

DRAFT EAST AFRICAN STANDARD

Hand-held hedge shears — Specification

EAST AFRICAN COMMUNITY

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Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in the East African Community. It is envisaged that through harmonized standardization, trade barriers that are encountered when goods and services are exchanged within the Community will be removed.

In order to achieve this objective, the Community established an East African Standards Committee mandated to develop and issue East African Standards.

The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the private sectors and consumer organizations. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the procedures of the Community.

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

DEAS 1179:2023 was prepared by Technical Committee EASC/TC 042, *Production and general engineering*.

Hand-held hedge shears — Specification

1 Scope

This draft East African standard specifies dimensions, material, safety and other requirements for both powered and non-powered hand-held hedge shears used for trimming (cutting, pruning) hedges or solitary shrubs (bushes).

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 4957, *Tool steels*

ISO 3573, *Hot-rolled carbon steel sheet of commercial and drawing qualities*

EAS 134, *Cold formed steel sections — Specification*

ISO 6506-1, *Metallic materials — Brinell hardness test — Part 1: Test method*

ISO 6507-1, *Metallic materials — Vickers hardness test — Part 1: Test method*

ISO 6508-1, *Metallic materials — Rockwell hardness test — Part 1: Test method*

ISO 10517, *Powered hand-held hedge trimmers — Safety*

ISO 2859-1, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

3 Terms and definitions

For the purposes of this standard, the following terms and definitions shall apply:

3.1 hedge trimmer

machine fitted with reciprocating blades made of metal, intended to cut and form hedges, bushes and similar vegetation

3.2 cutting device

part of the assembly consisting of cutter blade and shear plate, or of the cutter blades together with any supporting part, which performs the cutting action and that can be single- or double-sided

3.3 cutter blade

part of the cutting device having blade teeth which cut by a shearing action either against other blade teeth or against a shear plate

3.4 blade tooth

part of the cutter blade which is sharpened to perform the shearing action

3.5 width of cut

effective cutting length of the cutting device measured from the inside edge of the first blade tooth or shear plate tooth to the inside edge of the last blade tooth or shear plate tooth

3.6 front handle

handle located at or towards the cutting device

3.7 rear handle

handle located furthest from the cutting device

3.8 throttle lock

device for temporarily setting the throttle in a partially open position to aid starting

3.9 throttle control lock-out

device which prevents the unintentional activation of the throttle trigger unless the operator releases it

3.10 throttle control

blade control

device activated by the operator's hand or finger for controlling the cutter blade movement

3.11 blunt extension

extending blunt part of the cutting device or an extending part of an unsharpened plate fitted to the cutting device to prevent contact with the moving cutter blade

3.12 adjustable handle

handle whose position can be modified either by movement or by rotation

3.13 drive shaft

shaft used to transmit power from the engine to the cutting device

3.14 drive shaft tube

tube which contains the drive shaft and connects the engine to the cutting device

3.15 split-boom

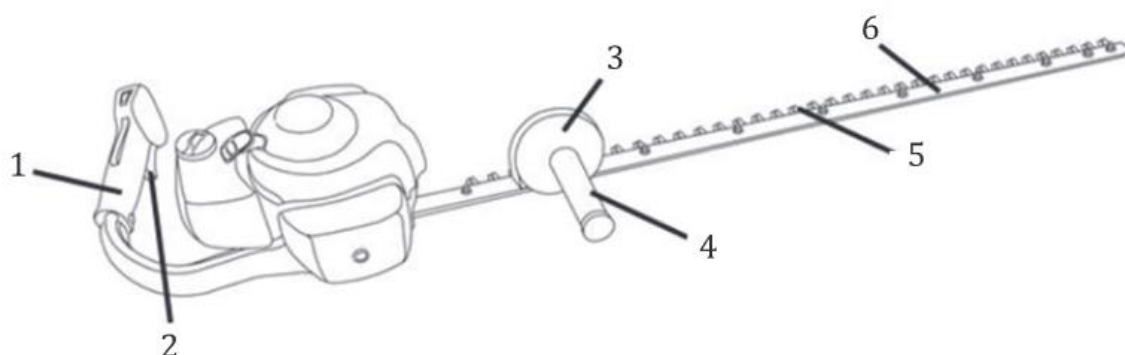
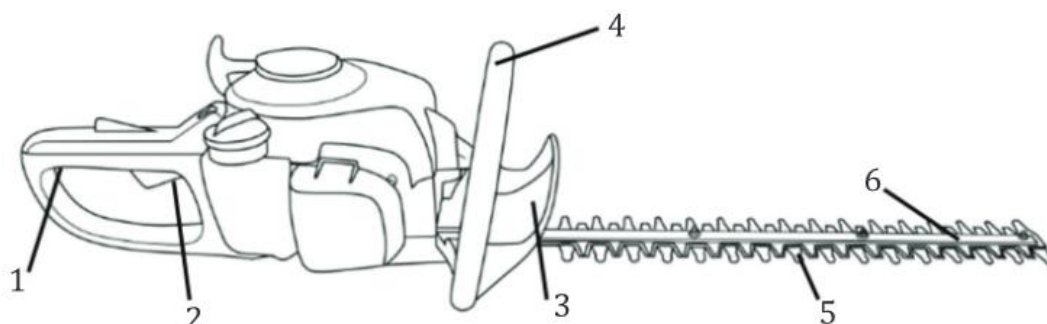
design feature which permits the separation of the drive shaft tube for ease of storage and transportation

