DRAFT GUIDELINES FOR VARIANT TESTING OF DISC HARROW

Criteria for Determining New Model / Variant of Disc Harrow

1. Base Model

A base model of harrow shall be defined as the one which has defined specifications as reported in the Initial Commercial Test (ICT) report.

- Manufacturer shall specify the base model along with the list of variants, which could be added, deleted or supplemented to arrive at variants of the subject base model.
- The harrow will be tested as per the relevant Indian Standards:
  1. IS 7640: 1975 (Reaffirmed 2019) - Test code for disc harrows
  2. IS 6635 : 1972 (Reaffirmed 2021) - Specification for tractor operated disc harrows
  3. IS 7230 : 1974 (Reaffirmed 2021) - Specification for plain spools for tractor operated disc harrows
  4. IS 10225 : 1982 (Reaffirmed 2019) - Specification for bearing spools for tractor operated disc harrows
- IS 17231 : 2019 (ISO 730 : 2009) (Reaffirmed 2023) Agricultural Wheeled Tractors Rear-Mounted Three-Point Linkage Categories 1N, 1, 2N, 2, 3N, 3, 4N and 4
- An ICT report shall be released based on these standards.

2. Variant Model

A variant model of harrow may be derived from a base model by addition/deletion/supplementation of one or more of the features without affecting much the principle of design and performance as mentioned in the Table 1. For conformity of a variant model, specifications of the model will be verified physically or through lab tests as required.

3. New Model

If any parameter/change falls outside the features listed in the Table 1, it shall be treated as a New Model and subjected to complete testing as per initial commercial test (ICT) under relevant IS/ISO standards.

Variants

1. Variants (Disc Harrow)

The variant model(s) may be derived from a base model by addition/deletion/supplementation of one or more of the features given in the Table 1.

- The variants shall be subjected to test as specified against changes in features as mentioned in the Table 1.

2. Submission of Application for Variant Testing

- The manufacturer/applicant may submit the application for testing of a variant model along with the ICT report of base model.

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- If, during initial inspection, the model submitted for variant testing is found not qualifying within the definition of a variant, then the applicant has to apply for ICT as a new model.

3. Test fees

The test fees for variant testing of the harrow will be as under:-

Nature of test	Test to be conducted	Testing charges
Variant testing	Physical inspection + lab tests	20% of that of ICT Rs.41471/-*
	Physical inspection + Field test	20% of that of ICT Rs.41471/-*
	Physical inspection + Lab tests + Field test	30% of that of ICT Rs.62207/-*

* As amended/revised time to time.

4. Validity of Test report

The validity of Variant test report will be the same as the validity of ICT report of tested base model.

5. Conformity Checks for Variants

- Verification of specification for features of variant as per Table 1 below.
- Compliance to relevant clauses of IS/ISO standards to be ensured.

Table 1 Determination of Variants for Disc Harrow

Sr. No.	Features of Variant	Tests/Inspection Required
1.	Type of disc (plain/notched) if changed from the base model without changing size of disc.	Field test is to be conducted for 2 hours (2 trails of 1 hour each).
2.	Nominal size of disc (±15% of base)	Field test is to be conducted for 2 hours (2 trails of 1 hour each).
3.	Thickness of disc (±15% of base)	i) Dimensional verification ii) Field test is to be conducted for 2 hours (2 trails of 1 hour each). iii) Checking of hardness of the disc.
4.	Concavity of disc (±15% of base)	Dimensional verification and Field test is to be conducted for 2 hours (2 trails of 1 hour each).

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5.	For notched disc: number of notch (±5 of base); Notch width and depth (±15% of base)	Dimensional verification & Field test is to be conducted for 2 hours (2 trails of 1 hour each).
6.	Working width variation	Field test is to be conducted for 2 hours (2 trails of 1 hour each).
7.	Change in hitching arrangement [as per IS 17231 : 2019 (ISO 730 : 2009) (Reaffirmed 2023)]	Mandatory dimensional verification & Field test is to be conducted for 1 hour (1 trail of 1 hour each).
8.	Change in total mass (±15% subject to no change in design of base model)	Field test is to be conducted for 2 hours (2 trails of 1 hour each).
9.	Change in number of discs	Dimensional verification & Field test is to be conducted for 2 hours (2 trails of 1 hour each).

Note: If any parameter/change falls outside the features listed in this Table 1, it shall be treated as a New Model and subject to complete testing as per ICT, in line with relevant standards.

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Draft Guidelines for Administrative Extension of Disc Harrow

Administrative Extension

1.1 Definition

An Administrative Extension may be granted when changes made to a disc harrow are of non-technical nature and do not influence the functional performance of the implement.

1.2 Typical Modifications

- Change in paint colour or decals.
- Change in model name, denomination or number for marketing purposes.
- Change in hole type/hole size on disc

1.3 Conditions

- No impact on field performance, durability or safety.
- The testing centre that carried out the original test is authorized to issue the Administrative Extension Report.
- The Administrative Extension Report shall contain a clear reference to the original test Report (ICT).

1.4 Test fees

Test fees for Administrative Extension will be 10% (i.e. Rs.20736/-*) of that of ICT of disc harrow.
* as amended/revised time to time.

1.5 Validity of Test report

The validity of test report of Administrative Extension will be the same as the validity of ICT report of base model.

Note: Any changes/ modifications the manufacturer wishes to make to the model will become permanent modification to the base model. After release of the Administrative extension report, the manufacturer is required to implement these changes in their production line. These modifications are considered permanent updates to the base model.

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Technical Extension

Sr. No.	Features of Technical Extension	Tests/Inspection Required
1.	Change in material of discs (alloy steel, high carbon steel, boron steel, etc.)	Chemical composition and hardness test as per relevant IS code. If material conforms to relevant IS code then no field test required otherwise 4 hours of field testing required (2 trials of 2 hours each).

Test fees

Test to be conducted	Testing charges
Physical inspection + lab tests	20% of that of ICT Rs. 41471/-*
Physical inspection + Lab tests + Field test	30% of that of ICT Rs. 62207/-*

* As amended/revised time to time.

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