hot or cold work environment	**4.4**	—	Not relevant
4	**Hazards generated by noise**, resulting in:	**4.5**	**3.6.3**	—
4.1	hearing losses (deafness), other physiological disorders (e.g loss of balance, loss of awareness)	**4.5**	—	Not dealt with *
4.2	interferences with speech communication, acoustic signals, etc.	**4.5**	—	Not relevant
5	**Hazards generated by vibration** (resulting in a variety of neurological and vascular disorders)	**4.6**	**3.6.3**	Not dealt with (only relevant for self-propelled machines) *
6	**Hazards generated by radiation,** especially by:	**4.7**	—	—
6.1	electrical arcs	—	—	Not relevant
6.2	lasers	—	—	Not relevant
6.3	ionizing radiation sources	**4.7**	—	Not relevant
6.4	machines making use of high frequency electromagnetic fields	—	—	Not relevant
7	**Hazards generated by materials and substances processed, used or exhausted by machinery,** for example:	**4.8**	**3.3**b	—
7.1	hazards resulting from contact with or inhalation of harmful fluids, gases, mists, fumes and dusts	**4.8**	—	Not dealt with *
7.2	fire or explosion hazard	**4.8**	—	Dealt with in **5.1**
7.3	biological and microbiological (viral or bacterial) hazards	**4.8**	—	Not relevant

Table A.1 — List of hazards *(continued)*

Hazards		Relevant clauses (informative)		Solutions given by this standard
		EN 292-1	EN 292-2	
8	**Hazards generated by neglecting ergonomic principles in machine design** (mismatch of machinery with human characteristics and abilities) caused for example by:	**4.9**	**3.6**	—
8.1	unhealthy postures or excessive efforts	**4.9**	**3.6.1**, **3.6.4**	Not dealt with *
8.2	inadequate consideration of human hand-arm or foot-leg anatomy	**4.9**	**3.6.2**	Not dealt with (only relevant for self-propelled machines) *
8.3	neglected use of personal protection equipment	**5.5**	—	Not dealt with (only relevant for self-propelled machines)
8.4	inadequate area lighting	—	**3.6.5**	Not dealt with
8.5	mental overload or underload, stress, etc.	**4.9**	**3.6.4**	Not relevant
8.6	human error	**4.9**	**3.6**	Dealt with in **5.1**, **5.2**
9	**Hazard combinations**	**4.10**	—	Dealt with in clause **3**
10	**Hazards caused by failure of energy supply, breaking down of machinery parts and other functional disorders**, for example:	**5.2.2**	Clause **3**	—
10.1	failure of energy supply (of energy and/or control circuits)	**3.16**	**3.7**	Not dealt with
10.2	unexpected ejection of machine parts or fluids	—	**3.8**, clause **4**	Partly dealt with in **5.1** *
10.3	failure, malfunction of control system (unexpected start up, unexpected overrun)	**3.15**, **3.16**, **3.17**	**3.7**	Not dealt with *
10.4	errors of fitting	—	—	Dealt with in **5.1**, **5.2**
10.5	overturn, unexpected loss of machine stability	**4.2.2**	**6.2.5**	Not dealt with (only relevant for self-propelled machines) *
11	**Hazards caused by (temporary) missing and/or incorrectly positioned safety related measures/means**, for example:	—	Clause **4**	—
11.1	all kinds of guard	**3.22**	**4.2**	Partly dealt with in **5.1**, **5.2** *
11.2	all kinds of safety related (protection) devices	**3.23**	**4.2**	Dealt with in **5.1**
11.3	starting and stopping devices	—	**3.7**	Not relevant
11.4	safety signs and signals	—	**3.6.7**, **5.2**, **5.3**, **5.4**	Dealt with in **5.1**
11.5	all kinds of information or warning devices	—	**5.4**	Not relevant

Table A.1 — List of hazards *(continued)*

Hazards		Relevant clauses (informative)		Solutions given by this standard
		EN 292-1	EN 292-2	
11.6	energy supply disconnecting devices	—	**6.2.2**	Not relevant
11.7	emergency devices	—	**6.1**	Not relevant
11.8	feeding/removal means of workpieces	—	**3.11**	Dealt with in **5.1**, **5.2**
11.9	essential equipment and accessories for safe adjusting and/or maintaining	**3.3**, **3.11**	**3.12**, **6.2.1**, **6.2.3**, **6.2.6**	Dealt with in **5.1**
11.10	equipment evacuating gases, etc.	—	—	Not relevant

Table A.2 — List of hazards due to mobility

Hazards		Solutions given by this standard
12	**Inadequate lighting of moving/working area**	Not dealt with (only relevant for self-propelled machines)
13	**Hazards due to sudden movement, instability, etc**.	Not relevant
14	**Inadequate/unergonomic design of driving/operating position**	—
14.1	hazards due to dangerous environments (contact with moving parts, exhaust gases etc.)	Not dealt with (only relevant for self-propelled machines) *
14.2	inadequate visibility from drivers/operators position	Not dealt with (only relevant for self-propelled machines) *
14.3	inadequate seat/seating (SIP)	Not dealt with (only relevant for self-propelled machines) *
14.4	inadequate/unergonomic design/positioning of controls	Not dealt with (only relevant for self-propelled machines) *
14.5	starting/moving of machinery	Dealt with in **3.2.2**
14.6	traffic of machinery	Not dealt with
14.7	movement of pedestrian controlled machinery	Not relevant
15	**Mechanical hazards**	—
15.1	hazards to exposed persons due to incontrolled movement	Not relevant
15.2	hazards due to break-up and/or ejection of parts	Not dealt with
15.3	hazards due to rolling over (deflection limiting volume: DLV)	Towed machines: no particular measures required because of built-in stability Self-propelled machines: not dealt with
15.4	hazards due to falling objects (DLV)	Not relevant
15.5	inadequate means of access	Not dealt with *
15.6	hazards caused due to towing, coupling, connecting, transmission, etc.	Partly dealt with in **3.2.2**, **5.1**, **5.2** *
15.7	hazards due to batteries, fire, emissions of dust and gas, etc.	Not dealt with (only relevant for self-propelled machines) *

Annex ZA (informative)

Clauses of this European standard addressing essential requirements or other provisions of EU Directives

This European standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association and supports essential requirements of “Machinery” Directive 98/37/EEC.

WARNING: Other requirements and other EU Directives may be applicable to the product falling within the scope of this standard.

The clauses of this standard are likely to support requirements of “Machinery” Directive.

Compliance with these clauses of this standard provides one means of conforming with the specific essential requirements of the Directive concerned and associated EFTA regulations.

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