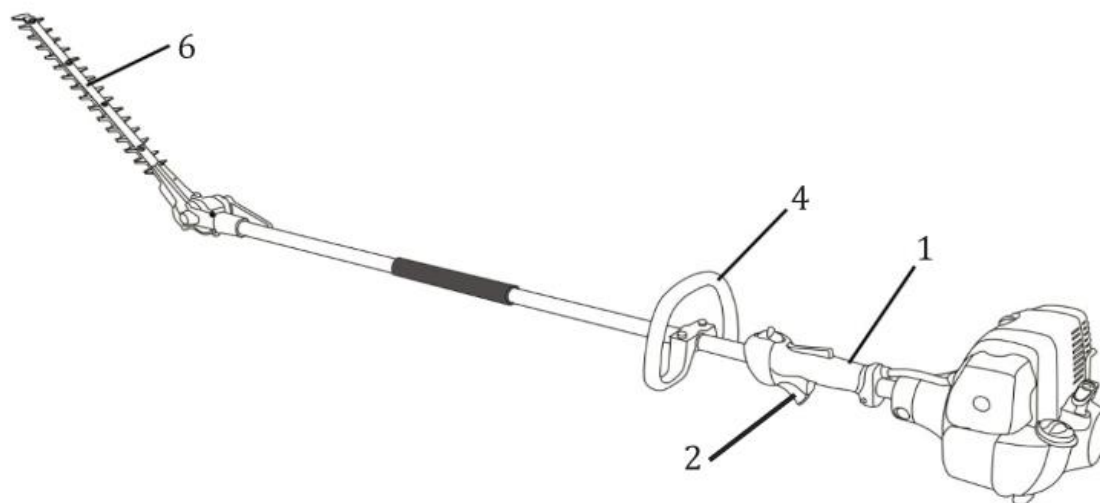
3.16 dry weight

weight of the unit with empty fuel/oil tank(s) and without cutting device cover

4. Shape

4.1 The typical shape of powered hand-held hedge trimmers is given in Figure 1

**a) Single-sided hedge trimmer****b) Double-sided hedge trimmer**



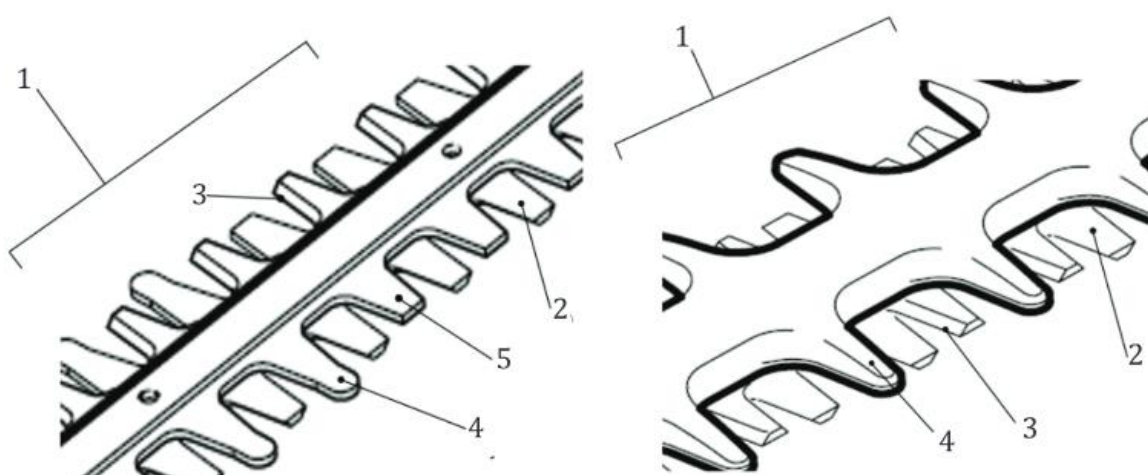
c) Extended-reach hedge trimmer

Key

- 1 rear handle
- 2 throttle control
- 3 front hand barrier
- 4 front handle
- 5 cutter blade
- 6 cutting device

