

BUREAU OF INDIAN STANDARDS**DRAFT FOR COMMENTS ONLY**

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भारतीय मानक मसौदा**हार्वेस्टिंग मशीनों के लिए गार्ड्स — विशिष्टि**
*(आई एस 6024 का पहला पुनरीक्षण)**Draft Indian Standard***GUARDS FOR HARVESTING MACHINES — SPECIFICATION**

(Second Revision of IS 6024)

ICS 65.060.01

Agricultural Machinery and Equipment
Sectional Committee, FAD 11

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FOREWORD

(Format clause will be added later)

Guards, also known as fingers, provided in the cutter bar of harvesting machines constitute major part of non-reciprocating mechanism. To ensure interchangeability and quality of guards, this standard was first published in 1970.

Subsequently, in order to incorporate double-point type of guards, the standard was revised in 1983 deriving assistance from Punjab Agricultural University, Ludhiana, ISO/DIS 5717-1981 Equipment for harvesting-combine harvester — sickle guards or fingers - Interchangeable dimensions and BS 1562 (Part 2) : 1573 Specification for agricultural mower and combine — Harvester parts: Part 2 Metric units. Both of the above standards have now been withdrawn. However, taking in account the national relevance of the standard, the concerned technical committee decided to retain and revise the standard bring it out in the latest style and format of Indian Standards. References to Indian Standards wherever applicable have also been updated.

This standard covers requirements for single point and double point guards. Although triple point guards are also available, they are not currently used in harvesting machines in India, therefore, requirements are not provided in the standard.

In revision of this standard, assistance has been derived from the technical inputs provided by Agricultural Machinery Manufacturers Association (AMMA, India).

This standard contains **8.3** which call for agreement between the purchaser and the supplier.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Draft Indian Standard

GUARDS FOR HARVESTING MACHINES — SPECIFICATION

(*Second Revision of IS 6024*)

1 SCOPE

1.1 This standard specifies material, dimensional and other requirements for guards (fingers) used in harvesting machines.

2 REFERENCES

The standards given below contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of these standards.

<i>IS No.</i>	<i>Title</i>
IS 1030 : 1998	Carbon steel castings for general engineering purposes — Specification (<i>fifth revision</i>)
IS 2004 : 1991	Carbon steel forgings for general engineering purposes — Specification (<i>third revision</i>)
IS 6025 : 202X	Knife Sections for harvesting machines — Specification (<i>second revision</i>) [<i>under publication Doc: FAD 11 (23727)</i>]
IS 7201 (Part 1) : 1987	Methods of sampling for agricultural machinery and equipment: Part 1 Hand-tools and hand-operated/animal drawn equipment (<i>first revision</i>)
IS 14329 : 1995	Malleable iron castings — Specification
IS 1500 (Part 1) : 2019/ISO 6506-1 : 2014	Metallic materials - Brinell hardness test: Part 1 test method (<i>fifth revision</i>)
IS 1586 (Part 1) : 2018/ISO 6508-1 : 2016	Metallic materials - Rockwell hardness test: Part 1 test method (<i>fifth revision</i>)

3 TYPES

3.1 For the purpose of this standard, the guards shall be of following types:

- | | |
|---------------------|----------------------|
| a) Type A | Single point |
| Type A ₁ | With ledger plate |
| Type A ₂ | Without ledger plate |
| b) Type B | Double point |
| Type B ₁ | With ledger plate |
| Type B ₂ | Without ledger plate |

4 MATERIAL

4.1 The guard (except ledger plate) shall be manufactured from malleable iron casting (*see IS 14329*), steel casting (*see IS 1030*) or steel forging (*see IS 2004*).

