

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट
INITIAL COMMERCIAL TEST REPORT

संख्या/No. CSIR/CMERI/FMTTC/2024/052

माह/Month: September 2024

THIS TEST REPORT VALID UP TO

:

31st AUGUST, 2031



MUKTESWAR SUPPLIERS
PADDY REAPER CUM-BINDER, 3 WHEEL
(MODEL: MS - RB)



सत्यमेव जयते

Government Of India



कृषि मशीनरी प्रशिक्षण और परीक्षण केंद्र
Farm Machinery Training and Testing Centre
सीएसआईआर- केन्द्रीय यांत्रिक अभियांत्रिकी अनुसंधान संस्थान
CSIR - Central Mechanical Engineering Research Institute

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4 SPECIFICATIONS

4.1 General

Name of machine	:	Paddy Reaper Cum–Binder, 3 Wheel
Type of machine	:	Self-Propelled, Ride-on, reaper binder, 03 wheel
Make	:	M/S Mukteswar Suppliers
Model	:	MS–RB
Serial No.	:	001
Name and address of manufacturer	:	M/s. Mukteswar Suppliers Basantadhia, Naroda, Raghuagorada, Pubagada, Balipatna, Khordha, 752102
Year of manufacture	:	2023
Country of origin	:	India
Recommended crop	:	Multicrop

4.2 Details of prime mover

Name and address of manufacturer*	:	M/s. Mukteswar Suppliers Basantadhia, Naroda, Raghuagorada, Pubagada, Balipatna, Khordha, 752102
Type	:	Single Cylinder, Air cooled, 4 Stroke, Vertical Shaft, Compression Ignition Engine
Make	:	Not Specified
Model	:	192F
Sr. No.	:	1506132788
Country of origin	:	India
Year of manufacture	:	2023
Engine speed (Manufacturer's recommended setting), (rpm)*		
High idle speed	:	4040
Low idle speed	:	2150
Rated speed, (rpm)*	:	3600±50
No load engine speed for field operation, (rpm)*	:	3796±50
Speed at maximum torque, rpm*	:	3628
Max Torque (Nm)*	:	21.4
Rated Power (kW)*	:	8.2
Max Power (kW)*	:	8.66 (11.61 HP)

*As per specification sheet provided by applicant

Report prepared by

[Signature]

Report verified by
Subrata Kr Mandal

12 FIELD PERFORMANCE TEST

The machine was operated for 27.32 hrs. for harvesting the paddy crop. During the test of paddy harvested to assess the performance of machine with regard to quality of work, rate of work, fuel consumption, safety and soundness of construction. The performance field test is given in Annexure-I & Crop parameters and field performance test are summarized in table 9 & 10.

Table 9: Crop parameters

Sl. No.	Parameters/ Operations	Range
1	Date of test	13.03.2024, 15.03.2024, 27.03.2024, 28.03.2024
2	Variety of crop	Paddy (Mamata)
3	Straw moisture content (Wb) (%)	11.3 to 18.0
4	Grain moisture content (Wb) (%)	9.5 to 11.7
5	Plant height (cm)	88 to 91
6	Length of ear head (mm)	215 to 240
7	No. of grains per ear head	148 to 152
8	No. of hills per square meter	18 to 25
9	No. of tiller per hill	10 to 15
10	Straw - grain Ratio	1.9 : 1 to 2.5:1

Table 10: Summary of field performance test

Sl. No.	Parameters/ Operations	Range
1	Forward Speed (kmph)	2.27 to 3.52
2	Area harvested (ha/h)	0.057 to 0.074
3	Width of cut (cm)	112.8 to 113.1
4	Stubble height after harvesting(cm)	6.30 to 10.80
5	Average weight of bundle,(kg)	2.96 to 5.01
6	No. of bundles per hours	340 to 450
7	Losses (%)	
	- Pre-harvested loss	Nil
	- Post harvest loss (Cutter Bar)	16.11 to 40.00
	- Conveyor loss/shattering loss	4.88 to 40
8	Field efficiency (%)	68.33 to 88.52
9	time required for one hectare (h)	13.47 to 17.50
10	Fuel Consumption	
	- l/h	0.71 to 0.95
	- l/ha	11.67 to 15.50

The detailed field performance testing data is given in Annexure I.

Report verified by
Subrata Kumar Mandal

Report prepared by
Subrata Kumar Mandal

16 COMMENTS & RECOMMENDATION

- 16.1** The dimensions of the knife section and the knife back section do not conform to IS standards. It should be looked into
- 16.2** The amplitude of mechanical vibration marked as (*) under section 7, are on higher side. It is not just directly concerned with operator's health, safety and comfort, but also adversely affects the useful life of the components. It needs to be corrected.
- 16.3** The noise level of this machine at the operator's ear level is higher than recommended. It should be looked into.
- 16.4** The user's manual, parts catalogue and service manual are not provided. It needs to be provided as per IS:8132-1999.
- 16.5** Dimension of knife section and knife back does not fully confirm as per IS standard. It needs to be looked into.
- 16.6** Chemical analysis of the knife blades does not confirm with the requirement as per IS standard. It should be looked into.
- 16.7** One labelling plate is riveted on the machine. It should be updated as per BIS standard.

Report prepared by**Report verified by**

CSIR/CMERI/FMTTC/2024/052	PADDY REAPER CUM BINDER, 3 WHEEL (Model No. - MS-RB) (INITIAL COMMERCIAL TEST)
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17 TECHNICAL LITERATURE

The following literatures are not provided by the applicant during the test along with the application form.

- a) User's manual book
- b) Parts' catalogue
- c) Service manual

These manuals need to be provided as per IS: 8132-1999.

TESTING AUTHORITY

Report Prepared by	Sr. Technical Officer, CSIR-CMERI Farm Machinery Testing Centre	<i>[Signature]</i> 24/09/2024
Report Approved by	In-Charge, CSIR-CMERI Farm Machinery Training & Testing Centre	<i>[Signature]</i> 24.09.2024
Report Approved for release by	Head, Business Development Group, CSIR-CMERI, Durgapur	<i>[Signature]</i> 24/09/24

18 APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's Comments
18	16.1 to 16.7	Noted, we take necessary step with your recommendation in future production

