

ब्यावसायिक परीक्षण रिपोर्ट  
COMMERCIAL TEST REPORT

संख्या/ No.: COMB - 307/2996/2023  
माह/Month: April, 2023

**THIS TEST REPORT VALID UP TO : 30<sup>th</sup> April, 2030**



**ACE, ACE ULTRA  
SELF PROPELLED COMBINE HARVESTER  
(TRACK TYPE)**



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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Page 1 of 66

**16. FIELD TEST**

**16.1** The combine harvester was operated in field for 50.29 hours (excluding run-in 3.00 h) for paddy harvesting. During the test, available varieties of crop were harvested to assess the field performance of combine with regard to quality of work, rate of work, fuel consumption, safety and soundness of construction etc. The crop and atmospheric conditions during field test are given in **Appendix - II**

The crop parameters recorded during the test for paddy crops is as under:-

**Crop Parameters**

Sl. No.	Parameters		Observations
			Paddy
1.	Plant height, cm	:	90 to 137
2.	Number of tillers/m <sup>2</sup>	:	217 to 317
3.	Length of ear head, cm	:	19 to 29
4.	Straw/grain ratio	:	1.6 to 2.7
5.	Moisture, %		
	- Grain	:	11.5 to 12.0
	- Straw	:	58.4 to 69.1

The summary of losses and efficiencies observed during field performance test with paddy crop is summarised in Table 4 and presented in detail in **Appendix - III**

**TABLE-4: SUMMARY OF LOSSES & EFFICIENCIES OBSERVED IN FIELD PERFORMANCE TEST**

Crop variety	Collectable losses (Max.) (%)	Non-collectable losses (Max.) (%)	Total processing losses (Max.) (%)	Threshing efficiency (Min.) (%)	Cleaning efficiency (Min.) (%)	Grain breakage in main tank (Max) (%)	Forward speed (kmph)	Area covered (ha/h)	Fuel consumption		Grain out put (kg/h)	Crop through-put (t/h)
									(l/h)	(l/ha)		
MTU 1010	1.23	0.66	1.33	98.9	97.3	0.27	2.35 to 3.27	0.294 to 0.423	7.90 to 10.74	21.92 to 30.76	2292 to 3312	7.03 to 10.12

**Summary of field performance of chopper cum spreader**

Uniformity of straw spread, CV (%)	16.33
Weighted mean size of chopped straw, cm	9.33

**16.2 Unloading of grains**

The time to unload the grain tank ranged from 84 to 93 seconds in paddy operation.

**16.3 Time required for daily maintenance**

The average labour required for daily maintenance was approximately two man hours.

**16.4 Harvesting of any other crop**

Not done, as not recommended.



<b>COMB-307/2996/2023</b>	<b>ACE, ACE ULTRA SELF PROPELLED COMBINE HARVESTER (TRACK TYPE) (COMMERCIAL)</b>
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25.	Marking/labelling of machine	Labelling plate should be riveted on the body of machine having Name and address of manufacturer, Country of origin Make, Model, Year of manufacturer, Serial number, Type, Size, required size of prime mover (kW), Weight of the machine (Kgs)	Provided	Conforms
26.	Literature	Operator manual, Service manual and Parts catalogue should be provided	Provided	Conforms

## 22. COMMENTS AND RECOMMENDATIONS

### 22.1 Mechanical vibration

The amplitude of mechanical vibration of components marked as (\*) in chapter 14 of this test report are observed on higher side. This calls for providing suitable remedial measures to dampen the vibration in order to improve the operational comfort and service life of various components & sub-assemblies.

### 22.2 Field performance test

No noticeable defect and breakdown observed during operation of combine harvester.

### 22.3 Ease of operation and safety provisions

No noticeable difficulties were observed during operation of combine harvester.

### 22.4 Hardness and chemical composition

**Hardness & chemical composition of knife blade and knife guard are not within the limit specified in relevant standards. It should be looked into for corrective action at regular production level.**



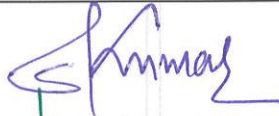

**22.5 Literature supplied with the machine.**

The following literatures were provided by the applicant during the test.

- i) Operators manual & Service manual
- ii) Spare parts catalogue
- iii) Operating cum service manual and parts catalogue of SMS

However, the operator manual needs to be updated as per IS: 8132-1999.

**TESTING AUTHORITY**

SANJAY KUMAR AGRICULTURAL ENGINEER	
Dr. MUKESH JAIN DIRECTOR	 10.04.2023

Test report is compiled by: Sh. Vikram, Senior Technician

**23. APPLICANT'S COMMENTS**

Para no.	Our reference	Applicant's comments
23.1	22.1	We will look into for corrective action.
23.2	22.4	We will look into for corrective action
23.3	22.5	Literature for this combine harvester model will be updated in respective manuals