Figure 1 — Examples of types of powered hand-held hedge trimmers

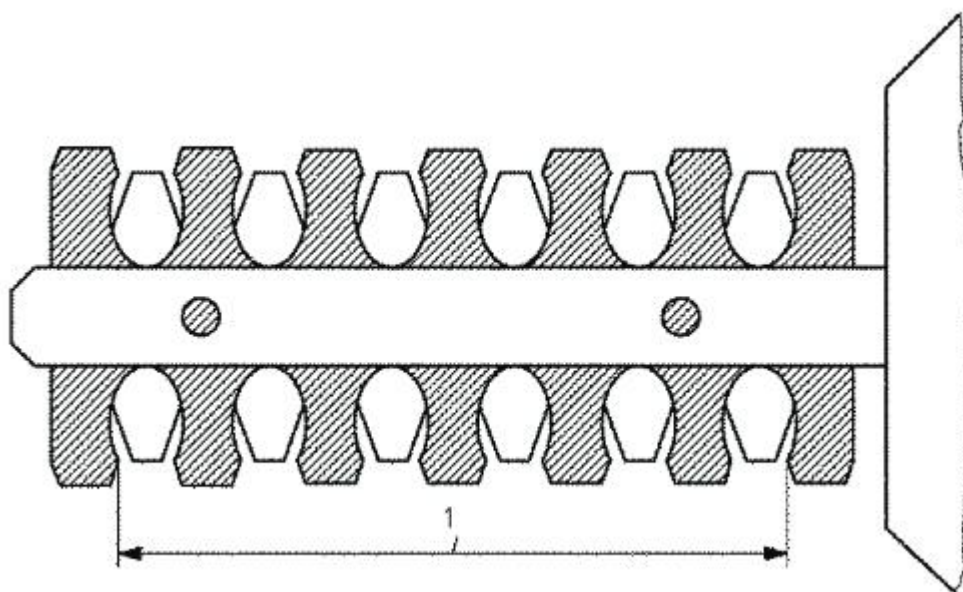
4.2 The cutting device and cutter blades for powered hand-held hedge trimmers is shown in figure 2 and figure 3.



Key

- 1 cutting device
- 2 cutter blade
- 3 blade tooth
- 4 blunt extension
- 5 unsharpened plate