4.2 The material for ledger plate, if made separately, shall be the same as given in **4.1** of IS 6025.

5 HARDNESS

5.1 The malleable iron casting shall not have hardness more than 163 HB [*see IS 1500 (Part 1)*].

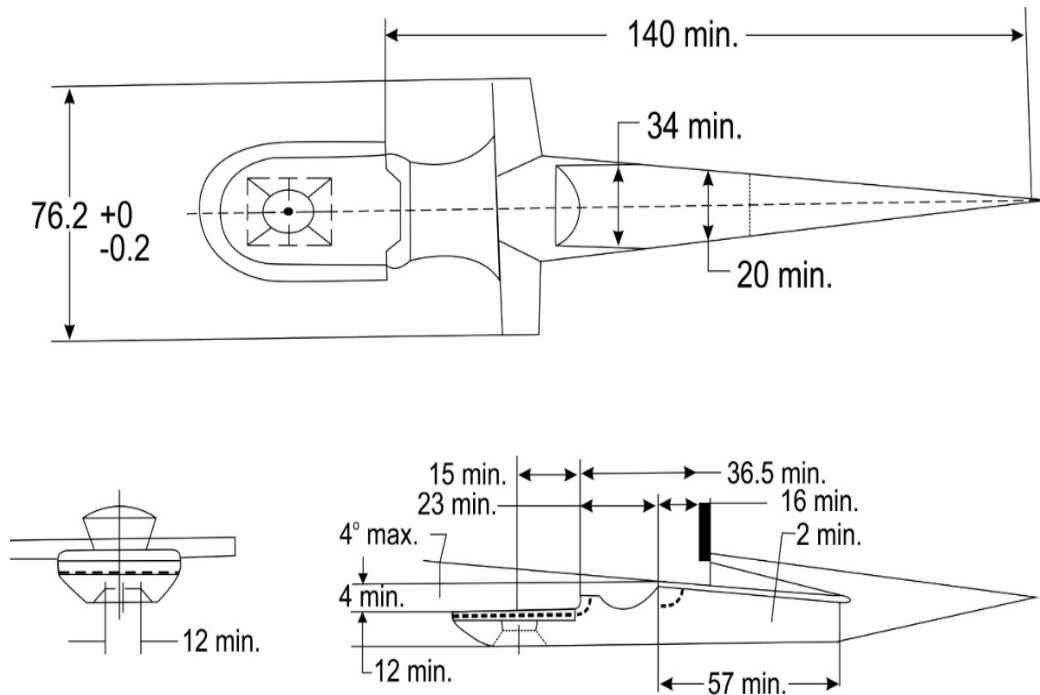
5.2 The hardness of ledger plate or the face of the guard working as ledger plate shall have a hardness in the range of 48 to 60 HRC [see IS 1586 (Part 1)].

6 DIMENSIONS

6.1 The dimensions of Types A₁, A₂, B₁ and B₂ guards shall be as given in Fig. 1, 2, 3 and 4 respectively. The hole for fixing the guard may be square or circular.

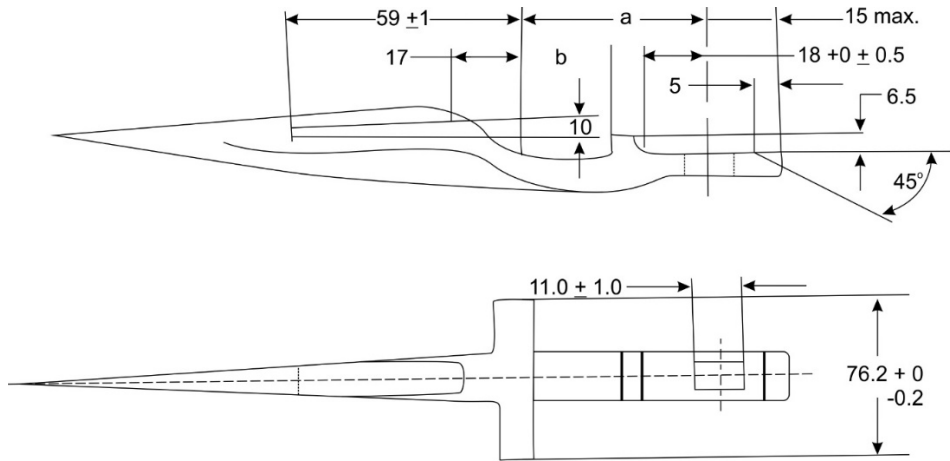
6.2 In case separate ledger plate is used, the dimension of the same shall be as given in either Fig. 5 or 6.

6.3 The dimensions of the slot for ledger plate in the guard shall be such that it ensures the proper fitment of the ledger plate.



