

THIS TEST REPORT VALID UP TO : 30th June, 2029



**BCS, AVANT T22
FRONT MOUNTED TRACTOR OPERATED
VERTICAL CONVEYOR REPEAR BINDER**



भारत सरकार

Government of India

कृषि एवं किसान कल्याण मंत्रालय

Ministry of Agriculture and Farmers Welfare

कृषि एवं किसान कल्याण विभाग

Department of Agriculture and Farmers Welfare

उत्तरी क्षेत्र कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

Northern Region Farm Machinery Training and Testing Institute

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[ISO 9001:2015 CERTIFIED]

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The results of field performance test are given in Annexure – II and are summarized in Table-3

Table 3: Summary of field Test:

Sr. No.	Observation	Wheat harvesting
1	Tractor used	New Holland 6010
2	Speed of operation, kmph	1.80 to 2.19
3	Area covered, ha/h	0.290 to 0.396
4.	Width of cut, m	2.26 to 2.29
5	Fuel consumption	
	l/h	2.00 to 2.33
	l/ha	5.44 to 7.35
6	Losses	
	a) Pre harvest losses (kg/ha)	13.3 to 17.70
	b)Uncut crop by cutter bar (kg/ha)	1.5 to 2.00
	c) Grain loss due to shattering by cutter bar unit, conveyor unit and handling unit (kg/ha)	20.5 to 36.25
	d) Post harvest loss (kg/ha) (b+c)	22.5 to 36.25
7	Stubble height after harvesting, (cm)	4 to 7
8	Time required to cover 1 ha. area (h)	2.53 to 3.45
9	Field efficiency (%)	70.90 to 80.00
10	Average weight of bundle, kg	2.30 to 2.60
11	No. of bundles per hours	530 to 781
12	Percentage of unknotted bundles	Nil

5.1 Rate of work :

- i) During the tests the rate of work varied from 0.290 to 0.396 ha/h in wheat harvesting.
- ii) The fuel consumption varied from 2.00 to 2.33 l/h in wheat harvesting.
- iii) The fuel consumption per unit area harvested varied from 5.44 to 7.35 l/ha in wheat harvesting.

5.2 Quality of work :

- i) During wheat harvesting, cutter bar losses varied from 1.50 to 2.00 kg/ha.
- ii) Stubble height after harvesting was observed from 4 to 7 cm.
- iii) Percentage of unknotted bundles was observed as nil

5.3 Time required for daily maintenance :

About 15 minutes are required for daily servicing and maintenance of reaper binder with one person only.

5.4 Labour requirement:

Two persons including driver are required for smooth operation of the machine in the field. Additional labours are required for collection of the sheaves (bundles).

5.5 Twine consumption :

About one bundle of twine is required for one acre field.

5.6 Harvesting any other crop:

Not done as not recommended

6. DEFECTS, ADJUSTMENT, BREAKDOWN & REPAIRS

No noticeable defect or breakdown was observed during test.

7. INSPECTION & ASSESSMENT OF WEAR OF CRITICAL COMPONENTS

After completion of field test in wheat crop, the machine was dismantled. No ingress of dust/straw was noticed inside the sub assemblies. The sealings provided have been found effective.

8. EASE OF OPERATION & ADJUSTMENT

The general maneuverability of the machine during field operation was found satisfactory.

9. LABOUR REQUIREMENT

Two persons including driver are required for smooth operation of the machine in the field. Additional labour is required for collection of the sheaves (bundles).

**10. CRITICAL TECHNICAL SPECIFICATION
(TRACTOR OPERATED REAPER - CUM - BINDER)**

Note:- The implementation of critical technical specifications has been deferred till 30.09.2022 vide Ministry's O.M. No. 13-1/2021 M&T (I&P) dated 03.02.2022

11. SUMMARY OF OBSERVATION, COMMENTS AND RECOMMENDATION**11.1 Field performance**

- (i) The field efficiency varied from 70.9 to 80.0 % for wheat harvesting only.
- (ii) Quality of bundle was observed to be satisfactory.
- (iii) Percentage of unknotted bundle was observed as 'NIL'
- (iv) During wheat harvesting, uncut crop by cutter bar losses varied from 1.50 to 2.00 kg/ha, which is considered normal.
- (v) Avg. weight of bundle was observed as 2.30 to 2.60 kg wheat crop. Variation in weight is dependent mostly on straw moisture.

11.2 Dimensions of power input shaft does not conform to the IS: 4931-1995, this should be looked into for corrective action.

11.3 Dimensions of three point linkage does not conform to the IS : 4468-(Part-I)-1997 (Cat-II), this should be looked into for corrective action.

- 11.4 The dimension of knife section does not conform to the IS: 6025-1982, this should be looked into for corrective action.
- 11.5 The dimension of ledger plate does not conform to the IS: 6024-1983, this should be looked into for corrective action.
- 11.6 The chemical composition of knife blade does not conform to the IS: 6025-1982, this should be looked into for corrective action.
- 11.7 The chemical composition of knife back does not conform to the IS: 10378-1982, It **MUST** be as per IS.
- 11.8 The dimension of knife guard does not conform to the IS: 6024-1983, It **MUST** be as per IS.
- 11.9 Provision of safety clutch is not provided. It **MUST** be provided.


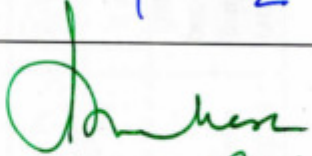
12. TECHNICAL LITERATURE

The following literature was supplied with the machine during the course of test.

- i Owner's Manual cum parts catalogue
- ii Parts catalogue

The owner's manual cum parts catalogue needs to be updated as per IS:8132-1999

TESTING AUTHORITY

Er. SANJAY KUMAR AGRICULTURAL ENGINEER	
Dr. MUKESH JAIN DIRECTOR	 09.06.2022

The test report compiled by Er. Dharmendra Kumar, Technical Assistant

13. APPLICANT'S COMMENTS

Para No.	Our reference	Applicant Comments
13.1	11.2 to 11.9	We are informing same to our vendor to correct the technical details as per requirement.