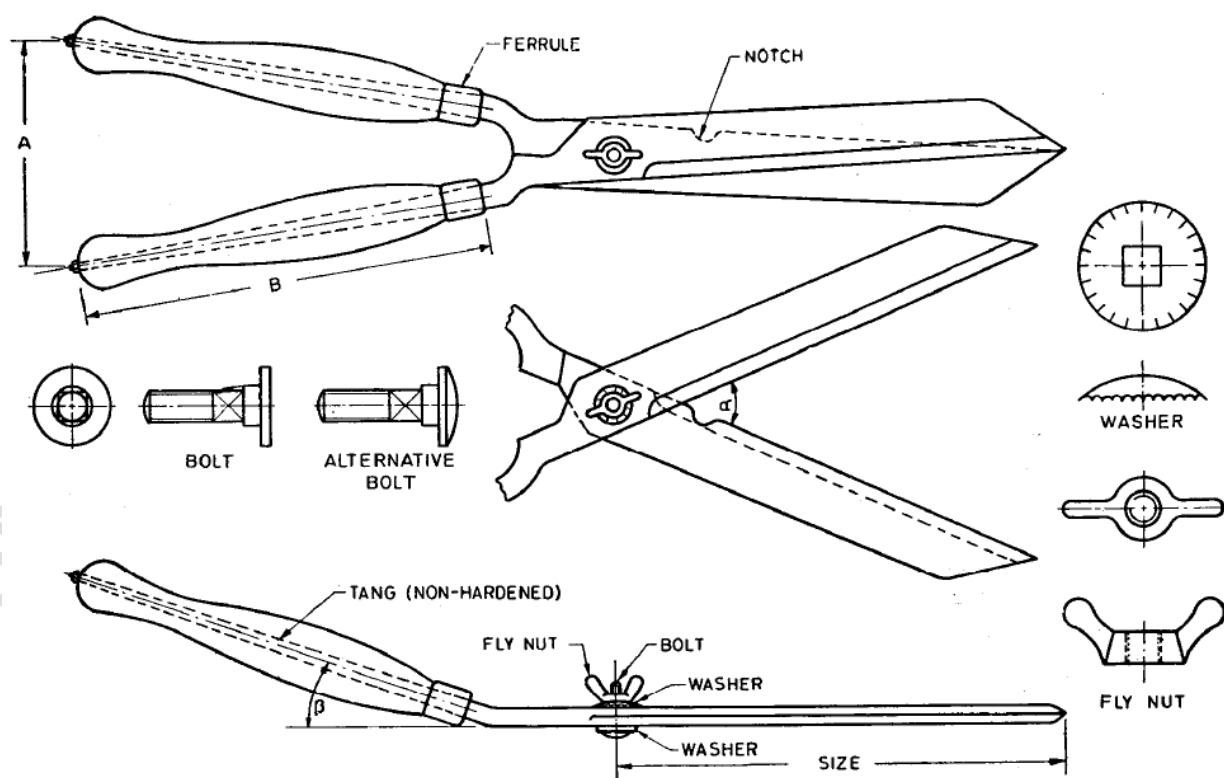
Figure 2 — Cutting device

**Key**

1 cutting length

Figure 3 — Width of cut

4.3 A typical shape of the non-powered hand-held hedge shears is given in Figure 4.

**Figure 4 — Non-powered hand-held hedge shears straight-edge type assembly**

5. Dimensions

5.1 The size of the non-powered hand-held hedge shear shall be 200, 225, 250, 275, 300 or 325 mm as shown in figure 4. The tolerance on declared size shall be ± 5 mm.

5.2 The dimensions of the powered hand-held hedge shears shall be in accordance to ISO 10517.

6 Material

6.1 Blade

The blade shall be manufactured from high carbon steel; alloy steel or tool steel. Tool steel should be according to ISO 4957.

6.2 Tang

The material used for blade may also be used for tang.

6.3 Handle

Timber, PVC or any other suitable material shall be used for handle.

6.4 Ferrule

Ferrule shall be made of either mild steel sheet according to ISO 3573, or steel tube according to EAS 134 or brass.

7. Hardness

The cutting edge of the blades shall have Rockwell hardness in range of 45 to 55 HRC or equivalent Brinell or Vickers hardness. The hardness shall be tested within a distance of 10 mm from cutting edge.

8. Safety requirements

The powered hand-held hedge trimmers shall comply with the safety requirements according to ISO 10517.

9. Other requirements

9.1 The blade and the tang may be formed from one piece or from separate pieces.

9.2 The shear shall have two blades; one with plain edge and other with serrated edge, or both with serrated or with plain edge.

9.3 One blade shall have a cutting notch or notches adjacent to the hinge joint to shear thick stems.

9.4 The shears shall be substantially joined by means of a bolt with washer and nut in a manner such that there is no excessive looseness, sidewise movement, or binding when shears are opened or closed. The bolt shall be 8 or 10 mm size. The wing nut shall be preferred. Alternatively the nut may be locked semi permanently through three punch marks on the nut threading.

9.5 The tang shall extend to full length of the handle or part of it. In case of partial fitment, the minimum length of tang inside the handle shall be 150 mm. In case it extends to full length, the tang shall be fixed by a bolt or screw with washer.

9.6 The handle shall be provided with ferrule. The minimum thickness of ferrule shall be 1.5 mm. In case of partial fitment of tang in handle, the ferrule shall be attached with tang by rivet or pin. The rivets or pin shall be neatly headed. The diameter of rivet shall be 3 to 6 mm.

9.7 The cutting edge shall be bevelled up to a distance of 10 mm and sharpened ready for use.

9.8 The closing of the shear shall be limited by means of either integral or permanently stops on either the heels or shanks of the blades.

10. Workmanship and finish

10.1 The shear shall be finished smooth without any objectionable pit marks, cracks, etc.

10.2 The exposed metallic parts shall be coated with oil or grease for prevention of rust or corrosion.

10.3 The wooden handle shall be coated with polish or lacquer.

11. Marking and packing

11.1 Marking

Each hedge shear shall be marked with the following particulars:

- a) Name of manufacturer and/or registered trade-mark,
- b) Size or power capacity,
- c) Batch number or serial number.
- d) Country of origin

11.2 Packing

The hedge shear shall be packed as agreed to between the purchaser and the supplier.

12. Sampling

The hedge cutters/trimmers/shears shall be sampled for inspection and testing according to ISO 2859-1.

13 Test methods

The hardness shall be tested according to ISO 6506-1, ISO 6507-1 or ISO 6508-1.

Bibliography

- 1) IEC 60335-2-91:2002 Household and similar electrical appliances – Safety – Part 2 - 91: Particular requirements for walk behind and hand-held lawn trimmers and lawn hedge trimmers
- 2) IEC60745-2-15:2009 Hand-held motor-operated electric tools - safety Part 2-15: Particular requirements for hedge trimmers
- 3) IS 2563:1978 (Reaffirmed 2009) Specification for hedge shears, straight-edge type
- 4) ISO 10517:2019 Powered hand-held hedge trimmers — Safety