All dimensions in millimetres

FIG. 1 DIMENSIONS FOR TYPE A₁ GUARD

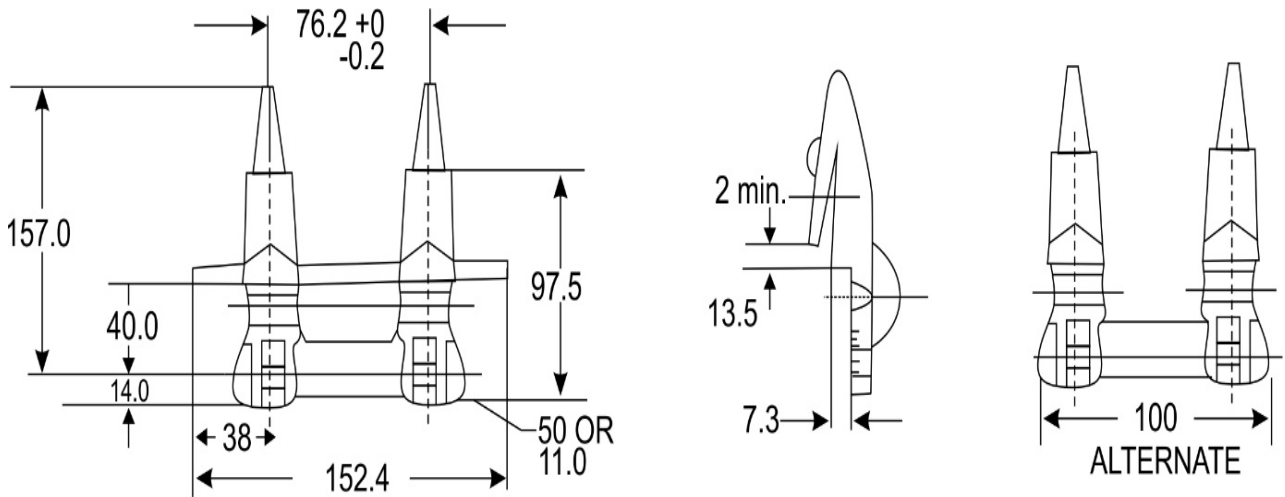


All dimensions in millimetres

a = 48 MM OR $52^{+1}_{-0.5}$ mm

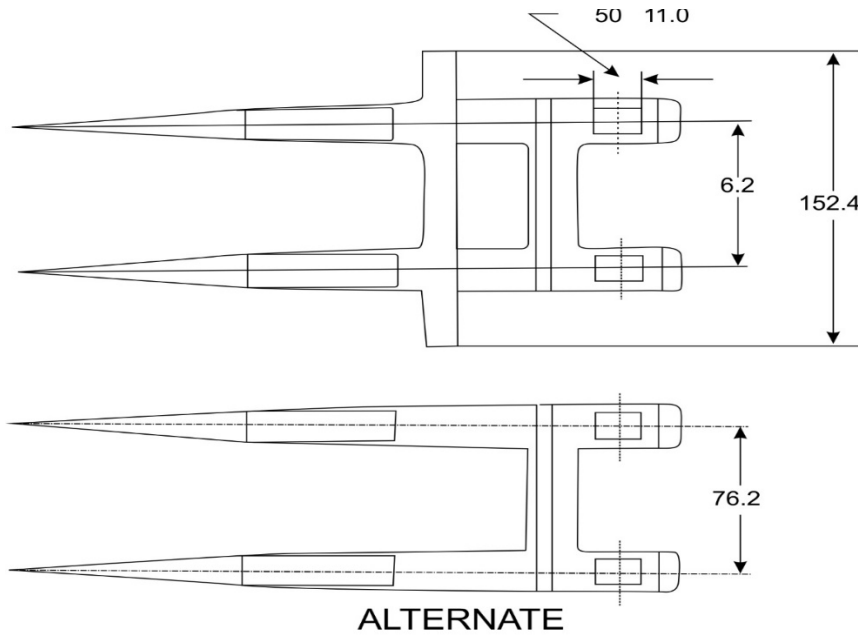
b = 23 mm OR 27 ± 0.5 mm

FIG. 2 DIMENSIONS FOR TYPE A₂ GUARD



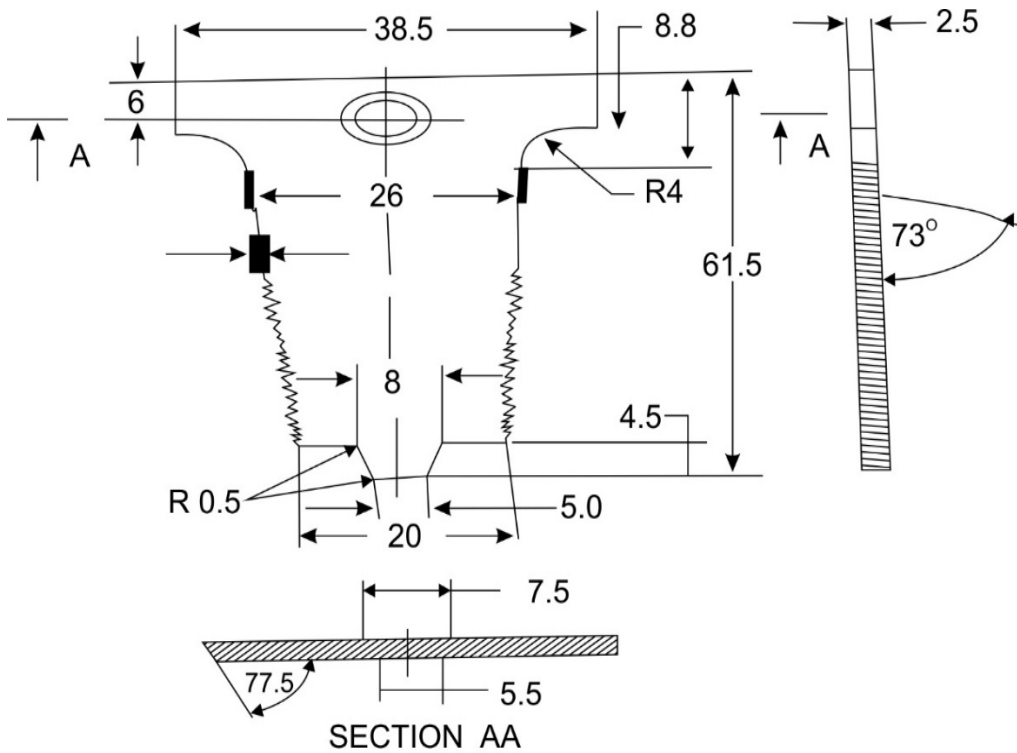
All dimensions in millimetres

FIG. 3 DIMENSIONS FOR TYPE B₁ GUARD



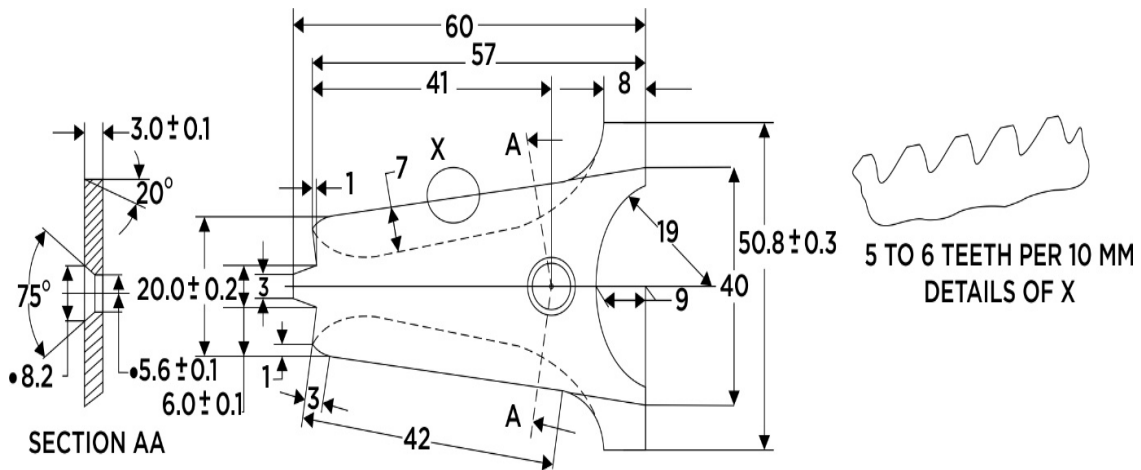
All dimensions in millimetres

FIG. 4 DIMENSIONS FOR TYPE B₂ GUARD



All dimensions in millimetres

FIG. 5 LEDGER PLATE, STRAIGHT-HEAD TYPE



All dimensions in millimetres

FIG. 6 LEDGER PLATE, CURVED-HEAD TYPE

7 WORKMANSHIP AND FINISH

7.1 The guards along with ledger plate, if provided, shall be free from flaws, seams, scratches, cracks and other visual defects.

7.2 The guard shall be given a thin coat of anti-corrosive paint.

8 MARKING AND PACKING

8.1 Marking

Each guard shall be marked with the following particulars on the upper side of the guard:

- Manufacturer's name or recognized trade-mark, if any;
- Type;
- Batch or code number; and
- Any other markings required under the *Standards of Legal Metrology (Packaged Commodities) Rules, 2011*.

8.2 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the Bureau of Indian Standards Act, 2016 and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.

8.3 Packing

Guards of the same type shall be packed for safe handling in transit, in accordance with the agreement between the purchaser and the supplier.

9 SAMPLING FOR LOT ACCEPTANCE

9.1 Unless otherwise agreed to between the purchaser and the supplier, the method of sampling for lot acceptance shall be as per IS 7201 (Part 1).