

BHUTAN STANDARD

Portable Brush Cutters – Basic Requirements-Part 1



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BHUTAN STANDARD

Portable Brush Cutters – Basic Requirements

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FOREWORD

This Bhutan Standard was adopted by Bhutan Standards Bureau after the draft finalized by the Mechanical Engineering Technical Committee, TC 08 and approved by the Bhutan Standards Bureau Board (BSB Board) on [Day Month 2021](#).

This standard is subject to systematic review after five years to keep pace with the market trends, industrial and technological developments. Any suggestions and further information may be directed to the concerned Technical Committee.

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Portable Brush Cutters: Basic Requirement

1. Scope

This standard specifies the basic requirement of Portable Brush Cutters for harvesting of cereal grains such as paddy, wheat, barley, finger millet and buckwheat and inclusive of grasses. It excludes the test methods of Portable Brush Cutters.

2. Normative References

There are no normative references for this document.

3. Definition

For the purposes of this standard, the following definitions shall apply.

3.1 Portable Brush Cutters

It is a machine with various implements that cut grass or harvest crops when the crops are ripe.

3.2. Classification of Portable Brush Cutter

3.2.1 Agricultural purpose

It harvests agriculture crops.

3.2.2 Non-Agricultural Purpose

It cuts the grass and weeds.

3.3 Types of Portable Brush Cutter

3.3.1 Shoulder Type Portable Brush Cutter

The operation handle connects the engine and the blade parts, and this is hung from the shoulder band fitting with the waist band attached by the operator.

3.3.2 Backpack Portable Brush Cutter

The engine and the blade parts shall carry on the back. It is a harvester working with grabbing grip with operation rod and a loop handle.

3.4 Structure

The structure consists of fixed objects or parts that perform the mechanized harvesting.

3.5 Reference test value

It is a value for total crop loss determined through manual harvesting from area of 1m x cutting width of machine. It includes discharge and header losses. Reference test value is used as the base line to estimate the total grain loss that results from machine harvesting.

Note 1: No reference test value is required for non-agricultural purpose.

3.6 Total grain loss

It is the combination of discharge and header losses that occurs during the harvesting.

3.7 Normal field condition

An operation which is conducted in the recommended field for the test. The test shall be smoothly conducted at normal field condition.

4. The general standard for portable brush cutter shall cover:

- 4.1 Safety requirement
- 4.2 Structure requirement
- 4.3 Requirement operational performance
- 4.4 Requirement at the operator's level

4.1 Safety requirement

- 4.1.1 There shall be protection from moveable and hot components.
- 4.1.2 There shall be safety guard for all the moving parts. The guard shall be placed in between the moving parts and the operator at appropriate safe distance.
- 4.1.3 The guard shall have enough strength and durability under normal operational condition and the guard which does not require to be removed should be firmly fixed on the machine.
- 4.1.4 All the safety symbols and labels shall be illustrated in English and clearly visible to the operator.
- 4.1.5 The guard shall be fixed at a position so that the protection range of protective cover against scattering doesn't affect the operator during operation.
- 4.1.6 During operation an ear mask and all PPE items shall be used.

4.2 Structure requirements

- 4.2.1 The parts of power harvester shall not be abnormal or broken.
- 4.2.2 There should not be oil leakage.
- 4.2.3 The operator should not have difficulty in adjusting the parts.
- 4.2.4 There should not be any defects that may affect the operator.

4.3 Requirement of operation performance

The machine shall function smoothly under normal condition. The total grain loss should not be more than 3% from manual test value.

Note 1: The test under clause 4.3 shall not be applicable for cutting grasses.

4.4 Requirement at the operator's level

4.4.1 Noise level

The noise level for portable brush cutter should not exceed 100 dB (A) for 2 hours per day of continuous operation. The ceiling value of noise level shall not exceed 140 dB (A).

4.4.2 Vibration level

The vibration level of portable power harvester shall not exceed 15 m/s² at normal field operation.

4.5 Test sample

The test sample shall be new machine and it shall be adjusted as per the manufacturer's specification.

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