

Põllumajandus- ja metsatöömasinad. Püstijalu juhitud traktorid pöörlevate külgemonteeritavate kultivaatoritega, mootorkobestid, vedavate ratastega mootorkobestid. Ohutus

Agricultural and forestry machinery - Pedestrian controlled tractors with mounted rotary cultivators, motor hoes, motor hoes with drive wheels(s) - Safety

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 709:1997+A4:2010 sisaldab Euroopa standardi EN 709:1997+A4:2009 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 28.02.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 12.02.2009.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 709:1997+A4:2010 consists of the English text of the European standard EN 709:1997+A4:2009.

This standard is ratified with the order of Estonian Centre for Standardisation dated 28.02.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 12.02.2009.

The standard is available from Estonian standardisation organisation.

ICS 65.060.10, 65.060.20

Standardite reprodutseerimis- ja levitamiseõigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

Right to reproduce and distribute Estonian Standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without permission in writing from Estonian Centre for Standardisation.

If you have any questions about standards copyright, please contact Estonian Centre for Standardisation:
Aru str 10 Tallinn 10317 Estonia; www.evs.ee; Phone: +372 605 5050; E-mail: info@evs.ee

English Version

**Agricultural and forestry machinery - Pedestrian controlled
tractors with mounted rotary cultivators, motor hoes, motor hoes
with drive wheel(s) - Safety**

Matériel agricole et forestier - Motoculteurs avec fraises
portées, motobineuses et fraises à roue(s) motrice(s) -
Sécurité

Maschinen für die Land- und Forstwirtschaft -
Einachstraktoren mit angebaute Fräse, Motorhacken,
Triebradhacken - Sicherheit

This European Standard was approved by CEN on 4 March 1997 and includes Amendment 1 approved by CEN on 1 July 1999, Amendment 2 approved by CEN on 29 December 2008 and Amendment 4 approved by CEN on 24 October 2009.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.





EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....	4
Introduction	5
1 Scope	5
2 Normative references	5
3 Definitions	6
4 List of hazards.....	6
5 Safety requirements and/or measures	7
5.1 General.....	7
5.2 Starting device	7
5.3 Manual controls	8
5.4 Identification of controls.....	9
5.5 Controls of the movement of the machine and of the tool.....	10
5.6 Reverse gear	12
5.7 Guards for moving parts	12
5.7.1 General.....	12
5.7.2 Soil working tool	12
5.8 Handlebars	16
5.8.1 General.....	16
5.8.2 Motor hoes.....	16
5.9 Exhaust system.....	17
5.9.1 Protection against exhaust gas.....	17
5.9.2 Protection against hot surfaces	18
5.10 Steering mechanisms.....	19
5.10.1 General.....	19
5.10.2 Measurement of the steering force	19
5.11 Brakes for pedestrian controlled tractors	20
5.12 Electrical installation	22
5.13 Noise	22
5.13.1 General.....	22
5.13.2 Operating conditions.....	22
5.14 Vibration	22
5.14.1 A1 Reduction by design and protective measures A1	22
5.14.2 Reduction by information	23
5.14.3 Vibration measurement.....	23
6 Information for use	26
6.1 Instruction handbook	26
6.2 Marking	28
Annex A (normative) List of hazards.....	30
Annex B (informative) Examples of machines	36
Annex C (normative) A1 Measurement of vibration at the handlebars A1	38
C.1 General.....	38
C.2 Quantities to be measured.....	38
C.3 Instrumentation.....	38
C.3.1 General.....	38
C.4 Fastening of the transducer	38
C.5 Calibration	39
C.6 Measurement location and direction	39

C.7	Pre - test	39
C.8	Test conditions	39
C.8.1	Machine set-up	39
C.8.2	Operating conditions	39
C.8.3	Operator.....	40
C.9	Measurement procedure.....	40
C.10	Test report.....	40
Annex ZA	(informative)  Relationship between this European Standard and the Essential Requirements of EU Directive 98/37/EC, amended by Directive 98/79/EC 	42
Annex ZB	(informative)  Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC 	43
Bibliography	44

Foreword

This document (EN 709:1997+A4:2009) 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 June 2010, and conflicting national standards shall be withdrawn at the latest by December 2010.

This document includes Amendment 1, approved by CEN on 1999-07-01, Amendment 2, approved by CEN on 2008-12-29 and Amendment 4, approved by CEN on 2009-10-24.

This document supersedes EN 709:1997+A2:2009.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1**, **A1**, **A2**, **A2** and **A4**, **A4**.

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).

A2 For relationship with EU directive(s), see informative Annexes ZA and ZB, which are integral parts of this document. **A2**

The 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, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

The extent to which hazards are covered is indicated in the scope of this standard.

In addition, machines shall comply – as appropriate – with EN 292 for hazards which are not dealt with and especially with Annex A of EN 292-2:1991/A1:1995 when EN 292 does not give precise requirements.

1 Scope

This European Standard specifies safety requirements and testing for design and construction of, pedestrian controlled tractors with mounted rotary cultivators with the cultivator rotating axis horizontal and perpendicular to the direction of motion of the machine, motor hoes and motor hoes with drive wheel(s), all as used in agriculture, forestry, landscaping and gardening (including amenity use).

It describes methods for the elimination or reduction of risks arising from their use. In addition, it specifies the type of information to be provided by the manufacturer on safe working practices.

This European Standard does not cover the requirements to fulfil national road traffic regulations such as lights, steering and braking.

Environmental aspects have not been considered in this standard.

This European 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.*

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

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

EN 563:1994, *Safety of machinery – Temperatures of touchable surfaces – Ergonomics data to establish temperature limit value for hot surfaces.*

EN 1033:1995, *Hand-arm vibration – Laboratory measurement of vibration at the grip surface of hand-guided machinery – General.*

prEN 1553:1996, *Agricultural, forestry, landscaping and garden machinery – Common requirements – Safety.*

EN CR 1030-1:1995, *Hand-arm vibration – Guidelines for vibration hazards reduction – Part 1: Engineering methods by design of machinery*

ISO 5805:1981, *Mechanical vibration and shock affecting man - Vocabulary* ^{A1}

EN ISO 3767-1:1995, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment – Symbols for operator controls and other displays – Part 1: Common symbols.*

EN ISO 3767-3:1996, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment – Symbols for operator controls and other displays – Part 3: Symbols for powered lawn and garden equipment.*

3 Definitions

For the purposes of this standard, the definitions given in EN 292-1:1991 apply together with the following:

3.1

pedestrian controlled tractor

agricultural self-propelled machine designed to be pedestrian controlled, capable of driving and/or pulling different working tools (see Figure B.1)

3.2

tool

working element which can be adapted to a pedestrian controlled tractor

3.3

mounted rotary cultivator

tool used for working the soil composed of a group of rotating elements which can be adapted to a pedestrian controlled tractor.

3.4

motor hoe

agricultural self-propelled machine designed to be pedestrian controlled with or without support wheel(s), in such a way that its working elements act as hoeing tools to ensure propulsion (see figure B.2)

3.5

motor hoe with drive wheel(s)

agricultural self-propelled machine designed to be pedestrian controlled and propelled by one or various wheels directly actuated from the engine and equipped with hoeing tools (see figure B.3).

3.6

handlebar

device equipped with grips enabling the machine to be manually controlled.

^{A4} 3.7

maximum operating engine speed

highest engine speed obtainable with the tools engaged and with the machine supported such that the working tools are clear of any contact with the ground ^{A4}

4 List of hazards

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.