

Specification for

Agricultural mower and combine-harvester parts —

Part 2: Metric units

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Co-operating organizations

The Agricultural Machinery and Implements Industry Standards Committee, under whose supervision this British Standard was prepared, consists of representatives from the following Government departments and scientific and industrial organizations:

- Agricultural Engineers' Association*
- Agricultural Machine Parts Association*
- Agricultural Machinery and Tractor Dealers' Association*
- Institution of Agricultural Engineers Incorporated
- Ministry of Agriculture, Fisheries and Food*
- National Farmers' Union*
- National Institute of Agricultural Engineering*
- Royal Welsh Agricultural Society

The Government department and scientific and industrial organizations marked with an asterisk in the above list, together with the following were directly represented on the committee entrusted with the preparation of this British Standard:

- British Bolt, Nut, Screw and Rivet Federation
- British Plastics Federation
- Institute of Iron and Steel Wire Manufacturers
- National Farmers Union of Scotland
- Spring Research Association
- University of Aston Birmingham
- Individual manufacturers

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Foreword

This Part of this British Standard has been prepared, using metric dimensions as part of the national policy to change to the metric system, under the authority of the Agricultural Machinery and Implements Industry Standards Committee at the request of The National Farmers' Union.

As new designs of machines are formulated, it is recommended that account is taken of this Part of the standard. BS 1562, "*Agricultural Mower and combine-harvester parts*", Part 1, "*Imperial units*", will remain in existence, however, until the changeover has been substantially completed to facilitate normal replacement on existing machines.

The adoption of the standard will afford not only the benefits of rationalization in manufacture and storage, but also the advantages of interchangeability and the assurance of quality of the parts both in machine building and in use.

Section Types X and Y in this standard differ slightly from the section Type 1 and Type 2 in ISO/R 563, "*Knife sections of mower cutter bars*", but are interchangeable in use.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 10, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This Part of this British Standard specifies requirements for knife sections, knife backs, fingers and bolts and nuts for agricultural mowers and combine-harvesters.

NOTE The titles of the British Standards referred to in this standard are listed on the inside back cover.

2 Definitions

For the purposes of this British Standard, the following terms and definitions apply:

2.1

cutter bar

an assembly comprising finger bar, fingers, knife guides, wear plates, outer shoe and main shoe, i.e. the non-reciprocating part of a cutting mechanism

2.2

finger bar

a steel bar to carry fingers, wear plates and knife guides

2.3

finger (USA, Guard)

a finger-like attachment bolted to the forward edge of a finger bar and through which knife sections reciprocate

2.4

ledger plate (or finger liner)

a hardened metal insert in a finger over which knife sections move to give a scissor-like action

NOTE This is not always a separate part; in some designs the face of the forged finger is hardened.

2.5

finger bolt

the bolt by which the finger is attached to the cutter bar

2.6

knife guide

a guide bolted to a finger bar to maintain knife sections and fingers in close contact

2.7

wear plate

a hardened steel plate attached to a finger bar to form a bearing surface for the back of a knife

2.8

knife

the reciprocating part of a cutting mechanism comprising knife head, knife back and knife sections

2.9

knife head

that portion of a knife to connect to a pitman

2.10

knife back

a strip of steel to which knife sections and a knife head are attached

2.11

knife section

a flat steel plate (roughly triangular in shape) with two cutting edges

2.12

pitman

a connecting rod to transmit reciprocating motion to a knife head

3 Knife sections

3.1 Construction. The knife sections shall be straight swaged and ground on the underside.

3.2 Material. The knife sections shall be manufactured from steel having the following chemical composition

	%
carbon:	0.79 – 0.94
manganese:	0.30 – 0.50

or such other analysis as shall be agreed between the supplier and the user.

3.3 Dimensions. The dimensions of mower sections shall be in accordance with Figure 1 or Figure 2. The dimensions of combine-harvester sections shall be in accordance with Figure 3.

3.4 Hardness. The zone shown as a hardened area on Figure 1, Figure 2 and Figure 3 shall have a hardness as given below. The remainder shall have a maximum hardness of 350 HV (approximately 37 HRC).

Mower sections:	between 490 HV (49 HRC) and 590 HV (55.3 HRC).
Combine-harvester sections:	between 540 HV (52.4 HRC) and 640 HV (57.6 HRC).

3.5 Flatness. The cutting face of the knife sections shall be flat or not more than 0.3 mm concave.

3.6 Sharpness. Plain sections shall be ground to a sharp edge and shall be free from burrs. The edges formed by the teeth of serrated sections shall be sharp.

3.7 Marking. Each knife section shall be marked with the following:

- 1) the manufacturer's name or other means of identification;
- 2) the number of this British Standard, i.e. BS 1562-2; and
- 3) the type of knife section as detailed in Figure 1, Figure 2 or Figure 3.