

व्यावसायिक परीक्षण रिपोर्ट (प्रारंभिक)

संख्या/No: Machine-626/1683

COMMERCIAL TEST REPORT (INITIAL)

माह/Month: July, 2024

THIS REPORT IS VALID UPTO 30.06.2031



GEORGE MAIJO, MAIJO 5PR SELF PROPELLED PADDY REAPER



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

दक्षिणी क्षेत्र कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

Southern Region Farm Machinery Training and Testing Institute

ट्रैक्टर नगर, गार्लदिन्ने-515 731, जिला: अनंतपुर (आं. प्र.)

Tractor Nagar, Garladinne-515 731, District: Anantapur (A.P.)

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Machine- 626/1683	GEORGE MAIJO, MAIJO 5PR SELF PROPELLED PADDY REAPER	COMMERCIAL (ICT)
	THIS TEST REPORT IS VALID UP TO 30.06.2031	



Manufacturer, (apa) : M/S V.S.T. TILLERS TRACTORS LTD Plot No 222-224 & 229-232,3rd Phase, KIADB. Industrial Area, Malur, Kolar District-563130, Karnataka. Regd. & Head Office: Plot No – 1, Dyavasandra Indl. Layout, Whitefield Road, Mahadevapura Post, Bangalore-48, Karnataka, India

Applicant : M/s. George Maijo Industries Pvt. Ltd, 2B, Apex plaza, #5, Nungambakkam High Road, Chennai – 600034.

GEORGE MAIJO, MAIJO 5PR SELF PROPELLED PADDY REAPER

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Machine-
626/1683

**GEORGE MAIJO, MAIJO 5PR
SELF PROPELLED PADDY REAPER**
THIS TEST REPORT IS VALID UP TO 30.06.2031

**COMMERCIAL
(ICT)**

Type of test : COMMERCIAL (ICT)

Period of test : May, 2024 to July, 2024

Test Report No. : **Machine-626/1683**

Month / Year of release : July, 2024

- i) The results reported in this report are observed values and no corrections have been applied for atmospheric and site conditions.
- ii) The data given in the test report pertain to the particular machine randomly selected for test by the testing authority at applicant's site.
- iii) The results presented in this report do not in any way attribute to the durability of the machine.
- iv) This report should not be reproduced in part or full without prior permission of the Director, Southern Region Farm Machinery Training and Testing Institute, Garladinne, Anantapur (A.P.).
- V) This is a report on Commercial Test of power reaper named "**GEORGE MAIJO, MAIJO 5PR SELF PROPELLED PADDY REAPER**". **This report is valid up to 30.06.2031, Vide Ministry's O.M. No. 13-22/2020-M&T (I&P) dated 12.12.2023**

SELECTED CONVERSIONS

Sl. No	Units	Conversion Factor
1	Force	
	1 kgf	9.80665 N
		2.20462 lbf
2	Power	
	1 hp	1.01387 metric hp (Ps) 745.7 W
	1 Ps	735.5 W
3	Pressure	
	1 psi	6.895 kPa
	1 kgf/cm ²	98.067 kPa = 735.56 mm of Hg
	1 bar	100 kPa = 10 N/cm ²
	1 mm of Hg	1.3332 m-bar

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1	2	3	4	5
20.	Slip clutch / safety pins at conveyor drive	Must be provided	Provided	Conforms
21.	Provision of row marker / crop guide	Must be provided	Provided	Conforms
22	Marking /labeling of machine	The labeling plate should be riveted on the body of machine having Name and Address Of Manufactures & Applicant, Country Of Origin, Make, Model, Year Of Manufacturer, Serial Number, Engine Number, Engine HP, Rated Rpm & SFC	Address Of Manufactures is not provided	Does not conform
23	Literature	Operator manual, service manual and parts catalogue should be provided	Provided	Conforms

18. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS

18.1 Engine performance:

- 18.1.1 Engine maximum was observed as 3.18 kW against the declared values of 3.6 kW.
- 18.1.2 Back up torque of engine was observed as 8.23 % only. This should be looked into for corrective action.
- 18.1.3 Specific fuel consumption of engine corresponding to maximum power was recorded as 414 g/kWh. Against the declaration value of 360 g/kWh
- 18.1.4 Max. Torque was observed as 16.89 Nm against declaration value of 21.0 Nm.

18.2 Noise measurement:

Max. Noise at operator's ear level was observed as 89dB (A).

18.3 Mechanical vibration:

The amplitude of mechanical vibration on various assemblies of the Power Reaper was observed to the extent of 452 microns, which is on higher side. Therefore, necessary action to reduce the vibration should be taken in future.

- 18.4 The dimension of knife does not conform, in full, to IS: 6025-1982. This should be looked into for necessary corrective action.



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- 18.5 Ease of operation & adjustment:**
- 18.5.1** Safety guard **MUST** be provided for drive pulley & belt.
 - 18.5.2** The exhaust **MUST** be provided with spark arresting device.
 - 18.5.3** Safety notice & hazard warnings labels **MUST** be provided on machine.
- 18.5 Marking /Lebling:**
The labeling plate does not reveal all the required information. It is therefore recommended that a suitable labeling plate covering all essential components, inter alia, the following must be provided:
- i) Address of manufactures
- 18.6 Field performance Test:**
- 18.6.1**
- Rate of work and fuel consumption:
 - The speed of harvesting ranged 2.92 to 2.98 kmph for paddy crops respectively.
 - The area harvested by the machine was recorded as 0.240 to 0.270 ha/h.
 - The average hourly fuel consumption varied from 0.920 to 0.980 l/h for paddy crop respectively.
 - The fuel consumption per unit area harvested varied from 3.46 to 4.02 l/ha for paddy crop respectively.
- 18.9.2 Quality of Work:**
- i) The post-harvest loss was observed as 0.02 to 0.03 % for Paddy respectively.
 - ii) The stubble weight was recorded as 60 to 68 mm for Paddy respectively.
 - iii) Machine leaves the harvested crop in windrows.
- 18.10** One skilled operator can operate the machine continuously for about two hours only. Hence two skilled operators are required to operate the machine continuously and two unskilled labour for cutting of the crop on side and corners of the field to be harvested.
- 18.11 Wear of critical components:**
- i) The wear rate of cutter bar on mass basis was recorded as 0.03 % per hour.
 - ii) Hardness of movable & stationary knife at its shank portion conform to the requirement as per IS 6025:1982 (Reaffirmed:1999).
 - iii) The chemical composition of cutting (movable) blade and stationary knife are not conforming to the requirement of relevant IS (IS 6025:1982 (Reaffirmed: 1999)).Therefore, this should be taken care for corrective action.
- 18.12 Provision for safety:**
A safety pin at driven sprocket of conveyor chain is provided to take case of overloading of cutter bar.

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18.13 Technical literature:

The operator manual cum parts catalogue of reaper and engine in single booklet was supplied with the reaper for reference during the test. The manuals are no adequate. The most of initial setting and discard limit of critical components may be added in manuals and leaflets etc. It is however, recommended that same may be revised and brought out in Hindi & other regional languages as per IS 8132: 1999 (Reaffirmed: 2019) for the sake of user & technical personnel

TESTING AUTHORITY

Er. PRAMOD YADAV AGRICULTURAL ENGINEER	
Dr. B.M. NANDEDE DIRECTOR	 

19. APPLICANT COMMENTS

We will take necessary actions to rectify the issues pointed out